

ESERCIZI SU ^1H -NMR (RIPASSO IR)

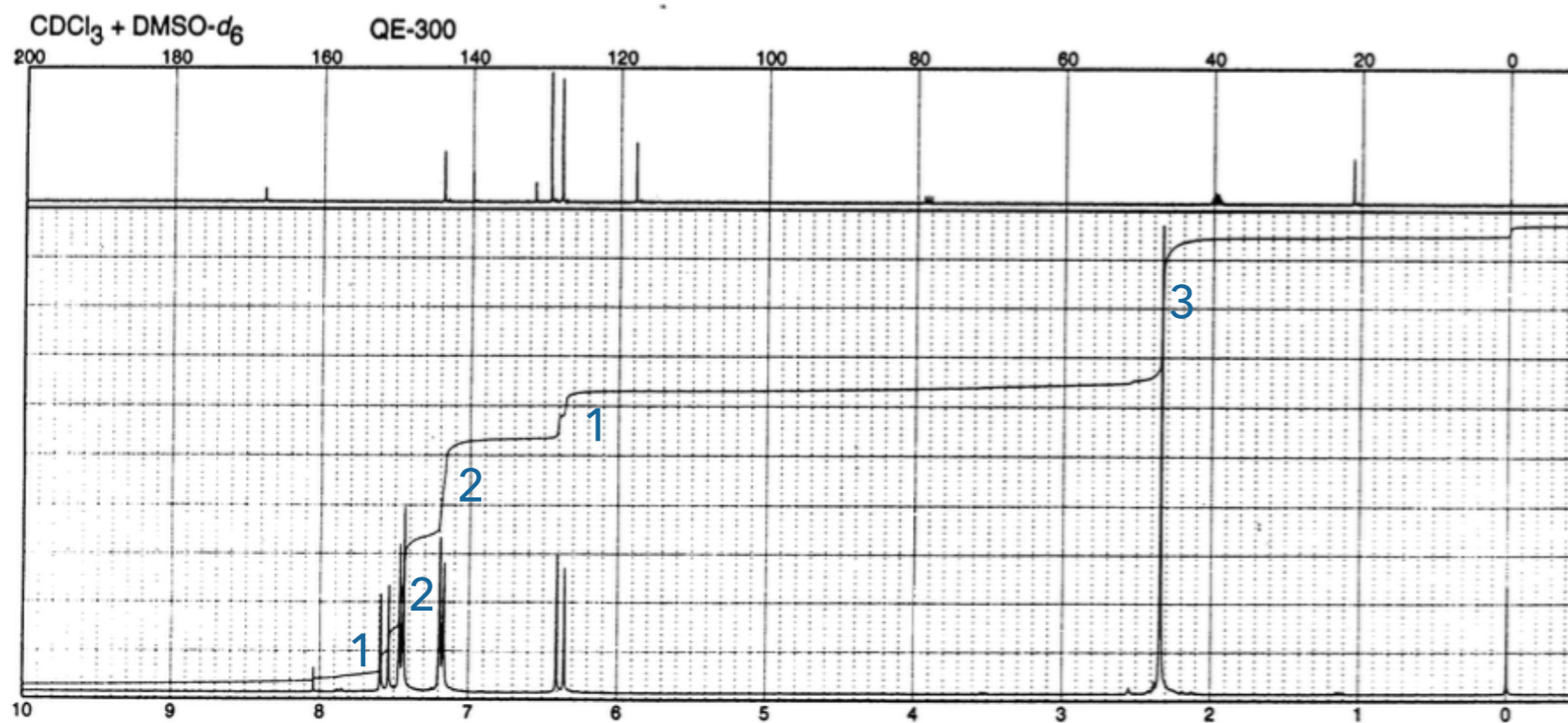
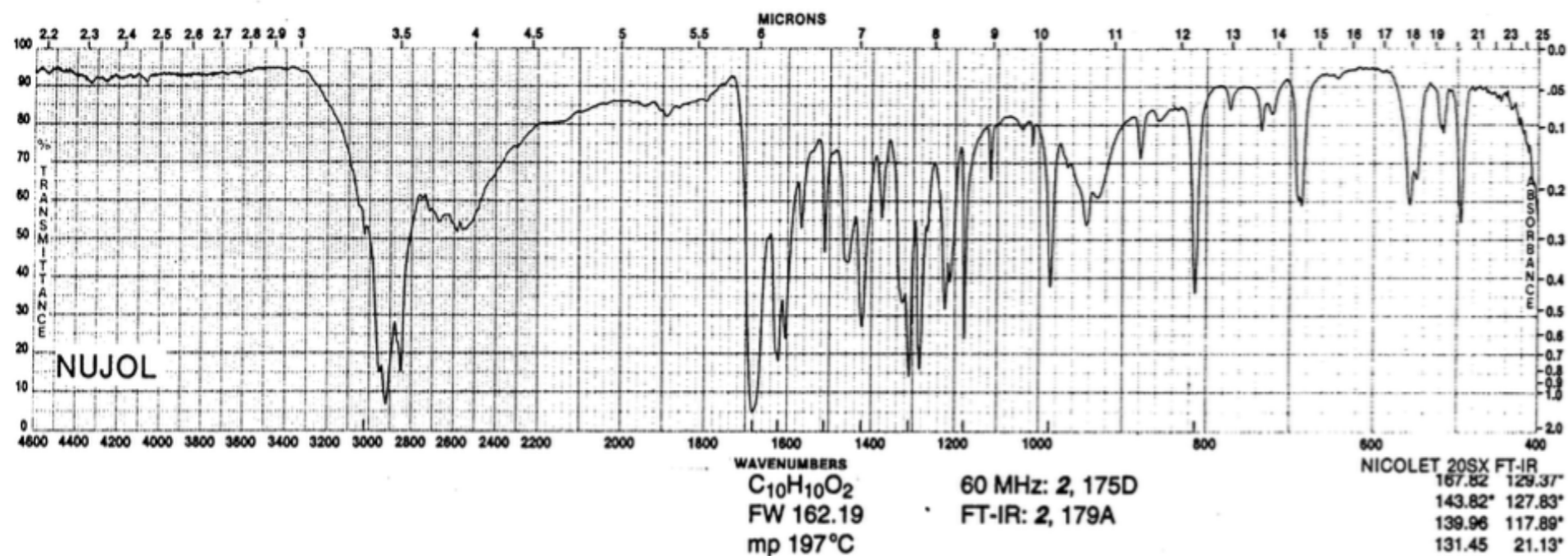
LEZIONE 11

