New Samarium Diiodide Induced Cyclizations

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Details

Abstract

Samarium diiodide (SmI_2) smoothly promotes the cyclizations of suitably substituted carbonyl compounds with styrene subunits leading to benzannulated cyclooctenes. The intramolecular samarium ketyl addition to arene or hetarene moieties enables a new, efficient, and highly stereoselective entry to dearomatized products such as hexahydronaphthalenes, steroid-like tetra- or pentacyclic compounds, or dihydroindole derivatives. The usefulness of the developed SmI_2-induced cyclization method was demonstrated by the shortest formal total synthesis of the alkaloid strychnine.

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Details

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