

Appendix 1

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
93092907 (Jogodani Formation)						
1	0.0351 ± 0.0012	0.2482 ± 0.0265	222.1 ± 7.5	225.1 ± 24.0	0.26	98.7
2	0.0323 ± 0.0011	0.2316 ± 0.0258	205.0 ± 7.1	211.5 ± 23.5	0.65	96.9
3	0.0309 ± 0.0009	0.2201 ± 0.0175	196.0 ± 5.9	202.0 ± 16.1	0.87	97.0
4	0.0298 ± 0.0011	0.2085 ± 0.0242	189.5 ± 6.7	192.3 ± 22.3	0.53	98.5
5	0.0392 ± 0.0012	0.2977 ± 0.0251	247.6 ± 7.7	264.6 ± 22.3	0.45	93.6
6	0.0440 ± 0.0013	0.3203 ± 0.0259	277.3 ± 8.5	282.2 ± 22.8	0.73	98.3
7	0.0331 ± 0.0010	0.2501 ± 0.0204	209.9 ± 6.4	226.7 ± 18.5	0.84	92.6
8	0.0312 ± 0.0012	0.2113 ± 0.0285	198.2 ± 7.6	194.7 ± 26.3	0.68	101.8
9	0.0315 ± 0.0007	0.2243 ± 0.0216	199.9 ± 4.7	205.4 ± 19.8	0.57	97.3
10	0.0362 ± 0.0011	0.2231 ± 0.0320	229.3 ± 7.1	204.5 ± 29.4	0.77	112.1
11	0.0289 ± 0.0007	0.1774 ± 0.0179	184.0 ± 4.3	165.8 ± 16.7	0.57	110.9
12	0.0445 ± 0.0015	0.3331 ± 0.0484	280.5 ± 9.5	291.9 ± 42.4	0.84	96.1
13	0.0305 ± 0.0013	0.3813 ± 0.0550	193.5 ± 7.9	328.0 ± 47.3	0.76	59.0
15	0.0333 ± 0.0011	0.3034 ± 0.0373	211.5 ± 6.7	269.1 ± 33.1	0.59	78.6
16	0.0376 ± 0.0012	0.2322 ± 0.0331	238.1 ± 7.4	212.0 ± 30.2	0.32	112.3
17	0.0389 ± 0.0008	0.2788 ± 0.0179	245.8 ± 5.3	249.7 ± 16.0	0.96	98.4
18	0.0298 ± 0.0009	0.2292 ± 0.0249	189.3 ± 5.6	209.6 ± 22.8	0.77	90.4
19	0.0395 ± 0.0011	0.3025 ± 0.0310	249.6 ± 7.1	268.3 ± 27.5	0.54	93.0
20	0.0315 ± 0.0009	0.1933 ± 0.0234	199.8 ± 5.9	179.5 ± 21.8	0.59	111.3
21	0.0345 ± 0.0010	0.2668 ± 0.0294	218.6 ± 6.5	240.1 ± 26.4	0.66	91.0
22	0.0325 ± 0.0010	0.2609 ± 0.0298	206.2 ± 6.4	235.4 ± 26.8	0.79	87.6
23	0.0412 ± 0.0010	0.3014 ± 0.0246	260.3 ± 6.3	267.5 ± 21.8	0.38	97.3
24	0.3438 ± 0.0063	5.3513 ± 0.1579	1904.9 ± 34.8	1877.0 ± 55.4	1.60	101.5
25	0.0410 ± 0.0015	0.2883 ± 0.0292	258.9 ± 9.3	257.2 ± 26.1	0.69	100.7
26	0.0390 ± 0.0019	0.3097 ± 0.0538	246.8 ± 11.9	273.9 ± 47.6	0.34	90.1
27	0.0396 ± 0.0015	0.3740 ± 0.0380	250.3 ± 9.4	322.6 ± 32.8	0.54	77.6
28	0.0402 ± 0.0013	0.2967 ± 0.0226	254.2 ± 8.4	263.8 ± 20.1	0.40	96.4
29	0.0306 ± 0.0011	0.2323 ± 0.0250	194.2 ± 7.3	212.1 ± 22.9	0.62	91.6
30	0.0445 ± 0.0015	0.3112 ± 0.0270	280.5 ± 9.6	275.1 ± 23.8	0.55	101.9
31	0.0440 ± 0.0016	0.3624 ± 0.0338	277.3 ± 9.9	314.0 ± 29.3	0.48	88.3
32	0.0403 ± 0.0015	0.3179 ± 0.0312	254.9 ± 9.2	280.3 ± 27.5	0.40	90.9
34	0.0437 ± 0.0012	0.3050 ± 0.0161	275.5 ± 7.3	270.3 ± 14.2	0.41	101.9
35	0.0415 ± 0.0013	0.3095 ± 0.0303	261.9 ± 8.5	273.8 ± 26.8	0.84	95.7
36	0.0414 ± 0.0013	0.2905 ± 0.0290	261.5 ± 8.5	258.9 ± 25.8	0.67	101.0
37	0.0439 ± 0.0012	0.3146 ± 0.0185	277.0 ± 7.6	277.7 ± 16.3	0.28	99.8
38	0.0303 ± 0.0010	0.2179 ± 0.0230	192.3 ± 6.4	200.2 ± 21.1	0.50	96.1
39	0.0413 ± 0.0012	0.4176 ± 0.0293	260.9 ± 7.7	354.3 ± 24.9	0.40	73.6
41	0.0472 ± 0.0021	0.3343 ± 0.0425	297.5 ± 13.1	292.8 ± 37.2	0.39	101.6
42	0.0376 ± 0.0014	0.2558 ± 0.0197	238.2 ± 9.1	231.3 ± 17.8	0.82	103.0
43	0.0300 ± 0.0014	0.2285 ± 0.0325	190.6 ± 8.9	208.9 ± 29.7	0.43	91.2
44	0.0386 ± 0.0016	0.2818 ± 0.0312	244.2 ± 10.3	252.1 ± 27.9	0.61	96.9
45	0.0400 ± 0.0017	0.3280 ± 0.0379	252.7 ± 11.0	288.0 ± 33.3	0.49	87.7
46	0.0303 ± 0.0013	0.2601 ± 0.0283	192.4 ± 8.2	234.8 ± 25.5	0.52	82.0
47	0.0440 ± 0.0019	0.3705 ± 0.0428	277.8 ± 12.1	320.0 ± 37.0	0.53	86.8
48	0.0391 ± 0.0016	0.2743 ± 0.0270	247.1 ± 10.0	246.1 ± 24.2	0.73	100.4
51	0.0436 ± 0.0018	0.3275 ± 0.0429	275.3 ± 11.4	287.6 ± 37.7	0.42	95.7
53	0.0353 ± 0.0019	0.2592 ± 0.0547	223.8 ± 12.3	234.0 ± 49.4	0.46	95.6
54	0.0423 ± 0.0017	0.2948 ± 0.0384	267.2 ± 10.8	262.4 ± 34.1	0.65	101.9
55	0.0411 ± 0.0016	0.2807 ± 0.0357	259.9 ± 10.4	251.2 ± 32.0	0.46	103.5
56	0.0314 ± 0.0015	0.2515 ± 0.0434	199.4 ± 9.8	227.8 ± 39.3	0.46	87.6
58	0.0306 ± 0.0009	0.2537 ± 0.1103	194.5 ± 5.6	229.6 ± 99.8	1.03	84.7
59	0.0282 ± 0.0007	0.1880 ± 0.0596	179.2 ± 4.2	174.9 ± 55.5	0.79	102.5
60	0.0311 ± 0.0013	0.1372 ± 0.2569	197.5 ± 8.1	130.5 ± 244.5	0.57	151.3
61	0.0395 ± 0.0009	0.2863 ± 0.0669	249.7 ± 5.4	255.6 ± 59.7	0.42	97.7
62	0.0292 ± 0.0009	0.1961 ± 0.1102	185.8 ± 5.4	181.8 ± 102.1	0.60	102.2
63	0.3135 ± 0.0045	5.4876 ± 0.1613	1758.0 ± 25.0	1898.6 ± 55.8	0.42	92.6
64	0.0293 ± 0.0006	0.1888 ± 0.0468	185.9 ± 4.0	175.6 ± 43.5	0.75	105.9

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
65	0.0347 ± 0.0015	0.2464 ± 0.0409	219.9 ± 9.5	223.6 ± 37.1	0.55	98.3
66	0.0304 ± 0.0010	0.2212 ± 0.0235	193.2 ± 6.5	202.9 ± 21.5	0.72	95.2
67	0.0284 ± 0.0011	0.1889 ± 0.0254	180.3 ± 6.7	175.7 ± 23.6	0.76	102.6
68	0.0294 ± 0.0010	0.2017 ± 0.0202	187.1 ± 6.1	186.5 ± 18.7	0.65	100.3
69	0.0289 ± 0.0010	0.2154 ± 0.0236	183.9 ± 6.3	198.0 ± 21.7	0.63	92.9
70	0.0284 ± 0.0009	0.1820 ± 0.0149	180.7 ± 5.4	169.8 ± 13.9	1.01	106.4
71	0.0417 ± 0.0012	0.2893 ± 0.0230	263.1 ± 7.9	258.0 ± 20.5	0.58	102.0
72	0.0370 ± 0.0014	0.3014 ± 0.0369	234.5 ± 8.7	267.5 ± 32.8	0.55	87.6
73	0.0299 ± 0.0011	0.1977 ± 0.0240	190.2 ± 6.8	183.2 ± 22.2	0.57	103.8
74	0.0292 ± 0.0010	0.2150 ± 0.0202	185.8 ± 6.1	197.7 ± 18.6	0.70	93.9
75	0.0286 ± 0.0010	0.2117 ± 0.0211	182.0 ± 6.1	195.0 ± 19.4	0.79	93.3
76	0.0283 ± 0.0010	0.1949 ± 0.0207	179.9 ± 6.1	180.8 ± 19.2	0.64	99.5
77	0.0305 ± 0.0010	0.2280 ± 0.0222	193.6 ± 6.5	208.5 ± 20.3	0.88	92.8
78	0.0386 ± 0.0012	0.2670 ± 0.0191	244.2 ± 7.3	240.2 ± 17.2	0.41	101.7
79	0.0303 ± 0.0012	0.2386 ± 0.0310	192.6 ± 7.5	217.3 ± 28.2	0.46	88.7
80	0.0399 ± 0.0014	0.2963 ± 0.0308	252.3 ± 8.7	263.5 ± 27.4	0.39	95.8
81	0.0427 ± 0.0012	0.3190 ± 0.0308	269.4 ± 7.4	281.1 ± 27.1	0.48	95.8
82	0.0661 ± 0.0013	0.4409 ± 0.0288	352.0 ± 7.9	370.9 ± 24.2	0.39	94.9
83	0.0293 ± 0.0008	0.2145 ± 0.0217	186.1 ± 5.2	197.3 ± 20.0	1.00	94.3
84	0.0396 ± 0.0009	0.2883 ± 0.0194	250.4 ± 5.6	257.2 ± 17.3	0.47	97.4
85	0.0415 ± 0.0012	0.4167 ± 0.0393	261.9 ± 7.7	353.7 ± 33.3	0.80	74.0
86	0.0330 ± 0.0010	0.2014 ± 0.0245	209.4 ± 6.3	186.3 ± 22.6	0.48	112.4
87	0.0411 ± 0.0011	0.2825 ± 0.0281	259.7 ± 7.1	252.6 ± 25.1	0.39	102.8
88	0.0350 ± 0.0020	0.2814 ± 0.0690	221.9 ± 12.7	251.7 ± 61.8	0.44	88.2
89	0.0379 ± 0.0018	0.2216 ± 0.0490	239.6 ± 11.6	203.2 ± 44.9	0.32	117.9
90	0.0309 ± 0.0009	0.2075 ± 0.0192	196.1 ± 5.6	191.5 ± 17.7	0.85	102.4
91	0.0384 ± 0.0016	0.2772 ± 0.0455	242.8 ± 10.1	248.4 ± 40.8	0.43	97.7
92	0.0394 ± 0.0016	0.2972 ± 0.0446	249.1 ± 9.8	264.2 ± 39.7	0.55	94.3
94	0.0392 ± 0.0010	0.2956 ± 0.0207	248.0 ± 6.4	263.0 ± 18.4	0.47	94.3
95	0.0295 ± 0.0010	0.2315 ± 0.0256	187.6 ± 6.1	211.5 ± 23.4	0.98	88.7
96	0.0505 ± 0.0013	0.4039 ± 0.0304	317.7 ± 8.5	344.5 ± 25.9	0.60	92.2
97	0.0275 ± 0.0009	0.1840 ± 0.0220	174.9 ± 5.6	171.5 ± 20.5	0.52	102.0
98	0.0392 ± 0.0017	0.3196 ± 0.0528	247.6 ± 10.5	281.6 ± 46.5	0.75	87.9
99	0.0485 ± 0.0016	0.6372 ± 0.0593	305.6 ± 9.9	500.5 ± 46.6	0.47	61.1
100	0.0310 ± 0.0012	0.2224 ± 0.0357	196.8 ± 7.8	203.9 ± 32.8	0.53	96.5
101	0.0287 ± 0.0010	0.2432 ± 0.0283	182.4 ± 6.1	221.0 ± 25.7	0.59	82.5
102	0.0291 ± 0.0011	0.2162 ± 0.0312	184.8 ± 6.9	198.7 ± 28.6	0.55	93.0
103	0.0397 ± 0.0013	0.2883 ± 0.0360	250.9 ± 8.4	257.2 ± 32.1	0.66	97.6
104	0.0410 ± 0.0011	0.3943 ± 0.0282	258.9 ± 6.8	337.5 ± 24.2	0.42	76.7
93092705 (Kitamatadani Formation)						
1	0.0301 ± 0.0010	0.209 ± 0.016	191.0 ± 6.2	192.4 ± 14.4	2.32	99.2
2	0.0301 ± 0.0009	0.211 ± 0.013	191.2 ± 6.0	194.4 ± 12.1	1.29	98.4
3	0.0297 ± 0.0010	0.212 ± 0.016	188.9 ± 6.1	195.1 ± 14.4	0.99	96.9
4	0.0308 ± 0.0010	0.218 ± 0.014	195.9 ± 6.1	200.2 ± 12.6	2.94	97.8
5	0.0289 ± 0.0009	0.195 ± 0.015	183.7 ± 6.0	180.9 ± 14.2	1.35	101.6
6	0.0338 ± 0.0012	0.240 ± 0.022	214.1 ± 7.4	218.7 ± 20.1	0.86	97.9
7	0.0308 ± 0.0010	0.206 ± 0.017	195.5 ± 6.5	190.1 ± 15.5	1.56	102.8
8	0.0287 ± 0.0009	0.223 ± 0.014	182.6 ± 5.8	204.6 ± 12.4	0.97	89.2
9	0.0306 ± 0.0009	0.196 ± 0.018	194.1 ± 5.9	181.5 ± 16.7	1.17	106.9
10	0.0305 ± 0.0010	0.222 ± 0.026	193.4 ± 6.6	203.6 ± 23.8	0.85	95.0
11	0.0433 ± 0.0013	0.305 ± 0.028	273.0 ± 8.4	270.1 ± 24.4	0.57	101.1
12	0.0303 ± 0.0009	0.223 ± 0.015	192.5 ± 5.5	204.1 ± 14.1	0.69	94.3
13	0.0306 ± 0.0009	0.216 ± 0.018	194.3 ± 5.8	198.5 ± 16.2	1.58	97.9
14	0.0306 ± 0.0009	0.210 ± 0.015	194.1 ± 5.5	193.8 ± 13.7	0.92	100.2
15	0.0332 ± 0.0010	0.383 ± 0.029	210.5 ± 6.5	329.2 ± 24.8	1.06	63.9
16	0.0318 ± 0.0014	0.236 ± 0.044	202.0 ± 8.7	215.2 ± 40.0	1.60	93.9

