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Organic Preparations and Procedures International

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t902189982>

A SYNTHESIS OF 1-METHYL-2-ALLYLPYRROLE

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To cite this Article Chen, J. C.(1976) 'A SYNTHESIS OF 1-METHYL-2-ALLYLPYRROLE', *Organic Preparations and Procedures International*, 8: 2, 91 – 92

To link to this Article: DOI: 10.1080/00304947609355596

URL: <http://dx.doi.org/10.1080/00304947609355596>

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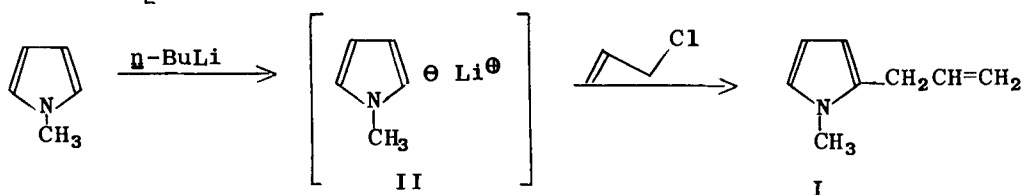
A SYNTHESIS OF 1-METHYL-2-ALLYLPYRROLE

Submitted by
(2/17/76)

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The previously unknown 1-methyl-2-allylpyrrole (I) has been obtained in 20% yield according to the scheme below.¹ Compound I is unstable at room temperature and darkens within several minutes after distillation, to resinous material even under N₂.²

EXPERIMENTAL³

A mixture of 3.4 g (0.042 mole) of N-methylpyrrole (DuPont), 28 ml (0.042 mole of commercial *n*- butyl lithium in hexane (Apache Chemical) and 30 ml of dry ether was heated to reflux with stirring under nitrogen atmosphere overnight.¹ After cooling to room temperature, 3.8 g (0.05 mole) of allyl chloride was added in one portion and the resulting mixture was heated under reflux with stirring for 24 hrs, and was then quenched with ice water and the aqueous layer was separated and extracted twice with ether. The combined ethereal extracts were dried (MgSO₄), the solvent removed, and

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the residue was subjected to distillation to yield about 1 g (20%) of the compound I, boiling at 85-94⁹/₃₂ mm of Hg; ir (film): 910 and 990 (-CH=CH₂) and 1640 (olefinic) cm⁻¹; pmr (CDCl₃): 3.4 (d, 2H, -CH₂-), 3.5 (s, 3H, N-CH₃), 4.9-5.3 (m, 2H, -CH=CH₂), 5.8-6.3 (m, 3H, -CH=CH₂, H-3 and H-4), and 6.6-6.7 (m, 1H, H-5) ppm; mass spectrum:m/e 121 (molecular ion), and 120 (M⁺-1).⁴

ACKNOWLEDGEMENT. - The author thanks Dr. D. F. Loncrini for his interest and his encouragement of this work.

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