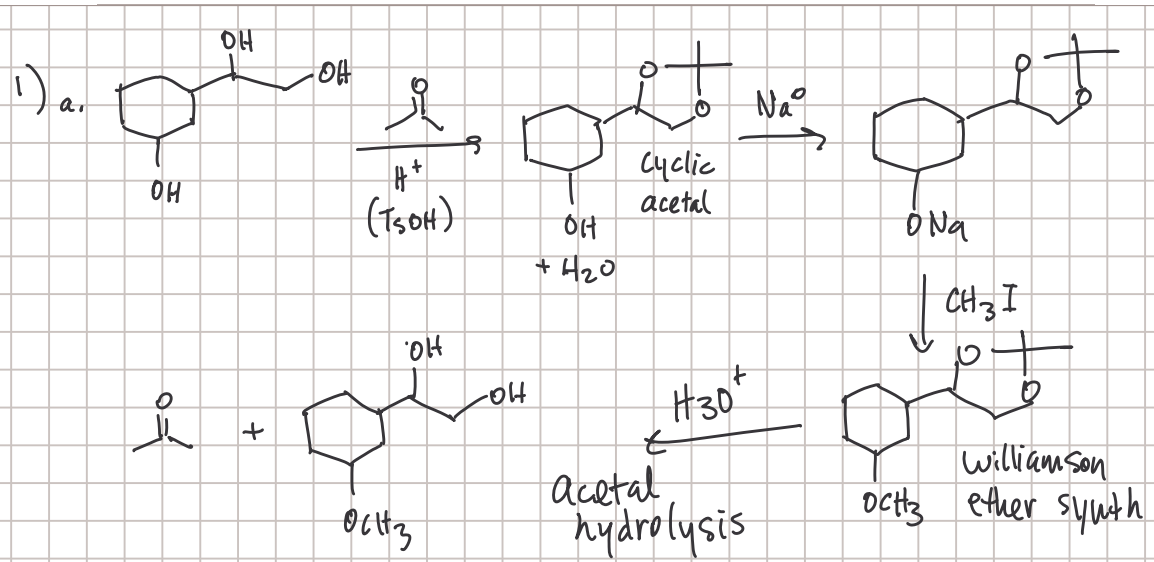
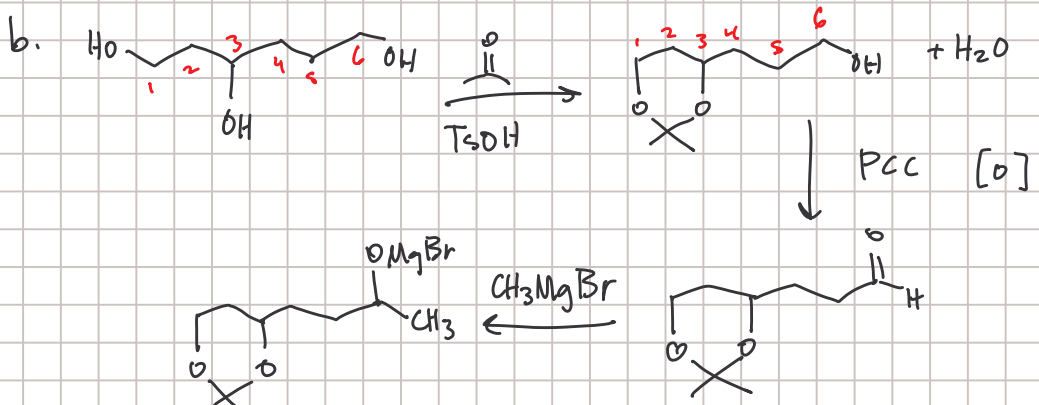
Ch 18/19 group work

