ANALYTICAL METHODS AND DATA TABLE

1. SIMS Zircon Oxygen Analytical Method

Zircon concentrates were separated from ca. 2-kg of rock samples using standard density and magnetic separation techniques at the mineral separation laboratory of the Bureau of Geology and Mineral Resources of Hebei Province at Langfang. Zircon grains, together with the 91500 and Temora-2 standard zircons, were placed in epoxy mounts which were then polished to section the crystals in half, with the final polishing achieved using 0.25 μm diamond paste to minimize the relief. All zircons were imaged using transmitted and reflected light, as well as cathodoluminescence (CL) to reveal their internal structures. After cleaning with detergent, alcohol and pure deionized water, the mounts were gold gold-coated to dissipate charge during analysis. Zircon grains with magmatic oscillatory zoning texture were selected for in-situ oxygen isotope analyses.

The $^{18}O/^{16}O$ ratio in zircons was measured using a Cameca IMS-1280 secondary ion mass spectrometer (SIMS) at the Institute of Geology and Geophysics, Chinese Academy of Sciences (CAS). The primary ion beam of $^{133}Cs^{+}$ was accelerated at 10 kV, with an intensity of ~2 nA. A focused beam of ~10 μm diameter was rastered over a 10 μm to make ~20×20 μm analyzed area. Positive secondary ions were extracted with a 10 kV potential. The normal incidence electron gun was used for charge compensation. Two isotopes of oxygen (^{18}O and ^{16}O) were detected simultaneously using the multi-collector mode with two off-axis Faraday cups (fixed exit slit #2, corresponding to a mass resolution of 2200). The internal precision of $^{18}O/^{16}O$ ratios is ~0.2‰ (2SE) from 20 cycles of measurements. The external reproducibility of $^{18}O/^{16}O$ ratios by repeated measurements of standard zircons 915000 and TEMORA 2 is better than 0.4‰. The instrumental mass fractionation factor (IMF) was corrected using standard zircon 91500. Values of $\delta^{18}O$ are standardized to Vienna Standard Mean Ocean Water compositions (VSMOW; $^{18}O/^{16}O$ = 0.0020052) and reported in standard per mil notation. Measurements of the TEMORA 2 zircon standard as an unknown sample during the course of this study yielded a weighted mean of $\delta^{18}O$ = 8.15 ± 0.40‰ (2SD) calibrating by standard zircon 91500 with $\delta^{18}O$ = 9.9‰ (Wiedenbeck et al., 2004), which is consistent within errors with the reported value of 8.20‰ (Black et al., 2004).

2. SIMS U-Pb Zircon Analytical Method

Measurements of U, Th and Pb isotopes were conducted using a Cameca IMS 1280 large-radius SIMS at the Institute of Geology and Geophysics, Chinese Academy of Sciences in Beijing. The O_2^- primary ion beam was accelerated at 13 kV, with an intensity of about 8 nA. The ellipsoidal spot is about 20×30 μm in size. Positive secondary ions were extracted with a 10 kV potential. Oxygen flooding was used to increase the O_2 pressure to about 5×10^{-6} Torr in the sample chamber,

