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Supplementary Material

EXPLORING INTERNAL STANDARDS AND MATRIX MATCHING FOR LANTHANIDES DETERMINATION IN TEA BY LA-ICP-MS

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Table 1S. Calibration curves of Lns obtained by LA-ICP-MS using standards prepared with filter paper, cellulose or powdered leaves spiked with Lns and IS. The concentration range of calibration curves was 0.5 to 5 μg g^{-1}

Analyte	IS	Filter paper		Cellulose		Leaves	
		y = ax + b	R^2	y = ax + b	R^2	y = ax + b	R^2
Ce	Au	y = 8.37x + 1.20	0.991	y = 37.6x – 4.68	0.991	y = 9.19x + 1.22	0.990
	C	y = 4.56x + 0.34	0.999	y = 36.3x + 0.90	0.999	y = 2.83x + 0.34	0.997
	In	y = 2.61x + 0.22	0.994	y = 2.66x + 0.49	0.996	y = 4.55x + 0.19	0.992
	Rh	y = 8.11x – 0.09	0.998	y = 4.92x – 0.09	0.997	y = 4.63x + 0.09	0.989
	Tl	y = 2.73x + 0.09	0.999	y = 5.39x + 1.19	0.993	y = 4.72x + 0.04	0.985
La	Au	y = 9.38x + 1.33	0.992	y = 11.9x + 4.91	0.988	y = 11.5x + 0.28	0.998
	C	y = 5.61x + 0.48	0.993	y = 5.19x – 0.22	0.994	y = 2.92x + 0.29	0.992
	In	y = 3.40x – 0.11	0.997	y = 2.93x + 0.47	0.997	y = 5.39x + 0.24	0.997
	Rh	y = 9.10x – 0.11	0.999	y = 5.26x + 0.05	0.998	y = 5.53x + 0.37	0.999
	Tl	y = 3.02x + 0.12	0.998	y = 5.40x + 0.94	0.996	y = 4.81x + 0.04	0.988
Nd	Au	y = 3.85x + 0.57	0.991	y = 3.62x + 0.23	0.999	y = 4.01x + 0.35	0.995
	C	y = 2.26x + 0.09	0.996	y = 3.49x – 0.43	0.990	y = 1.29x + 0.09	0.991
	In	y = 1.39x – 0.04	0.997	y = 1.15x + 0.22	0.995	y = 2.18x + 0.19	0.993
	Rh	y = 3.74x – 0.03	0.998	y = 2.19x + 0.01	0.999	y = 2.13x + 0.27	0.998
	Tl	y = 1.27x + 0.04	0.999	y = 2.63x + 0.02	0.996	y = 1.79x + 0.28	0.969
Pr	Au	y = 7.32x – 0.08	0.985	y = 35.1x – 3.61	0.990	y = 8.21x + 0.90	0.991
	C	y = 0.73x – 0.18	0.998	y = 21.6x + 1.90	0.998	y = 0.80x + 0.23	0.994
	In	y = 0.86x – 0.13	0.998	y = 0.76x + 0.36	0.996	y = 1.70x + 0.15	0.996
	Rh	y = 1.91x – 0.08	0.997	y = 1.40x – 0.11	0.993	y = 1.36x + 0.10	0.986
	Tl	y = 2.31x – 0.35	0.999	y = 5.15x + 0.19	0.998	y = 4.31x + 0.07	0.988
Sm	Au	y = 2.09x – 0.05	0.985	y = 3.41x + 0.30	0.986	y = 3.12x - 0.21	0.987
	C	y = 0.19x – 0.09	0.987	y = 0.25x – 0.15	0.990	y = 0.27x + 0.14	0.990
	In	y = 0.24x – 0.03	0.999	y = 0.32x – 0.14	0.992	y = 0.57x + 0.18	0.997
	Rh	y = 0.55x – 0.03	0.997	y = 0.27x – 0.05	0.988	y = 0.26x - 0.14	0.985
	Tl	y = 0.65x – 0.09	0.999	y = 1.12x + 0.10	0.987	y = 1.06x - 0.04	0.987
Eu	Au	y = 4.20x – 0.07	0.986	y = 12.3x + 1.70	0.999	y = 4.11x + 0.45	0.998
	C	y = 0.30x – 0.06	0.994	y = 1.86x – 0.41	0.994	y = 0.52x + 0.07	0.990
	In	y = 0.49x – 0.06	0.998	y = 0.61x + 0.202	0.993	y = 0.93x - 0.12	0.995
	Rh	y = 1.10x – 0.05	0.997	y = 2.109x + 0.11	0.995	y = 2.20x + 0.23	0.998
	Tl	y = 1.31x – 0.16	0.999	y = 2.51x – 0.12	0.996	y = 1.72x + 0.15	0.978
Gd	Au	y = 1.78x – 0.02	0.986	y = 8.32x + 0.56	0.993	y = 2.31x – 0.21	0.995
	C	y = 0.17x – 0.08	0.986	y = 0.86x – 0.10	0.990	NC	NC
	In	y = 0.20x – 0.02	0.999	NC	NC	y = 4.55x + 0.19	0.992
	Rh	y = 0.46x – 0.02	0.998	y = 0.31x – 0.06	0.990	y = 0.26x - 0.08	0.983
	Tl	y = 0.55x – 0.07	0.999	y = 0.80x – 0.07	0.987	y = 0.76x - 0.03	0.980

Table 1S. Calibration curves of Lns obtained by LA-ICP-MS using standards prepared with filter paper, cellulose or powdered leaves spiked with Lns and IS. The concentration range of calibration curves was 0.5 to 5 μg g^{-1} (cont.)

