

CHAPTER OVERVIEW

12: Reactions of O-Thiocarbonyl Compounds

Reaction of an *O*-thiocarbonyl derivative of a carbohydrate with a tin- or silicon-centered radical generates a carbon-centered radical that undergoes reactions typical of such an intermediate. These reactions include abstracting a hydrogen atom from a donor molecule (almost always a tin or silicon hydride), adding to a compound containing a multiple bond, or forming a new ring system by adding internally to a multiple bond within the radical. These reactions place *O*-thiocarbonyl compounds among the most useful substrates for radical formation from carbohydrates. The current chapter, where the reactions of these compounds are discussed, is a close companion to the preceding one ([Chapter 11](#)), where synthesis of *O*-thiocarbonyl carbohydrate derivatives is described.

Topic hierarchy

[II. Deoxygenation: The Barton-McCombie Reaction](#)

[III. Radical Addition](#)

[IV. Radical Cyclization](#)

[V. Comparing the Reactivity of O-Thiocarbonyl and O-Carbonyl Carbohydrates](#)

[VI. Summary](#)

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