enhancing the secondary Pb^+ sensitivity to a value of about 25 cps/nA/ppm for zircon. In the secondary ion beam optics, a 60 eV energy window was used, together with a mass resolution of about 5400, to separate Pb^+ peaks from isobaric interferences. The field aperture was set to 7000 μm, and the transfer optic magnification was adjusted to 200. Each measurement consists of 7 cycles, and the total analytical time is about 12 min. Pb/U calibration was performed relative to standard zircon 91500 with Th and U concentrations of about 29 and 81 ppm, respectively (Wiedenbeck et al., 1995). Analyses of the standard zircon 91500 were interspersed with unknown grains. Measured compositions were corrected for common Pb using nonradiogenic ^{204}Pb. A long-term uncertainty of 1.5% (1 RSD) for $^{206}Pb/^{238}U$ measurements of standard zircon (Li et al., 2010a) was propagated to the unknowns, despite that the measured $^{206}Pb/^{238}U$ error during the course of this study is generally around 1% (1 RSD) or less. Uncertainties on individual analyses in data tables are reported at 1σ level; mean ages for pooled U/Pb analyses are quoted with 95% confidence interval. Data reduction was carried out using the Isoplot/Ex v. 2.49 programs (Ludwig, 2001). The external uncertainties of SIMS U-Pb measurements were monitored by measurements of TEMORA 2 as an unknown. A total of 90 measurements were conducted on TEMORA 2, and the Concordia Age (Ludwig, 1998) of 413.4 ± 3.4 Ma (2SE; for 08SC31), 416.5 ± 1.9 Ma (2SE; for 08SC07 and 08SC11), and 415.7 ± 2.3 Ma (2SE; 08SC74) was obtained for TEMORA 2, which is identical within error with the recommended value of 416.78 ± 0.33 Ma (Black et al., 2004). More details on the calibration methods can be found in Li et al. (2009, 2010a, b). U-Pb dating sites were centered as closely as possible to the spots for previous O isotope analysis, so that the regions of the U-Pb dating and O isotope analysis were almost identical. Detailed documentation of the U-Pb zircon ages and their tectonic significance are given in Wang et al. (2011).

Table DR1. In situ SIMS zircon oxygen isotope analyses and U-Pb age

Sample	Zircon U-Pb age			Zircon oxygen isotope	
	$^{206}Pb/^{238}U$ age (Ma)	1SE (Ma)	Discordance (%)	δO^{18} (‰)	2SE
08SC07 (Fanzhao Formation, Xaijiang Group) (N 26°40′09″ E 108°20′56″)					
08SC07-2	897	13	1.8	5.47	0.23
08SC07-3	833	12	0.4	2.43	0.39
08SC07-4	811	11	8.8	4.54	0.17
08SC07-5	837	12	0.4	7.65	0.23
08SC07-6	808	11	9.4	5.36	0.27
08SC07-7	865	12	7.2	3.4	0.31
08SC07-8	929	13	1.9	6.48	0.23
08SC07-9	804	11	3.3	5	0.24
08SC07-10	830	12	4.2	4.61	0.16

08SC07-11	802	11	3.3	5.52	0.26
08SC07-12	808	11	1.0	4.46	0.21
08SC07-13	809	11	4.2	4.17	0.31
08SC07-14	825	12	9.2	4.14	0.2
08SC07-15	814	12	3.8	5.87	0.23
08SC07-16	816	12	1.2	6.97	0.18
08SC07-17	823	12	-0.2	5.92	0.2
08SC07-18	805	11	1.4	5.76	0.2
08SC07-19	838	12	2.6	9.25	0.25
08SC07-20	813	11	3.3	4.98	0.2
08SC07-21	841	12	0.7	5.86	0.3
08SC07-22	1998	26	-0.8	5.8	0.2
08SC07-23	804	11	4.1	7.66	0.24
08SC07-24	807	11	1.2	4.18	0.3
08SC07-25	802	11	5.9	4.65	0.23
08SC07-26	811	11	8.6	5.63	0.26
08SC07-27	798	11	6.3	5.04	0.19
08SC07-28	789	11	8.5	6.11	0.23
08SC07-29	814	11	3.8	6.5	0.21
08SC07-30	861	12	3.0	4.01	0.27
08SC07-31	824	12	9.3	3.9	0.25
08SC07-32	2004	26	0.5	6.78	0.24
08SC07-33	805	11	2.9	5.13	0.28
08SC07-34	796	11	-2.5	5.35	0.19
08SC07-35	806	11	1.9	5.01	0.28
08SC07-36	808	11	1.1	4.05	0.25
08SC07-37	811	12	2.3	6.02	0.31
08SC07-38	829	12	1.4	6.85	0.26
08SC07-39	797	11	-1.1	6.09	0.24
08SC07-40	801	11	4.6	4.29	0.27
08SC07-41	803	11	0.4	4.94	0.22
08SC07-42	797	12	0.0	4.85	0.34
08SC07-43	845	13	1.0	6.37	0.25
08SC07-44	812	11	2.9	4.48	0.35
08SC07-45	823	12	9.2	5.65	0.22
08SC07-46	813	12	3.8	5.72	0.21
08SC07-47	773	11	-4.5	6.13	0.26
08SC07-48	799	11	4.7	4.89	0.26
08SC07-49	837	12	0.4	8.99	0.29
08SC07-50	815	12	8.2	4.23	0.23
08SC07-51	806	11	-2.1	4.87	0.25
08SC07-52	822	12	2.6	6	0.29
08SC07-53	810	11	3.9	4.7	0.27
08SC07-54	805	11	-0.3	6.4	0.3

