

Synthesis of Iodomethyl Sulphoxides

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Summary Iodomethyl sulphoxides may be synthesized in good yields by the reaction of diazomethane with sulphinyl chlorides in the presence of alkali metal iodides.

RECENTLY, there has been considerable interest in the chemistry of α -substituted sulphoxides.¹⁻⁴ We have now discovered that the addition of sulphinyl chlorides to diazo-compounds, a recently reported preparation of α -chloro-sulphoxides,² may be adapted to the preparation of

view of the fact that, to our knowledge, only a single α -iodo-sulphoxide has been characterized, during a study of reaction rates using KI in Me₂CO with α -chloro-sulphoxides,⁵ we report here the synthesis and characterization of iodomethyl sulphoxides.

Addition of alkane- and arene-sulphinyl chlorides to a stirred, cold solution in tetrahydrofuran of equimolar amounts of CH₂N₂ and an alkali metal iodide gives iodomethyl sulphoxides (see Table for examples). Satisfactory combustion analyses were obtained for all compounds, and spectral data were consistent with the iodomethyl sulphoxide structure, particularly the AB quartet in the n.m.r. spectrum from the CH₂·SO function.

We thank the Robert A. Welch Foundation and the Texas Christian University Research Foundation for support and The Dow Chemical Company for a fellowship for H.J.B.

TABLE. Iodomethyl sulphoxides

RS(O)Cl + CH ₂ N ₂ + I ⁻ → RS(O)CH ₂ I + N ₂			
R		M.p. (t/°C)	Yield (%)
Me	49—51	66
MeCH ₂ (Me)CH	Oil	61
Cyclohexyl	47—48.5	90
Ph	84—86	64
PhCH ₂	101—102.5	64

iodomethyl sulphoxides. In view of the interest in the reactions of α -chloro- and α -bromo-sulphoxides,³ and in

(Received, 23rd March 1973; Com. 409.)

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