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# Supplemental Material

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- **Table S11.** Bulk-rock Sr–Nd isotopic composition of the magmatic rocks in the intraplate ocean island fragment in the BNSZ

## Text S1. Analytical methods

### 1. Bulk–rock major and trace element analyses

Samples were trimmed to remove weathered surfaces, cleaned with deionized water, crushed, and powdered in an agate mill. Major element compositions were analyzed by inductively coupled plasma–optical emission spectroscopy (ICP–OES; Leeman Prodigy) with high-dispersion Echelle optics at the Key Laboratory of Mineral Resources Evaluation in Northeast Asia, Ministry of Natural Resources of China, Changchun, China. Loss on ignition (LOI) values were determined by heating 1 g of sample in a furnace at 1000 °C for several hours before being cooled in a desiccator and reweighed. Analytical uncertainties for the major elements are <1 wt.%. Trace element compositions were analyzed by inductively coupled plasma–mass spectrometry (ICP–MS; Agilent–7900). The analytical accuracy and precision during trace element analysis were determined from standards AGV–2 (US Geological Survey standard) and GSR–3 (Chinese national geological reference standard). The analytical accuracy is <5 wt.% for most elements. The values obtained for the standards are in good agreement with recommended values (Govindaraju, 1994).

### 2. Zircon U-Pb dating

Zircon grains were separated by crushing, conventional heavy liquid and magnetic techniques from sandstone samples in the Laboratory of the Geological Team of Hebei Province, Langfang, China. The internal structures of zircon were characterized using cathodoluminescence (CL) in the Continental Dynamics Laboratory, Chinese Academy of Geological Sciences, Beijing, China to select spots for laser ablation–inductively coupled plasma–mass spectroscopy (LA–ICP–MS) analysis. LA–ICP–MS U-Pb zircon dating was carried out in the Key Laboratory of Mineral Resources Evaluation in Northeast Asia, Ministry of Natural Resources of China, Changchun, China. The spot size was 32 μm for each sample. Helium was used as a carrier gas. Reference and internal zircon standards 91500 (Wiedenbeck et al., 1995) and NIST610 ($^{29}$Si), respectively, were used for instrumental calibration. The Pb correction method of Anderson (2002) was applied with analytical details

following Yuan et al. (2004). Reported uncertainties for the age analyses are given as 1σ values with weighted mean ages in the 95% confidence level. Isotopic data were processed using the GLITTER (version 4.4) and Isoplot/Ex (version 3.0) programs (Ludwig et al., 2003). The ages reported are $^{206}Pb/^{238}U$ ages for grains<1000 Ma and $^{207}Pb/^{206}Pb$ ages for grains >1000 Ma. For statistical purpose, zircon ages with a discordance of >10%, and those fall off the 1:1 age line was considered to be usable (Spencer et al., 2016).

## 3. Sphene U-Pb dating

Sphene U-Pb dating analyses were conducted by LA-ICP-MS at at Beijing GeoAnalysis Technology Co., Ltd. Laser sampling was performed using a RESOlution 193 nm laser ablation system. An Agilent 7500 ICP-MS instrument was used to acquire ion-signal intensities. Helium was applied as a carrier gas. Argon was used as the make-up gas and mixed with the carrier gas via a T-connector before entering the ICP. Each analysis incorporated a background acquisition of approximately 15-20 s (gas blank) followed by 45 s data acquisition from the sample. Off-line raw data selection and integration of background and analyte signals, and time-drift correction and quantitative calibration for U-Pb dating was performed by *ICPMSDataCal* (Liu et al., 2010).

Titanite BLR-1 was used as external standard for U-Pb dating, and was analyzed twice every 5-10 analyses. Time-dependent drifts of U-Th-Pb isotopic ratios were corrected using a linear interpolation (with time) for every 5-10 analyses according to the variations of BLR-1 (i.e., 2 titanite BLR-1 + 5-10 samples + 2 titanite BLR-1). Uncertainty of preferred values for the external standard BLR-1 was propagated to the ultimate results of the samples. Concordia diagrams and weighted mean calculations were made using Isoplot/Ex_ver3.

## 4. Bulk-rock Sr–Nd isotopes

Bulk-rock Sr–Nd isotopic analyses were undertaken by Beijing Createch Testing Technology Co., Ltd, Beijing. Prior to analysis, sample powders were dissolved in a

mixture of HF, $HNO_3$, and $HClO_4$ in Teflon bombs and separated by routine cation-exchange techniques. Sr–Nd isotopic measurements were performed using a Nu Plasma II MC–ICP–MS. Mass fractionation corrections and adjustments for instrumental drift for Sr isotopic ratios were based on $^{86}Sr/^{88}Sr = 0.1194$, and the analyzed composition of the NIST SRM 987 isotopic standard, respectively. Mass fractionation and instrumental drift corrections for Nd isotopic ratios were based on $^{146}Nd/^{144}Nd = 0.7219$, and the analyzed composition of the JNdi-1 isotopic standard, respectively.

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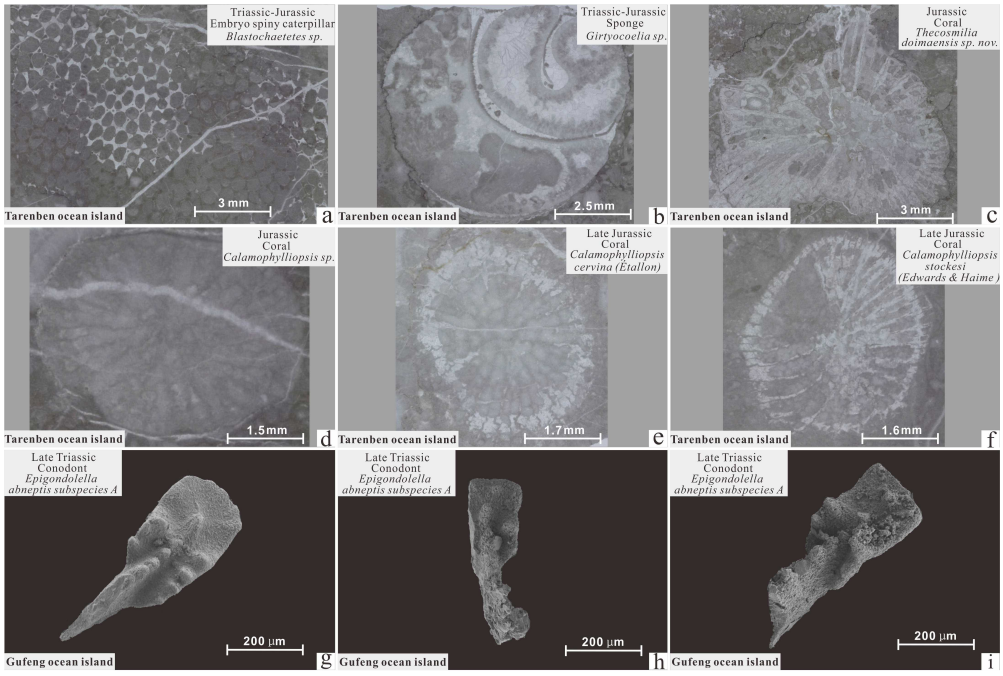


**Figure S1.** Photomicrograph of the fossils in the limestone of the Tarenben ocean island (this study), and cathodoluminescence (CL) images of the conodont fossils in the limestone of the Gufeng ocean island (Fan et al., 2017)

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**Text S2. Age difference of initial formation of the trachyte and the basalt in the modern intraplate ocean islands**

We summarize the chronology of magmatic rocks in the modern intraplate ocean islands, and found that the initial formation age of the trachyte is usually 2-9 Ma later than that of the early basalts, for examples, the basalt of the Gough island in the Atlantic Ocean initially erupted at ~2.55 Ma, and the trachyte initially erupted at ~0.3 Ma, thus the age difference is ~2.25 Ma (Maund et al., 1988); the basalt of the Boa Vista island in the Atlantic Ocean initially erupted at ~17.5 Ma, and the trachyte

initially erupted at ~14.3 Ma, thus the age difference is ~3.2 Ma (Ancochea et al., 2012); the basalt of the Tenerife island in the Atlantic Ocean erupted at ~8.5 Ma, and the trachyte initially erupted at ~3.5 Ma, thus the age difference is ~5 Ma (Carracedo et al., 2002); the basalt of the St Helana island in the Atlantic Ocean initially erupted at ~14.3 Ma, and the trachyte initially erupted at ~7.6 Ma, thus the age difference is ~6.7 Ma (Baker, 1969); the basalt of the Ua Pou island in the Pacific Ocean initially erupted at ~5.61 Ma, and the trachyte initially erupted at ~2.49 Ma, thus the age difference is ~3.12 Ma (Legendre et al., 2005); the basalt of the Kerguelen islands in the Indian Ocean initially erupted at ~34 Ma, and the trachyte initially erupted at ~25 Ma, thus the age difference is ~9 Ma (Nicolaysen et al., 2000; Frey et al., 2000, 2002).

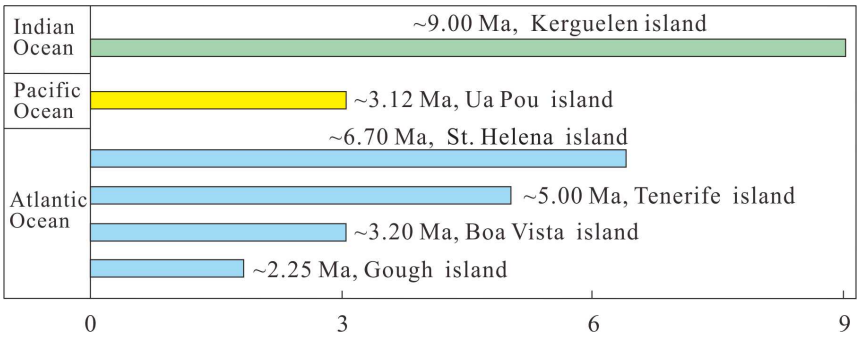


Figure S2 Age difference of initial formation of the trachyte and the basalt in the modern intraplate ocean islands

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**Text S3. Locations of modern intraplate ocean islands that contain phonolite, and the thickness of oceanic lithosphere that underlies each of these islands**

Phonolite is a relatively rare rock type in nature, and it makes up only one thousandth of the volume of extrusive volcanic rocks. Phonolite is also rare in modern ocean islands, as it was indicated by that although there are tens of thousands of modern ocean islands, very few have been reported to contain phonolite.

In present-day ocean basins, the intraplate ocean islands that contain phonite include: Hawaii, Marquesas, Society, Samoa, Raevavae and Tubuai in the Pacific Ocean, the Selvagen, Canary, Cape Verde, Femando de noronha, Trinidade, St Helena, Tristan da Cunha in the Atlantic Ocean, and the Kerguelen in the Indian Ocean. The common features of the above-mentioned intraplate ocean islands are that when the phonite erupted, the intraplate ocean islands was on the thick oceanic lithosphere, for examples, the oceanic lithospher under the Hawaii, Selvagen, Canary, Cape Verde,

Femando de noronha, Trinidade is ~90Km when the phonite erupted; the oceanic lithospher under the Marquesas, Society, Samoa, Raevavae, Tubuai, St Helena, Tristan da Cunha, and Kerguelen is 60~90Km when the phonite erupted (Clouard et al., 2004; Humphreys and Niu, 2009; Bonadio et al., 2018).


Island Group: 1, Selvagen; 2, Canary; 3, Cape Verde; 4, Femando de noronha; 5, Trinidade; 6, Tristan da Cunha; 7, St Helana; 8, Hawaiian; 9, Marquesas; 10, Society; 11, Raivavae-Tubuai; 12, Samoan; 13, Kerguelen;
"90 Km" represents the thickness of the oceanic lithosphere under the intraplate ocean islands

Figure S3 Locations of modern intraplate ocean islands that contain phonolite, and the thickness of oceanic lithosphere that underlies each of these islands

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243 **Table S1 Bulk-rock major (wt.%) and trace element (ppm) data of the magmatic rocks in the Nare ocean island fragment in the BNSZ**

| Sample | B21T61H1 | B21T61H2 | B21T61H3 | B21T61H4 | B21T61H5 | B21T61H6 | B21T61H7 | B21T61H8 | B21T61H9 | NH1 | NH2 | NH3 | NH4 | NH5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lithology | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Basalt | Basalt | Basalt | Basalt | Basalt |
| Reference | | | | | **This study** | | | | | | | **Fan et al., 2018** | | |
| $SiO_2$ | 62.1 | 63.6 | 63.8 | 63.4 | 63.1 | 63.4 | 62.9 | 63.8 | 62.8 | 45.1 | 47.5 | 51.2 | 50.6 | 52.1 |
| $TiO_2$ | 0.20 | 0.19 | 0.19 | 0.20 | 0.20 | 0.20 | 0.20 | 0.19 | 0.20 | 3.31 | 3.05 | 2.9 | 3.25 | 2.93 |
| $Al_2O_3$ | 19.3 | 17.6 | 18.3 | 18.7 | 17.9 | 17.6 | 17.3 | 17.8 | 17.8 | 12.1 | 12.5 | 10.4 | 10.9 | 10.3 |
| $Fe_2O_{3T}$ | 5.06 | 5.17 | 5.14 | 5.33 | 4.97 | 5.42 | 5.40 | 5.32 | 5.34 | 11.5 | 11.4 | 9.14 | 10.5 | 11.1 |
| MnO | 0.06 | 0.12 | 0.08 | 0.09 | 0.06 | 0.11 | 0.14 | 0.07 | 0.15 | 0.15 | 0.16 | 0.13 | 0.13 | 0.15 |
| MgO | 0.32 | 0.13 | 0.20 | 0.17 | 0.14 | 0.12 | 0.15 | 0.12 | 0.13 | 5.63 | 7.47 | 4.41 | 5.12 | 5.51 |
| CaO | 0.14 | 0.91 | 0.15 | 0.20 | 0.63 | 0.51 | 1.12 | 0.66 | 0.62 | 12.1 | 7.61 | 11.5 | 8.45 | 8.06 |
| $Na_2O$ | 7.74 | 8.10 | 6.28 | 6.81 | 5.86 | 6.65 | 7.42 | 8.26 | 6.06 | 3.09 | 3.59 | 3.44 | 3.76 | 3.34 |
| $K_2O$ | 2.96 | 2.27 | 3.77 | 3.47 | 5.49 | 4.08 | 3.33 | 2.17 | 5.20 | 1.85 | 1.14 | 1.23 | 1.31 | 1.32 |
| $P_2O_5$ | 0.05 | 0.06 | 0.06 | 0.06 | 0.04 | 0.05 | 0.03 | 0.06 | 0.06 | 0.47 | 0.44 | 0.36 | 0.37 | 0.33 |
| LOl | 1.58 | 1.65 | 1.52 | 1.55 | 1.48 | 1.44 | 1.81 | 1.3 | 1.55 | 3.32 | 4.02 | 4.66 | 5.06 | 4.29 |
| Sc | 2.61 | 2.58 | 3.33 | 3.05 | 2.54 | 4.73 | 2.96 | 2.71 | 2.81 | 26.4 | 28.9 | 24.5 | 27.4 | 26.4 |
| V | 12.4 | 7.07 | 10.7 | 10.4 | 2.97 | 9.64 | 2.90 | 11.64 | 11.61 | 300 | 323 | 291 | 332 | 307 |
| Cr | 8.02 | 5.10 | 6.46 | 24.1 | 7.03 | 6.69 | 7.78 | 12.3 | 6.99 | 235 | 234 | 178 | 197 | 240 |
| Co | 0.84 | 0.26 | 0.29 | 0.53 | 0.29 | 0.32 | 0.40 | 0.51 | 0.35 | 45.6 | 45.1 | 42.4 | 40.9 | 39.4 |
| Ni | 9.55 | 2.85 | 3.16 | 10.64 | 1.93 | 4.05 | 2.82 | 5.83 | 3.51 | 111 | 101 | 84.5 | 74.4 | 85.1 |
| Cu | 1.96 | 1.58 | 1.53 | 1.62 | 2.23 | 2.26 | 1.97 | 2.31 | 3.55 | 98.7 | 103 | 91.3 | 105 | 90.8 |
| Ga | 41.7 | 32.8 | 36.2 | 36.8 | 37.6 | 35.1 | 34.1 | 37.2 | 37.2 | 20.7 | 21.2 | 18.3 | 20.5 | 20.6 |
| Rb | 119 | 62.2 | 112 | 98.5 | 144 | 100 | 80.9 | 75.4 | 143 | 36.9 | 23.3 | 24 | 27.1 | 24.3 |
| Sr | 21.1 | 27.1 | 22.5 | 23.4 | 31.6 | 29.2 | 31.6 | 24.4 | 29.2 | 223 | 180 | 223 | 200 | 161 |
| Y | 55.5 | 75.0 | 68.3 | 68.0 | 81.2 | 73.1 | 67.5 | 75.9 | 69.4 | 27.2 | 27.6 | 24.6 | 28.7 | 25.5 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zr | 866 | 1208 | 1303 | 1227 | 1204 | 1230 | 1144 | 1298 | 1243 | 218 | 234 | 204 | 240 | 209 |
| Nb | 196 | 209 | 213 | 208 | 208 | 210 | 202 | 220 | 217 | 33.9 | 23.9 | 40.8 | 48 | 42.1 |
| Cs | 2.73 | 0.85 | 1.69 | 1.50 | 1.42 | 1.23 | 1.08 | 0.82 | 1.31 | 0.73 | 0.73 | 0.4 | 1.03 | 0.79 |
| Ba | 48.3 | 89.0 | 109 | 104 | 177 | 183 | 269 | 63.3 | 261 | 231 | 738 | 192 | 191 | 347 |
| La | 128 | 120 | 118 | 107 | 126 | 115 | 116 | 130 | 124 | 26.3 | 28.9 | 24.1 | 31.4 | 23 |
| Ce | 220 | 221 | 219 | 208 | 229 | 210 | 207 | 246 | 228 | 62.5 | 65.7 | 54.3 | 67.7 | 53.4 |
| Pr | 25.3 | 24.0 | 24.0 | 22.0 | 24.5 | 23.4 | 23.1 | 26.0 | 24.9 | 8.01 | 8.36 | 6.95 | 8.46 | 6.91 |
| Nd | 83.7 | 83.6 | 82.6 | 76.7 | 85.9 | 82.3 | 80.1 | 90.7 | 87.3 | 35.1 | 36.6 | 31.7 | 37.9 | 31.6 |
| Sm | 14.5 | 16.1 | 15.6 | 14.7 | 16.7 | 16.0 | 15.5 | 17.1 | 16.5 | 8.21 | 8.49 | 7.36 | 8.57 | 7.49 |
| Eu | 1.92 | 2.11 | 2.04 | 1.92 | 2.14 | 2.14 | 2.14 | 2.19 | 2.21 | 2.67 | 2.87 | 2.41 | 2.81 | 2.45 |
| Gd | 13.2 | 15.3 | 15.3 | 14.3 | 16.3 | 15.3 | 14.7 | 16.9 | 15.9 | 8.11 | 8.43 | 7.37 | 8.54 | 7.43 |
| Tb | 2.08 | 2.48 | 2.44 | 2.33 | 2.61 | 2.41 | 2.31 | 2.64 | 2.46 | 1.14 | 1.18 | 1 | 1.17 | 1.03 |
| Dy | 12.0 | 14.8 | 14.4 | 13.7 | 15.3 | 14.2 | 13.3 | 15.2 | 14.1 | 6.24 | 6.5 | 5.6 | 6.51 | 5.74 |
| Ho | 2.38 | 3.01 | 2.88 | 2.72 | 3.00 | 2.82 | 2.61 | 2.92 | 2.79 | 1.1 | 1.14 | 0.96 | 1.12 | 0.99 |
| Er | 6.66 | 8.49 | 8.17 | 7.66 | 8.44 | 7.92 | 7.42 | 8.26 | 7.97 | 2.8 | 2.94 | 2.49 | 2.92 | 2.55 |
| Tm | 0.97 | 1.23 | 1.21 | 1.13 | 1.22 | 1.17 | 1.08 | 1.20 | 1.18 | 0.35 | 0.36 | 0.3 | 0.36 | 0.31 |
| Yb | 6.39 | 7.79 | 7.55 | 7.14 | 7.52 | 7.34 | 6.73 | 7.50 | 7.46 | 2.05 | 2.19 | 1.84 | 2.16 | 1.88 |
| Lu | 0.92 | 1.14 | 1.14 | 1.06 | 1.11 | 1.06 | 1.01 | 1.13 | 1.10 | 0.27 | 0.29 | 0.24 | 0.28 | 0.25 |
| Hf | 23.6 | 25.9 | 26.4 | 25.8 | 25.2 | 25.6 | 24.5 | 27.2 | 26.2 | 5.27 | 5.63 | 5.24 | 6.1 | 5.31 |
| Ta | 13.6 | 12.7 | 13.1 | 13.0 | 12.5 | 12.8 | 12.4 | 13.3 | 13.1 | 2.68 | 1.35 | 2.5 | 2.96 | 2.59 |
| Pb | 4.63 | 4.43 | 3.44 | 3.46 | 4.47 | 5.49 | 4.53 | 4.06 | 6.79 | 2.28 | 3.32 | 1.76 | 2.2 | 1.97 |
| Th | 14.3 | 12.6 | 12.8 | 13.4 | 13.9 | 13.3 | 13.2 | 14.4 | 14.3 | 3.27 | 3.42 | 2.89 | 3.39 | 2.88 |
| U | 0.70 | 0.66 | 1.29 | 1.26 | 0.86 | 1.09 | 1.17 | 0.88 | 0.69 | 0.87 | 1.09 | 0.6 | 1.04 | 0.63 |

