



Damietta University
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An Essay on :

Reduction Methods

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2015

Introduction

Oxidation and reduction reactions represent pivotal transformations in organic synthesis. This review covers primarily the literature from 2002, but since this is the first Report in this area, selected references from earlier years have been included where needed to put the more recent work into context. Emphasis is placed on the most commonly used synthetic transformations and newer reactions of potential wide applicability. As in many areas of organic synthesis, important trends include the drive towards cleaner, cheaper, and more environmentally friendly reaction processes, as well as improved control over chemo-, regio- and stereoselectivity, particularly enantioselectivity. Highlights from the 2002 oxidation literature include some promising results in the asymmetric epoxidation of terminal alkenes using chiral dioxiranes, and the emergence of an array of useful reactions with iodine(IV) reagents, including dehydrogenation of carbonyl compounds. In reduction chemistry, new and more efficient ligands for asymmetric hydrogenation continue to emerge, with the results obtained with synthetically accessible monodentate ligands being noteworthy.