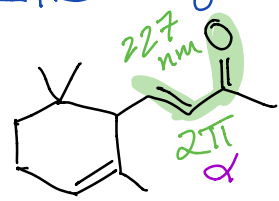
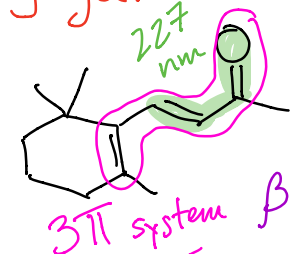


UV-vis Spectroscopy - based on conjugation - movement of e- thru pi system



of pi bonds



energy of pi transitions is in UV-vis range 200-500nm

Sample data: mixtures a lil messy

λ_{max} 295nm higher more pi e-

CANVAS

Lab this week - pre-recorded

Exp 3, Week 1 pre-lab Q's due @ lab section

{ in lab quiz

NMR Problem Set - due FRIDAY 5PM

- Exp 3 Report due next week
- Abstract - guidelines - acrochem site
 - Notebook Pgs
 - Post-Lab Q's

TODAY'S lecture
Finishing lecture 4 then onto "lecture 6"

How confident are you with ¹H NMR analysis?

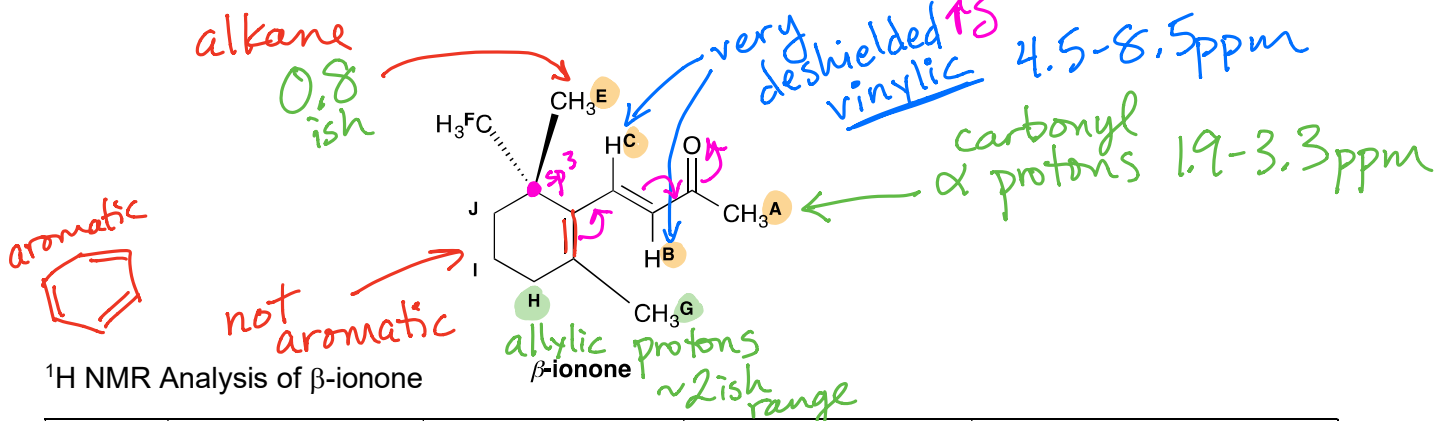
(A) Very Confident

(B) Somewhat Confident

(C) Mixed Bag

(D) OK - not great

(E) Totally lost (i)



^1H NMR Analysis of β -ionone

Signal	Integration (#H's)	Splitting (exp/obs)	Chemical Shift, Expected	Chemical Shift, Observed (Fig 20.3)
A	3			
B	1			
C	1			
D	-- N/A --			
E	3			
F	3			
G	3			
H	2			
I	2			
J	2			

