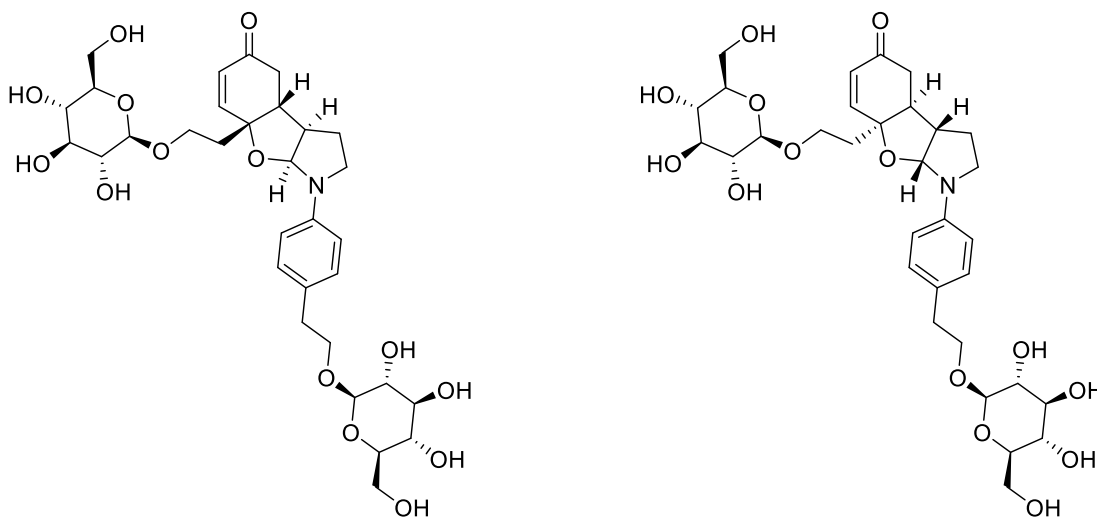
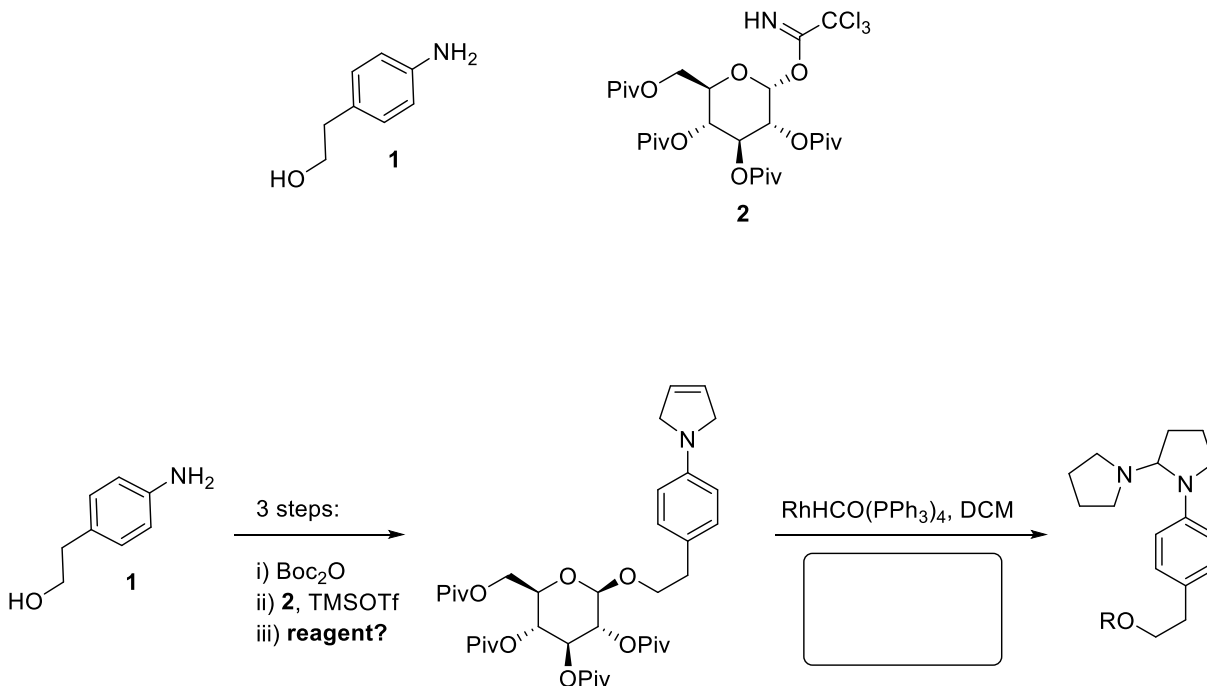


