

PLENARY LECTURE

RING TRANSFORMATIONS OF HETEROCYCLES

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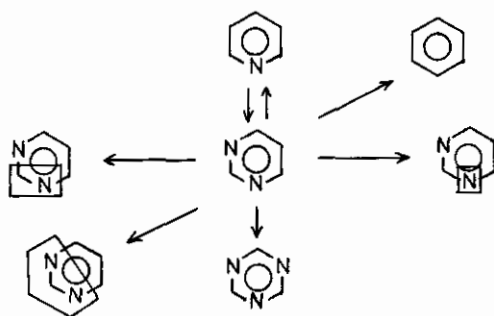
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In our laboratory there is ongoing interest in the study of ring transformations of heterocyclic aromatic compounds, mainly azines. This interest is based on the fact that heteroaromatics are compounds preeminently to undergo a ring-opening - ring-closure sequence of reactions leading to new heterocyclic compounds which are sometimes difficult to obtain by other chemical methods. About twenty years ago the ring transformations were only fragmentarily studied and their importance for synthetic organic chemistry was hardly recognized. In the last decades use of heteroarenes as starting material for the synthesis of other heterocyclic ring systems has gained interest and its synthetic utility has become increasingly important. The fact that in June 1983 an Euchem conference will be held in Ystad (Sweden) on "Synthetic use of ring-opening reactions of aromatic heterocycles" shows its relevancy for modern synthetic organic chemistry.

The subject of this lecture is to present in a short review the work we did on important aspects of a number of ring transformations, which occur in reactions of nitrogen-containing aromatics, mainly diazines with amide ions, ammonia, amidines, carbon nucleophiles, enamines and ynamines.

Special attention will be paid to the so-called degenerate or ipso ring transformations, describing a reaction in which a heterocyclic ring system is converted into the same heterocyclic ring system, however with a different substitution pattern.

The following ring transformations will be discussed.



Some predictions are made and experimentally verified with structural requirements the diazines must meet for the occurrence of a ring transformation.