

FIG. 1: Racemic mixture of Intermediates 3 and 4

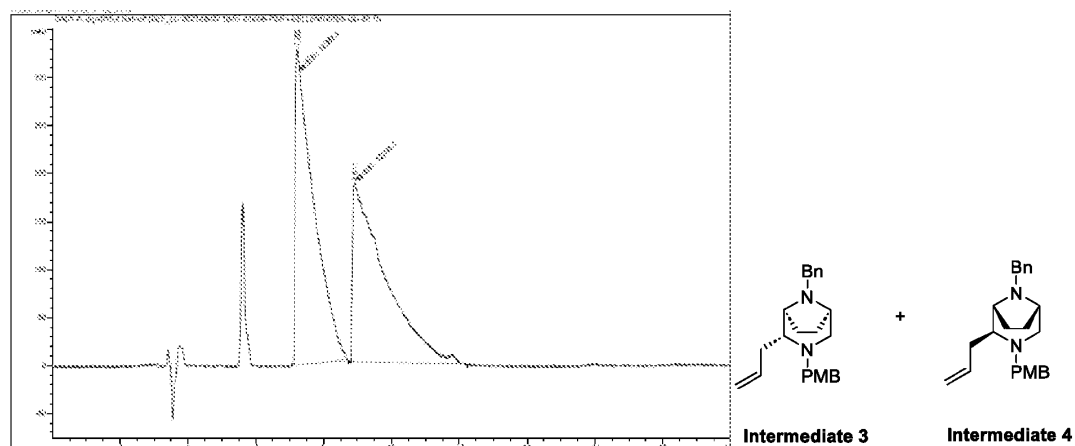


FIG. 2: Trace of **Intermediate 3** prepared from **Intermediate 1** matches peak 1.

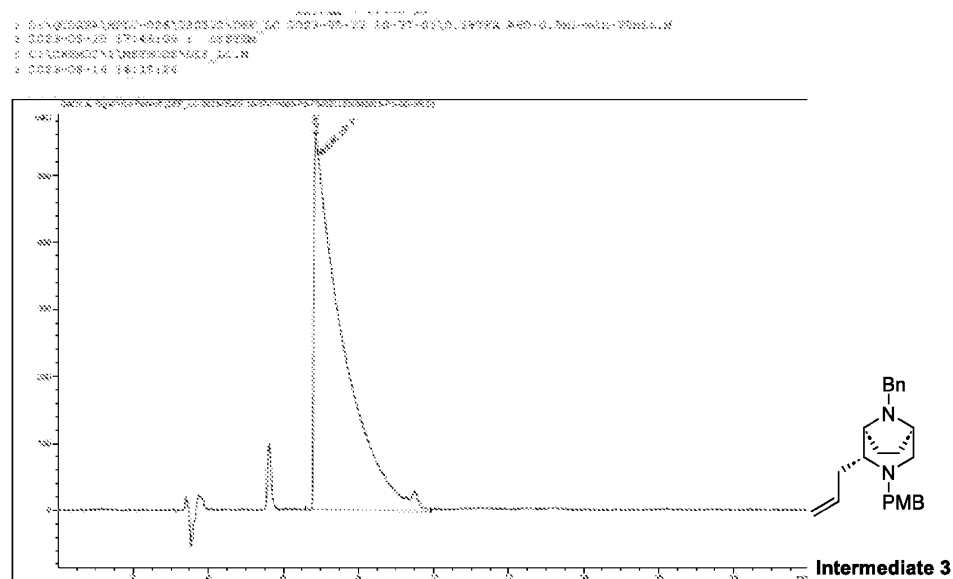
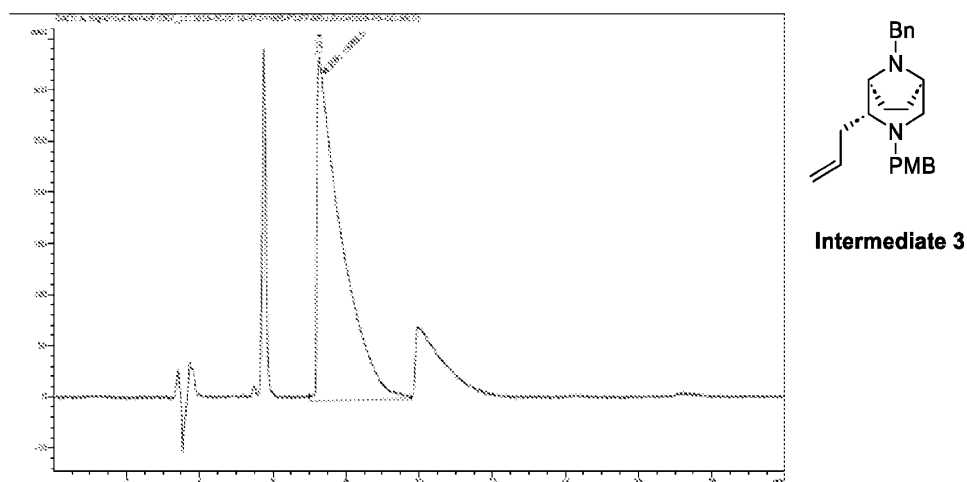


FIG. 3: Trace of **Intermediate 3** prepared from the known chiral starting material, tert-butyl (1*S*,2*S*,5*R*)-2-(hydroxymethyl)-3,8-diazabicyclo[3.2.1]octane-8-carboxylate, also matches peak 1.



(Note: the peak around 5.5 min ~ 6min is nBnOH and the peak around 10 ~ 12 mins is an impurity)

FIG. 4: Spike experiment further confirms the stereochemistry of **Intermediate 3** from both reactions to be the same.

