REISSERT TYPE'S REACTION BY USE OF PHOSPHITE

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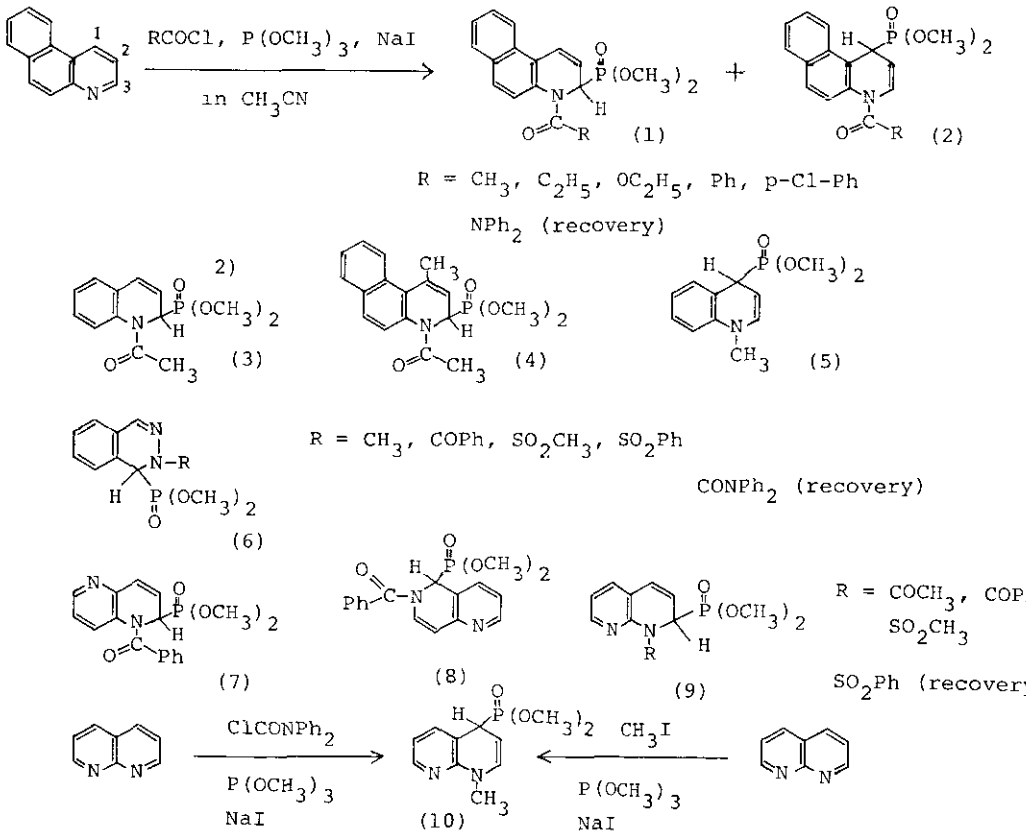
We have reported the Reissert reaction to the naphthyridine and phenanthroline[1]. Recently, Akiba and coworker[2] reported the synthesis of phosphonates by reaction of pyridine, quinoline, and isoquinoline. We extended the reaction to the other heterocyclic compound. Reaction of benzo[f]quinoline, phthalazine, and 1,X-naphthyridine (X=5,6,8) by use of trimethyl phosphite in place of potassium cyanide gave the coresponding Reissert type's compound and benzo[h]quinoline did not give it. Benzo[f]quinoline gave the isomer of 3-phosphonate (1) and 1-phosphonate (2).

These structure of phosphonate were comfirmed by the comparison of ^{1}H-NMR spectral data of phosphonate (3) reported in the literature[2] and synthesized phosphonates (4, 5).



1) Y. Hamada and K. Shigemura, Yakugaku Zasshi, 99, 982 (1979).

2) K. Akiba, Y. Negishi, and N. Inamoto, Synthesis, 1979, 55.