

The annular photoreactor

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The present state of calculation and design of the well-stirred annular photoreactor is analysed. The results of the research on this topic carried out in the laboratory of the Chemical Engineering Department in the Faculty of Chemistry of Barcelona are presented. A study of measurements of the radiation flow rate that reaches the reactor from the lamp and the intensity profiles of radiation in the photoreactor is made in order to calibrate the photoreactor. Furthermore, a study of photochemical decomposition of some organic pollutants such as sodium dodecylbenzenesulphonate, formic acid etc. is presented.

The triplet state of the quinoxalinium cation in a quinolinium perchlorate host crystal

II: Investigation by electron spin resonance at 1.2 K

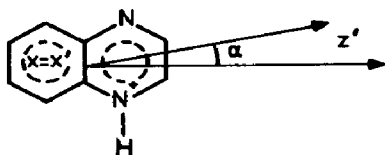
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The quinoxalinium cation QH^+ is an example of a conjugate acid of a polynuclear aromatic azine whose lower electronic states and intramolecular radiative and radiationless processes are partly understood [1]. Electron spin resonance experiments were performed with a K band superheterodyne spectrometer. The zero-field splitting (ZFS) parameters were evaluated for two sites for QH^+ , and two different orientation possibilities for the principal axes x' , y' and z' of the ZFS tensor are illustrated.



For site I $\alpha = 43^\circ$ or $\alpha = -10^\circ$ and for site II $\alpha = 6^\circ$ or $\alpha = 27^\circ$. Hyperfine structure is observed for $H \parallel z'$ and $H \parallel y'$. The results obtained do not indicate