Electronic Supplementary Information (ESI): Fig. S1 and Table S1

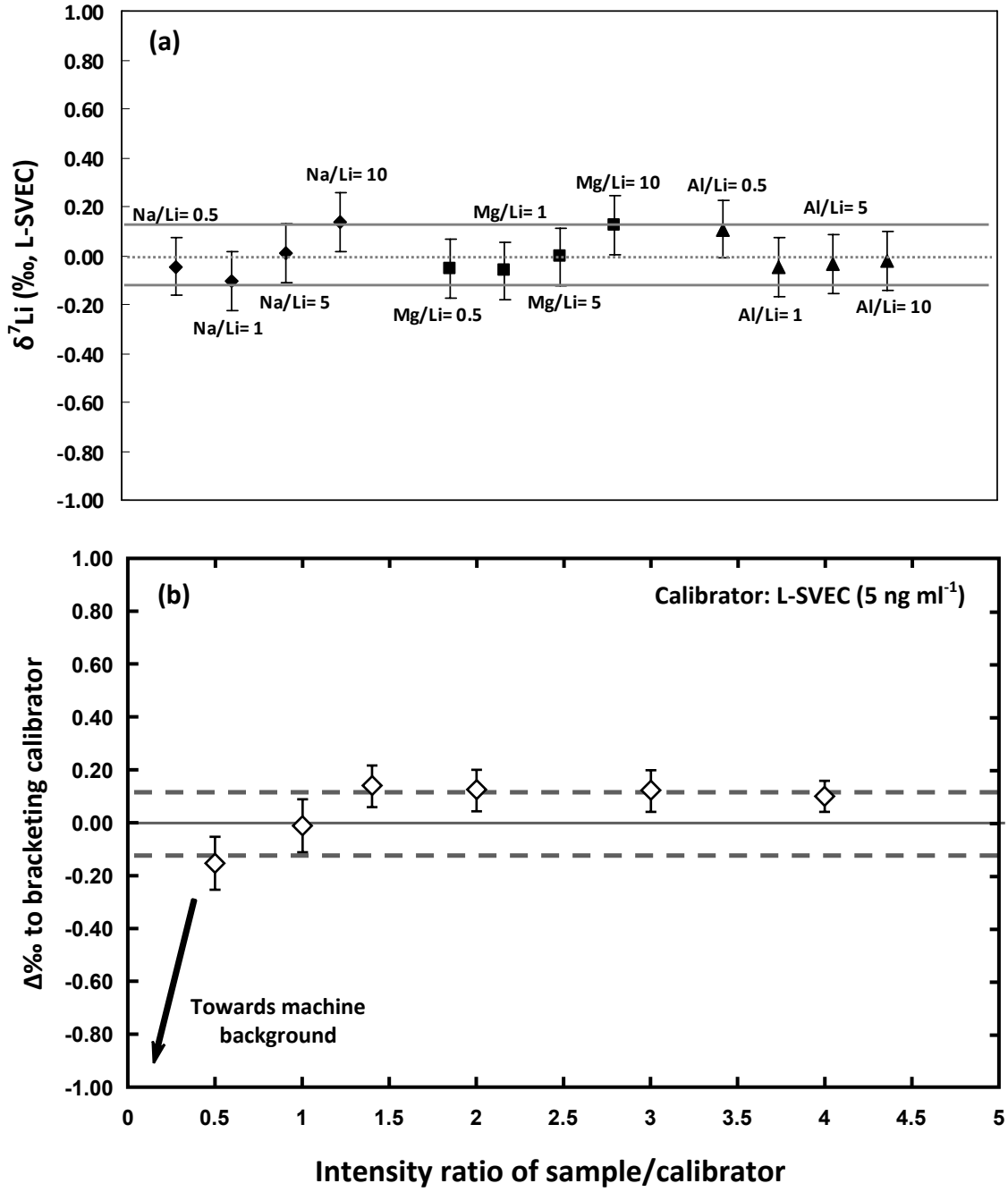

Fig. S1 (a) The matrix effects of elements. L-SVEC standard solution doped with Na (diamonds), Mg (squares) and Al (triangles) are compared with pure L-SVEC solution. The result indicates that the influence of matrix effect for a wide range of element/Li ratio using the analytical method presented here is negligible. (b) Intensity-dependent instrumental shift of measured Li isotope ratios using an APEX-IR desolvating system for sample introduction. 2.5-20 ng ml^{-1} L-SVEC solutions were bracketed with 5 ng ml^{-1} solution using the on-peak blank correction. The mean value of δ^7Li and the error bars (2SD) were also shown. Symbols represent mean values of at least five duplicates.

