Synthesis of an Estrogen Receptor Beta Agonist

Significance: The target tetrahydrofluorene is an estrogen receptor β agonist that is of interest for the treatment of symptoms associated with reduced estrogen levels in post-menopausal women. The large-scale synthesis depicted features a chiral auxiliary mediated dialkylation to construct the quaternary center in G with excellent stereo-control. Note the intramolecular enolate alkylation F → G in which phenoxide ion is the leaving group.