HIGH RESOLUTION ELECTRONIC SPECTROSCOPY OF THE ARGON VAN DER WAALS COMPLEXES OF 1, 2, 3, 6, 7, 8-HEXAHYDROPYRENE IN THE GAS PHASE. [a]

PHILIP J. MORGAN, ADAM J. FLEISHER, JOSEPH R. ROSCIOLI [b] and DAVID W. PRATT, *Department of Chemistry, University of Pittsburgh, PA 15260*.

The study of van der Waals complexes provides structural and dynamical information about the weak chemical forces that exist between aromatic molecules and rare gas atoms. In this report, we describe the rotationally resolved fluorescence excitation spectra of the $S_1 \leftarrow S_0$ origin bands of the single argon atom complexes of 1, 2, 3, 6, 7, 8-hexahydropyrene. Analysis of the spectra provides information about the geometries of both conformers of the bare molecule and their argon complexes in both electronic states. The equilibrium positions of the argon atom in both conformers will be discussed.

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[b] Present address: *JILA, National Institute of Standards and Technology and University of Colorado, and Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO 80309.*