**Synthesis of PDE4 Inhibitors**

**Significance:** The target phosphodiesterase type 4 (PDE4) inhibitor J is of interest for the treatment of chronic obstructive pulmonary disease. The multikilogram-scale synthesis depicted features a highly regioselective Dieckmann condensation (A → B) required for the construction of the dihydrotieno[3,2-d]pyrimidine D and the asymmetric sulfoxidation of intermediate G using the conditions of Uemura and co-workers (J. Org. Chem. 1993, 58, 4529).

**Comment:** The transformation E → G was accompanied by 15% of the product resulting from displacement of the chlorine at C2. Investigation of alternative bases and solvents failed to improve the regioselectivity; however, the undesired regioisomer was significantly more soluble than H and was completely removed from the product during the isolation by filtration.