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246 **Continued Table S1**

| Sample | NH6 | NH7 | NH8 | NH9 | NH10 | NH11 | NH12 | NH13 | NH14 | NH15 | NH16 | NH17 | NH18 | NH19 | NH20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lithology | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte | Trachyte |
| Reference | Fan et al., 2018 | | | | | | | | | | | | | | |
| $SiO_2$ | 62.8 | 60.3 | 62.1 | 64 | 61.8 | 62.3 | 61.6 | 62.1 | 61.5 | 65.3 | 64.6 | 63.3 | 64.1 | 63.9 | 64.6 |
| $TiO_2$ | 0.18 | 0.2 | 0.19 | 0.18 | 0.2 | 0.19 | 0.2 | 0.19 | 0.19 | 0.17 | 0.15 | 0.16 | 0.16 | 0.17 | 0.17 |
| $Al_2O_3$ | 18.5 | 19.1 | 19 | 18.4 | 19.3 | 18.4 | 18.8 | 18.8 | 18.4 | 16.8 | 16.9 | 17.6 | 17.3 | 17.8 | 17 |
| $Fe_2O_{3T}$ | 4.95 | 5.24 | 4.8 | 4.51 | 4.85 | 5.16 | 5.37 | 5.2 | 5.34 | 4.73 | 4.78 | 5.16 | 4.89 | 5.19 | 5.22 |
| MnO | 0.09 | 0.14 | 0.1 | 0.1 | 0.1 | 0.09 | 0.13 | 0.09 | 0.13 | 0.09 | 0.07 | 0.09 | 0.08 | 0.09 | 0.1 |
| MgO | 0.16 | 0.19 | 0.18 | 0.15 | 0.18 | 0.14 | 0.15 | 0.25 | 0.21 | 0.11 | 0.17 | 0.14 | 0.14 | 0.14 | 0.12 |
| CaO | 0.3 | 0.59 | 0.14 | 0.12 | 0.28 | 0.31 | 0.23 | 0.11 | 0.3 | 0.93 | 1.03 | 0.77 | 0.93 | 0.39 | 0.49 |
| $Na_2O$ | 6.12 | 6.41 | 7.05 | 8.02 | 8.27 | 6.61 | 7.09 | 6.18 | 6.37 | 7.02 | 7.01 | 7.14 | 6.86 | 6.67 | 6.83 |
| $K_2O$ | 4.76 | 5.1 | 4.11 | 2.85 | 3.16 | 4.92 | 4.63 | 5.19 | 5 | 2.87 | 2.93 | 3.76 | 3.47 | 4.00 | 3.78 |
| $P_2O_5$ | 0.05 | 0.06 | 0.06 | 0.03 | 0.04 | 0.06 | 0.06 | 0.05 | 0.05 | 0.04 | 0.06 | 0.05 | 0.04 | 0.04 | 0.05 |
| LOl | 1.34 | 1.76 | 1.49 | 1.08 | 1 | 0.99 | 0.9 | 1.12 | 1.69 | 1.54 | 1.91 | 1.5 | 1.64 | 1.31 | 1.26 |
| Sc | 2.04 | 2.14 | 1.99 | 1.85 | 2 | 2.09 | 1.95 | 2.09 | 2.1 | 1.84 | 1.81 | 1.91 | 2 | 2.13 | 2.03 |
| V | 16.2 | 20 | 10.3 | 1.87 | 1.77 | 7.24 | 7.62 | 4.67 | 6.44 | 3.02 | 6.5 | 5.82 | 3.78 | 7.22 | 6.92 |
| Cr | 3.01 | 3.08 | 2.75 | 5.53 | 5.33 | 7.59 | 5.19 | 2.62 | 1.65 | 4.76 | 3.19 | 1.27 | 2.32 | 3.36 | 1.27 |
| Co | 0.15 | 1.15 | 0.12 | 0.11 | 0.13 | 0.13 | 0.15 | 0.17 | 0.11 | 0.28 | 0.35 | 0.19 | 0.2 | 0.37 | 0.38 |
| Ni | 5.96 | 5.51 | 2.46 | 6.05 | 3.01 | 4.8 | 3.36 | 7.19 | 0.43 | 2.54 | 4.18 | 2.83 | 1.96 | 2.35 | 2.93 |
| Cu | 0.49 | 1.46 | 6.3 | 1.28 | 1.02 | 1.28 | 0.74 | 1.08 | 0.83 | 0.58 | 3.8 | 1.48 | 1.65 | 1.56 | 2.13 |
| Ga | 36.3 | 38.9 | 35.8 | 33.2 | 34.9 | 40.2 | 38.1 | 41.7 | 42.2 | 33.7 | 30.4 | 37.8 | 36.4 | 40.6 | 36.5 |
| Rb | 122 | 136 | 80.8 | 56.8 | 62.9 | 154 | 138 | 176 | 169 | 97.2 | 46.4 | 89.6 | 69.7 | 86.8 | 64.3 |
| Sr | 26.3 | 27.5 | 45.2 | 38.6 | 41.9 | 26.2 | 27.6 | 30.3 | 32.9 | 48.3 | 27.7 | 27.7 | 31.3 | 21.3 | 34.4 |
| Y | 86.2 | 67.6 | 75.3 | 62.7 | 77.5 | 84.5 | 76.3 | 80.6 | 82.3 | 79.3 | 52 | 56.9 | 56.6 | 62.7 | 59.5 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zr | 1073 | 1031 | 1077 | 927 | 1079 | 1122 | 1049 | 1117 | 1114 | 1047 | 927 | 1022 | 1008 | 1093 | 1046 |
| Nb | 209 | 209 | 182 | 192 | 206 | 221 | 213 | 226 | 225 | 210 | 172 | 204 | 209 | 256 | 201 |
| Cs | 1.43 | 1.79 | 0.84 | 0.86 | 1.24 | 1.82 | 1.77 | 1.99 | 1.99 | 1.52 | 0.79 | 1.25 | 0.99 | 1.06 | 0.94 |
| Ba | 181 | 178 | 167 | 147 | 162 | 193 | 202 | 195 | 210 | 135 | 133 | 124 | 113 | 153 | 150 |
| La | 130 | 131 | 133 | 141 | 133 | 139 | 132 | 138 | 139 | 131 | 101 | 103 | 99 | 106 | 103 |
| Ce | 251 | 252 | 248 | 262 | 258 | 267 | 255 | 265 | 265 | 242 | 185 | 190 | 181 | 201 | 191 |
| Pr | 26.8 | 26.3 | 26.4 | 27.8 | 27.2 | 28.3 | 26.7 | 28.2 | 28 | 25.9 | 21.4 | 22.2 | 21.4 | 23.2 | 21.9 |
| Nd | 96.5 | 94.1 | 93.2 | 99.1 | 97.3 | 102 | 95.6 | 101 | 100 | 92 | 69.7 | 73.3 | 70.2 | 76.4 | 70 |
| Sm | 18.6 | 17.9 | 17.7 | 17.9 | 18.9 | 19.7 | 18.4 | 19.1 | 19.3 | 17.6 | 12.4 | 13.8 | 13.4 | 14.6 | 12 |
| Eu | 2.41 | 2.39 | 2.33 | 2.3 | 2.42 | 2.52 | 2.41 | 2.57 | 2.5 | 2.26 | 1.67 | 1.79 | 1.72 | 1.9 | 1.53 |
| Gd | 17.2 | 16 | 16.7 | 15.8 | 17.3 | 18.1 | 16.8 | 17.3 | 17.7 | 16.1 | 11.6 | 12.5 | 12.4 | 13.5 | 11.1 |
| Tb | 2.69 | 2.41 | 2.61 | 2.33 | 2.66 | 2.83 | 2.6 | 2.68 | 2.76 | 2.52 | 1.99 | 2.15 | 2.12 | 2.35 | 1.99 |
| Dy | 16.4 | 14.1 | 15.5 | 13.4 | 15.7 | 16.8 | 15.4 | 16 | 16.4 | 15.4 | 11.5 | 12.4 | 12.1 | 13.5 | 11.9 |
| Ho | 3.2 | 2.65 | 2.94 | 2.5 | 2.99 | 3.21 | 2.95 | 3.13 | 3.14 | 3.01 | 2.36 | 2.58 | 2.45 | 2.77 | 2.52 |
| Er | 9.42 | 7.61 | 8.44 | 7.16 | 8.62 | 9.21 | 8.44 | 9.2 | 9.15 | 8.81 | 6.35 | 7 | 6.59 | 7.41 | 6.8 |
| Tm | 1.32 | 1.09 | 1.19 | 1.02 | 1.22 | 1.28 | 1.18 | 1.32 | 1.28 | 1.25 | 0.91 | 1.01 | 0.95 | 1.05 | 0.98 |
| Yb | 8.59 | 7.1 | 7.82 | 6.81 | 7.96 | 8.32 | 7.76 | 8.58 | 8.32 | 8.14 | 5.93 | 6.47 | 6.08 | 6.74 | 6.26 |
| Lu | 1.2 | 1.01 | 1.1 | 0.98 | 1.13 | 1.17 | 1.09 | 1.19 | 1.17 | 1.14 | 0.83 | 0.91 | 0.86 | 0.96 | 0.89 |
| Hf | 24.7 | 25.2 | 25 | 22.4 | 25.4 | 26.8 | 25.3 | 26 | 26.9 | 24.4 | 20.8 | 22.7 | 22 | 23.8 | 22.1 |
| Ta | 13 | 13.7 | 13.4 | 13.3 | 14.1 | 14.8 | 13.8 | 14.4 | 14.8 | 13 | 11.8 | 13.1 | 12.3 | 16 | 13.1 |
| Pb | 4.92 | 5.23 | 8.32 | 5.06 | 6.15 | 6.08 | 5.96 | 7.37 | 7.36 | 5.9 | 2.06 | 3.82 | 4.63 | 2.85 | 2.43 |
| Th | 20 | 20.4 | 20 | 20.3 | 20.7 | 21.3 | 20.1 | 21 | 21.5 | 19.3 | 13.6 | 14 | 13.5 | 14.8 | 13.7 |
| U | 1.55 | 1.78 | 2.13 | 1.88 | 2.7 | 1.46 | 1.38 | 1.54 | 1.5 | 1.31 | 0.99 | 1.07 | 0.94 | 1.04 | 0.97 |

**References cited**

Fan, J.J., Li, C., Liu, J.H., Wang, M., Liu, Y.M., Xie, C.M., 2018. The Middle Triassic evolution of the Bangong–Nujiang Tethyan Ocean: evidence from analyses of OIB–type basalts and OIB-derived phonolites in northern Tibet. International Journal of Earth Sciences, v. 107, p. 1755–1775.

**Table S2 Bulk-rock major (wt.%) and trace element (ppm) data of the magmatic rocks in the Gufeng ocean island fragment in the BNSZ**

| Sample | DT13T6H8 | DT13T6H9 | DT13T6H10 | G3H1 | G3H2 | G3H3 | G3H4 | G3H5 | G3H6 | G3H7 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lithology | Trachyandesite | Trachyandesite | Trachyandesite | Basalt | Basalt | Basalt | Basalt | Basalt | Basalt | Basalt |
| Reference | | **This study** | | | | | Fan et al., 2017 | | | |
| $SiO_2$ | 51.8 | 52.4 | 53.1 | 47.0 | 49.4 | 44.3 | 43.6 | 45.5 | 44.9 | 45.2 |
| $TiO_2$ | 2.28 | 2.37 | 2.32 | 2.46 | 2.44 | 2.52 | 2.54 | 2.45 | 2.64 | 2.41 |
| $Al_2O_3$ | 10.6 | 12.1 | 12.5 | 14.8 | 14 | 15.1 | 13.6 | 12.5 | 14.6 | 16.4 |
| $Fe_2O_{3T}$ | 8.33 | 9.70 | 9.47 | 11.6 | 10.7 | 10.4 | 12.3 | 11.8 | 11.9 | 12.6 |
| MnO | 0.11 | 0.11 | 0.11 | 0.11 | 0.1 | 0.14 | 0.17 | 0.18 | 0.15 | 0.13 |
| MgO | 4.06 | 3.82 | 3.81 | 4.28 | 3.95 | 4.07 | 6.67 | 6.92 | 5.63 | 4.66 |
| CaO | 10.94 | 8.36 | 8.11 | 8.9 | 8.09 | 10 | 10.4 | 10.8 | 8.89 | 6.79 |
| $Na_2O$ | 3.57 | 4.23 | 4.53 | 4.83 | 5.24 | 5.15 | 3.92 | 3.82 | 4.28 | 5.4 |
| $K_2O$ | 0.47 | 0.50 | 0.43 | 1.08 | 1.24 | 0.34 | 0.37 | 0.32 | 0.74 | 1.44 |
| $P_2O_5$ | 0.35 | 0.42 | 0.45 | 0.46 | 0.44 | 0.56 | 0.48 | 0.46 | 0.52 | 0.56 |
| LOl | 6.82 | 5.32 | 4.47 | 3.65 | 3.52 | 5.75 | 4.28 | 3.86 | 4.3 | 3.82 |
| Sc | 31.2 | 21.1 | 21.1 | 15.7 | 17.7 | 16.9 | 30.8 | 26.9 | 26.2 | 14.1 |
| V | 282 | 300 | 267 | 276 | 288 | 294 | 271 | 305 | 322 | 330 |
| Cr | 160 | 38.8 | 44.6 | 10.3 | 11.4 | 14.6 | 245 | 172 | 38.2 | 6.69 |
| Co | 42.4 | 37.2 | 35.8 | 34.4 | 30.1 | 35.9 | 40.2 | 44.9 | 37.7 | 34.2 |
| Ni | 72.3 | 62.8 | 50.4 | 55.9 | 53.1 | 42.4 | 107 | 130 | 69 | 54.5 |
| Cu | 81.8 | 55.7 | 53.3 | 67.7 | 57.4 | 80.3 | 24.7 | 51.8 | 70 | 78 |
| Ga | 19.4 | 23.6 | 22.6 | 23.1 | 22.4 | 23.2 | 22.7 | 24.8 | 26.2 | 26.1 |
| Rb | 13.1 | 22.0 | 15.9 | 49 | 69.7 | 9.48 | 9.52 | 12.5 | 29.2 | 81.9 |
| Sr | 325 | 310 | 351 | 314 | 356 | 517 | 290 | 322 | 278 | 374 |
| Y | 17.9 | 20.1 | 20.1 | 19.8 | 19.9 | 21.5 | 19.5 | 22.2 | 21.8 | 21.6 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Zr | 176 | 193 | 187 | 204 | 210 | 187 | 179 | 197 | 198 | 186 |
| Nb | 40.8 | 48.6 | 50.1 | 44 | 43.2 | 37.6 | 31.4 | 35.3 | 35 | 63.6 |
| Cs | 1.83 | 3.64 | 1.85 | 6.65 | 8.54 | 0.96 | 1.06 | 1.87 | 3.16 | 8.61 |
| Ba | 1055 | 441 | 468 | 558 | 576 | 476 | 360 | 559 | 828 | 571 |
| La | 22.7 | 28.0 | 28.9 | 28.3 | 29.7 | 32.7 | 26 | 32.6 | 28.7 | 27 |
| Ce | 49.4 | 60.6 | 61.4 | 61.6 | 62.7 | 71.4 | 58.8 | 71.1 | 65.4 | 59.1 |
| Pr | 6.09 | 7.37 | 7.47 | 7.72 | 7.8 | 8.67 | 7.31 | 8.61 | 8.16 | 7.53 |
| Nd | 26.9 | 32.0 | 32.4 | 31.8 | 32.4 | 36 | 31.4 | 36.3 | 35 | 30.5 |
| Sm | 6.06 | 6.96 | 6.96 | 6.8 | 6.96 | 7.71 | 7.03 | 7.91 | 7.75 | 6.6 |
| Eu | 2.08 | 2.28 | 2.33 | 2.25 | 2.31 | 2.56 | 2.3 | 2.67 | 2.57 | 2.15 |
| Gd | 5.84 | 6.52 | 6.59 | 6.38 | 6.51 | 7.28 | 6.74 | 7.47 | 7.44 | 6.1 |
| Tb | 0.78 | 0.86 | 0.86 | 0.83 | 0.85 | 0.97 | 0.91 | 1.01 | 1 | 0.85 |
| Dy | 4.20 | 4.63 | 4.64 | 4.51 | 4.58 | 5.1 | 4.8 | 5.33 | 5.28 | 4.33 |
| Ho | 0.70 | 0.78 | 0.78 | 0.77 | 0.79 | 0.88 | 0.81 | 0.9 | 0.91 | 0.78 |
| Er | 1.80 | 2.01 | 2.01 | 1.94 | 1.97 | 2.22 | 2.02 | 2.29 | 2.29 | 1.94 |
| Tm | 0.22 | 0.25 | 0.25 | 0.24 | 0.24 | 0.28 | 0.25 | 0.28 | 0.28 | 0.25 |
| Yb | 1.31 | 1.48 | 1.49 | 1.46 | 1.48 | 1.66 | 1.51 | 1.68 | 1.68 | 1.5 |
| Lu | 0.18 | 0.20 | 0.20 | 0.2 | 0.2 | 0.22 | 0.2 | 0.23 | 0.23 | 0.21 |
| Hf | 4.49 | 4.64 | 4.57 | 5.12 | 5.26 | 4.49 | 4.45 | 4.8 | 4.82 | 3.93 |
| Ta | 2.52 | 2.94 | 3.09 | 2.57 | 2.52 | 2.1 | 2.03 | 2.36 | 2.36 | 3.95 |
| Pb | 3.00 | 2.27 | 1.98 | 7.06 | 1.82 | 3.44 | 2.21 | 1.52 | 8.47 | 1.69 |
| Th | 3.01 | 3.65 | 3.85 | 4.1 | 4.09 | 4.56 | 3.7 | 4.21 | 4.14 | 4.66 |
| U | 1.62 | 1.28 | 1.41 | 0.81 | 0.92 | 1.6 | 0.91 | 0.85 | 0.72 | 1.05 |

**References cited**

Fan, J.J., Li, C., Wang, M., Liu, Y.M., Xie, C.M., 2017. Remnants of a Late Triassic ocean island in the Gufeng area, northern Tibet: Implications for the opening and early evolution of the Bangong–Nujiang Tethyan Ocean. Journal of Asian Earth Sciences, v. 135, p. 35–50.

254 **Table S3 Bulk-rock major (wt.%) and trace element (ppm) data of the magmatic rocks in the Maqiaco ocean island fragment in the BNSZ**

| Sample | B21T28H4 | B21T28H5 | B21T28H6 | B19T27H2 | B19T38H1 | SHT42H1 | B19T30H3 | SHT42H2 | B19T30H1 | B19T30H2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lithology | Basalt | Basalt | Basalt | Trachyandesite | Trachyte | Trachyte | Trachyte | Phonolite | Phonolite | Phonolite |
| Reference | | | | | **This study** | | | | | |
| $SiO_2$ | 47.9 | 49.0 | 47.0 | 53.8 | 59.7 | 59.2 | 61.9 | 58.6 | 58.5 | 58.3 |
| $TiO_2$ | 2.54 | 2.60 | 2.75 | 1.78 | 0.26 | 0.26 | 0.13 | 0.26 | 0.13 | 0.13 |
| $Al_2O_3$ | 12.1 | 12.0 | 12.2 | 16.6 | 18.8 | 18.5 | 19.6 | 18.6 | 19.3 | 19.4 |
| $Fe_2O_{3T}$ | 11.8 | 11.3 | 12.6 | 9.29 | 4.80 | 4.76 | 3.86 | 5.62 | 6.06 | 5.74 |
| MnO | 0.17 | 0.16 | 0.18 | 0.29 | 0.13 | 0.13 | 0.10 | 0.16 | 0.15 | 0.13 |
| MgO | 7.73 | 7.52 | 8.37 | 2.35 | 0.85 | 0.94 | 0.59 | 1.04 | 0.94 | 0.86 |
| CaO | 12.1 | 10.7 | 11.8 | 5.21 | 2.76 | 2.40 | 2.52 | 2.74 | 3.32 | 4.23 |
| $Na_2O$ | 2.83 | 3.46 | 2.50 | 5.59 | 6.49 | 6.33 | 7.78 | 6.76 | 7.01 | 7.03 |
| $K_2O$ | 0.16 | 0.25 | 0.14 | 0.94 | 4.21 | 4.86 | 2.57 | 3.71 | 2.36 | 2.19 |
| $P_2O_5$ | 0.27 | 0.30 | 0.27 | 0.55 | 0.08 | 0.09 | 0.02 | 0.09 | 0.03 | 0.03 |
| LOl | 2.06 | 2.17 | 2.10 | 4.79 | 2.62 | 2.07 | 1.54 | 2.21 | 2.36 | 2.65 |
| Sc | 11.4 | 16.3 | 27.9 | 8.58 | 2.73 | 3.65 | 1.00 | 2.13 | 1.16 | 1.03 |
| V | 405 | 379 | 422 | 38.4 | 7.62 | | 1.25 | | 1.42 | 1.43 |
| Cr | 379 | 373 | 393 | 4.19 | 11.72 | 5.75 | 2.13 | 3.66 | 13.7 | 10.3 |
| Co | 44.8 | 46.5 | 46.3 | 11.8 | 1.04 | 1.16 | 0.29 | 1.57 | 0.52 | 0.46 |
| Ni | 118 | 118 | 122 | 4.32 | 4.47 | 1.79 | 0.78 | 2.61 | 6.87 | 5.16 |
| Cu | 94.9 | 129 | 109 | 7.64 | 9.35 | 10.4 | 19.9 | 10.6 | 4.51 | 7.27 |
| Ga | 19.5 | 16.9 | 20.0 | 19.9 | 24.8 | 27.4 | 21.5 | 29.8 | 24.2 | 25.9 |
| Rb | 3.04 | 3.71 | 2.19 | 19.9 | 32.0 | 22.7 | 33.4 | 15.7 | 30.7 | 29.8 |
| Sr | 659 | 364 | 601 | 429 | 168 | 175 | 119 | 140 | 185 | 182 |
| Y | 20.1 | 21.6 | 22.4 | 45.0 | 51.7 | 51.2 | 85.7 | 41.8 | 112.69 | 96.7 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Zr | 133 | 140 | 140 | 429 | 654 | 904 | 1389 | 882 | 1604 | 1466 |
| Nb | 14.0 | 14.6 | 14.6 | 113 | 171 | 209 | 347 | 154 | 418 | 387 |
| Cs | 0.32 | 0.44 | 0.35 | 2.09 | 1.30 | 1.38 | 0.42 | 1.58 | 0.35 | 0.33 |
| Ba | 38.7 | 58.5 | 51.2 | 553 | 1159 | 1195 | 825 | 990.1 | 817 | 790 |
| La | 13.4 | 13.6 | 13.7 | 91.4 | 73.3 | 60.3 | 274 | 48.7 | 290 | 334 |
| Ce | 33.3 | 34.0 | 35.6 | 176 | 153 | 118 | 423 | 108 | 500 | 507 |
| Pr | 4.487 | 4.58 | 4.69 | 20.5 | 18.5 | 15.7 | 39.2 | 13.3 | 47.4 | 46.4 |
| Nd | 19.9 | 20.5 | 21.1 | 72.3 | 67.8 | 57.4 | 120 | 49.9 | 147 | 142 |
| Sm | 5.04 | 5.24 | 5.26 | 14.2 | 13.6 | 11.7 | 18.3 | 10.2 | 23.2 | 21.0 |
| Eu | 1.73 | 1.89 | 1.89 | 4.40 | 2.81 | 2.59 | 0.95 | 2.33 | 1.16 | 1.23 |
| Gd | 5.29 | 5.54 | 5.77 | 11.9 | 11.8 | 10.7 | 15.1 | 9.36 | 20.3 | 18.4 |
| Tb | 0.79 | 0.84 | 0.86 | 1.69 | 1.92 | 1.67 | 2.62 | 1.48 | 3.28 | 2.88 |
| Dy | 4.46 | 4.67 | 4.80 | 9.73 | 10.8 | 9.82 | 15.4 | 8.72 | 19.0 | 16.9 |
| Ho | 0.85 | 0.87 | 0.91 | 1.92 | 2.23 | 1.98 | 3.36 | 1.73 | 4.12 | 3.66 |
| Er | 2.14 | 2.27 | 2.33 | 5.04 | 6.16 | 5.83 | 10.0 | 5.03 | 12.2 | 10.8 |
| Tm | 0.28 | 0.30 | 0.31 | 0.78 | 1.00 | 0.83 | 1.72 | 0.73 | 2.11 | 1.86 |
| Yb | 1.65 | 1.69 | 1.74 | 4.55 | 6.03 | 5.47 | 11.0 | 4.66 | 13.1 | 11.7 |
| Lu | 0.23 | 0.23 | 0.24 | 0.68 | 0.95 | 0.82 | 1.72 | 0.70 | 2.04 | 1.83 |
| Hf | 3.45 | 4.36 | 3.70 | 10.3 | 16.1 | 16.9 | 35.2 | 16.9 | 39.9 | 36.9 |
| Ta | 0.55 | 0.57 | 0.59 | 6.70 | 9.32 | 9.56 | 26.6 | 6.05 | 30.7 | 27.9 |
| Pb | 3.10 | 2.88 | 3.08 | 6.91 | 11.8 | 9.94 | 32.4 | 8.41 | 25.4 | 30.8 |
| Th | 0.54 | 0.59 | 0.68 | 10.7 | 15.91 | 11.5 | 75.0 | 7.43 | 91.8 | 80.9 |
| U | 0.26 | 0.32 | 0.33 | 2.80 | 3.42 | 3.46 | 13.8 | 3.05 | 17.8 | 16.1 |

