

THE REACTION OF DIAMINO COMPOUNDS WITH β -KETO SULFOXIDES

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Treatment of diaminomaleonitrile with methylsulfinylmethyl phenyl ketones in benzene in the presence of acetic acid under reflux resulted in formation of 2,3-dicyano-5-phenylpyrazines. This reaction was applied for the preparation of 2-arylpyrido[3,4-b]pyrazines through condensation of 3,4-diaminopyridine with methylsulfinylmethyl phenyl ketones. The reaction of *o*-phenylenediamine with methylsulfinylmethyl phenyl ketones in the presence of acetic acid afforded 2-arylquinoxalines accompanying with the formation of 2-arylbenzimidazoles. In a similar fashion, 2-aryl-6-methoxy-, 2-aryl-6-chloro-, 2-aryl-6-methyl- and 2-aryl-7-nitroquinoxalines were prepared by the reaction of diaminobenzenes and the corresponding β -keto sulfoxides. Furthermore, *o*-phenylenediamine was also subjected to condensation with 2-methylsulfinylcyclohexane to yield tetrahydrophenazine. Thus, the reaction of aromatic 1,2-diamines and olefinic 1,2-diamino compound with β -keto sulfoxides was found to be a useful method to yield pyrazine, pyrido[3,4-b]pyrazine, and quinoxaline and related compounds.