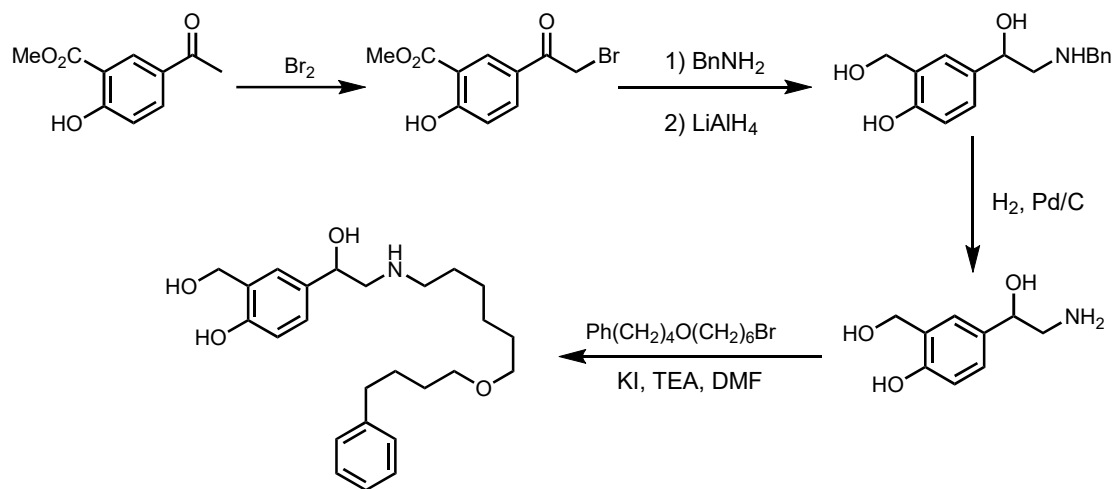
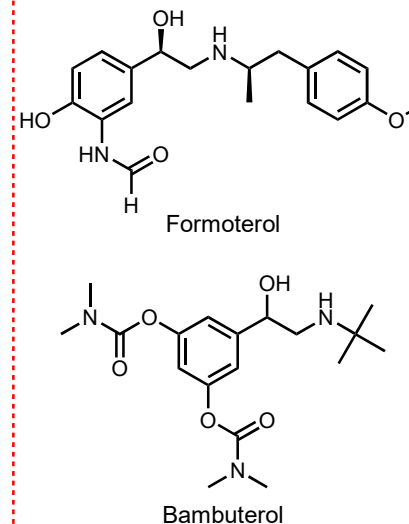


(±)-Salmeterol

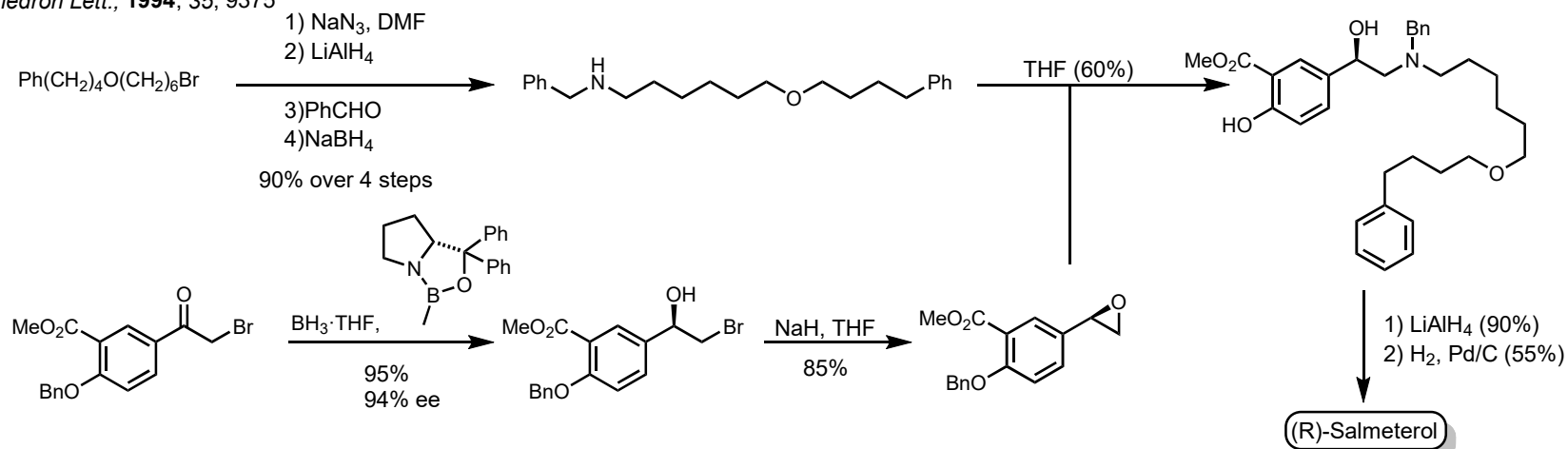
**Fast Facts:**

- Administered as a dry powder by inhaler. Generally marketed as the Xenofolate Salt.
- Bronchodilator, relaxes muscles in airway
- For use in severe persistent asthma and COPD
- Long-acting  $\beta_2$  adrenergic receptor agonist (LABA); effects last for approximately 12 hours
- Highly selective for  $\beta_2$  receptor;  $EC_{50}=0.79$  nM
- Combination with flucitasone propionate is marketed as Advair
- 1 inhalation (50 mcg) twice daily for maintenance.
- Predicted aqueous solubility of 2.3 ug/mL (ALOGPS)
- (R)-Salmeterol is more potent, but drug is sold as a racemate

**Original Patent Route:** US 4992474**Alternative LABA's:**

## Asymmetric Routes:

Helquist and Coworker:

*Tetrahedron Lett.*, **1994**, *35*, 9375

Ley and Co-workers: No Chromatographic Steps

*Org. Lett.*, **2002**, *4*, 3793–3796