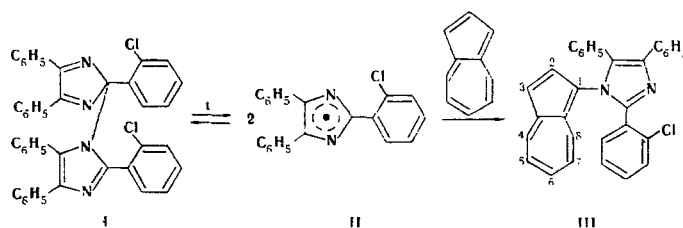


THERMAL REACTION OF BIS[2-(o-CHLOROPHENYL)-4,5-DIPHENYLIMIDAZYL] WITH AZULENE

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1-(1-Azulenyl)-2-(o-chlorophenyl)-4,5-diphenylimidazole (III) [mp 203-204° (from alcohol) and λ_{\max} 580 nm ($\log \epsilon$ 2.56) in benzene] is obtained in ~30% yield when equimolar amounts of bis[2-(o-chlorophenyl)-4,5-diphenylimidazolyl] (I) and azulene are heated to 200°C without a solvent (3 min). The reaction product was isolated by chromatography (with a column filled with SiO_2) after dissolving the reaction mixture in benzene. We assume radical attack on azulene by the 2-(o-chlorophenyl)-4,5-diphenylimidazolyl radical (II) formed during thermolysis of dimer I.



The absence in the IR spectrum of III of an absorption band at 3450 cm^{-1} proves that the azulenyl residue is attached to the nitrogen atom of the imidazole ring. The signals of the azulene 4-H and 8-H protons lie at 8.05 and 7.87 ppm (doublets, $J_{45} = J_{78} \approx 9\text{ Hz}$) in the PMR spectrum, and this constitutes evidence for the asymmetry of the substituted azulene molecule, i.e., for location of the imidazolyl radicals in the 1 position of the azulene ring.

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