

The behavior of some triarylmethanic dyes in the ultrasonic field

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Abstract. The paper presents the obtained results following the study on the three-triarylmethanic dye behavior in the ultrasonic field. These dyes have been chosen due to their possibilities to form easier free radicals at different excitation energies. Aqueous $10^{-2} - 10^{-7}$ M dyes solutions were submitted to ultrasound treatment (1000KHz) for three ultrasonic output power stages. The molecular absorption, conductivity and pH modifications in time were recorded. It was found that under the influence of the ultrasounds, the characteristics of aqueous solutions have been changed, that proves some radicalic decomposition reactions. The decomposition of dyes depends on the energy of ultrasonic irradiation and on the dye structure. The dye behavior was also studied in the magnetic field followed by sonication and modifications of electronic structure have been observed.

Keywords: dyes decomposition, Sonolysis/sonication, Ultrasonic irradiation, Molecular absorption spectrometry, Conductivity
