Table 4-5 Zircon Hf isotope data for some early Paleozoic TTGs in the Yunkai domain

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **spot** | **t/Ma** | **2σ** | **176Yb/177Hf** | **176Lu/177Hf** | **176Hf/177Hf** | **2σ** | **εHf(0)** | **2σ** | **εHf(t)** | **2σ** | **TDM2/Ma** | **fLu/Hf** |
| GDX03 | | | | | |  |  |  |  |  |  |  |
| 01 | 444.6 | 2.4 | 0.01982 | 0.000721 | 0.282641 | 0.000015 | -4.63 | 0.52 | 4.95 | 0.53 | 1108 | -0.98 |
| 02 | 244.2 | 2.5 | 0.02202 | 0.000775 | 0.282708 | 0.000018 | -2.25 | 0.65 | 3.00 | 0.66 | 1079 | -0.98 |
| 03 | 244.2 | 2.5 | 0.02937 | 0.001015 | 0.282713 | 0.000016 | -2.09 | 0.58 | 3.11 | 0.59 | 1071 | -0.97 |
| 04 | 444.6 | 2.4 | 0.01088 | 0.000468 | 0.282568 | 0.000020 | -7.22 | 0.71 | 2.44 | 0.71 | 1268 | -0.99 |
| 05 | 244.2 | 2.5 | 0.04428 | 0.001633 | 0.282632 | 0.000018 | -4.94 | 0.63 | 0.16 | 0.64 | 1258 | -0.95 |
| 06 | 444.6 | 2.4 | 0.04098 | 0.001354 | 0.282578 | 0.000019 | -6.85 | 0.66 | 2.54 | 0.67 | 1261 | -0.96 |
| 07 | 444.6 | 2.4 | 0.03197 | 0.001018 | 0.282584 | 0.000019 | -6.66 | 0.67 | 2.83 | 0.68 | 1243 | -0.97 |
| 08 | 444.6 | 2.4 | 0.01460 | 0.000574 | 0.282586 | 0.000017 | -6.59 | 0.60 | 3.03 | 0.61 | 1230 | -0.98 |
| 09 | 444.6 | 2.4 | 0.04414 | 0.001366 | 0.282559 | 0.000018 | -7.55 | 0.64 | 1.84 | 0.65 | 1305 | -0.96 |
| 10 | 444.6 | 2.4 | 0.03932 | 0.001183 | 0.282519 | 0.000020 | -8.96 | 0.70 | 0.47 | 0.71 | 1391 | -0.96 |
| 11 | 444.6 | 2.4 | 0.02596 | 0.000869 | 0.282612 | 0.000020 | -5.66 | 0.71 | 3.88 | 0.72 | 1176 | -0.97 |
| 12 | 444.6 | 2.4 | 0.00824 | 0.000330 | 0.282505 | 0.000015 | -9.44 | 0.51 | 0.25 | 0.53 | 1405 | -0.99 |
| 13 | 444.6 | 2.4 | 0.03116 | 0.001006 | 0.282582 | 0.000021 | -6.72 | 0.73 | 2.77 | 0.73 | 1246 | -0.97 |
| 14 | 444.6 | 2.4 | 0.02489 | 0.000748 | 0.282603 | 0.000018 | -5.99 | 0.65 | 3.58 | 0.66 | 1195 | -0.98 |
| 15 | 444.6 | 2.4 | 0.06481 | 0.001794 | 0.282609 | 0.000023 | -5.75 | 0.80 | 3.51 | 0.81 | 1199 | -0.95 |
| 16 | 244.2 | 2.5 | 0.02108 | 0.000760 | 0.282702 | 0.000012 | -2.49 | 0.44 | 2.76 | 0.45 | 1094 | -0.98 |
| 17 | 444.6 | 2.4 | 0.03782 | 0.001179 | 0.282609 | 0.000023 | -5.75 | 0.82 | 3.69 | 0.83 | 1188 | -0.96 |
| 18 | 244.2 | 2.5 | 0.03481 | 0.001218 | 0.282687 | 0.000017 | -3.00 | 0.60 | 2.17 | 0.61 | 1131 | -0.96 |
| GDX09 | | | | |  |  |  |  |  |  |  |  |
| 01 | 443.4 | 2.4 | 0.03972 | 0.001178 | 0.282601 | 0.000019 | -6.04 | 0.66 | 3.38 | 0.67 | 1207 | -0.96 |
