

Evidence for hybridisation in the Tynong Province granitoids, Lachlan Fold Belt, eastern Australia

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SUPPLEMENTARY PAPERS

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Table 1 U–Pb isotope data for the Toorongu pluton (sample 406).

	$^{238}\text{U}/^{206}\text{Pb}$	2 s	$^{207}\text{Pb}/^{206}\text{Pb}$	2 s	$^{238}\text{U}/^{206}\text{Pb}$ ages (Ma)	2 s	^{207}Pb corrected ages (Ma)	2 s*	Comment
KR09020406-2r	17.1409	0.3232	0.0556	0.0020	366	13	365	22	OK
KR09020406-3	16.1629	0.3083	0.0549	0.0023	387	14	387	23	OK
KR09020406-3c	16.0308	0.3803	0.0567	0.0041	390	18	389	25	OK
KR09020406-4	16.5371	0.3063	0.0530	0.0019	378	13	379	22	OK
KR09020406-4-2	16.8294	0.3172	0.0545	0.0020	372	13	372	22	OK
KR09020406-5	17.3641	0.4221	0.0544	0.0037	361	17	361	24	OK
KR09020406-6r	16.1943	0.3095	0.0542	0.0021	386	14	386	23	OK
KR09020406-6c	16.3586	0.3158	0.0632	0.0026	382	14	378	23	OK
KR09020406-7r	16.4177	0.3181	0.0612	0.0025	381	14	378	23	OK
KR09020406-8c	16.3345	0.3042	0.0597	0.0021	383	14	381	23	OK
KR09020406-8r	17.4064	0.3272	0.0548	0.0019	360	13	360	21	OK
KR09020406-9r	16.1499	0.3182	0.0524	0.0025	387	15	388	23	OK
KR09020406-10c	16.0282	0.3340	0.0564	0.0026	390	15	389	24	OK
KR09020406-11r	17.6772	0.3375	0.0611	0.0024	355	13	352	21	OK
KR09020406-11c	17.5039	0.3860	0.0664	0.0033	358	15	353	23	OK
KR09020406-12r	17.0068	0.3297	0.0540	0.0021	368	14	368	22	OK
KR09020406-12c	16.5453	0.3778	0.0549	0.0034	378	16	378	24	OK
KR09020406-13r	17.2147	0.3615	0.0575	0.0028	364	15	362	22	OK
KR09020406-14	16.7588	0.3820	0.0535	0.0029	374	16	374	24	OK
KR09020406-15r	16.5536	0.3343	0.0595	0.0027	378	15	376	23	OK
KR09020406-15c	15.9566	0.3514	0.0540	0.0031	392	16	392	25	OK
KR09020406-16	17.0707	0.3613	0.0630	0.0027	367	15	363	23	OK
KR09020406-17r	17.4948	0.3367	0.0526	0.0020	358	13	359	21	OK
KR09020406-17c	17.3943	0.3752	0.0526	0.0025	360	15	361	22	OK
KR09020406-18r	16.7701	0.3656	0.0627	0.0029	373	15	369	23	OK
KR09020406-19-2	17.6616	0.3806	0.0584	0.0030	355	15	353	22	OK
KR09020406-20	16.7112	0.3351	0.0562	0.0025	375	14	374	23	OK
<u>KR09020406-25</u>	<u>14.7254</u>	<u>0.2992</u>	<u>0.0604</u>	<u>0.0028</u>	<u>424</u>	<u>16</u>	<u>421</u>	<u>26</u>	<u>Older age, possible inheritance</u>

	$^{238}\text{U}/^{206}\text{Pb}$	2 s	$^{207}\text{Pb}/^{206}\text{Pb}$	2 s	$^{238}\text{U}/^{206}\text{Pb}$ ages (Ma)	2 s	^{207}Pb corrected ages (Ma)	2 s*	Comment
KR09020406-26	16.8209	0.3339	0.0543	0.0025	372	14	372	22	OK
<i>KR09020406-30</i>	<i>12.1551</i>	<i>0.2275</i>	<i>0.0570</i>	<i>0.0017</i>	<i>510</i>	<i>18</i>	<i>510</i>	<i>30</i>	<i>Older age, possible inheritance</i>
KR09020406-31r	18.0636	0.3524	0.0559	0.0021	347	13	346	21	OK
KR09020406-32	17.1880	0.3486	0.0548	0.0023	365	14	364	22	OK
KR09020406-33	17.2325	0.3801	0.0582	0.0028	364	15	362	23	OK
KR09020406-34r	16.5180	0.3220	0.0572	0.0019	379	14	378	23	OK
KR09020406-35c	16.2866	0.3130	0.0548	0.0020	384	14	384	23	OK
KR09020406-35r	16.6445	0.3269	0.0546	0.0020	376	14	376	23	OK
<i>KR09020406-36</i>	<i>15.4392</i>	<i>0.3146</i>	<i>0.0604</i>	<i>0.0026</i>	<i>405</i>	<i>16</i>	<i>402</i>	<i>25</i>	<i>Older age, possible inheritance</i>
KR09020406-37	17.2028	0.3788	0.0557	0.0030	364	15	363	23	OK
KR09020406-39	16.3827	0.3113	0.0549	0.0020	382	14	382	23	OK
KR09020406-41r	16.7029	0.3180	0.0517	0.0019	375	14	376	22	OK
KR09020406-42	16.2602	0.3226	0.0525	0.0023	385	15	386	23	OK
KR09020406-43r	17.3551	0.3313	0.0518	0.0019	361	13	362	21	OK
<i>KR09020406-43c</i>	<i>14.9633</i>	<i>0.3045</i>	<i>0.0585</i>	<i>0.0023</i>	<i>417</i>	<i>16</i>	<i>415</i>	<i>25</i>	<i>Older age, possible inheritance</i>
KR09020406-44r	16.8862	0.3194	0.0527	0.0018	371	13	371	22	OK
KR09020406-44c	16.2760	0.3179	0.0528	0.0020	384	14	385	23	OK
KR09020406-45	16.4123	0.3178	0.0522	0.0021	381	14	382	23	OK

2 s* is the cumulative error reported as the square root of the sum of the squares of the internal precision and external precision (4.7% on the $^{238}\text{U}/^{206}\text{Pb}$ of the standard 91500). Analyses in italics and underlined were not used in age calculations, notice that four of them are interpreted to represent inheritance (>400 Ma).

Table 2 U–Pb isotope data for the Tynong pluton (sample TYN5).