SPETTRO 1

FW 162.19
mp 196-198°C

IR III, 952C
NMR II, 2,175D

3026.2	1513.5	1179.5
1684.8	1424.7	987.6
1623.5	1311.4	814.3

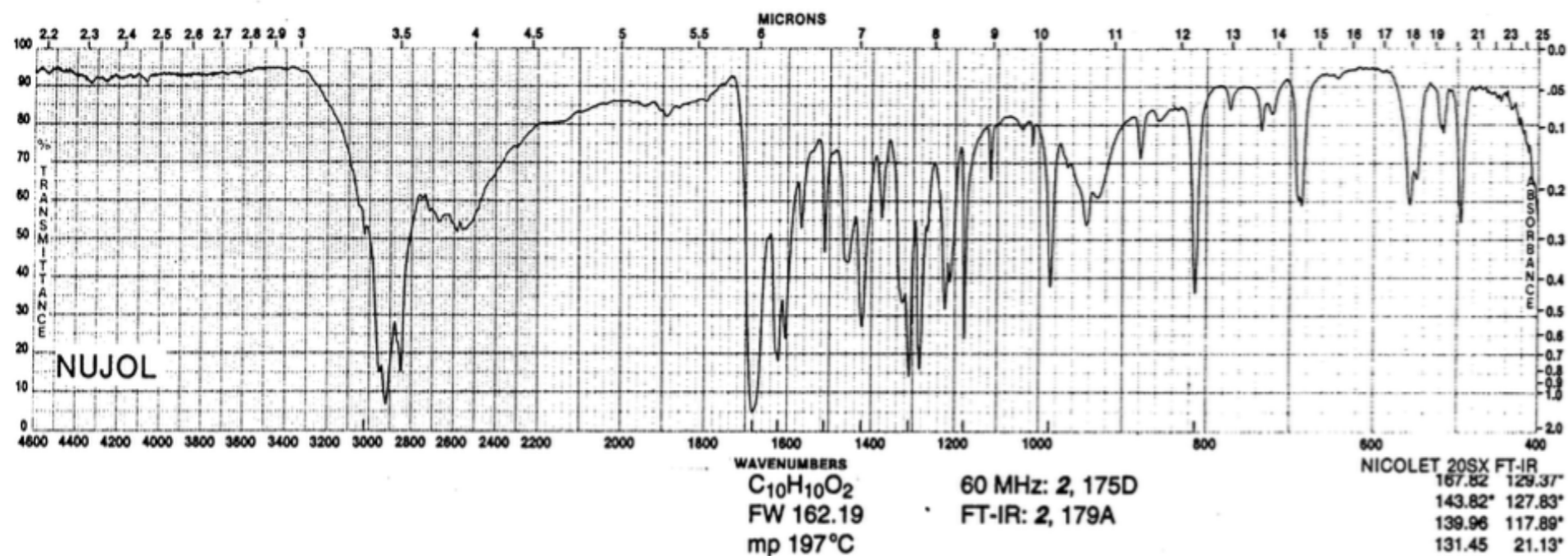