### Total Synthesis of Millingtonine A

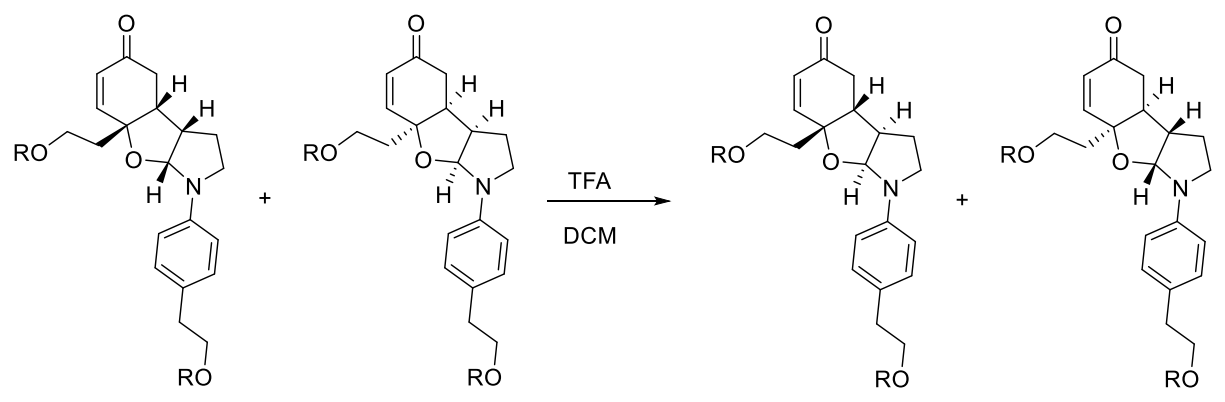
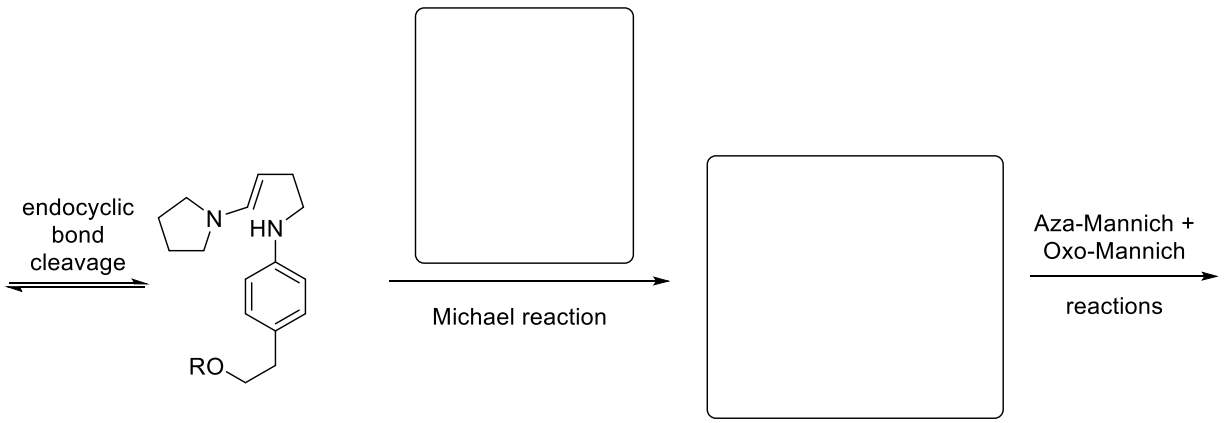


Millingtonine A was isolated from the Indian cork tree (*Millingtonia hortensis*) by Yamasaki *et al.* in 1996. It exists as a pair of pseudo-enantiomeric diastereomers (see above). While little is known about its biological profile, *Millingtonia hortensis* is an important source of herbal medicine for the treatment of tuberculosis, sinusitis and asthma. The first total synthesis of Millingtonine A by Ley, Kirschning and Baxendale (*Org. Lett.* **2012**, *14*, 696) consisted of 16 steps via intermediates that were "exceedingly prone to rearrangement reactions". An improved, seven step synthesis was published by Brown and Lawrence in 2016 (*Angew. Chem. Int. Ed.* **2016**, *55*, 8421).

**Propose a synthesis** of Millingtonine A, starting from 4-aminophenethyl alcohol **1** and sugar **2**:



(turn page)



(see next page for solution)