Supplementary Table S4. Zircon Hf isotope of the Jiacha Early Jurassic adakitic intrusions.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Analysis | Age(Ma) | 176Hf/177Hf | 1σ | 176Lu/177Hf | 176Yb/177Hf | (176Hf/177Hf)*i* | εHf(*t*) | 1σ | *T*DM(Ga) | *T*DM2(Ga) | f(Lu/Hf) |
| GD14-89-1-01 | 198 | 0.282997 | 0.000017 | 0.000481 | 0.009885 | 0.282995 | 11.8 | 0.6 | 0.36 | 0.46 | -0.99 |
| GD14-89-1-02 | 198 | 0.283018 | 0.000015 | 0.000907 | 0.019449 | 0.283015 | 12.5 | 0.5 | 0.33 | 0.41 | -0.97 |
| GD14-89-1-03 | 198 | 0.283014 | 0.000015 | 0.000738 | 0.016042 | 0.283011 | 12.4 | 0.5 | 0.34 | 0.42 | -0.98 |
| GD14-89-1-04 | 198 | 0.282983 | 0.000016 | 0.000661 | 0.013539 | 0.282980 | 11.3 | 0.6 | 0.38 | 0.49 | -0.98 |
| GD14-89-1-05 | 198 | 0.282993 | 0.000012 | 0.000384 | 0.008268 | 0.282991 | 11.7 | 0.4 | 0.36 | 0.47 | -0.99 |
| GD14-89-1-06 | 198 | 0.282990 | 0.000011 | 0.000826 | 0.018415 | 0.282987 | 11.5 | 0.4 | 0.37 | 0.48 | -0.98 |
| GD14-89-1-07 | 198 | 0.283030 | 0.000015 | 0.000414 | 0.008537 | 0.283028 | 13.0 | 0.5 | 0.31 | 0.38 | -0.99 |
| GD14-89-1-08 | 198 | 0.282993 | 0.000012 | 0.000722 | 0.015412 | 0.282991 | 11.7 | 0.4 | 0.36 | 0.47 | -0.98 |
| GD14-89-1-09 | 198 | 0.283032 | 0.000015 | 0.001008 | 0.021426 | 0.283029 | 13.0 | 0.5 | 0.31 | 0.38 | -0.97 |
| GD14-89-1-10 | 198 | 0.283043 | 0.000012 | 0.001207 | 0.025764 | 0.283039 | 13.4 | 0.4 | 0.30 | 0.36 | -0.96 |
| GD14-89-1-11 | 198 | 0.283018 | 0.000013 | 0.000557 | 0.012105 | 0.283016 | 12.6 | 0.5 | 0.33 | 0.41 | -0.98 |
| GD14-89-1-12 | 198 | 0.282979 | 0.000014 | 0.000903 | 0.019758 | 0.282976 | 11.1 | 0.5 | 0.39 | 0.50 | -0.97 |
| GD14-89-1-13 | 198 | 0.283011 | 0.000013 | 0.001091 | 0.025048 | 0.283006 | 12.2 | 0.4 | 0.34 | 0.43 | -0.97 |
| GD14-89-1-14 | 198 | 0.283012 | 0.000012 | 0.001047 | 0.022884 | 0.283009 | 12.3 | 0.4 | 0.34 | 0.43 | -0.97 |
| GD14-89-1-15 | 198 | 0.283005 | 0.000014 | 0.001074 | 0.024023 | 0.283001 | 12.0 | 0.5 | 0.35 | 0.45 | -0.97 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| GD14-93-1-01 | 199 | 0.282917 | 0.000029 | 0.000953 | 0.021207 | 0.282914 | 9.0 | 1.0 | 0.47 | 0.64 | -0.97 |
| GD14-93-1-02 | 199 | 0.282961 | 0.000029 | 0.001490 | 0.032521 | 0.282955 | 10.5 | 1.0 | 0.42 | 0.55 | -0.96 |
| GD14-93-1-03 | 199 | 0.282897 | 0.000013 | 0.000997 | 0.021938 | 0.282893 | 8.2 | 0.5 | 0.50 | 0.69 | -0.97 |
| GD14-93-1-04 | 199 | 0.282926 | 0.000013 | 0.000922 | 0.018892 | 0.282922 | 9.3 | 0.4 | 0.46 | 0.62 | -0.97 |
