# Water Quality and Coral Reef Monitoring along the Southeast Florida Coast 

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# Water Quality and Coral Reef Monitoring along the Southeast Florida Coast 

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## Acronyms

| ACE | Abundance-based coverage estimate |
| :---: | :---: |
| ADCP | Acoustic Doppler current profiler |
| AMOVA | Analysis of molecular variance |
| ANOSIM | Analysis of similarity |
| AOML | Atlantic Oceanographic and Meteorological Laboratory |
| ASV | Amplicon sequence variant |
| CCA | Constrained correspondence analysis |
| CDOM | Chromophoric dissolved organic matter |
| CFU | Colony forming unit |
| Cl | Color index |
| CPCe | Coral Point Count with Excel extensions |
| CTD | conductivity-temperature-depth |
| DON | Dissolved organic nitrogen |
| EPA | Environmental Protection Agency |
| FACE | Florida Area Coastal Environment Program |
| FDEP | Florida Department of Environmental Protection |
| HPyV | Human polyomavirus |
| MODIS | MODerate-resolution Imaging Spectrophotometer |
| MST | Microbial source tracking |
| N+N | Nitrate plus nitrite |
| NCBI | National Center for Biotechnology Information |
| NMDS | Non-metric multidimensional scaling |
| NNC | Numeric nutrient criteria |
| nt | nucleotides |
| NTU | nephelometric turbidity units |
| OTU | Operational taxonomic unit |
| PCoA | Principal coordinate analysis |
| PCR | Polymerase chain reaction |
| PERMANOVA | Permutational multivariate analysis of variance |
| PMMoV | Pepper mild mottle virus |
| qPCR | quantitative polymerase chain reaction |
| RFR | Random forest regressor |
| RT-qPCR | Reverse transcriptase-quantitative polymerase chain reaction |
| SEFCRI | Southeast Florida Coral Reef Initiative |
| SFWMD | South Florida Water Management District |
| TCM | Tilt current meter |
| TKN | Total Kjeldahl nitrogen |
| TN | Total nitrogen |
| TP | Total phosphorus |

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#### Abstract

This 3 -year project was designed to assist in providing data for use in the development of nutrient numeric criteria, as required by the Florida Department of Environmental Protection. Researchers with AOML's Ocean Chemistry and Ecosystems Division conducted field work during the first 2 years of the project, followed by the development of various deliverables, including this final report, which describes in detail four separate efforts: (1) water quality cruises; (2) ocean current measurements; and (3) coral assessments; and (4) microbiological assessments.


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## 1. Introduction

### 1.1 The Southeast Florida Peninsula

Southeast Florida, specifically the counties of Miami-Dade and Broward ( $\sim 25.2^{\circ} \mathrm{N}$ to $26.3^{\circ} \mathrm{N}$ latitude), is comprised of some 126 kilometers of coastline approximately parallel to the flow of the Florida Current to the east. The region contains three non-continuous reef tracts (Banks et al., 2008) containing ecosystems of significant economic, ecological, and aesthetic value (Johns et al., 2001; Gregg, 2013) to the 4.2 million residents therein (U.S. Census, 2010). This area also contains significant point sources of pollution, i.e., ocean inlets and three wastewater treatment plant ocean outfalls (Koopman et al., 2006; Figure 1).

The region is drained by an extensive system of canals that have a significant impact on surface and groundwater flow (Sklar et al., 2002) and remain a major conduit for agricultural and urban runoff (SFWMD, 2010). These canals may contain chemical fertilizers, pesticides, suspended solids and highly colored organic materials, elevated nutrients, high natural iron concentrations, and contaminants from septic tanks and landfills (SFWMD, 2010). In southern Broward and northern Miami-Dade counties, canal waters are conducted to the coastal ocean through three inlets, viz., Port Everglades, Baker's Haulover,


Figure 1. Map of the southeast Florida coast (from Nuttle and Fletcher, 2013).


Figure 2. The canal system in Miami-Dade and Broward counties (from SFWMD, 2010).
and the Port of Miami. A map of the canal system for Miami-Dade and Broward counties is shown in Figure 2 (Broward County Board of County Commissioners, 2015).

South Florida receives $40-65$ inches ( $102-165 \mathrm{~cm}$ ) of rainfall annually, much of it in the southeastern coastal regions (Figure 3). The rainy season typically extends from June to November; the dry season from December to May. The rainy season is characterized by frequent afternoon thunderstorms, resulting in significant freshwater runoff into the coastal ocean. Increased rainfall causes increased


Figure 3. Average rainfall in south Florida, 1951-1980 (from Fernald and Patton, 1984, as cited in McPherson and Halley, 1996).
turbidity and reduced salinity in the coastal ocean, as well as an increase in the transport of pollutants. Because of seepage into the sewage transport piping system, increased rainfall also results in an increase in the flow of water through wastewater treatment plants to the coastal ocean through the outfalls.

### 1.2 The Coastal Ocean: Water Column

The water column can be viewed as the chemical, physical, and biological characteristics of an area of the ocean from the surface to the seafloor. This may include particulates such as suspended sediments, phytoplankton and zooplankton, chemical characteristics such as salinity or nutrient concentrations, and physical characteristics such as temperature, currents, and density stratifications.

Along the southeast Florida coast, the water column is characterized by persistent, widespread oligotrophic conditions (i.e., characterized by low nutrient concentrations) which result in low phytoplankton and organic matter concentrations, high water clarity, and highly dissolved oxygen concentrations (Collier et al., 2008). These conditions are impacted by near-field and farfield processes. Near-field processes include point sources of continental materials (inlets and treated wastewater outfalls), local hydrology (groundwater seepage), coastal developments such as dredging (Barns et al., 2015), and sand replenishment. Far-field processes include atmospheric deposition, ocean upwelling, and the transport of impacted waters, e.g., from the Mississippi River or from the Southwest Florida Shelf (Ortner et al., 1995).

The seafloor in the region contains a variety of features: a nearshore ridge complex ( $3-5 \mathrm{~m}$ depth) containing scleractinian and octocorals, macroalgae, and sponges; an inner reef, a non-continuous middle reef at $\sim 15 \mathrm{~m}$ depth; an outer reef, a relatively continuous reef at $\sim 16 \mathrm{~m}$ depth; a deep hard-bottom ridge ( $\sim 25 \mathrm{~m}$ depth), sparsely settled; and lastly, various patch reefs isolated from other formations, each separated by sand or hard-bottom (Banks et al., 2008). The reef tract is fairly well developed in Broward County but less so off of Miami-Dade County (CSA International, 2009). There are distinct differences between the communities on the three reef tracts; for example, the outer reef tract lacks frame-building corals that characterize nearshore coral communities (SAFMC, 1998). Significant latitudinal changes have also been described (Walker, 2012).

If water column nutrient concentrations increase, it is possible that phytoplankton (Boyer and Briceño, 2010), benthic macroalgae (Valiela et al., 1997), and harmful algal bloom frequency will increase (Brand and Compton, 2007). However, it is most desirable that the southeast Florida marine ecosystem remains oligotrophic, thus maintaining the economically valuable and ecologically significant benthic habitats that support the various types of fish, coral reefs, seagrasses, and sponges that thrive there (Nuttle and Fletcher, 2013). This is particularly significant at this time of rapid change in coastal ecosystems (EPA, 2010a), as some species are already stressed (Manzello et al., 2007).

### 1.3 The Numeric Nutrient Criteria Study

The task of conserving and managing this important ecosystem is performed by Florida's Department of Environmental Protection (FDEP), including the development of a consistent and effective regulatory process. In the past, standards for inland and coastal water quality were written as narrative standards, viz., "in no case shall nutrient concentrations of bodies of water be altered so as to cause an imbalance in natural populations of flora or fauna" (FDEP, 2009). The primary "nutrients" referred to are nitrogen and phosphorus.

Recently, a decision was made in conjunction with the U.S. Environmental Protection Agency (EPA) to replace the narrative standards with numeric nutrient criteria (NNC) for these variables (FDEP, 2009). Three different approaches to developing NNC have been promulgated (EPA, 2010b): (1) the reference condition approach, which employs observations in minimally disturbed conditions within a region; (2) the mechanistic modeling approach, that develops relationships between stressors and ecological effects; and (3) empirical stressor-response modeling, in which sufficient data are available to accurately relate stress to a measured ecosystem response (e.g., nitrogen and phosphorus concentrations).

Each of these procedures requires a sufficient dataset of relevant chemical, oceanographic, and biological data from the region; in particular, nutrient concentrations and ecosystem response measurements. The FDEP has proposed that the nutrients should be total nitrogen (TN) and total phosphorus (TP), with chlorophyll- $a$, with in situ coral reef assessments providing the ecosystem response measurements (R. Frydenborg, FDEP, personal communication). The impetus for the work described herein was the surface water quality monitoring plan requirement associated with the permitting of wastewater ocean outfalls by the Miami-Dade Water and Sewer Department (MDWSD, 2013).

The 3-year project discussed in this report was designed to assist in providing data to be used in the development of the NNCs as indicated by the FDEP in the previous paragraph. Field work was conducted during the first 2 years, followed by time for data analysis and the writing of the final report, as delineated in a signed Memorandum
of Understanding (MOU, 2013). This MOU included three separate efforts: (1) water quality cruises; (2) ocean current measurements; and (3) coral assessments. Each of these three components are described in detail in this report. Sample locations for the water quality cruises are shown in Figure 4, while sampling sites and analytical results for the water quality work are provided in Appendices 1 and 2.

Additionally, this report discusses a fourth effort-a microbiological assessment-that includes a separate supplemental study of the microbial contaminants from land-based sources of pollution found to impact the corals and coastal waters reported herein. It also includes an analysis of microbiome community structure and biodiversity. This study was conducted synoptically with the NNC study to leverage field work and analysis for this assessment and is more fully described in Staley et al. (2017). Water and coral tissue samples obtained for microbiological assessment were collected as part of the field work described herein, while microbiological and community sequencing analysis were leveraged with support from NOAA's Coral Reef Conservation Program (CRCP Project No. 1114).

## 2. Field Program Overview

### 2.1 Water Sampling

The water quality field program included 12 bimonthly 2-day cruises from Port Everglades Inlet to Miami (day 1) and return (day 2). Cruise dates, ocean currents, and meteorological conditions are provided in Table 1. The locations of the sampling casts included four specific coral groups: two off of Broward County and two off of MiamiDade County. Two of these sites are near sites monitored by the Southeast Florida Coral Reef Evaluation and Monitoring Project (Gilliam, 2012). Water samples were also obtained from the Miami Central and Miami North outfalls, three inlets (Port of Miami, Baker's Haulover, and Port Everglades), and six control sites distant from these point sources. The southernmost sampling location (BKG-6) was the location of the Fowey Rocks Lighthouse. A listing and description of the sampling sites is given in Appendix 1. Inlet site sampling times were arranged so that ebb (outgoing) flow was occurring. Data from this
effort builds upon a series of coastal monitoring efforts organized by NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML) and the Southeast Florida Coral Reef Initiative (SEFCRI). A map of the sample sites is given in Figure 4.

The water quality cruises were conducted from the NOAA R/V Hildebrand, a 41 -foot former U.S. Coast Guard utility boat outfitted with an A-frame ( 1000 lb . capacity), a winch with 180 ft . of $1 / 8 \mathrm{~s}$ wire rope, and a Seabird ECO- 55 rosette sampler holding six 4-L seawater sampling bottles and a SBE 19V2 conductivity-temperature-density (CTD) instrument package, sampling at 4 Hz . The CTD and rosette assembly were lowered into the water column at the specified sampling locations with all bottles open to seawater flow; two bottles were closed off at the bottom, the mid-depth, and near the surface to capture the water at those depths. The CTD was then brought on board and the water collected into sample bottles for storage and subsequent conveyance to the FDEP for analysis (discrete water samples).

In addition to conductivity, temperature, and density measurements, the CTD instrument package uses additional probes that generate other measurements as the unit descends downward and then returns to the surface (i.e., profiles). Profile measurements obtained at the moment of bottle opening were recorded by the ship's computer system and included in the discrete dataset. In addition, the profile data were recorded and were quite useful because they presented measurements at all depths during the cast. As the CTD has a sampling rate of 4 Hz , with typical CTD lowering and raising rates of $\sim 0.25-$ $0.35 \mathrm{~m} / \mathrm{s}$, each profile data point represents about $6-9 \mathrm{~cm}$ of depth. The suite of measurements for each cast is listed in Table 2; profiles of each cast are given in Appendix 2.

### 2.1.1 Water Quality Cast Sites

Water quality sampling cast sites are listed in detail in Appendix 1. We categorized the 27 cast sites as reef, inlet, outfall, or background (Table 3; Figure 4). Reef sites were chosen by a dive team based on their location within the SEFCRI region, proximity to potential nutrient sources, and similar depth and benthic composition. The inlet and outfall sites were included because they were known to be


Figure 4. Map of the Florida southeast coast showing CTD cast locations: outfalls (magenta), three inlets (red), four reef sites (blue), and six background sites (green). ADCP locations are shown by black plus signs, while the locations of the TCM instruments are denoted by black circles.
important point sources of land-based pollutants (Carsey et al., 2015). Background sites were chosen to provide a comparison for the other measurements; these sites were appropriately distant from the inlets and outfalls and from the reef sites.

Table 1. Cruise dates and conditions for the 12 sampling cruises from Port Everglades Inlet to Miami.

| Cruise Number | Cruise <br> Dates | Current Direction | Wind Direction | Cruise Number | Cruise Dates | Current Direction | Wind Direction |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Nov 182013 <br> Nov 192013 | $\begin{aligned} & \mathrm{S} \\ & \mathrm{~N} \end{aligned}$ | SE <br> SW to NW | 7 | Nov 242014 <br> Nov 252014 | $\begin{aligned} & \mathrm{S} \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \mathrm{S} \\ & \mathrm{~S} \end{aligned}$ |
| 2 | $\begin{aligned} & \text { Jan } 272014 \\ & \text { Jan } 282014 \end{aligned}$ | $\begin{aligned} & N \\ & \mathrm{~S} \end{aligned}$ | $\begin{aligned} & \mathrm{S} \\ & \mathrm{~N} \end{aligned}$ | 8 | $\begin{aligned} & \text { Jan } 202015 \\ & \text { Jan } 212015 \end{aligned}$ | $\begin{aligned} & N \\ & S \end{aligned}$ | $\begin{aligned} & \mathrm{S} \\ & \mathrm{~N} \end{aligned}$ |
| 3 | Mar 182014 <br> Mar 192014 | $\begin{aligned} & N \\ & S \end{aligned}$ | $\begin{aligned} & \text { NW } \\ & \text { SE } \end{aligned}$ | 9 | Mar 182015 <br> Mar 192015 | $\begin{aligned} & N \\ & S \end{aligned}$ | $\begin{gathered} E \text { to } S E \\ S \end{gathered}$ |
| 4 | May 272014 <br> May 292014 | $\begin{aligned} & \mathrm{N} \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \text { NE } \\ & \text { SE } \end{aligned}$ | 10 | May 192015 <br> May 202015 | $\begin{aligned} & N \\ & N \end{aligned}$ | $\begin{aligned} & E \\ & S \end{aligned}$ |
| 5 | July 142014 July 152014 | $\begin{aligned} & N \\ & S \end{aligned}$ | $\begin{gathered} \text { SE } \\ \mathrm{S} \end{gathered}$ | 11 | July 132015 July 142015 | $\begin{aligned} & \mathrm{N} \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \mathrm{S} \\ & \mathrm{~S} \end{aligned}$ |
| 6 | Sep 222014 <br> Sep 232014 | $\begin{aligned} & S \\ & S \end{aligned}$ | $\begin{gathered} \text { SE } \\ \mathrm{S} \end{gathered}$ | 12 | Sept 22015 <br> Sept 32015 | $\begin{aligned} & \mathrm{S} \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \text { SE } \\ & \text { SE } \end{aligned}$ |

Table 2. Analytes measured during the 12 sampling cruises from Port Everglades Inlet to Miami.

| Analyte | Laboratory | Matrix <br> Accuracy |  |
| :--- | :--- | :--- | :--- |
| Total phosphorus (TP) | FDEP | Discrete water sample | $\mathrm{DL}=0.065 \mu \mathrm{M}$ |
| Total nitrogen (TN) | FDEP | Discrete water sample | $\mathrm{DL}=2.429 \mu \mathrm{M}$ |
| Nitrogen (TKN) | FDEP | Discrete water sample | $\mathrm{DL}=2.143 \mu \mathrm{M}$ |
| Nitrite + nitrate (N+N) | FDEP | Discrete water sample | $\mathrm{DL}=0.286 \mu \mathrm{M}$ |
| Chlorophyll-a (fluorescence) | FDEP | Discrete water sample |  |
| Depth | NOAA-AOML | CTD profile measurement |  |
| Temperature | NOAA-AOML | CTD profile (SBE 3) | Acc $\pm 0.001^{\circ} \mathrm{C}$ |
| Conductivity | NOAA-AOML | CTD profile (SBE 4) | Acc $0.00003 \mathrm{~S} / \mathrm{m}$ |
| Density | NOAA-AOML | CTD profile computation |  |
| Dissolved oxygen | NOAA-AOML | CTD profile measurement |  |
| CDOM (fluorescence) | NOAA-AOML | CTD profile (Turner Designs C7) |  |
| Chlorophyll-a | NOAA-AOML | CTD profile (Seapoint) | $\mathrm{DL}=0.02 \mu \mathrm{~g} / \mathrm{L}$ |
| Turbidity | NOAA-AOML | CTD profile (Seapoint) | $2 \%$ of saturation |

### 2.1.2 Chemical Measurements

The following is a brief overview of the chemical species that were measured during this project. As mentioned previously, an analysis of discrete water samples from the CTD bottles for total Kjeldahl nitrogen (TKN), TN, TP, and chlorophyll- $a$ was performed by the FDEP (Tallahassee, Florida). The FDEP determined TKN in water samples by semi-automated colorimetry as per EPA standard method 351.2, revision 2.0 (EPA, 1993a). Determination of total nitrate-nitrite nitrogen was by automated colorimetry as per EPA standard method 353.2, revision 2.0 (EPA, 1993b). The FDEP measured total phosphorus by semi-automated colorimetry according to EPA standard method 365.1, revision 2.0 (EPA, 1993c), and chlorophyll- $a$ was measured by fluorescence according to EPA standard method 445.0, revision 1.2 (Arar and Collins, 1997). Silicate was not measured in this study.

Nutrients are chemical species that are essential requirements for the maintenance of life. Generally, nutrients refer to biologically available species of nitrogen, phosphorus, and silicon (EPA, 2001). While these elements are found in many chemical forms (e.g., dissolved or particulate, organic or inorganic), the forms most readily available to living organisms are the simple ions in solution (dissolved), viz., nitrite $\left(\mathrm{NO}_{2}^{-}\right)$, nitrate $\left(\mathrm{NO}_{3}^{-}\right)$, ammonium $\left(\mathrm{NH}_{4}^{+}\right)$, phosphate $\left(\mathrm{PO}_{4}^{-3}\right)$, and silicate $\left(\mathrm{Si}(\mathrm{OH})_{4}^{-4}\right)$ (Murasko, 2009). Methods for the measurement of these chemical species in seawater have been developed by various agencies (e.g., EPA, 1992). The measurements used in this project are summarized below.

Nitrogen is a key element of all life forms and exists in many forms in the coastal environment. Nitrogen $\left(\mathrm{N}_{2}\right)$ is a major atmospheric gas ( $\sim 78 \%$ ), but is not readily biologically available in this form (or in the other nitrogen gases in the atmosphere, viz., $\mathrm{NO}, \mathrm{N}_{2} \mathrm{O}, \mathrm{NO}_{2}$ ).

Atmospheric $\mathrm{N}_{2}$ can be converted to ammonium $\left(\mathrm{NH}_{4}{ }^{+}\right)$ by certain plants (e.g., legumes), and by nitrogen-fixing bacteria and macroalgal species in the ocean. Nitrogen species in seawater are commonly designated as either organic or inorganic; the major inorganic molecules are nitrate $\left(\mathrm{NO}_{3}^{-1}\right)$, nitrite $\left(\mathrm{NO}_{2}^{-1}\right)$, and ammonium $\left(\mathrm{NH}_{4}^{+1}\right)$. For geochemical reasons (these species interconvert rapidly) and for analytical reasons (how they are analytically determined), it is convenient to denote groupings of these

Table 3. Water quality sampling cruise sites categorized by type.

| Site Category | Cast Sites |
| :--- | :--- |
| Reef |  |
| Oakland Ridge | OR1, OR2, OR3 |
| Barracuda | BA1, BA2, BA3 |
| Pillars | PR1, PR2, PR3 |
| Emerald | ER1, ER2, ER3 |
| Inlet |  |
| Port Everglades | PEI |
| Baker's Haulover | BHI |
| Port of Miami | PMI |
| Outfall |  |
| Miami North | MN1, MN2, MN3 |
| Miami Central | MC1, MC2, MC3 |
| Background |  |
| Background | BK1, BK2, BK3, BK4, BK5, |
|  | BK6 (Fowey Rocks Lighthouse) |

species. The sum of nitrate and nitrite concentrations is denoted $\mathrm{N}+\mathrm{N}$. Dissolved organic nitrogen species are denoted DON. In the waters off of Broward County, DON is the predominant form of nitrogen (Carsey et al., 2015). TN, the quantity requested by the FDEP, is the sum concentration of the various nitrogen species. It is determined as the sum of $[\mathrm{N}+\mathrm{N}]+[\mathrm{TKN}]$, where the latter term (total Kjeldahl nitrogen) refers to a particular analytical method that measures a subset of the N species (organic nitrogen + ammonium). Analysis of nitrogen is given in units of micro molars. Multiplication of these values by the conversion constant of 0.014 will yield values in units of milligrams per liter.

Phosphorus is an essential element for life, playing a critical role in the storage and transfer of energy in the cell. Major natural sources include bird droppings (guano) and the weathering or leaching of rocks. A major anthropogenic source is fertilizer application in agriculture (National Research Council, 2000). Phosphorus occurs in the environment in several forms: (1) Orthophosphate, denoted as $\mathrm{PO}_{4}$, also called soluble reactive phosphorus, includes the species $\mathrm{H}_{2} \mathrm{PO}_{4}^{-1}, \mathrm{HPO}_{4}^{-2}$, and $\mathrm{PO}_{4}^{-3}$; (2) particulate organic phosphorus, including living or decaying plants, animals, and bacteria; (3) particulate inorganic phosphorus, derived from minerals; and (4)
dissolved organic phosphorus, generally derived from organisms but also from anthropogenic sources such as detergents. TP is the sum of all of the above. In surface waters of much of the world's oceans, most of the TP is in the form of dissolved organic phosphorus (Karl and Bjorkman, 2002). Analysis of phosphorus is given in units of micro molars. Multiplication of these values by the conversion constant of (0.03097) will yield values in units of milligrams per liter.

Chlorophyll-a measurements provide a metric of phytoplankton photosynthesis and biomass production (EPA, 2001). Excess nutrients due to human activities may generate a condition of accelerated growth known as eutrophication (Howarth, 2008) that results in high levels of chlorophyll- $a$ and other undesirable effects including an overgrowth of seaweed, anoxia, algal blooms, and the loss of submerged aquatic vegetation (Bricker et al., 2003). Chlorophyll- $a$ has been proposed as an indicator of water quality in south Florida waters (Boyer et al., 2009).

This work involved the measurement of chlorophyll-a from water samples by the FDEP (initially by both fluorescence and by visible spectrophotometry, pers. comm. with K. Weaver and R. Frydenborg), as well as chlorophyll-a profiles from the CTD (using fluorescence) from the CTD as noted above. To provide calibration of the CTD and discrete water measurements of chlorophyll- $a$, the CTD profile results were calibrated using the discrete sample results; the two datasets were then completely compatible.

Salinity refers to the amount of various kinds of salt in the water and, thus, is a major factor (along with temperature) in determining the density of seawater. The average salinity of seawater is $\sim 35$ parts per thousand (ppt), or grams of salts per kilogram of water (Talley et al., 2011). Water entering the coastal ocean from either inlets or wastewater treatment plant ocean outfalls is less dense than seawater (positively buoyant) and will rise to or remain at the ocean surface until it mixes into the surrounding ocean. Of course, salinities significantly above or below the average value are detrimental to many species of life (Vernberg and Vernberg, 1972). Salinity is measured via electrical conductance; seawater density is computed from temperature, pressure, and salinity (Pickard and Emery, 1982).

Chromophoric dissolved organic matter, or CDOM, is that portion of the dissolved organic material in the ocean that absorbs light. It is found in all marine environments (Nelson and Siegel, 2012) and is primarily derived from the decomposition of organic material such as seagrass, phytoplankton, and mangroves (Stabenau et al., 2004). CDOM has the important function of shading the benthic ecosystem from harmful ultraviolet rays (Zepp et al., 2007); however, excessive CDOM can limit photosynthesis (Kelble et al., 2005). Light is fundamental to the health of coastal ecosystems: corals, phytoplankton, and seagrasses need light for photosynthesis (Yentsch et al., 2002). In this work, CDOM was measured by ultraviolet-exited fluorescence on a Turner Designs CTD instrument probe (Turner Designs, 2014).

Turbidity is a reduction in light in seawater due to light scattering from particulates suspended in the water column. As with CDOM, excessive turbidity reduces the amount of light available for benthic ecosystems such as coral reefs and can lead to slower coral growth (Dodge and Helmle, 2003). It is distinguished from CDOM in being determined by particulates rather than dissolved substances in seawater. Turbidity was measured via a Turner Designs instrument probe using $90^{\circ}$ scatter of infrared ( 850 nm ) light (Yentsch et al., 2002). The turbidity values indicated in the discrete sample results were the values recorded at the moment the water bottle was closed off at that depth. Because of instrument limitations, turbidity values over 25 NTU (nephelometric turbidity unit) were not recorded in this work.

### 2.1.3 Meteorology

As described above, rain is a major conductor of anthropogenic material into the coastal ocean and, thus, is an important factor in understanding the coastal environment. Rainfall data were obtained from rain stations reporting through the South Florida Water Management District (SFWMD) environmental reporting portal DBHYDRO (Figure 5) (SFWMD, 2017). Representative rainfall data from FDEP stations S37A (Broward County, $26^{\circ} 12^{\prime} 21.295^{\prime \prime} \mathrm{N}, 80^{\circ} 07^{\prime} 56.155^{\prime \prime}$ ) and S29R (Miami-Dade County, $25^{\circ} 55^{\prime} 43.56^{\prime \prime} \mathrm{N}, 80^{\circ} 09^{\prime} 05.63^{\prime \prime} \mathrm{W}$ ) are shown in Figure 6 for the time period of this experiment.


Figure 5: Location of stations measuring canal flow (blue triangles) and rainfall (green circles) reported for the time period of the experiment. Station names are indicated by the text. Data are from DBHYDRO (http://my.sfwmd.gov/ dbhydroplsql).

The fall of 2013 was wetter than normal for Florida; rainfall totals for November ranged from 6-12 inches along the southeast coast, including a remarkable 14.7 inches recorded in northeast Miami-Dade County. In the winter of 2014, south Florida was typically dry, except
for a remarkable rain event on January 9, 2014 in Palm Beach County. The summer of 2014 saw above normal rainfall; however, the dry season (October-November) was drier than normal. A flood event was noted in MiamiDade County during October 21-22. During the spring of 2015, southeast Florida received less than normal rainfall; for example, Fort Lauderdale was 12 inches below normal during June and July. Dry conditions continued through September.

Another useful view of the effect of rainfall on the coastal ocean is to examine rainfall and canal flow during the time period of the 12 water quality cruises listed in Table 1. Figure 5 shows the location of canal flow rate and rainfall rate sites operated by the SFWMD in the region associated with this project. These locations, while perhaps not optimal, should adequately represent the conditions of the region with respect to rainfall and canal flows. Daily flow rate and rainfall rate data were obtained from DBHYDRO. These data have been plotted in Figure 7 for the time period of the 12 cruises. Notably, the cruises in July 2014, September 2014, and September 2015 followed heavy rains and higher canal flow than the other cruises.

### 2.2. Ocean Current Measurements

The direction and velocity of the ambient ocean current will determine the movement and dispersion of the chemical constituents therein. This project called for the placement and maintenance of one acoustic Doppler current profiler (ADCP) instrument at a location in Broward County very near the Hollywood wastewater outfall. The ADCP uses four acoustic beams transmitted through the water column to profile the three dimensional water velocities from near the bottom to near the surface. To augment this dataset, AOML researchers installed a second ADCP in 7 m of water on September 14, 2014, while two tilt current meters, TCM (Lowell Instruments, North Falmouth, MA), were placed between the two ADCP instruments (Figure 8) in September 2015. The TCM devices provided a measurement of water velocities near the bottom. All instruments recorded a measurement every 20 minutes. Features of these installations are given in Table 4.


1-Nov-13 20-Jan-14 $\quad$ 10-Apr-14 $\quad$ 29-Jun-14 $\quad$ 17-Sep-14 $\quad$ 6-Dec-14 $\quad$ 24-Feb-15 $\quad$ 15-May-15 $\quad$ 3-Aug-15
Figure 6. Daily rainfall as recorded by station S37A in Broward County (blue circles) and station S29R in Miami-Dade County (red plus signs) for the period of the experiment. Times of the 12 sampling cruises are shown by the yellow diamonds. Note the record of ~6 inches of rain measured at station S29R on March 1, 2015. Data are from DBHYDRO (http://my.sfwmd.gov/dbhydroplsql).


Figure 7. Rainfall (lines) and canal flow (small symbols) for the 12 sampling cruises. Identity of each rainfall or canal location is in the inset of the November 2013 cruise plot. Times of the cruise CTD casts are denoted by the green plus signs. Canal flow data refer to the left vertical index of each plot; rainfall rates refer to the right vertical index of each plot; axes are the same for each plot. Canal flow rate and rainfall data are from DBHYDRO (http://my.sfwmd.gov/ dbhydroplsql).


Figure 8. Left: Deep-water ADCP mount. Center: Tilt current meter as deployed. Right: Google Earth map showing the location of the two ADCP and two TCM instruments. Pink regions are coral reefs. The ADCPs were located about 8 km south of Port Everglades Inlet and approximately 13 km north of Baker's Haulover Inlet. The deep mount for the NNC study was located near the Hollywood wastewater treatment plant outfall.

### 2.3 Coral Reef Assessments

### 2.3.1 Rationale

Coral reefs are both ecologically and economically important. They are hot spots of biodiversity (ReakaKudla, 1997) and productivity (Odum and Odum, 1955), accounting for the greatest concentration of species of any marine ecosystem. They provide valuable services through tourism, fishing, and breakwater protection, which have been estimated in the Caribbean alone to account for U.S. $\$ 5.7$ billion annually (Moberg and Folke, 1999; Burke et al., 2011). South Florida reefs are no exception, providing important economic services to the surrounding counties through diving, snorkeling, and fishing. In a year-long period spanning 2000 to 2001, reefs in Miami-Dade County alone were responsible for 9.18 million person-days of use, resulting in $\$ 1.297$ billion in sales, $\$ 614$ million in income, and roughly 19,000 jobs (Bell, 2003). Given their strong link to the south Florida
economy, it is imperative that managers have a solid understanding of the potential impacts associated with anthropogenic stressors such as nutrients.

Land-based sources of pollution and nutrients are considered one of the top three priorities for NOAA's Coral Reef Conservation Program. Along with climate change and ocean acidification, these three areas of concern are expected to severely impact reef growth and function (Gledhill and Tomczuk, 2012; LBSP Implementation Plan, 2012). Specifically, nutrients are known to directly influence the growth and mortality of reef-building corals in the Caribbean, including Endangered Species Act-listed species (Tomascik and Sander, 1985; Marubini and Davies, 1996; Renegar and Riegl, 2005). While these influences alone are troubling, the implications of landbased sources of pollution for reefs are not necessarily limited to the direct impacts on hard reef-building corals. For instance, excess nutrients and reduced herbivory can

Table 4. Ocean current instrument deployments.

| Name | Type | Latitude | Longitude | Depth (m) | Start Date | End Date |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: |
| ADCP-shallow | T-RDI 600kHz ADCP | $26^{\circ} 1.149^{\prime}$ | $80^{\circ} 6.518^{\prime}$ | 7 | $04-$ Sep-14 | $12-N o v-15$ |
| ADCP-deep | T-RDI 300kHz ADCP | $26^{\circ} 1.108^{\prime}$ | $80^{\circ} 5.172^{\prime}$ | 26.2 | $12-$ Nov-13 | $12-N o v-15$ |
| TCM-1 | Lowell Instruments | $26^{\circ} 1.103^{\prime}$ | $80^{\circ} 5.878^{\prime}$ | 11 | $08-S e p t-15$ | $12-N o v-15$ |
| TCM-2 | Lowell Instruments | $26^{\circ} 1.132^{\prime}$ | $80^{\circ} 5.545^{\prime}$ | 21 | $08-S e p t-15$ | $12-N o v-15$ |

lead to a proliferation of macroalgae which can, in turn, overgrow corals, restrict recruitment, and indirectly inhibit the growth of corals and reefs alike (McCook, 1999).

Land-based sources of pollution have also been shown to influence the abundance, biomass, and erosion rate of a diverse suite of bioeroding fauna (e.g., annelids, mollusks, poriferans, and crustaceans) and flora (e.g., microboring algae), the taxa that naturally erode coral skeletons and reef habitat (Chazottes et al., 2002; Le Grand and Fabricius, 2011; Carreiro-Silva et al., 2012). This erosive behavior can be thought of as the antithesis of coral calcification and, as such, the influence of nutrients on rates of erosion has important ramifications for reef ecosystem health and permanence. Due to the potentially numerous and varied factors involved, determining the magnitude and direction of the effects is complicated and often site or taxon-dependent. Consequently, there are still gaps in our understanding of how the relationships between landbase sources of pollution, corals, algae, and bioeroders manifest at the ecosystem level.

Caribbean coral reefs are often located near urban development and, while this close proximity makes these reefs especially important to local economies, it also increases their exposure and, theoretically, their sensitivity to direct anthropogenic stress such as land-based sources of polluton (Bhat, 2003). Reefs in the SEFCRI region are a prime example and have potentially been exposed to land-based sources of pollution for decades, making them model systems to ascertain how reefs are influenced by these anthropogenic stressors.

### 2.3.2 Study Sites

Benthic monitoring was conducted at four coral reefsEmerald, Pillars, Barracuda, and Oakland Ridge-two each in Miami-Dade and Broward counties (Figure 9). These reefs were chosen based on their location within the SEFCRI region and their proximity to potential nutrient sources, as well as their similar benthic composition and water depth. Three permanent monitoring stations within 0.5 kilometers of each other were established at each reef, generating 12 total sampling sites for this study.


Figure 9: Location of the four reef study sites.

### 2.3.3 Assessment Methodology

### 2.3.3.1 Stony coral rapid bioassessment

Coral surveys were conducted using the guidelines and suggestions of the EPA Stony Coral Rapid Bioassessment Method (Fisher, 2007). At each of the 12 sampling sites, a $3 \times 5 \mathrm{~m}$ radial belt transect was used to survey a roughly $50 \mathrm{~m}^{2}$ planar area of the benthos. Divers attached a transect tape to a central axis at the study site, with the 3 - and $5-\mathrm{m}$ distances clearly delineated. The line was held taught above the surface of the reef to avoid contact with the underlying community. As the first diver slowly rotated the transect tape around the central axis, a second diver conducted a visual assessment of the underlying benthic community. The assessment entailed counting, measuring (e.g., maximum diameter, width, and height), and identifying (to species level) each scleractinian coral within the belt transect. Corals located on transect margins with an excess of $50 \%$ of the colony within the belt transect were included in the analysis.

To minimize the potential bias of juvenile-related effects, only coral colonies with a maximum diameter $\geq 10 \mathrm{~cm}$ were measured. The growth rates of most coral species are on the order of centimeters to millimeters per year and, therefore, this stipulation ensured that only the older, more established coral colonies were analyzed. The colony measurements (length along their longest axis, width, and height) were obtained from the entire coral skeleton, and the percent live tissue across the colony was also recorded. This method captured the potentially more dynamic (relative to growth/calcification) metric of live tissue cover, but also ensured that large corals with only small patches of tissue remaining were still captured in the analysis. For example, the presence of larger coral colonies with a very low percent live tissue cover could indicate recent disturbance.

### 2.3.3.2 Benthic community composition

A survey of other benthic organisms, including reef algae, octocorals, and sponges, was conducted concurrently with the aforementioned coral census. Algae survey methodologies followed a modified version of the EPA Periphyton Protocol (method II) (Stevenson and Bahls, 1999). Whereas the EPA's protocol was originally developed for freshwater systems, methodologies herein were specifically tailored to capture the composition and temporal variation of the more dynamic members of the reef ecosystem, such as the algal communities. Coral reefs are heterogeneous environments and, as such, often necessitate a greater sampling effort to adequately quantify the benthic community. Accordingly, photo quadrats (approximately $1 \mathrm{~m}^{2}$ ) were taken over the extent of a $4-\mathrm{m}$ radial belt transect to quantify the benthic community composition at each sample site (Figure 10).

### 2.3.4 Field Logistics

The benthic surveys began in December 2013 and were conducted four times a year so as to capture seasonal fluctuations in benthic community composition. Surveys were performed in December 2013, March 2014, June 2014, September 2014, December 2014, March 2015, June 2015, and September 2015. Transportation to the reef sites was achieved using AOML's R/V Cable, a 21 -foot Parker boat powered by a 200 horsepower Yamaha 2-stroke


Figure 10. Example of photo quadrat showing benthic composition and scale bar.
engine. The two southern reefs (Emerald and Pillars) were accessed by launching the boat from Virginia Key, while the northern reefs (Barracuda and Oakland Ridge) were reached by trailering the boat and launching from John U. Lloyd State Park. Three researchers were involved with each sampling mission: a dedicated boat tender and a two-person dive team. All diving operations conformed to the safety guidelines and procedures of the American Academy of Underwater Sciences. Because of the logistics and safety requirements inherent in diving operations, the duration of each coral survey was dependent on the weather.

### 2.3.5 Analysis Procedures

### 2.3.5.1 Stony coral rapid bioassessment

The planar coral colony surface area was calculated from surveyed corals as a two-dimensional ellipse, as in Equation 1, and summed to yield the total area of live coral tissue at each transect site. The planar surface area is equal to:

$$
\begin{align*}
& \left(\pi^{*}(1 / 2 \text { max diameter }) *(1 / 2 \text { width })\right)^{*} \\
& (\text { percent live tissue }) \tag{1}
\end{align*}
$$

This value was divided by the total surface area of the coral bioassessment survey transect ( $502,655 \mathrm{~cm}^{2}$ ) to calculate the percent coral cover per transect. Coral cover at each reef was calculated as the mean of the three transects for
each sampling period. Unlike the aforementioned colony surface area estimates, which were two-dimensional so as to calculate percent cover, colony size was calculated as a three-dimensional ellipsoid as in Equation 2, where $\mathrm{L}=$ the proportion of live tissue; $\mathrm{a}=$ half the maximum diameter; $\mathrm{b}=$ half the width; $\mathrm{c}=$ colony height; and $p=1.6075$ :

$$
\begin{equation*}
\mathrm{L}^{*}\left(4^{*} \pi^{*}\left(\left(\mathrm{a}^{p} \mathbf{b}^{p}+\mathrm{a}^{p} \mathrm{c}^{p}+\mathrm{b}^{p} \mathrm{c}^{p}\right) / 3\right)^{1 / p} / 2\right) \tag{2}
\end{equation*}
$$

Colony size means were calculated from all corals within a reef. Total colonies encountered per reef were tallied per sampling effort.

The magnitude of bleaching was investigated in September 2014 during elevated summer water temperatures. Each surveyed colony was categorized into one of four bleaching states as follows: healthy (colonies displaying no change in usual pigmentation); pale (colonies exhibiting a lower than usual color intensity); bleaching (colonies having very pale to almost colorless tissue); and bleached (colonies having clear/colorless tissue). The prevalence of these states was investigated by reef site and by coral species.

### 2.3.5.2 Benthic community composition

Photo quadrats were analyzed in CPCe (coral point count with Excel extensions) (Kohler and Gill, 2006) by overlaying 64 random points on each quadrat and noting the underlying species. An analysis was conducted at the species level where possible, as well as at the functional group level (e.g., crustose coralline algae, calcifying macroalgae, turf algae, green macroalgae, red macroalgae), to identify community shifts impacting groups with similar life history characteristics.

A statistical analysis of the benthic community was performed with non-metric multidimensional scaling (NMDS), conducted using the Plymouth Routines in Multivariate Ecological Research software package (Clarke and Gorley, 2006). The mean percent cover per reef was calculated per sampling trip (1-8), and a trip multiplied by the functional species group matrix was constructed. Data were subsequently square root transformed to achieve an appropriate data distribution, and a similarity matrix
(Bray Curtis) was calculated. Dendrograms and twodimensional NMDS plots were constructed, and clusters were overlaid on the NMDS plots showing the degree of similarity to visualize shifts and changes in community structure.

### 2.4 Microbiological Assessments

### 2.4.1 Rationale

The ecological and economic importance of the coral reefs and coastal waters studied herein is detailed above, as are the impacts of land-based sources of pollution exposure on these ecosystems, including the influence on their critical ecosystem functions and services. Coral reefs are highly diverse ecosystems that play crucial roles in maintaining marine biodiversity and productivity and coastal protection, and they serve as a source of food and recreation. Corals exist as holobionts composed of a coral polyp, endosymbiotic zooxanthellae (Symbiodinium spp.), bacteria, fungi, archaea, and viruses (Rosenberg et al., 2007). The interactions of all of the constituents of the coral microbiome have been described as dynamic, changing in response to seasonal variations, physical habitat characteristics, and disease state (Kimes et al., 2013). Due to global climate change, land-based pollution exposure, and other anthropogenic impacts on the coral microbiome (Burge et al., 2014), coral reefs have been recognized as endangered ecosystems for the past several decades. Estimates are that greater than $20 \%$ of coral reefs globally are already lost, while approximately $24 \%$ face imminent risk and another $26 \%$ may be facing severe damage (Riegl et al., 2009).

A core microbiome among corals is defined functionally rather than based on the presence of specific taxa, similar to what is found in humans. The coral microbiome has recently been implicated in the onset of reef diseases, where stresses on the microbiome (e.g., elevated temperature, land-based sources of pollution exposure, etc.) disturb normal host resistance and/or restriction from other members of the microbiome. Consequently, this allows for an overgrowth of typically commensal taxa and various opportunistic pathogens (Krediet et al., 2013; Kelly et al., 2014). Land-based sources of pollution have been shown to both promote the growth of native opportunistic
pathogens in the marine environment and to transport anthropogenic sourced microbial contaminants, fecal bacteria, and pathogenic fungi, bacteria, and viruses to marine ecosystems, including coral reefs.

In this study, we used traditional culture-based assays to measure enterococci fecal indicating bacteria, as well as target-specific quantitative polymerase chain reaction ( qPCR ) microbial source tracking (MST) to measure hostspecific fecal bacteria and virus markers in coastal waters and coral tissue. These measurements were combined with a next-generation sequencing approach to characterize the microbial communities from land-based pollution discharge sources (coastal inlets, oceanic outfalls from wastewater treatment plants, and wastewater treatment effluent), coral reef waters, and coral tissue (mucus and polyps) from two sentinel coral species (Porites astreoides and Siderastrea siderea). These sentinel coral reefs along the southeast coast of Florida are located offshore of Miami-Dade and Broward counties at the sites described in sections 2.1.1 and 2.3.2.

We hypothesized that the impacts of exposure to various land-based sources of pollution on microbial communities (prokaryotic and fungal) in nearby coral reefs and tissue samples would vary as a result of demographic and hydrological differences associated with the sampling sites. We also hypothesized that the relative degree of source impacts could be determined based on the exchange between microbial communities from land-based sources of pollution and reef waters or coral tissues. Here, potential contributions from land-based sources of pollution were evaluated by directly measuring fecal host-specific microbial targets with specific $q$ PCR MST genetic markers (Griffith et al., 2013) and indirectly by using SourceTracker sequence algorithm analysis of microbial community sequencing data (Staley et al., 2015; Knights et al., 2011), which uses a Bayesian approach to assign operational taxonomic units (OTUs) from sink communities to sources.

This work is a supplemental component of the larger Florida Area Coastal Environment (FACE) program and Numeric Nutrient Criteria (NNC) study described in section 1.3. The goals of this program were to investigate nutrient concentrations and the transport from land-
based sources of pollution, perform coral benthic surveys of coral cover and health, monitor microbiological water quality of the southeast Florida sentinel coral reef sites used in this study, and characterize the water column and coral tissue microbiome community structure and biodiversity of these coral sites.

### 2.4.2 Study Sites and Field Logistics

Water samples were collected from selected CTD casts during the 12 bimonthly sampling cruises described in section 2.1 and shown on the site map in Figure 4. A summary of the CTD casts used for microbiological analyses appears in Table 5, and a more detailed list of water samples by date collected for microbiological analysis, along with results of MST and viable enterococci analysis, is shown in Appendix 3. Water subsamples for microbiological analyses were collected from the same CTD Niskin bottle samples as used for the nutrient analysis described in section 2.1.2. Cruise logistics are described in section 2.1.

Water samples were collected during 2014 and 2015 from three coastal inlets (Port of Miami, Baker's Haulover, and Port Everglades), two surface boil expressions of oceanic outfalls from treated wastewater (Miami Central and Miami North), and 16 coral reef water sites (four reefs with three sites each for surface water and four reefs with one site each for bottom water). In addition, for selected cruises a shore team collected synoptically-timed samples of treated effluent from the Miami Central and Miami North wastewater treatment plants at the final sampling port after dechlorination post-treatment and just before discharge into the effluent outfall pipe.

Coral tissue (polyps) and mucus samples were collected by SCUBA divers using syringe biopsies on a quarterly basis from 2014 through 2015 from two coral species (Porites astreoides and Siderastrea siderea) from the same three reef sites at each of the same four sentinel reefs (Emerald, Pillars, Barracuda, and Oakland Ridge), as described in section 2.3.2 and as shown in Figure 9. Twenty-four coral polyp tissue samples (two coral species from four reefs with three coral sites each) were collected by divers during each of the six quarterly benthic coral surveys described in sections 2.3.2 and 2.3.4 from coral heads at these same sites
actively surveyed for stony coral rapid bioassessment. The syringe biopsy samples contained a slurry of coral polyp tissue and coral mucus that represented the holobiont community of both. For the first three coral sampling events, separate syringe collections were also performed for samples of just coral mucus. A list of the coral sample sites used for microbiological analysis is summarized in Table 6, and a more detailed list of coral samples by date collected for microbiological analysis, along with results of MST analysis, is shown in Appendix 3.

### 2.4.3 Methodology

### 2.4.3.1 Water sample collection, preservation, and DNA/ RNA extraction

Water samples and in situ sensor data were collected with a Seabird ECO- 55 rosette sampler holding six 4 -L seawater sampling Niskin bottles and a SBE 19V2 CTD instrument package, sampling at 4 Hz . The CTD and rosette assembly were lowered into the water column at the specified sampling locations with all bottles open to seawater flow;

Table 5. Location of CTD cast water samples used for microbiological analyses.

| Sample Site <br> Station ID | Sample Site Description | Latitude <br> $\left({ }^{\circ} \mathbf{N}\right)$ | Longitude <br> $\left({ }^{\circ} \mathbf{W}\right)$ | Depth <br> $(\mathbf{m})$ |
| :--- | :--- | :---: | :---: | :---: |
| PEI-A | Port Everglades Inlet - surface | 26.0935 | -80.1103 | 1.13 |
| OR1-A | Oakland Ridge Reef site 1 - surface | 26.1599 | -80.0826 | 1.3 |
| OR2-A | Oakland Ridge Reef site 2 - surface | 26.1596 | -80.0769 | 1.18 |
| OR2-C | Oakland Ridge Reef site 2 - bottom | 26.1594 | -80.0768 | 18.86 |
| OR3-A | Oakland Ridge Reef site 3 - surface | 26.1636 | -80.077 | 1.2 |
| BKG1-A | Background site 1 - surface | 26.1295 | -80.0881 | 1.16 |
| BA1-A | Barracuda Reef site 1 - surface | 26.0674 | -80.0934 | 1.23 |
| BA2-A | Barracuda Reef site 2 - surface | 26.0628 | -80.0935 | 1.3 |
| BA2-C | Barracuda Reef site 2 - bottom | 26.0629 | -80.0935 | 11.07 |
| BA3-A | Barracuda Reef site 3 - surface | 26.0673 | -80.0988 | 1.16 |
| BKG2-A | Background site 2 - surface | 26.0001 | -80.0967 | 1.25 |
| MN1-A | Miami North outfall - surface | 25.9231 | -80.0891 | 1.08 |
| MN2-A | 500 m north of Miami North outfall - surface | 25.928 | -80.0895 | 1.29 |
| MN3-A | 500 m south of Miami North outfall - surface | 25.9186 | -80.0894 | 1.16 |
| BHI-A | Bakers Haulover Inlet - surface | 25.9001 | -80.1227 | 1.58 |
| BKG3-A | Background site 3 - surface | 25.8953 | -80.0898 | 1.25 |
| BKG6-A | Background site 6 - surface | 25.5953 | -80.0949 | 1.14 |
| PR1-A | The Pillars Reef site 1 - surface | 25.8421 | -80.1041 | 1.08 |
| PR2-A | The Pillars Reef site 2 - surface | 25.8422 | -80.0883 | 0.99 |
| PR2-C | The Pillars Reef site 2 - bottom | 25.8422 | -80.0882 | 14.36 |
| PR3-A | The Pillars Reef site 3 - surface | 25.8511 | -80.0882 | 1.09 |
| BKG5-A | Background site 5 - surface | 25.7095 | -80.0869 | 1.16 |
| MC1-A | Miami Central outfall - surface | 25.7433 | -80.086 | 1.34 |
| MC2-A | 500 m north of Miami Central outfall - surface | 25.7477 | -80.0862 | 1.11 |
| MC3-A | 1 km north of Miami Central outfall - surface | 25.7383 | -80.0856 | 1.16 |
| PMI-A | Port of Miami Inlet - surface | 25.7735 | -80.1314 | 1.3 |
| BKG4-A | Background site 4 - surface | 25.8002 | -80.093 | 1.16 |
| ER1-A | Emerald Reef site 1 - surface | 25.6524 | -80.0946 | 1.23 |
| ER2-A | Emerald Reef site 2 - surface | 25.6524 | -80.0898 | 1.04 |
| ER2-C | Emerald Reef site 2 - bottom | 25.6521 | -80.0897 | 17.95 |
| ER3-A | Emerald Reef site 3 - surface | 25.6620 | -80.0894 | 1.08 |
|  |  |  |  |  |
|  |  |  |  |  |

Table 6. Location of coral tissue sample sites used for microbiological analyses.

| Region | Site <br> Name | Latitude <br> $\left({ }^{\circ} \mathbf{N}\right)$ | Longitude <br> $\left({ }^{\circ} \mathbf{W}\right)$ |
| :--- | :---: | :---: | :---: |
| Emerald Reef |  | 25.674167 | -80.098667 |
|  | Site 1 | 25.674944 | -80.097667 |
|  | Site 2 | 25.666189 | -80.096606 |
|  | Site 3 | 25.678333 | -80.097389 |
| Pillars Reef |  | 25.860333 | -80.099633 |
|  | Site 4 | 25.860278 | -80.099528 |
|  | Site 5 | 25.862778 | -80.099917 |
|  | Site 6 | 25.865286 | -80.099733 |
| Barracuda Reef |  | 26.083167 | -80.095333 |
|  | Site 7 | 26.081920 | -80.095860 |
|  | Site 8 | 26.071467 | -80.096361 |
|  | Site 9 | 26.078083 | -80.095833 |
| Oakland Ridge Reef |  | 26.150333 | -80.089833 |
|  | Site 10 | 26.151283 | -80.089833 |
|  | Site 11 | 26.157833 | -80.088806 |
|  | Site 12 | 26.154950 | -80.089083 |

Tube Labels (site $=\mathrm{E} 1-3, \mathrm{P} 4-6, \mathrm{~B} 7-9, \mathrm{O} 10-12$ )
SSM Siderastrea siderea mucus
SSP Siderastrea siderea polyp
PAM Porites astreoides mucus
PAP Porites astreoides polyp
two bottles were closed off at the bottom, mid-depth, and near the surface to capture the water at those depths. Water subsamples were collected from the Niskin bottle discharge ports into sterile 2-L polypropylene bottles and held on ice for return to the lab and sample processing. Water samples were processed and extracted as described in section 2.1 (Campbell et al., 2015). In brief, 1-L water samples were aseptically filtered through sterile mixed cellulose ester membrane filters ( $0.2 \mu \mathrm{~m}$ pore-sized, 47 mm diameter; EMD Millipore). The filters were then aseptically transferred with sterile forceps to Lysing Matrix A bead-beat tubes (MP Biomedicals, LLC, Santa Ana, CA, USA), and stored frozen at $-80^{\circ} \mathrm{C}$ until DNA extraction. DNA was extracted from the filters using the FastDNA spin kit (MP Biomedicals) as per the manufacturer's directions using a FastPrep-24 (MPBiomedicals) beadbeat homogenizer instrument (speed setting of $6.0 \mathrm{~m} / \mathrm{s}$ for 60 seconds), and the purified DNA extracts were stored frozen at $-80^{\circ} \mathrm{C}$ until further analysis.

For viral RNA extractions, viruses were concentrated from acidified water samples and viral RNA extracted and
purified as previously described (Symonds et al., 2016). In brief, a replicate 1-L water subsample was taken from the Niskin bottle. To concentrate the viruses, the 1-L aliquot was acidified with $1 \mathrm{~mol} \mathrm{~L}-1$ acetic acid to $\mathrm{pH} \sim 3.0$, and viruses were then concentrated via charge adsorption by filtration onto a $47 \mathrm{~mm}, 0.45 \mu \mathrm{~m}$ HA negatively charged nitrocellulose filter (EMD Millipore). Viral nucleic acid was purified directly from the filters using the QIAmpMinElute Virus Spin Kit with the modification of Fuhrman et al. (2005). Following RNA purification, cDNA was immediately synthesized using the First Strand Synthesis Superscript III Reverse Transcription Kit (Invitrogen) with random hexamer primers. RNA extracts and their cDNA transcripts were stored frozen at $-80^{\circ} \mathrm{C}$ until further analysis.

### 2.4.3.2 Coral tissue sample collection, preservation, and DNA extraction

Coral tissue was collected by syringe biopsy, where the syringe is held firmly against the coral skeleton and the plunger pulled back, causing a suction that draws the entire coral polyp into the syringe (while causing no damage to the coral skeleton, and the coral tissue typically grows back within several weeks). Two replicate clonal polyps were collected from the same coral head for each particular coral tissue sample in a sterile 5 mL syringe by SCUBA divers conducting the coral benthic survey. Upon surfacing, coral tissue from the syringe was transferred to a sterile 50 mL polypropylene tube and filled with absolute ethanol for a final preservative concentration of $95 \%$ ethanol. Ethanol-preserved coral tissue samples were held on ice until return to the lab for processing.

Coral mucus was collected by benthic survey divers from the same coral heads using 60 mL syringes, gently sucking near the coral surface but not strongly enough to dislodge coral tissue. Upon return to the boat, mucus samples were also held on ice until return to the lab for processing. Mucus samples were filtered immediately upon return to the lab. Coral polyp tissues in $95 \%$ ethanol were stored in a freezer at $-20^{\circ} \mathrm{C}$ until DNA extraction. The 60 mL coral mucus samples were aseptically filtered onto polycarbonate membrane filters ( $0.2 \mu \mathrm{~m}$ pore size, 47 mm diameter) and aseptically transferred to Lysing

Matrix E tubes (MP Biomedicals), then extracted with the FastDNA Spin Kit for Soil (MP Biomedicals) using the Lysing Matrix E as per the manufacturer's directions.

The coral polyp tissues preserved in $95 \%$ ethanol were collected by aseptically filtering from the ethanol onto sterile polycarbonate membrane filters ( $0.2 \mu \mathrm{~m}$ pore size, 47 mm diameter). Large pieces of tissue were transferred from the filter into Lysing Matrix E tubes (MP Biomedicals) using sterile forceps. The filter was then rolled using sterile forceps and aseptically placed into the same Lysing Matrix E tube with the rest of its tissue using sterile forceps. DNA was then extracted using the FastDNA Spin Kit for Soil (MP Biomedicals) as per the manufacturer's directions, except that two rounds of bead-beat homogenization were used in a FastPrep- 24 homogenizer instrument at a speed setting of $6.0 \mathrm{~m} / \mathrm{s}$ for 60 seconds each, then DNA extracts were stored frozen at $-80^{\circ} \mathrm{C}$ until further analysis.

### 2.4.3.3 Additional oceanographic habitat measurements collected for coral microbiome analyses

To estimate additional selected oceanographic habitat variables that might have potentially influenced coral microbiomes at the study sites during the time of collection, a subset of the coral tissue microbiome samples were assessed in relation to selected physical habitat characteristics using a combination of in situ measurements and operational or semi-operational model outputs together with satellite ocean color data. The minimum near-bottom sea temperatures near the sampled coral heads were collected by divers during coral tissue sampling. Seafloor depths (bathymetry) were derived from the 10 m horizontal-resolution port bathymetry project of NOAA's National Geodetic Data Center. This bathymetry model was used to estimate local seafloor depth, slope (rise/run), local isobath orientation (alongshore direction in degrees true), and distance to land for each sampling site.

Additional supplemental information about ocean currents (i.e., in addition to the direct current measurements described in section 2.2 ) were extracted as daily snapshots
from the Gulf of Mexico HYbrid-Coordinate Ocean Model (GoM HYCOM; e.g., Gierach et al., 2009) at the model layer closest to the surface. Northward and eastward vector components were linearly interpolated to sampling locations and then rotated so that positive cross-shore currents were directed perpendicular to the local isobath (i.e., offshore) at each sampling site. Ocean model outputs were validated using in situ hourly observations from ADCPs and TCMs moored in an across-shore section located 6 km north of the sampling locations for Barracuda Reef.

To estimate surface wave action, we used significant wave height from NOAA's WaveWatch III multi-mesh grid operational model for the western Atlantic with a 4 nautical mile nominal resolution (Lee et al., 2009). A wave attenuation algorithm was applied to wave height, bilinearly interpolated to the 10 m horizontal resolution of bathymetry (Gramer and Hendee, 2018). This algorithm linearly reduces significant wave height at bottom depths between $0-20 \mathrm{~m}$, resulting in high-resolution wave fields that reach all the way inshore, with zero wave height at the beach.

Satellite ocean color was used to produce a proxy for in-water turbidity called relative turbidity, or color index (CI). Since 2000, the MODerate-resolution Imaging Spectrophotometer (MODIS) instruments aboard the Aqua and Terra satellites have produced data at approximately 250 m horizontal resolution for this CI product. CI datasets for narrow regions surrounding both the northern and southern sampling locations were produced using an algorithm developed by the University of South Florida's Optical Oceanography Laboratory.

Ocean model outputs and diver-watch sea temperatures were validated using in situ hourly observations from acoustic Doppler current profilers (ADCPs). These ADCPs were moored at two sites: one at 7 m depth and one at 26 m depth, 6 km north of Barracuda Reef (as described above). They measured near-bottom sea temperatures (nominal accuracy of 0.01 K ) and three-dimensional ocean current profiles (bin sizes 0.5 m at 7 m depth and 1 m at 26 m depth, nominal accuracy $10^{-4} \mathrm{~m} \mathrm{~s}^{-1}$ ) every 20 minutes.

### 2.4.3.4 Culture-based enumeration of viable enterococci fecal indicator bacteria

Bacteriological water samples were analyzed for viable enterococci by the membrane-Enterococcus Indoxyl- $\beta$ -D-Glucoside (mEI) agar plate count technique using the U.S. Environmental Protection Agency's (EPA) method 1600 (EPA, 2002). In brief, replicate 100 mL aliquots from Niskin bottles collected from the CTD casts at each site for microbiological analysis during the sampling cruises were collected in sterile polypropylene bottles, then aseptically filtered onto sterile gridded mixed cellulose ester filters ( $0.45 \mu \mathrm{~m}$ pore size, 47 mm diameter, EMD Millipore). These filters with the cells harvested from the 100 mL seawater samples were then aseptically transferred to mEI agar plates, incubated for 24 hours at $41^{\circ} \mathrm{C}$, then enumerated for standard blue-halo colonies of presumptive enterococci.

### 2.4.3.5 Quantitative PCR for molecular microbial source tracking

For DNA-based bacterial molecular MST, replicate $2 \mu \mathrm{~L}$ aliquots of the environmental DNA extracts from water samples or corals were analyzed by 5 '-exonuclease probe qPCR MST assays for the following host-specific fecal bacterial indicator markers: total enterococci; human-host-source Bacteroidales; canine-host-source Bacteroidales; and bovine-host-source Bacteroidales. Total enterococci qPCR enumeration was performed by using the EPA method for the Enterol marker as per EPA standard method 1611 (EPA, 2012), with the following modifications: $2 \mu \mathrm{~L}$ of target was added to the final reaction volumes of $25 \mu \mathrm{~L}$, QuantiTect Probe 2X PCR mastermix (Qiagen) was used rather than ABI environmental mastermix (Applied Biosystems), cycling was conducted on a StepOnePlus thermocycler (Applied Biosystems), and quantitation was based on replicate standard curves of known concentrations of purified genomic DNA from Enterococcus faecalis (ATCC No. 29212). The 5'-exonuclease qPCR assays for MST markers by HF183 (for human-source Bacteriodales), DogBac (for canine-source Bacteroidales), and CowM2 (for bovinesource Bacteroidales) were conducted as described in
the methods appendix section of the Southern California Coastal Water Research Project's California Microbial Source Identification Manual (Griffith et al., 2013).

For RNA-based viral MST, the viral cDNA transcripts were analyzed using reverse transcriptase-qPCR (RT-qPCR) by the project's collaborative partners at the University of South Florida (i.e., Erin Symonds and Mya Breitbart) with an ABI 7500 Real Time PCR system (Thermo Fisher Scientific) with the TaqManR Environmental Master Mix 2.0 UNG kit (Thermo Fisher Scientific) using published qPCR assays and conditions for human polyomavirus (HPyV) (McQuaig et al., 2009) and pepper mild mottle virus (PMMoV) (Zhang et al., 2006) with minor modifications (Symonds et al., 2014). For each assay, dilution series of purified plasmids containing the assay amplicon were analyzed in duplicate for each qPCR run, and each sample was run in triplicate alongside process and nucleic acid purification controls. More specific details of the viral RT-qPCR analyses for this study can be found in Symonds et al. (2016).

### 2.4.3.6 Ribosomal amplicon next-generation-sequencing of total microbial community DNA

Prokaryotic sequencing was performed using the 515F/806R primer set targeting the V4 region (Caporaso et al., 2012), and fungal sequencing was performed using the ITS1F/ITS2 primer set targeting the ITS1 region (Smith and Peay, 2014). Amplification and sequencing was performed using the dual-index method by the University of Minnesota Genomics Center (Minneapolis, MN, USA) (Gohl et al., 2016), and each sample plate included a sterile water negative control that was carried through amplification and sequencing. Sequencing was performed on the Illumina HiSeq2500 and MiSeq platforms, and results have been shown to be comparable across platforms (Caporaso et al., 2012).
Note: All sequence data generated by this project have been deposited in the Sequence Read Archive of the National Center for Biotechnology Information under BioProject accession number SRP076111.

### 2.4.3.7 Bioinformatics analysis of community next-generation-sequencing data for microbiome community structure and biodiversity/MST analysis of sequencing data by SourceTracker algorithms

The sequencing, bioinformatics, and sequence statistical analysis used in this study are described in detail in Staley et al. (2017). In brief, all sequence processing, unless otherwise noted, was performed using MOTHUR software version 1.34.0. Prokaryotic sequence data were trimmed to the first 160 nucleotides (nt) and paired-end joined using fastq-join software. Sequences were trimmed for quality as described previously for V5-V6 data (Staley et al., 2015). Global alignment was performed against the SILVA database version 119, sequences were subjected to a $2 \%$ pre-clustering step to remove sequence errors, and chimeric sequences were identified and removed using UCHIME software. OTUs were assigned at $\geq 97 \%$ identity by complete-linkage clustering. Taxonomic assignments were made against Ribosomal Database Project version 14, at a bootstrap cutoff of $60 \%$ as described previously (Wang et al., 2007). Fungal sequence data were trimmed to the first 150 nt and processed in the same way as prokaryotic data, with the exception that sequences with homopolymers $>9$ nt were removed, and fungal assignments were made using the UNITE database version 6. For statistical comparisons, the prokaryotic dataset was rarefied by random subsample to 35,000 sequence reads per sample, prior to OTU calling, and the fungal dataset was rarefied to 10,000 reads per sample.

To evaluate potential contributions from land-based sources of pollution, the software SourceTracker version 0.9 .8 was used to analyze the sequencing data with the default parameters (Knights et al., 2011). This software uses a Bayesian algorithm to identify OTUs from source communities found in sink communities at a rarefaction to 1,000 sequence reads. The microbial communities from (1) treated wastewater effluent before oceanic discharge, (2) treated wastewater oceanic outfalls (at the surface), (3) coastal inlet discharge waters, and (4) open ocean surface water communities were designated as the sources for analysis by this SourceTracker algorithm. The open ocean background communities were included as sources to reduce noise associated with outfall samples, due to high community similarity between these sample types.

### 2.4.3.8 Bioinformatics analysis of coral tissue microbiome community structure in relation to physical oceanographic habitat characteristics

Demultiplexed sequences from a subset of 55 selected coral polyp tissue samples from three selected months (March, June, and September 2015) were retrieved from the National Center for Biotechnology Information (NCBI) Sequence Read Archive (SRA) database (\#SRP076111) where we had archived all of this project's sequencing data. Once downloaded, the sequence primers were trimmed using the program cutadapt. The sequences were analyzed with QIIME2-2018.6 using the DADA2 pipeline for classification of amplicon sequence variants (ASVs) and were run with a maximum expected error (maxEE) of 2 (Callahan et al., 2016).

To select sequence trimming positions, the quality score of a random set of sequences was analyzed. Where sequences showed a drop-in quality score ( $<$ Phred $=30$ ), those base pair positions were chosen for trimming. All forward sequences were truncated to the same length of 220 base pairs and trimmed at the first eight base pairs. The reserve reads were also truncated to be of the same length at 120 base pairs and trimmed at the first 20 base pairs. The DADA2 pipeline was used for ASV selection, dereplication, merging paired-end reads (minimum overlap $=20$ base pairs), and removing chimeras (with the "consensus" option). Taxonomy was assigned with the Silva database version 132 training set, which was trained on the V4 region by the "fit-classifier classify-sklearn" function. Only sequences that were taxonomically identified as bacteria or archaea were analyzed. The biome data, ASV table, fasta file, phylogenetic tree, and metadata for this analysis can be found on figshare (doi:10.6084/m9.figshare.7388672). The specific NCBI accession number for each sequence file is listed under "sampleID" in the metadata file.

### 2.4.3.9 Statistical analysis for microbiome sequence bioinformatics

Oceanographic habitat analysis and simple linear regression were carried out using MATLAB. Ordinary linear regression, in particular for habitat-diversity relationships, was performed using iteratively reweighted least squares with a bisquare weighting function.

Sequence data bioinformatics statistics were calculated using MOTHUR software, unless otherwise stated. The Shannon diversity index and abundance-based coverage estimate (ACE) parameter were calculated as parametric and non-parametric measures of diversity. Differences in beta diversity were evaluated using an analysis of similarity (ANOSIM) based on Bray-Curtis dissimilarity distances. Non-parametric differences in OTU abundances were evaluated using the Kruskal-Wallis test. An ordination of Bray-Curtis dissimilarities was performed using principal coordinate analysis, and the significance of clustering was evaluated using an analysis of molecular variance (AMOVA). AMOVA with Tukey's post-hoc test, Spearman correlation, binary logistic regression, and redundancy analyses were performed using XLSTAT software ver. 2015.1.01 (Addinsoft). All statistics were evaluated at $\alpha=0.05$. For redundancy analysis, the 15 most abundant families were included in the analysis, normalized as a percent of the total sequence reads per sample. Physicochemical variables were transformed to a number between 0 and 1 in XLSTAT for redundancy analysis. For more specific details, see Staley et al. (2017).

For an additional statistical analysis of the relationships between physical habitat characteristics and microbiome community structure of coral polyps, the initial statistical analysis was conducted in R.3.4.3 with the package Vegan 2.4.6 for coral tissue microbiome sequences from the subset of three selected months during this study period: March, June, and September 2015. More specific details are further described in Rosales et al. (2019).

Microbial alpha diversity was evaluated with QIIME2-2018.6 using the Shannon diversity index and species evenness metrics. To assess alpha diversity, ASV counts were rarefied to (randomly filtered to an equal sequencing dept of) 403 counts. Categorical habitat data were tested for significant relationships with the Shannon diversity index and species evenness using the alpha-group-significance function. Continuous habitat data were tested versus alpha diversity with a simple linear regression using the function lm on R.3.4.3. For beta diversity tests, the data were not rarefied, but instead were filtered by retaining only those taxa that were observed four or more times in at least $10 \%$ of the samples.

The countswere then transformed intorelative abundances. Continuous habitat data were evaluated for pairwise covariance: from each pair with a correlation $>80 \%$, one variable was selected for further analysis. Principal coordinate analysis (PCoA) ordination was applied to the relative abundance of ASVs with a weighted UniFrac distance metric. Discrete variables (i.e., reef site, species, and month) were tested using Analysis of similarities (ANOSIM) and a Permutational multivariate analysis of variance (PERMANOVA) with 999 permutations to identify which groups were different. To further evaluate patterns observed in the beta diversity results, we used a claassification method to evaluate which microbial taxa were important to the physical habitat variables that were found to be significant using ordistep. The classification method used on each of the significant physical habitat variables was the sample-classifier regress-samples function from QIIME2.

## 3. Results

### 3.1. Water Sampling

A total of 970 water samples were collected. As described previously, data were obtained via CTD instrument probes or by FDEP sample analysis; the data report for each sample included the time, latitude, longitude, depth, salinity, temperature, conductivity, density, turbidity, oxygen saturation, concentration of CDOM, chlorophyll- $a, \mathrm{~N}+\mathrm{N}$, TKN, TN, and TP. A total of 46 blanks were also analyzed as per FDEP procedures.

The detection limits for these measurements are given in Table 2. Nutrient concentrations in the coastal ocean were often less than the detection limits denoted in Table 2. Because the true concentrations could not be ascertained, the detection limit was listed as the concentration of those samples. Assigning a numerical value of the detection limit to samples which were at or below the detection limit and then averaging a set of samples in either space or time where some elements of this set were at the detection limit, yielded a mean value that was larger than the true mean value of those samples had it been possible to make measurements with a lower detection threshold. The percent of samples recorded as being at the detection
threshold was: $67 \%$ for $\mathrm{N}+\mathrm{N}$; $15 \%$ for TKN; $11 \%$ for TN; and $0 \%$ for TP. Note that while only $11 \%$ of the TN values were at the theoretical detection limit, TN is the sum of TKN and $\mathrm{N}+\mathrm{N}$. For a particular sample, if $\mathrm{N}+\mathrm{N}$ was at its detection limit but TKN was not, the TN value would not be at its detection threshold but would be biased by $\mathrm{N}+\mathrm{N}$ being at its detection threshold. TKN typically represented $90 \%$ of the TN measurement values and significantly represented more than this amount in the outfall surface samples.

Of particular concern were certain CDOM measurements. With the absence in the coastal ocean of recognized sources of CDOM (e.g., mangroves and marsh vegetation, phytoplankton, seagrass) (Maie et al., 2006), CDOM concentration was expected to be dominated by terrestrial input and thus usually correlated with salinity deficit (Foden et al., 2008). Figure 11 presents data from the May 2015 cruise (cruise 10). Not only were the CDOM concentrations extremely high, but there were also no similar deviations in the other measurements (in particular, salinity and chlorophyll-a) at corresponding depths that would be expected for samples with such unusual CDOM levels. These CDOM results were so egregious that we concluded they were due to instrument error. Of the entire dataset, nine discrete CDOM values were thus assigned and not included in the master data
used; these were from May 2015: PR3s, ER1m, ER2m, ER2d, BK4s, BK5s, BK5m, PMIs, and MN1s.

### 3.1.1 Overview of Complete Dataset

A graphic representation of the analytical data for discrete water samples from the 12 cruises is provided in Figure 12 (versus latitude) and Figure 13 (versus sampling time). Plots of mean TN, TP, and chlorophyll-a concentrations are given in Figures 14, 15, and 16, respectively. Numerical data are given in Appendix 2. As a summary, average concentrations are shown in Table 7. A graphic presentation of grouped concentrations versus cruise number is given in Appendix 4. Plots of the CTD profile data for all 12 cruises are provided in Appendix 5. The same discrete dataset is plotted versus time in Figure 13. The expected seasonal signal in temperature was clearly seen, with higher temperatures observed at the surface (as expected). Reduced salinity was noted during cruise 6 (and somewhat in cruise 5) in the summer rainy season, in agreement with the rainfall and canal data in Figure 7.

Figure 14 gives the mean and standard deviation for all measurements of TN made at each station. Elevated values were observed at the outfall and inlet locations. Figure 15 gives the mean and standard deviation for all measurements of TP made at each station. Elevated values


Figure 11. CDOM ( $\mu \mathrm{g} / \mathrm{L}$ ) versus depth for casts during the May 2015 sampling cruise that exhibited high CDOM measurements.


Figure 12. Concentrations of key species (both discrete and CTD results) for the 12 sampling cruises, plotted versus latitude. Analytes and concentration range is denoted at the left vertical axis. The depth of a sample is denoted by color: red circles for surface, blue triangles for deep, and black pluses for bottom depths. The vertical text at the top denotes the category of a sample: background sites in blue, reef sites in red, wastewater treatment plant outfalls in magenta, and inlets in black. Naming conventions are given in Table 3.


Figure 13. Concentrations of key species as in Figure 12, plotted versus sampling time. The cruise dates are (1) Nov 2013; (2) Jan 2014; (3) Mar 2014; (4) May 2014; (5) Jul 2014; (6) Sep 2014; (7) Nov 2014; (8) Jan 2015; (9) Mar 2015; (10) May 2015; (11) Jul 2015; and (12) Sep 2015.


Figure 14. Total nitrogen concentration averages and standard deviation for the samples collected. Stations are presented with the northernmost station at the top of the graph and the southernmost station at the bottom.


Figure 15. Total phosphorus concentration averages and standard deviation for the samples collected. Stations are presented with the northernmost station at the top of the graph and the southernmost station at the bottom.


Figure 16. Chlorophyll-a concentration averages and standard deviation for the samples collected. Stations are presented with the northernmost station at the top of the graph and the southernmost station at the bottom.
were also observed at the outfall and inlet locations. Figure 16 gives the mean and standard deviation for all measurements of chlorophyll-a made at each station. Elevated values were observed at the inlet locations. Of note, average chlorophyll- $a$ values were higher north of the Port of Miami. Table 7 presents the averaged results for the major analytes from all discrete waters samples from the 12 cruises. Anomalous CDOM results discussed in section 3.1 have been removed; all other data remain.

The data in Figures 12, 13, 14, 15, and 16 are consistent with the view that inlets and outfalls were the major sources for TN, TP, turbidity, and CDOM. Chlorophyll- $a$ concentrations were typically lower south of the Port of Miami and north of Port Everglades Inlet, with elevated values observed at the inlets. Of note were the expected reduced salinities at the inlets.

### 3.1.2 September 2014 Low Salinity Event

The most striking result in Figure 13 is the salinity minimum observed in cruise 6 (September 2014). From Figure 7, we see that this cruise took place following significant rainfall and high canal flow, which resulted in lowered salinity values and elevated concentrations of nutrients. Thus, the coastal ocean was flooded with inlet plume water of lower density. The salinity deficit observed at the various CTD cast sites during the September 2014 cruise became a de facto intrinsic tracer for the inlet waters as they dispersed.

We applied this logic to other measured analytes, which we assumed were also conservative for this exercise. We computed the following, which we denoted as an anomaly: the concentration of a species at a location and depth on September 2014 minus the average of measurements from the other cruises (excluding September 2015, a less intense low salinity event) at that location and depth, divided by the average of the other measurements. This provided a

Table 7. Discrete sample results: Average concentrations from the 12 sampling cruises.

| Name |  | $\begin{aligned} & \text { Lat } \\ & \left({ }^{\circ} \mathrm{N}\right) \end{aligned}$ | Long ( ${ }^{\circ} \mathrm{W}$ ) | Depth (m) | $\begin{gathered} \text { Sal } \\ \text { (ppt) } \end{gathered}$ | Temp ( ${ }^{\circ} \mathrm{C}$ ) | $\begin{aligned} & \text { Dens } \\ & \left(\delta \mathrm{TKg} / \mathrm{m}^{3}\right) \end{aligned}$ | $\begin{aligned} & \text { CDOM } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | Turb (NTU) | $\begin{gathered} \mathrm{O}_{2} \mathrm{~s} \\ (\mathrm{mg} / \mathrm{L}) \end{gathered}$ | $\begin{aligned} & \mathrm{N}+\mathrm{N} \\ & (\mu \mathrm{M}) \end{aligned}$ | TKN ( $\mu \mathrm{M}$ ) | $\begin{gathered} \text { TN } \\ (\mu \mathrm{M}) \end{gathered}$ | $\begin{gathered} \text { TP } \\ (\mu \mathrm{M}) \end{gathered}$ | Chl-a <br> ( $\mu \mathrm{g} / \mathrm{L}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OR1 | s | 26.1599 | -80.0826 | 1.30 | 35.61 | 26.69 | 23.25 | 2.16 | 1.08 | 6.50 | 0.37 | 4.36 | 4.73 | 0.24 | 0.60 |
|  | m | 26.1598 | -80.0825 | 7.32 | 35.89 | 26.66 | 23.47 | 1.15 | 0.91 | 6.47 | 0.32 | 3.56 | 3.88 | 0.24 | 0.57 |
|  | d | 26.1597 | -80.0825 | 14.03 | 36.01 | 26.15 | 23.72 | 1.06 | 0.90 | 6.54 | 0.49 | 3.76 | 4.25 | 0.25 | 0.44 |
| OR2 | s | 26.1596 | -80.0769 | 1.18 | 35.72 | 26.82 | 23.30 | 1.33 | 1.15 | 6.48 | 0.35 | 3.62 | 3.97 | 0.23 | 0.37 |
|  | m | 26.1594 | -80.0769 | 9.29 | 35.75 | 26.98 | 23.27 | 1.01 | 0.93 | 6.47 | 0.40 | 3.85 | 4.25 | 0.23 | 0.37 |
|  | d | 26.1594 | -80.0768 | 18.86 | 36.07 | 26.36 | 23.71 | 0.90 | 0.88 | 6.53 | 0.46 | 3.80 | 4.26 | 0.23 | 0.35 |
| OR3 | s | 26.1636 | -80.0770 | 1.20 | 35.58 | 27.01 | 23.15 | 2.12 | 1.01 | 6.43 | 0.44 | 4.75 | 5.19 | 0.22 | 0.35 |
|  | m | 26.1636 | -80.0769 | 10.46 | 35.94 | 26.59 | 23.54 | 1.00 | 0.83 | 6.51 | 0.40 | 4.02 | 4.41 | 0.24 | 0.35 |
|  | d | 26.1636 | -80.0768 | 18.71 | 36.03 | 26.44 | 23.66 | 0.88 | 0.86 | 6.52 | 0.52 | 3.50 | 4.02 | 0.23 | 0.30 |
| BA2 | s | 26.0628 | -80.0935 | 1.30 | 35.73 | 26.72 | 23.34 | 1.52 | 1.47 | 6.49 | 0.32 | 4.91 | 5.23 | 0.24 | 0.50 |
|  | m | 26.0629 | -80.0935 | 5.73 | 35.88 | 26.75 | 23.44 | 1.08 | 0.96 | 6.46 | 0.32 | 3.69 | 4.01 | 0.23 | 0.64 |
|  | d | 26.0629 | -80.0935 | 11.07 | 35.80 | 26.59 | 23.43 | 1.03 | 0.84 | 6.46 | 0.38 | 3.90 | 4.27 | 0.23 | 0.42 |
| BA3 | s | 26.0673 | -80.0988 | 1.16 | 35.60 | 26.85 | 23.21 | 2.32 | 1.43 | 6.46 | 0.41 | 4.85 | 5.26 | 0.23 | 0.46 |
|  | m | 26.0673 | -80.0988 | 4.62 | 35.82 | 26.79 | 23.38 | 1.39 | 1.04 | 6.47 | 0.36 | 4.09 | 4.45 | 0.24 | 0.48 |
|  | d | 26.0673 | -80.0987 | 8.46 | 35.86 | 26.58 | 23.48 | 1.46 | 0.92 | 6.47 | 0.47 | 4.19 | 4.66 | 0.25 | 0.52 |
| BA1 | s | 26.0674 | -80.0934 | 1.23 | 35.69 | 26.89 | 23.25 | 1.51 | 1.04 | 6.47 | 0.33 | 4.10 | 4.43 | 0.20 | 0.43 |
|  | m | 26.0674 | -80.0933 | 5.88 | 35.88 | 26.73 | 23.45 | 1.11 | 1.07 | 6.46 | 0.31 | 3.80 | 4.11 | 0.22 | 0.50 |
|  | d | 26.0674 | -80.0932 | 11.42 | 35.97 | 26.63 | 23.55 | 1.09 | 0.83 | 6.46 | 0.41 | 3.95 | 4.36 | 0.23 | 0.38 |
| ER1 | s | 25.6524 | -80.0946 | 1.23 | 35.87 | 26.95 | 23.37 | 0.86 | 3.27 | 6.45 | 0.40 | 3.74 | 4.14 | 0.23 | 0.29 |
|  | m | 25.6523 | -80.0945 | 4.06 | 35.89 | 26.96 | 23.38 | 0.81 | 1.11 | 6.44 | 0.29 | 3.38 | 3.67 | 0.21 | 0.26 |
|  | d | 25.6522 | -80.0945 | 7.61 | 35.94 | 26.92 | 23.43 | 0.86 | 1.03 | 6.43 | 0.34 | 3.63 | 3.97 | 0.42 | 0.26 |
| ER2 | s | 25.6524 | -80.0898 | 1.04 | 35.85 | 27.01 | 23.33 | 0.75 | 0.79 | 6.45 | 0.29 | 4.27 | 4.55 | 0.20 | 0.32 |
|  | m | 25.6522 | -80.0898 | 8.86 | 35.72 | 27.16 | 23.22 | 0.77 | 0.74 | 6.46 | 0.29 | 3.70 | 3.99 | 0.20 | 0.26 |
|  | d | 25.6521 | -80.0897 | 17.95 | 36.06 | 26.66 | 23.61 | 0.75 | 1.19 | 6.49 | 0.43 | 4.38 | 4.81 | 0.21 | 0.25 |
| ER3 | s | 25.6620 | -80.0894 | 1.08 | 35.82 | 27.28 | 23.21 | 0.81 | 1.58 | 6.40 | 0.29 | 3.83 | 4.11 | 0.22 | 0.28 |
|  | m | 25.6620 | -80.0893 | 6.69 | 35.95 | 26.94 | 23.43 | 0.80 | 0.75 | 6.45 | 0.30 | 3.36 | 3.65 | 0.21 | 0.26 |
|  | d | 25.6619 | -80.0893 | 12.82 | 36.00 | 26.84 | 23.51 | 0.79 | 0.78 | 6.46 | 0.36 | 3.48 | 3.85 | 0.22 | 0.24 |
| PR1 | s | 25.8421 | -80.1041 | 1.08 | 35.78 | 26.94 | 23.30 | 3.58 | 1.77 | 6.46 | 0.59 | 4.79 | 5.38 | 0.27 | 0.57 |
|  | m | 25.8420 | -80.1041 | 2.98 | 35.83 | 26.65 | 23.42 | 2.06 | 1.61 | 6.46 | 0.59 | 4.76 | 5.35 | 0.27 | 0.60 |
|  | d | 25.8421 | -80.1040 | 5.29 | 35.87 | 27.15 | 23.30 | 1.97 | 1.60 | 6.39 | 0.65 | 5.80 | 6.45 | 0.26 | 0.63 |
| PR2 | s | 25.8422 | -80.0883 | 0.99 | 35.74 | 27.11 | 23.24 | 1.36 | 1.64 | 6.46 | 0.41 | 4.11 | 4.52 | 0.24 | 0.41 |
|  | m | 25.8422 | -80.0882 | 7.44 | 35.85 | 26.70 | 23.43 | 0.94 | 1.13 | 6.50 | 0.54 | 4.01 | 4.55 | 0.24 | 0.39 |
|  | d | 25.8422 | -80.0882 | 14.36 | 35.90 | 27.32 | 23.54 | 1.04 | 1.32 | 6.50 | 0.58 | 3.92 | 4.49 | 0.26 | 0.43 |
| PR3 | s | 25.8511 | -80.0882 | 1.09 | 35.73 | 27.07 | 23.23 | 4.06 | 0.87 | 6.46 | 0.40 | 3.70 | 4.11 | 0.23 | 0.41 |
|  | m | 25.8510 | -80.0881 | 8.25 | 35.87 | 26.96 | 23.43 | 1.00 | 1.13 | 6.49 | 0.43 | 3.70 | 4.14 | 0.23 | 0.47 |
|  | d | 25.8509 | -80.0881 | 16.81 | 35.93 | 26.49 | 23.56 | 0.88 | 1.51 | 6.50 | 0.48 | 3.61 | 4.10 | 0.24 | 0.36 |
| PEI | s | 26.0935 | -80.1103 | 1.13 | 33.41 | 27.03 | 21.51 | 12.64 | 2.70 | 6.50 | 1.58 | 7.52 | 9.11 | 0.35 | 1.10 |
|  | d | 26.0935 | -80.1102 | 13.39 | 35.49 | 26.80 | 23.12 | 3.44 | 1.81 | 6.47 | 0.57 | 4.35 | 4.92 | 0.27 | 1.01 |
| BHI | s | 25.9001 | -80.1227 | 1.58 | 34.91 | 27.02 | 22.61 | 11.46 | 3.02 | 6.31 | 0.62 | 6.12 | 6.73 | 0.31 | 1.45 |
| PMI | s | 25.7735 | -80.1314 | 1.30 | 35.34 | 26.87 | 22.98 | 11.58 | 4.69 | 6.45 | 0.86 | 7.30 | 8.16 | 0.31 | 0.98 |
|  | d | 25.7631 | -80.1323 | 13.98 | 35.59 | 27.01 | 23.10 | 4.72 | 5.99 | 6.41 | 0.86 | 7.71 | 8.57 | 0.41 |  |
| MN1 | s | 25.9231 | -80.0891 | 1.08 | 35.79 | 26.79 | 23.39 | 1.61 | 1.03 | 6.49 | 0.54 | 5.50 | 6.04 | 0.34 | 0.43 |
|  | m | 25.9230 | -80.0891 | 9.94 | 35.93 | 26.75 | 23.48 | 1.41 | 1.13 | 6.49 | 0.32 | 3.73 | 4.04 | 0.24 | 0.57 |
|  | d | 25.9229 | -80.0891 | 18.58 | 36.05 | 26.69 | 23.58 | 1.11 | 1.24 | 6.47 | 0.51 | 3.38 | 3.88 | 0.25 | 0.48 |

Table 7. Discrete sample results: Average concentrations from the 12 sampling cruises (continued).

| Name |  | Lat ( ${ }^{\circ} \mathrm{N}$ ) | Long ( ${ }^{\circ} \mathrm{W}$ ) | Depth (m) | Sal (ppt) | Temp ( ${ }^{\circ} \mathrm{C}$ ) | Dens ( $\delta \mathrm{T} \mathrm{Kg} / \mathrm{m}^{3}$ ) | CDOM <br> ( $\mu \mathrm{g} / \mathrm{L}$ ) | Turb (NTU) | $\begin{gathered} \mathrm{O}_{2} \mathrm{~s} \\ (\mathrm{mg} / \mathrm{L}) \end{gathered}$ | $\begin{aligned} & N+N \\ & (\mu \mathrm{M}) \end{aligned}$ | TKN ( $\mu \mathrm{M}$ ) | TN ( $\mu \mathrm{M}$ ) | $\begin{gathered} \text { TP } \\ (\mu \mathrm{M}) \end{gathered}$ | Chl-a <br> ( $\mu \mathrm{g} / \mathrm{L}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MN2 | s | 25.9280 | -80.0895 | 1.29 | 35.66 | 27.01 | 23.19 | 1.70 | 1.53 | 6.46 | 0.45 | 5.42 | 5.86 | 0.33 | 0.47 |
|  | m | 25.9280 | -80.0894 | 8.29 | 35.95 | 26.85 | 23.47 | 1.23 | 1.25 | 6.47 | 0.34 | 3.88 | 4.22 | 0.26 | 0.52 |
|  | d | 25.9278 | -80.0893 | 16.88 | 36.12 | 26.25 | 23.78 | 1.17 | 1.22 | 6.54 | 0.45 | 3.35 | 3.80 | 0.27 | 0.51 |
| MN3 | S | 25.9200 | -80.0894 | 1.16 | 35.77 | 27.03 | 23.26 | 1.64 | 1.16 | 6.45 | 0.36 | 5.27 | 5.63 | 0.30 | 0.49 |
|  | m | 25.9198 | -80.0894 | 9.95 | 36.01 | 26.62 | 23.58 | 1.27 | 1.10 | 6.50 | 0.32 | 3.68 | 4.00 | 0.24 | 0.52 |
|  | d | 25.9197 | -80.0893 | 19.51 | 36.17 | 26.67 | 23.69 | 0.96 | 1.26 | 6.49 | 0.49 | 3.74 | 4.23 | 0.24 | 0.40 |
| MC1 | s | 25.7433 | -80.0860 | 1.34 | 35.28 | 26.99 | 22.91 | 4.25 | 1.18 | 6.46 | 0.60 | 31.09 | 31.69 | 1.08 | 0.31 |
|  | m | 25.7431 | -80.0859 | 15.07 | 36.01 | 26.90 | 23.50 | 0.74 | 0.84 | 6.49 | 0.30 | 3.42 | 3.73 | 0.24 | 0.27 |
|  | d | 25.7429 | -80.0859 | 30.11 | 36.16 | 25.65 | 23.99 | 0.77 | 1.01 | 6.63 | 0.77 | 3.38 | 4.14 | 0.25 | 0.31 |
| MC2 | s | 25.7477 | -80.0862 | 1.11 | 35.57 | 26.84 | 23.18 | 2.58 | 1.27 | 6.47 | 0.34 | 13.19 | 13.53 | 0.58 | 0.37 |
|  | m | 25.7476 | -80.0862 | 12.79 | 36.03 | 27.13 | 23.44 | 0.78 | 0.97 | 6.48 | 0.29 | 4.41 | 4.67 | 0.26 | 0.25 |
|  | d | 25.7474 | -80.0861 | 26.80 | 36.11 | 25.81 | 23.91 | 0.75 | 1.08 | 6.59 | 0.60 | 3.34 | 3.94 | 0.26 | 0.24 |
| MC3 | s | 25.7404 | -80.0860 | 1.15 | 35.81 | 27.09 | 23.28 | 1.21 | 0.95 | 6.46 | 0.36 | 6.27 | 6.64 | 0.32 | 0.30 |
|  | m | 25.7402 | -80.0860 | 15.14 | 35.99 | 26.90 | 23.46 | 0.72 | 0.78 | 6.50 | 0.32 | 3.70 | 4.02 | 0.20 | 0.26 |
|  | d | 25.7400 | -80.0859 | 30.60 | 36.18 | 25.47 | 24.07 | 0.71 | 1.00 | 6.65 | 0.71 | 3.51 | 4.22 | 0.25 | 0.26 |
| BK1 | s | 26.1295 | -80.0881 | 1.16 | 35.67 | 26.73 | 23.29 | 1.61 | 1.58 | 6.48 | 0.35 | 3.35 | 3.70 | 0.24 | 0.55 |
|  | m | 26.1295 | -80.0881 | 6.59 | 35.87 | 26.56 | 23.49 | 1.18 | 0.99 | 6.49 | 0.36 | 3.89 | 4.25 | 0.26 | 0.48 |
|  | d | 26.1294 | -80.0877 | 14.45 | 35.87 | 26.70 | 23.45 | 1.11 | 0.87 | 6.48 | 0.44 | 3.81 | 4.25 | 0.24 | 0.44 |
| BK2 | s | 26.0001 | -80.0967 | 1.25 | 35.64 | 27.32 | 23.09 | 2.01 | 1.41 | 6.42 | 0.36 | 4.48 | 4.83 | 0.27 | 0.49 |
|  | m | 26.0001 | -80.0966 | 6.75 | 35.99 | 26.75 | 23.46 | 1.42 | 1.21 | 6.48 | 0.39 | 4.11 | 4.51 | 0.26 | 0.57 |
|  | d | 26.0001 | -80.0965 | 12.54 | 35.96 | 26.50 | 23.58 | 1.27 | 1.18 | 6.49 | 0.56 | 3.51 | 4.07 | 0.26 | 0.51 |
| BK3 | s | 25.8953 | -80.0898 | 1.25 | 35.73 | 27.43 | 23.11 | 1.61 | 1.40 | 6.44 | 0.32 | 4.26 | 4.59 | 0.25 | 0.39 |
|  | m | 25.8953 | -80.0897 | 9.72 | 35.98 | 26.75 | 23.53 | 1.18 | 1.19 | 6.48 | 0.41 | 4.13 | 4.54 | 0.25 | 0.53 |
|  | d | 25.8951 | -80.0896 | 18.42 | 36.09 | 25.88 | 23.73 | 1.00 | 1.27 | 6.51 | 0.63 | 3.38 | 4.01 | 0.26 | 0.43 |
| BK4 | s | 25.8002 | -80.0930 | 1.16 | 35.67 | 27.19 | 23.15 | 4.66 | 1.64 | 6.42 | 0.35 | 4.44 | 4.79 | 0.29 | 0.41 |
|  | m | 25.8001 | -80.0930 | 6.41 | 35.85 | 26.97 | 23.34 | 1.20 | 1.33 | 6.46 | 0.31 | 4.26 | 4.57 | 0.24 | 0.46 |
|  | d | 25.8001 | -80.0928 | 13.02 | 35.90 | 26.64 | 23.49 | 0.93 | 1.80 | 6.47 | 0.39 | 4.32 | 4.71 | 0.26 | 0.46 |
| BK5 | s | 25.7095 | -80.0869 | 1.16 | 35.83 | 27.03 | 23.33 | 0.72 | 0.77 | 6.44 | 0.29 | 4.63 | 4.92 | 0.23 | 0.26 |
|  | m | 25.7093 | -80.0868 | 12.64 | 35.95 | 26.95 | 23.43 | 0.68 | 0.75 | 6.46 | 0.29 | 3.99 | 4.27 | 0.22 | 0.29 |
|  | d | 25.7090 | -80.0869 | 25.20 | 35.90 | 26.52 | 23.53 | 0.67 | 0.84 | 6.53 | 0.33 | 3.71 | 4.04 | 0.21 | 0.30 |
| BK6 | s | 25.5953 | -80.0949 | 1.14 | 36.06 | 26.79 | 23.53 | 0.88 | 0.87 | 6.41 | 0.30 | 3.27 | 3.57 | 0.22 | 0.25 |
|  | m | 25.5952 | -80.0949 | 3.94 | 36.07 | 26.77 | 23.55 | 0.88 | 0.84 | 6.40 | 0.28 | 3.31 | 3.59 | 0.21 | 0.31 |
|  | d | 25.5942 | -80.0949 | 6.52 | 36.10 | 27.19 | 23.45 | 1.03 | 0.83 | 6.33 | 0.30 | 3.42 | 3.71 | 0.21 | 0.23 |

measure of the relative change in concentration. Note that TN, CDOM, and turbidity were elevated even at depth at Oakland Ridge. This is strong evidence that the effluent from Port Everglades Inlet had an effect on the adjacent coastal waters down to the depth of the coral reefs. The results are shown in Figure 17.

While the salinities from September 2014 were $<10 \%$ below that of the unaffected cruise concentrations, the effect was much greater for some other results, especially at Oakland Ridge and BK1. Anomalies for each location for surface and deep samples are provided in Table 8. These anomalous conditions occurred during a time of elevated water temperatures which were associated with incidences of coral bleaching across the entire south Florida reef tract. Consequently, it is difficult to differentiate the impacts of this low salinity anomaly on the benthic community from those of the more widespread thermal stress event.

### 3.1.3 Elevated CDOM Concentrations

In Figure 13 we note elevated CDOM concentrations observed during cruises $4,5,6,7,9$, and 11 . We have discussed previously that the major sources of CDOM in the coastal ocean are from inland waters which are typically less saline. We would expect to see an increase in CDOM and a decrease in salinity if those waters were reaching our measurement sites. Figure 18 shows CDOM versus salinity for the 12 cruises; in nearly every case the highest CDOM concentrations and lowest salinities were inlet samples and, generally, there is a linear relationship, consistent with the model of simple dilution of a continental source (the inlets) throughout the adjacent coastal ocean.

The salinity/CDOM results from Miami Central for January 2014 and January 2015 in Figure 18 are of interest in that they also generally fall on the linear relationship we have considered as indicative of inlet water dilution.

### 3.1.4 Concentrations around Ocean Outfalls

There are currently five treated wastewater outfalls operating in southeast Florida (Koopman et al., 2006). Of these, Miami North and Miami Central have the largest average daily effluent flow ( 45.8 millions of gallons daily
from Miami North and 111.5 millions of gallons daily from Miami Central in 2011) (Carsey et al., 2015). We examined the effect of this effluent on the receiving waters in the vicinity of the outfalls. Figure 19 shows the average surface concentrations (from all 12 cruises) of TN, TP, and chlorophyll- $a$ from casts at the outfall locations, the sites 0.5 km north and south of the outfalls, as well as from background sites north and south of the outfalls and from the nearest inlet. As was the case with the Broward and Hollywood outfalls (Bell, 2003), we did not observe evidence for a notable effect on the concentration of these analytes near the outfall, except for surface concentrations (Figures 14-16). Positioning the CTD instrument exactly in the plume boil occurred only fortuitously, as the boil and the ship each moved unpredictably during the cast. Thus, we might have quite high concentrations because the boil happened to be sampled on a cruise (e.g., November $24,2014)$, but missed the boil on the next cruise. This is illustrated in Figure 20 which shows the values of TP for the individual samples taken at the Miami Central outfall. From this we can see that some of the surface samples were at levels very near the mid and bottom samples. In these cases, we believe that the surface sample did not capture the surface effluent plume.

### 3.1.5 Concentrations around Coral Reefs and Background Samples

If the concentrations of two chemical species are correlated, it is reasonable to assume that they are chemically related; that is, they are likely to have the same sources and sinks. To overview these results, the ratios of key species are shown in Figure 21.

Similarly, ratios of key species from the six background samples are shown in Figure 22. Note the similarity with the reef samples. In both cases, concentrations were low and not generally correlated, indicating the lack of a strong link with identified sources (i.e., coastal inlets and wastewater treatment plant outfalls).

We investigated the possibility of latitudinal and longitudinal gradients in key species that may occur in the deep waters around the reefs. These gradients would be due to the proximity of land to their east or to the effect of northward or southward currents bringing material from

Sept-2015 Anomaly: Conc at Sept-2015 / ave of other cruise date concentrations


Figure 17. Plots (of anomaly) from samples in the vicinity of Port Everglades Inlet ( $>26^{\circ}$ latitude) from surface samples (upper plots) and deep samples (lower plots) for the analytes denoted above each surface plot. The size of the circles is arbitrary but consistent across all plots. Negative anomalies (deficits) are shown in red, and positive anomalies are shown in green.

Table 8. Concentration anomalies for the September 2014 cruise.

| Name | Latitude ( ${ }^{\circ} \mathrm{N}$ ) | Longitude ( ${ }^{\circ} \mathrm{W}$ ) | Salinity (psu) | $\begin{gathered} \mathrm{TN} \\ (\mu \mathrm{M}) \end{gathered}$ | $\begin{gathered} \text { TP } \\ (\mu \mathrm{M}) \end{gathered}$ | $\begin{aligned} & \text { CDOM } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{aligned} & \text { Chl-a } \\ & (\mu \mathrm{g} / \mathrm{L}) \end{aligned}$ | $\begin{aligned} & \text { Turb } \\ & \text { (NTU) } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OR3-A | 26.1636 | -80.0769 | -3.70 | 4.75 | 0.00 | 4.59 | 0.47 | -0.36 |
| OR1-A | 26.1599 | -80.0826 | -4.43 | 3.94 | 0.02 | 7.98 | 0.65 | 1.99 |
| OR2-A | 26.1596 | -80.0769 | -3.13 | 3.36 | -0.01 | 0.21 | 0.02 | -0.48 |
| BK1-A | 26.1295 | -80.0881 | -3.51 | 2.60 | -0.02 | 4.09 | 0.33 | -1.03 |
| BA3-A | 26.0674 | -80.0934 | -2.70 | 1.51 | 0.00 | -0.43 | -0.10 | -0.65 |
| BA2-A | 26.0673 | -80.0988 | -2.71 | -0.06 | -0.04 | 0.73 | 0.00 | -1.04 |
| BA1-A | 26.0628 | -80.0935 | -2.69 | 1.86 | -0.05 | -0.67 | -0.12 | -0.94 |
| BK2-A | 26.0001 | -80.0967 | -2.99 | 3.90 | -0.02 | 1.77 | 0.06 | -1.02 |
| MN2-A | 25.9280 | -80.0895 | -2.61 | 0.07 | -0.12 | 0.09 | 0.20 | -0.81 |
| MN1-A | 25.9231 | -80.0891 | -2.58 | -1.82 | -0.11 | -0.28 | 0.11 | -0.50 |
| MN3-A | 25.9200 | -80.0894 | -2.69 | 0.45 | -0.08 | 0.07 | 0.84 | -0.47 |
| BK3-A | 25.8954 | -80.0898 | -2.54 | 1.03 | -0.05 | 0.06 | 0.17 | -0.87 |
| PR3-A | 25.8511 | -80.0882 | -3.02 | 0.99 | -0.05 | -4.15 | -0.26 | -0.36 |
| PR2-A | 25.8422 | -80.0883 | -2.90 | 1.14 | -0.06 | -0.64 | -0.28 | -0.58 |
| PR1-A | 25.8421 | -80.1041 | -3.71 | 2.49 | -0.05 | 0.57 | -0.23 | -0.80 |
| BK4-A | 25.8002 | -80.0930 | -2.71 | 1.14 | -0.11 | -4.83 | -0.21 | 0.14 |
| MC2-A | 25.7477 | -80.0862 | -2.52 | -6.64 | -0.30 | -1.55 | 0.07 | 0.32 |
| MC1-A | 25.7433 | -80.0860 | -3.10 | 8.69 | -0.07 | 1.44 | 0.03 | -0.26 |
| MC3-A | 25.7404 | -80.0860 | -3.28 | 12.89 | 0.28 | 2.75 | 0.06 | 0.98 |
| BK5-A | 25.7095 | -80.0869 | -2.89 | 2.43 | -0.04 | 0.10 | 0.07 | 0.75 |
| ER3-A | 25.6620 | -80.0894 | -2.89 | 2.48 | 0.02 | 0.53 | 0.25 | -1.01 |
| ER1-A | 25.6524 | -80.0946 | -2.85 | 2.61 | 0.01 | 0.35 | 0.17 | 3.09 |
| ER2-A | 25.6524 | -80.0898 | -2.81 | 4.00 | -0.02 | 0.55 | 0.22 | -0.05 |
| OR3-C | 26.1636 | -80.0768 | -1.87 | 2.18 | -0.04 | 0.38 | 0.19 | -0.46 |
| OR1-C | 26.1597 | -80.0825 | -2.14 | 4.26 | -0.02 | 0.64 | 0.20 | -0.43 |
| OR2-C | 26.1594 | -80.0768 | -1.51 | 2.11 | -0.04 | 0.15 | 0.23 | -0.41 |
| BK1-C | 26.1294 | -80.0877 | -2.46 | 3.01 | -0.01 | 1.19 | 0.28 | -0.46 |
| BA3-C | 26.0674 | -80.0932 | -2.36 | 2.83 | -0.05 | 0.17 | 0.03 | -0.29 |
| BA2-C | 26.0673 | -80.0987 | -2.77 | 0.76 | -0.06 | 0.36 | 0.14 | -0.38 |
| BA1-C | 26.0629 | -80.0935 | -2.66 | 1.04 | -0.04 | 0.35 | 0.00 | -0.36 |
| BK2-C | 26.0001 | -80.0965 | -2.72 | 2.19 | -0.07 | -0.01 | -0.14 | -0.69 |
| MN2-C | 25.9278 | -80.0893 | -1.23 | 2.91 | 0.04 | 0.12 | 0.03 | -0.50 |
| MN1-C | 25.9229 | -80.0891 | -1.45 | 3.23 | 0.02 | 0.40 | 0.05 | -0.76 |
| MN3-C | 25.9197 | -80.0893 | -1.29 | 2.79 | 0.08 | 0.23 | 0.03 | -0.71 |
| BK3-C | 25.8951 | -80.0896 | 0.18 | -0.70 | -0.03 | -0.14 | -0.08 | -0.58 |
| PR3-C | 25.8509 | -80.0881 | -2.80 | 2.93 | -0.05 | -0.51 | 0.02 | -1.17 |
| PR2-C | 25.8422 | -80.0882 | -2.81 | 1.70 | -0.07 | 0.12 | -0.29 | -0.94 |
| PR1-C | 25.8421 | -80.1040 | -3.08 | 3.71 | 0.06 | 0.10 | -0.43 | -0.93 |
| BK4-C | 25.8001 | -80.0928 | -2.82 | 2.89 | -0.04 | -0.55 | -0.22 | -1.12 |
| MC2-C | 25.7474 | -80.0861 | -1.56 | 2.61 | 0.03 | 0.44 | -0.04 | -0.05 |
| MC1-C | 25.7429 | -80.0859 | -1.18 | 1.49 | 0.01 | 0.17 | 0.01 | -0.14 |
| MC3-C | 25.7400 | -80.0859 | -1.15 | 1.59 | 0.02 | 0.18 | -0.06 | -0.34 |
| BK5-C | 25.7090 | -80.0869 | -2.48 | 2.90 | 0.02 | 0.55 | 0.00 | -0.35 |
| ER3-C | 25.6619 | -80.0893 | -2.53 | 4.06 | 0.05 | 1.00 | 0.13 | -0.06 |
| ER1-C | 25.6522 | -80.0945 | -2.74 | 3.13 | -0.26 | 0.35 | 0.12 | -0.31 |
| ER2-C | 25.6521 | -80.0897 | -2.27 | 5.21 | 0.02 | 0.93 | 0.06 | 4.22 |



Figure 18. Plots of CDOM (vertical axis) versus salinity (horizontal axis, plotted in reverse) for discrete samples from the 12 sampling cruises. Surface (red), mid (blue), and deep (black) samples are denoted by symbol color as noted in the legend. High CDOM samples from inlets are denoted by filled circles in magenta, while high CDOM samples from outfalls are denoted by filled circles in cyan.


Figure 19. Surface concentration data for TN (left plots), TP (center plots), and chlorophyll-a (right plots) for casts at and near the Miami Central outfall (upper plots) and the Miami North outfall (lower plots). Symbols denote the average concentration over the 12 cruises; vertical lines denote the $\pm 1 \sigma$ error bar.
the inlets. Figure 23 shows analyte concentrations versus longitude for pairs of reef samples obtained at nearly the same latitude. While small gradients were noted in the regression line, the low coefficient of determination $\left(R^{2}\right)$ values indicates that these changes with longitude were not statistically significant. The single example of a somewhat significant gradient was for TN at Pillars Reef ( $\mathrm{R}^{2}=0.1995$ ), possibly due to the Port of Miami south of the reef.

Similarly, for pairs of reef samples at roughly the same longitude, we examined the effect of latitude on deep depth concentrations in Figure 24. In this set, none of the gradients could be considered as significant.


Figure 20. Time series of TP samples obtained at the Miami Central outfall.


Figure 21. TP/TN ratios for outfalls, reef, inlet, and background sites (all depths). Regression line (and statistics) for outfalls data only are shown. Regressions for the other three categories were not significant.

### 3.1.6 Changes with Depth

Figure 25 presents the averaged concentrations for the surface, mid, and bottom samples at the four reef locations. With the exception of the bottom TN measurements at Pillars Reef, TN and TP showed no significant changes with depth. The mean chlorophyll measurements indicate slightly depressed values at the surface. CDOM was slightly elevated at the surface at all reef locations except Emerald Reef. Three of the data averages were marked as anomalous and discussed in section 3.1.

### 3.2 Ocean Current Measurements

### 3.2.1 Data Overview

Figure 26 shows ADCP results for the 12 cruises from the deep-water ADCP. Note that for many cruises, the current changed direction from the first to the second day of the cruise. Figure 27 presents the ADCP results from the shallow ADCP for times associated with the seven cruises which occurred while this instrument was deployed. Plots of the entire ADCP dataset are provided in Appendix 6.

The addition of one TCM instrument deployed in September 2015 provided a unique opportunity to simultaneously examine the ocean currents across the reef
tract at one latitude $\left(\sim 26^{\circ} 1^{\prime} 6^{\prime \prime} \mathrm{N}\right)$. It should be kept in mind that the TCM instruments measured the current near the seafloor, while for the ADCP instruments, the lowest "bin" of measurement, were above this depth by several meters; thus, the measurements were not completely similar.

A comparison of the four instruments (two TCM and two ADCP instruments) listed in Table 4 is shown in Figure 28 for October 2015. The deepest ADCP bins were plotted to correspond to the bottom location of the TCM instruments. Note the considerable similarity in the pattern of current direction and magnitude at the four locations. In particular, we saw nearly simultaneous reversals of current direction, as exemplified by the October 10 onset of southerly flow (green arrow) observed with all four instruments. Stick plots for all data are provided in Appendix 6.

### 3.2.2 Analysis

Table 9 gives the means and standard deviations for the north and east components of the currents for the four instruments deployed. The table lists the mean velocities for the north and east components, along with the means and standard deviation of the north component when only north-going or south-going flow was included in the calculation. The TCM instrument recorded the current velocities near the bottom. The ADCP results were from a water column average of data. The statistics were calculated for the time period when all four instruments were operating, the period when the two ADCPs were operating, and the period when the deep ADCP was operational.

A common belief is that the ocean current flow off of southeast Florida is primarily northerly due to the proximity of the Gulf Stream. However, it is clear from the above figures and tables that the current is southerly for much of the time. We have analyzed the current data presented above for the proportion of northerly flow; this is shown in Figure 29. From this figure we see that the percentage of northern flow increased substantially with distance from the coast and that less than $50 \%$ of the measurements from the shallow ADCP and the first TCM were north-going.


Figure 22. Ratio of the concentration of key species for samples from the six background locations. Format is similar to Figure 18. Some weak correlations were found and are denoted by colored lines and equations; other correlations were not statistically significant.


Figure 23. Regressions of key chemical species versus longitude for the four reef groups. Regression lines and formulas are shown in blue.


Figure 24. Regressions of key chemical species versus latitude for the four reef groups. Format is similar to that of Figure 23.


Figure 25. Concentration averages versus depth for the four reef groups. Individual reef sites are denoted by color as indicated in the legend in the leftmost plots. Each column presents a different chemical measurement, as denoted in the title of the uppermost plots, and has the same $x$-axis (concentration) range as indicated in the lowermost plot. A, B, and C designate the egregious data discussed section 3.1.


Figure 26. Ocean current and direction measurements from the deep-water ADCP for the 12 sampling cruises. Current direction (oceanographic convention) is indicated by the angle of the blue stick (north is up); current velocity is denoted by the length of the stick as denoted by left vertical axis. Temperature is given by the red line and is denoted by the right axis. Cruise cast times are shown by the green plus signs. All times are UT.



Figure 27. Ocean current and direction measurements from the shallow-water ADCP for the seven cruises when this instrument was operational. Format is similar to that of Figure 26.

Coastal currents, October 2015


Figure 28. Currents off Broward County ( $\sim 2^{\circ} 1^{\prime} 6^{\prime \prime} N$ ) measured by the four instruments listed in Table 4. Note the rapid current changes occurring essentially simultaneously with all four instruments and the timing of southward current reversal at the green arrow (~15:40 pm 18-Oct-2015 UT).


Figure 29. Analysis of the north current velocity (colored lines) and percent northerly flow (black line) for the four current meters (September 18-November 12, 2015), plotted as distance from the shore.

Table 9. Statistics for the north and east current velocity components.


[^1]${ }^{2}$ South flow only.

In addition to measuring water velocity, each of the current measurement instruments was equipped with a temperature sensor that recorded the near-bottom temperature with each measurement. These data are plotted in Figure 30. In the deep ADCP record, pronounced drops in temperature were observed in the late spring and summer months. These temperature drops may be an indication of colder water being upwelled from deeper depths to the depth of the deeper ADCP.

### 3.3 Coral Reef Assessments

### 3.3.1 Overview

SCUBA-based coral reef assessments were carried out across four reefs ( 12 sites total) over a 2 -year period. The extended duration of this study permitted the surveys to encompass naturally-occurring environmental shifts associated with seasonal variations, such as changes in seawater salinity and temperature, and in the intensity and duration of sunlight. These seasonal swings may have a more noticeable influence on the abundance of dynamic components of the coral reef ecosystem, such as
macroalgae, but they also influence the growth rates of, for example, corals, octocorals, and sponges. By monitoring the changes in community composition of the benthic fauna (documented as percent cover) and the size and health of the coral colonies (determined as percent live tissue cover), these surveys provided the potential "effect" data to partner the proposed "cause" data summarized in section 2.3.