SOLUZIONE

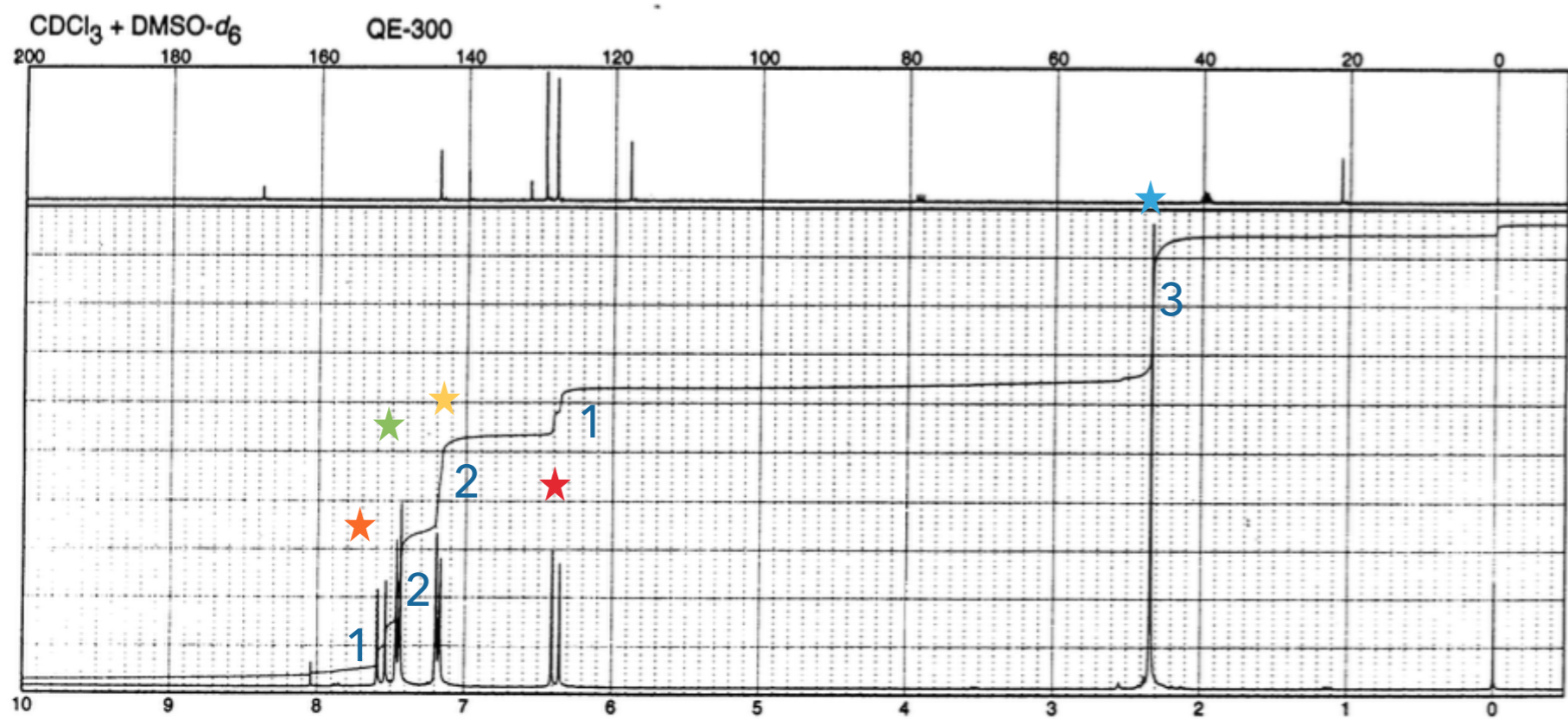
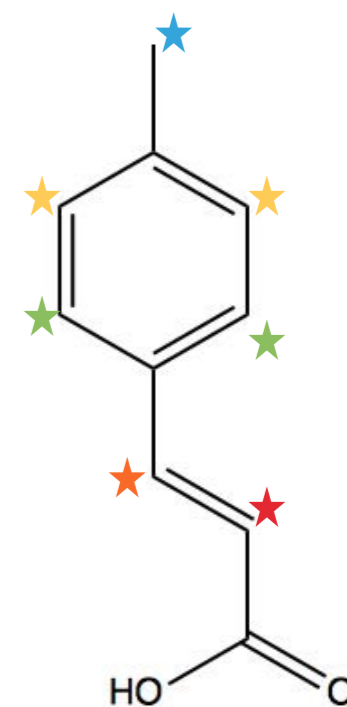
FW 162.19
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NMR II, 2,175D

