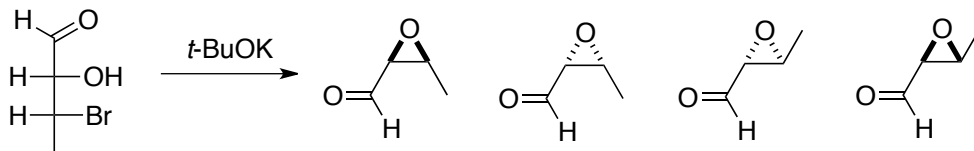
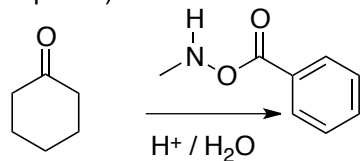


1. (10 points) Which product will be formed? Why? Explain in detail..

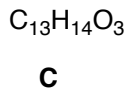


A

2. (10 points) Deduce the structure of **C**, and draw an arrow-pushing mechanism for its formation.



B



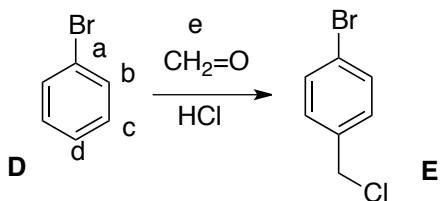
^{13}C NMR

204.3, s
 165.6, s
 133.2, d
 129.9, s
 129.7, d (2)
 128.3, d (2)
 75.8, d
 40.8, t
 33.2, t
 27.2, t
 23.8, t

^1H NMR

8.05, d, $J = 8.0$ Hz, 2H
 7.5, m, 1H
 7.4, m, 2H
 5.35, m, 1H
 2.4, m, 2H
 1.6-2.1, m, 6H

3. (10 points) Draw an arrow-pushing mechanism for the conversion of **D** to **E**.



bb | bf