In addition to the usual seasonal variations expected in southeast Florida, the survey period occurred during two of the region's hottest years on record, i.e., 2014 and 2015. These higher-than-average temperature years both generated regionwide bleaching alerts. In September 2014, extensive bleaching was documented at the study sites; however, there was very little bleaching at the study sites the following year (September 2015) despite the warmer conditions. In addition to these temperature anomalies, the Miami-Dade sites were also potentially subjected to the impacts of an extensive dredging project associated with expansion of the Port of Miami.


Figure 30: Temperatures recorded near the ocean bottom by the four current measurement instruments.

### 3.3.2 Stony Coral Rapid Bioassessments

Scleractinian coral assessment surveys were conducted to monitor the size and health of more than 500 colonies. Over the course of the survey period, there was a decline in the percent coral cover at Emerald Reef, from $\sim 2.5 \%$ to $\sim 1 \%$ (Figure 31). The predominant driver of this decline was the loss of approximately 20 boulder coral colonies (mostly Meandrina meandrites and Dichocoenia stokesi) between September 2014 and March 2015, some of which had previously totaled over $5000 \mathrm{~cm}^{2}$ of live tissue. This decline was exacerbated by the loss of more colonies between March and June 2015, this time including Montastraea cavernosa. Further evidence that the worsening coral cover was primarily due to the death of large colonies is the significant drop of mean colony size at Emerald Reef, from $368 \mathrm{~cm}^{2}$ ( $\pm 97 \mathrm{~cm}^{2}$ ) to $186 \mathrm{~cm}^{2}$ ( $\pm 14 \mathrm{~cm}^{2}$; Figure 32A), while the decline in the total number of colonies was more subdued (Figure 32B).

Figure 32B also suggests that there was a considerable increase in the number of coral colonies $\geq 10 \mathrm{~cm}$ at Emerald Reef between December 2013 and June 2014; however, this increase was an unfortunate artifact of the vastly improved weather conditions in June 2014. Emerald Reef has an abundance of large gorgonians (octocorals such as sea fans and seawhips) and a rugged topography.


Figure 31. Changes in percent coral cover at each reef over time, as determined by SCUBA-based coral assessments. Points indicate the mean of the three sites at each reef. Error bars are the standard error of the mean.


Figure 32. Changes in (a) the mean colony size ( $\mathrm{cm}^{2}$ ) and (b) the total number of colonies ( $\geq 10 \mathrm{~cm}$ max length) of the surveyed corals over time at each reef. Error bars in (a) are the standard error of the mean.

Consequently, there were a number of corals found inhabiting the numerous cryptic refuges in the June 2014 surveys that were previously impossible to spot during the stormy survey periods of December 2013 and March 2014. There was no apparent change in the observed percent coral cover or mean colony sizes at any of the other three reefs during the survey period.

In late summer 2014, a mass bleaching event was observed throughout much of the Caribbean. The survey reefs used for this project did not escape this event, with elevated sea temperatures yielding some pale and/or fully bleached colonies at all sites. The severity of bleaching was higher on some reef than others (Figure 33A) and was also dependent on coral species (Figure 33B).

The most affected coral species was Siderastrea siderea, with over $90 \%$ of the colonies surveyed showing some degree of paling. However, despite exhibiting the greatest
susceptibility to thermal stress, the majority of the bleached Siderastrea siderea recovered completely and were still alive in September 2015. In contrast, numerous coral colonies that appeared to be less affected by thermal stress in September 2014 subsequently died between December 2014 and June 2015. For example, only one of 23 Dichocoenia stokesi colonies showed visual signs of thermal stress in September 2014, whereas by June 2015 only two Dichocoenia stokesi colonies remained alive within the Miami-Dade survey sites.

### 3.3.3 Benthic Community Composition

Benthic surveys generated 2,064 photo quadrats of the reef surface throughout the course this study, with each of these analyzed using CPCe. This resulted in the identification of benthic organisms at roughly 132,000 individual points across the four study reefs. As mentioned previously, this


Figure 33. The distribution of healthy, pale, bleaching, and bleached corals surveyed in September 2014, displayed as a percentage of (a) the total number of colonies surveyed at each reef, and (b) the total number of colonies for each particular species. Numbers at the top of the bars refer to the number of each category. For the categories of bleaching severity: Healthy refers to colonies displaying no change in usual pigmentation; pale colonies exhibit a lower than usual color intensity; bleaching colonies have very pale to almost colorless tissue; and bleached colonies have clear/colorless tissue.
sampling effort generated by CPCe analysis was necessary to adequately capture the heterogeneous coral reef environment and produce sufficient data to determine any spatial and/or temporal variations in the benthic communities on coastal coral reefs in Miami-Dade and Broward counties.

### 3.3.3.1 Regionwide patterns in benthic community composition

Scleractinian coral cover was low across all study sites, accounting for less than $5 \%$ of benthic cover on average at each reef, regardless of the sampling period. By contrast, the soft hexacoral Palythoa sp. and octocorals displayed higher cover among the cnidarian fauna surveyed. Palythoa was especially prominent at Barracuda Reef, while octocorals displayed an exceptionally high percent cover at Emerald Reef. Both turf and macroalgae were the dominant benthic functional groups.

### 3.3.3.2 Temporal fluctuations in benthic functional groups

The mean benthic composition of key reef ecosystem groups was calculated for each reef and each sampling trip (Figure 34). Changes in percent coral cover, as determined by photo quadrats, paralleled those shown in the coral survey results, i.e., the only reef to show a strong decline in coral cover was Emerald Reef (Figure 34). It is worth mentioning that these numbers are not identical owing to differences in the methodologies. Coral bioassessment surveys were inclusive of corals within the entire area of the 3-5 m radial belt transect, whereas benthic cover surveys were conducted along the center line of the belt, 4 m out from the central point. Further, benthic assessment surveys included smaller size classes of corals $<10 \mathrm{~cm}$ diameter, thereby elevating percent coral composition relative to the bioassessment protocol in areas with higher numbers of juvenile corals.

The macroalgal community exhibited some dynamic shifts in relative abundance between turf algae (categorized as algae $<1 \mathrm{~cm}$ ) and other larger and well-defined macroalgae (Figure 34). This pattern was especially prominent at Pillars Reef, where oscillations in macroalgae revealed maximum abundances during surveys conducted in the spring and autumn. Interestingly, patterns in turf
algae prevalence at the same site exhibited an opposite trend, showing maxima during the summer and winter. These periods also coincided with higher measurements of turbidity and CDOM (Figure 13), suggesting that lower light levels and/or increased siltation favored the shorter filamentous algae over the larger fleshy species. While strong seasonal variations were not immediately discernible among other functional groups, there was an apparent positive trend in the percent cover of sponges over the duration of the study (Figure 34).

### 3.3.3.3 Multivariate community analysis

Two-dimensional NMDS analysis was successful at resolving differences in community composition with an acceptable stress value of 0.11 . Analysis revealed a strong separation of the first sampling trip (December 2013) from all subsequent data collected (Figure 35). Further investigation revealed a strong correlation with crustose coralline algae and other functional groups (Figure 36), which were likely associated with particularly bad visibility and difficulty in scoring the photo quadrats. Given this artifact, these data were removed.

NMDS analysis of the remaining data revealed a high similarity in community composition and a strong clustering of data within the reef sites (Figure 37). Emerald and Pillars reefs clustered with each other, as did Barracuda and Oakland reefs, suggesting that community composition is related to geographic proximity and latitudinal variation across the region. Benthic group correlation vectors overlaid on this NMDS plot showed a strong correlation between reefs and various groups (Figure 38). Particularly prominent correlations included the aforementioned associations of gorgonians with Emerald Reef and zoanthids (i.e., Palythoa sp.) with Barracuda Reef (Figure 34).

While not as evident as site differences, temporal fluctuations in community composition were evident. Sample period four (September 2014) was consistently separated from within-reef clustering within the Euclidean space of the NMDS plots (Figure 38). Bubble plots of Cyanobacteria showed an especially high percent cover during this period (Figure 39A), potentially reflecting a bloom in this fast-growing benthic group (Figure 34).


Figure 34. Summary of CPCe analysis showing the mean percent cover for key benthic groups present across the four study reefs. Error bars are the standard error of the mean.


Figure 35. NMDS plot of mean benthic data at each reef over the eight sampling trips. Symbols reflect the reef, numbers are the sampling trip, and lines encompass points sharing the same degree of similarity (Bray Curtis).


Figure 36. NMDS plot of mean benthic data at each reef over the eight sampling trips. Vectors overlaid in blue reflect the correlation (Pearson) with individual functional groups. Vectors reaching the containing circle represent a correlation of 1.0. The size of the green circles are proportional to the percent of sampling points scored as "other." Numbers within the circles are the sampling trip.


Figure 37. NMDS plot of mean benthic data excluding the first sampling trip. Symbols reflect the reef, numbers are the sampling trip, and lines encompass points sharing the same degree of similarity (Bray Curtis).


Figure 38. NMDS plot of mean benthic data excluding the first sampling trip. Vectors overlaid in blue reflect the correlation (Pearson) with individual functional groups. Vectors reaching the containing circle represent a correlation of 1.0. Symbols reflect the reef, while numbers reflect the sampling trip.


Figure 39. NMDS plot of mean benthic data excluding the first sampling trip. The size of the green circles is proportional to the percent of sampling points scored as Cyanobacteria (A) and Dictyota spp. (B). Numbers within circles are the sampling trip.

Dictyota, a moderately dynamic algae genus, appeared to have higher abundances during the spring and summer months (especially sampling trips 2, 6, and 7, Figure 39B).

### 3.4. Microbiological Assessments

### 3.4.1 Viable Enterococci Fecal Indicator Bacteria and Enterococci measured by Quantitative Real-Time PCR

In general, most of the coastal water quality samples collected during this study did not exhibit viable enterococci fecal indicator bacteria at any significant level of concern (Appendix 3). Only four water samples contained viable enterococci abundance above the regulatory geomean threshold for bacterial water quality in coastal recreational waters in the state of Florida ( 35 colony-forming units [CFU]/100 mL) as measured by EPA method 1600 mEI agar plate counts. The four samples in exceedance of this threshold were:

1. Port of Miami Inlet (PMI-A) on May 5, 2015 with CFU levels that were $>500 \mathrm{CFU} / 100 \mathrm{~mL}$.
2. Miami Central treated wastewater outfall (MC3-A, just north of the outfall) on July 14, 2015 with $212 \mathrm{CFU} / 100 \mathrm{~mL}$.
3. Port Everglades Inlet (PEI-A) on September 3, 2015 with $39 \mathrm{CFU} / 100 \mathrm{~mL}$.
4. Port of Miami Inlet (PMI-A) on September 2, 2015 with $58 \mathrm{CFU} / 100 \mathrm{~mL}$.

In contrast, the qPCR method showed significantly more instances of substantially elevated genetic markers for total enterococci in the coastal water quality samples from this study (Appendix 3), particularly at the treated wastewater outfalls and coastal inlets. However, the levels of observed enterococci MST marker diluted rapidly with distance from the source, typically decreasing by several logs of magnitude within the first kilometer. In the case of coral tissue, detection of the enterococci marker at Oakland Ridge, Barracuda, and Pillars reefs was generally rare and of relatively low abundance. However, the measured levels of enterococci MST marker in the coral tissues of Emerald Reef were substantially higher than the other reefs, and there was a spike of higher levels of enterococci marker in the Emerald Reef coral tissue samples that were collected
during the December 2014 coral benthic survey. Emerald Reef continued to show elevated enterococci levels in coral tissues throughout the 2015 sampling period, although there was a steady decline over time of enterococci abundance in the coral tissues after the initial high spike of December 2014 (Figure 40 and Appendix 3). This elevation of fecal enterococci marker was observed in tissues from both species of coral tested at Emerald Reef.

### 3.4.2 Molecular Microbial Source Tracking Markers

As reported by Symonds et al. (2016), PMMoV and HPyV were quantified at outfall and inlet sites in 2014 (Table 10). Due to the low frequency of quantifiable results, HPyV data were treated as binary (presence/absence) data. Pepper mild mottle viruses were generally on the order of 104 gene copies L-1 at outfalls and 102 gene copies L-1 at inlet sites. Human polyomavirus was similarly detected more frequently at outfalls, with nearly twothirds of samples positive at the Miami Central outfall, compared to only about one-third (38.9\%) at the Miami North outfall, with 16.7 to $33.3 \%$ of inlet samples testing positive for HPyV. Binary logistic regression revealed that prokaryotic community composition, determined using abundant families characterized by next-generationsequencing, was not significantly related to HPyV detection. However, the abundances of Bacillaceae and Methanomassilicococcaceae were significantly positively correlated with the concentration of $\mathrm{PMMoV}(\mathrm{r}=0.366$ and $0.413, \mathrm{P}=0.015$ and 0.006 ). Conversely, abundances of Flavobacteriaceae, Rhodospirillaceae, Rhodobacteraceae, and Micromonasporaceae were negatively correlated with PMMoV concentrations ( $\mathrm{r}=-0.335$ to $-0.708, \mathrm{P} \leq 0.027$ ).

Molecular MST markers for host-specific fecal indicator bacteria were consistently observed to be the highest at treated wastewater outfalls and the next most abundant at coastal inlets, with the highest levels for coastal inlets observed at the Port of Miami Inlet. Similar to the observations for viable enterococci, the abundance of molecular MST markers for fecal bacteria diluted rapidly with distance from the outfalls. There were sharp spikes of high abundance for multiple fecal bacteria host makers in the Port of Miami Inlet water samples for the months of January and July of 2014, and for the months of January,


Figure 40. Relative abundance of fecal indicator bacteria microbial source tracking markers detected in coral tissue at four sentinel reefs in Miami-Dade and Broward counties.

Table 10. Detection and quantification of PMMoV and HPyV virsues.

|  | Virus Type |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | PMMoV |  |  | HPyV |  |
| Site | $\mathbf{n}$ | Concentration <br> (gene copies L-1) | $\mathbf{n}$ | Percent Positive |  |
| Miami-Central outfall* | 18 | $2.31 \pm 3.06 \times 10^{4}$ | 18 | 66.7 |  |
| Miami-North outfall | 18 | $1.66 \pm 4.19 \times 10^{4}$ | 18 | 38.9 |  |
| Port Everglades Inlet | 6 | $1.86 \pm 2.52 \times 10^{2}$ | 6 | 33.3 |  |
| Bakers Haulover Inlet | 6 | $1.85 \pm 2.13 \times 10^{2}$ | 4 | 25.0 |  |
| Port Miami Inlet | 6 | $4.06 \pm 7.55 \times 10^{2}$ | 6 | 16.7 |  |

*Outfall samples include all samples collected within 1 km of the outfall.

March, May, and July of 2015 (Applendix 3). In particular, the Port of Miami Inlet showed elevated abundance of all the fecal markers in March and in May of 2015, which also corresponded to significant elevations of these fecal markers observed in the coastal waters of Emerald Reef.

During the early part of 2014, the levels of fecal marker observed in coral polyp tissue were typically below detection or very low. The coral tissues at Barracuda, Pillars, and Oakland Ridge reefs continued to show this pattern of low or non-detects. However, the pattern at Emerald Reef (in the south and near the Port of Miami) was very different. There was a higher spike in the abundance of all the fecal indicator markers found in the tissues of both coral species at Emerald Reef for the December 2014 sampling event (Appendix 3 and Figure 40), including enterococci, human-source fecal markers, dog-source fecal markers and, curiously, even bovine-source agricultural fecal markers.

These fecal source tracking markers remained elevated in the coral tissues of Emerald Reef for the next several months between December 2014 and September 2015, although they slowly decreased over time, finally reaching relatively low levels again by September 2015 (Figure 40). However, both enterococci and human-source Bacteroidales remained detectable in the coral tissues of Emerald Reef throughout the duration of 2015 until the end of sampling. The period of relatively high abundance of enterococci and human fecal markers in Emerald Reef
coral tissue in December 2014 through May of 2015 also corresponded to elevations for these markers observed in both coastal waters of Emerald Reef and in surface waters of Port of Miami Inlet during this time frame.

### 3.4.3 Microbiome Community Characterization by Next-Generation-Sequencing

### 3.4.3.1 Prokaryotic community alpha diversity and composition

A range of 119-3,943 OTUs was observed among all samples, with a mean Good's coverage of $98.8 \% \pm 0.8 \%$. When measured by the Shannon diversity index, samples collected from inlets had significantly lower alpha diversity than the ocean and reefsites, while the outfall and wastewater treatment plan effluent samples had intermediate Shannon diversity (Table 11). Prokaryotic communities associated with corals (mucus and polyps) had significantly lower diversity than all water samples. However, no differences were observed in ACE richness among sample types. Within a given sample type, differences in alpha diversity did not differ significantly by site, except among coral tissues, where ACE richness tended to increase at reef sites as follows: Barracuda $=$ Emerald $<$ Oakland Ridge $<$ Pillars ( $\mathrm{P}=0.034$, Tukey's post-hoc $\mathrm{P} \geq 0.093$ ).

Prokaryotic community composition was similar among all environmental water sample types (reef, open ocean water, inlet, and outfall water), with high relative abundances of

Table. 11. Coverage and alpha diversity indices for bacterial communities among all samples collected, consolidated by sample type.*

| Type | $\mathbf{n}$ | Coverage (\%) | $\mathbf{S}_{\text {obs }} \boldsymbol{\dagger}$ | Shannon Diversity $\ddagger$ | ACE |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Open ocean | 25 | $98.7 \pm 0.4$ | $1095 \pm 208$ | $4.42 \pm 0.22 \mathrm{~A}$ | $2243 \pm 804$ |
| Inlet | 27 | $98.9 \pm 0.7$ | $765 \pm 396$ | $3.57 \pm 0.67 \mathrm{~B}, \mathrm{C}$ | $2070 \pm 1386$ |
| Reef water | 147 | $98.8 \pm 0.6$ | $968 \pm 395$ | $4.19 \pm 0.60 \mathrm{~A}$ | $2001 \pm 1144$ |
| Outfall | 53 | $99.0 \pm 0.7$ | $875 \pm 541$ | $3.99 \pm 0.79 \mathrm{~A}, \mathrm{~B}$ | $1774 \pm 1180$ |
| Wastewater treatment plant | 9 | $99.0 \pm 0.9$ | $821 \pm 643$ | $3.66 \pm 1.10 \mathrm{~A}, \mathrm{~B}, \mathrm{C}$ | $1765 \pm 1569$ |
| Coral tissue | 87 | $98.7 \pm 1.1$ | $1184 \pm 838$ | $3.31 \pm 1.39 \mathrm{C}$ | $1999 \pm 1629$ |
|  |  |  | P-value | $<0.0001$ | 0.734 |

*Values are means $\pm$ standard deviation among all samples.
$\dagger \mathrm{S}_{\mathrm{obs}}$ : number of OTUs observed.
$\ddagger$ Sample groups sharing the same superscript letter did not differ significantly in alpha diversity by Tukey's post-hoc test $(P>0.05)$.

Alphaproteobacteria and Cyanobacteria (Figure 41). In contrast, the wastewater treatment plan effluent samples before oceanic discharge were predominantly comprised of Betaproteobacteria, while coral mucus and polyp samples had greater relative abundances of Gammaproteobacteria, with a greater relative abundance of Bacilli among polyps as compared to mucus samples. At higher taxonomic resolution, coral tissue communities primarily consisted of Endozoicomonas and Bacillus, with a relatively greater percentage of the community that could not be assigned to the genus level (Figure 42). The percentage of Endozoicomonas was significantly different among tissue samples from each reef $(\mathrm{P}=0.038)$ and tended to be higher at the Oakland Ridge reef. The abundances of Bacillus and Paenibacillus also differed significantly ( $\mathrm{P}=0.008$ and 0.004 , respectively) and tended to be higher among polyps collected from Barracuda and Emerald reefs. Among all tissue samples, the percentage of unclassified reads was lower for polyp samples ( $\mathrm{P}<0.0001$ ).

### 3.4.3.2 Beta diversity of prokaryotic communities

The bacterial prokaryotic composition, as evaluated by ANOSIM, did not differ significantly between open ocean and reef water sample types when grouped by sampling area ( $\mathrm{P}=0.911-0.914$ ). However, prokaryotic communities in inlet and wastewater treatment plant samples differed significantly from every other sample type ( $\mathrm{P} \leq 0.024$ and $\leq 0.005$, respectively). However, the inlet and coral mucus samples collected from the southern area did not differ significantly $(\mathrm{P}=0.329)$. Open ocean sites also did not differ from outfall samples in the northern region ( $\mathrm{P}=0.104$ ), but community composition was significantly different among southern sampling sites ( $\mathrm{P}=0.015$ ), and reef communities differed from those of outfalls in either region ( $\mathrm{P} \leq 0.002$ ). Prokaryotic communities in coral mucus and polyp samples were generally significantly different from all the other sample types ( $\mathrm{P} \leq 0.009$ ), except as noted above. Communities from mucus and polyps did not differ from each other in the northern sampling region ( $\mathrm{P}=0.225$ ), but they were significantly different among samples collected in the southern region ( $\mathrm{P}=0.001$ ). Samples from different sites, within the same sample type, did not harbor significantly different prokaryotic communities when grouped by sampling area ( $\mathrm{P} \geq 0.119$ )


Figure 41. Distribution of abundant bacterial classes among sample types collected during the sampling cruises from the study regions north (A) and south (B) of Port Everglades.


Figure 42. Distribution of abundant bacterial genera in coral tissue samples.

Ordination of samples by principal coordinate analyses (Figure 43) revealed a clustering of samples by sample type, and this separation was supported by AMOVA ( $\mathrm{P}<0.001$ ) for both sampling areas. Water samples tended to cluster together, apart from coral tissue and wastewater treatment plant effluent samples. Similar to the ANOSIM results in the southern region, post-hoc tests revealed no significant separation of inlet from coral mucus samples ( $\mathrm{P}=0.225$ ). Differences in sample type were primarily attributable to the families Cyanobacteria GpIIa, Flavobacteriaceae, Candidatus, Pelagibacter, Rhodospirillaceae, and Rhodobacteraceae among water samples, and these families were less abundant in the outfall samples (Figure 42). The wastewater treatment plant samples showed taxonomic variability between


Figure 43. Principal coordinate analyses of bacterial communities collected from the northern ( $A, r^{2}=0.818$ ) and southern ( $B, r^{2}=0.787$ ) sampling regions.
sampling areas, with the wastewater treatment plant samples associated with the northern outfall (Miami North) primarily comprised of Burkholderiaceae, while those associated with the southern outfall (Miami Central) were predominantly comprised of a large number of less abundant families. Coral tissue samples had significantly greater abundances of Bacillaceae 1 and Hahellaceae.

Redundancy analysis generally supported the results of the Kruskal-Wallis test (Figures 44 and 45). Coral tissue samples were more strongly associated with increased abundances of Bacillaceae and Hahellaceae, while inlet samples were associated with greater abundances of Flavobacteriaceae and Rhodobacteraceae. Abundances of Cyanobacteria group II were also associated with reef


Figure 44. Family-level classification of OTUs that varied significantly among sample types by the Kruskal-Wallis test $(P<0.05)$ at the $(A)$ northern and $(B)$ southern sampling sites.


Figure 45. Redundancy analysis relating abundances of bacterial families to sample sites and types. Unlabeled families around the origin include Candidatus Pelagibacter, Methanomassiliicoccaceae, Oceanospirillaceae, Pseudomonadaceae, and Rhodospirillaceae. The 15 most abundant families were included in the analysis. Legend: square = sampling location; circle = prokaryotic family.
water samples. Little separation was observed between open ocean and outfall samples, which clustered with ubiquitous marine families. Of note, water samples from the Pillars Reef site were more closely related to inlet samples than were samples from other reefs.

### 3.4.3.3 Fungal Community Diversity and Composition

Fungal community coverage was estimated at $97.9 \pm 1.5 \%$ among all samples, with between 62 to 1,125 OTUs in individual samples. Alpha diversity, measured by both Shannon diversity and ACE indices (Table 12), was significantly lower in coral compared to other water and wastewater treatment plant samples ( $\mathrm{P}<0.0001$ for both indices). In contrast to prokaryotic results in which open ocean samples showed the highest alpha diversity, the wastewater treatment plant samples had significantly higher fungal alpha diversity, by both indices, than did water samples, which generally did not vary significantly from one other. Differences in the Shannon diversity

Index among sites were not significantly different among samples of the same type, which was similarly observed among prokaryotic communities. However, differences in ACE richness were significant among inlet and reef water samples, where Port Everglades had a significantly higher richness than Baker's Haulover ( $\mathrm{P}=0.023$ ), and the Pillars Reef site had a significantly greater richness than did the Oakland Ridge reef site ( $\mathrm{P}=0.008$ ).

A large portion of the fungal community among all samples could not be assigned to a phylum (Figure 46). Among the genera that could be classified, Dictyocatenulata and Bullera were predominantly found in water and wastewater treatment plant samples, while Dictyocatenulata was among the only genus that could be classified from coral tissue samples. Aspergillus was also somewhat abundant among samples collected in the northern region, especially in ocean and reef water samples. Among samples from the northern region, fungal communities from inlet and outfall samples did not differ significantly ( $(P=0.722$ ),

Table 12. Coverage and alpha diversity indices for fungal communities among all samples collected, consolidated by sample type*.

|  |  |  | Index |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Sample Type | $\mathbf{n}$ | Coverage (\%) | $\mathbf{S}_{\text {obs }} \dagger$ | Shannon Diversity $\ddagger$ | ACE |
| Open Ocean | 17 | $97.1 \pm 1.1$ | $614 \pm 238$ | $3.74 \pm 1.08 \mathrm{~A}, \mathrm{~B}$ | $1457 \pm 560 \mathrm{~A}$ |
| Inlet | 24 | $96.6 \pm 1.0$ | $630 \pm 184$ | $3.27 \pm 0.95 \mathrm{~B}$ | $2012 \pm 759 \mathrm{~B}, \mathrm{C}$ |
| Reef water | 110 | $97.2 \pm 1.1$ | $558 \pm 212$ | $3.33 \pm 1.02 \mathrm{~B}$ | $1536 \pm 624 \mathrm{~A}$ |
| Outfall | 45 | $97.1 \pm 1.1$ | $540 \pm 208$ | $3.06 \pm 1.10 \mathrm{~B}$ | $1691 \pm 665 \mathrm{~A}, \mathrm{~B}$ |
| Wastewater treatment plant | 10 | $96.0 \pm 0.6$ | $743 \pm 125$ | $4.33 \pm 0.54 \mathrm{~A}$ | $2376 \pm 566 \mathrm{C}$ |
| Coral tissue | 117 | $99.5 \pm 0.2$ | $106 \pm 27$ | $1.26 \pm 0.55 \mathrm{C}$ | $352 \pm 180 \mathrm{D}$ |
|  |  |  | P-value | $<0.0001$ | $<0.0001$ |

*Vales are mean $\pm$ standard deviation among all samples.
$\dagger S_{\text {obs }}$ : number of OTUs observed.
$\ddagger$ Sample groups sharing the same superscript did not differ significantly in alpha diversity by Tukey's post-hoc test ( $P>0.05$ ).
and reef and open ocean communities were also similar ( $\mathrm{P}=0.688$ ), as evaluated by ANOSIM. Inlet/outfall sample communities differed significantly from reef/ ocean samples ( $\mathrm{P} \leq 0.019$ ). While the fungal community from outfall sites did not differ significantly from those of the wastewater treatment plant samples ( $\mathrm{P}=0.187$ ), all other water samples had significant differences in beta diversity relative to the wastewater treatment plant samples ( $\mathrm{P} \leq 0.026$ ). Coral tissue samples differed from all other samples ( $\mathrm{P} \leq 0.006$ ), but there were no significant differences in community composition between mucus and polyp samples $(\mathrm{P}=0.478)$.

In contrast, no significant differences in community composition were observed among ocean, reef, and inlet samples ( $P \geq 0.049$ ) in the southern region, which had a significantly different composition than outfall samples ( $\mathrm{P} \leq 0.036$ ). Outfall samples, however, had a a significantly different composition than the wastewater treatment plant samples ( $\mathrm{P}=0.001$ ). Coral communities did not differ between mucus and polyps ( $\mathrm{P}=0.091$ ) and were significantly different from other sample types ( $\mathrm{P} \leq 0.040$ ). In both sampling regions, no differences in beta diversity were observed among samples of the same type between sampling sites ( $\mathrm{P} \geq 0.113$ ). An ordination of samples by principal coordinate analysis showed poor correlations to distance matrices $\left(\mathrm{R}^{2} \leq 0.113\right)$ and did not show any trends in sample clustering (data not shown).


Figure 46. Distribution of fungal genera in samples collected from the northern $(A)$ and southern $(B)$ sampling regions.

### 3.4.4 SourceTracker Analysis of Microbiome Community Sequences and Influence of Land-Based Sources of Pollution

The redundancy analysis relating sampling site, physiochemical parameters, and abundant prokaryotic families revealed that the majority of abundant families were poorly related to physicochemical parameters (Figure 47). Salinity was positively correlated with abundances of Candidatus, Pelagibacter, Oceanospirillaceae, and Rhodospirillaceae and negatively correlated with Flavobacteriaceae and Rhodobacteraceae. The abundances of Cyanobacteria group II were also positively correlated with water temperature. Similar to ANOVA results, the Miami Central outfall was associated with increased nutrient concentrations, water density, and dissolved oxygen, while inlet samples were associated with higher concentrations of $\mathrm{N}+\mathrm{N}$, chlorophyll- $a$, turbidity, and CDOM.

An evaluation of prokaryotic source contributions using the SourceTracker sequence analysis software revealed that communities were predominantly comprised of bacteria ubiquitous to marine samples, as well as host-specific OTUs among coral tissue samples (Figure 48A). Among land-based sources of pollution, outfall communities had the greatest influence of the SourceTracker designated sources on community composition among reef water and mucus samples, followed by the influence of communities from inlet samples. Among reef water samples, the contribution from outfall communities was significantly greater at sites collected from the southern region (Emerald and Pillars reefs, $\mathrm{P}=0.007$ ), although other source contributions did not differ significantly by site ( $\mathrm{P} \geq 0.052$ ). The contribution of bacteria from source communities to those of reef water and polyps also showed temporal variability (Appendix 7) and were generally greater in samples collected in 2014 than those in 2015.


Figure 47. Redundancy analysis relating physicochemical parameters, sample site locations, and distributions of the 15 most abundant bacterial families among water samples. For clarity, families that clustered around the origin are not shown. Colors denote sample type: purple = reef water; blue = open ocean; black = inlets; gray = outfalls.


Figure 48. Percent of $(A)$ bacterial community composition, and $(B)$ fungal community composition attributable to source communities as determined by SourceTracker.

Mucus communities did not show temporal variability in source influence ( $P \geq 0.553$, Appendix 7).

Fungal communities showed a lower proportion of ubiquitous marine taxa (open ocean water source) than bacterial communities (Figure 48B). The outfall contribution was predominant among reef water samples, with some influence from inlet communities, while coral mucus and polyp samples were predominantly comprised of host-specific OTUs. Reef water samples collected in the northern region (Oakland Ridge and Barracuda reefs) had significantly higher percentages of the fungal communities associated with those from open ocean samples ( $\mathrm{P}=0.012$ ), while reef communities in the southern region had significantly greater proportions of the community from unknown sources $(P=0.004)$. Similar to bacterial communities, no difference in source contributions by site was observed among mucus samples ( $\mathrm{P} \geq 0.083$ ), although polyp communities differed significantly by site for all source categories ( $\mathrm{P} \leq 0.046$ ), except those from the wastewater treatment plants $(\mathrm{P}=0.114)$.

Fungal source contributions showed less temporal variation than did those from prokaryotic communities (Appendices 7 and 8). Similar to prokaryotic sources, fungal contributions from inlets to reef water communities were greater in 2014, while outfall contributions to reef communities tended to be greater from May-November in both 2014 and 2015. Fungal contributions from outfall communities to polyp communities also tended to be higher in 2014.

### 3.4.5 Physical Habitat as a Driver of Microbiome Structure on Urban-Impacted Coral Reefs

Coral bacterial community composition was also affected by the physical oceanographic habitat, turbidity, temperature, and cross currents. Categorical and continuous physical habitat measures from the 55 sample sequencing data subset of the selected three months for March, June, and September 2015 (shown in Table 13) were tested for significant relationships with alpha- and beta diversity. The microbial taxa of these samples are summarized in Figure 49.

Fictibacillus and Endozoicomonas were dominant bacterial members in two hard coral species in these four southeast reefs. On average, across the four southeast Florida reefs in 2015, the bacterial genus Fictibacillus, family Bacillaceae made up the majority of the microbial community ( $\mathrm{N}=55$; mean relative abundance, meanRA $=13.9 \%, \pm$ standard deviation 1.8\%). The bacterial genus Endozoicomonas, family Endozoicomonadaceae also had a high meanRA $(12.2 \% \pm 9.7 \%)$. When analyzing the two hostspecies separately, Porites astreoides was dominated by Endozoicomonas ( $\mathrm{N}=24 ; 10.7 \% \pm 8.0 \%$ ); Siderastrea siderea on the other hand had a higher abundance of the genus Fictibacillus ( $\mathrm{N}=31 ; 10.4 \% \pm 11.1 \%$ ), while Endozoicomonas was only this host's nineth most abundant taxon ( $1.5 \% \pm 3.0 \%$ ).

During the month of September ( $\mathrm{N}=24$ ), specifically across samples from both host species, the family Bacillaceae was found at higher abundances and was composed of the genera Paenibacillus $(8.9 \% \pm 12.2 \%)$ and Fictibacillus $(7.7 \% \pm 9.6 \%)$. However, for the months of March ( $\mathrm{N}=20$ ) and June ( $\mathrm{N}=11$ ), across all sites and both host species, Endozoicomonas showed the highest meanRA of $4.5 \% \pm 5.2 \%$ (March) and $5.2 \% \pm 9.0 \%$ (June). Two reef sites had the highest overall average abundances for Fictibacillus across all months and both hosts: Barracuda ( $\mathrm{N}=16 ; 4.3 \% \pm 10.0 \%$ ) and Emerald ( $\mathrm{N}=10 ; 3.8 \% \pm 9.6 \%$ ). The other two reefs showed their highest overall average abundances for Endozoicomonas across month and host: Oakland Ridge ( $\mathrm{N}=13 ; 4.9 \% \pm 8.0 \%$ ) and Pillars ( $\mathrm{N}=16$; $4.3 \% \pm 6.8 \%)$.

Bacterial alpha diversity correlated with the physical oceanographic habitat. Table 13 lists three categorical and 14 numerical variables. Twelve physical habitat variables were selected for analysis to identify univariate correlations between these variables and coral microbiomes (overall coral cover and overall mean size were not considered; only coral cover and mean size for the two host species were considered, i.e., Porites astreoides and Siderastrea siderea). Latitude and longitude were removed from this analysis, as they correlated ( $\mathrm{P}>80 \%$ ) with other independent habitat variables. Microbial Shannon diversity was negatively correlated with alongshore current speed


Figure 49. Shannon diversity metric from microbial communities of Siderastrea siderea and Porites astreoides tissues from the four coral reefs and three selected months of the physical habitat data subset ( $\mathrm{N}=55$ ).
( $\mathrm{R}^{2}=0.05, \mathrm{P}=0.044$ ), tide height $\left(\mathrm{R}^{2}=0.12, \mathrm{P}=0.004\right)$, and temperature $\left(\mathrm{R}^{2}=0.13, \mathrm{P}=0.002\right)$ (Figure 50 , panels A-C). Similarly, microbial evenness was negatively correlated with sea level $\left(\mathrm{R}^{2}=0.09, \mathrm{P}=0.014\right)$, tide height ( $\mathrm{R}^{2}=0.12, \mathrm{P}=0.005$ ), and temperature $\left(\mathrm{R}^{2}=0.15\right.$, $\mathrm{P}=0.002$ ) (Figure 50, panels D-F). Among independent categorical variables, host species was significant to Shannon diversity $(P=0.04)$. With regard to interactions between sampling months, pairwise comparisons were significant for both Shannon and evenness ( $\mathrm{P}<0.05$ ) for March versus June and March versus September, but not for June versus September. Finally, there were no significant pairwise differences between reefs in either Shannon diversity or evenness.

Coral bacterial community composition correlated with physical oceanographic habitat. In the beta diversity analysis, ordination axis 1 of the principal coordinate analysis (PCoA) explained $89.5 \%$ of the variance, and PCoA 2 explained $5.8 \%$ of the variance (Figure 51, panel A). Of correlations between the 12 numeric habitat variables considered, and axis 1 or axis 2 of the ordination, only relative turbidity was significant to axis $2\left(\mathrm{R}^{2}=0.27\right.$, $\mathrm{P}<0.05$ ). In addition, for categorical variables, an ANOSIM showed that the microbial community correlated with host species $\left(\mathrm{R}^{2}=0.38, \mathrm{P}=0.001\right)$ and month $\left(\mathrm{R}^{2}=0.21\right.$, $\mathrm{P}=0.001)$, but not with reef location $\left(\mathrm{R}^{2}=0.04\right.$, $\mathrm{P}=0.094)$. A PERMANOVA also showed the same results for host-species $(\mathrm{P}>0.001)$, month $(\mathrm{P}>0.001)$, and reef
Table 13: List of physical habitat variable medians that were correlated to the microbiota. $N$ is the number of replicates (distinct coral heads) of that host species sampled at that reef in that month. $\mathrm{SS}=$ Siderastrea siderea and $\mathrm{PA}=$ Porites astreoides.

| Reef | Month | Species | N | Percent <br> Coral <br> Cover <br> (cm²) | Mean <br> Coral <br> Size <br> (cm ${ }^{3}$ ) | Percent <br> Coral <br> Cover <br> for SS and PA <br> ( $\mathrm{cm}^{2}$ ) | Mean <br> Coral Size for SS and PA (cm ${ }^{3}$ ) | Depth (m) | Seafloor Slope | Min. <br> Dive Watch Temp ( ${ }^{\circ} \mathrm{C}$ ) | Dist. to Nearest Inlet (km) | Rel. Turb. | Sig. <br> Wave <br> Height <br> (m) | Min. <br> Tide <br> Stage <br> (m) | Sea Level (m) | Alongshore Current (m/s) | Crossshore Current (m/s) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Barracuda | Mar | PA | 2 | 1.97 | 354 | 0.209 | 130.1 | -9.76 | 0.037 | 23.2 | 2.470 | -0.068 | 0.277 | -0.0080 | -0.050 | 0.346 | -0.050 |
| Barracuda | Jun | PA | 2 | 2.01 | 343 | 0.264 | 129.75 | -9.76 | 0.037 | 28.2 | 2.470 | 0.142 | 0.180 | 0.0008 | 0.007 | 0.475 | -0.077 |
| Barracuda | Sep | PA | 2 | 1.5 | 333.8 | 0.262 | 132.73 | -9.76 | 0.037 | 29.2 | 2.470 | -0.478 | 0.074 | -0.0058 | -0.091 | 0.329 | -0.084 |
| Barracuda | Mar | SS | 4 | 1.97 | 354 | 0.209 | 156.33 | -10.07 | 0.031 | 23.4 | 2.029 | -0.060 | 0.254 | -0.0080 | -0.050 | 0.341 | -0.045 |
| Barracuda | Jun | SS | 2 | 2.01 | 343 | 0.264 | 129.75 | -10.15 | 0.031 | 28.2 | 2.317 | 0.143 | 0.176 | 0.0008 | 0.007 | 0.470 | -0.081 |
| Barracuda | Sep | SS | 4 | 1.5 | 333.8 | 0.262 | 127.25 | -10.07 | 0.031 | 29 | 2.029 | -0.383 | 0.068 | -0.0058 | -0.091 | 0.325 | -0.072 |
| Emerald | Mar | PA | 1 | 1.33 | 261.2 | 0.169 | 232.33 | -7.25 | 0.024 | 24 | 10.183 | -0.075 | 0.258 | -0.0052 | -0.075 | 0.445 | 0.036 |
| Emerald | Jun | PA | 1 | 1.28 | 209.5 | 0.193 | 93.75 | -7.25 | 0.024 | 28 | 10.183 | -0.426 | 0.182 | 0.0016 | 0.064 | 0.614 | 0.040 |
| Emerald | Sep | PA | 3 | 1.17 | 198.8 | 0.205 | 230.5 | -8.48 | 0.022 | 29.2 | 10.528 | -0.379 | 0.225 | 0.0003 | 0.155 | 0.377 | 0.031 |
| Emerald | Mar | SS | 1 | 1.33 | 261.2 | 0.169 | 101.86 | -7.25 | 0.024 | 24 | 10.183 | -0.075 | 0.258 | -0.0052 | -0.075 | 0.445 | 0.036 |
| Emerald | Jun | SS | 1 | 1.28 | 209.5 | 0.193 | 93.75 | -7.25 | 0.024 | 28 | 10.183 | -0.426 | 0.182 | 0.0016 | 0.064 | 0.614 | 0.040 |
| Emerald | Sep | SS | 3 | 1.17 | 198.8 | 0.205 | 87.5 | -8.48 | 0.022 | 29.2 | 10.528 | -0.379 | 0.225 | 0.0003 | 0.155 | 0.377 | 0.031 |
| Oakland Ridge | Mar | PA | 3 | 2.34 | 186.2 | 0.463 | 223.5 | -8.59 | 0.048 | 22.4 | 7.206 | -0.089 | 0.255 | -0.0076 | -0.049 | 0.259 | -0.001 |
| Oakland Ridge | Jun | PA | 1 | 2.37 | 199.9 | 0.519 | 161.71 | -8.67 | 0.048 | 28 | 7.206 | 0.110 | 0.143 | -0.0050 | -0.104 | 0.302 | 0.026 |
| Oakland Ridge | Sep | PA | 3 | 2.31 | 193.8 | 0.519 | 219.67 | -8.59 | 0.048 | 28.8 | 7.206 | -0.141 | 0.067 | -0.0043 | -0.088 | 0.245 | 0.023 |
| Oakland Ridge | Mar | SS | 3 | 2.34 | 186.2 | 0.463 | 171.07 | -8.59 | 0.048 | 22.4 | 7.206 | -0.089 | 0.255 | -0.0076 | -0.049 | 0.259 | -0.001 |
| Oakland Ridge | Sep | SS | 3 | 2.31 | 193.8 | 0.519 | 161.71 | -8.59 | 0.048 | 28.8 | 7.206 | -0.141 | 0.067 | -0.0043 | -0.088 | 0.245 | 0.023 |
| Pillars | Mar | PA | 2 | 1.36 | 244.5 | 0.192 | 126.5 | -10.31 | 0.014 | 23.2 | 4.784 | -0.128 | 0.310 | -0.0065 | -0.062 | 0.310 | -0.024 |
| Pillars | Jun | PA | 2 | 1.03 | 300.9 | 0.134 | 162 | -10.31 | 0.014 | 28 | 4.784 | -0.164 | 0.183 | 0.0021 | 0.075 | 0.406 | -0.021 |
| Pillars | Sep | PA | 2 | 0.97 | 290.3 | 0.149 | 101 | -10.31 | 0.014 | 30.2 | 4.784 | -0.089 | 0.253 | 0.0005 | 0.155 | 0.238 | 0.000 |
| Pillars | Mar | SS | 4 | 1.36 | 244.5 | 0.192 | 269 | -10.92 | 0.015 | 23.8 | 4.531 | -0.121 | 0.327 | -0.0065 | -0.062 | 0.310 | -0.006 |
| Pillars | Jun | ss | 2 | 1.03 | 300.9 | 0.134 | 162 | -11.49 | 0.015 | 28 | 4.412 | -0.172 | 0.201 | 0.0021 | 0.075 | 0.405 | 0.007 |
| Pillars | Sep | SS | 4 | 0.97 | 290.3 | 0.149 | 205.6 | -10.92 | 0.015 | 30 | 4.531 | -0.088 | 0.267 | 0.0005 | 0.155 | 0.238 | 0.013 |



Figure 50. Bacterial alpha diversity in relation to significant physical habitat characteristics for Siderastrea siderea and Porites astreoides coral polyps from four south Florida reefs for the months of June, March, and September 2015. Samples are colored by month (Shannon diversity index, $\mathrm{P}<0.05$ ) and shape by reef site (Shannon diversity index, $\mathrm{P}<0.05$ ).


Figure 51. Bacterial beta diversity and the community composition from Siderastrea siderea and Porites astreoides coral polyps from four south Florida coral reefs for the months of June, March, and September 2015. Samples are colored by month and shape by reef site. Panel A = Principal Coordinate Analysis (PCoA); Panel B = Canonical or Constrained Corrresponence Analysis (CCA).
location $(P=0.86)$. Four of the 12 habitat variables had explanatory power for the microbiome count matrix: alongshore currents ( $\mathrm{P}=0.005$ ), relative turbidity ( $P=0.015$ ), significant wave height $(P=0.005)$, and temperature $(P=0.005)$. All four of these variables had a variance-inflation factor (VIF, diagonal of the inverse of the correlation coefficient matrix) $<2$, indicating that they represented effects which were independent of one another. The canonical or constrained correspondence analysis (CCA) ordination was constrained by these four habitat variables, with CCA1 and CCA2 verified as significant by one-way ANOVA. Categorical data were analyzed versus CCA1 and CCA2: month ( $\mathrm{R}^{2}=0.52$, $P=0.001)$ and reef $\left(R^{2}=0.15, P=0.009\right)$ were found to be significant, but the host species was not. Given that host species was not a significant factor to CCA, we analyzed samples from both species together. Accordingly, the CCA ordination plot annotated by month and reef
(Figure 51, panel B) showed that microbial communities clustered primarily by month, with samples collected in March ( $\mathrm{N}=20$ ) correlating with significant wave height and relative turbidity, and samples collected in September ( $\mathrm{N}=24$ ) correlating with temperature; samples collected in June ( $\mathrm{N}=11$ ) correlated with alongshore current speed.

Microbial taxa correlated with changes in waves and temperature. To identify individual microbial taxa that correlated with changes in the physical oceanographic habitat, we used a Random Forest Regressor (RFR) for variable selection and then applied a simple linear regression on individual variables. Based on ordistep model outputs, we analyzed four variables with RFR significant wave height, relative turbidity, alongshore currents, and sea temperature. The RFR classification model was significant for significant wave height ( $\mathrm{P}<0.001$, $\mathrm{R}^{2}=0.85$ ), alongshore currents ( $\mathrm{P}<0.01, \mathrm{R}^{2}=0.60$ ), and
sea temperature ( $\mathrm{P}<0.001, \mathrm{R}^{2}=0.85$ ). The model was not significant for relative turbidity $\left(P=0.92, \mathrm{R}^{2}=0.001\right)$. For significant wave height, two taxa were significant from the order Flavobacteriales and one from Marine Group II. For temperature, one taxon was significantly correlated from the order SAR86. There were no microbial taxa that were found to be correlated significantly with alongshore currents (i.e., none with $\mathrm{P}<0.05$ and $\mathrm{R}^{2}>0.2$ ).

## 4. Summary and Conclusions

### 4.1 Water Sampling

This effort resulted in the successful collection of important water quality parameters in the coastal waters of MiamiDade and Broward counties over a 2 -year period. Elevated values of nitrogen and phosphorus were primarily observed in the waters of coastal inlets and wastewater treatment plant outfalls. At the wastewater outfalls, elevated nutrient levels were primarily observed in the surface samples, with mid and bottom samples elevated only slightly above those from other locations. Chlorophyll- $a$ concentrations were generally higher north of the Port of Miami. The inlet chlorophyll-a samples were elevated with respect to the offshore samples.

A significant event was recorded during the September 2014 sampling cruise. Elevated CDOM values were observed at many of the sample sites, suggesting that inland waters had reached many of the sample sites. Temperatures were elevated at all locations. Nutrient and chlorophyll- $a$ values were also elevated at many sites. Shortly after this, a significant decline in coral health was observed.

### 4.2 Ocean Current Measurements

The ADCP deployed near the Hollywood outfall returned a full 2-year record of ocean currents at that location. The additional deployment of a nearshore ADCP and two TCMs provided insight into how the currents changed across the reef tract. The proportion of north-directed measurements was less than $50 \%$ for the nearshore ADCP and the TCM1 instrument. The TCM2 instrument and
the deep ADCP instrument had greater than $50 \%$ northdirected measurements. This implies that, at times, currents were directed southerly inshore and northerly offshore (Soloviev et al., 2017). Temperature data from the deep ADCP showed precipitous drops in temperature during the summer months. These drops in temperature, recorded near the bottom in 27 m of water depth, may be the signature of upwelling events that have the potential to bring nutrient-laden water inshore.

### 4.3 Coral Reef Assessments

The coral reefs offshore of Miami-Dade and Broward counties can be categorized as having low coral cover and a dynamic algal population. Over the course of this project, the study reefs experienced two of the warmest years on record and a massive coral disease outbreak. Despite this high level of environmental stress, the only substantial change in coral cover was a drop of $1.5 \%$ in coral cover at Emerald Reef. The lack of a detectable impact at the other reefs suggests that corals at these sites were relatively resilient; however, it may also be an artifact of low coral cover and high spatial variability. The decrease in cover at Emerald Reef was principally due to the loss of a few very large colonies; colonies which should have experienced a wide array of environmental perturbations throughout their life history.

When coral cover is so low, perhaps the best way of assessing the health of a reef is to monitor the nonscleractinian benthic composition. As noted by the CPCe analysis, the more dynamic species appeared to show more compositional responses to the environmental changes and may, therefore, be better indicators than corals. In September 2014, as the corals were bleaching due to elevated temperatures, Cyanobacteria rapidly and drastically increased their relative abundance ( $12 \%$ versus 1\%; Figure 34). During periods of higher turbidity (e.g., Figure 13), the relative abundance of macroalgae decreased, while turf algae increased. This could be due to the smaller algae requiring less light and/or shedding silt more efficiently.

One of the major goals of this project was to provide data with which to grade the effects of particular levels
of nutrients to generate a numeric value of their impacts on the environment. While we did find variation in coral reef community structure across temporal and spatial scales, nutrient dynamics were more nuanced over the same space and time. Without a clearly discernible pattern in nutrient concentrations over which to analyze reef ecosystem responses, at this time it remains difficult to ascribe specific changes to nutrient dynamics. This does not mean that mechanisms do not exist whereby nutrients may perturb ecosystem structure and function, only that they were not specifically detectable given a limited gradient in nutrient stress.

It is worth noting that land-based sources of pollution, nutrients, and anthropogenic stressors may be influencing reef health in a relatively homogeneous manner across the extent of our study sites. Compared to other reef regions in the U.S. Atlantic and Caribbean, such as isolated reefs in the Florida Reef Tract (Ruzicka et al., 2013), the more remote Dry Tortugas (Wheaton et al., 2007), and Flower Garden Banks (Hickerson et al., 2008), the sites surveyed in this study had reduced coral cover and high macroalgae. While it is presently difficult to identify a single causative agent (e.g., sedimentation, nutrients, thermal stress, disease), the low coral cover and high macroalgae present on all reefs surveyed were not conducive to active reef growth and accretion (Perry et al., 2012).

Large-scale declines in coral cover (Gardner et al., 2003) and habitat structure (Alvarez-Filip et al., 2009) documented over the past several decades do not bode well for the reefs in this study given the relatively low prevalence of calcifying flora and fauna. These taxa, including scleractinian coral, are ultimately responsible for reef habitat growth and preservation. Given declines in growth and calcification predicted to occur due to ocean acidification and warming-related mortality, it is improbable that these species will be able to keep pace with accelerating bioerosion, driving these ecosystems towards net habitat loss (Enochs et al., 2015a). Instead, resilient species such as octocorals (Enochs et al., 2015b) and competitively dominant algae (Diaz-Pulido et al., 2011) may become increasingly dominant in these regions, contributing to shifts towards less desirable ecosystem states (Enochs et al., 2016).

### 4.4. Microbiological Assessments

Coral reefs are dynamic ecosystems known for decades to be endangered due, in large part, to anthropogenic impacts from land-based sources of pollution combined with changing habitat characteristics such as increasing temperature, sedimentation, human activity, etc. In this study, we used a qPCR approach for molecular MST of land-based sources of pollution combined with an Illumina-based next-generation sequencing approach to characterize prokaryotic and fungal communities from coastal water and coral samples collected off the southeast coast of Florida. We assessed variations in the microbiome community structure in relation to land-based sources of pollution and physical habitat characteristics.

The MST results (see Appendix 3) clearly indicated that genetic markers of fecal indicating bacteria from landbased sources of pollution originating with humans, domestic animals, and agricultural animals could not only reach the sentinel reefs of this study (at least periodically), but could also be detected in the actual coral tissue of two different coral species. The prevalence and abundance of these fecal indicator exposures were quite variable, but appeared to be greatest in the corals of the southern reefs of this study, particularly at Emerald Reef. The overall abundance of MST markers (and especially humansource MST markers) in coral tissue were observed to substantially increase at Emerald Reef from December 2014 through the end of sampling in September 2015, with a relatively high spike in Emerald Reef coral tissues in December 2014 and then slowly decreasing over the course of 2015 .

This time frame corresponds to a period with an observed decrease in coral cover at Emerald Reef and an onset of a coral disease phenomenon at this reef site. However, the particular coral samples collected during this study did not show obvious signs of coral disease or lesions. During this period, substantial increases of both live enterococci fecal bacteria and MST genetic markers for fecal bacteria were also observed in the coastal waters at the Port of Miami sample site.

High levels of MST markers as measured by qPCR were also frequently observed in the surface waters of the
oceanic outfalls from the municipal wastewater treatment plants, but the levels of live fecal indicating bacteria as measured by culture methods were generally low (below regulatory criteria). The MST markers at the wastewater treatment plant outfalls diluted rapidly with distance, as did the MST markers from coastal inlets. Most coastal water samples during this study had live enterococci abundances within the regulatory criteria for recreational water quality, except for the Port of Miami during the period from winter 2014 to fall 2015. While almost all water sites met the U.S. EPA recommended recreational water criteria, despite detection of MST markers associated with domestic wastewater, the PMMoV human dietary viral marker correlated only with human-associated fecal bacterial MST markers. Simulated quantitative microbial risk assessment, employing human norovirus as a reference pathogen, calculated a 0.286 median risk of gastrointestinal illness for human exposure associated with the PMMoV limit of detection. It can be postulated that similar exposure rates associated with these MST markers might also represent a potential health risk to corals.

The water column prokaryotic communities characterized in this study were similar to those previously characterized in marine coastal waters in this area using earlier 454 pyrosequencing technology (Campbell et al., 2015). As before, the marine water communities were primarily comprised of Proteobacteria and Cyanobacteria, and the families Flavobacteriaceae and Rhodobacteriaceae were found to vary in abundance between inlet and ocean/ reef samples, in part, in response to changes in salinity. In contrast, communities from coral tissue samples showed some variation from previous reports (Wegley et al., 2007; Meyer et al., 2014; Ainsworth et al., 2015). While Alpha and Gammaproteobacteria, as well as Cyanobacteria, were the most abundant phyla, members of the Bacteroidetes and Firmicutes previously reported to be associated with Porites astreoides were detected at low abundance. Instead, members of the Bacilli including the genera Bacillius and Paenibacillus were abundant. Furthermore, the genus Endozoicomonas, previously reported to be an important member of a core coral microbiome (Ainsworth et al., 2015), was abundant from samples at only one reef.

The fungal community sequences observed in this study were found to be largely unclassified at this time in the NCBI and SILVA databases. The genus Dictyocatenulata, a stilbellacaeous fungal group associated with bark and wood (Morris and Finley, 1967), was among the only genus classified among coral samples from this study. Additionally, members of the class Sordariomycetes were found to be abundant in Porites astreoides, as has previously been found near Panama (Wegley et al., 2007). While Bullera has recently been reported from marine seafloor sediment (Rédou et al., 2015), much less is known about the genus Dictyocatenulata, particularly as it relates to coral microbiomes.

Fungal results, especially taxonomic classifications, presented here should be considered cautiously due to a number of issues that have recently received attention regarding the use of next-generation sequencing for ecological studies of fungi, including the lack of a control mock community, sequencing target, alignment and clustering methods, and incomplete taxonomic databases. Nevertheless, the fungal sequence-based analyses tended to agree well with those from prokaryotic community characterization, suggesting that unclassified fungal sequences may simply represent unexplored marine fungal diversity.

Significant differences in microbial communities were noted among all sample types, but varied between sampling area. An analysis of sequence data with the SourceTracker algorithm suggests that contamination from outfalls was potentially the greatest source of land-based of pollution to influence native microbial community structure among all reef samples, although the influence of pollution from inlets was also significant. Notably, reef water and coral tissue communities were found to be more greatly impacted by land-based sources of pollution at the southern reefs, which also experienced the most degradation during the course of the study. Results of this study provide new insights into how microbial communities from landbased sources of pollution may impact coral reefs in southeast Florida, and suggest that wastewater outfalls may currently have a greater influence on the microbial diversity and structure of these reef communities than
do anthropogenic inputs carried in runoff, although the influence of runoff and coastal inlet discharge were still substantial. Geographic differences in the degree of impact suggest that the microbiological quality of treated wastewater may be related to coral microbiome influence. Importantly, the differences in prokaryotic communities among types of water samples varied based on the area of the study region sampled.

In the northern area, no difference was observed between outfall and ocean communities, suggesting minimal impacts on coral microbiota community structures from treated wastewater. However, this was not the case in the southern region, where the outfall communities differed significantly from those of both ocean and reef samples. Similarly, coral mucus communities could not be significantly differentiated from inlet communities in the southern region but were distinct from those of water samples in the northern area.

Fungal results generally agreed with bacterial results, although outfall samples differed from ocean samples in the northern area, and reef fungal communities were not significantly different from fungal communities among samples collected in the southern area. Taken together, these results suggest that there is a greater amount of anthropogenic input from both treated wastewater and land-based sources of polllution from inlets into the southern area, as well as potentially different distribution dynamics between bacterial and fungal communities.

In our study of the bacterial community sequences in coral tissues, we found that higher coral cover was correlated with higher bacterial alpha diversity. Decreased alpha diversity is commonly associated with community disturbances in macroecology studies, but this trend varied in the microbial community of corals (McDevitt-Irwin, 2017). Nonetheless, for our samples we propose that a higher alpha diversity was associated with a healthier reef state given that bacteria evenness increased with coral cover, and both the Shannon diversity index and evenness metrics decreased with high temperatures. We also found that Oakland Ridge Reef showed a trend of higher alpha diversity compared to the other three reefs and a significantly higher alpha diversity compared to Emerald Reef, which had the lowest abundance of Halieaceae. However, it is important to note
that Oakland Ridge Reef was a relatively healthier reef than the other coral reefs at the time of this study. However, with a $2.3 \%$ coral cover it is also still an urban-impacted ecosystem, and the differences in coral coverage among the reefs in this study were relatively minimal.

From the comparative analysis of microbiome sequence data and oceanographic measurements, our results show that $95 \%$ of the variance in microbial beta diversity was explained in the first two PCoA axes, and that coral species had the highest group separation among categorical factors (i.e., month, species, reef). Coral species (Porites astreoides and Siderastrea siderea), each have a unique microbial diversity composed of different taxa. However, we also found correlations across the two host species between coral microbiomes and temperature, turbidity (related to available light), and multiple scales of water flow (i.e., those related to modeled larger-scale ocean currents, smaller-scale responses to sea-level gradient, and waves).

We found that increases in tide height, sea level, sea temperature, and modeled alongshore currents were associated with declines in microbial Shannon diversity and/or evenness For beta diversity, the four habitat variables that best described the data were significant wave height, alongshore currents, relative turbidity, and temperature. Corals sampled in the present study were at bottom depths between 6 and 12 m and, thus, were likely to be influenced by waves of the amplitudes we found from the model, both from orbital motions and wavedriven circulation.

In response to significant wave height, we found that a euryarchaeotal taxon from Marine Group II decreased throughout the study period with increases in wave height. Our analysis suggests that Marine Group II may play a larger role in the coral microbiome during times of lower wave activity such as June and, at some sites, in September. In March, during times of higher wave activity, there was an increase in the relative abundance of the bacterial order Flavobacteriales, genus Tenacibaculum. The genus Tenacibaculum encompasses bacteria that are associated with the marine environment and can be pathogenic. This Tenacibaculum ASV had a $100 \%$ sequence identity with Tenacibaculum sediminilitoris, an isolate from tidal
flats. Both tidal flat sediments and seawater are sources of Tenacibaculum; therefore, it is possible that the presence of this genus during high wave activity was due to sedimentation resuspension.

High turbidity on the shelf can be due to waves through erosion or sediment resuspension. However, when turbidity occurs in the absence of higher waves, as it did at some sites in March 2015 (Oakland Ridge and Emerald Reef) and again in June 2015 (Barracuda Reef and Oakland Ridge), it is considered more likely to be due to human activities such as dredging or flood control (Barnes et al., 2015; Gramer and Hendee, 2018). Indeed, a major port expansion was ongoing at the Port of Miami, approximately 9 km east-southeast of Emerald Reef, and 13, 37, and 46 km from Pillars Reef, Barracuda Reef, and Oakland Ridge, respectively. Primary dredging on this project ended on 8 April 2015, with "spot" dredging that continued into September 2015. In March alone, historically high turbidity was observed throughout the reefs we sampled with a plume that included the area surrounding the outer channel of the Port of Miami (Rosales et al., 2019). Interestingly, in the March data, we also saw a correlation between relative turbidity and coral microbiome beta diversity.

In this study, we also observed that coral microbial alpha and beta diversity correlated with temperature, with September samples in particular clustering closely together by temperature (Figures 50 and 51B). In relation to temperature, we saw an increase in relative abundance in SAR86 from the class Gammaproteobacteria. It is unknown how this bacterium may affect the host's health, but it may play an important role in Porites astreoides and Siderastrea siderea holobiont response during times of high temperature (Cardenas et al., 2012). The pattern of sea temperatures measured by divers and in situ moorings in September 2015 appeared consistent with summertime upwelling superimposed on the annual "weather" cycle, rather than simple annual variability. In addition to modifying the thermal environment, upwelling can
also enhance the flux of soluble nutrients onto a reef. Furthermore, the onset and relaxation of an upwelling event may increase flushing of the shelf environment. A combination of these effects from upwelling may help explain the particular relationship between temperature and microbial community structure that we observed.

In conclusion, we identified physical oceanographichabitat variables that correlate with structure in the microbiomes of two hard coral species on four urban-impacted reefs. Our study also identified summer upwelling at some of these reef sites, which decreased bottom sea temperatures and may explain some aspects of the observed microbiome structure. We observed land-based sources of pollution input source influences (particularly wastewater treatment outfalls and coastal inlet discharges) on coral microbiota community structures at these four reefs, and we detected specific fecal-associated bacterial genetic markers in actual coral tissues at these reefs. We also observed a range of potentially opportunistic pathogenic taxa in the community sequencing data from microbiota populations of both the water column and coral tissue of these reefs.

We therefore suggest that land-based sources of pollution (particularly from coastal inlets and treated wastewater outfalls) that reached the coral tissues of the study area, along with the transport of suspended sediments and physical habitat characteristics such as wave height and increasing temperatures, may have all contributed synergistically to the potential increased exposure risk of microbial contaminants and pathogens to these coral reef communities. These factors can shift coral microbiome populations that decrease the protective effects of some members of the coral microbiota, encouraging opportunistic pathogenic behavior of other members of the coral microbiota. . This combination of stressors may decrease overall coral community resilience and render coral ecosystems more susceptible to the impacts of the individual specific stressors such as temperature increase or disease.

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## Appendix 1:

## Water Quality Sampling Locations

Water quality sampling locations (see Figure 4 for a map that displays sampling sites).

| Sampling Site | Name | Category | Latitude ( ${ }^{\circ} \mathrm{N}$ ) | Longitude ( ${ }^{\circ} \mathrm{W}$ ) | Number of Casts | Number of Samples |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Oakland Ridge 1 | OR1 | Reef | 26.15929 | -80.08250 | 1 | 3 |
| Oakland Ridge 2 | OR2 | Reef | 26.15929 | -80.07698 | 1 | 3 |
| Oakland Ridge 3 | OR3 | Reef | 26.16357 | -80.07698 | 1 | 3 |
| Between OR and PEI | BK1 | Background | 26.13000 | -80.08816 | 1 | 3 |
| Port Everglades Inlet | PEI | Inlet | 26.09345 | -80.10972 | 1 | 2 |
| Barracuda 1 | BA1 | Reef | 26.06304 | -80.09333 | 1 | 3 |
| Barracuda 2 | BA2 | Reef | 26.06767 | -80.09900 | 1 | 3 |
| Barracuda 3 | BA3 | Reef | 26.06767 | -80.09333 | 1 | 3 |
| Between BA and MN | BK2 | Background | 26.00000 | -80.09642 | 1 | 3 |
| Miami North outfall | MN1 | Outfall | 25.92306 | -80.08937 | 1 | 3 |
| 0.5 km north of Miami North | MN2 | Outfall | 25.92765 | -80.08937 | 1 | 3 |
| 0.5 km south of Miami North | MN3 | Outfall | 25.91857 | -80.08937 | 1 | 3 |
| Between MN and BHI | BK3 | Background | 25.89500 | -80.08937 | 1 | 3 |
| Bakers Haulover Inlet | BHI | Inlet | 25.90000 | -80.12139 | 1 | 1 |
| Pillars 1 | PR1 | Reef | 25.84210 | -80.10403 | 1 | 2 |
| Pillars 2 | PR2 | Reef | 25.84210 | -80.08810 | 1 | 3 |
| Pillars 3 | PR3 | Reef | 25.85098 | -80.08810 | 1 | 3 |
| Between PR and MC | BK4 | Background | 25.80000 | -80.09296 | 1 | 3 |
| Miami Central outfall | MC1 | Outfall | 25.74282 | -80.08597 | 1 | 3 |
| 0.5 km north of Miami Central | MC2 | Outfall | 25.74746 | -80.08597 | 1 | 3 |
| 0.5 km south of Miami Central | MC3 | Outfall | 25.73833 | -80.08597 | 1 | 3 |
| Port of Miami Inlet | PMI | Inlet | 25.76361 | -80.13278 | 1 | 2 |
| Between MC and ER | BK5 | Background | 25.70871 | -80.08693 | 1 | 3 |
| Emerald Reef 1 | ER1 | Reef | 25.65187 | -80.09460 | 1 | 3 |
| Emerald Reef 2 | ER2 | Reef | 25.65187 | -80.08965 | 1 | 3 |
| Emerald Reef 3 | ER3 | Reef | 25.66158 | -80.08965 | 1 | 3 |
| Near Fowey Rocks Lighthouse | BK6 | Background | 25.59059 | -80.09542 | 1 | 3 |

## Appendix 2:

## Water Quality Cruise Discrete Sample Results

| $\frac{\text { T }}{\frac{1}{c}}$ | $8$ | $\begin{aligned} & n \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\begin{gathered} \dot{\tau} \\ \dot{O} \end{gathered}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & \dot{t} \end{aligned}$ | $\begin{gathered} 5 \\ 0 \\ \hline \end{gathered}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} \underset{\sim}{*} \\ \substack{2} \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & \bar{n} \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 9 \\ & \dot{0} \\ & 0 \end{aligned}$ | $\underset{\sim}{\underset{O}{0}}$ | $\begin{aligned} & 5 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\circ}{\dot{r}}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{N}{N}$ | $\begin{aligned} & \hat{6} \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{l} \infty \\ \infty \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 9 \\ \underset{0}{0} \end{gathered}\right.$ | $\left\|\begin{array}{c} n \\ \underset{0}{0} \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \mathbf{O} \end{aligned}$ | o | $\begin{aligned} & 10 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 18 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} a \\ \vdots \\ \vdots \end{array}\right\|$ | $\stackrel{\Im}{*}$ | $\left\|\begin{array}{c}  \pm \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 8 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \pm \\ & 0 \\ & 0 \end{aligned}$ | $0$ | $\begin{aligned} & \mathbf{8} \\ & 0 \\ & \hline \end{aligned}$ | $\begin{gathered} \infty \\ \infty \\ 0 \\ \hline \end{gathered}$ | $\begin{aligned} & \text { ? } \\ & 0 \end{aligned}$ | $\stackrel{+}{\square}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 간 | $\begin{gathered} 0 \\ \underset{\sim}{N} \end{gathered}$ | $\underset{\substack{\underset{\sim}{2} \\ \underset{\sim}{c} \\ \hline}}{ }$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{N} \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{gathered}\right.$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{N} \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{N}{0} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{array}{\|c} 0 \\ N \\ N \\ \hline \end{array}$ | $\begin{gathered} \infty \\ \underset{\sim}{N} \\ \underset{\sim}{0} \end{gathered}$ | $\left\|\begin{array}{c} \bullet \\ \underset{N}{N} \\ \dot{0} \end{array}\right\|$ | $\frac{\square}{\dot{O}}$ | $\left\lvert\, \begin{gathered} n \\ \mathbf{N} \\ 0 \end{gathered}\right.$ | $\frac{\square}{\mathbf{o}}$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{N} \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\begin{gathered} \substack{\mathrm{N} \\ \mathrm{~N} \\ \mathbf{O}} \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ N \\ 0 \\ 0 \end{array}\right\|$ | $\frac{\square}{\sigma}$ | $\left\|\begin{array}{c} 0 \\ N \\ 0 \\ 0 \end{array}\right\|$ | $\frac{\pi}{0}$ | $\begin{gathered} \stackrel{\sim}{N} \\ \underset{O}{+} \end{gathered}$ | $\frac{\pi}{\sigma}$ | $\begin{gathered} \underset{N}{N} \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \mathbf{N} \\ 0 \end{array}\right\|$ | $\begin{gathered} \circ \\ \underset{N}{N} \\ \text { O} \end{gathered}$ | $\left\|\begin{array}{c} \bar{\sigma} \\ \underset{N}{0} \\ \hline \end{array}\right\|$ | $\stackrel{N}{\grave{n}}$ | $\left\|\begin{array}{l} \infty \\ \underset{N}{n} \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \text { N} \\ & \text { N } \end{aligned}$ | $\begin{gathered} \text { S } \\ \text { Nָ } \end{gathered}$ | $\begin{aligned} & 9 \\ & \mathbf{5} \\ & \mathbf{0} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ N \\ N \\ 0 \end{array}\right\|$ | $\frac{\square}{\sigma}$ | $\begin{gathered} \underset{N}{N} \\ \mathbf{O} \end{gathered}$ | N |
| Z | $\begin{aligned} & \mathbf{D} \\ & \underset{\sim}{N} \\ & \text { N} \end{aligned}$ |  | $\begin{aligned} & \stackrel{\rightharpoonup}{\lambda} \\ & \stackrel{N}{N} \end{aligned}$ | $\begin{array}{\|c} \underset{\sim}{\circ} \\ \underset{\sim}{2} \\ \hline \end{array}$ | $\begin{aligned} & \mathrm{O} \\ & 0 \\ & 1 \\ & \mathrm{~N} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \mathbf{N} \\ \end{array}\right\|$ | $\left\|\begin{array}{l} \bar{N} \\ \mathbf{N} \\ \mathrm{~N} \end{array}\right\|$ | $\|\underset{\sim}{\underset{\sim}{\circ}}\|$ | $\begin{aligned} & \mathrm{O} \\ & \stackrel{\circ}{0} \\ & \mathrm{n} \\ & \mathrm{~m} \end{aligned}$ | $\left\|\begin{array}{c} \hat{N} \\ \infty \\ \underset{\sim}{2} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \mathrm{O} \\ & \stackrel{0}{0} \\ & \mathrm{~N} \end{aligned}\right.$ | $\begin{gathered} \stackrel{\rightharpoonup}{N} \\ \underset{\sim}{N} \\ \dot{N} \end{gathered}$ | $\begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{\sim} \end{gathered}$ | $\begin{aligned} & \hat{n} \\ & \infty \\ & \dot{m} \end{aligned}$ | $\left\|\begin{array}{c} \bar{N} \\ \hat{0} \\ 0 \end{array}\right\|$ | $\begin{aligned} & \bar{i} \\ & \underset{\sim}{n} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \\ & m \end{aligned}$ | $\left\lvert\, \begin{aligned} & 9 \\ & \underset{\sim}{2} \\ & \dot{N} \end{aligned}\right.$ | $\stackrel{m}{\underset{\sim}{\tau}}$ | $\left\|\begin{array}{c} \overline{\hat{N}} \\ \mathbf{0} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{\lambda} \\ & \underset{\sim}{*} \end{aligned}\right.$ | $\left.\begin{aligned} & \hat{N} \\ & \infty \\ & \gamma^{2} \end{aligned} \right\rvert\,$ | $\left.\begin{gathered} \overline{\mathrm{N}} \\ \mathbf{0} \\ \mathbf{N} \end{gathered} \right\rvert\,$ | $\begin{aligned} & m \\ & \substack{0 \\ \vdots \\ \hline} \end{aligned}$ | $\frac{\underset{N}{N}}{\substack{n}}$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{gathered} \stackrel{\rightharpoonup}{N} \\ \underset{\sim}{N} \\ \dot{N} \end{gathered}\right.$ | $\begin{aligned} & m \\ & \substack{0 \\ m} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \mathrm{O} \\ & \hline \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \propto \\ & \underset{\sim}{\infty} \\ & \stackrel{0}{2} \end{aligned}$ | $\left\|\begin{array}{l} \underset{\sim}{\sim} \\ \underset{\sim}{\sim} \end{array}\right\|$ | $\stackrel{\Gamma}{N}$ | $\mathfrak{c}$ | $\begin{aligned} & \text { m} \\ & \underset{\sim}{4} \\ & \underset{\sim}{n} \end{aligned}$ | $\left\|\begin{array}{l} \hat{N} \\ \infty \\ \mathrm{~N} \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \hline-1 \end{aligned}$ | $\begin{gathered} \substack{\sim \\ \underset{\sim}{\sim} \\ \underset{\sim}{2}} \end{gathered}$ | $\stackrel{\leftrightarrow}{\sim}$ |
| $\underset{\underline{Z}}{\mathbf{Z}}$ | $\begin{aligned} & \bar{N} \\ & \underset{\sim}{i} \end{aligned}$ | $j \underset{\sim}{\dot{f}}$ | $\frac{m}{\dot{N}}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{0} \\ \underset{~}{6} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \underset{\sim}{2} \\ \underset{i}{2} \end{gathered}\right.$ | $\begin{aligned} & \underset{\sim}{N} \\ & \text { N} \\ & \text { N } \end{aligned}$ | $\frac{m}{\underset{\sim}{f}}$ | $\begin{aligned} & \varrho \\ & \propto \\ & \\ & \hline \end{aligned}$ | $\underset{\sim}{\underset{N}{N}}$ | $\begin{aligned} & \circ \\ & \stackrel{0}{n} \\ & \underset{\gamma}{2} \end{aligned}$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{f} \\ \hline \end{gathered}\right.$ | $\mid \underset{\underset{\sim}{\mathrm{N}}}{\stackrel{m}{\mathrm{f}}}$ | $\left.\begin{gathered} \bar{\lambda} \\ 0 \\ \dot{m} \end{gathered} \right\rvert\,$ | $\left\lvert\, \begin{gathered} \underset{\sim}{6} \\ \underset{\sim}{x} \end{gathered}\right.$ | $\begin{aligned} & \underset{\mathbf{N}}{\mathbf{O}} \\ & \dot{\gamma} \end{aligned}$ | $\begin{aligned} & \mathbf{O} \\ & \mathbf{O} \\ & \dot{n} \\ & \hline \end{aligned}$ |  | $\left\|\begin{array}{l} 0 \\ \underset{N}{\infty} \\ \bullet \end{array}\right\|$ | $\begin{array}{\|c} \underset{\sim}{\lambda} \\ \underset{\sim}{*} \end{array}$ | $\left\|\begin{array}{l} \hat{0} \\ \mathbf{~} \\ \underset{\sim}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{v} \\ \dot{\sim} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ 1 \\ \underset{\sim}{*} \end{gathered}\right.$ | $\left\|\begin{array}{l} \hat{N} \\ \\ 1 \end{array}\right\|$ | $\underset{\substack{\text { N } \\ \underset{\sim}{n}}}{ }$ | $\underset{\underset{\sim}{*}}{\underset{\sim}{*}}$ | $\stackrel{\underset{\sim}{\mathrm{N}}}{\underset{\sim}{2}}$ | $\stackrel{\Gamma}{\mathrm{N}}$ | $\left\|\begin{array}{l} \frac{\pi}{N} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} \frac{m}{f} \\ i \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & \text { M } \end{aligned}$ | $\frac{m}{\dot{N}}$ | $\stackrel{M}{\underset{\sim}{\top}}$ | $\left\|\begin{array}{c} \bar{N} \\ \hat{N} \\ \mathrm{~N} \end{array}\right\|$ | $\stackrel{J}{\underset{N}{N}}$ | $\frac{m}{\underset{\sim}{i}}$ | $\stackrel{\text { N }}{\substack{\text { N }}}$ |
| $\mathbf{z}$ | $0$ | $\mathfrak{c}$ | $\left\lvert\, \begin{aligned} & \bar{n} \\ & n \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} n \\ n \\ 0 \\ 0 \end{gathered}$ | $\left\lvert\, \begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{gathered} \underset{\sim}{2} \\ \underset{\sim}{0} \end{gathered}$ | No | $\begin{gathered} 0 \\ \underset{\sim}{\infty} \\ 0 \\ \hline \end{gathered}$ | $\left\lvert\, \begin{gathered} n \\ \substack{n \\ 0 \\ 0 \\ 0} \end{gathered}\right.$ | $\begin{aligned} & \hat{N} \\ & \mathbf{N} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{1} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & \\ & 0 \end{aligned}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{2} \end{gathered}$ | $\begin{array}{\|c} 0 \\ 0 \\ 1 \\ 0 \\ 0 \end{array}$ | $\begin{gathered} 0 \\ \underset{N}{0} \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \hat{n} \\ \infty \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} n \\ \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \hat{n} \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} \mathbf{m} \\ \mathbf{~} \\ 0 \\ 0 \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & \underset{N}{N} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \underset{\sim}{2} \\ & 0 \end{aligned}$ | $\begin{gathered} 0 \\ \underset{N}{n} \\ 0 \end{gathered}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\stackrel{\Gamma}{0}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{n} \\ 0 \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \underset{\sim}{2} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\begin{gathered} \infty \\ \underset{\sim}{\infty} \\ 0 \end{gathered}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & 0 \end{aligned}$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{N}{n} \\ & 0 \end{aligned}$ | $\begin{gathered} 0 \\ \underset{N}{n} \\ 0 \end{gathered}$ | － |
| $\stackrel{\sim}{\mathrm{O}}$ | $\overleftrightarrow{Z}$ | $\stackrel{\Sigma}{\Sigma}$ | $\overleftrightarrow{\Sigma}$ | $\overleftrightarrow{\Sigma}$ | $\stackrel{\leftrightarrow}{z}$ | $\overleftrightarrow{\Sigma}$ | $\stackrel{\nwarrow}{\Sigma}$ | $\mathbb{Z}$ | $\stackrel{\nwarrow}{\Sigma}$ | $\overleftrightarrow{\Sigma}$ | $\overleftrightarrow{\Sigma}$ | $\stackrel{\varangle}{Z}$ | $\overleftrightarrow{\swarrow}$ | $\overleftrightarrow{\Sigma}$ | $\overleftrightarrow{\swarrow}$ | $\overleftrightarrow{\nwarrow}$ | $\mathbb{Z}$ | $\overleftrightarrow{Z}$ | $\overleftrightarrow{\Sigma}$ | $\overleftrightarrow{\Sigma}$ | $\stackrel{\leftrightarrow}{\Sigma}$ | $\stackrel{\varangle}{Z}$ | $\overleftrightarrow{Z}$ | $\overleftrightarrow{\Sigma}$ | $\overleftrightarrow{\Sigma}$ | $\varangle$ | $\overleftrightarrow{\Sigma}$ | $\mathbb{Z}$ | $\overleftrightarrow{\nwarrow}$ | $\lesssim$ | $\overleftrightarrow{\}$ | $\overleftrightarrow{Z}$ | $\overleftrightarrow{\Sigma}$ | $\overleftrightarrow{Z}$ | $\overleftrightarrow{\Sigma}$ | $\mathbb{Z}$ | $\overleftrightarrow{Z}$ | $\overleftrightarrow{Z}$ |
| $\stackrel{\circ}{2}$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{~N} \end{aligned}$ | $\dot{j}$ | $\begin{aligned} & \mathrm{N} \\ & \mathrm{~N} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \mathrm{N} \end{aligned}\right.$ | $\stackrel{\underset{N}{N}}{\underset{N}{2}}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \mathrm{m} \\ & \mathbf{o} \end{aligned}$ | $\mathrm{i}$ | $\stackrel{\underset{\sim}{N}}{\underset{\sim}{N}}$ | $\stackrel{N}{\mathrm{~N}}$ | $\begin{aligned} & \bar{\sigma} \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathrm{o} \\ & \mathrm{~N} \end{aligned}$ | $\stackrel{\rightharpoonup}{\mathrm{j}} \underset{\mathrm{~N}}{ }$ | $\begin{aligned} & \infty \\ & 0 \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & 9 \\ & \hline 0 \\ & \dot{8} \end{aligned}$ | $\begin{aligned} & \hat{O} \\ & \mathbf{~} \end{aligned}$ | $\stackrel{N}{N}$ | $\begin{aligned} & \pm \\ & \text { ì } \end{aligned}$ | $\stackrel{\infty}{6}$ | $\left\|\begin{array}{l} \hat{o} \\ \infty \\ \mathrm{~N} \end{array}\right\|$ | $\left\|\begin{array}{l} \underset{\sim}{O} \\ ल \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ 0 \\ \mathrm{~N} \end{array}\right\|$ | $\stackrel{\Phi}{ल}$ | $\begin{aligned} & \mathbf{o} \\ & \underset{N}{2} \end{aligned}$ | $\underset{\sim}{\underset{\sim}{c}}$ | $\stackrel{N}{N}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{~} \\ & \hline \end{aligned}$ | $\begin{aligned} & \hat{6} \\ & \stackrel{\rightharpoonup}{n} \end{aligned}$ | $\left\|\begin{array}{l} 9 \\ \dot{y} \\ \dot{n} \end{array}\right\|$ | $\underset{\underset{\sim}{\varphi}}{\underset{\sim}{r}}$ | $\left\|\begin{array}{l} \bar{\varphi} \\ \dot{m} \end{array}\right\|$ | $\begin{aligned} & \text { N } \\ & \text { N } \end{aligned}$ | $\mathfrak{N}$ | $\underset{N}{N}$ | $\left.\begin{aligned} & \mathbf{m} \\ & \underset{j}{2} \end{aligned} \right\rvert\,$ | $\stackrel{\Gamma}{n}$ | L | N |
|  | $\stackrel{\rightharpoonup}{-}$ | $\bar{T}$ | $\underset{\underset{N}{N}}{\substack{2}}$ | $\begin{aligned} & \bar{\lambda} \\ & 0 \end{aligned}$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} \bar{\infty} \\ 0 \\ \hline \end{gathered}$ | $3$ | $\begin{aligned} & 0 \\ & \stackrel{0}{\wedge} \\ & 0 \end{aligned}$ | $\left.\begin{array}{\|c} 0 \\ 0 \\ 0 \end{array} \right\rvert\,$ | $\begin{aligned} & \stackrel{1}{0} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & m \\ & \\ & 0 \end{aligned}$ | $\begin{aligned} & 18 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\underset{\underset{\sim}{r}}{\underset{\sim}{2}}$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{\sim}{\circ} \\ \hline \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & \vdots \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \mathbf{O} \end{aligned}$ | $\underset{\substack{2 \\ 0 \\ 0}}{ }$ | $\stackrel{\underset{r}{r}}{\underset{r}{2}}$ | $\left\|\begin{array}{c} \bar{\infty} \\ 0 \end{array}\right\|$ | $\begin{aligned} & m \\ & \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} 1 \\ \infty \\ 0 \\ 0 \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{0} \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | Oo | $\begin{aligned} & \mathrm{O} \\ & \hline \end{aligned}$ | $\stackrel{\mathrm{O}}{\mathrm{O}}$ | $\stackrel{1}{2}$ | $\left\lvert\, \begin{aligned} & J \\ & 0 \\ & 0 \end{aligned}\right.$ | $\stackrel{N}{\mathrm{~N}}$ | $\left\|\begin{array}{l} 9 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\Gamma}{0}$ | $\begin{gathered} \underset{N}{0} \end{gathered}$ | $\stackrel{\mathrm{M}}{\mathrm{~N}}$ | $\stackrel{8}{9}$ | $\stackrel{\infty}{\infty}$ | $\begin{aligned} & \infty \\ & + \\ & 0 \\ & \hline \end{aligned}$ | $\stackrel{\square}{0}$ |
| 号 | $\begin{gathered} n \\ \underset{\sim}{n} \\ \text { N } \end{gathered}$ | $\begin{gathered} \infty \\ \\ \\ \\ \hline \end{gathered}$ | $\left.\begin{gathered} N \\ N \\ N \end{gathered} \right\rvert\,$ | $\left.\begin{gathered} N \\ N \\ N \\ N \end{gathered} \right\rvert\,$ | $\begin{aligned} & 0 \\ & \stackrel{0}{2} \\ & \underset{N}{2} \end{aligned}$ | $\begin{gathered} 0 \\ \underset{N}{n} \\ \underset{N}{2} \end{gathered}$ | $\begin{aligned} & 9 \\ & \underset{\sim}{\dot{1}} \end{aligned}$ | $\mathfrak{c}$ | $\begin{aligned} & \overline{\mathrm{N}} \\ & \underset{N}{2} \end{aligned}$ | $\left.\begin{gathered} 0 \\ \stackrel{1}{\mathrm{~N}} \\ \mathrm{~N} \end{gathered} \right\rvert\,$ | $\begin{aligned} & \mathrm{T} \\ & \mathbf{N} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \mathbf{n} \\ & \mathbf{N} \\ & \underset{N}{2} \end{aligned}$ | $\begin{gathered} N \\ \mathbf{N} \\ \underset{N}{2} \end{gathered}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{N}{2} \end{gathered}\right.$ | $\begin{gathered} \mathrm{O} \\ \underset{N}{2} \end{gathered}$ | $\left\lvert\, \begin{aligned} & \underset{1}{0} \\ & \underset{N}{N} \end{aligned}\right.$ | $\begin{gathered} \underset{\sim}{n} \\ \text { Ni } \end{gathered}$ | $\begin{gathered} N \\ \underset{N}{\mathrm{~N}} \end{gathered}$ | $\left\lvert\, \begin{aligned} & n \\ & \underset{\sim}{n} \\ & \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ \mathbf{j} \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \mathbf{0} \\ \underset{N}{2} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{j}{2} \\ \underset{N}{2} \end{gathered}\right.$ | $\left\|\begin{array}{l} \mathbf{n} \\ \underset{\sim}{n} \end{array}\right\|$ | $\begin{aligned} & N \\ & N \\ & N \end{aligned}$ | $\begin{gathered} \text { y } \\ \text { No } \end{gathered}$ | $\begin{gathered} \mathrm{N} \\ \underset{\sim}{0} \end{gathered}$ | $\left\lvert\, \begin{aligned} & \mathbf{n} \\ & \mathbf{N} \\ & \underset{N}{2} \end{aligned}\right.$ | $\begin{aligned} & \text { Q } \\ & \text { Ni } \end{aligned}$ | $\left\|\begin{array}{l} \mathbf{0} \\ \mathbf{0} \\ \underset{N}{2} \end{array}\right\|$ | N | $\left\|\begin{array}{l} \mathbf{0} \\ \mathbf{N} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{\mathrm{O}} \\ \underset{N}{2} \end{gathered}$ | $\begin{aligned} & \text { n } \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 1 \\ \end{array}\right\|$ | $\begin{aligned} & \stackrel{\sim}{\mathrm{C}} \\ & \underset{N}{2} \end{aligned}$ | $\stackrel{\substack{\underset{\sim}{+} \\ \text { Ǹ }}}{ }$ | ¢ |
| 응ㅇㅇ |  | $\dot{c}$ | $\begin{aligned} & \mathbf{9} \\ & 0 \\ & 0 \\ & \mathbf{N} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{N} \end{array}\right\|$ | $\begin{aligned} & \mathbf{y} \\ & \dot{N} \\ & \mathbf{N} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \mathbf{o} \\ & \dot{N} \\ & \dot{N} \end{aligned}\right.$ | $\begin{gathered} \infty \\ \underset{\sim}{\infty} \\ \underset{\sim}{0} \end{gathered}$ |  | $\left\lvert\, \begin{aligned} & \bar{\sigma} \\ & \dot{N} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $$ | $\left\lvert\, \begin{aligned} & \pm \\ & 0 \\ & \dot{N} \\ & \underset{N}{2} \end{aligned}\right.$ | $\left.\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\left\lvert\, \begin{aligned} & \mathbf{N} \\ & \dot{N} \\ & \dot{N} \end{aligned}\right.$ | $\left\|\begin{array}{c} \underset{N}{\underset{N}{N}} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \infty \\ & \underset{N}{n} \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{0}{0} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \underset{N}{n} \end{aligned}$ | $\left\|\begin{array}{c} \bar{N} \\ \stackrel{N}{N} \end{array}\right\|$ | $\begin{array}{\|l\|} \hline 0 \\ 0 \\ \dot{0} \\ \end{array}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ \bullet \\ \stackrel{\oplus}{N} \end{array}\right\|$ | $\begin{array}{\|l\|} \hline 0 \\ \varrho \\ \dot{0} \\ \end{array}$ | $\begin{array}{\|l\|} \hline \infty \\ \infty \\ 0 \\ \end{array}$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & \underset{N}{2} \end{aligned}$ |  | $\begin{array}{\|c} \stackrel{n}{\sim} \\ \underset{N}{\circ} \end{array}$ | $\left\lvert\, \begin{aligned} & \bar{\infty} \\ & \dot{N} \\ & \underset{N}{2} \end{aligned}\right.$ | $\underset{\sim}{\underset{\sim}{\underset{\sim}{c}}}$ | $\left\|\begin{array}{l} N \\ \underset{N}{2} \\ \underset{N}{2} \end{array}\right\|$ | $\stackrel{\circ}{\mathrm{N}}$ | $\left\lvert\, \begin{gathered} \underset{N}{N} \\ \substack{n} \end{gathered}\right.$ | $\begin{aligned} & \mathscr{O} \\ & \dot{N} \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \underset{\sim}{\infty} \end{aligned}$ | $\begin{array}{\|c\|} \infty \\ \underset{\sim}{\infty} \\ \underset{\sim}{2} \end{array}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ \mathbf{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \dot{N} \end{array}\right\|$ | $\begin{gathered} \underset{O}{N} \\ \underset{N}{2} \end{gathered}$ | － |
| $\bar{\infty}$ | $\dot{i}$ | $\mathfrak{l}$ | $\left.\begin{aligned} & J \\ & 0 \\ & 1 \\ & M \end{aligned} \right\rvert\,$ | $\left\lvert\, \begin{aligned} & \overline{0} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & \overline{0} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \overline{0} \\ & \dot{0} \\ & ल \end{aligned}$ | $\begin{aligned} & \text { m } \\ & \dot{0} \\ & \dot{p} \end{aligned}$ | $\begin{aligned} & \dot{o} \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \mathbf{O} \\ & \mathbf{M} \end{aligned}$ | $\begin{aligned} & N \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & \dot{M} \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & 0 \\ & \mathrm{M} \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathrm{O} \\ & \dot{M} \\ & \mathbf{M} \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & \dot{M} \end{aligned}$ | $\begin{aligned} & \mathbf{o} \\ & \dot{m} \\ & \dot{m} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\mathrm{N}} \\ & \mathbf{O} \\ & \mathbf{M} \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \underset{\sim}{\mathrm{C}} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} \bar{o} \\ 0 \\ \mathbf{e} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{\mathrm{N}} \\ & \underset{\mathrm{M}}{2} \end{aligned}$ | $\left\|\begin{array}{l} m \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & m \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} m \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & \dot{M} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \mathbf{O} \\ & \underset{M}{2} \end{aligned}$ | $\begin{aligned} & \underset{0}{0} \\ & \hdashline \mathbf{c} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \mathrm{O} \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \mathbf{0} \\ & \mathrm{C} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \text { B } \\ & \mathbf{O} \\ & \mathbf{N} \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & m \end{aligned}$ | $\begin{aligned} & \text { প্ } \\ & \text { ค. } \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \hline 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { O } \\ & \substack{0} \end{aligned}$ | $\begin{aligned} & 9 \\ & \underset{N}{10} \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathbf{8} \\ & \mathbf{O} \\ & 1 \\ & \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \mathbf{O} \\ & \hline 0 \end{aligned}$ | $\begin{aligned} & \dot{O} \\ & 0 \\ & \dot{M} \end{aligned}$ | － |
|  | $\left\|\begin{array}{l} \infty \\ \infty \\ \underset{c}{2} \end{array}\right\|$ | $\mathfrak{N}$ | $\stackrel{\mathbf{N}}{ }$ | $\begin{aligned} & \underset{\infty}{\Gamma} \\ & \underset{\sim}{2} \end{aligned}$ | $\stackrel{\stackrel{\Gamma}{c}}{\stackrel{r}{r}}$ | $\begin{aligned} & \stackrel{\Gamma}{m} \\ & \stackrel{r}{r} \end{aligned}$ | $\underset{\sim}{\tau}$ | $\begin{aligned} & \text { N } \\ & \text { No } \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\underset{N}{2}} \\ & \underset{\sim}{2} \end{aligned}$ | $\stackrel{\Gamma}{\dot{O}}$ | $\begin{aligned} & \underset{\sim}{\tau} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \hat{9} \\ & \dot{0} \end{aligned}$ | $\bar{\forall}$ | $\frac{0}{\dot{f}}$ | $\underset{r}{ \pm}$ | $\left\lvert\, \begin{gathered} \infty \\ \stackrel{\sim}{c} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{aligned} & \hat{0} \\ & 0 \end{aligned}$ | $\underset{\sim}{F}$ | $\left.\begin{aligned} & \mathbf{M} \\ & 0 \\ & \infty \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} \infty \\ \stackrel{\infty}{\gamma} \end{array}\right\|$ | $\underset{\sim}{\pi}$ | $\frac{0}{7}$ | \% | © | $\mathfrak{\sim}$ | $\stackrel{O}{0}$ | $\begin{aligned} & \stackrel{8}{0} \\ & \hdashline \end{aligned}$ | $\begin{aligned} & \mathbf{D}_{1} \\ & \dot{\omega} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ o \\ \infty \end{array}\right\|$ | $\underset{~}{~}$ | $\begin{aligned} & 0 \\ & \\ & \end{aligned}$ | $\stackrel{N}{\mathrm{~N}}$ | $\stackrel{N}{\sim}$ | $\stackrel{8}{-}$ | $\begin{gathered} \stackrel{\rightharpoonup}{\mathrm{N}} \\ \stackrel{i}{2} \end{gathered}$ | $\begin{aligned} & \dot{O} \\ & \mathbf{O} \end{aligned}$ | $\infty$ | $\stackrel{\sim}{\sim}$ |
|  | $\left\lvert\, \begin{gathered} 0 \\ \infty \\ 0 \\ 0 \\ \infty \\ \hline \end{gathered}\right.$ | $\mathfrak{c}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}\right.$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ | $\begin{aligned} & 0 \\ & \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & N \\ & N \\ & \mathbf{N} \\ & \mathbf{O} \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathfrak{n} \\ & \underset{N}{0} \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\mathfrak{y}$ | $\left\lvert\, \begin{aligned} & \infty_{0} \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\frac{0}{0}$ |  | $\begin{aligned} & \underset{N}{2} \\ & \underset{O}{0} \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{gathered} \mathbb{N} \\ \mathbf{O} \\ 0 \\ 0 \\ 0 \\ 1 \end{gathered}$ |  | $\left\|\begin{array}{l} \infty \\ \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} 8 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}\right.$ | $\begin{aligned} & \hat{\mathbf{M}} \\ & \mathbf{0} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { Y } \\ & \text { O} \\ & \text { O } \\ & \text { O } \end{aligned}$ | $\begin{aligned} & \text { Y } \\ & \text { O} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ | $\begin{aligned} & \text { 毋 } \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathbf{O} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { O2 } \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { 耳 } \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { N } \\ & 0 \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\left.\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\begin{aligned} & \text { O} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \mathbf{8} \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | N |
|  |  |  | $\begin{aligned} & m \\ & 0 \\ & \vdots \\ & \dot{e} \\ & \underset{N}{2} \end{aligned}$ | $\begin{array}{\|l} \stackrel{0}{0} \\ \stackrel{0}{6} \\ \underset{N}{N} \end{array}$ | $\underset{\substack{\infty \\ \underset{\sim}{n} \\ \underset{\sim}{c} \\ \hline}}{ }$ | $\begin{aligned} & \infty \\ & 0 \\ & \stackrel{N}{\dot{N}} \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & \text { B } \\ & \stackrel{0}{9} \\ & \stackrel{0}{9} \\ & \hline \end{aligned}$ | N | $\begin{gathered} \infty \\ \underset{\sim}{0} \\ \underset{\sim}{\dot{c}} \\ \hline \end{gathered}$ |  | $\begin{gathered} \underset{\sim}{\underset{N}{c}} \\ \underset{\sim}{\dot{N}} \end{gathered}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\dot{N}} \\ \underset{\sim}{2} \end{gathered}$ | $\left\lvert\, \begin{gathered} \stackrel{\rightharpoonup}{\mathrm{N}} \\ \underset{\sim}{\mathrm{~N}} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \\ & \dot{0} \\ & \mathbf{N} \end{aligned}$ |  | $\begin{aligned} & \hat{N} \\ & \hat{O} \\ & 0 \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{\substack{2}}{\mathbf{O}} \\ & \dot{N} \end{aligned}$ |  | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} - \\ \infty \\ 0 \\ 0 \\ \dot{0} \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathrm{J} \\ \hat{0} \\ 0 \\ 0 \\ \mathbf{N} \end{array}\right\|$ | $\begin{aligned} & \underset{N}{N} \\ & \hat{O} \\ & \dot{O} \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \hat{0} \\ & 0 \\ & \hat{N} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \hline \mathrm{O} \\ & \mathrm{o} \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \bar{\delta} \\ & \hline 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \mathrm{O} \\ \mathrm{O} \\ \mathrm{O} \\ \dot{0} \\ \mathrm{~N} \end{array}\right\|$ | $\begin{aligned} & \text { N} \\ & \text { N} \\ & \text { No } \\ & \text { No } \end{aligned}$ | $\left\lvert\, \begin{aligned} & \text { N} \\ & \underset{\sim}{2} \\ & \underset{\sim}{N} \\ & \underset{N}{2} \end{aligned}\right.$ | $\begin{aligned} & \underset{\sim}{n} \\ & \underset{\sim}{n} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\infty} \\ & \text { N } \\ & \underset{\sim}{2} \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \text { ষ } \\ & \text { N } \\ & \text { on } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \neq \\ & \underset{N}{N} \\ & \text { Ni } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \underset{\sim}{\alpha} \\ & \underset{\sim}{N} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & N \\ & N \\ & N \\ & N \\ & N \end{aligned}$ | $\begin{gathered} \underset{\sim}{N} \\ \text { N} \\ \text { Ni } \end{gathered}$ | $\begin{aligned} & \text { n } \\ & \underset{N}{N} \\ & \underset{N}{n} \end{aligned}$ | ¢ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 11／18／13 10：21 AM |  |  |  |  |  |  |  |  |  | 11／18／13 11：20 AM |  | $\begin{aligned} & \underset{i}{\sum} \\ & \underset{N}{N} \\ & \underset{\sim}{c} \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{c} \end{aligned}$ |  |  |  |  |  |  | $\begin{aligned} & \underset{n}{\sum} \\ & \underset{\sim}{j} \\ & \underset{\sim}{i} \\ & \underset{\sim}{\infty} \\ & \stackrel{m}{\infty} \\ & \underset{\sim}{c} \end{aligned}$ |  |  | $\begin{aligned} & \frac{\sum}{n} \\ & \frac{o}{n} \\ & \underset{\sim}{m} \\ & \frac{n}{\infty} \\ & \frac{1}{N} \end{aligned}$ |  |  |
| － | $\left\|\begin{array}{c} 0 \\ \frac{1}{r} \\ \underset{O}{0} \end{array}\right\|$ | $\underset{\sim}{2}$ | $\begin{aligned} & \underset{1}{\grave{r}} \\ & \stackrel{\rightharpoonup}{O} \end{aligned}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{n} \\ \underset{\sim}{u} \end{gathered}\right.$ | $\left\{\begin{array}{c} \infty \\ \underset{\sim}{\underset{\sim}{c}} \\ \underset{\sim}{0} \end{array}\right.$ | $\begin{array}{\|c} \underset{\sim}{x} \\ \underset{\sim}{\sim} \\ \underset{\sim}{\underset{O}{2}} \end{array}$ | $\begin{aligned} & \underset{i}{\lambda} \\ & \underset{\sim}{x} \\ & \underset{O}{2} \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{N}{N} \\ & \underset{O}{0} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\infty} \\ & \underset{\sim}{\varphi} \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{1} \\ & \underset{\sim}{0} \\ & \stackrel{\sim}{0} \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & \frac{1}{y} \\ & \frac{1}{m} \end{aligned}$ | $\begin{aligned} & m \\ & \frac{1}{\mathbf{y}} \\ & \hline \mathbf{m} \end{aligned}$ | $\left\lvert\, \begin{gathered} \frac{\pi}{\dot{y}} \\ \frac{\dot{y}}{\prime} \end{gathered}\right.$ | $\left.\begin{gathered} U \\ \frac{1}{\omega} \\ \mathbf{Q} \end{gathered} \right\rvert\,$ |  | $\begin{aligned} & 0 \\ & \frac{1}{4} \\ & m \end{aligned}$ | $\frac{m}{\frac{1}{4}}$ | $\left\lvert\, \frac{\mathbb{1}}{\frac{1}{4}}\right.$ | $\left\|\begin{array}{l} 0 \\ \underset{1}{2} \\ \underset{\sim}{m} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\sim} \\ \underset{\sim}{\infty} \end{array}\right\|$ | $\left\|\begin{array}{c} \frac{1}{1} \\ \underset{\sim}{x} \\ \hline \end{array}\right\|$ | $\left\|\begin{array}{l} u \\ \dot{\omega} \\ \underset{\sim}{\omega} \\ \hline \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{m}{m} \\ \underset{\sim}{\omega} \\ \hline \end{gathered}\right.$ | $\begin{gathered} \stackrel{c}{c} \\ \underset{\sim}{m} \\ m \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{2} \\ \cline { 1 - 1 } \end{gathered}\right.$ | $\begin{aligned} & \infty \\ & \stackrel{\sim}{\check{\sim}} \end{aligned}$ | $\left\|\begin{array}{c} \underset{1}{4} \\ \underset{\sim}{\mathbf{y}} \end{array}\right\|$ | $\begin{aligned} & C \\ & C_{1}^{1} \\ & \sum_{\Sigma} \end{aligned}$ | $\left\|\begin{array}{l} m \\ n_{1} \\ \sum_{\Sigma} \end{array}\right\|$ | $\stackrel{c}{\dot{N}} \underset{\Sigma}{2}$ | $\begin{aligned} & 0 \\ & \dot{1} \\ & \underset{\Sigma}{2} \end{aligned}$ | $\begin{aligned} & \stackrel{1}{\wedge} \\ & \underset{\Sigma}{\mathbf{\Sigma}} \end{aligned}$ | $\begin{aligned} & \times \\ & \underset{\sim}{\prime} \\ & \underset{\Sigma}{\prime} \\ & \underset{\Sigma}{ } \end{aligned}$ | $\begin{aligned} & \underset{i}{\overleftarrow{1}} \\ & \underset{\Sigma}{\underset{\Sigma}{2}} \end{aligned}$ | $\left\|\begin{array}{l} U \\ \frac{1}{\Sigma} \\ \Sigma \\ \Sigma \end{array}\right\|$ | $\underset{\Sigma}{\infty}$ |  | $\frac{\text { ¢ }}{\frac{1}{ \pm}}$ |