	$^{238}\text{U}/^{206}\text{Pb}$	2 s	$^{207}\text{Pb}/^{206}\text{Pb}$	2 s	$^{238}\text{U}/^{206}\text{Pb}$ ages (Ma)	2 s	^{207}Pb corrected ages (Ma)	2 s*	Comment
<i>Tyn5-1C</i>	<u>20.0844</u>	<u>0.5002</u>	<u>0.0578</u>	<u>0.0041</u>	<u>313</u>	<u>8</u>	<u>311</u>	<u>16</u>	<i>Pb loss?</i>
Tyn5-2	18.1159	0.4201	0.0716	0.0038	346	8	339	18	OK
Tyn5-3r	18.0310	0.5072	0.0636	0.0058	348	10	344	19	OK
<i>Tyn5-3c</i>	<u>21.2993</u>	<u>0.6442</u>	<u>0.1082</u>	<u>0.0088</u>	<u>296</u>	<u>9</u>	<u>274</u>	<u>15</u>	<i>Discordant/Common Pb</i>
<i>Tyn5-4c</i>	<u>16.3666</u>	<u>0.5572</u>	<u>0.0985</u>	<u>0.0099</u>	<u>382</u>	<u>13</u>	<u>362</u>	<u>21</u>	<i>Discordant/Common Pb</i>
Tyn5-4r	16.8776	0.4273	0.0663	0.0043	371	9	365	19	OK
Tyn5-5	17.7683	0.4420	0.0573	0.0038	353	9	351	19	OK
<i>Tyn5-6</i>	<u>14.7536</u>	<u>0.4832</u>	<u>0.1249</u>	<u>0.0122</u>	<u>423</u>	<u>13</u>	<u>387</u>	<u>23</u>	<i>Discordant/Common Pb</i>
Tyn5-7r	15.9795	0.3881	0.0772	0.0046	391	9	380	20	OK
Tyn5-7c	16.6973	0.4405	0.0582	0.0043	375	10	373	20	OK
<i>Tyn5-8</i>	<u>16.4312</u>	<u>0.6048</u>	<u>0.1333</u>	<u>0.0143</u>	<u>381</u>	<u>14</u>	<u>344</u>	<u>21</u>	<i>Discordant/Common Pb</i>
Tyn5-9	15.8028	0.5494	0.0566	0.0064	396	13	395	23	OK
Tyn5-10	15.3421	0.3813	0.0885	0.0052	407	10	390	21	OK
Tyn5-11	15.9744	0.4083	0.0593	0.0037	391	10	389	21	OK
Tyn5-12	17.7620	0.5553	0.0902	0.0077	353	11	337	19	OK
Tyn5-13	16.9119	1.1097	0.0723	0.0165	370	24	362	29	Short acquisition but OK
Tyn5-14	17.4398	0.4136	0.0649	0.0036	359	8	354	19	OK
Tyn5-15	17.0474	0.6277	0.0525	0.0063	367	13	368	22	OK
Tyn5-16	17.3943	0.6112	0.0546	0.0062	360	12	360	21	OK
<i>Tyn5-17</i>	<u>16.4799</u>	<u>0.4889</u>	<u>0.1403</u>	<u>0.0106</u>	<u>380</u>	<u>11</u>	<u>340</u>	<u>19</u>	<i>Discordant/Common Pb</i>
Tyn5-18	16.2813	0.4612	0.0728	0.0056	384	11	376	21	OK
Tyn5-19	16.8606	0.4662	0.0900	0.0067	371	10	355	19	OK
Tyn5-20r	17.4581	0.8168	0.0625	0.0104	359	16	355	23	OK
Tyn5-20c	16.4962	0.5606	0.0539	0.0057	379	13	380	22	OK
Tyn5-21	17.1733	0.6724	0.0909	0.0113	365	14	348	21	OK
Tyn5-22	16.8322	0.5213	0.0932	0.0085	372	11	354	20	OK

2 s* is the cumulative error reported as the square root of the sum of the squares of the internal precision and external precision (4.7% on the $^{238}\text{U}/^{206}\text{Pb}$ of the standard 91500). Analyses in italics and underlined were not used in age calculations.

Table 3 Major and trace element data for the Tynong Province granitoids.

Pluton Rock type	Lysterfield Aplitic dyke	Lysterfield Granodiorite	Lysterfield Granodiorite	Lysterfield Granodiorite	Lysterfield Granodiorite	Lysterfield Enclave	Lysterfield Enclave	Lysterfield Enclave	Lysterfield Enclave
Sample No	1702-2	LYS1A	LYS3	LYS4	1702-1	1702-3A	1702-3B	1702-4	1702R-5
SiO ₂	76.99	65.19	67.99	63.83	67.09	68.48	55.07	54.23	59.87
TiO ₂	0.07	0.8	0.57	0.85	0.6	0.59	1.55	1.35	1
Al ₂ O ₃	12.56	15.11	14.72	15.68	14.68	14.46	16.12	17.05	16.05
Fe ₂ O ₃	0.57	4.69	3.65	5.2	4.05	3.8	8.38	8.69	7.18
MnO	0.01	0.06	0.06	0.07	0.07	0.06	0.15	0.15	0.15
MgO	0.26	2.19	1.94	2.69	2.09	1.94	4.88	4.81	4.18
CaO	0.59	3.5	3.37	4.24	3.55	3.31	5.71	5.43	5.6
Na ₂ O	2.8	2.73	3.43	3.2	2.99	3	3.44	3.57	3.58
K ₂ O	5.55	4.25	3.52	3.13	3.33	3.41	2.96	2.97	1.77
P ₂ O ₅	bd	0.26	0.14	0.24	0.14	0.13	0.34	0.4	0.19
L.O.I.	0.21	0.82	0.6	0.74	0.52	0.42	0.7	0.52	0.83
Total	99.6	99.64	100	99.9	99.09	99.59	99.29	99.16	100.38
ASI	1.073	0.976	0.944	0.957	0.979	0.986	0.836	0.898	0.891
Li		37.2	33.5	32.0					
Be		3.7	2.5	3.2					
Sc		11.8	9.1	12.5	10.0	8.2	17.3	16.4	16.1
V		110.1	75.8	117.1	82	72	162	119	134
Cr		74.3	48.7	79.0	79	61	138	140	122
Co		193.5	85.4	85.7	23	33	35	32	24
Ni		34.6	35.6	44.3	39	35	83	85	97
Cu		37.8	32.7	49.6	38	38	314	352	379
Zn		65.9	49.2	69.0	45	43	89	102	82
Ga		18.0	16.1	18.8	16.2	15.6	18.3	21	17.8
ASI		1.0	1.5	1.1					
Rb		262.2	170.1	189.3	157	159	172	241	136
Sr		294.1	295.5	348.5	223	216	208	192	174
Y		31.7	21.0	36.7	23	19.4	26	37	28