Appendix 1 (continue)

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
17	0.0298 ± 0.0008	0.211 ± 0.013	189.0 ± 4.8	194.1 ± 12.2	0.97	97.4
18	0.0312 ± 0.0008	0.212 ± 0.013	198.1 ± 5.0	195.0 ± 12.4	0.97	101.6
19	0.0309 ± 0.0009	0.227 ± 0.022	196.5 ± 5.9	207.5 ± 20.0	0.91	94.7
20	0.0291 ± 0.0009	0.262 ± 0.024	184.7 ± 5.6	236.6 ± 21.3	0.77	78.1
21	0.0333 ± 0.0009	0.239 ± 0.018	211.2 ± 5.6	218.0 ± 16.1	0.81	96.9
22	0.0306 ± 0.0008	0.197 ± 0.012	194.6 ± 4.8	182.9 ± 11.3	2.16	106.4
23	0.0294 ± 0.0008	0.212 ± 0.017	187.1 ± 5.1	195.0 ± 15.5	2.03	95.9
24	0.0306 ± 0.0008	0.201 ± 0.012	194.1 ± 4.8	186.0 ± 11.2	1.17	104.4
25	0.0295 ± 0.0006	0.207 ± 0.012	187.3 ± 4.0	190.8 ± 10.9	1.69	98.2
26	0.0295 ± 0.0007	0.208 ± 0.013	187.1 ± 4.2	191.7 ± 12.3	0.85	97.6
27	0.0291 ± 0.0006	0.205 ± 0.012	185.1 ± 4.0	189.4 ± 11.1	2.55	97.8
28	0.0302 ± 0.0007	0.222 ± 0.014	191.8 ± 4.3	203.4 ± 12.8	0.71	94.3
30	0.0306 ± 0.0016	0.231 ± 0.052	194.2 ± 10.1	211.4 ± 47.3	0.70	91.9
31	0.0280 ± 0.0008	0.208 ± 0.021	178.0 ± 5.1	191.5 ± 19.7	1.12	93.0
32	0.0295 ± 0.0007	0.208 ± 0.014	187.6 ± 4.3	191.5 ± 12.6	0.97	98.0
33	0.0289 ± 0.0006	0.215 ± 0.015	183.7 ± 3.8	197.8 ± 14.2	1.83	92.9
34	0.0256 ± 0.0007	0.293 ± 0.027	163.2 ± 4.6	261.3 ± 24.4	4.50	62.5
35	0.0378 ± 0.0011	0.316 ± 0.036	239.3 ± 7.1	278.9 ± 31.4	0.97	85.8
36	0.0290 ± 0.0006	0.200 ± 0.013	184.2 ± 3.6	184.8 ± 12.0	0.90	99.7
37	0.0311 ± 0.0006	0.211 ± 0.014	197.3 ± 3.9	194.8 ± 13.1	2.05	101.3
38	0.0286 ± 0.0006	0.206 ± 0.016	182.0 ± 3.9	190.3 ± 14.4	1.23	95.7
39	0.0294 ± 0.0007	0.225 ± 0.019	187.0 ± 4.4	206.2 ± 17.7	1.88	90.7
40	0.0291 ± 0.0007	0.212 ± 0.017	185.2 ± 4.2	195.1 ± 15.9	0.67	94.9
41	0.0297 ± 0.0005	0.201 ± 0.013	188.5 ± 3.3	185.7 ± 11.9	2.66	101.5
42	0.0276 ± 0.0005	0.179 ± 0.013	175.8 ± 3.4	166.8 ± 12.5	0.77	105.4
43	0.0300 ± 0.0006	0.206 ± 0.016	190.7 ± 3.9	190.1 ± 15.1	2.00	100.3
44	0.0304 ± 0.0006	0.199 ± 0.014	192.7 ± 3.5	184.4 ± 12.8	1.02	104.5
45	0.0290 ± 0.0006	0.200 ± 0.015	184.2 ± 3.6	185.5 ± 13.8	2.02	99.3
46	0.0288 ± 0.0005	0.202 ± 0.012	182.8 ± 3.1	187.0 ± 11.0	1.71	97.8
47	0.0298 ± 0.0005	0.213 ± 0.014	189.6 ± 3.4	196.0 ± 12.6	0.94	96.7
48	0.0296 ± 0.0005	0.269 ± 0.016	187.8 ± 3.3	242.0 ± 14.0	2.28	77.6
49	0.0283 ± 0.0008	0.206 ± 0.013	180.0 ± 5.2	189.8 ± 12.2	0.95	94.8
50	0.0304 ± 0.0009	0.230 ± 0.014	193.1 ± 5.5	210.4 ± 13.0	1.01	91.8
51	0.3627 ± 0.0097	6.198 ± 0.237	1994.9 ± 53.3	2004.1 ± 76.8	0.29	99.5
52	0.0300 ± 0.0009	0.233 ± 0.015	190.7 ± 5.5	212.6 ± 14.0	0.87	89.7
53	0.0503 ± 0.0020	0.793 ± 0.079	316.4 ± 12.3	592.8 ± 59.2	0.72	53.4
54	0.0294 ± 0.0008	0.225 ± 0.014	187.0 ± 5.4	205.8 ± 13.2	1.09	90.9
55	0.0300 ± 0.0010	0.196 ± 0.019	190.4 ± 6.1	181.9 ± 17.2	0.91	104.7
56	0.0308 ± 0.0010	0.200 ± 0.019	195.3 ± 6.3	185.2 ± 17.8	0.73	105.4
57	0.0293 ± 0.0008	0.252 ± 0.024	186.5 ± 5.2	228.5 ± 21.8	1.13	81.6
58	0.0288 ± 0.0007	0.212 ± 0.016	182.9 ± 4.3	195.0 ± 14.5	1.23	93.8
59	0.0303 ± 0.0017	0.276 ± 0.064	192.4 ± 11.0	247.6 ± 57.2	0.87	77.7
60	0.0282 ± 0.0007	0.223 ± 0.018	179.0 ± 4.4	204.2 ± 16.2	0.96	87.7
61	0.0301 ± 0.0007	0.226 ± 0.015	191.3 ± 4.3	207.1 ± 13.7	0.94	92.4
62	0.0293 ± 0.0007	0.210 ± 0.015	186.3 ± 4.3	193.4 ± 13.9	1.34	96.3
63	0.0311 ± 0.0008	0.202 ± 0.019	197.5 ± 5.1	187.0 ± 17.5	1.08	105.6
64	0.0289 ± 0.0006	0.199 ± 0.012	183.8 ± 4.0	184.7 ± 11.5	1.50	99.5
65	0.0295 ± 0.0008	0.217 ± 0.014	187.6 ± 5.4	199.4 ± 12.8	1.61	94.1
66	0.0304 ± 0.0009	0.207 ± 0.017	193.3 ± 5.9	191.0 ± 15.7	1.47	101.2
67	0.0278 ± 0.0012	0.216 ± 0.034	176.5 ± 7.6	198.4 ± 31.1	0.93	88.9
68	0.0330 ± 0.0011	0.205 ± 0.020	209.0 ± 6.7	189.5 ± 18.9	0.98	110.3
69	0.0294 ± 0.0009	0.197 ± 0.017	186.7 ± 5.8	182.5 ± 16.0	0.98	102.3
70	0.0300 ± 0.0009	0.214 ± 0.015	190.5 ± 5.5	197.3 ± 13.4	1.33	96.6
71	0.0305 ± 0.0016	0.237 ± 0.049	193.6 ± 10.2	215.7 ± 44.7	0.83	89.8
72	0.0291 ± 0.0009	0.197 ± 0.015	185.1 ± 5.5	182.4 ± 14.1	1.62	101.5
73	0.0283 ± 0.0005	0.213 ± 0.012	180.0 ± 3.3	195.8 ± 10.7	1.04	91.9
74	0.0289 ± 0.0005	0.205 ± 0.010	183.5 ± 3.2	189.4 ± 9.6	1.10	96.9
75	0.0285 ± 0.0005	0.275 ± 0.014	180.9 ± 3.4	246.4 ± 12.5	1.24	73.4