Note Title 3/29/2006

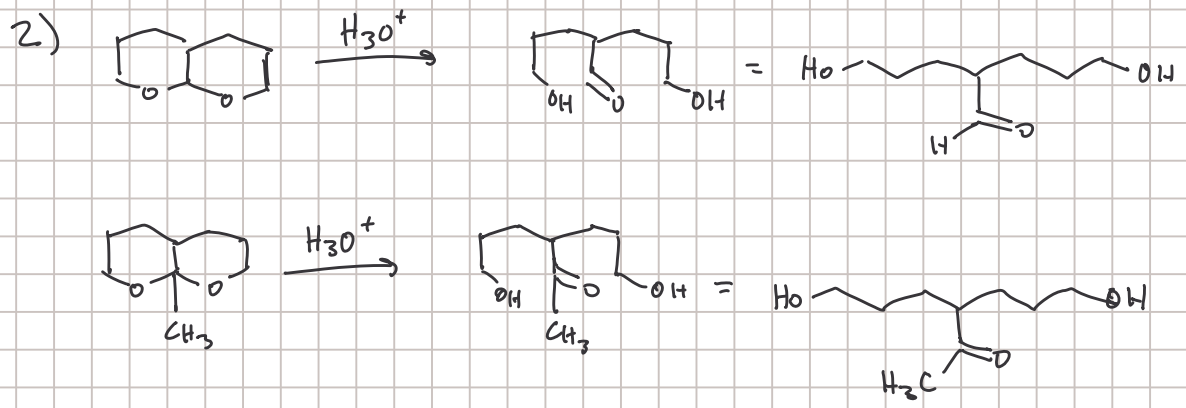
1) a.

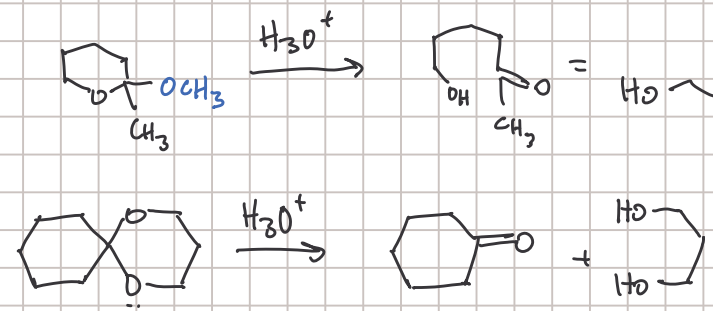


b.