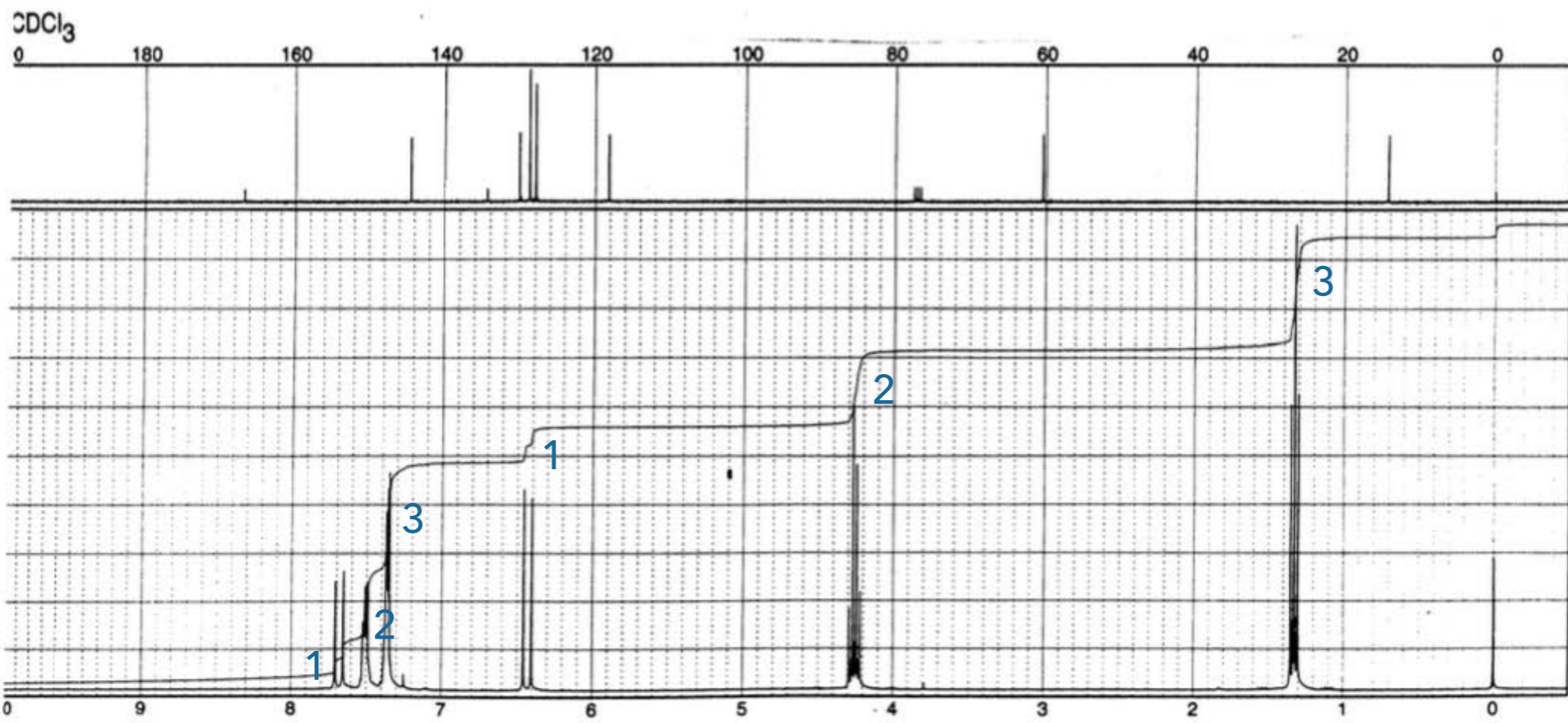
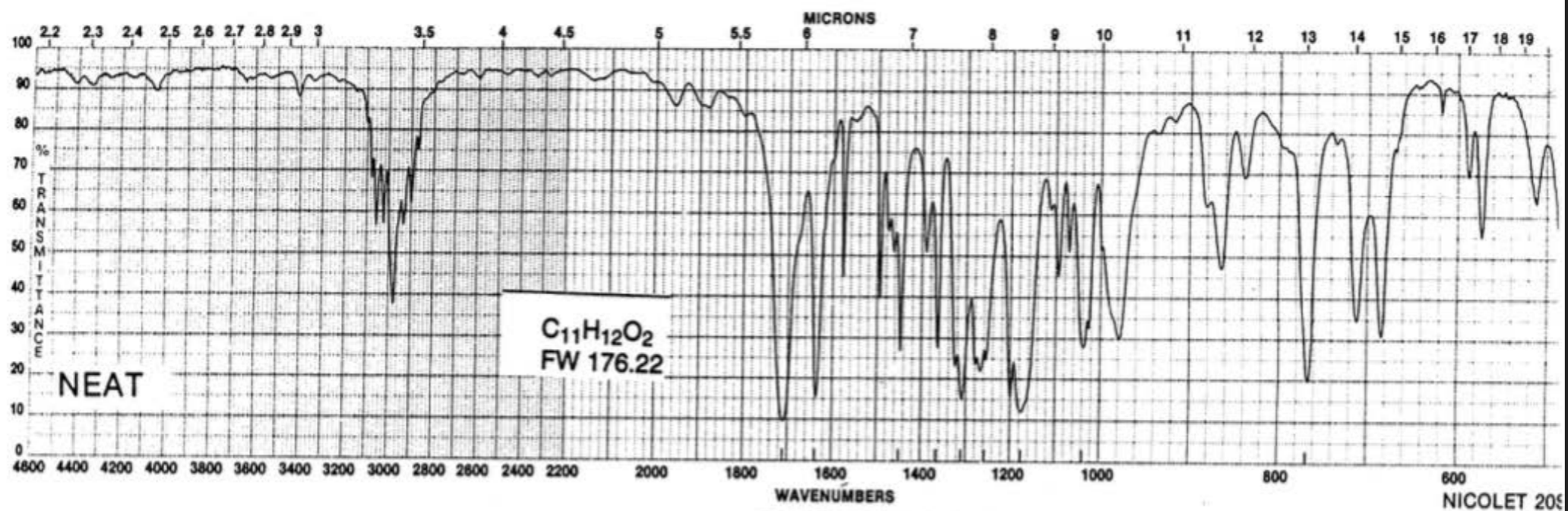
3026.2 1513.5 1179.5
1684.8 1424.7 987.6
1623.5 1311.4 814.3