| $\frac{\text { T }}{\frac{1}{c}}$ | $\stackrel{\circ}{\dot{m}}$ | 은 | $\begin{gathered} \infty \\ 0 \\ 0 \end{gathered}$ | $\left\lvert\, \begin{gathered} \infty \\ 0 \\ 0 \\ 0 \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \substack{0 \\ 0 \\ \hline} \end{gathered}\right.$ | $\left\|\begin{array}{c} 0 \\ N \\ 0 \end{array}\right\|$ | $\begin{gathered} \infty \\ \underset{\sim}{0} \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\underset{\sim}{N}$ | $\left\|\begin{array}{c} \hat{N} \\ \mathbf{o} \end{array}\right\|$ | $\begin{gathered} \infty \\ \underset{o}{\mid} \end{gathered}$ | $\left\|\begin{array}{c} \bar{m} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{\sim}{0} \\ \hline \end{gathered}\right.$ | $\left\|\begin{array}{c} \underset{\sim}{2} \\ \mathbf{o} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{o}{2} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 9 \\ \dot{0} \end{array}\right\|$ | $\begin{gathered} \hat{N} \\ 0 \end{gathered}$ | $\begin{gathered} N \\ \mathbf{N} \\ \hline \end{gathered}$ | $\begin{gathered} \underset{N}{2} \\ 0 \end{gathered}$ | $\begin{gathered} \hat{m} \\ 0 \\ \hline \end{gathered}$ | $\underset{N}{N}$ |  | $\begin{gathered} n \\ \mathbf{o} \\ \hline \end{gathered}$ | $\underset{N}{N}$ | $\underset{\substack{ \pm \underset{O}{2} \\ \hline}}{ }$ | $\begin{aligned} & 0 \\ & \underset{o}{0} \end{aligned}$ | $\stackrel{ָ}{\mathrm{o}}$ | $\frac{\mathrm{N}}{\mathrm{o}}$ | 은 | $\stackrel{ㅇ ㅡ ㄷ ~}{r}$ | $\left\|\begin{array}{c} 0 \\ N \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ N \\ 0 \end{array}\right\|$ | $\stackrel{\circ}{\square}$ | $8$ | $\stackrel{8}{\mathrm{O}}$ | $\left.\begin{gathered} \infty \\ \infty \\ 0 \end{gathered} \right\rvert\,$ | $\stackrel{8}{\circ}$ | $\stackrel{\infty}{\stackrel{\infty}{0}}$ | $\underset{\sim}{\top}$ | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\underset{\substack{\infty \\ \underset{N}{n} \\ \vdots \\ \hline}}{ }$ | $\begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{gathered}$ | $\frac{\dot{\sigma}}{\stackrel{\rightharpoonup}{0}}$ | $\left\|\begin{array}{c} \infty \\ \stackrel{N}{N} \\ \mathbf{o} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \stackrel{N}{N} \\ \underset{0}{2} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{gathered}\right.$ | $\begin{aligned} & 7 \\ & 0 \\ & 0 \end{aligned}$ | $\frac{\dot{0}}{\dot{0}}$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{N}{n} \\ \vdots \\ 0 \end{gathered}\right.$ | $\frac{\overline{0}}{\dot{0}}$ | $\frac{\square}{\underset{\sigma}{\circ}}$ | $\left\|\begin{array}{c} \stackrel{O}{\mathrm{~N}} \\ \mathbf{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \stackrel{N}{N} \\ \underset{0}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} \overline{0} \\ \dot{0} \end{array}\right\|$ | $\left.\frac{\dot{O}}{\underset{O}{O}} \right\rvert\,$ | $\left\|\begin{array}{l} \pi \\ \stackrel{J}{0} \end{array}\right\|$ | $\begin{aligned} & \overline{0} \\ & \dot{0} \\ & \hline \end{aligned}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{0} \end{gathered}$ | $\left\lvert\, \begin{gathered} \stackrel{O}{N} \\ \underset{N}{\mathbf{N}} \end{gathered}\right.$ | $\begin{gathered} \infty \\ \underset{N}{N} \\ \underset{0}{2} \end{gathered}$ | $\begin{gathered} \infty \\ \stackrel{\sim}{N} \\ \underset{0}{2} \end{gathered}$ | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{m}}}{\underset{\sim}{r}}$ | $\frac{\square}{\square}$ | $\begin{gathered} \infty \\ \underset{N}{N} \\ 0 \end{gathered}$ | $\begin{gathered} \stackrel{O}{N} \\ \underset{N}{N} \\ \hline \end{gathered}$ | $\begin{aligned} & 0 \\ & \underset{N}{N} \\ & \mathbf{O} \end{aligned}$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{N}{N} \\ 0 \\ 0 \end{gathered}\right.$ | $\xrightarrow[\substack{\infty \\ \stackrel{N}{N} \\ 0 \\ \hline}]{ }$ | $\begin{aligned} & n \\ & \underset{N}{0} \\ & 0 \end{aligned}$ | $\begin{aligned} & m \\ & N \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} \bar{\sim} \\ \underset{O}{0} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{N} \\ \underset{o}{0} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{N} \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \bar{\sigma} \\ \underset{N}{0} \end{array}\right\|$ | $\underset{\substack{\infty \\ \underset{N}{N} \\ \vdots \\ \hline}}{ }$ | $\left\|\begin{array}{c} \infty \\ \stackrel{N}{N} \\ \mathbf{o} \end{array}\right\|$ | $\begin{array}{\|c} \underset{\sim}{2} \\ \underset{\sim}{0} \end{array}$ | $\begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{gathered}$ | $\begin{gathered} \infty \\ \stackrel{n}{n} \\ \\ \hline \end{gathered}$ | $\begin{aligned} & 0 \\ & \underset{N}{N} \\ & \text { Non } \end{aligned}$ | － |
| Z | $\mid \underset{\substack{\mathrm{N}}}{\stackrel{\rightharpoonup}{N}}$ | $\begin{gathered} \substack{\sim \\ \underset{\sim}{x} \\ \underset{\sim}{n}} \end{gathered}$ |  | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{\sim}{\sim} \end{array}\right\|$ | $\left.\begin{array}{\|c} \bar{N} \\ \hat{~} \\ \dot{N} \end{array} \right\rvert\,$ | $\left\|\begin{array}{c} \underset{\sim}{\lambda} \\ \underset{m}{2} \end{array}\right\|$ | $\begin{array}{l\|l}  \pm \\ \hline \\ \hline \end{array}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \dot{O} \end{aligned}$ | $\begin{aligned} & \hat{N} \\ & \infty \\ & \underset{i}{2} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ \infty \\ \stackrel{\infty}{N} \\ \cdots \end{array}\right\|$ | $$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{0} \\ \underset{\sim}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} \stackrel{\rightharpoonup}{N} \\ \underset{\sim}{+} \\ \dot{\sim} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \substack{2 \\ \mathbf{~} \\ \dot{c} \\ \hline} \end{aligned}\right.$ | $\left\|\begin{array}{l} \hat{n} \\ \infty \\ \underset{\sim}{n} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathrm{O} \\ \mathrm{O} \\ \mathrm{~m} \end{array}\right\|$ | $\left\|\begin{array}{l} \underset{\sim}{\lambda} \\ M \end{array}\right\|$ | $\mid \underset{\dot{m}}{\underset{\sim}{\sim}}$ | $\left.\begin{aligned} & 8 \\ & 0 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} 0 \\ \infty \\ \stackrel{\infty}{N} \\ \stackrel{1}{2} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\sim} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ \underset{N}{n} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{n} \\ & \underset{\sim}{\mathcal{N}} \\ & \dot{2} \end{aligned}$ | $\begin{gathered} D_{1} \\ \underset{\sim}{\sim} \end{gathered}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\sim} \\ \dot{N} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{\mathcal{N}} \end{aligned}$ | $\begin{aligned} & D_{1} \\ & \underset{\sim}{\mathcal{N}} \end{aligned}$ | $\left\|\begin{array}{c} \hat{\omega} \\ \infty \\ \mathfrak{N} \end{array}\right\|$ | $\begin{aligned} & \bar{N} \\ & 0 \\ & 0 \end{aligned}$ | $\underset{\underset{\sim}{\underset{\sim}{*}}}{\underset{\sim}{2}}$ | $\left\|\begin{array}{l} \infty \\ \infty \\ \stackrel{\infty}{N} \\ \dot{N} \end{array}\right\|$ | $\begin{gathered} 8 \\ \hline 0 \\ 10 \\ 8 \end{gathered}$ | $\left\|\begin{array}{l} \hat{n} \\ \infty \\ \dot{c} \end{array}\right\|$ | $\underset{\sim}{\underset{\sim}{\sim}}$ | $\left\|\begin{array}{c} \underset{\sim}{c} \\ \dot{0} \end{array}\right\|$ | $\left\|\begin{array}{l} \bar{N} \\ 0 \\ \dot{N} \end{array}\right\|$ | $\begin{array}{\|c} \hat{1} \\ \infty \\ 0 \\ 0 \end{array}$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\infty} \\ \underset{m}{2} \end{array}\right\|$ | $\begin{aligned} & m \\ & \substack{0 \\ m} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \text { ले } \end{aligned}$ | $\underset{\sim}{\text { ¢ }}$ |
| $\underset{\underline{z}}{\underline{Z}}$ |  | $\frac{m}{\dot{N}}$ | $\frac{m}{\dot{N}}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{N}} \\ \hline \end{gathered}\right.$ | $\left\|\begin{array}{c} 0 \\ p \\ 1 \\ \underset{i}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{\sim}{n} \end{array}\right\|$ |  | $\left.\begin{aligned} & \mathrm{J} \\ & \mathrm{~N} \end{aligned} \right\rvert\,$ | $\left.\begin{gathered} n \\ \sim \\ \sim \end{gathered} \right\rvert\,$ | $\left\|\begin{array}{l} \mathrm{O} \\ 0 \\ \mathrm{~N} \\ \mathrm{~N} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{0} \\ & \underset{\sim}{*} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{l} \mathrm{O} \\ \mathrm{O} \\ \dot{\mathrm{r}} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{\dot{f}} \end{array}\right\|$ | $\begin{aligned} & \hat{N} \\ & ल \\ & ल \end{aligned}$ | $\left\|\begin{array}{c} \bar{N} \\ \hat{n} \\ \underset{\sim}{2} \end{array}\right\|$ | $\begin{aligned} & \frac{J}{N} \\ & \underset{N}{2} \end{aligned}$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{\sim}{\sim} \end{array}\right\|$ | $\left.\begin{aligned} & \hat{N} \\ & \infty \\ & \mathrm{~N} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{c} \underset{N}{N} \\ 0^{\circ} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathrm{O} \\ \stackrel{0}{0} \\ \mathrm{~N} \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{\dot{\sim}} \\ \hline \end{gathered}$ | $\underset{\dot{f}}{\underset{f}{f}}$ |  | $\frac{m}{\dot{N}}$ | $\frac{m}{\dot{N}}$ | $\frac{\underset{\sim}{\mathrm{N}}}{\mathrm{i}}$ | $\frac{\underset{\sim}{\sim}}{\underset{\sim}{N}}$ | $\frac{m}{\dot{N}}$ | $\left\lvert\, \begin{aligned} & \bar{N} \\ & \underset{N}{n} \end{aligned}\right.$ |  | $\begin{aligned} & \underset{N}{N} \\ & ल \end{aligned}$ | $\left\|\begin{array}{c} \underset{\sim}{\sim} \\ \underset{\sim}{\sim} \end{array}\right\|$ | $\underset{\underset{\sim}{\underset{\sim}{*}}}{\underset{\sim}{t}}$ | $\begin{aligned} & \bar{N} \\ & \stackrel{N}{n} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ \underset{\sim}{0} \\ \underset{0}{0} \end{array}\right\|$ | $\frac{m}{\dot{f}}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{N} \\ \underset{\sim}{*} \end{gathered}\right.$ | $\frac{m}{\dot{f}}$ | $\stackrel{\underset{\sim}{\sim}}{\underset{\sim}{\tau}}$ | $\begin{aligned} & \text { N } \\ & \text { N } \\ & \hline \end{aligned}$ | O. | N |
| $\pm$ | $\left\lvert\, \begin{aligned} & 1 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{gathered} 0 \\ \substack{\infty \\ N \\ 0 \\ \hline} \end{gathered}$ | $\begin{gathered} 0 \\ 0 \\ N \\ 0 \end{gathered}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{N} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ N \\ 0 \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{n} \\ 0 \end{gathered}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & \underset{N}{1} \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{1} \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & \underset{N}{0} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{2} \\ 0 \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & \underset{N}{0} \\ & 0 \end{aligned}\right.$ | $\begin{gathered} 0 \\ 0 \\ N \\ 0 \end{gathered}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{2} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & \underset{\sim}{0} \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & \underset{N}{0} \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{gathered}\right.$ | $\begin{gathered} \text { ® } \\ \underset{\sim}{*} \\ 0 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} n \\ \\ \\ 0 \end{gathered}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \hat{n} \\ \infty \\ 0 \\ 0 \end{array}\right\|$ | O | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\stackrel{\star}{N}$ | $\begin{gathered} \hat{N} \\ \mathbf{m} \\ 0 \end{gathered}$ | o | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & 0 \end{aligned}$ | ¢ |
| O\| | $\stackrel{\star}{\Sigma}$ | $\underset{Z}{\Sigma}$ | $\mathbb{Z}$ | $\mathbb{Z}$ | $\mathbb{Z}$ | $\stackrel{\varangle}{\Sigma}$ | $\stackrel{\varangle}{Z}$ | $\stackrel{\nwarrow}{\Sigma}$ | $\stackrel{\nwarrow}{\Sigma}$ | $\overleftrightarrow{\Sigma}$ | $\stackrel{\varangle}{\Sigma}$ | $\stackrel{\Sigma}{\Sigma}$ | $\overleftrightarrow{\Sigma}$ | $\mathbb{Z}$ | $\mathbb{Z}$ | $\overleftrightarrow{Z}$ | $\overleftrightarrow{\Sigma}$ | $\stackrel{\star}{\Sigma}$ | $\stackrel{\varangle}{Z}$ | $\stackrel{\Sigma}{\Sigma}$ | $\mathbb{Z}$ | $\stackrel{\varangle}{Z}$ | $\stackrel{\leftrightarrow}{z}$ | $\stackrel{\nwarrow}{\Sigma}$ | $\mathbb{Z}$ | $\overleftrightarrow{Z}$ | $\overleftrightarrow{\Sigma}$ | $\mathbb{Z}$ | $\underset{Z}{Z}$ | $\stackrel{\mathbb{K}}{\boldsymbol{Z}}$ | $\stackrel{\nwarrow}{\Sigma}$ | $\mathbb{K}$ | $\overleftrightarrow{\Sigma}$ | $\overleftrightarrow{\swarrow}$ | $\stackrel{\Sigma}{\Sigma}$ | $\stackrel{\pi}{z}$ | $\overleftrightarrow{\Sigma}$ | $\overleftrightarrow{Z}$ | $\mathbb{Z}$ | $\overleftrightarrow{Z}$ | $\stackrel{\varangle}{z}$ | ¿ |
|  | $\mid \bar{N}$ | $\underset{\square}{\square}$ | $\stackrel{\infty}{\infty}$ | $\stackrel{\sigma}{\underset{r}{r}}$ | $\stackrel{N}{\underset{\sim}{i}}$ | $\stackrel{\underset{N}{\underset{~}{~}} \mid}{ }$ | $\underset{\sim}{N}$ | $\mathfrak{O}$ | $\underset{\sim}{\sim}$ | $\begin{aligned} & \mathbf{m} \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{m}}}{\stackrel{2}{2}}$ | $\stackrel{\substack{\mathrm{M} \\ \stackrel{n}{2} \\ \hline}}{ }$ | $\left\|\begin{array}{l} \bar{n} \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\sim} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{2} \end{array}\right\|$ | $\stackrel{0}{-}$ | $\begin{aligned} & \underset{\sim}{3} \\ & \underset{-}{2} \end{aligned}$ | $\stackrel{\leftrightarrow}{\stackrel{8}{2}} \stackrel{+}{\square}$ | $\begin{aligned} & \hat{O} \\ & \dot{r} \end{aligned}$ | $\left\lvert\, \begin{aligned} & 10 \\ & \underset{\sim}{2} \\ & \hline \end{aligned}\right.$ | $\bar{N}$ | $\bar{N}$ | $\stackrel{\varphi}{\varphi}$ | ¢ | $\stackrel{\infty}{\sim}$ | $\begin{aligned} & \text { প্ } \\ & \hline 0 \\ & \hline 0 \end{aligned}$ | $\stackrel{r}{6}$ | $\stackrel{\odot}{\tau}$ | $\begin{aligned} & \mathrm{O} \\ & \hline 0 \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \mathbf{0} \end{aligned}$ | $\begin{aligned} & \hat{m} \\ & \dot{m} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \mathrm{O} \\ & \mathrm{~N} \end{aligned}\right.$ | $\left\|\frac{10}{\dot{N}}\right\|$ | $\underset{\sim}{\underset{\sim}{N}}$ | $\left\|\begin{array}{l} \infty \\ \infty \\ \mathrm{N} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{\mathrm{N}} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{N}{N} \\ & \underset{m}{2} \end{aligned}\right.$ | $\stackrel{\circ}{\mathrm{O}}$ | $\stackrel{\infty}{\sim}$ | $\stackrel{\infty}{\sim}$ | $8$ | N |
|  | $\left\lvert\, \begin{aligned} & \infty \\ & \stackrel{\infty}{m} \\ & \end{aligned}\right.$ | $\underset{\sim}{i}$ | $\begin{aligned} & \Gamma \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{\sim}{0} \\ \hline \end{gathered}\right.$ | $\left\|\begin{array}{l} \infty \\ \infty \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \bar{N} \\ 0 \end{array}\right\|$ |  | $\begin{aligned} & \pm \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 9 \\ \vdots \\ 0 \end{gathered}\right.$ | $\begin{aligned} & \circ \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{*} \\ 0 \end{gathered}\right.$ |  | $\left\|\begin{array}{c} 10 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} N \\ \underset{O}{N} \end{gathered}$ | $\left\lvert\, \begin{gathered} \pm \\ 寸 \\ 0 \end{gathered}\right.$ | $\begin{aligned} & 4 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathbf{m} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 9 \\ & \hline 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \vdots \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ \vdots \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathrm{N} \\ & \mathrm{O} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \hat{M} \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{0} . \end{aligned}$ | $\begin{aligned} & 3 \\ & 0 \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \hat{\mathbf{n}} \\ & \mathbf{N} \end{aligned}$ | $\stackrel{m}{\leftarrow}$ | $\left\|\begin{array}{c} \bar{\infty} \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\stackrel{+}{+}$ | $\begin{aligned} & \pm \\ & \sim \\ & \leftarrow \end{aligned}$ | 「 |  | $\stackrel{N}{\stackrel{N}{\mathrm{~N}}}$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{0}{0}$ | $\bigcirc$ |
|  | $\left\|\begin{array}{l} \stackrel{O}{c} \\ \stackrel{y}{c} \end{array}\right\|$ | $\begin{aligned} & \text { on } \\ & \underset{N}{n} \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{N}{n} \\ & \underset{N}{2} \end{aligned}$ | $\begin{gathered} \underset{\sim}{\underset{N}{N}} \end{gathered}$ | $\begin{aligned} & \mathrm{N} \\ & \underset{N}{\mathrm{~N}} \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{\infty} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{gathered} 0 \\ \underset{\sim}{n} \\ \underset{N}{2} \end{gathered}$ | $\begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\sim}{n} \end{gathered}$ | $\begin{gathered} \hat{c} \\ \underset{\sim}{n} \end{gathered}$ | $\left.\begin{gathered} \underset{\sim}{\mathrm{j}} \\ \underset{N}{2} \end{gathered} \right\rvert\,$ | $\stackrel{\underset{\sim}{\mathrm{N}}}{ }$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{+} \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \vdots \\ \underset{N}{1} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{+} \\ \stackrel{1}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{1}{+} \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{2} \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} 10 \\ 1 \\ \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 10 \\ \underset{N}{2} \\ \hline \end{gathered}\right.$ | $\begin{gathered} \underset{\sim}{\mathcal{N}} \\ \underset{N}{2} \end{gathered}$ | $\left\lvert\, \begin{gathered} 10 \\ \underset{N}{n} \\ \underset{N}{2} \end{gathered}\right.$ | $\begin{gathered} \mathcal{F} \\ \underset{N}{2} \end{gathered}$ | $\begin{gathered} \ddagger \\ \underset{N}{n} \end{gathered}$ | $\stackrel{\underset{N}{\mathrm{~N}}}{ }$ | $\begin{gathered} 0 \\ \underset{\sim}{n} \\ \underset{N}{2} \end{gathered}$ | $\begin{gathered} \ddagger \\ \underset{N}{2} \end{gathered}$ | $\begin{gathered} \underset{\sim}{\dot{N}} \\ \underset{\sim}{n} \end{gathered}$ | $\begin{gathered} \underset{\sim}{寸} \\ \underset{N}{2} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{\sim} \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{gathered} \underset{\sim}{\dot{N}} \\ \underset{N}{2} \end{gathered}$ | $\begin{aligned} & \stackrel{O}{\mathrm{~N}} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \underset{~ N}{2} \end{aligned}$ | $\left\|\begin{array}{l} \underset{\sim}{0} \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} \stackrel{0}{2} \\ \underset{\sim}{n} \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{\sim} \\ \underset{N}{2} \end{gathered}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ \dot{N} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \stackrel{0}{\dot{N}} \\ & \stackrel{y}{n} \end{aligned}$ | $\left\|\begin{array}{c} \mathbf{0} \\ \underset{N}{1} \end{array}\right\|$ | $\begin{aligned} & 9 \\ & \stackrel{N}{n} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & 0 \\ & \\ & \underset{N}{n} \end{aligned}$ | $\begin{gathered} \text { O+ } \\ \underset{\sim}{2} \end{gathered}$ | $\begin{gathered} 0 \\ \underset{N}{2} \end{gathered}$ | N |
|  | $\left\lvert\, \begin{gathered} 8 \\ \stackrel{8}{0} \\ \stackrel{1}{2} \end{gathered}\right.$ |  | $\left.\begin{aligned} & \underset{N}{N} \\ & \underset{o}{0} \end{aligned} \right\rvert\,$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{N}{n} \end{gathered}$ | $\left\|\begin{array}{c} o \\ 0 \\ 0 \\ N \end{array}\right\|$ | $\frac{m}{\grave{N}}$ | $\frac{0}{\grave{N}}$ | $\frac{0}{\underset{\sim}{N}}$ | $\stackrel{0}{\underset{N}{\mathrm{~N}}}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{N}{2} \end{aligned}$ | $\stackrel{O}{\underset{N}{N}}$ | $\frac{0}{\underset{\sim}{N}}$ | $\frac{\underset{N}{N}}{\underset{\sim}{N}}$ | $\stackrel{J}{\underset{\sim}{N}}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{\mathrm{N}} \\ & \underset{\sim}{2} \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \underset{\sim}{N} \\ & \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{\infty} \\ & \underset{\sim}{0} \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \underset{N}{N} \\ & \underset{N}{2} \end{aligned}$ | $\frac{\infty}{\underset{\sim}{N}}$ | $\begin{aligned} & \mathrm{N} \\ & \underset{\mathrm{~N}}{\mathrm{~N}} \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{N}{N} \end{aligned}$ | $\begin{gathered} \underset{N}{N} \\ \underset{N}{N} \end{gathered}$ | $\begin{gathered} N \\ N \end{gathered}$ | $\begin{aligned} & \stackrel{N}{N} \\ & \underset{N}{N} \end{aligned}$ | $\begin{gathered} N \\ N \end{gathered}$ | $\begin{gathered} \stackrel{O}{N} \\ \underset{N}{N} \end{gathered}$ | $\stackrel{N}{N}$ | $\underset{N}{N}$ | $\stackrel{\sim}{N}$ | $\begin{aligned} & \stackrel{1}{0} \\ & \stackrel{1}{\mathrm{~N}} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} \mathbf{0} \\ \mathbf{N} \\ \mathrm{N} \end{array}\right\|$ | $\left\|\begin{array}{l} \stackrel{0}{0} \\ 0 \\ \dot{N} \end{array}\right\|$ | $\begin{gathered} \mathrm{O} \\ \underset{\mathrm{~N}}{ } \end{gathered}$ | $\begin{gathered} \underset{N}{N} \\ \underset{N}{2} \end{gathered}$ | $\left\|\begin{array}{l} \bar{o} \\ \dot{N} \\ \hat{N} \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{\dot{N}} \\ \stackrel{\rightharpoonup}{2} \end{gathered}$ | $\begin{aligned} & \hat{\alpha} \\ & \underset{\sim}{\mathrm{N}} \end{aligned}$ |  |  | $\stackrel{\circ}{\circ}$ | $\stackrel{\mathrm{N}}{\mathrm{~N}}$ | ¢ |
| $\bar{\infty}$ | $\left\|\begin{array}{l} \infty \\ \underset{\sim}{+} \\ \stackrel{N}{0} \end{array}\right\|$ | $\mathfrak{m}$ | $\begin{aligned} & \overline{0} \\ & \dot{e} \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\left\|\begin{array}{l} 1 \\ 0 \\ \dot{e} \\ \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & \dot{M} \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & e \end{aligned}$ | $\left\|\begin{array}{l} \hat{O} \\ \mathbf{O} \\ \dot{M} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \dot{0} \\ \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \overline{0} \\ & \dot{e} \\ & \dot{ल} \end{aligned}$ | $\left\|\begin{array}{l} 10 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{l} 1 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \bar{e} \\ & \stackrel{j}{n} \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & n \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathrm{M} \\ & \mathbf{o} \\ & \mathbf{c} \end{aligned}$ | $\left\lvert\, \begin{gathered} n \\ \\ \end{gathered}\right.$ | $\begin{aligned} & \mathbb{N} \\ & \\ & \mathrm{N} \end{aligned}$ | $\left\lvert\, \begin{aligned} & M \\ & \underset{M}{0} \\ & \underset{M}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} \hat{0} \\ \mathbf{N} \\ \mathbf{m} \end{array}\right\|$ | $\begin{aligned} & \dot{O} \\ & \dot{0} \\ & \dot{M} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 1 \\ \end{array}\right\|$ | $\mathfrak{n}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \bar{o} \\ & \dot{0} \end{aligned}$ | $\begin{aligned} & \text { J } \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | － |
| $\frac{\text { 등 }}{\stackrel{\circ}{0}}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \stackrel{\rightharpoonup}{\mathbf{o}} \\ & \hline \end{aligned}\right.$ | $\underset{\infty}{\infty}$ | $\begin{gathered} n \\ N \\ \end{gathered}$ | $\stackrel{N}{\underset{r}{r}}$ | $\begin{array}{\|c} \infty \\ 0 \\ 0 \\ 0 \end{array}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 10 \end{array}\right\|$ | $\underset{j}{\vec{j}} \underset{\sim}{\tau}$ | $\left\|\begin{array}{l} \hat{\infty} \\ \dot{\circ} \end{array}\right\|$ | $\stackrel{\Gamma}{N}$ | $\underset{\sim}{\infty}$ | $\left\lvert\, \begin{gathered} 9 \\ 0 \\ \infty \\ 0 \end{gathered}\right.$ | $\left\|\begin{array}{l} \hat{N} \\ \hat{0} \end{array}\right\|$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} \underset{\underset{~}{v}}{\dot{\sim}} \end{array}\right\|$ | $\begin{aligned} & 3 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & \mathbf{o} \end{aligned}$ | $\begin{array}{\|c} \underset{\sim}{\sim} \\ \underset{\sim}{x} \end{array}$ | $\left\|\begin{array}{l} \underset{\sim}{\underset{~}{\dot{N}}} \end{array}\right\|$ | $\underset{\sim}{\tau}$ | $\begin{aligned} & 0 \\ & \hat{N} \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hat{N} \\ & \mathbf{j} \\ & \dot{j} \end{aligned}$ | $\begin{array}{\|c} \hat{j} \\ \dot{j} \end{array}$ | $\underset{r}{\pi}$ | $\frac{O}{\mathrm{~N}}$ | $\stackrel{\underset{\sim}{\underset{N}{2}}}{\underset{\sim}{2}}$ | $10$ | $\begin{aligned} & \underset{m}{n} \\ & \infty \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & \underset{m}{m} \\ & \underset{\tau}{2} \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & \dot{j} \\ & \underset{\sim}{m} \end{aligned}$ | $\frac{10}{5}$ | $\left\|\begin{array}{c} \underset{\sim}{\dot{I}} \end{array}\right\|$ | $\underset{i}{\pi} \mid$ | $\underset{\sim}{\underset{\sim}{O}} \underset{\sim}{0}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \mathrm{~N} \end{array}\right\|$ | $\left.\begin{aligned} & 0 \\ & 0 \\ & \mathrm{i} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} \underset{\sim}{0} \\ \dot{\sim} \end{array}\right\|$ | $\begin{aligned} & \mathbf{j} \\ & \mathbf{o} \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{r}{2} \end{aligned}$ | $$ | $\begin{aligned} & 0 \\ & \hline 0 \end{aligned}$ | $\stackrel{\bigcirc}{\bigcirc}$ |
|  | $\left\lvert\, \begin{gathered} \underset{N}{N} \\ \underset{\sim}{\infty} \\ \underset{\infty}{2} \end{gathered}\right.$ | $\begin{aligned} & \text { o } \\ & 0 \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \\ & \hline 1 \end{aligned}$ |  | $\left\|\begin{array}{l} \underset{~}{寸} \\ \underset{\sim}{8} \\ 0 \\ 0 \\ \hline \end{array}\right\|$ |  | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \mathbf{8} \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \hline \mathbf{O} \\ & 0 \\ & 0 \\ & \hline \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \hline 8 \\ & \hline 0 \\ & 0 \\ & \hline 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \hline \mathbf{O} \\ & \mathbf{0} \\ & 0 \\ & \hline 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} \mathrm{N} \\ \mathbf{O} \\ \mathbf{O} \\ \mathbf{O} \\ \hline \mathbf{1} \end{array}\right\|$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & 0 \\ & 0 \\ & \underset{\sim}{\infty} \end{aligned}$ | $\left\|\begin{array}{l} \bar{\circ} \\ \infty \\ 0 \\ 0 \\ \infty \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left.\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\left.\begin{gathered} 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{gathered} \right\rvert\,$ | $\begin{aligned} & 0 \\ & 0 \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \infty \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \infty \end{aligned}$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{gathered} 0 \\ \underset{N}{N} \\ \underset{\sim}{\mathbf{O}} \\ \underset{\sim}{2} \end{gathered}$ | $\begin{gathered} \underset{N}{N} \\ \underset{\sim}{\infty} \\ \underset{\sim}{0} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \mathbf{O} \\ & \mathbf{O} \\ & \mathbf{O} \\ & \hline 1 \end{aligned}$ | $\begin{aligned} & \mathbf{m} \\ & \mathbf{0} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & m \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ |  |  |  | $\xrightarrow{ষ}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \infty \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & 8 \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | － |
|  | $\left\|\begin{array}{l} \overline{\mathrm{O}} \\ \mathrm{Q} \\ \stackrel{N}{\mathrm{~N}} \end{array}\right\|$ | $\left\{\begin{array}{l} \text { n } \\ \text { n } \\ \infty \\ \infty \\ \text { م } \end{array}\right.$ | $\begin{aligned} & \infty \\ & 0 \\ & \infty \\ & \infty \\ & \end{aligned}$ | $\circ$ <br> 8 <br> 0 <br> 1 <br> in | $\left\lvert\, \begin{gathered} \hat{N} \\ \underset{y}{2} \\ \underset{\sim}{n} \\ \stackrel{1}{2} \end{gathered}\right.$ |  | $\left\|\begin{array}{l} 0 \\ \underset{\sim}{2} \\ \underset{~}{4} \\ \stackrel{N}{N} \end{array}\right\|$ | $\begin{aligned} & \bar{N} \\ & \widehat{0} \\ & \underset{N}{N} \end{aligned}$ | $\left\lvert\, \begin{gathered} \bar{N} \\ 0 \\ 0 \\ \stackrel{N}{N} \\ \end{gathered}\right.$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \mathbf{N} \\ \stackrel{N}{N} \end{array}\right\|$ | $\begin{aligned} & \text { n } \\ & \\ & 0 \\ & \underset{N}{2} \end{aligned}$ | $\left\|\begin{array}{l} \mathrm{N} \\ \mathrm{~N} \\ 0 \\ \stackrel{N}{\mathrm{~N}} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 2 \\ & N \\ & 0 \\ & \stackrel{N}{N} \\ & \hline \end{aligned}\right.$ | $\left\|\begin{array}{l} \stackrel{N}{\hat{e}} \\ \dot{\theta} \\ \stackrel{j}{2} \end{array}\right\|$ | $\begin{aligned} & \stackrel{N}{\hat{N}} \\ & \dot{\theta} \\ & \stackrel{N}{N} \end{aligned}$ |  | $\left\|\begin{array}{l} 10 \\ 0 \\ \\ 1 \\ \end{array}\right\|$ |  |  | $\left.\begin{array}{\|c} \infty \\ \stackrel{\infty}{\mathrm{N}} \\ \stackrel{\rightharpoonup}{\mathrm{~N}} \end{array} \right\rvert\,$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{N} \\ & \underset{N}{n} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \frac{\infty}{2} \\ & \underset{\sim}{N} \\ & \underset{N}{N} \end{aligned}$ | $\frac{\underset{N}{N}}{\underset{N}{N}}$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{N}{N} \\ & \stackrel{N}{N} \end{aligned}$ | $\begin{gathered} \stackrel{尺}{\mathrm{~N}} \\ \underset{N}{\mathrm{~N}} \\ \end{gathered}$ | $\left\lvert\,\right.$ | $\begin{array}{\|c} \frac{0}{5} \\ \stackrel{N}{N} \\ N \end{array}$ | $\begin{gathered} \frac{\pi}{2} \\ \stackrel{N}{2} \\ \stackrel{N}{N} \end{gathered}$ | $\begin{aligned} & \frac{m}{5} \\ & \stackrel{N}{2} \\ & \stackrel{N}{N} \end{aligned}$ |  | $\begin{aligned} & n \\ & 0 \\ & 0 \\ & 1 \\ & 1 \\ & N \end{aligned}$ |  |  |  | $\left\lvert\, \begin{aligned} & \infty \\ & \frac{\infty}{\dot{L}} \\ & \stackrel{1}{N} \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \frac{\infty}{\dot{\square}} \\ & \underset{\sim}{n} \\ & \end{aligned}$ |  | $\left\|\begin{array}{l} \infty \\ \underset{\sim}{\infty} \\ \infty \\ \stackrel{N}{N} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \frac{\infty}{\dot{\infty}} \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{aligned} & \underset{y}{N} \\ & \underset{N}{N} \\ & \stackrel{N}{n} \end{aligned}$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 11／19／13 10：26 AM |  |  |  |  |  |  |  |  | 11／19／13 11：35 AM |  |  |  |  |  |  |  |  |  |  |  |
|  | $\left\lvert\, \frac{\underset{1}{\mathbf{I}}}{\underset{\infty}{\mathbf{I}}}\right.$ | $\begin{aligned} & 0 \\ & \dot{\omega} \\ & \frac{y}{m} \end{aligned}$ | $\begin{aligned} & \infty \\ & \tilde{m} \\ & \frac{c}{\infty} \end{aligned}$ | $\left\lvert\,\right.$ | $\left\|\begin{array}{l} 0 \\ \dot{6} \\ \frac{1}{\infty} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & \hat{6} \\ & \vdots \\ & \hline \end{aligned}\right.$ |  | $\left.\begin{gathered} U \\ \frac{1}{\gamma} \\ \underset{\sim}{r} \end{gathered} \right\rvert\,$ | $\left\|\begin{array}{c} \underset{\sim}{x} \\ \frac{1}{\alpha} \\ \mid \end{array}\right\|$ | $\left\|\begin{array}{c} \frac{\checkmark}{1} \\ \frac{1}{\gamma} \\ \underset{\sim}{2} \end{array}\right\|$ | $\begin{gathered} \infty \\ \underset{\sim}{x} \\ \underset{\sim}{x} \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \underset{1}{\sim} \\ \underset{\sim}{\Psi} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{i}{\lambda} \\ \underset{\sim}{\underset{\sim}{4}} \end{array}\right\|$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\infty} \\ \underset{\sim}{\underset{\sim}{e}} \\ \hline \end{gathered}\right.$ |  | $\left\|\begin{array}{l} 0 \\ \hat{1} \\ \hat{y} \\ \underline{m} \end{array}\right\|$ |  | $\begin{aligned} & \tau \\ & \hat{0} \\ & \frac{y}{\infty} \end{aligned}$ | $\left\|\begin{array}{l} U \\ \dot{U} \\ \Sigma \\ \Sigma \end{array}\right\|$ | $\begin{aligned} & m \\ & \dot{U} \\ & \dot{U} \end{aligned}$ | $\left.\begin{array}{\|l} x \\ 0 \\ \vdots \\ \vdots \\ \Sigma \end{array} \right\rvert\,$ | $\begin{aligned} & \pi \\ & \vdots \\ & \Sigma \\ & \Sigma \end{aligned}$ | $\left\|\begin{array}{c} U \\ \underset{N}{U} \\ \underset{\Sigma}{2} \end{array}\right\|$ | $\begin{aligned} & \dot{\sim} \\ & \underset{\Sigma}{N} \\ & \sum \end{aligned}$ | $\begin{aligned} & \mathbb{1} \\ & \underset{\Sigma}{U} \\ & \Sigma \end{aligned}$ | $\begin{aligned} & U \\ & \tilde{1} \\ & \sum \\ & \Sigma \end{aligned}$ | $\begin{aligned} & \infty \\ & \sum_{\Sigma}^{\prime} \end{aligned}$ | $\begin{aligned} & \mathbb{K} \\ & \tilde{\Sigma} \\ & N \\ & \Sigma \end{aligned}$ | $\left.\right\|_{0} ^{0}$ | $\sum_{0}^{\frac{1}{1}}$ | $\left\|\begin{array}{l} U \\ \dot{1} \\ \underset{\sim}{\mathbf{v}} \end{array}\right\|$ | $\left\|\begin{array}{l} m \\ \dot{\sim} \\ \underset{\sim}{\mathbf{q}} \end{array}\right\|$ | $\left\|\begin{array}{l} \Psi \\ \dot{\Psi} \\ \underset{\sim}{ \pm} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \frac{1}{\dot{\alpha}} \\ \frac{1}{\alpha} \\ \hline \end{gathered}\right.$ | $\begin{aligned} & x \\ & \frac{x}{\alpha} \\ & \frac{1}{\alpha} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} u \\ \frac{1}{\alpha} \\ Q \end{array}\right\|$ | $\frac{\frac{1}{\alpha}}{\frac{\alpha}{\alpha}}$ | $\begin{gathered} 0 \\ \underset{1}{2} \\ \underset{\alpha}{\alpha} \end{gathered}$ | $\begin{aligned} & \infty \\ & \stackrel{1}{\underset{\sim}{\alpha}} \end{aligned}$ | $\begin{gathered} \mathbb{1} \\ \underset{\sim}{\alpha} \\ \underset{\sim}{\alpha} \end{gathered}$ | U |


| $\frac{\pi}{\frac{\pi}{5}}$ | $\stackrel{\infty}{\infty}$ |  |  |  | $3 \times \underset{\sim}{3}$ |  | $\overline{\mathrm{N}} \underset{\substack{N \\ \\ \hline}}{ }$ | $\stackrel{N}{n} \underset{\sim}{\infty}$ | $\stackrel{\square}{\square}$ | $\bigcirc$ | $\stackrel{\text { ¢ }}{\sim}$ | \％ | $\bigcirc$ | $\stackrel{ \pm}{\sim}$ | N ${ }_{0}^{\infty}$ | స̄ | ก | N | O | No | $\overline{\mathrm{N}}$ | $\cdots$ | \％ | $\begin{aligned} & n \\ & 0 \\ & 0 \end{aligned}$ |  |  | \％ | \|uc| | 苞 |  | $\mathscr{G}$ | $\underset{q}{y}$ | $\begin{gathered} 0 \\ 0 \\ \hline \end{gathered}$ | مٌ |  | Rọ | $\mathfrak{F}$ |  | W0． |  | O |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ㅇ | $\left\lvert\, \begin{gathered} \infty \\ \underset{\sim}{0} \\ 0 \end{gathered}\right.$ |  |  | $\left\lvert\, \begin{gathered} \infty \\ 0 \\ 0 \\ 0 \end{gathered}\right.$ | $\stackrel{\substack{3}}{\substack{4 \\ \hline \\ \hline \\ \hline}}$ |  | $$ |  | $\stackrel{\overline{0}}{\stackrel{0}{0}}$ |  | $\frac{\pi}{0}$ |  |  |  | $\stackrel{\rightharpoonup}{i} \stackrel{H}{i}$ | $\stackrel{ \pm}{\square}$ | $\dot{j}$ | $\stackrel{\rightharpoonup}{\stackrel{\rightharpoonup}{2}}$ |  |  | $\underset{N}{N}$ | $\underset{N}{N}$ | $\underset{\sim}{\mathrm{O}}$ | $\underset{\sim}{N}$ |  |  |  | \|ờ | 菏 |  | $$ | $\stackrel{\sim}{*}$ | $\underset{\sim}{\sim}$ | $\frac{\vdots}{\sigma}$ | $\underset{\substack{2 \\ \hdashline}}{\substack{2 \\ \hline}}$ | N | $\stackrel{\rightharpoonup}{2}$ |  | $\underset{\sim}{\circ}$ |  | N00 |
| z | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\infty} \\ \underset{\sim}{2} \end{array}\right\|$ |  | $\mathfrak{l}$ | $\left\lvert\, \begin{gathered} \infty \\ \substack{0 \\ \vdots \\ \hline} \end{gathered}\right.$ |  |  | $\underset{\sim}{B} \underset{\sim}{c}$ |  | $\mathfrak{c}$ |  |  |  | $\left\lvert\, \begin{gathered} \substack{\tilde{6} \\ \mathfrak{c} \\ \hline} \end{gathered}\right.$ |  |  | $\left\|\begin{array}{c} \infty \\ \\ \underset{m}{2} \end{array}\right\|$ | $\underset{7}{\mathbf{y}}$ | $\begin{gathered} \underset{\sim}{\underset{\sim}{i}} \end{gathered}$ |  |  | へ0 | $\mathfrak{\substack { \infty \\ \\ \hline }}$ | $\left\lvert\, \begin{gathered} N \\ \infty \\ \underset{\sim}{0} \end{gathered}\right.$ |  |  |  |  | $\underset{\sim}{\underset{\sim}{\lambda}}$ | $15$ |  | $\stackrel{\infty}{\sim}$ |  |  | $\stackrel{\substack{N \\ \text { ஸi } \\ \hline}}{ }$ | ִִا |  | $\dot{j}$ |  | \％ |  | － |
| y | $\left\lvert\, \begin{aligned} & 8 \\ & \hline \end{aligned}\right.$ |  |  |  |  |  | $\stackrel{\substack{\mathrm{N}} \underset{\sim}{\sim}}{\substack{\underset{\sim}{c} \\ \hline}}$ |  | $\mathfrak{j}$ | $\begin{aligned} & \substack{9 \\ \hline \\ \hline \\ \hline} \end{aligned}$ |  |  | $\left\|\begin{array}{c} n \\ \\ \end{array}\right\|$ |  |  |  | $\cdots$ | $\stackrel{\underset{\sim}{\mathrm{i}}}{\stackrel{\rightharpoonup}{\mathrm{~N}}}$ | $\underset{\sim}{\underset{\sim}{\sim}}$ |  | $\stackrel{\otimes}{\underset{\sim}{\mathrm{N}}}$ | $\underset{+}{8}$ | $$ |  |  |  |  | $\underset{\sim}{\underset{\sim}{\sim}}$ | 증 |  | \|o | $\stackrel{\otimes}{\otimes}$ |  | $8$ |  |  | $\mathfrak{~ S}$ |  | $\left\|\begin{array}{c} \underset{\sim}{\mathrm{N}} \end{array}\right\|$ |  | ¢ |
| $\frac{+}{2}$ | $\left\|\begin{array}{c} \infty \\ \substack{\infty \\ 0} \end{array}\right\|$ | $\underset{\substack{0 \\ 0 \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline}}{ }$ |  | $\mathfrak{c}$ | $\mathfrak{c}$ |  |  | $\underset{\substack{N \\ \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline}}{ }$ | $\begin{gathered} \substack{0 \\ 0 \\ \\ \vdots \\ 0} \end{gathered}$ | $\left\{\begin{array}{c} \infty \\ \substack{\infty \\ 0} \end{array}\right.$ | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ 0 \end{gathered}$ |  | $\stackrel{\otimes}{\otimes}$ |  |  | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ \\ 0 \end{gathered}\right.$ | $\begin{gathered} 0 \\ \\ \text { N- } \end{gathered}$ | $\begin{aligned} & \infty \\ & \\ & \end{aligned}$ |  |  | $\begin{gathered} \infty \\ \\ \hline \end{gathered}$ | $\left\lvert\, \begin{gathered} \infty \\ \\ \hline 0 \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \hat{N} \\ \substack{0} \\ \hline \end{gathered}\right.$ |  |  |  |  | $\begin{array}{\|c} \otimes \\ \underset{\sim}{0} \\ \hline \end{array}$ | $\underset{\substack{\infty \\ 0 \\ \hline \\ \hline}}{ }$ |  | $\infty$ | $\begin{array}{\|c\|} \hline 0 \\ \\ \hline \end{array}$ | مִס | N్ల్ల | Bo |  |  | $\otimes$ | $\underset{\sim}{\underset{\sim}{*}}$ |  |  |
| $\stackrel{\sim}{\mathrm{O}}$ | $\stackrel{4}{z}$ | ¢ | $\stackrel{\nwarrow}{z}$ | $\stackrel{\checkmark}{2}$ | $\mathbb{K}$ | $\underset{Z}{\frac{8}{z}} \underset{\sim}{\mathbb{K}}$ | $\underset{Z}{\mathbb{Z}} \underset{Z}{\mathbb{K}}$ | $\stackrel{\varangle}{\Sigma} \mid \mathbb{Z}$ | $\stackrel{\Sigma}{z}$ | $\frac{\mathbb{K}}{z}$ | $\stackrel{\pi}{z}$ | $\underset{Z}{\mathbb{K}} \underset{Z}{\mathbb{K}}$ | $\stackrel{\nwarrow}{\Sigma}$ |  | $\frac{4}{2}$ | $\bar{z}$ | $\mathbb{K}$ | $\stackrel{\nwarrow}{\Sigma}$ | $\hat{z}$ | $z$ | $\bar{z}$ | $\bar{z}$ | $\frac{\pi}{z}$ | $\bar{z}$ | $\stackrel{\pi}{Z} \mid \underset{z}{\mathbb{K}}$ |  | Z | $\bar{z}$ | z |  | $\stackrel{\nwarrow}{z}$ |  |  | $\stackrel{\Sigma}{\Sigma}$ | $\frac{1}{z}$ | $\underset{z}{i} \underset{z}{\frac{1}{2}}$ | $\stackrel{\S}{z}$ |  | $\stackrel{x}{z}$ |  | $\frac{4}{2}$ |
| $\stackrel{\text { 을 }}{1}$ | $\stackrel{N}{n}$ | $\dot{s}$ | $\dot{p}$ | $\left\lvert\, \begin{gathered} 8 \\ \vdots \\ \vdots \end{gathered}\right.$ | J | \％ | ¢̣ | ¢ | N | $\stackrel{\sim}{\sim}$ |  | $\pm$ | $\stackrel{\sim}{7}$ |  | $\bigcirc$ | 炧 | F | \％ | N | $\stackrel{0}{6}$ | ใ | $\stackrel{\text { \％}}{\sim}$ | 17 |  | ¢ |  | ب̣ | \|ọ | N |  | ¢ | $\stackrel{\sim}{\sim}$ | － | ִ |  | $8$ | ? | \％ | N |  | $\stackrel{\text { N }}{\sim}$ |
| $\overline{0}$ | $0$ | $5$ | $\stackrel{\Gamma}{\omega}$ | $\begin{aligned} & \bullet \\ & \vdots \\ & \vdots \end{aligned}$ | $\begin{aligned} & 0 \\ & \hline 0 \\ & \hline 0 \end{aligned}$ |  |  | $\hat{0}$ | $\left\|\begin{array}{c} \hat{f} \\ 0 \end{array}\right\|$ | $\stackrel{\hat{C}}{\hat{O}} \mid$ | $\stackrel{N}{\underset{\sim}{\circ}}$ | $\stackrel{N}{2} \left\lvert\, \begin{aligned} & 0 \\ & \hline \end{aligned}\right.$ | $\bar{\sigma}$ |  | $\bigcirc$ | $\stackrel{+}{+}$ |  | $\stackrel{\text { N }}{\sim}$ | No | N\％ | ¢ | $\underset{\sim}{\infty}$ |  |  |  |  | $\stackrel{\sim}{\sim}$ | $\mathcal{I}$ | － |  | $\stackrel{\sim}{\sim}$ |  |  |  | $\stackrel{\square}{\square}$ | － | \|̣̂| | ¢ | $\left.\begin{gathered} \infty \\ 0 \\ 0 \\ 0 \end{gathered} \right\rvert\,$ | $\stackrel{N}{\sim}$ |  |
|  | $\left\|\begin{array}{l} \bar{n} \\ \stackrel{y}{3} \end{array}\right\|$ | $\stackrel{\substack{2 \\ \underset{\sim}{c} \\ \underset{\sim}{c} \\ \hline}}{ }$ | $\mathfrak{c}$ | $\mathfrak{c}$ | $\left\|\begin{array}{c} \hat{N} \\ \underset{\sim}{d} \end{array}\right\|$ | $\stackrel{\substack{\mathrm{N}} \stackrel{\sim}{\sim}}{\stackrel{\sim}{\sim}} \underset{\sim}{\sim}$ | $\underset{\sim}{\text { N}} \underset{\sim}{\sim}$ | $\stackrel{\substack{\mathrm{N}} \underset{\sim}{n}}{\substack{n \\ \sim}} \underset{\sim}{n}$ | $\begin{gathered} \stackrel{\sim}{n} \\ \stackrel{\sim}{n} \end{gathered}$ |  |  | $\underset{\sim}{\underset{\sim}{~}} \mid$ | $\left\|\begin{array}{c} \Omega \\ \stackrel{n}{\dot{~}} \end{array}\right\|$ |  |  | $\begin{aligned} & \stackrel{0}{0} \\ & \stackrel{\sim}{\sim} \end{aligned}$ |  | $\begin{array}{\|c} \stackrel{n}{n} \\ \underset{\sim}{c} \end{array}$ |  |  | $\begin{aligned} & \stackrel{\circ}{4} \\ & \stackrel{1}{2} \end{aligned}$ | IN | $\begin{gathered} \stackrel{0}{0} \\ \stackrel{1}{2} \end{gathered}$ |  |  |  |  | $\mid \stackrel{\stackrel{\rightharpoonup}{\bullet}}{\underset{\sim}{c}}$ | İ |  | $\begin{gathered} \hat{N} \\ \underset{\sim}{2} \end{gathered}$ |  |  | $\stackrel{R}{\sim}$ |  |  | $\begin{gathered} \grave{N} \\ \underset{\sim}{2} \end{gathered}$ |  | $\begin{aligned} & 0 \\ & \stackrel{R}{\sim} \\ & \underset{\sim}{2} \end{aligned}$ |  |  |
|  | $\left\|\begin{array}{c} \infty \\ \vdots \\ \stackrel{\infty}{n} \end{array}\right\|$ | $\dot{s}$ | $\mathfrak{c}$ | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\stackrel{\mathrm{~N}}{\mathrm{~N}}}$ | $\underset{\substack{n \\ j}}{\infty}$ |  | $\stackrel{\substack{\mathrm{b}} \stackrel{\infty}{\infty} \underset{\sim}{\infty}}{\underset{\sim}{0}}$ | $\underset{\sim}{\infty} \underset{\sim}{\infty} \underset{\sim}{\sim}$ | $\left\lvert\, \begin{gathered} \infty \\ p \\ \underset{\sim}{\infty} \\ \underset{\sim}{n} \end{gathered}\right.$ | $\stackrel{\circ}{\circ} \dot{\sim} \dot{\sim}$ | $\stackrel{\circ}{\circ} \stackrel{\sim}{\mathrm{j}}$ | $\underset{\sim}{\sim}$ |  |  | $\stackrel{C}{C}$ | $\underset{\sim}{n}$ |  |  | \|ion |  | $\mathfrak{c}$ | R | $\stackrel{\tilde{N}}{\stackrel{\sim}{\sim}}$ |  |  |  |  | $\mid \underset{\sim}{\|c\|}$ | N |  | $\stackrel{N}{N}$ |  | $\stackrel{N}{\mathrm{~N}}$ | $\stackrel{e}{c}$ |  | $\stackrel{8}{\dot{N}} \underset{\sim}{\sim}$ | $\mathfrak{S}$ | N | iN |  | N |
|  | $\underset{\substack{\mathrm{C} \\ \hline \\ \hline \\ \hline}}{ }$ | $\mathfrak{s}$ | $\mathfrak{p}$ | $\begin{gathered} \mathrm{B} \\ \dot{\mathrm{c}} \end{gathered}$ | $\begin{array}{l\|l\|l\|} \substack{0 \\ \underset{j}{2} \\ \hline \\ \hline \\ \hline} \\ \hline \end{array}$ |  | $\stackrel{\rightharpoonup}{i} \stackrel{n}{i} \stackrel{n}{e}$ |  |  |  |  |  |  |  |  | $\mathfrak{c}$ | $\begin{gathered} \substack{8 \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline} \end{gathered}$ |  |  |  | $\mathfrak{c} \left\lvert\, \begin{aligned} & m \\ & \underset{c}{2} \\ & \hline \end{aligned}\right.$ | $\underset{\substack{c}}{\underset{\sim}{2}}$ | $\begin{aligned} & n \\ & \vdots \\ & j \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  | on |  |  | $\begin{aligned} & \hat{o} \\ & \stackrel{\rightharpoonup}{e} \\ & \hline \end{aligned}$ | প্ল |  | $\begin{gathered} 0 \\ 0 \\ \dot{e} \\ \hline \end{gathered}$ |  | $\mathfrak{N}$ | $\dot{e} \dot{e}$ |  |  | $\dot{s}$ |  |  |  | － |
| $\|\stackrel{\rightharpoonup}{\circ} \mathrm{O} \varepsilon\|$ | $\begin{aligned} & \stackrel{9}{6} \\ & \stackrel{0}{2} \end{aligned}$ |  | $\dot{+}$ |  |  | $\underset{\sim}{\infty} \underset{\sim}{\circ}$ |  |  |  | $\stackrel{\text { N}}{ }$ | $\underset{\sim}{N}$ |  | $\stackrel{0}{0}$ |  | $\stackrel{+}{\sim}$ | $\stackrel{\circ}{\circ}$ | ¢ | $\stackrel{i}{\stackrel{\circ}{\sim}}$ |  | － | $\bigcirc$ | $\bigcirc$ | $\stackrel{\rightharpoonup}{\mathrm{O}}$ |  | $0$ | $\stackrel{\sim}{\sim}$ |  | $\begin{array}{\|r\|r\|} \hline \underset{\circ}{8} \\ \hline \end{array}$ | － |  | － |  | $\stackrel{\infty}{\circ}$ | $\stackrel{0}{\circ}$ |  |  | ol |  | - | $\dot{\infty}$ | $\stackrel{\sim}{\sim}$ |
|  | $\mathfrak{c}$ |  |  |  | $\begin{aligned} & 2 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} 10 \\ 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ |  |  | $\mathfrak{c}$ |  | $\begin{array}{c\|c} \substack{n \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline} \end{array}$ |  |  |  |  | $\left\lvert\, \begin{aligned} & \bar{\infty} \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned}\right.$ |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 . \\ & \hline 0 \\ & \hline 1 \end{aligned}$ |  | $\left\{\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ \infty \end{array}\right.$ | $\left\{\begin{array}{l} 8 \\ \infty \\ 0 \\ 0 \\ \infty \\ \infty \\ \hline \end{array}\right.$ | pon |  |  | or |  |  | $\begin{aligned} & \circ \\ & \hline 0 \\ & \hline 0 \\ & \hline 1 \end{aligned}$ |  |  | $\begin{aligned} & \dot{\otimes} \\ & \mathbf{O} \\ & \dot{\circ} \end{aligned}$ | $\underset{\sim}{\infty}$ |  |  |  |  |  | $\begin{aligned} & \circ \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  |  |
|  |  |  |  | $\left\lvert\, \begin{gathered} \hat{m} \\ 0 \\ \dot{N} \\ \dot{N} \end{gathered}\right.$ |  |  |  |  |  |  |  |  |  |  |  | $\mathfrak{c}$ |  |  |  |  | $\begin{aligned} & \hat{N} \\ & \substack{0 \\ 0 \\ \dot{N} \\ \dot{N} \\ \hline} \end{aligned}$ | $: \begin{gathered} \hat{N} \\ \mathbf{O} \\ \vdots \\ \end{gathered}$ |  |  |  |  |  |  |  |  |  |  | $\stackrel{\sim}{\sim}$ | ค่ |  |  | $\dot{s}$ |  | O | $\mathfrak{c}$ |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\sum_{\mathbb{1}} \underset{k}{ }$ |  |  |  | $\stackrel{\substack{\mathrm{N}}}{\mathbf{N}}$ | cin |  |  | R |  |  |  |  |  |  |
|  | $\mathfrak{c}$ |  | $\left[\begin{array}{l} 0 \\ \frac{1}{\omega} \\ \hline \end{array}\right.$ | $\frac{\stackrel{y}{\omega}}{\underset{\sim}{\omega}}$ | $\left[\begin{array}{c} 0 \\ \substack{0 \\ \\ \hline \\ \hline} \end{array}\right.$ |  |  |  |  | $\begin{array}{l\|l\|} \substack{1 \\ \\ \\ \\ \hline} \\ \hline \end{array}$ |  | $\begin{aligned} & 1 \\ & \frac{1}{2} \\ & \hline \end{aligned} \frac{1}{\alpha}$ | $\frac{1}{x} \stackrel{1}{\frac{1}{x}}$ |  |  | $\begin{aligned} & \frac{u}{1} \\ & \frac{y}{m} \end{aligned}$ | $\begin{aligned} & u \\ & \dot{w} \\ & \underset{\sim}{\infty} \end{aligned}$ |  |  |  | $\begin{aligned} & \underset{\sim}{\underset{1}{2}} \\ & \underset{\sim}{2} \end{aligned}$ |  | $\begin{aligned} & 0 \\ & \frac{1}{4} \\ & 0 \end{aligned}$ |  |  |  |  | $\left\lvert\, \begin{gathered} \stackrel{\sim}{\sim} \\ \stackrel{\rightharpoonup}{\infty} \end{gathered}\right.$ | $\begin{aligned} & \text { 㐫 } \\ & \frac{1}{\infty} \end{aligned}$ |  | $\begin{aligned} & 0 \\ & \vdots \\ & \sum_{2} \\ & \sum_{2} \end{aligned}$ | $\left\|\begin{array}{c} \underset{\sim}{n} \\ \underset{\Sigma}{\Sigma} \end{array}\right\|$ |  |  |  |  | $\left\lvert\, \begin{aligned} & \infty \\ & \sum_{\dot{N}}^{n} \\ & \sum_{n} \end{aligned}\right.$ | $\underline{\underline{L}}$ | $\underset{\sim}{\substack{\infty}}$ | $\left\|\begin{array}{c} \frac{m}{\dot{\omega}} \\ \frac{1}{\infty} \end{array}\right\|$ | $\left.\begin{gathered} \frac{\Upsilon}{\dot{\omega}} \\ \frac{1}{\infty} \end{gathered} \right\rvert\,$ |


| $\frac{\frac{\pi}{5}}{5}$ |  | $=\frac{1}{0}$ |  |  |  | $\stackrel{9}{0} \stackrel{\rightharpoonup}{\circ}$ |  | $\underset{\substack{0}}{\substack{N}}$ |  |  | $0^{\circ}$ |  | $\bar{N}$ | $\underset{\substack{n \\ 0}}{ }$ |  | $\underset{O}{N}$ | $\begin{gathered} c \\ \vdots \\ \vdots \end{gathered}$ |  |  | No | N: | $\begin{gathered} 9 \\ \vdots \\ \vdots \\ \hline 0 \end{gathered}$ | $\frac{\infty}{0}$ | $\div$ | $\widehat{m}$ | $\stackrel{e}{0}$ | $\stackrel{\Gamma}{0}$ | $\stackrel{\substack{0 \\ \hline}}{ }$ | O | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\mathfrak{B}$ | co | $\begin{gathered} \mathrm{N} \\ \mathbf{O} \end{gathered}$ | $\left.\begin{array}{\|c} 0 \\ 0 \\ 0 \end{array} \right\rvert\,$ | $\mid$ | $\left\|\begin{array}{c} 6 \\ 0 \\ 0 \end{array}\right\|$ | $\underset{\sim}{m}$ |  |  | O |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\stackrel{\sim}{1}$ | $\stackrel{\rightharpoonup}{9}$ | $\underset{\sim}{2}$ |  | $\begin{array}{c\|c} \stackrel{\rightharpoonup}{0} \\ \stackrel{N}{0} \\ \underset{O}{2} \end{array}$ | Nic | $\stackrel{\sim}{\sim}$ | $\stackrel{0}{N}$ | No |  | $\left\|\begin{array}{c} 0 \\ N \\ \mathrm{~N} \end{array}\right\|$ | No |  | No |  |  |  | $\begin{aligned} & \dot{4} \\ & \stackrel{9}{0} \end{aligned}$ |  |  | ® |  | $\stackrel{\infty}{\sim}$ | NiN | 국 | ¢ | $\underset{N}{\mathrm{~N}}$ | No | $\stackrel{\sim}{0}$ | $\underset{\mathrm{N}}{\mathrm{~N}}$ | $\underset{\substack{\infty \\ \hline \multirow{2}{*}{\hline}\\ \hline}}{\substack{0 \\ \hline}}$ | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $\stackrel{\sim}{N}$ | $\stackrel{\substack{\mathrm{N} \\ \mathrm{O} \\ \hline}}{ }$ | $\stackrel{\sim}{\circ}$ | $\begin{gathered} \tilde{m} \\ \mathbf{N} \\ 0 \end{gathered}$ | $\mathbb{N} \mid$ | $\stackrel{\underset{N}{\mathrm{~N}}}{ }$ | $\underset{\sim}{\sim}$ | $\underset{\sim}{\infty}$ | － |
| $\underset{1}{ }$ | $\left\|\begin{array}{c} \tilde{N} \\ \underset{\sim}{\circ} \end{array}\right\|$ | $\underset{\sim}{\stackrel{\rightharpoonup}{\mathrm{f}}} \underset{\sim}{\underset{\sim}{i}}$ | $\underset{\sim}{\underset{\sim}{N}} \underset{\sim}{\underset{\sim}{N}} \underset{\sim}{\Perp}$ |  |  |  | $\begin{aligned} & \infty \\ & \stackrel{\infty}{\infty} \\ & \underset{m}{2} \end{aligned}$ |  | $\begin{aligned} & \substack{n \\ j \\ j \\ \hline \\ \hline \\ \hline \\ \hline} \end{aligned}$ |  |  |  |  | O-8 |  |  | $\bar{i}$ |  | $\underset{\underset{\sim}{\underset{~}{*}} \underset{ }{+}}{ }$ | Cల |  | $\begin{aligned} & 8 \\ & 8 \\ & \underset{\sim}{0} \end{aligned}$ | $\underset{\underset{\sim}{\underset{N}{*}}}{\substack{2}}$ | \|ọ | N | $\begin{gathered} \underset{\sim}{2} \\ \mathbf{N} \\ i \end{gathered}$ | $\stackrel{ \pm}{N}$ | $\stackrel{\underset{\sim}{\stackrel{\rightharpoonup}{c}}}{\dot{m}}$ |  | $$ |  | ִمً | $\stackrel{\underset{\sim}{\mathrm{N}}}{\mathbf{N}}$ | $\begin{array}{\|c} N \\ \infty \\ \infty \\ \hline \end{array}$ | $\left\|\begin{array}{c} \underset{\sim}{f} \\ \dot{m} \end{array}\right\|$ | $\mid$ | $\begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{2} \end{gathered}$ | $\left\|\begin{array}{c} \underset{\sim}{2} \\ \underset{\sim}{2} \\ \dot{\infty} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \hat{\infty} \\ \infty \end{gathered}\right.$ | $\stackrel{\sim}{\text { ¢ }}$ |
| $\bar{Y} \mid$ | $\mathfrak{m}$ | $\stackrel{y}{c}$ |  |  |  |  |  |  | $\underset{\substack{\infty \\ \underset{N}{\infty} \\ \hline}}{ }$ | $\left\lvert\, \begin{gathered} \stackrel{m}{\mathrm{v}} \\ \mid \end{gathered}\right.$ | $\underset{\sim}{f} \underset{\sim}{\mathrm{i}} \underset{\sim}{\sim}$ |  |  | $\left\|\begin{array}{c} \underset{\sim}{\underset{~}{*}} \end{array}\right\|$ |  |  | $\begin{gathered} \underset{\sim}{2} \\ 0 \\ 0 \end{gathered}$ |  | $\begin{aligned} & \hat{0} \\ & 0 \\ & 0 \\ & m \end{aligned}$ | $\mathfrak{i}$ |  | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\stackrel{\sim}{\omega}}$ | $\stackrel{\infty}{\infty}$ | $\begin{gathered} \otimes \\ \underset{\sim}{\infty} \end{gathered}$ | $\underset{7}{\mathrm{~N}}$ | $\begin{gathered} \overline{\hat{N}} \\ \\ \hline \end{gathered}$ | $\stackrel{m}{\underset{\sim}{i}}$ | $\stackrel{\otimes}{\otimes} \stackrel{\underset{\sim}{*}}{ }$ |  | $\underset{\sim}{\underset{\sim}{N}} \underset{\sim}{\underset{1}{2}}$ |  | $\stackrel{\Im}{\tau}$ | $\begin{gathered} ⿳ ⺈ \\ \hline 6 \\ \stackrel{0}{6} \end{gathered}$ | $\mathfrak{c}$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\circ} \\ \underset{\sim}{2} \end{array}\right\|$ | $\stackrel{\leftrightarrow}{\underset{\sim}{\sim}} \underset{\sim}{n}$ | $\left\|\begin{array}{c} \underset{\sim}{\dot{N}} \end{array}\right\|$ | $\left\|\begin{array}{c} 8 \\ 0 \\ 8 \\ 子 \end{array}\right\|$ | $\left\|\begin{array}{l} \overline{\hat{n}} \\ \dot{m} \end{array}\right\|$ | N |
| $\frac{+}{2}$ |  |  |  | $\begin{array}{c\|c} N \\ 0 \\ 0 \\ 0 \end{array}$ |  |  |  |  |  | $\dot{s}$ |  |  |  | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\stackrel{\stackrel{\rightharpoonup}{N}}{\underset{\sim}{2}}$ |  | $: \begin{aligned} & n \\ & \vdots \\ & 0 \\ & \hline \end{aligned}$ | $\begin{gathered} \overline{\hat{N}} \\ 0 \end{gathered}$ |  | $5$ |  | $\begin{aligned} & \overline{\hat{n}} \\ & 0 \end{aligned}$ | $\mathfrak{c}$ | $\left.\begin{gathered} \infty \\ \underset{y}{0} \\ 0 \end{gathered} \right\rvert\,$ | $\underset{y}{\mathrm{y}}$ | $\begin{gathered} \hat{N} \\ \\ 0 \end{gathered}$ | $\bar{\Gamma}$ | $\begin{gathered} \hat{N} \\ \\ 0 \end{gathered}$ |  | 0 |  | $\stackrel{\underset{\sim}{N}}{\underset{\sim}{2}}$ | $\begin{gathered} \otimes \\ \\ \hline \end{gathered}$ | $\stackrel{N}{e}$ | ${\underset{\sim}{n}}_{\substack{n \\ 0}}$ | $\begin{aligned} & 0 \\ & \\ & \end{aligned}$ | $\left[\left.\begin{array}{c} \infty \\ \underset{\sim}{n} \\ \end{array} \right\rvert\,\right.$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{y}} \\ \underset{\sim}{2} \end{gathered}\right.$ |  | － |
| $\underset{\text { Ö\| }}{\text { \|l\| }}$ | $\stackrel{\leftrightarrow}{2}$ | $\stackrel{\star}{z} \left\lvert\, \frac{𠃊}{z}\right.$ | $\mathbb{Z}$ | $\stackrel{4}{z} \stackrel{\varangle}{z}$ | ¢ | $\stackrel{4}{2}$ | $\stackrel{\star}{z}$ |  | $\stackrel{\Sigma}{z}$ | $\stackrel{\pi}{z}$ | $\stackrel{\varangle}{z}$ | $\underset{z}{\pi}$ | $\stackrel{\pi}{z}$ | $\stackrel{\pi}{z}$ | $\bar{z}$ | ¿ | $\stackrel{\Sigma}{\Sigma}$ |  | $\mathbb{Z}$ |  | $\mathbb{Z}$ | $\stackrel{\Sigma}{\Sigma}$ | $\underset{z}{K}$ | $\underset{z}{2}$ | Z | $\stackrel{\Sigma}{z}$ | $\stackrel{\star}{z}$ | $\underset{z}{\mathbb{z}}$ |  | $z$ |  | $\underset{z}{K}$ | $\stackrel{\pi}{z}$ | $\frac{\pi}{z}$ | $\stackrel{\boxed{z}}{\mathbf{Z}}$ | $\|\hat{z}\|$ | Z |  |  |  |
| $\overline{\mathrm{F}}$ | $\stackrel{\hat{N}}{\stackrel{\rightharpoonup}{-}}$ | $\stackrel{N}{\stackrel{N}{c}} \underset{-}{-}$ | $\underset{\sim}{\dot{S}} \underset{\sim}{\text { g }}$ |  | $\infty$ | $\stackrel{\infty}{\infty} \underset{\sim}{\infty}$ | p̣ọ | б | ¢ | $\stackrel{\square}{\circ}$ | N | $\left\lvert\, \begin{array}{\|c} \hline-\underset{\sim}{\mathrm{N}} \end{array}\right.$ |  | $\stackrel{\stackrel{6}{6}}{\stackrel{+}{2}}$ | $\hat{0}$ | $8$ | $\stackrel{\text { Ne}}{\sim}$ |  |  | $\stackrel{N}{\mathrm{~N}}$ | $\begin{array}{\|c} \hline 8 \\ \mathrm{~N} \end{array}$ | $\begin{gathered} \mathrm{O} \\ \mathrm{~N} \end{gathered}$ | へ－ | \％ | $\stackrel{\infty}{\circ}$ | 울 | ¢ | $\stackrel{\sim}{\sim}$ |  | N |  | $\stackrel{\sim}{0}$ | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $\stackrel{\infty}{\circ}$ | $\underset{\sim}{\mathrm{N}}$ | $\stackrel{\substack{n \\ \sim}}{\sim}$ | $\stackrel{\sim}{\stackrel{\sim}{+}}$ | $\left\|\begin{array}{c} 9 \\ 7 \\ 0 \end{array}\right\|$ | $\bar{\vdots}$ | \％ |
| $0$ | $\underset{\sim}{N}$ |  | $\mathfrak{c c}$ |  |  | $\overbrace{0}^{\infty} \underset{0}{\infty}$ | $\left\|\begin{array}{l} \hat{n} \\ 0 \\ 0 \end{array}\right\|$ |  | $\stackrel{\otimes}{-}$ | $\left.\begin{gathered} 9 \\ 0 \\ 0 \end{gathered} \right\rvert\,$ | $\stackrel{c}{\infty}$ | $\left\|\begin{array}{c} N \\ \underset{O}{N} \end{array}\right\|$ | － | $\underset{o}{\text { N}}$ |  | $\underset{\substack{\circ \\ \hline \\ \hline \\ \hline}}{0}$ |  |  |  | $\infty$ | ¢ | ¢ | N | M | $\stackrel{8}{8}$ | $\underset{\sim}{\square}$ | $\bigcirc$ | $\stackrel{\sim}{\sim}$ |  |  |  | $\underset{\sim}{F}$ | $=1 \stackrel{\Gamma}{\hat{N}}$ | ก | O | $8$ | $\stackrel{18}{\circ}$ |  |  | $\stackrel{\sim}{\sim}$ |
|  | $\mathfrak{c}$ |  |  |  | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{j}} \dot{\mathrm{C}}}{\stackrel{8}{\sim}}$ |  |  |  | $\left\|\begin{array}{c} \overline{+} \\ \dot{~} \end{array}\right\|$ | $\begin{array}{c\|c\|c} \dot{c} \\ \dot{N} \\ \underset{\sim}{c} \\ \hline \end{array}$ |  |  |  | $\stackrel{\rightharpoonup}{\mathrm{N}} \underset{\sim}{\infty} \underset{\sim}{\infty}$ |  |  | $\begin{gathered} \stackrel{\leftrightarrow}{0} \\ \underset{\sim}{2} \end{gathered}$ |  |  |  |  | $\stackrel{N}{\dot{N}}$ | N | $\stackrel{\stackrel{8}{寸}}{\stackrel{1}{4}}$ | $\stackrel{\underset{\sim}{d}}{\underset{\sim}{2}}$ | $\stackrel{\rightharpoonup}{N}$ | $\begin{aligned} & \infty \\ & \stackrel{\sim}{N} \\ & \stackrel{1}{2} \end{aligned}$ | $\begin{gathered} 0 \\ \stackrel{0}{2} \end{gathered}$ |  | $\stackrel{\sim}{\sim}$ | N |  | $\stackrel{\infty}{\sim}$ | $\stackrel{\sim}{N}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}\right.$ | $\left\|\begin{array}{c} \hat{n} \\ \underset{\sim}{2} \end{array}\right\|$ | $\stackrel{+}{N}$ |  | $\stackrel{\infty}{\infty}$ |  |
| $\underset{\substack{0 \\ \underset{心}{0} \\ 0}}{0}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{n} \end{gathered}\right.$ | $\underset{\sim}{\text { Niven }}$ | $\mathfrak{c}$ |  | $\stackrel{\substack{\mathrm{j}} \stackrel{\underset{\sim}{\sim}}{\sim}}{ }$ |  | $\begin{aligned} & \stackrel{\circ}{\mathrm{N}} \\ & \hline \end{aligned}$ |  | $\begin{aligned} & \stackrel{\rightharpoonup}{n} \\ & \vdots \end{aligned} \underset{\sim}{\sim}$ |  |  |  |  |  |  |  | $\begin{aligned} & \infty \\ & \stackrel{\sim}{m} \\ & \stackrel{y}{n} \end{aligned}$ |  |  | డ్లై | $\stackrel{\sim}{\sim}$ | $\stackrel{\stackrel{N}{\mathrm{~N}}}{ }$ | N | $\stackrel{\sim}{0}$ | N | N | No | $\begin{gathered} \hat{e} \\ \underset{\sim}{j} \end{gathered}$ |  | ¢ | N |  | $\stackrel{\infty}{\sim}$ | $\stackrel{\sim}{N}$ | $\stackrel{\underset{\sim}{\sim}}{\underset{\sim}{\sim}}$ | $\left\|\begin{array}{c} \bar{n} \\ \stackrel{\sim}{2} \end{array}\right\|$ | N |  |  |  |
| 而等 | $\stackrel{m}{c}$ |  |  |  |  | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\infty}$ |  |  | $\dot{j}$ |  |  |  | $\begin{aligned} & 2 \\ & \dot{p} \\ & \hline \end{aligned} \frac{m}{\infty}$ |  |  | $\underset{\sim}{\circ} \underset{\sim}{\dot{N}} \underset{\sim}{\underset{\sim}{c}}$ | $\stackrel{\text { m}}{\text { ¢ }}$ | N |  | $\begin{gathered} \underset{\infty}{\infty} \\ \dot{m} \end{gathered}$ | $\stackrel{\rightharpoonup}{\sim}$ | ¢ | \％ | $\begin{aligned} & \stackrel{\leftrightarrow}{\infty} \\ & \stackrel{\omega}{\infty} \end{aligned}$ | － | $\stackrel{8}{\text { ¢ }}$ | O－ | が |  | ¢ | m | $\stackrel{\text { 웅 }}{\dot{e}}$ | $\begin{aligned} & \infty \\ & 0 \\ & \dot{\aleph} \end{aligned}$ | $\stackrel{ఱ}{\infty}$ | \|ஷ্ল | $\begin{gathered} 0 \\ 0 \\ \dot{e} \\ \hline \end{gathered}$ | － |  |  |  |
| $\stackrel{\stackrel{\rightharpoonup}{⿺} \stackrel{\rightharpoonup}{\circ}}{\circ}$ | $\mid \underset{\substack{e}}{\substack{2}}$ | $\underset{\sim}{9}$ |  | $\stackrel{0}{0} \mathrm{C}$ | N |  | $\underset{\infty}{\infty}$ | $?$ |  | $\left\|\begin{array}{c} \infty \\ \underset{0}{\infty} \end{array}\right\|$ | $\stackrel{?}{\dot{p}}$ | $$ | প্ | N |  | $\stackrel{0}{\mathrm{~m}} \mid \stackrel{\rightharpoonup}{\underset{\sim}{2}}$ | $\stackrel{\text { O}}{\sim}$ |  |  |  |  | $\stackrel{\underset{\sim}{\infty}}{\underset{\sim}{\dot{o}}}$ | ¢ | V |  |  | $\stackrel{\sim}{2}$ | $\overleftarrow{O}^{\circ}$ |  | $\stackrel{7}{\text { ¢ }}$ |  |  | $\left\|\begin{array}{c} \infty \\ \infty \\ \infty \end{array}\right\|$ |  | ọ. | $\bigcirc$ | ल |  |  | 은 |
|  |  |  |  |  |  |  |  | $\left\lvert\, \begin{aligned} & \bar{o} \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ |  |  |  |  |  |  |  |  |  | $\left\{\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right.$ |  |  |  | $\begin{aligned} & n \\ & \vdots \\ & \vdots \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\infty$ <br> 0 <br> 0 <br> 0 <br> 1 <br> 1 | $\begin{gathered} \underset{\sim}{2} \\ \underset{\sim}{c} \\ \underset{\sim}{2} \end{gathered}$ | $\stackrel{\stackrel{c}{\dot{\circ}}}{\stackrel{\infty}{\infty}}$ | $\bigcirc$ | $\begin{gathered} \infty \\ \underset{y}{0} \\ 0 \\ 0 \\ \hline 1 \end{gathered}$ | $\stackrel{+}{\circ}$ | $\begin{aligned} & 0 \\ & \stackrel{0}{0} \\ & \infty \\ & \hline \end{aligned}$ | － |  |  | $\mathfrak{c}$ | $\left\lvert\, \begin{aligned} & \hat{N} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned}$ | $\begin{array}{\|l\|} 0 \\ 0 \\ 0 \\ \infty \end{array}$ |  | $\begin{aligned} & \hat{0} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{array}{\|l} 8 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline 1 \end{array}$ |
|  |  | Cis |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\mathfrak{c}$ |  |  |  |  | $\begin{gathered} 0 \\ \stackrel{y}{\lambda} \\ \stackrel{\rightharpoonup}{j} \end{gathered}$ |  | $\begin{gathered} \stackrel{\rightharpoonup}{N} \\ \underset{\sim}{N} \\ \stackrel{N}{2} \end{gathered}$ |  | \|in |  | $\begin{aligned} & \mathrm{O} \\ & 0 \\ & 0 \\ & \\ & \end{aligned}$ |  | N |  |  | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{\infty} \\ & \stackrel{\sim}{n} \end{aligned}$ | $\mathfrak{c}$ | $\begin{aligned} & \mathrm{N} \\ & \underset{\infty}{\infty} \\ & \underset{\sim}{n} \\ & \hline \end{aligned}$ | $\begin{aligned} & \frac{m}{n} \\ & \infty \\ & \stackrel{N}{N} \end{aligned}$ | $\begin{aligned} & \left.\begin{array}{l} \infty \\ \infty \\ \stackrel{\omega}{n} \end{array} \right\rvert\, \end{aligned}$ | $\left\|\begin{array}{c} \underset{\sim}{2} \\ \vdots \\ \underset{\sim}{6} \end{array}\right\|$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \dot{0} \\ & \dot{y} \end{aligned}$ |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \stackrel{\Sigma}{0} \\ & \stackrel{\rightharpoonup}{0} \\ & \stackrel{\rightharpoonup}{i} \\ & \stackrel{\rightharpoonup}{\Delta} \\ & \stackrel{\sim}{\infty} \end{aligned}$ |  |  |  |  |
|  | $\left\lvert\, \begin{gathered} 0 \\ \hat{0} \\ \stackrel{y}{0} \\ \hline \end{gathered}\right.$ |  |  | $\begin{array}{l\|l\|} \substack{\dot{\sim} \\ \underset{\sim}{x}} & \underset{\sim}{\underset{\sim}{x}} \end{array}$ |  | $\begin{aligned} & \underset{\sim}{x} \underset{\sim}{x} \\ & \underset{\sim}{\underset{\sim}{x}} \end{aligned}$ |  |  | $\begin{aligned} & 0 \\ & \underset{\sim}{u} \\ & \underset{\sim}{w} \end{aligned}$ |  | $\begin{aligned} & \dot{3} \\ & \vdots \end{aligned}$ | $\begin{array}{l\|l} \substack{0 \\ 0 \\ \\ \\ \hline \\ \hline \\ \hline} \end{array}$ |  |  |  |  | $\mathbb{C}$ |  | $\frac{\infty}{\grave{L}}$ |  |  | $\begin{aligned} & \times \\ & \underset{N}{N} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{⿺} \\ & \stackrel{\rightharpoonup}{S} \\ & \hline \end{aligned}$ | $\begin{aligned} & \widetilde{N} \\ & \hat{N} \end{aligned}$ | $\sum_{0}^{1}$ | $\sum_{0}^{\frac{1}{1}}$ | $\begin{aligned} & 0 \\ & \dot{y} \\ & \frac{1}{m} \end{aligned}$ | $\begin{aligned} & m \\ & \underset{y}{\mathbf{t}} \\ & \frac{2}{m} \end{aligned}$ |  | $\frac{1}{\frac{\alpha}{\alpha}}$ | 呙 |  | $\left\|\begin{array}{c} \underset{\sim}{\stackrel{\sim}{\sim}} \\ \stackrel{\rightharpoonup}{\alpha} \end{array}\right\|$ |  | $\begin{aligned} & 0 \\ & \tilde{N} \\ & \\ & \hline 1 \end{aligned}$ | $\begin{gathered} \underset{\sim}{w} \\ \stackrel{\sim}{\alpha} \end{gathered}$ |  | $\left\|\begin{array}{l} 0 \\ \tilde{\sim} \\ \underset{\sim}{0} \end{array}\right\|$ | $\mathfrak{c}$ | ¢ |


| $\frac{\frac{\pi}{5}}{5}$ |  | $0$ |  | $9$ |  |  |  | Bִ |  | Co | $\stackrel{8}{\circ}$ | $\stackrel{+}{\sim}$ | \％ | \％ | $\stackrel{\sim}{\sim}$ |  | $\underset{\circ}{\substack{9}}$ | $\begin{gathered} o \\ 0 \\ 0 \end{gathered}$ | － | $\hat{\infty}$ | $\stackrel{\substack{0 \\ 0}}{ }$ |  | $\left\|\begin{array}{c} o \\ 0 \\ 0 \end{array}\right\|$ | $\underset{\substack{p \\ \infty \\ \\ \\ \hline \\ \hline}}{ }$ | $\stackrel{c}{c}$ | $\stackrel{N}{\infty}$ | $\stackrel{\infty}{\circ}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \end{aligned}$ | $3$ | $\stackrel{m}{0}$ | $\stackrel{\mathbf{c}}{\substack{0}}$ |  | $\stackrel{e}{\mathrm{~m}}$ |  | $\mathfrak{N}$ | $:$ | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \end{array}\right\|$ | $0$ |  | $\stackrel{\bar{m}}{0}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\stackrel{\square}{1}$ | $\left\lvert\, \begin{gathered} \stackrel{\rightharpoonup}{N} \\ \substack{2} \end{gathered}\right.$ | $\underset{\sim}{c}$ | $\left\lvert\, \begin{gathered} \infty \\ \substack{0 \\ \\ \\ \hline} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \bar{N} \\ \mathbf{N} \end{gathered}\right.$ | $\underset{\substack{~}}{\substack{\sim \\ \hline}}$ |  |  |  |  |  | $\underset{\substack{~}}{\substack{\sim \\ \hline}}$ |  | $\stackrel{\rightharpoonup}{N}$ | － |  |  |  | $\begin{array}{\|c} \substack{\mathrm{N}} \\ \hline \end{array}$ | $\underset{\sim}{\mathbf{N}}$ |  | $0$ | $\begin{gathered} \underset{N}{\mathrm{~N}} \\ \mathrm{~m} \end{gathered}$ |  | $\stackrel{\rightharpoonup}{2}$ | $\underset{\sim}{\underset{N}{N}}$ | $\stackrel{\sim}{\mathrm{m}}$ | $\begin{gathered} n \\ 0 \\ 0 \end{gathered}$ | $\underset{\sim}{\mathrm{N}}$ | N | N | $\underset{\sim}{\infty}$ |  | ্ָণী |  | $\begin{gathered} \hat{\infty} \\ \\ 0 \end{gathered}$ | $\mathfrak{N}$ | $\underset{\substack{\mathrm{N}}}{ }$ |  | $\stackrel{\substack{2 \\ \underset{c}{2} \\ \hline}}{ }$ | $\stackrel{\stackrel{\rightharpoonup}{c}}{\underset{\circ}{\circ}}$ |  | $\stackrel{\vdots}{0} \stackrel{\vdots}{\circ}$ |
| 2 | $\vdots \begin{gathered} \substack{n \\ 0} \\ \hline \end{gathered}$ |  | $\left\|\begin{array}{c} \infty \\ \stackrel{\infty}{\infty} \\ \stackrel{c}{c} \end{array}\right\|$ | $\left\|\begin{array}{\|c} \mathbf{O} \\ \mathbf{C} \\ \mathrm{m} \end{array}\right\|$ | $\begin{aligned} & 3 \\ & \substack{i \\ \underset{\sim}{n} \\ i} \\ & \hline \end{aligned}$ |  |  | $\mathbf{S}_{\substack{n}}^{\substack{\infty \\ \infty}}$ |  |  | $\begin{aligned} & \underset{\sim}{2} \\ & \underset{\sim}{2} \end{aligned}$ |  | $\stackrel{N}{\mathbf{n}}$ | $\begin{gathered} \text { d } \\ \stackrel{1}{2} \end{gathered}$ | O－ |  |  | $\begin{gathered} \hat{N} \\ \underset{m}{n} \\ \hline \end{gathered}$ | $\stackrel{N}{\infty}$ | $\underset{\sim}{\underset{\sim}{e}}$ |  | Bl\|che |  | $\dot{j} .$ | $\frac{\underset{\sim}{\dot{f}}}{\dot{子}}$ | $\begin{aligned} & \underset{\sim}{\lambda} \\ & \underset{子}{2} \end{aligned}$ | $\left.\begin{array}{\|c} \mathbf{N} \\ \stackrel{0}{2} \end{array} \right\rvert\,$ | $8$ | $\mathfrak{c}$ | $\stackrel{\tilde{\sim}}{\stackrel{\rightharpoonup}{n}}$ | $\underset{\underset{\sim}{N}}{\underset{\sim}{N}}$ |  | $j \underset{\sim}{\underset{\sim}{c}}$ |  | $\begin{aligned} & \hat{\infty} \\ & \infty \\ & \infty \\ & \infty \end{aligned}$ | $\stackrel{N}{0}$ | $\|\underset{\underset{\sim}{\underset{\sim}{c}}}{\underset{\sim}{2}}\|$ | $\stackrel{\substack{\mathrm{n} \\ \mathrm{~N}}}{ }$ | $\dot{\substack{\infty \\ \stackrel{\infty}{\infty} \\ \\ \hline}}$ | $\stackrel{\hat{N}}{\stackrel{\omega}{\infty}}$ | $\begin{gathered} \vdots \\ j \\ j \\ \substack{n \\ \sim \\ \sim} \end{gathered}$ | － |
| $\bar{Y}$ | $\left\lvert\, \begin{aligned} & \bar{N} \\ & \hat{0} \\ & \hline \end{aligned}\right.$ |  | $\left\lvert\, \begin{aligned} & \substack{8 \\ n \\ n \\ n} \end{aligned}\right.$ | $\left\|\begin{array}{l} \bar{i} \\ \hat{N} \\ \mathrm{i} \end{array}\right\|$ | $\dot{j}+\underset{\underset{\sim}{c}}{\underset{\sim}{f}}$ | $\mathfrak{c}$ |  | $$ | $\frac{\underset{\sim}{\sim}}{\dot{\sim}}$ |  |  |  | $\begin{aligned} & \circ \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{2} \end{aligned}$ |  |  |  |  | $\begin{aligned} & \overline{\mathrm{N}} \\ & \mathrm{~m} \end{aligned}$ | $j$ |  |  |  | $\left\lvert\, \begin{gathered} \hat{N} \\ \underset{\sim}{\mathrm{~N}} \end{gathered}\right.$ |  |  | $\mathfrak{c}$ | $\begin{array}{\|l} \infty \\ \\ \end{array}$ | $\begin{aligned} & 8 \\ & \stackrel{0}{6} \\ & \underset{8}{ } \end{aligned}$ | $\underset{\sim}{\text { V. }}$ | $\stackrel{\rightharpoonup}{\dot{m}}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\underset{\sim}{\mathrm{N}}} \\ \hline \end{gathered}\right.$ | O- |  |  | $\begin{gathered} \bar{i} \\ \infty \\ \infty \end{gathered}$ | $\mathfrak{l}$ | $\begin{aligned} & \mathrm{O} \\ & \mathbf{C} \\ & \mathrm{i} \end{aligned}$ | $\underset{\substack{\infty \\ \underset{\sim}{\infty} \\ \underset{N}{2} \\ \hline}}{ }$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & \substack{n \\ m} \end{aligned}\right.$ | $\begin{gathered} \overline{\hat{N}} \\ \end{gathered}$ |  | － |
| $\frac{1}{2}$ | $\mathfrak{c}$ | $\stackrel{\sim}{\sim}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{gathered} 2 \\ \\ 0 \\ 0 \end{gathered}$ | $\stackrel{\substack{9}}{\substack{2 \\ \hline \\ \hline}}$ | $\begin{gathered} \infty \\ \substack{\infty \\ \\ \hline} \end{gathered}$ | - |  | $\begin{array}{\|c} \infty \\ \\ \end{array}$ |  | $\begin{array}{\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|} \hline \\ \hline \end{array}$ |  | $\begin{gathered} 0 \\ \underset{y}{0} \\ 0 \end{gathered}$ | $\begin{array}{\|c\|c} \infty \\ 0 \\ 0 \end{array}$ |  |  |  | $\stackrel{\stackrel{\circ}{\mathrm{O}}}{1} \mid \underset{\sim}{\underset{\sim}{2}}$ | $\begin{array}{\|c\|c\|c\|} 0 \\ 0 \end{array}$ |  |  |  |  | $\pm \begin{gathered} 0 \\ \\ \\ \end{gathered}$ |  |  | $\begin{aligned} & \infty \\ & \underset{y}{\infty} \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{N}{N}$ | $\begin{gathered} 0 \\ \underset{y}{0} \\ 0 \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ \underset{O}{0} \end{gathered}\right.$ | 10 |  |  | $\begin{gathered} 0 \\ \mathbf{N} \\ 0 \end{gathered}$ | $\mathfrak{c}$ | $\frac{\pi}{i}$ | $\begin{array}{\|c} \infty \\ 0 \\ \\ 0 \end{array}$ | $\mathfrak{c}$ | $\begin{gathered} 0 \\ \underset{y}{0} \\ 0 \end{gathered}$ |  | O－M |
| סั\| | $\stackrel{\infty}{\infty}$ | $\stackrel{\circ}{\infty}$ |  | $\underset{~}{\text { st }}$ | $\begin{gathered} \mathrm{t} \\ \end{gathered}$ | $\underset{\substack{\infty \\ \hline \\ \hline}}{ }$ |  |  | $\left\lvert\,\right.$ |  | $\begin{aligned} & n \\ & \substack{\infty \\ \vdots \\ \vdots \\ \hline \\ \hline} \end{aligned}$ | $\stackrel{c}{\infty}$ | $\stackrel{\varrho}{\circ}$ | $\begin{gathered} \infty \\ 0 \\ 0 \end{gathered}$ | $\stackrel{\infty}{\infty}$ | $\stackrel{\circ}{\circ}$ | $\begin{array}{l\|l} \stackrel{\circ}{\circ} \\ \stackrel{\circ}{\circ} \\ \hline \end{array}$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{8}{8}$ |  | $\bigcirc$ | $\left\|\begin{array}{l} \mathrm{N} \\ \mathbf{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \hat{\infty} \\ 0 \\ 0 \end{array}\right\|$ | $\begin{array}{c\|c\|c} 0 \\ \hline & 0 \\ \hline \end{array}$ |  | $\left\|\begin{array}{c} \infty \\ \infty \\ 0 \end{array}\right\|$ | ® | O | － | $\stackrel{+}{\text { O }}$ | － | $\stackrel{\infty}{\infty}$ | $\bigcirc$ | $\left\|\begin{array}{l} \bar{\infty} \\ 0 \end{array}\right\|$ | $\bar{\sigma}$ | $\otimes$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \end{aligned}$ | $\mathfrak{c}$ | $\begin{gathered} \infty \\ \infty \\ \dot{\circ} \end{gathered}$ |  | ¢ |
| $\vdots$ | $\left\lvert\, \begin{aligned} & \text { 苟 } \\ & 0 \end{aligned}\right.$ | $0$ | $0$ | $\left\lvert\, \begin{aligned} & \mathbf{N} \\ & \mathbf{N} \\ & \mathbf{0} \end{aligned}\right.$ | $\begin{gathered} 4 \\ 0 \\ 0 \end{gathered}$ | $\begin{aligned} & \text { di } \\ & \hline \end{aligned}$ | $\stackrel{O}{0}$ | $\begin{aligned} & 2 \\ & 2 \\ & 0 \end{aligned}$ | $\underset{\substack{\circ \\ \underset{O}{\circ} \\ \hline}}{ }$ |  | $\begin{array}{\|c} 8 \\ \stackrel{8}{+} \end{array}$ |  | $\begin{aligned} & \mathrm{v} \\ & \stackrel{y}{*} \\ & \hline \end{aligned}$ | $\begin{gathered} \infty \\ \infty \\ 0 \\ \hline \end{gathered}$ | $\underset{0}{\infty}$ | O |  | O- | $\begin{array}{\|c} \underset{y}{*} \\ 0 \end{array}$ |  | $\stackrel{\circ}{\circ}$ |  | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \infty \\ 0 \\ 0 \\ 0 \end{gathered}\right.$ | $\underset{\sim}{n} \underbrace{\infty}_{0}$ |  | $\stackrel{\circ}{\square}$ | － |  | $\underset{\sim}{\square}$ | $\stackrel{\tau}{\stackrel{\rightharpoonup}{r}}$ | ¢ | $c_{\infty}^{\infty}$ | $\stackrel{\bar{C}}{+}$ | d | ¢． | 8 | $\stackrel{\sim}{\stackrel{\sim}{+}}$ | $\bigcirc$ | $8$ |  | $\bigcirc$ |
|  | $0$ | $\underset{\sim}{2}$ |  | ${ }_{0}^{\infty}$ | $\begin{gathered} 0 \\ \hline \end{gathered}$ | $\underset{\sim}{\square}$ |  | $\underset{\sim}{9}$ |  | $\stackrel{\text { ¢ }}{\sim}$ | ¢ | $\stackrel{\rightharpoonup}{\mathrm{o}} \underset{\stackrel{\rightharpoonup}{\sigma}}{\underset{\sigma}{\prime}}$ | N | 8 | $\stackrel{\sim}{\text { m}}$ |  | $\stackrel{\sim}{\circ}$ | $\stackrel{\text { ¢ }}{\stackrel{-}{+}}$ | \％ | $\stackrel{\text { N }}{\sim}$ |  | ¢ |  | $\stackrel{\sim}{\sim}$ | $\cdots$ | N | $\stackrel{+}{+}$ | ¢ | N | － | ¢ | O－ | 찬 | \％ | m | N | $\stackrel{\sim}{\mathrm{N}}$ | $\stackrel{+}{+}$ | $0$ | $\begin{gathered} \text { N } \\ \dot{O} \end{gathered}$ |  | O－ |
|  | $\mathfrak{N}$ |  | $\mathfrak{l}$ |  | $\begin{gathered} \dot{N} \\ \vdots \end{gathered}$ | $\begin{gathered} \bar{s} \\ \underset{\sim}{c} \end{gathered}$ |  |  |  | $\stackrel{\otimes}{\infty} \underset{\sim}{\infty} \underset{\sim}{\infty} \underset{\sim}{\infty}$ | $\stackrel{\substack{\underset{\sim}{n} \\ \underset{\sim}{N} \\ \underset{\sim}{n} \\ \hline}}{ }$ |  | $\begin{gathered} \infty \\ \stackrel{1}{\sim} \end{gathered}$ |  | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \end{aligned}$ |  | $\stackrel{\text { ci}}{\stackrel{\rightharpoonup}{i}} \underset{\sim}{\infty}$ | $\stackrel{\rightharpoonup}{\mathrm{j}} \underset{\sim}{\underset{\sim}{\sim}}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\dot{~}} \end{aligned}$ | $\begin{aligned} & \mathbb{N} \\ & \underset{\sim}{\perp} \end{aligned}$ |  | $\stackrel{\otimes}{\infty} \underset{\sim}{\sim} \underset{\sim}{\stackrel{1}{\circ}}$ |  | $\left\|\begin{array}{c} \stackrel{o}{N} \\ \underset{\sim}{2} \end{array}\right\|$ | $\stackrel{\rightharpoonup}{\underset{\sim}{c}} \underset{\sim}{\underset{\sim}{N}}$ | $\dot{~}$ | $\begin{gathered} \infty \\ \stackrel{\sim}{\infty} \\ \underset{\sim}{2} \end{gathered}$ | $\stackrel{\dot{N}}{ }$ | $\stackrel{\circ}{\text {－}}$ | $\begin{aligned} & \infty \\ & \stackrel{\circ}{\dot{1}} \end{aligned}$ | $\stackrel{\infty}{\infty}$ | $\stackrel{ \pm}{N}$ | $\underset{\sim}{N}$ | N | $\begin{gathered} \underset{\sim}{\dot{j}} \\ \stackrel{y}{2} \end{gathered}$ | $\mathfrak{l}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \end{aligned}$ |  | $\stackrel{\otimes}{\underset{\sim}{c}}$ | $\begin{aligned} & \stackrel{\otimes}{+} \\ & \stackrel{1}{\sim} \end{aligned}$ |  | $\stackrel{\rightharpoonup}{\mathrm{N}} \underset{\sim}{\stackrel{N}{\sim}} \underset{\sim}{\underset{\sim}{2}}$ |
|  | $\left\|\begin{array}{l} \infty \\ \stackrel{\infty}{N} \end{array}\right\|$ | $\underset{\sim}{\infty} \underset{\sim}{n} \underset{\sim}{\infty}$ | $\underset{\sim}{\infty}$ |  | $\underset{j}{\dot{N}} \underset{\sim}{\underset{N}{\prime}}$ |  |  | $\begin{aligned} & \stackrel{y}{\mathrm{j}} \underset{\sim}{\sim} \\ & \underset{\sim}{n} \end{aligned}$ |  |  | $\begin{gathered} \underset{\sim}{2} \\ \underset{N}{2} \end{gathered}$ |  | $\stackrel{\aleph}{\stackrel{\circ}{\mathrm{N}}}$ | $\begin{gathered} \underset{\sim}{3} \\ \underset{\sim}{2} \end{gathered}$ |  |  | هi | $\stackrel{\substack{\sim}}{\substack{0 \\ \sim \\ \sim}}$ | $\begin{gathered} \stackrel{O}{\mathrm{~N}} \\ \underset{\mathrm{~N}}{ } \end{gathered}$ |  |  |  |  | $\dot{c}$ | $\stackrel{\rightharpoonup}{i} \underset{\sim}{\sim}$ | $\mathfrak{N}$ | $\begin{aligned} & \underset{\sim}{2} \\ & \underset{\sim}{2} \end{aligned}$ | $\stackrel{\sim}{N}$ | $\underset{\sim}{\sim}$ | $\hat{\infty}$ | $\underset{\sim}{\infty}$ | N N | $\dot{\sim}$ | N | $\begin{aligned} & 8 \\ & \stackrel{R}{2} \\ & \underset{\sim}{2} \end{aligned}$ | $\stackrel{\sim}{N}$ | $\stackrel{\stackrel{y}{\mathrm{~N}}}{\substack{n}}$ | $\stackrel{\leftrightarrow}{\infty}$ | $\dot{\sim}$ | $\stackrel{\rightharpoonup}{t} \stackrel{\rightharpoonup}{\sim}$ |  | $\stackrel{\rightharpoonup}{\mathrm{N}} \stackrel{\underset{\sim}{\sim}}{\underset{\sim}{n}}$ |
|  | $\begin{aligned} & f \\ & \dot{c} \\ & \dot{m} \end{aligned}$ |  | $\begin{aligned} & \infty \\ & \\ & \substack{\infty \\ \infty} \end{aligned}$ |  | $\begin{aligned} & f \\ & \dot{l} \\ & \dot{c} \\ & \hline \end{aligned}$ | $\begin{gathered} N \\ \underset{\sim}{\infty} \\ \hline \end{gathered}$ | Be |  |  |  | $\begin{array}{\|c} \hat{0} \\ \dot{e} \\ \hline \end{array}$ |  | $\begin{gathered} \underset{\sim}{c} \\ \underset{e}{6} \end{gathered}$ |  | N |  |  | $\begin{array}{c\|c} \substack{n \\ \\ \hline \\ \hline \\ \hline} \\ \hline \end{array}$ | － |  |  |  |  | $\begin{array}{\|c} \stackrel{\rightharpoonup}{\dot{e}} \\ \dot{e} \end{array}$ |  | ल |  | é | － | 毋 | $\stackrel{\substack{t \\ \dot{e} \\ \hline}}{ }$ | $0$ | প্ল | $\begin{aligned} & \underset{\sim}{N} \\ & \text { è } \end{aligned}$ | $\Gamma$ | $\begin{gathered} \underset{\sim}{e} \\ \underset{e ́ c}{0} \end{gathered}$ | $\begin{aligned} & \hat{N} \\ & \underset{e}{e} \end{aligned}$ |  |  | $\dot{e}$ |  |  |
| $\left.\left\lvert\, \begin{array}{l} \frac{7}{2} \\ 0 \\ 0 \end{array}\right.\right]$ | $\left\lvert\, \begin{aligned} & \stackrel{0}{n} \\ & \stackrel{\circ}{2} \end{aligned}\right.$ | $\stackrel{C}{0}$ | : | $\left\lvert\, \begin{gathered} \stackrel{0}{n} \\ \stackrel{n}{2} \end{gathered}\right.$ |  |  | $\stackrel{n}{0} \text { Co }$ |  | - |  | $\begin{aligned} & \stackrel{\circ}{\infty} \\ & \underset{\sim}{\mathrm{i}} \end{aligned}$ |  | $\stackrel{?}{\infty}$ | পে | ㅇ |  | $\stackrel{\sim}{\circ}$ | P18 |  |  |  |  | $\stackrel{( }{\circ}$ | N | $\begin{aligned} & 0 \\ & 0 \\ & \stackrel{0}{1} \end{aligned}$ |  | O | $\cdots$ | $\bigcirc$ | 8 | 8 | ㅇ. |  | O | $\stackrel{\circ}{\mathrm{O}}$ | ค | $8$ |  | $0$ | $\stackrel{\sim}{\sim}$ |  | 웇 |
|  | $\left\{\begin{array}{c} \text { d } \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right.$ |  | $\left\lvert\, \begin{aligned} & N \\ & \\ & \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{l} \bar{\infty} \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ |  | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}\right.$ |  |  |  |  | 莈 |  |  |  |  |  |  |  |  |  |  |  | $0$ |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  | $\begin{aligned} & \pm \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  | N | $\left\lvert\, \begin{aligned} & \underset{\sim}{\infty} \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \\ & \hline \end{aligned}\right.$ | © |  | $\frac{\underset{\sim}{c}}{\underset{\sim}{c}}$ | $\begin{aligned} & 8 \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ |  | $\begin{aligned} & \dot{8} \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned}$ |  | $\left\lvert\, \begin{array}{\|c} \substack{8 \\ 0 \\ 0 \\ 0 \\ \hline \\ \hline} \end{array}\right.$ |  |  |
|  | $\mathfrak{N}$ |  | $\mathfrak{c}$ | $\left\|\begin{array}{c} \overline{8} \\ \underset{\sim}{c} \\ \dot{\sim} \end{array}\right\|$ |  | $\mathfrak{c}$ |  |  |  |  |  |  | $\begin{aligned} & \text { A } \\ & \hline 0 \\ & \dot{N} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{\|c} \hat{0} \\ \dot{0} \\ \dot{N} \end{array}\right\|$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\mathfrak{N}$ |  | $\mathfrak{c} \left\lvert\, \begin{gathered} \underset{\sim}{n} \\ \underset{\sim}{n} \\ \end{gathered}\right.$ |  |  |  | 등 | $\mathfrak{c}$ |  |  | $\begin{aligned} & 0 \\ & \vdots \\ & \vdots \\ & \\ & \stackrel{\sim}{n} \end{aligned}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{8} \\ & \stackrel{N}{n} \\ & \stackrel{n}{2} \end{aligned}$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \stackrel{0}{0} \\ & \stackrel{7}{5} \\ & \stackrel{0}{\omega} \end{aligned}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{c} \\ \end{gathered}\right.$ |  | $\underset{\substack{\underset{\sim}{x} \\ \underset{\sim}{2} \\ \hline}}{ }$ | $\left\|\begin{array}{c} 0 \\ \frac{1}{\grave{\gamma}} \\ \hline \mathbf{y} \end{array}\right\|$ |  | $\frac{\underset{y}{c}}{\substack{\boldsymbol{\alpha}}}$ |  | $\begin{aligned} & \frac{1}{r} \\ & \stackrel{y}{c} \\ & \frac{1}{x} \\ & \hline \end{aligned}$ |  |  | $\left.\begin{gathered} \frac{0}{1} \\ \underset{\sim}{\omega} \end{gathered} \right\rvert\,$ |  | $\begin{aligned} & \frac{1}{y} \\ & \underset{y}{c} \\ & \underset{\sim}{\underset{1}{2}} \end{aligned}$ |  |  | $\begin{aligned} & \text { U } \\ & \stackrel{\omega}{\infty} \end{aligned}$ |  |  | $\begin{aligned} & 0 \\ & \frac{1}{4} \\ & \varrho \end{aligned}$ | $\stackrel{\infty}{\stackrel{1}{\overleftarrow{~}}}$ |  |  |  |  |  |  |  | $\begin{array}{\|c\|} 0 \\ \frac{1}{2} \\ \sum \end{array}$ | $\bar{\sum}$ | $\frac{\underset{I}{L}}{\underline{Z}}$ | $0 \begin{aligned} & x \\ & \frac{x}{1} \\ & \stackrel{\Sigma}{\Sigma} \end{aligned}$ | $\begin{aligned} & 0 \\ & \sum_{2} \\ & \sum_{2} \end{aligned}$ | $\sum_{\Sigma}^{\infty}$ |  | $\left\lvert\, \begin{aligned} & \mathbb{Y} \\ & \stackrel{\rightharpoonup}{I} \\ & \hline \mathbf{D} \end{aligned}\right.$ |  | $\begin{aligned} & \text { m } \\ & \stackrel{\sim}{\omega} \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{aligned} & \substack{\dot{\hat{N}} \\ \underset{\sim}{n} \\ \hline} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & \dot{o} \\ & \vdots \end{aligned}$ | $\begin{aligned} & \text { o } \\ & \hat{0} \\ & \hat{m} \end{aligned}$ |  |  |


| $\frac{\pi}{\frac{T}{\tau}}$ |  |  |  | － |  | $\stackrel{0}{0}$ |  |  |  | $\stackrel{O}{\circ}$ | $\stackrel{9}{0}$ | $\stackrel{0}{0}$ | N |  | $\stackrel{-}{\square}$ | $\mp$ | $\stackrel{-}{\circ}$ | － |  |  | フ | フ | － |  |  |  | ¢ | N |  | $\dot{s}$ | N | N |  | $\stackrel{\otimes}{N}$ |  | $\stackrel{N}{N}$ |  | $\underset{0}{5}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\stackrel{1}{1}$ | $\left\|\begin{array}{l} \overline{0} \\ \stackrel{0}{0} \end{array}\right\|$ | $\dot{s}$ |  | $\begin{aligned} & \overline{0} \\ & \vdots \\ & \hline \end{aligned}$ |  |  |  |  |  |  |  |  | $\underset{\sim}{\infty}$ |  |  | $\stackrel{\substack{n \\ \mathbf{N} \\ \hline}}{ }$ |  | $\underset{\sim}{\square}$ | $\stackrel{N}{N}$ |  | $\stackrel{N}{\grave{n}}$ | N |  |  | N |  | N | ¢ |  | $\mathfrak{c}$ | ＾ | N |  | $\left\|\begin{array}{l} \infty \\ \stackrel{N}{N} \end{array}\right\|$ |  | $\stackrel{\rightharpoonup}{N}$ |  |  |  | $\stackrel{\square}{\vdots}$ | $$ |
| $\underline{1}$ | $\left\lvert\, \begin{gathered} \circ \\ 0 \\ \end{gathered}\right.$ |  | $\begin{gathered} \circ \\ \stackrel{0}{0} \\ \stackrel{y}{*} \end{gathered}$ | $\underset{\sim}{\underset{\sim}{n}}$ |  | $\underset{\substack{\mathrm{N}} \underset{\sim}{\underset{\sim}{\sim}} \underset{\sim}{\underset{\sim}{2}}}{ }$ |  | $\underset{\sim}{c} \underset{\sim}{c}$ |  |  |  |  | $\left\|\begin{array}{c} n \\ \\ \\ \hline \end{array}\right\|$ |  |  | $8$ |  | $\pm \underset{~}{j} \underset{\sim}{\lambda}$ |  |  | － | No | $\begin{gathered} \underset{\sim}{2} \\ \underset{\sim}{n} \end{gathered}$ |  | へ－ |  |  | $\underset{\sim}{\underset{\sim}{\underset{\sim}{2}}} \underset{\sim}{\underset{N}{2}}$ |  | $\mathfrak{c}$ | $\stackrel{\underset{\sim}{\mathrm{N}}}{ }$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ \end{array}\right\|$ |  |  |  | $\stackrel{\rightharpoonup}{N}$ |  |  | $\underset{\sim}{\underset{\sim}{\sim}} \underset{\sim}{8}$ |  | $\begin{gathered} - \\ \underset{n}{n} \\ \hline \end{gathered}$ |
| $\stackrel{\bar{Y}}{\lessgtr}$ | $\underset{\sim}{\underset{N}{N}}$ | $\underset{\sim}{n} \underset{\substack{n \\ \\ \hline}}{ }$ | $\stackrel{\underset{j}{n}}{\underset{\sim}{N}}$ | $\underset{\sim}{\underset{\sim}{\sim}}$ |  | $\stackrel{\stackrel{c}{\underset{\sim}{i}}}{\stackrel{1}{i}}$ |  |  |  |  | $\underset{r}{\substack{\underset{\sim}{*} \\ \underset{\sim}{x} \\ \hline}}$ |  | $\begin{gathered} \stackrel{\rightharpoonup}{N} \\ \underset{\omega}{n} \end{gathered}$ | $\begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{2} \end{gathered}$ |  | $\begin{aligned} & \overline{\hat{N}} \\ & \stackrel{y}{2} \end{aligned}$ |  |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{N}} \\ \mathrm{~N} \end{gathered}\right.$ |  |  |  |  |  |  |  | $\underset{\infty}{\infty}$ | $\left.\begin{array}{\|c} \underset{\sim}{2} \\ \underset{\sim}{n} \end{array} \right\rvert\,$ |  | $\mathfrak{c}$ | $\stackrel{\rightharpoonup}{N}$ | $\frac{\underset{\sim}{\mathrm{N}}}{\stackrel{\rightharpoonup}{\mathrm{~N}}}$ |  | $\left\|\begin{array}{l} \mathrm{N} \\ \mathrm{~N} \end{array}\right\|$ |  | $\begin{gathered} \otimes \\ \stackrel{\sim}{N} \end{gathered}$ |  |  |  | $\dot{m}$ | $\stackrel{N}{\sim}$ |
| $\begin{aligned} & z_{1} \\ & z \end{aligned}$ | $\left\lvert\, \begin{gathered} \infty \\ \substack{\infty \\ 0} \end{gathered}\right.$ | $\underset{\substack{0 \\ 0}}{\substack{0 \\ N}}$ |  | $\begin{aligned} & 0 \\ & 0 \\ & \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \\ & \hline \end{aligned}\right.$ | $\begin{gathered} \substack{0 \\ \underset{\sim}{n} \\ \hline} \end{gathered}$ |  |  |  |  | $\mathfrak{c}$ |  | $\left\lvert\, \begin{gathered} \mathbf{m} \\ \hline \end{gathered}\right.$ | $\begin{gathered} \underset{\sim}{3} \\ \underset{0}{2} \end{gathered}$ |  | $\left\|\begin{array}{c} \underset{\sim}{2} \end{array}\right\|$ |  | $\begin{gathered} \circ \\ \hline \end{gathered}$ | $\overline{\hat{n}}$ |  | $\begin{gathered} 0 \\ \\ \\ \hline \end{gathered}$ | Cu |  |  |  |  | ḅ en | $\begin{array}{\|c} \hline 0 \\ \cline { 2 - 2 } \end{array}$ |  | $\stackrel{\leftrightarrow}{0}$ | $\pm$ | $\underset{\sim}{m}$ |  | $\begin{gathered} 9 \\ 0 \\ 0 \end{gathered}$ |  | $\stackrel{\stackrel{\rightharpoonup}{\sim}}{\underset{\sim}{0}}$ |  |  |  |  |  |
| b\| | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \infty \end{aligned}\right.$ |  | $\begin{gathered} \infty \\ \infty \\ 0 \end{gathered}$ | $\stackrel{H}{\text { O }}$ |  | $\begin{aligned} & \stackrel{+}{\infty} \\ & \dot{\circ} \end{aligned}$ | $\begin{aligned} & + \\ & \infty \\ & 0 \end{aligned}$ |  | $\stackrel{\leftrightarrow}{\infty}$ |  |  |  | \|ọ| |  |  | $\stackrel{\square}{\square}$ |  | $$ | $0$ |  | $\underset{\substack{\infty \\ \infty \\ \hline}}{ }$ | $\begin{aligned} & \substack{\circ \\ \infty \\ \hline \\ \hline \\ \hline} \end{aligned}$ | op |  |  | $\underset{\substack{o \\ \\ \hline}}{ }$ | － | $\stackrel{-}{\infty}$ |  | $\underset{\substack{\circ \\ \underset{\sim}{c} \\ \underset{\sim}{2} \\ \hline}}{ }$ | 8 | ¢ |  | $\stackrel{\square}{6}$ |  | ¢ | ¢ |  |  | $\dot{\sim}$ | $\dot{\sim}$ |
| $\stackrel{5}{5}$ | $0$ | $t:$ | $\stackrel{\stackrel{\rightharpoonup}{0}}{\circ}$ | $0$ |  | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{0}{0}$ | $\stackrel{\sim}{\circ}$ | $\stackrel{\otimes}{-}$ | $\stackrel{8}{-0}$ | $\stackrel{0}{0}$ | $\stackrel{0}{0} 0$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}\right.$ | $\stackrel{?}{0}$ |  | $\stackrel{\infty}{\infty} \underset{0}{\infty}$ |  |  | $\begin{gathered} \mathrm{P} \\ \dot{0} \end{gathered}$ |  | ${ }_{0}^{\infty}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\underset{\sim}{*}} \\ \hline \end{gathered}\right.$ | $\stackrel{\rightharpoonup}{c} \underset{\sim}{+}$ |  |  |  |  | t. |  | $\mathfrak{t} \text { th }$ | $\stackrel{\text { N}}{\sim}$ | $\bigcirc$ |  | $\stackrel{8}{\circ}$ |  | 8 |  |  |  |  | $\stackrel{5}{0} 0$ |
|  | $0$ | $\mathfrak{c}$ | $j$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & \hline \end{aligned}$ |  | $\left\|\begin{array}{c} \hat{\infty} \\ 0 \\ 0 \end{array}\right\|$ |  | $\underset{\sim}{y} \overbrace{0}^{10}$ | $\stackrel{\Gamma}{0}$ | $\stackrel{c}{\circ}$ | . |  | $\left\lvert\, \begin{gathered} 8 \\ \hline 0 \\ \hline 0 \end{gathered}\right.$ | $\stackrel{\infty}{0}$ |  | $\begin{array}{\|c} 0 \\ \\ 0 \end{array}$ |  | $\underset{\sim}{2}$ | $\begin{array}{\|c} 8 \\ 0 \\ 0 \end{array}$ | $8\|c\| c$ | $\stackrel{\stackrel{8}{\bullet}}{\square}$ |  | $\left.\begin{aligned} & 3 \\ & i \end{aligned} \right\rvert\, \begin{gathered} 5 \\ \end{gathered}$ |  | $\underset{\sim}{c}$ | $\stackrel{5}{6}$ | N | $\stackrel{\infty}{\stackrel{\infty}{\mathrm{N}}} \mid$ | $\stackrel{\infty}{\stackrel{\infty}{\sim}}$ | $\underset{\sim}{\stackrel{\infty}{\sim}}$ | o | $\stackrel{0}{0}$ |  | $\left\lvert\, \begin{aligned} & \infty \\ & \stackrel{\infty}{0} \\ & \hline \end{aligned}\right.$ |  |  |  |  |  | N |  |
|  | $\dot{\sim}$ |  |  | $\underset{\sim}{\infty}$ |  |  |  | $\underset{\underset{\sim}{N}}{\underset{\sim}{\sim}} \underset{\sim}{\underset{\sim}{N}} \underset{ }{N}$ | $\begin{gathered} \underset{\sim}{*} \\ \underset{\sim}{2} \end{gathered}$ | $\underset{\sim}{\underset{\sim}{ \pm}} \underset{\sim}{\underset{\sim}{*}} \underset{\sim}{N}$ | $\begin{array}{c\|c} \underset{寸}{\mathrm{j}} & \stackrel{+}{i} \\ \underset{\sim}{c} \end{array}$ |  |  | $\stackrel{\infty}{\stackrel{\infty}{\dot{~}}}$ |  | $\left\lvert\, \begin{gathered} \stackrel{9}{\mathcal{~}} \\ \stackrel{i}{\circ} \end{gathered}\right.$ |  |  |  | $\underset{\sim}{N} \underset{\sim}{\sim} \underset{\sim}{\sim}$ |  |  |  |  |  | $\underset{\sim}{\sim}$ |  | $\begin{gathered} \underset{\sim}{\underset{~}{*}} \\ \underset{\sim}{2} \end{gathered}$ |  | $\underset{\substack{t}}{\substack{\underset{\sim}{\sim} \\ \underset{\sim}{2} \\ \hline}}$ | $\begin{aligned} & \infty \\ & \stackrel{\rightharpoonup}{\circ} \\ & \stackrel{1}{2} \end{aligned}$ | $\begin{array}{\|c} \underset{\sim}{\infty} \\ \underset{\sim}{\prime} \end{array}$ | $\stackrel{\text { N }}{\text { N }}$ | $\left\lvert\, \begin{aligned} & \text { Q } \\ & \underset{\sim}{c} \end{aligned}\right.$ | N |  |  |  | $\underset{\sim}{\sim} \underset{\sim}{\sim}$ |  | $\stackrel{\sim}{\sim} \stackrel{\sim}{\sim} \underset{\sim}{\sim}$ |
| $\begin{array}{ll} \stackrel{0}{c} & 0 \\ \hdashline 0 & 0 \end{array}$ | $\left\|\begin{array}{c} \stackrel{e}{N} \\ \underset{N}{2} \end{array}\right\|$ | $\dot{c}$ | $\underset{\substack{n}}{\substack{N \\ \underset{\sim}{n} \\ \hline}}$ | $\underset{\sim}{N}$ |  |  |  | $\stackrel{\infty}{\infty} \underset{\sim}{\infty} \underset{\sim}{\infty}$ |  |  |  |  |  | ले |  | $\mid$ |  |  |  |  |  | $\mathfrak{c}$ |  |  |  | $\mathfrak{N}$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\underset{\sim}{2}} \\ \underset{\sim}{2} \end{gathered}\right.$ |  |  | $\left\|\begin{array}{l} \infty \\ \underset{\sim}{\dot{N}} \end{array}\right\|$ | $\underset{\sim}{\underset{\sim}{N}}$ | Li | $\begin{array}{\|c} \stackrel{\circ}{\mathrm{N}} \\ \underset{\sim}{2} \end{array}$ |  |  |  |  |  |  | $\underset{\sim}{c} \underset{\sim}{c}$ |
|  | $\mathfrak{c}$ | $\mathfrak{c}$ | $\mathfrak{c}$ | $\begin{aligned} & \infty \\ & 0 \\ & \underset{e}{n} \\ & \hline \end{aligned}$ |  | $\begin{gathered} \infty \\ \underset{e}{e} \\ \underset{e}{2} \end{gathered}$ |  | $\underset{\sim}{2}$ | ๗ٌ | $\stackrel{n}{n}$ | $\begin{aligned} & \infty \\ & \\ & \end{aligned}$ |  | $\begin{array}{l\|l\|l} \substack{0 \\ 0 \\ 0} & \underset{\sim}{0} \\ \hline \end{array}$ |  |  | $\left.\begin{array}{\|c} \underset{\sim}{e} \\ \dot{e} \end{array} \right\rvert\,$ |  |  |  |  |  | $\begin{gathered} \infty \\ \infty \\ \substack { \infty \\ \begin{subarray}{c}{e \\ \hline{ \infty \\ \begin{subarray} { c } { e \\ \hline } } \\ {\hline} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{\infty} \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}$ |  |  |  | $\mathfrak{c}$ | $\begin{aligned} & \overline{0} \\ & \dot{e} \end{aligned}$ |  | $\dot{j}$ | $\begin{aligned} & \hat{N} \\ & \underset{e}{0} \end{aligned}$ |  | ¢ | $\left\lvert\, \begin{aligned} & \stackrel{\infty}{0} \\ & \underset{\sim}{\infty} \end{aligned}\right.$ |  | $\begin{gathered} \underset{\sim}{e} \\ \stackrel{\sim}{6} \end{gathered}$ |  |  |  |  |  |
| $\frac{\tilde{\circ}}{\stackrel{\circ}{\circ}} \mathrm{O}$ | $\underset{\sim}{n}$ | $\underset{\sim}{4}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{9} \\ & \dot{\sim} \end{aligned}$ | $\xrightarrow[r]{o}$ | 안 | $\begin{aligned} & \stackrel{\otimes}{0} \\ & \stackrel{\rightharpoonup}{\circ} \end{aligned}$ |  |  |  |  | $\underset{\sim}{8}$ |  | $\stackrel{\stackrel{\rightharpoonup}{2}}{\stackrel{1}{2}}$ |  |  | $\stackrel{\sim}{N}$ |  |  |  |  |  | $\stackrel{m}{\sim}$ | $\bigcirc$ |  |  |  | 은 | $8$ |  |  | $\dot{\varphi}$ | $\left.\right\|_{\infty} ^{\infty}$ |  | $\stackrel{\circ}{2}$ |  | N |  |  |  |  |  |
|  | $\mathfrak{c}$ |  |  | $\begin{aligned} & \hat{0} \\ & \text { on } \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  | $\begin{aligned} & 3 \\ & \substack{2 \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline} \end{aligned}$ |  |  |  |  |  |  |  |  |  | $\mathfrak{l}$ |  |  |  |  |  |  |  |  |  | No |  |  |  |  | $\mathfrak{c}$ | $\left\lvert\, \begin{gathered} \text { d } \\ \infty \\ 0 \\ \infty \\ \infty \\ \hline \end{gathered}\right.$ | － | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \hline \\ & \hline \end{aligned}$ | 1 | $\infty \mid$ |  |  |  |  |  |
|  | $\mathfrak{N}$ |  |  |  | $\mathfrak{j}$ |  |  | $\stackrel{\sim}{N}$ |  |  |  |  |  |  |  | $\underset{\substack{\sim \\ \underset{\sim}{c} \\ \underset{\sim}{c} \\ \hline}}{ }$ |  |  |  |  |  | $\stackrel{\substack{\mathrm{e}}}{\stackrel{\circ}{\sim}}$ |  |  |  | Bh |  |  |  | $\begin{aligned} & \infty \\ & \underset{\sim}{c} \\ & \substack{n \\ N} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{c} \tilde{c} \\ 0 \\ \underset{\sim}{n} \\ \hline \end{array}\right\|$ |  | N | － | N |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\overline{\mathrm{m}}$ |  |  |  |  |  |  |  |  | $\frac{\stackrel{\rightharpoonup}{3}}{\frac{\square}{e}}$ |  |  |  |  |  |  |  |  |
|  | $\left\{\begin{array}{l} \underset{\sim}{\underset{\sim}{\underset{\sim}{e}}} \\ \hline \end{array}\right.$ | $\underset{\substack{\frac{1}{x} \\ \frac{1}{\mathbf{r}} \\ \hline}}{ }$ | $\begin{gathered} 0 \\ \dot{\sim} \\ \underset{\sim}{w} \\ \hline \end{gathered}$ | $\begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{c} \\ \hline \end{gathered}$ | $\begin{array}{\|c} \underset{\sim}{x} \\ \underset{\sim}{d} \end{array}$ |  |  |  |  |  |  |  |  | $\begin{aligned} & \infty \\ & \text { én } \\ & \dot{\Sigma} \end{aligned}$ |  | $$ | $\frac{\infty}{\frac{1}{N}}$ |  |  |  | $\begin{aligned} & \text { Nì } \\ & \underset{\Sigma}{\mathrm{N}} \end{aligned}$ | $\sum_{i}^{U}$ | $\sum_{0}^{4}$ |  |  | $\begin{aligned} & \mathbf{y} \\ & \dot{y} \\ & \frac{1}{\infty} \end{aligned}$ | $\begin{gathered} \frac{1}{0} \\ \frac{1}{\alpha} \\ \frac{1}{\alpha} \end{gathered}$ | $\begin{array}{\|c} \frac{p}{\grave{\alpha}} \\ \frac{\alpha}{\alpha} \end{array}$ | $\frac{x}{\frac{1}{\alpha}}$ | $\frac{\pi}{i}$ | $\left.\begin{gathered} 0 \\ \underset{\sim}{\tilde{\alpha}} \\ \hline \alpha \end{gathered} \right\rvert\,$ | $\begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{\alpha} \end{gathered}$ | 交 | $\left\lvert\, \begin{aligned} & 0 \\ & \tilde{N} \\ & \end{aligned}\right.$ | 病 |  |  |  |  |  |  |


