B. HONG, C. LI, Z. WANG, J. CHEN, H. LI,* X. LEI* (PEKING UNIVERSITY, BEIJING, TIANJIN UNIVERSITY, AND NATIONAL INSTITUTE OF BIOLOGICAL SCIENCES, BEIJING, P. R. OF CHINA)
 Enantioselective Total Synthesis of (–)-Incarviate A
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Synthesis of (–)-Incarviate A

Significance: The natural product hybrid (–)-incarviate A displays considerable potential for the treatment of depression and neurological disorders. It also features a complex polycyclic core structure with eight contiguous stereogenic centers. In this work, the authors report the first total synthesis relying on a striking biomimetic cascade reaction.

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Comment: The synthesis commenced with *ortho*-C–H alkylation of **A**. Thereafter, *trans*-indane acid **F** was obtained by a chiral auxiliary mediated C–H insertion with diazo compound **D**. Phenolic aldol condensation between **H** and **I** and subsequent dearomatization set the stage for a biomimetic cascade that culminated in the total synthesis of (–)-incarviate A.

Category

Synthesis of Natural Products and Potential Drugs

Key words

(–)-incarviate A

C–H bond functionalization

biomimetic cascade

chiral auxiliary

aldol condensation

Synfact
 of the month

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