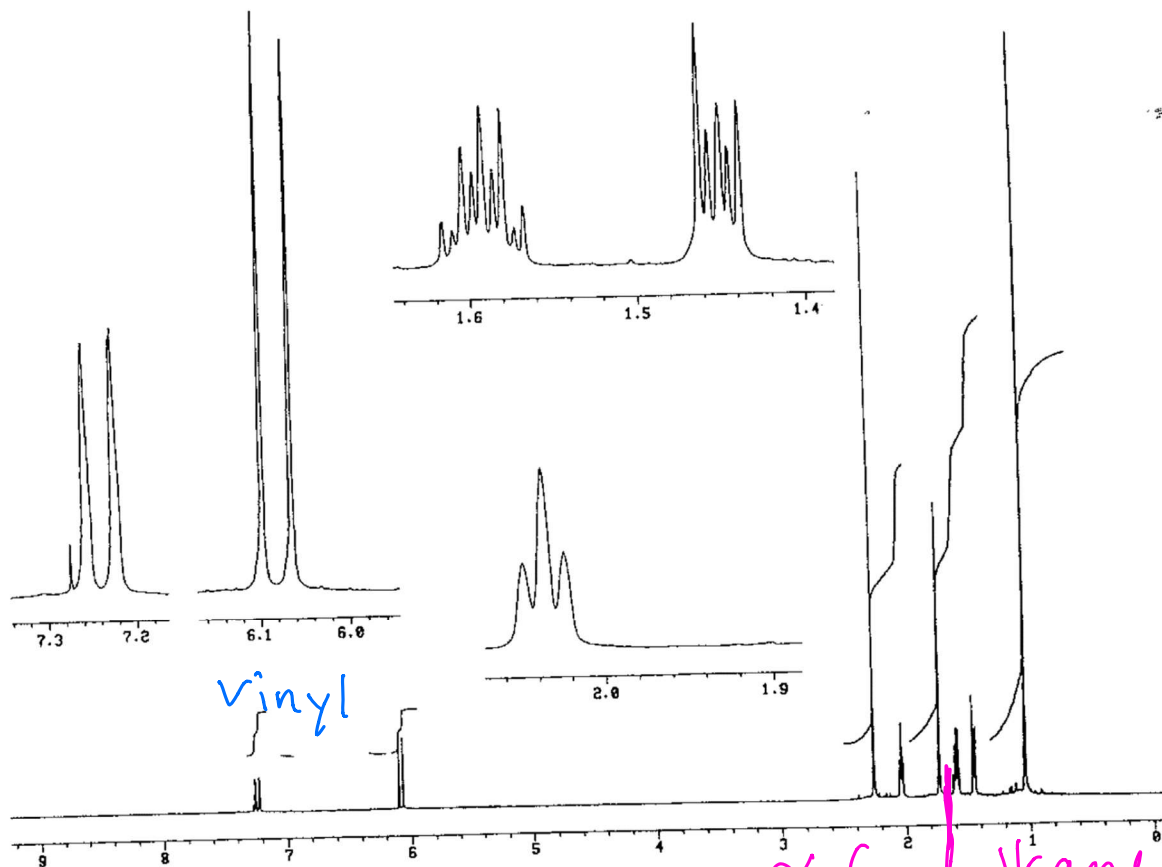


Figure 23.15 500-MHz ^1H -NMR spectrum of β -ionone in CDCl_3 .

α -C or allylic / alkane

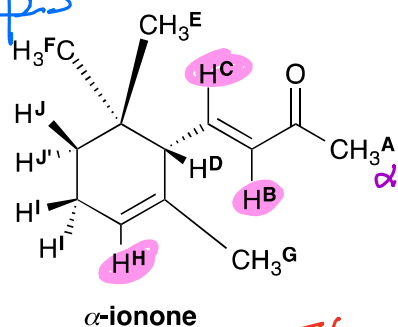
Break into groups

• alkane E F J

• allylic/ α -C A G I
D

• vinylic C B H

^1H NMR Analysis of α -ionone



Reef Numeric

How many vinylic H's
in α -ionone? 3

J & J' \rightarrow diastereotopic H's
CH₂ \leftarrow diff signals

I's CH₂ - diastereotopic expect 2 signals
only 1 observed

Signal	Integration (#H's)	Splitting (exp/obs)	Chemical Shift, Expected	Chemical Shift, Observed (Fig 20.3)
A	3			
B	1			
C	1			
D	1			
E	3			
F	3			
G	3			
H	1			
I	2			
J	1			
J'	1			