| 표 | $\stackrel{o}{0}$ |  | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \end{array}\right\|$ |  | $\stackrel{\rightharpoonup}{\dot{j}} \dot{\sim}$ |  |  | $\Sigma_{i}^{0}$ | $\dot{j}$ |  |  |  |  | $\stackrel{\rightharpoonup}{0} \mathbf{0}$ |  | N N N No | $\underset{\substack{0 \\ \\ \hline}}{ }$ | $\left\|\begin{array}{c} \infty \\ \underset{o}{0} \\ \hline \end{array}\right\|$ | $\bar{m}$ |  |  |  |  | No | － |  |  | of | $\underset{\substack{2}}{\substack{2}}$ | O－ | N |  |  |  | $\underset{\circ}{\substack{0 \\ \hline}}$ | $\stackrel{\nwarrow}{\gtrless}$ |  | 앙 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\stackrel{\overline{0}}{\stackrel{0}{0}}$ |  | $\left\|\begin{array}{l} \dot{0} \\ \underset{0}{0} \end{array}\right\|$ | $\stackrel{t}{2}$ |  |  | $\stackrel{t}{2}$ |  | প্ |  |  |  | $$ | $\underset{\sim}{\underset{\sim}{N}} \underset{\sim}{\underset{\sim}{N}}$ |  | $\underset{\sim}{2} \underset{\sim}{2}$ | $\underset{\sim}{\underset{\sim}{2}}$ | $\dot{j}$ | $\underset{\sim}{2}$ |  | $\stackrel{\rightharpoonup}{N}$ | $\stackrel{\bar{\sigma}}{\underset{\sim}{1}}$ | $\underset{\sim}{\circ}$ | $\stackrel{\square}{\circ}$ |  | $\underset{\sim}{\mathrm{q}}$ | ৷্ | $\underset{\sim}{\square}$ | $\underset{N}{N}$ | $\underset{\sim}{N}$ | $\circ \times \mathrm{N}$ |  |  |  | No | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\mathrm{o}}$ | \％ | N | $\begin{gathered} \infty \\ \stackrel{\sim}{\sim} \\ 0 \end{gathered}$ |  | $\stackrel{\square}{\square}$ |
|  | $\begin{gathered} \bar{o} \\ \mathrm{c} \\ \mathrm{~m} \end{gathered}$ | $j$ | $\left\|\begin{array}{c} \underset{\sim}{2} \\ \underset{\sim}{\circ} \end{array}\right\|$ | $\underset{\substack{4\\}}{\substack{2}}$ |  | $\begin{aligned} & \bar{N} \\ & \end{aligned}$ |  | $\underset{\sim}{\underset{\sim}{\underset{\sim}{*}} \underset{\sim}{\circ}} \underset{\sim}{\infty}$ |  | $\mathfrak{c}$ |  |  |  |  | $\stackrel{\underset{\sim}{\underset{\sim}{\sim}}}{\substack{2 \\ \hline}}$ | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{2}$ | $\begin{aligned} & 8 \\ & 0 \\ & \underset{0}{2} \end{aligned}$ | Rop | $\underset{\substack{\underset{\sim}{c} \\ \underset{\sim}{n}}}{ }$ |  |  | $\mathfrak{N}$ | $\underset{\substack{\mathrm{N}} \underset{\text { Hi}}{ }}{ }$ |  |  |  | $\underset{\substack{\mathrm{N}}}{\substack{0}}$ | $\underset{\sim}{c}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{n} \\ \underset{\sim}{n} \end{gathered}\right.$ | $\underset{\sim}{\underset{\sim}{\sim}}$ | ल\| |  |  |  | $\stackrel{\Im}{\tau}$ | $\stackrel{\stackrel{y}{f}}{i}$ | M | $\stackrel{8}{\circ}$ | $\stackrel{\otimes}{\otimes} \underset{\sim}{\infty}$ | － | － |
|  | $\left\lvert\, \begin{aligned} & \circ \\ & \stackrel{D}{2} \\ & \underset{N}{2} \end{aligned}\right.$ | $\mathfrak{c}$ | $\left\lvert\, \begin{gathered} \substack{4 \\ \vdots \\ \dot{\sim}} \end{gathered}\right.$ |  |  | On | $\mathfrak{l}$ | $\underset{\sim}{\sim} \underset{\sim}{\dot{\sim}} \underset{\sim}{\sim}$ |  |  |  |  |  |  | $\stackrel{\stackrel{N}{\stackrel{\sim}{c}}}{\dot{m}}$ |  |  | $\bar{N}$ | $\stackrel{\stackrel{y}{c}}{\stackrel{m}{j}}$ |  |  | $\stackrel{\hat{N}}{\substack{r}}$ |  | $\begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\sim}{2} \end{gathered}$ | $\underset{\sim}{\underset{N}{N}}$ |  | No. | $\stackrel{\rightharpoonup}{8}$ | $\left\lvert\, \begin{gathered} \frac{m}{\dot{f}} \\ \underset{\sim}{2} \end{gathered}\right.$ | mo | $\underset{\sim}{\underset{N}{N}}$ |  | N |  | $\begin{array}{\|c} \hat{\infty} \\ \mathbf{N} \end{array}$ | $\begin{aligned} & \stackrel{N}{0} \\ & \underset{\sim}{x} \end{aligned}$ |  | $\underset{\substack{ \pm \\ \hline 0 \\ i}}{\substack{2}}$ | $0$ |  |  |
| $\begin{aligned} & \underset{1}{2} \\ & \underset{z}{2} \end{aligned}$ | $0$ | $0$ | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \\ 0 \end{array}\right\|$ |  |  | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ |  | No | $\mathfrak{c}$ | $\begin{array}{\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|} \hline 0 \\ \hline \end{array}$ | $\begin{gathered} \infty \\ \\ 0 \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{0} \\ \hline \end{gathered}\right.$ |  |  | Ṇ |  | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ \hline \end{gathered}$ | $\stackrel{\otimes}{\infty}$ | $\begin{gathered} \infty \\ \\ \\ \hline \end{gathered}$ |  | $\left.\begin{gathered} 0 \\ 0 \\ \\ 0 \end{gathered} \right\rvert\,$ | $\begin{gathered} 0 \\ \sim \\ 0 \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ \hline \end{gathered}$ |  | － | $\begin{array}{\|c} 0 \\ \sim \\ 0 \end{array}$ | ְ | － | $\hat{\hat{n}}$ | © | $\underset{\substack{\infty \\ 0 \\ 0}}{ }$ |  |  |  |  | $\stackrel{0}{\infty}$ | $\propto$ | $$ | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ |  |  |
| $\stackrel{\sim}{\sim}$ | $\begin{aligned} & 9 \\ & \substack{0 \\ 0 \\ 0} \end{aligned}$ | $\stackrel{r}{\infty}$ | $\stackrel{\hat{y}}{\hat{0}}$ |  | g |  | $\dot{\infty}$ | $\underset{\sim}{\circ}$ | $5$ | $\stackrel{\infty}{\infty}$ | $\underset{f}{f}$ |  |  |  | $9$ | $9$ |  | $\dot{f} \dot{f} \stackrel{\uparrow}{\dot{f}}$ | $\stackrel{\hat{y}}{\hat{0}} \mid$ |  | fin | न |  | $\hat{f}$ | $\stackrel{\circ}{\square}$ |  | 18 | べ | $\dot{\infty}, \begin{aligned} & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\substack{\text { ¢ } \\ \text { ¢ }}}{ }$ |  |  |  |  | f | N | F | ¢ | $\left\|\begin{array}{l} \hat{y} \\ \dot{\theta} \end{array}\right\|$ |  |  |
| $\stackrel{\stackrel{0}{7}}{\stackrel{\rightharpoonup}{1}}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\substack{0}}{\substack{0}}$ | $\begin{gathered} \underset{N}{N} \\ \dot{O} \end{gathered}$ | $\begin{array}{lll} \mathrm{y} & 0 \\ \vdots & 0 \\ 0 \end{array}$ | Bo | $0$ | ROR | $0$ | $\mathfrak{n}$ | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ | Co | Bo | $\overbrace{0}^{0}$ | $\begin{array}{c\|c} 80 \\ 0 & 10 \\ 0 & 0 \end{array}$ | O- | $\stackrel{O}{0}$ | $\begin{array}{\|c} \mathrm{N} \\ \mathrm{O} \\ \mathbf{O} \end{array}$ | $\left.\begin{gathered} \bar{\infty} \\ 0 \\ 0 \end{gathered} \right\rvert\,$ | $\stackrel{\substack{\infty \\ \hline}}{\substack{0 \\ \hline}}$ |  |  | $\left.\begin{aligned} & \infty \\ & \dot{N} \end{aligned} \right\rvert\,$ | N | $\bigcirc$ |  | $\stackrel{N}{\circ}$ | ! | 0 | $\bigcirc$ | $0$ | $\bigcirc$ |  |  |  | No |  |  | N | $\stackrel{\square}{\circ}$ | \％ |  |
| $\begin{aligned} & \sum_{0}^{\Sigma} \end{aligned}$ | No | $0$ | $\left\lvert\, \begin{gathered} \underset{O}{2} \\ \hline \end{gathered}\right.$ | $\underset{\sim}{2} \underset{\sim}{\infty}$ | $\stackrel{?}{3} .$ |  | $\stackrel{\substack{0}}{\substack{0 \\ \hline}}$ | $\stackrel{N}{0}$ | $\begin{aligned} & 0 \\ & \vdots \\ & \vdots \\ & 0 \end{aligned}$ | $\underset{\substack{\infty \\ \hline \\ \hline}}{\substack{0}}$ | $\begin{gathered} 0 \\ \substack{1 \\ \hline} \\ \hline \end{gathered}$ |  |  | $\underset{\sim}{\substack{1}}$ |  | $\begin{gathered} \substack{\infty \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline} \end{gathered}$ | $\left\|\begin{array}{c} \infty \\ \dot{0} \\ 0 \end{array}\right\|$ | $\stackrel{9}{9}$ |  |  | O. | $\stackrel{5}{0}$ | $\stackrel{5}{0}$ | 50 |  |  | 容 | － | 8 | $\bigcirc$ | $\bigcirc$ |  | O |  | $\stackrel{ஜ}{\circ}$ |  |  |  |  |  |  |
|  |  |  |  |  | $\begin{gathered} 0 \\ 0 \\ \dot{c} \\ \stackrel{\infty}{\infty} \\ \underset{\sim}{2} \\ \hline \end{gathered}$ |  |  | $\underset{\sim}{\infty}$ | $\stackrel{\substack{\infty \\ \stackrel{\infty}{\infty} \\ \stackrel{\sim}{n} \\ \hline}}{ }$ | $\stackrel{\rightharpoonup}{2} \underset{\sim}{\stackrel{\sim}{\sim}} \underset{\sim}{\sim}$ |  | $\begin{gathered} \infty \\ \stackrel{\sim}{i} \\ \stackrel{y}{n} \end{gathered}$ | $\stackrel{\infty}{\sim} \underset{\sim}{\sim}$ | $\underset{\sim}{c} \underset{\sim}{\sim} \underset{\sim}{\underset{\sim}{\sim}} \underset{\sim}{\wedge}$ | $\stackrel{\sim}{\sim}$ |  | $\begin{gathered} n \\ \underset{\sim}{n} \end{gathered}$ |  |  |  | $\stackrel{\infty}{\sim} \underset{\sim}{\sim}$ | $\stackrel{N}{\sim}$ | $\begin{aligned} & 0 \\ & \stackrel{\sim}{i} \\ & \stackrel{y}{n} \end{aligned}$ | $\stackrel{\bullet}{\stackrel{\rightharpoonup}{2}}$ |  |  | N | N | $\begin{aligned} & \circ \\ & \stackrel{N}{\dot{N}} \end{aligned}$ | N | $\sim$ |  | N |  |  | $\stackrel{\text { ¢ }}{\text { N }}$ |  | $\stackrel{8}{\text { ® }}$ | $\begin{aligned} & \stackrel{\bullet}{N} \\ & \stackrel{\sim}{n} \end{aligned}$ | $\underset{\sim}{\underset{\sim}{i}}$ | $\stackrel{\sim}{\sim}$ |
| $\underset{\substack{0 \\ \underset{0}{0} \\ 0}}{0}$ |  |  |  |  |  |  |  | $\begin{array}{c\|c} \substack{c} & \underset{c}{c} \\ \stackrel{\rightharpoonup}{c} \\ \hline \end{array}$ |  | $\stackrel{\mathrm{O}}{\stackrel{1}{2}}$ |  |  | $\stackrel{n}{i}$ |  |  | $\stackrel{\sim}{N} \underset{\sim}{N}$ |  |  |  |  |  | $\stackrel{\underset{N}{\mathrm{~N}}}{ }$ | $\stackrel{\hat{N}}{\stackrel{1}{2}}$ | $\stackrel{\text { ®}}{\stackrel{\text { ® }}{2}}$ |  |  | $\widehat{N}$ | 8 | $\stackrel{+}{N}$ | $\stackrel{\sim}{\sim}$ | $\stackrel{\circ}{\text { ¢ }}$ | N | $\stackrel{\text { N}}{\text { N }}$ |  | $\underset{N}{N}$ | $\stackrel{ \pm}{\infty}$ | $\stackrel{\sim}{\sim}$ | $\stackrel{\text { N}}{\text { N }}$ | $\stackrel{8}{8}$ | $\sim$ |  |
| $\mid \overline{\widetilde{E}} \stackrel{n}{5}$ |  | $\mathfrak{c}$ |  |  |  |  |  |  |  |  |  |  |  |  | $\stackrel{\rightharpoonup}{\dot{e}}$ |  |  | $\begin{aligned} & \underset{寸}{\dot{~}} \\ & \dot{e} \end{aligned}$ |  |  | $\underset{\substack{\underset{\sim}{c} \\ \hline \\ \hline \\ \hline}}{\underset{\sim}{e}}$ | $\left\|\begin{array}{\|c} \infty \\ \dot{e} \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{c} \\ \dot{e} \end{gathered}$ | $\begin{gathered} \underset{y}{c} \\ \underset{e}{c} \end{gathered}$ |  |  | $\dot{ల}$ | － | $\begin{aligned} & 0 \\ & e \\ & \dot{e} \end{aligned}$ | $\begin{gathered} \underset{\sim}{c} \\ \underset{\sim}{6} \end{gathered}$ |  |  | ¢ |  | $\begin{gathered} \substack{4 \\ \dot{e} \\ \dot{e} \\ \hline \\ \hline \\ \hline} \\ \hline \end{gathered}$ | N | m | $\begin{aligned} & \stackrel{\circ}{+} \\ & \dot{e} \end{aligned}$ | $\|\dot{ल \mid}\|$ | M |  |
| $\left\lvert\, \begin{aligned} & \frac{5}{⿳ 亠 丷 厂 彡 心 ㇒ ~} \\ & 0 \end{aligned}\right.$ | O |  | $\left\|\begin{array}{c} 0 \\ 0 \\ \stackrel{\rightharpoonup}{c} \end{array}\right\|$ |  | $\dot{f} \dot{f}$ |  |  |  |  |  | $\stackrel{?}{2} \stackrel{\stackrel{\rightharpoonup}{n}}{\stackrel{\rightharpoonup}{r}}$ | $\bar{\infty}$ |  | $\stackrel{N}{N} \underset{\sim}{\circ}$ | F |  | $\stackrel{N}{\circ}$ | $\begin{gathered} \underset{\sim}{\underset{~}{\dot{C}}} \end{gathered}$ |  |  |  | $\begin{gathered} \pm \\ \infty \\ 0 \end{gathered}$ |  | $\left\|\begin{array}{c} 0 \\ \vdots \\ i \end{array}\right\|$ |  |  | $\begin{gathered} \text { O} \\ \underset{\sim}{i} \end{gathered}$ |  | $\widehat{m}$ | $\stackrel{N}{N}$ | $\stackrel{セ}{6}$ |  |  |  | $\infty$ |  |  | \％ |  |  |  |
|  |  |  | $\left\|\begin{array}{c} \mathscr{O} \\ 0 \\ 0 \\ 0 \\ \dot{O} \\ \mid \end{array}\right\|$ |  |  |  |  |  | $\begin{array}{l\|l} \substack{\infty \\ b \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline} \end{array}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  |  |  |  | $\begin{aligned} & 8 \\ & \hline 0 \\ & \hline 1 \end{aligned}$ |  |  |  |  |  |  | $\mathfrak{c}$ | $3 \begin{aligned} & 8 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  |  |  |  | $\mathfrak{c}$ | \|y |  | ¢ |  |  | $0 .$ |  | O | $\begin{aligned} & 0 \\ & \hline 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \overline{0} \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  |  |
|  |  |  |  |  |  | $\mathfrak{c}$ |  |  | $\mathfrak{c}$ |  |  |  |  |  |  |  |  |  |  |  |  | $\left\|\begin{array}{c} o \\ \underset{\sim}{\infty} \\ \underset{\sim}{n} \end{array}\right\|$ |  |  |  |  |  |  | $\left\lvert\, \begin{gathered} \underset{\mathrm{N}}{\mathrm{~N}} \\ \stackrel{y}{\mathrm{~N}} \end{gathered}\right.$ |  | $\dot{\sim}$ | N |  |  | $\stackrel{\otimes}{N}$ |  |  | ค่ | $\stackrel{\circ}{\sim} \mid$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\bigcirc$ | ก |  |  |  |  |  |  |  |  |
| 范 |  | $0$ | $\left\|\begin{array}{c} 0 \\ \tilde{m} \\ \frac{1}{\infty} \end{array}\right\|$ |  |  | $\begin{aligned} & \times \\ & \underset{\sim}{\prime} \\ & \underset{N}{N} \\ & \end{aligned}$ |  | $\begin{gathered} 0 \\ \hline \end{gathered} \frac{\infty}{n}$ | $\begin{aligned} & 0 \\ & \vdots \\ & \vdots \\ & \\ & \\ & \end{aligned}$ | $\begin{array}{l\|l\|l\|l\|l\|l\|} \substack{1 \\ \\ \\ \\ \hline} \end{array}$ |  |  | $\begin{aligned} & n \\ & \underset{\sim}{1} \\ & \hline \end{aligned} \sum_{i}^{0}$ |  | $\begin{gathered} \underset{\sim}{*} \\ \underset{\sim}{2} \end{gathered}$ | $\begin{gathered} \underset{\sim}{4} \\ \underset{\sim}{x} \\ \underset{\sim}{2} \\ \underset{\sim}{2} \end{gathered}$ |  | $\begin{aligned} & 0 \\ & \dot{y} \\ & \mathbf{y} \\ & \hline \end{aligned}$ |  |  |  | $\left\lvert\, \begin{aligned} & \underset{\alpha}{\underset{\alpha}{\alpha}} \\ & \underset{\sim}{\alpha} \end{aligned}\right.$ |  |  |  |  |  |  | $\left\|\begin{array}{\|c} \mathbf{U} \\ \frac{1}{U} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \substack{0\\ \\ } \end{aligned}$ | 号 |  |  |  | $\frac{\infty}{\dot{̣}} \underset{\substack{c}}{\substack{c}}$ | $\begin{aligned} & 0 \\ & \underset{N}{N} \end{aligned}$ | U | $\underset{\Delta}{\stackrel{\rightharpoonup}{2}}$ | $\begin{array}{\|c} \substack{1 \\ \underset{N}{2} \\ \hline} \end{array}$ | $\left\lvert\, \begin{aligned} & \stackrel{m}{\dot{\omega}} \\ & \frac{2}{m} \end{aligned}\right.$ | O |


| $\widetilde{\pi}$ | $\stackrel{1}{0}$ | $\begin{aligned} & \infty \\ & \substack{\infty \\ 0} \end{aligned}$ | $\stackrel{ \pm}{6}$ | $\begin{array}{\|c} \stackrel{1}{\mathrm{~m}} \\ 0 \end{array}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\frac{9}{0}$ | $8$ | $\stackrel{\square}{\circ}$ | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $\begin{aligned} & 7 \\ & 0 \end{aligned}$ | $\stackrel{\infty}{\sim}$ | $\left\|\begin{array}{l} 8 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\mathrm{N}}{\mathrm{~N}}$ | $\frac{m}{c}$ | $\begin{gathered} \pm \\ 0 \\ 0 \end{gathered}$ |  | $\left.\begin{gathered} \pm \\ \mathbf{N} \end{gathered} \right\rvert\,$ | $\stackrel{\circ}{ }$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \end{aligned}$ | $\mid$ | $\left\lvert\, \begin{aligned} & \mathbf{R} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\stackrel{N}{\underset{O}{0}}$ | $\stackrel{m}{0}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \text { i } \end{aligned}$ | $\begin{aligned} & \mathbf{8} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \underset{\sim}{N} \\ & 0 \end{aligned}$ | $\overleftrightarrow{Z}$ | $\stackrel{N}{N}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} \hat{t} \\ 0 \end{gathered}$ | $\underset{0}{6}$ | $\stackrel{\text { ¢ }}{\sim}$ | $\left\|\begin{array}{c} \underset{N}{N} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \mathbf{O} \\ & \hline \end{aligned}$ | $\frac{9}{9}$ | $\stackrel{9}{0}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\Gamma}{\square}$ | $\frac{9}{0}$ | － |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| R | $\stackrel{\square}{\square}$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \underset{N}{N} \\ & \mathbf{O} \end{aligned}$ | $\frac{d}{\sigma}$ | $\left\|\begin{array}{c} \bar{r} \\ \underset{\sim}{0} \end{array}\right\|$ | $\frac{\pi}{0}$ | $\frac{\dot{\sigma}}{\stackrel{\rightharpoonup}{i}}$ | $\left\|\begin{array}{c} \bar{\sigma} \\ \underset{o}{0} \end{array}\right\|$ | $\frac{\square}{\sigma}$ | $\frac{\square}{\sigma}$ | $\frac{\square}{\sigma}$ | $\left\|\begin{array}{l} \dot{O} \\ \stackrel{O}{0} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{N}{N} \\ & \mathbf{O} \end{aligned}\right.$ | $\begin{aligned} & \bar{j} \\ & \underset{N}{2} \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{N}{0} \\ & \underset{0}{0} \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\frac{\square}{\grave{o}}$ | $\stackrel{\substack{\mathrm{N} \\ \mathrm{~N} \\ \mathbf{O}}}{ }$ | $\left\|\begin{array}{l} \infty \\ \underset{\sim}{0} \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \bar{\sim} \\ \underset{o}{2} \\ \hline \end{gathered}\right.$ | $\frac{\square}{\overleftarrow{O}}$ | $\left\lvert\, \begin{gathered} \bar{\sigma} \\ N \\ 0 \end{gathered}\right.$ | $\begin{gathered} \infty \\ \underset{\sim}{N} \\ \underset{\sim}{0} \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{O}{0} \end{aligned}$ | $\left\|\begin{array}{c}  \pm \\ \infty \\ \vdots \\ 0 \end{array}\right\|$ | $\begin{aligned} & \widehat{0} \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{M}{2} \\ 0 \\ \sim \end{gathered}\right.$ | $\stackrel{\tau}{\mathrm{N}}$ | $\left\lvert\, \begin{gathered} \infty \\ \stackrel{n}{n} \\ \underset{0}{0} \end{gathered}\right.$ | $\left\|\begin{array}{c} 10 \\ 10 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{0} \end{gathered}$ | $\begin{gathered} \infty \\ \underset{N}{n} \\ \end{gathered}$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{O}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} \dot{O} \\ \stackrel{\rightharpoonup}{0} \end{array}\right\|$ | $\frac{\square}{\square}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\frac{\square}{\sigma}$ | $\frac{t}{i}$ | $\frac{\square}{\sigma}$ | $\frac{\bar{\sigma}}{\dot{\sigma}}$ | $\stackrel{\square}{\square}$ |
|  | － | $\left\lvert\, \begin{gathered} \infty \\ \infty \\ \underset{\sim}{n} \end{gathered}\right.$ | $\begin{aligned} & \stackrel{\leftrightarrow}{6} \\ & \stackrel{+}{+} \end{aligned}$ | $\underset{\underset{N}{ \pm}}{\underset{\sim}{\lambda}}$ | $\begin{aligned} & 0 \\ & 0 \\ & \underset{N}{2} \\ & 0 \\ & \sim \end{aligned}$ | $\underset{\substack{\mathrm{N}}}{\stackrel{\rightharpoonup}{2}}$ | $\begin{aligned} & \infty \\ & \infty \\ & \stackrel{\infty}{\forall} \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & N \\ & 0 \\ & \end{aligned}$ | $$ | $\begin{aligned} & \mathrm{O} \\ & \hline- \\ & \dot{\sim} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ \infty \\ \infty \\ \infty \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{\lambda} \\ i \end{array}\right\|$ | $\underset{\underset{\sim}{\underset{N}{2}}}{\substack{2}}$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{m}{2} \end{aligned}$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \stackrel{j}{2} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{\lambda} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{c} o \\ \infty \\ \underset{\sim}{x} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{1}{0} \\ 0 \end{array}\right\|$ |  | $\left.\begin{aligned} & 1 \\ & \infty \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} 10 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ \underset{\sim}{2} \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{2} \\ \underset{\sim}{0} \end{gathered}$ | $\begin{aligned} & \text { N} \\ & \text { N} \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\frac{\pi}{i}$ | $\left\|\begin{array}{l} 8 \\ 0 \\ 0 \\ \dot{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \frac{\pi}{\lambda} \\ \dot{\Gamma} \end{array}\right\|$ | $\begin{gathered} \infty \\ \infty \\ \infty \\ m \end{gathered}$ | $\begin{gathered} \mathrm{O} \\ \stackrel{\rightharpoonup}{\mathrm{~N}} \end{gathered}$ | $\underset{\underset{m}{\dot{m}}}{\underset{\sim}{2}}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{2} \end{gathered}$ | $\left\|\begin{array}{c} \bar{N} \\ i \\ \dot{\gamma} \end{array}\right\|$ | $\frac{\underset{\sim}{5}}{\underset{i}{2}}$ | $\left\|\begin{array}{c} \bar{N} \\ \hat{0} \\ i \end{array}\right\|$ | $\begin{gathered} \mathbf{N} \\ \mathbf{N} \\ \dot{\sim} \end{gathered}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\dot{f}} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \bar{N} \\ \mathbf{n} \\ \underset{\sim}{2} \end{gathered}\right.$ | m | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\stackrel{\text { N}}{\text { ¢ }}$ |
|  | $\stackrel{0}{\infty}$ | $\left\lvert\, \begin{gathered} \underset{N}{n} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\stackrel{N}{N}$ | $\begin{gathered} \stackrel{\rightharpoonup}{N} \\ \underset{\sim}{4} \\ \underset{\sim}{n} \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{\alpha} \\ & \dot{\gamma} \end{aligned}\right.$ | $$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\underset{\underset{\sim}{\underset{V}{*}}}{\underset{\sim}{2}}$ | $\frac{\underset{N}{N}}{\underset{m}{n}}$ | $\underset{子}{8}$ | $\left\|\begin{array}{c} \overline{5} \\ i \\ \infty \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{2} \\ \underset{\sim}{+} \\ \dot{i} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \mathbf{o} \\ & \underset{N}{N} \\ & \dot{N} \end{aligned}\right.$ | $\begin{gathered} \underset{\sim}{\underset{N}{2}} \end{gathered}$ | $\left\lvert\, \begin{gathered} \hat{N} \\ \infty \\ \underset{\gamma}{*} \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & \stackrel{\rightharpoonup}{N} \\ & \underset{\sim}{+} \\ & \dot{\sim} \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} n \\ \underset{\sim}{n} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\left.\begin{aligned} & 0 \\ & \hline 0 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} \mathbf{O} \\ \underset{N}{N} \\ \dot{0} \end{array}\right\|$ | $\left.\begin{gathered} \bar{N} \\ \stackrel{N}{0} \\ 0 \end{gathered} \right\rvert\,$ | $\left\|\begin{array}{c} \overline{\hat{O}} \\ \dot{0} \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \hline \mathrm{O} \\ & \mathrm{O} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l\|} \hline 0 \\ \hline 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & m \\ & \substack{0 \\ \vdots \\ \hline} \end{aligned}\right.$ | $\begin{gathered} \frac{\pi}{N} \\ \stackrel{10}{2} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{*} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\lambda} \\ & \stackrel{N}{N} \\ & \stackrel{y}{n} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{2} \\ & \underset{\sim}{2} \\ & \dot{N} \end{aligned}$ | $\left.\begin{gathered} \bar{i} \\ \underset{m}{m} \end{gathered} \right\rvert\,$ | $\begin{aligned} & m \\ & \dot{0} \\ & \dot{0} \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \mathrm{N} \end{aligned}$ | $\stackrel{m}{\underset{\sim}{r}}$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{\infty} \\ \underset{\sim}{*} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \hat{\infty} \\ \infty \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & \\ & \dot{\gamma} \end{aligned}$ | $\begin{aligned} & \substack{\infty \\ \dot{\theta} \\ \dot{\gamma} \\ \hline} \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \infty \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & \underset{\sim}{0} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{gathered} \stackrel{\rightharpoonup}{N} \\ \underset{\sim}{c} \end{gathered}$ | $\begin{aligned} & \mathbf{o} \\ & \underset{N}{N} \\ & \text { লi } \end{aligned}$ | － |
| Z | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & 0 \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ 0 \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \end{aligned}$ | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ 0 \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{1} \\ 0 \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{0} \\ \underset{\sim}{0} \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & \underset{N}{0} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{N} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & \mathbf{O} \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & \underset{N}{0} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} \hat{N} \\ \underset{0}{2} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\underset{\sim}{\underset{\sim}{\underset{N}{2}}}$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{N} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \hat{N} \\ \underset{0}{2} \\ 0 \end{gathered}\right.$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}$ | $\begin{gathered} 0 \\ \underset{N}{\infty} \\ 0 \\ 0 \end{gathered}$ | $\underset{\sim}{\sim}$ | $\begin{aligned} & 0 \\ & 0 \\ & \underset{N}{0} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ \underset{\sim}{0} \end{gathered}$ | $\left\|\begin{array}{l} 0 \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{0} \\ \underset{\sim}{0} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{gathered}\right.$ | $\left\|\begin{array}{l} \bar{\pi} \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{O}{0} \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{n} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ \underset{O}{0} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{O}{0} \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & \underset{\sim}{\infty} \\ & 0 \\ & \hline \end{aligned}$ | $\begin{gathered} \infty \\ \underset{\sim}{\infty} \\ \hline \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | － |
| $0 \mid$ | $\begin{array}{\|c} \hat{+} \\ \dot{\circ} \end{array}$ | $\left\lvert\, \begin{gathered} \substack{0 \\ \dot{0}} \end{gathered}\right.$ | $\stackrel{\underset{\sim}{*}}{\substack{2}}$ | $\stackrel{\infty}{\infty}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 10 \\ \vdots \\ 0 \end{array}\right\|$ | $\underset{\odot}{\infty}$ | $\begin{aligned} & 0 \\ & 0 \\ & \dot{0} \end{aligned}$ | $\underset{\substack{f \\ 寸 \\ \hline}}{ }$ | $\underset{\odot}{*}$ | $\begin{aligned} & \circ \\ & \stackrel{+}{\bullet} \end{aligned}$ | $\left\|\begin{array}{c} \underset{~}{\bullet} \\ \dot{\bullet} \end{array}\right\|$ | $\stackrel{F}{寸}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\,\right.$ | $\underset{\substack{\hat{0} \\ \dot{0} \\ \hline}}{ }$ | $\begin{aligned} & \hat{+} \\ & \dot{0} \end{aligned}$ |  | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{\mathcal{O}} \end{array}\right\|$ | $\left\|\begin{array}{l} \dot{\tau} \\ \dot{\circ} \end{array}\right\|$ | $\underset{\underset{\odot}{\sim}}{\underset{\sim}{2}}$ | $\underset{\oplus}{\underset{\sim}{\sim}}$ | $\underset{\oplus}{\underset{\sim}{\sim}}$ | $\begin{aligned} & 0 \\ & \dot{0} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | ¢ | $\left\|\begin{array}{l} \mathbf{ల} \\ \dot{0} \end{array}\right\|$ | $\left.\begin{aligned} & \bar{m} \\ & \dot{0} \end{aligned} \right\rvert\,$ | $\stackrel{\underset{\sim}{\circ}}{ }$ | $\begin{aligned} & \underset{\sim}{N} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 8 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \overline{0} \\ & \dot{0} \end{aligned}$ | $\left\|\begin{array}{c} \stackrel{N}{N} \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | － | ¢ | $\infty$ |
|  | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \end{aligned}\right.$ | $\stackrel{\Gamma}{0}$ | $\begin{aligned} & 4 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} \hat{\infty} \\ 0 \\ 0 \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ 0 \end{gathered}\right.$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \end{array}\right\|$ |  | $\begin{array}{r} \Gamma \\ 0 \\ 0 \end{array}$ | $\left\|\begin{array}{c} 10 \\ \stackrel{0}{\mathbf{q}} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{N} \\ & 0 \end{aligned}$ | $\left.\begin{aligned} & \overline{6} \\ & \dot{m} \end{aligned} \right\rvert\,$ | $\begin{array}{\|c} \hat{N} \\ 0 \end{array}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \underset{\sim}{\mathrm{N}} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \infty \\ 0 \end{array}\right\|$ | $\stackrel{N}{ }$ | $\stackrel{8}{\square}$ | $8$ | $\begin{aligned} & \mathbf{O} \\ & \mathbf{O} \end{aligned}$ | $0$ | $\stackrel{N}{\mathrm{~N}}$ | $\xrightarrow[\substack{O \\ \sim}]{ }$ | $\stackrel{\circ}{ }$ | $\stackrel{\varphi}{\circ}$ | $\frac{ \pm}{i}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{0}{0} \\ & \hline \end{aligned}\right.$ | $\underset{0}{5}$ | $\underset{\sim}{\aleph}$ | $\left\|\begin{array}{c} \infty \\ \underset{0}{\infty} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ 10 \\ 0 \end{gathered}\right.$ | $\begin{gathered} 0 \\ 0 \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} \infty \\ \vdots \\ 0 \end{array}\right\|$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{8}{\square}$ | $\left\|\begin{array}{c} \mathbf{M} \\ 0 \end{array}\right\|$ | $\infty$ |
|  | － | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \end{aligned}$ | $$ | $\begin{gathered} \text { N } \\ 0 \end{gathered}$ | $\begin{aligned} & 9 \\ & 9 \\ & 0 \end{aligned}$ | $\begin{aligned} & 9 \\ & \hline \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} \infty \\ \infty \\ 0 \\ 0 \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & \hline \end{aligned}$ |  | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \end{array}\right\|$ | $8$ | n | 으․ | $\underset{\sim}{\infty}$ | $9$ | $\stackrel{\oplus}{̣}$ | N | ep | 아 | $\tau$ | $\underset{寸}{ }$ | ? | $\infty$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \mathrm{M} \\ & \mathbf{O} \\ & \hline \end{aligned}$ | $\underset{\substack{N}}{\underset{N}{2}}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 10 \end{array}\right\|$ | $\begin{aligned} & \hat{m} \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ |  | $\begin{gathered} \overline{\mathbf{N}} \\ \underset{\sim}{\mathbf{N}} \end{gathered}$ | $\infty$ | 안 | $\left\|\begin{array}{l} 0 \\ \infty \\ \mathrm{~N} \end{array}\right\|$ | $\left\|\begin{array}{l} \hat{6} \\ 0 \end{array}\right\|$ | $\begin{aligned} & \text { ® } \\ & \hline \mathbf{o} \end{aligned}$ | $\begin{aligned} & \mathbf{O} \\ & 0 \\ & \dot{9} \end{aligned}$ | $\stackrel{\sim}{i}$ | O | \％ |
|  | N | $\begin{aligned} & \infty \\ & \underset{~}{n} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \underset{N}{2} \end{aligned}$ | $\begin{gathered} \stackrel{\rho}{N} \\ \underset{\sim}{n} \end{gathered}$ | $\left.\begin{gathered} \mathrm{O} \\ \underset{N}{n} \end{gathered} \right\rvert\,$ | $\stackrel{\circ}{N}$ $\stackrel{y}{n}$ | $\stackrel{\underset{\sim}{n}}{\underset{\sim}{n}}$ | $\stackrel{N}{N}$ | $\begin{gathered} \underset{\sim}{n} \\ \underset{\sim}{n} \end{gathered}$ | $\stackrel{\ominus}{\underset{\sim}{N}}$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{N}{2} \end{aligned}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ \underset{N}{2} \end{gathered}\right.$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & n \\ & \underset{N}{n} \\ & \underset{N}{2} \end{aligned}$ | $\begin{gathered} N \\ \underset{N}{N} \end{gathered}$ | $\left.\begin{array}{\|c} \mathbf{N} \\ \underset{\sim}{j} \end{array} \right\rvert\,$ | $\left\|\begin{array}{c} \mathfrak{N} \\ \underset{N}{n} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{c}{2} \\ \underset{N}{2} \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{n} \\ & \underset{N}{2} \end{aligned}\right.$ | $\mid$ | $\begin{aligned} & \infty \\ & \sim \\ & \sim \\ & \sim \end{aligned}$ | $\begin{aligned} & \text { in } \\ & \end{aligned}$ | $\begin{aligned} & \stackrel{1}{0} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \varrho \\ & \stackrel{Q}{\mathrm{~N}} \end{aligned}$ | $\begin{gathered} \underset{\sim}{c} \\ \underset{\sim}{n} \end{gathered}$ | $\begin{gathered} \mathbf{U} \\ \mathbf{N} \\ \end{gathered}$ | $\begin{aligned} & \text { n } \\ & \mathbf{N} \\ & \underset{N}{2} \end{aligned}$ | $\begin{gathered} \underset{\sim}{c} \\ \underset{N}{2} \end{gathered}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{c} \\ & \underset{N}{2} \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\mathrm{~N}}{ } \end{gathered}\right.$ | $\begin{gathered} \mathrm{N} \\ \underset{\mathrm{~N}}{ } \end{gathered}$ | $\begin{aligned} & \stackrel{\infty}{\dot{N}} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{N} \\ & \mathrm{~N} \end{aligned}$ | $\begin{gathered} \mathbf{m} \\ \underset{\sim}{n} \end{gathered}$ | $\left\|\begin{array}{c} \mathrm{N} \\ \underset{N}{\mathrm{~N}} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{\mathbf{O}} \\ & \underset{\mathrm{N}}{2} \end{aligned}$ | $\begin{gathered} \mathrm{N} \\ \underset{N}{\mathrm{~N}} \end{gathered}$ | $\left\|\begin{array}{c} \mathbf{\infty} \\ \underset{\sim}{\mathrm{N}} \end{array}\right\|$ | $\begin{aligned} & \mathbf{j} \\ & \underset{\sim}{\mathrm{N}} \end{aligned}$ | $\begin{aligned} & \stackrel{1}{0} \\ & \underset{\sim}{n} \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \infty \\ \underset{\sim}{\mathrm{~N}} \end{array}\right\|$ | $\stackrel{\circ}{\text { N }}$ |
| $\begin{array}{ll} \bar{E} & 0 \\ -\mathbb{O} & 0 \end{array}$ | $\stackrel{\rightharpoonup}{\underset{N}{N}}$ | $\left\lvert\, \begin{gathered} \bar{n} \\ \underset{N}{2} \end{gathered}\right.$ | $\begin{aligned} & \text { 8} \\ & \underset{\sim}{n} \end{aligned}$ | $\stackrel{8}{\mathrm{O}}$ | $\begin{gathered} \underset{N}{N} \\ \underset{N}{2} \end{gathered}$ | $\begin{gathered} \text { N} \\ \underset{N}{N} \end{gathered}$ | $\begin{gathered} \mathrm{o} \\ \underset{\sim}{\mathrm{~N}} \end{gathered}$ | $\stackrel{\Gamma}{N}$ | $\left.\begin{aligned} & \mathrm{N} \\ & \mathrm{~N} \\ & \mathrm{~N} \end{aligned} \right\rvert\,$ | $\begin{gathered} 0 \\ \underset{N}{2} \end{gathered}$ | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $\left\|\begin{array}{l} \infty \\ \underset{\sim}{N} \\ \underset{\sim}{2} \end{array}\right\|$ | $\begin{gathered} \bar{N} \\ \stackrel{N}{N} \end{gathered}$ | $\frac{J}{\underset{N}{N}}$ | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{N}{N} \end{array}\right\|$ | $\underset{\underset{N}{N}}{\underset{N}{2}}$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ \underset{N}{n} \end{gathered}\right.$ | $\left\|\begin{array}{c} o \\ \infty \\ \underset{\sim}{\infty} \end{array}\right\|$ | $\left\|\begin{array}{c} 1 \\ \stackrel{n}{n} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \mathrm{N} \\ & \mathrm{~N} \end{aligned}$ | $\left\|\begin{array}{l} \hat{N} \\ \underset{N}{2} \end{array}\right\|$ | $\stackrel{N}{N}$ | $\begin{gathered} 0 \\ \stackrel{0}{\mathrm{~N}} \end{gathered}$ | $\begin{array}{\|c} \mathrm{N} \\ \mathrm{~N} \end{array}$ | $\begin{aligned} & \stackrel{N}{\mathrm{~N}} \\ & \stackrel{N}{n} \end{aligned}$ | $\underset{\sim}{\underset{\sim}{c}}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \underset{N}{2} \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ \infty \\ 0 \\ 0 \end{array}\right\|$ | $\underset{\sim}{c}$ | $\left\|\begin{array}{l} 0 \\ \infty \\ \infty \\ \sim \end{array}\right\|$ | $\begin{aligned} & \bar{\infty} \\ & \infty \\ & \sim \end{aligned}$ | $\begin{aligned} & \pm \\ & \infty \\ & \infty \\ & \sim \end{aligned}$ | $\underset{\sim}{\underset{\sim}{N}} \mid$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ N \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\mathrm{N}} \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{aligned} & \mathbf{H} \\ & \mathbf{M} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \text { no } \\ & \text { Ni } \end{aligned}$ | $\begin{aligned} & 0 \\ & \stackrel{\rightharpoonup}{N} \end{aligned}$ | $\left\|\begin{array}{c} \bar{m} \\ \mathbf{j} \\ \underset{\sim}{2} \end{array}\right\|$ | － |
| $\bar{\infty}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ e \\ e \\ \hline \end{array}\right\|$ | $\begin{aligned} & \bar{寸} \\ & \dot{C} \end{aligned}$ |  | $\begin{array}{\|c} m \\ \underset{c}{n} \\ e \end{array}$ | $\left.\begin{gathered} \bar{寸} \\ \dot{e} \end{gathered} \right\rvert\,$ | jor | $\begin{aligned} & \dot{\rightharpoonup} \\ & \dot{e} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \substack{0} \end{aligned}$ | $\begin{array}{\|c} \hat{f} \\ \dot{e} \end{array}$ | $\begin{gathered} o \\ \substack{0 \\ 0 \\ \hline} \end{gathered}$ | $\begin{aligned} & \mathcal{N} \\ & \underset{\sim}{0} \\ & \text { O} \end{aligned}$ | $\left\|\begin{array}{l} 1 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{0}{0} \\ & \dot{M} \end{aligned}\right.$ | $\begin{gathered} \substack{2 \\ \dot{e} \\ e \\ \hline} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{M}{0} \end{aligned}$ | $\left\|\begin{array}{c} m \\ \underset{c}{0} \\ e \end{array}\right\|$ | $\left\|\begin{array}{l} \mathcal{N} \\ \underset{\sim}{0} \\ \hline \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 9 \\ & \underset{子}{\dot{1}} \\ & \dot{M} \end{aligned}\right.$ | $\left\|\begin{array}{l} \hat{N} \\ \dot{e} \\ \hline \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 9 \\ & \underset{\sim}{2} \\ & \dot{e} \\ & \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { g} \\ & \dot{\sim} \\ & \dot{\sim} \end{aligned}$ | $\begin{aligned} & \ddagger \\ & \text { M } \\ & 0 \\ & \mathbf{c} \end{aligned}$ | $\left\lvert\, \begin{aligned} & n \\ & \mathbf{N} \\ & \mathbf{e} \end{aligned}\right.$ | $\begin{aligned} & \mathbf{D} \\ & \underset{M}{2} \\ & \hline \end{aligned}$ | $\left.\begin{aligned} & \mathbf{m} \\ & 0 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 10 \\ 0 \end{array}\right\|$ | $\begin{array}{\|c} n \\ m \\ 1 \\ m \end{array}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ m \end{array}\right\|$ | $\begin{aligned} & N \\ & \infty \\ & 1 \\ & 0 \end{aligned}$ | $\begin{gathered} \overline{6} \\ \dot{N} \\ \mathrm{~N} \end{gathered}$ | $\left.\begin{aligned} & \bar{m} \\ & \dot{e} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} 0 \\ \underset{c}{0} \\ \dot{e} \end{array}\right\|$ | $\left.\begin{aligned} & \infty \\ & 0 \\ & 1 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} H \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \underset{9}{9} \\ & \dot{9} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & n \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ \underset{1}{2} \\ 0 \end{array}\right\|$ | $\stackrel{\text { N }}{\stackrel{1}{c}}$ |
| $\frac{5}{\frac{5}{0}} \underline{0}$ | $\mid \infty$ | $\underset{\sim}{\tau}$ | $\stackrel{\perp}{\stackrel{\circ}{7}}$ | $\begin{gathered} \mathrm{N} \\ \dot{\mathrm{j}} \end{gathered}$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \infty \end{array}\right\|$ | $\left\|\begin{array}{c} 8 \\ \mathbf{8} \\ i \end{array}\right\|$ | $\stackrel{N}{N}$ | $\begin{aligned} & 0 \\ & 0 \\ & \infty \end{aligned}$ | $\stackrel{\underset{N}{\mathrm{~N}}}{\stackrel{\rightharpoonup}{2}}$ | $\begin{aligned} & \infty \\ & \infty \\ & 1 \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & 9 \\ & 0 \\ & \Gamma \end{aligned}\right.$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \underset{\tau}{\tau} \\ & \dot{O} \end{aligned}$ | $\stackrel{\square}{\mathrm{O}}$ | $\left\|\begin{array}{c} 9 \\ 0 \\ \stackrel{0}{n} \end{array}\right\|$ | O | $\bar{m}$ | $\underset{\sim}{N}$ | $\begin{aligned} & \stackrel{9}{N} \\ & \dot{m} \end{aligned}$ | $\begin{aligned} & 9 \\ & \hline \\ & \square \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & - \\ & - \end{aligned}$ | $\stackrel{\square}{0}$ | $\stackrel{\rightharpoonup}{\hat{G}}$ | $\begin{aligned} & 0 \\ & \mathrm{O} \\ & \mathrm{j} \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\varphi}{\dot{r}}$ | $\begin{aligned} & 0 \\ & 0 \\ & \hdashline \end{aligned}$ | $\stackrel{0}{\square}$ | $\begin{aligned} & \infty \\ & 0 \\ & - \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | $\begin{aligned} & \mathbf{9} \\ & \mathbf{O} \\ & \mathbf{N} \end{aligned}$ | $\stackrel{0}{\Gamma}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{2} \end{gathered}$ | $\stackrel{n}{i}$ | $\stackrel{\stackrel{\rightharpoonup}{7}}{\underset{\sim}{2}}$ | $$ | $\bigcirc$ | $\stackrel{ষ}{\text { 寸 }}$ | $\begin{aligned} & 0 \\ & 10 \\ & 0 \\ & 0 \end{aligned}$ | － | ＋ |
|  | $\left\|\begin{array}{c} \underset{N}{\infty} \\ 0 \\ 0 \\ \infty \\ \hline \end{array}\right\|$ | $\begin{aligned} & \left.\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array} \right\rvert\, \end{aligned}$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} \infty \\ \infty \\ 0 \\ 0 \\ 0 \\ \infty \\ 0 \end{gathered}$ | $\begin{aligned} & \bar{o} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\{\begin{array}{l} \text { O } \\ 0 \\ \infty \\ 0 \\ 0 \\ \hline \\ \hline \end{array}\right.$ | $\begin{aligned} & \mathbf{y} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}\right.$ | $\begin{aligned} & \bar{N} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{array}{\|l\|} \hline 0 \\ 0 \\ 0 \\ 0 \\ \infty \\ \infty \end{array}$ |  | $\begin{aligned} & \mathbf{N} \\ & \mathbf{G} \\ & \mathbf{O} \\ & \mathbf{O} \\ & \mathbf{O} \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned}$ | $\begin{array}{\|c} 10 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline 1 \end{array}$ | $\left\|\begin{array}{c} \mathfrak{o} \\ \infty \\ 0 \\ 0 \\ \infty \\ 0 \\ 1 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{gathered} \infty \\ 0 \\ \underset{\sim}{\infty} \\ \underset{\infty}{2} \end{gathered}$ | $\left\|\begin{array}{l} 9 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ \vdots \\ \dot{\infty} \\ 1 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \text { Y } \\ & \text { O} \\ & 0 \\ & 0 \\ & \underset{\infty}{\infty} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \text { O} \\ & 0 \\ & 0 \\ & \underset{\infty}{\infty} \end{aligned}$ | $\begin{gathered} \infty \\ 0 \\ \\ \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ \stackrel{0}{7} \\ \underset{0}{9} \end{gathered}$ | $\left\lvert\, \begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & \text { O } \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathbb{N} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\left\|\begin{array}{l} \mathbf{N}_{1} \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ |  | $\left\|\begin{array}{c} \underset{\sim}{2} \\ \underset{\sim}{2} \\ \underset{\sim}{0} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{\sim} \\ & \underset{\sim}{0} \end{aligned}$ | $\begin{gathered} \underset{N}{N} \\ \underset{\sim}{\sim} \\ \underset{\sim}{0} \end{gathered}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \infty \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ 0 \\ \infty \\ 0 \\ 0 \\ \infty \\ \hline \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 9 \\ & \mathrm{~N} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{N}{1} \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | － |
|  |  | $\begin{aligned} & \mathrm{O} \\ & \mathrm{O} \\ & \dot{O} \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{O} \\ & 0 \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \bar{o} \\ & \dot{0} \\ & \dot{e} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{N}{N} \\ & \underset{N}{N} \\ & \underset{N}{n} \end{aligned}\right.$ |  | $\begin{aligned} & \stackrel{1}{2} \\ & \underset{\sim}{6} \\ & \stackrel{\ominus}{\hat{N}} \end{aligned}$ | $\begin{aligned} & \hat{N} \\ & \infty \\ & \infty \\ & \end{aligned}$ | $\begin{aligned} & \hat{N} \\ & 0 \\ & 0 \\ & \hat{N} \\ & \stackrel{N}{2} \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \underset{\sim}{6} \\ & \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \underset{\sigma}{\infty} \\ & \stackrel{j}{2} \end{aligned}$ | $\left\|\begin{array}{c} \hat{N} \\ \hat{0} \\ 0 \\ \stackrel{N}{N} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \\ & \end{aligned}\right.$ | $\begin{gathered} \bar{N} \\ \underset{N}{N} \\ \stackrel{N}{N} \end{gathered}$ | $\begin{aligned} & 2 \\ & \underset{O}{0} \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} \underset{N}{N} \\ \mathrm{~N} \\ \mathrm{~N} \\ \underset{\sim}{2} \end{gathered}$ | $\left.\begin{aligned} & 1 \\ & \hat{0} \\ & 0 \\ & 0 \\ & \dot{N} \end{aligned} \right\rvert\,$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\sim} \\ \underset{\infty}{\infty} \\ \underset{\sim}{n} \end{gathered}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 10 \\ 1 \end{array}\right\|$ | $\begin{aligned} & \text { n } \\ & \underset{\sim}{甘} \\ & \underset{\sim}{n} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ \infty \\ \vdots \\ \underset{N}{\infty} \\ \dot{N} \end{array}\right\|$ | $\begin{aligned} & \text { m } \\ & \underset{N}{\omega} \\ & \underset{N}{n} \end{aligned}$ | $\begin{aligned} & \text { n } \\ & \underset{N}{\alpha} \\ & \underset{\sim}{N} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \underset{\infty}{\infty} \\ & \underset{N}{n} \end{aligned}$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \end{aligned}$ | $\circ$ <br> $\stackrel{0}{N}$ <br>  <br>  <br>   | $\begin{gathered} \underset{N}{N} \\ \underset{N}{N} \\ \stackrel{N}{2} \end{gathered}$ | $\begin{gathered} o \\ \\ \\ \end{gathered}$ | $\left\|\begin{array}{l} \underset{\sim}{N} \\ \underset{N}{N} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{array}{\|c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \underset{N}{2} \end{array}$ | $\begin{aligned} & 0 \\ & 0 \\ & \\ & 10 \\ & N \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{N}{N} \\ & \underset{N}{2} \end{aligned}$ |  | $\begin{aligned} & \infty \\ & \infty \\ & \underset{\sim}{0} \\ & \underset{\sim}{c} \end{aligned}$ | O <br> $\stackrel{\circ}{\circ}$ <br> $\stackrel{\circ}{\mathrm{N}}$ | $\left\|\begin{array}{l} \dot{0} \\ \dot{0} \\ \dot{e} \\ \dot{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \sigma \\ \underset{\sim}{0} \\ \dot{N} \end{array}\right\|$ | $\begin{gathered} \underset{ }{\sigma} \\ \underset{\sim}{0} \\ \dot{\sim} \end{gathered}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\circ} \\ & \stackrel{0}{\dot{N}} \\ & \stackrel{9}{2} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{2} \\ & \underset{\sim}{0} \\ & \dot{N} \end{aligned}$ |  |  |
|  |  |  |  | 5/27/14 8:58 AM | $\begin{aligned} & \underset{N}{N} \\ & N \\ & \underset{N}{i} \\ & \underset{N}{N} \\ & \underset{N}{N} \\ & \underset{N}{N} \end{aligned}$ | 5/29/14 9:24 AM |  |  |  |  | $\begin{aligned} & \Sigma \\ & 0 \\ & 0 \\ & \tilde{N} \\ & \stackrel{N}{N} \\ & \underset{N}{N} \\ & N \\ & N \end{aligned}$ |  |  |  |  |  |  |  | $\left\lvert\, \begin{aligned} & \Sigma \\ & N \\ & N \\ & N \\ & \underset{N}{n} \\ & \underset{N}{N} \\ & N \\ & N \end{aligned}\right.$ |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \Sigma \\ & n \\ & 0 \\ & \dot{N} \\ & \dot{N} \\ & \underset{V}{N} \\ & \underset{N}{N} \\ & \\ & \hline \end{aligned}$ |  |  | $\begin{aligned} & \underset{i}{\Sigma} \\ & N \\ & N \\ & \dot{N} \\ & \underset{J}{J} \\ & \underset{V}{N} \\ & \hline \end{aligned}$ |  | $\begin{aligned} & \underset{\sim}{\Sigma} \\ & \underset{N}{N} \\ & \dot{o} \\ & \underset{J}{J} \\ & \underset{\mathcal{J}}{\boldsymbol{N}} \end{aligned}$ |  |  |  |  |  |  |
| $\stackrel{\mathbb{N}}{\omega}$ | $\begin{array}{\|c} \frac{4}{1} \\ \frac{\gamma}{O} \end{array}$ | $\begin{gathered} \underset{1}{c} \\ \underset{\sim}{\mathbf{v}} \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{2} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & \frac{1}{\alpha} \\ & \underset{O}{0} \end{aligned}\right.$ | $\left\|\begin{array}{l} m \\ \dot{\lambda} \\ \sum \\ \sum \end{array}\right\|$ | $\begin{array}{\|c} \underset{\sim}{\infty} \\ \underset{\sim}{\underset{\sim}{e}} \\ \underset{\sim}{4} \end{array}$ | $\begin{gathered} \underset{\sim}{\infty} \\ \underset{\sim}{\sim} \\ 0 \end{gathered}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{n} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\right\|$ | $\frac{\infty}{\frac{1}{r}}$ |  | $\left\|\begin{array}{c} \frac{1}{\dot{1}} \\ \frac{\underset{\sim}{\gamma}}{} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \dot{1} \\ & \hat{\mathbf{1}} \\ & \mathbf{p} \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & \frac{1}{2} \\ & \sum \\ & \sum \end{aligned}$ |  | $\left.\begin{gathered} 0 \\ \underset{1}{N} \\ \sum \\ \Sigma \end{gathered} \right\rvert\,$ | $\left\|\begin{array}{c} \frac{\pi}{i} \\ \underset{~}{c} \\ m \end{array}\right\|$ | $\begin{aligned} & \frac{\alpha}{\frac{1}{\alpha}} \\ & \frac{\alpha}{\alpha} \end{aligned}$ | $\left\lvert\, \begin{gathered} \mathbb{4} \\ \tilde{N} \\ \frac{1}{m} \end{gathered}\right.$ | $\left\|\begin{array}{c} \infty \\ \frac{1}{\alpha} \\ \frac{1}{\alpha} \end{array}\right\|$ | $\begin{aligned} & \mathbb{K} \\ & \sum_{i} \\ & \sum \end{aligned}$ | $\frac{\mathbb{1}}{\underset{\Sigma}{\Sigma}} \underset{\Sigma}{2}$ | $\left\|\begin{array}{l} \underset{X}{Y} \\ \frac{1}{\grave{Z}} \\ \underset{\Sigma}{\prime} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \frac{1}{\frac{1}{\alpha}} \end{gathered}\right.$ | $\begin{gathered} 0 \\ \frac{1}{\omega} \\ \square \end{gathered}$ | $\begin{aligned} & \mathbb{K} \\ & \underset{\Sigma}{2} \\ & \underset{\Sigma}{ } \end{aligned}$ | $\begin{aligned} & \mathbb{1} \\ & \underset{N}{N} \\ & \mathbf{N} \end{aligned}$ | $\begin{aligned} & \dot{N} \\ & \sum \\ & \Sigma \end{aligned}$ | $\left\|\begin{array}{l} \mathbb{I} \\ \dot{U} \\ \Sigma \end{array}\right\|$ | $\left.\frac{\underset{4}{4}}{\underset{\mathrm{a}}{2}} \right\rvert\,$ | $\sum_{i}^{\frac{1}{i}}$ | $\left.\right\|_{0} ^{U}$ | $\begin{aligned} & \frac{\Psi}{I} \\ & \frac{I}{\Phi} \end{aligned}$ | $\begin{aligned} & 0 \\ & \frac{1}{r} \\ & 0 \end{aligned}$ | $\begin{array}{\|l\|} \infty \\ \frac{1}{r} \\ \hline 0 \end{array}$ | $\begin{aligned} & \frac{\pi}{i} \\ & \underset{\sim}{O} \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{x} \\ \underset{\sim}{0} \end{array}\right\|$ | $\begin{gathered} \infty \\ \underset{\sim}{\sim} \\ \underset{\sim}{\sim} \end{gathered}$ | $\begin{aligned} & \underset{i}{1} \\ & \underset{\sim}{x} \\ & 0 \end{aligned}$ |  | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\mu} \\ \stackrel{\sim}{0} \end{array}\right\|$ | $\xrightarrow{\substack{s \\ \underset{\sim}{¢} \\ 0}}$ |


| $\frac{T}{\frac{1}{U}}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & \text { N } \\ & \mathbf{N} \end{aligned}$ | $\stackrel{\Gamma}{m}$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{array}{\|c} \hat{N} \\ 0 \end{array}$ | $\left\|\begin{array}{c} \mathbf{j} \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\stackrel{N}{\underset{O}{0}}$ | $\underset{i}{\dot{\sigma}} \mid$ | $\begin{aligned} & \bar{m} \\ & 0 \end{aligned}$ | $\begin{gathered} 9 \\ 0 \\ 0 \end{gathered}$ | $\left.\begin{gathered} N \\ \underset{\sim}{0} \end{gathered} \right\rvert\,$ | $\left\lvert\, \begin{gathered} \mathrm{N} \\ \mathbf{o} \end{gathered}\right.$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\infty} \end{array}\right\|$ | $\frac{\infty}{0}$ | $\left\|\begin{array}{c} \mathbb{N} \\ \mathbf{O} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \stackrel{\rightharpoonup}{N} \\ \mathbf{O} \end{gathered}\right.$ | $\frac{\pi}{i}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\frac{9}{0}$ | $\frac{\infty}{0}$ | $\stackrel{\Gamma}{N}$ | $\left\|\begin{array}{c} \mathrm{O} \\ \mathbf{o} \end{array}\right\|$ | $\stackrel{\omega}{\square}$ | $\stackrel{\rightharpoonup}{0}$ | － | $\stackrel{\substack{\mathrm{N}}}{\substack{ \\\hline}}$ | $\left.\begin{gathered} \underset{N}{N} \\ 0 \end{gathered} \right\rvert\,$ | $\begin{gathered} N \\ N \\ 0 \end{gathered}$ | $\begin{gathered} 9 \\ \stackrel{O}{0} \end{gathered}$ | $$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\stackrel{N}{0}$ | $\stackrel{\infty}{0}$ | － | $\stackrel{\sigma}{\square}$ | $\frac{\sigma}{0}$ | $\underset{\sim}{\mathrm{N}}$ | N | $\frac{\infty}{0}$ | $\frac{0}{0}$ | － |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\stackrel{\square}{1}$ | $\left\|\begin{array}{c} \pi \\ \dot{\circ} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \hline i \end{aligned}$ | $\frac{t}{2}$ | $\begin{gathered} \stackrel{O}{N} \\ \underset{N}{0} \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ N \\ N \\ 0 \end{array}\right\|$ | $\begin{aligned} & t \\ & \stackrel{y}{0} \\ & 0 \end{aligned}$ | $\begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{gathered}$ | $\left.\begin{aligned} & \pm \\ & \vdots \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l}  \pm \\ \stackrel{\rightharpoonup}{0} \end{array}\right\|$ | $\frac{\square}{\sigma}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\frac{\square}{\sigma}$ | $\begin{aligned} & \overleftarrow{\sigma} \\ & \stackrel{\rightharpoonup}{0} \end{aligned}$ | $\frac{\Delta}{\dot{O}}$ | $\left\|\begin{array}{c} \stackrel{O}{N} \\ \underset{N}{\mathbf{O}} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ N \\ \mathbf{N} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\frac{\square}{\sigma}$ | $\frac{\square}{\sigma}$ | $\frac{\square}{\sigma}$ | $\frac{ \pm}{\sigma}$ | $\left\|\begin{array}{l}  \pm \\ \stackrel{\rightharpoonup}{0} \end{array}\right\|$ | $\frac{\square}{\sigma}$ | $\frac{\square}{\sigma}$ | $\left\|\begin{array}{l}  \pm \\ \stackrel{\rightharpoonup}{0} \end{array}\right\|$ | $\frac{\vdots}{\sigma}$ | $\frac{\square}{\square}$ | $\frac{\square}{\sigma}$ | $\stackrel{\underset{\sim}{N}}{\stackrel{\circ}{\circ}}$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\frac{\square}{o}$ | $\frac{\square}{\sigma}$ | $\frac{J}{\sigma}$ | $$ | $\frac{\square}{\sigma}$ | $\frac{ষ}{\sigma}$ | $\frac{\square}{\sigma}$ | $\frac{\square}{\grave{o}}$ | $\frac{\square}{\sigma}$ | $\stackrel{\square}{\text { ¢ }}$ |
| $z$ |  | $\begin{gathered} 8 \\ 10 \\ 10 \end{gathered}$ | $\begin{aligned} & \overline{\hat{N}} \\ & \dot{0} \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{0}{2} \end{aligned}$ | $\left\|\begin{array}{l} 1 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & 10 \\ & 10 \end{aligned}$ | $\begin{aligned} & \mathbf{O} \\ & \mathbf{N} \\ & 0 \end{aligned}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{\mathbf{O}} \\ & \dot{\sim} \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{0}{0} \\ \underset{\sim}{\sim} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\left.\begin{aligned} & \mathbf{N} \\ & \mathbf{N} \\ & \dot{m} \end{aligned} \right\rvert\,$ | $\begin{aligned} & \underset{\sim}{2} \\ & \underset{\sim}{0} \\ & \dot{O} \end{aligned}$ | $\left\|\begin{array}{l} \stackrel{\rightharpoonup}{N} \\ \underset{\sim}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathbf{N} \\ \mathbf{N} \\ \mathbf{0} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{\sim}{n} \\ \infty \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \infty \\ & N \\ & \underset{\gamma}{\prime} \end{aligned}\right.$ | $\left.\begin{array}{l\|} \hline 0 \\ \hline 0 \\ 0 \\ 1 \end{array} \right\rvert\,$ | $\begin{aligned} & \overline{\mathrm{N}} \\ & \mathrm{O} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \underset{\sim}{\tau} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{l} m \\ \underset{~}{C} \\ \mathfrak{m} \end{array}\right\|$ | $\left\|\begin{array}{c} \hat{N} \\ \\ 1 \end{array}\right\|$ | $\begin{aligned} & \overline{\hat{O}} \\ & \underset{\mathrm{O}}{2} \end{aligned}$ | $\frac{\pi}{N}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{0}{0} \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \text { N } \\ & \text { N } \\ & \text { in } \end{aligned}\right.$ | $\begin{gathered} \bar{N} \\ \mathbf{N} \\ \hline 1 \end{gathered}$ | $\left\|\begin{array}{l} 0 \\ \infty \\ \\ \end{array}\right\|$ | $\begin{gathered} 0 \\ 0 \\ \underset{\sim}{n} \\ \end{gathered}$ | $\begin{gathered} \hat{N} \\ \\ \underset{\sim}{2} \end{gathered}$ | $\begin{aligned} & 8 \\ & \hline 8 \\ & \hline 0 \\ & \hline 1 \end{aligned}$ | $\underset{\substack{\underset{\sim}{*} \\ \underset{\sim}{2} \\ \hline}}{\text { + }}$ | $\begin{aligned} & 0 \\ & 0 \\ & \infty \\ & \infty \end{aligned}$ | $\begin{aligned} & \text { m } \\ & \substack{0 \\ \infty} \end{aligned}$ | $\begin{aligned} & \substack{\infty \\ 0 \\ \dot{-}} \end{aligned}$ | $\begin{aligned} & \hat{N} \\ & \infty \\ & \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \\ & m \end{aligned}$ | $\stackrel{\underset{\sim}{\sim}}{\underset{\sim}{\sim}}$ | $\begin{aligned} & \underset{N}{N} \\ & \dot{c} \end{aligned}$ | $\begin{aligned} & m \\ & \mathbf{m} \\ & \dot{c} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & \underset{N}{n} \\ & M \end{aligned}$ | $\left\|\begin{array}{l\|} \hline 8 \\ 0 \\ 10 \\ 10 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \underset{\infty}{\infty} \\ & \infty \\ & \underset{\sim}{2} \end{aligned}\right.$ | N |
| $\underset{1}{Z}$ | $\left\|\begin{array}{c} \stackrel{\rightharpoonup}{N} \\ \stackrel{N}{N} \end{array}\right\|$ | $\stackrel{\rightharpoonup}{\underset{N}{N}}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{0} \\ \hline \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{N}{\infty} \\ & \dot{N} \end{aligned}$ | $\left.\begin{aligned} & \overline{\mathrm{s}} \\ & \mathbf{0} \\ & \dot{\circ} \end{aligned} \right\rvert\,$ | $\stackrel{\Psi}{\underset{N}{N}}$ | $\begin{array}{\|c\|} \hline 0 \\ \hline 0 \\ \hline 1 \end{array}$ | $\begin{aligned} & \substack{1 \\ 0 \\ \underset{\sim}{2}} \end{aligned}$ | $\left\|\begin{array}{l} \mathrm{O} \\ \mathrm{O} \\ \dot{寸} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \mathbf{m} \\ & \mathbf{~} \\ & \mathbf{~} \\ & \hline \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{N}{2} \\ \dot{0} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \underset{\sim}{\mathrm{~N}} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left.\begin{gathered} \hat{N} \\ \infty \\ \end{gathered} \right\rvert\,$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 10 \\ 寸 \end{array}\right\|$ | $\underset{\underset{\sim}{\top}}{\underset{\sim}{t}}$ | $\left\|\begin{array}{l} \bar{N} \\ \infty \\ \infty \\ \hline \end{array}\right\|$ | $\frac{m}{\stackrel{m}{\mathrm{~N}}}$ | $\left\|\begin{array}{l} \hat{N} \\ \underset{N}{n} \\ \underset{m}{2} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{\underset{N}{2}} \\ & \underset{\sim}{\infty} \end{aligned}$ | $\begin{aligned} & 0 \\ & \infty \\ & 1 \\ & m \\ & m \end{aligned}$ | $\begin{aligned} & \hat{n} \\ & \\ & \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{0}{0} \\ 0 \end{array}\right\|$ | $\frac{m}{\underset{\sim}{i}}$ | $\begin{gathered} \infty \\ 0 \\ \underset{N}{0} \\ \hline \end{gathered}$ | $\underset{\underset{N}{N}}{\underset{\sim}{2}} \mid$ | O- | $\begin{aligned} & \underset{\sim}{\hat{j}} \\ & \dot{\gamma} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \stackrel{0}{0} \\ & \underset{子}{2} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \infty \\ & 0 \\ & i \end{aligned}$ | $\begin{aligned} & N \\ & \infty \\ & \end{aligned}$ | $\begin{aligned} & \underset{\sim}{n} \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{n} \\ & \underset{\sim}{\circ} \\ & \hline \end{aligned}$ | $\begin{aligned} & \bar{N} \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\underset{\sim}{\underset{\sim}{r}}}{\substack{2}}$ | $\begin{aligned} & \infty \\ & \infty \\ & \\ & \end{aligned}$ | $\begin{aligned} & \hat{N} \\ & \underset{N}{n} \\ & \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \dot{9} \end{aligned}$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \dot{N} \end{array}\right\|$ | $\stackrel{\underset{N}{N}}{\substack{\boldsymbol{N}}}$ | － |
| $\mp$ | $\left\|\begin{array}{c} \underset{\sim}{\sim} \\ \underset{\sim}{0} \end{array}\right\|$ | $\underset{\substack{0 \\ \underset{N}{0} \\ 0}}{ }$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\begin{array}{\|c} \substack{n \\ 0 \\ 0} \end{array}$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & \mathbf{N} \end{aligned}\right.$ | $\begin{aligned} & \mathbf{N} \\ & \underset{N}{2} \\ & 0 \end{aligned}$ | $\left.\begin{aligned} & 0 \\ & \underset{N}{N} \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{N} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & \mathbf{N} \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} m \\ 0 \\ 0 \\ 0 \end{gathered}\right.$ | $\left\|\begin{array}{c} n \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\underset{\sim}{*}} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\underset{~}{*}} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{N} \\ \underset{O}{0} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ \underset{N}{0} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ \mathbf{N} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{2} \\ \underset{\sim}{0} \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & \underset{N}{\infty} \\ & 0 \end{aligned}$ | $\begin{aligned} & \hat{N} \\ & \mathbf{N} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 8 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{N}{0} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} \bar{N} \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{0} \\ \underset{\sim}{0} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{N} \\ 0 \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \bar{i} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & m \\ & \substack{0 \\ 0} \end{aligned}$ | $\begin{gathered} \infty \\ \underset{\sim}{\infty} \\ 0 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}$ | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ 0 \end{gathered}$ | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ 0 \end{gathered}$ | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ 0 \end{gathered}$ | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ 0 \end{gathered}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & \underset{N}{0} \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{N}{\infty} \\ & 0 \end{aligned}$ | O |
| O\| | $\left\|\begin{array}{c} \infty \\ 0 \\ i \end{array}\right\|$ | $\begin{aligned} & \mathbf{8} \\ & \stackrel{\rightharpoonup}{\circ} \\ & \hline \end{aligned}$ | $\begin{aligned} & N \\ & \underset{\sim}{\circ} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ \infty \\ 1 \end{array}\right\|$ | $\begin{aligned} & \mathbf{N} \\ & \stackrel{0}{\circ} \end{aligned}$ | $\begin{aligned} & \mathbf{n} \\ & \infty \\ & i \end{aligned}$ | $\stackrel{0}{\dot{\theta}}$ | $\left\lvert\, \begin{aligned} & \stackrel{O}{\dot{0}} \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 10 \end{aligned}\right.$ | $\left.\begin{aligned} & \hat{N} \\ & \stackrel{0}{\circ} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} \mathrm{O} \\ \dot{0} \end{array}\right\|$ | $\left\|\begin{array}{l} 9 \\ 10 \\ 10 \end{array}\right\|$ | $\left.\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} 8 \\ \stackrel{8}{\circ} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \infty \\ \infty \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \hline \end{aligned}$ | $\stackrel{\underset{\sim}{\circ}}{\underset{\sim}{c}}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\Gamma}{\dot{\circ}}$ | $\stackrel{m}{\dot{c}}$ | $\left\|\begin{array}{l} \mathrm{O} \\ \dot{0} \end{array}\right\|$ | $\left\lvert\,\right.$ | $\underset{\dot{\sigma}}{\underset{~}{*}}$ | $\left\|\begin{array}{l} \overline{0} \\ \dot{0} \end{array}\right\|$ | $\frac{0}{\dot{e}}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ |  | $\begin{aligned} & 8 \\ & \underset{\sim}{8} \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & 0^{\circ} \end{aligned}$ | $$ | $\begin{aligned} & \mathrm{O} \\ & \mathbf{N} \end{aligned}$ | $\stackrel{?}{\mathrm{i}}$ | $\begin{aligned} & \text { © } \\ & \stackrel{\circ}{2} \end{aligned}$ | $\begin{aligned} & \hat{6} \\ & \dot{\circ} \end{aligned}$ | $\begin{aligned} & 9 \\ & 6 \\ & 5 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \end{aligned}$ | $\left\|\begin{array}{l} \underset{N}{N} \\ \dot{0} \end{array}\right\|$ | $\underset{\oplus}{\dot{\sigma}}$ | － |
| $\frac{0}{2}$ | $\|\underset{\sim}{\infty}\|$ | $\underset{\substack{2 \\ \hline}}{ }$ | $\stackrel{\rightharpoonup}{\dot{G}}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \vdots \\ 0 \end{array}\right\|$ | $\stackrel{\rightharpoonup}{\sigma}$ | $\left\|\begin{array}{l} 10 \\ 10 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 10 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\underset{N}{N}}{\stackrel{\rightharpoonup}{2}}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{F}{\forall}$ | $\left\|\begin{array}{c} N \\ \mathbf{N} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\infty}{\infty} \underset{\sim}{\sim}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \end{aligned}$ | $\left\|\begin{array}{c} + \\ \infty \\ \hline \end{array}\right\|$ | $\left\|\begin{array}{l} \mathbf{\infty} \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} 9 \\ 0 \\ 0 \\ \hline \end{gathered}$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \hat{0} \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\infty}{\stackrel{\infty}{0}}$ | $\left\|\begin{array}{l} \infty \\ \infty \\ 0 \\ \hline \end{array}\right\|$ | $\begin{aligned} & \hat{0} \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 9 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\substack{0 \\ \stackrel{n}{2} \\ \hline}}{ }$ | O | $\left\|\begin{array}{c} N \\ N \\ N \end{array}\right\|$ | $\stackrel{\infty}{\stackrel{\infty}{\mathrm{N}}}$ | $\begin{aligned} & N \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { N } \\ & 0 \end{aligned}$ | $\stackrel{N}{N}$ | n | $\begin{aligned} & \circ \\ & \hline \end{aligned}$ | $\stackrel{n}{0}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} N \\ 0 \\ 0 \end{gathered}$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \end{aligned}$ | L |
|  | $\left\|\begin{array}{c} \stackrel{9}{\mathrm{~N}} \\ \underset{\sim}{2} \end{array}\right\|$ | $0$ | $\stackrel{t}{0}$ | $\begin{aligned} & 10 \\ & \dot{m} \end{aligned}$ | $\underset{\sim}{\underset{\sim}{\tau}}$ | $\stackrel{\underset{\sim}{\infty}}{\infty}$ | $\begin{aligned} & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & t \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \dot{j} \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{9} \\ & \stackrel{\rightharpoonup}{2} \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ \infty \\ 寸 \end{array}\right\|$ | $\left.\begin{gathered} \hat{\infty} \\ 0 \\ 0 \end{gathered} \right\rvert\,$ | $\stackrel{0}{0}$ | $\left\|\begin{array}{c} \sim \\ \infty \\ \end{array}\right\|$ | $\underset{r}{t}$ | $\begin{aligned} & 9 \\ & \hline 9 \\ & \hline 0 \\ & \hline \end{aligned}$ | $\stackrel{\infty}{\infty} \underset{+}{\substack{+ \\ \hline}}$ | $\stackrel{O}{\mathrm{O}}$ | 「 | $\left\|\begin{array}{l} \mathrm{J} \\ \mathrm{~N} \end{array}\right\|$ | $\stackrel{\mathrm{O}}{\mathrm{O}}$ | $\left.\begin{aligned} & n \\ & 0 \\ & \mathrm{~N} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} \infty \\ 0 \\ j \end{array}\right\|$ | $\begin{aligned} & 9 \\ & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathrm{g} \\ & \mathrm{O} \\ & \text { in } \end{aligned}$ | $\underset{\sim}{\mathrm{N}}$ | $\begin{aligned} & \bar{\sigma} \\ & 0 \end{aligned}$ | $\stackrel{9}{\wedge}$ | $\begin{aligned} & \text { J } \\ & \mathbf{0} \\ & \end{aligned}$ | $\begin{gathered} \underset{\sim}{N} \\ \hline \end{gathered}$ | $\begin{aligned} & \overline{0} \\ & \mathbf{N} \end{aligned}$ | $\begin{array}{\|c} \mathbf{\infty} \\ \dot{\infty} \\ \dot{N} \end{array}$ | $\stackrel{\Gamma}{\underset{r}{r}}$ | $\stackrel{\sim}{\leftarrow}$ | o子 | O | $\underset{\sigma}{F}$ | $\stackrel{O}{\mathrm{O}}$ | $\stackrel{\mathrm{N}}{\mathrm{O}}$ | $\left\|\begin{array}{l} 0 \\ \stackrel{0}{\mathbf{0}} \end{array}\right\|$ | $\stackrel{\square}{\text { ¢ }}$ | － |
|  | $\left\|\begin{array}{c} \stackrel{O}{\mathrm{~N}} \\ \underset{\mathrm{~N}}{ } \end{array}\right\|$ | $\begin{aligned} & \substack{0 \\ N \\ N} \end{aligned}$ | $\stackrel{m}{\underset{\sim}{N}}$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{M} \\ & \text { N } \end{aligned}$ | $\begin{gathered} 9 \\ 0 \\ \underset{\sim}{2} \end{gathered}$ | $\left\lvert\, \begin{aligned} & \mathrm{M} \\ & \underset{N}{N} \end{aligned}\right.$ | $\stackrel{\underset{N}{\dot{N}}}{\stackrel{\rightharpoonup}{\sim}}$ | $\begin{gathered} 0 \\ \underset{\sim}{n} \\ \underset{N}{2} \end{gathered}$ | $\left\|\begin{array}{c} \underset{o}{+} \\ \underset{N}{2} \\ \mid \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \stackrel{\leftrightarrow}{\Omega} \\ & \underset{N}{N} \end{aligned}\right.$ | $\begin{aligned} & \mathrm{O} \\ & \stackrel{\rightharpoonup}{\mathrm{~N}} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \hat{N} \\ & \underset{\sim}{n} \\ & \underset{N}{2} \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \stackrel{\sim}{\infty} \\ & \dot{N} \\ & \text { N } \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{\mathrm{N}} \\ & \underset{\mathrm{~N}}{ } \end{aligned}\right.$ | $\left\|\begin{array}{l} \stackrel{O}{N} \\ \underset{N}{2} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \mathrm{Z} \\ & \underset{\mathrm{~N}}{ } \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ \infty \\ \dot{N} \end{array}\right\|$ | $\begin{gathered} \underset{N}{N} \\ \underset{N}{2} \end{gathered}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \underset{N}{N} \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \mathrm{~N} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \stackrel{0}{0} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \bar{N} \\ & \underset{N}{N} \end{aligned}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\mathrm{N}} \\ & \dot{\mathrm{~N}} \end{aligned}$ | $\begin{aligned} & \text { ஹి } \\ & \dot{N} \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { ® } \\ & \text { Ni } \end{aligned}$ | $\left\|\begin{array}{c} \underset{N}{\mathrm{~N}} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \mathrm{o} \\ & \underset{~ N}{2} \\ & \underset{~}{2} \end{aligned}$ | $\begin{aligned} & \text { B } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{N}{n} \end{aligned}$ | $\frac{\stackrel{1}{N}}{\stackrel{1}{N}}$ | $\underset{\underset{N}{N}}{\underset{N}{2}}$ | $\stackrel{N}{\grave{N}}$ | $\begin{aligned} & \text { O } \\ & \underset{\sim}{N} \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \text { Q } \\ & \underset{\sim}{\mathrm{N}} \end{aligned}$ | $\begin{gathered} \hat{C} \\ \underset{N}{N} \end{gathered}$ | $\begin{aligned} & \underset{~}{\mathbf{N}} \\ & \underset{\mathrm{~N}}{ } \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \underset{N}{N} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \underset{\sim}{N} \end{aligned}$ | $\begin{aligned} & \text { L } \\ & 0 \\ & \text { N } \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \mid \end{gathered}\right.$ | $\begin{aligned} & \underset{\infty}{\infty} \\ & \underset{N}{N} \end{aligned}$ | 슬 |
| $\stackrel{\circ}{\underset{0}{E}}$ | $\left\|\begin{array}{c} \stackrel{\rightharpoonup}{+} \\ \stackrel{\rightharpoonup}{2} \end{array}\right\|$ | on | $\left\|\begin{array}{l} 0 \\ 0 \\ \infty \\ \underset{\sim}{2} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{N} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \infty \\ & \underset{\sim}{n} \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{2} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{+} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\left.\begin{aligned} & \pm \\ & \infty \\ & N \\ & N \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{c} \underset{\infty}{\infty} \\ \underset{N}{N} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathrm{O} \\ \mathrm{O} \\ \mathrm{~N} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{\sim}{2} \end{array}\right\|$ | $\stackrel{o}{\infty} \underset{\sim}{\infty}$ | $\left\|\begin{array}{c} \overline{\mathrm{O}} \\ \dot{N} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ \infty \\ \underset{N}{\infty} \end{array}\right\|$ | $\left\|\begin{array}{l} \hat{o} \\ 0 \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \stackrel{\leftrightarrow}{\infty} \\ & \underset{\sim}{0} \\ & \underset{N}{2} \end{aligned}$ | $\left\lvert\, \begin{gathered} \mathbf{~} \\ \underset{\sim}{2} \\ \underset{N}{2} \end{gathered}\right.$ | $\left\|\begin{array}{c} \underset{\sim}{\mathrm{o}} \\ \underset{\sim}{2} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{N}{2} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \stackrel{\rightharpoonup}{N} \\ & \underset{N}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} 1 \\ 0 \\ 0 \\ \underset{N}{2} \end{array}\right\|$ | $\underset{\sim}{\sim}$ | $\frac{\circ}{\underset{N}{N}}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{\mathrm{N}} \\ & \stackrel{\sim}{\mathrm{~N}} \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \underset{\sim}{\infty} \end{aligned}$ | $\begin{aligned} & \text { B. } \\ & \text { © } \\ & \text { Ni } \end{aligned}$ | $\begin{aligned} & \text { J } \\ & \text { N } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & 0 \\ & \hline \end{aligned}$ | $\frac{0}{i}$ | $\begin{aligned} & 0 \\ & \infty \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \circ \\ & \infty \\ & \underset{N}{\infty} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{1} \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{1} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \text { N } \end{aligned}\right.$ |  | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{2} \end{aligned}$ | ¢ |
| 苋 | $\left\|\begin{array}{c} \underset{N}{i} \\ \stackrel{N}{\mathrm{~N}} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \underset{N}{n} \\ & 0 \\ & \hline \end{aligned}$ | $\left.\begin{aligned} & \mathbf{N} \\ & \underset{\sim}{0} \end{aligned} \right\rvert\,$ | $\begin{gathered} \underset{j}{\mathrm{j}} \\ \mathbf{N} \end{gathered}$ | $\left\|\begin{array}{c} \underset{N}{n} \\ \dot{e} \end{array}\right\|$ | $\left.\begin{aligned} & \mathbf{O} \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\begin{gathered} \mathrm{N} \\ \dot{j} \\ \mathrm{~m} \end{gathered}$ | $\begin{aligned} & \mathbf{j} \\ & 0 \\ & 0 \\ & \mathbf{N} \end{aligned}$ | $\left\|\begin{array}{l} j \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \underset{\dot{0}}{\dot{0}} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{N}{n} \\ & \stackrel{N}{n} \end{aligned}$ | $\left\lvert\, \begin{aligned} & n \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \dot{M} \end{aligned}\right.$ | $\begin{aligned} & \mathbf{M} \\ & \\ & \end{aligned}$ | $\left\|\begin{array}{l} \underset{\sim}{N} \\ \dot{e} \\ ल \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{0} \\ \mathbf{N} \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{C} \\ & \mathrm{~m} \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{\sim}{e} \end{aligned}$ | $\frac{0}{\dot{0}}$ | $\left\|\begin{array}{l} 9 \\ \mathbf{N} \\ 10 \\ ल \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \mathbf{0} \\ & \mathbf{0} \\ & \mathbf{c} \end{aligned}\right.$ | $\begin{aligned} & \pm \\ & \dot{C} \\ & \end{aligned}$ | $\begin{aligned} & N \\ & N \\ & 1 \\ & \end{aligned}$ | $\begin{aligned} & \pm \\ & \mathbf{M} \\ & 0 \\ & \mathbf{M} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{c} \hat{j} \\ \mathfrak{j} \\ \mathbf{N} \end{array}\right\|$ | $\begin{aligned} & \text { M } \\ & \underset{\sim}{0} \\ & \vdots \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{N}{0} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 1 \\ & 10 \\ & \hline \end{aligned}$ | $\begin{aligned} & \overline{0} \\ & \stackrel{1}{0} \end{aligned}$ | $\begin{aligned} & \mathrm{C} \\ & \mathbf{C} \\ & \mathrm{C} \\ & \mathrm{~m} \end{aligned}$ |  | $\stackrel{\underset{C}{\underset{~}{e}}}{ }$ | $\underset{\dot{M}}{\underset{M}{c}}$ | $\underset{\underset{\sim}{\mathrm{e}}}{\underset{\sim}{c}}$ | $\underset{\underset{C}{c}}{\underset{C}{F}}$ | $\frac{\square}{\underset{e}{e}}$ | $\begin{aligned} & \underset{N}{N} \\ & \mathbf{N} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}$ | $\stackrel{\underset{\sim}{\mathrm{N}}}{\underset{\mathrm{C}}{2}}$ | $\frac{0}{\dot{e}}$ | $\stackrel{ \pm}{\text { ̇ }}$ |
| $\frac{5}{\hat{0}} \mathbf{0}$ | $\|\stackrel{\rightharpoonup}{\mathrm{m}} \underset{\mathrm{r}}{ }\|$ |  | $\begin{aligned} & \mathrm{M} \\ & 0 \\ & \mathbf{N} \end{aligned}$ | $\stackrel{\text { 읃 }}{-}$ | $\left\|\begin{array}{l} \hat{0} \\ 0 \\ \infty \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{+} \\ & \dot{\sim} \end{aligned}\right.$ | $\stackrel{\Gamma}{\square}$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{\sim}{\mathrm{~N}} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{N}{\mathbf{N}} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \underset{0}{9} \\ & \stackrel{\pi}{2} \end{aligned}\right.$ | $\stackrel{\rightharpoonup}{\hat{e}} \underset{\sim}{r}$ | $\left\lvert\, \begin{aligned} & \underset{\mathrm{N}}{\mathrm{~N}} \end{aligned}\right.$ | $\begin{gathered} n \\ \underset{\sim}{n} \\ 0 \end{gathered}$ | $\underset{\sim}{\infty} \underset{\sim}{\infty}$ | $\left.\begin{aligned} & m \\ & \infty \\ & m \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} 1 \\ 0 \\ 0 \end{array}\right\|$ |  | $\left\|\begin{array}{l} \dot{m} \\ \dot{\omega} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ 0 \\ \infty \\ \infty \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \stackrel{0}{-} \\ & \hline \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \infty \\ & \infty \end{aligned}$ | $\frac{m}{s}$ | $\left\lvert\, \begin{gathered} 10 \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \infty \end{aligned}$ | $\frac{0}{0}$ | $\underset{\sim}{\underset{N}{2}}$ | $\begin{gathered} 0 \\ \underset{\infty}{\infty} \\ \infty \end{gathered}$ | $\left.\begin{gathered} \underset{N}{N} \\ \dot{\prime} \end{gathered} \right\rvert\,$ | $\left\lvert\, \begin{aligned} & \mathrm{O} \\ & \mathrm{O} \\ & \mathrm{i} \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \stackrel{\sim}{n} \\ & \sim \end{aligned}$ | $\begin{aligned} & m \\ & \underset{c}{n} \\ & \end{aligned}$ | $\stackrel{\infty}{\sim}$ | $\begin{aligned} & \bar{m} \\ & \dot{0} \end{aligned}$ | $\begin{aligned} & \bar{m} \\ & \dot{0} \end{aligned}$ | $\underset{\sim}{\underset{\sim}{N}}$ | $0$ | $\begin{aligned} & \infty \\ & \infty \\ & \end{aligned}$ | $\begin{aligned} & \varphi \\ & \hline \\ & \hline \end{aligned}$ | $\underset{\substack{2 \\ 0 \\ 0}}{ }$ | $\left\|\begin{array}{l} \hat{0} \\ \dot{N} \\ \hline \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \hline 0 \\ & \hline 1 \end{aligned}$ | $\stackrel{\sim}{\sim}$ |
|  | $\left\|\begin{array}{l} \bar{N} \\ \hat{N} \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \text { N } \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \stackrel{\infty}{\infty} \\ & 0 \\ & 0 \\ & \infty \\ & \infty \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & \overline{8} \\ & \hline \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & \mathrm{N} \\ & \mathbf{8} \\ & \mathbf{O} \\ & \mathbf{O} \\ & \hline \mathbf{1} \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & \hline \\ & \hline \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & \mathbf{0} \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \mathbf{O} \\ & \mathbf{O} \\ & \mathbf{O} \\ & \mathbf{O} \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \bar{m} \\ & \mathbf{j} \\ & \vdots \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & N \\ & \mathbf{N} \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\left\|\begin{array}{c} \bar{\sim} \\ \hline \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \underset{N}{N} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \bar{\sim} \\ & \mathbf{0} \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \overline{0} \\ \hline \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & \mathbf{O} \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & 3 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ | $\begin{aligned} & \bar{\circ} \\ & \hline \mathbf{O} \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & \mathbf{O} \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & \mathbf{O} \\ & \mathbf{O} \\ & \hline \mathbf{1} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \underset{O}{\infty} \\ & 0 \\ & 0 \\ & \hline 1 \\ & \hline \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l}  \pm \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \hline 8 \\ & \mathbf{O} \\ & \mathbf{O} \\ & \hline 1 \end{aligned}$ | $\begin{aligned} & \bar{o} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \overline{\mathrm{O}} \\ & \mathbf{8} \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\infty} \\ \infty \end{gathered}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\infty} \\ \underset{\infty}{1} \end{gathered}$ | $\begin{gathered} \underset{N}{N} \\ \underset{\sim}{\infty} \\ \underset{\sim}{\infty} \end{gathered}$ |  | $\begin{aligned} & 0 \\ & \underset{8}{8} \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  | $\left\lvert\, \begin{aligned} & \infty \\ & \mathbf{0} \\ & \mathbf{8} \\ & \mathbf{o} \\ & \mathbf{o} \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & 10 \\ & \text { O } \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & 10 \\ & \text { O } \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ | $\begin{aligned} & 10 \\ & \mathbf{0} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \infty \end{aligned}\right.$ | ¢ |
|  |  | $\begin{gathered} \underset{N}{N} \\ \underset{\sim}{N} \\ \underset{N}{N} \end{gathered}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{N} \\ \dot{N} \\ \hline \end{gathered}\right.$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{c} \\ & \dot{N} \end{aligned}$ | $\left\|\begin{array}{l} 1 \\ N \\ 0 \\ 0 \\ 0 \\ N \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hat{N} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \hat{0} \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hat{N} \end{array}\right\|$ | $\left.\begin{aligned} & \hat{N} \\ & \hat{e} \\ & 0 \\ & \dot{N} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} \underset{N}{N} \\ \mathbf{O} \\ \dot{0} \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \mathbf{D} \\ & \mathbf{N} \\ & \mathbf{O} \\ & \dot{N} \\ & \mathrm{~N} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ \dot{c} \end{array}\right\|$ | $\left.\begin{aligned} & \mathrm{J} \\ & \mathrm{O} \\ & \mathrm{O} \\ & \dot{0} \\ & \mathrm{~N} \end{aligned} \right\rvert\,$ | $\begin{array}{\|l} \hline 0 \\ \hline- \\ \hline \mathbf{O} \\ \dot{N} \end{array}$ | $\begin{aligned} & \underset{\sim}{\infty} \\ & \underset{N}{\alpha} \\ & \stackrel{1}{N} \end{aligned}$ | $\left\|\begin{array}{l} \dot{\infty} \\ \underset{N}{N} \\ \stackrel{N}{N} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{N} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\begin{aligned} & \hat{N} \\ & \underset{N}{N} \\ & \underset{N}{N} \end{aligned}$ | $\begin{aligned} & \mathbf{D} \\ & \underset{N}{N} \\ & \underset{N}{N} \end{aligned}$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{\sim}{N} \\ \stackrel{N}{N} \end{array}\right\|$ | $\begin{aligned} & \mathrm{m} \\ & \underset{\sigma}{\sigma} \\ & \stackrel{N}{N} \end{aligned}$ | $\begin{aligned} & \varrho \\ & \stackrel{Q}{\sigma} \\ & \stackrel{N}{N} \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ \underset{\sigma}{\sigma} \\ \stackrel{\rightharpoonup}{j} \\ \underset{N}{2} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & N \\ & N \\ & \infty \\ & \underset{N}{N} \\ & \underset{N}{2} \end{aligned}\right.$ | $\begin{aligned} & \underset{0}{2} \\ & 0 \\ & 0 \\ & \stackrel{N}{N} \end{aligned}$ | $\begin{aligned} & \hat{N} \\ & \mathbf{O} \\ & \infty \\ & \underset{N}{n} \end{aligned}$ | 容 | $\begin{aligned} & m \\ & 0 \\ & \\ & \end{aligned}$ | $\begin{gathered} \bar{n} \\ \underset{\sim}{0} \\ \stackrel{N}{N} \end{gathered}$ | $\begin{aligned} & \text { } \\ & 0 \\ & 0 \\ & م \\ & م \\ & N \end{aligned}$ | $\begin{aligned} & \text { 寸 } \\ & \text { on } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \text { no } \\ & \text { No } \\ & 10 \\ & \end{aligned}$ |  | $\begin{aligned} & \bar{N} \\ & \\ & \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \bar{N} \\ & 0 \\ & 0 \\ & \stackrel{N}{N} \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \mathfrak{N} \\ & \mathfrak{N} \\ & \mathrm{~N} \end{aligned}$ | $\left\|\begin{array}{l} 1 \\ N \\ 0 \\ 0 \\ \mathfrak{N} \end{array}\right\|$ | $\begin{aligned} & \stackrel{0}{N} \\ & \hat{0} \\ & 0 \\ & \stackrel{1}{N} \end{aligned}$ | N |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \sum \\ & i \\ & i \\ & i \\ & i \\ & i \\ & \frac{J}{V} \\ & \underset{i}{N} \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \underset{n}{N} \\ & \underset{N}{-} \\ & \stackrel{\rightharpoonup}{v} \\ & \underset{V}{v} \\ & \underset{N}{n} \end{aligned}$ | $\begin{aligned} & \sum \underset{\Sigma}{\sum} \\ & \underset{N}{N} \\ & \dot{\infty} \\ & \underset{N}{\Sigma} \\ & \underset{N}{\Sigma} \end{aligned}$ |  |  | $\begin{gathered} \sum_{c} \\ n \\ N \\ \dot{\infty} \\ \underset{N}{N} \\ \stackrel{N}{N} \end{gathered}$ |  |  |  | $\begin{aligned} & \sum \\ & \sum \\ & 0 \\ & 0 \\ & 00 \\ & \underset{N}{N} \\ & \frac{N}{N} \\ & \frac{1}{N} \end{aligned}$ | $\begin{aligned} & \sum \\ & \underset{N}{N} \\ & N \\ & 0 \\ & 0 \\ & \frac{J}{N} \\ & \frac{N}{N} \\ & \frac{1}{N} \end{aligned}$ |  |
|  |  | $\begin{aligned} & U \\ & \frac{1}{2} \\ & \frac{1}{n} \end{aligned}$ | $\left\|\begin{array}{l} \frac{1}{\dot{y}} \\ \frac{1}{m} \end{array}\right\|$ | $\begin{aligned} & \underset{i}{\prime} \\ & \dot{\grave{y}} \\ & \mathbf{m} \end{aligned}$ | $\left\|\begin{array}{l} \underset{1}{1} \\ \underset{\sim}{\underset{M}{2}} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{1}{n} \\ \underset{\sim}{\underset{m}{2}} \end{array}\right\|$ | $\begin{aligned} & \underset{1}{1} \\ & \underset{\sim}{\underset{~}{2}} \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 1_{1} \\ & \underset{m}{1} \end{aligned}\right.$ | $\left\|\begin{array}{c} x \\ 0 \\ \dot{\omega} \\ \underset{\sim}{\infty} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & m \\ & \underset{m}{m} \\ & \underset{m}{c} \end{aligned}\right.$ | $\begin{gathered} \underset{\sim}{c} \\ \underset{\sim}{c} \\ \hline \end{gathered}$ | $\left\|\begin{array}{l} U \\ \frac{1}{4} \\ \underset{\sim}{4} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\grave{c}} \\ \mid \end{array}\right\|$ | $\begin{aligned} & \underset{i}{t} \\ & \frac{1}{d} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \underset{1}{2} \\ \underset{\sim}{c} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{1}{N} \\ \underset{\sim}{\mathbf{y}} \end{array}\right\|$ | $\begin{aligned} & \underset{i}{\grave{1}} \\ & \underset{\sim}{x} \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{aligned} & 0 \\ & \dot{N} \\ & \underset{\Sigma}{2} \\ & \Sigma \end{aligned}$ | $\left\|\begin{array}{l} m \\ \dot{N} \\ \underset{\sum}{\sum} \end{array}\right\|$ | $\begin{aligned} & \underset{i}{\lambda} \\ & \underset{N}{2} \\ & \underset{\Sigma}{ } \end{aligned}$ | $\left\lvert\, \begin{aligned} & U \\ & \frac{1}{\Sigma} \\ & \Sigma \\ & \Sigma \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{2} \\ & \sum \end{aligned}\right.$ | $\begin{aligned} & \mathbb{Z} \\ & \frac{1}{\Sigma} \\ & \sum \end{aligned}$ | $\begin{aligned} & U \\ & { }_{1}^{2} \\ & ⿳ 亠 丷 厂 彡 \\ & \sum \\ & \Sigma \end{aligned}$ | ${ }_{2}^{\infty}$ | $\left\|\begin{array}{l} \mathbb{K} \\ \sum_{2} \\ \sum \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \tilde{m} \\ & \frac{1}{\infty} \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \mathbf{m} \\ & \underset{\infty}{m} \end{aligned}\right.$ |  | $\begin{aligned} & \frac{4}{I} \\ & \frac{I}{\Phi} \end{aligned}$ | $\sum_{0}^{1}$ | $\sum_{0}^{\mathbb{1}}$ | $\begin{aligned} & 0 \\ & 1 \\ & \hat{1} \\ & \mathbf{D} \end{aligned}$ | $\begin{aligned} & x \\ & 0 \\ & \hat{1} \\ & \underline{y} \\ & \hline \end{aligned}$ | $\begin{aligned} & m \\ & \hat{p} \\ & \frac{1}{m} \end{aligned}$ | $\begin{aligned} & \mathbb{K} \\ & \hat{y} \\ & \frac{1}{\text { a }} \end{aligned}$ | $\frac{C}{\frac{1}{\alpha}}$ | $\left\lvert\, \frac{\underset{1}{\stackrel{1}{\alpha}}}{\stackrel{\rightharpoonup}{山}}\right.$ | $\begin{aligned} & \underset{i}{\dot{~}} \\ & \frac{\underset{\sim}{r}}{1} \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \underset{1}{2} \\ \underset{\sim}{4} \end{array}\right\|$ | $\begin{array}{\|c} \underset{\sim}{n} \\ \underset{\sim}{\underset{u}{4}} \end{array}$ |  |