| GD14-93-1-05 | 199 | 0.282889 | 0.000014 | 0.001635 | 0.035156 | 0.282883 | 7.9 | 0.5 | 0.52 | 0.71 | -0.95 |
| GD14-93-1-06 | 199 | 0.282871 | 0.000013 | 0.001199 | 0.026082 | 0.282867 | 7.3 | 0.4 | 0.54 | 0.75 | -0.96 |
| GD14-93-1-07 | 199 | 0.282879 | 0.000014 | 0.001073 | 0.024390 | 0.282875 | 7.6 | 0.5 | 0.53 | 0.73 | -0.97 |
| GD14-93-1-08 | 199 | 0.282884 | 0.000017 | 0.002086 | 0.045896 | 0.282876 | 7.7 | 0.6 | 0.54 | 0.73 | -0.94 |
| GD14-93-1-09 | 199 | 0.282850 | 0.000013 | 0.001167 | 0.024699 | 0.282846 | 6.6 | 0.5 | 0.57 | 0.80 | -0.97 |
| GD14-93-1-10 | 199 | 0.282888 | 0.000012 | 0.000793 | 0.017869 | 0.282885 | 8.0 | 0.4 | 0.51 | 0.71 | -0.98 |
| GD14-93-1-11 | 199 | 0.282892 | 0.000014 | 0.002024 | 0.042624 | 0.282885 | 7.9 | 0.5 | 0.53 | 0.71 | -0.94 |
| GD14-93-1-12 | 199 | 0.282928 | 0.000011 | 0.000761 | 0.015640 | 0.282925 | 9.4 | 0.4 | 0.46 | 0.62 | -0.98 |
| GD14-93-1-13 | 199 | 0.282889 | 0.000014 | 0.000981 | 0.019868 | 0.282885 | 8.0 | 0.5 | 0.52 | 0.71 | -0.97 |
| GD14-93-1-14 | 199 | 0.282881 | 0.000012 | 0.000648 | 0.014283 | 0.282878 | 7.7 | 0.4 | 0.52 | 0.72 | -0.98 |
| GD14-93-1-15 | 199 | 0.282913 | 0.000013 | 0.001195 | 0.026965 | 0.282909 | 8.8 | 0.4 | 0.48 | 0.65 | -0.96 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| GD14-90-3-01 | 198 | 0.282953 | 0.000015 | 0.001219 | 0.024559 | 0.282948 | 10.2 | 0.5 | 0.43 | 0.56 | -0.96 |
| GD14-90-3-02 | 198 | 0.283025 | 0.000019 | 0.000851 | 0.016668 | 0.283022 | 12.8 | 0.7 | 0.32 | 0.40 | -0.97 |
| GD14-90-3-03 | 198 | 0.283005 | 0.000015 | 0.000719 | 0.013835 | 0.283002 | 12.1 | 0.5 | 0.35 | 0.44 | -0.98 |
| GD14-90-3-04 | 198 | 0.282974 | 0.000016 | 0.001204 | 0.024445 | 0.282969 | 10.9 | 0.6 | 0.40 | 0.52 | -0.96 |
| GD14-90-3-05 | 198 | 0.283007 | 0.000016 | 0.000760 | 0.014922 | 0.283004 | 12.1 | 0.6 | 0.35 | 0.44 | -0.98 |
| GD14-90-3-06 | 198 | 0.282973 | 0.000014 | 0.000942 | 0.018717 | 0.282970 | 10.9 | 0.5 | 0.40 | 0.52 | -0.97 |
| GD14-90-3-07 | 198 | 0.282977 | 0.000013 | 0.000844 | 0.016635 | 0.282974 | 11.1 | 0.5 | 0.39 | 0.51 | -0.97 |
| GD14-90-3-08 | 198 | 0.282998 | 0.000013 | 0.000830 | 0.016407 | 0.282995 | 11.8 | 0.4 | 0.36 | 0.46 | -0.98 |
| GD14-90-3-09 | 198 | 0.282986 | 0.000014 | 0.000608 | 0.012470 | 0.282984 | 11.4 | 0.5 | 0.37 | 0.48 | -0.98 |
| GD14-90-3-10 | 198 | 0.283010 | 0.000013 | 0.001277 | 0.024151 | 0.283005 | 12.2 | 0.5 | 0.35 | 0.44 | -0.96 |
| GD14-90-3-11 | 198 | 0.283021 | 0.000013 | 0.001064 | 0.020765 | 0.283017 | 12.6 | 0.5 | 0.33 | 0.41 | -0.97 |
