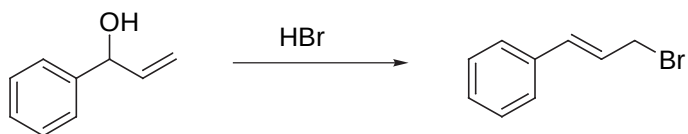
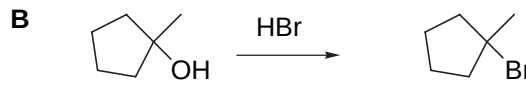
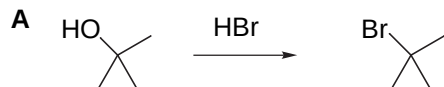


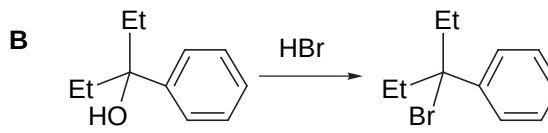
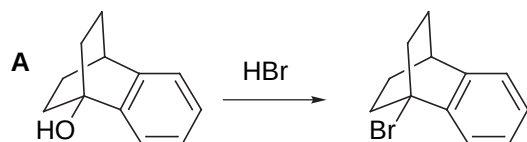
1) Provide a mechanism



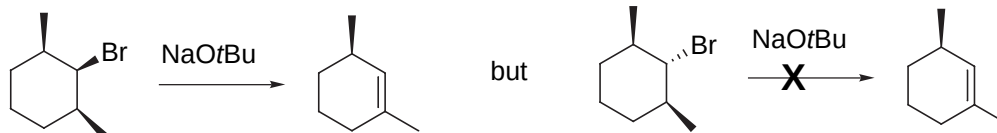
2) Which reaction is faster (**A** or **B**)? Why?



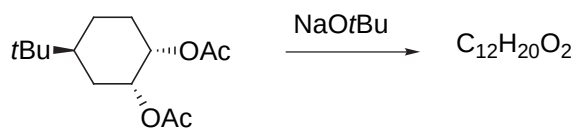
3) Which reaction is faster (**A** or **B**)? Why?



4) Provide a detailed explanation



5) Draw the product of the following reaction. Explain your assignment and provide a mechanism.



^{13}C NMR:

21.4 (q)
22.6 (t)
28.9 (t)
29.2 (q, 3 carbons)
32.9 (s)
45.9 (d)
70.5 (d)
128.1 (d)
133.0 (d)
170.9 (s)

1H NMR:

0.90 (s, 9H)
1.40 (m, 1H)
1.85 (m, 2H)
2.10 (s, 3H)
2.15 (m, 2H)
5.25 (m, 1H)
5.60 (m, 1H)
5.80 (m, 1H)