| $\frac{\square}{\frac{1}{c}}$ | $\left\|\begin{array}{c} \text { N } \\ \mathbf{o} \end{array}\right\|$ | $\begin{gathered} N \\ \mathbf{N} \\ \hline \end{gathered}$ | $\underset{\substack{~ \\ \\ \hline}}{ }$ | $\begin{gathered} \underset{N}{N} \\ \mathbf{O} \end{gathered}$ | $\left\lvert\, \begin{gathered} \underset{N}{N} \\ \mathbf{O} \end{gathered}\right.$ | $\begin{gathered} \mathbf{N} \\ \mathbf{o} \end{gathered}$ | $\stackrel{\sigma}{\dot{\circ}}$ | $\left\|\begin{array}{c} \mathrm{N} \\ \mathbf{o} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \mathbf{N} \\ 0 \end{array}\right\|$ | $\begin{array}{\|c} \mathbf{N} \\ \mathbf{o} \end{array}$ | $\left\|\begin{array}{c} n \\ \underset{o}{0} \end{array}\right\|$ | $\begin{array}{\|c} \hat{N} \\ \end{array}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} \mathbf{N} \\ \mathbf{O} \end{gathered}$ | $\begin{aligned} & \hat{N} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \overline{5} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{m}{c} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 9 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \text { ¢ } \\ \dot{\circ} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{N}{N} \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & 0 \\ & \hline \end{aligned}$ | $$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \bar{m} \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | － | $\begin{aligned} & \mathrm{N} \\ & \mathrm{o} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{c} \mathbf{m} \\ \mathbf{o} \end{array}\right\|$ | $\stackrel{N}{\dot{o}}$ | 4 | $\left\|\begin{array}{l} 1 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{1}{6}$ | $\stackrel{O}{\stackrel{O}{\mathrm{~N}}}$ | $\stackrel{N}{0}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | ${ }^{+}$ | $\begin{aligned} & \mathbf{m} \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{o} \end{aligned}$ | $0$ | N－ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\stackrel{\square}{1}$ | $\stackrel{ \pm}{\text { ¢ }}$ | $\frac{7}{\sigma}$ | $\frac{\square}{\sigma}$ | $\frac{\pi}{0}$ | $\left\|\begin{array}{l}  \pm \\ \vdots \\ 0 \end{array}\right\|$ | $\frac{\pi}{\sigma}$ | $\frac{\pi}{i}$ | $\frac{\dot{O}}{\stackrel{O}{0}}$ | $\frac{\pi}{\sigma}$ | $$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\frac{\dot{O}}{\stackrel{\rightharpoonup}{0}}$ | $\frac{\dot{O}}{\dot{O}}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\frac{\dot{\sigma}}{\underset{0}{0}}$ | $\left\lvert\, \begin{gathered} 0 \\ \mathrm{~N} \\ \mathbf{O} \end{gathered}\right.$ | $\frac{\ddot{~}}{\stackrel{\rightharpoonup}{0}}$ | $\left\|\begin{array}{l} \pi \\ \underset{O}{\circ} \end{array}\right\|$ | $\left\|\begin{array}{c} \stackrel{O}{N} \\ \underset{N}{\mathbf{O}} \end{array}\right\|$ | $\left\|\begin{array}{c} \stackrel{O}{\mathrm{~N}} \\ \mathbf{O} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{gathered}\right.$ | $\left.\frac{\dot{~}}{\underset{O}{0}} \right\rvert\,$ | $\left\lvert\, \begin{gathered} 0 \\ N \\ N \\ \mathbf{N} \end{gathered}\right.$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\left\|\begin{array}{l} \dot{d} \\ \stackrel{\rightharpoonup}{0} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{gathered}\right.$ | $\frac{\square}{\vdots}$ | $\begin{aligned} & i \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{gathered}\right.$ | $\begin{gathered} \mathbf{m} \\ \underset{\sim}{0} \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\begin{gathered} \infty \\ \stackrel{N}{N} \\ 0 \\ \hline \end{gathered}$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{N}{N} \\ 0 \\ 0 \end{gathered}\right.$ | $\frac{\pi}{i}$ | $\frac{\dot{O}}{\stackrel{O}{0}}$ | $\begin{aligned} & 0 \\ & \underset{N}{N} \\ & 0 \end{aligned}$ | $\begin{gathered} \circ \\ \underset{N}{N} \\ \hline \end{gathered}$ | $\frac{\square}{\sigma}$ | $\frac{\square}{o}$ | $\underset{\sim}{\underset{N}{N}}$ | $\begin{gathered} 0 \\ \underset{\sim}{N} \\ \vdots \end{gathered}$ | － |
| Z | $\left\|\begin{array}{c} \circ \\ \underset{\sim}{0} \\ \underset{寸}{*} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 10 \\ & 10 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{N}{1} \\ 1 \end{array}\right\|$ | $\left\|\begin{array}{c} \bar{i} \\ 0 \\ 0 \end{array}\right\|$ | $\begin{array}{\|c} \stackrel{\rightharpoonup}{\hat{N}} \\ \stackrel{0}{\mathbf{V}} \end{array}$ | $\begin{aligned} & \infty \\ & \infty \\ & \\ & \end{aligned}$ | $\underset{\sim}{\underset{\sim}{r}}$ | $\begin{array}{\|c} \stackrel{i}{n} \\ \underset{\sim}{2} \\ \hline \end{array}$ | $\left.\begin{array}{l\|l\|} \hline 0 \\ 0 \\ 0 \\ 0 \end{array} \right\rvert\,$ | $\left\lvert\, \begin{gathered} \underset{\sim}{n} \\ \\ \underset{\sim}{2} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \underset{\sim}{n} \\ \underset{\sim}{\circ} \end{gathered}\right.$ | $\stackrel{\rightharpoonup}{\lambda}$ | $\begin{aligned} & \underset{\sim}{\lambda} \\ & \underset{~}{\prime} \end{aligned}$ | $\begin{gathered} 0 \\ \infty \\ \underset{\sim}{\infty} \\ \underset{j}{2} \end{gathered}$ | $\begin{aligned} & 0 \\ & \infty \\ & \infty \\ & \infty \end{aligned}$ | $\left\|\begin{array}{c} \bar{i} \\ \mathbf{N} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \hat{0} \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left.\begin{gathered} \underset{\sim}{N} \\ \stackrel{\rightharpoonup}{0} \end{gathered} \right\rvert\,$ | $\left\|\begin{array}{l} \hat{1} \\ \underset{\sim}{n} \\ 0 \\ - \end{array}\right\|$ | $\begin{aligned} & \hat{n} \\ & \mathbf{n} \\ & 0 \\ & 0 \\ & - \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{c} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\underset{\infty}{\underset{\sim}{\sim}}$ | $\left.\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \infty \end{aligned} \right\rvert\,$ | $\|\underset{\infty}{\underset{\sim}{f}}\|$ | $\stackrel{\rightharpoonup}{\underset{\sim}{r}}$ | $\begin{aligned} & 0 \\ & \hline 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 10 \\ 1 \end{array}\right\|$ | $\begin{gathered} \overline{\hat{O}} \\ \mathbf{0} \\ \mathbf{N} \end{gathered}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{j} \end{aligned}$ | $\frac{\underset{\sim}{f}}{\underset{\infty}{+}}$ | $\underset{\infty}{\underset{\sim}{\sim}}$ | $\begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{+} \end{gathered}$ | $\underset{\dot{F}}{\underset{\sim}{\circ}}$ | $\stackrel{M}{\underset{\sim}{\dot{\circ}}}$ | $\underset{\infty}{\underset{\sim}{f}}$ | $\begin{aligned} & \mathrm{O} \\ & \hline 0 \\ & \mathrm{~N} \end{aligned}$ | $\stackrel{m}{\underset{\sigma}{\dot{c}}}$ | $\begin{aligned} & \text { ® } \\ & \underset{0}{\mathrm{o}} \\ & \hline \end{aligned}$ | $\stackrel{\star}{\underset{\circ}{\circ}}$ | $\stackrel{m}{\underset{\sim}{r}}$ | $\stackrel{\sim}{\square}$ |
| $\underset{1}{z}$ | $\left\|\begin{array}{l\|} \hline 0 \\ \hline 0 \\ \dot{\gamma} \end{array}\right\|$ | $\underset{\substack{\bar{N} \\ \underset{\sim}{n} \\ \hline}}{ }$ | $\underset{\sim}{\underset{N}{N}}$ | $\begin{aligned} & \mathrm{O} \\ & \hline 0 \\ & \dot{0} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{\sim}{0} \\ \underset{0}{2} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \hline \\ & \underset{\sim}{N} \\ & \underset{寸}{\prime} \end{aligned}\right.$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{C} \\ & \mathrm{C} \\ & \mathrm{~m} \end{aligned}$ | $\underset{\underset{\sim}{\sim}}{\underset{\sim}{\sim}}$ | $\begin{aligned} & \overline{\mathrm{N}} \\ & \dot{\sim} \end{aligned}$ | $\stackrel{\underset{N}{N}}{\underset{\sim}{\top}}$ | $\begin{aligned} & \underset{\sim}{\hat{N}} \\ & \dot{子} \end{aligned}$ | $\begin{aligned} & \stackrel{\infty}{\infty} \\ & \infty \\ & \dot{x} \end{aligned}$ | $\stackrel{\underset{\sim}{\sim}}{\underset{\sim}{r}}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{n} \end{gathered}\right.$ | $\begin{aligned} & \mathrm{O} \\ & \stackrel{0}{0} \\ & \mathrm{~m} \end{aligned}$ | $\left\|\begin{array}{c} \hat{0} \\ \infty \\ \mathbf{N} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \stackrel{\rightharpoonup}{\mathbf{O}} \\ \mathbf{0} \end{array}\right\|$ | $\left\|\begin{array}{l} \bar{N} \\ 0 \\ \dot{0} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathrm{O} \\ 0 \\ 0 \\ 0 \\ - \end{array}\right\|$ | O- | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & r \end{aligned}$ | $\left.\begin{aligned} & \hat{n} \\ & \infty \\ & \underset{\sim}{2} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{c} \bar{N} \\ \mathbf{N} \\ \infty \end{array}\right\|$ | $\left\|\begin{array}{l} \hat{n} \\ \infty \\ \underset{\sim}{n} \end{array}\right\|$ | $\begin{array}{\|c} \underset{\sim}{n} \\ \\ \underset{\sim}{2} \end{array}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\lambda} \\ & \stackrel{\circ}{\circ} \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{N}{N} \\ \stackrel{\rightharpoonup}{N} \end{gathered}\right.$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{\dot{r}} \\ \hline \end{gathered}\right.$ | $\left\|\begin{array}{c} \underset{\sim}{\infty} \\ \infty \\ \underset{~}{2} \end{array}\right\|$ | $\begin{aligned} & n \\ & \infty \\ & \infty \\ & \end{aligned}$ | $\left\|\begin{array}{l} \hat{n} \\ \infty \\ \underset{\sim}{2} \end{array}\right\|$ | $\underset{i}{\stackrel{\rightharpoonup}{N}}$ | $\begin{aligned} & N \\ & \infty \\ & \infty \\ & \infty \end{aligned}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \infty \\ & \sim \end{aligned}$ |  | $\frac{\pi}{N}$ | $\begin{aligned} & m \\ & \substack{0 \\ \dot{0}} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{N}{N} \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \end{aligned}$ | $\bigcirc$ |
| $\stackrel{+}{\boldsymbol{Z}}$ | $\left\|\begin{array}{l} 0 \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \substack{n \\ N \\ O} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & \underset{O}{0} \end{aligned}\right.$ | $\begin{gathered} 0 \\ 0 \\ N \\ 0 \end{gathered}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{\sim}{0} \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ \underset{\sim}{0} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ \mathbf{N} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{O}{0} \end{aligned}\right.$ | $\begin{gathered} \bar{i} \\ 0 \\ 0 \end{gathered}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathbf{D} \\ & \mathbf{N} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{N} \\ \mathbf{O} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \underset{\sim}{N} \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\right\|$ | $\left\|\begin{array}{l} 1 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{array}{\|l} n \\ \\ 0 \\ 0 \end{array}$ | $\left\|\begin{array}{c} \underset{\sim}{\sim} \\ \underset{\sim}{0} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & \mathbf{O} \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\begin{array}{\|c} \mathbf{N} \\ \\ 0 \end{array}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & \mathbf{N} \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{y}{1} \\ & \mathbf{N} \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & \underset{0}{0} \end{aligned}$ | $\begin{array}{\|c} \stackrel{N}{n} \\ \underset{\sim}{n} \end{array}$ | $\left\|\begin{array}{l} 0 \\ \underset{\sim}{N} \\ \mathbf{O} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{N}{N} \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \bar{N} \\ 0 \\ 0 \end{array}\right\|$ | $\underset{\sim}{\sim}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{O}{0} \end{aligned}$ | $\begin{gathered} 0 \\ \underset{N}{\infty} \\ 0 \end{gathered}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{0} \end{gathered}\right.$ | $\begin{gathered} 0 \\ 0 \\ N \\ 0 \end{gathered}$ | $\begin{gathered} \text { O } \\ \underset{\sim}{*} \\ \hline \end{gathered}$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | N |
| $\underset{\sim}{\mathrm{O}}$ | $\left\|\begin{array}{c} \stackrel{\rightharpoonup}{9} \\ \stackrel{\rightharpoonup}{2} \end{array}\right\|$ | $\mathfrak{N}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \dot{N} \end{array}\right\|$ | $\left\|\begin{array}{l} \underset{\oplus}{寸} \\ \dot{\oplus} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\underset{\infty}{\dot{N}}$ | $\left\|\begin{array}{c} 0 \\ \underset{0}{0} \end{array}\right\|$ | $\left.\begin{gathered} \bar{m} \\ c \end{gathered} \right\rvert\,$ | $\left.\begin{aligned} & 10 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\begin{aligned} & \mathbf{U} \\ & \mathbf{0} \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{0}{2} \end{gathered}\right.$ | $\begin{gathered} \hat{\infty} \\ \infty \\ 10 \end{gathered}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left.\begin{aligned} & 9 \\ & \stackrel{9}{\circ} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} \infty \\ \infty \\ i \end{array}\right\|$ | $\left\|\begin{array}{l} \circ \\ \dot{0} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 10 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 10 \\ 10 \end{array}\right\|$ | $\begin{aligned} & \underset{N}{\infty} \\ & \infty \\ & i n \end{aligned}$ | $\stackrel{\circ}{\dot{0}}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \hline \end{aligned}$ | $\underset{\dot{\varphi}}{\underset{\sim}{N}}$ | $\left\|\begin{array}{l} \hat{o} \\ \dot{0} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\underset{\dot{0}}{\infty}$ | $\left.\begin{aligned} & \mathbf{~} \\ & \dot{0} \end{aligned} \right\rvert\,$ | $\begin{aligned} & \overline{0} \\ & \dot{0} \end{aligned}$ | $\begin{gathered} \mathrm{N} \\ \mathbf{N} \end{gathered}$ | $\left\|\begin{array}{l} \mathbf{o} \\ \underset{0}{0} \end{array}\right\|$ | $\begin{aligned} & \text { O} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \underset{y}{\dot{\theta}} \\ & \dot{0} \end{aligned}$ | $\underset{\substack{\text { N} \\ \text { N }}}{ }$ | $\begin{aligned} & \bar{m} \\ & \dot{0} \end{aligned}$ | $\begin{aligned} & \bar{m} \\ & \dot{0} \end{aligned}$ | $\left\lvert\, \begin{aligned} & 10 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{2} \\ & \underset{0}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} n \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{1}{0}$ | ¢ | N |
|  | $\left\|\begin{array}{l} n \\ 0 \\ 0 \end{array}\right\|$ | O- | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 9 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{m}{0}$ | $\begin{aligned} & \hat{0} \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \pm \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 1 \\ & \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 7 \\ 0 \\ 0 \end{array}\right\|$ |  | $\left\|\begin{array}{l} n \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \overline{6} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \Gamma \end{array}\right\|$ |  | $\|\stackrel{\circ}{\underset{\sim}{\bullet}}\|$ | $\stackrel{\hat{N}}{\stackrel{n}{r}}$ | $\left\lvert\, \begin{gathered} \hat{N} \\ \dot{o} \end{gathered}\right.$ | $\stackrel{\rightharpoonup}{N}$ | $\left\|\begin{array}{c} \underset{\sim}{\underset{N}{2}} \end{array}\right\|$ | $\begin{gathered} N \\ N \\ 0 \end{gathered}$ | $\left\|\begin{array}{l} 3 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\stackrel{\infty}{\infty}$ | $\begin{aligned} & \mathrm{N} \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & \hline \end{aligned}$ | $\stackrel{\mathrm{c}}{\mathrm{~m}}$ | $\left\|\begin{array}{l} \hat{0} \\ 0 \\ 0 \end{array}\right\|$ | $0$ | $\left.\begin{aligned} & \mathrm{J} \\ & \mathrm{~N} \end{aligned} \right\rvert\,$ | $0$ | O | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\underset{~}{寸}$ | $\stackrel{\rightharpoonup}{\hat{\sigma}}$ | $\begin{aligned} & 5 \\ & 0 \\ & 0 \end{aligned}$ | $$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | 10 |
|  | $\begin{aligned} & 9 \\ & \stackrel{9}{0} \end{aligned}$ | N | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 9 \\ & \underset{0}{9} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\underset{\sim}{\infty} \mid$ | $\stackrel{\substack{\mathrm{g} \\ \stackrel{2}{2} \\ \hline}}{ }$ | $\begin{aligned} & \infty \\ & \infty \\ & \end{aligned}$ | $\begin{gathered} N \\ 0 \\ 0 \end{gathered}$ | $\stackrel{\circ}{\stackrel{\circ}{\circ}}$ | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 1 \\ & i \end{aligned}\right.$ | $\begin{gathered} N \\ \infty \\ 0 \end{gathered}$ | $\stackrel{\infty}{\infty} \underset{\sim}{\infty}$ | $\stackrel{\Gamma}{N}$ | $\left\|\begin{array}{l} \underset{0}{0} \\ \stackrel{\rightharpoonup}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \infty \\ \underset{\sim}{2} \end{array}\right\|$ | $\left\|\frac{\infty}{i}\right\|$ | $\left\|\begin{array}{l} \hat{e} \\ \dot{N} \end{array}\right\|$ | $\begin{aligned} & \mathbf{U} \\ & \mathbf{0} \\ & \end{aligned}$ | $\underset{\underset{\sim}{\underset{~}{*}}}{\substack{2}}$ | $\infty$ | ָ̄ | $\left\lvert\, \begin{aligned} & \mathbf{8} \\ & \mathbf{N} \\ & \text { in } \end{aligned}\right.$ | $\underset{\sim}{\underset{\sim}{\sim}}$ | $\stackrel{\infty}{\infty}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ m \end{array}\right\|$ | $\stackrel{\substack{\mathrm{N} \\ \mathrm{~N}}}{ }$ | $\begin{gathered} \mathbf{N} \\ \mathbf{N} \\ \mathfrak{N} \end{gathered}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{0} \\ \stackrel{\rightharpoonup}{2} \end{gathered}\right.$ | ন | $\left\lvert\, \begin{aligned} & \infty \\ & m \\ & \infty \end{aligned}\right.$ | $\begin{aligned} & \pm \\ & \hline 0 \end{aligned}$ | $\begin{aligned} & 9 \\ & 0 \\ & \hdashline \\ & \hdashline \end{aligned}$ | $\xrightarrow{9}$ | $\stackrel{\circ}{\stackrel{\circ}{\sim}}$ | $\underset{\sim}{\tau}$ |  | $\begin{aligned} & \circ \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{~N} \end{aligned}$ | $\stackrel{\substack{\text { N } \\ \text { N }}}{ }$ |
|  | $\left\|\begin{array}{l} \circ \\ \infty \\ \underset{N}{N} \end{array}\right\|$ | $\begin{aligned} & \mathfrak{M} \\ & \underset{N}{N} \end{aligned}$ | $\begin{aligned} & \overline{\mathrm{N}} \\ & \underset{\mathrm{~N}}{ } \end{aligned}$ | $\begin{gathered} \overline{\mathrm{N}} \\ \underset{\mathrm{~N}}{ } \end{gathered}$ | $\left\|\begin{array}{l} \stackrel{N}{N} \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathrm{O} \\ \mathrm{~N} \\ \mathrm{~N} \end{array}\right\|$ | $\begin{aligned} & \hat{C} \\ & \underset{N}{N} \end{aligned}$ | $\left\|\begin{array}{c} \stackrel{0}{+} \\ \underset{N}{+} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\mathrm{~N}}{ } \end{gathered}\right.$ | $\left\lvert\, \begin{array}{l\|} \hline 0 \\ \underset{N}{N} \\ \underset{N}{2} \end{array}\right.$ | $\begin{aligned} & \underset{\sim}{\underset{\sim}{~}} \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \stackrel{1}{\mathrm{~N}} \\ & \underset{\mathrm{~N}}{ } \end{aligned}$ | $\stackrel{\underset{N}{\mathrm{~N}}}{ }$ | $\left\|\begin{array}{l} 0 \\ \infty \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} \stackrel{N}{N} \\ \underset{N}{N} \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \stackrel{1}{\mathrm{~N}} \end{aligned}$ | $\left\|\begin{array}{c} \bar{o} \\ \underset{N}{n} \end{array}\right\|$ | $\left\|\begin{array}{l} \stackrel{\rightharpoonup}{n} \\ \underset{N}{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \stackrel{\rightharpoonup}{\mathrm{N}} \\ \underset{\mathrm{~N}}{ } \end{array}\right\|$ | $\left\|\begin{array}{l} \underset{\sim}{n} \\ \underset{N}{N} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{N}{2} \end{aligned}$ | $\left\|\begin{array}{c} \mathrm{O} \\ \mathrm{O} \\ \mathrm{~N} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{N}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} \infty \\ \infty \\ \underset{N}{N} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{\mathrm{N}} \\ & \underset{\mathrm{~N}}{ } \end{aligned}\right.$ | $\begin{gathered} \stackrel{\rightharpoonup}{+} \\ \stackrel{y}{N} \end{gathered}$ | $\begin{gathered} \bar{\infty} \\ \underset{N}{\mathrm{~N}} \end{gathered}$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{N}{N} \end{array}\right\|$ | $\begin{gathered} \mathbf{N} \\ \underset{N}{\mathrm{~N}} \end{gathered}$ | $\begin{aligned} & \mathbf{\infty} \\ & \infty \\ & \infty \end{aligned}$ | $\frac{\infty}{\stackrel{\infty}{\grave{N}}}$ |  | $\begin{aligned} & \bar{N} \\ & \stackrel{\rightharpoonup}{2} \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{N}{N} \\ \dot{N} \end{gathered}\right.$ | $\left\|\begin{array}{l} 0 \\ \infty \\ \dot{N} \end{array}\right\|$ | $$ | $\begin{aligned} & \stackrel{L}{0} \\ & \underset{N}{2} \end{aligned}$ | $\underset{\stackrel{m}{\grave{N}}}{\substack{2}}$ | $\begin{aligned} & \bar{o} \\ & \bar{N} \end{aligned}$ | $\stackrel{\vdots}{\infty}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \infty \end{aligned}$ | $\begin{aligned} & \circ \\ & \stackrel{0}{1} \\ & \stackrel{\rightharpoonup}{N} \end{aligned}$ |
|  | $\left\|\begin{array}{l} \text { O. } \\ \text { ৯̀ } \end{array}\right\|$ | Bi | $\begin{aligned} & \hat{0} \\ & \mathbf{N} \\ & \mathbf{N} \end{aligned}$ | $\left\|\begin{array}{l} 1 \\ 0 \\ \mathbf{N} \end{array}\right\|$ | $\left\|\begin{array}{l} \underset{N}{N} \\ \stackrel{N}{N} \end{array}\right\|$ | $\begin{array}{\|l\|} \infty \\ \sim \\ م \\ \underset{N}{2} \end{array}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{N}{2} \end{aligned}$ | $\left.\begin{aligned} & \stackrel{\infty}{\infty} \\ & \underset{N}{2} \end{aligned} \right\rvert\,$ |  | $\begin{aligned} & \underset{N}{N} \\ & \mathbf{N} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \hat{0} \\ & \hat{C} \\ & \underset{N}{2} \end{aligned}\right.$ |  | $\begin{aligned} & \hat{N} \\ & \dot{\sim} \end{aligned}$ | $\left.\begin{aligned} & \hat{0} \\ & 0 \\ & \hat{N} \end{aligned} \right\rvert\,$ | $\begin{aligned} & \stackrel{\rightharpoonup}{N} \\ & \underset{M}{2} \\ & \hline \end{aligned}$ | $\begin{aligned} & \underset{\sim}{c} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \underset{N}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} \bar{o} \\ \dot{e} \end{array}\right\|$ | $\left\|\begin{array}{l} N \\ \infty \\ \underset{N}{2} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \mathrm{O} \\ & \underset{N}{2} \\ & \underset{N}{2} \end{aligned}\right.$ | $\begin{aligned} & \overline{0} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{l} \overline{0} \\ \dot{N} \end{array}\right\|$ | $\left\|\begin{array}{l} \hat{\infty} \\ \infty \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} \underset{N}{N} \\ \underset{N}{2} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & N \\ & \underset{N}{\infty} \\ & \underset{N}{2} \end{aligned}\right.$ | $\begin{aligned} & \stackrel{9}{\mathrm{~N}} \\ & \stackrel{\rightharpoonup}{\mathrm{~N}} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{\text { Na }}{ } \\ & \underset{N}{2} \end{aligned}\right.$ | $\left\|\begin{array}{c} \bar{\infty} \\ { }_{n}^{2} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{N}{2} \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{\dot{p}} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ \stackrel{0}{2} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \overline{6} \\ & \underset{\sim}{2} \end{aligned}$ | $\left.\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | or | $\left\|\begin{array}{l} n \\ \sim \\ \sim \\ \sim \end{array}\right\|$ | $\begin{aligned} & \text { م } \\ & \text { Ni } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \text { p} \\ & \text { No } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{N}{+} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \text { N } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \infty \\ & \stackrel{\sim}{\circ} \\ & \text { Ni } \end{aligned}$ | $\begin{aligned} & 10 \\ & \stackrel{0}{\mathrm{~N}} \\ & \text { Ni } \end{aligned}$ |
| 而 | $\stackrel{\rightharpoonup}{\dot{e}} \mid$ | $\underset{\substack{c}}{\underset{c}{r}}$ | $\begin{aligned} & \underset{N}{n} \\ & \underset{M}{2} \end{aligned}$ | $\left\|\begin{array}{l} \bar{N} \\ \underset{M}{M} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \underset{N}{n} \\ \underset{\sim}{e} \end{array}\right\|$ | $\begin{aligned} & \underset{\dot{C}}{\underset{M}{2}} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{c}{\infty} \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \mathbf{D} \\ & \underset{\sim}{n} \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $$ | $\left\|\begin{array}{l} 0 \\ \underset{1}{n} \\ 0 \\ e \end{array}\right\|$ | $\begin{aligned} & \mathrm{N} \\ & \hat{N} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathbf{O} \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & 9 \\ & \stackrel{9}{9} \\ & \dot{M} \end{aligned}$ | $\begin{aligned} & n \\ & \underset{c}{1} \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathbf{H} \\ & \mathbf{S} \\ & \mathbf{N} \\ & \mathrm{M} \end{aligned}$ | $\left\|\begin{array}{l} d \\ 0 \\ i \\ ल \end{array}\right\|$ | $\begin{aligned} & \mathbf{9} \\ & \mathbf{0} \\ & \mathbf{N} \\ & \hline \end{aligned}$ | $\begin{aligned} & \bar{m} \\ & \infty \\ & m \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{e}{e} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \underset{N}{N} \\ \dot{N} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{2} \\ & \underset{c}{0} \end{aligned}$ | $\begin{aligned} & \dot{\sim} \\ & \dot{e} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 1 \\ \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \infty \\ & 1 \\ & \end{aligned}$ | $\underset{\sim}{\underset{\sim}{\sim}}$ | $\begin{aligned} & \infty \\ & \underset{j}{\dot{j}} \\ & \hline \end{aligned}$ | $\begin{aligned} & \stackrel{N}{N} \\ & \underset{M}{2} \end{aligned}$ | $\left.\begin{aligned} & \bar{N} \\ & \bar{m} \end{aligned} \right\rvert\,$ |  | $\begin{aligned} & \mathrm{N} \\ & \underset{m}{n} \\ & \mathrm{~m} \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathrm{~N} \\ & \mathrm{M} \end{aligned}$ | $\begin{aligned} & \overline{5} \\ & \underset{M}{2} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{2} \\ & \underset{\sim}{j} \end{aligned}$ | $\begin{aligned} & \stackrel{R}{c} \\ & \underset{m}{2} \end{aligned}$ | $\begin{aligned} & \infty \\ & \tilde{\sim} \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & \end{aligned}$ | － |
| $\frac{\text { 年 }}{\circ}$ | $\stackrel{9}{\square}$ | $\underset{\sim}{\underset{\sim}{\mathrm{O}}}$ | $\stackrel{N}{N}$ | $\stackrel{N}{\mathrm{~N}}$ | $\left\|\begin{array}{l} \hat{N} \\ \underset{N}{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{~} \\ \underset{\sim}{2} \end{array}\right\|$ | $\underset{\sim}{\infty}$ | $\left\|\begin{array}{c} \underset{\sim}{\infty} \\ \underset{\sim}{c} \end{array}\right\|$ | $\begin{array}{\|c} 8 \\ 10 \\ 5 \end{array}$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} n \\ 0 \\ m \\ 0 \end{array}\right\|$ | $\stackrel{m}{\stackrel{m}{\dot{c}}}$ | $\stackrel{\stackrel{N}{\mathrm{~N}}}{\stackrel{1}{2}}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & 0 \end{aligned}$ | $\begin{aligned} & \hat{e} \\ & \dot{v} \end{aligned}$ | $\stackrel{\rightharpoonup}{\dot{r}}$ | $\left.\begin{aligned} & \infty \\ & \infty \\ & \dot{c} \end{aligned} \right\rvert\,$ | $\stackrel{N}{\mathrm{~N}} \underset{\mathrm{~N}}{ }$ | $\mid$ | $\left\|\begin{array}{c} \underset{\infty}{\infty} \\ \dot{寸} \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \text { M } \end{aligned}$ | $\stackrel{\circ}{-}$ | $\begin{aligned} & \mathbf{o} \\ & \dot{\infty} \\ & \dot{\sim} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \sim \end{array}\right\|$ | $$ | $\begin{aligned} & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left.\begin{gathered} \hat{\infty} \\ 0 \\ 0 \end{gathered} \right\rvert\,$ |  | $\stackrel{ষ}{\text { N }}$ | $\begin{aligned} & \dot{m} \\ & \underset{c}{ } \end{aligned}$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{0}{\Gamma}$ | $\begin{aligned} & \bar{n} \\ & \infty \\ & \hline \end{aligned}$ | $\begin{gathered} \overline{0} \\ \infty \\ \hline \end{gathered}$ | $\stackrel{\stackrel{1}{\mathrm{~m}}}{\stackrel{\sim}{2}}$ | $\left\|\begin{array}{l} \stackrel{\leftrightarrow}{N} \\ \stackrel{0}{0} \end{array}\right\|$ | $\begin{aligned} & m \\ & \dot{\sigma} \end{aligned}$ | $\stackrel{\infty}{\sim}$ | $\begin{aligned} & \mathbf{o} \\ & \underset{\sim}{2} \end{aligned}$ | 10 |
|  | $\left\|\begin{array}{l} \underset{O}{\infty} \\ \infty \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | $\mathfrak{N}$ | $\begin{aligned} & \mathrm{O} \\ & \mathbf{O} \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ | $\left.\begin{aligned} & N_{1} \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathbf{O}_{0} \\ & 0_{0} \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \mathbf{0} \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathbf{O} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & n \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & N \\ & N \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \bar{寸} \\ & \underset{O}{0} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & o \\ & \underset{8}{8} \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | 7 <br>  <br> 0 <br> 0 <br> 0 <br> 0 <br> 1 | $\left\|\begin{array}{c} \sim \\ \underset{O}{0} \\ \dot{O} \\ \dot{O} \end{array}\right\|$ |  |  | $\begin{aligned} & N_{\infty}^{\infty} \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l}  \pm \\ \infty \\ \infty \\ 0 \\ 0 \\ \infty \\ 1 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathbf{o}_{0} \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left.\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} \infty \\ \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\frac{8}{9}$ | $\begin{aligned} & \mathrm{N} \\ & \underset{\sim}{\mathrm{O}} \\ & \underset{0}{0} \end{aligned}$ | $\left.\begin{aligned} & \sim_{1}^{N} \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned} \right\rvert\,$ | $\begin{aligned} & \underset{\sim}{N} \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \underset{\sim}{2} \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { n } \\ & \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{gathered} \pm \\ N \\ 0 \\ 0 \\ 0 \\ 1 \end{gathered}$ | $\begin{aligned} & \text { J } \\ & \mathbf{N} \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left.\begin{array}{\|c} 10 \\ N \\ 0 \\ 0 \\ 0 \\ 0 \end{array} \right\rvert\,$ | $\begin{aligned} & 1 \\ & 0 \\ & \hat{0} \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & \infty \\ & 0 \end{aligned}$ | O |
|  | $\left\|\begin{array}{l} \underset{N}{N} \\ \underset{0}{2} \\ \stackrel{j}{N} \end{array}\right\|$ |  | $\begin{aligned} & \underset{N}{N} \\ & \underset{\sim}{0} \\ & \stackrel{1}{N} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\underset{N}{2}} \\ & \underset{0}{0} \\ & \stackrel{1}{2} \end{aligned}$ | $\left\|\begin{array}{l} \stackrel{0}{2} \\ \underset{\mathrm{O}}{\mathrm{C}} \\ \underset{\mathrm{~N}}{ } \end{array}\right\|$ | $\begin{array}{\|c\|} \infty \\ \hline 8 \\ \underset{\sim}{2} \\ \stackrel{j}{\circ} \\ \hline \end{array}$ | $\frac{8}{2}$ | $\left\|\begin{array}{l} \underset{\sim}{N} \\ \underset{N}{N} \\ \underset{N}{N} \end{array}\right\|$ | $\begin{array}{\|c} \underset{\sim}{N} \\ \underset{\sim}{N} \\ \underset{\sim}{n} \end{array}$ |  | $\begin{gathered} \underset{N}{N} \\ \underset{\sim}{N} \\ \underset{N}{N} \end{gathered}$ | $\begin{array}{\|c} \infty \\ \underset{\sim}{N} \\ \underset{N}{\dot{N}} \end{array}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{N} \\ \mathfrak{N} \end{gathered}$ | $\begin{gathered} N \\ N \\ N \\ N \\ N \end{gathered}$ | $\left\lvert\, \begin{gathered} \underset{N}{N} \\ \underset{\sim}{N} \\ \stackrel{N}{N} \end{gathered}\right.$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{N}{N} \\ & \stackrel{j}{N} \end{aligned}$ |  |  |  | $\left\|\begin{array}{c} \underset{\sim}{\mathcal{O}} \\ \underset{\sim}{\infty} \\ \stackrel{j}{\mathrm{~N}} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{N} \end{aligned}$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \underset{\sim}{\infty} \\ \underset{N}{N} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{N}{N} \\ \mathcal{O} \\ \mathfrak{N} \\ \underset{N}{2} \end{gathered}\right.$ | $\left\|\begin{array}{l} \underset{N}{N} \\ \underset{\sim}{\infty} \\ \underset{N}{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{\sim}{\infty} \\ \stackrel{N}{N} \end{array}\right\|$ | $\begin{aligned} & \underset{N}{N} \\ & \infty \\ & \underset{N}{N} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & N \\ & \underset{N}{N} \\ & \infty \\ & N \\ & N \end{aligned}$ | $\left\|\begin{array}{l} \stackrel{N}{N} \\ \infty \\ N \\ N \\ N \end{array}\right\|$ | $\begin{aligned} & \text { n } \\ & \underset{O}{0} \\ & 0 \\ & \dot{N} \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & \pm \\ & \mathbf{~} \\ & \mathbf{o} \\ & 0 \\ & \mathbf{N} \end{aligned}\right.$ | $\left\|\begin{array}{l} \underset{\sim}{S} \\ \underset{\sim}{0} \\ \underset{N}{2} \end{array}\right\|$ |  | $\left.\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & \underset{\sim}{n} \\ & \dot{N} \end{aligned} \right\rvert\,$ | $\begin{gathered} \infty \\ \infty \\ \underset{\sim}{n} \\ \underset{\sim}{c} \\ \hline \end{gathered}$ | $\left\|\begin{array}{c} \underset{\infty}{\infty} \\ \underset{\sim}{0} \\ \underset{\sim}{0} \end{array}\right\|$ | $\begin{aligned} & \hat{N} \\ & \underset{\sim}{n} \\ & \underset{\sim}{\dot{N}} \end{aligned}$ |  | $\begin{array}{\|c} \underset{\sim}{n} \\ \tilde{0} \\ \underset{\sim}{\hat{N}} \end{array}$ | $\begin{aligned} & \underset{\sim}{n} \\ & \underset{\sim}{0} \\ & \underset{\sim}{n} \end{aligned}$ |  | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{N} \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\underset{N}{2}} \\ & \underset{\sim}{\underset{\sim}{2}} \end{aligned}$ |
| O |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{gathered} \underset{i}{\Sigma} \\ \underset{\sim}{i} \\ \dot{\infty} \\ \underset{\sim}{N} \\ \underset{\sim}{N} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{\Sigma} \\ & \underset{N}{\infty} \\ & \underset{\infty}{\infty} \\ & \underset{N}{N} \\ & \underset{N}{N} \end{aligned}$ |  | $\begin{aligned} & \sum_{i} \\ & \infty \\ & N \\ & \dot{\infty} \\ & \underset{\sim}{\Sigma} \\ & \underset{N}{N} \\ & \hline \end{aligned}$ |  |  |  |  |  | $\begin{gathered} \sum_{i} \\ L_{0} \\ \underset{\infty}{\infty} \\ \underset{\sim}{\Sigma} \\ \underset{N}{N} \\ \hline \end{gathered}$ |  |  |
|  | $\left\|\begin{array}{c} \underset{1}{1} \\ \underset{\sim}{\underset{\sim}{u}} \end{array}\right\|$ | $\begin{gathered} \infty \\ \underset{\sim}{\infty} \\ \stackrel{\sim}{山} \end{gathered}$ | $\begin{gathered} \underset{\sim}{\tilde{N}} \\ \underset{\sim}{\underset{\sim}{r}} \end{gathered}$ | $\left\|\begin{array}{c} \underset{\sim}{x} \\ \underset{\sim}{\underset{\sim}{\sim}} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \hat{1} \\ \hat{\nu} \\ \frac{1}{\mathbf{n}} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \hat{1} \\ \hat{0} \\ \frac{0}{\infty} \end{array}\right\|$ | $\begin{aligned} & \frac{1}{4} \\ & \stackrel{y}{2} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ \tilde{\omega} \\ \vdots \\ \Sigma \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \dot{\omega} \\ & \dot{\Sigma} \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \mathbb{N} \\ & \dot{N} \\ & \Sigma \end{aligned}\right.$ | $\begin{aligned} & U \\ & \frac{1}{U} \\ & \Sigma \end{aligned}$ | $\begin{array}{\|l\|} \infty \\ \dot{U} \\ \vdots \\ \Sigma \end{array}$ | $\begin{aligned} & \Psi \\ & \frac{1}{U} \\ & \Sigma \end{aligned}$ | $\left\|\begin{array}{l} U \\ N \\ N \\ \mathbf{N} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \underset{N}{U} \\ \dot{\Sigma} \end{array}\right\|$ | $\begin{aligned} & \underset{i}{\prime} \\ & \underset{N}{U} \\ & \Sigma \end{aligned}$ | $\left\|\begin{array}{l} U \\ 1 \\ \underset{~}{ \pm} \\ \mathbf{D} \end{array}\right\|$ | $\left\|\begin{array}{l} m \\ \dot{~} \\ \stackrel{y}{m} \end{array}\right\|$ | $\left\|\begin{array}{l} \Psi \\ \underset{y}{\Psi} \\ \frac{1}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} \frac{1}{1} \\ \frac{\alpha}{\alpha} \\ \hline \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \frac{1}{\dot{\alpha}} \\ & \frac{\dot{\alpha}}{\alpha} \end{aligned}\right.$ | $\begin{aligned} & \frac{\pi}{\lambda} \\ & \frac{\alpha}{\alpha} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{c} U \\ \underset{\sim}{\sim} \\ \underset{\sim}{\mathbf{N}} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{1}{\sim} \\ \underset{\sim}{\alpha} \\ \mathbf{\alpha} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{1}{1} \\ \stackrel{\sim}{\alpha} \\ \mathbf{N} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \dot{\omega} \\ & \stackrel{y}{\mathrm{~N}} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{\sim} \end{aligned}$ | $\left\|\begin{array}{c} \frac{\alpha}{1} \\ \underset{\sim}{\alpha} \\ \stackrel{\sim}{2} \end{array}\right\|$ | $\begin{gathered} \mathbf{U} \\ \frac{1}{\omega} \\ \mathbf{Q} \end{gathered}$ | $\frac{\mathbb{T}}{\frac{1}{\omega}}$ | $\left\|\begin{array}{l} 0 \\ \frac{1}{r} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{r} \\ & \underset{O}{\gamma} \end{aligned}\right.$ | $\begin{aligned} & \frac{\pi}{1} \\ & \frac{r}{r} \\ & \hline \end{aligned}$ | $\begin{gathered} 0 \\ \underset{1}{1} \\ \underset{O}{\mathbf{Y}} \end{gathered}$ | $\begin{gathered} \underset{\sim}{\mathbf{n}} \\ \underset{\sim}{\underset{\sim}{0}} \end{gathered}$ | $\begin{gathered} \underset{\sim}{\underset{\sim}{N}} \\ \underset{\sim}{\underset{\sim}{0}} \end{gathered}$ | $\begin{gathered} \mathbb{1} \\ \underset{\sim}{\mathbf{x}} \\ \underset{O}{2} \end{gathered}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \tilde{\omega} \\ & \underset{O}{\varphi} \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \underset{\sim}{n} \\ & \underset{O}{0} \end{aligned}$ | $\underset{\substack{\underset{\sim}{c} \\ \underset{O}{\mathrm{O}} \\ \hline}}{ }$ | $\begin{aligned} & \frac{1}{\frac{1}{y}} \\ & \frac{1}{m} \end{aligned}$ | $\frac{\square}{\text { m }}$ |


| $\frac{\pi}{\frac{1}{c}}$ |  |  |  |  | $\underset{\substack{\mathrm{N} \\ \hline}}{\substack{0 \\ \hline}}$ | OM |  |  |  |  | $\bigcirc$ |  | $\bigcirc$ | N | － | ¢ | O | $\bigcirc$ | ¢ | \％ | 「 | N | ก |  |  |  | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \end{array}\right\|$ | O | ก |  | $\left\|\begin{array}{c} m \\ 0 \end{array}\right\|$ | $\mathfrak{F}$ | N | $\widehat{m}$ | \| | $0$ | $\mathfrak{o s}$ | O | $\stackrel{\circ}{\square}$ | N |  | $\xrightarrow{\text { N }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $\left\lvert\, \begin{gathered} \stackrel{0}{N} \\ \underset{0}{2} \end{gathered}\right.$ | $\stackrel{N}{2} \stackrel{\rightharpoonup}{2}$ | $\stackrel{\square}{\square}$ | $0$ | $\frac{2}{2} \frac{1}{2} \stackrel{\rightharpoonup}{o}$ |  | $\frac{\square}{\grave{o}}$ | $\frac{2}{2} \frac{\rightharpoonup}{2}$ |  |  |  | $\stackrel{\rightharpoonup}{\square}$ | $\stackrel{\rightharpoonup}{2} \underset{\substack{3}}{\substack{\circ}}$ | $\mid$ | － | $\stackrel{\stackrel{N}{N}}{\substack{0 \\ ~}}$ | $\begin{gathered} 0 \\ \underset{N}{N} \end{gathered}$ | N | $\stackrel{0}{\mathrm{~N}}$ | N | $\stackrel{\sim}{\mathrm{N}}$ |  |  | $\begin{aligned} & n \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  |  | Non en | $\stackrel{\substack{0 \\ \\ \hline}}{ }$ | $\underset{\sigma}{\square}$ | $\stackrel{9}{0}$ | $\mathbb{N}$ | $\mathbb{N}$ | $\underset{\substack{4 \\ \hline \\ \hline}}{\substack{N \\ \hline}}$ | $\begin{array}{r} \text { Z } \\ \hline \end{array}$ | $\stackrel{\rightharpoonup}{\square}$ | N | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{N}{N} \end{aligned}\right.$ | $\underset{\sim}{N}$ | $\mathbb{N}$ | $\underset{\substack{0 \\ \underset{\sim}{n} \\ \hline}}{ }$ | No |
| 2 | $\left\lvert\, \begin{aligned} & \bar{\lambda} \\ & \hat{e} \\ & \hline \end{aligned}\right.$ |  | $\mathfrak{n}$ |  |  |  |  |  |  |  |  | $\begin{aligned} & \bar{\lambda} \\ & 0 \\ & \dot{0} \end{aligned}$ |  | $\left\lvert\, \begin{gathered} \infty \\ 0 \\ \underset{\infty}{\infty} \end{gathered}\right.$ | $\stackrel{\otimes}{\sim}$ | － | $\frac{\underset{\sim}{\dot{6}}}{\underset{\sim}{6}}$ | ; | $\underset{\sim}{\mathrm{N}}$ | $\stackrel{\circ}{\infty}$ | $\left\|\begin{array}{c} \infty \\ \\ \end{array}\right\|$ | $\mathfrak{c}$ | $\overline{0}$ | $\underset{\substack{\underset{\sim}{c} \\ \underset{\sim}{2} \\ \hline}}{ }$ |  |  |  | $\dot{S}$ | $\begin{aligned} & \hat{N} \\ & \underset{\sim}{n} \\ & \stackrel{y}{n} \end{aligned}$ | $\stackrel{\infty}{\circ}$ | $\stackrel{N}{\mathrm{~m}}$ | － |  |  | $\underset{\substack{\underset{N}{N}}}{\stackrel{\rightharpoonup}{2}}$ |  | $\begin{array}{\|c} \hat{N} \\ \end{array}$ | $\underset{\substack{\mathrm{N}}}{\mathrm{t}}$ | $\stackrel{\underset{\sim}{2}}{\underset{\sim}{2}}$ | $\mathfrak{c}$ | $8$ | － |
| $\begin{aligned} & z \\ & \underset{r}{2} \end{aligned}$ | $\begin{gathered} \infty \\ \underset{\sim}{\infty} \\ \hline 1 \end{gathered}$ |  | $; \left\lvert\, \begin{aligned} & \bar{\lambda} \\ & \dot{0} \\ & \hline \end{aligned}\right.$ | $\dot{j}$ |  |  |  | $\mathrm{C}_{\substack{n}}^{\substack{0}}$ |  | $\underset{\substack{8 \\ \underset{\sim}{2} \\ \underset{\sim}{2} \\ \hline}}{ }$ | $\underset{\substack{\underset{\sim}{c} \\ \stackrel{y}{*} \\ \hline}}{\substack{0}}$ |  | $\dot{N}$ | $\stackrel{N}{\infty}$ | $\overline{\mathrm{O}}$ | $\stackrel{\sim}{7}$ | N00 | －8 | － | $\xrightarrow[8]{8}$ | $\stackrel{\stackrel{y}{\underset{\sim}{i}}}{\underset{i}{2}}$ | $\stackrel{\rightharpoonup}{\lambda}$ | $\otimes$ | $\underset{\sim}{\mathrm{y}}$ |  | $\underset{\substack{2 \\ \\ \\ \\ \\ \hline}}{ }$ | $\stackrel{\infty}{\infty}$ |  | $\frac{\underset{\sim}{\underset{\sim}{i}}}{\stackrel{\rightharpoonup}{\mathrm{i}}}$ | $\underset{\sim}{\text { N}}$ | $\begin{array}{lll} \substack{n \\ \vdots \\ \vdots} \\ \end{array}$ | $\left.\begin{gathered} 0 \\ \underset{y}{0} \\ 0 \end{gathered} \right\rvert\,$ | ion | $\stackrel{\substack{0}}{ }$ | $\underset{\sim}{\sim}$ | $\stackrel{i}{\infty}$ | $\stackrel{\substack{\mathbf{~} \\ \hline}}{ }$ | $\left\|\begin{array}{c} n \\ \infty \\ 0 \\ \mathfrak{n} \end{array}\right\|$ | $\begin{aligned} & \text { m } \\ & \hline \end{aligned}$ | $\stackrel{\sim}{y}$ |  | － |
| $\begin{aligned} & \mathbf{z} \\ & \mathbf{z} \end{aligned}$ | $\underset{\substack{0 \\ \underset{\sim}{0} \\ \hline}}{ }$ | $0 . \substack{0 \\ 0 \\ 0}$ | $\mathfrak{c}$ | $\mathfrak{s}$ |  | $\begin{array}{c\|c} \substack{N \\ \hline \\ \hline \\ \hline} \\ \hline \end{array}$ |  | Buc\|con |  |  |  |  |  | $\underset{\sim}{\underset{\sim}{2}}$ | $\underset{\underset{\sim}{\underset{~}{4}}}{ }$ |  |  | ?o | $\stackrel{N}{2}$ | $$ |  | $\mathfrak{c}$ | $\mathfrak{o}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & \text { in } \end{aligned}\right.$ |  | $4$ | $\begin{gathered} 0 \\ \infty \\ \\ \hline \end{gathered}$ |  | $\underset{\underset{\sim}{\mathrm{N}}}{\stackrel{\rightharpoonup}{\mathrm{~N}}}$ | $\mathfrak{m}$ | $\begin{gathered} \infty \\ \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ \underset{y}{0} \\ 0 \end{gathered}$ | Non | $\circ$ | $\begin{array}{\|c} \infty \\ \\ \end{array}$ |  | $\mathfrak{c}$ | $\begin{aligned} & n \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}$ | $\mathfrak{c} \left\lvert\, \begin{gathered} n \\ \\ 0 \end{gathered}\right.$ |  | － |
| $\underset{\sim}{\sim}$ | $\stackrel{\stackrel{\rightharpoonup}{\oplus}}{\substack{4 \\ \hline}}$ |  | $\mathfrak{c}$ | $\mathfrak{j}$ |  |  | $\left\lvert\, \begin{gathered} \infty \\ 0 \\ 0 \end{gathered}\right.$ | $\mathfrak{R C l}$ | $\mathfrak{C l}$ |  | $\begin{array}{c\|c} \substack{w \\ 0 \\ \hline} \\ \hline \end{array}$ | $\begin{gathered} \underset{\sim}{\omega} \\ 0 \end{gathered}$ |  | $\left.\begin{gathered} 0 \\ 0 \\ 0 \end{gathered} \right\rvert\,$ |  |  | $\begin{gathered} \underset{N}{\mathbf{N}} \\ 0 \end{gathered}$ |  | $\begin{aligned} & \text { O} \\ & \underset{\sim}{6} \end{aligned}$ | $\stackrel{\sim}{c}$ |  | $\stackrel{\substack{0 \\ \hline 0 \\ \hline}}{ }$ |  | $\begin{gathered} \substack{9 \\ \dot{e} \\ \hline} \end{gathered}$ |  |  |  | $\dot{S}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | M | $\stackrel{M}{\omega}$ | $\left\|\begin{array}{c} \underset{\sim}{m} \\ 0 \end{array}\right\|$ | $\bar{m}$ | $\underset{\sim}{m}$ | $\begin{gathered} e \\ 0 \\ \hline \end{gathered}$ | ৷ে | M. | $\begin{gathered} \underset{\sim}{m} \\ \underset{c}{2} \end{gathered}$ | $\stackrel{\infty}{\infty}$ | $\dot{c} \left\lvert\, \begin{gathered} \bar{m} \\ \dot{c} \end{gathered}\right.$ |  | － |
| $\stackrel{\text { 을 }}{\stackrel{1}{1}}$ | $\stackrel{0}{0}$ | $\begin{aligned} & t \\ & \hline 0 \\ & \hline 0 \end{aligned}$ | $\mathfrak{l}$ | $\begin{aligned} & 3 \\ & j \\ & \hline \end{aligned}$ | Cllll | R10 | $\mathfrak{b i}$ | $\underset{\sim}{\circ}$ | R | $\overbrace{\substack{2}}^{\infty}$ | $\stackrel{\infty}{\infty} \underset{\substack{0 \\ 0}}{\substack{0}}$ | $\begin{array}{\|c} 8 \\ 0 \\ 0 \end{array}$ |  | $0$ |  | $0$ | $\begin{aligned} & \circ \\ & 0 \\ & 0 \end{aligned}$ |  | $0$ | B |  |  | $\stackrel{l}{0}$ | $\underset{\sim}{N}$ |  | － | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\rightharpoonup}{p}$ | $\frac{\infty}{\infty}$ | 㑕 | $0$ | $\begin{gathered} \infty \\ \\ \\ \hline \end{gathered}$ | Bo | $\bar{\varphi}$ | $\stackrel{\overleftarrow{\circ}}{\circ}$ | $\infty$ | $\stackrel{\circ}{\sim}$ | $\underset{N}{N}$ | $\stackrel{\square}{+}$ | $0$ |  | － |
|  | $\stackrel{\sim}{N}$ | $\hat{0}$ |  |  | $\underset{\sim}{\sim} \underset{\sim}{\sim} \underset{\sim}{\sim}$ |  | $\stackrel{+}{+}$ | $\xrightarrow[+]{+}$ |  |  | $\stackrel{e}{\infty} \left\lvert\, \begin{aligned} & \infty \\ & \stackrel{\infty}{0} \\ & \hline \end{aligned}\right.$ | $\oplus$ | $\circ$ | $\dot{q}$ |  | Ọ | $\stackrel{8}{6}$ |  | $\bigcirc$ | － | d | $\odot$ |  |  |  | $?$ |  | $\stackrel{\substack{9}}{\substack{\infty \\ \infty \\ \hline}}$ | $\dot{j}$ |  | $\stackrel{n}{\infty}$ | － | $\mathfrak{N}$ | $\stackrel{m}{\square}$ |  | $8$ | $\mathrm{O}$ | 0 | $\infty$ | O |  | O |
|  |  |  |  |  |  | $\stackrel{8}{\stackrel{\rightharpoonup}{\sim}} \underset{\sim}{\infty}$ |  | $\pm$ |  |  |  | $\stackrel{\omega}{\infty}$ | $\stackrel{\sim}{\infty} \underset{\sim}{\sim}$ | $\begin{aligned} & 0 \\ & \stackrel{0}{0} \\ & \underset{\sim}{2} \end{aligned}$ |  | $\stackrel{N}{\stackrel{N}{\mathrm{~N}}}$ | N |  | $\stackrel{\underset{\sim}{\dot{~}}}{ }$ |  |  | $\stackrel{\infty}{\stackrel{\infty}{\stackrel{1}{\sim}}}$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\infty} \end{gathered}\right.$ |  | N | $\stackrel{-}{\infty}$ | $5$ | $\begin{aligned} & \infty \\ & \infty \\ & \stackrel{\infty}{\circ} \end{aligned}$ | N | $\begin{aligned} & \bar{\infty} \\ & \stackrel{n}{n} \end{aligned}$ | $\begin{gathered} \text { N} \\ \underset{\sim}{i} \end{gathered}$ | $\cdots$ | $\begin{gathered} \infty \\ \infty \\ \underset{\sim}{\infty} \end{gathered}$ | $\underset{\sim}{\infty}$ |  | $\begin{aligned} & \infty \\ & \stackrel{0}{i} \\ & \stackrel{n}{2} \end{aligned}$ | $\begin{gathered} \mathbf{o} \\ \stackrel{\rightharpoonup}{\dot{N}} \end{gathered}$ | $\begin{gathered} \stackrel{0}{\hat{N}} \\ \stackrel{i}{2} \end{gathered}$ | $\underset{\sim}{c}$ |  | － |
|  |  | $\stackrel{\rightharpoonup}{\stackrel{\rightharpoonup}{\mathrm{N}}} \underset{\sim}{\underset{\sim}{\sim}}$ | den | $\mathfrak{s}$ | $\underset{\substack{\mathrm{N}}}{\substack{\underset{\sim}{2} \\ \hline}}$ | $\underset{\sim}{\underset{\sim}{2}} \underset{\sim}{\sim}$ | $\underset{\sim}{\sim}$ | $\underset{\sim}{N} \underset{\sim}{\sim}$ |  | $\stackrel{\substack{\mathrm{N}} \stackrel{\sim}{\sim}}{\substack{\mathrm{~N}}}$ | $\stackrel{\sim}{\sim}$ | $\stackrel{?}{2} \underset{\sim}{\underset{\sim}{2}} \underset{\sim}{\sim}$ | $\stackrel{N}{N} \text { N}$ | $\begin{array}{\|c} \underset{\sim}{N} \\ \underset{N}{2} \end{array}$ |  | $\begin{aligned} & 0 \\ & \substack{c} \\ & \hline \end{aligned}$ |  | $\begin{array}{\|c} \stackrel{\circ}{\mathrm{O}} \\ \stackrel{\rightharpoonup}{2} \end{array}$ | $\begin{gathered} \substack{\mathrm{N} \\ \underset{\sim}{2} \\ \underset{\sim}{2} \\ \hline} \\ \hline \end{gathered}$ | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\mathbf{N}} \mid$ |  | $\underset{\substack{\bar{n} \\ \underset{\sim}{n} \\ \hline}}{ }$ |  | $\begin{gathered} \underset{\sim}{\dot{N}} \end{gathered}$ | $\begin{gathered} \infty \\ \infty \\ \underset{\sim}{\infty} \end{gathered}$ |  |  | $\stackrel{\substack{\mathrm{S}} \underset{\sim}{\sim}}{\substack{\mathrm{~N} \\ \hline}}$ | $\left\|\begin{array}{c} \infty \\ m \\ \underset{\sim}{2} \end{array}\right\|$ | ்ㅣ |  | $\dot{\sim} \mid$ | $\stackrel{\circ}{\mathrm{N}}$ | $\begin{gathered} \infty \\ \stackrel{\infty}{2} \end{gathered}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}$ | $\stackrel{ल}{\aleph}$ | $\stackrel{\sim}{N}$ | $\left\lvert\, \begin{gathered} \stackrel{\infty}{\infty} \\ \underset{\sim}{c} \end{gathered}\right.$ | N | $\underset{\sim}{\sim}$ | $\begin{gathered} \stackrel{N}{N} \\ \underset{\sim}{2} \end{gathered}$ | N |
| 伿管 |  |  | $\dot{c}$ | $\mathfrak{c}$ | $\begin{gathered} \underset{\sim}{c} \\ \underset{n}{2} \\ \hline \end{gathered}$ | $\underset{\sim}{\infty} \mathbf{0} \mid \underset{\sim}{0}$ |  |  |  |  | $\underset{\sim}{C}$ | $\dot{f}$ |  | $\dot{f}$ | Oั |  |  | $\begin{aligned} & \stackrel{প}{\infty} \\ & \dot{\sim} \end{aligned}$ |  | $\stackrel{\infty}{\stackrel{\infty}{\mathrm{m}}}$ |  | $\mathfrak{c}$ |  | $: \begin{gathered} n \\ \substack{2 \\ 0} \end{gathered}$ |  |  |  | $\dot{p} \dot{p}$ | $\underset{\underset{\sim}{\mathrm{m}}}{\stackrel{9}{2}}$ |  | 응 | $\left\|\begin{array}{l} \underset{m}{m} \\ \underset{m}{2} \end{array}\right\|$ | $\stackrel{ल}{\mathrm{~m}}$ | $\mid$ | Non | $\dot{B}$ | $\underset{\substack{N \\ \underset{\sim}{n} \\ \hline}}{ }$ | $\begin{array}{\|c} \stackrel{\rightharpoonup}{0} \\ \underset{\sim}{2} \end{array}$ | M | $\dot{\substack{\mathrm{N} \\ \underset{m}{2} \\ \hline}}$ | $\begin{gathered} \underset{\sim}{j} \\ \underset{\sim}{n} \end{gathered}$ |  |
| $\begin{aligned} & \text { 喜 } \\ & 0 \\ & 0 \end{aligned}$ |  | 8 |  | $\mathfrak{n}$ | $\stackrel{\rightharpoonup}{-} \underset{\sim}{\infty} \underset{\sim}{\infty}$ |  | Con | $\underset{C}{\circ}$ |  |  | $\stackrel{\leftrightarrow}{\circ}$ | $\underset{\sim}{c} \underset{\sim}{\sim}$ |  | － |  |  | N | $\stackrel{\underset{\sim}{\mathrm{N}}}{ }$ | $\begin{aligned} & \sim \\ & \\ & \stackrel{-1}{2} \end{aligned}$ | ó | $\stackrel{5}{5} \underset{\sim}{\sim}$ | $\mathrm{N}$ |  |  |  |  | $\begin{aligned} & 3 \\ & \hline \end{aligned}$ | $5$ | － | $\stackrel{\infty}{\infty}$ | $\left\|\begin{array}{c} \stackrel{\infty}{\infty} \\ \underset{\sim}{2} \end{array}\right\|$ | O． |  | ¢ | － | 2 | $\stackrel{N}{N}$ | \％ | ¢о | $\mathfrak{N}$ | $\stackrel{\rightharpoonup}{5} \stackrel{\substack{\sim \\ \sim}}{\sim}$ |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & 0 \\ & \hline 8 \\ & \hline 8 \\ & \hline 0 \\ & \hline 0 \\ & \hline 0 \\ & \hline 0 \\ & \hline 1 \\ & \hline 1 \end{aligned}$ |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  | $\infty$ <br> 0 <br> 0 <br> 0 <br>  | $3 \begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ |  |  |  | 产 | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned}$ | $\left\{\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{array}\right.$ | $0$ |  |  | $\begin{aligned} & \text { I } \\ & \hline 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  |  | $\mathfrak{i}$ | $\begin{aligned} & \text { No } \\ & \substack{0 \\ \hline \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \\ \hline} \end{aligned}$ | $\begin{aligned} & \text { No } \\ & \hline \mathbf{O} \\ & \hline \mathbf{O} \\ & \text { O- } \end{aligned}$ |  |  | $\begin{aligned} & \text { No } \\ & \mathbf{O} \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | 1 | $\left\{\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ \infty \\ 0 \end{array}\right.$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | OTO |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | へ |  | $\begin{aligned} & \stackrel{\sim}{N} \\ & \underset{\sim}{\dot{N}} \\ & \hline \end{aligned}$ |  |  |  |  | $\mathfrak{c}$ |  |  |  |  | $\begin{aligned} & \stackrel{\infty}{\stackrel{N}{2}} \\ & \hat{\sim} \end{aligned}$ |  |  | $$ |  | $\begin{aligned} & \stackrel{9}{2} \\ & \stackrel{y}{2} \\ & \stackrel{y}{n} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \stackrel{y}{3} \\ & \stackrel{\sim}{n} \\ & \end{aligned}$ |  |  |  | － | ผ่ | $\stackrel{\sim}{\circ}$ | ค |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\frac{\bar{y}}{\mathbf{y}}$ |  | $\begin{array}{\|c} \substack{\infty \\ \underset{\sim}{c} \\ \underset{\sim}{c} \\ \hline} \end{array}$ |  |  |  | $\begin{array}{\|c} \underset{\sim}{\underset{\sim}{\underset{\sim}{c}}} \\ \hline \end{array}$ |  | $\begin{aligned} & 1 \\ & \hline \end{aligned}$ |  |  |  | $\begin{array}{l\|l} \substack{1 \\ \\ \\ \\ \\ \\ \\ \hline} \end{array}$ |  |  |  |  | $\sum_{\sum}^{\sum}$ | $\frac{1}{2} \sum_{\sum}^{2} \sum_{\sum}^{\infty}$ |  |  | $\sum_{i}^{\infty}$ | $\left\lvert\, \begin{gathered} \underset{N}{N} \\ \sum_{\sum} \end{gathered}\right.$ | $\stackrel{\substack{\frac{1}{1} \\ \frac{1}{\mathbf{I}} \\ \hline}}{ }$ | $\begin{aligned} & 0 \\ & \tilde{\omega} \\ & \dot{\omega} \end{aligned}$ | $\begin{aligned} & \substack{\infty \\ \\ \\ \stackrel{y}{2} \\ \hline} \end{aligned}$ | $\left\|\begin{array}{c} \frac{4}{\dot{m}} \\ \stackrel{2}{\infty} \end{array}\right\|$ |  |  |  | $\left\|\begin{array}{c} \frac{m}{\frac{1}{x}} \\ \frac{1}{101} \end{array}\right\|$ |  | $\stackrel{\dot{\sim}}{\stackrel{\sim}{w}}$ | $\stackrel{\text { ヘ }}{\stackrel{1}{4}}$ |  |  | $\begin{gathered} 0 \\ \tilde{m} \\ \underset{\sim}{x} \\ \hline \end{gathered}$ | $\begin{array}{\|c} \underset{\sim}{\tilde{\sim}} \\ \underset{\sim}{\tilde{\sim}} \\ \hline \end{array}$ | $\begin{aligned} & \underset{\sim}{\underset{\sim}{\underset{\sim}{e}}} \end{aligned}$ | $\begin{aligned} & x \\ & \substack{x \\ \dot{h} \\ \stackrel{y}{\infty} \\ \hline} \end{aligned}$ | $\frac{\stackrel{1}{\hat{S}}}{\mathrm{~m}}$ | （1） |


| $\frac{\pi}{\frac{\pi}{5}}$ |  |  |  | Nois |  | $\begin{gathered} 0 \\ \hline \end{gathered}$ | $\underset{i}{c}$ | $\frac{2}{0}$ |  |  | तิ－ | $\frac{9}{3}$ | $\stackrel{\infty}{\circ}$ | N |  | $?$ |  | $\pm$ |  | $\vdots$ | $\cdots$ | － | ๑， |  | $n$ | $\left\lvert\, \begin{aligned} & 0 \\ & 4 \\ & 0 \end{aligned}\right.$ | $\stackrel{\sim}{\circ}$ | $\begin{aligned} & 7 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & 9 \\ & \hdashline \\ & 0 \end{aligned}$ | $8$ | గి, |  | $\infty$ | Nim | $0 \sim n$ | $\stackrel{n}{n}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\stackrel{\rightharpoonup}{0}$ | $\underset{\substack{n \\ 0 \\ \hline}}{ }$ | $\begin{array}{\|c} 0 \\ \tilde{N} \\ 0 \end{array}$ | $\begin{array}{c\|c} \substack{c \\ \hline \\ 0 \\ \\ \hline} \end{array}$ |  | $0 .$ |  | $\stackrel{\rightharpoonup}{\vec{O}}$ | $0$ | No | $\begin{array}{c\|c} 0 \\ \\ 0 & 0 \\ 0 \end{array}$ |  |  | N̦ | $\underset{\substack{0 \\ \hline}}{ }$ | $9$ |  | $\pm$ |  | $\pm$ | $\begin{aligned} & 4 \\ & 9 \\ & 0 \end{aligned}$ | Nu | $\left\|\begin{array}{c} m \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\underset{\sim}{2}$ | $\underset{\infty}{\infty}$ | $\begin{aligned} & n \\ & \\ & 0 \end{aligned}$ | $\begin{gathered} \infty \\ \\ \hline \end{gathered}$ | $0$ | $\begin{gathered} \infty \\ \\ 0 \\ 0 \end{gathered}$ | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $\begin{aligned} & \infty \\ & \\ & \end{aligned}$ | $\begin{gathered} \infty \\ \underset{c}{\infty} \\ 0 \end{gathered}$ | ন্য় | $\underset{N T}{ }$ | $\underset{N}{\text { Nu}}$ |  | Ginn | $\underset{\sim}{n}$ |  | － |
|  |  | $$ | $\left\|\begin{array}{c} 1 \\ n \\ n \\ n \end{array}\right\|$ | $i \underset{\sim}{\underset{\infty}{\infty}} \underset{\sim}{\underset{\infty}{\infty}}$ | $\left\|\begin{array}{l} \mid \vec{n} \\ i n \\ n \end{array}\right\|$ | $\underset{\infty}{i}$ | $\underset{\infty}{2} \underset{\substack{2 \\ \underset{\sim}{0} \\ \hline \\ \hline}}{ }$ | $\dot{c}$ |  |  | yiv |  | $\underset{\sim}{i} \underset{\sim}{i}$ | O̧ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{\lambda} \\ & \end{aligned}$ | $\underset{6}{9}$ | $\underset{\text { N゙ }}{\underset{\sim}{t}}$ | of |  | $\mathfrak{l}$ | $\left\lvert\, \begin{gathered} \infty \\ \infty \\ \\ \underset{子}{2} \end{gathered}\right.$ | $\mathfrak{c}$ | $\mathfrak{l}$ |  | $\underset{i}{\substack{\infty \\ \underset{\sim}{\infty} \\ \underset{\sim}{2} \\ \hline}}$ |  | $8$ | $\stackrel{\rightharpoonup}{8} \underset{子}{+}$ | $\underset{m}{\mathrm{~F}}$ | $\pm$ | $: \begin{aligned} & n \\ & n \\ & n \end{aligned}$ | $\underset{\underset{~}{7}}{\square}$ |  |  |  | $\begin{gathered} \underset{\sim}{2} \\ \text { ले } \end{gathered}$ | $\begin{aligned} & 8 \\ & n \\ & n \\ & n \end{aligned}$ | $\underset{i}{\underset{\sim}{n}}$ |  | $\underset{\sim}{\text { d }}$ |
| $\underset{y}{z}$ | $$ |  | $\mathfrak{l}$ |  | $\mathfrak{t}$ | $\begin{aligned} & \pm \\ & \underset{j}{n} \\ & \stackrel{n}{\infty} \\ & \end{aligned}$ | $\underbrace{\infty}_{i} \underset{\substack{n \\ \infty \\ \dot{\sim} \\ \dot{\sim} \\ \hline}}{ }$ | $\begin{aligned} & 8 \\ & n \\ & n \\ & n \end{aligned}$ | $\hat{i}$ | $\underset{\substack{\lambda \\ i n}}{\substack{7}}$ |  | $\stackrel{\rightharpoonup}{i}$ | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\infty}$ | $\stackrel{\sim}{\circ}$ |  |  |  | $\stackrel{n}{n}$ | $\left(\left.\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array} \right\rvert\,\right.$ | $\begin{aligned} & 8 \\ & 8 \\ & i \end{aligned}$ | $\mathfrak{l} \left\lvert\, \begin{aligned} & 8 \\ & \substack{n \\ 子 \\ 子} \end{aligned}\right.$ | $\mathfrak{c} \left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{2} \end{aligned}\right.$ |  | $\hat{n}_{n}$ |  | $\underset{\sim}{n}$ | $\begin{array}{\|c} \vec{n} \\ n \\ m \end{array}$ | $i$ | $\begin{aligned} & n \\ & \infty \\ & i \end{aligned}$ | $\underset{\text { İ }}{ }$ | $: \begin{aligned} & n \\ & \infty \\ & \dot{n} \\ & \end{aligned}$ | $\begin{aligned} & 8 \\ & \hline 8 \\ & \dot{子} \end{aligned}$ |  | $\stackrel{\leftrightarrow}{8}$ | $\underset{y}{t}$ |  |  | $\underset{i}{i}$ |  | $\xrightarrow[\sim]{\sim}$ |
| $\pm$ | $\underset{\substack { \infty \\ \\ \begin{subarray}{c}{0{ \infty \\ \\ \begin{subarray} { c } { 0 } } \\ {\hline}\end{subarray}}{ }$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\lambda} \\ \stackrel{O}{2} \end{gathered}\right.$ | $\begin{array}{\|c} \infty \\ 0 \\ 0 \\ 0 \end{array}$ |  | $\mathfrak{n}$ |  | $\begin{array}{l\|l\|} 0 & \underset{\sim}{0} \\ & \underset{N}{N} \\ \hline \end{array}$ | $\stackrel{\rightharpoonup}{2}$ | $\begin{gathered} \infty \\ 0 \\ 0 \\ 0 \end{gathered}$ | $$ | $\begin{aligned} & \circ \\ & \substack{0\\ } \end{aligned}$ |  |  | $\begin{gathered} \infty \\ \stackrel{\rightharpoonup}{0} \\ \stackrel{0}{0} \end{gathered}$ | $\begin{aligned} & \hat{n} \\ & \infty \\ & 0 \end{aligned}$ |  |  | $\begin{gathered} \infty \\ \underset{y}{\infty} \\ \underset{0}{2} \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}\right.$ | $\begin{gathered} \infty \\ \underset{y}{\infty} \\ \underset{0}{2} \end{gathered}$ |  | $\left[\begin{array}{l} 4 \\ \underset{0}{2} \\ \hline \end{array}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \stackrel{\infty}{e} \\ & \stackrel{0}{2} \end{aligned}\right.$ | $\underset{\substack{2}}{\underset{i}{2}}$ |  | $\left\lvert\, \begin{aligned} & \underset{\sim}{i} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\stackrel{\rightharpoonup}{\underset{\circ}{\circ}}$ | $\underset{\substack{2 \\ 子 \\ \vdots}}{ }$ | $\begin{aligned} & \infty \\ & 0 \\ & \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ \infty \\ \underset{O}{0} \end{array}\right\|$ | $\begin{aligned} & 8 \\ & n \\ & n \end{aligned}$ | $\underset{\sim}{\underset{0}{\circ}}$ |  | $\stackrel{\rightharpoonup}{6}$ | $\pm$ |  | $\begin{gathered} k_{2}^{\infty} \\ \end{gathered}$ | $8$ |  | O－ |
| ò | $\underset{0}{N}$ |  | N | $\begin{array}{r} n \\ 0 \\ 0 \end{array} \underset{\sim}{n}$ | ${ }_{3}^{2}$ | $\begin{gathered} n \\ \\ \hline \end{gathered}$ | $\underset{0}{n} \underset{0}{n}$ | $\stackrel{\rightharpoonup}{n}$ |  |  | N | N | へై | 7 |  | $: \begin{gathered} \bar{n} \\ 0 \end{gathered}$ |  | กิ． | $\bar{\sim}$ | $\bar{m}$ | $\underset{0}{\infty}$ | $\vdots$ | $\stackrel{\imath}{\hat{0}}$ | $\begin{aligned} & n \\ & 6 \\ & 6 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\begin{gathered} \text { to } \\ \hline \end{gathered}$ | $\begin{aligned} & \mathbf{t} \\ & \vdots \\ & \hline \end{aligned}$ |  |  | di | $\begin{aligned} & t \\ & \hline \end{aligned}$ |  |  | $\stackrel{8}{\circ}$ |  |  |  |  | $\begin{aligned} & 0 \\ & \hline \end{aligned}$ |
|  | $\stackrel{\infty}{f}$ |  | to | $\stackrel{t}{t} \underset{\substack{\infty \\ \infty \\ \infty \\ \hline}}{\infty}$ | 2 | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \hline \end{aligned}$ | $\infty$ | $\stackrel{\infty}{\circ}$ |  |  | $\circ$ |  | $\pm$ | $\infty$ |  | in |  | ${ }^{\circ}$ |  | N | $\hat{n}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{n} \\ & \text { in } \end{aligned}\right.$ |  |  |  |  | $\infty$ | $\infty$ |  |  | $\bigcirc$ |  |  |  | $\ni F$ |  | $\infty$ | $\underset{?}{N}$ |  | Y ${ }^{\text {O }}$ |
|  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\underset{0}{n}$ |  | $\infty$ | $\stackrel{i}{\stackrel{n}{0}}$ | $\begin{gathered} n \\ \stackrel{n}{0} \\ \hline \end{gathered}$ | $\circ$ |  | $\stackrel{\infty}{\infty}$ | o. |  | $\bigcirc$ | $\cdots$ |  |  |  | $\begin{aligned} & 0 \\ & \underset{0}{0} \end{aligned}$ | do | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\sim}{0}$ | $\vdots \left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \infty \end{aligned}\right.$ |  | $\mathbb{Z}$ | $\stackrel{\&}{2}$ | $\stackrel{\varangle}{Z}$ | $\stackrel{<}{Z}$ | $\mathbb{Z}$ | $\frac{4}{Z}$ | $\mathbb{Z}$ | $\mathbb{Z}$ | ＜ |  | $\stackrel{<}{Z} \mathbb{Z}$ | $\stackrel{4}{Z}$ |  | $\stackrel{4}{Z}$ | $\stackrel{<}{z}$ |  | ¢ |
|  | $\mathfrak{c}$ |  | $\left\lvert\, \begin{gathered} A \\ \\ \end{gathered}\right.$ |  | $\frac{\underset{\sim}{\mathrm{N}}}{}$ |  | $\stackrel{\sim}{c}$ |  |  |  | $\underset{i}{2}$ |  | $\begin{gathered} \overrightarrow{0} \\ \stackrel{\rightharpoonup}{1} \end{gathered}$ | $\stackrel{\sim}{n}$ |  | $\begin{array}{ll} 4 \\ \\ \vdots \end{array}$ | $\underset{\substack{c \\ \underset{\sim}{c} \\ \hline}}{ }$ | $\begin{gathered} \circ \\ \dot{\sim} \\ \stackrel{y}{c} \end{gathered}$ |  |  | $\left\lvert\, \begin{gathered} \substack{c \\ \\ \hline} \end{gathered}\right.$ | $\alpha$ | $\begin{gathered} \underset{\sim}{\mathrm{j}} \end{gathered}$ | $\stackrel{\otimes}{\mathrm{N}} .$ | $\left.\begin{array}{c} \infty \\ \infty \\ n \end{array}\right]$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{c} \end{array}\right\|$ | $\stackrel{\otimes}{\mathrm{N}}$ | $\stackrel{\rightharpoonup}{\infty}$ | $\underset{\infty}{2}$ | $\stackrel{c}{\stackrel{\rightharpoonup}{n}} \underset{\sim}{2}$ | à |  |  |  |  |  |  | $\dot{n}$ |  | $\dot{\sim} \dot{\sim}$ |
| $\underset{1}{\stackrel{\circ}{E}}$ |  |  |  | $\underset{\sim}{n} \underset{\sim}{n}$ | $\mathfrak{c}$ |  | $\stackrel{i}{i}$ | $: \begin{aligned} & \bar{N} \\ & \vdots \\ & \vdots \end{aligned}$ |  | H\|c | $\begin{array}{l\|l} \infty \\ n \\ \\ & n \\ \end{array}$ | $\stackrel{n}{n}$ |  | $\underset{\sim}{\alpha}$ |  | $0$ | $\begin{aligned} & \vec{a} \\ & \stackrel{\rightharpoonup}{2} \\ & \hline \end{aligned}$ | $\begin{gathered} \hat{n} \\ \underset{\sim}{2} \end{gathered}$ | $\left\|\begin{array}{l} \infty \\ \vdots \\ \vdots \\ \vdots \end{array}\right\|$ | $\stackrel{\rightharpoonup}{\mathrm{a}} \mid$ | $\begin{aligned} & 0 \\ & \vdots \\ & 2 \end{aligned}$ | $: \begin{aligned} & n \\ & \cdots \\ & \vdots \end{aligned}$ | Nicucin | $\mid$ |  | $\left\lvert\, \begin{aligned} & i n \\ & \stackrel{n}{n} \\ & n \end{aligned}\right.$ | ab | $\left\lvert\, \begin{gathered} a \\ \dot{c} \\ \underset{N}{2} \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & \stackrel{R}{n} \\ & \underset{n}{2} \end{aligned}\right.$ | $\begin{aligned} & \mathrm{N} \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{6} \\ & \dot{\sim} \end{aligned}$ |  |  |  | $\begin{gathered} n \\ \\ \underset{\sim}{n} \\ \\ \hline \end{gathered}$ |  | $\underset{\sim}{\underset{\sim}{n}} \underset{\sim}{\sim}$ |  |  |  |
| $\bar{\omega}$ | $\underset{m}{m}$ |  | $\underset{c}{c}$ |  | $: \begin{gathered} \infty \\ \infty \\ n \\ m \end{gathered}$ |  | $\stackrel{\infty}{+} \underset{\sim}{c} \underset{\sim}{\infty} \underset{\sim}{n}$ | $\mathfrak{c}$ |  |  | $\begin{aligned} & \hat{m} \\ & \underset{m}{m} \end{aligned}$ |  | $\underset{\sim}{\text { NָN}}$ | $\underset{\underset{\sim}{\mathrm{m}}}{\mathrm{e}}$ |  | $\mathfrak{c}$ | $\underset{m}{\stackrel{n}{m}}$ | $\mathfrak{c}$ | $\left\lvert\, \begin{gathered} \vec{j} \\ \underset{m}{2} \end{gathered}\right.$ | $\left.\begin{gathered} \mathrm{N} \\ \mathrm{~m} \end{gathered} \right\rvert\,$ | $\left\|\begin{array}{c} \infty \\ \infty \\ m \\ m \end{array}\right\|$ | $\mathfrak{c}$ | $\underset{\sim}{0}$ |  |  | $\left\|\begin{array}{c} n \\ \underset{n}{n} \\ \hline \end{array}\right\|$ | $\begin{gathered} 1 \\ 0 \\ 0 \\ e \end{gathered}$ | $\mathfrak{c}$ | $\begin{aligned} & \mathrm{C} \\ & \mathbf{o} \\ & \hline \end{aligned}$ | $\mid \dot{m}$ | $\mathfrak{c}$ | $0$ |  |  | $\stackrel{c}{8}$ |  |  |  |  |  |
| $\frac{\stackrel{F}{⿳ 亠 丷 厂 彡 心 ㇒}}{}$ |  |  | $1 \begin{aligned} & \mathfrak{j} \\ & \underset{y}{2} \end{aligned}$ |  |  | $\dot{i}$ | $\underset{~ f ~}{f}$ | $\underset{\sim}{n}$ |  |  |  |  |  | $\cdots$ |  |  |  | $\cong$ |  |  |  | $\mathfrak{c} \left\lvert\, \begin{aligned} & \dot{\infty} \\ & \dot{j} \end{aligned}\right.$ | $5$ | $n=$ |  | $\sim$ |  |  | $\begin{gathered} \widehat{O} \\ \text { in } \end{gathered}$ |  | $\stackrel{\infty}{\infty} \stackrel{\circ}{\circ}$ |  |  |  | $\stackrel{\substack{0}}{\substack{0}}$ |  |  |  |  | $\stackrel{\infty}{\text {＋}}$ |
|  | $\left\|\begin{array}{c} n \\ n_{0} \\ 0 \\ \vdots \\ \infty \end{array}\right\|$ |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 8 \end{aligned}$ | $\begin{array}{l\|l} 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{array}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{array}\right\|$ | $\begin{aligned} & { }_{2}^{\infty} \\ & Q_{0} \\ & 0 \\ & e_{i} \end{aligned}$ | $\left\lvert\, \begin{aligned} & a_{0} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & i \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  |  | $: \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \hline \end{aligned}\right.$ | $\mathfrak{c}$ |  |  | $\mathfrak{l} \left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \infty \\ & 0 \\ & \infty \\ & 1 \end{aligned}\right.$ | $\begin{aligned} & 2 \\ & \vdots \\ & \vdots \\ & \vdots \\ & \dot{8} \\ & \hline \end{aligned}$ | $\frac{2}{2}$ | $\mathfrak{c}$ |  | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\mathfrak{c}$ |  |  |  | $\begin{array}{lll} \substack{6 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \\ \hline} \end{array}$ |  |  |  |  |  |
|  |  |  | $\mathfrak{c} \left\lvert\, \begin{gathered} \infty \\ \infty \\ \underset{n}{n} \\ \underset{n}{2} \end{gathered}\right.$ |  |  |  |  | $\begin{aligned} & \circ \\ & \stackrel{t}{t} \\ & \underset{\sim}{n} \end{aligned}$ | $\mathfrak{c}$ |  | $\begin{gathered} \underset{2}{2} \\ \underset{i}{2} \end{gathered}$ |  |  | $\underset{\sim}{9}$ | $\begin{gathered} \stackrel{\rightharpoonup}{d} \\ \dot{\sim} \\ \stackrel{\rightharpoonup}{n} \end{gathered}$ | $\dot{y}$ | $\left\|\begin{array}{l} \vec{y} \\ \underset{\sim}{x} \\ \dot{a} \end{array}\right\|$ | $\mathfrak{y}$ | $\begin{aligned} & \infty \\ & n \\ & \infty \\ & n \\ & n \end{aligned}$ | $\begin{array}{l\|l} \infty \\ \vdots \\ \vdots \\ \vdots \\ \vdots \\ \vdots \end{array}$ | $: \begin{aligned} & \infty \\ & n \\ & \infty \\ & n \\ & n \\ & n \end{aligned}$ |  |  |  | $3$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\{\begin{array}{l} 2 \\ n \\ 0 \\ 0 \\ 1 \end{array}\right.$ | $\begin{aligned} & N \\ & n \\ & n \end{aligned}$ | $\begin{aligned} & n \\ & \end{aligned}$ | $\left(\begin{array}{c} 2 \\ \stackrel{n}{n} \\ \dot{\sim} \\ \vdots \end{array}\right.$ | $\begin{aligned} & 2 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & n \\ & 0 \\ & \hline 1 \end{aligned}$ |  |  |  | $\circ$ <br> 1 <br>  <br>  |  | $\begin{array}{\|l} N \\ \underset{O}{0} \\ 0 \\ 0 \\ \end{array}$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\underset{c}{c}$ |  | $\begin{gathered} z \\ z \\ 0 \\ 0 \\ 0 \\ \dot{o} \\ \underset{y}{y} \\ \underset{\sim}{2} \end{gathered}$ |  |  |  |  |  | $\begin{aligned} & z \\ & u \\ & 0 \\ & \dot{j} \\ & \dot{y} \\ & \underset{\sim}{y} \end{aligned}$ |  |  |  | $\left(\begin{array}{c} z \\ u \\ 0 \\ \\ \dot{y} \\ \underset{\sim}{y} \end{array}\right.$ |  |  |  |  |
| $\stackrel{\text { ॐ゙ }}{\omega}$ |  |  | $\begin{array}{\|c} \infty \\ \\ \vdots \\ \sum \\ \hline \end{array}$ |  | $\begin{aligned} & 1 \\ & \frac{1}{U} \\ & 0 \\ & \hline \end{aligned}$ | $$ |  |  | $\begin{aligned} & \infty \\ & \underset{N}{1} \\ & \sum_{i} \end{aligned}$ |  |  |  |  | $\frac{\underset{1}{x}}{\substack{2}}$ | $\begin{aligned} & \stackrel{1}{2} \\ & \stackrel{2}{2} \end{aligned}$ | $\underset{\substack{1 \\ \tilde{c} \\ \\ \hline}}{ }$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{2} \\ \end{array}\right\|$ | $\begin{gathered} \substack{1 \\ \tilde{2} \\ \\ \hline} \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ \tilde{2} \\ \mid \end{gathered}\right.$ | $\left\|\begin{array}{c} \infty \\ \underset{2}{2} \\ \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \left.\begin{array}{c} 1 \\ \tilde{2} \\ \frac{2}{4} \end{array} \right\rvert\, \end{aligned}\right.$ | $: \begin{aligned} & 0 \\ & \frac{1}{x a} \\ & 2 \end{aligned}$ | $\begin{gathered} \mathbb{4} \\ \frac{1}{4} \\ 2 \end{gathered}$ | $\left[\begin{array}{l} 1 \\ \frac{1}{2} \\ 0 \end{array}\right.$ | $\left\{\begin{array}{c} \frac{m}{1} \\ \frac{1}{2} \\ 0 \end{array}\right.$ | $\left\|\frac{1}{2}\right\|$ | $\mathfrak{c}$ |  | $\begin{gathered} m \\ 1 \\ \tilde{n} \\ 0 \end{gathered}$ | $\text { c\|} \begin{gathered} 1 \\ 2 \\ 0 \\ 0 \end{gathered}$ | $\begin{aligned} & u \\ & \tilde{x} \\ & 0 \end{aligned}$ |  |  |  |  | $\begin{array}{\|c} \frac{Y}{2} \\ \frac{2}{2} \end{array}$ |  | $\underset{\sim}{\infty}$ |  |  |


| $\begin{gathered} \frac{9}{5} \\ \hline \mathbf{C} \end{gathered}$ | $0$ |  | $\overbrace{0}^{\infty}: \overbrace{0}^{0}$ | N0 |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\stackrel{\sim}{0}$ |  | $\left\|\begin{array}{c} 9 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\sim}{\circ}$ |  | － | $\bigcirc$ | \％ | － |  | $\mathfrak{c}$ |  | 우 | \％ | $\left\|\begin{array}{c} \underset{N}{N} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{\mathrm{O}} \end{array}\right\|$ | m | $0$ | $\stackrel{\sim}{\sim}$ |  | $0$ | $\left.\begin{array}{\|c} \hat{m} \\ 0 \end{array} \right\rvert\,$ |  | $\stackrel{\sim}{0}$ |  | 이 |  | $\left\|\begin{array}{c} \infty \\ \mathbf{o} \\ \hline \end{array}\right\|$ | $\stackrel{N}{\infty}$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\rightharpoonup}{\circ}$ | ¢ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 은 |  |  | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\sim}$ | $\begin{array}{\|c} \stackrel{\sim}{0} \\ \\ \hline \end{array}$ | － | N్ల | $\begin{gathered} \stackrel{n}{0} \\ 0 \\ 0 \end{gathered}$ |  | $\begin{gathered} \infty \\ \\ 0 \end{gathered}$ |  | $\left\|\begin{array}{c} \infty \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\underset{\substack{\mathrm{N}}}{ }$ |  | $\begin{gathered} \infty \\ \\ \end{gathered}$ | $\stackrel{\Gamma}{N}$ | $\begin{array}{\|c} 0 \\ \stackrel{0}{1} \\ 0 \end{array}$ | ্ָণ |  | $\stackrel{\infty}{\sim}$ |  | $\overbrace{\substack{2 \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline}}$ | $\begin{aligned} & t \\ & \hline \end{aligned}$ | $\stackrel{\substack{N \\ \multirow{2}{*}{\hline}\\ \hline}}{ }$ | $\begin{array}{\|c} \substack{N \\ \underset{\sim}{2} \\ \hline} \end{array}$ | No | $\stackrel{\sim}{c}$ | $\left\|\begin{array}{c} \underset{N}{\mathbf{N}} \\ 0 \end{array}\right\|$ | － | $\left\lvert\, \begin{gathered} \underset{\sim}{2} \\ \underset{O}{2} \end{gathered}\right.$ | $\|\stackrel{\leftrightarrow}{\infty}\|$ |  | $\stackrel{\sim}{\mathrm{N}}$ |  |  |  | $\left\|\begin{array}{c} \infty \\ \sim N \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{\infty} \\ \underset{\sim}{2} \end{gathered}$ | $\underset{\substack{2 \\ \hline}}{ }$ | $\underset{\sim}{\sim}$ | N |
| $\underline{1}$ |  |  |  | $\left\|\begin{array}{c} \overline{\mathrm{N}} \\ \hat{\omega} \end{array}\right\|$ |  |  | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ \vdots \end{array}\right\|$ |  | $\stackrel{\otimes}{\otimes}$ |  | $\left\|\begin{array}{l} 8 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{~N} \\ & \mathrm{~N} \end{aligned}$ |  | $\begin{gathered} \text { No } \\ \underset{\sim}{\circ} \\ \hline \end{gathered}$ | م̣ | $\left.\begin{gathered} \underset{\lambda}{\lambda} \\ \stackrel{j}{j} \end{gathered} \right\rvert\,$ | $\begin{aligned} & \stackrel{y}{6} \\ & \end{aligned}$ |  | $\begin{gathered} \mathbf{N} \\ \underset{\sim}{\mathrm{N}} \end{gathered}$ | $\underset{~ N ̣ ~}{\text { N}}$ | $\underset{\sim}{~+~}$ |  | $\left.\begin{gathered} \underset{\sim}{\mathbf{N}} \\ \mathbf{C} \end{gathered} \right\rvert\,$ |  | $\left\lvert\, \begin{gathered} m \\ \substack{1 \\ ~} \end{gathered}\right.$ | $\begin{array}{\|c} \underset{\sim}{\alpha} \end{array}$ | $\underset{\underset{\sim}{\underset{\sim}{2}}}{\underset{\sim}{2}}$ | $\underset{\sim}{\underset{\sim}{\sim}}$ | $\left\lvert\, \begin{array}{\|c} \hat{\gamma} \\ \underset{子}{ } \mid \end{array}\right.$ | $\left\lvert\, \begin{gathered} \hat{N} \\ \underset{m}{2} \end{gathered}\right.$ |  | $\stackrel{ \pm}{N}$ |  | $\underset{\sim}{2}$ |  | $\stackrel{\rightharpoonup}{\mathrm{t}}$ | $\left.\begin{gathered} \hat{\infty} \\ \infty \\ \infty \end{gathered} \right\rvert\,$ | $\underset{\substack{\text { O} \\ \underset{\sim}{2} \\ \hline}}{ }$ | $\left\|\begin{array}{c} n \\ \infty \\ \underset{\sim}{2} \end{array}\right\|$ | $\stackrel{\substack{\circ \\ \sim}}{\substack{\text { c }}}$ |
| $\bar{Y}$ |  |  | $\underset{\substack{n}}{\substack{c}} \underset{\sim}{\infty}$ | $\begin{aligned} & \overline{\hat{N}} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{gathered} \underset{\sim}{\underset{N}{n}} \\ \underset{j}{2} \end{gathered}$ |  | $\left\|\begin{array}{l} \overline{\hat{N}} \\ \stackrel{0}{6} \end{array}\right\|$ |  | $\stackrel{\otimes}{\infty} \underset{\sim}{\infty}$ | $\dot{\sim}$ | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $\stackrel{\sim}{\stackrel{N}{\mathrm{~N}}}$ |  | $\stackrel{\underset{\sim}{\mathrm{F}}}{ }$ | $\underset{\sim}{\underset{\sim}{\underset{\sim}{2}}}$ | 응 |  |  | $\begin{gathered} \stackrel{y}{4} \\ \mathbf{c} \\ \hline \end{gathered}$ |  | 웅 | $\begin{gathered} \stackrel{\rightharpoonup}{\mathrm{N}} \\ \stackrel{y}{*} \end{gathered}$ | $\left\|\begin{array}{c} 9 \\ \hline \end{array}\right\|$ |  | $\xrightarrow[\substack{N \\ \sim \\ \sim}]{ }$ | $\begin{gathered} ⿳ ⺈ ⿴ 囗 十 灬 \\ \underset{\sim}{u} \end{gathered}$ | $\left\|\begin{array}{l} \mathbf{m} \\ \mathbf{c} \\ \stackrel{N}{2} \end{array}\right\|$ | $\stackrel{m}{\underset{\sim}{i}} \mid$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{2} \end{aligned}$ | － |  | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\underset{\sim}{2}}$ |  | $\underset{\sim}{v}$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{gathered} \mathrm{O} \\ \hline \mathrm{O} \\ \dot{\mathrm{~F}} \end{gathered}$ | $\stackrel{-8}{-8}$ | $\left\|\begin{array}{l} 8 \\ \hline \\ \dot{子} \end{array}\right\|$ | － |
| $\overline{\mathcal{Z}}$ |  |  |  | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\rightharpoonup}{\lambda}$ | $\overline{\hat{N}}$ | $\stackrel{J}{\underset{i}{i}}$ |  | $\begin{array}{\|c\|c} 0 \\ 0 \\ 0 \\ 0 \end{array}$ |  |  |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{N}{\mathrm{~N}}$ | $\begin{gathered} \pi \\ \stackrel{\rightharpoonup}{0} \end{gathered}$ |  |  | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ | $$ |  | So | $\left\|\begin{array}{c} \infty \\ \\ 0 \end{array}\right\|$ | $$ | O | $\begin{gathered} 0 \\ \infty \\ 0 \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\infty$ 0 0 0 0 | $\begin{gathered} \infty \\ \\ \\ \hline \end{gathered}$ | O |  | $\stackrel{\otimes}{\sim}$ |  | \|on |  | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ | $\begin{aligned} & \hat{0} \\ & \infty \\ & \stackrel{0}{2} \end{aligned}$ | $\begin{gathered} \infty \\ \\ \\ \hline \end{gathered}$ | $\left\lvert\, \begin{gathered} \infty \\ \substack{\infty \\ \\ \hline} \end{gathered}\right.$ | － |
| O\| |  |  |  | $\stackrel{\overparen{O}}{\dot{\circ}} \mid$ | $\stackrel{\leftrightarrow}{6}$ | $\left\|\begin{array}{l} \stackrel{\leftrightarrow}{0} \\ \stackrel{0}{0} \end{array}\right\|$ | $\stackrel{0}{6}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\circ} \\ & \dot{\circ} \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathbf{y} \\ & \mathbf{0} \\ & \mathbf{0} \end{aligned}$ | $\stackrel{\mathbb{N}}{\stackrel{\rightharpoonup}{\circ}}$ | $\begin{gathered} N \\ \hline \end{gathered}$ | $\left\|\begin{array}{l} \mathbf{~} \\ \stackrel{\circ}{\circ} \end{array}\right\|$ |  | $\stackrel{\rightharpoonup}{\mathbf{~}} \stackrel{+}{\dot{\circ}}$ |  | $$ | $\left\lvert\, \begin{aligned} & 18 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ |  | $\begin{aligned} & 0 \\ & \bullet \\ & \bullet \end{aligned}$ |  | $\begin{aligned} & \substack{\infty \\ \dot{\infty} \\ \hline \\ \hline \\ \hline} \end{aligned}$ | $\begin{array}{c\|c\|c\|c\|c\|c\|} \hline 0 \\ \dot{\infty} \\ \hline \end{array}$ | $\stackrel{\nwarrow}{z}$ | $\left.\frac{\Sigma}{z} \right\rvert\, \stackrel{\S}{z}$ | 亿 | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & \dot{0} \end{aligned}\right.$ | $\bullet$ | $\stackrel{\infty}{\circ}$ | － |  | م |  |  | $\begin{array}{lll} \substack{n \\ 0 \\ 0} \\ 0 \end{array}$ | $\begin{aligned} & \hat{n} \\ & \dot{0} \end{aligned}$ | $\stackrel{\bullet}{\circ}$ | $\left\|\begin{array}{l} \infty \\ \stackrel{\infty}{\circ} \\ \dot{0} \end{array}\right\|$ | $\stackrel{\infty}{0}$ | O |
|  | $\underset{\sim}{\boldsymbol{\tau}} \underset{\sim}{\mathrm{f}}$ |  | \％ | ¢ |  | $\underset{i}{v}$ | $\stackrel{m}{\mathrm{i}}$ |  | ָ̄ | $\pm$ | さ | $\cdots$ | $\bigcirc$ | i |  | $8 .$ |  | \％ | $\bigcirc$ |  |  | $\bar{m}$ | $8$ | $\underset{\sim}{\infty}$ | \％ | N\| | $\stackrel{n}{n}$ | \％ | $\stackrel{\circ}{\circ}$ | O |  | ก |  |  |  | $\bigcirc$ | $\underset{\sim}{\text { N }}$ | $\stackrel{\sim}{\text { ¢ }}$ | ¢ | $\stackrel{+}{\circ}$ |
|  | $\underset{z}{\mathbb{2}}$ |  | $\stackrel{4}{2} \stackrel{4}{z}$ | z | \＆ | $\stackrel{4}{2}$ | K | $\stackrel{\varangle}{2}$ | Z | \＆ | $\underset{z}{i} \underset{z}{4}$ | $\underset{z}{\mathbb{Z}}$ | § | z |  | $\stackrel{\Sigma}{z}$ |  | $\stackrel{4}{2}$ | $z$ |  | $\mathbb{Z}$ |  | $\left\|\begin{array}{l} \hat{0} \\ 0 \end{array}\right\|$ | $\begin{gathered} 0 \\ 0 \\ 0 \end{gathered}$ | $\stackrel{n}{\circ}$ | $\begin{array}{\|c} 8 \\ \hline 0 \end{array}$ | $0$ | $0$ | $\left\lvert\, \begin{array}{\|c\|} \hline 0 \\ \hline \end{array}\right.$ | $\bigcirc$ |  | $\begin{aligned} & 8 \\ & \hline 0 . \end{aligned}$ |  |  | $\stackrel{m}{0}$ | ָ̀ | $\begin{gathered} 0 \\ 0 \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} \underset{\sim}{2} \\ 0 \end{array}\right\|$ | $\begin{aligned} & \dot{m} \\ & 0 \end{aligned}$ | － |
|  |  |  | $\stackrel{\sim}{\sim}$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{\mathrm{N}} \end{aligned}$ | $\stackrel{\rightharpoonup}{s} \stackrel{\rightharpoonup}{\sim}$ |  | $\dot{s}$ |  | $\stackrel{\substack{c} \underset{\sim}{\infty}}{\underset{\sim}{c}}$ | $\stackrel{N}{\hat{N}} \underset{\sim}{n}$ |  | $\begin{aligned} & \hat{\infty} \\ & \underset{\sim}{n} \end{aligned}$ | $\stackrel{\substack{\mathrm{N}}}{\substack{\underset{\sim}{c} \\ \hline}}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}$ |  | $\begin{aligned} & \circ \\ & \stackrel{\rightharpoonup}{c} \\ & \stackrel{y}{c} \\ & \end{aligned}$ | $\underset{\sim}{\infty}$ |  | $\begin{gathered} \infty \\ \stackrel{\sim}{m} \\ \underset{\sim}{2} \end{gathered}$ | $\stackrel{\stackrel{\rightharpoonup}{N}}{\stackrel{N}{N}}$ |  |  | $\stackrel{\Sigma}{z}$ | $\frac{\Sigma}{\lambda} \underset{z}{\Sigma}$ | $\widehat{z}$ | $\begin{gathered} \underset{\sim}{n} \\ \underset{j}{2} \end{gathered}$ | $\stackrel{n}{n}$ | N | $\begin{array}{\|c} \stackrel{0}{\sim} \\ \underset{\sim}{\sim} \end{array}$ | $\left\|\begin{array}{c} \stackrel{0}{2} \\ \underset{\sim}{2} \end{array}\right\|$ |  |  |  |  | $\underset{\sim}{c} \underset{\sim}{N}$ | $\underset{\sim}{n}$ | $\begin{gathered} \bar{\infty} \\ \underset{\sim}{c} \end{gathered}$ | $\left\lvert\, \begin{gathered} \underset{N}{N} \\ \underset{\sim}{n} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \stackrel{n}{n} \\ \underset{\sim}{\sim} \end{gathered}\right.$ | $\begin{gathered} \stackrel{n}{N} \\ \stackrel{\sim}{j} \end{gathered}$ |
| $\underset{\substack{0 \\ \underset{0}{\circ} \\ 0}}{0}$ |  |  | in in in in in |  |  | $\stackrel{\sim}{\mathrm{N}} \stackrel{\rightharpoonup}{\mathrm{~N}}$ | $\stackrel{-\infty}{\stackrel{\infty}{\sim}}$ | $\stackrel{\substack{0}}{\substack{\sim}}$ |  |  |  | 둘 |  | C |  |  |  |  | $\begin{aligned} & \hline 8 \\ & 0 \\ & \stackrel{\circ}{\circ} \end{aligned}$ | $\begin{gathered} \underset{\sim}{N} \\ \stackrel{\rightharpoonup}{n} \end{gathered}$ |  |  |  |  | $\begin{aligned} & \stackrel{\rightharpoonup}{0} \\ & \stackrel{\rightharpoonup}{\sim} \end{aligned}$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{c} \\ \stackrel{\rightharpoonup}{c} \\ \hline \end{gathered}\right.$ | \|ம் | $\underset{\stackrel{\circ}{\dot{\sim}}}{\stackrel{\circ}{\sim}}$ | $\begin{gathered} 0 \\ \dot{N} \\ \end{gathered}$ |  | $\stackrel{\infty}{\stackrel{\infty}{\dot{\omega}}}$ |  |  |  | $\begin{gathered} \underset{\sim}{n} \\ \underset{\sim}{c} \\ \hline \end{gathered}$ | $\begin{array}{\|c} \underset{\sim}{\mathrm{O}} \\ \stackrel{j}{\mathrm{~N}} \end{array}$ |  |  | $\underset{\text { ¢ }}{\stackrel{\text { ¢ }}{\text { ¢ }}}$ |
| $\overline{\mathrm{N}}$ |  |  |  |  | $\left.\begin{aligned} & \infty \\ & \infty \\ & \\ & \end{aligned} \right\rvert\,$ |  |  |  |  |  |  |  |  | $\begin{aligned} & \mathrm{O} \\ & \hline \mathbf{e} \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \stackrel{\mathrm{M}}{\mathbf{M}} \end{aligned}$ | $\begin{aligned} & 8 \\ & \stackrel{8}{0} \end{aligned}$ |  |  |  |  |  | $\stackrel{?}{\dot{j}} \underset{\sim}{\underset{\sim}{i}}$ | $j \stackrel{\approx}{\Sigma}$ | $\underset{z}{i} \underset{z}{2}$ | $\stackrel{\leftarrow}{z}$ | $\left\{\left.\begin{array}{l} 0 \\ 0 \\ \dot{e} \end{array} \right\rvert\,\right.$ | $\left\|\begin{array}{l} 8 \\ 0 \\ \dot{e} \end{array}\right\|$ | \|ঙ্লা | $\begin{aligned} & \text { } \\ & \hline \\ & \dot{心} \end{aligned}$ | $\left\|\begin{array}{c} \mathbf{y} \\ 0 \\ \dot{M} \end{array}\right\|$ |  | $\begin{aligned} & \stackrel{1}{0} \\ & \dot{e} \end{aligned}$ |  |  |  | $\mathfrak{n}$ | $\begin{aligned} & \hat{\infty} \\ & \substack{\infty \\ m} \end{aligned}$ |  | $\begin{gathered} \underset{y}{N} \\ 0 \\ \dot{c} \end{gathered}$ | － |
|  | $\stackrel{\substack{n \\ \dot{\circ}}}{ }$ |  | $\stackrel{\rightharpoonup}{\underset{\sim}{c}} \underset{\sim}{\underset{O}{0}}$ | $\underset{\sim}{\stackrel{\rightharpoonup}{¢}}$ |  | － |  |  | $\frac{v}{0} \underset{\infty}{\infty}$ | － | $\left\lvert\, \begin{gathered} 0 \\ \stackrel{n}{\mathrm{~m}} \\ \mathrm{~m} \end{gathered}\right.$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{\dot{\sigma}} \end{aligned}$ | $\stackrel{\sim}{+}$ | $-\underset{\sim}{\circ}-\stackrel{N}{N}$ | $\underset{\sim}{\underset{\sim}{\mathrm{N}}}$ |  |  |  | $\bigcirc$ |  |  |  | O | \％ | － | $\begin{gathered} \infty \\ \stackrel{\infty}{\infty} \\ \stackrel{9}{2} \end{gathered}$ | $\stackrel{\infty}{\infty}$ | N | Nọ | $\stackrel{ \pm}{\text {－}}$ |  |  |  |  |  | $\stackrel{n}{\dot{\gamma}}$ | $\underset{\sim}{\mathbf{O}}$ |  | $\begin{aligned} & \stackrel{N}{n} \\ & \underset{\sim}{2} \end{aligned}$ | $\stackrel{\circ}{\square}$ |
|  |  |  |  |  | $\circ$ <br>  <br>  <br>  |  |  |  | $\begin{gathered} \substack{0 \\ 0 \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline} \\ \hline \end{gathered}$ |  |  |  |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  |  |  | $\begin{aligned} & 3 \\ & \substack{\infty \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \\ \hline} \end{aligned}$ |  |  |  |  |  | $\stackrel{\infty}{\circ}$ |  | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & 1 \end{aligned}\right.$ | $\begin{aligned} & 8 \\ & \infty \\ & 0 \\ & 0 \\ & \hline 1 \\ & \hline 1 \end{aligned}$ | \|o | $\left\|\begin{array}{l\|l} \circ \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | － | $\infty$ |  |  |  | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \infty \end{aligned}$ | $\begin{gathered} \mathscr{M} \\ \vdots \\ \hdashline \dot{\circ} \\ \hline 1 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline-1 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \text { O } \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{gathered}\right.$ |
|  |  |  |  |  | $\stackrel{\stackrel{N}{\circ}}{ }$ |  |  |  |  |  |  | ウ̀ |  |  |  |  |  |  | $\begin{aligned} & \underset{\sim}{N} \\ & 0 \\ & \infty \\ & \stackrel{y}{n} \end{aligned}$ |  |  |  |  |  |  | 엉 | $\mathfrak{c}$ | － | ¢ | － |  |  | － | － |  | $\mathfrak{c}$ | $\begin{gathered} \bar{N} \\ \underset{\sim}{0} \\ \end{gathered}$ | $\stackrel{O}{\underset{~}{~}}$ | $\mathfrak{c}$ | N |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{2} \\ \frac{1}{2} \end{gathered}\right.$ | $\begin{array}{c\|c} \substack{\underset{\sim}{n} \\ \\ \\ \\ \underset{\sim}{2}\\ } \\ \hline \end{array}$ | $\begin{array}{l\|l\|l} \substack{\stackrel{1}{4}\\ \\ \\ } \end{array}$ |  |  |  |  |  | $\frac{1}{2}\left\|\frac{1}{2}\right\| \frac{1}{i}$ | $\begin{aligned} & 1 \\ & \hline \end{aligned}$ | $\begin{aligned} & \dot{m} \\ & {\underset{N}{n}}^{\mathbf{N}} \end{aligned}$ |  |  |  | $\begin{gathered} \substack{1 \\ \tilde{2} \\ \stackrel{2}{\infty} \\ \hline} \end{gathered}$ |  |  |  | $\left\|\begin{array}{l} 0 \\ \dot{6} \\ \frac{1}{\infty} \end{array}\right\|$ |  |  | $\underset{\substack{0 \\ \underset{\sim}{w} \\ \underset{\sim}{w} \\ \hline \\ \hline}}{ }$ | $\begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{\underset{\sim}{w}} \\ \hline \end{gathered}$ | ¢ | O | ¢ |  |  |  |  |  | $\xrightarrow[\substack{\underset{\sim}{n} \\ \underset{\sim}{\underset{w}{2}} \\ \hline}]{ }$ | $\frac{p}{\frac{p}{\alpha}}$ | $\dot{X}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{N} \\ & \\ & \hline \end{aligned}$ |  |


| $\begin{aligned} & \frac{\pi}{1} \\ & \hline \mathbf{~} \end{aligned}$ | O | O | ¢ | $\stackrel{2}{0}$ | Sis | $\pm \underset{0}{\infty}$ | $\stackrel{n}{n} \underset{\sim}{\infty}$ | $\stackrel{\substack{\circ}}{\stackrel{N}{\wedge}}$ | $\begin{aligned} & ? \\ & \\ & 0 \end{aligned}$ | $\bigcirc$ | N |  | $\stackrel{+}{\sim}$ | － | $\stackrel{\text { ¢ }}{\stackrel{\circ}{-}}$ | O |  |  |  |  | $\stackrel{q}{\dot{r}}$ |  | － | N | $\stackrel{\sim}{0}$ | － | $\mathbf{N}_{0} \mid$ |  | Nu | $\begin{gathered} 9 \\ \hline \end{gathered}$ | 正 | $\widehat{\omega}$ |  |  |  | o. | $\left\lvert\, \begin{gathered} 9 \\ 0 \\ \hline \end{gathered}\right.$ |  | $\stackrel{N}{N}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\left\|\begin{array}{c} \underset{\sim}{\mathrm{O}} \\ \hline \end{array}\right\|$ |  | $\dot{\sim}$ |  |  | $\stackrel{N}{c}$ | $\underset{\sim}{2}$ |  | $\overbrace{2}^{R}$ | $\stackrel{\substack{- \\ \hline}}{\substack{0 \\ 0}}$ | $\stackrel{\substack{0 \\ \hline \\ \hline} \underset{\sim}{n}}{ }$ |  | $\stackrel{\substack{\sim \\ 0}}{\substack{\sim \\ \hline}}$ |  | $\stackrel{\substack{0 \\ \hline}}{\substack{\sim \\ \hline}}$ | $\underset{\sim}{\mathbf{N}}$ | $\stackrel{N}{\stackrel{N}{N}}$ | $2 \overbrace{i}^{N}$ | $\left\lvert\, \begin{gathered} n \\ 0 \\ 0 \\ 0 \end{gathered}\right.$ | $\begin{array}{\|c} \stackrel{\sim}{\mathrm{N}} \\ \end{array}$ | $\begin{gathered} \underset{\sim}{\infty} \\ 0.0 \end{gathered}$ |  | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{\mathrm{~N}} \end{array}\right\|$ | ন্ড | － | $\left\|\begin{array}{c} \circ \\ \underset{N}{N} \end{array}\right\|$ | ָ |  | $\underset{\sim}{2}$ | $\begin{gathered} 0 \\ \underset{\sim}{\mathrm{~N}} \end{gathered}$ | $\stackrel{N}{N}$ | - |  | $$ |  |  | $\stackrel{N}{0}$ |  | $\stackrel{N}{N}$ | － |
| $\underline{1}$ |  | $\mathfrak{j}$ |  |  |  |  |  |  | $\underset{\sim}{\dot{y}} \underset{\sim}{( })$ |  | $5$ |  |  | $\underset{\substack{\underset{\sim}{c} \\ \hline}}{\underset{\sim}{\sim}}$ | $\xrightarrow[f]{\stackrel{\rightharpoonup}{\lambda}}$ | $\begin{array}{\|c} \mathfrak{N} \\ \mathbf{N} \\ \hline \end{array}$ | $\frac{\mathrm{O}}{\mathbf{O}}$ | $3 \stackrel{8}{\infty}$ |  |  | $\left\|\begin{array}{c} \infty \\ \stackrel{\infty}{i} \\ \stackrel{\circ}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} 8 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{\underset{\sim}{c}} \\ \underset{\sim}{2} \end{gathered}$ | N | $\left\lvert\, \begin{aligned} & m \\ & \mathbf{c} \\ & \dot{\sim} \end{aligned}\right.$ | $\underset{\tau}{\tilde{y}} \mid$ | $\stackrel{\stackrel{\rightharpoonup}{\underset{\sim}{*}}}{ }$ |  | $\underset{y}{\underset{\sim}{2}}$ | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\stackrel{\sim}{\mathrm{~N}}}$ | $15$ | $\mid \underset{\sim}{\mathcal{T}}$ |  |  |  | $\underset{\sim}{\underset{\sim}{2}}$ | $\underset{f}{q}$ |  |  | － |
| $\varepsilon \mid$ | $\begin{gathered} \bar{n} \\ \\ \end{gathered}$ | $j \underset{\sim}{\underset{N}{N}}$ | $\left.\begin{array}{\|c} 2 \\ 0 \\ 0 \\ 0 \end{array} \right\rvert\,$ | Nocco |  | $\underset{\sim}{\underset{\sim}{\underset{\sim}{c}}} \underset{\sim}{\underset{\sim}{c}}$ | $\underset{\sim}{\underset{\sim}{\underset{\sim}{c}} \mid \underset{\sim}{N}}$ | $\underset{\substack{\mathrm{N}}}{\substack{\sim \\ 0}}$ |  | $\stackrel{\sim}{\sim}$ | $5$ |  |  |  | $\dot{f}$ |  | $\begin{array}{\|c} \stackrel{\rightharpoonup}{\lambda} \\ \stackrel{N}{N} \end{array}$ | $\dot{v}$ |  |  | $\left\|\begin{array}{l} 8 \\ \hline 0 \\ \underset{\sim}{2} \end{array}\right\|$ | $\mid \underset{\substack{\mathrm{m}} \underset{\underset{\sim}{\mathrm{~N}}}{ }}{ }$ | $\stackrel{\underset{\sim}{\sim}}{\stackrel{m}{\mathrm{~N}}}$ | $\frac{\underset{\sim}{v}}{\underset{N}{\prime}}$ | $\left\lvert\, \begin{gathered} \hat{N} \\ \underset{\sim}{N} \\ \hline \end{gathered}\right.$ | $\left\|\begin{array}{c} \hat{N} \\ \infty \end{array}\right\|$ | $\stackrel{(\underset{\sim}{f}}{\dot{N}}$ | $\stackrel{\substack{\underset{\sim}{c}}}{(2)}$ |  |  |  | $\mid \underset{\sim}{\underset{\sim}{2}}$ |  |  |  |  | $\begin{aligned} & \hat{N} \\ & \infty \\ & 0 \\ & m \end{aligned}$ |  | $\underset{\sim}{\underset{\sim}{\mathrm{N}}} \underset{\substack{\mathrm{~N} \\ \hline}}{ }$ | － |
| $\pm$ | $\left\lvert\, \begin{gathered} \infty \\ \sim \\ 0 \\ \hline \end{gathered}\right.$ | $\mathfrak{c}$ | $\left\|\begin{array}{c} \infty \\ \underset{y}{\infty} \\ 0 \end{array}\right\|$ | O |  | $$ | $$ | $\begin{array}{l\|l\|l\|l\|l\|} \hline 0 \\ \hline \end{array}$ | $\begin{array}{ccc} \infty & n \\ \hdashline & \infty \\ \hdashline & 0 \\ \hline \end{array}$ | Con | $\begin{array}{c\|c\|c} 0 \\ 0 & 0 \\ \hline \end{array}$ |  |  |  |  | $\underset{\underset{\sim}{\lambda}}{\underset{\sim}{2}}$ | $\begin{array}{\|c} \infty \\ \\ \end{array}$ |  | $\begin{aligned} & n \\ & \infty \\ & \end{aligned}$ | $\left\|\begin{array}{c} n \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\infty} \\ \stackrel{n}{2} \end{array}\right\|$ |  | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\begin{gathered} \substack{\infty \\ \\ \hline} \end{gathered}$ | $\left\lvert\, \begin{gathered} o \\ 0 \\ \underset{O}{0} \end{gathered}\right.$ | $\begin{gathered} 0 \\ \underset{y}{0} \\ 0 \end{gathered}$ | $\underset{\sim}{\otimes}$ |  |  | $\begin{gathered} 0 \\ \\ \end{gathered}$ | $\stackrel{\substack{\infty \\ \underset{\sim}{\infty} \\ \hline}}{ }$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ \end{array}\right\|$ |  | $\begin{gathered} 0 \\ \underset{N}{0} \end{gathered}$ |  |  | $\begin{array}{\|c} \otimes \\ \underset{O}{0} \\ \hline \end{array}$ |  | $\underset{\sim}{\infty} \underset{\sim}{\infty} \underset{\sim}{\infty}$ | O－M |
| $\stackrel{\sim}{\sim}$ | $\bar{\oplus}$ | $\dot{n}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\overparen{0}}{\stackrel{\leftrightarrow}{\bullet}}$ |  |  |  | $$ | $\stackrel{\substack{6 \\ \hline \\ \hline \\ \hline}}{ }$ | $\begin{aligned} & \stackrel{0}{0} \\ & \dot{0} \\ & \hline \end{aligned}$ | $\begin{array}{l\|l\|l} 0 & 0 \\ \hline \end{array}$ |  |  |  | $$ |  | $\stackrel{\ominus}{\circ}$ | $\begin{array}{lll} 0 & \xlongequal[0]{\circ} \\ \hline \end{array}$ | $\stackrel{\bullet}{\bullet}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{0} \\ & \stackrel{0}{\circ} \end{aligned}$ | $\stackrel{\stackrel{8}{\circ}}{\stackrel{\circ}{6}}$ |  | $\mid \stackrel{\ominus}{\stackrel{\ominus}{\bullet}}$ | へ | $\underset{\substack{\mathrm{e} \\ \stackrel{\sim}{0} \\ \hline}}{ }$ | $\underset{\substack{t \\ \underset{\sim}{2} \\ \hline}}{ }$ |  |  |  | $\underset{\infty}{\infty}$ | $\begin{aligned} & \infty \\ & \stackrel{n}{0} \end{aligned}$ | $\underset{\substack{\mathrm{A}}}{\stackrel{\rightharpoonup}{\mathrm{~N}}}$ |  |  |  |  | $\stackrel{0}{\sim}$ |  | $$ | $\bigcirc$ |
|  | $\stackrel{\infty}{r}$ | $\underset{\substack{0 \\ \hline \\ \hline \\ \hline}}{ }$ | $\stackrel{\text { V }}{\text { F }}$ | $\underset{\sim}{\underset{\sim}{i}}$ | $\underset{\sim}{\mathrm{N}} \underset{\sim}{\mathrm{~N}}$ | $\begin{gathered} \mathrm{O} \\ \underset{\mathrm{~N}}{2} \\ \underset{\sim}{\mathrm{~S}} \\ \hline \end{gathered}$ |  |  | $\underset{\sim}{\infty} \underset{\sim}{\sim}$ |  |  | $\stackrel{\circ}{\circ}$ | $\underset{\sim}{\sim} \underset{\sim}{\infty} \underset{\sim}{\infty}$ |  |  | $\underset{\sim}{\circ} \underset{\sim}{N}$ | $\stackrel{\stackrel{\sim}{\stackrel{\circ}{c}}}{\stackrel{1}{2}}$ |  | $\underset{\sim}{n}$ | $\left\|\begin{array}{c} \underset{\sim}{\mathrm{N}} \end{array}\right\|$ | $0$ |  | $\mathfrak{f}$ |  | $1 \begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\bar{\infty}$ | O |  |  | $\stackrel{N}{0}$ | $\stackrel{\circ}{\mathrm{q}} \mid$ | \％${ }^{\circ}$ |  |  |  |  |  |  | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ | $\stackrel{+}{\square}$ |
| $\begin{aligned} & 5 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{N}{0}$ | $j$ | $\underset{\sim}{\infty}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{array}{c\|c} \substack{0 \\ \hline 0 \\ \hline 0 \\ \hline \\ \hline} \end{array}$ |  | O | $\stackrel{\circ}{\circ} \underset{\sim}{N}$ | ${ }_{0}^{N}$ | $\underset{0}{n} \underset{\sim}{\infty} \underset{\sim}{\infty}$ | $\bigcirc$ |  | $\pm$ | ？ | \％ | $\widehat{\infty}$ | б＇ |  | $\stackrel{\substack{\mathrm{O} \\ \underset{\sim}{n} \\ \hline}}{ }$ | $\begin{aligned} & \hat{e} \\ & \dot{e} \end{aligned}$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{\sim}{j} \\ \hline \end{gathered}\right.$ | $\bar{\sigma}$ | $\underset{o}{\Gamma}$ | $\bigcirc$ | $\begin{aligned} & \Gamma \\ & 0 \end{aligned}$ | O |  |  |  | $\pm$ | 囚 | ¢ |  | \％ |  |  | © |  | $\stackrel{0}{0} 0_{0}^{\infty}$ | $\bigcirc$ |
|  |  |  | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{j}{2} \end{array}\right\|$ | $\stackrel{ \pm}{\stackrel{y}{c}} \underset{\sim}{\sim}$ | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\wedge}$ | $\underset{\sim}{c} \stackrel{\sim}{\sim}$ | $\underset{\sim}{n} \underset{\sim}{\sim}$ |  | $\underset{\sim}{\infty} \underset{\sim}{\sim} \stackrel{\infty}{\sim}$ | $\stackrel{\infty}{\sim} \stackrel{\substack{~}}{\substack{n}}$ | $\stackrel{\rightharpoonup}{\mathrm{N}} \stackrel{\stackrel{\circ}{\sim}}{\underset{\sim}{n}}$ |  | $\underset{\substack{\wedge}}{\stackrel{\sim}{\sim}}$ | $\stackrel{\bullet}{\sim}$ | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\sim}$ |  | $\begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\sim}{2} \end{gathered}$ |  | $\left\lvert\, \begin{aligned} & \bar{\infty} \\ & \underset{\sim}{c} \end{aligned}\right.$ |  | $\left\|\begin{array}{l} \infty \\ \stackrel{\infty}{\infty} \\ \mid \end{array}\right\|$ |  | $\underset{\text { N }}{\text { ¢ }}$ | 哭 | $\stackrel{\text { N }}{\text { ¢ }}$ | － | $\underset{\sim}{\text { ¢ }}$ | $\stackrel{\text { N }}{\text { ¢ }}$ | N | $\begin{aligned} & \stackrel{i}{n} \\ & \underset{\sim}{2} \end{aligned}$ | $\mathfrak{l}$ | $\stackrel{\underset{\sim}{\dot{d}}}{\dot{\sim}}$ |  | $\stackrel{\sim}{\text { ̇ }}$ |  | $\stackrel{\text { ¢ }}{\text { N }}$ | $\stackrel{N}{\underset{\sim}{N}}$ |  | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\underset{\sim}{c}}$ | $\stackrel{\sim}{\text { fic }}$ |
|  |  | $\underset{\sim}{c}$ | $\underset{\substack{2} \underset{\sim}{\infty} \underset{\sim}{\infty}}{\substack{\infty}}$ | $\underset{\sim}{\infty} \underset{\sim}{c} \underset{\sim}{2}$ |  | $\underset{\sim}{\stackrel{\sim}{c}} \underset{\stackrel{N}{*}}{\underset{\sim}{c}}$ | $\underset{\sim}{\underset{\sim}{\sim}}$ |  |  | $\stackrel{\substack{\mathrm{N}} \underset{\sim}{\sim}}{\substack{\mathrm{~N}}}$ |  |  | $\underset{\sim}{c} \underset{\sim}{\sim} \underset{\sim}{\sim}$ |  |  | $\begin{gathered} \hat{\sim} \\ \stackrel{\rightharpoonup}{n} \end{gathered}$ | $\begin{array}{\|c} \bar{\sim} \\ \stackrel{\circ}{\circ} \end{array}$ |  | Bu | $\begin{gathered} \hat{o} \\ \stackrel{\rightharpoonup}{\hat{N}} \end{gathered}$ | $\underset{\sim}{\infty}$ |  | $\left\|\begin{array}{c} \stackrel{\sim}{n} \\ \underset{\sim}{2} \end{array}\right\|$ | $\underset{\sim}{\infty}$ | $\begin{gathered} \stackrel{8}{0} \\ \stackrel{1}{N} \end{gathered}$ | $\stackrel{ষ}{N}$ | $\underset{\sim}{*}$ | － | － | $\begin{aligned} & \text { 毋 } \\ & \underset{\sim}{+} \end{aligned}$ | $\stackrel{+}{N}$ | べ̇ |  |  |  |  | $\begin{gathered} \hat{n} \\ \underset{\sim}{2} \end{gathered}$ |  |  | － |
|  |  | $\dot{s} \left\lvert\, \begin{gathered} 8 \\ \dot{e} \\ \hline \end{gathered}\right.$ |  | $\begin{array}{c\|c\|c} \substack{\infty \\ 0 \\ 0 \\ \hline \\ \hline} \end{array}$ | $e_{i}^{\infty}$ | $$ |  | $\begin{array}{c\|c\|c} \substack{0 \\ 0 \\ 0 \\ \hline \\ \hline \\ \hline} \end{array}$ | $\infty_{\infty}^{\infty}$ |  |  |  | E |  |  |  | $\begin{aligned} & \stackrel{\rightharpoonup}{0} \\ & \stackrel{\sim}{m} \end{aligned}$ |  |  | $\left\|\begin{array}{l} \infty \\ \infty \\ \underset{\sim}{\infty} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \stackrel{\sim}{\infty} \\ & \underset{\sim}{n} \end{aligned}\right.$ |  | $\left\|\begin{array}{c} \underset{\sim}{\underset{~}{e}} \\ \underset{\sim}{2} \end{array}\right\|$ | $\begin{array}{\|c} \text { N } \\ \text { No } \\ \hline \end{array}$ | $\begin{aligned} & \stackrel{0}{4} \\ & \stackrel{e}{\infty} \end{aligned}$ | \|io | ल |  | ¢ | $\stackrel{\circ}{\stackrel{\circ}{e}}$ | $\stackrel{e}{\infty}$ | $\left\lvert\, \begin{aligned} & \stackrel{n}{N} \\ & \underset{\sim}{e} \end{aligned}\right.$ |  | N |  | No | $\dot{ల}$ |  | $\underset{\substack{\underset{\sim}{c} \\ \underset{\sim}{2} \\ \\ \hline \\ \hline}}{ }$ | No |
| $\frac{\tilde{\#}}{\stackrel{\rightharpoonup}{0}} \varepsilon$ |  | $\dot{m}$ | $\mathfrak{c \| c \| c \| c \| c \| c \| c \|}$ |  | $\underset{\sim}{c}$ | $\underset{\substack{c}}{\stackrel{\circ}{r}}$ |  |  | $\infty$ | － | $\stackrel{\text { U }}{\text { ？}}$ |  |  | $\underset{\sim}{n} \underset{\sim}{\circ} \underset{\sim}{\sim}$ |  | $\stackrel{\infty}{\oplus}$ |  |  |  |  | $\left\lvert\, \begin{gathered} \mathfrak{N} \\ \substack{0} \\ \hline \end{gathered}\right.$ |  | $\underset{\infty}{\underset{\infty}{\sim}}$ | ְִ | $\stackrel{\sim}{\sim}$ | N |  |  |  |  | $$ | $\stackrel{\sim}{7}$ |  |  |  |  | $\stackrel{N}{\mathrm{~N}}$ |  | $\underset{\underset{\sim}{\underset{\sim}{\sim}}}{\underset{\sim}{*}} \underset{\sim}{2}$ | $\stackrel{\text { N }}{\sim}$ |
| 을 흥 웅 잉 | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{gathered}\right.$ | $\mathfrak{s}$ |  |  |  | 寸 |  |  |  |  | $\begin{gathered} 0 \\ 0 \\ 0 \\ \hline \end{gathered}$ |  |  |  |  |  |  | $\left\lvert\, \begin{gathered} \infty \\ 0 \\ \hdashline- \\ \hdashline \\ \infty \end{gathered}\right.$ |  |  |  |  | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} 0 \\ \hat{C} \\ 0 \\ 0 \\ 0 \\ 0 \end{gathered}\right.$ | $\begin{array}{\|c} N \\ N \\ 0 \\ 0 \\ 0 \\ 1 \end{array}$ | $\begin{aligned} & \pm \\ & \hat{N} \\ & \hat{Q} \\ & \stackrel{\infty}{1} \end{aligned}$ |  | $0$ |  | $\left\{\begin{array}{l} \infty \\ \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ \infty \end{array}\right.$ | $\begin{array}{\|l} \hline 8 \\ 0 \\ 0 \\ \hline 0 \\ \hline 1 \end{array}$ |  | இO |  | $\begin{gathered} \hat{\mathrm{M}} \\ \mathbf{O} \\ \hline \mathbf{O} \end{gathered}$ |  |  |  | N｜c｜c |
|  |  | $\mathfrak{j}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\left\|\begin{array}{l} \stackrel{\rightharpoonup}{0} \\ \stackrel{0}{0} \\ \stackrel{\sim}{\circ} \end{array}\right\|$ |  |  |  |  | － |  |  |  |  |  | $\underset{\substack{\underset{\sim}{N} \\ \underset{\sim}{\sim} \\ \hline}}{ }$ |  |  |  |  |  |  |  | N |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\left\lvert\, \begin{aligned} & \substack{2 \\ N \\ N \\ 0 \\ 0 \\ n \\ 0 \\ 0 \\ N} \end{aligned}\right.$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\mathfrak{c}$ | $\begin{array}{\|c} 0 \\ \frac{1}{x} \\ \frac{x}{4} \end{array}$ | $\left\|\begin{array}{c} \infty \\ \frac{1}{U} \\ \frac{1}{\Sigma} \end{array}\right\|$ |  |  |  |  | $\begin{array}{l\|l} \frac{x}{x} & 0 \\ \frac{1}{y} & \frac{1}{\alpha} \\ \frac{1}{\alpha} \end{array}$ |  |  |  | $\begin{aligned} & 1 \\ & \substack{n \\ \\ \\ \\ \\ \hline} \end{aligned}$ |  | $\begin{aligned} & \substack{1 \\ \\ \\ \hline \\ \hline \\ \hline} \end{aligned}$ | $\frac{1}{1} \underset{\sim}{2} \underset{\sim}{\underset{\sim}{x}}$ |  | $\begin{aligned} & \mathbb{X} \\ & \frac{1}{N} \\ & \Sigma \end{aligned}$ |  | $\left\lvert\, \begin{aligned} & \frac{1}{c} \\ & \frac{1}{\alpha} \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} \frac{c}{4} \\ \frac{1}{2} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \stackrel{\substack{\hat{N} \\ \stackrel{\sim}{2}}}{ } \end{gathered}\right.$ | $\left\|\begin{array}{c} 0 \\ \frac{1}{\mathbf{r}} \\ \underset{O}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} \frac{\infty}{\dot{c}} \\ \frac{\underset{\alpha}{\prime}}{} \end{array}\right\|$ | $\begin{aligned} & \frac{1}{x} \\ & \underset{\sim}{O} \end{aligned}$ | $\begin{gathered} 0 \\ \underset{\sim}{x} \\ \end{gathered}$ | $\stackrel{\sim}{2}$ | O |  |  | $\begin{aligned} & u \\ & \frac{1}{y} \\ & \hline \infty \end{aligned}$ | $\begin{array}{\|c} \frac{p}{\grave{y}} \\ \frac{\dot{y}}{} \end{array}$ | $\begin{aligned} & \frac{1}{1} \\ & \frac{y}{m} \end{aligned}$ |  | $\begin{gathered} \underset{\sim}{\alpha} \\ \underset{\sim}{\underset{\alpha}{2}} \end{gathered}$ |  | $\stackrel{\substack{c}}{ }$ | $\begin{gathered} \underset{\sim}{4} \\ \underset{\sim}{\mathbf{j}} \end{gathered}$ |  |  | $\frac{1}{\substack{1}}$ |


