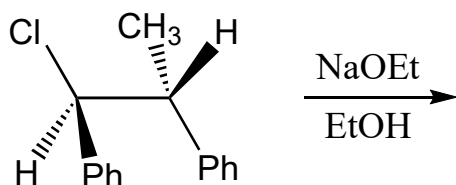
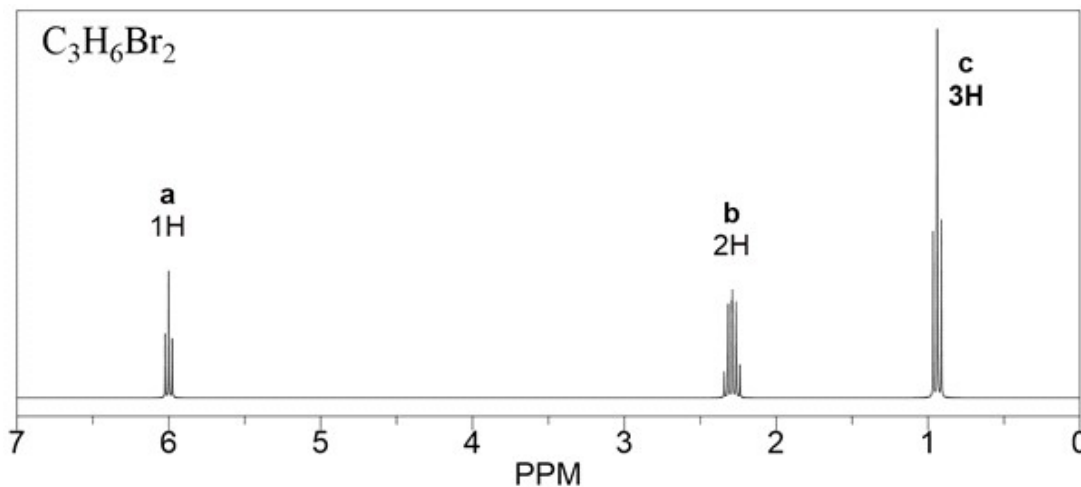


6A) (8 pts) Predict the major product for the following E2 elimination reaction and provide a complete mechanism. Pay close attention to details, including lone pairs, formal charges and the use of curved arrows. Show your work. **No work = no credit.**



6B) (8 pts) Provide a structure that is consistent with the given ^1H NMR spectrum. **Show your work** and justify your answer by **labeling the protons on the structure a/b/c** to match the labeled peaks in the spectrum. **No work = no credit.**



^1H NMR	
Protons on Carbon	
Type of C-H	δ (ppm)
R-CH ₃	0.9
R-CH ₂ -R	1.3
R ₃ C-H	1.5-2
CH ₃	1.8
R-C(=O)-CH ₃	2-2.3
Ar-CH ₃	2.3
RC≡C-H	2.5
R ₂ N-CH ₃	2-3
R-CH ₂ -X	3-3.5
RO-CH ₃	3.8
R-CH ₂ -F	4.5
R ₂ C=CH-R	5-5.3
Ar-H	7.3
R-C(=O)-H	9.7
Protons on Oxygen	
Type of H	δ (ppm)
ROH	0.5-5
ArOH	4-7
R-C(=O)-OH	10-13