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
76	0.0282 ± 0.0005	0.192 ± 0.009	179.1 ± 3.1	178.4 ± 8.7	3.62	100.4
77	0.0293 ± 0.0006	0.203 ± 0.014	186.0 ± 3.7	187.4 ± 12.5	0.94	99.3
78	0.0279 ± 0.0009	0.210 ± 0.026	177.7 ± 5.5	193.2 ± 23.8	0.66	92.0
79	0.0304 ± 0.0006	0.204 ± 0.013	193.2 ± 3.7	188.6 ± 11.9	0.90	102.4
80	0.0295 ± 0.0006	0.201 ± 0.014	187.6 ± 3.9	185.6 ± 13.3	1.23	101.1
81	0.0295 ± 0.0010	0.206 ± 0.014	187.2 ± 6.6	190.4 ± 13.3	0.90	98.4
82	0.0287 ± 0.0011	0.201 ± 0.018	182.2 ± 6.8	185.8 ± 16.3	1.25	98.0
83	0.0303 ± 0.0011	0.208 ± 0.015	192.6 ± 6.8	192.1 ± 13.6	0.77	100.3
84	0.0362 ± 0.0013	0.267 ± 0.017	229.3 ± 8.0	240.4 ± 15.6	1.10	95.4
85	0.0290 ± 0.0010	0.198 ± 0.013	184.4 ± 6.5	183.1 ± 12.2	1.39	100.7
86	0.0268 ± 0.0011	0.166 ± 0.019	170.2 ± 6.8	155.6 ± 18.2	1.65	109.4
87	0.0291 ± 0.0010	0.194 ± 0.014	184.9 ± 6.6	180.4 ± 13.0	1.01	102.5
88	0.0289 ± 0.0010	0.198 ± 0.012	183.5 ± 6.4	183.2 ± 10.9	1.20	100.2
89	0.0270 ± 0.0005	0.190 ± 0.012	171.5 ± 3.4	176.6 ± 10.8	1.14	97.1
90	0.0272 ± 0.0006	0.196 ± 0.015	173.0 ± 3.8	181.7 ± 13.6	0.66	95.2
91	0.0274 ± 0.0010	0.185 ± 0.028	174.6 ± 6.1	172.5 ± 25.9	1.65	101.2
92	0.0280 ± 0.0006	0.217 ± 0.015	177.8 ± 3.9	199.4 ± 13.9	2.16	89.1
93	0.0276 ± 0.0006	0.206 ± 0.014	175.7 ± 3.8	190.2 ± 13.3	0.70	92.4
94	0.0269 ± 0.0006	0.198 ± 0.013	171.1 ± 3.6	183.6 ± 12.2	0.75	93.2
95	0.0289 ± 0.0007	0.311 ± 0.022	183.8 ± 4.4	274.6 ± 19.8	0.93	66.9
97	0.0301 ± 0.0009	0.211 ± 0.015	191.0 ± 5.5	194.5 ± 14.0	0.90	98.2
98	0.0276 ± 0.0008	0.193 ± 0.012	175.5 ± 4.9	179.5 ± 10.9	1.68	97.8
99	0.0299 ± 0.0009	0.198 ± 0.019	190.0 ± 6.0	183.4 ± 17.2	0.89	103.6
100	0.0285 ± 0.0008	0.191 ± 0.014	181.3 ± 5.2	177.8 ± 13.0	0.80	101.9
101	0.0318 ± 0.0010	0.211 ± 0.019	201.7 ± 6.3	194.7 ± 17.8	2.53	103.6
102	0.0282 ± 0.0010	0.200 ± 0.023	179.5 ± 6.3	185.5 ± 21.6	0.50	96.8
103	0.0288 ± 0.0009	0.203 ± 0.016	183.0 ± 5.4	188.0 ± 14.8	1.80	97.4
104	0.0274 ± 0.0008	0.194 ± 0.014	174.4 ± 5.0	179.6 ± 12.8	2.98	97.1
105	0.0438 ± 0.0020	0.676 ± 0.088	276.2 ± 12.6	524.5 ± 68.1	0.85	52.7
106	0.0289 ± 0.0010	0.200 ± 0.022	184.0 ± 6.1	185.0 ± 20.3	0.99	99.4
107	0.0288 ± 0.0008	0.201 ± 0.013	182.9 ± 5.0	186.1 ± 12.0	0.96	98.2
108	0.0298 ± 0.0008	0.197 ± 0.014	189.2 ± 5.3	182.8 ± 13.4	2.49	103.5
109	0.0290 ± 0.0008	0.198 ± 0.012	184.0 ± 5.0	183.6 ± 11.5	1.00	100.2
110	0.0293 ± 0.0008	0.210 ± 0.012	186.5 ± 5.0	193.5 ± 11.1	1.19	96.4
111	0.0286 ± 0.0009	0.202 ± 0.018	181.7 ± 5.6	186.4 ± 16.7	0.79	97.5
112	0.0285 ± 0.0010	0.188 ± 0.021	181.0 ± 6.1	174.7 ± 19.9	2.63	103.6
93092604 (Kitamatadani Formation)						
1	0.0399 ± 0.0006	0.288 ± 0.018	252.1 ± 3.8	256.9 ± 16.1	1.39	98.1
2	0.0423 ± 0.0016	0.305 ± 0.050	266.8 ± 9.8	270.1 ± 44.6	0.25	98.8
3	0.0320 ± 0.0012	0.221 ± 0.038	202.9 ± 7.7	202.7 ± 35.1	0.43	100.1
4	0.0413 ± 0.0009	0.284 ± 0.028	260.9 ± 5.7	253.6 ± 24.7	0.35	102.9
5	0.0401 ± 0.0011	0.281 ± 0.036	253.3 ± 7.1	251.6 ± 31.9	0.54	100.7
6	0.0404 ± 0.0015	0.317 ± 0.050	255.2 ± 9.2	279.8 ± 43.7	0.54	91.2
7	0.0435 ± 0.0011	0.336 ± 0.036	274.8 ± 6.9	294.3 ± 31.7	0.36	93.4
8	0.0414 ± 0.0006	0.329 ± 0.017	261.4 ± 3.8	288.5 ± 14.7	0.45	90.6
9	0.0388 ± 0.0008	0.265 ± 0.021	245.1 ± 5.1	238.6 ± 19.3	0.53	102.7
10	0.0414 ± 0.0007	0.293 ± 0.016	261.3 ± 4.4	261.0 ± 14.1	0.63	100.1
11	0.0423 ± 0.0007	0.310 ± 0.017	266.8 ± 4.5	274.5 ± 15.0	1.31	97.2
12	0.0395 ± 0.0013	0.254 ± 0.039	249.5 ± 8.5	230.2 ± 35.6	0.56	108.4
13	0.0419 ± 0.0008	0.282 ± 0.020	264.7 ± 5.0	252.2 ± 17.5	0.79	104.9
14	0.0477 ± 0.0009	0.376 ± 0.022	300.6 ± 5.4	324.4 ± 19.0	0.31	92.7
15	0.0395 ± 0.0008	0.286 ± 0.020	249.8 ± 4.8	255.1 ± 17.7	0.54	97.9
16	0.0464 ± 0.0008	0.327 ± 0.017	292.6 ± 4.8	287.3 ± 14.9	0.57	101.8
17	0.0411 ± 0.0010	0.280 ± 0.029	259.9 ± 6.3	250.5 ± 25.7	0.53	103.8
18	0.0414 ± 0.0007	0.338 ± 0.020	261.5 ± 4.6	295.9 ± 17.6	0.46	88.4
19	0.0412 ± 0.0008	0.285 ± 0.023	260.1 ± 5.3	254.4 ± 20.3	0.87	102.2
20	0.0413 ± 0.0011	0.286 ± 0.031	261.1 ± 6.7	255.7 ± 28.0	0.44	102.1

Appendix 1 (continue)

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
21	0.0403 ± 0.0009	0.294 ± 0.025	254.9 ± 5.4	262.0 ± 21.9	0.42	97.3
22	0.0401 ± 0.0016	0.281 ± 0.053	253.6 ± 10.4	251.2 ± 47.5	0.52	101.0
23	0.0323 ± 0.0010	0.255 ± 0.033	204.8 ± 6.3	230.7 ± 29.6	0.66	88.8
24	0.0436 ± 0.0011	0.324 ± 0.035	275.2 ± 7.2	285.1 ± 31.1	0.34	96.5
25	0.0371 ± 0.0007	0.277 ± 0.018	234.9 ± 4.4	248.5 ± 16.2	0.78	94.5
26	0.0398 ± 0.0007	0.286 ± 0.017	251.4 ± 4.4	255.5 ± 15.4	0.59	98.4
27	0.0404 ± 0.0008	0.305 ± 0.021	255.6 ± 4.9	270.4 ± 18.7	0.25	94.5
28	0.0407 ± 0.0014	0.305 ± 0.046	256.9 ± 8.8	270.2 ± 40.4	0.56	95.1
29	0.0425 ± 0.0015	0.376 ± 0.054	268.4 ± 9.6	324.4 ± 46.8	0.55	82.7
30	0.0389 ± 0.0007	0.277 ± 0.017	246.2 ± 4.4	248.3 ± 15.5	0.67	99.2
31	0.0494 ± 0.0015	0.334 ± 0.046	311.0 ± 9.6	292.2 ± 40.1	0.41	106.4
32	0.0426 ± 0.0007	0.288 ± 0.016	268.7 ± 4.5	257.1 ± 14.7	1.15	104.5
33	0.0419 ± 0.0013	0.286 ± 0.040	264.8 ± 8.1	255.6 ± 35.5	0.43	103.6
34	0.0412 ± 0.0009	0.375 ± 0.028	260.2 ± 5.4	323.5 ± 23.9	0.44	80.5
35	0.0424 ± 0.0016	0.347 ± 0.058	267.6 ± 10.3	302.8 ± 50.6	0.63	88.4
36	0.0417 ± 0.0007	0.311 ± 0.016	263.2 ± 4.2	275.1 ± 14.2	0.62	95.7
37	0.0420 ± 0.0010	0.381 ± 0.031	265.3 ± 6.0	328.0 ± 27.1	0.87	80.9
38	0.0417 ± 0.0008	0.301 ± 0.020	263.3 ± 4.8	267.1 ± 17.4	0.49	98.6
39	0.0355 ± 0.0008	0.224 ± 0.023	225.1 ± 5.3	205.3 ± 21.0	0.44	109.6
40	0.0412 ± 0.0006	0.295 ± 0.013	260.1 ± 3.8	262.4 ± 11.4	0.71	99.1
41	0.0385 ± 0.0011	0.276 ± 0.016	243.8 ± 6.8	247.2 ± 14.3	0.46	98.6
42	0.0398 ± 0.0015	0.288 ± 0.038	251.3 ± 9.6	256.9 ± 33.9	0.57	97.8
43	0.0353 ± 0.0010	0.259 ± 0.013	223.4 ± 6.1	233.5 ± 11.9	0.38	95.7
44	0.0403 ± 0.0012	0.276 ± 0.021	254.9 ± 7.7	247.3 ± 19.1	0.84	103.1
45	0.0439 ± 0.0013	0.343 ± 0.021	277.2 ± 7.9	299.3 ± 18.6	0.33	92.6
46	0.0433 ± 0.0018	0.291 ± 0.046	273.2 ± 11.4	259.1 ± 41.4	0.53	105.4
47	0.0374 ± 0.0010	0.257 ± 0.014	236.8 ± 6.6	232.1 ± 13.0	0.53	102.0
49	0.0383 ± 0.0012	0.243 ± 0.028	242.1 ± 7.8	221.1 ± 25.0	0.91	109.5
50	0.0362 ± 0.0016	0.237 ± 0.042	229.4 ± 10.0	215.8 ± 38.4	0.89	106.3
51	0.0396 ± 0.0017	0.340 ± 0.052	250.3 ± 10.6	296.8 ± 45.2	0.80	84.3
52	0.0321 ± 0.0009	0.231 ± 0.017	203.7 ± 5.5	211.4 ± 15.3	0.39	96.3
53	0.0375 ± 0.0012	0.249 ± 0.028	237.2 ± 7.6	225.9 ± 25.1	0.69	105.0
54	0.0397 ± 0.0011	0.341 ± 0.027	250.7 ± 7.2	297.7 ± 24.0	0.57	84.2
55	0.0412 ± 0.0012	0.311 ± 0.028	260.1 ± 7.7	274.6 ± 24.3	0.49	94.7
56	0.0395 ± 0.0011	0.330 ± 0.023	249.6 ± 6.8	289.6 ± 20.2	0.64	86.2
57	0.0403 ± 0.0011	0.299 ± 0.036	254.4 ± 7.1	266.0 ± 31.6	0.45	95.7
58	0.0387 ± 0.0009	0.288 ± 0.028	244.9 ± 5.7	256.6 ± 24.9	0.58	95.4
59	0.0370 ± 0.0006	0.251 ± 0.017	234.3 ± 4.0	227.2 ± 15.7	0.76	103.1
60	0.0393 ± 0.0010	0.272 ± 0.028	248.3 ± 6.0	244.5 ± 25.5	0.42	101.6
61	0.0384 ± 0.0006	0.273 ± 0.017	243.0 ± 3.9	245.0 ± 15.0	0.56	99.2
62	0.0396 ± 0.0006	0.269 ± 0.014	250.3 ± 3.6	242.0 ± 12.9	0.54	103.4
63	0.0398 ± 0.0013	0.265 ± 0.038	251.6 ± 7.9	238.4 ± 34.0	0.89	105.6
64	0.0349 ± 0.0012	0.231 ± 0.037	221.2 ± 7.7	210.7 ± 33.4	0.62	105.0
65	0.0411 ± 0.0014	0.276 ± 0.034	259.4 ± 8.9	247.8 ± 30.8	1.01	104.7
66	0.0400 ± 0.0014	0.263 ± 0.036	252.6 ± 9.1	236.8 ± 32.4	0.50	106.7
68	0.0360 ± 0.0013	0.251 ± 0.034	228.1 ± 8.2	227.2 ± 30.5	0.77	100.4
69	0.0401 ± 0.0013	0.303 ± 0.032	253.4 ± 8.1	268.6 ± 28.3	0.58	94.3
70	0.0379 ± 0.0019	0.273 ± 0.056	240.1 ± 11.7	244.8 ± 50.0	0.51	98.1
71	0.0379 ± 0.0013	0.264 ± 0.034	240.0 ± 8.5	238.2 ± 30.9	1.04	100.7
72	0.0412 ± 0.0012	0.298 ± 0.027	260.3 ± 7.8	264.6 ± 24.4	0.50	98.4
73	0.0398 ± 0.0014	0.297 ± 0.028	251.7 ± 9.1	263.7 ± 24.5	0.51	95.4
74	0.0380 ± 0.0018	0.271 ± 0.048	240.3 ± 11.6	243.1 ± 43.1	0.44	98.8
75	0.0363 ± 0.0018	0.249 ± 0.046	229.7 ± 11.1	226.1 ± 41.3	0.71	101.6
76	0.0393 ± 0.0014	0.311 ± 0.030	248.6 ± 9.2	275.1 ± 26.2	0.50	90.4
77	0.0390 ± 0.0015	0.282 ± 0.031	246.7 ± 9.4	252.5 ± 27.5	0.64	97.7
78	0.0418 ± 0.0015	0.298 ± 0.027	263.8 ± 9.5	265.1 ± 24.2	0.56	99.5
79	0.0489 ± 0.0022	0.292 ± 0.050	308.0 ± 13.9	260.2 ± 44.9	0.61	118.4
80	0.0426 ± 0.0019	0.289 ± 0.046	268.9 ± 12.0	257.5 ± 40.9	0.41	104.4

