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Supplementary information for :

(LA)-MC-ICPMS/MS measurement of Sr radiogenic isotope ratios

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Table S1 : Results of Sr isotope analyses. The configuration (Config.) refers to a combination of laboratory and instrument which is given in Table 3. Measurements using laser ablation have been done once only.

Exp. #	Sample ID	Config.	Rb	Sr	Certified		Measured solution			Measured solution			Measured laser		Measured laser	
			µg/g	µg/g	$^{87}Sr/^{86}Sr$	± 2SD	$^{87}SrF/^{86}SrF$	± 2SD	n	$^{87}Sr/^{86}Sr$	± 2SD	n	$^{87}SrF/^{86}SrF$	± 2SD	$^{87}Sr/^{86}Sr$	± 2SD
#1	BCR-1	§2a	47	330	0.70501	0.00007	0.70502	0.00008	3							
	BHVO-1	§2a	10	395	0.70347	0.00007	0.70344	0.00007	3							
	BE-N	§2a	47	1380	0.70385	0.00024	0.70404	0.00008	3							
	JB-1a	§2a	39	442	0.70411	0.00002	0.70410	0.00002	3							
	JA-3	§2a	36	290	0.70417	0.00001	0.70415	0.00004	3							
	DNC-1	§2a	4.0	144	0.70582	0.00002	0.70582	0.00009	3							
	W2	§2a	21	193	0.70698	0.00007	0.70696	0.00006	3							
	BIR-1	§2a	0.20	108	0.70312	0.00008	0.70307	0.00010	3							
	JG-3	§2a	66	375	0.70539	0.00003	0.70529	0.00009	3							
	AGV2	§2a	68	658	0.70399	0.00005	0.70394	0.00010	3							
#2	AZE2	§3b	0.17	354											0.70937	0.00035
		§4								0.70895	0.00001	3				
	BA1	§2b	0.19	969									0.70892	0.00012		
		§3a													0.70922	0.00017
		§4								0.70916	0.00001	3				
	BRM	§2b	0.09	315									0.71009	0.00027		
		§3a													0.71009	0.00037
		§4								0.71026	0.000005	2				
	Chi	§2b	1.35	1814									0.70514	0.00011		
		§3a													0.70552	0.00018
		§3b													0.70576	0.00018
		§4								0.70551	0.00002	2				
	H6	§2b	1.34	127									0.70927	0.00066		
		§3a													0.71058	0.00061
		§3b													0.70976	0.00062
		§4								0.70988	0.00001	2				
	HAPp1	§3b	0.03	63											0.70688	0.00098
		§4								0.70798	0.00003	3				
	HAPp2	§3b	0.03	998											0.70915	0.00018
		§4								0.70871	0.00003	3				
	MAPS4	§3b	0.04	1791											0.70837	0.00013
		§4								0.70779	0.00001	4				
	MAPS5	§3b	0.04	165											0.70790	0.00055
		§4								0.70790	0.00003	4				
	MD1	§2b	0.06	353									0.71064	0.00059		
		§3a													0.71094	0.00095
		§4								0.71075	0.00006	3				
	MD2	§2b	0.02	179									0.71123	0.00016		
		§3a													0.71192	0.00013
		§4								0.71182	0.000004	3				
	MD3	§2b	0.05	691									0.70353	0.00025		
		§3a													0.70412	0.00028
		§4								0.70401	0.00006	3				
	PRT-1	§2b	0.16	7978									0.72134	0.00042		
		§4								0.72125	0.00002	4				
	SRM1400	§2b	0.44	238									0.71280	0.00062		
		§3a													0.71387	0.00045
		§3b													0.71325	0.00062
		§4								0.71310	0.00001	4				
	SRM915b	§2b	0.02	205									0.70811	0.00012		
		§3a													0.70806	0.00020
		§3b													0.70819	0.00127
		§4								0.70801	0.00002	3				

