

Supplementary Data

Tab. S1 EMP data [wt.%] of profile (step size $\approx 1 \mu\text{m}$) from core (#1) to rim (#29) depicted in Figure 3g, h with the at.-%-ratio of iron and titanium (Fe/Ti). Note that Fe/Ti increases towards the aggregate's rim and #1-#4 correspond to rutile with varying amounts of FeO. The detection limit in ppm is given in brackets for either a concentration below 0.004 wt.% or a not detectable (n.d.) component. The deviation of the total wt.% can be explained due to the presence of Fe₂O₃, which binds more oxygen and thus would increase the calculated total.

#	FeO	TiO ₂	MnO	MgO	SiO ₂	Al ₂ O ₃	Na ₂ O	CaO	K ₂ O	Total	Fe/Ti
1	32.16	61.35	2.17	2.72	0.24	(249)	0.01	0.06	0.01	98.72	0.58
2	7.13	86.93	0.64	0.59	0.26	(251)	0.02	0.08	0.01	95.67	0.09
3	2.57	95.05	0.20	0.17	0.34	n.d. (251)	0.01	0.07	0.02	98.44	0.03
4	12.35	86.26	0.62	1.00	1.30	0.03	0.01	0.08	0.02	101.71	0.16
5	35.43	59.39	2.14	2.93	0.93	0.09	0.02	0.12	0.01	101.09	0.66
6	36.66	57.19	2.39	3.20	0.47	0.02	0.01	0.08	n.d. (249)	100.05	0.71
7	35.76	55.36	2.43	3.27	0.80	0.05	0.02	0.09	0.02	97.81	0.72
8	29.87	67.05	1.74	2.32	0.63	0.04	n.d. (260)	0.09	(247)	101.75	0.50
9	32.45	58.88	2.31	2.87	0.94	0.06	0.05	0.11	0.02	97.73	0.61
10	18.29	74.21	1.40	1.81	0.76	0.09	0.05	0.13	0.02	96.76	0.27
11	23.87	69.43	1.62	2.07	0.46	0.07	0.02	0.09	(248)	97.65	0.38
12	37.60	55.63	2.16	2.82	0.69	0.10	0.01	0.14	0.02	99.19	0.75
13	39.98	52.47	2.43	3.41	0.27	0.09	n.d. (380)	0.10	0.02	98.78	0.85
14	39.53	52.66	2.49	3.47	0.23	0.07	n.d. (380)	0.09	0.02	98.56	0.83
15	39.52	52.82	2.52	3.47	0.22	0.11	n.d. (380)	0.11	0.01	98.80	0.83
16	39.42	52.68	2.58	3.53	0.27	0.10	0.03	0.09	0.01	98.70	0.83
17	39.56	52.42	2.49	3.53	0.26	0.10	0.01	0.11	n.d. (244)	98.48	0.84
18	39.57	52.39	2.45	3.45	0.27	0.11	0.01	0.10	0.01	98.38	0.84
19	39.59	52.40	2.43	3.51	0.31	0.13	0.03	0.08	0.01	98.54	0.84
20	39.84	52.11	2.40	3.37	0.31	0.14	0.03	0.10	0.01	98.34	0.85
21	39.94	51.97	2.45	3.35	0.25	0.14	0.01	0.10	(238)	98.22	0.85

22	39.95	51.98	2.40	3.46	0.29	0.14	0.02	0.13	0.01	98.43	0.85
23	40.21	51.90	2.36	3.36	0.33	0.18	0.02	0.10	0.02	98.51	0.86
24	39.96	51.44	2.29	3.27	0.72	0.23	0.02	0.16	0.02	98.14	0.86
25	40.39	50.87	2.33	3.38	0.40	0.24	n.d. (367)	0.16	0.02	97.81	0.88
26	40.64	50.83	2.27	3.36	0.27	0.24	0.01	0.15	0.02	97.81	0.89
27	40.85	50.50	2.18	3.31	0.36	0.25	0.01	0.18	0.03	97.68	0.90
28	41.24	49.38	2.03	3.22	0.46	0.33	n.d. (373)	0.20	0.04	96.92	0.93
29	41.44	45.28	1.99	3.01	7.75	1.75	0.22	0.29	0.28	102.03	1.02