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257 **Table S4 Bulk-rock major (wt.%) and trace element (ppm) data of the magmatic rocks in the Tarenben ocean island fragment in the BNSZ**

| Sample | B21T68H1 | B21T68H2 | B21T68H3 | B21T69H1 | B21T69H2 | B21T69H3 | B21T70H1 | B21T70H2 | B21T70H3 |
|---|---|---|---|---|---|---|---|---|---|
| Lithology | Basalt | Basalt | Basalt | Basalt | Basalt | Basalt | Basalt | Basalt | Basalt |
| Reference | | | | | **This study** | | | | |
| $SiO_2$ | 44.7 | 44.4 | 45.2 | 45.3 | 43.4 | 43.8 | 46.1 | 46.0 | 45.9 |
| $Al_2O_3$ | 15.6 | 15.2 | 15.2 | 14.4 | 14.0 | 14.2 | 15.0 | 15.5 | 15.0 |
| $Fe_2O_3T$ | 11.3 | 10.7 | 10.3 | 12.3 | 11.9 | 12.1 | 10.7 | 11.5 | 11.2 |
| CaO | 9.84 | 11.0 | 11.3 | 9.61 | 13.2 | 12.2 | 12.0 | 10.1 | 11.7 |
| MgO | 6.45 | 5.43 | 5.28 | 7.84 | 5.99 | 6.48 | 4.50 | 5.61 | 4.77 |
| $K_2O$ | 0.50 | 0.60 | 0.64 | 0.42 | 0.29 | 0.48 | 0.13 | 0.20 | 0.15 |
| $Na_2O$ | 3.80 | 4.07 | 4.16 | 3.52 | 3.45 | 3.41 | 4.23 | 4.18 | 4.14 |
| $TiO_2$ | 1.59 | 1.61 | 1.51 | 2.04 | 2.01 | 2.05 | 1.90 | 1.92 | 1.90 |
| $P_2O_5$ | 0.16 | 0.16 | 0.16 | 0.20 | 0.20 | 0.21 | 0.18 | 0.18 | 0.18 |
| MnO | 0.13 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.11 | 0.14 | 0.12 |
| LOI | 5.55 | 6.32 | 6.20 | 4.20 | 5.13 | 4.83 | 4.91 | 4.60 | 4.65 |
| Li | 23.3 | 20.9 | 18.6 | 26.6 | 18.4 | 22.1 | 18.3 | 34.7 | 20.2 |
| Be | 0.63 | 0.68 | 0.67 | 0.69 | 0.66 | 0.68 | 0.51 | 0.59 | 0.59 |
| B | 18.1 | 16.7 | 17.4 | 15.5 | 22.2 | 18.7 | 30.5 | 20.2 | 30.7 |
| Sc | 29.4 | 30.4 | 27.9 | 21.0 | 31.1 | 27.0 | 28.6 | 25.9 | 22.8 |
| V | 268 | 276 | 262 | 304 | 311 | 319 | 280 | 290 | 279 |
| Cr | 179 | 195 | 205 | 345 | 329 | 303 | 145 | 143 | 142 |
| Co | 48.1 | 48.6 | 44.2 | 54.3 | 52.5 | 51.7 | 48.9 | 46.0 | 46.8 |
| Ni | 98.5 | 104.4 | 101.8 | 158.2 | 143.1 | 136.4 | 78.8 | 74.1 | 74.8 |
| Cu | 85.0 | 87.5 | 85.2 | 78.1 | 78.9 | 80.6 | 79.1 | 79.1 | 75.4 |
| Zn | 88.6 | 92.1 | 83.3 | 83.9 | 80.4 | 84.0 | 85.4 | 83.0 | 88.2 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Ga | 17.5 | 17.7 | 17.0 | 16.4 | 17.1 | 16.8 | 19.3 | 17.5 | 18.8 |
| Ge | 8.28 | 7.82 | 7.68 | 8.43 | 8.83 | 8.71 | 8.00 | 8.07 | 7.98 |
| As | 0.47 | 0.56 | 0.47 | 0.86 | 0.69 | 0.69 | 1.22 | 0.86 | 1.21 |
| Se | 1.384 | 1.50 | 1.54 | 1.38 | 1.418 | 1.5 | 1.423 | 1.56 | 1.41 |
| Rb | 11.4 | 13.1 | 14.5 | 9.11 | 6.6 | 9.55 | 3.45 | 3.87 | 2.79 |
| Sr | 373 | 358 | 389 | 439 | 352 | 475 | 201 | 300 | 219 |
| Y | 22.4 | 23.7 | 22.8 | 20.4 | 21.5 | 21.7 | 22.0 | 22.2 | 21.2 |
| Zr | 114.6 | 122.3 | 115 | 106 | 107 | 108 | 96.7 | 95.9 | 93.1 |
| Nb | 15.6 | 16.5 | 15.4 | 18.2 | 18.5 | 19.0 | 13.9 | 14.0 | 13.5 |
| Mo | 0.72 | 0.83 | 0.63 | 0.38 | 0.47 | 0.41 | 0.43 | 0.48 | 0.41 |
| Ag | 0.15 | 0.16 | 0.16 | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 | 0.13 |
| Cd | 0.95 | 1.00 | 0.98 | 0.89 | 0.92 | 0.89 | 1.08 | 0.89 | 0.95 |
| Sn | 0.87 | 0.89 | 0.84 | 0.88 | 0.86 | 0.85 | 0.86 | 0.79 | 0.82 |
| Sb | 5.64 | 5.22 | 5.64 | 5.52 | 5.35 | 5.63 | 5.78 | 5.75 | 5.50 |
| Cs | 0.31 | 0.35 | 0.38 | 0.25 | 0.14 | 0.19 | 0.10 | 0.17 | 0.12 |
| Ba | 136 | 120 | 119 | 91.7 | 65.8 | 119 | 33.9 | 64.2 | 40.2 |
| La | 10.6 | 11.5 | 10.9 | 12.3 | 12.7 | 13.1 | 10.1 | 10.0 | 9.80 |
| Ce | 22.9 | 24.5 | 23.1 | 27.3 | 28.2 | 29.0 | 23.2 | 23.0 | 22.2 |
| Pr | 2.94 | 3.13 | 2.97 | 3.58 | 3.73 | 3.77 | 3.17 | 3.11 | 3.032 |
| Nd | 12.7 | 13.3 | 12.6 | 15.7 | 16.3 | 16.8 | 14.1 | 14.0 | 13.7 |
| Sm | 3.34 | 3.52 | 3.32 | 3.98 | 4.08 | 4.11 | 3.82 | 3.77 | 3.75 |
| Eu | 1.24 | 1.26 | 1.22 | 1.41 | 1.44 | 1.47 | 1.43 | 1.37 | 1.37 |
| Gd | 3.95 | 4.12 | 4.03 | 4.41 | 4.52 | 4.54 | 4.42 | 4.40 | 4.35 |
| Tb | 0.69 | 0.72 | 0.69 | 0.71 | 0.71 | 0.74 | 0.74 | 0.72 | 0.71 |
| Dy | 4.27 | 4.47 | 4.27 | 4.16 | 4.30 | 4.35 | 4.44 | 4.36 | 4.34 |
| Ho | 0.89 | 0.94 | 0.88 | 0.83 | 0.85 | 0.87 | 0.88 | 0.87 | 0.87 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Er | 2.47 | 2.59 | 2.54 | 2.24 | 2.31 | 2.37 | 2.39 | 2.40 | 2.29 |
| Tm | 0.36 | 0.38 | 0.35 | 0.32 | 0.31 | 0.33 | 0.34 | 0.33 | 0.33 |
| Yb | 2.23 | 2.38 | 2.27 | 1.89 | 1.96 | 1.96 | 2.04 | 2.06 | 1.98 |
| Lu | 0.32 | 0.36 | 0.34 | 0.28 | 0.29 | 0.29 | 0.30 | 0.30 | 0.29 |
| Hf | 2.65 | 2.79 | 2.67 | 2.60 | 2.58 | 2.56 | 2.40 | 2.37 | 2.31 |
| Ta | 1.16 | 1.21 | 1.14 | 1.25 | 1.27 | 1.29 | 0.93 | 0.93 | 0.91 |
| W | 0.15 | 0.17 | 0.15 | 0.10 | 0.15 | 0.14 | 0.08 | 0.09 | 0.08 |
| Tl | 0.06 | 0.08 | 0.07 | 0.07 | 0.07 | 0.08 | 0.04 | 0.04 | 0.04 |
| Pb | 0.86 | 0.94 | 0.92 | 1.54 | 1.33 | 1.43 | 0.81 | 0.82 | 0.81 |
| Bi | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Th | 1.29 | 1.34 | 1.24 | 1.03 | 1.14 | 1.11 | 0.77 | 0.73 | 0.68 |
| U | 0.31 | 0.52 | 0.37 | 0.27 | 0.32 | 0.31 | 0.29 | 0.76 | 0.39 |

265 **Continued Table S4**

| Sample | B21T76H1 | B21T76H2 | B21T77H1 | B21T77H2 | B21T77H3 | B21T73H1 | B21T73H2 | B21T72H1 | B21T72H2 |
|---|---|---|---|---|---|---|---|---|---|
| Lithology | Basalt | Basalt | Basalt | Basalt | Basalt | Trachyandesite | Trachyandesite | Trachyte | Trachyte |
| Reference | **This study** | | | | | | | | |
| $SiO_2$ | 49.7 | 50.5 | 49.6 | 50.0 | 48.5 | 56.2 | 52.7 | 63.4 | 62.2 |
| $Al_2O_3$ | 17.0 | 16.8 | 16.4 | 16.8 | 15.7 | 16.8 | 16.0 | 18.6 | 18.0 |
| $Fe_2O_3T$ | 10.2 | 10.5 | 9.99 | 10.1 | 9.62 | 10.1 | 12.7 | 3.07 | 5.42 |
| CaO | 7.38 | 6.58 | 5.29 | 5.13 | 6.34 | 3.14 | 5.23 | 1.47 | 1.48 |
| MgO | 2.79 | 2.82 | 3.47 | 3.26 | 3.24 | 0.26 | 1.02 | 0.54 | 0.33 |
| $K_2O$ | 2.62 | 2.17 | 2.03 | 2.41 | 3.13 | 0.13 | 1.08 | 0.10 | 0.09 |
| $Na_2O$ | 4.40 | 4.99 | 5.38 | 4.91 | 4.64 | 9.31 | 6.68 | 10.51 | 10.34 |
| $TiO_2$ | 2.26 | 2.25 | 1.90 | 2.00 | 1.95 | 1.73 | 2.16 | 0.29 | 0.30 |
| $P_2O_5$ | 0.78 | 0.78 | 0.69 | 0.69 | 0.73 | 1.01 | 0.87 | 0.08 | 0.09 |
| MnO | 0.20 | 0.21 | 0.20 | 0.19 | 0.18 | 0.05 | 0.07 | 0.05 | 0.05 |
| LOI | 2.26 | 1.90 | 4.72 | 4.38 | 5.47 | 0.76 | 1.36 | 1.69 | 1.53 |
| Li | 14.4 | 17.4 | 23.5 | 30.5 | 23.3 | 3.22 | 6.53 | 3.13 | 2.53 |
| Be | 2.79 | 2.64 | 2.27 | 1.92 | 1.89 | 2.02 | 3.29 | 1.24 | 1.44 |
| B | 34.7 | 28.7 | 14.0 | 21.0 | 14.1 | 17.3 | 33.6 | 5.73 | 8.28 |
| Sc | 9.27 | 8.72 | 7.30 | 7.41 | 7.47 | 7.87 | 9.18 | 5.98 | 6.01 |
| V | 93.5 | 95.3 | 69.3 | 72.1 | 72.3 | 43.3 | 97.2 | 11.1 | 18.0 |
| Cr | 10.2 | 8.94 | 19.9 | 19.9 | 29.4 | 8.06 | 4.28 | 5.16 | 5.08 |
| Co | 11.4 | 11.1 | 11.4 | 11.2 | 11.2 | 7.64 | 9.63 | 1.512 | 1.71 |
| Ni | 3.56 | 3.28 | 8.68 | 8.07 | 8.83 | 3.52 | 2.91 | 4.54 | 4.35 |
| Cu | 4.61 | 4.58 | 4.91 | 6.30 | 5.17 | 3.59 | 4.91 | 3.87 | 4.70 |
| Zn | 129 | 124 | 121 | 110 | 107 | 103 | 96.7 | 91.1 | 91.4 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Ga | 21.5 | 20.9 | 22.8 | 23.5 | 20.7 | 11.5 | 17.9 | 16.3 | 14.4 |
| Ge | 8.56 | 8.52 | 7.90 | 9.04 | 8.14 | 7.44 | 10.1 | 3.03 | 4.39 |
| As | 0.81 | 0.72 | 1.71 | 2.97 | 2.48 | 2.48 | 4.60 | 1.35 | 2.13 |
| Se | 2.42 | 2.48 | 1.80 | 2.18 | 2.29 | 2.13 | 2.19 | 1.89 | 2.33 |
| Rb | 69.9 | 50.3 | 27.3 | 34.5 | 46.1 | 1.96 | 11.6 | 2.25 | 1.39 |
| Sr | 1050 | 1160 | 346 | 373 | 363 | 487 | 622.2 | 218 | 198 |
| Y | 47.1 | 46.7 | 41.0 | 41.2 | 40.1 | 48.2 | 40.5 | 40.4 | 42.5 |
| Zr | 390 | 385 | 373 | 363 | 351 | 385 | 340 | 1131 | 1279 |
| Nb | 86.8 | 86.0 | 80.8 | 78.1 | 76.0 | 80.4 | 75.4 | 163 | 178 |
| Mo | 1.28 | 1.18 | 1.56 | 1.70 | 1.42 | 1.36 | 2.12 | 0.80 | 0.98 |
| Ag | 0.39 | 0.40 | 0.35 | 0.37 | 0.38 | 0.37 | 0.33 | 1.09 | 1.19 |
| Cd | 3.07 | 2.91 | 2.66 | 2.83 | 2.81 | 2.76 | 2.62 | 8.01 | 8.89 |
| Sn | 2.10 | 2.20 | 2.15 | 2.17 | 2.04 | 1.62 | 1.94 | 3.42 | 4.65 |
| Sb | 5.43 | 5.63 | 4.24 | 5.14 | 4.76 | 4.00 | 4.45 | 3.97 | 3.36 |
| Cs | 0.31 | 0.24 | 0.11 | 0.46 | 0.09 | 0.08 | 0.11 | 0.04 | 0.07 |
| Ba | 1204 | 1182 | 377.9 | 607 | 657 | 50.8 | 284.5 | 16.8 | 20.6 |
| La | 65.1 | 64.3 | 59.3 | 63.0 | 57.6 | 62.6 | 68.1 | 69.0 | 82.2 |
| Ce | 136 | 133 | 120 | 129 | 121 | 133 | 127 | 162 | 185 |
| Pr | 16.2 | 15.8 | 14.6 | 15.1 | 14.2 | 16.3 | 15.2 | 19.6 | 21.8 |
| Nd | 63.9 | 62.7 | 57.0 | 59.3 | 55.6 | 64.7 | 60.2 | 68.2 | 77.8 |
| Sm | 12.7 | 12.7 | 11.3 | 11.5 | 10.9 | 12.9 | 12.1 | 11.4 | 13.5 |
| Eu | 4.09 | 4.12 | 3.56 | 3.75 | 3.57 | 4.05 | 3.83 | 2.44 | 3.18 |
| Gd | 12.2 | 12.1 | 10.7 | 10.9 | 10.5 | 12.3 | 11.2 | 9.642 | 11.3 |
| Tb | 1.72 | 1.71 | 1.54 | 1.52 | 1.46 | 1.72 | 1.55 | 1.45 | 1.63 |
| Dy | 9.37 | 9.21 | 8.30 | 8.33 | 7.89 | 9.39 | 8.21 | 7.98 | 8.81 |
| Ho | 1.77 | 1.78 | 1.59 | 1.57 | 1.51 | 1.80 | 1.54 | 1.57 | 1.67 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Er | 4.67 | 4.70 | 4.18 | 4.23 | 4.03 | 4.77 | 4.02 | 4.54 | 4.71 |
| Tm | 0.64 | 0.63 | 0.58 | 0.57 | 0.55 | 0.65 | 0.54 | 0.69 | 0.70 |
| Yb | 3.92 | 3.88 | 3.49 | 3.48 | 3.33 | 3.99 | 3.19 | 4.62 | 4.59 |
| Lu | 0.56 | 0.56 | 0.50 | 0.51 | 0.49 | 0.58 | 0.46 | 0.73 | 0.72 |
| Hf | 8.41 | 8.30 | 7.74 | 7.96 | 7.44 | 8.21 | 7.41 | 22.5 | 23.6 |
| Ta | 5.55 | 5.54 | 5.10 | 5.09 | 4.83 | 5.10 | 4.72 | 11.19 | 11.62 |
| W | 0.50 | 0.53 | 0.75 | 1.18 | 0.85 | 1.16 | 1.73 | 0.12 | 0.22 |
| Tl | 0.13 | 0.12 | 0.15 | 0.16 | 0.18 | 0.08 | 0.12 | 0.09 | 0.12 |
| Pb | 2.04 | 2.18 | 3.24 | 3.12 | 3.39 | 2.48 | 3.36 | 2.89 | 3.90 |
| Bi | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.06 | 0.07 |
| Th | 5.42 | 5.34 | 4.93 | 5.00 | 4.77 | 5.13 | 4.46 | 11.8 | 12.1 |
| U | 1.29 | 1.28 | 1.03 | 1.20 | 1.06 | 1.27 | 1.04 | 0.96 | 1.05 |