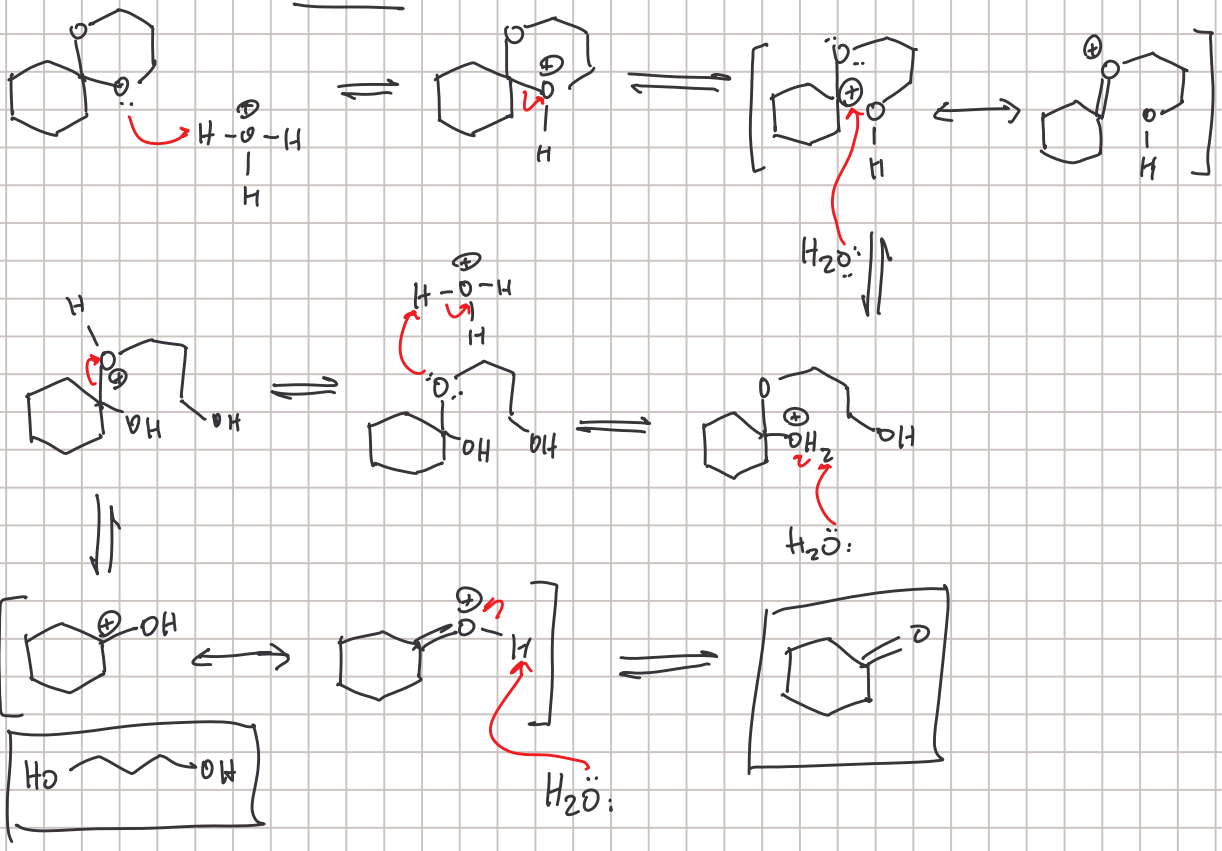


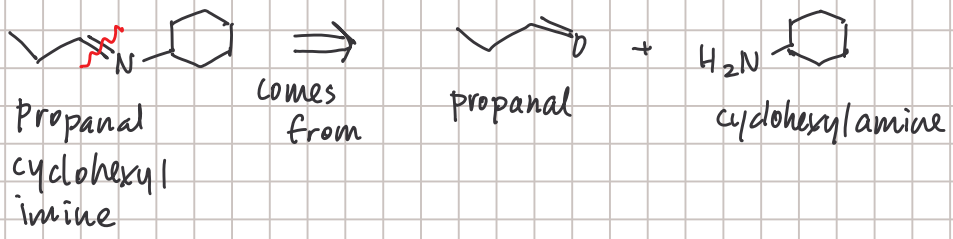
2)