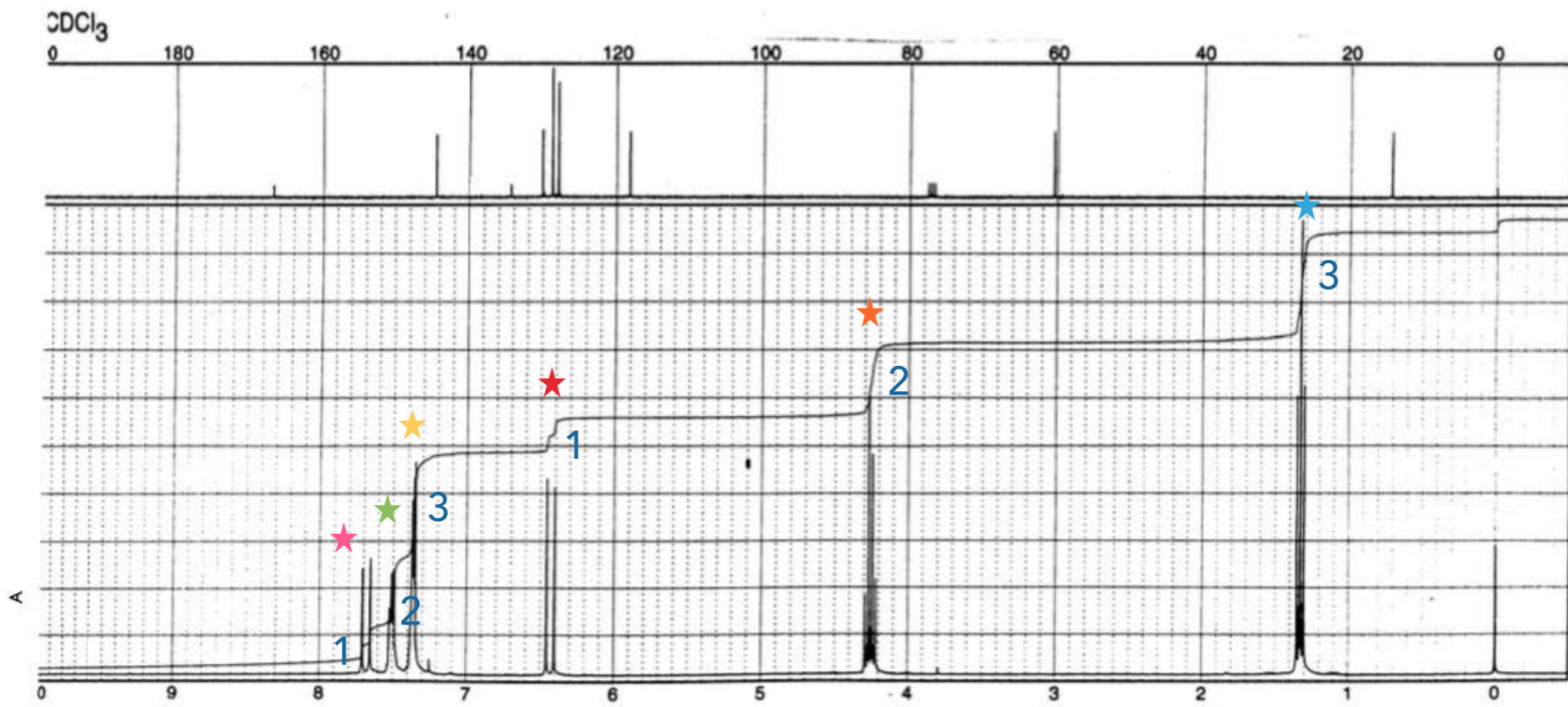
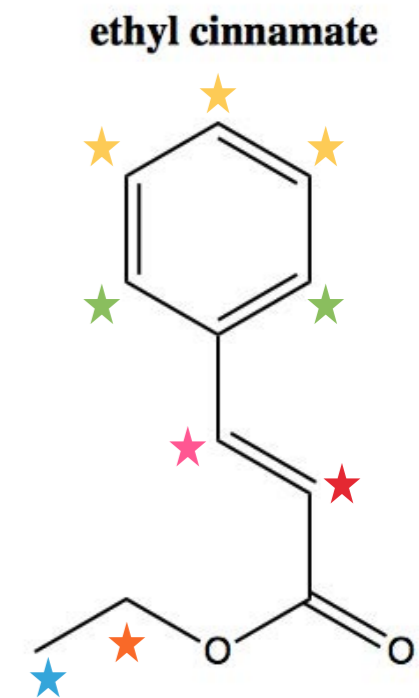
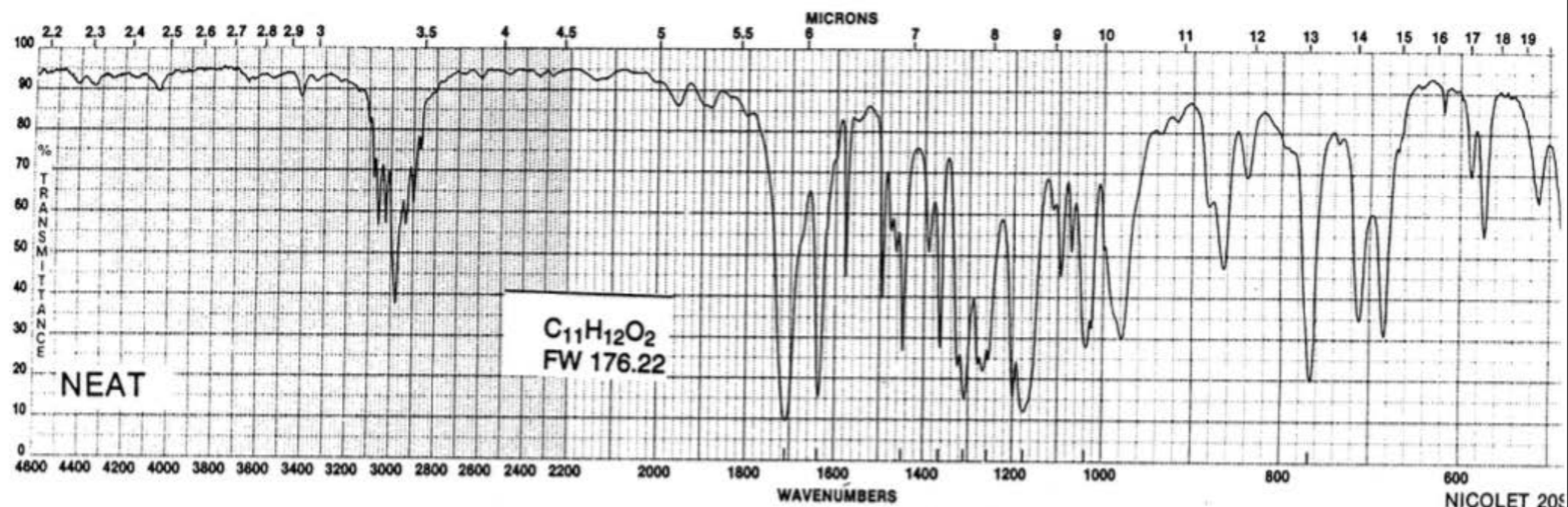
(E)-3-(p-tolyl)acrylic acid