08SC07-55	824	12	3.8	5.81	0.26
08SC07-56	804	11	2.2	4.23	0.2
08SC07-57	1997	26	-0.2	6.32	0.23
08SC07-58	809	11	3.0	5.58	0.26
08SC31 (Qingshuijiang Formation, Xiajiang Group) (N 26°36′44″ E 109°03′18″)					
08SC31-1	770	11	1.4	5.83	0.16
08SC31-2	720	11	8.5	2.64	0.22
08SC31-3	750	11	-6.6	3.46	0.2
08SC31-4	783	11	5.9	2.64	0.16
08SC31-5	767	11	3.9	2.91	0.29
08SC31-6	774	11	2.5	3.07	0.2
08SC31-7	774	11	4.8	2.11	0.25
08SC31-8	782	11	6.0	2.93	0.27
08SC31-9	724	10	-0.4	6	0.19
08SC31-10	772	11	2.6	2.53	0.19
08SC31-11	773	11	2.0	2.29	0.25
08SC31-12	760	12	-17.3	3.54	0.17
08SC31 14	770	11	9.6	3.83	0.23
08SC31-15	773	11	1.5	3.02	0.22
08SC31-16	868	17	6.5	2.73	0.25
08SC31 17	770	11	-8.5	2.69	0.22
08SC31-18	756	4	8.4	7.49	0.28
08SC31-19	779	12	1.5	2.49	0.14
08SC31-20	792	11	-4.0	6.56	0.16
08SC31-21	784	13	7.5	2.59	0.21
08SC31-22	793	11	6.0	2.85	0.23
08SC31-23	763	11	-7.5	6.71	0.26
08SC31-24	770	14	3.8	2.36	0.33
08SC31 25	750	11	4.2	5.66	0.17
08SC31 26	750	11	-6.3	4.82	0.19
08SC31 27	750	11	-8.2	2.72	0.2
08SC31 28	750	11	5.8	2.67	0.26
08SC31 29	750	11	2.3	2.88	0.14
08SC31 30	750	11	-1.8	2.43	0.27
08SC11 (Yanmenzhai Formation, Banxi Group) (N 27°29′37″ E 110°17′38″)					
08SC11-3	794	11	8.5	6.65	0.3
08SC11-4	1642	96	-8.4	5.7	0.25
08SC11-5	772	11	-3.2	4.29	0.21
08SC11-6	1835	24	-1.0	8.58	0.29
08SC11-7	750	12	8.5	3.02	0.2
08SC11-8	719	10	11.1	5.57	0.29
08SC11-9	756	11	4.9	2.31	0.21
08SC11-10	2396	30	-2.7	5.93	0.19
08SC11-11	782	11	-1.3	5.11	0.31