| 02 | 443.4 | 2.4 | 0.07716 | 0.002137 | 0.282706 | 0.000025 | -2.32 | 0.90 | 6.82 | 0.90 | 989 | -0.94 |
| 03 | 443.4 | 2.4 | 0.06890 | 0.002053 | 0.282686 | 0.000022 | -3.05 | 0.79 | 6.11 | 0.79 | 1034 | -0.94 |
| 04 | 443.4 | 2.4 | 0.07355 | 0.002196 | 0.282727 | 0.000029 | -1.60 | 1.03 | 7.53 | 1.03 | 944 | -0.93 |
| 05 | 443.4 | 2.4 | 0.09159 | 0.002719 | 0.282521 | 0.000022 | -8.87 | 0.78 | 0.09 | 0.79 | 1415 | -0.92 |
| 06 | 443.4 | 2.4 | 0.03776 | 0.001205 | 0.282597 | 0.000019 | -6.19 | 0.68 | 3.22 | 0.68 | 1217 | -0.96 |
| 07 | 443.4 | 2.4 | 0.09050 | 0.002609 | 0.282570 | 0.000026 | -7.16 | 0.91 | 1.84 | 0.92 | 1304 | -0.92 |
| 08 | 443.4 | 2.4 | 0.02918 | 0.000974 | 0.282607 | 0.000022 | -5.83 | 0.77 | 3.64 | 0.78 | 1190 | -0.97 |
| 09 | 443.4 | 2.4 | 0.05410 | 0.001616 | 0.282710 | 0.000021 | -2.19 | 0.73 | 7.10 | 0.74 | 971 | -0.95 |
| 10 | 443.4 | 2.4 | 0.04940 | 0.001513 | 0.282664 | 0.000021 | -3.81 | 0.76 | 5.52 | 0.76 | 1072 | -0.95 |
| 11 | 443.4 | 2.4 | 0.04996 | 0.001537 | 0.282695 | 0.000023 | -2.71 | 0.80 | 6.60 | 0.80 | 1003 | -0.95 |
| 12 | 443.4 | 2.4 | 0.09098 | 0.002738 | 0.282628 | 0.000022 | -5.10 | 0.79 | 3.86 | 0.79 | 1176 | -0.92 |
| 13 | 443.4 | 2.4 | 0.05225 | 0.001496 | 0.282580 | 0.000020 | -6.78 | 0.71 | 2.55 | 0.72 | 1260 | -0.95 |
| 14 | 443.4 | 2.4 | 0.02026 | 0.000594 | 0.282589 | 0.000018 | -6.46 | 0.63 | 3.13 | 0.64 | 1223 | -0.98 |
| GD21-1 | | | | |  |  |  |  |  |  |  |  |
| 01 | 440.5 | 2.9 | 0.07975 | 0.002085 | 0.282350 | 0.000022 | -14.93 | 0.79 | -5.85 | 0.80 | 1787 | -0.94 |
| 02 | 440.5 | 2.9 | 0.05492 | 0.001343 | 0.282389 | 0.000024 | -13.56 | 0.86 | -4.26 | 0.87 | 1686 | -0.96 |
| 03 | 440.5 | 2.9 | 0.05205 | 0.001426 | 0.282403 | 0.000022 | -13.05 | 0.78 | -3.77 | 0.79 | 1656 | -0.96 |
| 04 | 440.5 | 2.9 | 0.03093 | 0.000938 | 0.282421 | 0.000019 | -12.42 | 0.67 | -3.00 | 0.69 | 1608 | -0.97 |
| 05 | 440.5 | 2.9 | 0.05677 | 0.001694 | 0.282404 | 0.000030 | -13.02 | 1.05 | -3.82 | 1.06 | 1659 | -0.95 |

Table 4-5(Continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **spot** | **t/Ma** | **2σ** | **176Yb/177Hf** | **176Lu/177Hf** | **176Hf/177Hf** | **2σ** | **εHf(0)** | **2σ** | **εHf(t)** | **2σ** | **TDM2/Ma** | **fLu/Hf** |
| GD21-1 | | | | | |  |  |  |  |  |  |  |
| 06 | 440.5 | 2.9 | 0.04549 | 0.001309 | 0.282386 | 0.000024 | -13.63 | 0.85 | -4.32 | 0.86 | 1691 | -0.96 |