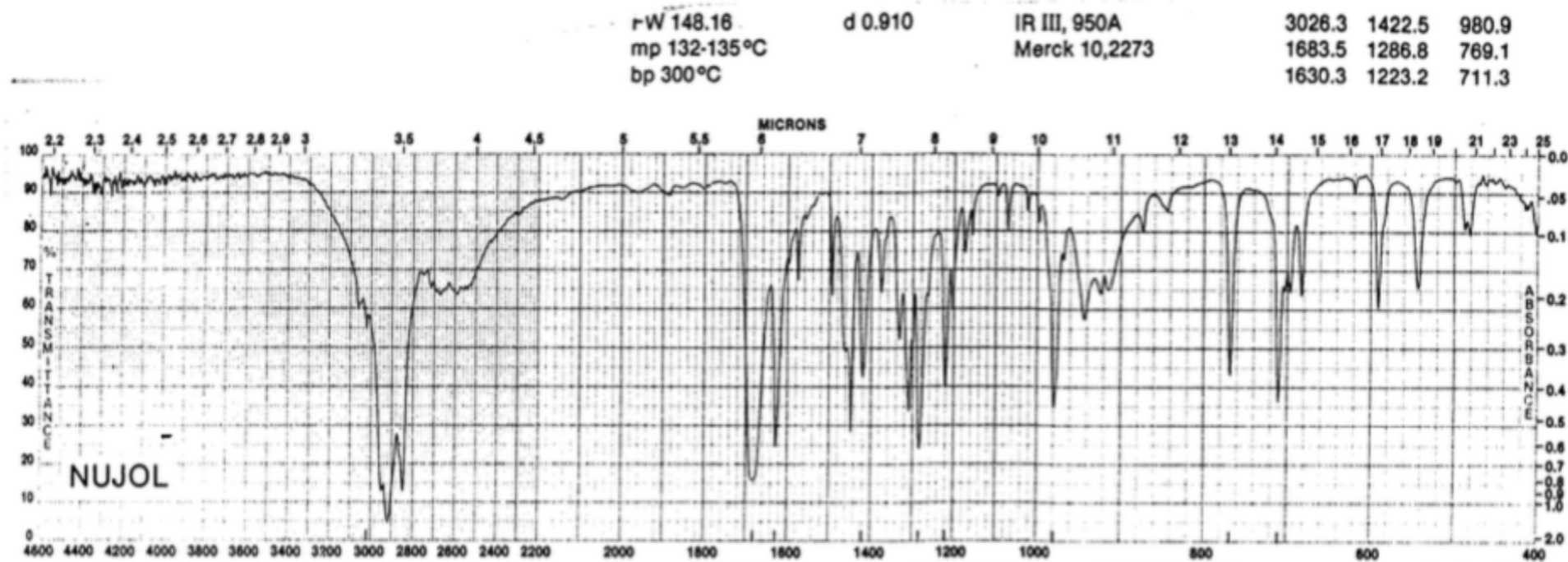
SPETTRO 2



SOLUZIONE



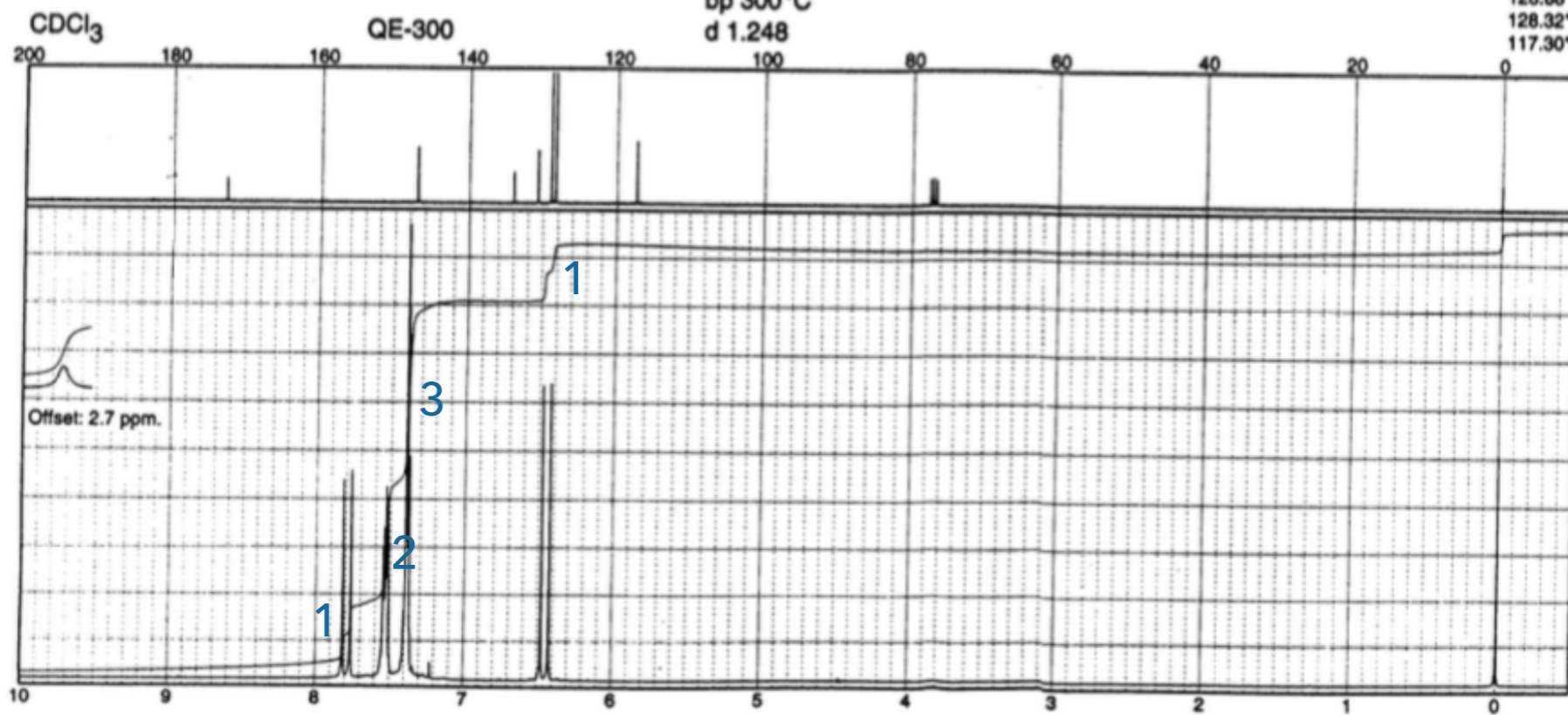
