

SOME RECENT WORK ON SCHIFF BASES, IMINES AND IMINIUM
SALTS IN SYNTHETIC HETEROCYCLIC CHEMISTRY - A REVIEW[†]

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Abstract - This review summarizes the versatile use of Schiff bases, imines and iminium salts for synthesizing a great variety of heterocyclic compounds. Addition reactions of Schiff bases with acid anhydrides, acid chlorides and esters have led to the synthesis of penicillins, β -lactams, pyrrolidinones and piperidinones. Condensations of homophthalic anhydrides with Schiff bases have been the key steps for synthesizing isoquinolinones, protoberberines, 8-oxoberberines, benzophenanthridines and indole alkaloids. Reactions of phthalide anions with iminium salts have been utilized for synthesizing protoberberines, phthalide isoquinolines and related alkaloids. Addition of lithium methyl methylthiomethylsulfoxide to Schiff bases and electro-reductive addition of alkyl halides to iminium salts are also discussed.

[†] Dedicated to Professor Tetsuji Kametani on the occasion of his 66th birthday (1st August, 1983) in appreciation of his continued active interest in Heterocyclic Chemistry.

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The use of ortho halogeno substituted Schiff bases for the synthesis of phenanthridines by photocyclization is discussed in addition to the use of photochemical method for the synthesis of benzoxazoles, benzothiazoles and benzimidazoles from appropriately ortho substituted Schiff bases. The mass spectral fragmentations and UV spectral data of several new Schiff bases are reported.

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