| $\begin{gathered} \frac{9}{5} \\ \hline \mathbf{C} \end{gathered}$ | $\stackrel{\rightharpoonup}{\mathbf{O}} \underset{\substack{0}}{ }$ | $\stackrel{t}{t}$ | O |  | $\stackrel{8}{0}$ |  | $0$ | N | $\begin{aligned} & Z \\ & 0 \\ & 0 \end{aligned}$ |  | $\stackrel{\infty}{\infty}$ | ${ }^{\circ}$ |  |  |  |  |  |  | － | － |  | N |  | N | N |  | N | ِ | N | N | N | \％ | $\stackrel{\bigcirc}{\circ}$ | N | $\begin{gathered} N \\ j \end{gathered}$ |  | $\stackrel{\infty}{\sim} .$ |  | $\begin{gathered} 0 \\ \hline \end{gathered}$ | $\stackrel{n}{9}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | $\underset{\substack{0 \\ N \\ \hline}}{ }$ |  | $\left\lvert\, \begin{gathered} \infty \\ \substack{n \\ \\ 0} \end{gathered}\right.$ | N | $\stackrel{\otimes}{N}$ |  | $\begin{array}{c\|c\|c} \stackrel{\rightharpoonup}{N} & \underset{\sim}{N} \\ \hline \end{array}$ |  | $\mathfrak{n}$ |  | $j$ |  |  |  | $\begin{gathered} 0 \\ N \\ \\ \hline \end{gathered}$ | $\stackrel{y}{2}$ | $\left\|\begin{array}{c} \dot{0} \\ \vdots \\ 0 \end{array}\right\|$ |  |  | $\underset{\sim}{c}$ | $\begin{gathered} \dot{4} \\ \stackrel{0}{2} \end{gathered}$ |  | $\begin{gathered} 0 \\ N \\ 0 \end{gathered}$ |  | $\stackrel{\rightharpoonup}{\square}$ | $\stackrel{\stackrel{N}{N}}{ }$ | $\stackrel{\rightharpoonup}{\mathrm{N}} \underset{\sim}{\sim}$ | 宁 | － |  | O | N | N | $\begin{array}{\|c} 0 \\ \underset{\sim}{N} \\ \hline \end{array}$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \mathrm{O} \end{array}\right\|$ | Non | $\begin{gathered} 0 \\ \hline \end{gathered}$ | － | $\frac{\square}{2}$ | $\begin{gathered} \infty \\ \\ \underset{\sim}{n} \\ \hline \end{gathered}$ |  | － |
| 2 | N্ণ |  | $\left\lvert\, \begin{gathered} \bar{i} \\ 0 \\ \underset{m}{2} \end{gathered}\right.$ | $\stackrel{\substack{c \\ \sim \\ \sim \\ ~}}{ }$ | $\underset{\substack{c \\ \underset{\sim}{c} \\ \underset{\sim}{c} \\ \underset{\sim}{2} \\ \hline}}{ }$ |  |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\sim}{2} \end{gathered}\right.$ |  | $\underset{\sim}{\sim}$ | $\dot{j}$ | $j \left\lvert\, \begin{gathered} \infty \\ j \\ \underset{\sim}{\infty} \\ \underset{N}{\infty} \end{gathered}\right.$ | $\begin{gathered} \underset{\sim}{\mathrm{y}} \\ \underset{\sim}{2} \end{gathered}$ |  | $\underset{\substack{\mathrm{N}}}{\mathrm{~J}}$ |  |  |  |  | $\begin{gathered} \substack{0 \\ ~} \\ \hline \end{gathered}$ | $\mathfrak{c} \left\lvert\, \begin{aligned} & \infty \\ & \substack{\infty \\ m \\ m} \end{aligned}\right.$ |  | $\mathfrak{c}$ |  | $\underset{\text { ָิ }}{ }$ |  | $\underset{\substack{\underset{\sim}{c} \\ \underset{\sim}{*} \\ \underset{\sim}{x} \\ \hline}}{ }$ |  |  | $\stackrel{8}{\circ}$ |  | $\frac{\tilde{\sim}}{\underset{\sim}{\dot{f}}}$ | $\|\underset{\sim}{\mathcal{T}}\|$ | O- | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ \mathrm{~m} \end{array}\right\|$ |  |  | $\mathfrak{j}$ | $\begin{gathered} \text { O} \\ \text { y } \end{gathered}$ | $\mathfrak{c} \left\lvert\, \begin{gathered} \bar{n} \\ \\ \hline \end{gathered}\right.$ |  | $\underset{\sim}{\substack{\text { ¢ }}}$ |
| $\overline{\mathrm{Y}}$ | $\begin{gathered} \substack{9 \\ \hline \\ \hline} \end{gathered}$ | $\dot{f} \underset{\sim}{\stackrel{f}{\sim}} \underset{\sim}{c}$ | $\underset{\sim}{\lambda}$ | $\dot{~}$ | $\stackrel{\underset{\sim}{\dot{v}}}{\stackrel{\rightharpoonup}{i}}$ | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\underset{N}{2}}$ | $\underset{N}{\lambda} \underset{\sim}{\lambda} \mid \underset{\sim}{N}$ | $\underset{\underset{\sim}{\mathrm{N}}}{\stackrel{m}{2}}$ |  |  |  | $\dot{S}$ | $\frac{\underset{\sim}{f}}{\dot{r}}$ |  | $\begin{gathered} \underset{\sim}{\mathrm{N}} \\ \dot{\mathrm{~N}} \end{gathered}$ | $\stackrel{\substack{c \\ \underset{\sim}{2} \\ \underset{\sim}{c} \\ \underset{\sim}{n}}}{ }$ | $\left\|\begin{array}{c} 0 \\ \substack{n \\ \mathrm{~N}} \end{array}\right\|$ |  | $\dot{0}$ |  |  | $\mathfrak{c c \| c}$ | $\underset{\sim}{\underset{\sim}{2}}$ | $\underset{\sim}{f}$ | $\stackrel{\stackrel{y}{\leftarrow}}{\tau}$ |  |  | $\underset{\sim}{~}$ | $\underset{\leftarrow}{\underset{\sim}{x}}$ | $\stackrel{\star}{\underset{N}{N}}$ | $\dot{j}+\underset{\substack{\infty \\ \underset{\sim}{2} \\ \hline}}{ }$ |  | $\stackrel{\stackrel{y}{f}}{ }$ | $\underset{\underset{N}{N}}{\underset{\sim}{N}}$ | $j$ |  | $\dot{j}+\underset{\sim}{\underset{\sim}{c}}$ | $\stackrel{\underset{\sim}{\prime}}{\square}$ | $\underset{\sim}{q}$ | $\frac{\tilde{\sim}}{\underset{\sim}{v}}$ |  |  |
| $\begin{aligned} & \mathbf{z} \\ & \mathbf{z} \end{aligned}$ | $\underset{\substack { \infty \\ \begin{subarray}{c}{0{ \infty \\ \begin{subarray} { c } { 0 } } \\ {\hline}\end{subarray}}{ }$ | $\stackrel{\substack{0}}{\substack{n}}$ | $\mathfrak{N}$ |  |  | No: | $$ | Co | Boc\|co | No |  | $\begin{array}{\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|} \hline 0 \\ \hline \end{array}$ |  | $$ | $\begin{gathered} 0 \\ \underset{y}{0} \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \\ 0 \\ 0 \end{array}\right\|$ |  | $\begin{gathered} 0 \\ \hline \end{gathered}$ | $\begin{array}{lll} \circ & \hat{N} \\ 0 & \infty \\ 0 \end{array}$ | $\begin{gathered} 0 \\ \underset{y}{0} \\ 0 \end{gathered}$ | Son | $\begin{gathered} 0 \\ \\ 0 \\ 0 \end{gathered}$ |  | $$ |  |  | OM | OM |  | $0$ | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ | $\left\lvert\, \begin{gathered} \infty \\ \substack{0 \\ \\ \hline} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \text { O} \\ \underset{\sim}{\infty} \\ \hline \end{gathered}\right.$ |  |  |  |  | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ 0 \end{gathered}$ |  |  | O |
| $\stackrel{\sim}{N}$ | $\stackrel{\infty}{\stackrel{0}{0}}$ |  | $\begin{aligned} & \substack{n \\ \dot{6} \\ \hline} \end{aligned}$ | $\underset{\substack{8 \\ \hline \\ \hline \\ \hline}}{2}$ | $\stackrel{\varrho}{\sim}$ | $\stackrel{\sim}{0} \underset{\substack{n}}{\sim}$ |  | $\stackrel{\ominus}{\bullet}$ |  | $\bigcirc$ | $\underset{\substack{*}}{\substack{*}}$ | N | N | $=$ |  | $\underset{\sim}{n}$ |  |  | $\stackrel{\circ}{\circ}$ | ® |  | $\stackrel{N}{N}$ | $\stackrel{n}{n}$ | $\stackrel{0}{\circ}$ | No |  | $\stackrel{0}{\circ}$ | $\underset{\substack{\text { N } \\ 0}}{\substack{\text { a }}}$ | $\pm$ | $\underset{\dot{\omega}}{\underset{0}{\infty}}$ | $\bigcirc$ | N | $\stackrel{\infty}{\sim}$ | $\stackrel{\infty}{\infty}$ | $\stackrel{\substack{N \\ 0}}{\substack{0}}$ | N | $\stackrel{\infty}{\sim}$ | $\stackrel{\substack{\text { N } \\ 0 \\ 0}}{0}$ | \| |  |  | － |
|  | $\stackrel{\rightharpoonup}{\stackrel{~}{r}}$ |  | $0$ | O | $\dot{s}$ | ת | $$ | $\stackrel{0}{\circ}$ | $\begin{aligned} & 0 \\ & \hline 0 \end{aligned}$ | $\stackrel{\circ}{\circ}$ | $\begin{array}{\|c} \overline{0} \\ 0 \end{array}$ | $\|\bar{\varphi}\|$ | $\begin{gathered} 0 \\ 0 \\ \hline \end{gathered}$ | $\dot{0} \stackrel{1}{0}_{\substack{0}}^{0}$ | $\begin{aligned} & \infty \\ & \underset{o}{0} \\ & \hline \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \bar{\infty} \\ 0 \end{array}\right\|$ |  | $\stackrel{\text { Non }}{ }$ | － |  | $3$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\stackrel{\Im}{0}$ | $\underset{\circ}{寸}$ |  | f. | § | $\begin{gathered} n \\ \stackrel{n}{0} \\ \hline \end{gathered}$ | t. | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\hat{o}$ | f | 品 |  |  | $\begin{aligned} & \vdots \\ & \vdots \\ & \vdots \end{aligned}$ |  |  |  | F |
|  | $\underset{\infty}{\infty}$ |  | $0$ | $\stackrel{8}{\circ}$ | $\underset{\substack{c}}{\substack{c}}$ | $\underset{\sim}{\underset{\sim}{\sim}} \underset{\sim}{\sim}$ |  | $\left\lvert\, \begin{aligned} & \circ \\ & \hline 0 \\ & \hline 0 \end{aligned}\right.$ | $\begin{aligned} & 3 \\ & \hline .0 \\ & \hline \end{aligned}$ | $\stackrel{\text { ® }}{\sim}$ | $0$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ 0 \end{gathered}\right.$ | $\stackrel{\rightharpoonup}{0}$ | $0$ | $\underset{\substack{N \\ i}}{ }$ | $\stackrel{y}{\hat{O}}$ | $\left\|\begin{array}{l} \bullet \\ \hline \\ \hline \end{array}\right\|$ |  | $\stackrel{\substack{\mathrm{v}} \underset{\sim}{\sim}}{\substack{\mathrm{~m} \\ \hline}}$ | $\underset{\sim}{n} \underset{\sim}{\sim}$ | Con | $\dot{j}$ | $\left\|\begin{array}{c} n \\ 0 \\ 0 \end{array}\right\|$ | $\mathfrak{O}$ | $0$ | $\begin{gathered} 8 \\ 0 \\ 0 \end{gathered}$ | COM |  | ก | $0$ |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $0$ | $0$ | $\begin{gathered} \hat{m} \\ 0 \\ 0 \end{gathered}$ | dion |  | jo | $\underset{\sim}{\infty}$ | $$ |  | $\stackrel{\text { N }}{\sim}$ |
|  | $\xrightarrow[~]{\substack{\dot{d} \\ \dot{N}}}$ |  |  |  |  |  | $\stackrel{g}{\underset{\sim}{c}} \underset{\sim}{\underset{\sim}{\sim}} \underset{\sim}{\underset{\sim}{2}}$ |  |  |  |  | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\dot{d}} \end{array}\right\|$ |  |  |  |  |  |  | N | － |  |  | $\stackrel{\stackrel{y}{4}}{\stackrel{1}{2}}$ | $\begin{aligned} & 0 \\ & \dot{\sim} \\ & \underset{i}{2} \end{aligned}$ | $\underset{\sim}{n}$ |  | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\underset{\sim}{\sim}} \underset{\sim}{\prime}$ | $\underset{\sim}{*}$ | $\underset{\underset{\sim}{\underset{\sim}{*}}}{\substack{2}}$ | $\stackrel{\infty}{\dot{\sim}} \underset{\underset{\sim}{i}}{ }$ |  | $\left\|\begin{array}{l} \underset{~}{寸} \\ \underset{\sim}{2} \end{array}\right\|$ | $\stackrel{\dot{N}}{\sim}$ |  | $\underset{\sim}{\sim}$ | $\begin{aligned} & \stackrel{\otimes}{+} \\ & \underset{\sim}{2} \end{aligned}$ |  | $\mathfrak{c}$ | F\| | $\mathfrak{c}$ |  | － |
| $\underset{\substack{\circ \\ \hline \multirow{2}{c}{0}\\ 0}}{0}$ |  |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\underset{N}{\sim}} \\ \underset{\sim}{2} \end{gathered}\right.$ |  |  |  | $\stackrel{\infty}{\sim}\|\stackrel{\infty}{\sim}\| \stackrel{\infty}{\sim}$ | $\left\|\begin{array}{c} \bar{n} \\ \underset{\sim}{2} \end{array}\right\|$ |  | $\underset{\sim}{\circ} \underset{\sim}{\sim}$ | $\mathfrak{j}$ |  | $\stackrel{\substack{o \\ \underset{~}{~} \\ \hline}}{ }$ |  |  | $\begin{gathered} \infty \\ \stackrel{0}{i} \\ \underset{\sim}{2} \end{gathered}$ | $\left\|\begin{array}{c} \underset{N}{\dot{d}} \\ \dot{d} \end{array}\right\|$ |  | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $\mathfrak{N}$ | $\begin{gathered} \hat{N} \\ \stackrel{y}{2} \end{gathered}$ |  | $\begin{gathered} 0 \\ \stackrel{1}{i} \end{gathered}$ |  | $\stackrel{\dot{N}}{\dot{N}}$ |  |  |  | $\dot{~}$ |  |  | $\left\|\begin{array}{c} \bar{o} \\ \dot{\sim} \end{array}\right\|$ | $\stackrel{+}{N}$ |  | $\dot{N}$ |  | $\stackrel{\substack{\dot{\sim} \\ \underset{\sim}{c} \\ \underset{\sim}{n} \\ \hline}}{ }$ | $\mathfrak{\sim}$ | $\underset{N}{4}$ | $\stackrel{\substack{\underset{\sim}{c} \\ \underset{\sim}{2}}}{ }$ |  |  |
| $\bar{\omega}$ | $\begin{gathered} \underset{\sim}{2} \\ \underset{\sim}{2} \end{gathered}$ | $\begin{gathered} 0 \\ \hline \end{gathered}$ | $\left\lvert\, \begin{gathered} \substack{n \\ 0 \\ \\ \hline} \end{gathered}\right.$ |  | $\left\|\begin{array}{c} \stackrel{\sim}{N} \\ \\ \hline \end{array}\right\|$ | $\underset{\substack{\sim \\ \\ \hline}}{ }$ | $\begin{array}{c\|c} \underset{N}{N} \\ \underset{\sim}{e} & \underset{\sim}{n} \\ \hline \end{array}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{array}{\|c} \underset{N}{N} \\ \underset{\sim}{2} \end{array}$ | $\underset{\substack{c} \underset{\sim}{i}}{\underset{\sim}{c}}$ | $\begin{gathered} n \\ \substack{2 \\ \vdots \\ \\ \hline} \end{gathered}$ | $\begin{array}{\|c\|c\|c\|c\|c\|c\|c\|c\|c\|} \substack{1 \\ \hline \\ \hline} \\ \hline \end{array}$ |  |  |  |  |  |  | － | ¢ |  |  | $\begin{aligned} & \text { Q } \\ & \underset{\text { O}}{2} \end{aligned}$ |  | － |  |  | m | － | N্ণ | N | $\dot{\infty}$ | © |  | $\dot{e}$ |  | $\dot{e}$ | প্লা | $\dot{m}$ | $\left\lvert\, \begin{gathered} \bar{m} \\ \dot{e} \end{gathered}\right.$ | $\begin{aligned} & \text { N } \\ & \text { N } \\ & \hline \end{aligned}$ | ¢ |
| $\frac{\stackrel{5}{\partial}}{\dot{\circ}} \mathrm{O}$ |  | $\underset{\sim}{N}$ | $\underset{\infty}{\infty}$ | $\stackrel{\sim}{\circ}$ | $\begin{aligned} & 0 \\ & \stackrel{0}{\infty} \\ & \stackrel{1}{6} \end{aligned}$ |  | $\stackrel{\vdots}{\circ} \underset{\sim}{\sim}$ | $\stackrel{\sim}{\infty}$ | $\stackrel{\otimes}{\circ}$ |  |  |  |  |  |  |  |  |  |  | $\widehat{\square}$ |  |  | $\underset{\sim}{\underset{\sim}{c}}$ | $\underset{\sim}{-1}$ |  |  |  | ® | ס | $\underset{\sim}{\mathbb{N}}$ | $\stackrel{\sim}{\infty}$ | $\stackrel{\infty}{\infty}$ | $\xrightarrow[\sim]{\sim}$ |  | $\stackrel{\sim}{N}$ |  |  | $\mathfrak{c}$ |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}\right.$ |  |  |  |  | $\mathfrak{c}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\begin{gathered} \widehat{0} \\ 0 \\ 0 \\ \dot{\infty} \\ 1 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  | $\begin{aligned} & \stackrel{\circ}{\otimes} \\ & 0 \\ & \stackrel{\circ}{\circ} \end{aligned}$ |  | $\mathfrak{l}$ |  | $\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{gathered} n \\ 0 \\ 0 \\ 0 \\ 0 \\ \infty \end{gathered}\right.$ | $\begin{gathered} n \\ \infty \\ 0 \\ 0 \\ 0 \\ \hline \end{gathered}$ |  | $\begin{aligned} & \hat{N} \\ & \infty \\ & \infty \\ & \infty \\ & \hline \end{aligned}$ |  |  | $\begin{aligned} & n \\ & 0 \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ |  | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}\right.$ | $0$ |
|  |  |  |  |  |  |  |  |  |  | $\underset{\substack{\mathrm{N}} \underset{\sim}{\sim} \underset{\sim}{\sim}}{\substack{2}}$ |  | $\mathfrak{c}$ |  |  | : |  |  | \|r |  | $\begin{gathered} \infty \\ \\ \\ \hline 1 \end{gathered}$ | $\mathfrak{c}$ | $\mathfrak{c \| c}$ |  |  |  |  |  | ผค | N |  |  |  | $\left.\begin{array}{\|c} \infty \\ \stackrel{n}{n} \\ \stackrel{n}{N} \end{array} \right\rvert\,$ |  |  |  |  | $\mathfrak{N}$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\tilde{N}} \\ \underset{\sim}{n} \\ \end{gathered}\right.$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{gathered} \sum_{c} \\ 0 \\ 0 \\ 0 \\ 0 \\ \\ \end{gathered}$ |  | $\begin{aligned} & \frac{2}{k} \\ & 0 \\ & \\ & \\ & \\ & \\ & \end{aligned}$ |  |
|  |  |  | $\left\lvert\, \begin{gathered} \underset{\sim}{n} \\ \underset{\sim}{\sim} \\ \frac{1}{2} \end{gathered}\right.$ |  |  |  |  |  | $m$ $\sum$ $\sum$ $\sum$ $\sum$ |  | $\begin{aligned} & 0 \\ & \sum_{n} \\ & \sum_{2} \end{aligned}$ | $\sum_{n}$ |  |  | $\begin{aligned} & 0 \\ & \hat{\omega} \\ & \frac{0}{\infty} \\ & \hline \end{aligned}$ |  | $\left\lvert\, \begin{gathered} \substack{\grave{N} \\ \frac{\tilde{m}}{} \\ \hline} \end{gathered}\right.$ | $\mathfrak{c}$ | $\begin{aligned} & 0 \\ & \sum_{0}^{0} \\ & \sum_{0} \\ & \hline \end{aligned}$ | $\sum_{1}^{1} \prod_{0}^{1} \sum_{0}^{1}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \dot{0} \\ & \mathbf{o} \\ & \hline \mathbf{m} \end{aligned}\right.$ |  | $\begin{aligned} & \frac{4}{\hat{6}} \\ & \frac{1}{\infty} \end{aligned}$ |  | $\frac{\underset{\sim}{\infty}}{\stackrel{1}{x}}$ | $\frac{\pi}{d}$ |  |  |  |  |  | $\left\|\begin{array}{c} \underset{\sim}{\dot{\sim}} \\ \stackrel{\sim}{山} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \dot{\hat{h}} \\ & \end{aligned}$ | $\mathfrak{l}$ |  |  | $\left\{\begin{array}{l} 0 \\ \hat{N} \\ \vdots \\ 2 \end{array}\right.$ | $\begin{aligned} & n \\ & \\ & \\ & \end{aligned}$ | $\begin{gathered} \underset{N}{\dot{N}} \\ \underset{\Sigma}{2} \end{gathered}$ | $\begin{aligned} & 0 \\ & 1 \\ & \hline \\ & \vdots \end{aligned}$ | $\begin{array}{\|l\|l} \hline \frac{1}{N} \\ \end{array}$ |  |


| $\frac{\pi}{\frac{\pi}{5}}$ | $\stackrel{0}{0}$ | $\stackrel{2}{2}$ | N |  |  |  |  |  |  |  | － | $\bigcirc$ | － | O－ |  | ${ }^{\circ}$ | ले | $\bigcirc$ | $\stackrel{\sim}{\sim}$ | N | $\bigcirc$ | $\stackrel{0}{0}$ | $\mathfrak{N}$ | $\underset{\sim}{N}$ | $\stackrel{9}{\circ}$ |  | $\underset{\sim}{n} \underset{\substack{0}}{\substack{0}}$ | $\stackrel{N}{N}$ | f | \％ | $\stackrel{\uparrow}{~}$ | N |  | ¢ |  | প্ল. | $\because$ |  | N |  |  | N ${ }_{0}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\stackrel{1}{ }$ | $\underset{\substack{0 \\ N \\ 0}}{ }$ |  | $\stackrel{\substack{n \\ \stackrel{n}{c} \\ \hline}}{ }$ | $\left\|\begin{array}{c} \underset{\sim}{\underset{\sim}{c}} \end{array}\right\|$ | $0$ | $\underset{\substack{\circ \\ \underset{\sim}{N} \\ \hline}}{ }$ | O |  |  |  |  | $\underset{\substack{\mathrm{N} \\ \hline \\ \hline}}{\substack{N \\ N}}$ | $\begin{gathered} \infty \\ \\ 0 \end{gathered}$ |  |  |  | $\stackrel{\infty}{\sim}$ |  | $\mathfrak{R}$ | $\stackrel{\infty}{\sim}$ |  | $\frac{\overline{0}}{\vdots}$ | O |  | $\bar{\square}$ |  | Ṇ | $\stackrel{\sim}{c}$ | $\stackrel{\rightharpoonup}{\dot{\circ}}$ | $\underset{\sim}{c}$ |  | $\stackrel{0}{9}$ | ষ | $\sim_{0}^{\infty}$ |  | jָ | $\begin{gathered} \substack{9 \\ \hline \\ \hline \\ \hline \\ \hline} \end{gathered}$ |  | $\stackrel{\rightharpoonup}{6}$ | $\dot{p}$ |  | N |
| 2 | $\left\lvert\, \begin{aligned} & \mathrm{o} \\ & \stackrel{\sim}{n} \\ & \mathrm{~N} \end{aligned}\right.$ |  | $\left\|\begin{array}{l} \mathbf{O} \\ 0 \\ 0 \\ \dot{e} \end{array}\right\|$ | $\left\|\begin{array}{l} \underset{\sim}{\lambda} \\ \stackrel{\rightharpoonup}{m} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{\sim}{\infty} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\mathfrak{c}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\mathrm{~N}}{ } \end{gathered}\right.$ | $\begin{gathered} i \\ i \\ j \\ i \end{gathered}$ | $\underset{~ c}{ \pm} \underset{\sim}{i}$ |  |  |  | $\begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\sim}{2} \end{gathered}$ | $\underset{\sim}{\substack{\underset{\sim}{c} \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline}}$ |  |  | $\underset{\sim}{\underset{\sim}{2}}$ |  |  | $\left\lvert\, \begin{gathered} \hat{N} \\ \\ \underset{n}{2} \end{gathered}\right.$ |  |  |  |  |  | $\underset{N}{N}$ |  | $\begin{aligned} & 8 \\ & 0 \\ & \underset{0}{2} \end{aligned}$ |  | $\begin{array}{c\|c}  \pm \\ \vdots \\ \\ \hline \end{array}$ |  | $\begin{aligned} & n \\ & \infty \\ & \infty \\ & \infty \end{aligned}$ |  |  |  |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\sim} \\ \underset{\sim}{n} \end{gathered}\right.$ | $\stackrel{\rightharpoonup}{\infty}$ | $\left\|\begin{array}{l} \underset{\lambda}{\lambda} \\ \underset{\sim}{n} \end{array}\right\|$ | $\stackrel{\substack{0 \\ 0}}{ }$ |  | $\stackrel{\sim}{\sim}$ |
| $\underset{\perp}{z}$ | $\stackrel{\substack{c}}{\stackrel{\rightharpoonup}{\mathrm{~N}}}$ | $\underset{\sim}{~} \underset{\sim}{\underset{\sim}{\underset{N}{N}} \underset{\sim}{n}}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{n} \\ \underset{\sim}{\infty} \\ \hline \end{gathered}\right.$ | $\left\|\begin{array}{c} \underset{\sim}{\underset{~}{c}} \\ \stackrel{\rightharpoonup}{m} \end{array}\right\|$ | $\underset{\sim}{\infty}$ | $\underset{\sim}{n}$ | $\left\lvert\, \begin{gathered} \stackrel{m}{\underset{i}{2}} \end{gathered}\right.$ | $\mathfrak{j}$ | $\underset{\sim}{\sim} \underset{\sim}{i} \underset{\sim}{\lambda}$ | $\underset{\substack{ \pm}}{\substack{\sim\\}}$ |  |  | $\stackrel{\stackrel{\sim}{\underset{\sim}{v}}}{ }$ |  |  |  | $\underset{\sim}{\underset{\sim}{N}}$ |  |  | $\stackrel{\rightharpoonup}{N} \underset{\sim}{N}$ |  |  |  |  | － |  | $\underset{\sim}{~}$ | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\mathrm{~N}}$ | $\underset{\sim}{\substack{\sim}}$ |  |  | $\begin{aligned} & \overline{\hat{1}} \\ & \infty \\ & \infty \end{aligned}$ |  |  |  | $8$ | $\stackrel{\underset{\sim}{\tau}}{\stackrel{N}{N}}$ | $8$ | $\left\|\begin{array}{c} \underset{\sim}{\mathrm{y}} \\ \underset{\sim}{c} \end{array}\right\|$ |  |  | － |
| $\underset{\sim}{2}+$ | $\stackrel{n}{n}$ |  | $\begin{gathered} \infty \\ 0 \\ 0 \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $0$ | $\dot{\substack{\infty \\ \\ \vdots \\ 0 \\ \hline}}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | Bn | $\left.\begin{array}{l} \circ \\ \hline 0 \\ \hline \end{array}\right)$ | ho |  |  | $\underset{\substack{4 \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline}}{ }$ | O. |  |  | $\pm$ |  |  | $\left\|\begin{array}{c} \mathbf{y} \\ \mathbf{6} \end{array}\right\|$ |  |  |  |  |  | $\stackrel{\otimes}{\sim}$ | $\stackrel{0}{0}$ | $\begin{gathered} \overline{\hat{N}} \\ \stackrel{y}{2} \end{gathered}$ |  | Bion ợ |  | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}\right.$ |  |  |  | $\stackrel{\otimes}{\mathcal{F}}$ | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ |  | $5$ | $\underset{\substack{5 \\ \hline \\ \hline}}{\substack{0 \\ 0}}$ |  | $\bigcirc$ |
| ૦゙ | $\stackrel{\infty}{\infty} \underset{\substack{\infty \\ \hline}}{ }$ | $\stackrel{c}{\infty} \underset{\substack{\infty \\ 0}}{\substack{0}}$ | $\stackrel{\wedge}{\mathrm{N}}$ | $\stackrel{N}{\hat{o}}$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \end{aligned}$ | $\underset{\substack{n \\ \underset{c}{n} \\ \hline \\ \hline}}{ }$ | $\begin{gathered} n \\ \underset{0}{0} \end{gathered}$ |  | $\begin{gathered} \circ \\ \hline \end{gathered}$ | $\begin{array}{l\|l\|l\|l\|l\|l\|} \hline \infty \\ \hline \infty \end{array}$ |  | $$ | $\underset{\sim}{~}$ | $\pm \infty$ |  | N | 8 |  | $\underset{\substack{\text { ¢ }}}{\substack{0}}$ | N | $N$ | $\left\|\begin{array}{l} ? \\ 0 \\ 0 \end{array}\right\|$ |  | $\left\|\begin{array}{c} N \\ \underset{0}{N} \end{array}\right\|$ | $\stackrel{8}{6}$ |  |  | $\infty$ | 「 | － | $\cdots$ | 下 | ¢ | $?$ | $\mathbb{N}$ |  | $?$ |  | $?$ | $8$ |  | － |
| $0$ | $0$ | $0$ | $0$ | $\left\|\begin{array}{c} \infty \\ \\ 0 \end{array}\right\|$ | $\stackrel{\infty}{\infty}$ | $0$ | ） | $\mathfrak{j}$ | $\dot{0}$ | $\stackrel{8}{\circ}$ | $\bar{\sigma}$ | － | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $8$ |  | $\stackrel{\sim}{\sim}$ | 안 |  | $\bigcirc$ | \％ | 今 | $\stackrel{\substack{\mathrm{N} \\ 0 \\ \hline}}{ }$ |  |  | $\stackrel{8}{\circ}$ |  |  | $\stackrel{\bullet}{0}$ | $\stackrel{o}{\dot{0}}$ |  | $\bar{n}$ | $\left\|\begin{array}{c} 10 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\dot{\sigma}}{\dot{子}}$ |  | Bo | $0$ |  |  | $50$ | $\mathfrak{j}$ |  | N N0 |
| $0$ | $\stackrel{m}{\infty}$ | $\stackrel{0}{0}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \infty \end{aligned}\right.$ |  | per |  |  | $\stackrel{\sim}{\sim}$ | $\underset{\sim}{\text { Pr }}$ | $\underset{\sim}{\sim} \underset{\sim}{\sim}$ |  | $\begin{aligned} & \circ \\ & \hdashline 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{Y}{\dot{O}}$ | $\underset{~ f}{f} \underset{\sim}{\circ}$ | $\stackrel{m}{\square}$ | $\underset{\sim}{2} \underset{O}{\substack{0}}$ | $\underset{\sim}{\underset{\sim}{*}}$ |  | $\underset{\sim}{\infty} \underset{\circ}{\circ}$ | $0$ |  |  |  |  | $3$ |  |  | $\underset{\sim}{N}$ | $\left\|\begin{array}{c} 0 \\ \underset{O}{0} \end{array}\right\|$ | $\underset{\sim}{9} \underset{\sim}{N}$ | $\bar{m}$ | $\begin{gathered} \substack{m \\ 0 \\ 0} \end{gathered}$ | $\mathfrak{c}$ | $\underset{\substack{3 \\ \hline \\ \hline}}{\substack{0}}$ | $\stackrel{(2)}{\infty}$ |  |  | $\left\|\begin{array}{c} 10 \\ 0 \\ 0 \end{array}\right\|$ | $\dot{f}$ | $\dot{p}$ |  | $\bigcirc$ |
|  | $\mathfrak{\sim}$ | $\underset{\substack{c}}{\substack{o \\ \underset{\sim}{c} \\ \dot{\sim} \\ \hline}}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{N}{2} \end{gathered}$ |  | $\mathfrak{c}$ | $\mathfrak{c}$ |  | $\dot{\substack{n}} \underset{\substack{n \\ \underset{\sim}{2} \\ \dot{d}}}{ }$ |  |  |  | $\stackrel{-}{\underset{\sim}{2}} \underset{\sim}{\underset{\sim}{\sim}} \underset{\sim}{\prime}$ |  |  |  |  | $\stackrel{\stackrel{\sim}{\mathrm{N}}}{\stackrel{1}{2}}$ |  | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\underset{\sim}{j}}$ | $\stackrel{\stackrel{L}{c}}{\stackrel{4}{2}}$ |  |  |  | $\underset{\sim}{\underset{\sim}{2}} \underset{\sim}{\underset{\sim}{\sim}}$ |  |  | $\underset{\sim}{\underset{\sim}{\sim}}$ | $\begin{gathered} \underset{\sim}{n} \\ \underset{\sim}{2} \end{gathered}$ | $\underset{\sim}{\underset{\sim}{\sim}}$ | $\underset{\text { 寸 }}{\substack{\text { g } \\ \underset{\sim}{\prime} \\ \hline}}$ |  | $\begin{aligned} & \underset{~}{寸} \\ & \underset{\sim}{2} \end{aligned}$ | 品 | $\stackrel{p}{q}$ | $\underset{\sim}{N}$ | N | $\stackrel{N}{\underset{\sim}{N}}$ | $\begin{gathered} \underset{\sim}{\mathrm{O}} \\ \underset{\sim}{2} \end{gathered}$ | $\stackrel{\substack{c \\ \underset{\sim}{c} \\ \underset{\sim}{n} \\ \underset{\sim}{n} \\ \hline}}{ }$ | $\stackrel{\dot{v}}{\stackrel{\rightharpoonup}{\sim}} \underset{\sim}{\sim}$ |  | $\stackrel{\sim}{\sim}$ |
| $\underset{\substack{0 \\ \underset{\sim}{0}}}{0}$ | $\left\lvert\, \begin{gathered} \underset{N}{N} \\ \underset{N}{2} \end{gathered}\right.$ |  | $\mathfrak{c}$ |  | $\underset{\substack{\infty \\ \underset{\sim}{n} \\ \hline}}{ }$ |  |  | $\underset{\sim}{n}$ | $\stackrel{\substack{\mathrm{N}}}{\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{2}}$ | $\stackrel{\rightharpoonup}{\mathrm{j}} \underset{\sim}{\underset{\sim}{\sim}}$ |  | $\stackrel{\infty}{\infty} \underset{\sim}{\sim} \underset{\sim}{n}$ | $\stackrel{\stackrel{N}{\sim}}{\stackrel{+}{\dot{N}}}$ | $\stackrel{\substack{\mathrm{f}} \underset{\sim}{\sim}}{\stackrel{\sim}{\sim}}$ | $\stackrel{S}{\stackrel{\rightharpoonup}{c}} \underset{\sim}{\underset{\sim}{c}} \underset{\sim}{+}$ |  | ๗్ల゙ |  | $\underset{\sim}{\dot{\sim}} \underset{\sim}{\infty}$ | $\begin{aligned} & \infty \\ & \dot{8} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \bar{\infty} \\ & \underset{\sim}{d} \end{aligned}$ |  |  |  |  |  |  | $\stackrel{\rightharpoonup}{\stackrel{\rightharpoonup}{j}}$ | $\begin{aligned} & \text { ৪ } \\ & \underset{\sim}{\prime} \end{aligned}$ |  | $\stackrel{ \pm}{\sim}$ | $\stackrel{\dot{N}}{ }$ | $\begin{gathered} \underset{\sim}{n} \\ \dot{\sim} \end{gathered}$ |  | $\stackrel{+}{N}$ | $\underset{\sim}{N}$ | $\begin{gathered} \overline{\grave{j}} \\ \stackrel{y}{2} \end{gathered}$ |  |  | $\underset{\substack{\underset{\sim}{n}} \underset{\sim}{c}}{\underset{\sim}{n}}$ |  | $\stackrel{\sim}{\sim}$ |
| $\mid \overline{\widetilde{\sigma}} \stackrel{n}{\leftrightharpoons}$ | $\begin{gathered} \underset{N}{n} \\ \underset{\sim}{2} \end{gathered}$ |  |  |  | $\mathfrak{c}\left\|\begin{array}{l} 8 \\ \vdots \\ \hline \end{array}\right\|$ |  |  |  | $\begin{aligned} & n \\ & \stackrel{n}{2} \\ & \stackrel{y}{n} \\ & \hline \end{aligned}$ |  | $\left.\begin{gathered} \underset{N}{N} \\ \dot{e} \end{gathered} \right\rvert\,$ | $\begin{array}{c\|c} \underset{N}{c} \\ \underset{\sim}{2} & \underset{N}{N} \\ \hline \end{array}$ |  |  | $\begin{array}{\|c} \underset{\sim}{N} \\ \underset{\sim}{2} \end{array}$ | N | $\stackrel{e}{0}$ |  | $\underset{\sim}{\text { ¢ }}$ | $\left\|\begin{array}{c} \underset{\sim}{y} \\ \dot{e} \end{array}\right\|$ | $\begin{aligned} & \underset{y}{i} \\ & \dot{e} \end{aligned}$ |  | $\dot{\mu}$ |  |  |  | $\stackrel{\substack{n}}{\substack{1 \\ \hline \\ \hline \\ \hline}}$ | $\begin{gathered} \overline{7} \\ \dot{e} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{0} \\ & \underset{\sim}{\circ} \end{aligned}$ |  | － | $\dot{\infty}$ | $\mathfrak{c}$ | S | \|ْ | ழ্ল | \|ம் | $\begin{gathered} \hat{e} \\ \underset{e}{e} \end{gathered}$ |  | $\|\dot{e}\|$ |  | $\underset{\sim}{\text { ¢ }}$ |
|  | $\left\lvert\, \begin{gathered} \stackrel{o}{c} \\ \underset{\sim}{\sim} \end{gathered}\right.$ |  |  | $\left\|\begin{array}{c} 8 \\ \hline 0 \end{array}\right\|$ | $\underset{\substack{\infty \\ \underset{\sim}{n} \\ \underset{\sim}{n} \\ \hline}}{ }$ | $\underset{\substack{~} \underset{\sim}{\sim}}{\underset{\sim}{\sim}}$ | $\begin{gathered} \overline{6} \\ 0 \end{gathered}$ | $\dot{s} \dot{\substack{\infty \\ \dot{\infty} \\ \underset{y}{2} \\ \hline}}$ |  |  | $\stackrel{\rightharpoonup}{\mathrm{o}} \underset{\sim}{c} \mid \underset{\sim}{N}$ |  | $\begin{gathered} \hat{\infty} \\ 0 \\ 0 \end{gathered}$ |  |  | － | $\underset{\sim}{\text { ¢ }}$ |  | $\stackrel{\sim}{-}$ | N̦ | $\overline{6}$ | ¢ |  |  | $\mathfrak{\sim}$ | 人̀ |  | $\begin{aligned} & \stackrel{\rightharpoonup}{0} \\ & \dot{\sim} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \stackrel{\circ}{\mathrm{O}} \\ & \underset{\sim}{2} \end{aligned}\right.$ |  | 0 | $\stackrel{\text { cos }}{\sim}$ | 0 | － | $\widehat{m}$ |  |  |  |  | $m$ |  | $\stackrel{\sim}{\infty}$ |
|  | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \infty \end{array}\right\|$ | $0$ | $\left\lvert\, \begin{aligned} & \hat{0} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ |  | $\mathfrak{c}$ |  | $\left\lvert\, \begin{gathered} \sim \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{gathered}\right.$ |  |  |  |  |  |  |  | $\begin{aligned} & 0 \\ & \hline 8 \\ & 0 \\ & \hline \end{aligned}$ |  |  |  |  | $\mathfrak{c}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ \infty \\ 1 \end{array}\right\|$ |  |  |  |  |  |  |  |  |  |  | $$ | $\begin{aligned} & \text { y } \\ & \text { y } \\ & 0 \\ & 0 \\ & \infty \end{aligned}$ | $\begin{gathered} 0 \\ \hline \end{gathered}$ |  |  |  | $\mathfrak{c}$ |  |  |  |  |
|  | $\left\|\begin{array}{c} n \\ \underset{\sim}{N} \\ \underset{N}{N} \end{array}\right\|$ |  | $\begin{gathered} \left.\begin{array}{c} 4 \\ \underset{\sim}{n} \\ \underset{N}{n} \end{array} \right\rvert\, \end{gathered}$ | $\left\|\begin{array}{c} \underset{\sim}{A} \\ \underset{\sim}{N} \\ \stackrel{N}{\circ} \end{array}\right\|$ | $\mathfrak{c}$ |  |  | $\mathfrak{c}$ |  |  |  | $\begin{aligned} & \infty \\ & \substack{\sim} \\ & \underset{\sim}{2} \\ & \hline \end{aligned}$ |  |  |  |  | $\stackrel{O}{\dot{N}}$ |  |  | $\begin{aligned} & \stackrel{N}{6} \\ & \stackrel{1}{6} \end{aligned}$ |  |  |  |  |  |  |  | $\dot{j}$ |  |  |  |  | $$ |  |  | $\stackrel{\text { í }}{\stackrel{\circ}{\circ}}$ |  | $\underset{i}{\underset{c}{\mathrm{~N}}}$ |  |  |  | （1） |
| $\left\|\begin{array}{ll} \therefore & \underline{y} \\ \hdashline & \stackrel{\rightharpoonup}{0} \\ & 0 \end{array}\right\|$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \end{array}\right\|$ | $\stackrel{\rightharpoonup}{v}$ |  | $\left\|\begin{array}{c} \underset{\sim}{\hat{N}} \\ \hat{N} \\ \grave{\Sigma} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \vdots \\ & \vdots \\ & \vdots \\ & \end{aligned}$ |  | $\begin{gathered} \substack{1 \\ d \\ \mathbf{x} \\ m \\ \hline} \\ \hline \end{gathered}$ | $\begin{array}{\|l\|l} 0 \\ \frac{1}{\alpha} \\ \frac{1}{2} \end{array}$ |  | $\begin{array}{l\|l} \frac{1}{\frac{1}{r}} & \frac{1}{\alpha} \\ \frac{1}{\alpha} \end{array}$ |  |  | $\begin{array}{\|c} \underset{\sim}{\grave{\alpha}} \\ \underset{\alpha}{2} \end{array}$ |  |  |  |  |  |  | $\left\|\begin{array}{c} \underset{\sim}{x} \\ \stackrel{\rightharpoonup}{\underset{\sim}{x}} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{N}{n} \\ & \underset{W}{2} \end{aligned}$ |  |  |  |  |  |  |  |  |  |  | $\begin{array}{\|c} \underset{\sim}{\dot{\sim}} \\ \underset{\sim}{\underset{\sim}{2}} \end{array}$ | $\begin{gathered} \frac{m}{c} \\ \frac{1}{\boldsymbol{r}} \end{gathered}$ | $\stackrel{\widetilde{\infty}}{\stackrel{\rightharpoonup}{2}}$ | $\begin{array}{\|c} \infty \\ \frac{1}{\mathbf{N}} \\ \Sigma \end{array}$ | $\begin{aligned} & 0 \\ & \\ & \stackrel{y}{0} \end{aligned}$ | $\begin{aligned} & \mathbb{N} \\ & \underset{\Sigma}{\delta} \end{aligned}$ | $\begin{aligned} & 0 \\ & \frac{1}{1} \\ & \frac{\mathbf{x}}{2} \end{aligned}$ | $\begin{aligned} & 0 \\ & \substack{0 \\ \underset{\sim}{x} \\ \underset{\sim}{w} \\ \hline} \end{aligned}$ | $\begin{array}{l\|l\|} \substack{\frac{1}{x} \\ \frac{\alpha}{\alpha} \\ \hline} \\ \hline \end{array}$ |  | $\begin{aligned} & 0 \\ & \\ & \\ & \\ & \hline \end{aligned}$ |


| $\frac{\frac{\pi}{5}}{0}$ |  | $\stackrel{N}{n}$ | $\stackrel{\square}{\stackrel{\rightharpoonup}{\square}}$ |  |  | $\dot{p}$ | $\underset{O}{\substack{9}}$ |  | O |  | O | N |  | $\underset{\sim}{\infty} \underset{\sim}{0} \text { O. }$ | \％ | N0 | O－ | － | $\bigcirc$ | ¢ | $\stackrel{1}{8}$ | W0 | 7 | $\stackrel{\sim}{\circ}$ | © | M | N | 50． |  | \％ | 7 |  |  |  |  | O | $\mathfrak{c}$ | p. |  |  | \％ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underset{\substack{\infty \\ \\ \hline}}{ }$ | $\stackrel{\rightharpoonup}{2} \stackrel{\rightharpoonup}{2}$ | $0$ |  |  | $\begin{array}{c\|c} \substack{N \\ \hline} & \overline{0} \\ \hline \end{array}$ | $\underset{j}{2} \underset{\sim}{\sim}$ | $\begin{gathered} \bar{S} \\ \underset{S}{2} \end{gathered}$ |  | $\begin{array}{\|c} \stackrel{\rightharpoonup}{N} \\ 0 \end{array}$ | $\stackrel{-}{\sim}$ | $\underset{\sim}{~ v}$ |  | $\mathbf{c}_{\substack{0}}^{0} \underset{\sim}{\sim}$ | $\underset{\sim}{\underset{\sim}{x}}$ | － | $\stackrel{\bar{N}}{\underset{\sim}{N}}$ | $\underset{\sim}{N}$ | $\begin{gathered} \bar{N} \\ \end{gathered}$ | N | $\stackrel{N}{\sim}$ | $\begin{gathered} \text { ָ } \\ \text { N- } \end{gathered}$ | $\begin{gathered} \infty \\ \\ \hline 0 \end{gathered}$ | Non | $\stackrel{\sim}{\mathrm{N}}$ | － | N | $\stackrel{\infty}{\sim}$ | $\underset{\substack{\mathrm{N} \\ \underset{O}{2} \\ \hline}}{ }$ | N | $\underset{\sim}{N}$ |  | $\stackrel{\infty}{\sim}$ |  | $\stackrel{\sim}{\sim}$ | $\begin{aligned} 0 \\ \hline \end{aligned}$ | Now | $\underset{\sim}{\sim}$ | N | م | － |
| 2 | $\begin{gathered} N \\ \infty \\ \infty \\ m \end{gathered}$ |  | $\left\lvert\, \begin{gathered} \infty \\ \vdots \\ \underset{m}{\infty} \\ \hline \end{gathered}\right.$ |  | $\begin{aligned} & \substack{n \\ \\ \\ \hline \\ \hline} \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & \dot{N} \\ & \mathrm{~N} \end{aligned}\right.$ |  | $\begin{aligned} & \bar{i} \\ & 0 \\ & m \end{aligned}$ |  | $\begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\sim}{c} \end{gathered}$ |  |  | $\underset{\sim}{\underset{\sim}{\underset{\sim}{2}}}$ | $\underset{\sim}{\underset{\sim}{2}} \underset{\sim}{\underset{N}{N}}$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{\infty} \\ & \stackrel{m}{2} \end{aligned}$ | $\begin{gathered} \overline{\hat{0}} \\ \stackrel{0}{\circ} \end{gathered}$ |  |  |  | $\stackrel{ \pm}{N}$ | $\underset{~}{7}$ | $\frac{\underset{\sim}{c}}{\underset{m}{c}}$ | $\begin{aligned} & 8 \\ & \hline 0 \\ & 1 \end{aligned}$ | － | － | $\stackrel{\text { \％}}{\substack{\text { ¢ }}}$ | $\stackrel{\bar{N}}{\mathrm{~N}}$ | $\underset{\sim}{\infty}$ | $\stackrel{\infty}{\infty}$ | $\begin{array}{\|c} \substack{\infty \\ \dot{\infty}} \end{array}$ | N |  | $\begin{aligned} & \hat{N} \\ & \infty \\ & \end{aligned}$ |  |  | － | $\stackrel{+}{\div}$ | $\begin{gathered} \hat{N} \\ \\ \end{gathered}$ | － | $\left\lvert\, \begin{gathered} \infty \\ \underset{\sim}{\infty} \\ \end{gathered}\right.$ | m |
| $\begin{aligned} & \mathbf{z} \\ & \end{aligned}$ | $\underset{\substack{n \\ \\ \hline}}{ }$ | $\dot{c}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & n \\ & m \end{aligned}\right.$ | $\left.\begin{array}{\|l\|} \hline \mathbf{O} \\ \hline \mathbf{c} \end{array} \right\rvert\,$ | $\mathfrak{c}$ | $\mid \underset{\underset{N}{N}}{\underset{N}{2}}$ | $\underset{\sim}{2} \underset{\sim}{c}$ | $\frac{m}{\underset{N}{N}}$ |  | $\stackrel{\stackrel{y}{f}}{\stackrel{m}{m}}$ |  |  | $\underset{\sim}{\underset{\sim}{\mathrm{N}}}$ |  | $\underset{\underset{\sim}{\underset{\sim}{c}}}{\underset{\sim}{c}}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \end{aligned}$ |  | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{t}$ |  | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{y}}}{\underset{\sim}{\mathrm{~N}}}$ | $\stackrel{\substack{\underset{\sim}{i}}}{ }$ |  | $\begin{aligned} & \overline{\hat{N}} \\ & \stackrel{N}{\mathrm{~N}} \end{aligned}$ |  | $\stackrel{\substack{4 \\ \oplus \\ \hline}}{ }$ |  | $\left.\begin{array}{\|c} \circ \\ \sim \\ \sim \end{array} \right\rvert\,$ | $\begin{aligned} & \text { O} \\ & \hline 0 \\ & \text { Non } \end{aligned}$ | 8 <br> 0 <br> 0 |  | $\left\|\begin{array}{c} \infty \\ \underset{N}{n} \\ \dot{N} \end{array}\right\|$ |  | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\mathrm{~N}}$ |  |  | $\left\lvert\, \begin{gathered} \circ \\ \underset{\sim}{0} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\stackrel{N}{0}$ | $\frac{\underset{\sim}{\sim}}{\sim}$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{N} \end{array}\right\|$ | $\frac{\underset{\sim}{\sim}}{\dot{\sim}}$ | N |
| $\frac{+}{2}$ | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ \hline \end{gathered}$ | $$ | $\left\lvert\, \begin{gathered} o \\ \substack{\infty \\ 0} \end{gathered}\right.$ |  | $\mathfrak{n}$ | $\begin{gathered} 0 \\ 0 \\ \\ 0 \end{gathered}$ |  | $\begin{aligned} & \underset{\sim}{2} \\ & \underset{\sim}{c} \end{aligned}$ | $\begin{gathered} \substack{4 \\ n \\ \hline} \\ \hline \end{gathered}$ | $\begin{gathered} 0 \\ \mathbf{N} \\ \end{gathered}$ |  |  | $\underset{\underset{\sim}{\underset{\sim}{~}} \underset{\sim}{2}}{ }$ | $\stackrel{\rightharpoonup}{N} \underset{\sim}{\sim}$ | $\left\lvert\, \begin{gathered} \stackrel{\rightharpoonup}{\mathrm{m}} \end{gathered}\right.$ |  |  |  |  | $\mathfrak{c}$ | $\stackrel{\otimes}{\sim}$ |  | $\begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\sim}{2} \end{gathered}$ |  | $\underset{\sim}{\underset{\sim}{4}}$ | مٌ | $\begin{aligned} & \underset{\sim}{t} \\ & \underset{i}{2} \end{aligned}$ | $\mathfrak{c}$ | $\underset{O}{\sim}$ | O | $\left\|\begin{array}{c} 0 \\ \mathbf{y} \\ \end{array}\right\|$ |  | $\stackrel{\sim}{\infty}$ |  |  | $\begin{array}{\|c} 0 \\ \underset{y}{0} \\ 0 \end{array}$ | $\stackrel{\otimes}{\infty}$ | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $0$ | $\underset{f}{f}$ |  |
| $\stackrel{\sim}{\circ}$ | $\stackrel{N}{\hat{0}}$ | $\stackrel{N}{N} \underset{\substack{N \\ 0}}{ }$ | $\stackrel{\substack{\wedge \\ \dot{0}}}{ }$ | $\left.\begin{gathered} 0 \\ \stackrel{0}{0} \\ \hline \end{gathered} \right\rvert\,$ | $\stackrel{\substack{4 \\ 0}}{\substack{2}}$ | $\begin{array}{\|c} \substack{n \\ \vdots \\ \hline} \end{array}$ | $\underset{j}{2} \underset{\substack{\mathrm{~N}}}{\substack{2}}$ |  | $\stackrel{?}{\stackrel{\rightharpoonup}{\circ}}$ | $\stackrel{N}{N}$ |  |  | $\underset{\substack{n \\ \underset{\omega}{2} \\ \hline}}{ }$ |  | $\begin{gathered} 0 \\ \underset{0}{0} \end{gathered}$ |  | $\left\|\begin{array}{c} \stackrel{0}{2} \\ \stackrel{\varphi}{2} \end{array}\right\|$ | $\stackrel{\substack{\circ}}{\substack{0}}$ |  | $\stackrel{\ominus}{\circ}$ |  | $\underset{\substack{\mathrm{o}}}{\substack{\mathrm{o}}}$ |  | $\stackrel{\substack{c}}{\sim}$ | $\stackrel{\infty}{\infty}$ | $\stackrel{\infty}{\infty}$ | $\underset{N}{N}$ | N | $\stackrel{\text { § }}{\substack{\circ}}$ | $\stackrel{\text { N}}{\substack{*}}$ | $\underset{\substack{n \\ \underset{\omega}{2} \\ \hline}}{ }$ |  | $\underset{\substack{N}}{\underset{N}{*}}$ |  | $\Sigma$ | $\begin{aligned} & 0 \\ & \stackrel{0}{0} \\ & \hline \end{aligned}$ | $\mathbb{N}$ | $$ | $\left\|\begin{array}{c} N \\ \underset{\bullet}{N} \end{array}\right\|$ | $\stackrel{\infty}{\infty}$ | $\stackrel{0}{0}$ |
| $\stackrel{0}{⿳ 亠 丷 厂 彡 刂}$ | $\mathfrak{O}$ |  | $0$ |  | $\mathfrak{c}$ | $\begin{array}{\|l\|} \hline \\ \hline \\ \hline \end{array}$ | $\stackrel{\mathrm{m}}{\underset{\sim}{r}}$ | $0$ | $0$ | $\stackrel{y}{4}$ | － |  | $\left\|\begin{array}{c} \infty \\ \infty \\ 0 \\ 0 \end{array}\right\|$ | $\infty$ |  | $\begin{gathered} 50 \\ 0 \end{gathered}$ | $\left\|\begin{array}{l} \mathbf{L} \\ \mathbf{L} \\ 0 \end{array}\right\|$ |  | $\overbrace{0}^{\sim} \underset{O}{\text { N }}$ | $\underset{\sim}{N}$ | $\overline{0}$ | $\stackrel{\circ}{\circ}{ }_{\substack{\infty \\ \infty}}^{\infty}$ | $\left.\begin{array}{\|c\|} \hline \\ 0 \\ 0 \end{array} \right\rvert\,$ | $0$ | $\begin{aligned} & \text { U } \\ & 0 \\ & 0 \end{aligned}$ | \％ | $\stackrel{0}{0}$ | O- | － | No | 0 |  | $\stackrel{\square}{\circ}$ |  | O | $8$ | $\bigcirc$ | \％ | $\stackrel{7}{7}$ | $\bigcirc$ | $\xrightarrow{\circ}$ |
|  | $\mathfrak{N}$ | $0$ |  |  | $\mathfrak{p}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 8 \\ & \hline 0 \end{aligned}\right.$ |  | $\dot{S}$ | $5$ | $\begin{aligned} & \substack{0 \\ \hline \\ \hline \\ \hline \\ \hline} \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \hline \end{aligned}$ |  | $\stackrel{0}{0} \stackrel{\rightharpoonup}{\circ}$ | ? |  | $\underset{\substack{\mathrm{N}}}{ }$ |  |  | $\begin{aligned} & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{ \pm}{\infty} \underset{\substack{- \\ \hline}}{ }$ | ＋ | $\left\|\begin{array}{c}  \pm \\ \infty \\ 0 \end{array}\right\|$ | 8 | \％ | N－ | $\mathfrak{S}$ | \& | N | \％ | \％ |  |  |  | 꾼 | $\stackrel{\bigcirc}{\square}$ | $\bigcirc$ | $\stackrel{\infty}{\sim}$ | $\bar{\sim}$ | $\stackrel{\sim}{\sim}$ | $\stackrel{\text { ¢ }}{+}$ |
|  |  |  | $\stackrel{\substack{\underset{\sim}{N} \\ \underset{\sim}{2}}}{ }$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathcal{~}} \\ \underset{\sim}{n} \end{gathered}\right.$ | $\dot{f} \dot{f}$ |  | $\mathfrak{c}$ |  |  |  | $\stackrel{寸}{\underset{\sim}{*}} \underset{\sim}{\sim}$ |  | $\underset{\sim}{\underset{\sim}{\infty}} \underset{\sim}{\infty} \underset{\sim}{\infty}$ | $\begin{array}{\|c} \stackrel{\rightharpoonup}{f} \\ \underset{\sim}{2} \end{array}$ |  | $\begin{gathered} \mathrm{N} \\ \underset{\sim}{\mathrm{~N}} \end{gathered}$ |  | $\underset{\sim}{\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\sim}} \underset{\sim}{n}$ | $\begin{gathered} \stackrel{\rightharpoonup}{+} \\ \underset{\sim}{2} \end{gathered}$ |  | $\begin{gathered} \text { No } \\ \underset{\sim}{n} \end{gathered}$ | $\begin{gathered} \stackrel{\rightharpoonup}{\dot{~}} \\ \stackrel{1}{2} \end{gathered}$ |  | $\begin{aligned} & \infty \\ & \dot{\infty} \\ & \dot{d} \end{aligned}$ |  | $\begin{gathered} \stackrel{\rightharpoonup}{\dot{A}} \\ \stackrel{y}{2} \end{gathered}$ | Non | \|ষ | $\begin{array}{\|c} \stackrel{N}{\sim} \\ \underset{\sim}{n} \end{array}$ | $\left\|\begin{array}{c} \stackrel{\infty}{m} \\ \underset{\sim}{2} \end{array}\right\|$ | ${ }_{\text {－}}^{+}$ |  |  | $\underset{\sim}{\underset{\sim}{*}} \underset{\sim}{\sim}$ | $\begin{gathered} \stackrel{0}{4} \\ \dot{j} \end{gathered}$ | $\mathfrak{c}$ | $\begin{aligned} & \underset{\sim}{\text { ® }} \\ & \underset{\sim}{c} \end{aligned}$ | $\sim$ | $\underset{\sim}{\underset{N}{N}}$ | $\xrightarrow[\sim]{\text { ® }}$ |
| $\underset{\substack{e \\ \underset{心 ㇒}{E} \\ 0}}{ }$ | $\left\lvert\, \begin{gathered} \stackrel{m}{\dot{d}} \\ \dot{\sim} \end{gathered}\right.$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathcal{~}} \underset{\sim}{2} \end{gathered}\right.$ |  |  | $\left\|\begin{array}{c} \mathrm{O} \\ \dot{d} \end{array}\right\|$ |  |  | $\stackrel{\underset{\sim}{\sim}}{\underset{\sim}{\sim}}$ |  |  |  |  | $\begin{aligned} & \text { N } \\ & \stackrel{y}{c} \\ & \hline \end{aligned}$ | $\left.\begin{array}{\|c} n_{0} \\ \sim \end{array} \right\rvert\,$ |  | $\stackrel{\underset{\sim}{c}}{\stackrel{\infty}{\underset{~}{~}} \underset{\sim}{\infty}}$ |  | $\underset{\sim}{\underset{\sim}{n}} \underset{\sim}{\infty}$ | $\begin{gathered} N \\ \underset{N}{\mathrm{~N}} \end{gathered}$ |  |  |  |  | $\stackrel{N}{N}$ |  | $\stackrel{\dot{N}}{ }$ | $\underset{\sim}{\underset{\sim}{c}}$ | \|ম | \| | $\mid \dot{N}$ | N |  |  |  | $\begin{gathered} \stackrel{n}{n} \\ \underset{\sim}{2} \end{gathered}$ | $\mathfrak{l}$ | $\stackrel{\substack{\underset{\sim}{c} \\ \underset{\sim}{n}}}{ }$ | N |  | 缘 |
| लَ | $\xrightarrow[\substack{\infty \\ 0 \\ e \\ 0}]{ }$ |  | $\left\lvert\, \begin{aligned} & \infty \\ & \substack{\infty \\ e \\ \hline \\ \hline} \end{aligned}\right.$ |  |  | $\left\|\begin{array}{l} \underset{\sim}{\dot{f}} \\ \dot{e} \end{array}\right\|$ |  |  |  |  |  |  |  |  | $\begin{gathered} \underset{m}{m} \\ \underset{\sim}{\infty} \end{gathered}$ |  |  |  | N | $\begin{aligned} & \underset{m}{e} \\ & \dot{e} \end{aligned}$ | $\begin{gathered} \underset{\sim}{m} \\ \underset{\sim}{6} \end{gathered}$ |  | $\stackrel{\substack{4 \\ \stackrel{e}{6} \\ \hline}}{ }$ |  | $\stackrel{\text { N゙}}{\stackrel{e}{e}}$ |  | $\dot{e}$ | $\dot{\oplus}$ | ¢ | － | ¢ | m |  |  | ¢ | $\begin{gathered} \underset{\sim}{N} \\ \dot{e} \end{gathered}$ | － | $\dot{m}$ | $\begin{array}{\|c} \substack{0 \\ \underset{e}{2} \\ \hline} \end{array}$ | $\begin{aligned} & \text { N} \\ & \underset{\sim}{n} \end{aligned}$ | No |
|  | $\begin{aligned} & \stackrel{e}{0} \\ & \stackrel{\circ}{\circ} \end{aligned}$ |  | $\stackrel{8}{\circ}$ |  | 욷 | 8 | $\stackrel{\underset{\mathrm{N}}{ }}{ } \mid$ |  | ¢ | $\begin{gathered} 8 \\ \hline 0 \\ \hline \end{gathered}$ |  | $\stackrel{\substack{\mathrm{S}}}{\underset{\sim}{\mathrm{i}}}$ | $\begin{gathered} \stackrel{\infty}{\infty} \\ \stackrel{y}{*} \end{gathered}$ |  | $\stackrel{0}{\circ}$ |  |  |  | － | $\%$ | N | $\stackrel{\sim}{\sim}$ |  | $\stackrel{+}{\square}$ | － | － | － | －\％ | 广 | $\stackrel{+}{\text { O }}$ | O |  | $\stackrel{\sim}{N}$ |  | $\stackrel{\sim}{\circ}$ | $\begin{gathered} \hat{m} \\ \infty \end{gathered}$ | $\underset{\sim}{\square}$ |  | $\stackrel{\text { N}}{\stackrel{1}{*}}$ | $: \stackrel{8}{8}$ | ¢ |
|  | $\left\lvert\, \begin{gathered} \overline{0} \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{gathered}\right.$ |  | $\left\|\begin{array}{c} \infty \\ \infty \\ 0 \\ 0 \\ 0 \\ \infty \end{array}\right\|$ |  | $\mathfrak{o c}$ |  |  | $\left\lvert\, \begin{aligned} & 0 \\ & \hline \\ & \vdots \\ & 0 \\ & 0 \\ & \infty \end{aligned}\right.$ | $\begin{aligned} & 2 \\ & \\ & \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  <br>  <br>  | $\mathfrak{c}$ |  |  |  | $\begin{aligned} & \hat{y} \\ & \substack{\infty \\ \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0} \end{aligned}$ | $3 \begin{aligned} & \mathscr{O} \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  |  | $\mid$ | $\begin{aligned} & \text { M } \\ & 0 \\ & 0 \\ & \hline-\infty \\ & \hline 1 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \\ & \hline-8 \\ & \hline \end{aligned}\right.$ | ＋ |  |  |  | 0 <br> 0 <br> 0 <br> 0 | $\mathfrak{c}$ | $\begin{aligned} & \text { or } \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | （1） |
|  | $\left\lvert\, \begin{gathered} \stackrel{e}{0} \\ \stackrel{6}{\dot{~}} \\ \stackrel{\rightharpoonup}{2} \end{gathered}\right.$ |  | $\mathfrak{c}$ | $\left\|\begin{array}{c} \underset{\sim}{\sim} \\ \underset{\sim}{\circ} \\ \hline \end{array}\right\|$ |  | $\left\lvert\, \begin{aligned} & \bar{N} \\ & \\ & \stackrel{N}{\mathrm{~N}} \end{aligned}\right.$ |  | $\left\lvert\, \begin{gathered} 0 \\ \hline \\ \\ \hdashline \dot{c} \\ \underset{\sim}{2} \end{gathered}\right.$ |  |  |  |  |  |  | $\mathfrak{c}$ |  |  |  |  | $\mathfrak{j}$ |  |  |  |  |  | $\mathfrak{c}$ |  | $\dot{\vdots}$ |  | $\hat{\circ}$ <br> $\stackrel{y}{\circ}$ <br> in <br>  | $\begin{array}{\|c} 0 \\ \stackrel{\rightharpoonup}{N} \\ \underset{\sim}{n} \\ \end{array}$ | N |  |  |  |  |  |  | ผค | $\left\{\begin{array}{l} \text { O } \\ \underset{\sim}{\infty} \\ \text { din } \end{array}\right.$ | N |
|  | $\begin{aligned} & \frac{\sum}{c} \\ & \frac{n}{n} \\ & \dot{\omega} \\ & \frac{0}{n} \\ & \frac{n}{\infty} \\ & \frac{1}{m} \\ & \hline \end{aligned}$ |  |  |  |  |  |  |  | $\begin{array}{\|l\|l\|l\|} \hline 3 / 158: 28 \mathrm{AM} \\ \hline \end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 20 | $\stackrel{\Gamma}{\mathrm{N}}$ |  |  |  |  |  |  |  |  |
| $\stackrel{\square}{\omega}$ | $\left\|\begin{array}{l} \times \\ \underset{\sim}{0} \\ \stackrel{\oplus}{\mathrm{O}} \end{array}\right\|$ |  |  | $\left\|\begin{array}{c} \frac{4}{\grave{2}} \\ \frac{\vdots}{\infty} \end{array}\right\|$ |  | $\left\lvert\, \begin{array}{r} \underset{\sim}{\underset{\sim}{x}} \\ \frac{1}{x} \end{array}\right.$ | $\begin{aligned} & \dot{y} \\ & \end{aligned}$ | $\begin{gathered} \underset{\sim}{4} \\ \underset{\sim}{c} \\ \hline \end{gathered}$ |  |  |  |  |  | $\begin{aligned} & 0 \\ & \\ & \\ & \hline \end{aligned}$ | $\begin{aligned} & 0 \\ & \frac{1}{2} \\ & \bar{\Sigma} \end{aligned}$ |  |  |  |  |  | $\begin{array}{\|c} \frac{m}{x} \\ \frac{1}{2} \\ \hline \end{array}$ |  | $\begin{aligned} & 0 \\ & \frac{1}{U} \\ & \Sigma \Sigma \end{aligned}$ | $\begin{array}{\|c} \frac{\pi}{2} \\ \frac{\alpha}{x} \end{array}$ | $\begin{aligned} & 0 \\ & N \\ & \sum_{2} \\ & \hline \end{aligned}$ | $\begin{aligned} & U \\ & N \\ & \underset{\Sigma}{\Sigma} \end{aligned}$ | $\left\|\begin{array}{l} \frac{m}{\tilde{\omega}} \\ \frac{1}{\infty} \end{array}\right\|$ | $\begin{array}{\|c\|c} \substack{\underset{\sim}{\sim} \\ \underset{\sim}{\sim}} \end{array}$ | － | $\begin{array}{\|c} 0 \\ \dot{j} \\ \underset{\sim}{c} \end{array}$ | $\left\|\begin{array}{l} \underset{\sim}{\infty} \\ \underset{\Sigma}{2} \end{array}\right\|$ | 过 | $\begin{aligned} & \text { U } \\ & \end{aligned}$ |  |  | $\left\lvert\, \begin{gathered} \substack{\underset{\sim}{\underset{\sim}{x}} \\ \hline} \end{gathered}\right.$ | $\sum_{i}^{\substack{\sim\\}}$ | $\begin{gathered} 0 \\ \tilde{\sim} \\ \underset{\sim}{\mathbf{n}} \end{gathered}$ | $\left\|\begin{array}{l} \mathfrak{m} \\ \underset{\infty}{2} \end{array}\right\|$ | $\begin{aligned} & \stackrel{p}{n} \\ & \underset{\sim}{\tilde{\alpha}} \end{aligned}$ | $\underset{\sim}{\text { ¢ }}$ |


| $\bar{z} \mid$ | $\begin{gathered} \hat{\infty} \\ 0 \\ 0 \end{gathered}$ | $5:$ |  |  | O |  |  | $\underset{\sim}{N}$ | $\begin{gathered} n \\ \\ \hline \end{gathered}$ | Bo Oo | N |  | ¢ | \％ |  | $\underset{\sim}{4}$ |  | $\stackrel{0}{0} 0$ | $0.00$ | $\stackrel{m}{\square}$ | $\underset{\sim}{n}$ |  |  | ©. |  |  |  | n | N |  | N | 8 | 인 |  | N－ | $\stackrel{O}{0}$ | N | $\stackrel{\circ}{\circ}$ | $\bar{m}$ | $0$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\bigcirc$ |  |  |  | $:$ | $\underset{\substack{\infty \\ \\ \\ \\ \hline}}{ }$ |  |  | $\underset{\substack{N \\ \hline \\ \hline}}{\substack{N}}$ |  |  |  | $\begin{gathered} \underset{N}{\mathrm{~N}} \end{gathered}$ |  | $\stackrel{\bar{N}}{\mathbf{N}}$ |  |  |  |  | $\stackrel{\sim}{N} \underset{\sim}{N}$ | $\stackrel{\infty}{\sim}$ | Noc\|cos |  |  | $\stackrel{\stackrel{N}{N}}{\substack{0}}$ |  | $\stackrel{N}{\underset{\sim}{c}} \underset{\sim}{\circ}$ | $\underset{O}{g}$ | $\underset{\substack{\mathrm{N} \\ \hline \multirow{2}{c}{\hline}\\ \hline}}{ }$ | $\stackrel{\rightharpoonup}{\square}$ |  | $\underset{\sim}{\underset{N}{N}}$ | $\underset{\substack{0 \\ N \\ \vdots \\ 0}}{ }$ | $\underset{\sim}{\circ}$ | $\underset{\sim}{\sigma}$ | $\stackrel{0}{N}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{\mathrm{~N}} \\ \hline \end{gathered}\right.$ | $\begin{array}{\|c} \stackrel{N}{N} \\ \hline \end{array}$ | $\stackrel{\underset{N}{N}}{ }$ | $\left\|\begin{array}{c} \infty \\ N \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{O}{2} \end{array}\right\|$ |  |  |
| 2 | $\underset{\substack{ \pm} \underset{~}{ \pm}}{ }$ |  |  | $\begin{aligned} & 3 \\ & \vdots \\ & \vdots \\ & \\ & \mathbf{n} \end{aligned}$ | $\begin{aligned} & 0 \\ & i \\ & i \\ & i \end{aligned}$ |  |  |  |  |  | $\begin{aligned} & 3 \\ & \substack { n \\ \begin{subarray}{c}{\infty \\ \infty \\ \infty \\ \infty{ n \\ \begin{subarray} { c } { \infty \\ \infty \\ \infty \\ \infty } } \\ {\hline} \end{aligned}$ | $\stackrel{8}{\circ}$ |  | $\begin{gathered} \underset{\sim}{\underset{\sim}{2}} \\ \underset{\sim}{2} \end{gathered}$ | $\begin{aligned} & \overline{\hat{1}} \\ & \mathbf{0} \end{aligned}$ | $\dot{j}$ |  |  |  | $\bar{i}$ |  |  | $\underset{\sim}{N}$ | $\underset{\sim}{\underset{\sim}{\sim}}$ |  |  | $\frac{\mathrm{t}}{\mathrm{~N}}$ | $\vdots$ | $\stackrel{\stackrel{\sim}{\mathrm{N}}}{\mathrm{~N}}$ | $\begin{array}{\|c} \underset{\mathrm{N}}{\mathrm{c}} \end{array}$ | $\dot{c}$ |  | $\begin{aligned} & \bar{i} \\ & \stackrel{n}{2} \\ & \sim \end{aligned}$ | ! | $\begin{gathered} \underset{\sim}{\mathbf{N}} \\ \mathbf{N} \end{gathered}$ | $\left.\begin{aligned} & \underset{i}{\hat{2}} \\ & \mathbf{c} \end{aligned} \right\rvert\,$ | $\frac{\stackrel{\rightharpoonup}{N}}{\stackrel{N}{m}}$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{\sim}{\mathrm{~N}} \end{array}\right\|$ |  | O. | O- | $\stackrel{m}{\substack{c}}$ |
| $\underset{\mid}{Z}$ | $\begin{aligned} & \hat{\sim} \\ & \stackrel{0}{0} \\ & \end{aligned}$ | $\mathfrak{c}$ | $\underset{\underset{N}{N}}{\underset{\sim}{\lambda}}$ | $\mathfrak{c}$ |  |  |  |  |  | $\underset{\sim}{\circ} \underset{\sim}{\circ} \underset{\sim}{\underset{\sim}{N}}$ | － |  |  | $\stackrel{\substack{6 \\ 6}}{ }$ |  | $\dot{\sim}$ |  |  |  | $\begin{gathered} \infty \\ \stackrel{\infty}{*} \\ \hline \end{gathered}$ |  |  |  | $\underset{\underset{\sim}{2}}{ }$ |  |  | $\stackrel{\otimes}{\circ}$ | $\underset{\sim}{\stackrel{m}{4}}$ | $\stackrel{\substack{4 \\ \stackrel{\rightharpoonup}{*}}}{ }$ |  | $\mathfrak{c}$ | $\begin{gathered} \underset{\sim}{\underset{\sim}{c}} \\ \underset{\sim}{c} \end{gathered}$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{N}{n} \\ \underset{N}{2} \end{gathered}\right.$ | $\underset{\underset{\sim}{N}}{\underset{\sim}{N}}$ | $\left\lvert\, \begin{gathered} \underset{6}{6} \\ \hline \end{gathered}\right.$ | $\begin{gathered} \infty \\ \stackrel{\infty}{\mathrm{N}} \end{gathered}$ | $\underset{\substack{\underset{\sim}{c} \\ \underset{\sim}{n}}}{ }$ | $\left\|\begin{array}{c} \underset{\sim}{4} \\ \underset{\sim}{i} \end{array}\right\|$ | $\stackrel{\underset{\sim}{\underset{m}{c}}}{\underset{\sim}{2}}$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\mathrm{N}} \end{array}\right\|$ | $\stackrel{\rightharpoonup}{\lambda}$ | Nin |
| $\begin{aligned} & \mathbf{z} \\ & \mathbf{z} \end{aligned}$ | $\stackrel{N}{n}$ | $\dot{s}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 3 \\ & \vdots \end{aligned}$ | $\mathfrak{c}$ |  | $\left\lvert\, \begin{gathered} \infty \\ \underset{\sim}{0} \\ \end{gathered}\right.$ | $\stackrel{0}{0}$ | $\underset{\substack{N \\ \hline \\ \hline}}{\substack{0 \\ 0 \\ \hline}}$ | No: | So | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ |  | $\begin{gathered} \infty \\ \underset{y}{0} \\ \underset{\sim}{2} \end{gathered}$ | $\begin{gathered} 0 \\ \substack{0 \\ \\ \\ \hline} \end{gathered}$ |  | $\begin{array}{c\|c\|c\|c} \substack{0 \\ \\ \\ \hline} \\ \hline \end{array}$ | $\begin{array}{c\|c\|c} \circ & 0 \\ \\ \\ \hline \end{array}$ |  | $\left\|\begin{array}{c} 0 \\ \mathbf{N} \\ 0 \end{array}\right\|$ | $\begin{array}{ll} 0 & n \\ & \stackrel{n}{0} \\ 0 \end{array}$ |  | $\begin{array}{c\|c} \substack{\sim \\ N} \\ \hline \end{array}$ | $\begin{gathered} 0 \\ \underset{y}{0} \\ 0 \end{gathered}$ |  |  | $\mathfrak{c}$ | $\stackrel{\infty}{\infty}$ | $$ |  |  | $\begin{gathered} \underset{8}{\infty} \\ \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} 0 \\ \text { M } \\ \text { No } \end{gathered}$ | $\begin{gathered} 0 \\ \cline { 1 - 1 } \\ \\ \hline \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ 0 \end{array}\right\|$ | $\begin{gathered} \infty \\ \\ \\ \hline \end{gathered}$ | $\begin{gathered} 0 \\ 0 \\ \\ 0 \end{gathered}$ | $\stackrel{\substack{n \\ 0 \\ 0 \\ 0}}{ }$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ |  | － |
| $\underset{\sim}{\sim}$ | $\underset{\substack{\circ}}{\substack{i}}$ | $\underset{\dot{0}}{\underset{\sim}{N}}$ | $\stackrel{\ominus}{\varrho}$ | $\dot{\infty}$ | $\begin{aligned} & \dot{c} \\ & j \\ & \dot{N} \end{aligned}$ |  | $\stackrel{\substack{0 \\ \hline \\ \hline}}{ }$ |  | $\begin{array}{lll} \substack{0 \\ \hline \\ \hline} & 0 \\ \hline \end{array}$ |  | ㅇ |  | $\stackrel{\substack{0}}{\substack{\circ \\ \hline}}$ | $\left\lvert\, \begin{gathered} 9 \\ \hline \\ 0 \\ \hline \end{gathered}\right.$ |  | $\begin{array}{l\|l} \substack{n \\ \vdots \\ \vdots \\ \hline \\ \hline} \end{array}$ | $\left\|\begin{array}{c} n \\ 0 \\ 0 \end{array}\right\|$ |  |  |  |  |  |  | $\not \subset$ |  |  | N | H080 | $\bigcirc$ | ¢ | Э | 「¢ | f. | \％ | $\stackrel{\infty}{+}$ | $\infty$ |  | $\stackrel{\circ}{f}$ | of |  |  | $\stackrel{\sim}{*}$ |
| $\stackrel{\stackrel{0}{2}}{\stackrel{1}{2}}$ | む | $s \underset{i}{s}$ |  | $8$ | 子 |  | ก |  | $\bigcirc$ | $\underset{-}{\infty} \underset{\sim}{\underset{\sim}{N}}$ | $\begin{aligned} & \stackrel{\circ}{\circ} \\ & \dot{\sim} \end{aligned}$ | $\begin{array}{\|c} \hat{\infty} \\ \underset{\sim}{c} \end{array}$ |  | $\begin{array}{\|l\|} \hline \\ \infty \\ \infty \end{array}$ | $\bar{\omega}$ | $\underset{i}{5}$ | Bo | $0$ | Clơ | $\stackrel{\infty}{\circ}$ | $\stackrel{\substack{\circ \\ \hline}}{\underset{\sim}{\sim}}$ | $\left.\begin{array}{\|l\|} \hline \\ \hline \\ 0 \end{array} \right\rvert\,$ | $0$ | $\begin{gathered} 0 \\ 0 \\ 0 \\ \hline \end{gathered}$ |  |  | $0$ | － | $\stackrel{0}{0}$ | $\begin{gathered} \infty \\ 0 \\ 0 \end{gathered}$ | $\mathfrak{j}$ | $8$ | $0$ | $0$ | N | $\underset{~ N}{N}$ | $\underset{\sim}{F}$ | $\bar{f}$ | N | N | $\stackrel{5}{0}$ |  |
|  | $\underset{\sim}{9}$ | Pe | \％ | O. | 8 |  | $\frac{0}{v} \underset{\sim}{\infty}$ | $\stackrel{\infty}{\operatorname{vi}} \mid \underset{\sim}{\infty}$ | $\underset{\sim}{\infty} \underset{\sim}{\sim} \mid \underset{\sim}{\underset{\sim}{c}}$ | $\underset{\text { fic }}{\substack{\text { g } \\ \text { g } \\ \hline}}$ | $\stackrel{\square}{\text { ¢ }}$ | $\underset{\substack{\mathrm{N}}}{ }$ | $\begin{gathered} \underset{N}{N} \\ \underset{\sim}{2} \\ \underset{\sim}{2} \\ \hline \end{gathered}$ | $\stackrel{\stackrel{\circ}{\mathrm{N}}}{\stackrel{-}{2}}$ | $\begin{gathered} \stackrel{\otimes}{\otimes} \\ \stackrel{\rightharpoonup}{4} \end{gathered}$ | $8$ |  | $\stackrel{3}{3}$ | $\underset{\substack{5 \\ \hline}}{0}$ |  | $\stackrel{N}{5} \underset{o}{\pi}$ |  | N | No |  |  | $\begin{gathered} \tilde{N} \\ 0 \\ 0 \end{gathered}$ | O－ |  |  | $\mathfrak{c}$ | $\underset{\sim}{\mathcal{F}}$ | y | $\left\lvert\, \begin{gathered} \infty \\ \hline \end{gathered}\right.$ | $0$ | f | F | $\underset{\sim}{f}$ | $\bigcirc$ | \％ |  | N |
|  |  | $\underset{\substack{~} \underset{\sim}{\sim}}{\substack{\sim \\ \underset{\sim}{2} \\ \hline}}$ |  |  |  |  |  |  |  |  | ¢ |  |  |  |  |  | $\left\|\begin{array}{c} \bar{\sim} \\ \underset{\sim}{2} \end{array}\right\|$ | $\stackrel{\rightharpoonup}{\underset{\sim}{2}} \underset{\sim}{\circ}$ |  |  | $\stackrel{\rightharpoonup}{\text { N}} \underset{\substack{N}}{\sim}$ |  | N | $\left.\begin{gathered} \hat{N} \\ \stackrel{\sim}{n} \end{gathered} \right\rvert\,$ |  |  | $\begin{gathered} \infty \\ \underset{\sim}{n} \\ \hline \end{gathered}$ | N゙ | $\stackrel{\stackrel{\rightharpoonup}{N}}{\underset{\sim}{2}}$ | $\begin{aligned} & \stackrel{\sim}{n} \\ & \stackrel{\sim}{n} \end{aligned}$ | $\dot{j}$ | $\stackrel{\sim}{\sim} \mid$ | $\begin{aligned} & \stackrel{\otimes}{\mathrm{N}} \\ & \hline \end{aligned}$ | $\underset{\sim}{N}$ | N | $\begin{aligned} & \stackrel{8}{\dot{\sim}} \\ & \hline \end{aligned}$ |  | $\begin{array}{\|c\|c\|} \stackrel{\sim}{n} \\ \underset{N}{n} \end{array}$ | $\underset{\substack{\hat{c} \\ \underset{N}{2} \\ \hline}}{ }$ | $\left\|\begin{array}{c} \stackrel{n}{n} \\ \underset{j}{2} \end{array}\right\|$ |  | N |
|  |  |  |  |  |  |  | $\|\underset{N}{\hat{N}}\|$ | $\stackrel{N}{\sim} \stackrel{\sim}{\sim}$ |  | $\underset{\substack{\mathrm{N}}}{\underset{\sim}{\sim}} \underset{\sim}{\underset{\sim}{c}}$ | ¢ | $\stackrel{\llcorner }{\sim}$ | $\underset{\sim}{~} \stackrel{\sim}{\infty}$ | $\stackrel{\sim}{N}$ | $\begin{gathered} \infty \\ \stackrel{\sim}{n} \\ \stackrel{n}{2} \end{gathered}$ | $\stackrel{\substack{\infty \\ \underset{\sim}{c} \\ \hline}}{ }$ | $\left\|\begin{array}{c} \stackrel{\sim}{\tilde{\circ}} \\ \stackrel{\circ}{\circ} \end{array}\right\|$ |  | $\underset{\sim}{~} \underset{\sim}{N}$ |  |  |  |  | $\hat{N}$ |  |  | $\begin{aligned} & \infty \\ & \stackrel{\leftrightarrow}{\dot{~}} \end{aligned}$ | N | $\stackrel{\sim}{\sim}$ | $\underset{\sim}{\underset{\sim}{A}}$ | $j$ | N | $\left\|\begin{array}{l} \underset{\sim}{N} \\ \underset{\sim}{n} \end{array}\right\|$ | $\stackrel{N}{N}$ | へ | $\stackrel{\wedge}{\mathrm{N}}$ |  | $\stackrel{\sim}{n}$ | $\stackrel{\substack{\infty \\ \stackrel{N}{N} \\:}}{ }$ | $\left.\begin{array}{\|c} \hat{y} \\ \mathrm{~N} \end{array} \right\rvert\,$ |  | $\stackrel{9}{\sim}$ |
| ぶ |  |  | $\left.\begin{gathered} \underset{\sim}{2} \\ \underset{e}{2} \end{gathered} \right\rvert\,$ | $\begin{array}{\|c\|c\|c\|c\|c\|c\|c\|c\|c\|} \substack{N \\ \hline \\ \hline} \end{array}$ | $\dot{c}$ |  |  | $\underset{\sim}{2} \underset{\sim}{2}$ | $$ | $\begin{aligned} & 0 \\ & \vdots \\ & \vdots \\ & \hline \end{aligned}$ | － |  |  | $\stackrel{\infty}{\infty}$ | $\begin{aligned} & \hat{e} \\ & \dot{ल} \end{aligned}$ |  |  | $\underset{\substack{e \\ \hline \\ \hline}}{\substack{e \\ \hline \\ \hline}}$ |  |  | $\stackrel{\sim}{c}$ |  | $\stackrel{n}{n}$ | $\dot{e}$ |  | ¢0． | $\dot{m}$ | － | $\stackrel{e}{\infty}$ | $\underset{\substack{e \\ \hline \\ \hline}}{ }$ | － | ¢ | \| | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\infty} \end{gathered}$ | ¢ | $\dot{e}$ |  | $\left\lvert\, \begin{gathered} \infty \\ \underset{e}{\infty} \\ \underset{e}{2} \end{gathered}\right.$ |  | $\left\|\begin{array}{l} \bar{N} \\ \dot{e} \end{array}\right\|$ |  | － |
| $\frac{f}{\circ}$ |  | jo | 8 | ¢ |  |  | 10 | － | $\stackrel{\square}{\circ}$ | \％ | $\stackrel{-}{\sim}$ | $\begin{aligned} & \underset{\sim}{\sim} \\ & \underset{\sim}{*} \end{aligned}$ | $\underset{\sim}{N}$ | F |  |  |  |  | －${ }_{\text {N }}^{\sim}$ | $\left\lvert\, \begin{gathered} \stackrel{\sim}{\tilde{N}} \\ \stackrel{N}{2} \end{gathered}\right.$ | $\stackrel{\sim}{\sim}$ | $\left\|\begin{array}{c} \underset{\sim}{\underset{~}{2}} \\ \dot{0} \end{array}\right\|$ |  | $\stackrel{\text { ¢ }}{ }$ |  |  |  | － |  |  |  | N | 0 | $\stackrel{-}{\infty}$ | N | $\stackrel{\infty}{\infty}$ |  |  | $\left\|\begin{array}{c} \infty \\ \infty \\ 0 \end{array}\right\|$ |  |  | $\stackrel{\text { O}}{\stackrel{\circ}{-}}$ |
|  |  |  |  | $\begin{array}{l\|l\|l\|l\|l\|l\|} \substack{0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0} \end{array}$ | $\begin{aligned} & \text { n } \\ & \substack{0 \\ 0 \\ 0 \\ 0 \\ \infty \\ \infty \\ \hline} \end{aligned}$ |  |  |  |  |  | $\mathfrak{c}$ | $\stackrel{8}{7}$ |  | $\frac{8}{\circ}$ |  | $\underset{\sim}{\infty}$ |  |  |  |  |  |  |  | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ \infty \\ 1 \end{array}\right\|$ |  |  | $\mathfrak{c}$ | Buc\|cos |  |  |  |  | $\begin{aligned} & \mathbf{\infty} \\ & \infty \\ & 0 \\ & 0 \\ & \hline \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & \mathbf{y} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}$ |  | $\begin{aligned} & \bar{o} \\ & 0 \\ & 0 \\ & \infty \\ & \infty \end{aligned}$ | $\begin{gathered} \infty \\ \infty \\ 0 \\ 0 \\ 0 \\ \infty \\ i \end{gathered}$ |  |  | － |
|  |  |  |  |  | $\begin{gathered} 0 \\ \stackrel{0}{0} \\ \dot{O} \\ \dot{N} \end{gathered}$ |  |  |  |  |  | No |  |  | $\stackrel{\substack{\infty \\ \hline 1 \\ \multirow{2}{*}{\hline}\\ \hline}}{ }$ | $\dot{p}$ | $\begin{aligned} & \infty \\ & \infty \\ & \underset{\sim}{\infty} \\ & \underset{N}{2} \end{aligned}$ |  |  |  | $\left\|\begin{array}{c} \underset{\sim}{2} \\ \underset{\sim}{N} \\ \stackrel{N}{2} \end{array}\right\|$ |  |  |  | ָ̄ |  |  | $\dot{j}$ | N | $\stackrel{N}{\stackrel{N}{e}}$ |  |  |  | $\left\|\begin{array}{l} 0 \\ \stackrel{0}{n} \\ \infty \\ \stackrel{\rightharpoonup}{\mathrm{~N}} \end{array}\right\|$ | $\underset{\substack{\mathrm{N}}}{\underset{\sim}{\mathcal{N}}}$ | $\begin{gathered} n \\ \underset{\sim}{n} \\ \vdots \\ \end{gathered}$ | $\begin{aligned} & \text { O} \\ & \stackrel{0}{0} \\ & \text { in } \\ & \text { No } \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{\infty} \\ & \underset{\sim}{\wedge} \\ & \stackrel{N}{N} \end{aligned}\right.$ | $\begin{gathered} \pm \\ \stackrel{y}{\sim} \\ \stackrel{\sim}{\sim} \end{gathered}$ | $\left\|\begin{array}{c} \infty \\ \underset{y}{y} \\ \underset{\sim}{\infty} \\ \stackrel{y}{n} \end{array}\right\|$ |  | $$ | N00 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\sum$ $\frac{\sum}{4}$ $\stackrel{3}{6}$ $\frac{1}{5}$ $\frac{1}{5}$ |  |  |  |  |  |  |  |  |  |  |  | 2 2 $i$ 0 0 0 0 20 2 |  |
|  | $\begin{array}{\|c} \substack{1 \\ \frac{1}{\alpha} \\ \hline} \\ \hline \end{array}$ | $\underset{\substack{⿺ \\ N \\ N \\ \\ \hline}}{ }$ | $\left\|\begin{array}{c} \underset{\sim}{\underset{~}{d}} \end{array}\right\|$ |  | $\frac{\substack{\frac{1}{c} \\ \frac{1}{\infty} \\ \hline}}{}$ | $\frac{\mathbb{4}}{\frac{\alpha}{\alpha}}$ |  |  |  |  | $\begin{aligned} & 0 \\ & \sum_{n}^{1} \\ & \hline \end{aligned}$ |  | $\left.\frac{1}{1} \frac{1}{2} \right\rvert\, \frac{1}{\omega}$ | $\frac{1}{1} \left\lvert\, \frac{1}{2} \sum_{i}^{1}\right.$ | $\begin{aligned} & \frac{1}{i} \\ & \frac{\lambda}{\mathrm{I}} \end{aligned}$ | $=\begin{aligned} & 0 \\ & \sum_{n} \\ & \sum_{2} \end{aligned}$ |  |  |  |  |  | $\left\|\begin{array}{c} 0 \\ \dot{\omega} \\ \stackrel{y}{\infty} \end{array}\right\|$ |  | $\begin{gathered} \underset{\omega}{\omega} \\ \stackrel{\sim}{山} \end{gathered}$ |  |  | $\left\|\begin{array}{c} 0 \\ \frac{1}{U} \\ \vdots \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \dot{4} \\ & \stackrel{y}{m} \end{aligned}$ | $\begin{aligned} & 0 \\ & \dot{N} \\ & \Sigma \end{aligned}$ | $\infty$ $\vdots$ |  | $\begin{aligned} & \frac{\pi}{\hat{\omega}} \\ & \frac{2}{\infty} \end{aligned}$ | $\left\|\begin{array}{c} \underset{\sim}{\omega} \\ \stackrel{\sim}{c} \\ \hline \mathbf{N} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \frac{1}{N} \\ & \hline \end{aligned}\right.$ | $0 \begin{aligned} & \infty \\ & \stackrel{n}{n} \\ & \sum_{\Sigma} \end{aligned}$ | $\begin{array}{\|c} 0 \\ \tilde{\sim} \\ \end{array}$ | $\left\lvert\, \begin{aligned} & \text { n } \\ & \stackrel{N}{N} \\ & \underset{\Sigma}{2} \end{aligned}\right.$ | $\begin{aligned} & \times \\ & \underset{\sim}{\dot{N}} \\ & \underset{\sim}{N} \\ & \dot{\Sigma} \end{aligned}$ | $\left\|\begin{array}{c} \underset{\sim}{\underset{\alpha}{\alpha}} \\ \underset{\sim}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathbf{4} \\ \hat{6} \\ \frac{9}{\infty} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\underset{\sim}{x}} \end{gathered}\right.$ | ｜r |


| $\frac{\frac{T}{c}}{\frac{1}{U}}$ | $\cdots \stackrel{0}{0} \underset{0}{\infty}$ |  |  | $\stackrel{\rightharpoonup}{0} \stackrel{\rightharpoonup}{\square}$ |  | $\underset{j}{\vdots}$ | $=\stackrel{9}{0}$ |  | $\underset{i}{=} \underset{i}{c}$ |  | － | 운 |  |  | $\underset{\substack{\mathrm{N}}}{ }$ | No No | $\underset{\sim}{\mathrm{O}}$ | $\stackrel{0}{0}$ |  | O | $\stackrel{18}{8}$ | ก |  | $\stackrel{\sim}{\sim}$ |  |  | $\approx$ | ! |  | $\stackrel{P}{9}$ | No | $\stackrel{\circ}{\circ}$ | $\stackrel{N}{\sim} \mid$ | \％ | $\stackrel{N}{N}$ |  |  | N | \％ |  | － |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Non |  |  | $\begin{aligned} & \text { N} \\ & \\ & \hline \end{aligned}$ |  |  |  |  | Noc | $\stackrel{O}{\mathrm{~N}}$ | No | $\stackrel{\substack{\mathrm{N}}}{ }$ |  |  | $\stackrel{O}{\mathrm{~N}}$ |  | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ 0 \end{gathered}\right.$ | $\stackrel{\sim}{\sim}$ |  | N | － | $\begin{gathered} \infty \\ \stackrel{\sim}{0} \\ 0 \end{gathered}$ |  | $\underset{\substack{~} \underset{\sim}{c}}{\substack{2}}$ | － | $\underset{~ N}{ }$ | W |  | N | $\begin{gathered} 0 \\ \mathrm{~N} \\ \mathrm{O} \end{gathered}$ | $\stackrel{\leftrightarrow}{N}$ | No | $\left\|\begin{array}{l} \mathrm{N} \\ \mathrm{~N} \end{array}\right\|$ | $\stackrel{\sim}{\sim}$ | $$ | $\mid \underset{\sim}{\|c\|}$ |  | $\begin{gathered} 0 \\ \underset{\sim}{N} \\ \hline \end{gathered}$ | N |  | O |
| 2 |  | $$ |  | $\underset{\sim}{\sim}$ | $\stackrel{\circ}{\stackrel{\circ}{\sim}}$ | $\vdots$ | $\underset{\sim}{\mathbf{B}}$ |  | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\underset{\sim}{2}}$ | $\stackrel{\sim}{\underset{\sim}{N}}$ |  | $\begin{gathered} \underset{\sim}{\underset{\sim}{2}} \end{gathered}$ |  |  | $\left\lvert\, \begin{gathered} \underset{\sim}{y} \\ \underset{\sim}{u} \end{gathered}\right.$ | $\begin{aligned} & \substack{\mathbf{c} \\ \underset{\sim}{c} \\ \hline} \end{aligned}$ | $\begin{array}{\|c} \underset{\sim}{\sim} \\ \underset{\sim}{c} \end{array}$ | $\begin{gathered} \underset{N}{N} \\ \underset{j}{2} \end{gathered}$ |  | $\begin{aligned} & n \\ & \infty \\ & \underset{\sim}{\infty} \end{aligned}$ |  |  |  |  | $\underset{\leftarrow}{\underset{F}{c}}$ | $\mathfrak{j}$ | $\begin{aligned} & 8 \\ & \hline- \\ & \dot{C} \end{aligned}$ | $\underset{\sim}{\underset{\sim}{2}}$ | $\begin{gathered} \bar{i} \\ \end{gathered}$ | $\begin{gathered} \underset{\sim}{0} \\ \stackrel{\rightharpoonup}{c} \end{gathered}$ | 心़ | $\underset{\sim}{\underset{\sim}{2}}$ | $\stackrel{\sim}{\underset{\sim}{2}}$ | $10$ | － | $\left\|\begin{array}{c} \underset{\sim}{\lambda} \\ \underset{m}{2} \end{array}\right\|$ | $\begin{aligned} & \overline{4} \\ & \hat{0} \\ & i \end{aligned}$ | م | $\stackrel{\sim}{\sim}$ |  |  |
| $\stackrel{Y}{\vdash}$ |  |  |  |  |  |  | $$ |  | $\stackrel{\infty}{\infty} \underset{\sim}{\sim}$ |  |  | $\underset{\sim}{\underset{\sim}{2}}$ |  |  | $\frac{\underset{\sim}{\dot{v}}}{\dot{\sim}}$ |  | $\underset{\sim}{\underset{\sim}{*}}$ |  |  | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{*} \end{gathered}$ | $\underset{i}{\stackrel{m}{i}}$ | $\stackrel{\stackrel{\rightharpoonup}{N}}{\underset{\sim}{c}}$ |  |  | $\bigcirc$ | N | $\frac{\underset{i}{\lambda}}{\stackrel{\rightharpoonup}{\circ}}$ | － | סֵ | $\stackrel{N}{N}$ | $\stackrel{N}{0}$ | $\stackrel{\underset{\sim}{\mathrm{N}}}{\stackrel{1}{\mathrm{~N}}}$ | $\left\|\begin{array}{c} \hat{N} \\ \underset{\sim}{\alpha} \\ \underset{\sim}{2} \end{array}\right\|$ | N | $\stackrel{\substack{\otimes \\ \underset{\sim}{N} \\ \hline}}{ }$ | $\underset{\sim}{\underset{\sim}{2}}$ |  | $\stackrel{\circ}{\infty}$ | $\stackrel{\otimes}{\sim}$ |  | $\stackrel{\sim}{\square}$ |
| $\begin{aligned} & \mathbf{1} \\ & \frac{1}{2} \end{aligned}$ |  | $\begin{gathered} 0_{0}^{*} \\ \hline \end{gathered}$ |  |  | $\begin{gathered} 0 \\ \\ 0 \end{gathered}$ | $\begin{aligned} & 0 \\ & \\ & 0 \\ & 0 \end{aligned}$ | ٌocco |  | $\begin{array}{c\|c} 0 & 0 \\ & \infty \\ 0 & 0 \end{array}$ | $\stackrel{\otimes}{\infty} \underset{\sim}{\infty}$ | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ 0 \\ 0 \end{gathered}$ | $\begin{gathered} \circ \\ \stackrel{\circ}{\infty} \end{gathered}$ | $\begin{gathered} 0 \\ \underset{y}{\infty} \\ 0 \end{gathered}$ | No: | $\begin{array}{\|c} 0 \\ \sim \\ 0 \\ 0 \end{array}$ | Bo\|co | $\begin{array}{\|c} 0 \\ \sim \\ 0 \end{array}$ | $0$ |  |  | $0$ | $\begin{aligned} & 0 \\ & \mathbf{~} \\ & 0 \\ & \hline \end{aligned}$ |  |  | $\stackrel{\otimes}{\infty}$ | フ | $\stackrel{\sim}{\sim}$ | $\stackrel{\infty}{\infty}$ |  | $\begin{gathered} 0 \\ 0 \\ \underset{\sim}{0} \end{gathered}$ | $\stackrel{\circ}{\sim}$ | $\stackrel{\infty}{\infty}$ | $\stackrel{\substack{\infty \\ \underset{\sim}{~}}}{ }$ | $\stackrel{\substack{0 \\ \hline}}{ }$ | $\begin{gathered} 0 \\ \underset{\sim}{\infty} \\ 0 \end{gathered}$ | $\begin{array}{\|c} 0 \\ \underset{\sim}{0} \\ 0 \end{array}$ | $\stackrel{\circ}{\otimes}$ | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ \sim \\ 0 \\ \hline \end{gathered}$ |  | cor |
| © |  | $\underset{\substack{\underset{\sim}{c} \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline}}{ }$ | $\underset{\bullet}{G} \underset{\bullet}{\forall}$ | $\underset{\bullet}{\mathcal{A}} \underset{\sim}{\circ}$ |  |  | $$ |  | $\begin{array}{ll} \infty \\ \stackrel{\rightharpoonup}{\circ} & \underset{\sim}{9} \\ \hline \end{array}$ |  | $$ | $\stackrel{\infty}{\circ}_{\square}$ | $\stackrel{\infty}{\circ}$ | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\underset{f}{f}$ |  | $\left\lvert\, \begin{aligned} & \hat{f} \\ & \dot{\theta} \end{aligned}\right.$ | $\left\|\begin{array}{c} \tilde{m} \\ \underset{0}{2} \end{array}\right\|$ |  | $\begin{gathered} 0 \\ \\ 0 \end{gathered}$ | $\stackrel{\infty}{+}$ | $\stackrel{\rightharpoonup}{\hat{\circ}}$ |  | $0$ | ¢ | $\stackrel{\substack{\text { ¢ }}}{\substack{\text { ¢ }}}$ |  | － | $\widehat{m}$ | $\hat{f}$ | $\stackrel{\infty}{q}$ | 운 | $\hat{f}$ | $\mathfrak{l}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\underset{\sim}{9}$ | $$ | స | $\left\|\begin{array}{l} 10 \\ 0 \\ 0 \end{array}\right\|$ |  | $\stackrel{\square}{9}$ |
| $\overline{\overline{1}}$ |  | $\underset{\sim}{\mathrm{N}} \underset{\mathrm{i}}{0} \mathbf{O}$ |  | $\stackrel{\infty}{\circ} \stackrel{\infty}{\infty}$ |  | $\begin{gathered} \infty \\ 0 \\ 0 \end{gathered}$ | $\begin{array}{llll} \substack{\infty} \\ \hline \end{array}$ |  | $\stackrel{\infty}{\infty}$ | $\overline{5}$ | $\stackrel{0}{0}$ | $\mathscr{\infty}$ |  |  | $\stackrel{\circ}{\circ}$ | ORORO | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ |  | 8 | $\begin{aligned} & \infty \\ & \stackrel{\infty}{\mathrm{i}} \end{aligned}$ | $\mathfrak{e}$ | $\stackrel{n}{0} \text { os }$ |  |  | $\stackrel{?}{2}$ | ， | $\underset{\sim}{9}$ | 0 | $\bigcirc$ | N | $\bigcirc$ | ○ | $\infty$ | 哲 | へ－ | ¢ | $\stackrel{\square}{~}$ | $\stackrel{+}{\square}$ | $\stackrel{\sim}{\square}$ |  | \％ |
| 0 | $0$ | $0$ | $0.140$ | CO |  | Bict | $\pm \stackrel{0}{\circ} \stackrel{0}{\circ}$ |  | $\begin{array}{ccc} \substack{c} \\ 0 & \infty \\ 0 \end{array}$ |  | $\stackrel{\infty}{\infty}$ | $\widehat{\infty}$ |  |  | $\bar{\square}$ |  |  |  | $0^{\circ}$ |  | $\mp$ | $\div \underset{\sim}{\mp}$ |  | N | N | N | H | 8 | O | N | § | $\stackrel{\sim}{\circ}$ | $\underset{\sim}{\infty}$ | $\stackrel{8}{8}$ | N | $\infty$ | $\stackrel{\underset{\infty}{\infty}}{\substack{\text { N }}}$ | $\stackrel{\circ}{\circ}$ | m |  | On |
|  |  |  |  | $\stackrel{\sim}{\sim} \stackrel{N}{\sim}$ | $\stackrel{\infty}{\infty}$ |  | $\stackrel{\rightharpoonup}{\mathrm{N}} \stackrel{\underset{\sim}{\sim}}{\underset{\sim}{n}}$ |  | $\stackrel{\underset{\sim}{c}}{\underset{\sim}{c}} \underset{\sim}{\underset{\sim}{c}}$ |  |  |  |  |  | $\stackrel{\substack{\mathrm{N}} \stackrel{\rightharpoonup}{\sim}}{\underset{\sim}{2}}$ | $\dot{c}$ |  |  |  |  |  |  |  |  | $\begin{gathered} \circ \\ \stackrel{N}{i} \\ \underset{\sim}{2} \end{gathered}$ | $\stackrel{\leftrightarrow}{2} \stackrel{\leftrightarrow}{\underset{\sim}{\sim}}$ |  |  |  | $\begin{gathered} \infty \\ \stackrel{\sim}{i} \\ \stackrel{y}{c} \end{gathered}$ | $\stackrel{\circ}{\stackrel{\sim}{\sim}}$ | $\begin{gathered} 0 \\ \stackrel{0}{j} \\ \underset{\sim}{2} \end{gathered}$ | $\left\|\begin{array}{c} \underset{\sim}{f} \\ \underset{\sim}{2} \end{array}\right\|$ | M | N్ల N | $\underset{\sim}{\underset{\sim}{\sim}}$ | $\begin{array}{\|c} \hline \times \mathbf{N} \\ \underset{\sim}{2} \end{array}$ | $\stackrel{\sim}{\sim}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{n} \\ \underset{N}{2} \end{gathered}\right.$ | $\underset{\sim}{c}$ | N |
| $\underset{\substack{\circ \\ \underset{0}{E} \\ 0}}{0}$ |  | $\stackrel{\rightharpoonup}{i}$ |  |  |  | $\stackrel{?}{\sim} \stackrel{9}{\sim}$ | $\underset{\sim}{\stackrel{9}{\mathrm{~N}}} \stackrel{-}{\mathrm{N}}$ |  |  |  | $\stackrel{\infty}{\infty} \underset{\sim}{c}$ | $\hat{o}$ | ̇ |  | $\underset{\sim}{\circ} \underset{\sim}{\infty}$ |  | $\stackrel{\circ}{\mathrm{N}}$ |  |  |  |  |  |  | $\underset{\sim}{c}$ | $\stackrel{\text { 「 }}{\text { ᄃ }}$ | $\stackrel{ }{\circ}$ |  | $\stackrel{8}{\infty}$ | N | N | N | $\stackrel{\circ}{\sim}$ | $\begin{gathered} \underset{N}{N} \\ \underset{N}{n} \end{gathered}$ | N | $\stackrel{\underset{N}{N}}{\underset{N}{n}}$ | $\stackrel{\square}{\text { N }}$ | $\stackrel{\sim}{\infty} \underset{\sim}{\sim}$ | $\stackrel{\text { N}}{\stackrel{\sim}{N}}$ | N | ̇ | N |
|  | $\mathfrak{c}$ | $\underset{\sim}{c} \underset{\sim}{c}(\underset{\sim}{\infty}$ |  | $\stackrel{\substack{2 \\ \hline \\ \hline}}{\substack{e \\ \hline}}$ |  |  |  |  |  | $\mathfrak{c}$ | $\begin{array}{\|c} \hat{y} \\ \underset{e}{\circ} \end{array}$ | $\begin{gathered} \text { Nu } \\ \vdots \\ \dot{\sim} \\ \hline \end{gathered}$ |  |  | $\begin{gathered} \text { ju } \\ \vdots \\ \vdots \\ \hline \end{gathered}$ |  |  |  |  | $\begin{aligned} & \hat{F} \\ & \dot{e} \end{aligned}$ |  |  |  |  |  |  | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathbf{y} \\ & \mathbf{0} \\ & \mathbf{e} \end{aligned}$ | é | $\dot{m}$ | $\stackrel{\sim}{6}$ | $\dot{m}$ | $\left\lvert\, \begin{gathered} \mathrm{N} \\ \mathbf{o} \\ \mathbf{e} \end{gathered}\right.$ | － | Me | $\begin{gathered} \mathrm{m} \\ \hline \end{gathered}$ | $\mid \dot{ল}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\|\stackrel{\stackrel{\sim}{e}}{ }\|$ | ¢ | O |
| $\overline{\bar{\sigma}} \mathrm{O} \varepsilon$ | $\underset{\sim}{N}$ |  | 앙 |  |  | $\underset{\sim}{\circ} \stackrel{\circ}{\circ}$ | $\stackrel{\substack{\mathrm{C}} \stackrel{\sim}{\sim}}{\sim}$ |  | $\underset{\sim}{c}$ | $j \begin{aligned} & \infty \\ & j \\ & \underset{\sim}{2} \\ & \hline \end{aligned}$ |  | $\stackrel{\sim}{\mathrm{N}}$ |  | $\bigcirc$ |  |  |  |  |  | － | $\stackrel{\bigcirc}{\circ}$ | $\stackrel{\leftrightarrow}{\square}$ |  | ¢ | $\stackrel{\text { ¢ }}{+}$ |  | $\bigcirc$ | $\bigcirc$ | 2 | $\stackrel{\sim}{\sim}$ | N | ${ }_{0}^{\circ}$ | $\stackrel{\sim}{\stackrel{-}{r}}$ |  | $\stackrel{\square}{+}$ | \％ | － | O | $\stackrel{-}{\text { ¢ }}$ |  | $O$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  |  |  |  | $\overline{0}$ <br>  <br>  |  | 品 |  |  |  |  |  |  | $\mathfrak{c}$ |  | $\mid$ |  |  | $\begin{aligned} & \bar{\circ} \\ & 0 \\ & 0 \\ & \dot{\infty} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned}\right.$ |  | סo | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\circ$ <br> 1 <br>  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\stackrel{\square}{\square}$ | 8 | O－ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\stackrel{\circ}{\stackrel{9}{+}}$ |  |  |  |  |  | －8 |  |  |  |  |  | $\begin{gathered} \underset{\sim}{\dot{N}} \\ \stackrel{y}{2} \end{gathered}$ |  | － | Bo |  | $\stackrel{\circ}{\sim}$ |  | $\dot{\sim}$ | － | － |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\stackrel{\sim}{\sim}$ |  |
| $\begin{aligned} & \stackrel{0}{0} \\ & \stackrel{0}{\#} \\ & \stackrel{5}{0} \end{aligned}$ |  |  |  |  |  | $\begin{aligned} & 2 \\ & \\ & \\ & \hline \end{aligned}$ |  |  |  | $\begin{gathered} 0 \\ \underset{N}{2} \\ \sum \end{gathered}$ |  |  |  | $\frac{m}{2}$ |  | $\begin{array}{l\|l\|l\|l\|l\|l\|} \substack{1 \\ \\ \\ \hline} \end{array}$ | $\begin{aligned} & n \\ & \\ & \\ & \hline \end{aligned}$ |  |  | $\begin{gathered} \frac{\mathbb{r}}{\frac{1}{\mathbf{r}}} \\ \hline \end{gathered}$ | $\begin{aligned} & U \\ & \frac{1}{C} \\ & \underset{\infty}{4} \end{aligned}$ |  |  |  | $\mathfrak{c}$ |  | $$ | $\sum_{0}$ |  |  | $\begin{aligned} & \underset{\sim}{0} \\ & \underset{\sim}{\underset{1}{2}} \end{aligned}$ | $\frac{\infty}{\sum_{\Sigma}^{\infty}}$ | $\begin{aligned} & \frac{\pi}{1} \\ & \frac{1}{c} \end{aligned}$ | $\frac{1}{\frac{1}{\alpha}}$ | $\underset{\substack{2}}{\substack{2}}$ |  | d | $\begin{gathered} \underset{\sim}{\dot{\alpha}} \\ \underset{\sim}{c} \end{gathered}$ | $\left\|\begin{array}{c} \frac{0}{\frac{1}{\omega}} \\ \mid \end{array}\right\|$ |  | ¢ |


