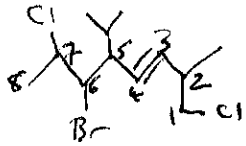
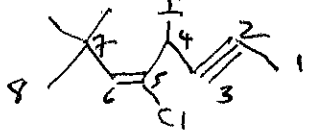
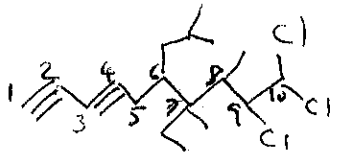
Monday, April 27th, 2020
Exam #1

Name: Key

1. Name the following molecules:







6-bromo-1,7-dichloro-5-isopropyl-3-octyne

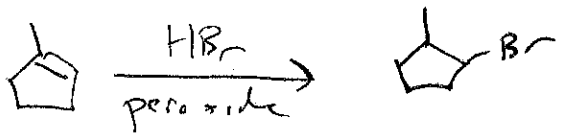
(E) 5-chloro-4-iodo-7,7-dimethyl-5-octen-2-yne

9,10,10-trichloro-7-ethyl-6-isobutyl-7,8-dimethyl-1,3-decadiyne

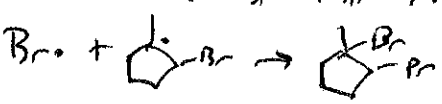
2. Explain in detail why alcohols cannot be present during an alkylation reaction.

NH_2^- is a strong base. If alcohols are present, their acidity ($pK_a \approx 16$) is stronger than alkynes ($pK_a \approx 25$) so NH_2^- will deprotonate them instead.

3. Draw the product and mechanism of the following:

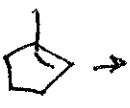
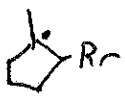


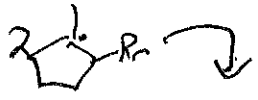
Termination: $Br\cdot + R\cdot \rightarrow Br_2$

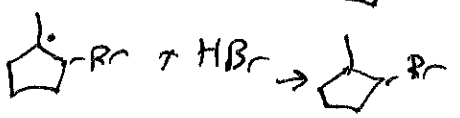


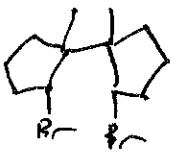
Initiation: $ROOR \rightarrow 2RO\cdot$

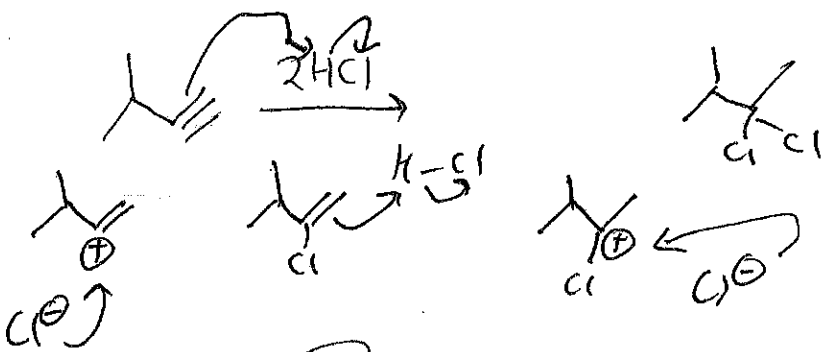
$RO\cdot + HBr \rightarrow ROH + Br\cdot$

Propagation: $Br\cdot +$  $\rightarrow$ 

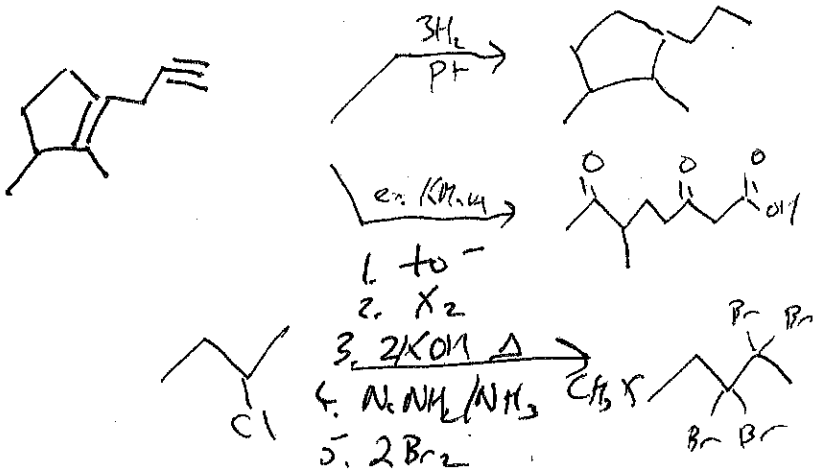


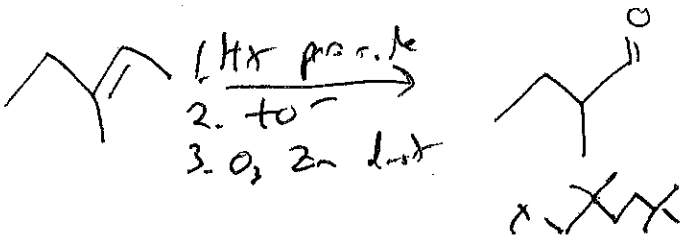




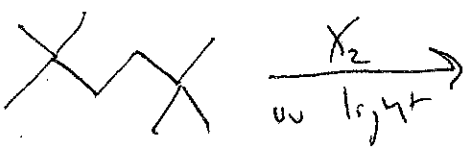


4. Complete the following reactions:





Give 2 product, and approximate %s for each



	X	X
F	82%	18%
Cl	~41%	~59%
Br	1%	99%
I	0%	100%