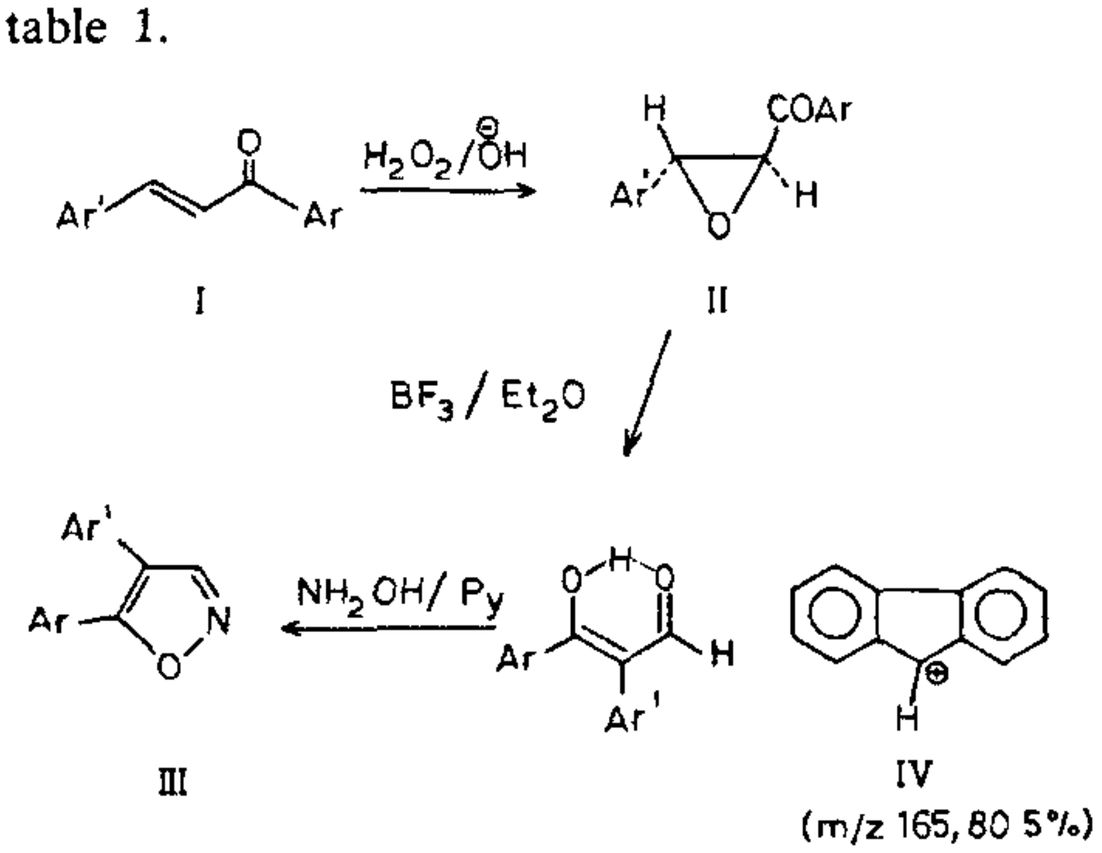
intense mass fragments corresponding to $ArCO^+$ and rearrangement peak (IV) characteristic of 4, 5–diarylisoxazoles[7]. ^{13}C NMR spectral data of III*a*, *b* have been recorded and the signals at around δ 152, 116 and 164 have been assigned[6,8] to C–3, C–4 and C–5 of isoxazole ring respectively and the assignments are confirmed by SFORD spectra. The physical and spectral characteristics are given in table 1.



