

Supplementary Table S3. LA-ICP-MS Lu-Hf analysis results of the rhyolite and the granite porphyry zircons.

| Sample No. | Age (Ma) | $^{176}\text{Yb}/^{177}\text{Hf}$ | $^{176}\text{Lu}/^{177}\text{Hf}$ | $^{176}\text{Hf}/^{177}\text{Hf}$ | $\varepsilon\text{Hf}(0)$ | $\varepsilon\text{Hf}(t)$ | T_{DM} (Ma) | T_{DM}^{C} (Ma) | $f_{\text{Lu}/\text{Hf}}$ |
|------------|----------|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------|---------------------------|----------------------|---------------------------------|---------------------------|
| MJ26-1 | 261 | 0.022332 | 0.00089 | 0.282478 | -10.40 | -4.83 | 1092 | 2145 | -0.97 |
| MJ26-2 | 246 | 0.00596 | 0.000208 | 0.282458 | -11.11 | -5.75 | 1101 | 2219 | -0.99 |
| MJ26-3 | 235 | 0.004561 | 0.000149 | 0.282478 | -10.39 | -5.26 | 1071 | 2168 | -1.00 |
| MJ26-4 | 259 | 0.021587 | 0.000883 | 0.282505 | -9.43 | -3.90 | 1054 | 2061 | -0.97 |
| MJ26-5 | 256 | 0.016058 | 0.000604 | 0.282472 | -10.59 | -4.88 | 1092 | 2153 | -0.98 |
| MJ26-6 | 263 | 0.017324 | 0.000716 | 0.282526 | -8.72 | -3.07 | 1021 | 1989 | -0.98 |
| MJ26-7 | 249 | 0.030908 | 0.001125 | 0.282419 | -12.49 | -7.22 | 1183 | 2352 | -0.97 |
| MJ26-8 | 248 | 0.016825 | 0.000701 | 0.282532 | -8.48 | -3.15 | 1011 | 1986 | -0.98 |
| MJ26-9 | 249 | 0.027518 | 0.001064 | 0.282598 | -6.14 | -1.02 | 928 | 1791 | -0.97 |
| MJ26-10 | 257 | 0.013834 | 0.000575 | 0.282466 | -10.82 | -5.28 | 1100 | 2183 | -0.98 |
| MJ26-11 | 252 | 0.018539 | 0.000734 | 0.282599 | -6.13 | -0.72 | 919 | 1771 | -0.98 |
| LWZ-02-1 | 254 | 0.038313 | 0.001543 | 0.282678 | -3.32 | 2.00 | 826 | 1527 | -0.95 |
| LWZ-02-2 | 253 | 0.040472 | 0.001647 | 0.282617 | -5.49 | -0.21 | 916 | 1725 | -0.95 |
| LWZ-02-3 | 256 | 0.047117 | 0.001908 | 0.282703 | -2.43 | 2.87 | 797 | 1449 | -0.94 |
| LWZ-02-4 | 249 | 0.041405 | 0.001736 | 0.282741 | -1.10 | 4.08 | 739 | 1336 | -0.95 |
| LWZ-02-5 | 258 | 0.041614 | 0.001733 | 0.282615 | -5.54 | -0.18 | 920 | 1725 | -0.95 |
| LWZ-02-6 | 250 | 0.047888 | 0.001998 | 0.282648 | -4.37 | 0.79 | 879 | 1633 | -0.94 |
| LWZ-02-7 | 253 | 0.065853 | 0.002685 | 0.282661 | -3.92 | 1.19 | 877 | 1599 | -0.92 |
| LWZ-02-8 | 256 | 0.038625 | 0.001449 | 0.282593 | -6.34 | -0.97 | 945 | 1795 | -0.96 |
| LWZ-02-9 | 254 | 0.046565 | 0.001749 | 0.282635 | -4.84 | 0.44 | 892 | 1667 | -0.95 |
| LWZ-02-10 | 257 | 0.04751 | 0.001706 | 0.282676 | -3.41 | 1.95 | 833 | 1534 | -0.95 |
| LWZ-02-11 | 250 | 0.036415 | 0.001381 | 0.282673 | -3.49 | 1.77 | 829 | 1544 | -0.96 |
| LWZ-02-12 | 255 | 0.04806 | 0.001806 | 0.282645 | -4.48 | 0.82 | 879 | 1634 | -0.95 |

$$\varepsilon\text{Hf}(t)=10000\times\left\{\left[\left(\frac{{}^{176}\text{Hf}}{{}^{177}\text{Hf}}\right)_{\text{S}}-\left(\frac{{}^{176}\text{Lu}}{{}^{177}\text{Hf}}\right)_{\text{S}}\times\left(e^{\lambda t}-1\right)\right]/\left[\left(\frac{{}^{176}\text{Hf}}{{}^{177}\text{Hf}}\right)_{\text{CHUR},0}-\left(\frac{{}^{176}\text{Lu}}{{}^{177}\text{Hf}}\right)_{\text{CHUR}}\times\left(e^{\lambda t}-1\right)\right]-1\right\}$$

$$T_{\text{DM}}=1/\lambda\times\ln\left\{1+\left[\left(\frac{{}^{176}\text{Hf}}{{}^{177}\text{Hf}}\right)_{\text{S}}-\left(\frac{{}^{176}\text{Hf}}{{}^{177}\text{Hf}}\right)_{\text{DM}}\right]/\left[\left(\frac{{}^{176}\text{Hf}}{{}^{177}\text{Hf}}\right)_{\text{S}}-\left(\frac{{}^{176}\text{Hf}}{{}^{177}\text{Hf}}\right)_{\text{DM}}\right]\right\}$$

$$T_{\text{DM}}^{\text{C}}=T_{\text{DM}}-(T_{\text{DM}}-t)\times\left[\left(\text{fcc}-\text{fs}\right)/\left(\text{fcc}-\text{f}_{\text{DM}}\right)\right] \quad f_{\text{Lu}/\text{Hf}}=\left(\frac{{}^{176}\text{Lu}}{{}^{177}\text{Hf}}\right)_{\text{S}}/\left(\frac{{}^{176}\text{Lu}}{{}^{177}\text{Hf}}\right)_{\text{CHUR}}-1$$

$\lambda=1.867\times10^{-11}/\text{a}$ [86]; $(^{176}\text{Lu}/^{177}\text{Hf})_{\text{S}}$ and $(^{176}\text{Hf}/^{177}\text{Hf})_{\text{S}}$ are the measured values of samples; $(^{176}\text{Lu}/^{177}\text{Hf})_{\text{CHUR}}=0.0332$, $(^{176}\text{Hf}/^{177}\text{Hf})_{\text{CHUR},0}=0.282772$ [51, 87]; $(^{176}\text{Lu}/^{177}\text{Hf})_{\text{DM}}=0.0384$, $(^{176}\text{Hf}/^{177}\text{Hf})_{\text{DM}}=0.28325$ [52]; $(^{176}\text{Lu}/^{177}\text{Hf})$ Average crust=0.015; $\text{fcc}=[(^{176}\text{Lu}/^{177}\text{Hf})_{\text{mean crust}}/(^{176}\text{Lu}/^{177}\text{Hf})_{\text{CHUR}}]-1$; $\text{fs}=f_{\text{Lu}/\text{Hf}}$; $\text{f}_{\text{DM}}=[(^{176}\text{Lu}/^{177}\text{Hf})_{\text{DM}}/(^{176}\text{Lu}/^{177}\text{Hf})_{\text{CHUR}}]-1$; t is the crystallization age of zircon