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Enantioselective Total Syntheses of (+)-Hippolachnin A, (+)-Gracilioether A, (–)-Gracilioether E, and (–)-Gracilioether F

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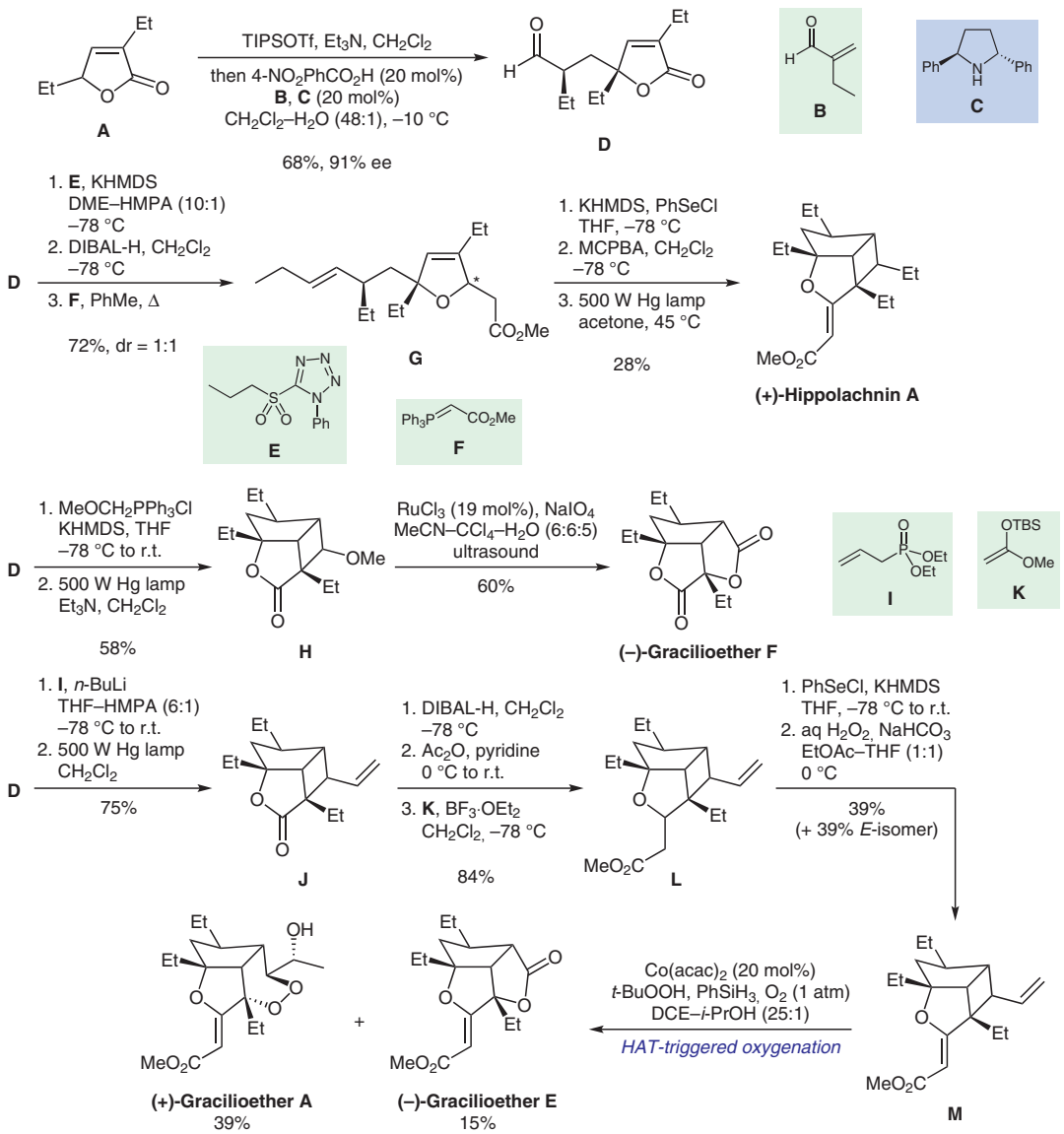
Syntheses of Plakortin Polyketides



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.

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.

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Category

Synthesis of Natural Products and Potential Drugs

Key words

***Plakortin* polyketides**

(+)-hippolachnin A

gracilioethers

organocatalysis

[2+2] photocycloaddition

HAT-triggered oxygenation