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Table S1. Influence of the plasma (outer) gas flow rate on emission lines intensities for a solution containing 5 mg L⁻¹ of the elements; 400 mL min⁻¹ N₂ and 20 mL min⁻¹ N₂ were respectively added to the plasma and nebulizer gas flows.

Wavelengths	Energy*, eV	11 L min ⁻¹	12 L min ⁻¹	13 L min ⁻¹	14 L min ⁻¹	15 L min ⁻¹	Ratio 11/15
Se I 196.090	6.32	72000±840	63900±600	54700±650	49200±300	44000±400	1.63
Sb I 206.833	5.98	82600±770	75300±340	66820±580	61730±150	57000±400	1.45
As I 189.042	6.56	107400±1400	96700±830	83550±860	75330±340	67700±500	1.58
P I 177.495	6.99	60100±700	53640±560	46470±270	42000±370	38000±300	1.58
S I 180.731	6.85	68400±630	62150±640	54450±600	50000±300	45840±250	1.49
K I 766.491	1.62	31700±450	26900±500	22340±290	19350±180	17000±190	1.86
Li I 670.780	1.85	774600±4500	760400±13900	734500±4300	726200±680	712700±5300	1.08
Fe II 259.941	13.09	628000±3000	579660±9500	524800±5500	488000±5800	452900±2300	1.38
Cr II 267.716	12.95	457500±3900	422000±4400	378300±2500	348500±3700	319700±2400	1.43
Ni II 231.604	14.03	605600±5000	542000±6000	472400±3000	423600±6100	380760±3600	1.59
V II 292.464	11.37	437300±3700	408400±5300	375600±3200	354100±2900	331000±1900	1.32
Pb II 220.353	14.79	103300±1600	88800±1200	73780±940	64000±460	56100±550	1.84
Ti II 334.941	10.56	2572800±19000	2435000±36000	2289000±18000	2198000±18000	2090000±28000	1.23
Cd II 214.438	14.77	3300000±21000	2861550±47000	2388000±33000	2106000±36000	1809000±29000	1.82
Mn II 257.611	12.25	3312000±26000	3068000±46000	2792000±28000	26167000±23000	2420000±34000	1.37
Zn II 213.856	15.51	1812000±12000	1658000±23000	1493000±11000	1392000±16000	1288000±13000	1.40
Co II 228.616	13.70	1190100±10300	1077000±11000	948600±7200	858000±11000	777900±7000	1.53
Cu I 324.754	3.82	938400±6600	911000±15000	869000±5000	854400±4500	831800±1600	1.13
Mg II 280.270	12.07	8216000±41000	7650000±110000	6909000±51000	64435000±66000	5907000±83000	1.39
Mg I 285.213	4.34	808600±6000	768700±9300	721100±4500	695400±4700	666100±1200	1.21

*Obtained from <https://www.nist.gov/pml/atomic-spectra-database>, which lists the excitation energy for atomic lines and the sum of the excitation and ionization energies for ionic lines.

Table S2. Influence of the auxiliary gas flow rate on emission lines intensities for a solution containing 5 mg L⁻¹ of the elements; 400 mL min⁻¹ N₂ and 20 mL min⁻¹ N₂ were respectively added to the plasma and nebulizer gas flows.

Wavelength, nm	3.0 L min ⁻¹	2.5 L min ⁻¹	2.0 L min ⁻¹	1.5 L min ⁻¹	1.0 L min ⁻¹	0.6 L min ⁻¹	Ratio 1.0/3.0
Se I 196.090	38000±350	42157±800	49000±300	56700±280	62710±500	65800±400	1.65
Sb I 206.833	42500±400	48650±800	57700±200	67000±390	74500±400	78900±400	1.75
As I 189.042	53680±670	61000±1000	72500±600	85000±700	95000±450	99800±800	1.76
P I 177.495	34260±150	37200±700	42500±200	48500±250	53000±200	55100±300	1.54
S I 180.731	40900±470	43000±700	48600±450	55250±300	60800±280	63800±800	1.48
K I 766.491	14800±70	15700±100	17800±160	21500±700	26100±200	28150±800	1.76
Li I 670.780	931900±960	846200±6500	825700±2450	801600±22100	764700±4300	750800±6400	0.82
Fe II 259.941	338000±3000	401300±60000	483500±2500	547600±6900	582000±5700	600000±4700	1.72
Cr II 267.716	229200±950	279400±3800	341400±2600	391300±5200	419400±5000	432500±6700	1.82
Ni II 231.604	256600±2000	320000±5200	403200±4300	478600±4400	537600±7300	562300±12000	2.09
V II 292.464	260800±1200	303200±3100	356300±2400	394000±6000	411200±4200	419300±6400	1.57
Pb II 220.353	30960±300	41600±1200	56400±100	73200±1100	87300±400	96200±1200	2.82
Ti II 334.941	1723000±37000	1939600±24900	2267720±11000	2427000±35000	2455000±26000	2487000±33000	1.42
Cd II 214.438	1088700±8600	1365600±21700	1883500±13900	2389000±26000	2794000±100000	3038000±25000	2.56
Mn II 257.611	1784000±39000	2107400±26500	2606480±16900	2920000±21000	3064000±52000	3150000±33000	1.71
Zn II 213.856	955700±9400	1084600±19200	1291800±9900	1486300±1600	1637830±33000	1740000±17000	1.71
Co II 228.616	535400±4300	660400±9600	822400±8300	964300±10000	1073000±13000	1117000±19000	2.00
Cu I 324.754	778100±300	804500±7500	877450±4000	917000±19000	915000±8000	912000±10000	1.17
Mg II 280.270	4325000±83000	5168000±71000	6401450±37750	7208000±70000	7500000±1200000	7680000±99000	1.74
Mg I 285.213	494700±1000	571000±5500	669600±4300	740300±10000	772000±8000	783000±10000	1.56
Mg II 280/Mg I 285	8.74±0.16	9.05±0.12	9.56±0.05	9.73±0.09	9.77±0.16	9.80±0.12	-