**Table S5. Bulk-rock major (wt.%) and trace element (ppm) data of the magmatic rocks in the Zhonggang ocean island fragment in the BNSZ**

| Sample | B19T84H1 | B19T84H2 | Oz3H1 | Oz3H2 | Oz3H3 | Oz3H4 | Oz3H5 | Oz3H6 | Oz3H7 | Oz2H3 | Oz2H2 | Oz2H1 | Oz4H3 | Oz4H2 | Oz4H1 | DC13T1H3 | DC13T1H4 | DC13T1H5 | DC13T1H6 | DC13T1H7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Fan et al., 2021 | | Fan et al., 2014 | | | | | | | | | | | | | Yu et al., 2016 | | | | |
| Lithology | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt |
| $SiO_2$ | 45.8 | 45.8 | 51.4 | 49.2 | 52.3 | 51.6 | 52.0 | 48.1 | 51.3 | 44.9 | 50.6 | 50.5 | 49.7 | 47.7 | 50.6 | 47.3 | 50.0 | 51.7 | 51.3 | 48.2 |
| $TiO_2$ | 2.88 | 2.85 | 3.04 | 2.66 | 2.27 | 2.35 | 2.67 | 4.24 | 2.67 | 2.67 | 2.19 | 1.90 | 2.11 | 3.89 | 3.60 | 4.57 | 4.02 | 3.57 | 4.35 | 4.56 |
| $Al_2O_3$ | 12.9 | 12.7 | 12.6 | 12.7 | 11.6 | 12.9 | 12.5 | 11.8 | 12.7 | 17.2 | 14.1 | 15.0 | 13.1 | 14.8 | 14.3 | 11.8 | 12.0 | 10.5 | 12.3 | 12.5 |
| $Fe_2O_3T$ | 12.4 | 12.3 | 12.1 | 12.3 | 10.3 | 11.3 | 11.7 | 16.3 | 11.5 | 13.5 | 9.65 | 8.73 | 10.9 | 12.7 | 11.0 | 13.2 | 11.6 | 11.4 | 12.3 | 13.1 |
| MnO | 0.17 | 0.16 | 0.13 | 0.14 | 0.13 | 0.14 | 0.13 | 0.20 | 0.14 | 0.24 | 0.12 | 0.11 | 0.13 | 0.16 | 0.14 | 0.17 | 0.13 | 0.12 | 0.15 | 0.17 |
| MgO | 7.72 | 7.65 | 5.30 | 7.07 | 8.07 | 6.61 | 5.9 | 5.41 | 7.0 | 7.98 | 7.45 | 7.21 | 6.62 | 5.59 | 4.35 | 5.95 | 6.07 | 7.85 | 4.16 | 5.45 |
| CaO | 10.9 | 11.31 | 6.87 | 7.95 | 7.73 | 6.75 | 6.73 | 5.7 | 6.48 | 3.95 | 8.81 | 9.16 | 9.41 | 7.42 | 7.27 | 9.17 | 7.04 | 6.83 | 8.60 | 8.00 |
| $Na_2O$ | 2.66 | 2.84 | 4.44 | 4.43 | 3.65 | 4.36 | 4.3 | 3.51 | 4.1 | 3.87 | 2.91 | 3.26 | 2.89 | 2.93 | 3.43 | 2.04 | 2.02 | 3.92 | 2.54 | 1.77 |
| $K_2O$ | 1.18 | 0.91 | 1.41 | 1.19 | 1.29 | 1.3 | 1.36 | 2.2 | 1.51 | 0.27 | 0.73 | 0.57 | 0.94 | 1.38 | 2.35 | 1.71 | 4.44 | 0.93 | 1.51 | 2.92 |
| $P_2O_5$ | 0.37 | 0.4 | 0.35 | 0.29 | 0.27 | 0.29 | 0.31 | 0.51 | 0.28 | 0.43 | 0.21 | 0.19 | 0.25 | 0.34 | 0.36 | 0.47 | 0.63 | 0.50 | 0.57 | 0.47 |
| LOI | 2.99 | 2.97 | 1.40 | 1.39 | 1.27 | 1.09 | 0.97 | 1.13 | 1.04 | 3.94 | 2.45 | 2.51 | 3.27 | 2.23 | 1.67 | 3.23 | 1.89 | 2.05 | 1.61 | 2.49 |
| Cr | 303 | 361 | 129 | 298 | 208 | 239 | 196 | 19.2 | 240 | 359 | 309 | 344 | 336 | 73.3 | 52.6 | 37.1 | 85.8 | 130 | 15.1 | 20.7 |
| Ni | 107 | 123 | 72.6 | 118.4 | 72.4 | 97.4 | 83.1 | 52.3 | 94.9 | 161 | 137 | 168 | 176 | 55.4 | 43.2 | 46.5 | 62.0 | 86.0 | 34.8 | 42.9 |
| Rb | 59.2 | 33.4 | 15.9 | 12.8 | 14.5 | 15.6 | 16 | 24.5 | 21 | 9.37 | 13.4 | 9.69 | 17.8 | 22.2 | 34.1 | 38.3 | 113 | 20.1 | 29.8 | 67.8 |
| Sr | 165 | 168 | 304 | 474 | 234 | 303 | 230 | 435 | 427 | 335 | 339 | 255 | 759 | 480 | 172 | 1279 | 79.3 | 91.1 | 1036 | 608 |
| Y | 32.4 | 32.4 | 26.4 | 22.8 | 20.8 | 23.3 | 23.9 | 36.4 | 23.2 | 27.4 | 25.4 | 23.3 | 25.0 | 29.0 | 28.7 | 33.0 | 40.0 | 32.1 | 42.2 | 34.3 |
| Zr | 249 | 250 | 185 | 160 | 148 | 152 | 170 | 275 | 150 | 219 | 165 | 150 | 169 | 283 | 275 | 290 | 391 | 300 | 408 | 299 |
| Nb | 34.0 | 34.2 | 25.4 | 21.8 | 19.5 | 21.8 | 23.7 | 39.3 | 22.1 | 56.2 | 23.3 | 20.8 | 27.7 | 49.4 | 50.6 | 66.4 | 85.6 | 71.3 | 76.3 | 68.7 |
| Cs | 1.28 | 1.06 | 0.02 | 0.02 | 0.04 | 0.02 | 0.02 | 0.02 | 0.04 | 2.09 | 0.18 | 0.13 | 0.11 | 0.16 | 0.24 | 0.72 | 1.06 | 0.35 | 0.45 | 1.09 |
| Ba | 313 | 317 | 136 | 116 | 147 | 144 | 145 | 196 | 274 | 155 | 270 | 140 | 238 | 565 | 404 | 146 | 326 | 68 | 266 | 305 |
| La | 29.2 | 30.0 | 21.2 | 15.4 | 12.3 | 18.3 | 17 | 26.9 | 16.2 | 26.7 | 14.4 | 13.8 | 17.4 | 29.7 | 30.1 | 35.0 | 45.5 | 38.3 | 42.3 | 36.8 |
| Ce | 64.9 | 66.7 | 46.2 | 35.3 | 30.2 | 40 | 39.9 | 62.5 | 36.9 | 58.0 | 34.5 | 32.6 | 39.4 | 65.9 | 66.8 | 79.0 | 110 | 84.6 | 104 | 82.7 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pr | 7.92 | 8.08 | 5.96 | 4.69 | 4.15 | 5.21 | 5.27 | 8.25 | 4.86 | 7.60 | 4.86 | 4.59 | 5.34 | 8.77 | 8.77 | 10.0 | 12.9 | 10.5 | 12.6 | 10.5 |
| Nd | 36.0 | 36.7 | 26.4 | 21.1 | 19 | 23.1 | 23.5 | 36.7 | 21.8 | 32.1 | 22.2 | 21.0 | 23.6 | 38.0 | 37.9 | 45.2 | 57.7 | 46.4 | 57.7 | 47.2 |
| Sm | 8.37 | 8.47 | 6.19 | 5.13 | 4.7 | 5.47 | 5.5 | 8.63 | 5.24 | 7.07 | 5.60 | 5.27 | 5.64 | 8.58 | 8.48 | 10.1 | 12.4 | 10.1 | 13.1 | 10.6 |
| Eu | 2.65 | 2.61 | 2.05 | 1.74 | 1.48 | 1.86 | 1.79 | 2.57 | 1.78 | 2.31 | 1.74 | 1.76 | 1.95 | 2.92 | 2.72 | 3.23 | 3.89 | 3.15 | 4.18 | 3.41 |
| Gd | 7.92 | 8.03 | 6.3 | 5.24 | 4.81 | 5.59 | 5.6 | 8.66 | 5.4 | 6.78 | 5.84 | 5.50 | 5.82 | 8.30 | 8.07 | 9.82 | 11.7 | 9.62 | 12.6 | 10.3 |
| Tb | 1.16 | 1.17 | 0.94 | 0.8 | 0.73 | 0.83 | 0.84 | 1.29 | 0.81 | 0.96 | 0.87 | 0.82 | 0.85 | 1.15 | 1.11 | 1.34 | 1.59 | 1.29 | 1.71 | 1.39 |
| Dy | 6.81 | 6.93 | 5.33 | 4.59 | 4.17 | 4.73 | 4.83 | 7.36 | 4.64 | 5.51 | 5.11 | 4.79 | 4.98 | 6.28 | 6.11 | 7.46 | 8.92 | 7.26 | 9.52 | 7.78 |
| Ho | 1.26 | 1.27 | 0.99 | 0.85 | 0.77 | 0.87 | 0.9 | 1.36 | 0.86 | 1.02 | 0.94 | 0.88 | 0.93 | 1.10 | 1.07 | 1.30 | 1.58 | 1.26 | 1.66 | 1.36 |
| Er | 3.23 | 3.24 | 2.61 | 2.26 | 2.04 | 2.31 | 2.38 | 3.63 | 2.27 | 2.78 | 2.55 | 2.38 | 2.53 | 2.80 | 2.75 | 3.43 | 4.22 | 3.35 | 4.32 | 3.58 |
| Tm | 0.42 | 0.43 | 0.34 | 0.3 | 0.27 | 0.3 | 0.31 | 0.48 | 0.3 | 0.36 | 0.32 | 0.31 | 0.32 | 0.35 | 0.33 | 0.42 | 0.53 | 0.42 | 0.54 | 0.44 |
| Yb | 2.49 | 2.52 | 2.08 | 1.79 | 1.61 | 1.83 | 1.91 | 2.93 | 1.81 | 2.25 | 1.99 | 1.89 | 1.99 | 2.07 | 2.01 | 2.55 | 3.24 | 2.53 | 3.28 | 2.68 |
| Lu | 0.36 | 0.36 | 0.29 | 0.25 | 0.22 | 0.25 | 0.27 | 0.41 | 0.25 | 0.31 | 0.28 | 0.26 | 0.28 | 0.28 | 0.27 | 0.34 | 0.43 | 0.33 | 0.43 | 0.36 |
| Hf | 6.40 | 6.46 | 4.47 | 3.83 | 3.55 | 3.9 | 4.16 | 6.8 | 3.87 | 5.10 | 4.09 | 3.86 | 4.18 | 6.53 | 6.37 | 7.31 | 9.47 | 7.28 | 10.16 | 7.61 |
| Ta | 2.27 | 2.31 | 1.5 | 1.28 | 1.13 | 1.27 | 1.36 | 2.23 | 1.28 | 3.44 | 1.50 | 1.44 | 3.09 | 3.19 | 3.49 | 4.32 | 6.08 | 4.76 | 5.02 | 4.58 |
| Pb | 1.83 | 1.87 | 1.52 | 1.31 | 1.03 | 1.25 | 1.24 | 4.35 | 4.83 | 2.23 | 0.80 | 0.71 | 1.37 | 1.80 | 1.82 | 2.65 | 2.33 | 2.20 | 3.21 | 2.80 |
| Th | 3.99 | 4.01 | 2.13 | 1.95 | 1.72 | 1.95 | 2.06 | 3.29 | 1.92 | 3.10 | 1.36 | 1.32 | 1.75 | 3.06 | 3.18 | 4.28 | 5.93 | 5.05 | 5.35 | 4.56 |
| U | 1.03 | 1.04 | 0.48 | 0.42 | 0.37 | 0.42 | 0.44 | 0.74 | 0.43 | 0.81 | 0.43 | 0.39 | 0.36 | 0.95 | 0.90 | 1.07 | 1.54 | 1.18 | 1.33 | 1.14 |

276 **Continued Table S5**

| Sample | DC13T1H10 | DC13T1H11 | DC13T1H14 | 11DC-23 | 11DC-25 | 11DC-26 | 11DC-27 | 11DC-28 | 11DC-30 | 11DC-40 | 11DC-41 | 11DC-42 | 11DC-43 | 11DC-44 | D18T22H1 | D18T22H2 | DC13T1H8 | DC13T1H9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reference | Yu et al., 2016 | | | Wang et al., 2016 | | | | | | | | | | | Fan et al., 2021 | | Yu et al., 2015 | |
| Lithology | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | basalt | Trachyandesite | Trachyandesite | Trachyandesite | Trachyandesite |
| $SiO_2$ | 52.1 | 48.0 | 51.9 | 47.5 | 45.8 | 45.4 | 46.2 | 46.1 | 45.9 | 52.5 | 45.7 | 47.5 | 46.2 | 47.7 | 53.2 | 53.8 | 54.0 | 55.4 |
| $TiO_2$ | 2.67 | 4.30 | 2.12 | 3.06 | 3.31 | 3.42 | 3.55 | 3.40 | 3.63 | 2.38 | 3.25 | 3.02 | 3.58 | 2.98 | 1.78 | 1.82 | 2.00 | 2.21 |
| $Al_2O_3$ | 9.9 | 11.7 | 15.0 | 12.8 | 15.9 | 15.7 | 16.7 | 16.1 | 14.8 | 11.2 | 12.7 | 12.3 | 13.2 | 12.3 | 16.6 | 16.5 | 17.3 | 15.5 |
| $Fe_2O_3T$ | 9.75 | 14.0 | 10.0 | 13.1 | 12.8 | 13.1 | 12.7 | 12.9 | 12.3 | 10.2 | 13.1 | 12.2 | 12.9 | 11.9 | 10.6 | 10.7 | 6.78 | 8.82 |
| MnO | 0.12 | 0.19 | 0.13 | 0.16 | 0.18 | 0.20 | 0.21 | 0.21 | 0.15 | 0.12 | 0.16 | 0.18 | 0.18 | 0.16 | 0.12 | 0.10 | 0.13 | 0.12 |
| MgO | 6.23 | 5.90 | 3.29 | 7.58 | 5.42 | 5.44 | 4.66 | 4.44 | 5.67 | 7.32 | 8.56 | 8.12 | 6.91 | 8.12 | 1.73 | 1.58 | 2.01 | 2.46 |
| CaO | 10.58 | 8.63 | 8.34 | 7.60 | 6.67 | 7.90 | 6.89 | 5.98 | 8.76 | 8.88 | 8.28 | 8.87 | 7.97 | 8.76 | 3.61 | 3.64 | 7.01 | 5.74 |
| $Na_2O$ | 2.27 | 2.17 | 3.97 | 3.81 | 3.70 | 4.07 | 4.69 | 4.28 | 4.40 | 3.95 | 2.51 | 3.29 | 1.58 | 3.72 | 8.21 | 8.37 | 6.06 | 5.26 |
| $K_2O$ | 2.30 | 2.60 | 0.55 | 0.50 | 1.58 | 0.38 | 1.15 | 2.60 | 0.13 | 1.64 | 1.84 | 1.27 | 4.02 | 1.01 | 0.52 | 0.47 | 0.76 | 1.39 |
| $P_2O_5$ | 0.26 | 0.52 | 0.76 | 0.29 | 0.41 | 0.39 | 0.37 | 0.84 | 0.33 | 0.15 | 0.21 | 0.26 | 0.32 | 0.24 | 1.23 | 1.24 | 0.65 | 0.71 |
| LOI | 3.36 | 1.61 | 3.18 | 3.54 | 3.47 | 3.82 | 2.77 | 3.12 | 3.76 | 1.59 | 3.50 | 2.98 | 3.08 | 3.04 | 2.23 | 1.81 | 2.56 | 1.67 |
| Cr | 487 | 36.3 | 2.22 | 100 | 36 | 38 | 31 | 23 | 40 | 297 | 272 | 327 | 114 | 232 | 11.5 | 4.56 | 58.3 | 20.3 |
| Ni | 219 | 63.7 | 4.34 | 54.4 | 31.2 | 33.4 | 10.4 | 15.2 | 38.5 | 147 | 139 | 148 | 70.9 | 121 | 80.6 | 74.9 | 18.4 | 15.0 |
| Rb | 49.4 | 57.6 | 9.95 | 8.18 | 61.4 | 10.2 | 29.4 | 57.6 | 1.3 | 44.5 | 23.1 | 15.6 | 39.4 | 14.2 | 2.88 | 1.50 | 15.0 | 37.0 |
| Sr | 397 | 392 | 271 | 191 | 355 | 403 | 571 | 417 | 221 | 81.5 | 181 | 155 | 258 | 154 | 285 | 299 | 705 | 490 |
| Y | 24.5 | 36.4 | 25.5 | 29.4 | 30.8 | 31.1 | 30.9 | 36.6 | 32.0 | 24.1 | 28.3 | 27.6 | 31.9 | 26.5 | 45.5 | 50.2 | 38.3 | 43.3 |
| Zr | 197 | 331 | 244 | 226 | 330 | 336 | 299 | 408 | 312 | 161 | 221 | 209 | 244 | 201 | 1056 | 1060 | 417 | 478 |
| Nb | 34.4 | 70.4 | 91.0 | 23.9 | 58.9 | 60.1 | 66.9 | 91.6 | 48.1 | 14.7 | 30.5 | 28.6 | 34.2 | 28.0 | 151 | 151 | 98 | 101 |
| Cs | 0.57 | 0.67 | 0.75 | 0.69 | 0.68 | 0.50 | 2.16 | 2.92 | 0.23 | 0.42 | 0.35 | 0.33 | 0.26 | 0.32 | 0.13 | 0.10 | 3.85 | 0.74 |
| Ba | 442 | 282 | 132 | 295 | 396 | 324 | 824 | 778 | 133 | 72.0 | 392 | 344 | 852 | 294 | 54.0 | 51.7 | 501 | 322 |
| La | 21.7 | 39.7 | 45.0 | 23.4 | 34.3 | 34.4 | 37.2 | 59.3 | 30.7 | 12.3 | 19.2 | 19.8 | 24.0 | 18.9 | 38.4 | 47.0 | 57.3 | 59.7 |
| Ce | 50.7 | 93.7 | 93.9 | 53.4 | 71.8 | 72.6 | 77.9 | 122 | 68.6 | 30.4 | 45.1 | 45.6 | 54.3 | 43.9 | 96.9 | 115 | 135 | 147 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pr | 6.59 | 11.5 | 10.7 | 7.66 | 9.54 | 9.70 | 10.2 | 15.7 | 9.60 | 4.53 | 6.59 | 6.60 | 7.77 | 6.39 | 15.3 | 18.5 | 15.3 | 16.9 |
| Nd | 30.0 | 51.7 | 44.4 | 33.4 | 39.2 | 39.7 | 41.4 | 62.4 | 41.2 | 20.8 | 29.7 | 29.7 | 34.5 | 28.2 | 65.9 | 78.8 | 65.4 | 73.5 |
| Sm | 6.90 | 11.3 | 8.99 | 7.55 | 8.04 | 8.03 | 8.43 | 11.6 | 8.69 | 4.98 | 6.99 | 6.85 | 7.98 | 6.75 | 15.8 | 18.0 | 13.0 | 15.1 |
| Eu | 2.27 | 3.58 | 2.90 | 2.38 | 2.59 | 2.59 | 2.59 | 3.52 | 2.68 | 1.63 | 2.21 | 2.26 | 2.57 | 2.14 | 5.01 | 5.71 | 4.89 | 5.04 |
| Gd | 6.814 | 10.8 | 8.18 | 7.63 | 7.73 | 7.71 | 8.04 | 10.2 | 8.33 | 5.20 | 7.04 | 6.97 | 7.99 | 6.77 | 14.6 | 16.3 | 11.7 | 13.7 |
| Tb | 0.96 | 1.47 | 1.07 | 1.11 | 1.13 | 1.14 | 1.15 | 1.45 | 1.21 | 0.83 | 1.06 | 1.05 | 1.19 | 1.00 | 2.26 | 2.43 | 1.55 | 1.81 |
| Dy | 5.40 | 8.16 | 5.80 | 6.15 | 6.06 | 6.25 | 6.37 | 7.64 | 6.55 | 4.74 | 5.81 | 5.82 | 6.61 | 5.60 | 12.0 | 12.8 | 8.48 | 9.89 |
| Ho | 0.96 | 1.42 | 0.98 | 1.18 | 1.16 | 1.19 | 1.25 | 1.43 | 1.26 | 0.93 | 1.13 | 1.13 | 1.28 | 1.10 | 2.32 | 2.40 | 1.49 | 1.69 |
| Er | 2.54 | 3.75 | 2.49 | 2.92 | 2.95 | 3.09 | 3.05 | 3.57 | 3.09 | 2.32 | 2.75 | 2.75 | 3.05 | 2.69 | 6.11 | 6.34 | 3.95 | 4.45 |
| Tm | 0.32 | 0.46 | 0.30 | 0.39 | 0.42 | 0.41 | 0.41 | 0.48 | 0.41 | 0.32 | 0.36 | 0.37 | 0.40 | 0.34 | 0.87 | 0.87 | 0.50 | 0.55 |
| Yb | 1.96 | 2.79 | 1.78 | 2.26 | 2.58 | 2.64 | 2.60 | 2.93 | 2.48 | 1.87 | 2.22 | 2.14 | 2.37 | 2.13 | 4.91 | 5.03 | 3.01 | 3.39 |
| Lu | 0.26 | 0.36 | 0.23 | 0.34 | 0.38 | 0.40 | 0.38 | 0.42 | 0.36 | 0.27 | 0.31 | 0.30 | 0.36 | 0.30 | 0.77 | 0.76 | 0.41 | 0.45 |
| Hf | 5.08 | 8.29 | 4.53 | 5.46 | 7.13 | 7.38 | 6.58 | 8.61 | 7.02 | 3.89 | 5.35 | 5.13 | 5.82 | 4.96 | 22.6 | 23.5 | 9.16 | 11.0 |
| Ta | 2.28 | 4.58 | 5.45 | 1.20 | 3.65 | 3.76 | 3.91 | 5.01 | 2.99 | 0.62 | 1.94 | 1.83 | 2.10 | 1.79 | 9.93 | 9.60 | 6.03 | 6.34 |
| Pb | 1.82 | 2.04 | 1.94 | 1.67 | 2.55 | 4.26 | 4.27 | 6.64 | 1.87 | 1.90 | 1.39 | 1.19 | 1.84 | 2.10 | 4.63 | 4.29 | 1.63 | 2.64 |
| Th | 2.50 | 4.84 | 6.00 | 2.94 | 4.74 | 4.81 | 5.70 | 8.36 | 4.03 | 1.71 | 2.60 | 2.48 | 3.02 | 2.42 | 4.62 | 5.19 | 6.80 | 7.36 |
| U | 0.75 | 1.23 | 1.59 | 0.85 | 1.30 | 1.32 | 1.45 | 2.05 | 1.18 | 0.57 | 0.79 | 0.70 | 0.82 | 0.69 | 1.36 | 1.46 | 3.75 | 1.70 |