Zr	177.1	138.9	201.9	158	130	187	182	167
Nb	20.6	14.8	20.2	15.3	14.1	19.4	29	17.4
Mo	3.9	1.1	3.5	0.8	0.8	1.7	0.5	0.5
Cd	0.1	0.1	0.1					
Sn	2.8	2.7	3.5	10.2	10.2	20	23	18.1
Sb	0.3	0.6	0.2					
Cs	13.9	10.3	11.2	7.8	8.7	13.1	19.9	11.5
Ba	1191.0	806.0	908.9	714	795	718	825	391
La	36.2	29.6	37.3	30	27	42	26	16.1
Ce	79.7	51.7	66.4	58	52	84	68	42
Pr	8.5	5.8	8.2	6.4	5.8	9.2	9.2	5.8
Nd	31.2	20.2	30.1	23	20	32	37	23
Sm	6.5	4.0	6.3	4.4	3.9	5.9	8.2	5.1
Eu	1.4	1.1	1.5	1.1	1.0	1.5	1.4	1.1
Gd	5.6	3.6	6.0	4.1	3.6	5.4	7.5	4.8
Tb	0.9	0.6	1.0	0.6	0.5	0.8	1.2	0.8
Dy	5.4	3.4	6.1	3.6	3.2	4.4	6.8	4.5
Ho	1.1	0.7	1.3	0.7	0.6	0.9	1.4	0.9
Er	3.1	2.0	3.5	2.1	1.9	2.5	4.1	2.7
Tm	0.4	0.3	0.5	0.3	0.3	0.4	0.6	0.4
Yb	2.8	1.9	3.1	2.1	1.8	2.3	4.0	2.7
Lu	0.4	0.3	0.5	0.3	0.3	0.3	0.6	0.4
Hf	4.8	3.7	5.2	4.0	3.4	4.1	4.1	4.1
Ta	3.5	2.6	2.4	1.4	1.2	1.3	2.3	1.1
Tl	1.4	0.9	1.1					
Pb	24.2	23.2	19.2	20	22	19.0	17.6	16.3
Th	24.0	18.9	18.9	17.5	20	11.6	6.8	6.0
U	6.8	5.1	4.4	2.6	2.1	1.4	3.0	2.1

Pluton	Tanjil	Tanjil	Tanjil	Tanjil	Tanjil	Tanjil	Baw Baw	Baw Baw	Baw Baw	Baw Baw	Baw Baw
Rock type	Granite	Granite	Granite	Granite	Granite	Granite	Granodiorite	Granodiorite	Granodiorite	Granodiorite	Granodiorite
Sample No	TANJ1	301	302	303	313	314	304-1	305-2	306	307	308
SiO ₂	70.29	72.25	72.34	69.99	72.14	71.56	67.29	66.99	66.47	67.16	67.16
TiO ₂	0.4	0.27	0.29	0.49	0.32	0.33	0.72	0.71	0.74	0.7	0.7
Al ₂ O ₃	14.4	13.64	13.89	14.38	13.83	14.23	14.67	14.67	14.75	14.63	14.63
Fe ₂ O ₃	2.98	2.05	2.05	3.18	2.21	2.25	4.14	4.35	4.5	4.25	4.25
MnO	0.06	0.05	0.05	0.06	0.05	0.05	0.07	0.07	0.08	0.06	0.06
MgO	0.95	0.6	0.62	1.21	0.69	0.7	1.77	1.89	1.92	1.85	1.85
CaO	2.7	1.99	2.02	2.77	2.13	2.38	3.38	3.33	2.55	3.25	3.25
Na ₂ O	3.87	3.57	3.62	3.62	3.6	3.83	3.14	3.4	2.96	3.34	3.34
K ₂ O	3.07	3.71	3.62	3.24	3.56	3.36	3.67	3.21	3.34	3.27	3.27
P ₂ O ₅	0.12	0.06	0.06	0.11	0.07	0.07	0.14	0.14	0.14	0.14	0.14
L.O.I.	0.96	0.87	1.05	0.97	0.67	0.72	0.54	0.75	1.81	0.58	0.58
Total	99.8	99.09	99.61	100.01	99.27	99.49	99.56	99.54	99.25	99.25	99.25
ASI	0.985	1.009	1.024	0.991	1.012	0.996	0.959	0.969	1.123	0.978	0.978
Li	60.8	57		51			42		32		
Be	2.9										
Sc	6.2	3.7		6.7			9.2		7.8		
V	37.0	26		49			70		59		
Cr	11.0	27		31			105		62		
Co	92.3	32		46			21		23		
Ni	7.3	5.1		15.8			23		23		
Cu	13.6	110		48			27		30		
Zn	48.5	37		56			58		52		
Ga	16.3	14.2		15.3			16.0		13.6		
ASI	1.1										
Rb	158.2	172		135			137		109		109
Sr	229.9	180		204			243		162		162

Y	28.7	25	33	29	23	
Zr	148.8	134	177	212	147	11
Nb	15.2	12.5	14.8	13.5	10.0	
Mo	1.4	0.3	1.2	1.6	0.3	
Cd	0.1					
Sn	4.0	4.4	5.0	3.5	3.0	
Sb	0.2					
Cs	8.0	10.6	8.5	8.1	4.8	
Ba	718.6	747	888	1541	1054	11
La	34.2	28	35	28	18.9	
Ce	64.6	51	65	53	37	
Pr	6.9	5.2	6.9	6.0	4.5	
Nd	23.8	18	25	23	17.7	
Sm	4.8	4.0	5.5	5.4	4.6	
Eu	0.9	0.7	1.0	1.5	1.2	
Gd	4.5	3.6	5.1	5.0	4.1	
Tb	0.7	0.7	0.9	0.9	0.7	
Dy	4.5	4.1	5.6	5.2	4.4	
Ho	1.0	0.8	1.1	1.0	0.9	
Er	2.7	2.5	3.3	2.9	2.5	
Tm	0.4	0.4	0.5	0.4	0.3	
Yb	2.7	2.4	3.2	2.6	2.3	
Lu	0.4	0.4	0.5	0.4	0.3	
Hf	4.0	4.1	5.2	5.7	4.0	
Ta	2.7	1.5	1.8	1.2	0.9	
Tl	0.8					
Pb	17.4	21.1	17.5	20.2	15.0	
Th	17.8	14.6	15.8	11.3	7.5	
U	3.7	5.7	4.6	3.6	2.0	

