

A NEW METHOD FOR CONSTRUCTING PYRIDINE RING: THERMOLYSIS OF OXIME O-ALLYL ETHER

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Thermolysis reaction of cyclohexanone oxime O-allyl ether under air gave 5,6,7,8-tetrahydroquinoline.

In order to extend the applicability of this reaction, several cycloalkanone oxime O-allyl ethers were subjected to thermolysis reaction: oxime O-allyl ethers of cyclopentanone, cycloheptanone, cyclooctanone, and cyclododecanone yielded cyclopenteno-, cyclohepteno-, cycloocteno-, and cyclododeceno-pyridine in reasonable yield, respectively. Treatment of O-methallyl ether of cyclohexanone oxime under the same condition gave 3-methyl-5,6,7,8-tetrahydroquinoline as a sole product, while α -methyl- and γ -methyl-allyl ether of cyclohexanone oxime gave a mixture of 2- and 4-methyl-5,6,7,8-tetrahydroquinoline as a result of randomization of methyl group.

Furthermore, thermolysis of oxime O-allyl ethers of di-n-propyl and di-n-butyl ketone furnished α -n-propyl- β -ethyl- and α -n-butyl- β -n-propyl-pyridine, respectively

Based on the above findings, it is suggested that this new type of reaction is a method for constructing pyridine nucleus.