THE CORONENE VIBRONIC STATES ABOVE THE FIRST IONIZATION POTENTIAL INVESTIGATED THROUGH TPEPICO EXPERIMENTS

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Threshold Photoelectron spectra (TPES), as well as Total Ion Yeld (TIY) spectra of jet-cooled Coronene ($C_{12}H_{24}$) have been obtained using the electron/ion coincidence imaging spectrometer DELICIOUS II[a] available at the DESIRS beamline of the French Synchrotron facility SOLEIL. The obtained data can be interpreted in the light of new theoretical DFT and TDDFT based calculations. They will be discussed in comparison to available photoelectron (PES) and optical absorption data. New autoionizing neutral states have also been observed and their relaxation to final cationic states characterized.

[a] G.A. Garcia, H. Soldi-Lose, and L. Nahon, Rev. Sci. Instrum. 80, 023102 (2009).