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286 **Table S6 Zircon LA–ICP–MS U–Pb data of the magmatic rocks in the Nare intraplate ocean island fragment in the BNSZ**

| Spots | Th | U | Th/U | isotope ratio（±1σ）（measured ratios） | | | | | | isotope ratio（±1σ）（corrected ratios） | | | | | | age（Ma±1σ） | | | | | | Discordance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | |
| | | | | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | age | ratio | age | 1σ | age | 1σ | |
| B21T65-01 | 657 | 568 | 1.16 | 0.0512 | 0.00272 | 0.27749 | 0.01458 | 0.03932 | 0.00105 | 0.0512 | 0.00272 | 0.27749 | 0.01458 | 0.03932 | 0.00105 | 250 | 73 | 249 | 12 | 249 | 7 | 0.00% |
| B21T65-02 | 108 | 147 | 0.74 | 0.05115 | 0.00457 | 0.26703 | 0.02322 | 0.03788 | 0.00126 | 0.05115 | 0.00457 | 0.26703 | 0.02322 | 0.03788 | 0.00126 | 248 | 136 | 240 | 19 | 240 | 8 | 0.00% |
| B21T65-03 | 311 | 295 | 1.05 | 0.05091 | 0.00467 | 0.26938 | 0.02411 | 0.0384 | 0.00127 | 0.05091 | 0.00467 | 0.26938 | 0.02411 | 0.0384 | 0.00127 | 237 | 142 | 242 | 19 | 243 | 8 | -0.41% |
| B21T65-04 | 336 | 309 | 1.09 | 0.05102 | 0.00364 | 0.2765 | 0.01951 | 0.03932 | 0.0011 | 0.05102 | 0.00364 | 0.2765 | 0.01951 | 0.03932 | 0.0011 | 242 | 111 | 248 | 16 | 249 | 7 | -0.40% |
| B21T65-05 | 396 | 343 | 1.15 | 0.05089 | 0.00355 | 0.2647 | 0.01807 | 0.03774 | 0.00111 | 0.05089 | 0.00355 | 0.2647 | 0.01807 | 0.03774 | 0.00111 | 236 | 103 | 238 | 15 | 239 | 7 | -0.42% |
| B21T65-06 | 248 | 213 | 1.16 | 0.05119 | 0.00394 | 0.27444 | 0.02074 | 0.03891 | 0.00116 | 0.05119 | 0.00394 | 0.27444 | 0.02074 | 0.03891 | 0.00116 | 249 | 118 | 246 | 17 | 246 | 7 | 0.00% |
| B21T65-07 | 655 | 576 | 1.14 | 0.05137 | 0.00271 | 0.27206 | 0.01422 | 0.03843 | 0.00103 | 0.05137 | 0.00271 | 0.27206 | 0.01422 | 0.03843 | 0.00103 | 257 | 72 | 244 | 11 | 243 | 6 | 0.41% |
| B21T65-08 | 210 | 223 | 0.94 | 0.05056 | 0.00312 | 0.27538 | 0.01671 | 0.03952 | 0.00111 | 0.05056 | 0.00312 | 0.27538 | 0.01671 | 0.03952 | 0.00111 | 221 | 89 | 247 | 13 | 250 | 7 | -1.20% |
| ~~B21T65-09~~ | ~~125~~ | ~~142~~ | ~~0.88~~ | ~~0.05604~~ | ~~0.00654~~ | ~~0.28652~~ | ~~0.03234~~ | ~~0.0371~~ | ~~0.0015~~ | ~~0.05604~~ | ~~0.00654~~ | ~~0.28652~~ | ~~0.03234~~ | ~~0.0371~~ | ~~0.0015~~ | ~~454~~ | ~~180~~ | ~~256~~ | ~~26~~ | ~~235~~ | ~~9~~ | ~~8.94%~~ |
| B21T65-10 | 762 | 618 | 1.23 | 0.05107 | 0.00246 | 0.28371 | 0.01363 | 0.04031 | 0.00106 | 0.05107 | 0.00246 | 0.28371 | 0.01363 | 0.04031 | 0.00106 | 244 | 64 | 254 | 11 | 255 | 7 | -0.39% |
| B21T65-11 | 604 | 579 | 1.04 | 0.0525 | 0.00363 | 0.28747 | 0.01981 | 0.03974 | 0.00106 | 0.0525 | 0.00363 | 0.28747 | 0.01981 | 0.03974 | 0.00106 | 307 | 108 | 257 | 16 | 251 | 7 | 2.39% |
| B21T65-12 | 398 | 358 | 1.11 | 0.05084 | 0.00315 | 0.2669 | 0.0163 | 0.0381 | 0.00108 | 0.05084 | 0.00315 | 0.2669 | 0.0163 | 0.0381 | 0.00108 | 234 | 89 | 240 | 13 | 241 | 7 | -0.41% |
| B21T65-13 | 1125 | 630 | 1.79 | 0.05086 | 0.00251 | 0.2753 | 0.01354 | 0.03928 | 0.00104 | 0.05086 | 0.00251 | 0.2753 | 0.01354 | 0.03928 | 0.00104 | 234 | 66 | 247 | 11 | 248 | 6 | -0.40% |
| B21T65-14 | 1318 | 920 | 1.43 | 0.05125 | 0.00182 | 0.28016 | 0.01021 | 0.03968 | 0.00098 | 0.05125 | 0.00182 | 0.28016 | 0.01021 | 0.03968 | 0.00098 | 252 | 42 | 251 | 8 | 251 | 6 | 0.00% |
| B21T65-15 | 159 | 163 | 0.98 | 0.05114 | 0.0041 | 0.28275 | 0.0222 | 0.04013 | 0.00125 | 0.05114 | 0.0041 | 0.28275 | 0.0222 | 0.04013 | 0.00125 | 247 | 122 | 253 | 18 | 254 | 8 | -0.39% |
| B21T65-16 | 605 | 586 | 1.03 | 0.05105 | 0.00233 | 0.27422 | 0.01256 | 0.03898 | 0.00101 | 0.05105 | 0.00233 | 0.27422 | 0.01256 | 0.03898 | 0.00101 | 243 | 59 | 246 | 10 | 247 | 6 | -0.40% |
| ~~B21T65-17~~ | ~~867~~ | ~~599~~ | ~~1.45~~ | ~~0.04839~~ | ~~0.00244~~ | ~~0.26077~~ | ~~0.0131~~ | ~~0.03911~~ | ~~0.00104~~ | ~~0.04839~~ | ~~0.00244~~ | ~~0.26077~~ | ~~0.0131~~ | ~~0.03911~~ | ~~0.00104~~ | ~~118~~ | ~~68~~ | ~~235~~ | ~~11~~ | ~~247~~ | ~~6~~ | ~~-4.86%~~ |
| B21T65-18 | 395 | 353 | 1.12 | 0.05116 | 0.00319 | 0.27749 | 0.01719 | 0.03937 | 0.00109 | 0.05116 | 0.00319 | 0.27749 | 0.01719 | 0.03937 | 0.00109 | 248 | 92 | 249 | 14 | 249 | 7 | 0.00% |
| B21T65-19 | 78 | 105 | 0.74 | 0.05121 | 0.01091 | 0.26992 | 0.05695 | 0.03826 | 0.00155 | 0.05121 | 0.01091 | 0.26992 | 0.05695 | 0.03826 | 0.00155 | 250 | 343 | 243 | 46 | 242 | 10 | 0.41% |
| B21T65-20 | 345 | 330 | 1.05 | 0.05099 | 0.00372 | 0.27427 | 0.01986 | 0.03905 | 0.0011 | 0.05099 | 0.00372 | 0.27427 | 0.01986 | 0.03905 | 0.0011 | 240 | 114 | 246 | 16 | 247 | 7 | -0.40% |
| B21T65-21 | 2146 | 1044 | 2.06 | 0.05043 | 0.00178 | 0.27226 | 0.0099 | 0.03919 | 0.00098 | 0.05043 | 0.00178 | 0.27226 | 0.0099 | 0.03919 | 0.00098 | 215 | 42 | 244 | 8 | 248 | 6 | -1.61% |

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B21T65-22 | 610 | 466 | 1.31 | 0.05097 | 0.00264 | 0.27402 | 0.01419 | 0.03903 | 0.00105 | 0.05097 | 0.00264 | 0.27402 | 0.01419 | 0.03903 | 0.00105 | 239 | 71 | 246 | 11 | 247 | 7 | -0.40% |
| B21T65-23 | 927 | 626 | 1.48 | 0.05098 | 0.00259 | 0.2752 | 0.01394 | 0.03919 | 0.00106 | 0.05098 | 0.00259 | 0.2752 | 0.01394 | 0.03919 | 0.00106 | 240 | 68 | 247 | 11 | 248 | 7 | -0.40% |
| B21T64-01 | 221 | 233 | 0.95 | 0.05106 | 0.00463 | 0.27496 | 0.02443 | 0.03906 | 0.00125 | 0.05106 | 0.00463 | 0.27496 | 0.02443 | 0.03906 | 0.00125 | 244 | 143 | 247 | 19 | 247 | 8 | 0.00% |
| B21T64-02 | 910 | 504 | 1.81 | 0.05163 | 0.00496 | 0.27439 | 0.02617 | 0.03855 | 0.00109 | 0.05163 | 0.00496 | 0.27439 | 0.02617 | 0.03855 | 0.00109 | 269 | 164 | 246 | 21 | 244 | 7 | 0.82% |
| B21T64-03 | 685 | 397 | 1.73 | 0.05087 | 0.00433 | 0.27166 | 0.02302 | 0.03873 | 0.00104 | 0.05087 | 0.00433 | 0.27166 | 0.02302 | 0.03873 | 0.00104 | 235 | 143 | 244 | 18 | 245 | 6 | -0.41% |
| B21T64-04 | 64 | 145 | 0.44 | 0.05129 | 0.00617 | 0.28254 | 0.03368 | 0.03995 | 0.0012 | 0.05129 | 0.00617 | 0.28254 | 0.03368 | 0.03995 | 0.0012 | 254 | 213 | 253 | 27 | 253 | 7 | 0.00% |
| B21T64-05 | 1903 | 777 | 2.45 | 0.05141 | 0.00306 | 0.27525 | 0.01635 | 0.03883 | 0.00099 | 0.05141 | 0.00306 | 0.27525 | 0.01635 | 0.03883 | 0.00099 | 259 | 90 | 247 | 13 | 246 | 6 | 0.41% |
| B21T64-06 | 240 | 251 | 0.95 | 0.05122 | 0.00574 | 0.27875 | 0.03102 | 0.03947 | 0.00114 | 0.05122 | 0.00574 | 0.27875 | 0.03102 | 0.03947 | 0.00114 | 251 | 197 | 250 | 25 | 250 | 7 | 0.00% |
| B21T64-07 | 876 | 447 | 1.96 | 0.05006 | 0.00303 | 0.26534 | 0.01574 | 0.03844 | 0.00107 | 0.05006 | 0.00303 | 0.26534 | 0.01574 | 0.03844 | 0.00107 | 198 | 87 | 239 | 13 | 243 | 7 | -1.65% |
| B21T61-01 | 227 | 255 | 0.89 | 0.051 | 0.00503 | 0.27107 | 0.0263 | 0.03855 | 0.00128 | 0.051 | 0.00503 | 0.27107 | 0.0263 | 0.03855 | 0.00128 | 241 | 158 | 244 | 21 | 244 | 8 | 0.00% |
| B21T61-02 | 142 | 166 | 0.86 | 0.05096 | 0.00601 | 0.26369 | 0.03041 | 0.03754 | 0.00141 | 0.05096 | 0.00601 | 0.26369 | 0.03041 | 0.03754 | 0.00141 | 239 | 190 | 238 | 24 | 238 | 9 | 0.00% |
| B21T61-03 | 177 | 190 | 0.93 | 0.0509 | 0.00586 | 0.26591 | 0.02992 | 0.0379 | 0.00142 | 0.0509 | 0.00586 | 0.26591 | 0.02992 | 0.0379 | 0.00142 | 236 | 184 | 239 | 24 | 240 | 9 | -0.42% |
| ~~B21T61-04~~ | ~~194~~ | ~~232~~ | ~~0.83~~ | ~~0.04919~~ | ~~0.00421~~ | ~~0.26847~~ | ~~0.02255~~ | ~~0.03959~~ | ~~0.00127~~ | ~~0.04919~~ | ~~0.00421~~ | ~~0.26847~~ | ~~0.02255~~ | ~~0.03959~~ | ~~0.00127~~ | ~~157~~ | ~~130~~ | ~~241~~ | ~~18~~ | ~~250~~ | ~~8~~ | ~~-3.60%~~ |
| B21T61-05 | 177 | 188 | 0.94 | 0.05093 | 0.00597 | 0.26932 | 0.03115 | 0.03836 | 0.00129 | 0.05093 | 0.00597 | 0.26932 | 0.03115 | 0.03836 | 0.00129 | 238 | 198 | 242 | 25 | 243 | 8 | -0.41% |
| B21T61-06 | 183 | 192 | 0.95 | 0.0513 | 0.00867 | 0.26703 | 0.0448 | 0.03776 | 0.0013 | 0.0513 | 0.00867 | 0.26703 | 0.0448 | 0.03776 | 0.0013 | 254 | 294 | 240 | 36 | 239 | 8 | 0.42% |
| B21T61-07 | 214 | 245 | 0.87 | 0.05174 | 0.00794 | 0.27257 | 0.04164 | 0.03822 | 0.0012 | 0.05174 | 0.00794 | 0.27257 | 0.04164 | 0.03822 | 0.0012 | 274 | 283 | 245 | 33 | 242 | 7 | 1.24% |
| B21T61-08 | 204 | 212 | 0.96 | 0.05079 | 0.00362 | 0.276 | 0.01942 | 0.03942 | 0.00117 | 0.05079 | 0.00362 | 0.276 | 0.01942 | 0.03942 | 0.00117 | 231 | 107 | 247 | 15 | 249 | 7 | -0.80% |
| B21T61-09 | 393 | 359 | 1.09 | 0.05187 | 0.0049 | 0.27192 | 0.02559 | 0.03803 | 0.00109 | 0.05187 | 0.0049 | 0.27192 | 0.02559 | 0.03803 | 0.00109 | 280 | 160 | 244 | 20 | 241 | 7 | 1.24% |
| B21T61-10 | 146 | 172 | 0.85 | 0.05099 | 0.00836 | 0.26526 | 0.04307 | 0.03773 | 0.00135 | 0.05099 | 0.00836 | 0.26526 | 0.04307 | 0.03773 | 0.00135 | 240 | 283 | 239 | 35 | 239 | 8 | 0.00% |

291 **Table S7 Zircon LA–ICP–MS U–Pb data of the magmatic rocks in the Maqiaco intraplate ocean island fragment in the BNSZ**

| Spots | Th | U | Th/U | isotope ratio（±1σ）（measured ratios） | | | | | | isotope ratio（±1σ）（corrected ratios） | | | | | | age（Ma±1σ） | | | | | | Discordance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | |
| | | | | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | age | ratio | age | 1σ | age | 1σ | |
| ~~ShT42-01~~ | ~~364~~ | ~~364~~ | ~~1~~ | ~~0.05142~~ | ~~0.00185~~ | ~~0.22551~~ | ~~0.00876~~ | ~~0.0318~~ | ~~0.00083~~ | ~~0.05142~~ | ~~0.00185~~ | ~~0.22551~~ | ~~0.00876~~ | ~~0.0318~~ | ~~0.00083~~ | ~~260~~ | ~~45~~ | ~~206~~ | ~~7~~ | ~~202~~ | ~~5~~ | ~~1.98%~~ |
| ShT42-02 | 171 | 229 | 0.74 | 0.05036 | 0.0018 | 0.22804 | 0.00877 | 0.03284 | 0.00087 | 0.05036 | 0.0018 | 0.22804 | 0.00877 | 0.03284 | 0.00087 | 212 | 44 | 209 | 7 | 208 | 5 | 0.48% |
| ShT42-03 | 337 | 399 | 0.84 | 0.05111 | 0.00177 | 0.23455 | 0.00883 | 0.03328 | 0.00087 | 0.05111 | 0.00177 | 0.23455 | 0.00883 | 0.03328 | 0.00087 | 246 | 43 | 214 | 7 | 211 | 5 | 1.42% |
| ShT42-04 | 41 | 111 | 0.37 | 0.05021 | 0.00284 | 0.22561 | 0.01304 | 0.03259 | 0.0009 | 0.05021 | 0.00284 | 0.22561 | 0.01304 | 0.03259 | 0.0009 | 205 | 83 | 207 | 11 | 207 | 6 | 0.00% |
| ShT42-05 | 9 | 34 | 0.26 | 0.0485 | 0.00975 | 0.21546 | 0.04324 | 0.03222 | 0.00107 | 0.0485 | 0.00975 | 0.21546 | 0.04324 | 0.03222 | 0.00107 | 124 | 316 | 198 | 36 | 204 | 7 | -2.94% |
| ShT42-06 | 50 | 106 | 0.47 | 0.04935 | 0.00324 | 0.22596 | 0.0151 | 0.03321 | 0.00091 | 0.04935 | 0.00324 | 0.22596 | 0.0151 | 0.03321 | 0.00091 | 164 | 102 | 207 | 13 | 211 | 6 | -1.90% |
| ShT42-07 | 200 | 239 | 0.84 | 0.0503 | 0.00177 | 0.22979 | 0.00873 | 0.03313 | 0.00087 | 0.0503 | 0.00177 | 0.22979 | 0.00873 | 0.03313 | 0.00087 | 209 | 44 | 210 | 7 | 210 | 5 | 0.00% |
| ShT42-08 | 841 | 705 | 1.19 | 0.0502 | 0.0013 | 0.22656 | 0.0068 | 0.03273 | 0.00084 | 0.0502 | 0.0013 | 0.22656 | 0.0068 | 0.03273 | 0.00084 | 204 | 31 | 207 | 6 | 208 | 5 | -0.48% |
| ShT42-09 | 85 | 126 | 0.68 | 0.04955 | 0.00305 | 0.22357 | 0.01402 | 0.03272 | 0.00089 | 0.04955 | 0.00305 | 0.22357 | 0.01402 | 0.03272 | 0.00089 | 174 | 94 | 205 | 12 | 208 | 6 | -1.44% |
| ShT42-10 | 64 | 121 | 0.53 | 0.05025 | 0.00298 | 0.22677 | 0.01365 | 0.03273 | 0.00092 | 0.05025 | 0.00298 | 0.22677 | 0.01365 | 0.03273 | 0.00092 | 207 | 88 | 208 | 11 | 208 | 6 | 0.00% |
| ShT42-11 | 400 | 402 | 0.99 | 0.05049 | 0.0016 | 0.22999 | 0.00805 | 0.03303 | 0.00086 | 0.05049 | 0.0016 | 0.22999 | 0.00805 | 0.03303 | 0.00086 | 218 | 38 | 210 | 7 | 209 | 5 | 0.48% |
| ShT42-12 | 86 | 127 | 0.67 | 0.05036 | 0.00256 | 0.22512 | 0.01175 | 0.03242 | 0.00089 | 0.05036 | 0.00256 | 0.22512 | 0.01175 | 0.03242 | 0.00089 | 212 | 71 | 206 | 10 | 206 | 6 | 0.00% |
| ShT42-13 | 1713 | 789 | 2.17 | 0.05051 | 0.00126 | 0.22473 | 0.00658 | 0.03226 | 0.00083 | 0.05051 | 0.00126 | 0.22473 | 0.00658 | 0.03226 | 0.00083 | 219 | 30 | 206 | 5 | 205 | 5 | 0.49% |
| ShT42-14 | 51 | 83 | 0.62 | 0.05 | 0.00268 | 0.21856 | 0.01184 | 0.0317 | 0.00092 | 0.05 | 0.00268 | 0.21856 | 0.01184 | 0.0317 | 0.00092 | 195 | 73 | 201 | 10 | 201 | 6 | 0.00% |
| ShT42-15 | 102 | 137 | 0.75 | 0.05032 | 0.0024 | 0.22545 | 0.01112 | 0.03249 | 0.00088 | 0.05032 | 0.0024 | 0.22545 | 0.01112 | 0.03249 | 0.00088 | 210 | 65 | 206 | 9 | 206 | 5 | 0.00% |
| ShT42-16 | 77 | 86 | 0.89 | 0.05017 | 0.00255 | 0.22496 | 0.0118 | 0.03252 | 0.00088 | 0.05017 | 0.00255 | 0.22496 | 0.0118 | 0.03252 | 0.00088 | 203 | 72 | 206 | 10 | 206 | 5 | 0.00% |
| ShT42-17 | 17 | 39 | 0.43 | 0.05065 | 0.00718 | 0.22891 | 0.0324 | 0.03277 | 0.00103 | 0.05065 | 0.00718 | 0.22891 | 0.0324 | 0.03277 | 0.00103 | 225 | 257 | 209 | 27 | 208 | 6 | 0.48% |
| ShT42-18 | 55 | 116 | 0.47 | 0.05017 | 0.00326 | 0.22922 | 0.01518 | 0.03313 | 0.0009 | 0.05017 | 0.00326 | 0.22922 | 0.01518 | 0.03313 | 0.0009 | 203 | 103 | 210 | 13 | 210 | 6 | 0.00% |
| ShT42-19 | 32 | 61 | 0.52 | 0.05022 | 0.00456 | 0.22333 | 0.02037 | 0.03225 | 0.00092 | 0.05022 | 0.00456 | 0.22333 | 0.02037 | 0.03225 | 0.00092 | 205 | 152 | 205 | 17 | 205 | 6 | 0.00% |
| ShT42-20 | 406 | 473 | 0.86 | 0.05016 | 0.00148 | 0.22073 | 0.00728 | 0.03191 | 0.00082 | 0.05016 | 0.00148 | 0.22073 | 0.00728 | 0.03191 | 0.00082 | 202 | 35 | 203 | 6 | 202 | 5 | 0.50% |
| B19T38-01 | 20 | 75 | 0.27 | 0.04998 | 0.00459 | 0.21729 | 0.01952 | 0.03152 | 0.00105 | 0.04998 | 0.00459 | 0.21729 | 0.01952 | 0.03152 | 0.00105 | 194 | 141 | 200 | 16 | 200 | 7 | ~~0.00%~~ |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B19T38-02 | 101 | 146 | 0.7 | 0.05004 | 0.00431 | 0.21853 | 0.01854 | 0.03166 | 0.001 | 0.05004 | 0.00431 | 0.21853 | 0.01854 | 0.03166 | 0.001 | 197 | 134 | 201 | 15 | 201 | 6 | 0.00% |
| B19T38-03 | 31 | 59 | 0.53 | 0.05013 | 0.00485 | 0.22222 | 0.02094 | 0.03214 | 0.00114 | 0.05013 | 0.00485 | 0.22222 | 0.02094 | 0.03214 | 0.00114 | 201 | 147 | 204 | 17 | 204 | 7 | 0.00% |
| B19T38-04 | 49 | 132 | 0.38 | 0.05044 | 0.0044 | 0.21782 | 0.01872 | 0.03131 | 0.00098 | 0.05044 | 0.0044 | 0.21782 | 0.01872 | 0.03131 | 0.00098 | 215 | 137 | 200 | 16 | 199 | 6 | 0.50% |
| B19T38-05 | 330 | 326 | 1.01 | 0.04954 | 0.00231 | 0.22622 | 0.01066 | 0.03311 | 0.00089 | 0.04954 | 0.00231 | 0.22622 | 0.01066 | 0.03311 | 0.00089 | 173 | 62 | 207 | 9 | 210 | 6 | -1.43% |
| B19T38-06 | 357 | 325 | 1.1 | 0.05083 | 0.00324 | 0.23096 | 0.01481 | 0.03295 | 0.00088 | 0.05083 | 0.00324 | 0.23096 | 0.01481 | 0.03295 | 0.00088 | 233 | 98 | 211 | 12 | 209 | 5 | 0.96% |
| B19T38-07 | 47 | 70 | 0.67 | 0.05003 | 0.00496 | 0.21645 | 0.02091 | 0.03137 | 0.00113 | 0.05003 | 0.00496 | 0.21645 | 0.02091 | 0.03137 | 0.00113 | 196 | 151 | 199 | 17 | 199 | 7 | 0.00% |
| B19T38-08 | 53 | 77 | 0.69 | 0.05003 | 0.00693 | 0.22407 | 0.03069 | 0.03248 | 0.00113 | 0.05003 | 0.00693 | 0.22407 | 0.03069 | 0.03248 | 0.00113 | 196 | 240 | 205 | 25 | 206 | 7 | -0.49% |
| B19T38-09 | 18 | 44 | 0.4 | 0.05031 | 0.00542 | 0.22809 | 0.02392 | 0.03287 | 0.00125 | 0.05031 | 0.00542 | 0.22809 | 0.02392 | 0.03287 | 0.00125 | 209 | 166 | 209 | 20 | 208 | 8 | 0.48% |
| B19T38-10 | 154 | 254 | 0.61 | 0.04928 | 0.00242 | 0.21932 | 0.01088 | 0.03227 | 0.00088 | 0.04928 | 0.00242 | 0.21932 | 0.01088 | 0.03227 | 0.00088 | 161 | 66 | 201 | 9 | 205 | 5 | -1.95% |
| ~~B19T38-11~~ | ~~261~~ | ~~261~~ | ~~1~~ | ~~0.04829~~ | ~~0.00287~~ | ~~0.21391~~ | ~~0.01264~~ | ~~0.03212~~ | ~~0.00093~~ | ~~0.04829~~ | ~~0.00287~~ | ~~0.21391~~ | ~~0.01264~~ | ~~0.03212~~ | ~~0.00093~~ | ~~114~~ | ~~82~~ | ~~197~~ | ~~11~~ | ~~204~~ | ~~6~~ | ~~-3.43%~~ |
| B19T38-12 | 31 | 62 | 0.5 | 0.04876 | 0.00496 | 0.21991 | 0.02144 | 0.0327 | 0.00134 | 0.04876 | 0.00496 | 0.21991 | 0.02144 | 0.0327 | 0.00134 | 136 | 143 | 202 | 18 | 207 | 8 | -2.42% |
| B19T38-13 | 368 | 354 | 1.04 | 0.05013 | 0.00261 | 0.2271 | 0.012 | 0.03285 | 0.00088 | 0.05013 | 0.00261 | 0.2271 | 0.012 | 0.03285 | 0.00088 | 201 | 74 | 208 | 10 | 208 | 5 | 0.00% |
| B19T38-14 | 83 | 140 | 0.59 | 0.0511 | 0.0035 | 0.22151 | 0.01493 | 0.03143 | 0.00098 | 0.0511 | 0.0035 | 0.22151 | 0.01493 | 0.03143 | 0.00098 | 245 | 98 | 203 | 12 | 199 | 6 | ~~2.01%~~ |
| B19T38-15 | 44 | 66 | 0.67 | 0.05027 | 0.00787 | 0.22195 | 0.03455 | 0.03202 | 0.00107 | 0.05027 | 0.00787 | 0.22195 | 0.03455 | 0.03202 | 0.00107 | 207 | 272 | 204 | 29 | 203 | 7 | 0.49% |
| B19T38-16 | 47 | 117 | 0.4 | 0.05007 | 0.0038 | 0.21843 | 0.01632 | 0.03164 | 0.00101 | 0.05007 | 0.0038 | 0.21843 | 0.01632 | 0.03164 | 0.00101 | 198 | 112 | 201 | 14 | 201 | 6 | 0.00% |
| B19T38-17 | 9 | 29 | 0.3 | 0.05034 | 0.01469 | 0.21841 | 0.06314 | 0.03146 | 0.00156 | 0.05034 | 0.01469 | 0.21841 | 0.06314 | 0.03146 | 0.00156 | 211 | 435 | 201 | 53 | 200 | 10 | 0.50% |
| B19T38-18 | 192 | 233 | 0.83 | 0.05141 | 0.00406 | 0.2328 | 0.01851 | 0.03284 | 0.0009 | 0.05141 | 0.00406 | 0.2328 | 0.01851 | 0.03284 | 0.0009 | 259 | 131 | 213 | 15 | 208 | 6 | 2.40% |

