

6/6/2016

Научный семинар кафедры органической химии

№ 28 446 11-00

Exploring Stable Tertiary Enamides as Powerful Synthons in Organic Synthesis

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Home page:

http://www.chem.tsinghua.edu.cn/publish/chemen/2141/2011/20110405142556416913349/20110405142556416913349_.html

As enamine variants, tertiary enamides are stable because of the electronic effect of an N-electron-withdrawing group. They have been regarded therefore for a long time as marginally useful in organic synthesis. Indeed the majority of the reactions documented in literature is catalytic asymmetric hydrogenation reaction. The notion has been challenged in recent years. We envisioned that a cross conjugation system with tertiary enamides is amenable to regulation. By means of tuning the cross conjugation system, we have been able to demonstrate that tertiary enamides are actually valuable shelf-stable intermediates. I will discuss in this talk the exploration of the nucleophilic reactivity of stable tertiary enamides and their application in the synthesis of bioactive natural and unnatural heterocyclic compounds.