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Enantiospecific Total Synthesis of *N*-Methylwelwitindolinone D Isonitrile
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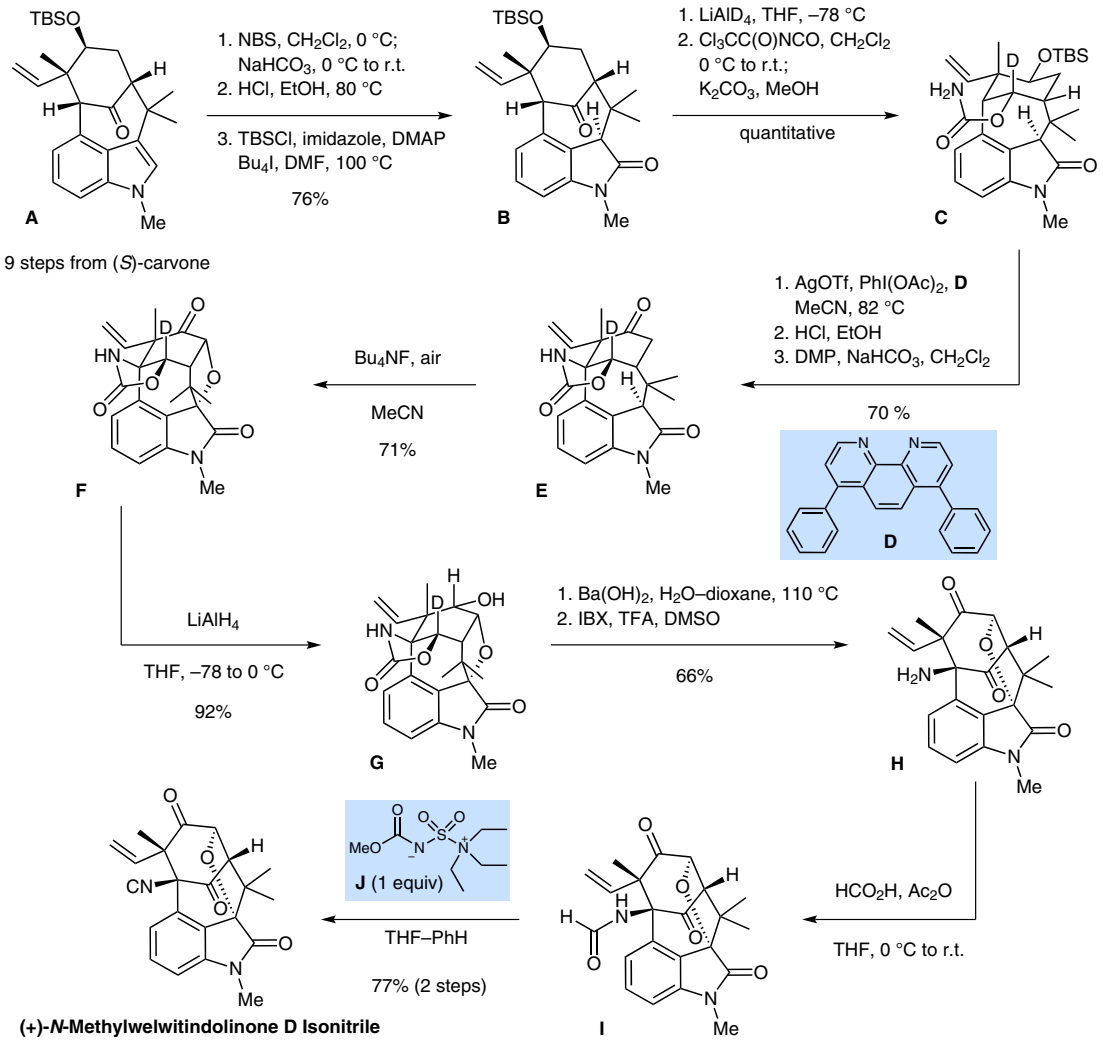
Synthesis of (+)-*N*-Methylwelwitindolinone D Isonitrile



Significance: The welwitindolinones display interesting biological properties such as antifungal activity and microtubule depolymerization in human carcinoma cells. The challenging architecture of the target compound features an oxidized bicyclo[4.3.1]decane motif. The additional tetrahydrofuran ring was efficiently introduced by a double functionalization using air.

Comment: **A** was converted into deuterium-containing indolinone **C**. As described earlier by the authors, exploitation of the isotope effect during nitrene insertion afforded **E** in good yield. Oxidation to **F** was affected using tetra-*n*-butylammonium fluoride (TBAF) and air. Since hydrolysis of **F** led to decomposition, **H** was prepared by a reduction–hydrolysis–oxidation sequence. Formylation and dehydration yielded the target.

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Category
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Key words
welwitindolinone D
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aerobic oxidation

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