

REACTIONS OF QUINOLINE N-OXIDES AND NITROBENZENES WITH METHYL-
QUINOLINE AND -PYRIDINE DERIVATIVES IN THE PRESENCE OF *t*-BUOK

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As an extension of work on the nucleophilic substitution of quinolin N-oxides and nitrobenzenes with active methylenes by means of hydride elimination, the reactions using methyl-quinoline and -pyridine derivatives as active methylene components were investigated. Some representative results are as follows.

- 1) Quinoline N-oxides react with derivatives of quinaldine or its N-oxide in the presence of *t*-BuOK in THF at -70°C to afford mono-N-oxides or N,N'-dioxides of 2,2'-diquinolylmethane, respectively, by means of hydride elimination.
- 2) Reactions of *p*-chloronitrobenzene with quinaldine, its N-oxide or 2-picoline N-oxides under the same conditions give the corresponding 2-substituted 4-chloronitrobenzenes in the same way.
- 3) Reactions of *p*-chloronitrobenzene with lepidine N-oxide or 4-picoline N-oxide follow another course, *i.e.*, nucleophilic displacement of the *p*-chloro group, to give the corresponding 4-substituted nitrobenzenes. However, reactions of *p*-halogenonitrobenzenes with lepidine yield both the 4-substituted nitrobenzene (halogen-exchange) and the 2-substituted 4-halogenonitrobenzenes (hydride-exchange).
- 4) *p*-Substituted nitrobenzenes other than *p*-halogenonitrobenzenes, that is, 2,4-dichloro-, *p*-methoxy- and *p*-nitro-nitrobenzenes, undergo only nucleophilic displacement of *p*-substituent upon treatment with lepidine and its N-oxide to afford the corresponding *p*-substituted nitrobenzenes, no 2-substituted nitrobenzene being formed.
- 5) Nitrobenzene itself and its derivatives having no substituent on the 4-position (2-chloro, 2,3-dichloro-, 2,5-dichloro- and 2-methoxy-nitrobenzenes) afford the corresponding 4-substituted nitrobenzenes (hydride-exchange) as sole products when treated with lepidine, its N-oxide or 4-picoline N-oxide.