Pluton	Baw Baw	Baw Baw	Baw Baw	Baw Baw	Baw Baw	Toorong	Toorong	Toorong	Toorong
Rock type	Granodiorite	Granodiorite	Granodiorite	Enclave	Enclave	Granodiorite	Granodiorite	Granodiorite	Granodiorite
Sample No	BAW1	BAW2	311	304-1-1	305-1	402	408	TOO1	315
SiO ₂	67.65	66.92	67.74	55.45	60.58	66.23	64.38	64.41	66.14
TiO ₂	0.69	0.69	0.72	1.04	0.93	0.78	0.85	0.85	0.62
Al ₂ O ₃	14.71	14.98	14.74	13.58	14.57	15.07	15.72	15.36	16.39
Fe ₂ O ₃	4.17	4.28	4.18	9.07	7.19	4.61	5.13	5.18	3.58
MnO	0.06	0.06	0.06	0.23	0.14	0.06	0.08	0.08	0.06
MgO	1.84	1.86	1.72	5.24	3.9	1.99	2.29	2.49	1.37
CaO	3.19	3.34	3.31	6.5	5.23	3.44	4.43	4.16	4.11
Na ₂ O	3.22	3.33	3.31	2.64	3.69	3.47	3.7	3.36	4.03
K ₂ O	3.41	3.29	3.36	4.08	2.08	2.97	2.37	2.63	2.47
P ₂ O ₅	0.18	0.19	0.14	0.18	0.21	0.16	0.17	0.2	0.13
L.O.I.	0.7	0.68	0.57	0.94	0.91	0.54	0.54	0.87	0.48
Total	99.86	99.65	99.85	98.98	99.43	99.32	99.68	99.63	99.39
ASI	0.993	0.990	0.975	0.659	0.816	0.992	0.940	0.962	0.976
Li	42.0	40.2	46	51	39	34.8	37.4	34.8	24
Be	2.6	2.8				2.5	2.4	2.4	
Sc	10.6	10.9	9.3	24	25	10.9	12.7	13.2	4.9
V	64.5	62.2	73	160	110	67.2	82.5	89.6	61
Cr	52.2	53.2	94	305	164	56.7	73.7	76.3	60
Co	81.8	92.6	29	32	27	30.9	19.6	94.1	19
Ni	23.8	24.7	25	41	58	25.4	22.2	35.1	13.3
Cu	19.4	23.7	30	21	17.1	19.9	34.1	38.6	25
Zn	64.6	62.7	64	123	83	62.8	65.6	77.0	41
Ga	18.3	18.5	16.7	16.1	15.1	18.5	18.7	19.6	15.7
ASI	22.4	11.7				1.3	1.4	1.2	
Rb	162.0	153.6	136	164	96	144.2	107.9	127.9	37
Sr	212.7	226.0	232	183	159	239.0	300.1	274.0	209

Y	38.1	39.1	35	67	61	35.4	32.3	31.1	20
Zr	199.7	215.5	262	143	155	211.7	216.6	222.4	130
Nb	14.5	15.0	14.3	16.3	14.4	15.1	13.2	14.7	10.8
Mo	2.1	2.3	1.7	1.6	0.9	1.5	2.0	3.0	1.7
Cd	0.1	0.1				0.1	0.1	0.1	
Sn	4.3	5.1	3.8	6.5	4.2	3.3	3.4	2.9	2.0
Sb	0.4	0.3				0.2	0.5	0.3	
Cs	7.8	9.4	6.9	7.2	7.2	6.8	7.0	6.2	3.2
Ba	1162.5	1077.9	1089	1504	644	1177.8	1015.6	1215.5	878
La	29.0	38.2	39	14.3	18.6	40.3	26.6	27.4	14.5
Ce	59.6	70.5	75	37	48	77.5	55.1	55.8	32
Pr	7.1	8.9	8.3	5.8	6.9	9.4	6.6	6.6	3.4
Nd	27.3	32.8	30		31	34.0	26.1	25.7	13.1
Sm	6.4	7.0	6.7	10.0	9.1	6.9	5.9	5.9	3.3
Eu	1.3	1.4	1.4	1.3	1.0	1.5	1.6	1.6	1.2
Gd	6.1	6.5	6.0	10.2	8.8	6.2	5.6	5.5	3.2
Tb	1.0	1.1	1.0	2.0	1.7	1.0	0.9	0.9	0.6
Dy	6.3	6.5	6.2	12.5	10.6	6.0	5.5	5.3	3.6
Ho	1.4	1.4	1.2	2.5	2.1	1.3	1.2	1.1	0.7
Er	3.7	3.8	3.5	6.9	6.2	3.4	3.2	3.1	2.2
Tm	0.5	0.5	0.5	0.9	0.9	0.5	0.4	0.4	0.3
Yb	3.3	3.5	3.2	6.1	5.9	3.0	3.0	2.7	2.1
Lu	0.5	0.5	0.5	0.9	0.9	0.4	0.4	0.4	0.3
Hf	5.1	5.4	7.0	3.8	4.5	5.2	5.4	5.3	3.6
Ta	2.3	2.6	1.2	1.0	1.3	1.2	1.1	2.3	1.1
Tl	1.0	0.9				0.9	0.8	0.8	
Pb	18.4	18.5	18.9	19.0	11.8	16.9	15.9	15.2	11.8
Th	13.8	13.6	13.5	5.3	12.4	12.7	62.3	8.6	5.3
U	3.5	3.7	3.8	2.2	2.6	2.9	11.3	2.4	2.7

Pluton	Toorongo	Toorongo	Tynong	Tynong	Tynong	Tynong	Tynong	Tynong	Toorongo
Rock type	Granodiorite	Granodiorite	Granite	Granite	Granite	Granite	Granite	Granite	Granodiorite
Sample No	403	406	203	2802-2	2805	2803-7	2803-8	2803-5	315
SiO ₂	64.18	63.32	67.85	65.98	69.75	70.88	67.99	63.36	66.14
TiO ₂	0.85	0.91	0.55	0.54	0.46	0.34	0.48	0.38	0.62
Al ₂ O ₃	15.95	15.82	15.53	14.5	14.65	14.26	15.18	18.32	16.39
Fe ₂ O ₃	5.16	5.37	3.41	4.31	2.78	1.99	3.12	2.5	3.58
MnO	0.08	0.09	0.05	0.07	0.04	0.03	0.04	0.03	0.06
MgO	2.31	2.57	1.26	2.43	0.93	0.77	1.13	1.02	1.37
CaO	4.54	4.57	3.16	4.18	2.68	2.04	3.36	3.53	4.11
Na ₂ O	3.8	3.57	3.94	3.59	3.71	3.37	3.6	4.83	4.03
K ₂ O	2.32	2.33	3.22	1.94	3.46	4.42	2.66	3.22	2.47
P ₂ O ₅	0.17	0.19	0.13	0.14	0.1	0.21	0.22	0.2	0.13
L.O.I.	0.55	0.64	0.64	1.62	0.39	1.09	1.23	1.67	0.48
Total	99.94	99.4	99.74	99.33	98.95	99.4	99.02	99.07	99.39
ASI	0.936	0.946	0.987	0.928	0.994	1.015	1.017	1.025	0.976
Li	32	45		50		49		41	24
Be				2.3		1.7		3.0	
Sc	11.4	11.9		12.2		6.9		7.5	4.9
V	91	106		80		29		42	61
Cr	66	116		205		75		73	60
Co	35	20		16.5		3.6		7.2	19
Ni	30	35		108		7.6		11.1	13.3
Cu	50	76		648		5.8		5.4	25
Zn	67	76		71		17.6		25.4	41
Ga	16.5	18.1		16.5		15.9		21.1	15.7
ASI									
Rb	85	98		89		108		143	37
Sr	287	296		235		157		296	209
Y	32	33		26		22		27	20

