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in kemijsko tehnologijo

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VABILO NA PREDAVANJE
V OKVIRU DOKTORSKEGA ŠTUDIJA
KEMIJSKE ZNANOSTI

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z naslovom:

Site-selective functionalization of nitrogen-bearing small heterocycles: structure, dynamics and complexation phenomena at work

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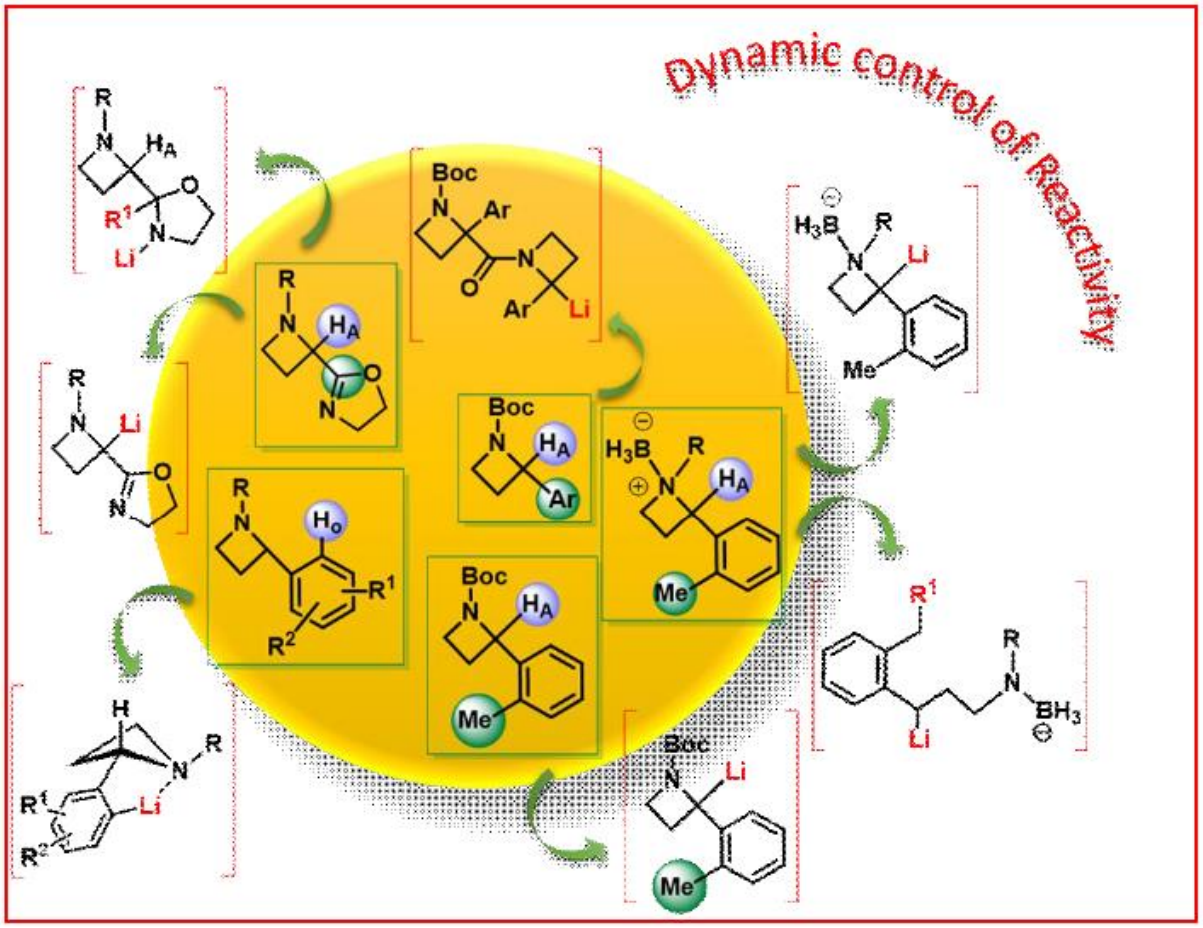
Vljudno vabljeni!

Abstract:

Nowadays, modern organic synthesis can count on several strategies for the functionalization of a specific site for a given molecule. In most reactions where a carbon-hydrogen bond can be chemo-, regio-, and/or stereo-selectively replaced by a carbon–carbon or carbon–heteroatom bond, such a site-selectivity could be realized by the participation of directing groups (DG). This approach has been significantly exploited to selectively activate and functionalize the ortho position of aromatic rings. The directing groups, quite often play a role in forming complexes with metals, and are able to direct metalation to “proximal” sites kinetically rather than thermodynamically favored. In lithium chemistry, this phenomenon has been termed as Complex Induced Proximity Effect (CIPE). Thus, the conformation (or even the configuration) retained by the molecule could play an important role in metalation reactions. In fact, both complexation phenomena and preferential conformations (configurations) are two key factors to be taken into consideration in site-selective functionalization. This dualism complexation/preferentialconformation has recently found important applications in transition-metal catalyzed C-H activations. Our interest in the chemistry of small heterocycles, prompted us to investigate the role of structure, dynamics and complexation capability in the site-selective functionalization (decoration) of azetidines.1 Azetidines are interesting four-membered heterocycles with wide application in medicinal chemistry and are privileged scaffolds for exploring new chemical space.2 In this lectures will be showed how it is possible to increase the molecular complexity taking into account the role of factors such as structure, dynamics and complexation ability of the starting material.
This approach paves the way to new thinking in modern organic synthesis and offers the possibility to exploit a single molecule for multiple synthetic purposes.



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