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
81	0.0402 ± 0.0011	0.266 ± 0.026	254.1 ± 6.9	239.3 ± 23.5	0.57	106.2
82	0.0423 ± 0.0013	0.313 ± 0.036	266.9 ± 8.3	276.3 ± 31.9	0.81	96.6
83	0.0399 ± 0.0009	0.284 ± 0.016	252.2 ± 5.5	253.8 ± 14.7	0.54	99.3
84	0.0421 ± 0.0016	0.301 ± 0.049	266.1 ± 10.4	266.8 ± 43.3	0.56	99.7
85	0.0381 ± 0.0008	0.271 ± 0.013	241.0 ± 5.0	243.3 ± 11.4	0.44	99.0
86	0.0386 ± 0.0010	0.281 ± 0.022	244.3 ± 6.1	251.1 ± 19.9	0.20	97.3
87	0.0440 ± 0.0013	0.343 ± 0.035	277.8 ± 8.1	299.3 ± 31.0	0.57	92.8
88	0.0412 ± 0.0009	0.284 ± 0.017	260.2 ± 5.7	254.1 ± 15.1	0.57	102.4
93092603 (Kitamatadani Formation)						
2	0.0308 ± 0.0007	0.226 ± 0.020	195.3 ± 4.4	206.8 ± 17.9	0.68	94.4
4	0.0293 ± 0.0006	0.201 ± 0.015	186.3 ± 3.6	185.8 ± 13.5	0.91	100.3
5	0.0294 ± 0.0007	0.242 ± 0.022	186.6 ± 4.6	220.4 ± 20.5	0.84	84.7
6	0.0295 ± 0.0007	0.202 ± 0.020	187.3 ± 4.4	187.2 ± 18.1	0.98	100.1
7	0.0306 ± 0.0005	0.207 ± 0.012	194.2 ± 3.3	190.9 ± 11.2	1.34	101.7
9	0.0299 ± 0.0008	0.231 ± 0.017	189.9 ± 5.3	210.8 ± 16.0	1.28	90.1
11	0.0281 ± 0.0007	0.211 ± 0.014	178.8 ± 4.7	194.1 ± 12.7	1.59	92.1
13	0.0298 ± 0.0010	0.200 ± 0.023	189.2 ± 6.2	185.1 ± 21.3	0.50	102.2
14	0.0297 ± 0.0012	0.216 ± 0.032	188.7 ± 7.3	198.3 ± 29.6	0.82	95.1
15	0.0286 ± 0.0009	0.200 ± 0.019	181.6 ± 5.5	184.9 ± 17.4	0.82	98.2
16	0.0281 ± 0.0009	0.188 ± 0.019	178.9 ± 5.4	174.9 ± 17.2	1.09	102.3
17	0.0308 ± 0.0009	0.197 ± 0.022	195.2 ± 5.8	182.4 ± 20.5	0.69	107.0
18	0.0289 ± 0.0008	0.182 ± 0.017	183.6 ± 4.9	169.7 ± 15.6	1.03	108.2
19	0.0382 ± 0.0011	0.284 ± 0.029	241.5 ± 7.1	253.7 ± 26.1	0.66	95.2
20	0.0353 ± 0.0014	0.284 ± 0.044	223.5 ± 8.8	253.5 ± 39.4	0.74	88.2
22	0.0313 ± 0.0011	0.274 ± 0.036	198.4 ± 7.2	245.7 ± 32.5	0.89	80.8
23	0.0287 ± 0.0009	0.199 ± 0.024	182.2 ± 5.8	184.6 ± 22.3	0.91	98.7
24	0.0278 ± 0.0009	0.186 ± 0.022	176.7 ± 5.4	172.8 ± 20.2	0.83	102.2
25	0.0294 ± 0.0008	0.206 ± 0.017	186.5 ± 5.0	189.9 ± 15.6	1.32	98.2
26	0.0332 ± 0.0009	0.229 ± 0.018	210.3 ± 5.6	209.2 ± 16.6	1.49	100.5
27	0.0289 ± 0.0008	0.209 ± 0.020	183.5 ± 5.4	192.4 ± 18.7	0.86	95.4
28	0.0288 ± 0.0008	0.239 ± 0.019	183.1 ± 5.0	218.0 ± 17.7	1.09	84.0
29	0.0290 ± 0.0010	0.189 ± 0.026	184.5 ± 6.4	176.0 ± 24.1	0.63	104.8
30	0.0321 ± 0.0009	0.229 ± 0.020	203.6 ± 5.6	209.5 ± 18.1	0.36	97.2
31	0.0279 ± 0.0008	0.296 ± 0.021	177.1 ± 4.8	262.9 ± 18.7	1.41	67.4
32	0.0290 ± 0.0008	0.217 ± 0.017	184.6 ± 4.9	199.1 ± 15.4	1.13	92.7
33	0.0293 ± 0.0006	0.223 ± 0.013	186.1 ± 3.9	204.7 ± 11.8	0.82	90.9
34	0.0291 ± 0.0007	0.195 ± 0.017	185.1 ± 4.6	180.7 ± 15.7	1.32	102.4
35	0.0283 ± 0.0009	0.285 ± 0.030	179.8 ± 5.6	254.9 ± 26.5	0.67	70.5
36	0.0304 ± 0.0007	0.215 ± 0.016	193.0 ± 4.4	197.7 ± 14.3	0.75	97.6
37	0.0296 ± 0.0006	0.208 ± 0.014	188.3 ± 4.1	191.9 ± 12.5	1.63	98.1
38	0.0348 ± 0.0010	0.368 ± 0.036	220.4 ± 6.7	317.8 ± 31.1	1.05	69.3
39	0.0279 ± 0.0007	0.184 ± 0.018	177.5 ± 4.7	171.3 ± 17.0	1.03	103.6
40	0.0286 ± 0.0008	0.248 ± 0.023	182.1 ± 4.9	225.1 ± 20.5	1.09	80.9
41	0.0287 ± 0.0008	0.176 ± 0.021	182.5 ± 4.9	164.8 ± 19.4	0.74	110.7
42	0.0295 ± 0.0007	0.250 ± 0.023	187.2 ± 4.7	226.7 ± 21.1	0.82	82.6
43	0.0284 ± 0.0007	0.211 ± 0.018	180.2 ± 4.1	194.7 ± 16.8	0.99	92.5
44	0.0305 ± 0.0011	0.214 ± 0.032	193.9 ± 6.7	196.9 ± 29.8	0.70	98.5
45	0.0297 ± 0.0007	0.203 ± 0.019	188.7 ± 4.5	187.4 ± 18.0	0.75	100.7
46	0.0292 ± 0.0006	0.217 ± 0.015	185.5 ± 3.7	199.7 ± 13.8	1.61	92.9
48	0.0291 ± 0.0006	0.232 ± 0.018	184.8 ± 4.1	212.1 ± 16.7	1.77	87.1
49	0.0284 ± 0.0007	0.286 ± 0.026	180.5 ± 4.6	255.2 ± 23.1	0.56	70.7
50	0.0306 ± 0.0010	0.224 ± 0.030	194.2 ± 6.0	205.0 ± 27.4	0.77	94.7
51	0.0290 ± 0.0005	0.203 ± 0.014	184.1 ± 3.5	187.4 ± 13.4	1.40	98.3
52	0.0326 ± 0.0011	0.232 ± 0.034	206.6 ± 6.8	212.0 ± 30.9	0.62	97.4
53	0.0288 ± 0.0008	0.204 ± 0.023	182.8 ± 4.9	188.4 ± 21.4	0.70	97.1
54	0.0287 ± 0.0006	0.210 ± 0.017	182.7 ± 3.9	193.7 ± 16.1	1.18	94.3
56	0.0289 ± 0.0006	0.221 ± 0.018	183.8 ± 3.9	202.5 ± 16.6	0.73	90.8

Appendix 1 (continue)

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
57	0.0291 ± 0.0011	0.332 ± 0.044	184.7 ± 7.1	290.9 ± 38.2	0.64	63.5
58	0.0326 ± 0.0007	0.224 ± 0.017	206.5 ± 4.6	205.2 ± 15.7	1.03	100.6
59	0.0302 ± 0.0010	0.176 ± 0.027	191.6 ± 6.5	164.4 ± 25.2	0.80	116.5
60	0.0280 ± 0.0006	0.192 ± 0.011	178.0 ± 3.5	178.5 ± 10.6	1.12	99.7
62	0.0318 ± 0.0007	0.237 ± 0.016	201.9 ± 4.3	215.8 ± 14.6	0.77	93.6
63	0.0283 ± 0.0006	0.191 ± 0.013	180.2 ± 3.7	177.1 ± 11.8	1.03	101.8
64	0.0292 ± 0.0007	0.235 ± 0.020	185.7 ± 4.6	214.3 ± 18.2	0.92	86.6
66	0.0278 ± 0.0005	0.200 ± 0.011	176.9 ± 3.3	184.8 ± 9.9	1.64	95.8
67	0.0306 ± 0.0007	0.237 ± 0.018	194.4 ± 4.3	216.0 ± 16.0	1.02	90.0
68	0.0297 ± 0.0007	0.206 ± 0.018	188.6 ± 4.5	189.9 ± 16.9	0.96	99.3
69	0.0306 ± 0.0007	0.206 ± 0.017	194.3 ± 4.5	190.3 ± 16.1	0.81	102.1
70	0.0318 ± 0.0007	0.214 ± 0.018	201.8 ± 4.7	197.1 ± 16.7	0.72	102.4
71	0.0328 ± 0.0008	0.232 ± 0.022	208.3 ± 5.2	212.1 ± 20.1	0.70	98.2
73	0.0301 ± 0.0012	0.270 ± 0.041	191.3 ± 7.6	243.1 ± 36.5	0.73	78.7
74	0.0302 ± 0.0007	0.204 ± 0.014	191.9 ± 4.2	188.3 ± 12.8	0.94	101.9
75	0.0308 ± 0.0007	0.223 ± 0.016	195.7 ± 4.5	204.2 ± 14.9	1.02	95.8
76	0.0296 ± 0.0007	0.219 ± 0.017	187.8 ± 4.4	200.8 ± 15.3	0.74	93.5
77	0.0297 ± 0.0008	0.191 ± 0.018	188.6 ± 4.8	177.2 ± 16.6	0.55	106.4
78	0.0340 ± 0.0012	0.530 ± 0.056	215.5 ± 7.7	431.6 ± 45.6	1.16	49.9
79	0.0306 ± 0.0008	0.288 ± 0.022	194.6 ± 4.9	256.9 ± 20.0	0.70	75.7
81	0.0313 ± 0.0010	0.215 ± 0.018	198.9 ± 6.1	197.9 ± 16.9	0.84	100.5
82	0.0299 ± 0.0009	0.195 ± 0.015	189.7 ± 5.5	180.7 ± 13.5	1.31	105.0
83	0.0302 ± 0.0009	0.216 ± 0.014	191.5 ± 5.5	198.8 ± 13.3	1.34	96.4
84	0.0300 ± 0.0008	0.210 ± 0.013	190.4 ± 5.4	193.4 ± 12.4	1.46	98.5
85	0.0353 ± 0.0013	0.241 ± 0.029	223.9 ± 8.1	218.8 ± 26.7	1.24	102.3
86	0.0299 ± 0.0008	0.232 ± 0.013	189.9 ± 5.2	212.3 ± 11.9	0.92	89.4
87	0.0286 ± 0.0009	0.201 ± 0.018	181.5 ± 5.7	185.7 ± 16.7	0.69	97.7
88	0.0289 ± 0.0008	0.200 ± 0.013	183.5 ± 5.3	185.2 ± 12.2	1.20	99.1
89	0.0329 ± 0.0008	0.234 ± 0.019	208.5 ± 5.3	213.2 ± 16.9	0.98	97.8
90	0.0289 ± 0.0012	0.228 ± 0.036	183.8 ± 7.4	208.8 ± 32.6	0.59	88.0
91	0.0289 ± 0.0007	0.212 ± 0.017	184.0 ± 4.8	195.6 ± 15.7	1.23	94.0
92	0.0326 ± 0.0009	0.233 ± 0.023	206.8 ± 5.9	212.9 ± 20.7	0.62	92.1
93	0.0285 ± 0.0007	0.203 ± 0.013	181.4 ± 4.2	188.0 ± 11.9	1.86	96.5
94	0.0286 ± 0.0008	0.208 ± 0.019	181.7 ± 5.0	191.9 ± 17.6	0.77	94.6
95	0.0349 ± 0.0012	0.293 ± 0.035	221.4 ± 7.4	261.0 ± 30.9	0.86	84.8
96	0.0292 ± 0.0008	0.218 ± 0.019	185.4 ± 5.0	200.4 ± 17.6	1.44	92.5
97	0.0329 ± 0.0008	0.279 ± 0.026	208.8 ± 5.1	249.8 ± 22.9	1.01	83.6
98	0.0293 ± 0.0005	0.207 ± 0.011	186.5 ± 3.1	190.8 ± 10.2	0.75	97.7
99	0.0280 ± 0.0005	0.304 ± 0.018	177.9 ± 3.5	269.4 ± 16.1	0.87	66.0
100	0.0284 ± 0.0006	0.245 ± 0.017	180.6 ± 3.7	222.7 ± 15.7	0.64	81.1
101	0.0293 ± 0.0006	0.226 ± 0.015	186.3 ± 3.5	206.6 ± 13.6	0.84	90.2
102	0.0306 ± 0.0007	0.206 ± 0.019	194.0 ± 4.5	190.6 ± 17.7	0.73	101.8
103	0.0303 ± 0.0006	0.241 ± 0.017	192.6 ± 3.9	219.6 ± 15.7	0.95	87.7
104	0.0309 ± 0.0009	0.343 ± 0.036	196.5 ± 5.8	299.7 ± 31.1	0.98	65.6
105	0.0306 ± 0.0009	0.196 ± 0.017	194.5 ± 5.6	181.9 ± 16.0	0.71	106.9
107	0.0289 ± 0.0007	0.209 ± 0.011	183.4 ± 4.6	192.5 ± 10.2	0.88	95.3
108	0.0289 ± 0.0009	0.216 ± 0.023	183.7 ± 5.9	198.8 ± 21.0	1.38	92.4
109	0.0312 ± 0.0009	0.216 ± 0.019	198.1 ± 5.8	198.9 ± 17.6	0.54	99.6
110	0.0269 ± 0.0008	0.201 ± 0.018	170.8 ± 5.0	185.9 ± 16.4	1.00	91.9
111	0.0291 ± 0.0010	0.195 ± 0.024	185.2 ± 6.3	180.5 ± 22.1	0.79	102.6
112	0.0308 ± 0.0008	0.203 ± 0.012	195.3 ± 5.0	187.8 ± 11.1	1.48	104.0
113	0.0266 ± 0.0006	0.209 ± 0.016	169.2 ± 4.1	192.7 ± 15.1	0.90	87.8
114	0.0297 ± 0.0007	0.196 ± 0.016	189.0 ± 4.6	181.9 ± 15.1	0.94	103.9
116	0.0285 ± 0.0006	0.186 ± 0.013	181.0 ± 4.0	173.4 ± 11.8	1.25	104.4
117	0.0297 ± 0.0009	0.225 ± 0.026	188.4 ± 5.8	206.1 ± 24.0	0.97	91.4
118	0.0279 ± 0.0007	0.189 ± 0.018	177.4 ± 4.7	176.1 ± 16.9	1.32	100.8
119	0.0281 ± 0.0007	0.208 ± 0.017	178.9 ± 4.3	192.1 ± 15.2	0.80	93.2
120	0.0290 ± 0.0007	0.208 ± 0.017	184.3 ± 4.6	191.5 ± 16.0	0.78	96.2