Zr	206	218	293	193	135	130
Nb	12.5	14.5	20.8	12.4	15.4	10.8
Mo	1.3	1.8	0.8	4.2	137.7	1.7
Cd						
Sn	1.9	3.0	8.0	3.1	3.6	2.0
Sb						
Cs	4.0	5.4	7.7	12.5	9.5	3.2
Ba	959	1059	598	973	477	878
La	35	37	38	24	14.4	14.5
Ce	67	68	73	58	29	32
Pr	7.5	8.0	7.6	5.9	3.4	3.4
Nd	28	29	24	19.1	11.7	13.1
Sm	6.4	6.4	4.5	4.0	3.0	3.3
Eu	1.5	1.6	1.2	0.9	1.3	1.2
Gd	5.9	5.8	4.2	3.6	3.1	3.2
Tb	1.0	1.0	0.7	0.7	0.7	0.6
Dy	6.0	5.9	4.1	3.9	4.1	3.6
Ho	1.2	1.1	0.9	0.9	0.9	0.7
Er	3.3	3.3	2.5	2.3	2.6	2.2
Tm	0.4	0.5	0.4	0.4	0.4	0.3
Yb	2.8	3.0	2.5	2.2	2.8	2.1
Lu	0.4	0.5	0.4	0.3	0.4	0.3
Hf	5.3	5.7	7.7	5.4	4.1	3.6
Ta	0.9	1.4	1.6	1.1	1.9	1.1
Tl						
Pb	11.6	13.7	12.3	30	26	11.8
Th	8.9	9.4	14.4	16.2	4.9	5.3
U	2.1	3.2	4.0	3.0	6.6	2.7

Pluton	Tynong	Tynong	Tynong	Tynong	Tynong	Tynong	Tynong	Tynong	Tynong
Rock type	Porphyritic granite	Porphyritic granite	Aplitic dyke	Granodiorite	Granodiorite	Granite	Granite	Granodiorite	Granodiorite
Sample No	2803-6	120204	120207	120205	120206	120202	2803-1	TYN1A	TYN1B
SiO ₂	65.2	66.49	76.61	75.41	76.02	72.18	71.12	69.38	72.19
TiO ₂	0.37	0.52	0.1	0.22	0.18	0.49	0.35	0.45	0.37
Al ₂ O ₃	17.75	15.73	12.18	12.92	12.32	12.73	14.31	15.01	13.34
Fe ₂ O ₃	2.27	3.54	0.94	0.96	1.2	3.43	2.33	2.95	2.65
MnO	0.04	0.06	0.04	0.01	0.02	0.07	0.04	0.05	0.05
MgO	0.9	1.29	0.12	0.25	0.59	1.23	0.73	0.94	0.99
CaO	3.48	3.34	0.47	0.74	0.59	1.67	2.55	2.58	2.2
Na ₂ O	4.76	4.11	3.07	3.32	2.87	3.43	3.63	3.89	3.56
K ₂ O	3.28	3.04	5.4	4.5	5.69	2.8	3.33	3.77	3.7
P ₂ O ₅	0.19	0.11	0.01	0.01	0.03	0.12	0.09	0.11	0.1
L.O.I.	1.42	0.98	0.47	0.69	0.34	0.88	0.71	0.74	0.65
Total	99.66	99.23	99.42	99.03	99.88	99.02	99.2	99.88	99.81
ASI	1.001	0.974	1.035	1.105	1.029	1.086	1.006	0.988	0.961
Li	33			52.8	49.0	118.5	41.4	42.4	34.9
Be	2.8			4.1	2.5	3.2	2.4	2.9	2.3
Sc	4.9			3.7	3.3	7.1	4.0	6.6	5.6
V	24			11.6	7.9	48.4	28.0	40.0	34.5
Cr	82			76.2	85.6	111.9	64.4	16.6	18.0
Co	5.6			3.2	1.4	7.4	4.1	84.7	98.2
Ni	9.0			3.7	2.4	13.5	6.2	9.9	9.6
Cu	4.7			27.4	0.9	96.2	17.9	69.1	32.7
Zn	21.2			31.7	24.9	52.4	34.7	52.6	42.8
Ga	18.5			15.7	14.5	15.6	15.2	18.2	14.3
ASI				3.8	0.1	3.7	0.9	1.3	0.5
Rb	79			304.4	252.1	191.8	171.0	186.8	165.8
Sr	252			39.8	22.6	113.5	194.5	189.3	132.1

Y	17.8	56.2	47.0	39.9	28.1	42.8	34.3
Zr	105	137.5	104.9	202.1	113.8	211.6	162.1
Nb	8.5	16.9	15.4	19.0	12.6	16.8	14.1
Mo	3.0	0.9	0.6	1.2	0.5	3.1	1.9
Cd		0.3	0.0	0.1	0.1	0.1	0.1
Sn	2.8	9.5	3.6	4.7	4.1	4.5	4.8
Sb		0.9	0.3	2.5	0.4	0.4	0.3
Cs	7.1	13.5	9.7	10.7	11.4	6.9	9.3
Ba	465	405.3	266.0	492.1	772.4	1290.9	720.9
La	8.9	20.4	36.6	40.1	38.5	53.0	41.2
Ce	18.0	42.3	79.2	72.0	71.6	96.5	72.1
Pr	2.1	4.8	9.4	8.4	7.8	10.5	8.4
Nd	7.6	17.0	34.4	29.3	26.0	35.7	28.3
Sm	2.0	4.3	8.6	6.2	5.1	7.2	5.7
Eu	1.1	0.3	0.2	0.6	0.9	1.1	0.8
Gd	2.1	4.6	7.0	5.7	4.4	6.6	5.3
Tb	0.5	1.0	1.2	1.0	0.7	1.1	0.9
Dy	2.9	7.1	7.3	6.2	4.3	6.8	5.6
Ho	0.7	1.7	1.6	1.4	0.9	1.5	1.2
Er	1.8	5.3	4.6	3.8	2.6	4.2	3.5
Tm	0.3	0.8	0.7	0.6	0.4	0.6	0.5
Yb	2.0	5.8	4.8	3.8	2.6	4.0	3.5
Lu	0.3	0.9	0.7	0.6	0.4	0.6	0.5
Hf	3.1	4.7	3.8	5.3	3.1	5.7	4.6
Ta	0.9	2.6	1.6	2.0	1.4	2.8	2.7
Tl		1.8	1.6	1.1	1.0	1.1	1.1
Pb	28	33.3	30.1	18.0	19.9	20.1	19.5
Th	3.1	44.9	41.8	26.0	13.9	18.3	21.8
U	4.8	15.5	11.9	6.9	5.1	6.3	5.6