| 07 | 440.5 | 2.9 | 0.07769 | 0.002150 | 0.282632 | 0.000029 | -4.95 | 1.01 | 4.12 | 1.02 | 1158 | -0.94 |
| 08 | 440.5 | 2.9 | 0.06777 | 0.002025 | 0.282322 | 0.000032 | -15.90 | 1.15 | -6.80 | 1.15 | 1847 | -0.94 |
| 09 | 440.5 | 2.9 | 0.05504 | 0.001549 | 0.282502 | 0.000023 | -9.53 | 0.81 | -0.29 | 0.82 | 1437 | -0.95 |
| 10 | 440.5 | 2.9 | 0.05127 | 0.001510 | 0.282350 | 0.000025 | -14.91 | 0.88 | -5.66 | 0.89 | 1775 | -0.95 |
| 11 | 440.5 | 2.9 | 0.04520 | 0.001291 | 0.282515 | 0.000022 | -9.08 | 0.79 | 0.24 | 0.80 | 1403 | -0.96 |
| 12 | 440.5 | 2.9 | 0.04811 | 0.001359 | 0.282448 | 0.000022 | -11.47 | 0.76 | -2.18 | 0.77 | 1556 | -0.96 |
| GD018-2 | | | | | |  |  |  |  |  |  |  |
| 01 | 447.8 | 3 | 0.06050 | 0.001801 | 0.282473 | 0.000020 | -10.56 | 0.71 | -1.24 | 0.72 | 1502 | -0.95 |
| 02 | 447.8 | 3 | 0.05295 | 0.001647 | 0.282461 | 0.000018 | -11.01 | 0.62 | -1.65 | 0.64 | 1528 | -0.95 |
| 03 | 511 | 7 | 0.00883 | 0.000280 | 0.282439 | 0.000017 | -11.78 | 0.61 | -0.62 | 0.69 | 1511 | -0.99 |
| 04 | 447.8 | 3 | 0.05715 | 0.001642 | 0.282584 | 0.000021 | -6.66 | 0.74 | 2.72 | 0.75 | 1252 | -0.95 |
| 05 | 447.8 | 3 | 0.03562 | 0.001073 | 0.282579 | 0.000019 | -6.82 | 0.69 | 2.73 | 0.70 | 1252 | -0.97 |
| 06 | 447.8 | 3 | 0.01856 | 0.000589 | 0.281592 | 0.000019 | -41.74 | 0.66 | -32.09 | 0.67 | 3426 | -0.98 |
| 07 | 447.8 | 3 | 0.05713 | 0.001661 | 0.282591 | 0.000020 | -6.40 | 0.70 | 2.96 | 0.71 | 1237 | -0.95 |
| 08 | 483 | 8 | 0.05999 | 0.001746 | 0.282486 | 0.000020 | -10.12 | 0.70 | -0.04 | 0.78 | 1453 | -0.95 |
| 09 | 447.8 | 3 | 0.05599 | 0.001627 | 0.282488 | 0.000018 | -10.03 | 0.65 | -0.66 | 0.66 | 1465 | -0.95 |
| 10 | 447.8 | 3 | 0.06040 | 0.001918 | 0.282673 | 0.000024 | -3.51 | 0.84 | 5.78 | 0.85 | 1058 | -0.94 |
| 11 | 935 | 15 | 0.03176 | 0.001012 | 0.282520 | 0.000019 | -8.92 | 0.66 | 11.14 | 0.93 | 1096 | -0.97 |
| 12 | 447.8 | 3 | 0.09167 | 0.002756 | 0.282441 | 0.000023 | -11.70 | 0.81 | -2.66 | 0.82 | 1591 | -0.92 |
| 13 | 447.8 | 3 | 0.04567 | 0.001391 | 0.282594 | 0.000019 | -6.30 | 0.67 | 3.14 | 0.68 | 1225 | -0.96 |
| 14 | 535 | 9 | 0.06593 | 0.001898 | 0.282508 | 0.000019 | -9.32 | 0.66 | 1.79 | 0.76 | 1377 | -0.94 |
| 15 | 521 | 12 | 0.04608 | 0.001387 | 0.282515 | 0.000018 | -9.08 | 0.63 | 1.92 | 0.81 | 1359 | -0.96 |
| 16 | 447.8 | 3 | 0.03729 | 0.001061 | 0.281967 | 0.000032 | -28.46 | 1.13 | -18.94 | 1.14 | 2611 | -0.97 |
| 17 | 447.8 | 3 | 0.03210 | 0.000976 | 0.282084 | 0.000020 | -24.32 | 0.72 | -14.77 | 0.73 | 2351 | -0.97 |
