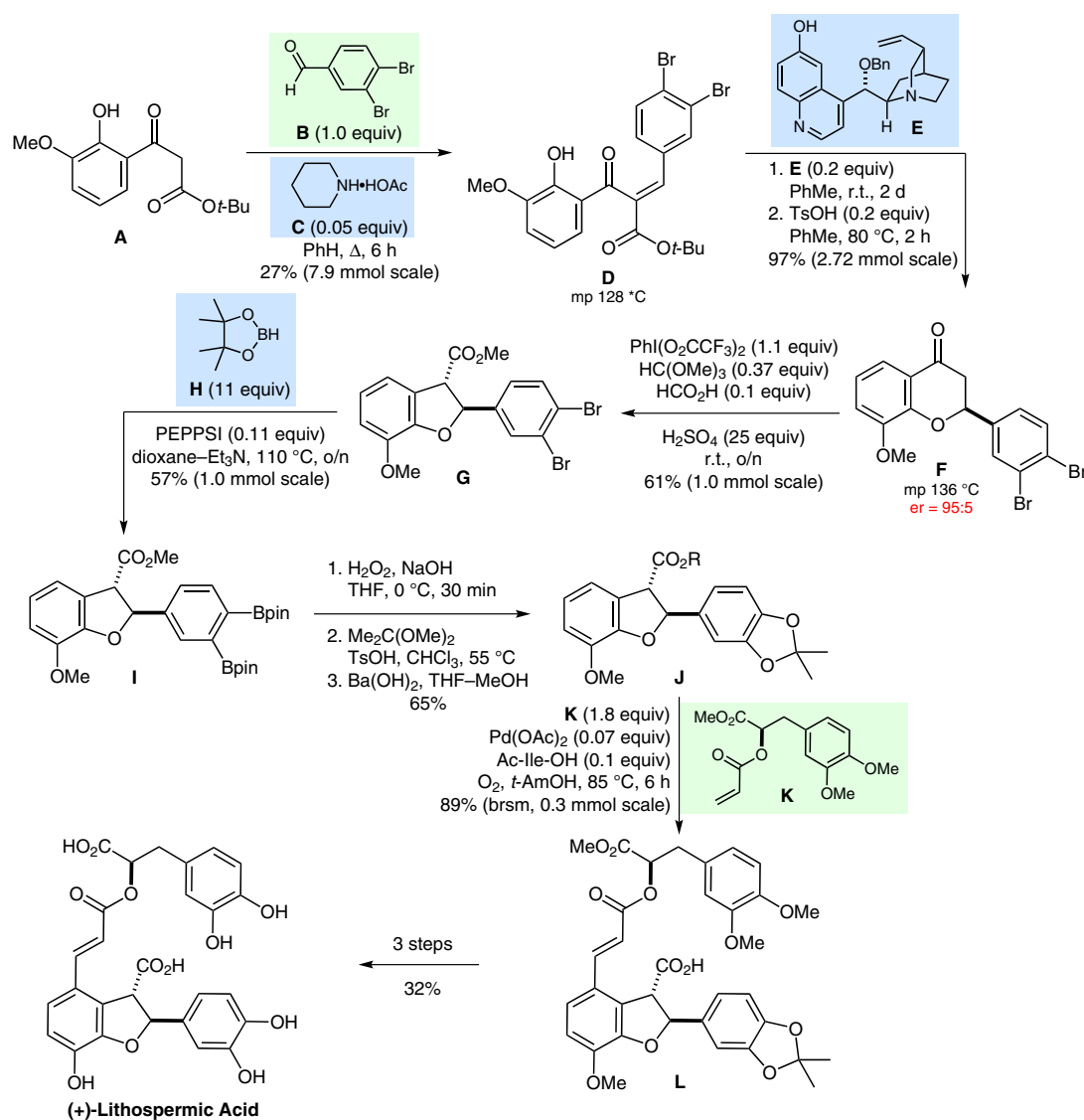


Synthesis of (+)-Lithospermic Acid



Significance: This elegant synthesis of the HIV integrase inhibitor lithospermic acid features (1) an enantioselective intramolecular oxa-Michael reaction; (2) an oxidative ring contraction of the chromanone **F**; and (3) an intermolecular palladium-catalyzed C–H olefination used to append acrylate ester **K** to **J**.

Comment: The enantiomeric ratio of **F** improved to 99:1 after one recrystallization. The presence of the two electronegative bromine atoms on chromanone **F** were essential for the success of the oxidative ring contraction mediated by phenyliodonium bis(trifluoroacetate).

lithospermic acid

HIV integrase

organocatalysis

asymmetric oxa-
Michael reactionoxidative ring
contraction

C–H activation