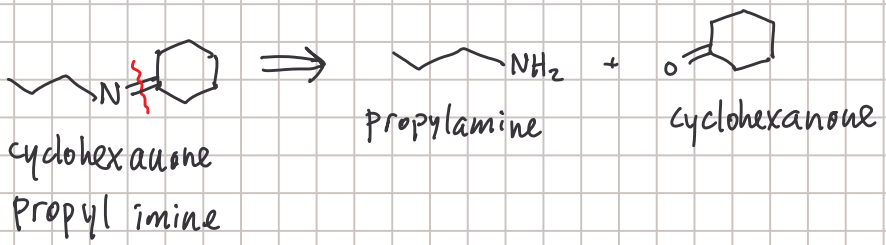


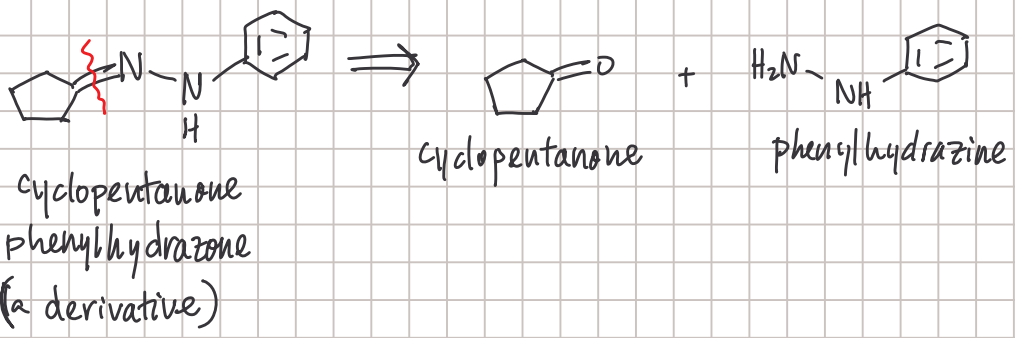


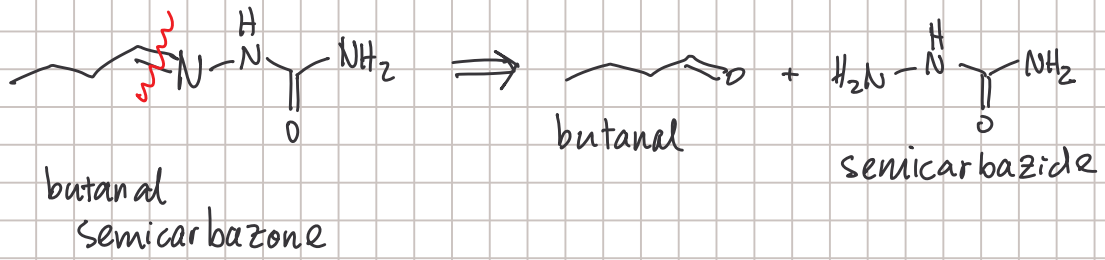
mechanism: reverse of acetal formation

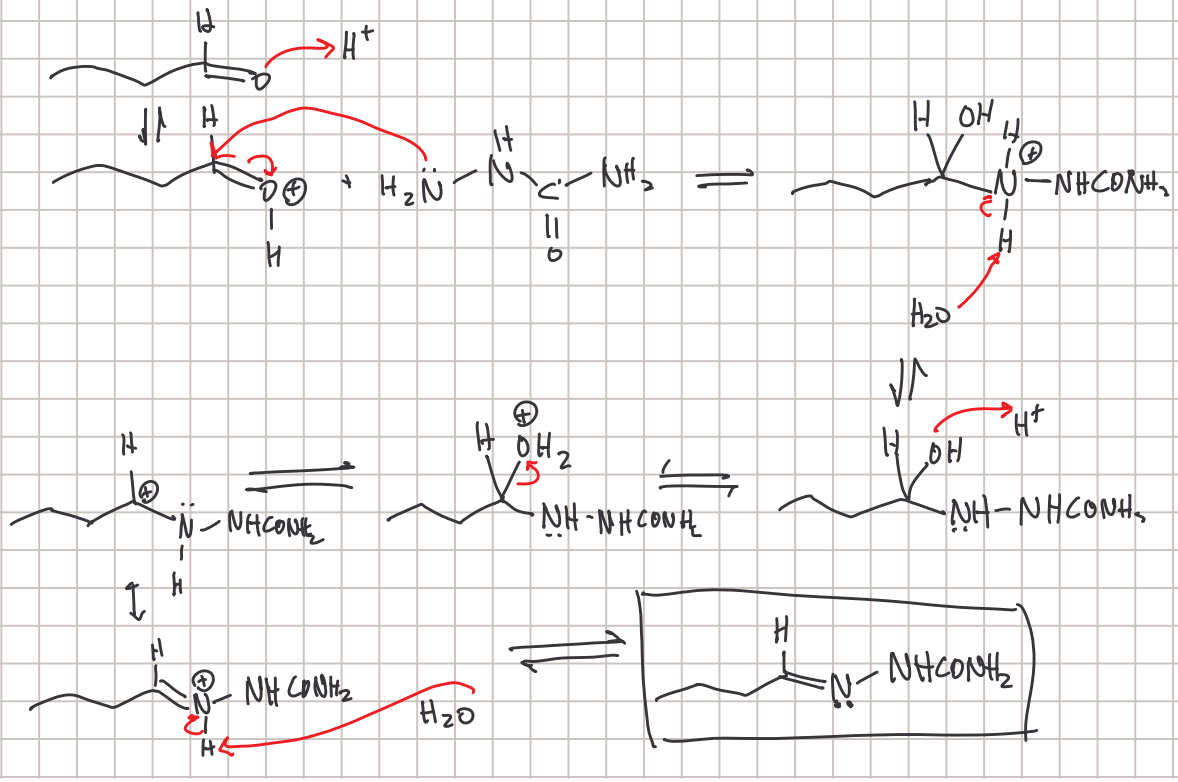



Propanal cyclohexyl imine
comes from
propanal
cyclohexylamine

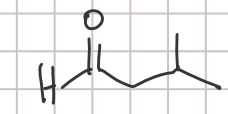

cyclohexanone propyl imine
propylamine
cyclohexanone


cyclopentanone phenylhydrazone (a derivative)
cyclopentanone
phenylhydrazine


butanal semicarbazone
butanal
semicarbazide



