HIGH RESOLUTION ELECTRONIC SPECTROSCOPY OF 9-FLUORENEMETHANOL IN THE GAS PHASE[a]

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High resolution fluorescence excitation spectra have been observed for the S_1-S_0 transition of two conformers of 9-fluorenemethanol. With the aid of theoretical calculations, the band at 33,788.8 cm^{-1} has been assigned to an asymmetric conformer while the two bands at 33,561.7 and 33,563.6 cm^{-1} have been assigned to the symmetric conformer. Possible explanations for the two symmetric bands will be explored. The discussion will include the feasibility of internal motion versus the prospect of a torsional motion(s) resulting in an asymmetric barrier.

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