Pluton	Tynong	Tynong	Tynong	Tynong	Tynong	Tynong	Tynong	Tynong	Tynong
Rock type	Granodiorite	Granodiorite	Granodiorite	Granodiorite	Granodiorite	Enclave	Diorite	Diorite	Enclave
Sample No	TYN3	TYN4	TYN5	TYN6	TYN7	TYN1C-B	2803-10	2810	2803-4
SiO ₂	72.55	73.94	77.38	70.26	67.35	57.49	55.29	57.46	58.34
TiO ₂	0.39	0.11	0.27	0.43	0.61	1.21	1.33	1.25	1.18
Al ₂ O ₃	13.26	14.39	11.45	14.47	15.5	16.48	16.62	16.43	16.34
Fe ₂ O ₃	2.58	0.91	1.68	2.57	3.78	7.85	8.17	7.73	7.44
MnO	0.04	0.02	0.02	0.04	0.05	0.13	0.13	0.13	0.13
MgO	0.71	0.17	0.43	0.72	1.19	3.59	3.33	3.31	2.94
CaO	2.07	2.07	1.13	2.11	3.4	6.39	6.65	6.39	6.33
Na ₂ O	3.27	3.27	2.55	3.69	3.82	3.13	3.22	3.29	3.24
K ₂ O	3.8	4.77	4.56	3.6	3.18	1.88	1.76	1.57	1.54
P ₂ O ₅	0.11	0.03	0.08	0.12	0.16	0.43	0.46	0.41	0.41
L.O.I.	1	0.38	0.36	1.51	0.68	1.17	2.48	1.15	1.38
Total	99.78	100.07	99.93	99.63	99.73	99.77	99.43	99.11	99.28
ASI	0.999	1.004	1.022	1.047	0.973	0.875	0.860	0.876	0.882
Li	55.5	46.9	35.0	54.6	40.2	58.5	71	64	41
Be	2.9	3.4	2.1	2.9	2.8	2.0	1.7	2.3	1.9
Sc	5.9	2.6	4.6	6.6	8.9	16.7	17.4	21	16.8
V	29.7	6.6	18.3	29.5	57.0	176.5	138	178	130
Cr	12.6	3.0	8.8	12.6	16.9	25.2	64	83	73
Co	70.9	91.5	137.3	116.7	93.1	84.9	22	26	19.6
Ni	6.6	1.7	4.7	8.3	9.6	18.5	20	24	19.9
Cu	10.9	4.0	5.0	77.0	15.7	81.0	83	83	74
Zn	38.2	20.9	31.5	47.2	55.4	95.1	90	110	90
Ga	16.2	16.1	13.7	17.4	19.3	18.1	16.0	21.0	17.0
ASI	0.0	0.6	0.4	63.8	1.3	0.4			
Rb	183.0	210.9	202.2	182.4	140.6	80.1	106	73	47
Sr	148.1	126.8	94.8	144.3	227.0	395.1	380	448	393
Y	41.5	32.8	37.1	57.0	36.9	34.1	26	34	29

Zr	195.1	66.1	100.7	171.6	217.0	214.2	236	200	221
Nb	13.1	7.1	8.5	15.4	15.1	23.8	21	30	26
Mo	1.8	1.3	2.1	2.3	2.4	1.9	5.3	1.4	1.5
Cd	0.1	0.1	0.0	0.2	0.1	0.1			
Sn	3.8	3.2	5.2	7.8	3.8	3.4	5.0	1.9	1.6
Sb	0.1	0.4	0.1	0.4	0.4	0.3			
Cs	13.4	10.3	7.7	8.3	6.5	10.2	11.4	9.5	4.5
Ba	748.7	957.1	918.2	439.6	1243.0	517.3	588	641	533
La	41.2	22.7	33.2	63.5	54.5	34.8	30	43	36
Ce	74.6	45.2	68.4	106.7	98.8	70.7	62	88	76
Pr	9.1	5.1	7.7	12.8	11.0	7.9	7.0	9.6	8.2
Nd	31.8	18.1	27.2	44.9	38.1	28.7	23	32	28
Sm	6.7	4.3	5.9	9.3	7.4	5.9	4.9	6.4	5.5
Eu	0.9	0.8	0.7	1.1	1.5	1.5	1.5	2.1	1.8
Gd	6.2	4.2	5.6	8.9	6.7	5.6	4.5	6.0	5.2
Tb	1.1	0.8	1.0	1.5	1.1	0.9	0.8	1.0	0.9
Dy	6.8	5.2	6.0	9.1	6.4	5.7	4.4	5.7	4.9
Ho	1.5	1.2	1.3	2.0	1.4	1.3	1.0	1.2	1.1
Er	4.1	3.3	3.6	5.3	3.7	3.4	2.6	3.3	2.8
Tm	0.6	0.5	0.5	0.7	0.5	0.5	0.4	0.5	0.4
Yb	3.8	3.3	3.1	4.6	3.3	3.2	2.5	3.1	2.7
Lu	0.6	0.5	0.4	0.7	0.5	0.5	0.4	0.5	0.4
Hf	5.2	2.2	2.8	4.6	5.6	5.1	5.5	5.3	5.2
Ta	2.2	1.9	1.8	2.6	2.5	2.4	1.1	1.7	1.4
Tl	1.1	1.3	1.2	1.7	0.8	0.8			
Pb	18.3	28.7	23.5	23.7	16.0	8.2	10.9	12.9	10.3
Th	19.7	14.5	17.3	23.5	16.8	5.2	4.6	8.2	7.5
U	4.1	4.5	4.0	5.3	2.6	1.5	1.9	2.3	2.7

Pluton	Tynong	Tynong	Tynong
Rock type	Diorite	Hybrid diorite (ocelli)	Hybrid diorite (ocelli)
Sample No	2803-2	2801	2802-3
SiO ₂	57.81	61.38	58.52
TiO ₂	1.24	0.87	0.65
Al ₂ O ₃	16.45	14.27	14.36
Fe ₂ O ₃	7.59	6.28	6.33
MnO	0.13	0.12	0.12
MgO	3.03	4.02	4.87
CaO	6.11	5.21	6.34
Na ₂ O	3.25	3.28	2.84
K ₂ O	1.83	2.48	1.75
P ₂ O ₅	0.42	0.26	0.19
L.O.I.	1.15	1.7	3.01
Total	99.02	99.9	98.99
ASI	0.891	0.812	0.793
Li	52	49	74
Be	2.0	1.8	1.7
Sc	17.8	16.9	20
V	136	130	127
Cr	73	244	341
Co	21	25	33
Ni	20	163	248
Cu	124	116	112
Zn	96	65	85
Ga	17.9	15.1	15.2
AsI			
Rb	80	109	107
Sr	390	232	263
Y	33	30	27

Zr	351	216	229
Nb	26	23	17.6
Mo	2.3	5.2	2.6
Cd			
Sn	4.7	5.2	8.0
Sb			
Cs	11.5	9.6	10.4
Ba	594	686	532
La	38	36	28
Ce	80	76	59
Pr	8.9	8.5	6.8
Nd	30	28	23
Sm	6.0	5.4	4.8
Eu	1.8	1.4	1.4
Gd	5.6	5.0	4.5
Tb	1.0	0.9	0.8
Dy	5.4	4.8	4.4
Ho	1.2	1.0	1.0
Er	3.2	2.8	2.6
Tm	0.5	0.4	0.4
Yb	3.1	2.7	2.5
Lu	0.5	0.4	0.4
Hf	8.0	5.4	5.6
Ta	1.4	1.5	1.1
Tl			
Pb	11.1	10.1	7.5
Th	5.3	7.6	5.9
U	1.6	3.2	2.0

Table 4 Lu and Hf isotopic data for zircons from one sample of the Toorongo (sample 406, 37°48'41"S, 146°05'40"E), and two samples from the Tynong pluton (samples 2803-8 and TYN5, 38°03'30"S, 145°37'26"E), Lachlan Orogen, eastern Australia.