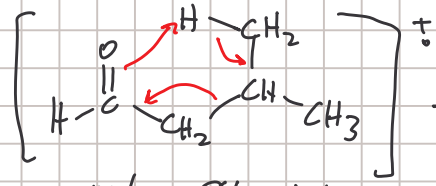
4)



3-methylbutanal

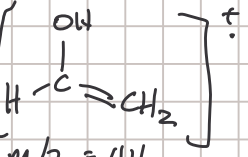
(β-methyl butyraldehyde)

common



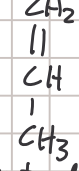
m/z = 86 = M^+

McLafferty rearr.



m/z = 44

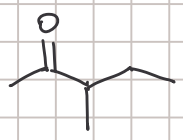
+



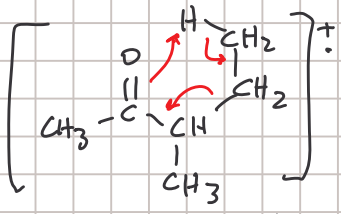
neutral propene (not detected)

M^+ = molecular ion peak (whole molecule)

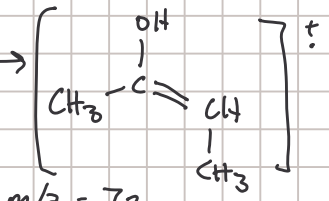
pdt of McLafferty rearr. usu = base peak (highest abundance)



