REACTIONS OF QUATERNARY SALTS OF PYRIDAZINES WITH NUCLEOPHILIC REAGENTS

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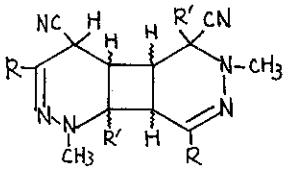
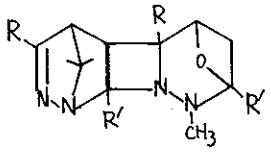
The reaction of N-methoxy- and N-benzoyl-pyridazinium salts (I) with potassium cyanide gave the corresponding cis- and trans-β-ethynylacrylonitriles and 1,4-dicyano-1,3-butadienes. However, similar reaction with N-methyl-pyridazinium salts (II) gave the dimers (III) having cyclobutane ring, besides various kinds of cyano-substituted pyridazine derivatives.

On the other hand, treatment of II with potassium hydroxide afforded the dimers (IV) and aziridine derivatives (V), respectively. The latter products (V) reacted with dimethyl acetylenedicarboxylate to give the corresponding 5-aza-indolizines.

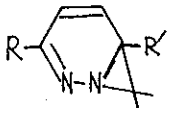
Reactions of the salts (I and II) with carbonium anions were also investigated. These results show that the reactions involve unusual ring fission and dimerization. The mechanisms of the reactions are disscused in some detail.



(III)



(IV)



(V)