297 **Table S8 Zircon LA–ICP–MS U–Pb data of the magmatic rocks in the Tarenben intraplate ocean island fragment in the BNSZ**

| Spots | Th | U | Th/U | isotope ratio（±1σ）（measured ratios） | | | | | | isotope ratio（±1σ）（corrected ratios） | | | | | | age（Ma±1σ） | | | | | | Discordance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | |
| | | | | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | age | ratio | age | 1σ | age | 1σ | |
| B21T72-01 | 135 | 186 | 0.72 | 0.05014 | 0.0152 | 0.23579 | 0.07115 | 0.03409 | 0.00139 | 0.05014 | 0.0152 | 0.23579 | 0.07115 | 0.03409 | 0.00139 | 201 | 470 | 215 | 58 | 216 | 9 | -0.46% |
| B21T72-02 | 180 | 217 | 0.83 | 0.05102 | 0.01438 | 0.22844 | 0.06402 | 0.03246 | 0.00131 | 0.05102 | 0.01438 | 0.22844 | 0.06402 | 0.03246 | 0.00131 | 242 | 444 | 209 | 53 | 206 | 8 | 1.46% |
| B21T72-03 | 114 | 190 | 0.6 | 0.05015 | 0.0079 | 0.23651 | 0.03657 | 0.03419 | 0.00141 | 0.05015 | 0.0079 | 0.23651 | 0.03657 | 0.03419 | 0.00141 | 202 | 265 | 216 | 30 | 217 | 9 | -0.46% |
| B21T72-04 | 109 | 146 | 0.74 | 0.05022 | 0.01255 | 0.22972 | 0.0568 | 0.03316 | 0.0015 | 0.05022 | 0.01255 | 0.22972 | 0.0568 | 0.03316 | 0.0015 | 205 | 381 | 210 | 47 | 210 | 9 | 0.00% |
| B21T72-05 | 120 | 145 | 0.83 | 0.04944 | 0.01049 | 0.23214 | 0.04824 | 0.03404 | 0.00176 | 0.04944 | 0.01049 | 0.23214 | 0.04824 | 0.03404 | 0.00176 | 169 | 311 | 212 | 40 | 216 | 11 | -1.85% |
| B21T72-06 | 144 | 205 | 0.7 | 0.05025 | 0.0083 | 0.22719 | 0.0368 | 0.03278 | 0.00139 | 0.05025 | 0.0083 | 0.22719 | 0.0368 | 0.03278 | 0.00139 | 207 | 273 | 208 | 30 | 208 | 9 | 0.00% |
| B21T72-07 | 134 | 183 | 0.73 | 0.05026 | 0.00941 | 0.22544 | 0.04157 | 0.03252 | 0.00138 | 0.05026 | 0.00941 | 0.22544 | 0.04157 | 0.03252 | 0.00138 | 207 | 302 | 206 | 34 | 206 | 9 | 0.00% |
| B21T72-08 | 342 | 282 | 1.21 | 0.05039 | 0.01321 | 0.23124 | 0.06034 | 0.03327 | 0.00122 | 0.05039 | 0.01321 | 0.23124 | 0.06034 | 0.03327 | 0.00122 | 213 | 414 | 211 | 50 | 211 | 8 | 0.00% |
| B21T72-09 | 200 | 248 | 0.81 | 0.05039 | 0.00702 | 0.23363 | 0.03196 | 0.03362 | 0.00128 | 0.05039 | 0.00702 | 0.23363 | 0.03196 | 0.03362 | 0.00128 | 213 | 237 | 213 | 26 | 213 | 8 | 0.00% |
| B21T72-10 | 193 | 239 | 0.81 | 0.05026 | 0.00732 | 0.22033 | 0.03122 | 0.03179 | 0.00137 | 0.05026 | 0.00732 | 0.22033 | 0.03122 | 0.03179 | 0.00137 | 207 | 235 | 202 | 26 | 202 | 9 | 0.00% |
| B21T72-11 | 314 | 265 | 1.18 | 0.04972 | 0.01165 | 0.22371 | 0.05208 | 0.03262 | 0.00121 | 0.04972 | 0.01165 | 0.22371 | 0.05208 | 0.03262 | 0.00121 | 182 | 371 | 205 | 43 | 207 | 8 | -0.97% |
| B21T72-12 | 220 | 252 | 0.87 | 0.05045 | 0.00734 | 0.23304 | 0.03332 | 0.03349 | 0.00127 | 0.05045 | 0.00734 | 0.23304 | 0.03332 | 0.03349 | 0.00127 | 216 | 248 | 213 | 27 | 212 | 8 | 0.47% |
| B21T72-13 | 98 | 144 | 0.68 | 0.05026 | 0.0113 | 0.22848 | 0.0506 | 0.03296 | 0.00156 | 0.05026 | 0.0113 | 0.22848 | 0.0506 | 0.03296 | 0.00156 | 207 | 341 | 209 | 42 | 209 | 10 | 0.00% |
| ~~B21T72-14~~ | ~~231~~ | ~~237~~ | ~~0.97~~ | ~~0.04499~~ | ~~0.00643~~ | ~~0.20814~~ | ~~0.02903~~ | ~~0.03355~~ | ~~0.00137~~ | ~~0.04499~~ | ~~0.00643~~ | ~~0.20814~~ | ~~0.02903~~ | ~~0.03355~~ | ~~0.00137~~ | ~~-20~~ | ~~203~~ | ~~192~~ | ~~24~~ | ~~213~~ | ~~9~~ | ~~-9.86%~~ |
| B21T72-15 | 86 | 143 | 0.6 | 0.05055 | 0.01703 | 0.23087 | 0.07722 | 0.03312 | 0.00161 | 0.05055 | 0.01703 | 0.23087 | 0.07722 | 0.03312 | 0.00161 | 220 | 506 | 211 | 64 | 210 | 10 | 0.48% |
| B21T72-16 | 83 | 174 | 0.48 | 0.04965 | 0.0075 | 0.23249 | 0.03442 | 0.03396 | 0.00137 | 0.04965 | 0.0075 | 0.23249 | 0.03442 | 0.03396 | 0.00137 | 179 | 251 | 212 | 28 | 215 | 9 | -1.40% |
| B21T72-17 | 194 | 210 | 0.92 | 0.04897 | 0.00708 | 0.22994 | 0.03256 | 0.03405 | 0.00133 | 0.04897 | 0.00708 | 0.22994 | 0.03256 | 0.03405 | 0.00133 | 146 | 242 | 210 | 27 | 216 | 8 | -2.78% |
| B21T72-18 | 40 | 77 | 0.53 | 0.05027 | 0.0167 | 0.23099 | 0.07579 | 0.03332 | 0.00196 | 0.05027 | 0.0167 | 0.23099 | 0.07579 | 0.03332 | 0.00196 | 207 | 484 | 211 | 63 | 211 | 12 | 0.00% |
| B21T72-19 | 66 | 151 | 0.44 | 0.05006 | 0.0087 | 0.22647 | 0.03852 | 0.03281 | 0.00146 | 0.05006 | 0.0087 | 0.22647 | 0.03852 | 0.03281 | 0.00146 | 198 | 280 | 207 | 32 | 208 | 9 | -0.48% |
| B21T72-20 | 479 | 340 | 1.41 | 0.0502 | 0.00593 | 0.22576 | 0.02611 | 0.03261 | 0.00112 | 0.0502 | 0.00593 | 0.22576 | 0.02611 | 0.03261 | 0.00112 | 204 | 196 | 207 | 22 | 207 | 7 | 0.00% |
| B21T72-21 | 101 | 159 | 0.63 | 0.04978 | 0.01766 | 0.22922 | 0.08091 | 0.03339 | 0.00145 | 0.04978 | 0.01766 | 0.22922 | 0.08091 | 0.03339 | 0.00145 | 185 | 537 | 210 | 67 | 212 | 9 | -0.94% |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B21T72-22 | 110 | 159 | 0.69 | 0.04905 | 0.00812 | 0.22768 | 0.03688 | 0.03366 | 0.00144 | 0.04905 | 0.00812 | 0.22768 | 0.03688 | 0.03366 | 0.00144 | 150 | 265 | 208 | 31 | 213 | 9 | -2.35% |
| B21T72-23 | 110 | 164 | 0.67 | 0.04964 | 0.00886 | 0.23299 | 0.04067 | 0.03404 | 0.00154 | 0.04964 | 0.00886 | 0.23299 | 0.04067 | 0.03404 | 0.00154 | 178 | 279 | 213 | 33 | 216 | 10 | -1.39% |
| B21T72-24 | 188 | 204 | 0.92 | 0.05039 | 0.01721 | 0.23495 | 0.07992 | 0.03381 | 0.00133 | 0.05039 | 0.01721 | 0.23495 | 0.07992 | 0.03381 | 0.00133 | 213 | 529 | 214 | 66 | 214 | 8 | 0.00% |
| B21T72-25 | 143 | 191 | 0.75 | 0.05027 | 0.00885 | 0.23346 | 0.0404 | 0.03368 | 0.00137 | 0.05027 | 0.00885 | 0.23346 | 0.0404 | 0.03368 | 0.00137 | 207 | 288 | 213 | 33 | 214 | 9 | -0.47% |
| B21T72-26 | 77 | 124 | 0.62 | 0.05054 | 0.01403 | 0.22923 | 0.06297 | 0.03289 | 0.00157 | 0.05054 | 0.01403 | 0.22923 | 0.06297 | 0.03289 | 0.00157 | 220 | 420 | 210 | 52 | 209 | 10 | 0.48% |
| B21T72-27 | 265 | 283 | 0.94 | 0.04996 | 0.00662 | 0.22664 | 0.02919 | 0.0329 | 0.00129 | 0.04996 | 0.00662 | 0.22664 | 0.02919 | 0.0329 | 0.00129 | 193 | 216 | 207 | 24 | 209 | 8 | -0.96% |
| B21T72-28 | 145 | 193 | 0.75 | 0.05065 | 0.01137 | 0.2392 | 0.0531 | 0.03425 | 0.0014 | 0.05065 | 0.01137 | 0.2392 | 0.0531 | 0.03425 | 0.0014 | 225 | 351 | 218 | 44 | 217 | 9 | 0.46% |
| B21T72-29 | 193 | 216 | 0.9 | 0.05016 | 0.00786 | 0.22838 | 0.03506 | 0.03302 | 0.0013 | 0.05016 | 0.00786 | 0.22838 | 0.03506 | 0.03302 | 0.0013 | 202 | 266 | 209 | 29 | 209 | 8 | 0.00% |
| B21T72-30 | 89 | 133 | 0.67 | 0.05014 | 0.00936 | 0.22704 | 0.04138 | 0.03283 | 0.00154 | 0.05014 | 0.00936 | 0.22704 | 0.04138 | 0.03283 | 0.00154 | 201 | 290 | 208 | 34 | 208 | 10 | 0.00% |
| B21T72-31 | 110 | 162 | 0.68 | 0.05033 | 0.0046 | 0.23122 | 0.02064 | 0.03332 | 0.0011 | 0.05033 | 0.0046 | 0.23122 | 0.02064 | 0.03332 | 0.0011 | 210 | 141 | 211 | 17 | 211 | 7 | 0.00% |
| B21T72-32 | 144 | 199 | 0.72 | 0.04994 | 0.00422 | 0.22835 | 0.01886 | 0.03317 | 0.00104 | 0.04994 | 0.00422 | 0.22835 | 0.01886 | 0.03317 | 0.00104 | 192 | 130 | 209 | 16 | 210 | 6 | -0.48% |
| B21T72-33 | 77 | 179 | 0.43 | 0.05014 | 0.00505 | 0.2257 | 0.02223 | 0.03265 | 0.0011 | 0.05014 | 0.00505 | 0.2257 | 0.02223 | 0.03265 | 0.0011 | 201 | 159 | 207 | 18 | 207 | 7 | 0.00% |
| B21T72-34 | 172 | 212 | 0.81 | 0.05029 | 0.00452 | 0.22696 | 0.02001 | 0.03273 | 0.00102 | 0.05029 | 0.00452 | 0.22696 | 0.02001 | 0.03273 | 0.00102 | 208 | 142 | 208 | 17 | 208 | 6 | 0.00% |
| B21T72-35 | 99 | 152 | 0.65 | 0.05016 | 0.0077 | 0.22608 | 0.03437 | 0.03269 | 0.00112 | 0.05016 | 0.0077 | 0.22608 | 0.03437 | 0.03269 | 0.00112 | 202 | 269 | 207 | 28 | 207 | 7 | 0.00% |
| B21T72-36 | 183 | 222 | 0.82 | 0.05007 | 0.00924 | 0.23206 | 0.04267 | 0.03361 | 0.001 | 0.05007 | 0.00924 | 0.23206 | 0.04267 | 0.03361 | 0.001 | 198 | 318 | 212 | 35 | 213 | 6 | -0.47% |
| B21T72-37 | 62 | 127 | 0.49 | 0.04991 | 0.00947 | 0.22565 | 0.0424 | 0.03279 | 0.00123 | 0.04991 | 0.00947 | 0.22565 | 0.0424 | 0.03279 | 0.00123 | 191 | 313 | 207 | 35 | 208 | 8 | -0.48% |
| B21T72-38 | 129 | 185 | 0.7 | 0.05001 | 0.00909 | 0.22055 | 0.03988 | 0.03198 | 0.00101 | 0.05001 | 0.00909 | 0.22055 | 0.03988 | 0.03198 | 0.00101 | 195 | 308 | 202 | 33 | 203 | 6 | -0.49% |
| B21T72-39 | 112 | 179 | 0.63 | 0.05035 | 0.00425 | 0.234 | 0.01935 | 0.03371 | 0.00104 | 0.05035 | 0.00425 | 0.234 | 0.01935 | 0.03371 | 0.00104 | 211 | 131 | 213 | 16 | 214 | 6 | -0.47% |
| B21T72-40 | 100 | 151 | 0.66 | 0.05005 | 0.00579 | 0.22444 | 0.02547 | 0.03252 | 0.00113 | 0.05005 | 0.00579 | 0.22444 | 0.02547 | 0.03252 | 0.00113 | 197 | 191 | 206 | 21 | 206 | 7 | 0.00% |
| B21T73-01 | 116 | 174 | 0.67 | 0.05023 | 0.01316 | 0.22685 | 0.05925 | 0.03264 | 0.00114 | 0.05023 | 0.01316 | 0.22685 | 0.05925 | 0.03264 | 0.00114 | 206 | 415 | 208 | 49 | 207 | 7 | 0.48% |
| B21T73-02 | 264 | 278 | 0.95 | 0.04989 | 0.00823 | 0.22717 | 0.03732 | 0.03292 | 0.00102 | 0.04989 | 0.00823 | 0.22717 | 0.03732 | 0.03292 | 0.00102 | 190 | 283 | 208 | 31 | 209 | 6 | -0.48% |
| B21T73-03 | 79 | 137 | 0.58 | 0.05015 | 0.02068 | 0.21731 | 0.08943 | 0.03133 | 0.00119 | 0.05015 | 0.02068 | 0.21731 | 0.08943 | 0.03133 | 0.00119 | 202 | 654 | 200 | 75 | 199 | 7 | 0.50% |
| ~~B21T73-04~~ | ~~307~~ | ~~378~~ | ~~0.81~~ | ~~0.05517~~ | ~~0.00736~~ | ~~0.25563~~ | ~~0.03406~~ | ~~0.03351~~ | ~~0.00096~~ | ~~0.05517~~ | ~~0.00736~~ | ~~0.25563~~ | ~~0.03406~~ | ~~0.03351~~ | ~~0.00096~~ | ~~419~~ | ~~247~~ | ~~231~~ | ~~28~~ | ~~212~~ | ~~6~~ | ~~8.96%~~ |
| B21T73-05 | 1284 | 829 | 1.55 | 0.05022 | 0.00438 | 0.23346 | 0.02045 | 0.03364 | 0.00087 | 0.05022 | 0.00438 | 0.23346 | 0.02045 | 0.03364 | 0.00087 | 205 | 150 | 213 | 17 | 213 | 5 | 0.00% |
| B21T73-06 | 356 | 393 | 0.91 | 0.05017 | 0.00712 | 0.22456 | 0.0318 | 0.03239 | 0.00093 | 0.05017 | 0.00712 | 0.22456 | 0.0318 | 0.03239 | 0.00093 | 203 | 259 | 206 | 26 | 205 | 6 | 0.49% |
| B21T73-07 | 693 | 666 | 1.04 | 0.0501 | 0.00433 | 0.22908 | 0.01985 | 0.03309 | 0.00088 | 0.0501 | 0.00433 | 0.22908 | 0.01985 | 0.03309 | 0.00088 | 200 | 146 | 209 | 16 | 210 | 5 | -0.48% |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B21T73-08 | 858 | 696 | 1.23 | 0.05045 | 0.00398 | 0.2331 | 0.01846 | 0.03345 | 0.00087 | 0.05045 | 0.00398 | 0.2331 | 0.01846 | 0.03345 | 0.00087 | 216 | 132 | 213 | 15 | 212 | 5 | 0.47% |
| B21T73-09 | 99 | 137 | 0.73 | 0.05009 | 0.01066 | 0.22197 | 0.04692 | 0.03209 | 0.00118 | 0.05009 | 0.01066 | 0.22197 | 0.04692 | 0.03209 | 0.00118 | 199 | 339 | 204 | 39 | 204 | 7 | 0.00% |
| B21T73-10 | 262 | 315 | 0.83 | 0.04926 | 0.00342 | 0.22091 | 0.01514 | 0.03248 | 0.00095 | 0.04926 | 0.00342 | 0.22091 | 0.01514 | 0.03248 | 0.00095 | 160 | 102 | 203 | 13 | 206 | 6 | -1.46% |
| B21T73-11 | 241 | 311 | 0.77 | 0.05023 | 0.00674 | 0.23684 | 0.03174 | 0.03416 | 0.00097 | 0.05023 | 0.00674 | 0.23684 | 0.03174 | 0.03416 | 0.00097 | 206 | 245 | 216 | 26 | 217 | 6 | -0.46% |
| B21T73-12 | 205 | 258 | 0.79 | 0.05035 | 0.00415 | 0.23457 | 0.01915 | 0.03375 | 0.00099 | 0.05035 | 0.00415 | 0.23457 | 0.01915 | 0.03375 | 0.00099 | 211 | 131 | 214 | 16 | 214 | 6 | 0.00% |
| B21T73-13 | 237 | 214 | 1.11 | 0.04988 | 0.00725 | 0.21828 | 0.03147 | 0.03171 | 0.00103 | 0.04988 | 0.00725 | 0.21828 | 0.03147 | 0.03171 | 0.00103 | 189 | 257 | 200 | 26 | 201 | 6 | -0.50% |
| B21T73-14 | 844 | 602 | 1.4 | 0.05014 | 0.00248 | 0.23088 | 0.0115 | 0.03338 | 0.00087 | 0.05014 | 0.00248 | 0.23088 | 0.0115 | 0.03338 | 0.00087 | 201 | 68 | 211 | 9 | 212 | 5 | -0.47% |
| B21T73-15 | 238 | 288 | 0.83 | 0.05042 | 0.00386 | 0.22966 | 0.01743 | 0.03302 | 0.00095 | 0.05042 | 0.00386 | 0.22966 | 0.01743 | 0.03302 | 0.00095 | 214 | 120 | 210 | 14 | 209 | 6 | 0.48% |
| B21T73-16 | 161 | 231 | 0.7 | 0.04977 | 0.0038 | 0.22161 | 0.01663 | 0.03229 | 0.00098 | 0.04977 | 0.0038 | 0.22161 | 0.01663 | 0.03229 | 0.00098 | 184 | 115 | 203 | 14 | 205 | 6 | -0.98% |
| B21T73-17 | 386 | 406 | 0.95 | 0.04995 | 0.00438 | 0.224 | 0.01962 | 0.03252 | 0.00089 | 0.04995 | 0.00438 | 0.224 | 0.01962 | 0.03252 | 0.00089 | 193 | 147 | 205 | 16 | 206 | 6 | -0.49% |
| B21T73-18 | 1920 | 1018 | 1.89 | 0.05054 | 0.00265 | 0.2267 | 0.01206 | 0.03253 | 0.00081 | 0.05054 | 0.00265 | 0.2267 | 0.01206 | 0.03253 | 0.00081 | 220 | 77 | 207 | 10 | 206 | 5 | 0.49% |