Sample	Grain/ spot #	Total Hf, V	$^{176}\text{Lu}/^{177}\text{Hf}$	$\pm 2\text{SE}$	$^{176}\text{Hf}/^{177}\text{Hf}$	$\pm 2\text{SE}$	$^{178}\text{Hf}/^{177}\text{Hf}$	$\varepsilon\text{Hf}(0)$	Age, Ma	$^{176}\text{Hf}/^{177}\text{Hf}(t)$	$\varepsilon\text{Hf}(t)$	$\pm 2\text{SE}$	$T_{\text{DM}2}$, Ga
sample 406	4	8.7	0.00146	0.00001	0.282644	0.000054	1.4675	-4.5	370	0.282634	3.2	1.9	1.08
Toorongo Grd.	5	7.0	0.00145	0.00005	0.282722	0.000054	1.4676	-1.8	370	0.282712	6.0	1.9	0.91
	6	8.7	0.00095	0.00002	0.282660	0.000050	1.4675	-4.0	370	0.282653	3.9	1.8	1.04
	8	7.6	0.00146	0.00001	0.282617	0.000060	1.4674	-5.5	370	0.282607	2.3	2.1	1.14
	10	8.4	0.00118	0.00001	0.282649	0.000049	1.4674	-4.3	370	0.282641	3.5	1.7	1.07
	12	7.6	0.00127	0.00001	0.282655	0.000053	1.4674	-4.1	370	0.282646	3.7	1.9	1.06
	13	10.0	0.00100	0.00002	0.282519	0.000046	1.4674	-8.9	370	0.282512	-1.1	1.6	1.35
	14	6.8	0.00326	0.00003	0.282785	0.000062	1.4674	0.5	370	0.282762	7.8	2.2	0.80
	15	8.6	0.00123	0.00001	0.282578	0.000052	1.4674	-6.9	370	0.282570	1.0	1.8	1.22
	17	8.5	0.00122	0.00002	0.282638	0.000055	1.4675	-4.7	370	0.282630	3.1	1.9	1.09
	18	7.6	0.00180	0.00005	0.282726	0.000055	1.4675	-1.6	370	0.282714	6.1	1.9	0.91
	22	7.0	0.00139	0.00004	0.282646	0.000059	1.4674	-4.5	370	0.282636	3.3	2.1	1.08
	24	8.6	0.00209	0.00001	0.282665	0.000053	1.4675	-3.8	370	0.282651	3.8	1.9	1.05
	31	9.0	0.00099	0.00001	0.282729	0.000048	1.4675	-1.5	370	0.282722	6.4	1.7	0.89
	35	7.3	0.00179	0.00002	0.282686	0.000059	1.4675	-3.0	370	0.282674	4.7	2.1	1.00
	38	6.2	0.00145	0.00001	0.282660	0.000062	1.4674	-4.0	370	0.282650	3.8	2.2	1.05
	44	8.8	0.00108	0.00002	0.282670	0.000053	1.4675	-3.6	370	0.282663	4.3	1.9	1.02
sample 2803-8	2	9.2	0.00157	0.00006	0.282801	0.000048	1.4675	1.0	370	0.282790	8.8	1.7	0.74
Tynong Grd.	3	7.9	0.00227	0.00003	0.282769	0.000053	1.4674	-0.1	370	0.282753	7.5	1.9	0.82
	4	9.7	0.00125	0.00001	0.282732	0.000055	1.4675	-1.4	370	0.282723	6.4	1.9	0.89
	6	10.4	0.00087	0.00003	0.282720	0.000051	1.4675	-1.8	370	0.282714	6.1	1.8	0.91
	7	10.2	0.00131	0.00002	0.282678	0.000048	1.4675	-3.3	370	0.282669	4.5	1.7	1.01
	8	8.4	0.00195	0.00003	0.282741	0.000054	1.4675	-1.1	370	0.282728	6.6	1.9	0.88
	10	9.1	0.00160	0.00005	0.282729	0.000048	1.4674	-1.5	370	0.282718	6.2	1.7	0.90
	11	9.4	0.00167	0.00002	0.282783	0.000049	1.4675	0.4	370	0.282771	8.1	1.7	0.78
	13	7.1	0.00167	0.00002	0.282777	0.000054	1.4675	0.2	370	0.282765	7.9	1.9	0.80

