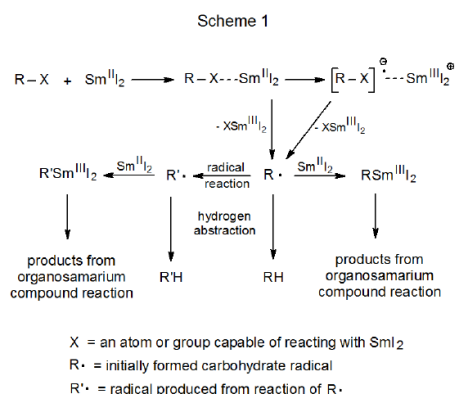


CHAPTER OVERVIEW

20: Reactions of Samarium(II) Iodide With Carbohydrate Derivatives

Samarium(II) iodide (SmI_2) reacts with a variety of carbohydrate derivatives (including halides, sulfones, aldehydes, ketones, α -acyloxy esters, and α -acyloxy lactones) to generate carbon-centered radicals by nonchain, electron-transfer reaction.¹⁻⁹ These radicals undergo reactions that include hydrogen-atom abstraction and ring formation, and they combine with SmI_2 to produce organosamarium compounds (Scheme 1). Organosamarium compounds are quite reactive and easily undergo elimination and protonation reactions, as well as addition to aldehydes and ketones.



Topic hierarchy

II. Radical Formation

III. Formation of Organosamarium Compounds

IV. Reactions of Organosamarium Compounds

V. Cyclization Reactions

VI. Radical Addition and Hydrogen-Atom Abstraction

VII. Comparison of Reactions of Chromium(II) Reagents With Those of Samarium(II) Iodide

VIII. Summary

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