| GD14-90-3-12 | 198 | 0.283032 | 0.000013 | 0.001161 | 0.022200 | 0.283027 | 13.0 | 0.5 | 0.31 | 0.39 | -0.97 |
| GD14-90-3-13 | 198 | 0.282946 | 0.000013 | 0.000938 | 0.018338 | 0.282943 | 10.0 | 0.5 | 0.43 | 0.58 | -0.97 |
| GD14-90-3-14 | 198 | 0.283002 | 0.000014 | 0.000877 | 0.016918 | 0.282999 | 12.0 | 0.5 | 0.35 | 0.45 | -0.97 |
| GD14-90-3-15 | 198 | 0.283015 | 0.000014 | 0.001107 | 0.022081 | 0.283011 | 12.4 | 0.5 | 0.34 | 0.42 | -0.97 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| GD15-L08-1-01 | 198 | 0.282882 | 0.000019 | 0.000877 | 0.020320 | 0.282879 | 7.7 | 0.7 | 0.52 | 0.72 | -0.97 |
| GD15-L08-1-02 | 198 | 0.282937 | 0.000017 | 0.001137 | 0.027256 | 0.282933 | 9.6 | 0.6 | 0.45 | 0.60 | -0.97 |
| GD15-L08-1-03 | 198 | 0.282912 | 0.000023 | 0.001056 | 0.024496 | 0.282908 | 8.7 | 0.8 | 0.48 | 0.66 | -0.97 |
| GD15-L08-1-04 | 198 | 0.282947 | 0.000015 | 0.000957 | 0.022647 | 0.282944 | 10.0 | 0.5 | 0.43 | 0.58 | -0.97 |
| GD15-L08-1-05 | 198 | 0.282931 | 0.000014 | 0.000661 | 0.015480 | 0.282929 | 9.5 | 0.5 | 0.45 | 0.61 | -0.98 |
| GD15-L08-1-06 | 198 | 0.282952 | 0.000019 | 0.000926 | 0.021499 | 0.282949 | 10.2 | 0.7 | 0.42 | 0.56 | -0.97 |
| GD15-L08-1-07 | 198 | 0.282909 | 0.000013 | 0.001334 | 0.030336 | 0.282904 | 8.6 | 0.5 | 0.49 | 0.67 | -0.96 |
| GD15-L08-1-08 | 198 | 0.282953 | 0.000014 | 0.000817 | 0.018949 | 0.282950 | 10.2 | 0.5 | 0.42 | 0.56 | -0.98 |
| GD15-L08-1-09 | 198 | 0.282956 | 0.000019 | 0.001115 | 0.025890 | 0.282952 | 10.3 | 0.7 | 0.42 | 0.56 | -0.97 |
| GD15-L08-1-10 | 198 | 0.282918 | 0.000015 | 0.001268 | 0.028926 | 0.282913 | 8.9 | 0.5 | 0.48 | 0.65 | -0.96 |
| GD15-L08-1-11 | 198 | 0.282923 | 0.000016 | 0.001358 | 0.031621 | 0.282918 | 9.1 | 0.5 | 0.47 | 0.63 | -0.96 |
| GD15-L08-1-13 | 198 | 0.282870 | 0.000014 | 0.000973 | 0.021852 | 0.282867 | 7.3 | 0.5 | 0.54 | 0.75 | -0.97 |
| GD15-L08-1-14 | 198 | 0.282925 | 0.000015 | 0.001175 | 0.026829 | 0.282921 | 9.2 | 0.5 | 0.47 | 0.63 | -0.97 |
| GD15-L08-1-15 | 198 | 0.282955 | 0.000018 | 0.000697 | 0.016208 | 0.282952 | 10.3 | 0.6 | 0.42 | 0.56 | -0.98 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| GD14-50-1-01 | 179 | 0.282820 | 0.000016 | 0.000596 | 0.017852 | 0.282818 | 5.1 | 0.6 | 0.61 | 0.87 | -0.98 |
| GD14-50-1-02 | 179 | 0.282819 | 0.000018 | 0.000750 | 0.022200 | 0.282817 | 5.1 | 0.6 | 0.61 | 0.88 | -0.98 |
| GD14-50-1-03 | 179 | 0.282828 | 0.000018 | 0.000639 | 0.018748 | 0.282826 | 5.4 | 0.6 | 0.60 | 0.85 | -0.98 |
