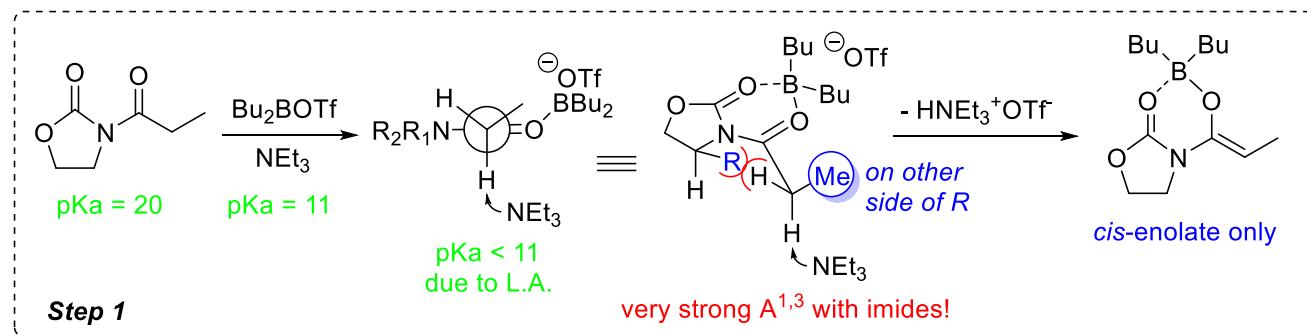
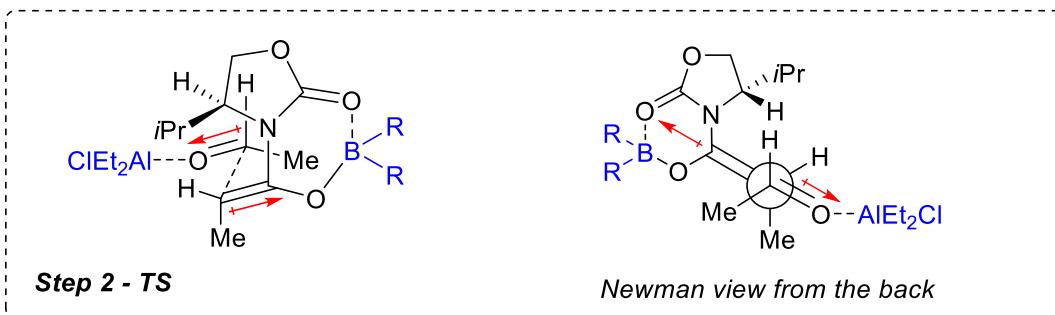
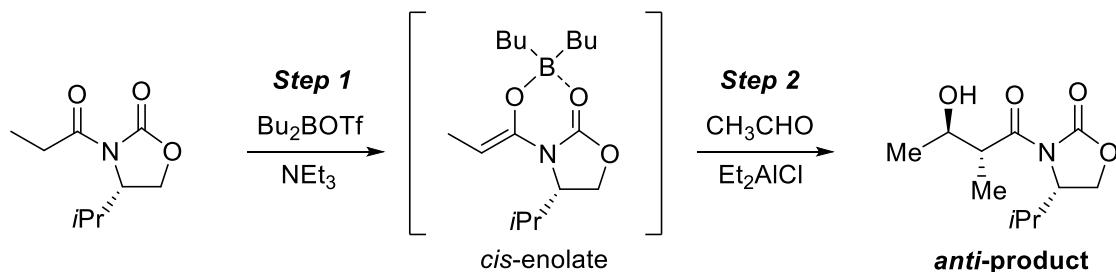


## SR2024 POW1 – Solutions

Deprotonation of imides with  $\text{Bu}_2\text{BOTf} + \text{NEt}_3 \rightarrow$  soft enolization.



Anti-aldol due to presence of an external Lewis acid. Without it, we get *syn*-aldol (Evans).



$\text{Et}_2\text{AlCl}$  is a strong Lewis acid, and thus complexes the aldehyde.

This results in a *trans*-aldol product, because:

- open transition state (no chair), *unlike for Evans syn-aldol*
- boron chelates the carbonyl of the oxazolidinone auxiliary, *unlike for Evans syn-aldol*  
→ this carbonyl cannot rotate
- minimized dipoles: aldehyde carbonyl group antiperiplanar to the enolate
- minimized sterics: aldehyde comes in opposite to the bulky *iPr* of the auxiliary
- Me group of aldehyde in an equatorial position, away from the auxiliary