Category

Synthesis of Natural Products

Key words

(±)-scopadulcic acid B scopadulan diterpenoid

Grignard reaction

Brown hydroboration

Swern oxidation

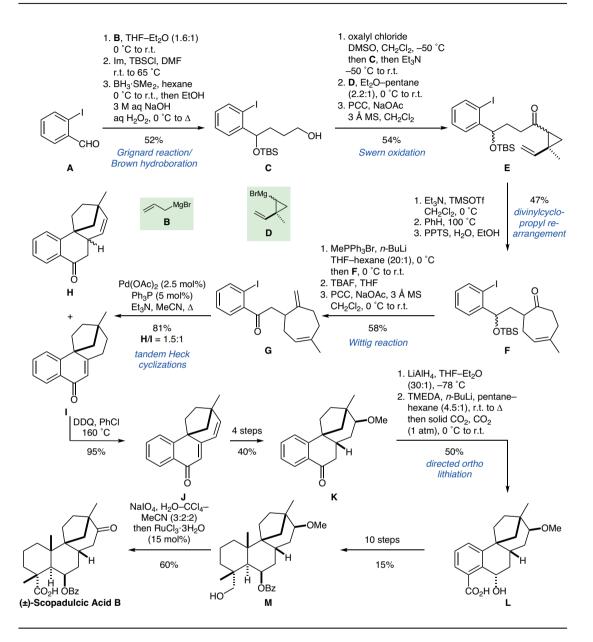
divinvlcvclopropyl rearrangement

Wittig reaction

tandem Heck exceptions in the control of the contro



Synthesis of (±)-Scopadulcic Acid B



Significance: Overman and co-workers reported the first total synthesis of (±)-scopadulcic acid B. The natural product showed activity as a strong inhibitor of H⁺ and K⁺-adenosine triphosphatases and thus becoming a potential lead agent for treatment of peptic ulcers.

Comment: After silyl ether formation, cyclopropane **E** underwent divinylcyclopropyl rearrangement to form cycloheptenone **F** which was further transformed to diene G. Treatment of the latter with catalytic Pd(OAc)₂ triggered the tandem Heck cyclizations yielding a mixture of **H** and **I**, which was subsequently oxidized to dienone |.

SYNFACTS Contributors: Erick M. Carreira[®], Sebastian Kölbl Synfacts 2025; 21(02), 117 Published online: 28.01.2025 DOI: 10.1055/a-2496-9685; Reg-No.: C01425SF