PHOTO-DEAROMATIZATION OF N-METHYLPHTHALIMIDES

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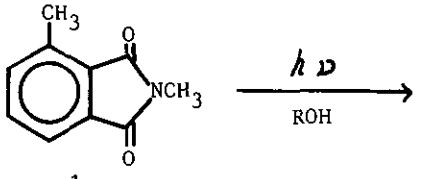
Dearomatization of N,3-dimethylphthalimde occurs upon irradiation accompanying incorporation of the solvent alcohol in the aromatic ring. For example, irradiation of 1 in methanol for 8 hr gave a dearomatized product 2a (14 %), which was apparently formed by the addition of methanol to the benzene moiety of 1.

The mechanism of the photodearomatization was studied in connection with the possible involvement of photo-enolization. For this purpose, other imides such as a regioisomer(3) of 1 and N-methylphthalimide 4, which has no methyl on the aromatic ring, were further examined.



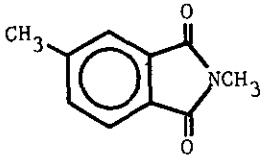
1

2

a: R = CH_3

b: R = CH_2CH_3

c: R = $(CH_3)_2CH$



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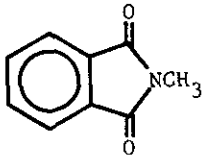

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Reference: Y. Kanaoka, Y. Hatanaka, E. N. Duesler, I. L. Karle and B. Witkop, Chem. Pharm. Bull., 30, 3028 (1982).