

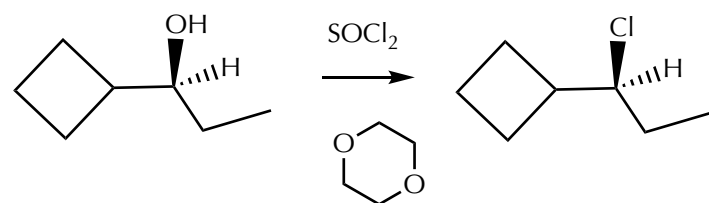
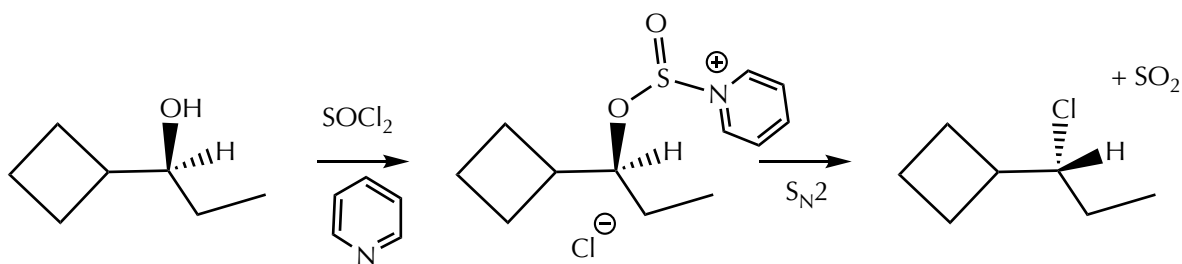
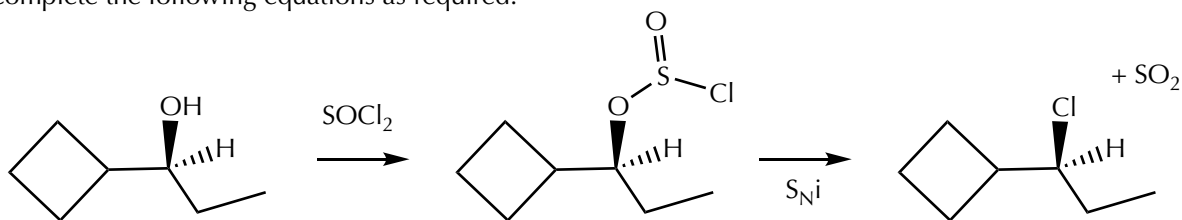
Problem of the Day 04
CH 11
Question 11.20

When this chiral secondary alcohol reacts with SOCl_2 alone, retention of configuration via the S_{Ni} mechanism is observed from the initially formed intermediate.

When SOCl_2 and pyridine are used, the initially formed intermediate reacts with pyridine to give an excellent leaving group and inversion of configuration is observed.

When the SOCl_2 reaction is carried out in 1,4-dioxane, retention of configuration is also observed, but not via the S_{Ni} mechanism. Propose an alternative to the S_{Ni} mechanism under these conditions that could also lead to retention of configuration as the only outcome.

11.20 Complete the following equations as required.



retention of configuration but not by S_{Ni} ... the other way (see CHEM 210) to get retention of configuration is by a double inversion reaction (two $\text{S}_{\text{N}2}$ reactions in sequence)

