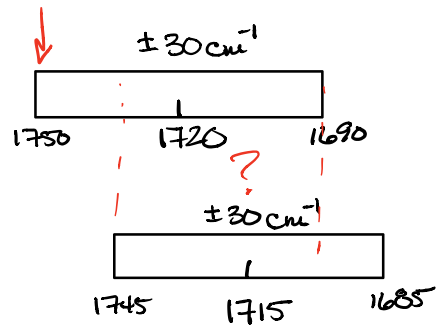


Aldehyde C=O

Ketone C(=O)C



3578

3466

2970

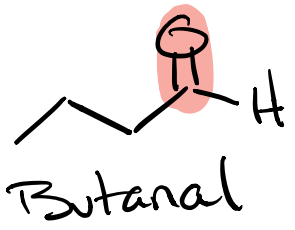
2714

1750

1130

774

?
enol
character



C-H
stretch

Finger Print

3600

3200

2800

2400

2000

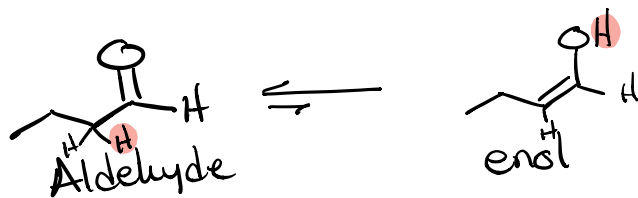
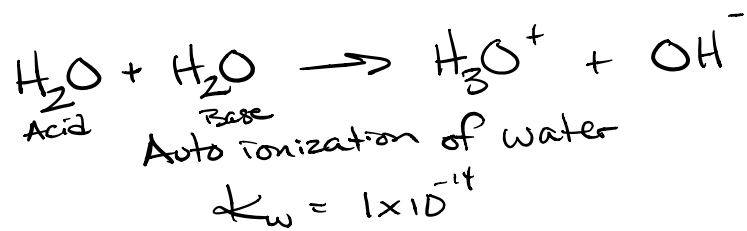
1750

