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Total Synthesis of the Rubrolone Aglycon
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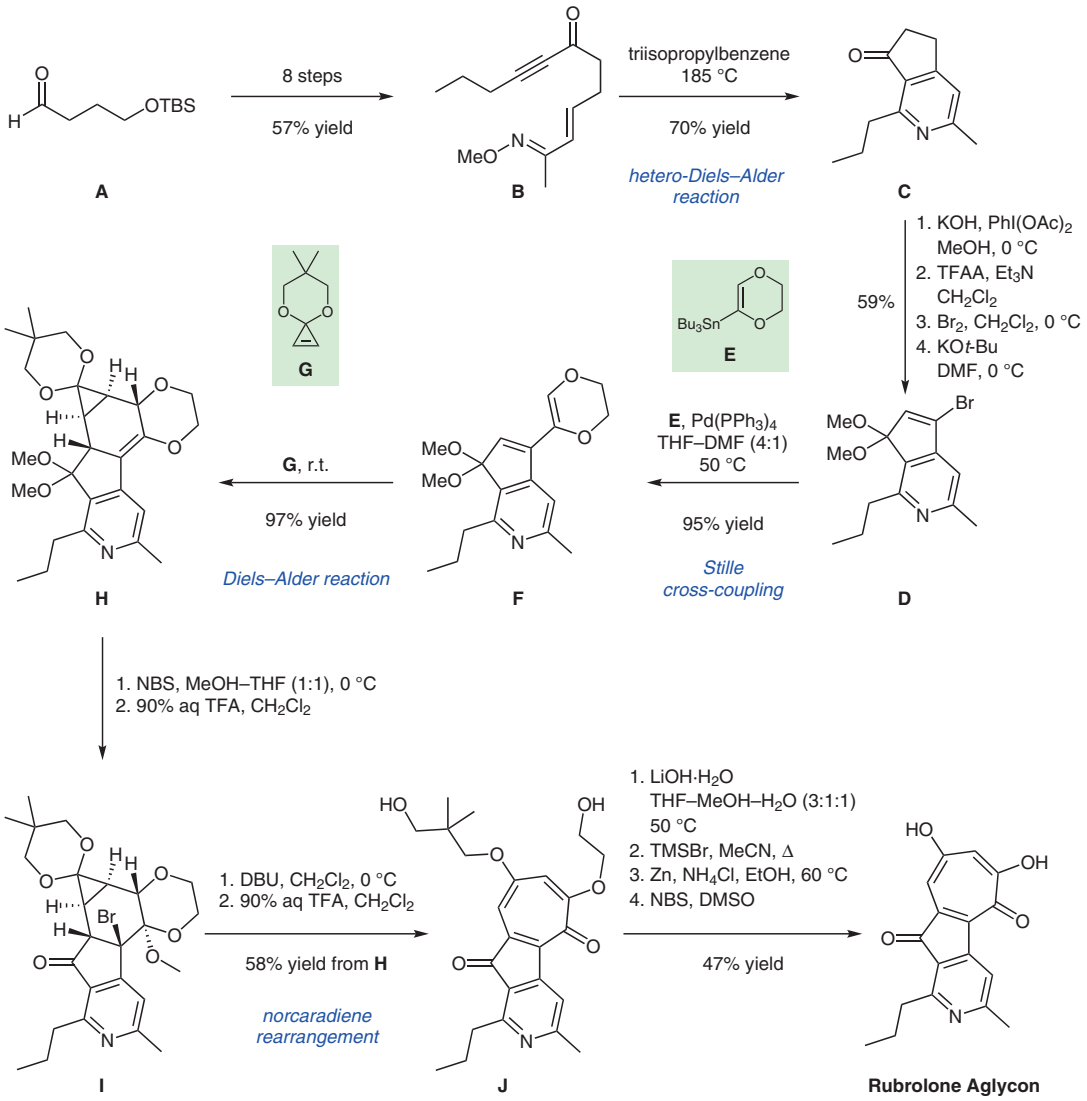
Synthesis of the Rubrolone Aglycon



Significance: Boger and co-workers report a concise total synthesis of the rubrolone aglycon. To construct the pyridine and the tropolone motifs present in the natural product, the authors based their synthetic strategy on two unusual Diels–Alder reactions.

Comment: The synthesis features an intramolecular hetero Diels–Alder reaction, involving an O-alkyl α,β-unsaturated oxime as diene, to construct the substituted pyridine **D**. A second Diels–Alder reaction featuring diene **F** and cyclopropenone ketal **G** as dienophile gave access to the cycloaddition product **H**. Upon oxidation and subsequent norcaradiene rearrangement, the tropolone **J** was accessed.

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Category
Synthesis of Natural Products

Key words
rubrolone aglycon
tropolone natural product
Stille coupling
cyclopropane ketal
Diels–Alder reaction
norcaradiene rearrangement