ELECTRONIC SPECTROSCOPY OF CORONENE AND BENZOPERYLENE INSIDE HELIUM NANODROPLETS

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Helium Nanodroplet Isolation Spectroscopy (HENDI) is a hybrid technique combining the advantages of molecular beams and matrix isolation. We have taken $S_0 \rightarrow S_1$ spectra of Coronene and Benzoperylene inside helium clusters via the depletion method. Coronene spectrum is better resolved than the previously reported jet spectra and it is composed of sharp lines with about 0.5 cm^{-1} full width. Although Benzoperylene lines are not as sharp, it is the only high resolution spectrum of this molecule to our knowledge. The van der Waals complexes of these molecules with Argon and Oxygen are also studied. The zero phonon line splittings for $S_0 \rightarrow S_1$ transitions in perylene, benzoperylene and coronene will be discussed.