

ESI Table S4. Analytical results for SRM 612 with reference to ablation crater volume<sup>a</sup>

Run #	Ablation condition	Sample	<sup>6</sup> Li / V	2SE	<sup>7</sup> Li / V	2SE	<sup>7</sup> Li/ <sup>6</sup> Li	2SE	δ <sup>7</sup> Li	2SE	Volume	Depth
Run2	100um/1Hz/193nm (130 mJ)	SRM612_2	0.0124	0.0007	0.1890	0.0101	15.225	0.025	30.8	1.6	50127	10
Run3	100um/3Hz/193nm (130 mJ)	SRM612_3	0.0331	0.0009	0.5040	0.0140	15.244	0.011	32.0	0.7	135799	28
Run4	100um/5Hz/193nm (130 mJ)	SRM612_4	0.0481	0.0018	0.7332	0.0266	15.232	0.011	31.2	0.7	218730	45
Run5	100um/7Hz/193nm (130 mJ)	SRM612_5	0.0640	0.0015	0.9747	0.0233	15.231	0.008	31.1	0.5	284782	59
Run6	100um/10Hz/193nm (130 mJ)	SRM612_6	0.0915	0.0021	1.3913	0.0323	15.212	0.006	29.9	0.4	345468	75
Run7	100um/15Hz/193nm (130 mJ)	SRM612_7	0.1360	0.0030	2.0633	0.0451	15.174	0.004	27.4	0.3	441026	100
Run8	100um/20Hz/193nm (130 mJ)	SRM612_8	0.1743	0.0050	2.6397	#NAME?	15.147	0.005	25.6	0.3	550619	130
Run10	100um/1Hz/193nm (130 mJ)	SRM612_10	0.0131	0.0006	0.1999	0.0086	15.208	0.026	30.4	1.7	50127	10
Run11	100um/3Hz/193nm (130 mJ)	SRM612_11	0.0346	0.0010	0.5260	0.0158	15.204	0.010	30.1	0.7	135799	28
Run12	100um/5Hz/193nm (130 mJ)	SRM612_12	0.0534	0.0014	0.8125	0.0213	15.220	0.009	31.2	0.6	218730	45
Run13	100um/7Hz/193nm (130 mJ)	SRM612_13	0.0735	0.0019	1.1182	0.0294	15.222	0.009	31.3	0.6	284782	59
Run14	100um/10Hz/193nm (130 mJ)	SRM612_14	0.1045	0.0025	1.5877	0.0388	15.191	0.005	29.3	0.3	345468	75
Run15	100um/15Hz/193nm (130 mJ)	SRM612_15	0.1468	0.0038	2.2267	0.0571	15.164	0.004	27.5	0.3	441026	100
Run16	100um/20Hz/193nm (130 mJ)	SRM612_16	0.1797	0.0038	2.7207	0.0571	15.141	0.005	26.0	0.3	550619	130
Run #	Ablation condition	Sample	<sup>10</sup> B / V	2SE	<sup>11</sup> B / V	2SE	<sup>10</sup> B/ <sup>11</sup> B	2SE	δ <sup>11</sup> B	2SE	Volume	Depth
Run2	100um/1Hz/193nm (130 mJ)	SRM612_2	0.0086	0.0004	0.0388	0.0018	4.531	0.009	1.1	2.0	50127	10
Run3	100um/3Hz/193nm (130 mJ)	SRM612_3	0.0228	0.0009	0.1032	0.0039	4.525	0.004	-0.3	0.9	135799	28
Run4	100um/5Hz/193nm (130 mJ)	SRM612_4	0.0361	0.0015	0.1634	0.0067	4.524	0.002	-0.5	0.5	218730	45
Run5	100um/7Hz/193nm (130 mJ)	SRM612_5	0.0486	0.0018	0.2197	0.0080	4.525	0.002	-0.2	0.4	284782	59
Run6	100um/10Hz/193nm (130 mJ)	SRM612_6	0.0672	0.0017	0.3036	0.0077	4.521	0.001	-1.2	0.3	345468	75
Run7	100um/15Hz/193nm (130 mJ)	SRM612_7	0.0937	0.0020	0.4232	0.0090	4.517	0.001	-2.2	0.3	441026	100
Run8	100um/20Hz/193nm (130 mJ)	SRM612_8	0.1132	0.0033	0.5107	0.0150	4.513	0.001	-3.0	0.3	550619	130
Run10	100um/1Hz/193nm (130 mJ)	SRM612_10	0.0085	0.0004	0.0385	0.0019	4.530	0.009	0.5	2.0	50127	10
Run11	100um/3Hz/193nm (130 mJ)	SRM612_11	0.0227	0.0007	0.1027	0.0032	4.530	0.003	0.5	0.7	135799	28
Run12	100um/5Hz/193nm (130 mJ)	SRM612_12	0.0359	0.0014	0.1623	0.0064	4.525	0.003	-0.5	0.6	218730	45
Run13	100um/7Hz/193nm (130 mJ)	SRM612_13	0.0473	0.0014	0.2141	0.0065	4.524	0.002	-0.7	0.4	284782	59
Run14	100um/10Hz/193nm (130 mJ)	SRM612_14	0.0639	0.0015	0.2891	0.0068	4.523	0.001	-1.0	0.3	345468	75
Run15	100um/15Hz/193nm (130 mJ)	SRM612_15	0.0917	0.0022	0.4144	0.0101	4.519	0.001	-1.9	0.3	441026	100
Run16	100um/20Hz/193nm (130 mJ)	SRM612_16	0.1148	0.0030	0.5183	0.0133	4.515	0.001	-2.7	0.3	550619	130

<sup>a</sup>: 2SE: 2-standard error, volume: μm<sup>3</sup>, depth μm