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**TITLE:** Stellar and circumstellar lines in the spectra of protoplanetary nebulae

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**ABSTRACT:**

The atmospheres and circumstellar envelopes of AGB and post-AGB stars are among the most remarkable chemical laboratories in the Galaxy. Many aspects of photospheric and circumstellar chemistry are still not understood, e.g. why some post-AGB stars are extremely s-process enriched while others are not enriched at all, where is the site of formation of broad unidentified emission features and what species are involved in its formation. We present an analysis of high-resolution spectra in the optical and near infrared wavelength region for the sample of protoplanetary nebulae with the goal to identify lines of some less studied neutron capture elements (thulium, holmium, niobium), carbon bearing molecules, and diffuse (interstellar) bands. The method of atmospheric models was used to update abundances and clarify the nature of chemical peculiarities. The observed underabundance of neutron capture and some other elements for HD161796 was inferred to be a consequence of dust-gas separation. The updated abundances for IRAS22272+5435 give evidence of combined (s+r process) neutron capture nucleosynthesis in the past. A number of CN, C<sub>2</sub>, and OH lines was identified in the spectra of IRAS22272+5435 and IRASZ02229+6208. The site of formation of molecular lines is thought to be the extended stellar atmospheres and the inner/outer CSEs.