Electronic Supplementary Material (ESI) for Journal of Analytical Atomic Spectrometry.

Table S1 – Wavelength range of molecular bands of diatomic molecules forming the background of the nitrogen MIP and wavelengths of analytical lines used in this work.

Molecule	Transition	Wavelength range, nm	Analytical line, nm
N_2	$B(^3\Pi_g) \rightarrow A(^3\Sigma_u^+)$	550 – 780	745.25
N_2^+	$B(^2\Sigma_u^+) \rightarrow X(^2\Sigma_g^+)$	380 – 392	391.43
NH	$A(^3\Pi) \rightarrow X(^2\Sigma^-)$	326 – 338	336.01
OH	$A(^2\Sigma^+) \rightarrow X(^2\Pi)$	260 – 297; 306 – 324	308.97
NO	$A(^2\Sigma^+) \rightarrow X(^2\Pi)$ $B(^2\Pi) \rightarrow X(^2\Pi)$	190 – 280	233.87

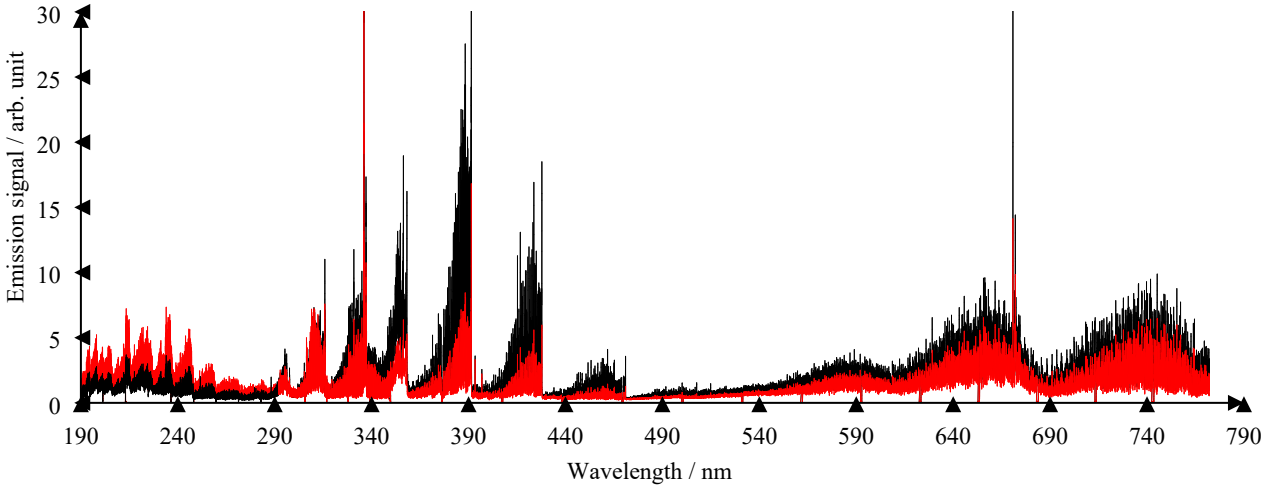

Fig. S1 Spectrum of obtained MIP in the region of 190–780 nm at O_2 content of 0.1% (black curve) and 1% (red curve). Molecular species and their wavelength range are shown in Table S1, ESI

Table S2 – Analyzed spectral lines and their total excitation energies (E_{sum}).

Spectral line, nm	E_{sum}, eV
Na (I) 589.592	2.1
Cr (I) 428.972	2.9
Ca (I) 422.673	2.9
Mn (I) 403.075	3.1
Al (I) 396.152	3.1
Al (I) 394.401	3.1
Fe (I) 248.814	5.0
Fe (I) 248.327	5.0
Cd (I) 228.802	5.4
Zn (I) 213.857	5.8
Cr (II) 286.765	11.1
Cr (II) 283.563	11.1
Mn (II) 293.930	11.7
Mn (II) 293.306	11.7
Mn (II) 257.611	12.3
Fe (II) 240.489	13.1
Fe (II) 238.204	13.1
Cd (II) 226.502	14.5
Zn (II) 206.201	15.4