3-methyl-2-pentanone



m/z = 100 = M^+

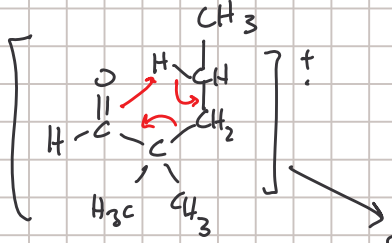


m/z = 72

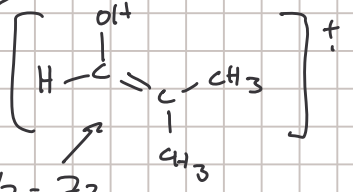
+ $CH_2=CH_2$

neutral ethylene not detected

2,2-dimethylpentanal

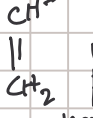


m/z = 114 = M^+

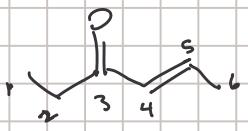


m/z = 72

+

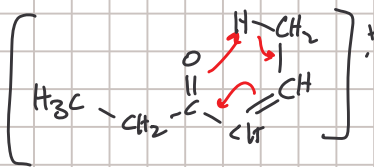


neutral propene not detected

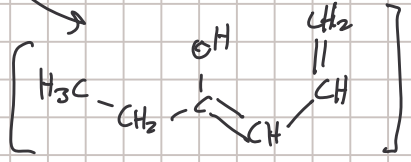


hex-4-en-3-one

or 4-hexen-3-one

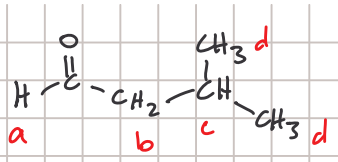


m/z = 98 = M^+

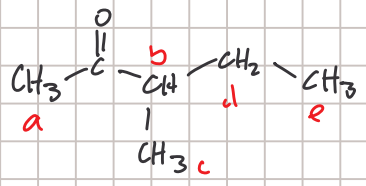


no neutral molecule ejected

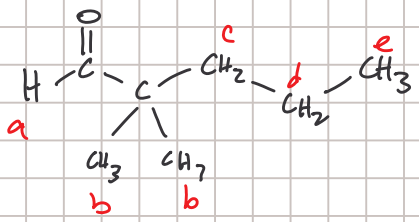
m/z = 98 = M^+



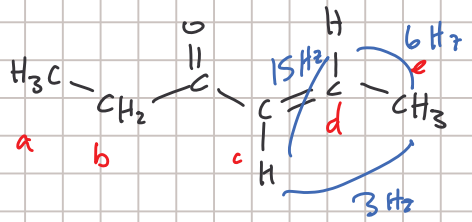
H	m	J	δ (ppm)	Peak
a	d	2Hz	9-10	
b	dd	2,7 Hz	2-3	
c	nonet	7 Hz	1-2	
d	d	7Hz	1-2	



H	m	J (Hz)	δ (ppm)	Peak
a	s	-	2-3	
b	sextet	7	2-3	
c	d	7	1-2	
d	quintet	7	1-2	
e	t	7	~1	

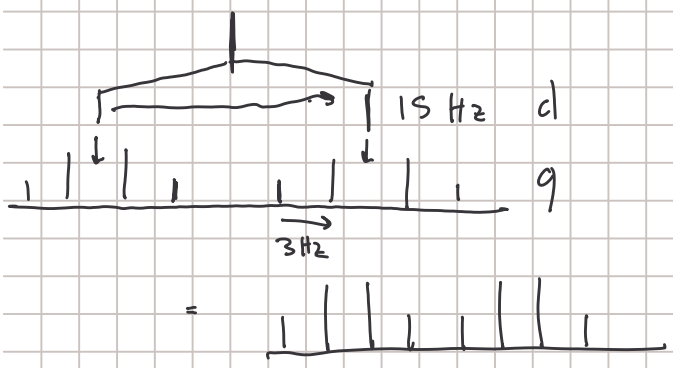


H	m	J (Hz)	δ (ppm)	peak
a	s	-	9-10	
b	s	-	1-2	
c	t	7	1-2	
d	sextet	7	~1	
e	t	7	~1	

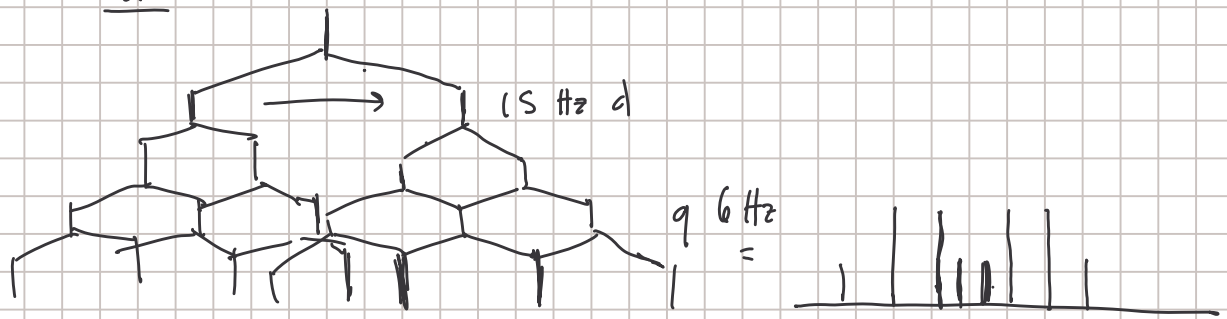


H	m	J (Hz)	δ (ppm)	Peak
a	t	7	1-2	
b	q	7	2-3	
c	dq	15, 3	5-7	
d	dq	15, 6	5-7	See below
e	dd	6, 3	1-2	

c



d



e