SPETTRO 3



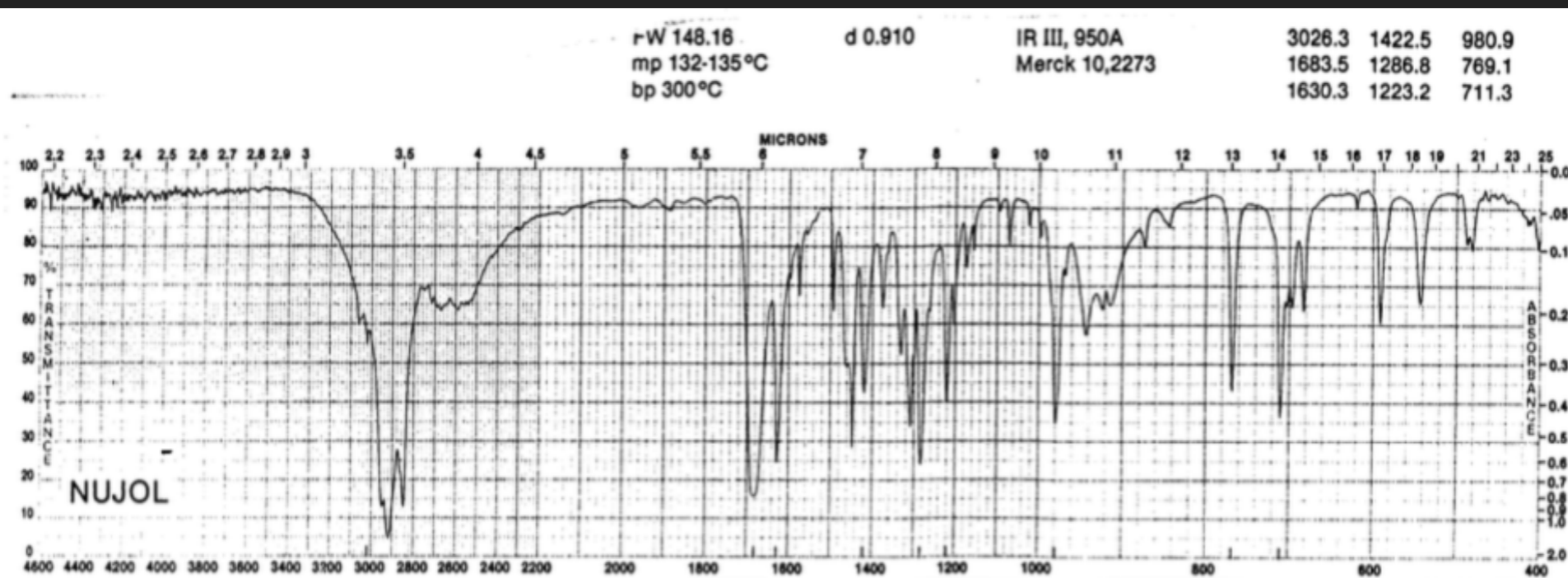
$C_9H_8O_2$
FW 148.16
mp 134°C
bp 300°C
d 1.248

