

Table S1 Comparison of stable Nd isotope analysis methods

Separation methods	Yield (%)	Residual Ce (%)	Instruments	External precision(‰)	References
One columns: AG50W-X8 (100~200 mesh)			TIMS + Double spike ( <sup>145</sup> Nd+ <sup>150</sup> Nd)	0.030	Wakaki and Tanaka, 2012 <sup>1</sup>
Two columns: AG50W-X12 (200~400 mesh)+Ln (50~100µm)	98.3%	4.4%	MC-ICP-MS	0.050	Ma <i>et al.</i> (2013) <sup>2</sup>
Three columns AG50W-X8 (200~400 mesh)+TRU Spec (50~100µm) +Ln(25~50µm)	95%		MC-ICP-MS+C-SSBIN	0.060	Ohno and Hirata, (2013) <sup>3</sup>
Four columns: AG50W- X8(200~400mesh)+Ln(50~100µm)+Ln(25~50µm)+AG50W-X8 (200~400 mesh)		1%	MC-ICP-MS	0.040	Saji <i>et al.</i> (2016) <sup>4</sup>
Two columns: AG50W-X8 (100~200 mesh)+Ln (50~100µm)	96.8%	6%	TIMS + Double spike ( <sup>145</sup> Nd+ <sup>150</sup> Nd)	0.017	McCoy-West <i>et al.</i> (2017) <sup>5</sup>
One column: TODGA (TrisKem)	99.2%	0.5%	MC-ICP-MS	0.030	Wang <i>et al.</i> (2017) <sup>6</sup>
Three columns TRU/Ln tandem+Ln/DGA tandem+DGA/Ln tandem	80~90%		TIMS	0.006	Pin and Gannoun, (2019) <sup>7</sup>
One column: TODGA (Eichrom)	>99.5%	0.04%	MC-ICP-MS+C-SSBIN (Eu internal)	0.030	This study

## References:

1. S. Wakaki and T. Tanaka, *Int J Mass Spectrom*, 2012, **323/324**, 45-54.
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3. T. Ohno and T. Hirata *Analytical Sciences*, 2013, **29**, 47-53.
4. N. S. Saji, D. Wielandt, C. Paton and M. Bizzarro, *Journal of Analytical Atomic Spectrometry*, 2016, **31**, 1490-1504.
5. A. J. McCoy-West, M.-A. Millet and K. W. Burton, *Earth and Planetary Science Letters*, 2017, **480**, 121-132.
6. Y. Wang, X. Huang, Y. Sun, S. Zhao and Y. Yue, *Anal Methods-Uk*, 2017, **9**, 3531-3540.
7. C. Pin and A. Gannoun, *Journal of Analytical Atomic Spectrometry*, 2019, **34**, 310-318.