Analyte	IS	Filter paper		Cellulose		Leaves	
		y = ax + b	R^2	y = ax + b	R^2	y = ax + b	R^2
Dy	Au	y = 2.28x – 0.06	0.986	y = 11.0x – 0.14	0.980	y = 3.42x – 0.17	0.996
	C	y = 0.22x – 0.10	0.985	y = 1.33x – 0.12	0.990	NC	NC
	In	y = 0.26x – 0.03	0.999	y = 0.21x – 0.14	0.995	y = 0.51x + 0.20	0.996
	Rh	y = 0.59x – 0.03	0.998	y = 0.43x – 0.02	0.992	NC	NC
	Tl	y = 0.71x – 0.09	0.999	y = 1.30x – 0.14	0.990	y = 1.12x - 0.05	0.982
Tb	Au	y = 7.68x – 0.07	0.986	y = 35.4x + 3.21	0.999	y = 10.2x + 0.25	0.998
	C	y = 0.55x – 0.12	0.995	y = 4.08x – 0.38	0.997	y = 0.35x – 0.06	0.989
	In	y = 0.89x – 0.11	0.999	y = 1.13x – 0.10	0.995	y = 2.15x + 0.11	0.996
	Rh	y = 2.01x – 0.08	0.998	y = 2.05x – 0.02	0.990	y = 1.95x + 0.16	0.998
	Tl	y = 2.40x – 0.31	0.999	y = 4.21x + 0.04	0.996	y = 4.15x – 0.08	0.980
Ho	Au	y = 7.31x – 0.98	0.998	y = 28.2x – 3.40	0.998	y = 9.10x + 1.01	0.990
	C	y = 0.54x – 0.12	0.994	y = 4.19x – 0.80	0.999	y = 0.35x – 0.04	0.997
	In	y = 0.87x – 0.11	0.999	y = 3.95x – 0.16	0.990	y = 1.63x – 0.09	0.995
	Rh	y = 1.96x – 0.08	0.998	y = 1.02x – 0.04	0.990	y = 0.99x – 0.05	0.990
	Tl	y = 2.34x – 0.31	0.999	y = 5.30x + 0.18	0.998	y = 4.63x + 0.07	0.995
Er	Au	y = 2.50x – 0.04	0.985	y = 11.3x + 2.30	0.987	y = 2.90x + 0.18	0.998
	C	y = 0.24x – 0.11	0.986	y = 2.19x + 0.10	0.994	NC	NC
	In	y = 0.29x – 0.04	0.998	y = 0.28x – 0.07	0.990	y = 0.56x – 0.05	0.997
	Rh	y = 0.66x – 0.03	0.997	NC	NC	NC	NC
	Tl	y = 0.78x – 0.11	0.999	y = 1.51x – 0.06	0.990	y = 1.40x – 0.04	0.986
Tm	Au	y = 7.59x – 0.13	0.986	y = 36.2x + 2.23	0.999	y = 6.01x + 0.45	0.998
	C	y = 0.72x – 0.34	0.986	y = 5.63x + 0.90	0.998	y = 0.63x + 0.08	0.990
	In	y = 0.88x – 0.10	0.999	y = 1.14x – 0.12	0.990	y = 1.18x – 0.19	0.990
	Rh	y = 1.99x – 0.09	0.998	y = 1.05x – 0.04	0.991	y = 1.10x – 0.07	0.992
	Tl	y = 2.36x – 0.29	0.999	y = 5.63x + 0.04	0.996	y = 4.78x – 0.28	0.979
Yb	Au	y = 2.44x – 0.03	0.986	y = 10.1x – 1.03	0.996	y = 2.69x + 0.22	0.995
	C	y = 0.23x – 0.11	0.986	y = 1.24x + 0.20	0.990	NC	NC
	In	y = 0.28x – 0.04	0.998	y = 0.26x + 0.04	0.990	y = 0.23x – 0.05	0.990
	Rh	y = 0.64x – 0.03	0.998	NC	NC	NC	NC
	Tl	y = 0.76x – 0.10	0.999	y = 1.63x – 0.19	0.990	y = 1.52x – 0.04	0.988
Lu	Au	y = 7.29x – 0.18	0.986	y = 36.5x – 1.91	0.998	y = 11.0x + 0.18	0.998
	C	y = 0.69x – 0.33	0.985	y = 5.09x – 0.35	0.996	y = 0.45x + 0.06	0.995
	In	y = 0.85x – 0.11	0.998	y = 1.03x – 0.07	0.997	y = 1.60x – 0.04	0.998
	Rh	y = 1.91x – 0.10	0.997	y = 0.75x – 0.05	0.998	y = 0.78x + 0.07	0.990
	Tl	y = 2.28x – 0.32	0.999	y = 5.43x + 0.90	0.998	y = 4.87x + 0.06	0.998

R^2: coefficient of determination; NC: no calibration.