SUPPLEMENTARY INFORMATION

Quantifying hydrofluoric acid etching of quartz and feldspar coarse grains based on weight loss estimates: implication for ESR and luminescence dating studies

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Sample	MS1_100-150		MS-2_100-150		MS-3_100-150		MF5_100-150		MS1_150-200		MS2_150-200		MS3_150-200		MF5_150-200	
Time (min)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)
10	3.68	0.68	2.30	0.39	4.38	3.02	60.13	11.45	3.87	0.67	2.37	0.39	6.42	1.27	40.28	6.82
20	5.10	0.94	5.26	0.90	5.29	3.64	55.63	10.60	5.04	0.87	3.64	0.60	9.66	1.91	35.44	6.00
40	10.55	1.94	7.92	1.35	8.55	5.88	-	-	8.09	1.40	7.29	1.20	16.02	3.16	85.84	14.53
60	13.40	2.46	10.93	1.86	11.80	8.12	-	-	13.19	2.28	10.67	1.75	17.68	3.49	90.36	15.29

Table S1. Numerical data (removed thickness and associated error) derived from Experiment #1 with HF (40%). These data are graphically displayed in Figure 2.

Sample	MS1_100-150		MS-2_100-150		MS-3_100-150		MF5_100-150		MS1_150-200		MS2_150-200		MS3_150-200		MF5_150-200	
Time (min)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)	Remo. Thick. (µm)	Error (µm)
10	1.42	0.26	0.38	0.06	1.45	1.00	7.98	1.52	0.32	0.06	0.24	0.04	2.01	0.40	7.24	1.23
20	1.57	0.29	0.67	0.11	1.75	1.21	9.13	1.74	0.73	0.13	0.25	0.04	3.01	0.59	8.36	1.41
40	2.33	0.43	0.95	0.16	2.38	1.64	12.12	2.31	0.98	0.17	0.94	0.15	2.56	0.51	12.33	2.09
60	2.58	0.47	1.21	0.21	2.99	2.06	15.43	2.94	1.96	0.34	1.06	0.17	4.13	0.82	13.97	2.36

Table S2. Numerical data (removed thickness and associated error) derived from Experiment #1 with HF (10%). These data are graphically displayed in Figure 2.

Sample	MS1 _50-100		MS1 _100-150		MS1_150-200		MS-1_200-250		MS-1_250-300		MS-3_150-200	
Time (min)	Removed thickness (µm)	Error (µm)	Removed thickness (µm)	Error (µm)	Removed thickness (µm)	Error (µm)	Removed thickness (µm)	Error (µm)	Removed thickness (µm)	Error (µm)	Removed thickness (µm)	Error (µm)
10	5.29	1.15	4.13	0.76	3.85	0.67	3.01	0.48	3.01	0.42	7.04	1.39
20	8.10	1.77	7.91	1.45	7.33	1.27	5.84	0.92	6.21	0.88	12.50	2.47
40	15.14	3.30	17.08	3.14	16.83	2.91	13.90	2.19	15.32	2.16	26.46	5.23
60	21.79	4.75	27.57	5.07	26.26	4.54	24.86	3.92	27.78	3.92	41.51	8.20

Table S3. Numerical data (removed thickness and associated error) derived from Experiment #2. These data are graphically displayed in Figure 2.

Sample	Removed thickness (μm)	Error (μm)
DY08-9	11.07	1.59
DY08-10	11.63	1.68
DY08-11	13.38	1.82
DY08-12	12.81	1.87
DY08-13	12.35	1.56
DY08-14	18.59	2.44
DY08-15	12.10	1.64
DY08-16	14.56	1.91
DY08-17	12.51	1.74
DY08-18	12.20	1.72
DY08-19	12.71	1.72
DY08-20	11.77	1.64
DY08-21	12.70	1.83
DY08-22	11.99	2.09

Table S4. Numerical data (removed thickness and associated error) derived from Experiment #3. These data are graphically displayed in Figure 3.