

Electronic Supplementary Information (ESI)

Table S 1: Conditions of the Neptune Plus MC-ICP-MS

MC-ICP-MS	ThermoScientific Neptune Plus
Cool gas (Ar)	15 l/min
Auxiliary gas (Ar)	0.7 – 0.8 l/min
Sample gas (Ar)	1.18 – 1.2 l/min
Carrier gas (He)	0.75 – 0.81 l/min
RF power	900 W
Sample cone	Ni H
Skimmer cone	Ni X

Table S 2: Calculation for error propagation

Noise Error	Step 1	$NE = \frac{SE}{(\text{measured signal})}$
	Step 2	$NE_{\frac{7}{6}\text{Li}} = \sqrt{(RSE_{\text{detector}_{7\text{Li}}})^2 + (RSE_{\text{detector}_{6\text{Li}}})^2}$
Counting error	Step 1	See Eq. (3)
	Step 2	See Eq. (4)
Total error		$TE_{\frac{7}{6}\text{Li}} = \sqrt{(NE_{\frac{7}{6}\text{Li}})^2 + (CE_{\frac{7}{6}\text{Li}})^2}$

Table S 3: $\delta^7\text{Li}$ values measured by fs-LA-MC-ICP-MS in this study.

$\delta^7\text{Li}$ (‰)	MPI-DING reference glasses						USGS reference glasses			
	KL2-G	ML3B-G	GOR128-G	ATHO-G	T1-G	StHs6/80-G	BIR-1G	BCR-2G	BHVO-2G	
6.5	5.1	12.6	13.6	2.1	1.7	2.1	3.7	4.8	5.1	4.8
6.5	5.8	12.0	11.9	3.2	0.3	2.4	3.5	3.3	3.9	4.1
5.5	5.2	12.9	16.7	1.8	2.4	2.9	1.6	2.7	3.2	5.7
3.9	3.6	15.2	16.2	5.0	1.7	2.0	5.1	4.0	4.1	5.8
3.9	1.7	14.3	13.7	4.4	1.9	5.6		2.8	4.5	6.3
2.1	3.4	14.2	12.1	3.5	0.8	3.4		2.7	5.9	5.9
5.7	2.3	14.5	12.7	4.4	1.2	2.5		3.2	4.8	6.8
5.2	2.1	15.7	12.1	4.5	-0.2	2.1		2.8	3.0	7.7
4.3	2.2	14.0	13.6	6.5	1.8	3.7		3.2	2.7	8.9
4.7	2.0	15.9		4.8	1.9	2.2		5.4	5.6	5.6
		1.0	14.3		0.6	3.2		4.5		7.1
			13.4		-0.6	2.7				
			13.0		2.4	3.0				
			14.7		1.9	3.8				
			12.2		0.7	2.3				
			13.3		3.2	3.6				
			15.6		0.5	2.9				
			14.7		0.3	2.9				
mean	4.8	3.1	13.9	4.0	1.2	3.1		3.6	4.3	6.2
2 SD	2.7	3.2	2.8	2.8	2.0	1.9		1.9	2.2	2.7
n	10	11	27	10	18	22		11	10	11