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
121	0.0279 ± 0.0005	0.204 ± 0.012	177.6 ± 3.0	188.6 ± 11.1	1.49	94.2
122	0.0297 ± 0.0008	0.197 ± 0.023	188.8 ± 5.0	182.6 ± 21.0	0.67	103.4
123	0.0319 ± 0.0006	0.224 ± 0.015	202.7 ± 3.7	205.0 ± 14.1	0.58	98.9
124	0.0286 ± 0.0007	0.198 ± 0.020	181.8 ± 4.3	183.5 ± 18.1	1.38	99.1
125	0.0270 ± 0.0005	0.180 ± 0.014	172.0 ± 3.4	168.1 ± 13.1	1.41	102.3
126	0.0299 ± 0.0004	0.208 ± 0.010	190.1 ± 2.8	191.6 ± 9.1	1.13	99.2
127	0.0282 ± 0.0004	0.209 ± 0.008	179.5 ± 2.4	192.5 ± 7.2	1.95	93.3
128	0.0283 ± 0.0005	0.189 ± 0.015	179.8 ± 3.5	176.1 ± 13.6	1.51	102.1
129	0.0305 ± 0.0009	0.221 ± 0.026	193.8 ± 5.8	202.4 ± 23.5	0.96	95.8
130	0.0293 ± 0.0008	0.202 ± 0.022	186.1 ± 5.2	186.7 ± 20.1	1.07	99.7
131	0.0315 ± 0.0010	0.206 ± 0.027	199.9 ± 6.3	189.9 ± 24.6	0.63	105.3
132	0.0335 ± 0.0009	0.219 ± 0.021	212.5 ± 5.5	201.1 ± 19.7	0.63	105.6
133	0.0306 ± 0.0008	0.247 ± 0.022	194.3 ± 5.1	223.8 ± 20.2	0.87	86.8
135	0.0297 ± 0.0007	0.216 ± 0.015	188.7 ± 4.2	198.5 ± 13.9	1.06	95.1
136	0.0289 ± 0.0006	0.200 ± 0.012	183.4 ± 3.8	185.2 ± 11.5	0.70	99.0
137	0.0301 ± 0.0009	0.371 ± 0.035	190.9 ± 6.0	320.3 ± 30.4	0.81	59.6
138	0.0289 ± 0.0007	0.214 ± 0.015	183.6 ± 4.4	197.0 ± 14.1	1.33	93.2
139	0.0299 ± 0.0007	0.220 ± 0.015	190.2 ± 4.4	201.6 ± 14.0	0.76	94.3
140	0.0294 ± 0.0007	0.234 ± 0.017	186.8 ± 4.5	213.9 ± 15.5	1.07	87.4
141	0.0303 ± 0.0007	0.211 ± 0.012	192.7 ± 4.2	194.1 ± 11.5	1.63	99.3
142	0.0306 ± 0.0008	0.290 ± 0.024	194.2 ± 5.3	258.4 ± 21.7	0.52	75.2
144	0.0321 ± 0.0009	0.230 ± 0.020	204.0 ± 5.4	210.0 ± 18.6	0.99	97.1
145	0.0300 ± 0.0008	0.209 ± 0.017	190.8 ± 5.4	192.4 ± 15.4	0.77	99.2
146	0.0319 ± 0.0008	0.223 ± 0.013	202.5 ± 5.2	204.1 ± 12.0	1.44	99.2
147	0.0269 ± 0.0010	0.188 ± 0.024	170.9 ± 6.1	175.1 ± 22.3	1.17	97.6
148	0.0273 ± 0.0007	0.175 ± 0.012	173.6 ± 4.6	163.9 ± 10.9	0.77	105.9
150	0.0324 ± 0.0012	0.287 ± 0.033	205.8 ± 7.3	256.0 ± 29.6	0.98	80.4
153	0.0284 ± 0.0009	0.222 ± 0.026	180.7 ± 5.7	203.8 ± 23.9	0.97	88.6
154	0.0283 ± 0.0006	0.216 ± 0.012	180.0 ± 3.8	198.7 ± 10.8	0.76	90.6
156	0.0285 ± 0.0006	0.193 ± 0.011	181.2 ± 3.9	178.9 ± 10.2	1.57	101.3
157	0.0307 ± 0.0008	0.210 ± 0.018	194.9 ± 4.9	193.1 ± 16.4	1.17	100.9
158	0.0310 ± 0.0011	0.223 ± 0.033	196.6 ± 7.1	204.5 ± 30.0	0.63	96.1
159	0.0304 ± 0.0007	0.216 ± 0.012	193.1 ± 4.1	198.5 ± 11.5	0.74	97.3
160	0.0287 ± 0.0007	0.194 ± 0.016	182.1 ± 4.5	179.8 ± 14.9	0.69	101.3
14101601 (Gamaharazawa Formation)						
1	0.02846 ± 0.00089	0.1955 ± 0.0221	180.9 ± 5.6	181.3 ± 20.5	0.74	99.8
2	0.02705 ± 0.00067	0.1825 ± 0.0131	172.0 ± 4.3	170.2 ± 12.3	1.01	101.1
3	0.02947 ± 0.00081	0.2153 ± 0.0190	187.2 ± 5.2	198.0 ± 17.5	0.90	94.6
4	0.04097 ± 0.00122	0.2747 ± 0.0288	258.9 ± 7.7	246.4 ± 25.9	0.51	105.0
5	0.03579 ± 0.00144	0.2939 ± 0.0448	226.7 ± 9.1	261.6 ± 39.9	0.40	86.6
6	0.02925 ± 0.00074	0.2218 ± 0.0157	185.9 ± 4.7	203.4 ± 14.4	1.00	91.4
7	0.03081 ± 0.00079	0.2073 ± 0.0160	195.6 ± 5.0	191.3 ± 14.7	0.77	102.2
8	0.02812 ± 0.00072	0.2052 ± 0.0146	178.8 ± 4.6	189.5 ± 13.5	0.85	94.3
9	0.03960 ± 0.00203	0.2982 ± 0.0635	250.3 ± 12.8	265.0 ± 56.5	0.50	94.5
10	0.03912 ± 0.00117	0.2360 ± 0.0242	247.4 ± 7.4	215.1 ± 22.1	0.50	115.0
12	0.03206 ± 0.00107	0.3605 ± 0.0348	203.4 ± 6.8	312.6 ± 30.2	0.77	65.1
13	0.03823 ± 0.00092	0.2820 ± 0.0138	241.9 ± 5.8	252.2 ± 12.4	0.56	95.9
14	0.02994 ± 0.00089	0.2181 ± 0.0202	190.2 ± 5.6	200.3 ± 18.6	1.40	94.9
15	0.02723 ± 0.00079	0.2039 ± 0.0180	173.2 ± 5.0	188.4 ± 16.6	1.11	91.9
16	0.02888 ± 0.00073	0.3209 ± 0.0174	183.6 ± 4.7	282.6 ± 15.3	0.86	65.0
17	0.02893 ± 0.00084	0.1997 ± 0.0181	183.9 ± 5.3	184.9 ± 16.7	1.05	99.5
18	0.03959 ± 0.00154	0.2931 ± 0.0425	250.3 ± 9.7	261.0 ± 37.8	0.43	95.9
19	0.02876 ± 0.00100	0.1947 ± 0.0144	182.8 ± 6.3	180.6 ± 13.3	1.37	101.2
20	0.02997 ± 0.00104	0.2025 ± 0.0152	190.4 ± 6.6	187.2 ± 14.1	0.92	101.7
22	0.02981 ± 0.00101	0.2020 ± 0.0135	189.4 ± 6.4	186.8 ± 12.5	1.31	101.4
23	0.03026 ± 0.00138	0.2486 ± 0.0362	192.2 ± 8.8	225.4 ± 32.8	0.51	85.3
24	0.03242 ± 0.00122	0.3221 ± 0.0281	205.7 ± 7.7	283.5 ± 24.7	0.72	72.5

Appendix 1 (continue)