1600

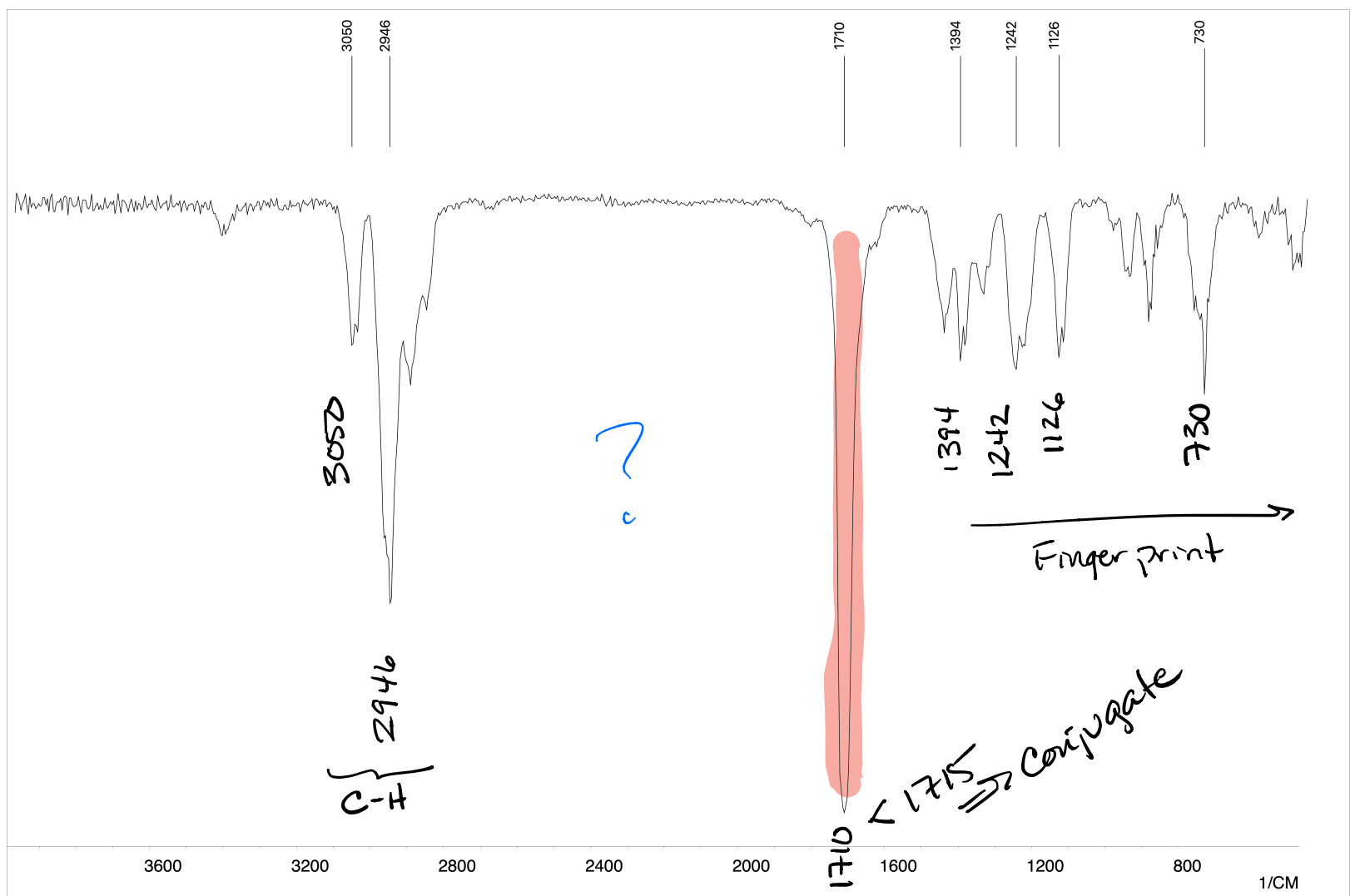
1200

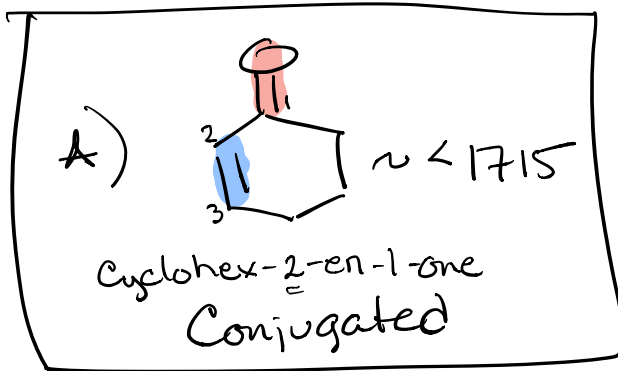
800

1/CM

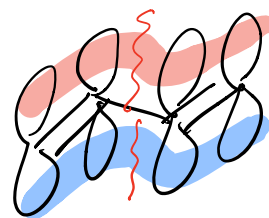
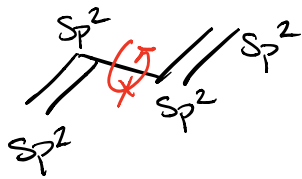
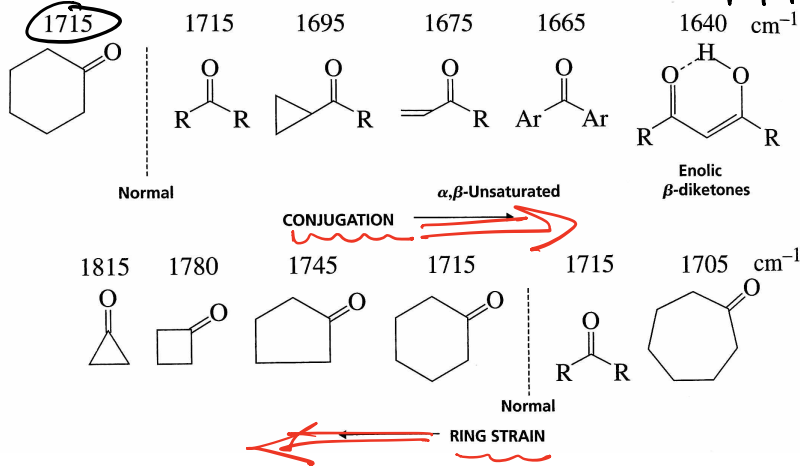
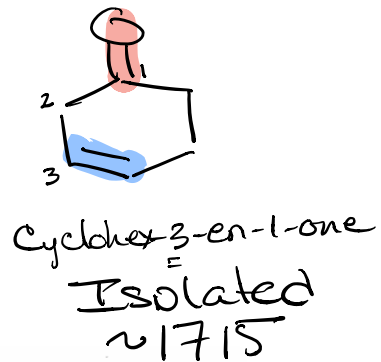


Tautomerism
Relationship in the
location of a proton



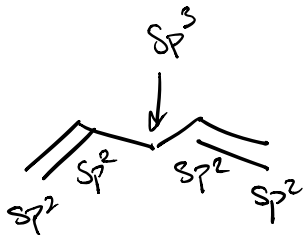


B)

