

SECTION E

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PHOTO ACTIVITY OF SO₂ LEUCOBASES OF METHYL AND CRYSTAL VIOLET DYES

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The decolourization of aqueous solutions of methyl violet and crystal violet occurred on treatment with sulphur dioxide. The regeneration of the colour occurred on exposure to solar radiation. Crystal violet colour reappeared very rapidly and the methyl violet colour regeneration was slow. The reverse reaction occurred when the solutions were kept in the dark.

The controlled study of the reappearance of colour at different temperatures was carried out using a mercury lamp as the radiation source. The development of colour was monitored spectrophotometrically.

The analysis of data indicates an autocatalytic decomposition of the sulphur dioxide leucobases of both dyes. The rate constant and the free energy of the reaction and the possibility of using them as actinometers will be discussed.

Reference

1. Cremers, D. A. and Cremers, T. L. (1983). *Chem. Phys. Letters*, **94**, 102.