| GD16-1 | | | | | |  |  |  |  |  |  |  |
| 01 | 442.2 | 2.5 | 0.03797 | 0.001086 | 0.282561 | 0.000024 | -7.48 | 0.85 | 1.94 | 0.85 | 1297 | -0.97 |
| 02 | 442.2 | 2.5 | 0.05393 | 0.001466 | 0.282477 | 0.000022 | -10.42 | 0.77 | -1.12 | 0.78 | 1490 | -0.96 |
| 03 | 442.2 | 2.5 | 0.04702 | 0.001282 | 0.282263 | 0.000019 | -18.02 | 0.68 | -8.67 | 0.69 | 1965 | -0.96 |
| 04 | 442.2 | 2.5 | 0.03491 | 0.001058 | 0.282572 | 0.000022 | -7.06 | 0.79 | 2.37 | 0.80 | 1270 | -0.97 |
| 05 | 442.2 | 2.5 | 0.05614 | 0.001627 | 0.282598 | 0.000027 | -6.14 | 0.96 | 3.12 | 0.97 | 1223 | -0.95 |
| 06 | 442.2 | 2.5 | 0.09454 | 0.002523 | 0.282469 | 0.000026 | -10.72 | 0.90 | -1.73 | 0.91 | 1529 | -0.92 |
| 07 | 442.2 | 2.5 | 0.16207 | 0.004693 | 0.282572 | 0.000033 | -7.08 | 1.17 | 1.28 | 1.17 | 1338 | -0.86 |
| 08 | 442.2 | 2.5 | 0.04931 | 0.001548 | 0.282476 | 0.000026 | -10.47 | 0.91 | -1.19 | 0.92 | 1495 | -0.95 |
| 09 | 442.2 | 2.5 | 0.05295 | 0.001658 | 0.282547 | 0.000029 | -7.96 | 1.02 | 1.29 | 1.03 | 1338 | -0.95 |
| 10 | 442.2 | 2.5 | 0.05751 | 0.001725 | 0.282501 | 0.000023 | -9.58 | 0.80 | -0.35 | 0.80 | 1442 | -0.95 |
| 11 | 442.2 | 2.5 | 0.06252 | 0.001945 | 0.282527 | 0.000026 | -8.68 | 0.92 | 0.48 | 0.93 | 1389 | -0.94 |
| 12 | 442.2 | 2.5 | 0.04698 | 0.001426 | 0.282659 | 0.000026 | -3.99 | 0.92 | 5.33 | 0.93 | 1082 | -0.96 |

Table 4-5(Continued).

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **spot** | **t/Ma** | **2σ** | **176Yb/177Hf** | **176Lu/177Hf** | **176Hf/177Hf** | **2σ** | **εHf(0)** | **2σ** | **εHf(t)** | **2σ** | **TDM2/Ma** | **fLu/Hf** |
| GDX10-1 | | | | | |  |  |  |  |  |  |  |
| 01 | 451.4 | 2.9 | 0.05450 | 0.001704 | 0.282533 | 0.000025 | -8.44 | 0.89 | 0.99 | 0.90 | 1364 | -0.95 |
| 02 | 451.4 | 2.9 | 0.05132 | 0.001638 | 0.282488 | 0.000022 | -10.04 | 0.78 | -0.60 | 0.79 | 1464 | -0.95 |
| 03 | 451.4 | 2.9 | 0.07165 | 0.002214 | 0.282532 | 0.000024 | -8.47 | 0.85 | 0.80 | 0.86 | 1376 | -0.93 |
| 04 | 451.4 | 2.9 | 0.05758 | 0.001662 | 0.282491 | 0.000019 | -9.95 | 0.69 | -0.51 | 0.70 | 1459 | -0.95 |
| 05 | 451.4 | 2.9 | 0.05692 | 0.001658 | 0.282579 | 0.000019 | -6.82 | 0.67 | 2.62 | 0.68 | 1261 | -0.95 |
| 06 | 451.4 | 2.9 | 0.03737 | 0.001068 | 0.282567 | 0.000017 | -7.26 | 0.61 | 2.36 | 0.62 | 1277 | -0.97 |
| 07 | 451.4 | 2.9 | 0.05012 | 0.001507 | 0.282540 | 0.000023 | -8.20 | 0.82 | 1.28 | 0.83 | 1346 | -0.95 |