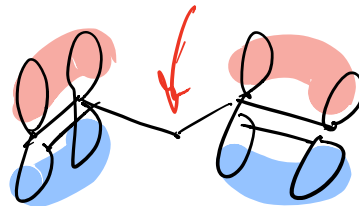


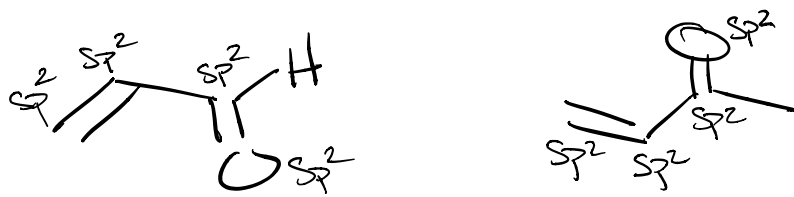
Molecular orbital π -like

Conjugated extended π -system

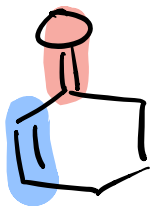


sp^3 blocks conjugation





Conjugated
Examples



Cyclohex-2-en-1-one
Conjugated ketone

$\text{C-H} \sim 3000$

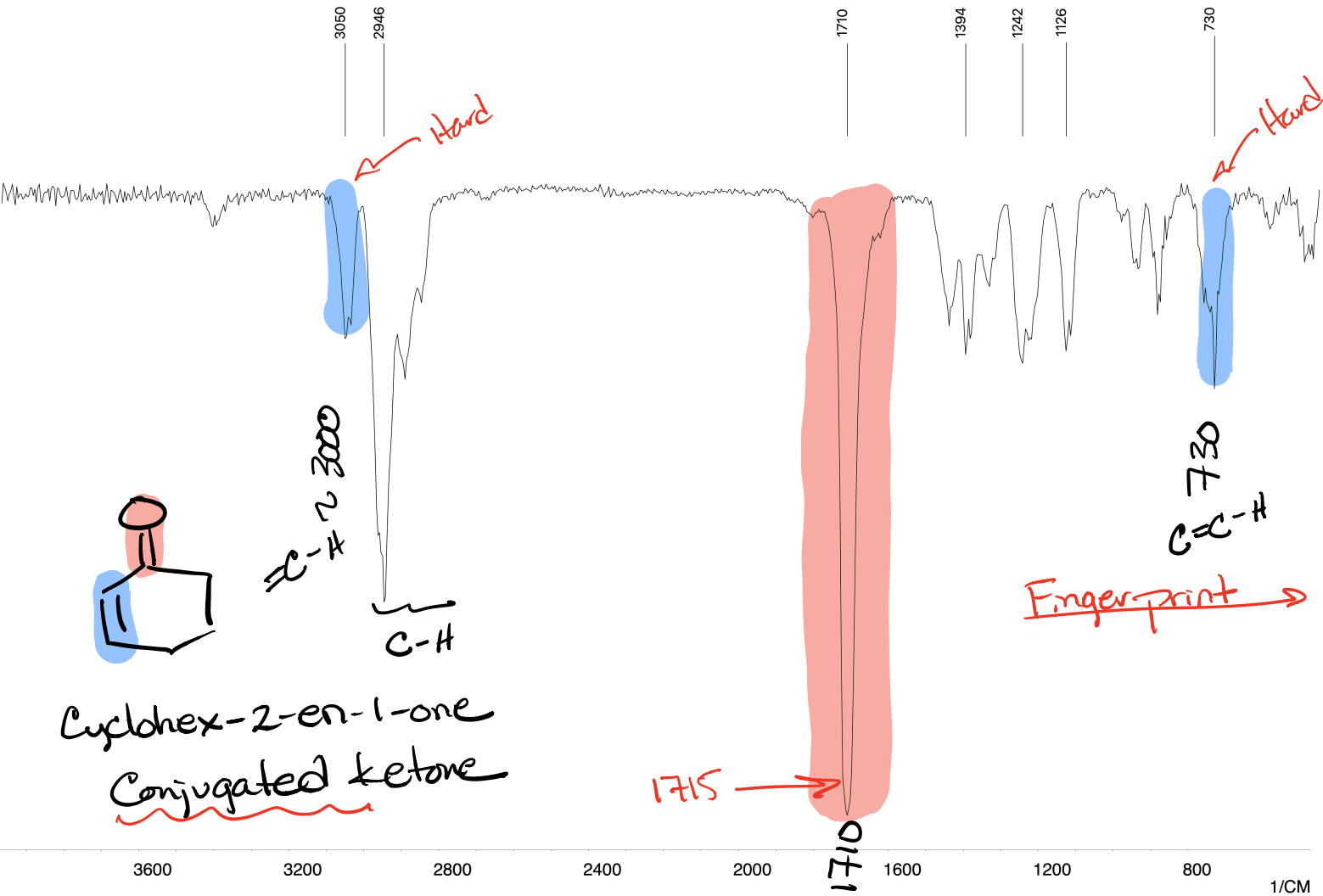
C-H

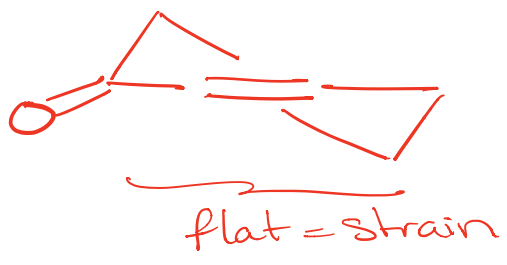
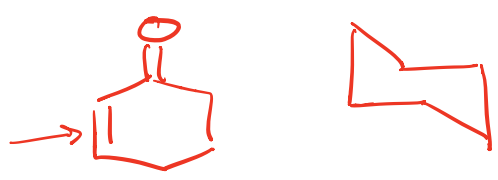
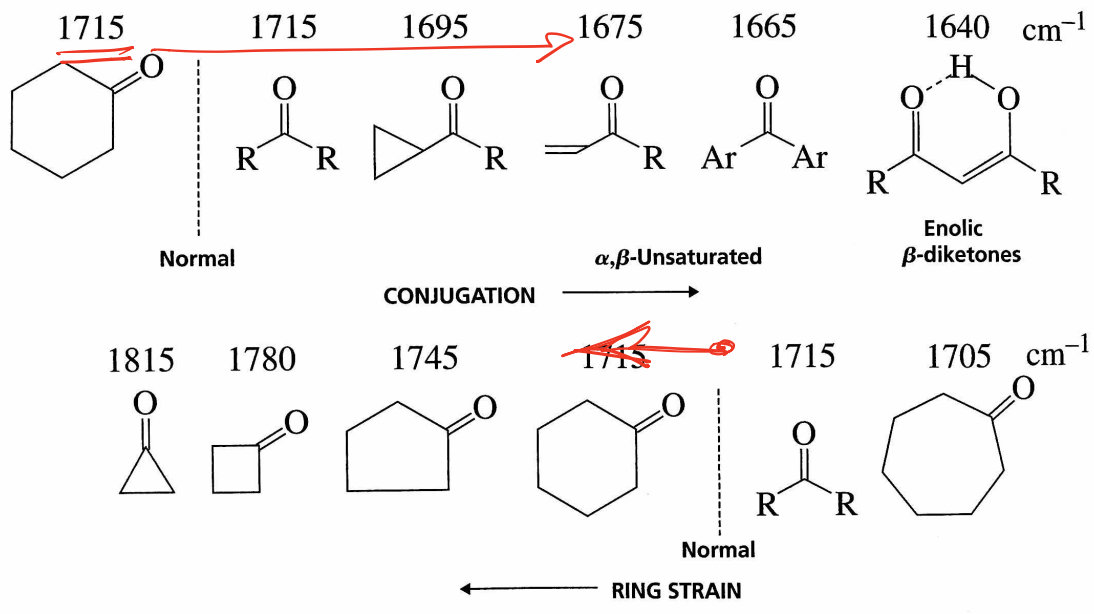
$\text{C}=\text{C}-\text{H}$
730