(a) Ar = Phenyl; Ar′ = Phenyl
(b) Ar = Phenyl; Ar′ = 3, 4–Methylenedioxyphenyl
(c) Ar = Phenyl; Ar′ = 4–Methoxyphenyl
(d) Ar = Phenyl; Ar′ = 3–Nitrophenyl
(e) Ar = Phenyl; Ar′ = 4–Chlorophenyl
(f) Ar = 4–Chlorophenyl; Ar′ = Phenyl
(g) Ar = 4–Chlorophenyl; Ar′ = 3, 4–Methylenedioxyphenyl
(h) Ar = 4–Methoxyphenyl; Ar′ = Phenyl
(i) Ar = 4–Methoxyphenyl; Ar′ = 3, 4–Methylenedioxyphenyl
(j) Ar = Phenyl; Ar′ = 4–Methylphenyl

4, 5–Diarylisoxazoles (IIIa-j): General procedure

To a solution of II*a* (1 g, 4 mmol), prepared according to the procedure[4], in dry ether (40 ml) was added BF_3 etherate (5 ml) and refluxed for 30 min. The progress of the reaction was monitored over silica gel layers. After completion of the reaction, it was diluted with moist ether (50 ml) washed with water and the solvent was removed in vacuo. The residue in 95% aqueous ethanol (20 ml), pyridine (0.5 ml) and hydroxylamine hydrochloride (8 mmol) were refluxed for 8 hr. The reaction mixture was concentrated to half the volume and kept aside overnight. The product III*a*, 0.5*g*, formed was filtered and recrystalized from *n*-hexane-benzene.

The results reported here were presented at the sixth annual conference of Indian Council of Chemists, Madurai, Dec. 1986. The authors thank Prof. C. B. S. Rao, Andhra University, Vishakapatnam, Dr K. C. Pullaiah, IISc., Bangalore, and RSIC, Lucknow for spectral data.

23 July 1987

1. Kochetkov, N. K. and Sokolov, S. D., *Adv. Heterocycl. Chem.*, 1963, **2,** 365.
2. Lang Jr. S. A. and Lin Y-i, In: *Comprehensive heterocyclic chemistry*, (eds) A. R. Katritzky and C. W. Rees, Pergamon Press, 1984, Ch. 4.16.
3. Murthy, M. S. R. and Rao, E. V., *Indian J. Chem.*, 1985, **B24,** 667.
4. Weitz, E. and Scheffer, A., *Ber*, 1921, **B54,** 2327; *Chem. Abstr.*, 1922, **16,** 1232.
5. House, H. O., *J. Am. Chem. Soc.*, 1954, **76,** 1235.
6. Wakefield, B. J., *Adv. Heterocycl. Chem.*, 1979, **25,** 147.
7. Simons, B. K., Kallury, R. K. M. R. and Bowie, J. H., *Org. Mass. Spectrom.*, 1969, **2,** 739.
8. Gavin, M. B. and Turner, A. B., *J. C. S. Perkin. Trans. 1*, 1975, p. 2115.

A METHOD FOR ESTIMATING HAEMOGLOBIN A_2 AND E FOR MASS DETECTION OF CARRIERS OF THALASSAEMIA

D. ADHIKARY, P. LAHIRI, S. CHANDRA and D. K. BHATTACHARYA
The Society for Research on Haematology and Blood Transfusion, Futnani Chambers, Gate-4, Flat-20F, Corporation Place, Calcutta 700 087, India.

B-THALASSAEMIA (HbBT) and E-haemoglobin (HbE) genes are found quite frequently in Eastern India[1]. Earlier surveys on a limited population show their combined incidence varying between 7.6 and 11%[1,2]. To detect carriers of HbBT and HbE, estimation of HbA_2 and HbE is essential[3,4]. In view of the identical mobility of HbA_2 and HbE in electrophoretic field, the detection of the carriers for HbBT and HbE in mass survey becomes difficult[5]. The relative merits of the techniques of haemoglobin identification, including those based on polyacrylamide gel, starch gel and column elution have been evaluated for a survey of haemoglobinopathies[2,4]. A simple and efficient method for the identification and quantitative estimation of HbA_2 and HbE has been developed