| B21T73-19 | 113 | 168 | 0.67 | 0.05026 | 0.00773 | 0.22729 | 0.03465 | 0.03281 | 0.0011 | 0.05026 | 0.00773 | 0.22729 | 0.03465 | 0.03281 | 0.0011 | 207 | 271 | 208 | 29 | 208 | 7 | 0.00% |
| B21T73-20 | 99 | 165 | 0.6 | 0.05042 | 0.00525 | 0.2303 | 0.02361 | 0.03314 | 0.00107 | 0.05042 | 0.00525 | 0.2303 | 0.02361 | 0.03314 | 0.00107 | 214 | 171 | 210 | 19 | 210 | 7 | 0.00% |
| B21T73-21 | 249 | 329 | 0.76 | 0.04991 | 0.00298 | 0.23428 | 0.01388 | 0.03406 | 0.00094 | 0.04991 | 0.00298 | 0.23428 | 0.01388 | 0.03406 | 0.00094 | 191 | 86 | 214 | 11 | 216 | 6 | -0.93% |
| B21T73-22 | 360 | 416 | 0.87 | 0.05042 | 0.00267 | 0.22981 | 0.01203 | 0.03309 | 0.00091 | 0.05042 | 0.00267 | 0.22981 | 0.01203 | 0.03309 | 0.00091 | 214 | 71 | 210 | 10 | 210 | 6 | 0.00% |
| B21T73-23 | 393 | 437 | 0.9 | 0.05028 | 0.0027 | 0.2293 | 0.01226 | 0.03311 | 0.00089 | 0.05028 | 0.0027 | 0.2293 | 0.01226 | 0.03311 | 0.00089 | 208 | 75 | 210 | 10 | 210 | 6 | 0.00% |
| B21T73-24 | 251 | 359 | 0.7 | 0.04942 | 0.00315 | 0.22694 | 0.01419 | 0.03334 | 0.00097 | 0.04942 | 0.00315 | 0.22694 | 0.01419 | 0.03334 | 0.00097 | 168 | 91 | 208 | 12 | 211 | 6 | -1.42% |
| B21T73-25 | 522 | 542 | 0.96 | 0.05013 | 0.00306 | 0.21948 | 0.01328 | 0.03179 | 0.00086 | 0.05013 | 0.00306 | 0.21948 | 0.01328 | 0.03179 | 0.00086 | 201 | 90 | 201 | 11 | 202 | 5 | -0.50% |
| B21T73-26 | 543 | 647 | 0.84 | 0.05033 | 0.00294 | 0.22246 | 0.01288 | 0.0321 | 0.00087 | 0.05033 | 0.00294 | 0.22246 | 0.01288 | 0.0321 | 0.00087 | 210 | 84 | 204 | 11 | 204 | 5 | 0.00% |
| B21T73-27 | 320 | 452 | 0.71 | 0.05013 | 0.00353 | 0.2245 | 0.01567 | 0.03253 | 0.0009 | 0.05013 | 0.00353 | 0.2245 | 0.01567 | 0.03253 | 0.0009 | 201 | 109 | 206 | 13 | 206 | 6 | 0.00% |
| B21T73-28 | 133 | 183 | 0.73 | 0.04959 | 0.00892 | 0.223 | 0.03994 | 0.03266 | 0.00102 | 0.04959 | 0.00892 | 0.223 | 0.03994 | 0.03266 | 0.00102 | 176 | 305 | 204 | 33 | 207 | 6 | -1.45% |
| B21T73-29 | 336 | 464 | 0.72 | 0.05049 | 0.00282 | 0.23261 | 0.01295 | 0.03347 | 0.00088 | 0.05049 | 0.00282 | 0.23261 | 0.01295 | 0.03347 | 0.00088 | 218 | 81 | 212 | 11 | 212 | 5 | 0.00% |
| B21T73-30 | 1179 | 1047 | 1.13 | 0.05149 | 0.00309 | 0.22075 | 0.01327 | 0.03115 | 0.0008 | 0.05149 | 0.00309 | 0.22075 | 0.01327 | 0.03115 | 0.0008 | 263 | 91 | 203 | 11 | 198 | 5 | 2.53% |
| B21T73-31 | 28 | 77 | 0.37 | 0.05032 | 0.00619 | 0.22805 | 0.02622 | 0.03292 | 0.00169 | 0.05032 | 0.00619 | 0.22805 | 0.02622 | 0.03292 | 0.00169 | 210 | 165 | 209 | 22 | 209 | 11 | 0.00% |
| B21T73-32 | 158 | 221 | 0.71 | 0.05011 | 0.0046 | 0.2355 | 0.02108 | 0.03408 | 0.00113 | 0.05011 | 0.0046 | 0.2355 | 0.02108 | 0.03408 | 0.00113 | 200 | 141 | 215 | 17 | 216 | 7 | -0.46% |
| B21T73-33 | 494 | 416 | 1.19 | 0.05001 | 0.00389 | 0.22443 | 0.01725 | 0.03254 | 0.00091 | 0.05001 | 0.00389 | 0.22443 | 0.01725 | 0.03254 | 0.00091 | 195 | 123 | 206 | 14 | 206 | 6 | 0.00% |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B21T73-34 | 527 | 540 | 0.98 | 0.05006 | 0.00259 | 0.23446 | 0.01203 | 0.03397 | 0.00088 | 0.05006 | 0.00259 | 0.23446 | 0.01203 | 0.03397 | 0.00088 | 198 | 72 | 214 | 10 | 215 | 5 | -0.47% |
| B21T73-35 | 2152 | 1179 | 1.82 | 0.05052 | 0.00265 | 0.21852 | 0.01152 | 0.03136 | 0.00078 | 0.05052 | 0.00265 | 0.21852 | 0.01152 | 0.03136 | 0.00078 | 219 | 76 | 201 | 10 | 199 | 5 | 1.01% |
| B21T73-36 | 236 | 253 | 0.93 | 0.05017 | 0.00346 | 0.23247 | 0.01546 | 0.0336 | 0.00105 | 0.05017 | 0.00346 | 0.23247 | 0.01546 | 0.0336 | 0.00105 | 203 | 97 | 212 | 13 | 213 | 7 | -0.47% |
| B21T73-37 | 267 | 327 | 0.82 | 0.05044 | 0.00455 | 0.22056 | 0.01971 | 0.03171 | 0.00089 | 0.05044 | 0.00455 | 0.22056 | 0.01971 | 0.03171 | 0.00089 | 215 | 150 | 202 | 16 | 201 | 6 | 0.50% |
| B21T73-38 | 473 | 384 | 1.23 | 0.04988 | 0.00549 | 0.22379 | 0.02448 | 0.03253 | 0.00092 | 0.04988 | 0.00549 | 0.22379 | 0.02448 | 0.03253 | 0.00092 | 189 | 193 | 205 | 20 | 206 | 6 | -0.49% |
| B21T73-39 | 184 | 245 | 0.75 | 0.05003 | 0.00355 | 0.22192 | 0.01543 | 0.03216 | 0.00094 | 0.05003 | 0.00355 | 0.22192 | 0.01543 | 0.03216 | 0.00094 | 196 | 105 | 204 | 13 | 204 | 6 | 0.00% |
| B21T73-40 | 1664 | 992 | 1.68 | 0.05035 | 0.00218 | 0.23115 | 0.01002 | 0.03329 | 0.00083 | 0.05035 | 0.00218 | 0.23115 | 0.01002 | 0.03329 | 0.00083 | 211 | 56 | 211 | 8 | 211 | 5 | 0.00% |
| B21T73-41 | 172 | 313 | 0.55 | 0.04999 | 0.0048 | 0.23043 | 0.02195 | 0.03342 | 0.00093 | 0.04999 | 0.0048 | 0.23043 | 0.02195 | 0.03342 | 0.00093 | 195 | 163 | 211 | 18 | 212 | 6 | -0.47% |
| B21T76-01 | 68 | 131 | 0.52 | 0.05019 | 0.00712 | 0.21635 | 0.03003 | 0.03128 | 0.00123 | 0.05019 | 0.00712 | 0.21635 | 0.03003 | 0.03128 | 0.00123 | 204 | 235 | 199 | 25 | 199 | 8 | 0.00% |
| B21T76-02 | 30 | 95 | 0.32 | 0.0503 | 0.01013 | 0.23021 | 0.04537 | 0.03321 | 0.00165 | 0.0503 | 0.01013 | 0.23021 | 0.04537 | 0.03321 | 0.00165 | 209 | 310 | 210 | 37 | 211 | 10 | -0.47% |
| B21T76-03 | 256 | 260 | 0.99 | 0.05013 | 0.0065 | 0.22287 | 0.0287 | 0.03226 | 0.00097 | 0.05013 | 0.0065 | 0.22287 | 0.0287 | 0.03226 | 0.00097 | 201 | 234 | 204 | 24 | 205 | 6 | -0.49% |
| B21T76-04 | 121 | 200 | 0.6 | 0.05017 | 0.00601 | 0.21675 | 0.0257 | 0.03135 | 0.00099 | 0.05017 | 0.00601 | 0.21675 | 0.0257 | 0.03135 | 0.00099 | 203 | 208 | 199 | 21 | 199 | 6 | 0.00% |
| B21T76-05 | 55 | 114 | 0.48 | 0.05004 | 0.01309 | 0.21374 | 0.05553 | 0.031 | 0.00127 | 0.05004 | 0.01309 | 0.21374 | 0.05553 | 0.031 | 0.00127 | 197 | 404 | 197 | 46 | 197 | 8 | 0.00% |
| B21T76-06 | 331 | 463 | 0.71 | 0.05037 | 0.00496 | 0.22045 | 0.02169 | 0.03175 | 0.00084 | 0.05037 | 0.00496 | 0.22045 | 0.02169 | 0.03175 | 0.00084 | 212 | 173 | 202 | 18 | 201 | 5 | 0.50% |
| B21T76-07 | 408 | 513 | 0.8 | 0.05041 | 0.00381 | 0.22306 | 0.01682 | 0.0321 | 0.00084 | 0.05041 | 0.00381 | 0.22306 | 0.01682 | 0.0321 | 0.00084 | 214 | 123 | 204 | 14 | 204 | 5 | 0.00% |
| B21T76-08 | 475 | 552 | 0.86 | 0.04973 | 0.00241 | 0.22311 | 0.01085 | 0.03255 | 0.00084 | 0.04973 | 0.00241 | 0.22311 | 0.01085 | 0.03255 | 0.00084 | 182 | 66 | 204 | 9 | 206 | 5 | -0.97% |
| B21T76-09 | 80 | 233 | 0.34 | 0.0503 | 0.00467 | 0.22449 | 0.02065 | 0.03237 | 0.00094 | 0.0503 | 0.00467 | 0.22449 | 0.02065 | 0.03237 | 0.00094 | 209 | 153 | 206 | 17 | 205 | 6 | 0.49% |
| ~~B21T76-10~~ | ~~828~~ | ~~815~~ | ~~1.02~~ | ~~0.05337~~ | ~~0.00292~~ | ~~0.24064~~ | ~~0.01332~~ | ~~0.03271~~ | ~~0.00081~~ | ~~0.05337~~ | ~~0.00292~~ | ~~0.24064~~ | ~~0.01332~~ | ~~0.03271~~ | ~~0.00081~~ | ~~345~~ | ~~81~~ | ~~219~~ | ~~11~~ | ~~207~~ | ~~5~~ | ~~5.80%~~ |
| B21T76-11 | 53 | 112 | 0.48 | 0.05001 | 0.0068 | 0.21579 | 0.02876 | 0.0313 | 0.00121 | 0.05001 | 0.0068 | 0.21579 | 0.02876 | 0.0313 | 0.00121 | 195 | 228 | 198 | 24 | 199 | 8 | -0.50% |
| B21T76-12 | 148 | 209 | 0.71 | 0.05022 | 0.00448 | 0.23069 | 0.02036 | 0.03332 | 0.00099 | 0.05022 | 0.00448 | 0.23069 | 0.02036 | 0.03332 | 0.00099 | 205 | 144 | 211 | 17 | 211 | 6 | 0.00% |
| B21T76-13 | 127 | 222 | 0.57 | 0.05022 | 0.0037 | 0.22467 | 0.01629 | 0.03244 | 0.00097 | 0.05022 | 0.0037 | 0.22467 | 0.01629 | 0.03244 | 0.00097 | 205 | 111 | 206 | 14 | 206 | 6 | 0.00% |
| ~~B21T76-14~~ | ~~992~~ | ~~868~~ | ~~1.14~~ | ~~0.05213~~ | ~~0.00282~~ | ~~0.2336~~ | ~~0.0128~~ | ~~0.0325~~ | ~~0.00081~~ | ~~0.05213~~ | ~~0.00282~~ | ~~0.2336~~ | ~~0.0128~~ | ~~0.0325~~ | ~~0.00081~~ | ~~291~~ | ~~80~~ | ~~213~~ | ~~11~~ | ~~206~~ | ~~5~~ | ~~3.40%~~ |
| B21T76-15 | 105 | 170 | 0.62 | 0.05014 | 0.00457 | 0.22459 | 0.02013 | 0.03248 | 0.00103 | 0.05014 | 0.00457 | 0.22459 | 0.02013 | 0.03248 | 0.00103 | 201 | 144 | 206 | 17 | 206 | 6 | 0.00% |
| B21T76-16 | 90 | 153 | 0.59 | 0.05089 | 0.00823 | 0.23203 | 0.03733 | 0.03306 | 0.00107 | 0.05089 | 0.00823 | 0.23203 | 0.03733 | 0.03306 | 0.00107 | 236 | 283 | 212 | 31 | 210 | 7 | 0.95% |
| B21T76-17 | 478 | 580 | 0.82 | 0.05161 | 0.00355 | 0.23185 | 0.01605 | 0.03257 | 0.00084 | 0.05161 | 0.00355 | 0.23185 | 0.01605 | 0.03257 | 0.00084 | 268 | 111 | 212 | 13 | 207 | 5 | 2.42% |
| B21T76-18 | 275 | 360 | 0.76 | 0.05154 | 0.00574 | 0.22796 | 0.02535 | 0.03207 | 0.00089 | 0.05154 | 0.00574 | 0.22796 | 0.02535 | 0.03207 | 0.00089 | 265 | 199 | 209 | 21 | 203 | 6 | 2.96% |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B21T76-19 | 510 | 547 | 0.93 | 0.05002 | 0.00423 | 0.22873 | 0.01937 | 0.03315 | 0.00089 | 0.05002 | 0.00423 | 0.22873 | 0.01937 | 0.03315 | 0.00089 | 196 | 141 | 209 | 16 | 210 | 6 | -0.48% |
| ~~B21T76-20~~ | ~~198~~ | ~~223~~ | ~~0.89~~ | ~~0.05678~~ | ~~0.00401~~ | ~~0.26702~~ | ~~0.01858~~ | ~~0.0341~~ | ~~0.00103~~ | ~~0.05678~~ | ~~0.00401~~ | ~~0.26702~~ | ~~0.01858~~ | ~~0.0341~~ | ~~0.00103~~ | ~~483~~ | ~~101~~ | ~~240~~ | ~~15~~ | ~~216~~ | ~~6~~ | ~~11.11%~~ |
| B21T76-21 | 448 | 479 | 0.94 | 0.05041 | 0.00353 | 0.23433 | 0.01645 | 0.0337 | 0.00091 | 0.05041 | 0.00353 | 0.23433 | 0.01645 | 0.0337 | 0.00091 | 214 | 111 | 214 | 14 | 214 | 6 | 0.00% |
| B21T76-22 | 192 | 234 | 0.82 | 0.04992 | 0.00804 | 0.23227 | 0.03726 | 0.03374 | 0.00106 | 0.04992 | 0.00804 | 0.23227 | 0.03726 | 0.03374 | 0.00106 | 191 | 277 | 212 | 31 | 214 | 7 | -0.93% |
| B21T76-23 | 84 | 134 | 0.62 | 0.05022 | 0.0069 | 0.22603 | 0.03077 | 0.03263 | 0.00112 | 0.05022 | 0.0069 | 0.22603 | 0.03077 | 0.03263 | 0.00112 | 205 | 239 | 207 | 25 | 207 | 7 | 0.00% |
| B21T76-24 | 386 | 414 | 0.93 | 0.04996 | 0.00275 | 0.23282 | 0.01287 | 0.03378 | 0.00093 | 0.04996 | 0.00275 | 0.23282 | 0.01287 | 0.03378 | 0.00093 | 193 | 78 | 213 | 11 | 214 | 6 | -0.47% |
| B21T76-25 | 398 | 506 | 0.79 | 0.04994 | 0.00251 | 0.23038 | 0.01169 | 0.03345 | 0.0009 | 0.04994 | 0.00251 | 0.23038 | 0.01169 | 0.03345 | 0.0009 | 192 | 69 | 211 | 10 | 212 | 6 | -0.47% |
| B21T76-26 | 130 | 173 | 0.75 | 0.05028 | 0.00671 | 0.24114 | 0.03204 | 0.03477 | 0.00108 | 0.05028 | 0.00671 | 0.24114 | 0.03204 | 0.03477 | 0.00108 | 208 | 238 | 219 | 26 | 220 | 7 | -0.45% |
| B21T76-27 | 465 | 446 | 1.04 | 0.05129 | 0.00443 | 0.24492 | 0.02124 | 0.03462 | 0.00094 | 0.05129 | 0.00443 | 0.24492 | 0.02124 | 0.03462 | 0.00094 | 254 | 147 | 222 | 17 | 219 | 6 | 1.37% |
| B21T76-28 | 157 | 241 | 0.65 | 0.05009 | 0.00452 | 0.22934 | 0.0203 | 0.03319 | 0.00111 | 0.05009 | 0.00452 | 0.22934 | 0.0203 | 0.03319 | 0.00111 | 199 | 138 | 210 | 17 | 210 | 7 | 0.00% |
| B21T76-29 | 556 | 763 | 0.73 | 0.05028 | 0.00211 | 0.22998 | 0.00965 | 0.03317 | 0.00083 | 0.05028 | 0.00211 | 0.22998 | 0.00965 | 0.03317 | 0.00083 | 208 | 53 | 210 | 8 | 210 | 5 | 0.00% |
| B21T76-30 | 175 | 238 | 0.74 | 0.0505 | 0.00923 | 0.22015 | 0.03998 | 0.03161 | 0.00102 | 0.0505 | 0.00923 | 0.22015 | 0.03998 | 0.03161 | 0.00102 | 218 | 309 | 202 | 33 | 201 | 6 | 0.50% |
| B21T76-31 | 487 | 452 | 1.08 | 0.05048 | 0.00287 | 0.22404 | 0.01247 | 0.03218 | 0.00089 | 0.05048 | 0.00287 | 0.22404 | 0.01247 | 0.03218 | 0.00089 | 217 | 78 | 205 | 10 | 204 | 6 | 0.49% |
| B21T76-32 | 288 | 304 | 0.95 | 0.0499 | 0.00338 | 0.23232 | 0.0155 | 0.03376 | 0.00094 | 0.0499 | 0.00338 | 0.23232 | 0.0155 | 0.03376 | 0.00094 | 190 | 102 | 212 | 13 | 214 | 6 | -0.93% |
| B21T76-33 | 106 | 292 | 0.36 | 0.0502 | 0.00605 | 0.22527 | 0.02681 | 0.03253 | 0.00102 | 0.0502 | 0.00605 | 0.22527 | 0.02681 | 0.03253 | 0.00102 | 204 | 209 | 206 | 22 | 206 | 6 | 0.00% |
| B21T76-34 | 277 | 435 | 0.64 | 0.05014 | 0.0035 | 0.22912 | 0.0157 | 0.03313 | 0.00094 | 0.05014 | 0.0035 | 0.22912 | 0.0157 | 0.03313 | 0.00094 | 201 | 105 | 209 | 13 | 210 | 6 | -0.48% |
| B21T76-35 | 1274 | 1096 | 1.16 | 0.0501 | 0.0028 | 0.22147 | 0.01236 | 0.03205 | 0.00079 | 0.0501 | 0.0028 | 0.22147 | 0.01236 | 0.03205 | 0.00079 | 200 | 84 | 203 | 10 | 203 | 5 | 0.00% |
| B21T76-36 | 320 | 437 | 0.73 | 0.05053 | 0.00449 | 0.2206 | 0.01946 | 0.03165 | 0.00086 | 0.05053 | 0.00449 | 0.2206 | 0.01946 | 0.03165 | 0.00086 | 219 | 149 | 202 | 16 | 201 | 5 | 0.50% |
| B21T76-37 | 294 | 225 | 1.31 | 0.0502 | 0.00411 | 0.22038 | 0.01754 | 0.03183 | 0.001 | 0.0502 | 0.00411 | 0.22038 | 0.01754 | 0.03183 | 0.001 | 204 | 123 | 202 | 15 | 202 | 6 | 0.00% |