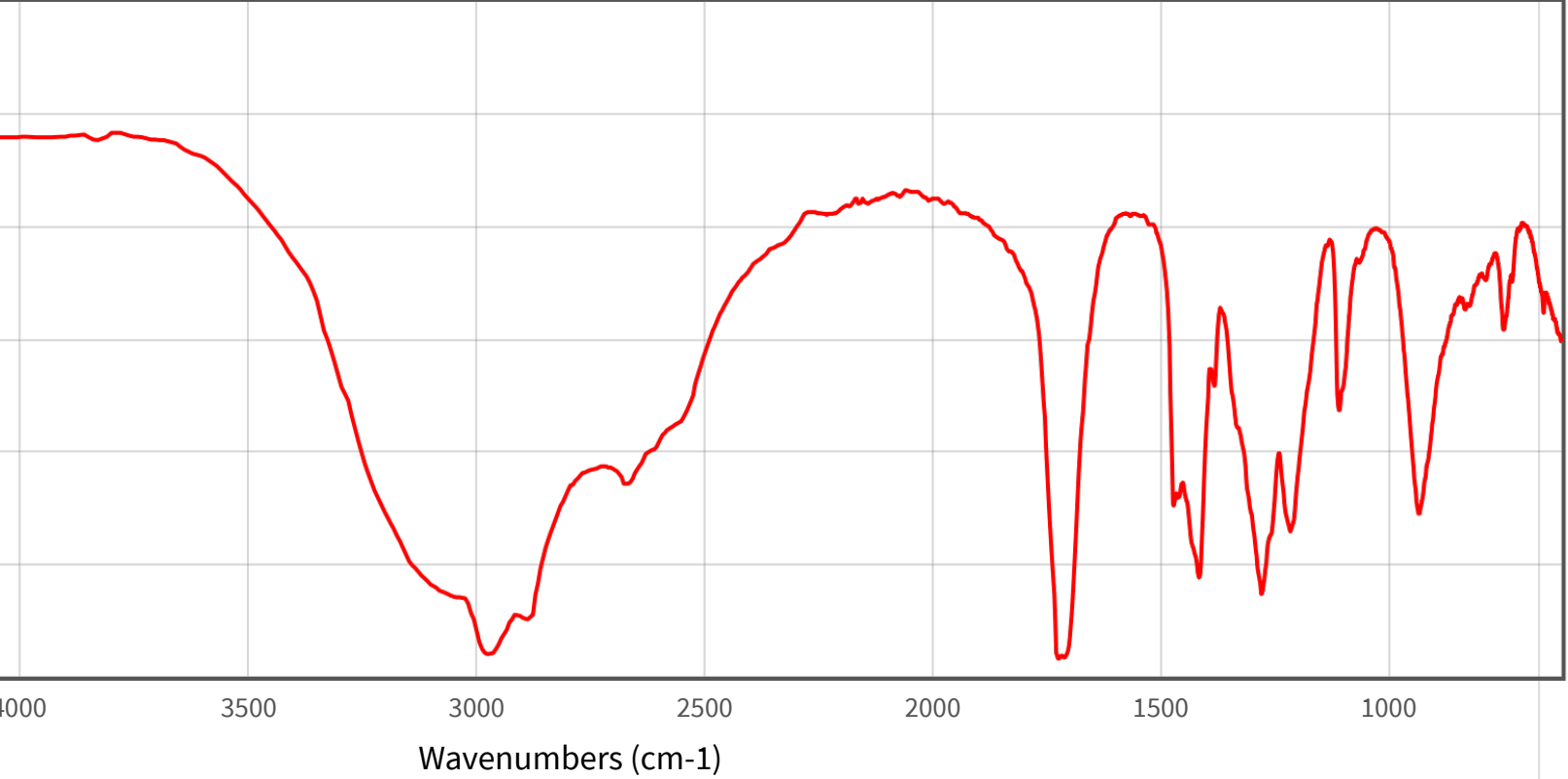
Fingerprint →

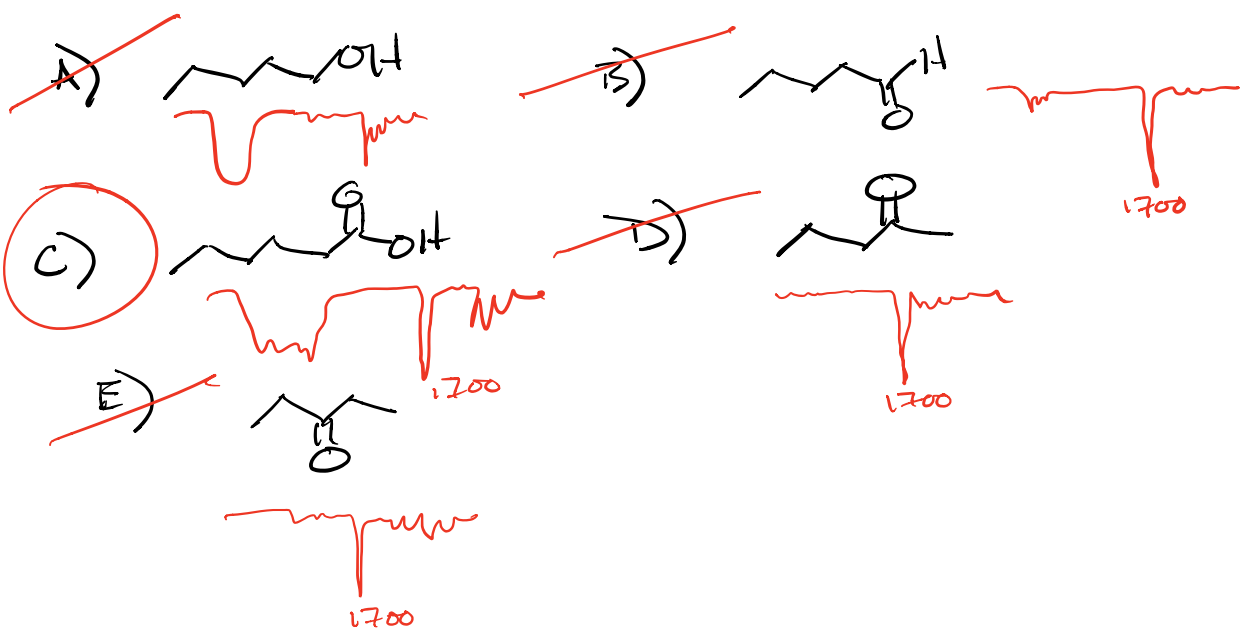
1715 →

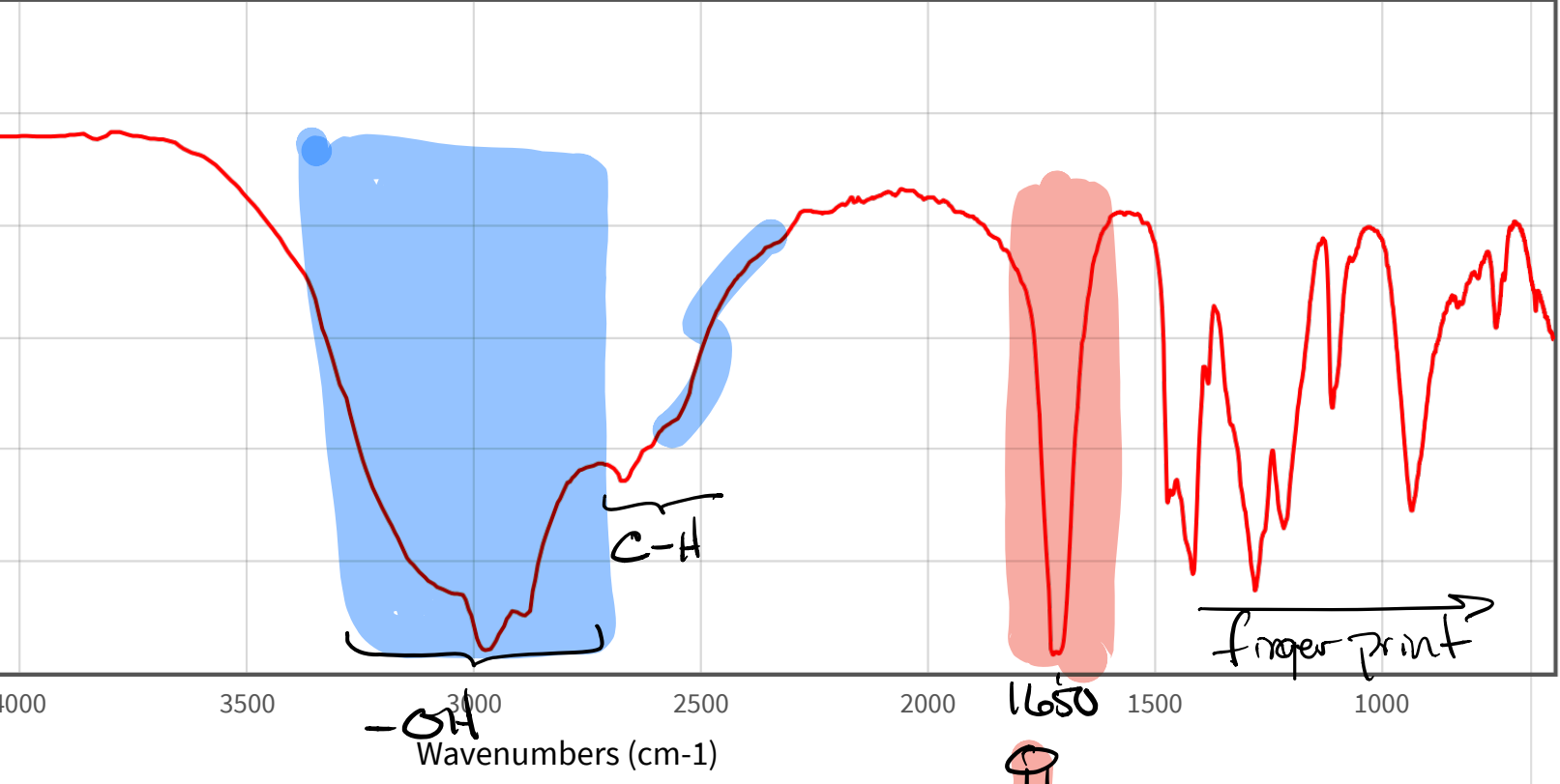
1710

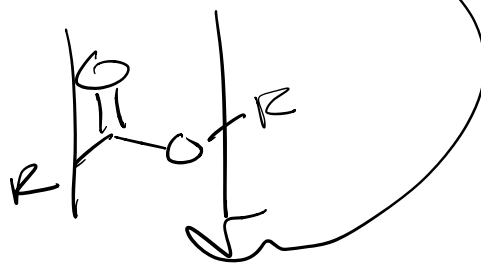
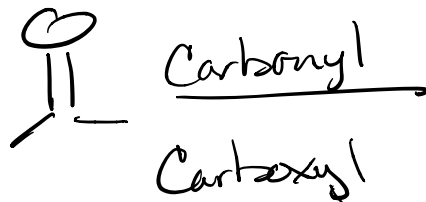
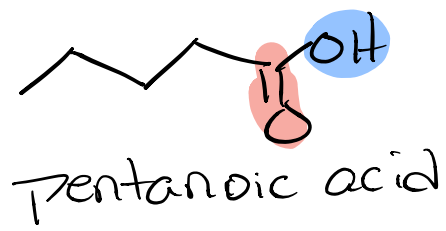