Table S1. Comparison of the δ^7Li values of this study with published work

Reference	Sample	Analytical method	Li amount required	δ^7Li (‰)	Uncertainty (2SD)	N	±2SE
Chan (1987)	Seawater	TIMS / $Li_2B_4O_7$	3.5 µg	33.3	1.2	5	0.5
You and Chan (1996)	Atlantic	TIMS / Li_3PO_4	100 ng	32.4	2.6	6	1.1
Moriguti and Nakamura (1998)	Pacific	TIMS / Li_3PO_4	100 ng	30.0	0.7	5	0.3
James and Palmer (2000)	Seawater	TIMS / Li_3PO_4	100 ng	32.5	1.6	7	0.6
Tomascak et al . (1999)	Pacific	MC-ICP-MS / Plasma 54	40 ng	31.8	1.9	15	0.5
Nishio and Nakai (2002)	Pacific	MC-ICP-MS / IsoProbe	45 ng	29.3	0.9	3	0.5
Pistiner and Henderson (2003)	Seawater	MC-ICP-MS / Nu Plasma	15 ng	29.6	0.4-0.9	2	0.3-0.6
Bryant et al. (2003)	Pacific	MC-ICP-MS / Neptune / SIS	25-40 ng	30.4-32.0	0.2-0.9	18	0.1-0.3
Millot et al. (2004)	Atlantic (BCR-403)	MC-ICP-MS / Nu Plasma / Aridus	3-15 ng	31.2	1.8	28	0.3
		MC-ICP-MS / Neptune / SIS	15-20 ng	31.0	0.5	31	0.1
Jeffcoate et al. (2004)	Pacific, Atlantic, Mediteranean Sea	MC-ICP-MS / Neptune / Aridus	2 ng	31.1	0.2	31	0.05
Rosner et al. (2007)	Pacific	MC-ICP-MS / Neptune / SIS	3-30 ng	30.86	0.27	2	0.19
	Atlantic (IAPSO)			30.84	0.19	3	0.11
	Atlantic (NASS-5)			30.63	0.44	3	0.25
This study	**Atlantic (IAPSO, S= 35‰)**	**MC-ICP-MS / Neptune / APEX-IR**	**1.2 ng**	**30.88**	**0.12**	**46**	**0.02**
	Atlantic (NASS-5, S= 30.4‰)			**30.73**	**0.15**	**10**	**0.05**
	Halifax harbour (CASS-4, S= 30.7‰)			**30.69**	**0.12**	**4**	**0.06**
	San Francisco Bay (SLEW-3, S= 15‰)			**30.45**	**0.09**	**5**	**0.04**
This study	**NIST SRM 1640**	**MC-ICP-MS / Neptune / APEX-IR**	**1.2 ng**	**9.36**	**0.16**	**8**	**0.06**
This study	**JCp-1**	**MC-ICP-MS / Neptune / APEX-IR**	**1.2 ng**	**20.16**	**0.20**	**5**	**0.09**
Magna et al. (2004)	AGV-2	MC-ICP-MS / Nu Plasma / Aridus	5 ng	7.94	0.64	6	0.26
This study	**AGV-2**	**MC-ICP-MS / Neptune / APEX-IR**	**1.2 ng**	**7.98**	**0.19**	**5**	**0.08**
Zack et al. (2003)	BHVO-2	MC-ICP-MS / Nu Plasma / Aridus		4.5	1		
Magna et al. (2004)	BHVO-2	MC-ICP-MS / Nu Plasma / Aridus	5 ng	4.55	0.29	8	0.10
This study	**BHVO-2**	**MC-ICP-MS / Neptune / APEX-IR**	**1.2 ng**	**4.63**	**0.16**	**5**	**0.07**

2SE = 2SD/√n
SIS= Stable Introduction System