Lead Tetra-acetate Oxidation of Dimethyl Anilinofumarate

By Sushil K. KHETAN

(Department of Chemistry, Indian Institute of Technology, Kanpur-16, India)

Summary Lead tetra-acetate oxidation of dimethyl anilinofumarate gave tetramethyl 1-phenylpyrrole-2,3,4,5-tetracarboxylate.

DIMETHYL ANILINOFUMARATE (I)1 in methylene chloride was oxidised by lead tetra-acetate to give the pyrrole (II). Analytical and spectroscopic data supported the structural assignment: M^+ , 375; ν (C=O) 1736 cm⁻¹; τ 6.38 (s, 6H), 6.08 (s, 6H) (α - and β -CO₂Me respectively), and 2.57 (m, 5H). The physical characteristics of (II) were similar to those of a compound isolated from a reaction between phenylhydroxylamine and dimethyl acetylenedicarboxylate.3 A possible reaction path to (II) is shown below.

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