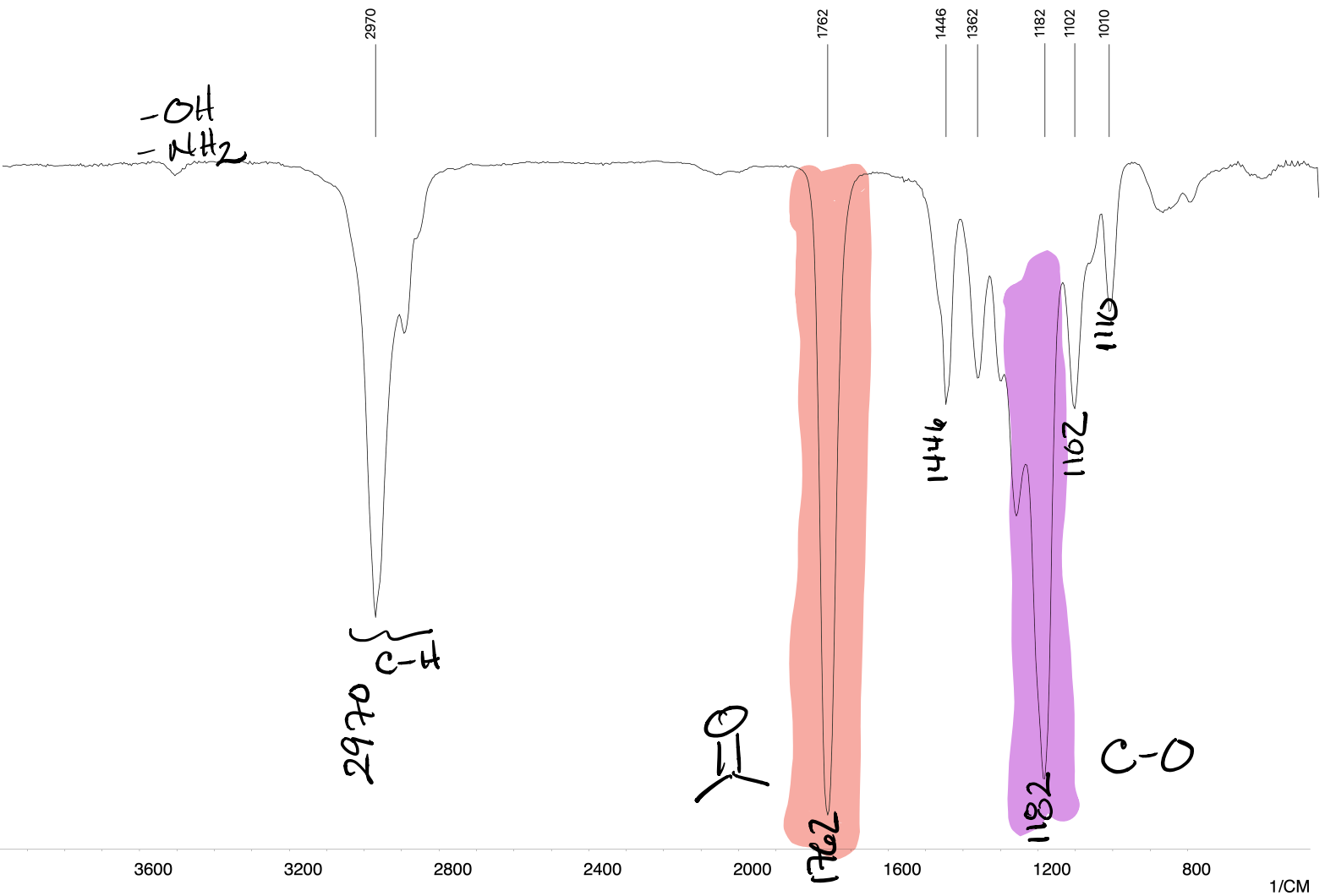












3600

3200

2800

2400

2000

1600

1200

800

1/CM

-OH
-NH₂

2970 }
C-H

C=O

1762

1446

1182

1102

C-O

1110

2970

1762

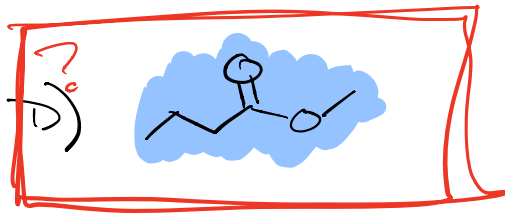
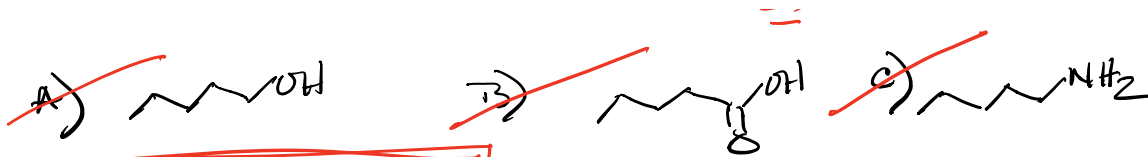
1446