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
25	0.31152 ± 0.00992	4.7265 ± 0.1623	1748.2 ± 55.7	1771.9 ± 60.8	0.20	98.7
26	0.34726 ± 0.01109	6.1845 ± 0.2158	1921.5 ± 61.4	2002.2 ± 69.8	0.53	96.0
27	0.04290 ± 0.00159	0.3963 ± 0.0337	270.8 ± 10.0	338.9 ± 28.8	0.75	79.9
28	0.03220 ± 0.00086	0.2389 ± 0.0166	204.3 ± 5.5	217.5 ± 15.1	0.89	93.9
29	0.03443 ± 0.00090	0.3871 ± 0.0218	218.2 ± 5.7	332.2 ± 18.7	0.64	65.7
30	0.03135 ± 0.00092	0.2285 ± 0.0203	199.0 ± 5.8	208.9 ± 18.5	0.54	95.2
32	0.08795 ± 0.00222	0.9319 ± 0.0469	543.4 ± 13.7	668.6 ± 33.7	0.26	81.3
33	0.03248 ± 0.00110	0.2932 ± 0.0315	206.1 ± 7.0	261.1 ± 28.1	0.57	78.9
34	0.03234 ± 0.00084	0.2252 ± 0.0141	205.2 ± 5.3	206.2 ± 12.9	1.05	99.5
35	0.03099 ± 0.00091	0.2657 ± 0.0220	196.7 ± 5.8	239.2 ± 19.8	0.69	82.2
36	0.02944 ± 0.00082	0.2741 ± 0.0192	187.0 ± 5.2	245.9 ± 17.2	1.05	76.0
37	0.03098 ± 0.00117	0.2737 ± 0.0371	196.7 ± 7.4	245.7 ± 33.3	0.58	80.1
38	0.02948 ± 0.00072	0.2218 ± 0.0150	187.3 ± 4.6	203.4 ± 13.8	0.65	92.1
39	0.02791 ± 0.00082	0.2159 ± 0.0214	177.4 ± 5.2	198.5 ± 19.7	0.84	89.4
40	0.02779 ± 0.00070	0.1894 ± 0.0142	176.7 ± 4.4	176.1 ± 13.2	0.66	100.3
41	0.03167 ± 0.00087	0.2232 ± 0.0202	201.0 ± 5.5	204.6 ± 18.5	0.42	98.2
42	0.03097 ± 0.00108	0.2244 ± 0.0298	196.6 ± 6.9	205.5 ± 27.3	0.51	95.7
43	0.02797 ± 0.00072	0.2672 ± 0.0183	177.9 ± 4.6	240.4 ± 16.5	1.12	74.0
44	0.02839 ± 0.00079	0.1806 ± 0.0175	180.4 ± 5.0	168.6 ± 16.3	0.68	107.0
47	0.03003 ± 0.00097	0.2133 ± 0.0184	190.7 ± 6.1	196.3 ± 17.0	0.98	97.2
49	0.02796 ± 0.00091	0.1952 ± 0.0174	177.8 ± 5.8	181.0 ± 16.2	0.71	98.2
50	0.02908 ± 0.00090	0.1983 ± 0.0151	184.8 ± 5.7	183.6 ± 14.0	1.05	100.6
52	0.03843 ± 0.00117	0.2856 ± 0.0202	243.1 ± 7.4	255.1 ± 18.0	0.55	95.3
53	0.03470 ± 0.00129	0.4013 ± 0.0402	219.9 ± 8.2	342.6 ± 34.3	0.46	64.2
54	0.03876 ± 0.00124	0.2464 ± 0.0220	245.2 ± 7.9	223.6 ± 20.0	1.18	109.6
55	0.03093 ± 0.00106	0.3134 ± 0.0269	196.4 ± 6.7	276.8 ± 23.8	0.68	70.9
56	0.04447 ± 0.00135	0.3241 ± 0.0206	280.5 ± 8.5	285.0 ± 18.1	0.62	98.4
57	0.03067 ± 0.00105	0.2524 ± 0.0235	194.7 ± 6.7	228.5 ± 21.3	0.96	85.2
58	0.03012 ± 0.00094	0.2206 ± 0.0158	191.3 ± 6.0	202.4 ± 14.5	1.19	94.5
61	0.02905 ± 0.00112	0.2250 ± 0.0279	184.6 ± 7.1	206.1 ± 25.5	0.55	89.6
62	0.03967 ± 0.00122	0.2957 ± 0.0202	250.8 ± 7.7	263.0 ± 18.0	0.61	95.4
63	0.02892 ± 0.00093	0.2166 ± 0.0170	183.8 ± 5.9	199.1 ± 15.7	0.64	92.3
64	0.03119 ± 0.00114	0.2909 ± 0.0279	198.0 ± 7.3	259.2 ± 24.8	1.20	76.4
65	0.02926 ± 0.00109	0.2483 ± 0.0258	185.9 ± 6.9	225.2 ± 23.4	0.50	82.6
66	0.04108 ± 0.00129	0.2961 ± 0.0173	259.5 ± 8.1	263.4 ± 15.4	0.79	98.6
67	0.04240 ± 0.00142	0.3105 ± 0.0249	267.7 ± 9.0	274.6 ± 22.0	0.53	97.5
68	0.02961 ± 0.00101	0.2499 ± 0.0203	188.1 ± 6.4	226.5 ± 18.4	0.64	83.1
69	0.04227 ± 0.00138	0.3160 ± 0.0224	266.9 ± 8.7	278.8 ± 19.8	0.49	95.7
70	0.04272 ± 0.00132	0.3187 ± 0.0171	269.7 ± 8.3	280.9 ± 15.1	0.54	96.0
71	0.04021 ± 0.00148	0.2624 ± 0.0292	254.1 ± 9.4	236.6 ± 26.3	0.85	107.4
72	0.04179 ± 0.00136	0.2959 ± 0.0210	263.9 ± 8.6	263.2 ± 18.7	0.49	100.3
73	0.02965 ± 0.00056	0.2185 ± 0.0140	188.4 ± 3.6	200.6 ± 12.9	0.65	93.9
74	0.03064 ± 0.00049	0.2195 ± 0.0100	194.5 ± 3.1	201.5 ± 9.2	0.82	96.6
75	0.02961 ± 0.00068	0.2126 ± 0.0188	188.1 ± 4.3	195.7 ± 17.3	0.64	96.1
76	0.03139 ± 0.00068	0.2157 ± 0.0176	199.2 ± 4.3	198.3 ± 16.2	0.62	100.5
77	0.03241 ± 0.00089	0.2165 ± 0.0253	205.6 ± 5.7	199.0 ± 23.3	0.62	103.3
79	0.03119 ± 0.00148	0.3340 ± 0.0601	198.0 ± 9.4	292.6 ± 52.6	0.56	67.7
80	0.03261 ± 0.00067	0.2326 ± 0.0173	206.9 ± 4.2	212.4 ± 15.8	0.54	97.4
81	0.03244 ± 0.00106	0.3699 ± 0.0420	205.8 ± 6.7	319.6 ± 36.3	0.61	64.4

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1	0.0308 ± 0.0008	0.307 ± 0.029	195.7 ± 5.0	272.2 ± 25.8	0.50	71.9
2	0.0320 ± 0.0009	0.259 ± 0.029	203.0 ± 5.6	234.1 ± 26.4	0.57	86.7
3	0.0316 ± 0.0007	0.211 ± 0.020	200.3 ± 4.4	194.3 ± 18.3	0.80	103.1
4	0.0311 ± 0.0005	0.210 ± 0.013	197.5 ± 3.2	193.8 ± 12.3	1.16	101.9
5	0.0322 ± 0.0005	0.224 ± 0.013	204.4 ± 3.2	205.4 ± 12.3	1.31	99.5
7	0.0346 ± 0.0006	0.246 ± 0.018	219.3 ± 3.9	223.1 ± 16.2	0.60	98.3
8	0.0301 ± 0.0006	0.254 ± 0.019	191.0 ± 3.7	229.8 ± 17.0	0.83	83.1

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
9	0.0319 ± 0.0007	0.248 ± 0.022	202.4 ± 4.5	225.0 ± 20.0	1.32	90.0
11	0.0345 ± 0.0006	0.325 ± 0.018	218.7 ± 3.6	285.8 ± 15.6	0.70	76.5
12	0.0303 ± 0.0006	0.300 ± 0.023	192.6 ± 4.1	266.0 ± 20.1	0.79	72.4
14	0.0315 ± 0.0006	0.234 ± 0.019	200.0 ± 4.1	213.8 ± 17.2	0.55	93.5
16	0.0329 ± 0.0009	0.244 ± 0.029	208.7 ± 5.8	221.4 ± 26.0	0.54	94.3
17	0.0333 ± 0.0010	0.227 ± 0.029	211.4 ± 6.1	207.9 ± 26.2	0.46	101.7
18	0.0350 ± 0.0008	0.529 ± 0.037	221.8 ± 5.1	431.3 ± 30.3	0.53	51.4
19	0.0323 ± 0.0011	0.231 ± 0.029	205.1 ± 6.7	210.9 ± 26.2	0.53	97.3
20	0.0338 ± 0.0009	0.360 ± 0.030	214.2 ± 5.8	311.9 ± 25.9	0.61	68.7
22	0.0358 ± 0.0010	0.437 ± 0.039	226.8 ± 6.5	368.2 ± 32.7	0.77	61.6
23	0.0345 ± 0.0010	0.283 ± 0.029	218.3 ± 6.5	253.4 ± 25.8	0.96	86.2
24	0.0304 ± 0.0008	0.302 ± 0.026	193.1 ± 5.3	267.6 ± 23.0	0.47	72.1
26	0.0386 ± 0.0012	0.273 ± 0.029	243.9 ± 7.3	245.1 ± 26.4	0.77	99.5
27	0.0316 ± 0.0009	0.280 ± 0.028	200.3 ± 6.0	250.8 ± 25.3	0.69	79.9
29	0.0324 ± 0.0006	0.242 ± 0.014	205.3 ± 4.1	219.7 ± 12.7	0.82	93.4
30	0.0340 ± 0.0010	0.249 ± 0.030	215.7 ± 6.6	225.4 ± 27.3	0.62	95.7
31	0.0307 ± 0.0007	0.208 ± 0.018	194.8 ± 4.7	192.1 ± 16.9	0.75	101.4
32	0.0331 ± 0.0006	0.255 ± 0.013	210.1 ± 4.0	230.7 ± 11.6	0.77	91.1
33	0.0324 ± 0.0007	0.229 ± 0.017	205.6 ± 4.6	209.1 ± 15.9	0.38	98.3
34	0.0317 ± 0.0009	0.253 ± 0.028	201.4 ± 5.9	229.0 ± 25.4	0.56	88.0
35	0.0355 ± 0.0014	0.547 ± 0.068	225.2 ± 9.0	442.8 ± 54.9	0.54	50.9
36	0.0297 ± 0.0007	0.245 ± 0.018	188.7 ± 4.3	222.7 ± 16.6	0.60	84.7
37	0.0314 ± 0.0008	0.252 ± 0.019	199.4 ± 5.1	228.2 ± 17.0	0.46	87.3
39	0.0325 ± 0.0008	0.458 ± 0.024	206.2 ± 4.9	383.2 ± 20.3	0.75	53.8
40	0.0326 ± 0.0008	0.307 ± 0.019	206.7 ± 5.0	271.8 ± 16.5	1.19	76.0
43	0.0311 ± 0.0007	0.244 ± 0.015	197.1 ± 4.7	221.7 ± 14.0	0.73	88.9
45	0.0330 ± 0.0009	0.273 ± 0.023	209.5 ± 5.7	245.1 ± 20.7	0.68	85.4
47	0.0335 ± 0.0017	0.227 ± 0.024	212.1 ± 10.6	207.7 ± 21.8	0.40	102.2
48	0.0319 ± 0.0016	0.216 ± 0.019	202.6 ± 9.8	199.0 ± 17.9	0.98	101.8
49	0.0313 ± 0.0015	0.209 ± 0.021	198.7 ± 9.8	193.1 ± 19.0	1.09	102.9
51	0.0319 ± 0.0016	0.238 ± 0.024	202.4 ± 10.1	217.1 ± 21.9	0.68	93.2
52	0.0319 ± 0.0016	0.240 ± 0.025	202.4 ± 10.2	218.1 ± 23.1	0.70	92.8
53	0.0293 ± 0.0016	0.236 ± 0.033	186.0 ± 10.2	215.5 ± 30.2	0.62	86.3
54	0.0338 ± 0.0016	0.253 ± 0.023	214.3 ± 10.4	229.0 ± 20.5	0.66	93.6
55	0.0323 ± 0.0008	0.225 ± 0.014	204.6 ± 5.0	206.3 ± 12.5	0.75	99.2
57	0.0318 ± 0.0008	0.222 ± 0.014	202.1 ± 5.1	203.6 ± 13.1	0.44	99.2
58	0.0332 ± 0.0009	0.368 ± 0.025	210.3 ± 5.7	318.0 ± 21.9	0.46	66.1
62	0.0321 ± 0.0008	0.229 ± 0.013	203.7 ± 4.9	209.3 ± 12.0	0.90	97.3
63	0.0333 ± 0.0009	0.364 ± 0.024	210.9 ± 5.7	315.5 ± 21.0	0.68	66.9
65	0.0313 ± 0.0010	0.216 ± 0.027	198.9 ± 6.2	198.3 ± 25.0	0.72	100.3
69	0.0332 ± 0.0008	0.229 ± 0.017	210.5 ± 4.9	209.6 ± 15.6	1.14	100.5
70	0.0324 ± 0.0008	0.321 ± 0.026	205.3 ± 5.3	282.5 ± 22.6	0.81	72.7
71	0.0328 ± 0.0008	0.321 ± 0.022	207.8 ± 5.0	282.7 ± 19.7	0.75	73.5
72	0.0334 ± 0.0011	0.196 ± 0.027	211.5 ± 6.7	181.5 ± 25.2	0.56	116.6
73	0.0308 ± 0.0010	0.230 ± 0.030	195.8 ± 6.2	210.3 ± 27.6	0.55	93.1
74	0.0357 ± 0.0011	0.231 ± 0.029	226.4 ± 6.7	210.8 ± 26.9	0.65	107.4
76	0.0311 ± 0.0009	0.228 ± 0.028	197.7 ± 6.0	208.7 ± 25.8	0.92	94.7
77	0.0314 ± 0.0010	0.372 ± 0.040	199.5 ± 6.3	320.9 ± 34.1	0.72	62.2
78	0.0296 ± 0.0009	0.245 ± 0.029	188.2 ± 5.8	222.7 ± 26.4	0.49	84.5
82	0.0298 ± 0.0011	0.246 ± 0.035	189.4 ± 6.9	223.5 ± 31.7	0.58	84.7
83	0.0307 ± 0.0009	0.256 ± 0.027	195.2 ± 6.0	231.2 ± 24.7	0.58	84.4
84	0.0316 ± 0.0011	0.238 ± 0.034	200.7 ± 7.0	217.0 ± 30.6	0.56	92.5
85	0.0329 ± 0.0011	0.262 ± 0.035	208.7 ± 7.3	235.9 ± 31.8	0.74	88.5
86	0.0315 ± 0.0010	0.217 ± 0.029	199.8 ± 6.6	199.2 ± 26.7	0.59	100.3
87	0.0284 ± 0.0008	0.204 ± 0.022	180.7 ± 5.3	188.9 ± 20.0	0.69	95.7
88	0.0351 ± 0.0012	0.259 ± 0.037	222.3 ± 7.8	233.9 ± 33.4	0.60	95.0
89	0.0321 ± 0.0009	0.241 ± 0.025	203.6 ± 5.5	218.8 ± 23.2	1.01	93.0
91	0.0298 ± 0.0012	0.242 ± 0.042	189.6 ± 7.8	219.9 ± 38.2	0.56	86.2

Appendix 1 (continue)

