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VABILO NA PREDAVANJE
V OKVIRU DOKTORSKEGA ŠTUDIJA
KEMIJSKE ZNANOSTI

Prof. Saverio Florio

CINMPIS Consorzium, Dept of Pharmacy, Università di Bari, Italy

z naslovom:

Regio- and Stereoselectivity of the Lithiation-Trapping of Small Ring Heterocycles

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v predavalnici K1.119 v 1. nadstropju Fakultete
za kemijo in kemijsko tehnologijo, Večna pot 113

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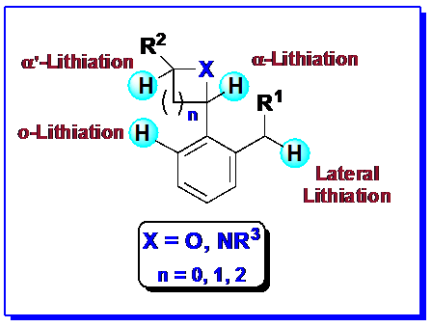
Abstract

The chemistry of small ring heterocycles is dominated by reactions which involve rupture of the strained heterocyclic ring by nucleophiles.[1] Less commonly encountered are reactions wherein one of the heterocycle ring serves as a nucleophile by way of the corresponding anionic form.[2-8] On the other hand, the possibility that the small heterocyclic ring might act as directed metallation group (DMG) in arenes metallation has been completely unexplored till recently.

This lecture will focus on the generation (mainly by Li-H or Li-halogen exchange), manipulation and sinthetic application of lithiated three-, four- and five-membered ring heterocycles. It will be shown that the coordinating solvent ability, the ring substitution, the temperature, the nature of the heteroatom and the complexation and dynamic phenomena crucially dictate the regioselectivity of the lithiation step as well as the stereoselctivity of the trapping step with electrophiles.

Paticularly stressed will be the competition of the benzylic lithiation *versus ortho*-lithiation of arylated small ring heterocycles including oxiranes, oxetanes and tetrahydrofurans, aziridines and azetidines.



The utility of the above regio and stereoselective lithiation will be discussed in some synthetic applications; some mechanistic aspects and a spectroscopic analysis of the involved lithiated species will presented.

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