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SYNTHESIS OF SESQUIROSEFURAN

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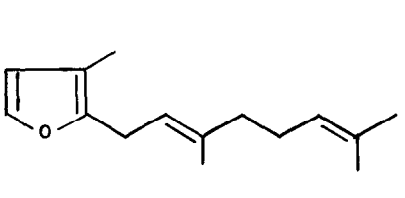
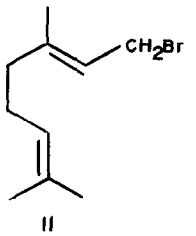
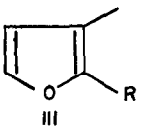
Sesquirosefuran, $C_{15}H_{22}O$, a furanoid sesquiterpene, has been recently[1] isolated from the leaves of Actinodaphne Longifolia (Blume) Nakai (Baribari in Japanese) and the structure was established as I on the basis of high resolution mass and other spectral data. Sesquirosefuran is the first 2,3-disubstituted member of the furanosesquiterpene series. In the present communication we wish to report its synthesis to provide an additional confirmation of its structure. Synthesis has been accomplished by simple condensation of 2-lithio-3-methylfuran and geranylbromide. (II)



I



II



III

a) R = COOH
b) R = HgCl
c) R = Hg
d) R = Li

Geranylbromide was prepared in 98% yield from geraniol by treating with phosphoroustribromide in dark, essentially following the Osbond's[2] procedure. The other component 2-lithio-3-methylfuran[3] (IIId) was prepared as follows. Aqueous solution of sodium salt of 3-methyl-2-furoic acid (IIIa) was heated with mercuricchloride to give chloromercuryfuran (IIIb)

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which on treatment with sodiumthiosulphate gave the corresponding difurylmercury (IIIc). Lithium sand suspended in dry ether was treated with difurylmercury (IIIc) to give 2-lithio-3-methylfuran (IIId) which was then readily converted to sesquirosefuran by condensing with geranylbromide in 40% yield b.p.(bath) 110°/1 mm n_D^{25} 1.4884 (reported n_D^{25} 1.4883). The i.r., n.m.r. and mass spectra of synthetic sesquirosefuran were identical with those of the natural product[1].

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