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
93	0.0315 ± 0.0013	0.227 ± 0.042	199.8 ± 8.2	208.0 ± 38.1	0.65	96.0
94	0.0336 ± 0.0009	0.270 ± 0.026	213.0 ± 5.5	242.7 ± 23.5	0.95	87.8
95	0.0311 ± 0.0008	0.247 ± 0.024	197.2 ± 5.0	224.4 ± 21.5	0.56	87.9
96	0.0323 ± 0.0009	0.205 ± 0.024	204.8 ± 5.7	189.5 ± 22.5	0.66	108.1
97	0.0312 ± 0.0010	0.265 ± 0.027	198.0 ± 6.7	238.3 ± 24.0	0.92	83.1
98	0.0301 ± 0.0009	0.218 ± 0.020	191.0 ± 6.0	200.2 ± 18.6	1.01	95.4
99	0.0289 ± 0.0010	0.239 ± 0.025	183.8 ± 6.2	217.3 ± 22.4	0.89	84.6
100	0.0308 ± 0.0010	0.214 ± 0.019	195.8 ± 6.0	197.3 ± 17.7	0.78	99.3
101	0.0408 ± 0.0012	0.287 ± 0.019	258.0 ± 7.3	255.9 ± 17.2	0.20	100.8
102	0.0343 ± 0.0011	0.319 ± 0.026	217.2 ± 6.7	280.8 ± 22.6	0.81	77.4
104	0.0321 ± 0.0011	0.233 ± 0.028	203.6 ± 7.2	212.8 ± 25.2	0.37	95.7
106	0.0306 ± 0.0008	0.268 ± 0.023	194.2 ± 4.8	241.0 ± 20.3	1.10	80.6
107	0.0312 ± 0.0006	0.223 ± 0.015	197.8 ± 4.1	204.3 ± 13.7	1.07	96.8
108	0.0345 ± 0.0011	0.320 ± 0.038	218.4 ± 7.1	282.1 ± 33.5	0.79	77.4
109	0.0308 ± 0.0008	0.224 ± 0.022	195.6 ± 5.1	205.5 ± 20.2	0.68	95.1
111	0.0349 ± 0.0009	0.347 ± 0.028	221.4 ± 5.5	302.6 ± 24.6	0.36	73.2
112	0.0305 ± 0.0008	0.251 ± 0.024	193.4 ± 5.1	227.7 ± 21.8	0.69	84.9
113	0.0324 ± 0.0008	0.318 ± 0.021	205.4 ± 4.8	280.2 ± 18.9	1.08	73.3
114	0.0376 ± 0.0011	0.532 ± 0.046	238.0 ± 7.1	433.3 ± 37.1	0.67	54.9
117	0.0342 ± 0.0012	0.604 ± 0.062	216.8 ± 7.9	479.9 ± 49.3	0.73	45.2
118	0.0301 ± 0.0010	0.210 ± 0.030	190.9 ± 6.6	193.7 ± 27.4	0.51	98.5
119	0.0312 ± 0.0009	0.233 ± 0.026	198.2 ± 6.0	212.7 ± 24.2	0.60	93.2
120	0.0316 ± 0.0010	0.245 ± 0.027	200.5 ± 6.0	222.3 ± 25.0	0.94	90.2
123	0.0321 ± 0.0009	0.357 ± 0.033	204.0 ± 5.8	309.6 ± 28.2	0.80	65.9
124	0.0292 ± 0.0008	0.270 ± 0.027	185.8 ± 5.3	243.1 ± 23.8	0.71	76.4
125	0.0310 ± 0.0009	0.215 ± 0.024	196.7 ± 5.7	197.8 ± 22.2	1.14	99.4
128	0.0319 ± 0.0010	0.350 ± 0.034	202.2 ± 6.0	304.9 ± 29.8	0.41	66.3
129	0.0333 ± 0.0008	0.278 ± 0.022	210.9 ± 4.8	249.1 ± 20.0	0.75	84.7
130	0.0305 ± 0.0009	0.246 ± 0.029	193.8 ± 5.8	223.5 ± 26.5	0.69	86.7
131	0.0338 ± 0.0009	0.327 ± 0.032	214.1 ± 5.9	287.2 ± 27.9	0.58	74.5
132	0.0331 ± 0.0008	0.295 ± 0.027	209.8 ± 5.3	262.6 ± 23.7	0.62	79.9
134	0.0316 ± 0.0009	0.239 ± 0.025	200.6 ± 5.4	217.5 ± 23.0	1.05	92.2
135	0.0316 ± 0.0008	0.264 ± 0.024	200.7 ± 5.0	238.1 ± 21.5	0.67	84.3
136	0.0306 ± 0.0007	0.241 ± 0.020	194.4 ± 4.5	219.6 ± 18.6	0.95	88.5
139	0.0315 ± 0.0010	0.254 ± 0.027	199.9 ± 6.1	229.4 ± 24.1	0.79	87.1
140	0.0368 ± 0.0013	0.409 ± 0.047	233.1 ± 8.2	348.1 ± 39.7	0.55	67.0
141	0.0321 ± 0.0010	0.263 ± 0.027	203.9 ± 6.1	237.1 ± 24.1	0.63	86.0
142	0.0380 ± 0.0015	0.736 ± 0.079	240.1 ± 9.5	567.0 ± 60.0	0.82	42.9
143	0.0416 ± 0.0018	0.950 ± 0.107	262.5 ± 11.4	678.1 ± 76.4	0.67	38.7
144	0.0344 ± 0.0011	0.310 ± 0.034	218.3 ± 7.0	274.3 ± 29.9	0.76	79.6

14101605 (Gamaharazawa Formation)

1	0.0431 ± 0.0008	0.373 ± 0.024	271.8 ± 5.1	322.1 ± 21.0	0.61	84.4
2	0.0392 ± 0.0010	0.273 ± 0.030	248.1 ± 6.5	245.4 ± 27.1	0.43	101.1
4	0.0406 ± 0.0009	0.315 ± 0.026	256.4 ± 5.6	278.2 ± 23.3	0.51	92.2
5	0.0400 ± 0.0006	0.283 ± 0.013	252.6 ± 3.7	253.3 ± 11.4	0.51	99.7
6	0.0503 ± 0.0008	0.374 ± 0.019	316.4 ± 4.9	322.8 ± 16.0	0.58	98.0
7	0.0311 ± 0.0006	0.215 ± 0.017	197.2 ± 3.9	197.7 ± 15.2	0.48	99.8
8	0.0459 ± 0.0008	0.325 ± 0.019	289.1 ± 5.0	285.5 ± 16.9	0.56	101.3
9	0.0432 ± 0.0008	0.286 ± 0.021	272.4 ± 5.2	255.6 ± 18.8	0.46	106.6
10	0.0384 ± 0.0012	0.253 ± 0.033	243.0 ± 7.9	229.2 ± 30.0	0.69	106.0
11	0.0409 ± 0.0008	0.293 ± 0.014	258.1 ± 5.2	260.7 ± 12.6	0.61	99.0
12	0.0421 ± 0.0008	0.298 ± 0.014	266.0 ± 5.3	264.8 ± 12.2	0.54	100.4
13	0.0405 ± 0.0009	0.286 ± 0.021	255.7 ± 6.0	255.5 ± 18.5	0.62	100.1
14	0.0449 ± 0.0009	0.305 ± 0.015	283.0 ± 5.7	270.6 ± 13.3	0.10	104.6
15	0.0314 ± 0.0008	0.218 ± 0.017	199.0 ± 4.8	200.0 ± 15.9	0.51	99.5
16	0.0406 ± 0.0012	0.293 ± 0.033	256.4 ± 7.6	261.0 ± 29.0	0.57	98.2
17	0.0432 ± 0.0010	0.301 ± 0.020	272.6 ± 6.1	267.5 ± 17.6	0.36	101.9

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
18	0.0423 ± 0.0012	0.309 ± 0.030	267.0 ± 7.3	273.5 ± 26.3	0.93	97.6
19	0.0420 ± 0.0011	0.296 ± 0.019	265.4 ± 7.0	263.3 ± 16.6	0.41	100.8
20	0.0432 ± 0.0012	0.321 ± 0.026	272.8 ± 7.8	282.3 ± 22.7	0.40	96.6
22	0.0408 ± 0.0013	0.290 ± 0.029	257.5 ± 8.0	258.3 ± 25.9	0.55	99.7
23	0.0410 ± 0.0010	0.286 ± 0.013	258.8 ± 6.4	255.0 ± 11.4	0.74	101.5
24	0.0426 ± 0.0012	0.312 ± 0.022	268.7 ± 7.4	275.9 ± 19.9	0.34	97.4
25	0.0426 ± 0.0012	0.293 ± 0.026	268.7 ± 7.9	261.0 ± 22.9	0.53	102.9
26	0.0420 ± 0.0013	0.326 ± 0.030	265.4 ± 8.1	286.8 ± 26.6	0.46	92.5
27	0.0406 ± 0.0011	0.288 ± 0.019	256.4 ± 6.9	257.0 ± 16.8	0.64	99.8
29	0.0428 ± 0.0013	0.293 ± 0.033	270.0 ± 8.3	261.0 ± 29.7	0.58	103.4
30	0.0441 ± 0.0011	0.410 ± 0.029	278.3 ± 7.2	349.1 ± 24.6	0.51	79.7
31	0.0364 ± 0.0008	0.267 ± 0.013	230.6 ± 5.2	240.0 ± 11.9	0.55	96.1
32	0.0328 ± 0.0008	0.235 ± 0.015	207.9 ± 5.0	214.2 ± 13.9	0.49	97.1
33	0.0389 ± 0.0008	0.284 ± 0.012	245.8 ± 5.3	254.1 ± 10.9	0.81	96.7
34	0.0388 ± 0.0009	0.289 ± 0.016	245.3 ± 5.7	258.0 ± 14.2	0.42	95.1
35	0.0424 ± 0.0010	0.291 ± 0.016	267.5 ± 6.1	259.0 ± 13.9	1.01	103.3
36	0.0312 ± 0.0009	0.225 ± 0.020	198.2 ± 5.4	206.1 ± 18.2	0.50	96.2
37	0.0417 ± 0.0006	0.287 ± 0.015	263.4 ± 3.7	256.5 ± 13.1	0.37	102.7
38	0.0303 ± 0.0006	0.216 ± 0.019	192.7 ± 4.0	198.5 ± 17.3	0.62	97.0
39	0.0409 ± 0.0006	0.301 ± 0.016	258.4 ± 3.8	267.3 ± 13.8	0.37	96.7
40	0.0400 ± 0.0008	0.280 ± 0.024	252.8 ± 5.2	251.0 ± 21.4	1.07	100.7
41	0.4317 ± 0.0051	9.865 ± 0.232	2313.4 ± 27.2	2422.1 ± 56.9	0.95	95.5
42	0.0418 ± 0.0006	0.274 ± 0.016	264.1 ± 4.0	245.5 ± 14.4	0.51	107.6
43	0.0310 ± 0.0009	0.305 ± 0.034	196.9 ± 5.8	270.6 ± 30.3	0.63	72.8
44	0.0440 ± 0.0009	0.326 ± 0.027	277.3 ± 5.6	286.7 ± 23.5	0.64	96.7
45	0.0566 ± 0.0014	0.465 ± 0.047	355.2 ± 9.0	387.5 ± 39.5	0.69	91.7
46	0.0378 ± 0.0007	0.256 ± 0.016	238.9 ± 4.6	231.6 ± 14.9	0.04	103.1
47	0.0409 ± 0.0007	0.338 ± 0.016	258.6 ± 4.5	295.7 ± 14.2	0.53	87.5
48	0.0422 ± 0.0008	0.271 ± 0.017	266.6 ± 5.1	243.7 ± 15.6	0.18	109.4
50	0.0421 ± 0.0007	0.296 ± 0.015	265.6 ± 4.7	263.5 ± 13.8	0.65	100.8
51	0.0321 ± 0.0008	0.456 ± 0.036	203.7 ± 5.4	381.1 ± 29.8	0.45	53.4
52	0.0435 ± 0.0007	0.297 ± 0.015	274.3 ± 4.7	264.4 ± 13.0	0.54	103.8
53	0.0413 ± 0.0007	0.298 ± 0.012	260.9 ± 4.2	264.6 ± 10.3	0.60	98.6
54	0.0368 ± 0.0014	0.414 ± 0.056	232.8 ± 9.0	351.5 ± 47.8	0.49	66.2
55	0.0405 ± 0.0009	0.295 ± 0.019	256.2 ± 5.4	262.2 ± 16.7	0.41	97.7
56	0.0414 ± 0.0009	0.287 ± 0.018	261.4 ± 5.5	255.9 ± 15.9	0.86	102.2
57	0.0453 ± 0.0010	0.334 ± 0.021	285.8 ± 6.1	292.9 ± 18.5	0.49	97.5
58	0.0402 ± 0.0008	0.288 ± 0.017	254.2 ± 5.3	257.3 ± 15.4	0.61	98.8
59	0.0314 ± 0.0008	0.241 ± 0.021	199.4 ± 5.0	219.4 ± 19.0	0.66	90.9
60	0.0408 ± 0.0011	0.294 ± 0.029	258.1 ± 6.9	262.0 ± 25.6	0.46	98.5
61	0.0440 ± 0.0011	0.283 ± 0.026	277.3 ± 7.0	252.8 ± 23.4	0.42	109.7
62	0.0411 ± 0.0009	0.267 ± 0.019	259.5 ± 5.7	239.9 ± 16.7	0.35	108.2
63	0.0396 ± 0.0008	0.285 ± 0.015	250.3 ± 4.9	254.2 ± 13.4	0.64	98.4
64	0.0422 ± 0.0012	0.336 ± 0.025	266.5 ± 7.5	294.1 ± 22.0	0.40	90.6
65	0.0453 ± 0.0013	0.321 ± 0.027	285.8 ± 8.3	282.9 ± 23.4	0.49	101.0
66	0.0416 ± 0.0012	0.295 ± 0.022	263.0 ± 7.3	262.6 ± 19.8	0.56	100.1
68	0.0378 ± 0.0011	0.254 ± 0.020	239.1 ± 6.8	230.0 ± 18.4	0.24	103.9
69	0.0383 ± 0.0010	0.328 ± 0.015	242.3 ± 6.0	288.4 ± 13.0	1.05	84.0
71	0.0437 ± 0.0011	0.315 ± 0.019	275.7 ± 7.2	277.7 ± 16.4	0.58	99.3
72	0.0316 ± 0.0009	0.217 ± 0.015	200.3 ± 5.5	199.8 ± 14.1	0.47	100.3
73	0.0433 ± 0.0009	0.319 ± 0.021	273.5 ± 5.4	281.4 ± 18.6	0.36	97.2
74	0.0381 ± 0.0012	0.262 ± 0.038	241.1 ± 7.7	236.6 ± 34.0	0.42	101.9
75	0.0433 ± 0.0009	0.325 ± 0.024	273.1 ± 5.7	285.4 ± 20.8	0.43	95.7
76	0.0409 ± 0.0008	0.377 ± 0.024	258.6 ± 5.2	325.2 ± 20.9	0.46	79.5
77	0.0405 ± 0.0015	0.334 ± 0.052	255.7 ± 9.4	293.0 ± 45.8	0.38	87.3
78	0.0484 ± 0.0008	0.369 ± 0.017	304.9 ± 5.1	319.1 ± 15.0	0.46	95.5
79	0.0417 ± 0.0010	0.279 ± 0.026	263.4 ± 6.2	249.9 ± 23.5	0.77	105.4
80	0.0396 ± 0.0009	0.275 ± 0.026	250.6 ± 6.0	246.4 ± 23.2	0.55	101.7

