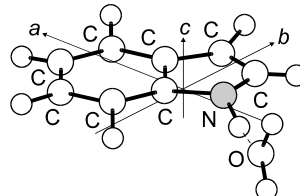
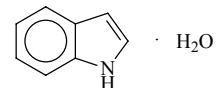


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LIF C_8H_9NO **1H-Indole – water (1/1)**
(weakly bound complex) C_s
(effective symmetry class)
(large-amplitude motion)

State	\tilde{X}^1A'	\tilde{A}^1A''
Energy [eV]	0.0	4.352
$r_0(R_{cm})$ [Å]	4.666(1)	4.602(1)



A molecular beam was formed by flowing water in Ar carrier gas over heated indole and expanding into a molecular beam apparatus.

Fluorescence was excited by a frequency doubled dye laser, collected using spatially selected optics and detected by a photomultiplier and photon counting system. Rotational analyses of the spectra yield rotational constants for the ground and the excited states of the complex. The inertial defects are not appreciably different from those of the bare molecule indicating that the water molecule lies approximately in the indole plane. Attachment of the H_2O molecule to the NH group rotates the principal axes of inertia towards the NH group resulting in a predominantly *b*-type transition as observed. These observations establish the geometry of the complex in both states as the α -hydrogen bonded structure $N-H\cdots OH_2$.

Kortner, T.M., Pratt, D.W., Küpper, J.: J. Phys. Chem. A **102** (1998) 7211.