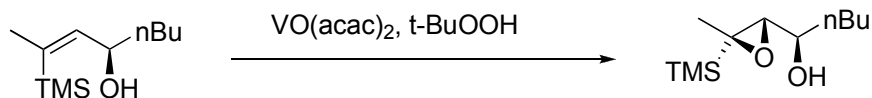
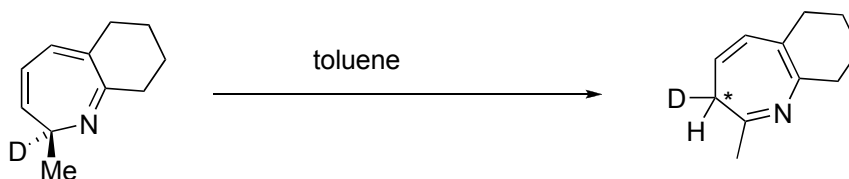


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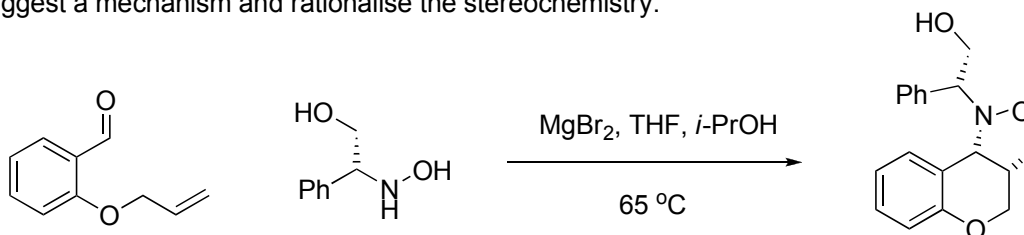
1. Suggest a mechanism and rationalise the stereochemistry.



2. Use the Woodward-Hoffmann rules and/or FMO theory to show that your suggested mechanism is symmetry allowed under thermal conditions.



3. Suggest a mechanism and rationalise the stereochemistry.



4. One diastereomer of the epoxide drawn below reacts fast, whereas the other isomer is recovered. Predict with reasoning which isomer reacts. Suggest a mechanism for aziridine formation.

