Supplementary Table 3. LA-MC-ICPMS Lu-Hf isotopic analyses for zircon reference Plešovice (Sláma *et al.* 2008), FC-1 (Woodhead and Hergt 2005),and Yb-doped MunZirc synthetic crystal (Fisher *et al.* 2011).

Spot no.	$^{176}Hf/^{177}Hf$	±2SE	$^{176}Lu/^{177}Hf$	±2SE	$^{176}Yb/^{177}Hf$	±2SE	$^{178}Hf/^{177}Hf$	±2SE	ε_{Hf0} [a]	±2SE	$^{176}Hf/^{177}Hf_i$	ε_{Hfi} [b]	Total Hf Beam	Age (Ma) ±2σ	Correction expressed in ε_{Hf} units [c]
Plešovice zircon															
Hf-P1	0.282497	26	0.000119	0	0.00468	7	1.467170	40	-10.2	0.9	0.282497	-2.7	16.47	337 ± 1.4	171
Hf-P2	0.282500	44	0.000129	6	0.00595	17	1.467168	69	-10.1	1.6	0.282499	-2.6	10.82	337 ± 1.4	217
Hf-P3	0.282515	38	0.000121	2	0.00575	19	1.467159	53	-9.5	1.3	0.282515	-2.1	11.31	337 ± 1.4	210
Hf-P4	0.282514	44	0.000141	18	0.00661	95	1.467159	62	-9.6	1.6	0.282513	-2.1	9.41	337 ± 1.4	241
Hf-P5	0.282510	43	0.000132	5	0.00635	13	1.467132	55	-9.7	1.5	0.282509	-2.2	10.60	337 ± 1.4	232
Hf-P6	0.282498	42	0.000137	1	0.00575	3	1.467121	61	-10.1	1.5	0.282497	-2.7	10.31	337 ± 1.4	210
Hf-P7	0.282509	25	0.000048	1	0.00191	2	1.467072	39	-9.7	0.9	0.282509	-2.3	9.92	337 ± 1.4	70
Hf-P8	0.282495	34	0.000044	1	0.00169	4	1.467027	43	-10.2	1.2	0.282495	-2.8	8.85	337 ± 1.4	62
Hf-P9	0.282467	32	0.000086	4	0.00319	12	1.467085	54	-11.2	1.1	0.282467	-3.8	9.81	337 ± 1.4	117
Hf-P10	0.282480	36	0.000141	1	0.00514	6	1.467082	54	-10.8	1.3	0.282479	-3.3	9.15	337 ± 1.4	189
Hf-P11	0.282459	27	0.000131	0	0.00497	7	1.467116	40	-11.5	1.0	0.282458	-4.1	8.64	337 ± 1.4	182
Hf-P12	0.282441	32	0.000058	4	0.00206	10	1.467062	42	-12.2	1.1	0.282441	-4.7	11.15	337 ± 1.4	76
Hf-P13	0.282468	40	0.000042	2	0.00157	7	1.467131	59	-11.2	1.4	0.282468	-3.7	11.33	337 ± 1.4	58
Hf-P14	0.282487	36	0.000046	2	0.00167	6	1.467129	54	-10.5	1.3	0.282487	-3.0	10.88	337 ± 1.4	61
Hf-P15	0.282480	45	0.000044	3	0.00159	9	1.467138	71	-10.8	1.6	0.282480	-3.3	5.72	337 ± 1.4	58
Hf-P16	0.282424	37	0.000075	1	0.00250	2	1.467140	49	-12.8	1.3	0.282424	-5.3	9.43	337 ± 1.4	92
Hf-P17	0.282445	36	0.000064	0	0.00240	2	1.467193	64	-12.0	1.3	0.282445	-4.5	8.78	337 ± 1.4	88
Mean	**0.282481**						**1.467114**		**-10.7**		**0.282481**	**-3.2**			
2σ	**0.000053**						**0.000086**		**1.9**		**0.000053**	**1.9**			
FC-1 zircon															
Hf-FC1-1	0.282174	46	0.001364	1	0.04218	38	1.467146	78	-21.6	1.6	0.282146	2.0	15.15	1099 ± 3.3	1555
Hf-FC1-2	0.282163	38	0.001354	6	0.04198	23	1.467099	53	-22.0	1.3	0.282135	1.7	15.71	1099 ± 3.3	1548