| 08 | 451.4 | 2.9 | 0.04815 | 0.001460 | 0.282484 | 0.000018 | -10.18 | 0.64 | -0.68 | 0.65 | 1470 | -0.96 |
| 09 | 451.4 | 2.9 | 0.04405 | 0.001354 | 0.282577 | 0.000020 | -6.88 | 0.72 | 2.65 | 0.73 | 1259 | -0.96 |
| 10 | 451.4 | 2.9 | 0.02893 | 0.000940 | 0.282513 | 0.000019 | -9.14 | 0.67 | 0.51 | 0.68 | 1394 | -0.97 |
| 11 | 451.4 | 2.9 | 0.06264 | 0.001881 | 0.282538 | 0.000019 | -8.26 | 0.69 | 1.12 | 0.70 | 1356 | -0.94 |
| 12 | 451.4 | 2.9 | 0.04544 | 0.001384 | 0.282522 | 0.000018 | -8.83 | 0.65 | 0.69 | 0.66 | 1383 | -0.96 |
| 13 | 451.4 | 2.9 | 0.04585 | 0.001434 | 0.282491 | 0.000017 | -9.93 | 0.61 | -0.42 | 0.62 | 1453 | -0.96 |
| 14 | 451.4 | 2.9 | 0.05123 | 0.001529 | 0.282539 | 0.000021 | -8.24 | 0.73 | 1.24 | 0.74 | 1349 | -0.95 |
| 15 | 451.4 | 2.9 | 0.05295 | 0.001652 | 0.282592 | 0.000020 | -6.37 | 0.69 | 3.07 | 0.70 | 1232 | -0.95 |
| 16 | 509 | 8 | 0.03054 | 0.000948 | 0.282288 | 0.000019 | -17.13 | 0.67 | -6.25 | 0.76 | 1864 | -0.97 |
| GD11-4 | | | | | | |  |  |  |  |  |  |
| 01 | 446 | 2.6 | 0.03032 | 0.000873 | 0.282375 | 0.000021 | -14.05 | 0.76 | -4.49 | 0.76 | 1706 | -0.97 |
| 02 | 446 | 2.6 | 0.03538 | 0.001046 | 0.282295 | 0.000020 | -16.88 | 0.70 | -7.38 | 0.71 | 1887 | -0.97 |
| 03 | 446 | 2.6 | 0.03223 | 0.001078 | 0.282371 | 0.000017 | -14.20 | 0.61 | -4.70 | 0.62 | 1719 | -0.97 |
| 04 | 535 | 8 | 0.03068 | 0.000913 | 0.282292 | 0.000018 | -16.97 | 0.63 | -5.51 | 0.72 | 1837 | -0.97 |
| 05 | 446 | 2.6 | 0.02356 | 0.000738 | 0.282372 | 0.000018 | -14.15 | 0.63 | -4.56 | 0.64 | 1710 | -0.98 |
| 06 | 446 | 2.6 | 0.03530 | 0.001133 | 0.282350 | 0.000020 | -14.94 | 0.71 | -5.46 | 0.72 | 1766 | -0.97 |
| 07 | 446 | 2.6 | 0.02621 | 0.000825 | 0.282290 | 0.000019 | -17.06 | 0.66 | -7.50 | 0.67 | 1894 | -0.98 |
| 08 | 446 | 2.6 | 0.03182 | 0.001117 | 0.282348 | 0.000019 | -14.98 | 0.68 | -5.50 | 0.69 | 1769 | -0.97 |
| 09 | 446 | 2.6 | 0.03513 | 0.001087 | 0.282293 | 0.000017 | -16.93 | 0.59 | -7.44 | 0.60 | 1891 | -0.97 |
| 10 | 446 | 2.6 | 0.02902 | 0.000905 | 0.282384 | 0.000018 | -13.73 | 0.65 | -4.18 | 0.66 | 1686 | -0.97 |
| 11 | 446 | 2.6 | 0.02653 | 0.000856 | 0.282357 | 0.000020 | -14.67 | 0.71 | -5.11 | 0.72 | 1744 | -0.97 |
| 12 | 446 | 2.6 | 0.03303 | 0.001035 | 0.282393 | 0.000021 | -13.39 | 0.75 | -3.88 | 0.76 | 1667 | -0.97 |
| 13 | 446 | 2.6 | 0.02164 | 0.000688 | 0.282356 | 0.000022 | -14.70 | 0.78 | -5.09 | 0.79 | 1743 | -0.98 |