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Enantioselective Total Synthesis of Ecteinascidin 743

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Total Synthesis of Ecteinascidin 743

Significance: In 1996, Corey and co-workers reported the first total synthesis of ecteinascidin 743. This rare marine-derived natural product showed potent anti-tumor activities and is now used in the clinic under the name Trabectedin for the treatment of soft tissue sarcoma and ovarian cancer.

Comment: Fragment coupling between A and B was achieved by the Strecker reaction. The piperazine in **D** is assembled by the Pictet–Spengler reaction. After oxidation of phenol E, the ten-membered lactone is constructed by a one-pot sequence consisting of elimination, deprotection, conjugate addition, and acylation to afford I.

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Synthesis of Natural

Key words

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marine natural product

anti-tumor agent

Strecker amino acid synthesis

Pictet-Spengler

10-membered lactone

