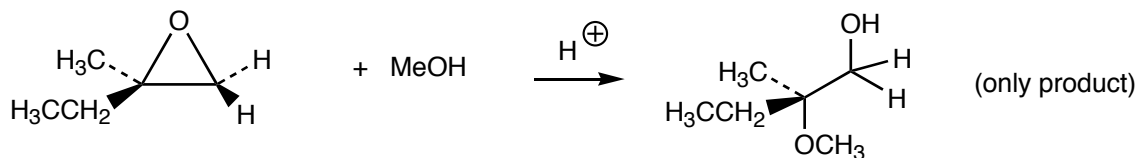


5. (10 pts) Explain, with sentences and structures, the observed **Regio- and Stereoslectivity** in the reaction below.



6. (15 pts) Draw a structure of an unknown which has the following spectra: IR: strong absorption at 1703 cm^{-1} ; $^1\text{H-NMR}$ δ 2.04 (singlet, 3H), 2.34 (singlet, 3H), 7.38 (multiplet, 2H), and 7.87 (multiplet, 2H); $^{13}\text{C-NMR}$ δ 21, 31, 128, 129, 134, 140, 197. Mass Spec.: Molecular ion at $m/z = 134$ and large fragment ion at $m/z = 119$. **Clearly indicate your $^1\text{H-NMR}$ assignments, e. g.**