**Table S9 Zircon LA–ICP–MS U–Pb data of the magmatic rocks in the Zhonggang intraplate ocean island fragment in the BNSZ**

| Spots | isotope ratio（±1σ）（measured ratios） | | | | | | isotope ratio（±1σ）（corrected ratios） | | | | | | age（Ma±1σ） | | | | | | Discordance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | $^{207}Pb/^{206}Pb$ | | $^{207}Pb/^{235}U$ | | $^{206}Pb/^{238}U$ | | |
| | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | ratios | 1σ | age | ratio | age | 1σ | age | 1σ | |
| ZGT1-04 | 0.04953 | 0.00475 | 0.16247 | 0.01524 | 0.02375 | 0.00069 | 0.04953 | 0.00475 | 0.16247 | 0.01524 | 0.02375 | 0.00069 | 173 | 157 | 153 | 13 | 151 | 4 | 1.32% |
| ZGT1-08 | 0.04826 | 0.00164 | 0.15203 | 0.00506 | 0.02281 | 0.00048 | 0.04826 | 0.00164 | 0.15203 | 0.00506 | 0.02281 | 0.00048 | 112 | 41 | 144 | 4 | 145 | 3 | -0.69% |
| ZGT1-11 | 0.04783 | 0.01226 | 0.14353 | 0.03665 | 0.02175 | 0.00066 | 0.04783 | 0.01226 | 0.14353 | 0.03665 | 0.02175 | 0.00066 | 91 | 395 | 136 | 33 | 139 | 4 | -2.16% |
| ZGT1-01 | 0.0508 | 0.00966 | 0.16324 | 0.03089 | 0.0233 | 0.00075 | 0.0508 | 0.00966 | 0.16324 | 0.03089 | 0.0233 | 0.00075 | 232 | 325 | 154 | 27 | 148 | 5 | 4.05% |
| ZGT1-02 | 0.04952 | 0.01235 | 0.15398 | 0.03824 | 0.02255 | 0.0008 | 0.04952 | 0.01235 | 0.15398 | 0.03824 | 0.02255 | 0.0008 | 173 | 390 | 145 | 34 | 144 | 5 | 0.69% |
| ZGT1-04 | 0.05196 | 0.00712 | 0.15419 | 0.02095 | 0.02152 | 0.00069 | 0.05196 | 0.00712 | 0.15419 | 0.02095 | 0.02152 | 0.00069 | 284 | 247 | 146 | 18 | 137 | 4 | 6.57% |
| ZGT2-01 | 0.04732 | 0.00891 | 0.14418 | 0.02699 | 0.02209 | 0.00066 | 0.04732 | 0.00891 | 0.14418 | 0.02699 | 0.02209 | 0.00066 | 65 | 294 | 137 | 24 | 141 | 4 | -2.84% |
| ZGT2-02 | 0.05023 | 0.0057 | 0.15318 | 0.01713 | 0.0221 | 0.00063 | 0.05023 | 0.0057 | 0.15318 | 0.01713 | 0.0221 | 0.00063 | 206 | 198 | 145 | 15 | 141 | 4 | 2.84% |
| ZGT2-03 | 0.04626 | 0.00856 | 0.14391 | 0.02647 | 0.02255 | 0.00067 | 0.04626 | 0.00856 | 0.14391 | 0.02647 | 0.02255 | 0.00067 | 11 | 286 | 137 | 23 | 144 | 4 | -4.86% |
| ZGT2-07 | 0.04748 | 0.00468 | 0.14249 | 0.01393 | 0.02175 | 0.00055 | 0.04748 | 0.00468 | 0.14249 | 0.01393 | 0.02175 | 0.00055 | 73 | 169 | 135 | 12 | 139 | 3 | -2.88% |
| ZGT2-08 | 0.05093 | 0.00636 | 0.14495 | 0.01775 | 0.02063 | 0.00069 | 0.05093 | 0.00636 | 0.14495 | 0.01775 | 0.02063 | 0.00069 | 238 | 214 | 137 | 16 | 132 | 4 | 3.79% |
| ZGT2-02 | 0.04857 | 0.0057 | 0.14288 | 0.01669 | 0.02133 | 0.0006 | 0.04857 | 0.0057 | 0.14288 | 0.01669 | 0.02133 | 0.0006 | 127 | 209 | 136 | 15 | 136 | 4 | 0.00% |
| ZGT2-03 | 0.04805 | 0.00377 | 0.14681 | 0.01147 | 0.02216 | 0.00058 | 0.04805 | 0.00377 | 0.14681 | 0.01147 | 0.02216 | 0.00058 | 102 | 125 | 139 | 10 | 141 | 4 | -1.42% |
| ZGT3-07 | 0.04974 | 0.0059 | 0.15541 | 0.01816 | 0.02266 | 0.00073 | 0.04974 | 0.0059 | 0.15541 | 0.01816 | 0.02266 | 0.00073 | 183 | 203 | 147 | 16 | 144 | 5 | 2.08% |
| ZGT3-08 | 0.04917 | 0.00722 | 0.15098 | 0.02204 | 0.02227 | 0.00066 | 0.04917 | 0.00722 | 0.15098 | 0.02204 | 0.02227 | 0.00066 | 156 | 254 | 143 | 19 | 142 | 4 | 0.70% |
| ZGT3-09 | 0.04871 | 0.0046 | 0.1573 | 0.01454 | 0.02342 | 0.00074 | 0.04871 | 0.0046 | 0.1573 | 0.01454 | 0.02342 | 0.00074 | 134 | 148 | 148 | 13 | 149 | 5 | -0.67% |
| ZGT3-07 | 0.05069 | 0.01241 | 0.14602 | 0.03563 | 0.02089 | 0.00071 | 0.05069 | 0.01241 | 0.14602 | 0.03563 | 0.02089 | 0.00071 | 227 | 395 | 138 | 32 | 133 | 4 | 3.76% |
| ZGT3-10 | 0.05078 | 0.00604 | 0.15864 | 0.01876 | 0.02266 | 0.00065 | 0.05078 | 0.00604 | 0.15864 | 0.01876 | 0.02266 | 0.00065 | 231 | 213 | 150 | 16 | 144 | 4 | 4.17% |
| ZGT3-14 | 0.04628 | 0.00667 | 0.14702 | 0.02112 | 0.02304 | 0.00065 | 0.04628 | 0.00667 | 0.14702 | 0.02112 | 0.02304 | 0.00065 | 12 | 236 | 139 | 19 | 147 | 4 | -5.44% |

**Table S10 Sphene LA–ICP–MS U–Pb data of the magmatic rocks in the Zhonggang intraplate ocean island fragment in the BNSZ**

| Spots | Th | U | 207Pb/206Pb **ratios** | 207Pb/206Pb **1σ** | 207Pb/235U **ratios** | 207Pb/235U **1σ** | 206Pb/238U **ratios** | 206Pb/238U **1σ** | 207Pb/206Pb Age (Ma) | 207Pb/206Pb **1σ** | 207Pb/235U Age (Ma) | 207Pb/235U **1σ** | 206Pb/238U Age (Ma) | 206Pb/238U **1σ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B22T14-01 | 0.11 | 14.0 | 0.5930 | 0.0372 | 12.1795 | 1.1088 | 0.1479 | 0.0098 | 4491 | 91.33 | 2618 | 85.4 | 889 | 54.8 |
| B22T14-02 | 112 | 24.9 | 0.3258 | 0.0299 | 2.1870 | 0.1911 | 0.0522 | 0.0027 | 3597 | 141.4 | 1177 | 60.9 | 328 | 16.8 |
| B22T14-03 | 0.022 | 10.3 | 0.2908 | 0.0734 | 1.5140 | 0.1724 | 0.0310 | 0.0028 | 3422 | 403 | 936 | 69.6 | 197 | 17.3 |
| B22T14-04 | 0.066 | 11.1 | 0.2298 | 0.0443 | 1.0100 | 0.0810 | 0.0284 | 0.0017 | 3050 | 314 | 709 | 40.9 | 180 | 10.9 |
| B22T14-05 | 0.042 | 27.4 | 0.2728 | 0.0277 | 1.2409 | 0.0903 | 0.0325 | 0.0013 | 3322 | 160 | 819 | 40.9 | 206 | 8.2 |
| B22T14-06 | 0.076 | 11.1 | 0.3060 | 0.0730 | 1.7939 | 0.2371 | 0.0338 | 0.0030 | 3501 | 378 | 1043 | 86.2 | 214 | 18.6 |
| B22T14-07 | 0.66 | 12.9 | 0.1961 | 0.0266 | 1.2660 | 0.1145 | 0.0340 | 0.0017 | 2794 | 223 | 831 | 51.3 | 216 | 10.5 |
| B22T14-08 | 112 | 24.2 | 0.2999 | 0.0267 | 1.6649 | 0.1152 | 0.0441 | 0.0014 | 3469 | 138 | 995 | 43.9 | 278 | 8.6 |
| B22T14-09 | 0.10 | 5.35 | 0.3179 | 0.0582 | 3.9147 | 0.4486 | 0.0507 | 0.0032 | 3560 | 285 | 1617 | 92.7 | 319 | 19.4 |
| B22T14-10 | 0.049 | 5.16 | 0.3130 | 0.0529 | 3.1597 | 0.3018 | 0.0427 | 0.0027 | 3536 | 264 | 1447 | 73.7 | 269 | 16.5 |
| B22T14-11 | 0.063 | 5.63 | 0.4312 | 0.0657 | 4.8938 | 0.5333 | 0.0469 | 0.0040 | 4022 | 230 | 1801 | 91.9 | 296 | 24.6 |
| B22T14-12 | 0.092 | 8.93 | 0.4314 | 0.0559 | 3.1940 | 0.2278 | 0.0659 | 0.0032 | 4033 | 195 | 1456 | 55.2 | 412 | 19.5 |

**Table S11 Bulk-rock Sr–Nd isotopic composition of the magmatic rocks in the intraplate ocean island fragments in the BNSZ**

| | Sample | Lithology | Reference | Age (Ma) | Rb | Sr | $^{87}Sr/^{86}Sr$ | 2σ | $^{87}Rb/^{86}Sr$ | $(^{87}Sr/^{86}Sr)i$ | Sm | Nd | $^{143}Nd/^{144}Nd$ | 2σ | $^{147}Sm/^{144}Nd$ | $(^{143}Nd/^{144}Nd)i$ | $\varepsilon_{Nd}(t)$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nare ocean island fragment | CT13T1H2 | Trachyte | This study | 245 | 135.72 | 27.46 | 0.705599 | 0.000007 | 14.29771336 | 0.656788902 | 17.91 | 94.14 | 0.512828 | 0.000006 | 0.114605626 | 0.512648081 | 6.23 |
| | Z15T1H1 | Trachyte | This study | 245 | 46.42 | 27.74 | 0.706104 | 0.000008 | 4.83997802 | 0.689581468 | 12.43 | 69.74 | 0.512820 | 0.000005 | 0.107365107 | 0.512651204 | 6.29 |
| | Z15T1H4 | Trachyte | This study | 245 | 86.79 | 21.30 | 0.741778 | 0.000009 | 11.83106277 | 0.701389221 | 14.60 | 76.44 | 0.512695 | 0.000005 | 0.115064777 | 0.512513775 | 3.61 |
| | B21T61h5 | Trachyte | This study | 245 | 143.8 | 31.61 | 0.736773 | 0.000008 | 13.20019607 | 0.69076936 | 16.72 | 85.86 | 0.512718 | 0.000004 | 0.117305568 | 0.512529974 | 4.05 |
| | B21T61h6 | Trachyte | This study | 245 | 100.3 | 29.15 | 0.729015 | 0.000007 | 9.976531666 | 0.694246398 | 15.95 | 82.33 | 0.512713 | 0.000005 | 0.11670119 | 0.512525845 | 3.97 |
| | B21T61h8 | Trachyte | This study | 245 | 75.39 | 24.41 | 0.728514 | 0.000007 | 8.954512049 | 0.697306997 | 17.06 | 90.71 | 0.512715 | 0.000004 | 0.113291352 | 0.512533113 | 4.11 |
| Maqiaco ocean island fragment | ShT42H1 | Trachyte | This study | 205 | 22.71 | 174.70 | 0.705220 | 0.000007 | 0.376038 | 0.704124 | 11.69 | 57.42 | 0.512719 | 0.000006 | 0.122637889 | 0.512554576 | 3.52 |
| | B19T27H2 | Trachyandesite | This study | 205 | 19.85 | 429.24 | 0.705299 | 0.000007 | 0.133785 | 0.704909 | 14.21 | 72.32 | 0.512732 | 0.000005 | 0.118319973 | 0.512573019 | 3.88 |
| | B19T30H2 | Phonolite | This study | 205 | 29.76 | 182.34 | 0.707062 | 0.000007 | 0.472174 | 0.705686 | 21.03 | 141.86 | 0.512765 | 0.000006 | 0.089285945 | 0.512645712 | 5.30 |
| | B21T28h4 | Basalt | This study | 205 | 3.041 | 658.9 | 0.703741 | 0.000008 | 0.013349 | 0.703702 | 5.043 | 19.86 | 0.512902 | 0.000004 | 0.152968454 | 0.512696887 | 6.30 |
| | B21T28h5 | Basalt | This study | 205 | 3.707 | 364.2 | 0.703854 | 0.000007 | 0.029440 | 0.703768 | 5.235 | 20.45 | 0.512908 | 0.000004 | 0.154211281 | 0.512701249 | 6.38 |
| | B21T28h6 | Basalt | This study | 205 | 2.189 | 601.2 | 0.703765 | 0.000009 | 0.010531 | 0.703734 | 5.256 | 21.05 | 0.512915 | 0.000005 | 0.150416947 | 0.51271356 | 6.63 |
| Tarenben ocean island fragment | B21T68h1 | Basalt | This study | 209 | 11.41 | 373.3 | 0.705286 | 0.000006 | 0.088417 | 0.705023 | 3.335 | 12.68 | 0.512893 | 0.000004 | 0.158441096 | 0.512676656 | 6.01 |
| | B21T69h1 | Basalt | This study | 209 | 9.114 | 439.1 | 0.705163 | 0.000006 | 0.060041 | 0.704985 | 3.975 | 15.65 | 0.512803 | 0.000004 | 0.1530047 | 0.51259386 | 4.39 |
| | B21T70h2 | Basalt | This study | 209 | 3.868 | 300.2 | 0.704880 | 0.000005 | 0.037271 | 0.704770 | 3.768 | 14.03 | 0.512879 | 0.000004 | 0.161786754 | 0.512657329 | 5.63 |
| | B21T72h2 | Trachyte | This study | 209 | 1.385 | 197.8 | 0.704919 | 0.000008 | 0.020254 | 0.704859 | 13.46 | 77.81 | 0.512803 | 0.000004 | 0.104205731 | 0.512660412 | 5.69 |
| | B21T73h1 | Trachyandesite | This study | 209 | 1.963 | 487.2 | 0.704161 | 0.000007 | 0.011654 | 0.704127 | 12.92 | 64.66 | 0.512820 | 0.000004 | 0.12036787 | 0.512655831 | 5.60 |
| | B21T76h2 | Basalt | This study | 209 | 50.27 | 1160 | 0.704549 | 0.000007 | 0.125352 | 0.704177 | 12.74 | 62.73 | 0.512811 | 0.000004 | 0.122342381 | 0.51264367 | 5.36 |
| | B21T77h2 | Basalt | This study | 209 | 34.45 | 373.2 | 0.705372 | 0.000008 | 0.267031 | 0.704579 | 11.48 | 59.25 | 0.512800 | 0.000004 | 0.116717278 | 0.512639974 | 5.29 |
| Gufeng ocean island fragment | DT13T6h8 | Trachyandesite | This study | 215 | 13.136 | 324.6 | 0.707498 | 0.000006 | 0.117090 | 0.707140 | 6.064 | 26.94 | 0.512838 | 0.000005 | 0.135596094 | 0.512647351 | 5.58 |
| | DT13T6h9 | Trachyandesite | This study | 215 | 21.98 | 310 | 0.707572 | 0.000006 | 0.205151 | 0.706945 | 6.962 | 32.04 | 0.512839 | 0.000004 | 0.130896227 | 0.512654334 | 5.72 |
| | DT13T6h10 | Trachyandesite | This study | 215 | 15.864 | 350.6 | 0.707425 | 0.000007 | 0.130919 | 0.707025 | 6.956 | 32.36 | 0.512834 | 0.000003 | 0.129489998 | 0.512651913 | 5.67 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D18T22 | Trachyandesite | Fan et al., 2021 | 140 | 1.50 | 299 | 0.704043 | 0.000038 | 0.0145 | 0.704014 | 18.0 | 78.8 | 0.512813 | 0.000005 | 0.1377 | 0.512686 | 4.46 |
| | Oz4H2 | basalt | Fan et al., 2021 | 140 | 22.2 | 480 | 0.705694 | 0.000003 | 0.1336 | 0.705428 | 8.58 | 38.0 | 0.512781 | 0.000005 | 0.1359 | 0.512657 | 3.88 |
| | Oz2H1 | basalt | Fan et al., 2021 | 140 | 9.69 | 255 | 0.705568 | 0.000004 | 0.1098 | 0.705349 | 5.27 | 21.0 | 0.512796 | 0.000005 | 0.1511 | 0.512658 | 3.91 |
| | DC13T1H3 | basalt | Fan et al., 2021 | 140 | 38.3 | 1279 | 0.704459 | 0.000004 | 0.0865 | 0.704286 | 10.1 | 45.2 | 0.512804 | 0.000004 | 0.1347 | 0.512681 | 4.35 |
| | DC13T1H9 | Trachyandesite | Fan et al., 2021 | 140 | 37 | 490 | 0.704803 | 0.000003 | 0.2186 | 0.704367 | 15.1 | 73.5 | 0.512810 | 0.000005 | 0.1241 | 0.512697 | 4.66 |
| | DC13T1H14 | basalt | Fan et al., 2021 | 140 | 9.95 | 271 | 0.704472 | 0.000004 | 0.1063 | 0.704260 | 8.99 | 44.4 | 0.512828 | 0.000005 | 0.1219 | 0.512716 | 5.04 |
| Zhonggang ocean island fragment | 11 DC-25 | basalt | Wang et al., 2016 | 140 | 61.4 | 355 | 0.705266 | 0.000004 | 0.5003 | 0.704270 | 8.04 | 39.2 | 0.512825 | 0.000005 | 0.1236 | 0.512712 | 4.96 |
| | 11 DC-26 | basalt | Wang et al., 2016 | 140 | 10.2 | 403 | 0.704246 | 0.000005 | 0.0732 | 0.704100 | 8.03 | 39.7 | 0.512831 | 0.000006 | 0.1218 | 0.512719 | 5.10 |
| | 11 DC-27 | basalt | Wang et al., 2016 | 140 | 29.4 | 571 | 0.704604 | 0.000004 | 0.1489 | 0.704308 | 8.43 | 41.4 | 0.512805 | 0.000005 | 0.1227 | 0.512693 | 4.58 |
| | 11 DC-28 | basalt | Wang et al., 2016 | 140 | 57.6 | 417 | 0.705626 | 0.000004 | 0.3996 | 0.704831 | 11.6 | 62.4 | 0.512830 | 0.000006 | 0.1120 | 0.512727 | 5.26 |
| | 11 DC-30 | basalt | Wang et al., 2016 | 140 | 1.26 | 221 | 0.704025 | 0.000005 | 0.0165 | 0.703992 | 8.69 | 41.2 | 0.512875 | 0.000007 | 0.1271 | 0.512759 | 5.87 |
| | 11 DC-40 | basalt | Wang et al., 2016 | 140 | 44.5 | 81.5 | 0.707281 | 0.000004 | 1.5798 | 0.704137 | 4.98 | 20.8 | 0.512897 | 0.000008 | 0.1442 | 0.512765 | 5.99 |
| | 11 DC-41 | basalt | Wang et al., 2016 | 140 | 23.1 | 181 | 0.705409 | 0.000004 | 0.3692 | 0.704674 | 6.99 | 29.7 | 0.512861 | 0.000005 | 0.1418 | 0.512731 | 5.33 |
| | 11 DC-42 | basalt | Wang et al., 2016 | 140 | 15.6 | 155 | 0.705058 | 0.000003 | 0.2911 | 0.704479 | 6.85 | 29.7 | 0.512854 | 0.000005 | 0.1389 | 0.512727 | 5.25 |
| | 11 DC-43 | basalt | Wang et al., 2016 | 140 | 39.4 | 258 | 0.705618 | 0.000004 | 0.4418 | 0.704739 | 7.98 | 34.5 | 0.512851 | 0.000004 | 0.1393 | 0.512723 | 5.18 |
| | 11 DC-44 | basalt | Wang et al., 2016 | 140 | 14.2 | 154 | 0.705062 | 0.000004 | 0.2667 | 0.704531 | 6.75 | 28.2 | 0.512866 | 0.000005 | 0.1442 | 0.512734 | 5.39 |

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