

New Synthesis of *syn*-Stereodiad Building Block for Polyketides. Formal Synthesis of Arenamides A and C

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Abstract—An efficient procedure has been developed for the transformation of (7*S*)-7-(3-bromoprop-1-en-2-yl)-5,5-dimethyl-4,6-dioxaspiro[2.5]octane [available from diethyl (*S*)-malate] into methyl 2-[(4*S*)-2,2-dimethyl-5-methylidene-1,3-dioxan-4-yl]acetate, and conditions for diastereoselective reduction of the double C=C bond in the latter have been optimized. The reduction product has been converted into (3*S*,4*S*)-3-[*tert*-butyl(dimethyl)siloxy]-4-methyldecanoic acid which is a building block for the synthesis of arenamides A and C, natural compounds possessing pronounced antitumor activity and efficiently inhibiting nitrogen(II) oxide and prostaglandin E₂ (PGE₂).

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