Q. LI, K. ZHAO, A. PEURONEN, K. RISSANEN, D. ENDERS*, Y. TANG* (TSINGHUA UNIVERSITY, BEIJING AND SICHUAN UNIVERSITY, CHENGDU, P. R. OF CHINA; RWTH AACHEN UNIVERSITY, GERMANY; UNIVERSITY OF JYVÄSKYLÄ, FINLAND)
 Enantioselective Total Syntheses of (+)-Hippolachnin A, (+)-Gracilioether A, (–)-Gracilioether E, and (–)-Gracilioether F
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Syntheses of Plakortin Polyketides

Significance: (+)-Hippolachnin A and the gracilioethers commonly feature a strained, bowl-shaped tricyclic core. Based on a [2+2]-photocycloaddition strategy, the authors report divergent syntheses of four different *Plakortin* natural products.

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Comment: An organocatalytic, asymmetric 1,4-addition afforded γ -butenolide **D**, which served as a common intermediate. Chain elongation gave ester **G**, which after desaturation and [2+2] photocycloaddition, yielded (+)-hippolachnin A.

Category

Synthesis of Natural Products and Potential Drugs

Key words

Plakortin polyketides

(+)-hippolachnin A

gracilioethers

organocatalysis

[2+2] photocycloaddition

HAT-triggered oxygenation

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