Hf-FC1-3	0.282198	27	0.001181	5	0.04324	77	1.467125	32	-20.7	1.0	0.282174	3.0	16.54	1099 ± 3.3	1586
Hf-FC1-4	0.282190	29	0.001046	6	0.03709	39	1.467148	41	-21.0	1.0	0.282169	2.8	16.95	1099 ± 3.3	1362
Hf-FC1-5	0.282229	25	0.001445	13	0.05219	33	1.467135	32	-19.7	0.9	0.282199	3.9	16.20	1099 ± 3.3	1916
Hf-FC1-6	0.282187	27	0.000555	39	0.01520	130	1.467113	32	-21.1	1.0	0.282176	3.1	16.08	1099 ± 3.3	563
Hf-FC1-7	0.282172	29	0.001020	5	0.02781	6	1.467096	40	-21.7	1.0	0.282151	2.2	14.58	1099 ± 3.3	1030
Hf-FC1-8	0.282214	20	0.002325	20	0.06568	20	1.467122	33	-20.2	0.7	0.282166	2.8	19.20	1099 ± 3.3	2429
Mean	**0.282198**						**1.467122**		**-20.8**		**0.282164**	**2.7**			
2σ	**0.000042**						**0.000037**		**1.5**		**0.000038**	**1.3**			
MunZirc zircon															
MZirc-1	0.282141	51	0.002282	76	0.05860	170	1.467113	67	-22.8	1.8	0.282141	-22.8	20.02	0.00	2174
MZirc-2	0.282139	41	0.002683	70	0.07160	130	1.467148	66	-22.8	1.5	0.282139	-22.8	20.06	0.00	2653
MZirc-3	0.282131	39	0.001640	190	0.04070	490	1.467118	60	-23.1	1.4	0.282131	-23.1	19.70	0.00	1512
MZirc-4	0.282167	36	0.001492	1	0.04587	53	1.467119	50	-21.8	1.3	0.282167	-21.8	18.64	0.00	1691
MZirc-5	0.282169	25	0.001427	2	0.03421	22	1.467083	33	-21.8	0.9	0.282169	-21.8	17.30	0.00	1273
MZirc-6	0.282162	25	0.002040	180	0.04740	440	1.467144	38	-22.0	0.9	0.282162	-22.0	15.30	0.00	1766
MZirc-7	0.282138	27	0.001772	77	0.03950	180	1.467089	50	-22.9	1.0	0.282138	-22.9	15.79	0.00	1474
MZirc-8	0.282129	27	0.002217	92	0.05290	230	1.467138	28	-23.2	1.0	0.282129	-23.2	14.36	0.00	1968
MZirc-9	0.282152	32	0.001937	55	0.04720	170	1.467134	36	-22.4	1.1	0.282152	-22.4	7.80	0.00	1755
MZirc-10	0.282113	30	0.002730	48	0.05940	100	1.467172	36	-23.8	1.1	0.282113	-23.8	9.98	0.00	2219
MZirc-11	0.282098	27	0.002009	68	0.04330	140	1.467214	46	-24.3	1.0	0.282098	-24.3	12.52	0.00	1618
Mean	**0.282140**						**1.467134**		**-22.8**						
2σ	**0.000042**						**0.000071**		**1.5**						

All isotopic ratios are corrected values.

[a] Calculated using CHUR values after Bouvier *et al.* (2008) $^{176}Hf/^{177}Hf = 0.282785$ and $^{176}Lu/^{177}Hf = 0.0336$.

[b] Decay constant of Söderlund *et al.* (2004) and Scherer *et al.* (2001) was used ($\lambda = 1.867 \times 10^{-11}$ year^{-1}).

[c] Interference correction estimated from ($^{176}Yb/^{177}Hf + {}^{176}Lu/^{177}Hf$)/(0.000028) after Fisher *et al.* (2014b)