1362

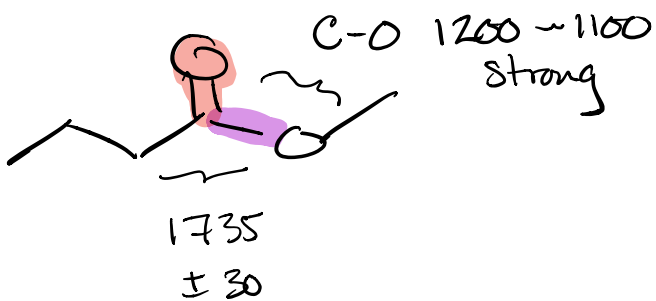
1182

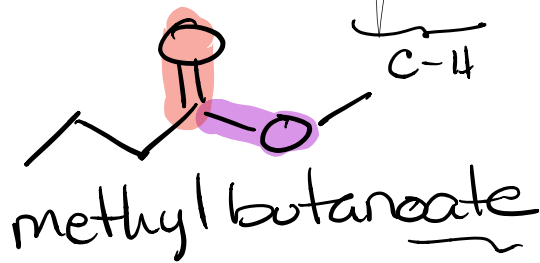
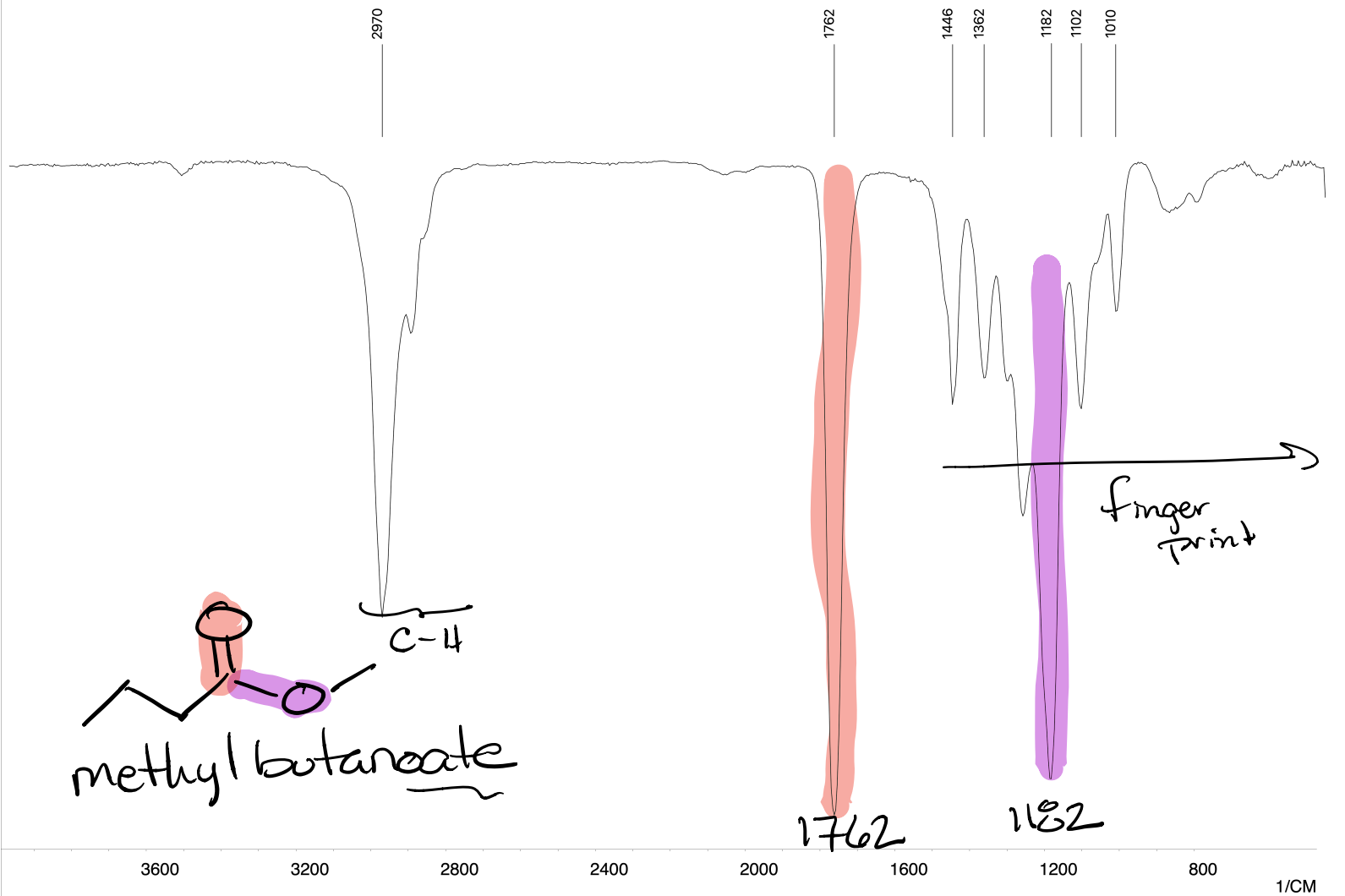
1102

1010



		← cm ⁻¹ →					
1810	1800	1760	1735	1725	1715	1710	1675
Anhydride (band 1)	Acid chloride	Anhydride (band 2)	Ester	Aldehyde	Ketone	Carboxylic acid	Amide



