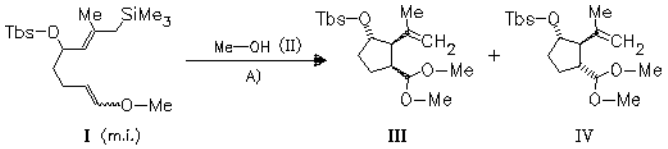
cyclopentane derivatives

Q 0030

36 - 095

Intramolecular Anodic Olefin Coupling Reactions: The Use of Allylsilane Coupling Partners with Allylic Alkoxy Groups. — Allylsilanes (I), (V), and (VIII) undergo intramolecular anodic olefin coupling reactions to afford functionalized cyclopentanes without elimination of the alkoxy group, thus demonstrating the compatibility of this type of reaction with allylic alkoxy groups. The cyclizations of either a trisubstituted or cis-disubstituted allylsilane-terminating olefin (I) or (V) are stereoselective. The cyclization of derivative (VIII) proceeds in a similar manner, also with high stereoselectivity [exclusive formation of bicycles (IX) and (X)], and without elimination of the alkoxy group. The (6E)-analogue of compound (V) does not react stereoselectively and gives an equimolar mixture of four diastereomers, indicating that the stereochemistry of the products is dependent on the stereochemistry of the initial terminating olefin. — (FREY, DEAN A.; REDDY, S. HARI KRISHNA; MOELLER, KEVIN D.; J. Org. Chem. 64 (1999) 8, 2805-2813; Dep. Chem., Wash. Univ., St. Louis, MO 63130, USA; EN)



A): electrolysis, [carbon anode, Pt cathode], $LiClO_4$, 2,6–lutidine, THF, 0°C