08SC11-12	707	10	37.9	6.68	0.21
08SC11-13	830	12	0.4	9.17	0.2
08SC11-14	813	11	5.4	6.53	0.18
08SC11-15	1687	30	-7.7	5.74	0.23
08SC11-16	2004	26	-1.4	6.13	0.23
08SC11-18	760	11	-0.9	2.8	0.23
08SC11-19	777	11	8.9	3.74	0.23
08SC11-20	774	11	7.5	2.08	0.2
08SC11-21	764	11	-2.0	4.05	0.35
08SC11-22	781	11	2.8	1.95	0.26
08SC11-23	782	11	7.4	4.25	0.26
08SC11-24	788	11	10.6	2.2	0.26
08SC11-25	796	11	9.0	2.29	0.19
08SC11-26	804	11	2.2	5.11	0.28
08SC11-27	2522	96	9.2	6.29	0.25
08SC11-28	741	11	8.0	3.81	0.34
08SC11-29	782	11	1.3	5.17	0.29
08SC11-30	875	12	4.1	4.43	0.3
08SC11-31	818	12	4.0	7.94	0.27
08SC11-32	754	11	6.5	5.49	0.24
08SC11-33	1928	25	-4.1	6.11	0.25
08SC11-34	780	11	-0.7	4.75	0.21
08SC11-35	2460	31	-1.1	6.07	0.36
08SC11-36	796	11	-6.9	6.44	0.3
08SC11-37	809	11	-2.5	5.95	0.16
08SC11-38	838	12	2.5	5.34	0.2
08SC11-39	800	11	2.8	6.79	0.21
08SC11-40	1993	26	-0.9	6.9	0.26
08SC11-41	783	12	2.5	2.65	0.2
08SC11-42	791	11	0.7	5.79	0.23
08SC11-43	2426	31	-0.3	8.63	0.25
08SC11-44	2420	30	-2.5	8.86	0.23
08SC11-45	791	11	-2.3	5.82	0.16
08SC11-46	750	11	8.9	4.81	0.22
08SC11-47	762	11	4.9	4.2	0.23
08SC11-48	780	11	4.4	9.99	0.26
08SC11-49	762	11	2.2	5.21	0.23
08SC11-50	782	11	1.8	6.19	0.26
08SC11-51	778	11	2.3	3.3	0.31
08SC11-52	1862	24	-5.3	6.64	0.27
08SC11-53	748	11	-5.7	2.6	0.3
08SC11-54	779	11	0.0	6.24	0.27
08SC11-55	776	11	9.0	4.75	0.32
08SC11-56	796	11	7.0	5.21	0.23

08SC11-57	772	11	-4.1	3.72	0.31
08SC11-58	818	12	1.3	6.21	0.32
08SC11-59	792	11	-5.4	4.34	0.33
08SC11-60	793	11	-0.7	5.77	0.22
08SC11-61	808	11	-4.0	5.36	0.17
08SC11-62	2022	26	0.9	7.38	0.2
08SC11-63	1910	25	-5.0	6.53	0.22
08SC11-64	770	11	1.6	5.39	0.24
08SC11-65	808	11	4.5	4.92	0.23
08SC11-66	785	11	5.9	3.83	0.24
08SC11-67	2153	28	-1.6	7.74	0.29
08SC11-68	765	11	4.0	3.39	0.26
08SC11-69	760	11	7.8	4.88	0.3
08SC11-70	769	11	8.0	3.82	0.29
08SC11-71	852	12	-2.0	5.54	0.21
08SC11-72	2006	26	1.0	7.09	0.22
08SC11-73	784	11	5.7	2.75	0.33
08SC11-74	2479	31	-1.1	6.05	0.31
08SC11-75	783	11	5.1	4.71	0.21
08SC11-76	785	11	0.7	3.26	0.32
08SC11-77	785	11	0.8	2.9	0.25
08SC11-78	2310	30	-2.9	5.58	0.27
08SC11-79	2441	31	-0.9	6.21	0.19
08SC11-80	788	11	1.2	4.25	0.15
08SC74 (Gongdong Formation, Danzhou Group) (N 26°40′09″ E 108°20′56″)					
08SC74-1	778	11	-7.6	4.49	0.22
08SC74-2	805	11	8.6	5.25	0.22
08SC74-3	730	10	-8.1	4.05	0.18
08SC74-4	821	12	-9.2	8.32	0.21
08SC74-5	779	11	-5.3	4.4	0.2
08SC74-6	762	11	-10.7	4.54	0.16
08SC74-7	825	12	-4.5	5.48	0.17
08SC74-8	786	11	-0.8	4.59	0.25
08SC74-9	795	11	3.8	3.93	0.17
08SC74-10	801	11	-6.2	7.65	0.2
08SC74-11	777	11	6.2	4.94	0.27
08SC74-12	1775	23	-1.9	7.72	0.25
08SC74-13	784	11	-1.4	5.02	0.2
08SC74-14	758	11	1.6	6.12	0.16
08SC74-15	800	11	9.3	6.48	0.22
08SC74-16	793	11	9.7	4.24	0.24
08SC74-17	763	11	-1.4	7.11	0.19
08SC74-18	748	11	-3.6	6.62	0.21
08SC74-19	802	11	0.1	9.89	0.21

