ESI

Table S1. The analytes and their spectral lines in order of decreasing excitation energy for atomic lines and energy sum for ionic lines

Element	λ, nm	Excitation energy, eV	Ionization energy, eV	Sum energy, eV
Zn (II)	206,20	6,01	9,39	15,40
Cd (II)	226,50	5,78	8,99	14,77
Co (II)	238,89	5,60	7,88	13,48
Ca (II)	317,93	7,05	6,11	13,16
Fe (II)	259,94	4,82	7,90	12,72
Cr (II)	284,32	5,88	6,76	12,64
V (II)	311,07	5,80	6,75	12,55
Mn (II)	257,61	4,81	7,43	12,24
Mg (II)	280,27	4,43	7,65	12,08
Ti (II)	323,45	3,88	6,83	10,71
V (I)	309,31	3,71	6,75	10,46
Zn (I)	213,86	5,79		5,79
Cd (I)	228,80	5,42		5,42
B (I)	249,77	4,96		4,96
Mn (I)	279,83	4,43		4,43
Mg (I)	285,21	4,34		4,34
Ni (I)	305,08	4,09		4,09
Co (I)	340,51	4,07		4,07
Cu (I)	324,75	3,82		3,82

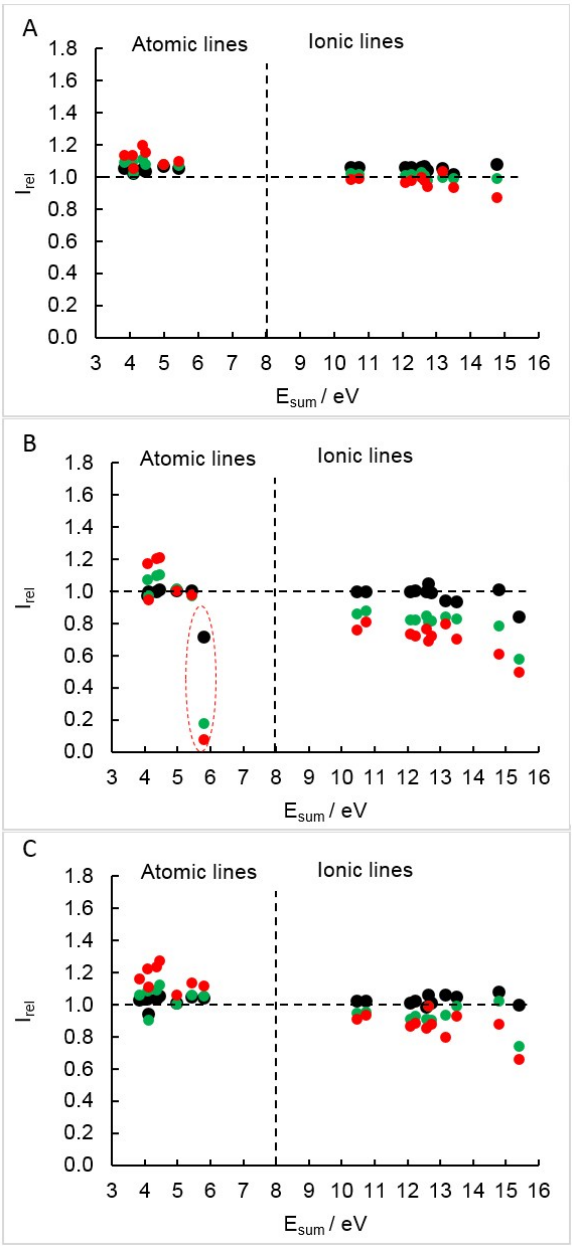

Fig. S1. Relative signal intensity (matrix effect) obtained in MIP (H_{011}) for (●) 0.1, (●) 0.5, (●) 1.0% w·w^{-1} of Zn (A), Cu (B) and Pb (C) for analytes with different E_{sum} values. The points surrounded by dashed lines are probably related to spectral interference

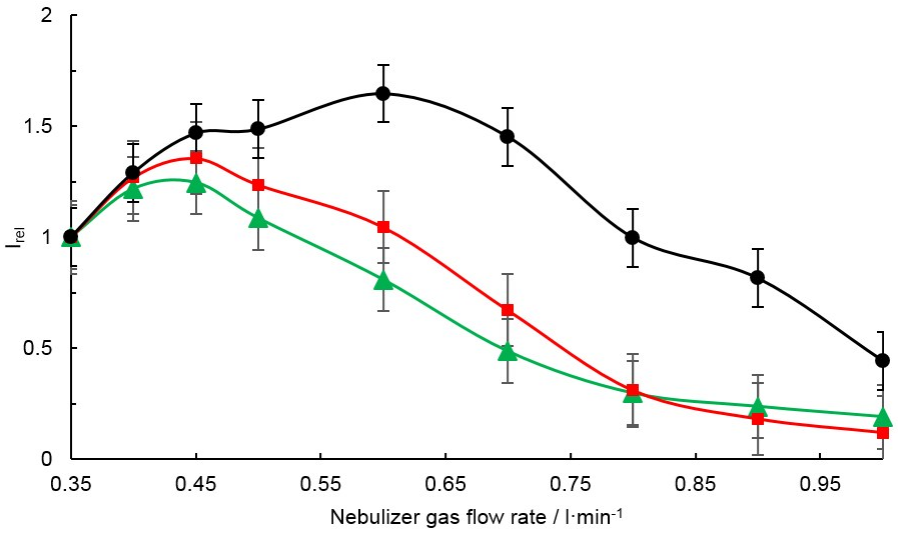

Fig.S2. Influence of the nebulizer gas flow rate on the arithmetic mean value of the relative signal intensity (I_{rel}) of analyte with E_{sum} values - (▲)12.55-15.4 eV, (■)10.46-12.24 eV, (•)3.82-5.79 eV

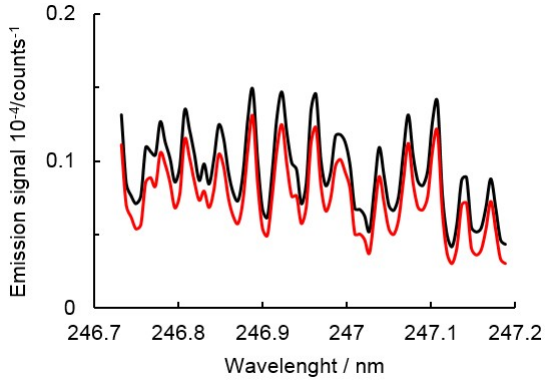

Fig.S3. NO emission signal profiles obtained in the MIP (H_{011}) for the 2.0% w·w^{-1} nitric acid reference solution (black line) and for the 1.0% w·w^{-1} Na (red line)

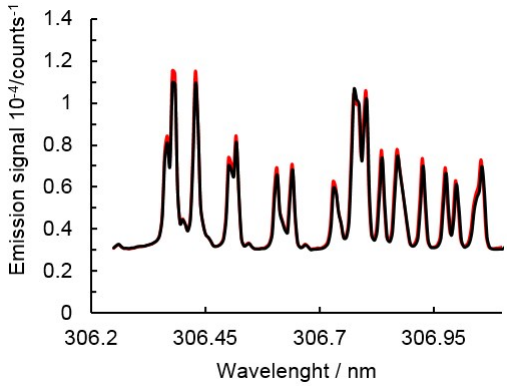

Fig.S4. OH emission signal profiles obtained in the MIP (H_{011}) for the 2.0% w·w^{-1} nitric acid reference solution (black line) and for the 1.0% w·w^{-1}