A HIGH RESOLUTION ELECTRONIC SPECTRUM OF THE $PARA$-DIFLUOROBENZENE/WATER COMPLEX [a]

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The rotationally resolved $S_1 \leftarrow S_0$ fluorescence excitation spectrum of $para$-difluorobenzene (pDFB) / water complex has been observed. The water complex appears 169 cm^{-1} to the blue of the bare molecule origin and is split into two spectra separated by 0.12 cm^{-1} .These spectra are a result of the internal rotation of the water molecule in the complex. Analyses of the bands show that the water molecule lies in the ab plane of the pDFB molecule. The possible types of water motion will be discussed.

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