| GD14-50-1-04 | 179 | 0.282812 | 0.000017 | 0.000589 | 0.017408 | 0.282810 | 4.9 | 0.6 | 0.62 | 0.89 | -0.98 |
| GD14-50-1-05 | 179 | 0.282825 | 0.000016 | 0.000441 | 0.012667 | 0.282823 | 5.3 | 0.6 | 0.60 | 0.86 | -0.99 |
| GD14-50-1-06 | 179 | 0.282791 | 0.000015 | 0.000492 | 0.013014 | 0.282790 | 4.1 | 0.5 | 0.65 | 0.94 | -0.99 |
| GD14-50-1-07 | 179 | 0.282775 | 0.000019 | 0.000839 | 0.024863 | 0.282772 | 3.5 | 0.7 | 0.68 | 0.98 | -0.98 |
| GD14-50-1-08 | 179 | 0.282813 | 0.000021 | 0.000701 | 0.019991 | 0.282811 | 4.9 | 0.7 | 0.62 | 0.89 | -0.98 |
| GD14-50-1-09 | 179 | 0.282822 | 0.000017 | 0.000699 | 0.018029 | 0.282820 | 5.2 | 0.6 | 0.61 | 0.87 | -0.98 |
| GD14-50-1-10 | 179 | 0.282825 | 0.000019 | 0.000881 | 0.024359 | 0.282822 | 5.3 | 0.7 | 0.60 | 0.86 | -0.97 |
| GD14-50-1-11 | 179 | 0.282821 | 0.000016 | 0.000418 | 0.010654 | 0.282819 | 5.2 | 0.6 | 0.60 | 0.87 | -0.99 |
| GD14-50-1-12 | 179 | 0.282780 | 0.000016 | 0.000512 | 0.013797 | 0.282778 | 3.7 | 0.6 | 0.66 | 0.96 | -0.98 |
| GD14-50-1-13 | 179 | 0.282788 | 0.000015 | 0.000668 | 0.018711 | 0.282786 | 4.0 | 0.5 | 0.65 | 0.95 | -0.98 |
| GD14-50-1-14 | 179 | 0.282812 | 0.000017 | 0.001216 | 0.035193 | 0.282808 | 4.8 | 0.6 | 0.63 | 0.90 | -0.96 |
| GD14-50-1-15 | 179 | 0.282830 | 0.000017 | 0.000558 | 0.014750 | 0.282828 | 5.5 | 0.6 | 0.59 | 0.85 | -0.98 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| GD14-99-2-01 | 184 | 0.282932 | 0.000013 | 0.000706 | 0.013971 | 0.282930 | 9.2 | 0.5 | 0.45 | 0.62 | -0.98 |
| GD14-99-2-02 | 184 | 0.282940 | 0.000012 | 0.000335 | 0.006664 | 0.282939 | 9.5 | 0.4 | 0.44 | 0.60 | -0.99 |
| GD14-99-2-03 | 184 | 0.282908 | 0.000013 | 0.000897 | 0.017598 | 0.282905 | 8.3 | 0.5 | 0.49 | 0.67 | -0.97 |
| GD14-99-2-04 | 184 | 0.282924 | 0.000014 | 0.000769 | 0.015588 | 0.282921 | 8.9 | 0.5 | 0.46 | 0.64 | -0.98 |
| GD14-99-2-05 | 184 | 0.282951 | 0.000012 | 0.000925 | 0.018593 | 0.282948 | 9.8 | 0.4 | 0.43 | 0.58 | -0.97 |
| GD14-99-2-06 | 184 | 0.282921 | 0.000012 | 0.000907 | 0.018574 | 0.282917 | 8.8 | 0.4 | 0.47 | 0.64 | -0.97 |
| GD14-99-2-07 | 184 | 0.282931 | 0.000013 | 0.000633 | 0.012402 | 0.282929 | 9.2 | 0.5 | 0.45 | 0.62 | -0.98 |
| GD14-99-2-08 | 184 | 0.282935 | 0.000014 | 0.000884 | 0.017636 | 0.282932 | 9.3 | 0.5 | 0.45 | 0.61 | -0.97 |
| GD14-99-2-09 | 184 | 0.282913 | 0.000014 | 0.000894 | 0.018163 | 0.282910 | 8.5 | 0.5 | 0.48 | 0.66 | -0.97 |
| GD14-99-2-10 | 184 | 0.282923 | 0.000015 | 0.001089 | 0.021994 | 0.282919 | 8.8 | 0.5 | 0.47 | 0.64 | -0.97 |
