

# Photo-induced generation of the riboflavin-tryptophan adduct and a vibrational interpretation of its structure

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A pure fraction of a riboflavin-tryptophan adduct was obtained for the first time from a mixture of products resulting from the anaerobic photoirradiation of riboflavin and tryptophan in solution. The procedure used to isolate the adduct is described. Characterization of the compound was performed by using absorption spectra and fluorescence measurements. A vibrational interpretation of the structure of this adduct was performed on the basis of its infrared spectrum. The vibrational assignment suggests an important electronic redistribution in the structure of riboflavin and tryptophan when the adduct is formed. From this fact can be inferred at least two ways of binding between the indole and isoalloxazine rings. Stability of the adduct is also discussed. © 1994.