08SC74-20	874	12	-4.9	7.23	0.24
08SC74-21	740	10	2.2	7.19	0.22
08SC74-22	765	11	-2.3	5.48	0.3
08SC74-23	780	11	3.7	7.32	0.19
08SC74-24	755	11	-1.7	6.24	0.22
08SC74-25	762	11	-3.7	6.82	0.25
08SC74-26	2462	31	-3.5	5.31	0.38
08SC74-27	760	11	0.8	6.59	0.28
08SC74-28	806	11	-0.8	7.24	0.17
08SC74-29	829	12	-2.2	9.22	0.23
08SC74-30	779	11	4.9	7.11	0.26
08SC74-31	806	11	0.2	6.85	0.22
08SC74-32	792	11	-1.4	4.69	0.14
08SC74-33	908	13	-3.9	7.4	0.2
08SC74-34	789	11	-0.8	4.78	0.2
08SC74-35	779	11	-8.3	5.09	0.23
08SC74-36	778	11	-6.4	6.05	0.17
08SC74-37	830	12	-1.7	6.52	0.19
08SC74-38	1649	22	-3.6	5.23	0.24
08SC74-39	773	11	-4.3	6.14	0.22
08SC74-40	807	11	-6.3	10.73	0.19
08SC74-41	762	11	-3.1	4.17	0.25
08SC74-42	789	11	0.8	4.64	0.19
08SC74-43	1379	19	-0.4	5.43	0.22
08SC74-44	789	11	-3.3	8.57	0.25
08SC74-45	811	11	-1.7	6.91	0.23
08SC74-46	780	11	-2.8	3.8	0.28
08SC74-47	785	11	-2.9	5.12	0.25
08SC74-48	771	11	-4.2	5.55	0.19
08SC74-49	789	11	-4.5	9.66	0.24
08SC74-50	820	12	-7.3	9.67	0.21
08SC74-51	872	12	-3.2	5.16	0.24
08SC74-52	812	11	-0.8	7.19	0.24
08SC74-53	785	11	-4.7	9.95	0.2
08SC74-54	776	11	11.5	4.73	0.21
08SC74-55	805	11	-2.8	8.83	0.24
08SC74-56	827	12	1.6	9.97	0.18
08SC74-57	753	11	-4.5	5.89	0.31
08SC74-58	1016	14	-6.4	10.84	0.14
08SC74-59	806	11	-1.4	8.28	0.18
08SC74-60	766	11	-3.1	4.76	0.23
08SC74-61	789	11	-1.2	4.84	0.18
08SC74-62	1790	24	-2.0	5.48	0.23
08SC74-63	762	11	-3.4	5.17	0.26

08SC74-64	811	11	-3.4	9.27	0.21
08SC74-65	1909	25	-2.6	10.69	0.26
08SC74-66	844	12	3.8	9.06	0.19
08SC74-67	815	15	-1.1	8.35	0.27
08SC74-68	809	16	-1.3	4.66	0.28
08SC74-69	795	11	-1.2	5.22	0.2
08SC74-70	798	11	-2.0	5.72	0.32
08SC74-71	756	17	-6.8	4.85	0.17
08SC74-72	805	11	-2.2	5.2	0.29
08SC74-73	830	12	1.6	9.43	0.2
08SC74-74	816	12	1.9	10.12	0.22
08SC74-75	768	11	3.0	6.21	0.18
08SC74-76	804	11	-1.0	9.32	0.26
08SC74-77	759	11	0.4	5.68	0.26
08SC74-78	850	12	0.7	6.46	0.22
08SC74-79	803	11	2.4	5.22	0.2
08SC74-80	1462	20	-6.1	5.1	0.15
08SC74-81	882	12	0.1	6.53	0.19
08SC74-82	786	11	2.3	3.84	0.17
08SC74-83	813	11	1.8	5.24	0.23
08SC74-84	755	11	-2.5	5.83	0.25
08SC74-85	803	11	-2.9	5.03	0.21
08SC74-86	824	12	2.7	10.29	0.24
08SC74-87	859	12	-1.0	4.56	0.17
08SC74-88	763	11	-4.0	4.41	0.24
08SC74-89	798	11	-2.0	7.9	0.24
08SC74-90	808	11	3.6	7.14	0.19
08SC74-91	833	12	8.7	3.87	0.17
08SC74-92	805	13	-4.2	5.2	0.1
08SC74-94	798	13	3.1	4.78	0.21
08SC74-95	799	13	1.1	5.14	0.18
08SC74-96				10.67	0.26
08SC74-97				8.26	0.25
08SC74-98	781	13	-2.3	5.24	0.2
08SC74-99				6.07	0.2
08SC74-100	737	12	1.7	4.37	0.2
08SC74-101	781	13	0.8	5.58	0.18
08SC74-102				6.48	0.19
08SC74-103				11.75	0.22
08SC74-104	785	13	4.9	4.15	0.2
08SC74-105	798	13	2.5	3.93	0.26
08SC74-106	818	13	-0.1	4.48	0.19
08SC74-107	766	12	4.9	4.35	0.22
08SC74-108	850	13	8.6	3.69	0.25