Appendix 1 (continue)

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
81	0.0405 ± 0.0007	0.299 ± 0.016	256.1 ± 4.6	265.2 ± 14.5	0.50	96.6
82	0.0402 ± 0.0024	0.298 ± 0.032	254.0 ± 15.0	265.2 ± 28.3	0.77	95.8
83	0.0407 ± 0.0023	0.301 ± 0.027	257.3 ± 14.8	267.5 ± 23.8	0.61	96.2
84	0.0438 ± 0.0026	0.291 ± 0.035	276.5 ± 16.6	259.1 ± 31.5	0.54	106.7
85	0.0426 ± 0.0025	0.351 ± 0.033	269.0 ± 15.6	305.1 ± 28.5	0.55	88.2
86	0.0412 ± 0.0024	0.426 ± 0.035	260.5 ± 15.0	360.2 ± 29.7	0.27	72.3
87	0.0316 ± 0.0018	0.237 ± 0.021	200.4 ± 11.6	215.6 ± 19.3	0.60	93.0
88	0.0413 ± 0.0026	0.311 ± 0.042	261.1 ± 16.1	274.9 ± 36.8	0.63	95.0
89	0.0407 ± 0.0026	0.290 ± 0.044	257.1 ± 16.2	258.8 ± 38.9	0.65	99.3
90	0.0322 ± 0.0018	0.243 ± 0.018	204.5 ± 11.5	220.7 ± 16.0	0.43	92.7
97	0.0407 ± 0.0015	0.283 ± 0.038	257.5 ± 9.7	252.7 ± 34.1	0.59	101.9
98	0.0383 ± 0.0013	0.274 ± 0.029	242.5 ± 8.1	246.0 ± 26.2	0.59	98.6
100	0.0387 ± 0.0015	0.286 ± 0.040	244.9 ± 9.6	255.6 ± 35.8	0.49	95.8
101	0.0384 ± 0.0014	0.238 ± 0.030	242.8 ± 8.6	216.4 ± 27.2	0.92	112.2
102	0.0400 ± 0.0012	0.269 ± 0.025	252.9 ± 7.8	241.6 ± 22.2	0.38	104.7
103	0.0294 ± 0.0011	0.196 ± 0.026	187.0 ± 6.9	181.4 ± 24.0	0.68	103.1
104	0.0412 ± 0.0015	0.316 ± 0.039	260.5 ± 9.7	279.1 ± 34.1	0.34	93.3
105	0.0301 ± 0.0010	0.204 ± 0.018	191.0 ± 6.1	188.8 ± 16.5	0.62	101.1
106	0.0404 ± 0.0016	0.288 ± 0.041	255.6 ± 10.4	266.8 ± 36.6	0.67	99.5
107	0.0366 ± 0.0012	0.262 ± 0.025	231.7 ± 7.8	236.5 ± 22.8	0.50	98.0
108	0.0400 ± 0.0012	0.281 ± 0.022	253.1 ± 7.8	251.7 ± 19.3	0.45	100.5
109	0.0408 ± 0.0016	0.327 ± 0.040	258.0 ± 9.8	287.6 ± 34.7	0.51	89.7
110	0.0398 ± 0.0011	0.269 ± 0.015	251.5 ± 7.2	242.2 ± 13.5	0.95	103.8
111	0.0300 ± 0.0010	0.227 ± 0.023	190.4 ± 6.5	207.8 ± 20.8	0.43	91.6
112	0.0320 ± 0.0011	0.282 ± 0.025	203.3 ± 6.8	252.6 ± 22.0	0.63	80.5
113	0.0322 ± 0.0010	0.226 ± 0.027	204.5 ± 6.1	206.5 ± 24.3	0.54	99.0
114	0.0414 ± 0.0010	0.295 ± 0.024	261.2 ± 6.1	262.5 ± 21.0	0.82	99.5
116	0.0379 ± 0.0008	0.264 ± 0.017	240.1 ± 5.0	237.5 ± 15.1	0.86	101.1
117	0.0429 ± 0.0011	0.324 ± 0.028	271.1 ± 6.7	284.9 ± 24.3	0.50	95.1
118	0.0385 ± 0.0023	0.367 ± 0.090	243.3 ± 14.7	317.1 ± 77.5	0.22	76.7
119	0.0318 ± 0.0012	0.223 ± 0.037	202.0 ± 7.7	204.6 ± 33.5	0.76	98.8
120	0.0395 ± 0.0010	0.448 ± 0.033	250.0 ± 6.2	376.1 ± 27.7	0.48	66.5
121	0.0394 ± 0.0008	0.285 ± 0.019	249.0 ± 5.1	254.4 ± 17.2	0.83	97.9
122	0.0309 ± 0.0009	0.200 ± 0.025	196.0 ± 5.8	184.9 ± 23.3	0.46	106.0
123	0.0310 ± 0.0008	0.214 ± 0.022	197.0 ± 5.2	196.8 ± 20.5	0.37	100.1
124	0.0322 ± 0.0008	0.224 ± 0.020	204.5 ± 4.9	205.4 ± 18.6	0.47	99.6
125	0.0399 ± 0.0008	0.281 ± 0.018	252.2 ± 5.0	251.8 ± 15.9	0.51	100.2
126	0.0323 ± 0.0010	0.236 ± 0.028	204.9 ± 6.0	214.8 ± 25.4	0.50	95.4
127	0.0321 ± 0.0009	0.218 ± 0.024	203.4 ± 5.5	200.0 ± 21.9	0.39	101.7
128	0.0317 ± 0.0011	0.220 ± 0.033	201.2 ± 7.1	201.6 ± 30.5	0.54	99.8
130	0.0391 ± 0.0008	0.274 ± 0.023	247.0 ± 5.3	245.7 ± 20.8	0.68	100.5
132	0.0377 ± 0.0011	0.317 ± 0.037	238.3 ± 7.0	279.6 ± 32.6	0.63	85.2
133	0.0399 ± 0.0014	0.291 ± 0.046	252.3 ± 9.1	259.0 ± 40.8	0.65	97.4
134	0.0328 ± 0.0009	0.204 ± 0.024	207.8 ± 5.6	188.1 ± 22.4	0.64	110.4
135	0.0297 ± 0.0007	0.218 ± 0.019	188.5 ± 4.2	200.5 ± 17.3	0.48	94.0
136	0.0397 ± 0.0008	0.316 ± 0.022	251.1 ± 4.9	278.6 ± 19.3	0.73	90.1
137	0.0390 ± 0.0010	0.320 ± 0.027	246.6 ± 6.5	281.9 ± 24.0	0.40	87.5
138	0.0388 ± 0.0010	0.294 ± 0.023	245.4 ± 6.0	261.6 ± 20.7	0.34	93.8
139	0.0416 ± 0.0009	0.304 ± 0.017	262.5 ± 5.6	269.8 ± 15.3	0.02	97.3
140	0.0383 ± 0.0012	0.280 ± 0.034	242.6 ± 7.7	250.9 ± 30.3	0.30	96.7
141	0.0293 ± 0.0014	0.263 ± 0.047	186.0 ± 8.9	236.8 ± 42.7	0.63	78.5
142	0.0418 ± 0.0011	0.262 ± 0.027	263.7 ± 7.2	236.1 ± 24.4	0.60	111.7
144	0.0408 ± 0.0013	0.305 ± 0.036	258.0 ± 8.2	270.0 ± 32.1	0.35	95.6
145	0.0304 ± 0.0010	0.238 ± 0.024	192.7 ± 6.2	216.6 ± 21.7	0.73	89.0
146	0.0450 ± 0.0017	0.348 ± 0.046	284.0 ± 10.6	303.3 ± 39.6	0.59	93.6
147	0.0749 ± 0.0023	0.673 ± 0.055	465.7 ± 14.1	522.6 ± 42.5	0.48	89.1
149	0.0443 ± 0.0015	0.316 ± 0.038	279.1 ± 9.7	278.6 ± 33.6	0.59	100.2
150	0.0421 ± 0.0011	0.312 ± 0.018	266.1 ± 7.0	275.7 ± 16.0	0.55	96.5

Grain	²⁰⁶ Pb/ ²³⁸ U	²⁰⁷ Pb/ ²³⁵ U	²³⁸ U- ²⁰⁶ Pb age (Ma)	²³⁵ U- ²⁰⁷ Pb age (Ma)	Th/U	%conc
152	0.0363 ± 0.0012	0.268 ± 0.030	229.7 ± 7.8	241.0 ± 27.2	0.32	95.3
153	0.0398 ± 0.0008	0.303 ± 0.024	251.8 ± 5.4	268.9 ± 21.2	0.52	93.7
154	0.0396 ± 0.0015	0.421 ± 0.060	250.1 ± 9.7	357.0 ± 51.3	0.82	70.1
155	0.0383 ± 0.0008	0.307 ± 0.024	242.5 ± 5.2	272.1 ± 21.3	0.62	89.1
157	0.0409 ± 0.0007	0.330 ± 0.018	258.7 ± 4.5	289.9 ± 15.9	0.59	89.2
158	0.0394 ± 0.0013	0.310 ± 0.042	249.2 ± 8.1	274.5 ± 36.8	0.53	90.8
159	0.0299 ± 0.0009	0.182 ± 0.025	189.6 ± 5.8	170.1 ± 23.6	0.43	111.4
160	0.0434 ± 0.0012	0.287 ± 0.035	274.1 ± 7.7	256.5 ± 30.9	0.44	106.9
161	0.0441 ± 0.0009	0.324 ± 0.040	278.4 ± 5.5	284.6 ± 35.3	0.63	97.8
162	0.0406 ± 0.0008	0.300 ± 0.041	256.4 ± 5.3	266.4 ± 36.8	0.75	96.2
163	0.0752 ± 0.0017	0.592 ± 0.090	467.1 ± 10.3	472.1 ± 71.6	0.67	99.0
164	0.0410 ± 0.0007	0.296 ± 0.026	259.0 ± 4.5	263.4 ± 22.8	0.37	98.3
166	0.0405 ± 0.0009	0.349 ± 0.053	255.8 ± 5.8	304.1 ± 45.9	0.24	84.1
167	0.0406 ± 0.0011	0.291 ± 0.075	256.4 ± 6.8	259.5 ± 67.2	0.61	98.8
168	0.0310 ± 0.0006	0.199 ± 0.029	197.1 ± 4.0	183.9 ± 26.6	0.40	107.2
169	0.0389 ± 0.0012	0.281 ± 0.020	245.8 ± 7.5	251.6 ± 18.3	0.88	97.7
170	0.0331 ± 0.0014	0.218 ± 0.034	209.6 ± 8.7	200.4 ± 30.8	0.47	104.6
171	0.0323 ± 0.0011	0.260 ± 0.025	204.7 ± 6.9	234.8 ± 22.6	0.84	87.2
172	0.0426 ± 0.0013	0.326 ± 0.022	269.1 ± 8.1	286.6 ± 19.6	0.61	93.9
173	0.0407 ± 0.0013	0.310 ± 0.029	257.4 ± 8.5	274.6 ± 25.2	0.49	93.8
174	0.0435 ± 0.0017	0.343 ± 0.044	274.5 ± 10.7	299.4 ± 38.8	0.63	91.7
175	0.0385 ± 0.0011	0.289 ± 0.019	243.3 ± 7.3	258.0 ± 17.3	0.58	94.3
176	0.0338 ± 0.0012	0.407 ± 0.036	214.1 ± 7.4	346.6 ± 30.3	0.63	61.8