

Table S1: ICP-MS Parameters

ICP Parameters	
RF Power	1600 W
Plasma gas flow rate	18.0 L/min.
Auxiliary gas flow rate	1.2 L/min.
Nebulizer gas flow rate	1.0 L/min.
Spray chamber	Peltier-cooled (2 °C) baffled quartz cyclonic spray chamber
Torch	Quartz
Sampler and skimmer cones	Platinum
Hyper skimmer cones	Nickel
Mass Spectrometer Parameters	
Resolution	0.7 amu at 10% peak maximum
Dwell time	50 ms
Sweeps	20
Readings	1
Replicates	3
Autolens	ON
Internal Standard	In (115 amu)
Mode of detection	KED

Table S2: Parameters of system suitability

		Day 1		Day 2		Day 3	
Parameter	Acceptance Criteria (% RSD)	Mean	% RSD	Mean	% RSD	Mean	% RSD
Fe (cps)	NMT 10 %	82341.5	0.36	74296.8	0.42	69909.6	0.71
In (Internal Standard, cps)	NMT 10 %	16914.8	0.34	15309.6	0.48	14601.8	0.70
Ratio (Fe/In)	NMT 2 %	4.8	0.09	4.8	0.25	4.7	0.42

Table S3: Parameters of calibration curve

Calibration sets	Linear Range (Fe ppb)	Calibrators	Correlation coefficient (r ²)	Slope
1	5-500	6	0.9999	0.0246
2	5-500	6	0.9999	0.0244
3	5-500	6	0.9999	0.0242

Table S4: Quality Control: Accuracy (%)

S. No.	5 ppb	50 ppb	200 ppb	500 ppb
Day 1	93.5	96.4	98.1	97.8
Day 2	91.9	96.8	98.5	98.9
Day 3	106.6	98.6	98.4	97.0

Table S5: Quality Control: Precision (% R.S.D.)

S. No.	5 ppb	50 ppb	200 ppb	500 ppb
Day 1	4.9	0.6	0.1	0.4
Day 2	4.76	0.58	0.25	1.25
Day 3	1.03	0.31	0.42	0.95