08SC74-109	818	12	7.4	12.16	0.23
08SC74-110	749	12	-1.8	5.47	0.18
08SC74-111	881	13	0.2	5.34	0.18
08SC74-112	801	13	7.2	9.99	0.19
08SC74-113	811	14	9.6	4.07	0.24
08SC74-114				7.99	0.2
08SC74-115				6.59	0.23
08SC74-116				6.04	0.17
08SC74-117				7.39	0.23
08SC74-118				6.06	0.29
08SC74-119	823	13	8.3	4.45	0.26
08SC74-120	811	13	-1.4	4.07	0.19
08SC74-121	824	13	2.4	4.97	0.31
08SC74-122	845	13	1.7	4.62	0.17
08SC74-123				6.45	0.25
08SC74-124	793	13	1.7	4.1	0.22
08SC74-125	825	13	2.4	5.02	0.24
08SC74-126	823	13	3.1	5.55	0.21
08SC74-127	845	13	2.6	3.76	0.21
08SC74-128				6.83	0.22
08SC74-129	844	13	4.5	4.26	0.19
08SC74-130	796	13	1.2	4.69	0.23
08SC74-131	808	13	-2.0	5.3	0.22
08SC74-132				9.74	0.27
08SC74-133				8.25	0.2
08SC74-134	815	13	5.4	4.29	0.26
08SC74-135	812	13	3.5	5.73	0.22
08SC74-136	823	13	4.2	5.96	0.27
08SC74-137	760	13	5.9	4.35	0.22
08SC74-138	780	12	-5.0	3.68	0.21
08SC74-139	820	12	4.3	10.82	0.22
08SC74-140	835	12	-3.7	3.68	0.18
08SC74-141	804	13	-7.2	4.22	0.26
08SC74-142	815	13	2.4	4.51	0.24
08SC74-143				9.23	0.21
08SC74-144				9.01	0.23
08SC74-145	845	13	-9.3	4.19	0.23
08SC74-146	829	13	0.3	4.58	0.23
08SC74-147	735	13	0.0	4.37	0.2
08SC74-148				6.55	0.33
08SC74-149	847	14	4.7	5.13	0.12
08SC74-150	830	13	0.2	5.39	0.26
08SC74-151	795	12	0.2	4.24	0.23
08SC74-152	834	13	1.3	5.52	0.28

