



GESELLSCHAFT DEUTSCHER CHEMIKER
e.V.

Ortsverband Südwürttemberg

V O R T R A G

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Sulfonium salts: An alternative to hypervalent I(III)-reagents



The reactivity of sulfonium salts shows many similarities with that of hypervalent I(III) reagents of analogue substitution pattern. Both types of compounds do react with low valent metals such as Ni(0) or Pd(0) via oxidative addition at the C-S or C-I bond, respectively; making these compounds suitable partners for cross coupling reactions. In addition, the highly electrophilic nature of the central heteroatom in these species facilitates the one electron reduction of both, sulfonium salts and hypervalent I(III) reagents, which ultimately leads to the homolytic fragmentation of one of the C-E (E = Heteroatom) bonds and generates a carbon-centered radical. Finally, the uncatalyzed reaction of both species with suitable nucleophiles is also possible. This last process can be seen as an attack of the nucleophile to the central heteroatom followed by reductive elimination of a Nu-R moiety.

Along the last years, our group has contributed to this topic with the synthesis of a series of reagents, in which the sulfonium group is able to induce the umpolung of the hanging substituent. During the lecture, the synthesis and reactivity of these reagents will be introduced, and specifically, it will be shown that often they can be used as safer alternatives to I(III) reagents.

Donnerstag, 21. November 2024, 17.15 pm
Hörsaal N05, Auf der Morgenstelle 16

gez. Ivana Fleischer