| $\begin{gathered} \frac{\pi}{ً} \\ \hline 0 \end{gathered}$ | on |  | $\stackrel{+}{+}$ |  |  |  |  |  |  | ${ }^{\circ}$ |  |  | $\underset{\substack{\mathrm{N}}}{ }$ |  | $\begin{aligned} & 3 \\ & \vdots \end{aligned}$ | $\left\lvert\, \begin{gathered} \substack{\mathbf{N} \\ 0} \end{gathered}\right.$ | $\underset{\sim}{\sim}$ | $?$ | $\left\|\begin{array}{c} 0 \\ M \\ 0 \\ \hline \end{array}\right\|$ |  |  | O | $\left\lvert\, \begin{gathered} \infty \\ \hline 0 \\ 0 \end{gathered}\right.$ |  | － | No | ค | N | Ṃ\| | $\stackrel{\sim}{\infty}$ |  | $\stackrel{\sim}{\sim}$ |  | 守 | $\hat{m}$ |  | Ṇ\| | － |  | $\stackrel{\sim}{\sim}$ | Nọ | － |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\left\lvert\, \begin{gathered} \infty \\ \\ \\ \hline \end{gathered}\right.$ | $?$ | $\begin{gathered} \underset{\sim}{N} \\ 0 \\ 0 \end{gathered}$ | $\begin{gathered} \overline{9} \\ \underset{o}{2} \end{gathered}$ |  | $\frac{\stackrel{4}{2}}{\stackrel{\circ}{\circ}}$ | $\stackrel{2}{2} \underset{\substack{2 \\ \hline \\ \hline}}{2}$ | $$ |  |  |  | $\bigcirc$ | $\stackrel{\infty}{\sim}$ |  | Non | $\stackrel{\infty}{\sim}$ |  | $\underset{\sim}{\mathrm{N}}$ | $\stackrel{\otimes}{\mathrm{N}}$ |  |  | No | $\begin{gathered} \infty \\ \\ \end{gathered}$ |  | ̣̂ | $\underset{N}{N}$ | $\stackrel{\infty}{\sim}$ | Ọ | $\stackrel{\stackrel{N}{N}}{ }$ | No |  | $\stackrel{\leftrightarrow}{N}$ | $\stackrel{O}{\mathrm{~N}}$ | $\underset{N}{N}$ | $\stackrel{\sim}{\sim}$ | $\mathfrak{N}$ | $\underset{\sim}{\infty}$ |  | $\stackrel{\infty}{\sim}$ | $\underset{\sim}{\sim}$ | $\underset{\substack{p}}{\substack{0 \\ \\ \\ \hline}}$ | No |
| ₹ | $\left\|\begin{array}{c} \underset{\sim}{\underset{\sim}{2}} \end{array}\right\|$ |  | $\begin{aligned} & 8 \\ & \hline 0 \\ & \end{aligned}$ |  |  | $\begin{aligned} & \mathbf{O} \\ & \hline \mathbf{C} \\ & \mathbf{m} \end{aligned}$ |  | $$ |  |  |  | － | $\stackrel{\hat{\sim}}{\stackrel{1}{2}}$ | $\begin{gathered} \substack{4 \\ \mathbf{~} \\ \dot{\sim}} \end{gathered}$ |  | $\begin{aligned} & \hat{\infty} \\ & \underset{\sim}{n} \end{aligned}$ |  | $\underset{\substack{\underset{\sim}{c} \\ \underset{\sim}{c}}}{ }$ | $\stackrel{\underset{\sim}{\underset{\sim}{2}}}{\underset{\sim}{4}}$ |  |  |  |  |  |  | $\underset{\sim}{\substack{n}}$ |  |  | $\begin{gathered} \text { N} \\ \\ \hline \end{gathered}$ |  | $\begin{aligned} & 0 \\ & \stackrel{\circ}{0} \\ & \text { mi } \end{aligned}$ | $\stackrel{\sim}{7}$ | $\stackrel{\substack{\underset{\sim}{y} \\ \underset{\sim}{n}}}{ }$ | $\mathfrak{c}$ | $\stackrel{\underset{\sim}{7}}{ }$ |  | $\frac{\pi}{N}$ | O | $\mathfrak{c} \left\lvert\, \begin{gathered} 0 \\ \substack{0\\ \\ } \end{gathered}\right.$ |  | $\begin{gathered} \underset{\sim}{4} \\ \underset{\sim}{c} \end{gathered}$ | － |
| $\bar{F}$ | $\left(\begin{array}{c} \underset{\sim}{c} \\ \hline \end{array}\right.$ |  | $\mathfrak{c}$ |  | $\frac{\underset{\sim}{\sim}}{\underset{\sim}{n}}$ | $\stackrel{\underset{\sim}{\lambda}}{\underset{\sim}{i}}$ |  |  |  |  | $\underset{\sim}{\underset{\sim}{v}} \underset{\sim}{\underset{\sim}{\underset{\sim}{*}}}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{\infty} \\ & \end{aligned}$ | $\frac{\underset{\sim}{\mathrm{N}}}{\stackrel{1}{2}}$ |  |  |  |  | $\stackrel{\underset{\sim}{\dot{m}}}{\dot{m}}$ |  |  |  |  | $\underset{\sim}{~} \underset{\sim}{i} \underset{\sim}{\underset{\sim}{j}}$ |  | $\left\lvert\, \begin{gathered} \stackrel{m}{c} \\ \dot{\sim} \end{gathered}\right.$ | $8$ | $\stackrel{\star}{\top}$ |  | $\stackrel{\infty}{\infty}$ | $\underset{\substack{\underset{\sim}{c} \\ \underset{\sim}{2}}}{ }$ |  | $\underset{\underset{\sim}{x}}{ }$ | $\frac{\underset{\sim}{\mathrm{N}}}{\stackrel{1}{2}}$ | $\stackrel{\otimes}{\underset{\sim}{i}}$ | $\stackrel{\Delta}{\circ}$ | $\begin{aligned} & \bar{i} \\ & 0 . \\ & \dot{0} \end{aligned}$ | N్ల్ల | $\overline{\hat{n}}$ | $j$ | $\stackrel{\stackrel{m}{\underset{\sim}{j}}}{ }$ | $\begin{gathered} \underset{\sim}{\mathrm{N}} \\ \stackrel{y}{\mathrm{i}} \end{gathered}$ | $\stackrel{\sim}{\text { ¢ }}$ |
| $\frac{1}{2}$ |  |  | $\mathfrak{c}$ | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ \mathbf{0} \\ \\ 0 \end{gathered}\right.$ | $\begin{aligned} & \circ \\ & \underset{N}{\infty} \\ & \hline \end{aligned}$ | $\begin{array}{c\|c\|c} \circ \\ \hline 0 & 0 \\ \\ \hline \end{array}$ | $$ | $\stackrel{\leftrightarrow}{\infty}$ |  |  | $\stackrel{\leftrightarrow}{\sim}$ | $\underset{\mathcal{T}}{\underset{\sim}{2}}$ | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \end{gathered}$ |  |  |  | $\begin{gathered} 0 \\ 0 \\ 0 \\ \hline \end{gathered}$ | $$ |  |  |  |  |  |  | $\underset{\substack{n \\ 0}}{ }$ |  | $h_{\substack{1}}^{\substack{n}}$ | $\left\lvert\, \begin{gathered} 0 \\ \\ \\ \hline \end{gathered}\right.$ | $\stackrel{\otimes}{\infty}$ | $\begin{gathered} 0 \\ 0 \\ \underset{0}{0} \end{gathered}$ | $\stackrel{0}{\sim}$ | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ \hline \end{gathered}$ | $\stackrel{N}{N}$ | 10 | Non | $\stackrel{\sim}{\omega}$ | $\stackrel{\stackrel{\rightharpoonup}{N}}{\underset{\sim}{2}}$ | $\underset{y}{2}$ |  | $\left.\begin{array}{\|c} 0 \\ 0 \\ 0 \\ 0 \end{array} \right\rvert\,$ | N |
| ; | of |  |  |  | f | $\underset{d}{G}$ |  |  |  |  | \％ | \％ | $\mathrm{N}$ |  |  | $\stackrel{\substack{0 \\ \sim}}{ }$ | $\stackrel{\sim}{\circ}$ | $\underset{\sim}{N}$ |  | $\underset{\substack{* \\ \multirow{2}{*}{\hline}\\ \hline}}{ }$ |  |  | $\underset{\substack{2 \\ \underset{\sim}{2} \\ \hline}}{ }$ |  | N | ָ̣ | ® | $\frac{\infty}{\dot{\omega}}$ | No | Ṇ | $\stackrel{\substack{0 \\ 0}}{ }$ |  | $t \underset{~ t}{~ N ~}$ | $\stackrel{\circ}{\square}$ | $\stackrel{\wedge}{\wedge}$ | $\underset{\sim}{\infty}$ | 우 | $\bullet$ | $\stackrel{\oplus}{\odot}$ | $\propto$ |  | $\stackrel{ \pm}{\text { N }}$ |
| $\underline{j}$ |  |  | $\stackrel{0}{1}$ |  | $\cdots$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | B̧ |  |  | $\stackrel{\substack{0 \\ \hline}}{\substack{0 \\ \hline}}$ | $\bigcirc$ |  | $\stackrel{y}{\hat{f}}$ | $\begin{gathered} 0 \\ 0 \\ 0 \end{gathered}$ | $\stackrel{\substack{0 \\ 0 \\ 0}}{ }$ | $\left\|\begin{array}{c} \infty \\ \dot{0} \\ \hline \end{array}\right\|$ | $\stackrel{\circ}{\circ} \underset{\substack{\circ \\ \hline \\ \hline \\ \hline \\ \hline}}{ }$ | OROR | － | $\stackrel{\Gamma}{0} \overbrace{0}^{0}$ | $\begin{array}{\|c} \mathrm{N} \\ \mathrm{O} \\ \hline \end{array}$ | $\stackrel{\substack{4 \\ 5}}{0}$ | $\underset{O}{0}$ |  |  | － | 8 | ${ }^{\text {N}}$ | $0$ | N్ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ |  | へ | N | ệ | $\circ$ |  | $\mathfrak{j}$ | $\stackrel{\infty}{\infty}$ | $\mathfrak{N}$ | $N$ | $\stackrel{2}{2}$ |
| $0$ | $i$ |  |  | $\stackrel{\boxed{z}}{\mathrm{z}}$ | $\mathbb{K}$ | $\stackrel{\pi}{z}$ | $\underset{z}{i} \stackrel{<}{z}$ | $\mathbb{Z}$ |  | $\underset{z}{x} \underset{z}{4}$ | $\hat{z}$ | $\stackrel{<}{\Sigma}$ | 8 |  | $\underset{\sim}{2}$ | $\stackrel{\text { N}}{+}$ | $\underset{\substack{1}}{\sim}$ | 우 |  | $\bigcirc$ |  | $\stackrel{\sim}{\infty}$ | $\stackrel{\sim}{\omega}$ |  | － | $\overline{5}$ | g | $\bigcirc$ | $\stackrel{-}{\top}$ | $\stackrel{\infty}{\sim}$ | $\bar{\square}$ | $\stackrel{1}{6}$ | N | $\bar{\square}$ | $\stackrel{ \pm}{\text { N }}$ | $\bigcirc$ |  |  | ¢ | $\stackrel{5}{\square}$ | $\stackrel{\sim}{\square}$ | $\bar{\square}$ |
|  | $\stackrel{m}{n}$ |  |  |  | N | $\begin{gathered} \hat{N} \\ \stackrel{\sim}{2} \end{gathered}$ | $\stackrel{N}{\sim}$ | $\stackrel{\substack{N}}{\substack{n \\ \sim}}$ |  |  | $\stackrel{\substack{n}}{\stackrel{\rightharpoonup}{\sim}} \underset{\sim}{\sim}$ |  |  | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{2} \end{aligned}$ |  |  |  |  |  |  |  | $\begin{aligned} & \mathrm{O} \\ & \underset{\mathrm{~N}}{ } \end{aligned}$ |  |  |  | $\begin{aligned} & \underset{N}{N} \\ & \underset{N}{n} \end{aligned}$ | $\mathbb{N}$ | $\begin{gathered} \mathrm{N} \\ \stackrel{\mathrm{~N}}{ } \end{gathered}$ | $\begin{aligned} & \dot{\infty} \\ & \underset{N}{\mathrm{~N}} \end{aligned}$ |  | $\begin{gathered} \bar{N} \\ \underset{\sim}{N} \end{gathered}$ | $: \begin{gathered} \infty \\ \underset{\sim}{\infty} \end{gathered}$ | $9$ | $\begin{aligned} & \mathrm{O} \\ & \stackrel{N}{\mathrm{~N}} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\infty} \\ & \underset{\sim}{N} \end{aligned}$ | $\mathfrak{c}$ | $\mathfrak{N}$ | இி | $\mathfrak{c}$ |  | $\begin{gathered} \mathrm{O} \\ \underset{\mathrm{~N}}{ } \end{gathered}$ | － |
| $\underset{\substack{\circ \\ \underset{心}{\circ} \\ 0}}{0}$ | $\left\|\begin{array}{c} \stackrel{n}{\lambda} \\ \underset{N}{N} \end{array}\right\|$ | $\dot{\infty}$ |  |  | $\dot{\sim}$ | $\stackrel{\text { N}}{N}$ |  | $\underset{\sim}{\underset{\sim}{c}} \stackrel{\substack{\underset{\sim}{N} \\ \hline}}{ }$ |  |  |  |  |  | $\begin{gathered} \stackrel{\sim}{\infty} \\ \stackrel{\sim}{\mathrm{N}} \end{gathered}$ | $\stackrel{\rightharpoonup}{s} \stackrel{\substack{n \\ \sim}}{\substack{2}}$ | $\stackrel{\substack{\mathrm{N} \\ \underset{\sim}{2} \\ \underset{\sim}{N} \\ \hline}}{ }$ | $\underset{\sim}{\underset{\sim}{c}} \underset{\sim}{\sim}$ |  | $\stackrel{\sim}{N}$ | $\underset{\sim}{\underset{\sim}{c}}$ |  |  | $\underset{\sim}{\underset{\sim}{x}} \underset{\sim}{\infty}$ |  |  | $\begin{aligned} & \dot{\infty} \\ & \underset{\sim}{\sim} \end{aligned}$ |  |  | $\stackrel{\stackrel{\omega}{\mathrm{m}}}{\stackrel{\mathrm{~N}}{2}}$ |  | $\stackrel{\circ}{\infty}$ |  | $\begin{gathered} \stackrel{N}{6} \\ \stackrel{y}{2} \end{gathered}$ | $\stackrel{\otimes}{\underset{\sim}{2}}$ | $\begin{aligned} & \circ \\ & \hline \\ & \hline \end{aligned}$ |  | － |  |  | $\stackrel{\otimes}{\mathrm{N}}$ | $\begin{aligned} & \stackrel{N}{\mathrm{~N}} \\ & \stackrel{\mathrm{~N}}{2} \end{aligned}$ | N |
| $\overline{\widetilde{N}} \stackrel{0}{5}$ | $\mathfrak{e}$ | $j$ |  |  | － | ¢ | $\underset{\substack{e \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline}}{ }$ |  |  |  | $\begin{aligned} & 2 \\ & \stackrel{n}{n} \\ & \stackrel{\rightharpoonup}{0} \\ & \hline \end{aligned}$ |  |  |  | $\underset{\substack{\mathrm{e}}}{\underset{\sim}{\mathrm{~N}}}$ | $\begin{aligned} & =0 \\ & \vdots \\ & \dot{c} \\ & \hline \end{aligned}$ |  |  |  |  |  | $\begin{aligned} & \substack{\underset{1}{c} \\ \stackrel{m}{m}} \end{aligned}$ |  |  | ¢ | N0 | － | $\dot{ల}$ | $\stackrel{0}{9}$ | ¢ | $\underset{\mathrm{N}}{\mathrm{~N}}$ | ¢ | － | $\begin{gathered} \stackrel{\sim}{n} \\ \underset{\sim}{e} \end{gathered}$ | $\begin{aligned} & 0 \\ & \stackrel{0}{4} \\ & \dot{e} \end{aligned}$ | $\dot{ల}$ | @ | $\begin{aligned} & 3 \\ & b \\ & j \\ & j \\ & 0 \\ & \hline \end{aligned}$ | $\dot{c} \left\lvert\, \begin{gathered} n \\ \vdots \\ \dot{e} \\ \hline \end{gathered}\right.$ |  | $\begin{aligned} & 0 \\ & \underset{y}{0} \\ & \underset{c}{2} \end{aligned}$ | Non |
|  | $\left\|\begin{array}{c} 8 \\ \stackrel{O}{2} \end{array}\right\|$ |  | － |  | N | $\stackrel{N}{N}$ |  | $\begin{array}{ccc} \infty \\ \hline \end{array}$ |  | $\underset{\sim}{\underset{\sim}{*}} \underset{\sim}{\underset{\sim}{N}}$ | $\stackrel{\rightharpoonup}{n} \underset{\substack{\infty \\ 0}}{\infty}$ | － |  | $\begin{aligned} & \infty \\ & \infty \\ & \infty \end{aligned}$ | $\stackrel{N}{\text { N．}}$ |  | $\stackrel{\infty}{\infty}$ |  |  |  |  | $\begin{aligned} & \circ \\ & \stackrel{\circ}{\dot{p}} \end{aligned}$ |  |  |  | \％ | (9) | $\stackrel{\sim}{+}$ | $\begin{gathered} \hat{\infty} \\ \stackrel{\circ}{\circ} \end{gathered}$ | $\left\|\begin{array}{c} \underset{\sim}{y} \\ \stackrel{\omega}{2} \end{array}\right\|$ | $\begin{gathered} 0 \\ 0 \\ 0 \end{gathered}$ | $\mathfrak{O}$ |  | $\stackrel{\otimes}{\mathrm{O}} \mathrm{~N}$ | 우 | ㅇ | N |  |  |  | $\underset{\sim}{2}$ | ¢ |
|  |  |  |  | $\begin{gathered} 0 \\ \stackrel{0}{\mathrm{~m}} \\ \underset{\sim}{\infty} \\ 1 \end{gathered}$ |  | $\begin{aligned} & \stackrel{\circ}{\circ} \\ & \stackrel{\circ}{\circ} \\ & \stackrel{+}{\circ} \end{aligned}$ |  |  |  |  |  | $\begin{aligned} & \neq 1 \\ & \vdots \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  | $\mathfrak{l}$ |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  |  |  |  |  |  |  |  |  | $\left\lvert\, \begin{aligned} & \ddot{\infty} \\ & \hline 0 \\ & \hline 0 \\ & \hline 0 \\ & \hline \end{aligned}\right.$ |  |  | $\left\lvert\, \begin{array}{ll} \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right.$ |  |  |  | $\begin{aligned} & \hat{M} \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \bar{m} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $0$ | $3$ | $\begin{aligned} & \overline{\widehat{ }} \\ & \stackrel{0}{0} \\ & \stackrel{\circ}{1} \end{aligned}$ | 合 | $\mathfrak{\infty}$ | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}\right.$ | $\mathfrak{c}$ | － |
| 울 | $\left\lvert\, \begin{gathered} \stackrel{\rightharpoonup}{4} \\ \stackrel{\rightharpoonup}{\hat{N}} \\ \stackrel{\rightharpoonup}{n} \\ \hline \end{gathered}\right.$ | $\dot{s}$ | $\mathfrak{c}$ | $\begin{aligned} & 0 \\ & \\ & \underset{\sim}{j} \\ & \underset{\sim}{2} \end{aligned}$ | $\mathfrak{N}$ | $\begin{aligned} & \infty \\ & \\ & \\ & \stackrel{y}{n} \\ & \end{aligned}$ |  |  |  | $\stackrel{\sim}{\mathrm{N}} \stackrel{\stackrel{\rightharpoonup}{\circ}}{\stackrel{\rightharpoonup}{\circ}}$ |  |  |  |  | $\underset{\sim}{c}$ |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & 0 \\ & \stackrel{0}{0} \\ & \stackrel{1}{0} \\ & \stackrel{y}{2} \end{aligned}$ |  |  |  |  |  |  | $\stackrel{\rightharpoonup}{\dot{\circ}}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{c}} \\ \mathrm{~B} \\ \dot{\sim} \\ \text { in } \end{gathered}\right.$ |  | O <br>  <br>  <br>  | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\mathbf{N}}$ | $\begin{gathered} \underset{\sim}{*} \\ \stackrel{\rightharpoonup}{n} \end{gathered}$ |  | $\stackrel{\omega}{\stackrel{\omega}{\mathrm{N}}} \mid$ |  | － |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\underset{\substack{\mathrm{N} \\ \hline}}{ }$ | $\infty$ | $\frac{\underset{1}{\omega}}{\underset{\sim}{\omega}}$ | $\sum_{\sum_{0}^{\prime}}^{\frac{1}{1}}$ | $\underset{>}{\geqslant}$ |  |  |  |  |  |  | $\stackrel{\substack{4 \\ \stackrel{\sim}{\alpha} \\ \alpha \\ \hline}}{ }$ |  |  | $2 \begin{aligned} & \frac{\pi}{4} \\ & \frac{1}{\mathbf{x}} \\ & \hline \end{aligned}$ |  |  |  | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & 0 \end{aligned}$ |  | $\begin{array}{\|c} \stackrel{\leftrightarrow}{\mathbf{N}} \\ \underset{\sim}{0} \end{array}$ | $\begin{aligned} & 0 \\ & \frac{1}{\grave{n}} \end{aligned}$ |  | $\begin{aligned} & \frac{m}{n} \\ & \frac{1}{\mathbf{n}} \end{aligned}$ |  | $\begin{aligned} & 0 \\ & \underset{\sim}{\mathcal{N}} \end{aligned}$ |  | $\begin{aligned} & \underset{\sim}{\underset{~}{~}} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \substack{0 \\ \underset{\sim}{2} \\ \stackrel{1}{2} \\ \hline} \end{aligned}$ |  | $\begin{gathered} \underset{\sim}{\dot{N}} \\ \underset{\sim}{2} \end{gathered}$ |  | $\frac{\underset{\sim}{\underset{\sim}{d}}}{\frac{1}{d}}$ | $\begin{aligned} & \frac{1}{i} \\ & \frac{1}{d} \\ & \hline \end{aligned}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\sim} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{\sim} \\ & \stackrel{\rightharpoonup}{\underset{\sim}{2}} \end{aligned}$ |  | $\begin{gathered} 0 \\ \underset{N}{N} \\ \underset{S}{2} \end{gathered}$ |  | $\underset{\Sigma}{N}$ | $\frac{\Gamma}{\lambda}$ |  |


| $\pi$ | $\stackrel{9}{0}$ | $\underset{\sim}{2}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} \text { M } \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\rightharpoonup}{N}$ | $\left\|\begin{array}{c} n \\ N \\ 0 \end{array}\right\|$ | $\underset{\sim}{\underset{O}{*}}$ | $\begin{aligned} & \mathbf{N} \\ & 0 \\ & 0 \end{aligned}$ | $\underset{\sim}{\sim}$ | $\stackrel{\rightharpoonup}{\mathrm{m}}$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{~N} \end{aligned}$ | $\stackrel{N}{\dot{c}}$ | $\stackrel{N}{0}$ | $\begin{gathered} \stackrel{\rightharpoonup}{N} \\ 0 \end{gathered}$ | $\stackrel{N}{\dot{o}}$ | $\left\lvert\, \begin{gathered} \infty \\ m \\ 0 \\ 0 \end{gathered}\right.$ | $\underset{N}{\mathbb{N}}$ | $\begin{gathered} \underset{N}{\mathrm{~N}} \end{gathered}$ | $\stackrel{9}{\square}$ | $\stackrel{9}{0}$ | $\begin{gathered} \mathrm{N} \\ \mathbf{O} \end{gathered}$ | $\stackrel{\sigma}{\square}$ | $\underset{0}{\infty}$ | $\frac{\infty}{i}$ | $\frac{\pi}{i}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{m}{0}$ | N | $\left\|\begin{array}{c} \mathbf{N} \\ \mathbf{o} \end{array}\right\|$ | $\stackrel{\text { M }}{\substack{0}}$ | $\underset{\substack{\underset{N}{N} \\ \mathbf{O} \\ \hline}}{ }$ | $\underset{\sim}{N}$ | 웅 | $\stackrel{N}{N}$ | N | 오 | N | $\begin{array}{\|c} \substack{\mathrm{N} \\ 0 \\ \hline} \end{array}$ | N | $\begin{gathered} \tau \\ 0 \\ \hline \end{gathered}$ | $\stackrel{\text { N }}{\sim}$ | $\stackrel{\square}{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 만 | $\left\|\begin{array}{c} \stackrel{O}{N} \\ \underset{N}{0} \end{array}\right\|$ | $\underset{\sim}{*} \underset{\sim}{\underset{N}{N}} \underset{\sim}{\circ}$ | $\left\|\begin{array}{c} 0 \\ N \\ \mathbf{N} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ N \\ N \\ 0 \end{array}\right\|$ | $\begin{array}{\|c\|c} 0 \\ \underset{N}{N} \\ \underset{\sim}{0} \\ 0 \end{array}$ | $\left\|\begin{array}{l} \infty \\ \underset{N}{N} \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} \infty \\ \stackrel{\sim}{n} \\ \stackrel{0}{0} \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{gathered}\right.$ | $\begin{gathered} \bar{\sigma} \\ \underset{N}{2} \\ \dot{c} \end{gathered}$ | $\left\|\begin{array}{l} 9 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ N \\ \mathbf{N} \end{array}\right\|$ | $\begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{o} \end{gathered}$ | $\begin{aligned} & \bar{\sigma} \\ & \underset{\sim}{0} \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \dot{o} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{N}{0} \\ \mathbf{O} \end{gathered}\right.$ | $\begin{gathered} 0 \\ N \\ N \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{2} \\ 0 \end{array}\right\|$ | $\left\|\frac{\Delta}{\dot{O}}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{gathered}\right.$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{n} \\ \underset{0}{0} \end{array}\right\|$ | $\frac{\square}{\sigma}$ | $\stackrel{\rightharpoonup}{\sigma}$ | $\frac{\dot{O}}{\stackrel{\rightharpoonup}{\circ}}$ | $\frac{\square}{\underset{o}{c}}$ | $\left\|\frac{\dot{O}}{\stackrel{\rightharpoonup}{\circ}}\right\|$ | $\left\|\begin{array}{l} \dot{\sigma} \\ \stackrel{\rightharpoonup}{0} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\frac{\square}{\dot{O}}$ | $\frac{\square}{\sigma}$ | $\left\|\begin{array}{l} 0 \\ N \\ N \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \dot{\sigma} \\ \stackrel{\rightharpoonup}{o} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ N \\ \mathbf{N} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & N \\ & \mathbf{N} \\ & \mathbf{O} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} n \\ \infty \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} -\infty \\ \vdots \\ \vdots \\ 0 \end{gathered}\right.$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{n} \\ \underset{0}{2} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ N \\ N \\ 0 \end{gathered}\right.$ | $\begin{gathered} \infty \\ \underset{N}{n} \\ \underset{0}{0} \end{gathered}$ | $\begin{aligned} & \infty \\ & 0 \\ & N \\ & 0 \end{aligned}$ | $\stackrel{\sim}{\sim}$ |
| z | $\left\|\begin{array}{l} m \\ \stackrel{3}{2} \\ \stackrel{1}{2} \end{array}\right\|$ |  | $\begin{aligned} & \bar{i} \\ & 0 \\ & \dot{n} \end{aligned}$ | $\|\underset{\underset{\sim}{\sim}}{\underset{\sim}{f}}\|$ | $\underset{\sim}{\underset{\sim}{\sim}}$ | $\stackrel{\underset{\sim}{\mathrm{O}}}{\underset{\mathrm{O}}{ }}$ | $\begin{aligned} & \propto \\ & \stackrel{\infty}{N} \\ & \stackrel{N}{2} \end{aligned}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\mathrm{N}} \\ & \stackrel{0}{\mathrm{~N}} \end{aligned}$ |  | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{\sim}{0} \\ \underset{\sim}{0} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \underset{\sim}{\infty} \end{aligned}$ | $\begin{array}{\|l\|l} \substack{N \\ N \\ \underset{\sim}{n} \\ \hline} \end{array}$ | $\begin{aligned} & \mathfrak{m} \\ & \underset{~}{0} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{\sim}{\mathcal{N}} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{N} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{aligned} & \hat{n} \\ & \infty \\ & \mathrm{~N} \end{aligned}$ | $\left\|\begin{array}{c} \bar{i} \\ \hat{N} \\ \mathrm{~N} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\mathcal{N}} \end{gathered}\right.$ | $\left\|\begin{array}{c} \underset{\sim}{\sim} \\ \underset{\sim}{\sim} \end{array}\right\|$ | $\left\|\begin{array}{l} \hat{n} \\ \infty \\ \underset{\sim}{n} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{\sim} \\ & \underset{\sim}{\mathcal{N}} \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\sim} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\lambda} \\ & \underset{N}{i} \end{aligned}$ |  | $\left\|\begin{array}{l} \hat{0} \\ \infty \\ \mathrm{~N} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathrm{O} \\ 10 \\ \mathrm{~N} \end{array}\right\|$ | $\left\|\begin{array}{c} \bar{N} \\ \hat{j} \\ \dot{m} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathrm{O} \\ 0 \\ 0 \\ m \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{N} \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & \underset{\sim}{n} \end{aligned}\right.$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{\sim}{N} \\ \underset{\sim}{2} \end{array}\right\|$ | $\left(\left.\begin{array}{l} \stackrel{\rightharpoonup}{N} \\ \underset{N}{2} \end{array} \right\rvert\,\right.$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{\mathcal{N}} \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ \infty \\ \infty \\ \infty \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{\underset{\infty}{\infty}} \\ \hline \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{\underset{N}{2}} \\ & \underset{\sim}{\mathrm{~N}} \end{aligned}$ | $\left\|\begin{array}{c} \stackrel{\rightharpoonup}{N} \\ \underset{\sim}{N} \\ \underset{\sim}{2} \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & 10 \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \hline 0 \\ & \dot{9} \end{aligned}$ | $\begin{aligned} & 0 \\ & \hline 0 \\ & 0 \\ & i \end{aligned}$ | $\stackrel{\sim}{\text { \％}}$ |
| $\frac{\mathbf{z}}{\mathbf{Z}}$ | $\frac{\underset{\sim}{\mathrm{N}}}{\stackrel{2}{2}}$ |  | $\frac{\underset{N}{N}}{\underset{N}{i}}$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \dot{m} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \infty \\ & \stackrel{m}{m} \\ & \underset{m}{2} \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\underset{~}{c}} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\underset{\underset{N}{N}}{\underset{N}{2}} \mid$ | $\stackrel{\rightharpoonup}{\underset{N}{N}}$ | $\begin{array}{\|c} 8 \\ 0 \\ 0 \\ م \\ م \end{array}$ | $\begin{gathered} \frac{\pi}{N} \\ \frac{10}{2} \end{gathered}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\dot{N}} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \\ & \text { in } \end{aligned}$ | $\begin{array}{\|l} \frac{m}{\sim} \\ \underset{N}{2} \end{array}$ | $\begin{aligned} & \underset{N}{N} \\ & \underset{\sim}{n} \end{aligned}$ | $\frac{\underset{\sim}{\mathrm{f}}}{\underset{\mathrm{~N}}{ }}$ |  | $\begin{gathered} \bar{N} \\ \mathbf{n} \\ \mathbf{~} \end{gathered}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & \underset{N}{N} \end{aligned}$ | $\left\lvert\, \frac{M}{\underset{\sim}{i}}\right.$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\sim}{2} \\ \hline \end{gathered}\right.$ | $\left\|\begin{array}{c} \bar{N} \\ \hat{N} \\ \mathrm{~N} \end{array}\right\|$ | $\frac{m}{\dot{v}}$ | $\frac{\underset{\sim}{\mathrm{N}}}{\stackrel{m}{2}}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{\sim} \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \underset{\sim}{f} \\ i \end{gathered}\right.$ | $\left\|\begin{array}{c} \bar{N} \\ \hat{n} \\ \mathrm{~N} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \infty \\ \underset{\sim}{n} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \mathrm{O} \\ & 0 \\ & 10 \\ & \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \hline \mathrm{O} \\ & \mathrm{~m} \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\mathrm{j}}{ } \\ \hline \end{gathered}\right.$ | $\left\|\begin{array}{c} \underset{\sim}{\sim} \\ \underset{\sim}{\sim} \end{array}\right\|$ | $\frac{\underset{\sim}{\mathrm{N}}}{\dot{\sim}}$ | $\left\|\begin{array}{c} \bar{N} \\ i \\ \infty \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \infty \\ \sim \\ \hline \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{N}} \\ \underset{\mathrm{~N}}{ } \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} \frac{m}{\dot{i}} \\ \underset{i}{2} \end{gathered}\right.$ | $\begin{array}{\|c} \stackrel{\rightharpoonup}{N} \\ \underset{N}{2} \end{array}$ | $\stackrel{\star}{\lambda}$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \\ & 7 \end{aligned}$ | $\stackrel{\sim}{1}$ |
| $\frac{+}{2}$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\mathfrak{B}$ | $\begin{aligned} & n \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{0} \end{gathered}\right.$ | $\begin{array}{\|c\|c} \substack{n \\ 0 \\ 0 \\ 0} \end{array}$ | $\left\lvert\, \begin{aligned} & m \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{gathered} \bar{N} \\ 0 \\ 0 \end{gathered}$ | $\begin{aligned} & n \\ & m \\ & 0 \\ & 0 \end{aligned}$ | $\mathfrak{c}$ | $\begin{aligned} & \stackrel{\Gamma}{\mathrm{O}} \\ & \stackrel{-}{-} \end{aligned}$ | $\underset{\underset{\sim}{\leftarrow}}{\underset{\sim}{F}}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{\infty} \\ & \vdots \\ & \hline \end{aligned}$ | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ 0 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}$ | $\begin{gathered} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{gathered}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}\right.$ | $\begin{gathered} 0 \\ 0 \\ N \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{0} \\ \underset{\sim}{0} \end{gathered}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ 0 \end{gathered}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}\right.$ | $\left.\begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{c} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ N \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{N} \\ \mathbf{N} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{N} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{N} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{y}{0} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{0} \\ \underset{N}{0} \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | － |
| $\stackrel{\sim}{\sim}$ | $\stackrel{n}{\substack{n \\ \vdots}}$ | $\underset{\substack{0}}{0}$ | $\frac{\varphi}{\dot{\omega}}$ | $\left\lvert\, \begin{aligned} & 10 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\underset{\dot{c}}{\infty} \left\lvert\, \frac{\infty}{c}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\rightharpoonup}{N}$ | $\stackrel{\underset{\sim}{*}}{\underset{\sim}{c}}$ | $\begin{aligned} & \mathbf{t} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}$ | $$ | $\underset{\sim}{N}$ |  | $$ | $\begin{gathered} N \\ \underset{N}{0} \end{gathered}$ |  | $\begin{gathered} \underset{\sim}{2} \\ \dot{0} \end{gathered}$ | $\underset{\substack{ \pm \underset{0}{2} \\ \hline \\ \hline}}{ }$ | $\begin{aligned} & \mathbf{m} \\ & \mathbf{N} \\ & 0 \end{aligned}$ | $\begin{gathered} n \\ \underset{c}{n} \end{gathered}$ | $\left\|\begin{array}{c} n \\ \underset{0}{0} \end{array}\right\|$ | $\begin{gathered} n \\ \underset{c}{0} \end{gathered}$ | $\begin{aligned} & n \\ & N \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} n \\ N \\ 0 \end{gathered}\right.$ | $\left\|\begin{array}{l} n \\ N \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} n \\ \underset{0}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} \mathbf{n} \\ \underset{0}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{0} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \underset{0}{2} \end{gathered}\right.$ | $\stackrel{N}{N}$ | $\begin{gathered} \underset{N}{N} \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \dot{0} \end{array}\right\|$ | $\begin{aligned} & n \\ & \underset{0}{2} \end{aligned}$ | $\stackrel{\sim}{N}$ | $\left\|\begin{array}{c} m \\ N \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{N}{N} \\ 0 \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{\underset{N}{2}} \\ & \underset{0}{2} \end{aligned}$ | $\left\|\begin{array}{c} n \\ \underset{0}{2} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} n \\ \underset{c}{0} \\ 0 \end{gathered}\right.$ | $$ | $\begin{aligned} & 9 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | － |
|  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\rightharpoonup}{\circ}$ | p্রে | $\stackrel{\Gamma}{\mathbf{0}} \underset{-}{ }$ | $\begin{array}{\|c\|c} 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\left\|\begin{array}{l} 9 \\ 0 \\ 0 \end{array}\right\|$ | $0$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} \underset{C}{0} \\ \stackrel{y}{2} \end{gathered}$ | $\begin{aligned} & \mathbf{0} \\ & \mathbf{0} \\ & \mathbf{0} \end{aligned}$ | $\stackrel{m}{\dot{c}}$ | $0$ | $\begin{gathered} 0 \\ 0 \\ 0 \end{gathered}$ | $\begin{aligned} & \hat{0} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \hat{F} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 10 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} 4 \\ 0 \\ 0 \end{gathered}$ | $\begin{aligned} & \mathrm{N} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} 0 \\ 0 \\ 0 \end{gathered}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left.\begin{gathered} \hat{5} \\ 0 \end{gathered} \right\rvert\,$ | $\left\lvert\, \begin{aligned} & 1 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{O} \end{aligned}$ | $\left\|\begin{array}{c} م \\ \stackrel{N}{\mathrm{o}} \end{array}\right\|$ | $\begin{aligned} & \tau \\ & \mathbf{o} \end{aligned}$ | $\left\|\begin{array}{c} \mathrm{O} \\ 0 \\ 0 \end{array}\right\|$ | $\mathfrak{N}$ | $\left.\begin{aligned} & \overline{0} \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} \infty \\ \infty \\ 0 \\ 0 \end{array}\right\|$ | 志 | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} 10 \\ 0 \\ 0 \end{gathered}\right.$ | 수 | $\stackrel{8}{8}$ | $\stackrel{8}{\mathrm{O}}$ | $\begin{aligned} & \square \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c}  \pm \\ \infty \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \infty \\ 0 \end{array}\right\|$ | $\stackrel{\text {－}}{\sim}$ | $\stackrel{\sim}{\sim}$ | 9 |
|  |  | $=\begin{aligned} & \dot{Z} \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & \mathrm{J}_{\mathrm{o}} \\ & \mathrm{i} \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{N} \end{array}\right\|$ | $\underset{\sim}{\underset{\sim}{N}} \underset{\sim}{\underset{\sim}{n}}$ | $\underset{\underset{r}{e}}{\stackrel{\rightharpoonup}{2}}$ | $\begin{aligned} & 0 \\ & \infty \\ & 0 \\ & \hline \end{aligned}$ | $\stackrel{\stackrel{N}{m}}{\stackrel{\rightharpoonup}{2}}$ | $\mathfrak{C}$ | $\underset{\dot{\varphi}}{\infty}$ | $\begin{array}{\|c} n \\ \\ \end{array}$ | $\stackrel{\sigma}{\Gamma}$ | $\stackrel{9}{\stackrel{\circ}{7}}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{O}{\mathrm{~N}}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 40 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\circ}{\square}$ | $\left\|\begin{array}{l} 18 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{10}{5}$ | $8$ | $\left\lvert\, \begin{gathered} \underset{\sim}{N} \\ \stackrel{1}{2} \end{gathered}\right.$ | $\begin{gathered} m \\ \vdots \\ 0 \end{gathered}$ | $\left\lvert\, \begin{aligned} & 9 \\ & \stackrel{9}{0} \\ & 0 \end{aligned}\right.$ | $\stackrel{m}{\underset{\sim}{r}}$ | $\left\|\begin{array}{l} 10 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\rightharpoonup}{\mathrm{O}} \underset{-}{\mathbf{r}}$ | $\left\|\begin{array}{c} A \\ \mathbf{N} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | 안 | $\left.\begin{aligned} & 0 \\ & \hat{0} \\ & 0 \end{aligned} \right\rvert\,$ | $\begin{gathered} N \\ 0 \\ 0 \end{gathered}$ | O. | $\stackrel{\rightharpoonup}{\top}$ | N | $\bar{\square}$ | $\circ$ | ָ | $\stackrel{\square}{\square}$ | $\begin{aligned} & \underset{\sim}{2} \\ & \underset{m}{2} \end{aligned}$ | $\stackrel{N}{N}$ |
| © |  | $\begin{aligned} & \mathrm{O} \\ & \underset{\mathrm{~N}}{2} \end{aligned}$ | N | $\left\|\begin{array}{l} \mathrm{O} \\ \mathrm{~N} \end{array}\right\|$ | $\mathfrak{j} \left\lvert\, \begin{gathered} \bar{\infty} \\ \underset{\sim}{n} \\ \underset{N}{2} \end{gathered}\right.$ | $\left\|\begin{array}{l} \text { B } \\ \underset{\sim}{2} \end{array}\right\|$ | $\begin{gathered} \mathrm{O} \\ \underset{\sim}{\mathrm{~N}} \end{gathered}$ | $\stackrel{\infty}{\infty} \underset{\sim}{N}$ | $\left\|\begin{array}{c} \mathrm{B} \\ \underset{\mathrm{~N}}{ } \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{N} \end{aligned}\right.$ | $\begin{aligned} & \stackrel{\sim}{0} \\ & \underset{\sim}{N} \end{aligned}$ | $\mathfrak{c}$ | $\mathfrak{o}$ | $\begin{gathered} 0 \\ \stackrel{0}{\mathrm{~N}} \end{gathered}$ | $\begin{array}{\|c} \stackrel{\circ}{\mathrm{N}} \\ \underset{\mathrm{~N}}{ } \end{array}$ | $\begin{aligned} & \bar{\infty} \\ & \underset{N}{N} \end{aligned}$ | $\begin{aligned} & \bar{\infty} \\ & \mathfrak{N} \end{aligned}$ | $\left\|\begin{array}{c} \bar{\infty} \\ \underset{N}{\mathrm{~N}} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \infty \\ & \underset{N}{N} \end{aligned}$ | $\begin{gathered} \infty \\ \infty \\ \underset{N}{N} \end{gathered}$ | $\left.\begin{aligned} & \mathrm{O} \\ & \mathrm{~N} \\ & \mathrm{~N} \end{aligned} \right\rvert\,$ | $\left.\begin{aligned} & \infty \\ & \underset{N}{\mathrm{~N}} \end{aligned} \right\rvert\,$ | $\begin{aligned} & 0 \\ & \infty \\ & \underset{N}{N} \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{\mathrm{N}} \end{array}\right\|$ | $\begin{aligned} & \stackrel{\text { S }}{\sim} \\ & \underset{\sim}{N} \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \underset{\mathrm{~N}}{2} \end{aligned}$ | $\begin{aligned} & \mathrm{g} \\ & \stackrel{\rightharpoonup}{\mathrm{~N}} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{N} \\ & \text { N } \end{aligned}\right.$ | $\begin{gathered} \bar{\infty} \\ \underset{N}{N} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{N}{N} \end{aligned}$ | $\begin{aligned} & \mathbf{O} \\ & \underset{N}{\mathrm{~N}} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\dot{N}} \end{aligned}$ | $\begin{aligned} & \text { R } \\ & \underset{\sim}{\mathrm{N}} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\mathrm{N}} \end{aligned}$ | $\left\|\begin{array}{c} \mathfrak{N} \\ \dot{N} \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{n} \end{gathered}$ | $\begin{aligned} & \mathbf{o} \\ & \mathbf{0} \\ & \underset{N}{N} \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \underset{\mathrm{~N}}{ } \end{aligned}$ | $\stackrel{\text { N }}{\text { N }}$ | $\begin{gathered} \stackrel{N}{N} \\ \underset{N}{2} \end{gathered}$ | $\begin{aligned} & 0 \\ & \underset{N}{n} \\ & \underset{N}{2} \end{aligned}$ | N |
| ¢ ¢ ¢ |  | $\stackrel{N}{\stackrel{N}{4}}$ | $\frac{O}{\vdots}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \stackrel{0}{\dot{M}} \\ & \mid \end{aligned}\right.$ | $\stackrel{o}{2}$ | $\left\|\begin{array}{l} \text { B } \\ \underset{\sim}{2} \end{array}\right\|$ | $\stackrel{\infty}{\infty}$ |  | $\left.\begin{array}{\|c} \overline{5} \\ \stackrel{3}{m} \end{array} \right\rvert\,$ | $\frac{N}{\Gamma}$ | $\frac{\square}{\square}$ | $\begin{gathered} \hat{N} \\ \underset{\sim}{2} \end{gathered}$ | $\begin{aligned} & \hat{1} \\ & \stackrel{1}{2} \end{aligned}$ | $\begin{aligned} & \hat{0} \\ & \mathbf{N} \\ & \mathbf{N} \end{aligned}$ | $\left\|\begin{array}{l} 1 \\ 0 \\ 0 \\ N \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{*} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{+} \\ \underset{\sim}{2} \end{gathered}$ | $\begin{gathered} m \\ \underset{\sim}{2} \\ \underset{N}{2} \end{gathered}$ | $\begin{aligned} & \ddagger \\ & \underset{N}{2} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \stackrel{\circ}{2} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & 0 \\ & \vdots \\ & \underset{N}{1} \end{aligned}$ | $\left\|\begin{array}{c} \mathbf{L}_{1} \\ \underset{\sim}{2} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 10 \\ \underset{N}{2} \end{gathered}\right.$ | $\begin{aligned} & \infty \\ & \underset{\sim}{+} \\ & \stackrel{1}{2} \end{aligned}$ | $\left\|\begin{array}{c} \bar{n} \\ 0 \\ N \end{array}\right\|$ | $\left\|\begin{array}{l} N \\ 0 \\ \underset{N}{N} \end{array}\right\|$ | $\left\|\begin{array}{c} 10 \\ 0 \\ 2 \\ N \end{array}\right\|$ | $\left\|\begin{array}{l} \overline{0} \\ \dot{N} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\underset{~}{2}} \\ \underset{\sim}{2} \end{gathered}\right.$ | $\begin{aligned} & \hat{F} \\ & \underset{\sim}{\mathrm{~N}} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \mathrm{O} \\ & 0 \\ & 0 \\ & \mathrm{~N} \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{2} \\ & \underset{N}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} \infty \\ \underset{\sim}{\infty} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \text { N} \\ & \text { N} \\ & \text { Ni } \end{aligned}$ | $\left\|\begin{array}{c} \hat{j} \\ \underset{N}{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \hat{j} \\ \underset{\sim}{\mathrm{~N}} \end{array}\right\|$ | $\begin{aligned} & \ddagger \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ N \end{array}\right\|$ | $\begin{aligned} & \mathbf{H} \\ & 0 \\ & \mathbf{N} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \stackrel{1}{\mathrm{~N}} \end{aligned}$ | $\begin{aligned} & 0 \\ & \stackrel{0}{8} \end{aligned}$ | － |
|  | $\left\|\begin{array}{l} 0 \\ N \\ 0 \\ e \end{array}\right\|$ | $\begin{aligned} & \overline{0} \\ & \dot{9} \end{aligned}$ | $\left\|\begin{array}{l} \overline{0} \\ \dot{c} \end{array}\right\|$ | $\left\|\begin{array}{l} J \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{array}{\|l\|l} \hline 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{array}$ | $\left\|\begin{array}{l}  \pm \\ \underset{N}{e} \\ 0 \end{array}\right\|$ | $\begin{aligned} & n \\ & \underset{N}{0} \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \vdots \end{aligned}$ | $n$ <br> $\stackrel{0}{0}$ | $\underset{\sim}{\infty}$ | $\underset{\sim}{\underset{\sim}{\infty}}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\stackrel{\infty}{\underset{e}{\infty}}$ | $\stackrel{\infty}{\underset{c}{\infty}}$ | $\frac{\infty}{\underset{\sim}{e}}$ | $\begin{aligned} & \underset{\sim}{9} \\ & \underset{\oplus}{0} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{9} \\ & \underset{M}{9} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{c} \\ & \dot{e} \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}\right.$ | $\frac{\infty}{\underset{e}{c}}$ | $\underset{\substack{\infty}}{\infty}$ | $\underset{\dot{e}}{\infty}$ | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{2} \end{aligned}$ | $\left\|\begin{array}{l} \stackrel{\rightharpoonup}{N} \\ \underset{M}{0} \end{array}\right\|$ | $\left\|\begin{array}{l} \underset{N}{n} \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \stackrel{\rightharpoonup}{N} \\ & \underset{M}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} \underset{N}{N} \\ \dot{M} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{e} \\ & \hline \end{aligned}\right.$ | $\underset{\underset{c}{\infty}}{\underset{e}{\infty}}$ | $\begin{aligned} & \bar{N} \\ & \dot{M} \\ & \hline \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{e}{c} \\ & \underset{e}{2} \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ \dot{e} \\ \dot{M} \end{array}\right\|$ | $\begin{aligned} & \text { N} \\ & \text { Ne } \end{aligned}$ | $\left\lvert\, \begin{aligned} & \stackrel{0}{c} \\ & \dot{e} \\ & \hline \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ \stackrel{0}{0} \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathrm{m} \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{e} \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}\right.$ | $\underset{\underset{e}{\infty}}{\underset{\sim}{c}}$ | $\stackrel{-}{\sim}$ | n |
| $\frac{\underset{5}{\circ}}{\substack{0 \\ 0}}$ | -] |  | $\begin{aligned} & n \\ & m \\ & م \\ & \sim \end{aligned}$ | $\left\|\begin{array}{l} 10 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\rightharpoonup}{n}$ |  | $\begin{aligned} & \circ \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{9}{0}$ | $\mathfrak{l}\left\|\begin{array}{l} \mathrm{t} \\ \text { Ni } \end{array}\right\|$ | $\frac{\stackrel{\omega}{c}}{\underset{m}{n}}$ | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\stackrel{\Im}{\dot{\circ}}$ |  | $\begin{aligned} & 10 \\ & 0 \\ & \checkmark \end{aligned}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{\sim}{2} \\ \hline \end{gathered}\right.$ | $\underset{N}{\grave{N}}$ | $\underset{子}{寸}$ | $\stackrel{m}{\underset{\sim}{r}}$ | $\left\lvert\, \begin{gathered} \mathrm{O} \\ \infty \\ \infty \end{gathered}\right.$ | $\stackrel{y}{\text { I }}$ | $\frac{0}{\square}$ | $\stackrel{\Gamma}{\sigma}$ | $\left\lvert\, \begin{aligned} & \mathbf{o} \\ & \underset{~}{0} \end{aligned}\right.$ | $\stackrel{m}{\Gamma}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{\sim}{n} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \mathcal{N} \\ \underset{\sim}{f} \end{gathered}\right.$ | $\stackrel{\sim}{\sim}$ | $\left\|\begin{array}{l} \bar{o} \\ \dot{j} \\ \mathrm{~m} \end{array}\right\|$ | $\xrightarrow{+}$ | $\stackrel{N}{\sim}$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{O} \\ & \text { è } \end{aligned}$ | $\begin{gathered} \underset{\sim}{\dot{j}} \\ \dot{\sim} \end{gathered}$ | $\begin{aligned} & 9 \\ & \hline \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathbf{0} \\ & 0 \\ & 0 \\ & N \end{aligned}$ | $\begin{aligned} & 0 \\ & \varrho \\ & 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\varphi}{\dot{r}}$ | $\left\|\begin{array}{c} 0 \\ \mathbf{~} \\ \underset{\mathrm{j}}{ } \end{array}\right\|$ | $\begin{aligned} & \mathbf{m} \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\mathrm{O}}{\stackrel{\mathrm{C}}{2}}$ | $\stackrel{\underset{\sim}{\circ}}{\stackrel{0}{\wedge}}$ | $\stackrel{\sim}{\circ}$ |
|  | $\left\lvert\, \begin{aligned} & 0 \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & \infty \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left.\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} N_{2} \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline 1 \end{array}\right\|$ | $\begin{array}{c\|c} 1 & \\ 0 & 8 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{array}$ | $\begin{array}{\|c} \hline \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{array}$ | $\begin{gathered} n \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{gathered}$ | $\begin{gathered} \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ \infty \\ 1 \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ \underset{O}{0} \\ \underset{\infty}{1} \end{gathered}\right.$ | $\begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{\infty} \\ & \hline \end{aligned}$ | $\begin{gathered} 0 \\ \underset{N}{0} \\ \underset{\sim}{0} \\ \underset{\sim}{1} \end{gathered}$ | $\begin{aligned} & \text { N } \\ & \text { O } \\ & 0 \\ & 0 \\ & \infty \\ & 1 \end{aligned}$ | $\begin{gathered} \text { O} \\ \text { O} \\ 0 \\ 0 \\ 0 \\ 1 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \vdots \\ 0 \\ 0 \\ 0 \\ 1 \end{array}\right\|$ | $\begin{array}{\|c} m \\ \underset{O}{0} \\ 0 \\ 0 \\ 0 \\ \hline \end{array}$ | $\begin{aligned} & \text { N } \\ & \underset{O}{O} \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  | $\begin{aligned} & \hline \\ & \hline \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & 8 \\ & \infty \\ & 0 \\ & 0 \\ & \infty \\ & 1 \end{aligned}$ | $\begin{aligned} & 0 \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} 9 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{gathered}\right.$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \infty \\ 1 \end{array}\right\|$ | $\begin{aligned} & \mathbf{4} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & N \\ & N \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \overline{0} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}\right.$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathbf{O}_{0} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{array}\right\|$ | $\begin{aligned} & \mathrm{N}_{1} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{array}{\|c} \hat{N} \\ \mathbf{N} \\ 0 \\ 0 \\ 0 \\ \hline \end{array}$ | $\begin{array}{\|c} 0 \\ \mathbf{N} \\ \mathbf{O} \\ 0 \\ 0 \\ 0 \\ \hline \end{array}$ | $\begin{aligned} & 0 \\ & \mathbf{N} \\ & \mathbf{O} \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & \hat{m} \\ & \mathbf{o} \\ & \underset{0}{0} \\ & 0 \end{aligned}$ | M |
|  | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{N}{N} \\ \stackrel{N}{2} \end{array}\right\|$ |  | $\begin{aligned} & \mathrm{o} \\ & \stackrel{n}{6} \\ & \stackrel{N}{\mathrm{~N}} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ \stackrel{0}{6} \\ \stackrel{N}{N} \end{array}\right\|$ |  | $\left\|\begin{array}{l} N \\ N \\ 0 \\ N \\ N \\ N \end{array}\right\|$ | $\begin{array}{l\|l\|} \hline 1 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{array}$ | $\begin{aligned} & \hat{n} \\ & \infty \\ & \infty \\ & n \\ & n \end{aligned}$ | $\mathfrak{c}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{N}{n} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & \hat{0} \\ & \hat{N} \\ & \end{aligned}$ | $\left\{\begin{array}{l} 0 \\ 0 \\ 0 \\ n \\ n \\ n \end{array}\right.$ | $\begin{array}{ll} 0 \\ \text { on } \\ \text { N } \\ \text { N } \end{array}$ | $\begin{aligned} & \hat{-} \\ & \mathbf{o} \\ & \underset{\sim}{0} \\ & \stackrel{1}{N} \end{aligned}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 10 \\ & N \\ & N \end{aligned}$ | $\begin{gathered} \bar{N} \\ 0 \\ \stackrel{N}{N} \end{gathered}$ | $\begin{aligned} & \mathrm{N} \\ & \mathrm{~N} \\ & \mathbf{0} \\ & \stackrel{N}{N} \end{aligned}$ | $\begin{gathered} \pm \\ N \\ 0 \\ N \\ N \end{gathered}$ | $\left\|\begin{array}{l} 0 \\ N \\ N \\ 0 \\ \underset{N}{N} \end{array}\right\|$ | $\begin{array}{\|c} 0 \\ \\ 0 \\ 1 \\ \end{array}$ | $\begin{aligned} & n \\ & \\ & 0 \\ & \\ & \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \underset{6}{\circ} \\ & \stackrel{N}{N} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ \stackrel{9}{0} \\ \dot{0} \\ \dot{N} \end{array}\right\|$ | $\begin{aligned} & \text { N } \\ & \mathbf{o} \\ & \underset{N}{2} \\ & \text { N } \end{aligned}$ |  |  | $\begin{aligned} & \hat{\sim} \\ & \underset{\sim}{e} \\ & \hat{N} \\ & \stackrel{N}{N} \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ \infty \\ \underset{N}{1} \\ \underset{N}{1} \end{array}\right\|$ | $\begin{aligned} & m \\ & \underset{\sim}{2} \\ & \underset{N}{N} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\mathrm{N}} \\ & \underset{N}{\mathrm{~N}} \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { J } \\ & \underset{\sim}{N} \\ & \stackrel{N}{N} \end{aligned}$ | $\begin{aligned} & M_{1} \\ & \underset{\sim}{N} \\ & \mathfrak{N} \end{aligned}$ | $\begin{gathered} N \\ \mathcal{F} \\ \underset{N}{N} \\ \mathfrak{N} \end{gathered}$ | $\begin{aligned} & \infty \\ & 0 \\ & N \\ & N \\ & N \\ & N \end{aligned}$ | $\begin{gathered} N \\ N \\ N \\ N \\ N \end{gathered}$ | $\begin{gathered} N \\ N \\ \underset{N}{N} \\ \stackrel{N}{N} \end{gathered}$ | $\begin{aligned} & \stackrel{N}{N} \\ & \underset{\sim}{N} \\ & \underset{N}{N} \\ & \hline \end{aligned}$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \\ & 10 \\ & 1 \\ & N \end{aligned}$ | N <br> 0 <br> 1 <br> 1 <br> N |  | $\begin{aligned} & \underset{\sim}{\square} \\ & \underset{\sim}{\infty} \\ & \stackrel{1}{2} \end{aligned}$ | 은 |
|  |  |  |  | $\sum$ $\underset{n}{N}$ $\stackrel{N}{i}$ $\stackrel{i}{i}$ $\stackrel{N}{N}$ $\stackrel{N}{N}$ $\stackrel{N}{N}$ |  |  |  |  | 7／13／15 12：54 PM |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \sum_{i} \\ & \infty \\ & 0 \\ & \underset{\sim}{\infty} \\ & \frac{0}{\mathcal{F}} \\ & \underset{N}{5} \end{aligned}$ |  |  |  |  |  |  |  |  |  | $\sum$ $\vdots$ 0 $\vdots$ $\vdots$ $\frac{10}{2}$ $\frac{1}{2}$ $\frac{7}{N}$ |  |  |  | $\begin{aligned} & \sum \\ & i \\ & 0 \\ & 10 \\ & 0 \\ & \frac{0}{N} \\ & \frac{V}{V} \\ & \frac{1}{N} \end{aligned}$ |  | $\sum$ $i$ 0 10 0 $\frac{10}{2}$ $\frac{1}{2}$ $\frac{1}{\lambda}$ |  |  |
| $\ddot{\omega}$ | $\begin{aligned} & \frac{4}{1} \\ & \stackrel{y}{z} \\ & \underset{\Sigma}{2} \end{aligned}$ | $\underset{y}{c}$ | $\begin{aligned} & x \\ & \substack{ \\ \dot{N} \\ \sum_{\Sigma}} \end{aligned}$ | $\begin{aligned} & \infty \\ & { }_{N}^{N} \\ & \sum_{\sum} \end{aligned}$ |  | $\left\|\begin{array}{l} 0 \\ 1 \\ \tilde{y} \\ \frac{1}{m} \end{array}\right\|$ | $\begin{array}{\|c} \infty \\ \substack{0 \\ \tilde{m} \\ \\ \hline} \end{array}$ | $\begin{array}{\|c} \frac{4}{\tilde{3}} \\ \frac{\tilde{\infty}}{} \end{array}$ | $\left.\frac{\frac{T}{1}}{\frac{1}{I}} \right\rvert\,$ | $\left\lvert\, \begin{aligned} & 0 \\ & \sum_{0}^{1} \\ & \hline \end{aligned}\right.$ | $\sum_{\mathrm{D}}^{\stackrel{K}{1}}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 1 \\ & \hat{1} \\ & \vdots \\ & m \end{aligned}\right.$ | $\left.\begin{array}{\|c} \times \\ 0 \\ \vdots \\ \vdots \\ \vdots \end{array} \right\rvert\,$ | $\begin{aligned} & m \\ & \underline{1} \\ & \hat{y} \\ & \frac{1}{m} \end{aligned}$ | $\begin{aligned} & 4 \\ & \hat{1} \\ & \mathbf{~} \\ & \mathbf{m} \end{aligned}$ | $\frac{U}{\frac{1}{\alpha}}$ | $\left\lvert\, \begin{aligned} & \frac{m}{\grave{r}} \\ & \frac{1}{山} \end{aligned}\right.$ | $\begin{aligned} & \frac{\pi}{d} \\ & \frac{1}{d} \end{aligned}$ | $\begin{gathered} u \\ \underset{\sim}{\sim} \\ \underset{\sim}{\underset{\sim}{2}} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{\sim} \\ & \underset{\sim}{\underset{\sim}{4}} \end{aligned}$ | $\underset{\substack{\underset{i}{x} \\ \underset{\sim}{x}}}{ }$ | \|c | $\left\|\begin{array}{c} \underset{\sim}{\infty} \\ \underset{\sim}{\underset{\sim}{e}} \\ \hline \end{array}\right\|$ | $\frac{\stackrel{4}{\underset{\sim}{w}}}{\stackrel{ֻ}{4}}$ | $\left\|\begin{array}{l} 0 \\ \hat{1} \\ \hat{1} \\ \frac{1}{0} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & n_{1} \\ & \frac{1}{\infty} \end{aligned}$ | $\left\|\begin{array}{l} \frac{\checkmark}{1} \\ \hat{n} \\ \frac{1}{\infty} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \tilde{1} \\ 0 \\ \Sigma \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \tilde{\omega} \\ \dot{\omega} \end{array}\right\|$ | $\begin{aligned} & \mathbb{1} \\ & \hat{N} \\ & \Sigma \end{aligned}$ | $\left\lvert\, \begin{aligned} & U \\ & \frac{1}{U} \\ & \Sigma \end{aligned}\right.$ | $\frac{\infty}{\dot{U}}$ | $\left\lvert\, \begin{aligned} & \Psi \\ & \frac{1}{U} \\ & \Sigma \end{aligned}\right.$ | $\begin{aligned} & \text { U } \\ & \text { Ñ } \\ & \Sigma \end{aligned}$ | $\begin{aligned} & \infty \\ & \mathbf{N} \\ & \underset{N}{N} \\ & \Sigma \end{aligned}$ | $\begin{aligned} & \times \\ & \underset{\sim}{x} \\ & \stackrel{N}{N} \\ & \underset{\Sigma}{2} \end{aligned}$ |  | $\left\|\begin{array}{l} U \\ 1 \\ \dot{Y} \\ \mathbf{m} \end{array}\right\|$ |  | $\begin{aligned} & \Psi \\ & \pm \\ & \pm \\ & \hline \end{aligned}$ | $\begin{aligned} & \frac{1}{\frac{1}{\alpha}} \\ & \frac{\alpha}{Q} \end{aligned}$ | $\frac{m}{\frac{1}{\alpha}}$ |


| $\underset{\sim}{\underline{1}}$ | $\underset{o}{c}$ | $\underset{i}{f}$ |  | $\stackrel{\bar{N}}{\substack{0}}$ | $\begin{gathered} \mathrm{N} \\ \hline \end{gathered}$ | O－ | O－1 | O |  | $\stackrel{-}{-}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | 0 | N |  | O | $\checkmark$ |  | $0.0$ | 은 | N. | O |  |  | ¢ |  | ก | － | 8 | O | N | $\bigcirc$ | ก | ¢ | \％ | ก |  |  |  |  |  |  | － |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\stackrel{1}{1}$ | $\left\|\begin{array}{c} \infty \\ \\ 0 \end{array}\right\|$ |  |  |  |  | $\stackrel{c}{*}$ |  | No | $\stackrel{\sim}{0}$ | $\underset{\substack{c \\ \\ \hline \\ \hline}}{\substack{2}}$ | $\stackrel{\substack{\mathrm{N} \\ \underset{\sim}{2} \\ \hline}}{ }$ | $\stackrel{\sim}{\sim}$ | $\stackrel{\sim}{\mathrm{N}}$ | $\stackrel{0}{\mathrm{~N}}$ |  | $\left.\begin{array}{\|c} \mathbf{N} \\ \underset{\sim}{2} \end{array} \right\rvert\,$ |  | $\underset{\substack{c \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline}}{ }$ | N | $\underset{\sim}{N}$ |  |  |  | $\stackrel{0}{\mathrm{~N}}$ | $\stackrel{0}{N}$ | $\stackrel{\sim}{2} \underset{\sim}{\sim}$ |  | $\begin{gathered} 0 \\ 0 \\ \hline \end{gathered}$ | － | ! N | $\stackrel{\infty}{\sim}$ | $\begin{gathered} \infty \\ \underset{\sim}{\sim} \\ \end{gathered}$ | \|on | $\begin{gathered} \mathbf{N} \\ \text { N} \end{gathered}$ | $\stackrel{n}{0}$ |  | $\stackrel{\sim}{\sim}$ |  | $\begin{gathered} \infty \\ 0 \\ 0 \\ 0 \end{gathered}$ | $\stackrel{\sim}{\sim}$ |  | － |
| $\underline{1}$ | $\begin{aligned} & 8 \\ & 0 \\ & \stackrel{0}{0} \end{aligned}$ |  | $\mathfrak{i}$ |  |  | $\underset{\sim}{\substack{\underset{\sim}{2} \\ \hline}}$ | $\dot{f}$ |  | $\begin{aligned} & \bar{i} \\ & \stackrel{n}{n} \end{aligned}$ |  | $\begin{aligned} & \bar{i} \\ & \stackrel{y}{n} \\ & \hline \end{aligned}$ |  | $\stackrel{\rightharpoonup}{\infty}$ | $\begin{aligned} & \overline{\hat{h}} \\ & \underset{\sim}{2} \end{aligned}$ |  | $\begin{gathered} \underset{\sim}{\mathrm{y}} \\ \underset{\sim}{2} \end{gathered}$ |  |  | － | $\xrightarrow{8}$ | $\begin{aligned} & \bar{i} \\ & \underset{\omega}{n} \end{aligned}$ |  |  | $\begin{gathered} \underset{\sim}{\mathbf{N}} \\ \mathbf{N} \\ \stackrel{y}{2} \end{gathered}$ |  | $\underset{\sim}{\infty} \mid \underset{\sim}{\infty}$ |  |  | : | \| | $\begin{aligned} & \mathrm{O} \\ & \underset{\sim}{\mathrm{~N}} \\ & \mathrm{~m} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\mathcal{F}} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\underset{N}{2}} \\ & \underset{\sim}{2} \end{aligned}$ |  |  |  | $\begin{aligned} & 8 \\ & 0 \\ & \end{aligned}$ |  | $\begin{aligned} & \mathrm{O} \\ & \hline \mathbf{n} \end{aligned}$ | N－ |  | $\stackrel{ \pm}{\underset{\sim}{~}}$ |
| $\begin{aligned} & z \\ & \underset{\vdash}{2} \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\stackrel{\rightharpoonup}{S} \underset{\substack{\mathrm{~N} \\ \mathbf{N} \\ \hline}}{ }$ |  | $\underset{\sim}{\underset{N}{\sim}}$ |  | $$ |  | $8$ |  |  |  |  | $\begin{aligned} & \overline{\hat{N}} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{gathered} \infty \\ \underset{\sim}{\sim} \\ \underset{\sim}{2} \end{gathered}$ |  | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathrm{i}} \\ \hline \end{gathered}\right.$ |  |  | $\stackrel{\stackrel{y}{f}}{\stackrel{i}{i}}$ |  | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{n} \\ m \end{array}\right\|$ |  |  | $\begin{gathered} \underset{y}{c} \\ \mathbf{~} \end{gathered}$ |  |  |  |  | $\left\lvert\, \begin{aligned} & \mathrm{O} \\ & \mathrm{O} \\ & \dot{\sim} \end{aligned}\right.$ | $\stackrel{\otimes}{\infty}$ | $\begin{gathered} \substack{n \\ \\ \\ \hline} \end{gathered}$ | $\stackrel{\underset{\sim}{f}}{\dot{\sim}}$ | $\left\lvert\, \begin{aligned} & \text { m} \\ & \substack{0} \\ & \hline \end{aligned}\right.$ |  |  |  | $\stackrel{\underset{\sim}{N}}{\underset{\sim}{*}}$ |  | $\stackrel{N}{N}$ | $\begin{gathered} \overline{\hat{n}} \\ \end{gathered}$ |  | $\stackrel{\text { ¢ }}{\stackrel{\text { ¢ }}{\sim}}$ |
| $\dagger$ | 웅 |  | $\begin{gathered} \substack{0 \\ 0 \\ \\ \\ \hline} \end{gathered}$ | $\begin{gathered} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{gathered}$ |  |  |  | $\mathfrak{n}$ |  | $\overbrace{n}^{\sim} \overbrace{0}^{n}$ |  |  | $\infty$ |  |  | $\begin{array}{c\|c\|c} \substack{0 \\ \hline \\ \hline \\ \hline} \\ \hline \end{array}$ |  |  | $\underset{\sim}{\infty}$ | $\mathfrak{c}$ | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ 0 \end{gathered}$ |  |  | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ 0 \end{gathered}$ | $\left.\begin{gathered} 0 \\ \\ 0 \\ 0 \end{gathered} \right\rvert\,$ | Noccoon |  | $\left\|\begin{array}{c} 0 \\ \underset{y}{0} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} o \\ 0 \\ \\ 0 \end{gathered}\right.$ | $\begin{gathered} \infty \\ \\ \end{gathered}$ | $\begin{aligned} & \bar{i} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} \mathscr{\infty} \\ \underset{0}{\infty} \\ \hline \end{gathered}$ | $\begin{array}{\|c} \infty \\ \\ \hline 0 \end{array}$ | On | $\mathfrak{c}$ |  | $\stackrel{\otimes}{\sim}$ |  | © | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ \hline \end{gathered}$ |  | O |
| $\stackrel{\sim}{\circ}$ | $\stackrel{8}{\circ}$ | $\left.\begin{gathered} \bar{N} \\ \dot{0} \end{gathered} \right\rvert\,$ |  | $\begin{array}{c\|c} \substack{\sim \\ \hline} & \underset{\sim}{4} \\ \hline \end{array}$ | $\underset{\substack{~}}{\substack{0 \\ \hline}}$ | $\begin{gathered} c \\ \\ \hline \end{gathered}$ | $\mid \stackrel{\sim}{\sim}$ | $\stackrel{\sim}{6}$ |  |  | $\begin{gathered} \mathrm{c} \\ \hline \end{gathered}$ | N | N |  | $\stackrel{\text { N}}{0}$ | － |  | $\stackrel{\sim}{\circ}$ | $\bar{\square}$ |  | $\stackrel{\sim}{0}$ |  | $\stackrel{\sim}{\circ}$ | $\stackrel{\text { ¢ }}{\substack{\text { ¢ }}}$ |  | － | ָ | N | O | $\stackrel{\text { Ni }}{\substack{0}}$ | ก | N | $\stackrel{\stackrel{\rightharpoonup}{6}}{ }$ | $\stackrel{\mathrm{N}}{\stackrel{1}{6}}$ | స |  | $\stackrel{\text { N}}{\circ}$ |  | $\stackrel{\text { N}}{\substack{*}}$ | $\underset{\substack{\text { ¢ }}}{\text { ¢ }}$ |  | $\stackrel{\substack{\text { ¢ }}}{\substack{0}}$ |
| $\stackrel{\text { O}}{\stackrel{0}{1}}$ | \| | $\left\|\begin{array}{c} \mathbf{d} \\ 0 \\ 0 \end{array}\right\|$ |  | $0$ | $\mathrm{N}_{0}^{2}$ | $\begin{gathered} N_{0} \\ \hline 0 \\ \hline 0 \\ \hline \end{gathered}$ | $\underset{\sim}{\infty}$ | N | ¢ |  |  | CO OQ | $\stackrel{N}{N}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \end{aligned}$ |  | $=0$ |  |  | $\propto$ |  |  |  |  | $\stackrel{\Gamma}{\infty}$ | $\left\|\begin{array}{c} \kappa \\ \\ 0 \end{array}\right\|$ | $\stackrel{0}{\circ}$ | $\mid \bar{\infty}$ |  | \％ | $\stackrel{\text { N }}{\substack{\text { N}}}$ | $\underset{0}{N}$ | $\bar{\infty}$ | $\stackrel{\text { N }}{ }$ | N | $\overbrace{6}$ |  | $\stackrel{\text { N }}{\sim}$ |  | $\infty$ |  |  | ？ |
|  | $\underset{\sim}{\sim}$ | $0$ | $\pm$ | $\underset{\sim}{\stackrel{\rightharpoonup}{c}} \underset{\sim}{\sim}$ | $\underset{\substack{2}}{\substack{0}}$ | $\underset{\sim}{\circ}$ | $\mid \xrightarrow[N]{O}$ | ¢ | $\begin{gathered} \infty \\ 0 \\ 0 \\ 0 \end{gathered}$ | $\underset{\sim}{0} \underset{\sim}{\circ} \mid \underset{\sim}{N}$ | $\stackrel{\rightharpoonup}{\mathrm{v}} \stackrel{\rightharpoonup}{\sim}$ | $\stackrel{+}{\text {－}}$ | $\stackrel{\infty}{\infty}$ | $\stackrel{\bar{\sigma}}{\dot{r}}$ | $\underset{\sim}{8}$ |  | $\stackrel{\sim}{\mathrm{O}} \underset{\mathrm{~N}}{ }$ | $\stackrel{\sim}{\sim} \underset{\sim}{\infty} \underset{\sim}{\infty}$ | $\|\stackrel{M}{\mathrm{i}}\|$ |  |  |  |  | $\left\|\begin{array}{c} \hat{N} \\ \underset{\sim}{c} \end{array}\right\|$ | $\underset{\sim}{\underset{\sim}{i}}$ | $\underset{\sim}{\underset{\sim}{c}}$ |  | $\dot{~ f} \underset{\sim}{c} \underset{\sim}{\sim}$ | $\stackrel{\underset{N}{\mathrm{~N}}}{ }$ | $\stackrel{\ominus}{\stackrel{\circ}{\mathrm{N}}}$ | $\stackrel{\substack{\mathrm{m} \\ \mathrm{~N}}}{ }$ |  | $\underset{\sim}{\underset{\sim}{i}}$ | $\stackrel{\tau}{\text { ̇ }}$ | $j \stackrel{o}{\dot{\sim}}$ |  |  |  | $\overline{\mathrm{N}}$ | N |  |  |
|  |  | $\stackrel{\rightharpoonup}{\mathrm{N}} \underset{\sim}{\mathrm{~N}}$ |  |  | $\stackrel{\substack{\mathrm{N}} \underset{\sim}{\sim}}{\substack{0}}$ | $\underset{\sim}{\sim} \underset{\sim}{\sim}$ | $\begin{array}{c\|c\|c} \substack{\underset{\sim}{*} \\ \underset{\sim}{*} \\ \underset{\sim}{*} \\ \hline} \\ \hline \end{array}$ | $\mathfrak{N}$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{N} \end{aligned}$ | $\stackrel{\circ}{\mathrm{o}} \underset{\mathrm{~N}}{ }$ | $\underset{\sim}{n} \underset{\sim}{n} \stackrel{\Gamma}{n}$ | $\overline{\mathrm{o}} \underset{\sim}{\underset{\sim}{N}}$ | $\pm$ |  | $\dot{f}$ |  |  |  |  |  | $\underset{\sim}{N} \stackrel{\sim}{\sim}$ |  | $\stackrel{-}{\sim}$ | $\frac{ㅇ ㅡ ㄷ ~}{\stackrel{\rightharpoonup}{i}}$ | $\dot{N}$ |  | - | $\stackrel{\infty}{\text { ¢ }}$ | $\bigcirc$ | $\stackrel{\otimes}{\infty}$ | б | $\varnothing$ | $\stackrel{\substack{\underset{N}{N} \\ \hline}}{ }$ | $\stackrel{m}{\underset{\sim}{c}}$ |  |  |  |  | $\begin{gathered} \bar{\sim} \\ \underset{N}{2} \end{gathered}$ |  |  | N |
| $\underset{\substack{\mathrm{E}}}{\stackrel{E}{\mathrm{E}}}$ |  | $\stackrel{\substack{n}}{\substack{n \\ \underset{\sim}{\infty} \\ \hline}}$ | $\stackrel{\rightharpoonup}{\infty} \underset{\substack{\infty \\ \underset{\sim}{\infty} \\ \infty}}{ }$ |  |  | $\underset{\sim}{\infty} \underset{\sim}{\infty} \mid \stackrel{\rightharpoonup}{\sim}$ | $\stackrel{\rightharpoonup}{\stackrel{\rightharpoonup}{\mathrm{N}}} \underset{\sim}{\underset{\sim}{\sim}} \underset{\sim}{\sim}$ |  | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & 0 \\ & \hline \end{aligned}\right.$ |  |  |  | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\stackrel{\rightharpoonup}{2}}$ | $\begin{aligned} & \bar{子} \\ & \dot{\sim} \end{aligned}$ |  |  |  |  | $\begin{aligned} & \text { d } \\ & \text { on } \\ & \hline \end{aligned}$ |  |  |  |  |  | $\begin{aligned} & \mathrm{O} \\ & \stackrel{\rightharpoonup}{\dot{M}} \end{aligned}$ | $\underset{\substack{0}}{\substack{\infty \\ \hline}}$ | Mó | $\left.\begin{array}{\|c} \underset{y}{N} \\ \dot{e} \end{array} \right\rvert\,$ | $\begin{aligned} & \underset{\sim}{c} \\ & \underset{\sim}{2} \end{aligned}$ | প্লি | $\begin{aligned} & \underset{\sim}{\dot{m}} \end{aligned}$ | $\underset{\sim}{\underset{\sim}{n}}$ | on | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & \dot{M} \end{aligned}$ | $\dot{S} \dot{\dot{N}}$ |  |  |  | $\stackrel{\sim}{\sim} \mid$ |  |  | － |
| 何咢 |  |  | $\underset{\substack{\mathrm{e}} \underset{\sim}{\stackrel{1}{2}}}{ }$ |  |  |  |  | $\dot{o}$ |  |  |  |  | 志 |  | $\begin{aligned} & \substack{\mathrm{p} \\ \underset{\sim}{2} \\ \underset{\sim}{2} \\ \hline} \end{aligned}$ |  |  |  | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{m} \end{aligned}$ |  |  |  |  | $\begin{gathered} \bar{m} \\ \dot{m} \end{gathered}$ | $\left\lvert\, \begin{aligned} & n \\ & \underset{\sim}{n} \\ & \underset{\sim}{n} \\ & \hline \end{aligned}\right.$ | $\underset{\sim}{\sim}$ |  |  | $\begin{gathered} \infty \\ \substack{2 \\ m \\ \hline} \end{gathered}$ | ल্ল゙ | $\begin{aligned} & \text { N } \\ & \underset{\sim}{N} \\ & \hline \end{aligned}$ | $\underset{\sim}{\infty}$ | $\begin{aligned} & \mathrm{\infty} \\ & \dot{\sim} \\ & \dot{\sim} \end{aligned}$ | $\mathfrak{c} \left\lvert\, \begin{aligned} & \infty \\ & \dot{c} \\ & \dot{m} \end{aligned}\right.$ | $\mathfrak{l}$ |  |  |  | $\stackrel{\sim}{\dot{\omega}}$ |  |  | O |
| $\frac{\stackrel{\rightharpoonup}{\circ}}{\dot{\circ}} \varepsilon$ | $\underset{\sim}{\mathrm{N}}$ | $?$ |  | $\underset{\sim}{f} \underset{\sim}{\underset{r}{c}} \underset{\sim}{c}$ |  | $\begin{gathered} \substack{c \\ \hdashline \\ - \\ \hline} \\ \hline \end{gathered}$ | $\dot{S}$ | $: \begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{n} \end{gathered}$ |  | $\stackrel{\sim}{c}$ | $\stackrel{\sim}{\square}$ | － | $\left\lvert\, \begin{gathered} \infty \\ \underset{y}{\infty} \\ \stackrel{y}{2} \end{gathered}\right.$ |  | N |  |  |  | $\begin{array}{\|c} \underset{\sim}{\mathrm{N}} \\ \underset{\mathrm{i}}{ } \end{array}$ |  | $8$ |  | $\underset{\substack{\infty}}{\substack{\circ \\ \hline}}$ | ${ }_{0}^{\circ}$ |  | $\stackrel{\sim}{N}$ | N |  | $\stackrel{\leftrightarrow}{\infty} \mid$ | $0$ | $\left\|\begin{array}{c} \stackrel{\leftrightarrow}{\bullet} \\ \stackrel{\rightharpoonup}{\dot{2}} \end{array}\right\|$ | $\stackrel{\text { N}}{\substack{*}}$ | $\stackrel{\infty}{\infty}$ | $0$ | $\stackrel{\substack{n \\ \\ \underset{\sim}{n} \\ \hline}}{ }$ |  |  |  | $\begin{gathered} \stackrel{9}{+} \\ \stackrel{\rightharpoonup}{9} \end{gathered}$ |  |  |  |
|  |  |  | $0$ |  |  |  | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  |  |  |  |  | $\begin{aligned} & 8 \\ & \stackrel{8}{0} \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned}$ | $\begin{aligned} & 3 \\ & \hline \end{aligned}$ |  |  |  | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \end{aligned}\right.$ | or |  | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \infty \\ & \hline \end{aligned}\right.$ |  | $\mathfrak{l}$ | $\mathfrak{l}$ | ＋ |  |  |  | $$ |  | ＋ |
|  | $\left\|\begin{array}{c} \underset{\sim}{\underset{\sim}{c}} \\ \underset{\sim}{\infty} \\ \stackrel{\sim}{c} \end{array}\right\|$ |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \overline{8} \\ & \stackrel{\rightharpoonup}{\circ} \\ & \dot{N} \end{aligned}$ |  |  |  |  |  |  | $\underset{\sim}{c} \underset{\sim}{\sim}$ |  |  |  |  |  |  |  |  | $\left\|\right\|$ | － |  | 骨 |  |  |  |  |  |  |  |  |  | － |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | نָ |  |
|  |  |  |  |  |  |  |  | $\left\|\begin{array}{c} 0 \\ \frac{1}{\omega} \\ \hline \end{array}\right\|$ | $\begin{aligned} & \frac{\pi}{\Psi} \\ & \underset{\sim}{4} \end{aligned}$ | $\left.\begin{aligned} & \frac{1}{1} \\ & \hline 1 \end{aligned} \right\rvert\, \frac{1}{\alpha}$ |  |  | $\begin{array}{\|c} \substack{\dot{N} \\ \underset{\sim}{x}} \end{array}$ |  |  |  | ๗ٌ |  | $\begin{aligned} & \frac{0}{\frac{1}{2}} \\ & \frac{1}{\mathbf{2}} \end{aligned}$ | $\frac{\stackrel{\rightharpoonup}{\bar{y}}}{\mathrm{~m}}$ | $\begin{gathered} \frac{1}{c} \\ \stackrel{y}{\mathbf{y}} \end{gathered}$ | $\begin{aligned} & \underset{\sim}{\underset{\sim}{\alpha}} \\ & \underset{\sim}{2} \end{aligned}$ |  | $\begin{array}{\|c} \underset{\sim}{d} \\ \underset{\sim}{c} \end{array}$ |  |  |  | $\left\lvert\, \begin{aligned} & 0 \\ & \frac{1}{4} \\ & \mathbf{d} \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} \infty \\ \frac{p}{c} \\ \underset{\sim}{c} \end{gathered}\right.$ | $j \underset{\infty}{\stackrel{1}{⿺}}$ | $\begin{gathered} 0 \\ \underset{\sim}{\mathbf{N}} \\ \frac{\mathbf{v}}{} \end{gathered}$ | $\begin{gathered} \text { n } \\ \underset{\sim}{\underset{\sim}{x}} \end{gathered}$ | $\begin{array}{\|c} \substack{\underset{1}{n} \\ \underset{\sim}{\mathbf{y}}} \end{array}$ | $\mathfrak{c}$ | $\begin{gathered} 0 \\ \underset{N}{n} \\ \sum_{i} \end{gathered}$ | $\sum$ | $\left\|\sum\right\|$ |  | $\underset{\Sigma}{Z}$ |  |  | ${ }^{\text {O }}$ |