08SC74-153	1609	18	25.6	6.9	0.21
08SC74-154	800	13	-1.2	2.29	0.24
08SC74-155				8.82	0.16
08SC74-156				6.68	0.27
08SC74-157	796	13	3.4	3.35	0.2
08SC74-158	805	13	9.4	4.87	0.32
08SC74-159	735	13	9.6	4.12	0.28
08SC74-160	798	13	0.8	4.68	0.3
08SC74-161	824	13	8.6	5.06	0.27
08SC74-162	845	13	7.3	4.97	0.29
08SC74-163	816	13	5.4	5.9	0.27
08SC74-164	766	12	-3.6	3.32	0.19
08SC74-165	852	13	-4.6	4.29	0.29
08SC74-166	857	13	3.7	3.28	0.22
08SC74-167	780	13	6.2	3.64	0.21
08SC74-168	745	12	7.6	5.53	0.2
08SC74-169	858	14	-1.8	5	0.19
08SC74-170	784	13	8.5	2.93	0.2
08SC74-171	830	13	-5.3	2.69	0.27
08SC74-172	803	12	0.7	4.45	0.31
08SC74-173	799	13	3.4	4.6	0.29
08SC74-174				9.27	0.21
08SC74-175	825	13	0.4	5.2	0.32
08SC74-176				7.27	0.33
08SC74-177				6.35	0.17
08SC74-178	870	18	-8.4	4.56	0.22
08SC74-179	848	12	8.1	3.9	0.25
08SC74-180	813	13	-0.5	5.01	0.23
08SC74-181	818	13	5.5	4.48	0.21
08SC74-182	794	13	-4.7	4.13	0.21

Note: 1. The $^{206}Pb/^{238}U$ age listed here with discordance < 12% are used for plotting and discussion. 2. Three analyses (08SC31-12, 08SC11-12, and 08SC74-153) were excluded from Figure 3 and related discussions due to their large discordance percentages (highlighted in grey).

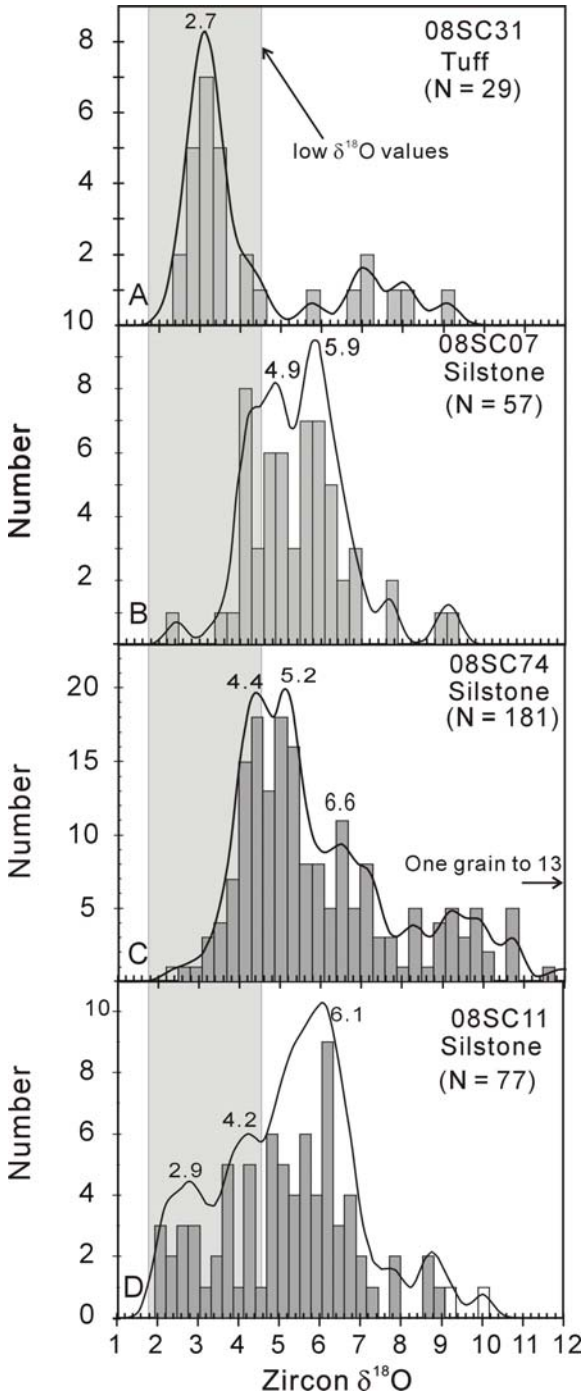

Figure DR1. Oxygen isotope compositions of zircons for (A) 08SC31, (B) 08SC07, (C) 08SC74, and (D) 08SC11. An external standard error of 0.5‰ (2SD) for oxygen analyses were applied in making the probability plots.

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