PROTON TRANSFER REACTIONS IN EXCITED STATE METHYL SALICYLATE. A STUDY USING HIGH RESOLUTION SPECTROSCOPY. [a]

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Methyl salicylate shows two origin bands in its low resolution S_1 ¡- S_0 excitation spectrum. The two bands have been attributed to cis and trans conformers of the isolated molecule, only one of which undergoes intramolecular proton transfer reaction in its S_1 state. Here, we examine the viability of this interpretation by recording the two bands under high resolution conditions, with and without deuterium substitution. The results give information about the identities of the conformers responsible for the two bands and the position of the proton in the two electronic states. Preliminary experiments on water complexes of methyl salicylate also will be described.

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