| GD14-99-2-11 | 184 | 0.282927 | 0.000013 | 0.000553 | 0.010895 | 0.282925 | 9.0 | 0.4 | 0.46 | 0.63 | -0.98 |
| GD14-99-2-12 | 184 | 0.282898 | 0.000013 | 0.000935 | 0.018626 | 0.282895 | 8.0 | 0.4 | 0.50 | 0.70 | -0.97 |
| GD14-99-2-13 | 184 | 0.282938 | 0.000013 | 0.000939 | 0.019886 | 0.282935 | 9.4 | 0.4 | 0.44 | 0.60 | -0.97 |
| GD14-99-2-14 | 184 | 0.282905 | 0.000014 | 0.000891 | 0.017512 | 0.282902 | 8.2 | 0.5 | 0.49 | 0.68 | -0.97 |
| GD14-99-2-15 | 184 | 0.282918 | 0.000014 | 0.000837 | 0.016681 | 0.282915 | 8.7 | 0.5 | 0.47 | 0.65 | -0.98 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| GD14-102-1-01 | 184 | 0.282917 | 0.000010 | 0.000582 | 0.013810 | 0.282915 | 8.7 | 0.3 | 0.47 | 0.65 | -0.98 |
| GD14-102-1-02 | 184 | 0.282922 | 0.000011 | 0.000977 | 0.022213 | 0.282918 | 8.8 | 0.4 | 0.47 | 0.64 | -0.97 |
| GD14-102-1-03 | 184 | 0.282912 | 0.000010 | 0.000697 | 0.016052 | 0.282909 | 8.5 | 0.3 | 0.48 | 0.66 | -0.98 |
| GD14-102-1-04 | 184 | 0.282918 | 0.000010 | 0.000923 | 0.021305 | 0.282915 | 8.7 | 0.3 | 0.47 | 0.65 | -0.97 |
| GD14-102-1-05 | 184 | 0.282926 | 0.000009 | 0.000625 | 0.014707 | 0.282923 | 9.0 | 0.3 | 0.46 | 0.63 | -0.98 |
| GD14-102-1-06 | 184 | 0.282909 | 0.000011 | 0.000649 | 0.015374 | 0.282907 | 8.4 | 0.4 | 0.48 | 0.67 | -0.98 |
| GD14-102-1-07 | 184 | 0.282914 | 0.000011 | 0.000480 | 0.010099 | 0.282912 | 8.6 | 0.4 | 0.47 | 0.66 | -0.99 |
| GD14-102-1-08 | 184 | 0.282935 | 0.000010 | 0.000890 | 0.021631 | 0.282932 | 9.3 | 0.4 | 0.45 | 0.61 | -0.97 |
| GD14-102-1-09 | 184 | 0.282898 | 0.000010 | 0.001008 | 0.024346 | 0.282895 | 8.0 | 0.3 | 0.50 | 0.70 | -0.97 |
| GD14-102-1-10 | 184 | 0.282912 | 0.000010 | 0.000557 | 0.011160 | 0.282910 | 8.5 | 0.4 | 0.48 | 0.66 | -0.98 |
| GD14-102-1-11 | 184 | 0.282931 | 0.000009 | 0.000586 | 0.013877 | 0.282929 | 9.2 | 0.3 | 0.45 | 0.62 | -0.98 |
| GD14-102-1-12 | 184 | 0.282914 | 0.000011 | 0.000978 | 0.023148 | 0.282910 | 8.5 | 0.4 | 0.48 | 0.66 | -0.97 |
| GD14-102-1-13 | 184 | 0.282915 | 0.000008 | 0.000762 | 0.018304 | 0.282913 | 8.6 | 0.3 | 0.48 | 0.66 | -0.98 |
| GD14-102-1-14 | 184 | 0.282896 | 0.000009 | 0.000846 | 0.020418 | 0.282893 | 7.9 | 0.3 | 0.50 | 0.70 | -0.97 |
| GD14-102-1-15 | 184 | 0.282906 | 0.000009 | 0.000802 | 0.019728 | 0.282903 | 8.3 | 0.3 | 0.49 | 0.68 | -0.98 |

\* Data of GD14-99-2 and GD14-102-1 are quoted from Shui *et al*. (2016).

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