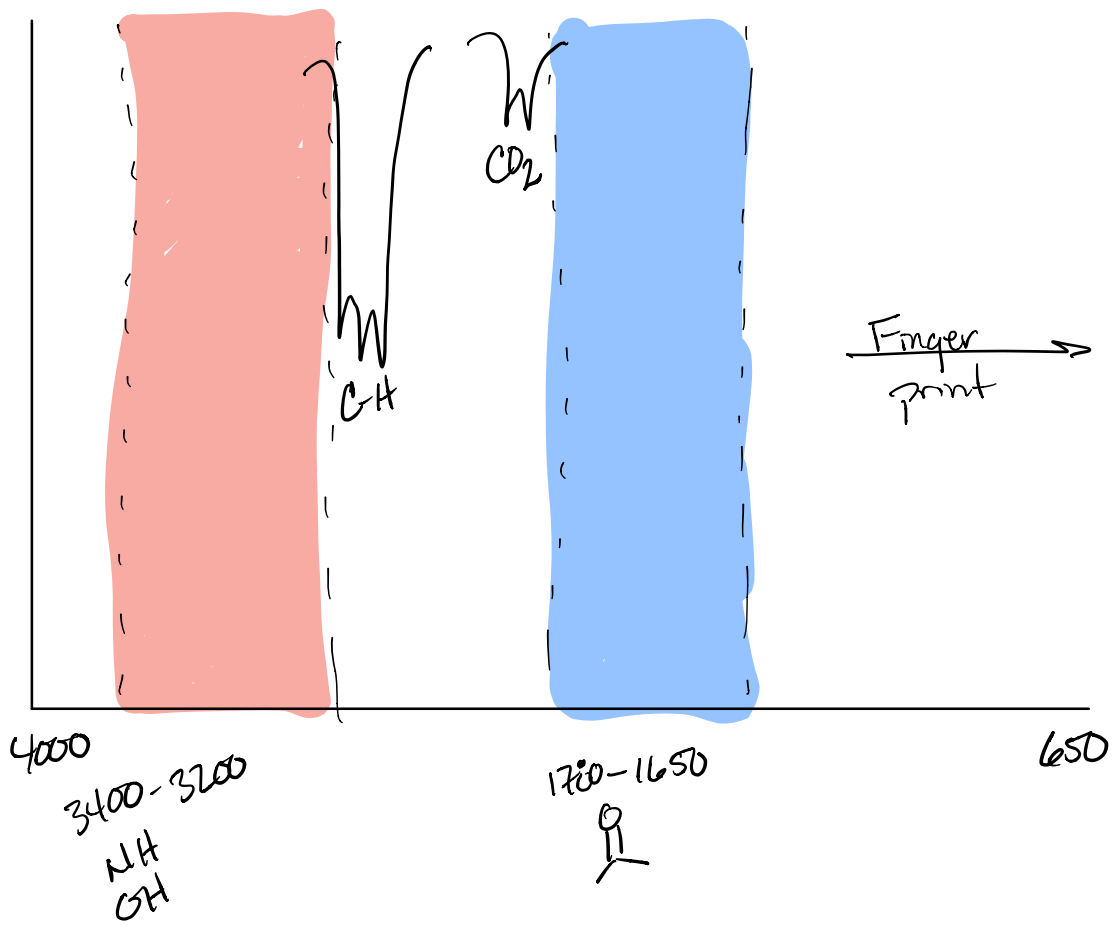


finger
print

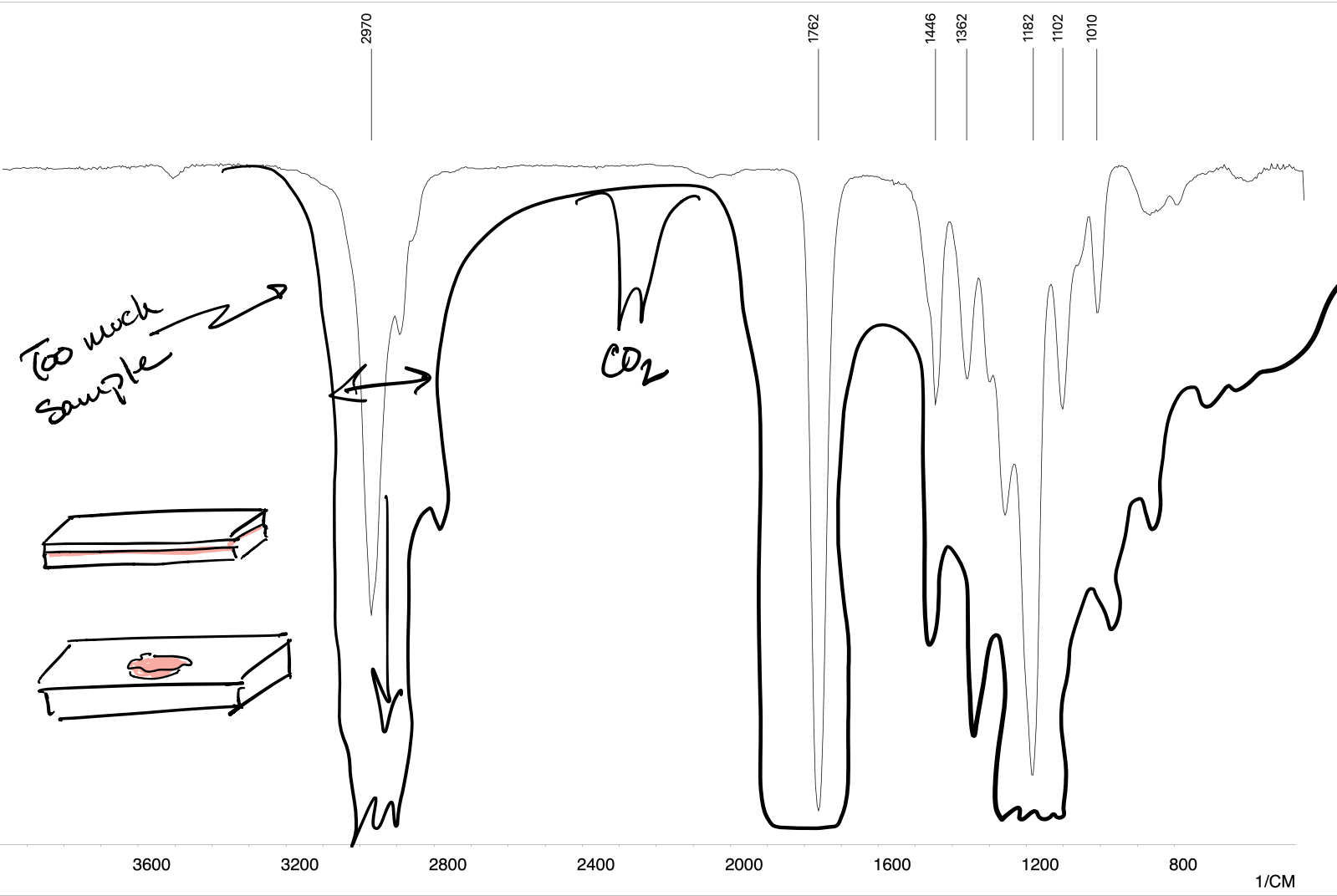
1762

1182

3600 3200 2800 2400 2000 1600 1200 800 1/CM

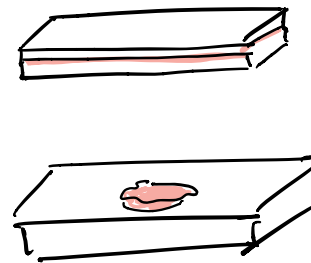


most Common mistake
→ overloading



Too much sample →

CO₂



3600 3200 2800 2400 2000 1600 1200 800 1/CM

2970 1762 1446 1362 1182 1102 1010