	14	10.7	0.00114	0.00002	0.282740	0.000048	1.4675	-1.1	370	0.282732	6.7	1.7	0.87
	16	9.9	0.00121	0.00003	0.282752	0.000046	1.4675	-0.7	370	0.282744	7.1	1.6	0.84
	17	11.1	0.00186	0.00004	0.282775	0.000053	1.4676	0.1	370	0.282762	7.8	1.9	0.80
	18	8.4	0.00094	0.00002	0.282760	0.000048	1.4675	-0.4	370	0.282754	7.5	1.7	0.82
	20	9.7	0.00172	0.00005	0.282749	0.000054	1.4675	-0.8	370	0.282737	6.9	1.9	0.86
	21	9.4	0.00130	0.00003	0.282717	0.000051	1.4675	-1.9	370	0.282708	5.9	1.8	0.92
	22	7.1	0.00159	0.00003	0.282794	0.000062	1.4676	0.8	370	0.282783	8.5	2.2	0.76
	25	8.4	0.00116	0.00003	0.282703	0.000048	1.4675	-2.4	370	0.282695	5.4	1.7	0.95
	26	7.8	0.00255	0.00014	0.282783	0.000064	1.4675	0.4	370	0.282765	7.9	2.2	0.80
	27	10.2	0.00134	0.00003	0.282738	0.000048	1.4675	-1.2	370	0.282729	6.6	1.7	0.88
	32	9.1	0.00156	0.00003	0.282764	0.000060	1.4675	-0.3	370	0.282753	7.5	2.1	0.82
	33	9.5	0.00133	0.00001	0.282738	0.000050	1.4676	-1.2	370	0.282729	6.6	1.8	0.88
	34	8.5	0.00120	0.00002	0.282761	0.000052	1.4675	-0.4	370	0.282753	7.5	1.8	0.82
	36	10.0	0.00090	0.00001	0.282671	0.000050	1.4675	-3.6	370	0.282665	4.3	1.8	1.02
sample TYN5 Tynong Grd.	1	5.7	0.00133	0.00003	0.282704	0.000094	1.4676	-2.4	370	0.282695	5.4	3.3	0.95
	2	4.2	0.00154	0.00001	0.282710	0.000110	1.4677	-2.2	370	0.282699	5.6	3.9	0.94
	3	4.2	0.00171	0.00003	0.282692	0.000094	1.4675	-2.8	370	0.282680	4.9	3.3	0.98
	4.1	5.3	0.00174	0.00002	0.282702	0.000088	1.4675	-2.5	370	0.282690	5.2	3.1	0.96
	4.2	5.7	0.00153	0.00002	0.282651	0.000080	1.4676	-4.3	370	0.282640	3.5	2.8	1.07
	5	4.6	0.00129	0.00001	0.282662	0.000091	1.4676	-3.9	370	0.282653	3.9	3.2	1.04
	6	4.6	0.00394	0.00004	0.282641	0.000099	1.4675	-4.6	370	0.282614	2.5	3.5	1.13
	7.1	5.9	0.00190	0.00001	0.282705	0.000076	1.4677	-2.4	370	0.282692	5.3	2.7	0.96
	7.2	4.9	0.00196	0.00001	0.282583	0.000082	1.4675	-6.7	370	0.282569	1.0	2.9	1.22
	8	4.4	0.00150	0.00003	0.282677	0.000099	1.4676	-3.4	370	0.282667	4.4	3.5	1.01
	9	3.3	0.00698	0.00016	0.282770	0.000150	1.4675	-0.1	370	0.282722	6.4	5.3	0.89
	10	4.9	0.00199	0.00005	0.282657	0.000079	1.4676	-4.1	370	0.282643	3.6	2.8	1.06
	11.2	4.0	0.00147	0.00002	0.282610	0.000100	1.4675	-5.7	370	0.282600	2.0	3.5	1.16
	11.1	4.7	0.00125	0.00001	0.282680	0.000100	1.4675	-3.3	370	0.282671	4.6	3.5	1.00
	12	3.9	0.00284	0.00003	0.282780	0.000110	1.4677	0.3	370	0.282760	7.7	3.9	0.81
	13	4.1	0.00155	0.00002	0.282690	0.000110	1.4677	-2.9	370	0.282679	4.9	3.9	0.98
	14	4.2	0.00173	0.00003	0.282656	0.000092	1.4676	-4.1	370	0.282644	3.6	3.3	1.06

15.1	4.1	0.00243	0.00006	0.282700	0.000110	1.4676	-2.5	370	0.282683	5.0	3.9	0.98
15.2	4.1	0.00254	0.00009	0.282790	0.000120	1.4676	0.6	370	0.282772	8.2	4.2	0.78
16	3.9	0.00120	0.00001	0.282690	0.000110	1.4676	-2.9	370	0.282682	4.9	3.9	0.98
17	3.7	0.00184	0.00004	0.282620	0.000120	1.4676	-5.4	370	0.282607	2.3	4.2	1.14
18	4.5	0.00221	0.00006	0.282710	0.000100	1.4677	-2.2	370	0.282695	5.4	3.5	0.95
19	3.2	0.00245	0.00003	0.282620	0.000130	1.4676	-5.4	370	0.282603	2.2	4.6	1.15
20.1	3.9	0.00149	0.00001	0.282630	0.000110	1.4676	-5.0	370	0.282620	2.7	3.9	1.12
20.2	4.3	0.00296	0.00009	0.282690	0.000100	1.4676	-2.9	370	0.282669	4.5	3.5	1.01
21	3.9	0.00288	0.00014	0.282680	0.000110	1.4676	-3.3	370	0.282660	4.2	3.9	1.03
22	3.7	0.00165	0.00001	0.282530	0.000110	1.4675	-8.6	370	0.282519	-0.8	3.9	1.34
23	3.9	0.00133	0.00004	0.282600	0.000120	1.4676	-6.1	370	0.282591	1.7	4.2	1.18
24.1	2.5	0.00452	0.00004	0.282640	0.000150	1.4676	-4.7	370	0.282609	2.4	5.3	1.14
24.2	2.0	0.00501	0.00007	0.282840	0.000180	1.4676	2.4	370	0.282805	9.3	6.4	0.71
25	3.6	0.00110	0.00001	0.282730	0.000110	1.4677	-1.5	370	0.282722	6.4	3.9	0.89
26	3.5	0.00201	0.00002	0.282690	0.000120	1.4675	-2.9	370	0.282676	4.7	4.2	0.99
27	3.8	0.00169	0.00007	0.282720	0.000110	1.4677	-1.8	370	0.282708	5.9	3.9	0.92
28	3.9	0.00132	0.00001	0.282620	0.000100	1.4675	-5.4	370	0.282611	2.4	3.5	1.13

Notes Internal precision (2se) for measured $^{176}\text{Hf}/^{177}\text{Hf}$ scales inversely with total Hf signal during ablation, and increases sharply for signals <6V Hf. Initial Hf isotope compositions ($^{176}\text{Hf}/^{177}\text{Hf}(t)$, $\varepsilon_{\text{Hf}}(t)$) calculated at 370 Ma, with 2se errors in initial ε_{Hf} approximated by internal (2se) precision for measured (present-day) $^{176}\text{Hf}/^{177}\text{Hf}$ which are very close to the uncertainties obtained by propagating the errors in measured isotope and Lu/Hf ratios, and age (assumed here to be ± 5 Ma)

Results for standard zircons obtained in the course of this work

		$^{176}\text{Lu}/^{177}\text{Hf}$	2sd	$^{176}\text{Hf}/^{177}\text{Hf}$	2sd	ϵ_{Hf}	2sd
91500 (1065 Ma)							
24/03/2012	n=7	0.00034	0.00002	0.282318	0.000052	-16.1	1.8
16/12/2011	n=7	0.00033	0.00002	0.282330	0.000135	-15.6	4.8
reference		0.00031		0.282306	0.000008	-16.5	
BR266 (560 Ma)							
24/03/2011	n=8	0.00022	0.00001	0.281651	0.000057	-39.6	2.0
reference		0.00022		0.281630	0.00001	-40.4	
Temora-2 (417 Ma)							
16/12/2011	n=11	0.00117	0.00062	0.282681	0.000070	-3.2	2.5
reference		0.00109		0.282686	0.000008	-3.0	
Plesovice (337 Ma)							
16/12/2011	n=5	0.00012	0.00002	0.282496	0.000027	-9.8	1.0
reference		0.00013		0.282482	0.000013	-10.3	

Zircon reference values from Woodhead & Hergt (2005) and Slama et al (2008)