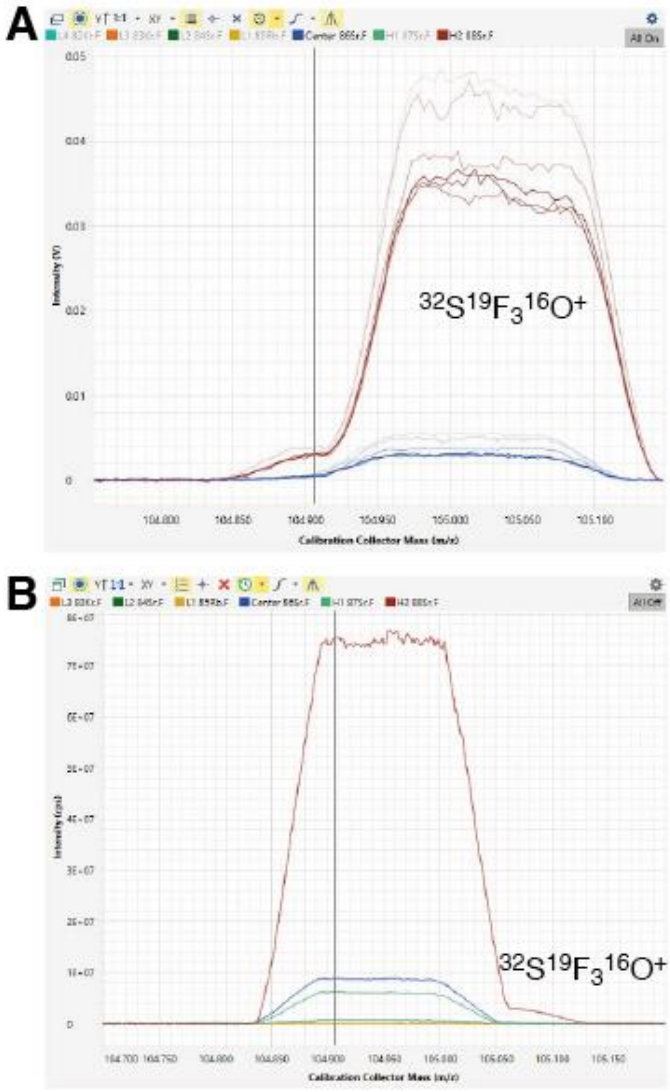

Fig. S1: Peak scans using the low ($\Delta M/M$ ~ 3000) resolution slit with SF_6 set at 0.12 L/min. Corresponding isobar for a given trace colour is indicated in the Qtegra software. A) Peak scan in blank solution (HNO_3 2%) showing the isobaric $^{32}S^{19}F_3{}^{16}O^+$ interference on $^{88}Sr^{19}F^+$. Screen captures were used to show the evolution of the signal through time using the "back trace" option. B) Peak scan in SRM-987 at 200 ppb. The isobaric $^{32}S^{19}F_3{}^{16}O^+$ interference is still visible on the low-mass shoulder. Sr isotope ratio measurement was performed on a flat, interference-free plateau of ca. 0.02 amu width on the low-mass shoulder.

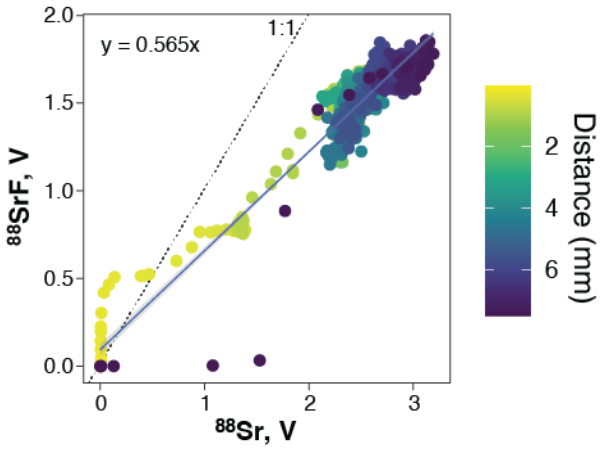

Fig.S2: Correlation between the measured ^{88}SrF and ^{88}Sr intensities in Exp. #3 (Table 1) as a function of the position in the profile, showing that when SF_6 is introduced in the reaction/collision cell, the transmission drops by about half.

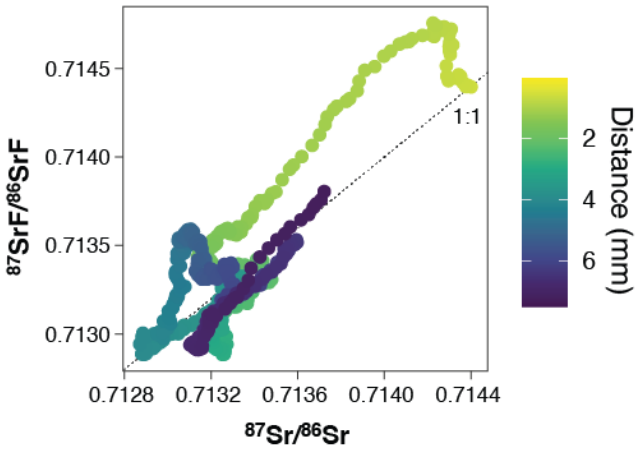

Fig.S3: Correlation between the measured moving average $^{87}SrF/^{86}SrF$ and $^{87}Sr/^{86}Sr$ ratios in Exp. #3 (Table 1) as a function of the position in the profile, showing scattering around the identity line and extended variability of the $^{87}SrF/^{86}SrF$ ratio compared to the $^{87}Sr/^{86}Sr$ ratio.