| $\frac{\pi}{\frac{1}{5}}$ | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{m}}}{\stackrel{2}{2}}$ | $\stackrel{?}{\square}$ | $\stackrel{\infty}{\infty} \underset{\substack{\infty \\ 0}}{ }$ | $\stackrel{\stackrel{\rightharpoonup}{\mathrm{N}}}{\stackrel{1}{2}}$ | $\stackrel{ㅇ}{ㄷ}$ | $\stackrel{O}{\underset{\sim}{N}}$ | $\left\|\begin{array}{l} \infty \\ \underset{\sim}{\infty} \end{array}\right\|$ | $\begin{gathered} N \\ 0 \\ 0 \end{gathered}$ | $\begin{gathered} \mathbf{4} \\ \hline 0 \\ 0 \end{gathered}$ | $\stackrel{\rightharpoonup}{\dot{\circ}}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} m \\ \underset{\sim}{2} \end{gathered}$ | $\mid$ | $\begin{aligned} & \mathbf{j} \\ & \mathbf{O} \\ & \hline \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ \dot{\circ} \\ \dot{o} \end{array}\right\|$ | $\overline{0}$ | $\left\|\begin{array}{c} m \\ \dot{o} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \vdots \\ 0 \end{gathered}\right.$ | $\mid$ | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{array}{\|c} \mathbf{n} \\ 0 \\ 0 \end{array}$ | $\left\lvert\, \begin{aligned} & 10 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\stackrel{\circ}{-}$ | $\begin{gathered} \infty \\ \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ 0 \\ 0 \\ \hline \end{gathered}$ | $\stackrel{\Im}{\circ}$ | $\stackrel{\text { N }}{\substack{0}}$ | $\begin{array}{r} \top \\ 0 \end{array}$ | Co | $\begin{gathered} 9 \\ \stackrel{9}{0} \end{gathered}$ | $\stackrel{+}{\bullet}$ | $\begin{aligned} & \text { N } \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \hline \\ & \infty \\ & 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ \infty \\ 0 \\ \hline \end{array}\right\|$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 10 \\ & 0 \\ & 0 \end{aligned}\right.$ | － | － | $\stackrel{\circ}{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\stackrel{\square}{1}$ | $\left\lvert\, \begin{gathered} \infty \\ \stackrel{N}{N} \\ 0 \end{gathered}\right.$ |  | $\left\|\begin{array}{c} \bar{\sim} \\ \underset{o}{0} \end{array}\right\|$ | $\begin{aligned} & \bar{\sigma} \\ & \underset{o}{0} \end{aligned}$ | $\begin{gathered} \underset{\sim}{2} \\ \underset{\sim}{0} \end{gathered}$ | $\left\|\begin{array}{c} \bar{\sigma} \\ \underset{o}{0} \end{array}\right\|$ | $\begin{aligned} & n \\ & \mathbf{N} \\ & 0 \end{aligned}$ | $\begin{gathered} \infty \\ \stackrel{\sim}{N} \\ \underset{0}{2} \end{gathered}$ | $\begin{gathered} \infty \\ \stackrel{\sim}{n} \\ 0 \end{gathered}$ | $\left\lvert\, \begin{gathered} \infty \\ \stackrel{\sim}{0} \\ \underset{0}{0} \end{gathered}\right.$ | $\begin{gathered} \infty \\ \underset{\sim}{0} \\ \underset{0}{0} \end{gathered}$ | $\left\lvert\, \begin{aligned} & \infty \\ & N \\ & N \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{l} \infty \\ \underset{N}{0} \\ \mathbf{O} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \underset{\sim}{0} \\ \underset{0}{0} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{N}{\mathrm{O}} \\ \hline \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \bar{\circ} \\ \underset{o}{2} \\ \mathbf{o} \end{gathered}\right.$ | $\left\|\begin{array}{c} \bar{\sigma} \\ \underset{O}{0} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{0} \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \bar{\sim} \\ \underset{~ N}{0} \end{gathered}\right.$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{n} \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \mathbf{O} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ 0 \end{array}\right\|$ | $\begin{aligned} & \infty \\ & N \\ & N \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} \stackrel{O}{N} \\ \underset{\sim}{N} \\ \mathbf{O} \end{gathered}\right.$ | $\begin{aligned} & 0 \\ & \underset{N}{N} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} \infty \\ \underset{\sim}{0} \\ 0 \\ 0 \end{array}\right\|$ | $\stackrel{\infty}{\sim}$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{*} \end{gathered}$ | $\begin{gathered} \infty \\ \underset{N}{\infty} \\ 0 \end{gathered}$ | $\begin{aligned} & \text { N্ } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & N \\ & N \\ & 0 \end{aligned}\right.$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{N} \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ 0 \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & N \\ & N \\ & 0 \end{aligned}\right.$ | $\begin{gathered} \stackrel{\sim}{N} \\ \underset{\sim}{0} \end{gathered}$ | $\left\|\begin{array}{c} \bar{o} \\ \stackrel{0}{0} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \underset{N}{0} \\ \mathbf{O} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \underset{N}{0} \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ N \\ \mathbf{N} \\ \mathbf{O} \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \text { N} \\ & \text { O} \end{aligned}$ | N |
| Z | $\left\lvert\, \begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{\underset{\sim}{*}} \end{aligned}\right.$ |  | $\left.\begin{gathered} \underset{\sim}{\lambda} \\ \stackrel{\rightharpoonup}{i} \end{gathered} \right\rvert\,$ | $\begin{aligned} & \overline{\hat{O}} \\ & \mathbf{0} \\ & 0 \end{aligned}$ | $\begin{gathered} \stackrel{\rightharpoonup}{n} \\ \end{gathered}$ | $\stackrel{m}{\underset{\sim}{r}}$ | $\begin{array}{\|c} \underset{\sim}{\hat{j}} \\ \underset{\sim}{2} \end{array}$ | $\begin{aligned} & \underset{\sim}{i} \\ & \stackrel{5}{\circ} \end{aligned}$ | $\begin{aligned} & N \\ & \infty \\ & \infty \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{\sim}{9} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\begin{gathered} \bar{N} \\ \mathbf{N} \\ \dot{n} \end{gathered}$ | $\left.\begin{array}{\|l\|} \hline 8 \\ 0 \\ 0 \\ i \end{array} \right\rvert\,$ | $\left.\begin{aligned} & 0 \\ & \infty \\ & \Gamma \\ & \underset{~}{\prime} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} 8 \\ 0 \\ 10 \\ 10 \end{array}\right\|$ | $\left\|\begin{array}{c} \bar{N} \\ \hat{0} \\ 10 \end{array}\right\|$ | $\left.\begin{array}{\|c\|} \hline 1 \\ \infty \\ \infty \\ \infty \end{array} \right\rvert\,$ | $\begin{aligned} & \underset{\sim}{\underset{\sim}{2}} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{gathered} \infty \\ \infty \\ \infty \\ \infty \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{N}{n} \\ \dot{n} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathrm{O} \\ \mathrm{~B} \\ \mathrm{~N} \end{array}\right\|$ | $\left\|\begin{array}{l} 1 \\ \infty \\ 10 \\ 1 \end{array}\right\|$ | $\begin{gathered} \mathrm{N} \\ \mathbf{o} \\ \mathbf{N} \end{gathered}$ | $\left.\begin{aligned} & \infty \\ & \propto \\ & \underset{\infty}{\infty} \\ & \dot{m} \end{aligned} \right\rvert\,$ | $\begin{aligned} & \underset{\sim}{2} \\ & \mathbf{0} \\ & \dot{\sim} \end{aligned}$ | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $\left\|\begin{array}{l} \hat{n} \\ ल \\ ल \end{array}\right\|$ | $\left.\begin{gathered} \bar{N} \\ \stackrel{\sim}{i} \end{gathered} \right\rvert\,$ | $\begin{aligned} & \text { n } \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{\underset{\rightharpoonup}{N}}{\underset{\sim}{N}}$ | $\begin{aligned} & \text { B } \\ & \text { Nे } \\ & \text { ले } \end{aligned}$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \infty \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & 0 \\ & 10 \\ & \mathrm{~N} \end{aligned}$ | $\left\|\begin{array}{c} \underset{\sim}{4} \\ \underset{\sim}{+} \end{array}\right\|$ | $\begin{aligned} & 8 \\ & \hline 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left.\begin{aligned} & \hat{0} \\ & \infty \\ & 0 \end{aligned} \right\rvert\,$ | $\begin{aligned} & \mathrm{O} \\ & \hline \mathrm{~N} \\ & \mathrm{~N} \end{aligned}$ |  | $\left\|\begin{array}{l} \mathrm{O} \\ 0 \\ 0 \\ i \end{array}\right\|$ | $\left\|\begin{array}{l} \hat{n} \\ \underset{m}{n} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \mathbf{N} \\ & \underset{\sim}{N} \\ & \underset{N}{2} \end{aligned}\right.$ | $\frac{m}{\underset{r}{r}}$ | $\stackrel{\infty}{\infty}$ |
| $\underset{1}{\underline{1}}$ | $\left\lvert\, \begin{array}{l\|} \underset{\sim}{2} \\ \underset{\sim}{+} \\ \hline \end{array}\right.$ |  | $\left\|\begin{array}{c} \underset{\sim}{\mathcal{O}} \\ \underset{\sim}{\dot{\gamma}} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ \\ i \end{gathered}\right.$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{~N} \end{aligned}$ | $\left\|\begin{array}{l} \hat{0} \\ 0 \\ 0 \end{array}\right\|$ | $\left.\begin{gathered} \infty \\ \infty \\ N \\ \dot{m} \end{gathered} \right\rvert\,$ | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ \underset{\sim}{\circ} \end{gathered}$ | $\begin{aligned} & \bar{N} \\ & \stackrel{N}{n} \\ & \hline \end{aligned}$ | $\begin{aligned} & 8 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{M}{2} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\top} \\ & \dot{\gamma} \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ \underset{N}{\infty} \\ \underset{\sim}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} \frac{\pi}{N} \\ 10 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 1 \\ \underset{\sim}{2} \end{array}\right\|$ |  | $\left\lvert\, \begin{aligned} & \mathbf{O} \\ & \underset{~}{+} \\ & \dot{\sim} \end{aligned}\right.$ | $\left\|\begin{array}{c} \bar{N} \\ \infty \\ \infty \end{array}\right\|$ | $\begin{aligned} & 8 \\ & 0 \\ & 10 \end{aligned}$ | $\stackrel{\substack{\underset{\sim}{i}}}{ }$ | $\left\|\begin{array}{c} \bar{N} \\ \hat{N} \\ 10 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \vdots \\ 0 \end{array}\right\|$ | $\begin{gathered} \bar{i} \\ \underset{m}{n} \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{\sim} \\ \underset{\sim}{2} \end{array}\right\|$ | $\begin{gathered} \underset{\sim}{N} \\ \underset{\sim}{n} \end{gathered}$ | $\left\|\begin{array}{c} \hat{N} \\ \infty \\ \underset{\sim}{n} \end{array}\right\|$ | $\left\lvert\, \frac{m}{\dot{\sim}}\right.$ | O- | $\stackrel{\underset{\sim}{f}}{\dot{i}}$ | $\left.\begin{aligned} & m \\ & 0 \\ & c \\ & m \end{aligned} \right\rvert\,$ | $\left\lvert\, \begin{aligned} & \bar{N} \\ & \dot{n} \\ & \infty \\ & \end{aligned}\right.$ | $\left\lvert\, \frac{\underset{\sim}{f}}{i}\right.$ | $\left\|\begin{array}{l} \underset{\sim}{N} \\ \underset{\sim}{2} \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \text { N } \\ \underset{\sim}{2} \\ \hline \end{gathered}\right.$ | $\begin{gathered} 9 \\ \underset{\sim}{N} \\ \dot{N} \end{gathered}$ | $\stackrel{\Im}{\underset{\sim}{4}}$ | $\left\|\begin{array}{c} D_{1} \\ \underset{\sim}{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\infty}{\infty} \\ \underset{\sim}{*} \\ \underset{\sim}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} \bar{N} \\ \dot{0} \\ \dot{n} \end{array}\right\|$ | $\left\|\begin{array}{l} \mathbf{3} \\ \mathbf{0} \\ \mathbf{N} \end{array}\right\|$ | $\begin{aligned} & \stackrel{N}{\infty} \\ & \infty \\ & \underset{N}{2} \end{aligned}$ | － |
| $\underset{\mathbf{Z}}{\mathbf{Z}}$ | $\left\lvert\, \begin{gathered} 0 \\ \stackrel{\sim}{N} \\ \vdots \\ \hline \end{gathered}\right.$ | $\begin{gathered} 0 \\ \underset{\sim}{n} \\ 0 \end{gathered}$ | $\begin{gathered} \circ \\ \underset{\sim}{N} \\ \stackrel{r}{2} \end{gathered}$ | $\left\lvert\, \begin{gathered} 0 \\ 0 \\ \\ 0 \end{gathered}\right.$ | $\begin{gathered} 0 \\ \underset{\sim}{0} \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{1} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 0 \\ \underset{N}{N} \\ 0 \end{gathered}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \underset{\sim}{0} \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{\sim}{0} \\ & \underset{\sim}{0} \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \sim \\ \sim \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{0} \\ \underset{O}{2} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ |  | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{N}{0} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \sim \\ \sim \\ \hline \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\begin{gathered} 1 \\ \\ 0 \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{\infty} \\ \underset{O}{0} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{\lambda} \\ & \dot{o} \end{aligned}$ | $\left\|\begin{array}{c} 1 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} 0 \\ 0 \\ \\ 0 \end{gathered}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 2 \\ \underset{\sim}{\sim} \\ 0 \end{gathered}\right.$ | $\begin{aligned} & \text { N} \\ & \end{aligned}$ | $\begin{aligned} & \bar{N} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & N \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & \underset{N}{\infty} \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \hat{0} \\ \mathbf{N} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} D_{1} \\ \underset{\sim}{0} \end{gathered}\right.$ | $\begin{aligned} & \bar{N} \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{gathered} 9 \\ \underset{\sim}{0} \\ 0 \end{gathered}\right.$ | $\begin{gathered} \hat{N} \\ \\ 0 \end{gathered}$ | $\left\|\begin{array}{c} 1 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left.\begin{aligned} & \frac{\pi}{N} \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ \underset{N}{0} \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \underset{\sim}{n} \\ & 0 \end{aligned}$ | O |
| O | $\left\lvert\,\right.$ | $\stackrel{\rightharpoonup}{c}$ | $\left.\begin{gathered} \underset{\sim}{v} \\ 0 \end{gathered} \right\rvert\,$ | $\stackrel{\Gamma}{N}$ | $\stackrel{\varphi}{\dot{\omega}}$ | $\stackrel{\underset{\sim}{c}}{\underset{0}{2}}$ | $\left.\begin{gathered} \underset{\sim}{n} \\ \dot{0} \end{gathered} \right\rvert\,$ | $\begin{gathered} \underset{\sim}{\mathrm{N}} \\ \dot{0} \end{gathered}$ | $\stackrel{\rightharpoonup}{N}$ | $\stackrel{\rightharpoonup}{\mathrm{N}}$ | $\underset{\oplus}{\square}$ | $\stackrel{\sigma}{\dot{0}}$ | $\left\|\begin{array}{l} \omega \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} \bar{N} \\ \dot{0} \end{gathered}$ | $\left\|\begin{array}{c} \mathrm{O} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{~}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} n \\ \underset{0}{0} \end{array}\right\|$ | $\underset{\dot{\circ}}{\infty} \mid$ | $\mid \underset{\dot{0}}{\infty}$ | $\begin{array}{\|c\|c} 0 \\ \\ 0 \\ 0 \end{array}$ | $\left\|\begin{array}{c} \underset{N}{N} \\ \dot{0} \end{array}\right\|$ | $\begin{aligned} & \bar{N} \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathbf{o} \\ & \\ & 0 \end{aligned}$ | $\underset{N}{N}$ | $\underset{\dot{0}}{\stackrel{\rightharpoonup}{9}}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \end{array}\right\|$ | $\underset{\sim}{\infty} \underset{\substack{\infty \\ \hline}}{ }$ | $\stackrel{\bar{m}}{\substack{c}}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \end{aligned}$ | $\underset{\substack{\mathrm{N}}}{ }$ | $\underset{\substack{N \\ \underset{\sim}{2} \\ \hline}}{ }$ | $\stackrel{\rightharpoonup}{N}$ | $\left\|\begin{array}{c} \underset{N}{0} \\ 0 \end{array}\right\|$ | $\frac{\square}{\oplus}$ | $\left\lvert\, \begin{aligned} & \stackrel{9}{\dot{0}} \end{aligned}\right.$ | $\stackrel{\square}{\dot{0}}$ | $\left\|\begin{array}{l} \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \underset{N}{0} \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \underset{N}{0} \\ 0 \end{array}\right\|$ | $\underset{\substack{\text { ® }}}{ }$ | $\stackrel{\square}{\dot{\circ}}$ | N |
|  |  | $\stackrel{8}{\mathrm{~g}}$ | $\left.\begin{aligned} & \infty \\ & \infty \\ & 0 \\ & \hline \end{aligned} \right\rvert\,$ | $\begin{aligned} & \hat{0} \\ & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} \infty \\ \stackrel{\infty}{N} \\ \stackrel{1}{2} \end{gathered}$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{\sim}{\infty} \end{gathered}\right.$ | $\left\|\begin{array}{l} 9 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathrm{P} \\ & \stackrel{0}{0} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \tilde{m} \\ & \underset{m}{2} \end{aligned}$ | $\begin{aligned} & 10 \\ & 0 \\ & 0 \end{aligned}$ | $\left.\begin{aligned} & \mathscr{O} \\ & \stackrel{O}{\therefore} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} 9 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 3 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \mathbf{4} \\ 0 \\ 0 \end{gathered}\right.$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \varrho \\ \uparrow \\ \mathbf{o} \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & \underset{0}{0} \end{aligned}\right.$ | $\mid$ | $\left\|\begin{array}{l} \bar{n} \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \mathbf{4} \\ & 0 \\ & 0 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 1 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\overline{\mathbf{0}} \mathbf{0} \mid$ | $\begin{aligned} & 5 \\ & 0 \\ & 0 \end{aligned}$ | $\stackrel{N}{\leftarrow}$ | $0$ | $\stackrel{N}{N}$ | $\underset{\sim}{N}$ | $\left\|\begin{array}{l} 6 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & 0 \\ & \infty \\ & 0 \end{aligned}$ | $\stackrel{ \pm}{N}$ | $\left\lvert\, \begin{gathered} \underset{O}{O} \\ 0 \end{gathered}\right.$ | $\begin{aligned} & \mathbf{0} \\ & 0 \\ & \hline \end{aligned}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $8$ | $\left\lvert\, \begin{gathered} \infty \\ \substack{0 \\ \hline} \end{gathered}\right.$ | O | $\begin{aligned} & \text { P} \\ & 0 \end{aligned}$ | $\cdots$ |
|  | $\left\|\begin{array}{l} \mathrm{t} \\ \stackrel{1}{\mathrm{~N}} \end{array}\right\|$ |  | $\left\|\begin{array}{l} \mathrm{O} \\ \mathrm{i} \end{array}\right\|$ | $\stackrel{\underset{\sim}{\underset{N}{N}}}{\underset{\sim}{n}}$ | $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & m \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{N}{\mathbf{N}} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ |  | $\stackrel{N}{\underset{\sim}{c}}$ | $\begin{aligned} & \underset{N}{\mathrm{~N}} \\ & \underset{\mathrm{~N}}{ } \end{aligned}$ | $\begin{aligned} & \underset{\sim}{9} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \mathbf{j} \\ & \mathbf{c} \end{aligned}$ | $\left\lvert\, \begin{gathered} \stackrel{\circ}{+} \\ \underset{-}{2} \end{gathered}\right.$ | $\stackrel{N}{\stackrel{N}{\mathrm{~N}}}$ | $\left\|\begin{array}{c} 9 \\ \underset{\sim}{i} \end{array}\right\|$ | $\mid$ | $\left\|\begin{array}{c} \infty \\ \infty \\ \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \underset{\sim}{\top} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\sim} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} 0 \\ \stackrel{1}{2} \\ \underset{y}{2} \end{gathered}\right.$ | $\infty$ | $\stackrel{\substack{\infty \\ \infty \\ \sim}}{ }$ | $\stackrel{\Gamma}{\sim}$ | N | $\stackrel{N}{\underset{\sim}{N}}$ | $\bar{\square}$ | $\stackrel{+}{\sim}$ | $\stackrel{\infty}{\infty}+$ |  | $N$ | $\begin{aligned} & \text { } \\ & \mathbf{O} \\ & \dot{m} \end{aligned}$ | $\stackrel{N}{\infty}$ | $\left\lvert\, \begin{aligned} & 9 \\ & \stackrel{9}{1} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\stackrel{\infty}{\underset{m}{m}}$ | $\begin{aligned} & 7 \\ & \underset{N}{2} \end{aligned}$ | $\begin{gathered} \underset{\sim}{*} \\ \mathrm{i} \end{gathered}$ | $\left\|\begin{array}{l} \dot{\infty} \\ \mathrm{N} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ \end{array}\right\|$ | $\stackrel{\sim}{\infty}$ | $\left\|\begin{array}{c} 6 \\ 7 \\ \hdashline \end{array}\right\|$ | $\stackrel{N}{N}$ | م |
|  |  |  | $\left\|\begin{array}{c} \mathbf{N}_{\mathrm{N}}^{\mathrm{N}} \end{array}\right\|$ | $\begin{aligned} & \mathrm{B} \\ & \stackrel{\rightharpoonup}{\mathrm{~N}} \end{aligned}$ | $\frac{\infty}{\stackrel{\infty}{i}}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \stackrel{0}{N} \\ & \hline \end{aligned}\right.$ | $\left.\frac{\stackrel{10}{5}}{\stackrel{N}{N}} \right\rvert\,$ | $\begin{aligned} & \text { B } \\ & \stackrel{\rightharpoonup}{\grave{~}} \end{aligned}$ | $\begin{gathered} \varphi \\ \stackrel{\ominus}{\mathrm{N}} \end{gathered}$ | $\stackrel{\bar{\sigma}}{\stackrel{\rightharpoonup}{\mathrm{N}}}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{N} \\ & \vdots \\ & \stackrel{N}{2} \end{aligned}$ | $\begin{aligned} & \underset{\sim}{\dot{N}} \\ & \end{aligned}$ | $\left\|\begin{array}{l} \stackrel{N}{N} \\ \underset{N}{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \hat{e} \\ \stackrel{\rightharpoonup}{N} \end{array}\right\|$ |  | $\begin{aligned} & \bar{\omega} \\ & \underset{\mathrm{N}}{2} \end{aligned}$ | $\left.\begin{aligned} & \mathrm{O} \\ & \mathrm{~N} \\ & \mathrm{~N} \end{aligned} \right\rvert\,$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{\dot{~}} \\ & \end{aligned}\right.$ | $\stackrel{N}{\underset{\sim}{\dot{N}}}$ | $\left.\frac{0}{\underset{N}{j}} \right\rvert\,$ | $\left\lvert\, \begin{gathered} \underset{N}{\mathrm{~N}} \\ \underset{\mathrm{~N}}{ } \end{gathered}\right.$ | $\stackrel{O}{\stackrel{O}{N}}$ | $\left\lvert\, \begin{aligned} & \mathbf{m} \\ & \underset{N}{n} \\ & \underset{N}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} \mathrm{O} \\ \mathrm{~N} \\ \mathrm{~N} \end{array}\right\|$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\grave{N}} \\ & \stackrel{1}{\prime} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{n} \\ & \underset{N}{2} \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \underset{N}{\mathrm{~N}} \end{aligned}$ | $\stackrel{m}{\stackrel{m}{~}}$ | $\begin{gathered} \underset{N}{N} \\ \underset{N}{2} \end{gathered}$ | $\begin{gathered} \underset{\sim}{N} \\ \text { Nin } \end{gathered}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \stackrel{\infty}{N} \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\mathrm{N}} \\ & \mathbf{N} \end{aligned}$ | $\left\lvert\, \begin{gathered} \stackrel{\circ}{+} \\ \stackrel{+}{\top} \end{gathered}\right.$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\Gamma} \\ & \stackrel{\rightharpoonup}{5} \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \dot{N} \end{aligned}$ | $\begin{aligned} & \underset{N}{N} \\ & \stackrel{N}{2} \end{aligned}$ | $\left\|\begin{array}{l} \bar{\varrho} \\ \dot{N} \end{array}\right\|$ | $\left\|\begin{array}{l} \stackrel{n}{n} \\ \stackrel{n}{\mathrm{~N}} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{N}{\mathrm{~N}} \\ \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \mathrm{O} \\ \mathrm{~N} \end{array}\right\|$ | $\stackrel{n}{\stackrel{n}{\mathrm{~N}}}$ | N゙ |
|  | O. |  | $\left\|\begin{array}{l}  \pm \\ \infty \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \mathbf{O} \\ & \mathbf{o j} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & n \\ & \hat{M} \\ & \dot{M} \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{c} \dot{子} \\ \dot{户} \end{array}\right\|$ | $\begin{aligned} & \stackrel{\rightharpoonup}{寸} \\ & \dot{ल} \end{aligned}$ | $\begin{gathered} \bar{\tau} \\ \dot{e} \end{gathered}$ | $\begin{aligned} & \mathrm{O} \\ & \dot{8} \\ & \hline \end{aligned}$ | $\begin{aligned} & \dot{j} \\ & \dot{j} \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \underset{\sim}{N} \\ \underset{N}{\infty} \\ \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{\dot{C}} \\ & \underset{M}{2} \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \mathbf{~} \\ \underset{\sim}{2} \\ \underset{N}{2} \end{gathered}\right.$ | $\left\|\begin{array}{c} \bar{\infty} \\ \dot{N} \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\left\lvert\, \begin{gathered} \underset{j}{m} \\ \infty \\ \sim \end{gathered}\right.$ | $\left\|\begin{array}{l} 0 \\ \infty \\ \underset{N}{2} \end{array}\right\|$ |  | $\begin{aligned} & \mathrm{O} \\ & \underset{N}{n} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \stackrel{\Omega}{N} \\ & \underset{N}{\circ} \end{aligned}\right.$ | $\begin{aligned} & \text { Y } \\ & \underset{\sim}{\circ} \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{O} \\ & 0 \\ & \underset{N}{0} \end{aligned}\right.$ | $\left\|\begin{array}{l} \overline{\mathrm{O}} \\ \mathbf{D} \\ \mathrm{~N} \end{array}\right\|$ | $\begin{aligned} & \text { O} \\ & \text { Ni } \\ & \text { N } \end{aligned}$ | $\begin{gathered} \underset{N}{N} \\ \underset{N}{\infty} \end{gathered}$ | $\begin{aligned} & \stackrel{N}{N} \\ & \underset{\sim}{2} \\ & \hline \end{aligned}$ | $\begin{aligned} & \underset{\sim}{c} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & N \\ & \underset{\sim}{N} \\ & \underset{N}{2} \end{aligned}$ | $\left\|\begin{array}{l} \bar{N} \\ \dot{M} \end{array}\right\|$ | $\begin{aligned} & \text { 寸 } \\ & \vdots \\ & \text { B } \end{aligned}$ | $\left\lvert\, \begin{aligned} & n \\ & N \\ & 0 \\ & 0 \end{aligned}\right.$ | $\begin{aligned} & \stackrel{0}{N} \\ & \stackrel{m}{m} \end{aligned}$ | $\left\|\begin{array}{l} \bar{N} \\ \dot{M} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ N \\ 0 \\ 0 \end{array}\right\|$ | $\left\|\begin{array}{l} \dot{O} \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \mathbf{O} \\ & \mathbf{o} \\ & \mathbf{M} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \text { O} \\ & \hline \end{aligned}$ | ¢ |
| $\bar{\sim}$ | $\left\|\begin{array}{l} \underset{N}{N} \\ \stackrel{N}{2} \end{array}\right\|$ | $\begin{aligned} & \mathrm{y} \\ & \dot{c} \\ & \hline \end{aligned}$ | $\begin{gathered} \underset{N}{N} \\ \stackrel{N}{n} \\ ल \end{gathered}$ | $\begin{aligned} & \text { d } \\ & \text { N } \\ & \text { M } \end{aligned}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{0} \\ & \dot{j} \\ & \text { M } \end{aligned}$ | $\left\lvert\, \begin{gathered} \substack{0 \\ \underset{\sim}{c} \\ \hline} \end{gathered}\right.$ | $\left\|\begin{array}{c} \underset{~}{\mathcal{C}} \\ \underset{\sim}{j} \end{array}\right\|$ | $\begin{aligned} & \mathbf{~} \\ & \mathbf{m} \\ & \dot{m} \end{aligned}$ | $\stackrel{\underset{N}{N}}{\stackrel{+}{\mathrm{M}}}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{N}{n} \\ & \underset{\sim}{n} \end{aligned}\right.$ | $\begin{gathered} \overline{0} \\ \dot{\mathbf{j}} \end{gathered}$ | $\left\lvert\, \begin{gathered} \underset{\sim}{\mathcal{N}} \\ \underset{\sim}{\dot{N}} \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & \underset{N}{2} \\ & \dot{N} \\ & \dot{N} \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \infty \\ & \infty \\ & \dot{\sim} \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & N \\ & \underset{\sim}{j} \\ & \dot{j} \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \infty \\ & \infty \\ & \\ & \end{aligned}$ | $\begin{aligned} & n \\ & M \\ & \underset{m}{n} \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & \stackrel{1}{2} \\ & \underset{j}{j} \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \stackrel{1}{0} \\ & \underset{\sim}{\dot{j}} \end{aligned}\right.$ | $\left\|\begin{array}{l} 0 \\ \underset{N}{0} \\ \dot{N} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & 0 \\ & 10 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{m} \\ & \underset{\sim}{c} \end{aligned}\right.$ | $\begin{aligned} & \infty \\ & \underset{N}{n} \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \hat{0} \\ \stackrel{0}{m} \\ 0 \end{array}\right\|$ | $\begin{aligned} & \mathfrak{m} \\ & \underset{~}{\mathbf{j}} \end{aligned}$ | $\left\|\begin{array}{l} n \\ N \\ 0 \\ 0 \end{array}\right\|$ | $\begin{aligned} & \hat{o} \\ & \dot{0} \\ & \dot{M} \end{aligned}$ | N. | $\begin{aligned} & \mathbb{N} \\ & \underset{N}{2} \end{aligned}$ | $\begin{aligned} & \hat{6} \\ & \mathbf{C} \\ & \mathbf{N} \end{aligned}$ |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \infty \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{j} \end{aligned}\right.$ |  | $\begin{aligned} & \underset{\sim}{i} \\ & \underset{M}{2} \end{aligned}$ | $\underset{\underset{N}{\dot{C}}}{\stackrel{\rightharpoonup}{*}}$ | $\left\lvert\, \begin{aligned} & \dot{G} \\ & \dot{j} \\ & \hline \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \underset{\sim}{2} \\ & \underset{\sim}{\dot{2}} \end{aligned}\right.$ | $\left\|\begin{array}{l} \overline{6} \\ \dot{N} \\ \mathbf{N} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \substack{0 \\ 1 \\ 0} \end{array}\right\|$ | $\begin{aligned} & \text { N } \\ & \text { N } \\ & \text { M } \end{aligned}$ | － |
|  |  | $=\begin{aligned} & 2 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} m \\ \underset{\sim}{c} \end{array}\right\|$ | $\begin{aligned} & \hat{N} \\ & \mathbf{N} \\ & \stackrel{y}{2} \end{aligned}$ | $\stackrel{9}{0}$ | $\stackrel{\infty}{\infty}$ | $\left.\begin{gathered} 0 \\ \infty \\ \infty \end{gathered} \right\rvert\,$ | $\stackrel{\underset{N}{\mathrm{~N}}}{\mathrm{q}}$ | $\begin{gathered} 0 \\ 0 \\ 0 \end{gathered}$ | $\left\|\begin{array}{l} \infty \\ \infty \\ \infty \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{9} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{gathered} \infty \\ \infty \\ 0 \end{gathered}$ | $\left\|\begin{array}{l} \mathrm{O} \\ 0 \\ \underset{N}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ \uparrow \\ \rho^{\circ} \end{array}\right\|$ | $\begin{gathered} \mathbb{N} \\ \underset{0}{2} \end{gathered}$ | $\left\lvert\, \begin{aligned} & \hat{O} \\ & \underset{\sim}{2} \end{aligned}\right.$ | $\overline{\mathrm{N}}$ | $\begin{aligned} & \bar{\lambda} \\ & 0 \end{aligned}$ | $\begin{aligned} & \bar{N} \\ & 0 \end{aligned}$ | $\left.\begin{aligned} & \underset{\sim}{N} \\ & \stackrel{N}{N} \end{aligned} \right\rvert\,$ | $\begin{aligned} & \underset{\sim}{r} \\ & \underset{r}{N} \end{aligned}$ | $\begin{aligned} & \mathbf{J} \\ & \mathbf{O} \end{aligned}$ | $\left\lvert\, \begin{gathered} \infty \\ \underset{\sim}{n} \\ \underset{N}{2} \end{gathered}\right.$ | $\begin{gathered} \underset{N}{N} \\ \underset{\sim}{2} \end{gathered}$ | $\begin{aligned} & t \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \\ \underset{N}{2} \end{array}\right\|$ | $\begin{aligned} & \underset{\sim}{\mathrm{O}} \\ & \stackrel{\rightharpoonup}{2} \end{aligned}$ | $$ | $\begin{aligned} & \text { Q } \\ & \text { N } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \infty \\ & \stackrel{0}{-} \\ & \stackrel{-}{2} \end{aligned}$ | $\begin{gathered} \infty \\ \infty \\ \infty \\ \hline \end{gathered}$ | $\frac{\stackrel{g}{\dot{1}}}{\dot{r}}$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \end{array}\right\|$ | $\begin{gathered} \infty \\ 0 \\ 0 \end{gathered}$ | $\left\|\begin{array}{l} 0 \\ \dot{\sim} \\ \dot{\sim} \end{array}\right\|$ | $\stackrel{\ominus}{\underset{\sim}{+}}$ | $\left\|\begin{array}{l} 9 \\ \underset{\sim}{\sim} \end{array}\right\|$ | $\left.\begin{gathered} \pi \\ \mathbf{O} \end{gathered} \right\rvert\,$ | $\left\|\begin{array}{l} \infty \\ 0 \\ \underset{\sim}{\mathrm{~N}} \end{array}\right\|$ | $$ | $\stackrel{N}{N}$ | $\stackrel{\sim}{N}$ |
|  | $\left\lvert\,\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | 0 0 0 0 0 0 1 | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{c} 0 \\ \underset{N}{N} \\ \underset{O}{\infty} \\ \underset{1}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline \end{array}\right\|$ | $\left[\begin{array}{l} 9 \\ 8 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right.$ | $\begin{aligned} & \mathrm{Y} \\ & \underset{8}{0} \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \underset{\sim}{O} \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \underset{8}{0} \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \pm \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\left\|\begin{array}{l} \infty \\ 0 \\ 0 \\ 0 \\ \dot{\infty} \\ \infty \\ \hline \end{array}\right\|$ | $\left\|\begin{array}{l} 10 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right\|$ | $\mid$ | $\left\lvert\, \begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}\right.$ | $\left\|\begin{array}{l} 9 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ \hline 1 \end{array}\right\|$ | $\begin{aligned} & 9 \\ & \hline 8 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ |  | $\begin{aligned} & \bar{\sim} \\ & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & N \\ & N \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline 1 \end{aligned}$ | $\left.\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned} \right\rvert\,$ | $\left\lvert\, \begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \mathbf{C}_{1} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 1 \end{aligned}$ | $\begin{aligned} & \bar{m} \\ & \mathbf{O} \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ | $\left\lvert\, \begin{aligned} & \underset{N}{N} \\ & \mathbf{O} \\ & \mathbf{O} \\ & 0 \\ & 1 \end{aligned}\right.$ | $\begin{aligned} & \underset{\sim}{2} \\ & \mathbf{O} \\ & \mathbf{O} \\ & \mathbf{O} \\ & \hline \end{aligned}$ | $\begin{aligned} & \bar{寸} \\ & \underset{O}{0} \\ & \dot{O} \end{aligned}$ | $\begin{gathered} \dot{寸} \\ \underset{O}{\infty} \\ \underset{\infty}{\infty} \end{gathered}$ |  | $\begin{aligned} & \mathrm{Y} \\ & \underset{O}{0} \\ & \underset{0}{0} \end{aligned}$ | $\left\|\begin{array}{l} \Gamma_{\infty}^{\infty} \\ \infty \\ 0 \\ 0 \\ \infty_{1} \end{array}\right\|$ | $\left\|\begin{array}{l} N_{0}^{\infty} \\ 0 \\ 0 \\ 0 \\ O_{1} \end{array}\right\|$ | $\begin{aligned} & \mathbb{\infty} \\ & \infty \\ & 0 \\ & \infty \\ & \infty \\ & \hline \end{aligned}$ | W |
|  | $\left\lvert\, \begin{aligned} & \circ \\ & \stackrel{\infty}{\sigma} \\ & \stackrel{\infty}{~} \\ & \hline \end{aligned}\right.$ | $\begin{aligned} & \stackrel{\infty}{\infty} \\ & \stackrel{3}{\sigma} \\ & \stackrel{i}{n} \end{aligned}$ | $\left\|\begin{array}{l} \overline{0} \\ 0 \\ 0 \\ N \\ N \end{array}\right\|$ | $\begin{aligned} & \mathrm{N} \\ & \mathrm{~N} \\ & \infty \\ & \underset{N}{\mathrm{~N}} \end{aligned}$ | $\begin{aligned} & \mathrm{N} \\ & \mathrm{~N} \\ & \infty \\ & \underset{\sim}{n} \\ & \stackrel{y}{n} \end{aligned}$ | $\begin{aligned} & \mathrm{O} \\ & \mathrm{O} \\ & \mathrm{O} \\ & \underset{j}{2} \end{aligned}$ |  | $\begin{aligned} & \text { g } \\ & \text { 2 } \\ & 0 \\ & 1 \\ & \stackrel{1}{N} \end{aligned}$ | $\begin{aligned} & 8 \\ & 8 \\ & \infty \\ & \stackrel{0}{1} \\ & \stackrel{1}{2} \end{aligned}$ | $\begin{aligned} & \stackrel{N}{5} \\ & \stackrel{\rightharpoonup}{\mathrm{~S}} \\ & \stackrel{1}{2} \end{aligned}$ |  | $\begin{aligned} & \underset{\sim}{5} \\ & 0 \\ & \stackrel{j}{N} \\ & \end{aligned}$ | $\begin{aligned} & \pm \\ & \stackrel{\pi}{5} \\ & 0 \\ & \stackrel{1}{N} \end{aligned}$ |  | $\left.\begin{aligned} & \frac{m}{5} \\ & 0 \\ & \stackrel{N}{N} \end{aligned} \right\rvert\,$ |  | $\left\|\begin{array}{l} 0 \\ \overline{6} \\ \stackrel{C}{N} \\ \stackrel{1}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ \stackrel{j}{2} \end{array}\right\|$ | $\left\|\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 10 \\ \mathfrak{N} \end{array}\right\|$ |  |  | $\left\|\begin{array}{l} \overline{\mathrm{O}} \\ \stackrel{\rightharpoonup}{\mathrm{C}} \\ \stackrel{N}{\mathrm{~N}} \end{array}\right\|$ | $\begin{aligned} & \infty \\ & \infty \\ & \sim \\ & N \\ & \underset{N}{n} \end{aligned}$ |  |  | $\begin{gathered} \underset{\sim}{n} \\ \underset{N}{N} \\ \underset{N}{d} \end{gathered}$ | $\begin{aligned} & \stackrel{N}{N} \\ & \underset{\sim}{\mathrm{~N}} \\ & \underset{\sim}{\mathrm{~N}} \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{N}{N} \\ & \underset{N}{N} \end{aligned}$ | $\begin{gathered} 0 \\ \underset{\sim}{N} \\ \text { N } \end{gathered}$ | $\begin{aligned} & \mathrm{N} \\ & \underset{\mathrm{~N}}{2} \\ & \underset{N}{\mathrm{~N}} \end{aligned}$ | $\left\lvert\, \begin{gathered} \mathrm{N} \\ \underset{\sim}{N} \\ \underset{N}{\mathrm{~N}} \end{gathered}\right.$ | $\begin{aligned} & \stackrel{\rightharpoonup}{8} \\ & \underset{N}{N} \\ & \stackrel{\rho}{N} \end{aligned}$ |  | $\begin{aligned} & \stackrel{\rightharpoonup}{\circ} \\ & \underset{\sim}{2} \\ & \underset{\sim}{2} \end{aligned}$ |  | $\begin{aligned} & \underset{\sim}{N} \\ & \underset{\sim}{\infty} \\ & \underset{N}{N} \end{aligned}$ |  | $\left\lvert\, \begin{aligned} & \substack{9 \\ \vdots \\ \infty \\ \stackrel{N}{N}} \end{aligned}\right.$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{\sim}{0} \\ \stackrel{1}{N} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{N} \\ \underset{\sim}{\infty} \\ \underset{N}{N} \end{array}\right\|$ | $\begin{aligned} & \stackrel{\rightharpoonup}{+} \\ & \underset{\sim}{\infty} \\ & \stackrel{1}{N} \end{aligned}$ | 으느․ |
|  |  |  | $\sum$ <br> $n$ <br> $N$ <br> $\underset{N}{n}$ <br> $\stackrel{i}{n}$ <br> $\stackrel{N}{N}$ |  |  |  |  | $\begin{aligned} & \sum \\ & \frac{\sum}{d} \\ & \frac{N}{\omega} \\ & \dot{0} \\ & \frac{\omega}{m} \\ & \frac{m}{\sigma} \end{aligned}$ |  | $\begin{aligned} & \frac{\Sigma}{d} \\ & \frac{D}{\square} \\ & \dot{\sigma} \\ & \frac{0}{M} \\ & \frac{\rho}{\sigma} \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \frac{5}{0} \\ & \stackrel{0}{0} \\ & 0 \end{aligned}$ | $\left\lvert\, \begin{array}{l\|l\|} \infty \\ \stackrel{n}{n} \\ \underset{\Sigma}{2} \end{array}\right.$ |  | $\left\|\begin{array}{l} 0 \\ \tilde{m} \\ \underset{m}{m} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & m \\ & \underset{\sim}{c} \\ & \stackrel{y}{m} \end{aligned}\right.$ | $\begin{aligned} & \underset{\sim}{c} \\ & \underset{m}{\tilde{m}} \end{aligned}$ | $\left.\begin{aligned} & \frac{\pi}{1} \\ & \frac{I}{\infty} \end{aligned} \right\rvert\,$ | $\left\|\begin{array}{l} 0 \\ \dot{6} \\ \frac{1}{\infty} \end{array}\right\|$ | $\begin{aligned} & m \\ & \hat{c} \\ & \frac{1}{\infty} \\ & \hline \end{aligned}$ | $\begin{aligned} & \overleftarrow{4} \\ & \stackrel{1}{2} \\ & \stackrel{1}{2} \end{aligned}$ | $\left\lvert\, \begin{gathered} U \\ \frac{1}{\alpha} \\ \frac{\gamma}{4} \end{gathered}\right.$ | $\left\lvert\, \frac{\underset{\sim}{\underset{\alpha}{\alpha}}}{\stackrel{\rightharpoonup}{\alpha}}\right.$ | $\left\|\begin{array}{c} \frac{\pi}{i} \\ \frac{\gamma}{\tau} \\ \hline \end{array}\right\|$ | $\left\|\begin{array}{c} u \\ \underset{\sim}{x} \\ \underset{\sim}{u} \end{array}\right\|$ | $\left\|\begin{array}{c} \infty \\ \stackrel{1}{\underset{\sim}{w}} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{i}{\lambda} \\ \underset{\sim}{\underset{~}{u}} \end{array}\right\|$ | $\left\|\begin{array}{c} U \\ \tilde{\omega} \\ \stackrel{y}{山} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{\infty} \\ \underset{\sim}{\underset{\sim}{w}} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{4} \\ \underset{\sim}{c} \\ \underset{山}{2} \end{array}\right\|$ |  | $\left\|\begin{array}{l} 0 \\ \dot{b} \\ \frac{1}{\infty} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \hat{n} \\ \frac{1}{\infty} \\ \hline \end{array}\right\|$ | $\begin{aligned} & \frac{\checkmark}{1} \\ & \hat{p} \\ & \frac{y}{\mathbf{n}} \end{aligned}$ | $\left\|\begin{array}{l} U \\ \tilde{j} \\ \hat{S} \end{array}\right\|$ | $\left\|\begin{array}{l} \infty \\ \hat{N} \\ \underline{\Sigma} \end{array}\right\|$ | $\begin{aligned} & \mathbb{K} \\ & \tilde{N} \\ & \Sigma \end{aligned}$ | $\left\|\begin{array}{l} U \\ \frac{1}{U} \\ \Sigma \end{array}\right\|$ | $\begin{aligned} & m \\ & \frac{1}{U} \\ & \Sigma \end{aligned}$ | $\begin{aligned} & \mathbb{I} \\ & \stackrel{U}{\Sigma} \end{aligned}$ | $\begin{aligned} & \text { U } \\ & \text { N } \\ & \text { N } \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{N}{U} \\ & \sum \end{aligned}$ | $\begin{aligned} & \mathbb{K} \\ & \text { N } \\ & \underset{\Sigma}{ } \end{aligned}$ | $\left\lvert\, \begin{aligned} & U \\ & \dot{1} \\ & \stackrel{y}{m} \end{aligned}\right.$ | $\left\|\begin{array}{l} m \\ \dot{f} \\ \dot{\mathbf{y}} \end{array}\right\|$ |  | $\left\|\begin{array}{c} u \\ \frac{1}{\alpha} \\ \frac{\alpha}{\alpha} \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & \times \\ & \substack{1 \\ \frac{1}{\alpha}\\ } \end{aligned}\right.$ |  | $\left\|\begin{array}{l} \frac{1}{\grave{r}} \\ \frac{\gamma}{\alpha} \end{array}\right\|$ | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{u} \\ \underset{\sim}{\mathbf{u}} \end{array}\right\|$ | $\left\|\begin{array}{c} \underset{\sim}{\dot{1}} \\ \underset{\sim}{\underset{\alpha}{2}} \end{array}\right\|$ | $\begin{gathered} \underset{1}{i} \\ \underset{\sim}{x} \\ \hline \end{gathered}$ |  |


| Station | CTD <br> Cast time | $\begin{array}{c\|} \hline \text { Latitude } \\ \text { deg } \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Longitude } \\ \text { deg } \end{array} \\ \hline \end{array}$ | $\begin{gathered} \hline \text { Depth } \\ \mathrm{m} \\ \hline \end{gathered}$ | Sal units | $\begin{gathered} \text { Temp } \\ { }^{\circ} \mathrm{C} \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dens } \\ \delta \mathrm{T} \mathrm{Kg} / \mathrm{m}^{3} \\ \hline \end{gathered}$ | CDOM | Turb | 02s | N+N | TKN | TN | TP | Chl-a |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PR3-B | 9/3/15 11:56 AM | 25.8510 | -80.0881 | 6.42 | 35.54 | 29.99 | 22.13 | 1.78 | 0.45 | 6.20 | 0.286 | 4.214 | 4.500 | 0.226 | 0.93 |
| PR3-A | 9/3/15 11:57 AM | 25.8510 | -80.0881 | 0.92 | 34.81 | 30.59 | 21.38 | 2.73 | 0.60 | 6.17 | 0.429 | 6.071 | 6.500 | 0.226 | 0.82 |
| PEI-C | 9/3/15 1:00 PM | 26.0936 | -80.1115 | 13.39 | 34.95 | 30.43 | 21.54 | 2.32 | 0.72 | 6.18 | 0.286 | 4.000 | 4.286 | 0.226 | 2.80 |
| PEI-A | 9/3/15 1:01 PM | 26.0937 | -80.1117 | 0.66 | 33.20 | 31.09 | 20.01 | 8.27 | 1.55 | 6.17 | 1.000 | 7.857 | 8.857 | 0.355 | 2.50 |
| PMI-C | 9/3/15 2:30 PM | 25.7634 | -80.1330 | 15.08 | 34.56 | 30.23 | 21.32 | 3.30 | 2.35 | 6.21 | 0.571 | 6.071 | 6.643 | 0.452 | 0.95 |
| PMI-A | 9/3/15 2:31 PM | 25.7633 | -80.1329 | 0.92 | 34.56 | 30.34 | 21.28 | 3.35 | 2.04 | 6.20 | 0.643 | 6.643 | 7.286 | 0.291 | 1.80 |

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## Appendix 3:

## Bacterial Microbial Source Tracking Results Summary

| Site ID | sample <br> collection <br> date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci <br> by MPN - <br> IDEXX <br> EnteroLert <br> (MPN/100 <br> mL ) | General Enterococci by qPCR Entero1A (GE/100 mL ) | Human-source Bacteroidales by qPCR HF813 (GE/100 mL) | Dog-source Bacteroidales by qPCR DogBact (TSC/100 mL) | Cow-source <br> Bacteroidales <br> by qPCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
| 1st FACE-NNCS Cruise, November 2013 |  |  |  |  |  |  |  |  |
| PEI-A | 11/18/2013 | 0001-crcp 1 | Port Everglades Inlet - surface | ?? | DNQ | DNQ | DNQ | nd |
| OR1-A | 11/18/2013 | 0002 -crcp 1 | Oakland Ridge Reef site 1 - surface | ?? | nd | nd | nd | nd |
| OR2-A | 11/18/2013 | 0003 -crcp 1 | Oakland Ridge Reef site 2 - surface | ?? | nd | nd | nd | nd |
| OR2-C | 11/18/2013 | 0004 -crcp 1 | Oakland Ridge Reef site 2 - bottom | ?? | nd | nd | nd | nd |
| OR3-A | 11/18/2013 | $0005-\mathrm{crcp} 1$ | Oakland Ridge Reef site 3-surface | ?? | nd | nd | nd | nd |
| Bkg1-A | 11/18/2013 | 0006-crep1 | Background site 1 - surface | ?? | nd | nd | nd | nd |
| BA1-A | 11/18/2013 | 0007 -crcp 1 | Barracuda Reef site 1 - surface | ?? | 18.3 | nd | nd | nd |
| BA2-A | 11/18/2013 | 0008 -crcp 1 | Barracuda Reef site 2 - surface | ?? | DNQ | nd | nd | nd |
| BA2-C | 11/18/2013 | 0009 -crcp 1 | Barracuda Reef site 2 - bottom | ?? | DNQ | nd | nd | nd |
| BA3-A | 11/18/2013 | 0010-crcp 1 | Barracuda Reef site 3-surface | ?? | DNQ | nd | nd | nd |
| Bkg2-A | 11/18/2013 | 0011-crcp1 | Background site 2 - surface | ?? | nd | nd | nd | nd |
| MN1-A | 11/18/2013 | 0012-crcp1 | Miami North OUTFALL - surface | ?? | 29515.8 | 290.6 | nd | nd |
| MN2-A | 11/18/2013 | 0013-crcp 1 | 500 m north of Miami North OUTFALL - surface | ?? | 4114.4 | 339.4 | DNQ | nd |
| MN3-A | 11/18/2013 | 0014-crcp 1 | 1 Km north of Miami North OUTFALL - surface | ?? | 2395.7 | 99.7 | nd | nd |
| BHI-A | 11/18/2013 | 0015-crcp1 | Bakers Haulover Inlet - surface | ?? | nd | nd | nd | nd |
| Bkg3-A | 11/18/2013 | 0016-crcp1 | Background site 3 - surface | ?? | nd | nd | nd | nd |
| Bkg6-A | 11/19/2013 | 0017 -crcp 1 | Background site 6-surface | ?? | nd | nd | nd | nd |
| PR1-A | 11/19/2013 | 0018-crcp1 | The Pillars Reef site 1-surface | ?? | nd | nd | nd | nd |
| PR2-A | 11/19/2013 | 0019 -crcp1 | The Pillars Reef site 2 - surface | ?? | DNQ | nd | nd | nd |
| PR2-C | 11/19/2013 | 0020 -crcp 1 | The Pillars Reef site 2 - bottom | ?? | nd | nd | nd | nd |
| PR3-A | 11/19/2013 | 0021 -crcp 1 | The Pillars Reef site 3-surface | ?? | 17.4 | nd | nd | nd |
| Bkg5-A | 11/19/2013 | 0022 -crcp 1 | Background site 5 - surface | ?? | nd | nd | nd | nd |
| MC1-A | 11/19/2013 | 0023-crcp 1 | Miami Central OUTFALL - surface | ?? | 11166.2 | 280.6 | 31 | nd |
| MC2-A | 11/19/2013 | 0024-crcp1 | 500 m north of Miami Central OUTFALL - surface | ?? | 87.7 | 28 | nd | nd |
| MC3-A | 11/19/2013 | 0025-crcp1 | 1 Km north of Miami Central OUTFALL - surface | ?? | 219.5 | DNQ | nd | nd |
| PMI-A | 11/19/2013 | 0026-crcp 1 | Port of Miami Inlet - surface | ?? | DNQ | DNQ | 41.7 | nd |
| Bkg4-A | 11/19/2013 | 0027-crcp1 | Background site 4 - surface | ?? | nd | nd | nd | nd |
| ER1-A | 11/19/2013 | 0028 -crcp 1 | Emerald Reef site 1-surface | ?? | nd | nd | nd | nd |
| ER2-A | 11/19/2013 | 0029 -crcp 1 | Emerald Reef site 2-surface | ?? | nd | nd | nd | nd |
| ER2-C | 11/19/2013 | 0030-crcp1 | Emerald Reef site 2-bottom | ?? | nd | nd | nd | nd |
| ER3-A | 11/19/2013 | 0031-crcp 1 | Emerald Reef site 3-surface | ?? | DNQ | nd | nd | nd |
|  |  |  |  |  |  |  |  |  |
| 2nd FACE-NNCS Cruise, Jan 2014 |  |  |  |  |  |  |  |  |
| PEI-A | 1/27/2014 | 0032-crcp2 | Port Everglades Inlet - surface | 9 | 69.7 | DNQ | DNQ | nd |


| Site ID | sample collection date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci by MPN IDEXX EnteroLert (MPN/100 mL) | General <br> Enterococci <br> by qPCR - <br> Entero1A <br> (GE/100 <br> mL) | Human-source <br> Bacteroidales <br> by qPCR - <br> HF813 <br> (GE/100 mL) | Dog-source <br> Bacteroidales <br> by $q$ PCR - <br> DogBact <br> (TSC/100 mL) | Cow-source <br> Bacteroidales <br> by $q$ PCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OR1-A | 1/27/2014 | 0033-crcp2 | Oakland Ridge Reef site 1 - surface | 0 | nd | nd | nd | nd |
| OR2-A | 1/27/2014 | 0034-crcp2 | Oakland Ridge Reef site 2 - surface | 0 | nd | nd | nd | nd |
| OR2-C | 1/27/2014 | 0035-crcp2 | Oakland Ridge Reef site 2 - bottom | 0 | nd | nd | nd | nd |
| OR3-A | 1/27/2014 | 0036-crcp2 | Oakland Ridge Reef site 3 - surface | 0 | nd | nd | nd | nd |
| Bkg1-A | 1/27/2014 | 0037-crep2 | Background site 1 - surface | 0 | nd | nd | nd | nd |
| BA1-A | 1/27/2014 | 0038-crcp2 | Barracuda Reef site 1 - surface | 2 | nd | nd | nd | nd |
| BA2-A | 1/27/2014 | 0039-crep2 | Barracuda Reef site 2 - surface | 0 | nd | nd | nd | nd |
| BA2-C | 1/27/2014 | 0040-crcp2 | Barracuda Reef site 2 - bottom | 0 | nd | nd | nd | nd |
| BA3-A | 1/27/2014 | 0041 -crcp2 | Barracuda Reef site 3-surface | 0 | nd | nd | nd | nd |
| Bkg2-A | 1/27/2014 | 0042-crcp2 | Background site 2 - surface | 1 | nd | nd | nd | nd |
| MN1-A | 1/27/2014 | 0043-crcp2 | Miami North OUTFALL - surface | 3 | 818.1 | 20.4 | nd | nd |
| MN2-A | 1/27/2014 | 0044-crcp2 | 500 m north of Miami North OUTFALL - surface | 2 | 66.3 | DNQ | nd | nd |
| MN3-A | 1/27/2014 | 0045-crcp2 | 1 Km north of Miami North OUTFALL - surface | 0 | 69.1 | DNQ | nd | nd |
| BHI-A | 1/27/2014 | 0046-crcp2 | Bakers Haulover Inlet - surface | 3 | nd | nd | nd | nd |
| Bkg3-A | 1/27/2014 | 0047-crcp2 | Background site 3-surface | 0 | nd | nd | nd | nd |
| Bkg6-A | 1/28/2014 | 0048-crcp2 | Background site 6-surface | 0 | 33.6 | nd | nd | nd |
| PR1-A | 1/28/2014 | 0049-crcp2 | The Pillars Reef site 1-surface | 0 | nd | nd | nd | nd |
| PR2-A | 1/28/2014 | 0050-crcp2 | The Pillars Reef site 2 -surface | 0 | nd | nd | nd | nd |
| PR2-C | 1/28/2014 | 0051-crcp2 | The Pillars Reef site 2-bottom | 0 | nd | nd | nd | nd |
| PR3-A | 1/28/2014 | 0052-crcp2 | The Pillars Reef site 3 - surface | 0 | nd | nd | nd | nd |
| Bkg5-A | 1/28/2014 | 0053-crcp2 | Background site 5 - surface | 0 | 52.8 | DNQ | nd | nd |
| MC1-A | 1/28/2014 | 0054-crcp2 | Miami Central OUTFALL - surface | 0 | 9793.8 | 469.9 | nd | nd |
| MC2-A | 1/28/2014 | 0055-crcp2 | 500 m north of Miami Central OUTFALL - surface | 0 | 331.3 | 86.3 | nd | nd |
| MC3-A | 1/28/2014 | 0056-crcp2 | 1 Km north of Miami Central OUTFALL - surface | 0 | 168.9 | 22.7 | nd | nd |
| PMI-A | 1/28/2014 | 0057-crcp2 | Port of Miami Inlet - surface | 7 | 3894.5 | 439.2 | 671.1 | nd |
| Bkg4-A | 1/28/2014 | 0058-crcp2 | Background site 4-surface | 0 | DNQ | nd | nd | nd |
| ER1-A | 1/28/2014 | 0059-crcp2 | Emerald Reef site 1-surface | 5 | DNQ | nd | DNQ | nd |
| ER2-A | 1/28/2014 | 0060-crcp2 | Emerald Reef site 2 - surface | 2 | nd | nd | nd | nd |
| ER2-C | 1/28/2014 | 0061 -crcp2 | Emerald Reef site 2-bottom |  | nd | nd | nd | nd |
| ER3-A | 1/28/2014 | 0062-crcp2 | Emerald Reef site 3-surface | 0 | DNQ | DNQ | DNQ | nd |
|  |  |  |  |  |  |  |  |  |
| 3rd FACE-NNCS Cruise, March 2014 |  |  |  |  |  |  |  |  |
| PEI-A | 3/18/2014 | 0094-crcp3 | Port Everglades Inlet - surface | 3 | nd | nd | nd | nd |
| OR1-A | 3/18/2014 | 0095-crcp3 | Oakland Ridge Reef site 1-surface | , | nd | nd | nd | nd |
| OR2-A | 3/18/2014 | 0096-crcp3 | Oakland Ridge Reef site 2 - surface | 0 | nd | nd | nd | nd |
| OR2-C | 3/18/2014 | 0097-crcp3 | Oakland Ridge Reef site 2-bottom | 0 | nd | nd | nd | nd |


| Site ID | sample <br> collection <br> date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci <br> by MPN - <br> IDEXX <br> EnteroLert <br> (MPN/100 <br> mL) | General <br> Enterococci <br> by qPCR - <br> Entero1A <br> (GE/100 <br> mL) | Human-source <br> Bacteroidales by qPCR - <br> HF813 <br> (GE/100 mL) | Dog-source <br> Bacteroidales <br> by qPCR - <br> DogBact <br> (TSC/100 mL) | Cow-source <br> Bacteroidales <br> by qPCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OR3-A | 3/18/2014 | 0098 -crcp3 | Oakland Ridge Reef site 3 - surface | 2 | nd | nd | nd | nd |
| Bkg1-A | 3/18/2014 | 0099 -crcp3 | Background site 1 - surface | 0 | nd | nd | nd | nd |
| BA1-A | 3/18/2014 | $0100-$ crcp 3 | Barracuda Reef site 1-surface | 0 | nd | nd | nd | nd |
| BA2-A | 3/18/2014 | 0101 -crep3 | Barracuda Reef site 2 - surface | 0 | nd | nd | nd | nd |
| BA2-C | 3/18/2014 | 0102 -crcp3 | Barracuda Reef site 2-bottom | 0 | nd | nd | nd | nd |
| BA3-A | 3/18/2014 | 0103 -crcp3 | Barracuda Reef site 3-surface | 0 | nd | nd | nd | nd |
| Bkg2-A | 3/18/2014 | 0104-crep3 | Background site 2 - surface | 0 | nd | nd | nd | nd |
| MN1-A | 3/18/2014 | $0105-$ crep 3 | Miami North OUTFALL - surface | 4 | 8883.6 | 244.3 | nd | nd |
| MN2-A | 3/18/2014 | 0106-crcp3 | 500 m north of Miami North OUTFALL - surface | 1 | 1396.5 | 79 | nd | nd |
| MN3-A | 3/18/2014 | 0107 -crcp3 | 1 Km north of Miami North OUTFALL - surface | 0 | 1699.5 | 103.5 | nd | nd |
| BHI-A | 3/18/2014 | 0108 -crcp3 | Bakers Haulover Inlet - surface | 3 | 360.2 | DNQ | 261.7 | nd |
| Bkg3-A | 3/18/2014 | 0109-crcp3 | Background site 3-surface | 0 |  |  |  |  |
| Bkg6-A | 3/19/2014 | 0110-crcp3 | Background site 6-surface | 0 | nd | nd | nd | nd |
| PR1-A | 3/19/2014 | 0111-crcp3 | The Pillars Reef site 1-surface | 0 | nd | nd | nd | nd |
| PR2-A | 3/19/2014 | 0112-crcp3 | The Pillars Reef site 2 - surface | 0 | nd | nd | nd | nd |
| PR2-C | 3/19/2014 | 0113-crcp3 | The Pillars Reef site 2-bottom | 0 | nd | nd | nd | nd |
| PR3-A | 3/19/2014 | 0114-crcp3 | The Pillars Reef site 3-surface | 1 | nd | nd | nd | nd |
| Bkg5-A | 3/19/2014 | 0115-crcp3 | Background site 5 - surface | 0 | DNQ | nd | nd | nd |
| MC1-A | 3/19/2014 | 0116-crcp3 | Miami Central OUTFALL - surface | 0 | 43938.5 | 612.3 | nd | nd |
| MC2-A | 3/19/2014 | 0117 -crcp3 | 500 m north of Miami Central OUTFALL - surface | 0 | 2877.4 | 227.3 | nd | nd |
| MC3-A | 3/19/2014 | 0118-crcp3 | 1 Km north of Miami Central OUTFALL - surface | 0 | 965 | 184.6 | nd | nd |
| PMI-A | 3/19/2014 | 0119-crcp3 | Port of Miami Inlet - surface | 7 | 99 | DNQ | 180.4 | DNQ |
| Bkg4-A | 3/19/2014 | 0120-crcp3 | Background site 4 - surface | 0 | nd | nd | nd | nd |
| ER1-A | 3/19/2014 | 0121-crcp3 | Emerald Reef site 1-surface | 3 | nd | nd | nd | nd |
| ER2-A | 3/19/2014 | 0122-crcp3 | Emerald Reef site 2 - surface | 4 | nd | nd | nd | nd |
| ER2-C | 3/19/2014 | 0123 -crcp3 | Emerald Reef site 2-bottom | 0 | nd | nd | nd | nd |
| ER3-A | 3/19/2014 | 0124-crep3 | Emerald Reef site 3-surface | 6 | nd | nd | nd | nd |
|  |  |  |  |  |  |  |  |  |
| 4th FACE-NNCS Cruise, May 2014 |  |  |  |  |  |  |  |  |
| PEI-A | 5/27/2014 | 0156-crcp4 | Port Everglades Inlet - surface | 7 | DNQ | nd | nd | nd |
| OR1-A | 5/27/2014 | 0157-crcp4 | Oakland Ridge Reef site 1 - surface | 0 | nd | nd | nd | nd |
| OR2-A | 5/27/2014 | 0158-crcp4 | Oakland Ridge Reef site 2 - surface | 0 | nd | nd | nd | nd |
| OR3-A | 5/27/2014 | 0160-crcp4 | Oakland Ridge Reef site 3 - surface | 0 | nd | nd | nd | nd |
| Bkg1-A | 5/27/2014 | 0161-crcp4 | Background site 1 - surface | 0 | nd | nd | nd | nd |
| BA1-A | 5/27/2014 | 0162-crcp4 | Barracuda Reef site 1-surface | 0 | DNQ | DNQ | nd | nd |
| BA2-A | 5/27/2014 | 0163-crcp4 | Barracuda Reef site 2 - surface | 4 | nd | DNQ | nd | nd |


| Site ID | sample <br> collection <br> date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci by MPN - <br> IDEXX <br> EnteroLert <br> (MPN/100 <br> mL) | General <br> Enterococci <br> by qPCR - <br> Entero1A <br> (GE/100 <br> mL ) | Human-source Bacteroidales by qPCR HF813 (GE/100 mL) | Dog-source <br> Bacteroidales <br> by qPCR - <br> DogBact <br> (TSC/100 mL) | Cow-source <br> Bacteroidales <br> by qPCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BA2-C | 5/27/2014 | 0164-crcp4 | Barracuda Reef site 2 - bottom | 0 | nd | nd | nd | nd |
| BA3-A | 5/27/2014 | 0165 -crcp4 | Barracuda Reef site 3 - surface | 1 | nd | nd | nd | nd |
| Bkg2-A | 5/27/2014 | 0166-crcp4 | Background site 2 - surface | 0 | nd | nd | nd | nd |
| MN1-A | 5/27/2014 | 0167-crcp4 | Miami North OUTFALL - surface | 5 | 461 | 59 | nd | nd |
| MN2-A | 5/27/2014 | 0168-crcp4 | 500 m north of Miami North OUTFALL - surface | 4 | DNQ | nd | nd | nd |
| MN3-A | 5/27/2014 | 0169-crcp4 | 1 Km north of Miami North OUTFALL - surface | 1 | nd | nd | nd | nd |
| BHI-A | 5/27/2014 | 0170-crcp4 | Bakers Haulover Inlet - surface | 3 | 62.1 | nd | 123.7 | nd |
| Bkg3-A | 5/27/2014 | 0171-crcp4 | Background site 3 - surface | 0 | nd | nd | nd | nd |
| Bkg6-A | 5/29/2014 | 0172-crcp4 | Background site 6 - surface | 0 | nd | nd | nd | nd |
| PR1-A | 5/29/2014 | 0173 -crcp4 | The Pillars Reef site 1-surface | 1 | nd | nd | nd | nd |
| PR2-A | 5/29/2014 | 0174-crcp4 | The Pillars Reef site 2 - surface | 0 | nd | nd | nd | nd |
| PR2-C | 5/29/2014 | $0175-\mathrm{crcp} 4$ | The Pillars Reef site 2 - bottom | 0 | nd | nd | nd | nd |
| PR3-A | 5/29/2014 | 0176-crcp4 | The Pillars Reef site 3-surface | 0 | nd | nd | nd | nd |
| Bkg5-A | 5/29/2014 | 0177 -crcp4 | Background site 5 - surface | 0 | nd | nd | nd | nd |
| MC1-A | 5/29/2014 | 0178 -crcp4 | Miami Central OUTFALL - surface | 3 | 1447 | 380 | nd | nd |
| MC2-A | 5/29/2014 | 0179-crcp4 | 500 m north of Miami Central OUTFALL - surface | 0 | 318.1 | 97 | nd | nd |
| MC3-A | 5/29/2014 | 0180-crcp4 | 1 Km north of Miami Central OUTFALL - surface | 0 | 98.3 | 33.7 | nd | nd |
| PMI-A | 5/29/2014 | 0181-crcp4 | Port of Miami Inlet - surface | 13 | 136 | DNQ | 87.8 | nd |
| Bkg4-A | 5/29/2014 | 0182-crep4 | Background site 4-surface | 0 | nd | nd | nd | nd |
| ER1-A | 5/29/2014 | 0183-crcp4 | Emerald Reef site 1-surface | 3 | nd | nd | nd | nd |
| ER2-A | 5/29/2014 | 0184-crcp4 | Emerald Reef site 2 - surface | 0 | nd | nd | nd | nd |
| ER2-C | 5/29/2014 | 0185-crcp4 | Emerald Reef site 2-bottom | 0 | nd | nd | nd | nd |
| ER3-A | 5/29/2014 | 0186-crcp4 | Emerald Reef site 3-surface | 2 | nd | nd | nd | nd |
|  |  |  |  |  |  |  |  |  |
| TWW-MC | 5/29/2014 | xx01-crcp | treated effluent from Miami Central WWTP - Virginia Key | 3 | 10051.8 | 7411.3 | 32 | BLOD |
| TWW-MN | 5/29/2014 | xx02-crcp | treated effluent from Miami North WWTP - North Miami Beach | 1 | 9793.6 | 729.4 | nd | nd |
|  |  |  |  |  |  |  |  |  |
| !st FACE-NNCS Coral Benthic Survey, June 2014 |  |  |  |  |  |  |  |  |
| E-1-PAM | 6/8/2014 | 0218-crcpB1 | site 1- Porites astreoides MUCUS - Emerald Reef | ?? | nd | nd | nd | nd |
| E-1-PAP | 6/8/2014 | 0219-crcpB1 | site 1-Porites astreoides POLYP tissue - Emerald Reef | ?? | nd | nd | nd | nd |
| E-1-SSM | 6/8/2014 | 0220-crcpB1 | site 1 - Siderastrea siderea MUCUS - Emerald Reef | ?? | nd | nd | nd | nd |
| E-1-SSP | 6/8/2014 | 0221-crcpB1 | site 1 - Siderastrea siderea POLYP tissue - Emerald Reef | ?? | nd | nd | nd | nd |
| E-2-PAM | 6/8/2014 | 0222 -crcpB1 | site 2 - Porites astreoides MUCUS - Emerald Reef | ?? | nd | nd | nd | nd |
| E-2-PAP | 6/8/2014 | 0223-crcpB1 | site 2-Porites astreoides POLYP tissue - Emerald Reef | ?? | nd | nd | nd | nd |
| E-2-SSM | 6/8/2014 | 0224-crcpB1 | site 2 - Siderastrea siderea MUCUS - Emerald Reef | ?? | nd | nd | nd | nd |
| E-2-SSP | 6/8/2014 | $0225-\mathrm{crcpB} 1$ | site 2 - Siderastrea siderea POLYP tissue - Emerald Reef | ?? | nd | nd | nd | nd |


|  |  | $\square$ | $\square$ | g | $\square$ | O | $\square$ | $\square$ | B | 8 | ？ |  | $\square$ | ¢ | g | $\square$ | ？ | ¢ | $\square$ | $\square$ | ？ | C |  | \％ |  | I | ： | 글 | $\square$ | g | $\square$ | $\square$ |  | $\square$ | $\square$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ㄲ | $\square$ | $\square$ | 或 | $\square$ | $\square$ | $\square$ | g | g | B | 寿 |  | $\square$ | In | ］ | $\square$ | $\square$ | ？ | $\square$ | $\square$ | $\square$ | \％ |  | ） |  | I |  | $\square$ | $\square$ | g | ］ | g |  | $\square$ | $\square$ |
|  | ㄲ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | g | O | I |  | 믈 | I | ］ | $\square$ | $\square$ | $\square$ | ？ | 글 | $\square$ | I |  | ） |  | I |  | $\square$ | $\square$ | $\square$ | $\square$ | T |  | $\square$ | z |
|  | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $=0$ | $\stackrel{O}{\square}$ | $\square$ | O | 0 |  |  | $\underset{\square}{\circ}$ | I | ］ | 끌 | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |  |  |  |  |  |  | $\square$ | $\left\|\begin{array}{l} g \\ z \end{array}\right\|$ | 名 | $\square$ | g |  | $\square$ | $\bigcirc$ |
|  | ： | ¿ | ミ： | ：$\%$ | $\therefore \therefore$ | ： 2 | \％： | ： 2 | $\therefore 8$ | ： 2 | 8 |  | $\therefore$ | \％ | $\therefore$ | $\approx$ | $\approx$ | $\approx$ | $\therefore$ | ¿ | $\therefore$ | $\approx$ |  | ： | ： | ： | 2 | $\because$ | ¿ | $\approx$ | $\%$ | ¿： |  | $\therefore$ | ¿： |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\text { site } 7 \text { - Porites astreoides POLYP tissue - Barracuda Reef }$ |  |  |  |  |  |  |  |  |  | site 10 －Porites astreoides MUCUS－Oakland Ridge Reef | site 10 －Siderastrea siderea MUCUS－Oakland Ridge Reef |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | － | d |  |  |  | $\begin{array}{\|l\|l} 0 \\ 0 \\ \vdots \\ \vdots \\ d \end{array}$ |  | 侖 | n |  |  |  | ＂ |
|  |  | $\begin{array}{ll} \substack{4 \\ \vdots} \\ \hline \end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{array}{\|c} t \\ \substack{d \\ 0 \\ 0} \end{array}$ |  |  |  | $\left.\begin{gathered} \underset{~}{t} \\ \vdots \\ c \\ 0 \\ 0 \end{gathered} \right\rvert\,$ | － |  | O |  |  |  | H | － | $O$ | － | $\begin{gathered} \substack{7 \\ \vdots \\ \infty \\ 0 \\ 0} \end{gathered}$ |  | － | （1） |
| $\begin{aligned} & \text { ei } \\ & \stackrel{y y y}{2} \\ & \hline \end{aligned}$ |  | 边 | 边 |  |  |  |  |  |  |  |  |  |  | 2 |  |  | $\left\lvert\, \begin{gathered} \sum_{c} \\ \substack{\hat{c} \\ \dot{c} \\ \hline} \end{gathered}\right.$ | 穴 | ¢ | 会 |  | $\stackrel{\text { cher }}{\substack{6 \\ \text { ¢ }}}$ | d |  |  | 5 | \％ | $\begin{array}{\|c} \hline \begin{array}{l} 2 \\ ~ \\ \hline 1 \\ 0 \\ \hline \end{array} \\ \hline \end{array}$ | 易 | 放 | ¢ | ¢ |  | 気 | ¢ |




| Site ID | sample collection date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci by MPN IDEXX <br> EnteroLert (MPN/100 mL ) | General <br> Enterococci <br> by qPCR - <br> Entero1A <br> (GE/100 <br> mL ) | Human-source Bacteroidales by qPCR - HF813 $(\mathrm{GE} / 100 \mathrm{~mL})$ | Dog-source Bacteroidales by qPCR DogBact (TSC/100 mL) | Cow-source Bacteroidales by qPCR CowM2 (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| O-10-PAP | 9/2/2014 | 0365-crcpB2 | site 10 - Porites astreoides POLYP tissue - Oakland Ridge Reef | ?? | nd | nd | nd | nd |
| O-10-SSM | 9/2/2014 | 0366-crcpB2 | site 10 - Siderastrea siderea MUCUS - Oakland Ridge Reef | ?? | nd | nd | nd | nd |
| O-10-SSP | 9/2/2014 | 0367-crcpB2 | site 10 - Siderastrea siderea POLYP tissue - Oakland Ridge Reef | ?? | nd | nd | nd | nd |
| O-11-PAM | 9/2/2014 | 0368-crcpB2 | site 11 - Porites astreoides MUCUS - Oakland Ridge Reef | ?? | DNQ | nd | nd | nd |
| O-11-PAP | 9/2/2014 | 0369-crcpB2 | site 11 - Porites astreoides POLYP tissue - Oakland Ridge Reef | ?? | nd | nd | nd | nd |
| O-11-SSM | 9/2/2014 | 0370-crcpB2 | site 11 - Siderastrea siderea MUCUS - Oakland Ridge Reef | ?? | DNQ | nd | nd | nd |
| O-11-SSP | 9/2/2014 | 0371-crcpB2 | site 11 - Siderastrea siderea POLYP tissue - Oakland Ridge Reef | ?? | nd | nd | nd | nd |
| O-12-PAM | 9/2/2014 | 0372-crcpB2 | site 12 - Porites astreoides MUCUS - Oakland Ridge Reef | ?? | nd | nd | nd | nd |
| O-12-PAP | 9/2/2014 | 0373-crcpB2 | site 12 - Porites astreoides POLYP tissue - Oakland Ridge Reef | ?? | DNQ | nd | nd | nd |
| $\mathrm{O}-12-\mathrm{SSM}$ | 9/2/2014 | 0374-crcpB2 | site 12 - Siderastrea siderea MUCUS - Oakland Ridge Reef | ?? | DNQ | nd | nd | nd |
| O-12-SSP | 9/2/2014 | 0375-crcpB2 | site 12 - Siderastrea siderea POLYP tissue - Oakland Ridge Reef | ?? | DNQ | nd | nd | nd |
|  |  |  |  |  |  |  |  |  |
| 6th FACE-NNCS Cruise, Sept 2014 |  |  |  |  |  |  |  |  |
| PEI-A | 9/23/2014 | 0376-crcp6 | Port Everglades Inlet - surface | 11 | nd | nd | nd | nd |
| OR1-A | 9/22/2014 | 0377-crcp6 | Oakland Ridge Reef site 1-surface | 0 | nd | nd | nd | nd |
| OR2-A | 9/22/2014 | 0378-crcp6 | Oakland Ridge Reef site 2 - surface | 0 | nd | nd | nd | nd |
| OR2-C | 9/22/2014 | 0379-crcp6 | Oakland Ridge Reef site 2 - bottom | 0 | nd | nd | nd | nd |
| OR3-A | 9/22/2014 | 0380-crcp6 | Oakland Ridge Reef site 3-surface | 3 | nd | nd | nd | nd |
| Bkg1-A | 9/22/2014 | 0381-crcp6 | Background site 1-surface | 0 | nd | nd | nd | nd |
| BA1-A | 9/22/2014 | 0382-crcp6 | Barracuda Reef site 1-surface | 3 | nd | nd | nd | nd |
| BA2-A | 9/22/2014 | 0383-crcp6 | Barracuda Reef site 2 - surface | 5 | nd | nd | 12.1 | nd |
| BA2-C | 9/22/2014 | 0384-crcp6 | Barracuda Reef site 2 - bottom | 0 | nd | nd | nd | nd |
| BA3-A | 9/22/2014 | 0385-crcp6 | Barracuda Reef site 3-surface | 0 | nd | nd | nd | nd |
| Bkg2-A | 9/22/2014 | 0386-crcp6 | Background site 2 - surface | 0 | nd | nd | nd | nd |
| MN1-A | 9/22/2014 | 0387-crcp6 | Miami North OUTFALL - surface | 0 | 217.2 | 41.1 | 115.1 | nd |
| MN2-A | 9/22/2014 | 0388-crcp6 | 500 m north of Miami North OUTFALL - surface | 1 | DNQ | DNQ | DNQ | nd |
| MN3-A | 9/22/2014 | 0389-crcp6 | 1 Km north of Miami North OUTFALL - surface | 0 | DNQ | DNQ | DNQ | nd |
| BHI-A | 9/22/2014 | 0390-crcp6 | Bakers Haulover Inlet - surface | 2 | nd | nd | nd | nd |
| PR1-A | 9/23/2014 | 0393-crcp6 | The Pillars Reef site 1 - surface | 7 | DNQ | nd | nd | nd |
| PR2-A | 9/23/2014 | 0394-crcp6 | The Pillars Reef site 2 - surface | 3 | nd | nd | nd | nd |
| PR2-C | 9/23/2014 | 0395-crcp6 | The Pillars Reef site 2 - bottom | 9 | nd | nd | nd | nd |
| PR3-A | 9/23/2014 | 0396-crcp6 | The Pillars Reef site 3-surface | 2 | nd | nd | nd | nd |
| Bkg5-A | 9/23/2014 | 0397-crcp6 | Background site 5-surface | 0 | DNQ | DNQ | nd | nd |
| MC1-A | 9/23/2014 | 0398-crcp6 | Miami Central OUTFALL - surface | 12 | 788.3 | 63 | DNQ | BLOD |
| MC2-A | 9/23/2014 | 0399-crcp6 | 500 m north of Miami Central OUTFALL - surface | 1 | 208.8 | 23.6 | DNQ | nd |
| MC3-A | 9/23/2014 | 0400-crcp6 | 1 Km north of Miami Central OUTFALL - surface | 0 | 105.2 | DNQ | nd | nd |


| Site ID | sample <br> collection <br> date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci by MPN - <br> IDEXX <br> EnteroLert <br> (MPN/100 <br> mL) | General Enterococci by qPCR Entero1A (GE/100 mL) | Human-source Bacteroidales by qPCR HF813 (GE/100 mL) | Dog-source Bacteroidales by qPCR DogBact (TSC/100 mL) | Cow-source <br> Bacteroidales by qPCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PMI-A | 9/22/2014 | 0401-crcp6 | Port of Miami Inlet - surface | 22 | 47 | DNQ | 87.3 | nd |
| Bkg4-A | 9/23/2014 | 0402-crcp6 | Background site 4-surface | 1 | DNQ | nd | nd | nd |
| ER1-A | 9/23/2014 | 0403-crcp6 | Emerald Reef site 1 - surface | 1 | nd | nd | nd | nd |
| ER2-A | 9/23/2014 | 0404-crep6 | Emerald Reef site 2 - surface | 19 | nd | nd | nd | nd |
| ER2-C | 9/23/2014 | 0405-crep6 | Emerald Reef site 2-bottom | 2 | nd | nd | nd | nd |
| ER3-A | 9/23/2014 | 0406-crcp6 | Emerald Reef site 3-surface | 3 | DNQ | nd | nd | nd |
|  |  |  |  |  |  |  |  |  |
| TWW-MC | 9/22/2014 | 0407-A-crcp6 replicate 1_0.45um | treated effluent from Miami Central WWTP - Virginia Key | 5 | 7388.2 | 2701.2 | nd | nd |
| TWW-MC | 9/22/2014 | 0407-B-crcp6 replicate 2_0.20um | treated effluent from Miami Central WWTP - Virginia Key | 7 | ?? | ?? | ?? | ?? |
| TWW-MN | 9/22/2014 | 0408-A-crcp6 replicate 1_0.45um | treated effluent from Miami North WWTP - North Miami Beach | 2 | 2812 | 473 | 342 | nd |
| TWW-MN | 9/22/2014 | 0408-B-crep6 replicate 1_0.20um | treated effluent from Miami North WWTP - North Miami Beach | 2 | ?? | ?? | ?? | ?? |
|  |  |  |  |  |  |  |  |  |
| 7th FACE-NNCS Cruise, November 2014 |  |  |  |  |  |  |  |  |
| PEI-A | 11/25/2014 | 0442-CRCP7 | Port Everglades Inlet - surface | 3 | DNQ | DNQ | nd | 81.3 |
| OR1-A | 11/24/2014 | 0443-CRCP7 | Oakland Ridge Reef site 1-surface | 0 | nd | nd | nd | nd |
| OR2-A | 11/24/2014 | 0444-CRCP7 | Oakland Ridge Reef site 2 - surface | 0 | 11.6 | nd | nd | nd |
| OR2-C | 11/24/2014 | 0445-CRCP7 | Oakland Ridge Reef site 2-bottom | 0 | nd | nd | nd | nd |
| OR3-A | 11/24/2014 | 0446-CRCP7 | Oakland Ridge Reef site 3-surface | 1 | 13.8 | DNQ | nd | nd |
| Bkg1-A | 11/24/2014 | 0447-CRCP7 | Background site 1 - surface | 0 | nd | nd | nd | nd |
| BA1-A | 11/24/2014 | 0448-CRCP7 | Barracuda Reef site 1-surface | 2 | DNQ | nd | nd | nd |
| BA2-A | 11/24/2014 | 0449-CRCP7 | Barracuda Reef site 2 - surface | 0 | nd | DNQ | nd | nd |
| BA2-C | 11/24/2014 | 0450-CRCP7 | Barracuda Reef site 2 - bottom | 0 | nd | nd | nd | nd |
| BA3-A | 11/24/2014 | 0451-CRCP7 | Barracuda Reef site 3-surface | 0 | nd | nd | nd | nd |
| Bkg2-A | 11/24/2014 | 0452-CRCP7 | Background site 2 - surface | 0 | DNQ | nd | nd | nd |
| MN1-A | 11/24/2014 | 0453-CRCP7 | Miami North OUTFALL - surface | 4 | 315.5 | 112.3 | nd | nd |
| MN2-A | 11/24/2014 | 0454-CRCP7 | 500 m north of Miami North OUTFALL - surface | 1 | DNQ | DNQ | nd | nd |
| MN3-A | 11/24/2014 | 0455-CRCP7 | 1 Km north of Miami North OUTFALL - surface | 0 | DNQ | DNQ | nd | nd |
| BHI-A | 11/24/2014 | 0456-CRCP7 | Bakers Haulover Inlet - surface | 1 | DNQ | nd | nd | nd |
| Bkg3-A | 11/24/2014 | 0457-CRCP7 | Background site 3 - surface | 0 | DNQ | DNQ | nd | nd |
| Bkg6-A | 11/25/2014 | 0458-CRCP7 | Background site 6-surface | 0 | nd | nd | nd | nd |
| PR1-A | 11/25/2014 | 0459-CRCP7 | The Pillars Reef site 1-surface | 0 | nd | nd | nd | nd |
| PR2-A | 11/25/2014 | 0460-CRCP7 | The Pillars Reef site 2 - surface | 0 | DNQ | nd | nd | nd |
| PR2-C | 11/25/2014 | 0461-CRCP7 | The Pillars Reef site 2 - bottom | 0 | nd | nd | nd | nd |
| PR3-A | 11/25/2014 | 0462-CRCP7 | The Pillars Reef site 3-surface | 0 | nd | nd | nd | nd |
| Bkg5-A | 11/25/2014 | 0463-CRCP7 | Background site 5 - surface | 0 | nd | nd | nd | nd |
| MC1-A | 11/25/2014 | 0464-CRCP7 | Miami Central OUTFALL - surface | 3 | 2319 | 799.6 | nd | 22 |


| Site ID | sample <br> collection <br> date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci by MPN - <br> IDEXX <br> EnteroLert <br> (MPN/100 <br> mL ) | General <br> Enterococci <br> by qPCR - <br> Entero1A <br> (GE/100 <br> mL) | Human-source <br> Bacteroidales by qPCR HF813 (GE/100 mL) | Dog-source Bacteroidales by qPCR DogBact (TSC/100 mL) | Cow-source <br> Bacteroidales <br> by qPCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MC2-A | 11/25/2014 | 0465-CRCP7 | 500 m north of Miami Central OUTFALL - surface | 1 | 616.1 | 208.1 | nd | nd |
| MC3-A | 11/25/2014 | 0466-CRCP7 | 1 Km north of Miami Central OUTFALL - surface | 1 | 695.2 | 51.6 | nd | DNQ |
| PMI-A | 11/24/2014 | 0467-CRCP7 | Port of Miami Inlet - surface | 23 | DNQ | DNQ | nd | DNQ |
| Bkg4-A | 11/25/2014 | 0468-CRCP7 | Background site 4 - surface | 0 | DNQ | nd | nd | DNQ |
| ER1-A | 11/25/2014 | 0469-CRCP7 | Emerald Reef site 1-surface | 9 | 14.6 | 12.9 | DNQ | 14 |
| ER2-A | 11/25/2014 | 0470-CRCP7 | Emerald Reef site 2 - surface | 2 | DNQ | nd | nd | 33 |
| ER2-C | 11/25/2014 | 0471-CRCP7 | Emerald Reef site 2-bottom | 0 | nd | DNQ | nd | nd |
| ER3-A | 11/25/2014 | 0472-CRCP7 | Emerald Reef site 3-surface | 3 | 21.4 | 16.4 | DNQ | DNQ |
| TWW-MC | 11/25/2014 | 0473-A-crcp7 replicate 1_0.45um | treated effluent from Miami Central WWTP - Virginia Key | 0 | 26469.5 | 8911.3 | nd | 612 |
| TWW-MC | 11/25/2014 | 0473-B-crcp7 replicate 2_0.45um | treated effluent from Miami Central WWTP - Virginia Key | 2 | 20737.4 | 7678.5 | 13.6 | 219 |
| TWW-MC | 11/25/2014 | 0473 -C-crcp7 replicate 3 _ 0.45 um | treated effluent from Miami Central WWTP - Virginia Key | 0 | 18799.9 | 8691.2 | DNQ | 422.7 |
| TWW-MN | 11/25/2014 | 0474-A-crep7 replicate 1_0.45um | treated effluent from Miami North WWTP - North Miami Beach | 7 | 3122.9 | 612.5 | nd | 10.4 |
| TWW-MN | 11/25/2014 | 0474-B-crcp7 replicate 2_0.45um | treated effluent from Miami North WWTP - North Miami Beach | 9 | 2223.7 | 291.1 | nd | nd |
| TWW-MN | 11/25/2014 | 0474-C-crep7 replicate 3 _ 0.45 um | treated effluent from Miami North WWTP - North Miami Beach | 4 | 2468.6 | 3004.3 | DNQ | nd |
|  |  |  |  |  |  |  |  |  |
| 3rd FACE-NNCS Coral Benthic Survey, December 2014 |  |  |  |  |  |  |  |  |
| E1-PAM | 12/9/2014 | 0508-crcpB3 | site 1-Porites astreoides MUCUS - Emerald Reef | ?? | ?? | ?? | ?? | ?? |
| E1-SSM | 12/9/2014 | 0510-crcpB3 | site 1 - Siderastrea siderea MUCUS - Emerald Reef | ?? | 99.4 | DNQ | 12 | DNQ |
| E2-PAM | 12/9/2014 | 0512-crcpB3 | site 2 - Porites astreoides MUCUS - Emerald Reef | ?? | 228.4 | 60.1 | 29.6 | 41.8 |
| E2-PAP | 12/9/2014 | 0513-crcpB3 | site 2 - Porites astreoides POLYP tissue - Emerald Reef | ?? | 166.6 | 31.2 | 29.3 | 57.5 |
| E2-SSM | 12/9/2014 | 0514-crcpB3 | site 2 - Siderastrea siderea MUCUS - Emerald Reef | ?? | 200.7 | 30.6 | 15 | 112.5 |
| E2-SSP | 12/9/2014 | 0515-crcpB3 | site 2 - Siderastrea siderea POLYP tissue - Emerald Reef | ?? | 790 | 27.1 | 27.7 | 138.9 |
| E3-PAM | 12/9/2014 | 0516-crcpB3 | site 3 - Porites astreoides MUCUS - Emerald Reef | ?? | ?? | ?? | ?? | ?? |
| E3-PAP | 12/9/2014 | 0517-crcpB3 | site 3-Porites astreoides POLYP tissue - Emerald Reef | ?? | 373.9 | 38 | 19.3 | 80.4 |
| E3-SSM | 12/9/2014 | 0518-crcpB3 | site 3-Siderastrea siderea MUCUS - Emerald Reef | ?? | 416.3 | 19.7 | 30.3 | 190.7 |
| E3-SSP | 12/9/2014 | 0519-crcpB3 | site 3 - Siderastrea siderea POLYP tissue - Emerald Reef | ?? | 377.9 | 42.1 | 15 | 60 |
| P4-PAM | 12/8/2014 | 0520-crcpB3 | site 4-Porites astreoides MUCUS - Pillars Reef | ?? | nd | nd | nd | nd |
| P4-PAP | 12/8/2014 | 0521-crcpB3 | site 4 - Porites astreoides POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| P4-SSM | 12/8/2014 | 0522-crcpB3 | site 4-Siderastrea siderea MUCUS - Pillars Reef | ?? | nd | nd | nd | nd |
| P4-SSP | 12/8/2014 | 0523-crcpB3 | site 4 - Siderastrea siderea POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| P5-PAM | 12/8/2014 | 0524-crcpB3 | site 5 - Porites astreoides MUCUS - Pillars Reef | ?? | nd | nd | nd | nd |
| P5-PAP | 12/8/2014 | 0525 -crcpB3 | site 5-Porites astreoides POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| P5-SSM | 12/8/2014 | 0526-crcpB3 | site 5 - Siderastrea siderea MUCUS - Pillars Reef | ?? | DNQ | nd | nd | nd |
| P5-SSP | 12/8/2014 | 0527-crcpB3 | site 5 - Siderastrea siderea POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |



| Site ID | sample collection date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci <br> by MPN - <br> IDEXX <br> EnteroLert <br> (MPN/100 <br> mL) | General <br> Enterococci <br> by qPCR - <br> Entero1A <br> (GE/100 <br> mL) | Human-source Bacteroidales by qPCR HF813 (GE/100 mL) | Dog-source <br> Bacteroidales <br> by qPCR - <br> DogBact <br> (TSC/100 mL) | Cow-source <br> Bacteroidales <br> by qPCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BA1-A | 1/20/2015 | 0562-crcp8 | Barracuda Reef site 1 - surface | 0 | DNQ | nd | nd | nd |
| BA2-A | 1/20/2015 | 0563-crcp8 | Barracuda Reef site 2 - surface | 0 | DNQ | nd | nd | nd |
| BA2-C | 1/20/2015 | 0564-crep8 | Barracuda Reef site 2 - bottom | 1 | nd | nd | nd | nd |
| BA3-A | 1/20/2015 | 0565-crcp8 | Barracuda Reef site 3-surface | 3 | DNQ | DNQ | nd | nd |
| Bkg2-A | 1/20/2015 | 0566-crcp8 | Background site 2 - surface | 0 | nd | nd | nd | nd |
| MN1-A | 1/20/2015 | 0567-crcp8 | Miami North OUTFALL - surface | 0 | 11390.2 | 318.6 | nd | nd |
| MN2-A | 1/20/2015 | 0568-crcp8 | 500 m north of Miami North OUTFALL - surface | 1 | 1477.4 | 34.2 | nd | nd |
| MN3-A | 1/20/2015 | 0569-crep8 | 1 Km north of Miami North OUTFALL - surface | 0 | 1012.7 | 28.2 | nd | nd |
| BHI-A | 1/20/2015 | 0570-crep8 | Bakers Haulover Inlet - surface | 5 | DNQ | DNQ | nd | nd |
| Bkg3-A | 1/20/2015 | 0571-crcp8 | Background site 3 - surface | 0 | nd | nd | nd | nd |
| Bkg6-A | 1/21/2015 | 0572-crcp8 | Background site 6-surface | 0 | DNQ | nd | nd | DNQ |
| PR1-A | 1/21/2015 | 0573-crcp8 | The Pillars Reef site 1-surface | 1 | nd | nd | nd | nd |
| PR2-A | 1/21/2015 | 0574-crcp8 | The Pillars Reef site 2 - surface | 0 | nd | nd | nd | nd |
| PR2-C | 1/21/2015 | 0575-crcp8 | The Pillars Reef site 2 - bottom | 0 | nd | nd | nd | nd |
| PR3-A | 1/21/2015 | 0576-crep8 | The Pillars Reef site 3 - surface | 1 | nd | nd | nd | nd |
| Bkg5-A | 1/21/2015 | 0577-crcp8 | Background site 5 - surface | 0 | DNQ | DNQ | nd | DNQ |
| MC1-A | 1/21/2015 | 0578-crcp8 | Miami Central OUTFALL - surface | 2 | 60093.5 | 4323.6 | nd | nd |
| MC2-A | 1/21/2015 | 0579-crcp8 | 500 m north of Miami Central OUTFALL - surface | 2 | 21022 | 1031.7 | nd | nd |
| MC3-A | 1/21/2015 | 0580-crcp8 | 1 Km north of Miami Central OUTFALL - surface | 0 | 10997.9 | 900.4 | nd | nd |
| PMI-A | 1/20/2015 | 0581-crcp8 | Port of Miami Inlet - surface | 9 | 973.6 | 122.7 | 101.3 | 37 |
| Bkg4-A | 1/21/2015 | 0582-crcp8 | Background site 4-surface | 0 | 49.4 | nd | nd | nd |
| ER1-A | 1/21/2015 | 0583-crcp8 | Emerald Reef site 1-surface | 3 | DNQ | 16.2 | DNQ | 14 |
| ER2-A | 1/21/2015 | 0584-crcp8 | Emerald Reef site 2-surface | 1 | 50.8 | DNQ | DNQ | DNQ |
| ER2-C | 1/21/2015 | 0585-crcp8 | Emerald Reef site 2-bottom | 2 | 68 | DNQ | DNQ | DNQ |
| ER3-A | 1/21/2015 | 0586-crcp8 | Emerald Reef site 3 - surface | 11 | 132.7 | 76.7 | 15.2 | 22.7 |
|  |  |  |  |  |  |  |  |  |
| TWW-MC | 1/21/2015 | 0709-crcp8 _ 0.45um | treated effluent from Miami Central WWTP - Virginia Key | 0 | ?? | ?? | ?? | ?? |
| TWW-MN | 1/21/2015 | 0710-crcp8 _ 0.45 um | treated effluent from Miami North WWTP - North Miami Beach | 3 | ?? | ?? | ?? | ?? |
|  |  |  |  |  |  |  |  |  |
| 4th FACE-NNCS Coral Benthic Survey, MARCH 2015 |  |  |  |  |  |  |  |  |
| E-3-PAP | 3/3/2015 | 0717-crcpB4 | site 3-Porites astreoides POLYP tissue - Emerald Reef | ?? | 13.8 | nd | 36.9 | 12.7 |
| E-3-SSP | 3/3/2015 | 0718-crcpB4 | site 3-Siderastrea siderea POLYP tissue - Emerald Reef | ?? | 111.1 | 32.8 | 10.6 | 18.7 |
| P-4-PAP | 3/3/2015 | 0719-crcpB4 | site 4- Porites astreoides POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| P-4-SSP | 3/3/2015 | $0720-\mathrm{crcpB} 4$ | site 4-Siderastrea siderea POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| P-5-PAP | 3/3/2015 | 0721-crcpB4 | site 5-Porites astreoides POLYP tissue - Pillars Reef | ?? | DNQ | DNQ | nd | nd |
| P-5-SSP | 3/3/2015 | 0722-crcpB4 | site 5-Siderastrea siderea POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |



| Site ID | sample collection date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci <br> by MPN - <br> IDEXX <br> EnteroLert <br> (MPN/100 <br> mL) | General <br> Enterococci <br> by qPCR - <br> Entero1A <br> (GE/100 <br> mL) | Human-source Bacteroidales by qPCR HF813 (GE/100 mL) | Dog-source Bacteroidales by qPCR DogBact (TSC/100 mL) | Cow-source <br> Bacteroidales <br> by qPCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PR3-A | 3/19/2015 | 0757-crcp9 | The Pillars Reef site 3 - surface | 3 | nd | nd | nd | nd |
| Bkg5-A | 3/19/2015 | 0758-crcp9 | Background site 5 - surface | 0 | DNQ | DNQ | DNQ | DNQ |
| MC1-A | 3/19/2015 | 0759-crep9 | Miami Central OUTFALL - surface | 0 | 3024.6 | 914 | nd | nd |
| MC2-A | 3/19/2015 | 0760-crcp9 | 500 m north of Miami Central OUTFALL - surface | 1 | 1163.8 | 388.4 | DNQ | DNQ |
| MC3-A | 3/19/2015 | 0761 -crcp9 | 1 Km north of Miami Central OUTFALL - surface | 0 | 299.9 | 182.7 | nd | DNQ |
| PMI-A | 3/18/2015 | 0762-crcp9 | Port of Miami Inlet - surface | 12 | 1009 | 12 | 2616 | 110 |
| Bkg4-A | 3/19/2015 | 0763-crcp9 | Background site 4-surface | 0 | DNQ | DNQ | nd | nd |
| ER1-A | 3/19/2015 | 0764-crcp9 | Emerald Reef site 1-surface | 7 | 114.6 | DNQ | 514 | 61.4 |
| ER2-A | 3/19/2015 | 0765-crcp9 | Emerald Reef site 2 - surface | 3 | 191.2 | 41.5 | 219.7 | DNQ |
| ER2-C | 3/19/2015 | 0766-crcp9 | Emerald Reef site 2 - bottom | 1 | 31 | 39.6 | DNQ | 12.7 |
| ER3-A | 3/19/2015 | 0767-crcp9 | Emerald Reef site 3-surface | 6 | 171.4 | 100.4 | 413.4 | 83.6 |
|  |  |  |  |  |  |  |  |  |
| TWW-MC | 3/19/2015 | xx03-crcp9 | treated effluent from Miami Central WWTP - Virginia Key | 0 | 20943 | 5394.2 | nd | 37 |
| TWW-MN | 3/19/2015 | xx04-crcp9 | treated effluent from Miami North WWTP - North Miami Beach | 3 | 18723.1 | 1361.3 | nd | nd |
|  |  |  |  |  |  |  |  |  |
| 10th FACE-NNCS Cruise, MAY 2015 |  |  |  |  |  |  |  |  |
| PEI-A | 5/20/2015 | 0798-crcp 10 | Port Everglades Inlet - surface | 16 | DNQ | DNQ | nd | nd |
| OR1-A | 5/19/2015 | 0799-crcp 10 | Oakland Ridge Reef site 1 - surface | 7 | nd | nd | nd | nd |
| OR2-A | 5/19/2015 | 0800-crcp10 | Oakland Ridge Reef site 2 - surface | 2 | nd | nd | nd | nd |
| OR2-C | 5/19/2015 | 0801 -crcp10 | Oakland Ridge Reef site 2 - bottom | 0 | nd | nd | nd | nd |
| OR3-A | 5/19/2015 | 0802-crcp10 | Oakland Ridge Reef site 3 - surface | 6 | nd | nd | nd | nd |
| Bkgl-A | 5/19/2015 | 0803-crep10 | Background site 1 - surface | 0 | nd | nd | nd | nd |
| BA1-A | 5/19/2015 | 0804-crcp10 | Barracuda Reef site 1 - surface | 0 | nd | nd | nd | nd |
| BA2-A | 5/19/2015 | 0805-crrp 10 | Barracuda Reef site 2 - surface | 3 | nd | nd | nd | nd |
| BA2-C | 5/19/2015 | 0806-crcp10 | Barracuda Reef site 2-bottom | 2 | nd | nd | nd | nd |
| BA3-A | 5/19/2015 | 0807-crcp10 | Barracuda Reef site 3-surface | 2 | nd | nd | nd | nd |
| Bkg2-A | 5/19/2015 | 0808-crrp10 | Background site 2 - surface | 4 | nd | nd | nd | nd |
| MN1-A | 5/19/2015 | 0809-crcp10 | Miami North OUTFALL - surface | 8 | 1063.4 | DNQ | nd | nd |
| MN2-A | 5/19/2015 | 0810-crcp10 | 500 m north of Miami North OUTFALL - surface | 16 | 163.3 | nd | nd | nd |
| MN3-A | 5/19/2015 | 0811-crcp10 | 1 Km north of Miami North OUTFALL - surface | 6 | DNQ | nd | nd | nd |
| BHI-A | 5/19/2015 | 0812-crrp10 | Bakers Haulover Inlet - surface | 12 | 71.3 | 19.2 | 136.1 | nd |
| Bkg3-A | 5/19/2015 | 0813-crcp10 | Background site 3-surface | 3 | nd | nd | nd | nd |
| Bkg6-A | 5/20/2015 | 0814-crep10 | Background site 6-surface | 0 | 51.6 | DNQ | DNQ | nd |
| PR1-A | 5/20/2015 | 0815-crcp10 | The Pillars Reef site 1-surface | 0 | nd | nd | nd | nd |
| PR2-A | 5/20/2015 | 0816-crep10 | The Pillars Reef site 2-surface | 0 | nd | nd | nd | nd |
| PR2-C | 5/20/2015 | 0817-crrpl0 | The Pillars Reef site 2-bottom | 1 | nd | nd | nd | nd |


| Site ID | sample collection date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci <br> by MPN - <br> IDEXX <br> EnteroLert <br> (MPN/100 <br> mL) | General <br> Enterococci <br> by qPCR - <br> Entero1A <br> (GE/100 <br> mL) | Human-source <br> Bacteroidales <br> by qPCR - <br> HF813 <br> (GE/100 mL) | Dog-source <br> Bacteroidales <br> by qPCR - <br> DogBact <br> (TSC/100 mL) | Cow-source <br> Bacteroidales <br> by qPCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PR3-A | 5/20/2015 | 0818-crcp10 | The Pillars Reef site 3 - surface | 0 | nd | nd | nd | nd |
| Bkg5-A | 5/20/2015 | 0819-crcp10 | Background site 5 - surface | 0 | 135.5 | DNQ | nd | nd |
| MC1-A | 5/20/2015 | 0820-crcp10 | Miami Central OUTFALL - surface | 5 | DNQ | DNQ | nd | nd |
| MC2-A | 5/20/2015 | 0821 -crcp10 | 500 m north of Miami Central OUTFALL - surface | 7 | DNQ | DNQ | nd | nd |
| MC3-A | 5/20/2015 | 0822-crcp10 | 1 Km north of Miami Central OUTFALL - surface | 3 | DNQ | nd | nd | nd |
| PMI-A | 5/19/2015 | 0823-crcp10 | Port of Miami Inlet - surface | TNTC ( $>500$ ) | 5161.5 | 310.3 | 16.1 | 21.8 |
| Bkg4-A | 5/20/2015 | 0824-crcp10 | Background site 4-surface | 15 | nd | nd | 12 | nd |
| ER1-A | 5/20/2015 | 0825-crcp10 | Emerald Reef site 1 - surface | 12 | 812.4 | 72.3 | 23.5 | nd |
| ER2-A | 5/20/2015 | 0826-crcp 10 | Emerald Reef site 2 - surface | 3 | 596.3 | 55.8 | DNQ | nd |
| ER2-C | 5/20/2015 | 0827-crcp10 | Emerald Reef site 2 - bottom | 6 | 27 | DNQ | nd | nd |
| ER3-A | 5/20/2015 | 0828-crcp10 | Emerald Reef site 3-surface | 11 | 229.4 | DNQ | nd | nd |
|  |  |  |  |  |  |  |  |  |
| 11th FACE-NNCS Cruise, JULY 2015 |  |  |  |  |  |  |  |  |
| PEI-A | 7/14/2015 | 0860-crcp11 | Port Everglades Inlet - surface | 7 | DNQ | DNQ | nd | nd |
| OR1-A | 7/13/2015 | 0861-crcp 11 | Oakland Ridge Reef site 1 - surface | 0 | nd | nd | nd | nd |
| OR2-A | 7/13/2015 | 0862-crcp11 | Oakland Ridge Reef site 2 - surface | 0 | nd | nd | nd | nd |
| OR2-C | 7/13/2015 | 0863-crcp 11 | Oakland Ridge Reef site 2-bottom | 0 | nd | nd | nd | nd |
| OR3-A | 7/13/2015 | 0864-crcpl1 | Oakland Ridge Reef site 3-surface | 0 | DNQ | nd | nd | nd |
| Bkgl-A | 7/13/2015 | 0865-crep11 | Background site 1 - surface | 0 | nd | nd | nd | nd |
| BAI-A | 7/13/2015 | 0866-crep11 | Barracuda Reef site 1-surface | 5 | nd | nd | nd | nd |
| BA2-A | 7/13/2015 | 0867-crcp1 1 | Barracuda Reef site 2 - surface | 3 | nd | nd | nd | nd |
| BA3-A | 7/13/2015 | 0869-crcp 11 | Barracuda Reef site 3-surface | 2 | DNQ | nd | nd | nd |
| Bkg2-A | 7/13/2015 | 0870-crcp 11 | Background site 2-surface | 0 | nd | nd | nd | nd |
| MN1-A | 7/13/2015 | 0871-crcp11 | Miami North OUTFALL - surface | 5 | 12371.7 | 1272.8 | DNQ | nd |
| MN2-A | 7/13/2015 | 0872-crcp 11 | 500 m north of Miami North OUTFALL - surface | 0 | 4355.5 | 614.1 | nd | nd |
| MN3-A | 7/13/2015 | 0873-crcp11 | 1 Km north of Miami North OUTFALL - surface | 27 | 3928.7 | 71.2 | nd | nd |
| BHI-A | 7/13/2015 | 0874-crep 11 | Bakers Haulover Inlet - surface | 3 | 52.5 | DNQ | 23.2 | nd |
| Bkg3-A | 7/13/2015 | 0875-crcp 11 | Background site 3-surface | 0 | nd | nd | nd | nd |
| Bkg6-A | 7/14/2015 | 0876-crcp 11 | Background site 6-surface | 0 | nd | nd | nd | nd |
| PR1-A | 7/14/2015 | 0877-crcp 11 | The Pillars Reef site 1 - surface | 0 | nd | nd | nd | nd |
| PR2-A | 7/14/2015 | 0878-crcp 11 | The Pillars Reef site 2-surface | 0 | nd | nd | nd | nd |
| PR2-C | 7/14/2015 | 0879-crcp 11 | The Pillars Reef site 2-bottom | 0 | nd | nd | nd | nd |
| PR3-A | 7/14/2015 | 0880-crcp 11 | The Pillars Reef site 3-surface | 0 | nd | nd | nd | nd |
| Bkg5-A | 7/14/2015 | 0881-crcp 11 | Background site 5 - surface | 10 | nd | nd | DNQ | nd |
| MC1-A | 7/14/2015 | 0882-crcp11 | Miami Central OUTFALL - surface | 0 | 22116.2 | 312.4 | nd | nd |
| MC2-A | 7/14/2015 | 0883-crcp11 | 500 m north of Miami Central OUTFALL - surface | 0 | 3837.4 | 39 | nd | nd |


| Site ID | sample collection date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci <br> by MPN - <br> IDEXX <br> EnteroLert <br> (MPN/100 <br> mL) | General Enterococci by $q$ PCR Entero1A (GE/100 mL) | Human-source <br> Bacteroidales <br> by qPCR - <br> HF813 <br> (GE/100 mL) | Dog-source <br> Bacteroidales <br> by qPCR - <br> DogBact <br> (TSC/100 mL) | Cow-source <br> Bacteroidales <br> by $q$ PCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MC3-A | 7/14/2015 | 0884-crep11 | 1 Km north of Miami Central OUTFALL - surface | 212 | 996.4 | 11.8 | nd | nd |
| PMI-A | 7/13/2015 | 0885 -crcp 11 | Port of Miami Inlet - surface | 18 | 412.7 | 33.7 | 110.6 | DNQ |
| Bkg4-A | 7/14/2015 | 0886 -crcp 11 | Background site 4-surface | 5 | nd | nd | nd | nd |
| ER1-A | 7/14/2015 | 0887 -crcp 11 | Emerald Reef site 1 - surface | 19 | 47.6 | DNQ | nd | nd |
| ER2-A | 7/14/2015 | 0888 -crcp 11 | Emerald Reef site 2 - surface | 6 | nd | nd | nd | nd |
| ER2-C | 7/14/2015 | 0889-crcp 11 | Emerald Reef site 2-bottom | 4 | nd | nd | nd | nd |
| ER3-A | 7/14/2015 | 0890 -crcp 11 | Emerald Reef site 3 - surface | 24 | DNQ | 12.6 | DNQ | nd |
|  |  |  |  |  |  |  |  |  |
| 5th FACE-NNCS Coral Benthic Survey, JUNE 2015 |  |  |  |  |  |  |  |  |
| E-1-PAP | june2015 | 0922-crcpB5 | site 1-Porites astreoides POLYP tissue - Emerald Reef | ?? | 61.8 | 17.3 | nd | 27.4 |
| E-1-SSP | june2015 | 0923-crcpB5 | site 1-Siderastrea siderea POLYP tissue - Emerald Reef | ?? | 48.4 | 14.3 | nd | DNQ |
| E-2-PAP | june2015 | 0924-crcpB5 | site 2-Porites astreoides POLYP tissue - Emerald Reef | ?? | ?? | ?? | ?? | ?? |
| E-2-SSP | june2015 | 0925-crcpB5 | site 2-Siderastrea siderea POLYP tissue - Emerald Reef | ?? | DNQ | DNQ | nd | DNQ |
| E-3-PAP | june2015 | 0926-crepB5 | site 3- Porites astreoides POLYP tissue - Emerald Reef | ?? | 24.6 | DNQ | nd | nd |
| E-3-SSP | june2015 | 0927-crcpB5 | site 3- Siderastrea siderea POLYP tissue - Emerald Reef | ?? | 16 | 11.7 | nd | nd |
| P-4-PAP | june2015 | 0928-crcpB5 | site 4- Porites astreoides POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| P-4-SSP | june2015 | 0929-crcpB5 | site 4- Siderastrea siderea POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| P-5-PAP | june2015 | 0930-crcpB5 | site 5-Porites astreoides POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| P-5-SSP | june2015 | $0931-\mathrm{crcpB5}$ | site 5-Siderastrea siderea POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| P-6-PAP | june2015 | 0932-crcpB5 | site 6-Porites astreoides POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| P-6-SSP | june2015 | 0933-crepB5 | site 6-Siderastrea siderea POLYP tissue - Pillars Reef | ?? | nd | nd | nd | nd |
| B-7-PAP | june2015 | 0934-crcpB5 | site 7 - Porites astreoides POLYP tissue - Barracuda Reef | ?? | nd | nd | nd | nd |
| B-7-SSP | june2015 | 0935-crcpB5 | site 7 - Siderastrea siderea POLYP tissue - Barracuda Reef | ?? | nd | nd | nd | nd |
| B-8-PAP | june2015 | 0936-crcpB5 | site 8- Porites astreoides POLYP tissue - Barracuda Reef | ?? | nd | nd | nd | nd |
| B-8-SSP | june2015 | 0937-crcpB5 | site 8- Siderastrea siderea POLYP tissue - Barracuda Reef | ?? | nd | nd | nd | nd |
| B-9-PAP | june2015 | 0938-crcpB5 | site 9- Porites astreoides POLYP tissue - Barracuda Reef | ?? | nd | nd | nd | nd |
| B-9-SSP | june2015 | 0939-crcpB5 | site 9- Siderastrea siderea POLYP tissue - Barracuda Reef | ?? | nd | nd | nd | nd |
| O-10-PAP | june2015 | 0940-crcpB5 | site 10-Porites astreoides POLYP tissue - Oakland Ridge Reef | ?? | nd | nd | nd | nd |
| O-10-SSP | june2015 | 0941-crepB5 | site 10 - Siderastrea siderea POLYP tissue - Oakland Ridge Reef | ?? | ?? | ?? | ?? | ?? |
| O-11-PAP | june2015 | 0942-crcpB5 | site 11 - Porites astreoides POLYP tissue - Oakland Ridge Reef | ?? | nd | nd | nd | nd |
| O-11-SSP | june2015 | 0943-crcpB5 | site 11 - Siderastrea siderea POLYP tissue - Oakland Ridge Reef | ?? | nd | nd | nd | nd |
| O-12-PAP | june2015 | 0944-crepB5 | site 12 - Porites astreoides POLYP tissue - Oakland Ridge Reef | ?? | nd | nd | nd | nd |
| O-12-SSP | june2015 | 0945-crcpB5 | site 12 - Siderastrea siderea POLYP tissue - Oakland Ridge Reef | ?? | ?? | ?? | ?? | ?? |
|  |  |  |  |  |  |  |  |  |
| 6th FACE-NNCS Coral Benthic Survey, SEPTEMBER 2015 |  |  |  |  |  |  |  |  |
| E-1-PAP | Sept2015 | 0946-crcpB6 | site 1-Porites astreoides POLYP tissue - Emerald Reef | ?? | 69.3 | DNQ | nd | nd |



| Site ID | sample collection date | Unique sample filter ID\# | Sample Site Description | Live <br> Enterococci by MPN - <br> IDEXX <br> EnteroLert <br> (MPN/100 <br> mL ) | General <br> Enterococci <br> by qPCR - <br> Entero1A <br> (GE/100 <br> mL ) | Human-source Bacteroidales by qPCR HF813 (GE/100 mL) | Dog-source <br> Bacteroidales <br> by qPCR - <br> DogBact <br> (TSC/100 mL) | Cow-source <br> Bacteroidales <br> by qPCR - <br> CowM2 <br> (TSC/100 mL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MN1-A | 9/2/2015 | 0981-crcp 12 | Miami North OUTFALL - surface | 6 | 8222.7 | DNQ | 13.7 | nd |
| MN2-A | 9/2/2015 | 0982-crcp 12 | 500 m north of Miami North OUTFALL - surface | 0 | 290.2 | nd | nd | nd |
| MN3-A | 9/2/2015 | 0983-crcp12 | 1 Km north of Miami North OUTFALL - surface | 0 | 196.8 | DNQ | nd | nd |
| BHI-A | 9/2/2015 | 0984 -crcp 12 | Bakers Haulover Inlet - surface | 0 | nd | nd | nd | nd |
| Bkg3-A | 9/2/2015 | 0985-crcp 12 | Background site 3 - surface | 0 | nd | nd | nd | nd |
| Bkg6-A | 9/3/2015 | 0986-crcp 12 | Background site 6 - surface | 4 | nd | nd | nd | nd |
| PR1-A | 9/3/2015 | 0987-crcp 12 | The Pillars Reef site 1-surface | 0 | nd | nd | nd | nd |
| PR2-A | 9/3/2015 | 0988-crcp12 | The Pillars Reef site 2 - surface | 3 | nd | nd | nd | nd |
| PR2-C | 9/3/2015 | 0989-crcp 12 | The Pillars Reef site 2 - bottom | 1 | nd | nd | nd | nd |
| PR3-A | 9/3/2015 | 0990-crcp 12 | The Pillars Reef site 3-surface | 1 | nd | nd | nd | nd |
| Bkg5-A | 9/3/2015 | 0991-crcp12 | Background site 5 - surface | 1 | nd | nd | nd | nd |
| MC1-A | 9/3/2015 | 0992-crcp 12 | Miami Central OUTFALL - surface | 9 | 5388.2 | 338.8 | nd | nd |
| MC2-A | 9/3/2015 | 0993-crcp 12 | 500 m north of Miami Central OUTFALL - surface | 12 | 319.3 | DNQ | DNQ | nd |
| MC3-A | 9/3/2015 | 0994-crcp 12 | 1 Km north of Miami Central OUTFALL - surface | 7 | 54 | DNQ | nd | nd |
| PMI-A | 9/2/2015 | 0995-crcp 12 | Port of Miami Inlet - surface | 58 | 51.8 | nd | nd | nd |
| Bkg4-A | 9/3/2015 | 0996-crep12 | Background site 4 - surface | 5 | nd | nd | nd | nd |
| ER1-A | 9/3/2015 | 0997-crcp 12 | Emerald Reef site 1 - surface | 6 | DNQ | DNQ | nd | nd |
| ER2-A | 9/3/2015 | 0998-crcp 12 | Emerald Reef site 2 - surface | 4 | DNQ | nd | nd | nd |
| ER2-C | 9/3/2015 | 0999-crcp 12 | Emerald Reef site 2-bottom | 0 | nd | nd | nd | nd |
| ER3-A | 9/3/2015 | 1000-crcp 12 | Emerald Reef site 3 - surface | 0 | nd | nd | nd | nd |

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## Appendix 4:

## Concentrations of Key Analytes

## Appendix 4a: Four Reef Sites


[^2]
## Appendix 4b: Three Inlet Sites



## Appendix 4c: Two Outfall Sites



Appendix 4d: Six Background Sites


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## Appendix 5:

CTD Profiles by Cruise Number
Cruise 1: November 18-19, 2013

Cruise 2: January 27-28, 2014

CTD profiles for each cruise. Data for each cruise are presented in one of three profile groups as denoted on the y-axis (depth) label and according to the legend in the leftmost plot. Each data point represents data from $0.25-\mathrm{sec}$ intervals during the lowering or raising of the CTD instrument package. Analytes are denoted above each uppermost plot. Horizontal deviations are noted at the surface, mid, and deepest points and represent the variance in signal when the CTD unit stopped for bottle closing (upward trace only).
Cruise 3: March 18-19, 2014

Cruise 4: May 27 and 29, 2014

Cruise 5: July 14-15, 2014

Cruise 6: September 22-23, 2014

Cruise 7: November 24-25, 2014

Cruise 8: January 20-21, 2015

Cruise 9: March 18-19, 2015

Cruise 10: May 19-20, 2015

Cruise 11: July 13-14, 2015

Cruise 12: September 2-3, 2015


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## Appendix 6:

## Stick Plots of Current Data

## Appendix 6a: ADCP Shallow Depth Deployments



Ocean current and direction measurements from the shallow-water ADCP for the entire duration of deployment, at a bin depth bin of 3.4 m (approximately the middle of the water column). Current direction (oceanographic convention) is indicated by the angle of the blue stick (north is up), while current velocity is denoted by the length of the stick as denoted by the left vertical axis. The ADCP temperature is given by the red line and is denoted by the right axis. All times are UT.

Appendix 6b: ADCP Deep Water Deployments—First Year



Ocean current and direction measurements from the deep-water ADCP for 2013-2014, bin depth = 12.3 m (approximately the middle of the water column). Format is the same as in Appendix 6a.

Appendix 6c: ADCP Deep Water Deployments-Second Year


Ocean current and direction measurements from the deep-water ADCP for 2015. Format is the same as in Appendix 6a.

## Appendix 6d: Tilt Current Meter Data for 2015

NNCS Tilt Current Meter 1


NNCS Tilt Current Meter 2







Ocean current and direction measurements from the two tilt current meters for the entire duration of deployment. Current direction (oceanographic convention) is indicated by the angle of the blue stick (north is up), while current velocity is denoted by the length of the stick as denoted by left vertical axis. The seafloor temperature is given by the red line and is denoted by the right axis. All times are UT.

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## Appendix 7:

# Contributions of Land-Based Pollution Sources of Prokaryotic Populations to Reef Community Microbiomes 

Percentage of prokaryotic source community contributions from land-based sources of pollution to reef water, coral mucus, and coral polyp microbiomes from (A) inlet, (B) outfall, and (C) wastewater treatment plant source contributions, based on SourceTracker community sequence data analysis.
(A)

| Month | Reef | Mucus | Polyp |
| :--- | :---: | :---: | :---: |
| Nov '13 | $1.9 \pm 4.2^{*}$ | NA |  |
| Jan '14 | $0.4 \pm 1.5$ | NA | NA |
| Mar '14 | $2.3 \pm 8.2$ | NA | NA |
| May '14 | $18.3 \pm 35.8$ | NA | NA |
| Jun '14 | NA | $15.6 \pm 25.1$ | $16.5 \pm 13.6^{\text {a,b }}$ |
| Jul '14 | $24.6 \pm 31.9$ | NA | NA |
| Sep '14 | $19.4 \pm 27.2$ | $14.3 \pm 12.2$ | $27.6 \pm 30.3^{\text {b }}$ |
| Nov '14 | $18.4 \pm 29.3$ | NA | NA |
| Dec '14 | NA | $13.7 \pm 21.6$ | $23.3 \pm 32.5^{\text {a }}$ |
| Jan '15 | $4.3 \pm 11.0$ | NA | NA |
| Mar '15 | $2.3 \pm 4.8$ | NA | $0.0 \pm 0.0^{\text {b }}$ |
| May '15 | $0.9 \pm 2.2$ | NA | NA |
| Jun '15 | NA | NA | $0.8 \pm 38.5^{\text {b }}$ |
| Jul '15 | $0.1 \pm 0.1$ | NA | NA |
| Sep '15 | NA | NA | $0.0 \pm 0.0^{\text {b }}$ |
| $P$-value | 0.002 | 0.982 | $<0.0001$ |

(B)

| Month | Reef | Mucus | Polyp |
| :--- | :---: | :---: | :---: |
| Nov '13 | $1.3 \pm 1.6$ | NA | NA |
| Jan '14 | $1.4 \pm 1.5$ | NA | NA |
| Mar '14 | $0.7 \pm 1.5$ | NA | NA |
| May '14 | $24.1 \pm 41.1$ | NA | NA |
| Jun '14 | NA | $9.2 \pm 17.3$ | $27.4 \pm 42.8^{\mathrm{a}}$ |
| Jul '14 | $31.4 \pm 40.0$ | NA | NA |
| Sep '14 | $28.5 \pm 38.6$ | $13.9 \pm 25.5$ | $12.9 \pm 14.6^{\mathrm{a}, \mathrm{b}}$ |
| Nov '14 | $32.6 \pm 39.7$ | NA | NA |
| Dec '14 | NA | $13.9 \pm 24.7$ | $7.1 \pm 11.9^{\mathrm{a}, \mathrm{b}}$ |
| Jan '15 | $32.0 \pm 43.1$ | NA | NA |
| Mar '15 | $0.7 \pm 0.9$ | NA | $0.0 \pm 0.0^{\mathrm{b}}$ |
| May '15 | $2.1 \pm 2.1$ | NA | NA |
| Jun '15 | NA | NA | $0.0 \pm 0.0^{\mathrm{b}}$ |
| Jul '15 | $0.1 \pm 0.2$ | NA | NA |
| Sep '15 | NA | NA | $0.1 \pm 0.2^{\mathrm{b}}$ |
| $P$-value ${ }^{\ddagger}$ | $<0.0001$ | 0.892 | 0.002 |

(C)

| Month | Reef | Mucus | Polyp |
| :--- | :---: | :---: | :---: |
| Nov '13 | $0 \pm 0$ | NA | NA |
| Jan '14 | $0 \pm 0$ | NA | NA |
| Mar '14 | $0 \pm 0$ | NA | NA |
| May '14 | $0.9 \pm 3.4$ | NA | NA |
| Jun '14 | NA | $0.0 \pm 0.0$ | $25.2 \pm 39^{\mathrm{a}}$ |
| Jul '14 | $0.0 \pm 0.0$ | NA | NA |
| Sep '14 | $1.6 \pm 4.9$ | $1 \pm 3.5$ | $0.0 \pm 0.0^{\text {b }}$ |
| Nov '14 | $0.5 \pm 1.2$ | NA | NA |
| Dec '14 | NA | $0.0 \pm 0.0$ | $0.0 \pm 0.0^{\text {b }}$ |
| Jan '15 | $0.1 \pm 0.1$ | NA | NA |
| Mar '15 | $0 \pm 0$ | NA | $0.0 \pm 0.0^{\text {b }}$ |
| May '15 | $0 \pm 0$ | NA | NA |
| Jun '15 | NA | NA | $0.0 \pm 0.0^{\text {b }}$ |
| Jul '15 | $0.0 \pm 0.0$ | NA | NA |
| Sep '15 | NA | NA | $0.0 \pm 0.0^{b}$ |
| $P$-value ${ }^{\ddagger}$ | 0.358 | 0.553 | 0.001 |

*Vales are mean $\pm$ standard deviation of replicate samples.
${ }^{+} \mathrm{NA}$ : not applicable.
*ANOVA analyses were run on each column separately.
${ }^{\text {a,b }}$ Samples sharing the same superscript did not differ significantly by Tukey's post-hoc test $(P>$ 0.05 ). Where the ANOVA result was significant ( $P<0.05$ ), but superscripts are not shown, no post-hoc differences were significant.

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## Appendix 8:

## Contributions of Land-Based Pollution Sources of Fungal Populations to Reef Community Microbiomes

Percentage of fungal source community contributions from land-based sources of pollution to reef water, coral mucus, and coral polyp microbiomes from (A) inlet, (B) outfall, and (C) wastewater treatment plant source contributions, based on SourceTracker community sequence data analysis.
(A)

| Month | Reef | Mucus | Polyp |
| :--- | :---: | :---: | :---: |
| Nov '13 | $0.0 \pm 0.0^{*}$ | NA' $^{\dagger}$ | NA |
| Jan '14 | $0.0 \pm 0.0$ | NA | NA |
| Mar '14 | $0.5 \pm 1.4$ | NA | NA |
| May '14 | $11.1 \pm 25.1$ | NA | NA |
| Jun '14 | NA | $0.3 \pm 0.9$ | $0.6 \pm 1.2$ |
| Jul '14 | $27.2 \pm 36.8$ | NA | NA |
| Sep '14 | $16.9 \pm 25.3$ | $0.4 \pm 1.1$ | $0 \pm 0$ |
| Nov '14 | $14.5 \pm 20.0$ | NA | NA |
| Dec '14 | NA | $0.0 \pm 0.0$ | $0.0 \pm 0.0$ |
| Jan '15 | $12.2 \pm 17.7$ | NA | NA |
| Mar '15 | $0.6 \pm 1.6$ | NA | $0.2 \pm 0.5$ |
| May '15 | $8.7 \pm 14.2$ | NA | NA |
| Jun '15 | NA | NA | $0.2 \pm 0.6$ |
| Jul '15 | $1.6 \pm 3.7$ | NA | NA |
| Sep '15 | NA | NA | $0.2 \pm 0.6$ |
| $P$-value ${ }^{\ddagger}$ | 0.021 | 0.561 | 0.246 |

(B)

| Month | Reef | Mucus | Polyp |
| :--- | :---: | :---: | :---: |
| Nov' '13 | $0.0 \pm 0.0^{\mathrm{a}}$ | NA | NA |
| Jan '14 | $3.2 \pm 5.6^{\mathrm{a}, \mathrm{b}}$ | NA | NA |
| Mar '14 | $13.9 \pm 14.8^{\mathrm{a}, \mathrm{b}}$ | NA | NA |
| May '14 | $22.4 \pm 37.9^{\mathrm{a}, \mathrm{b}, \mathrm{c}}$ | NA | NA |
| Jun'14 | NA | $10.4 \pm 31.2$ | $30.6 \pm 45.9^{\mathrm{a}}$ |
| Jul '14 | $37.6 \pm 42.8^{\mathrm{a}, \mathrm{b}, \mathrm{c}}$ | NA | NA |
| Sep '14 | $62.3 \pm 28.4^{\mathrm{c}}$ | $22.2 \pm 40.5$ | $17.1 \pm 37.7^{\mathrm{a}, \mathrm{b}}$ |
| Nov''14 | $36.0 \pm 35.1^{\mathrm{a}, \mathrm{b}, \mathrm{c}}$ | NA | NA |
| Dec '14 | NA | $28.6 \pm 42.1$ | $15.2 \pm 35.5^{\mathrm{a}, \mathrm{b}}$ |
| Jan '15 | $43.0 \pm 28.0^{\mathrm{b}, \mathrm{c}}$ | NA | NA |
| Mar '15 | $12.1 \pm 11.8^{\mathrm{a}, \mathrm{b}}$ | NA | $0.2 \pm 0.8^{\mathrm{b}}$ |
| May '15 | $35.3 \pm 17.5^{\mathrm{a}, \mathrm{b}, \mathrm{c}}$ | NA | NA |
| Jun '15 | NA | NA | $0.0 \pm 0.0^{\mathrm{b}}$ |
| Jul '15 | $0.0 \pm 10.2^{\mathrm{a}, \mathrm{b}}$ | NA | NA |
| Sep '15 | NA | NA | $0.2 \pm 0.6^{\mathrm{b}}$ |
| $P$-value ${ }^{\ddagger}$ | $<0.0001$ | 0.610 | 0.007 |

(C)

| Month | Reef | Mucus | Polyp |
| :--- | :---: | :---: | :---: |
| Nov' '13 | $0.0 \pm 0.0$ | NA | NA |
| Jan '14 | $7.5 \pm 18.1$ | NA | NA |
| Mar '14 | $0.0 \pm 0.0$ | NA | NA |
| May '14 | $0.9 \pm 2.8$ | NA | NA |
| Jun'14 | NA | $0.0 \pm 0.0$ | $0.5 \pm 1.4$ |
| Jul '14 | $0.0 \pm 0.0$ | NA | NA |
| Sep '14 | $0.1 \pm 0.4$ | $0.5 \pm 1.3$ | $0.6 \pm 1.1$ |
| Nov'14 | $6.9 \pm 14.6$ | NA | NA |
| Dec '14 | NA | $11.1 \pm 29.4$ | $0.7 \pm 1.7$ |
| Jan '15 | $6.1 \pm 13.7$ | NA | NA |
| Mar '15 | $0.0 \pm 0.0$ | NA | $7.9 \pm 17.1$ |
| May '15 | $0.5 \pm 1.7$ | NA | NA |
| Jun '15 | NA | NA | $0.0 \pm 0.0$ |
| Jul '15 | $0.0 \pm 0.0$ | NA | NA |
| Sep '15 | NA | NA | $4.4 \pm 12.1$ |
| $P$-value | 0.220 | 0.236 | 0.224 |

*Vales are mean $\pm$ standard deviation of replicate samples.
${ }^{\dagger}$ NA: not applicable.
*ANOVA analyses were run on each column separately.
${ }^{\mathrm{a}, \mathrm{b}}$ Samples sharing the same superscript did not differ significantly by Tukey's post-hoc test ( $\mathrm{P}>$ 0.05 ). Where the ANOVA result was significant ( $\mathrm{P}<0.05$ ), but not superscripts are shown, no post-hoc differences were significant.

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[^0]:    UNITED STATES DEPARTMENT OF COMMERCE Mr. Wilbur L. Ross, Jr., Secretary

[^1]:    ${ }^{1}$ North flow only.

[^2]:    *Averaged concentrations of key species found near the four reef sites as denoted at the left of each line of plots. Lines denote surface (green), mid (blue), and deep (red) concentrations. Horizontal axis is the cruise number, i.e., 1: Nov 18-19, 2013; 2: Jan 27-28, 2014; Mar 18-19, 2014; 4. May 27, 29, 2014; 5: Jul 14-15, 2014; 6: Sep 22-23, 2014; 7: Nov 24-25, 2014; 8: Jan 20-21, 2015; 9: Mar 18-19, 2015, heading. Each data point denotes the average value from three CTD casts clustered around the designated outfall (Figure 4).