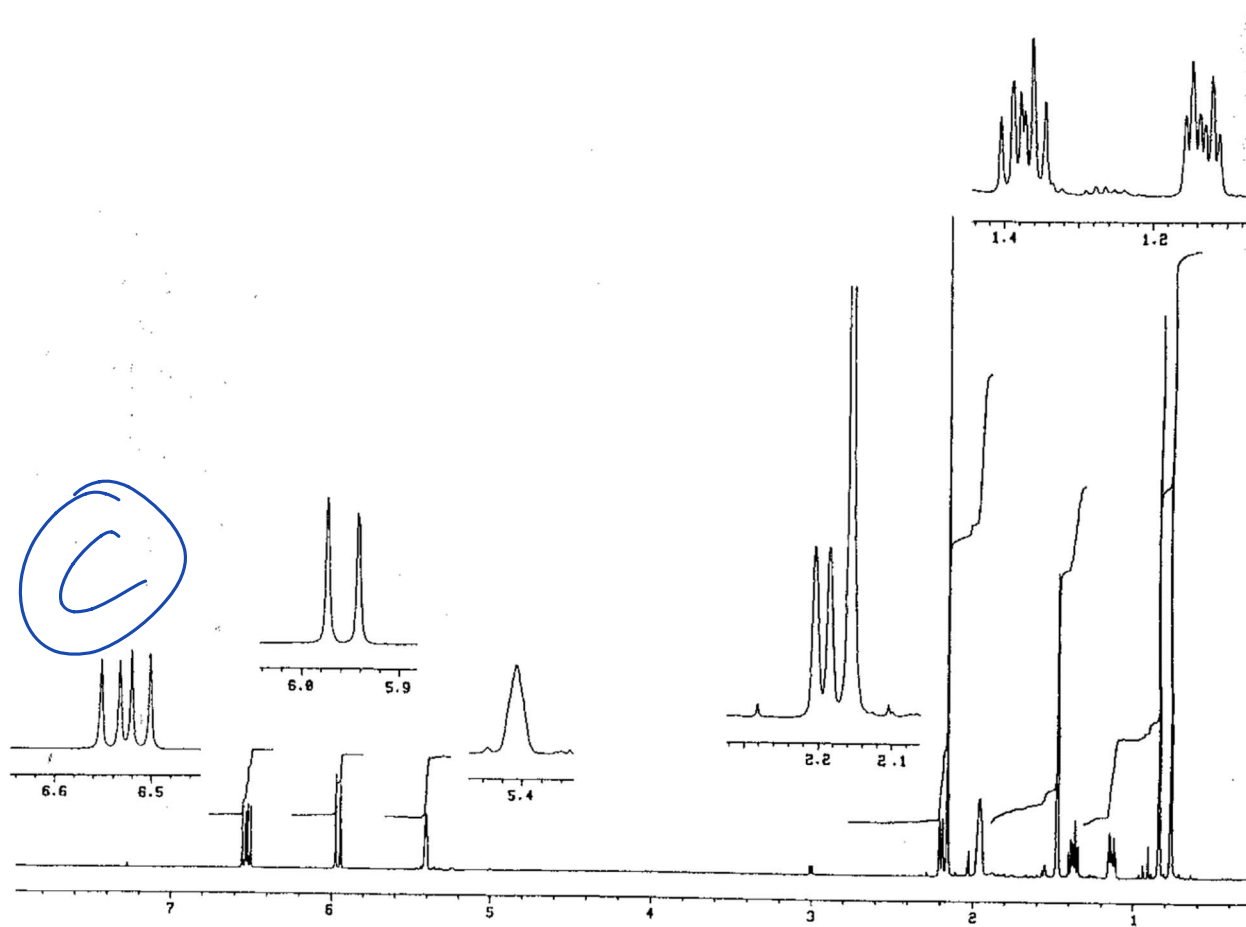


Figure 23.12 500-MHz ^1H -NMR spectrum of α -ionone in CDCl_3 .