60 MHz: 2, 171A
FT-IR: 2, 174B
VP-FT-IR: 3, 1321C

172.73
147.03*
133.95
130.68*
128.88*
128.32*
117.30*



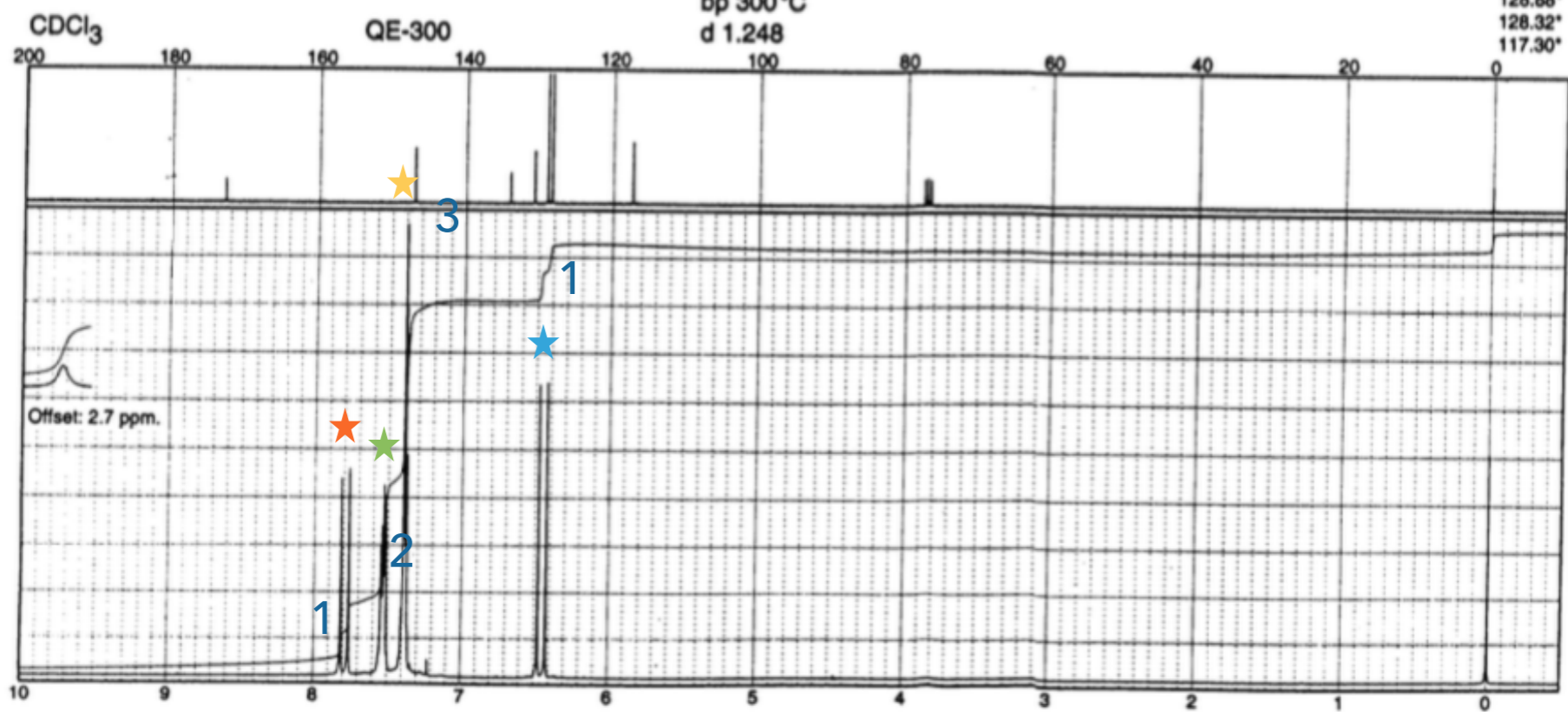
SOLUZIONE



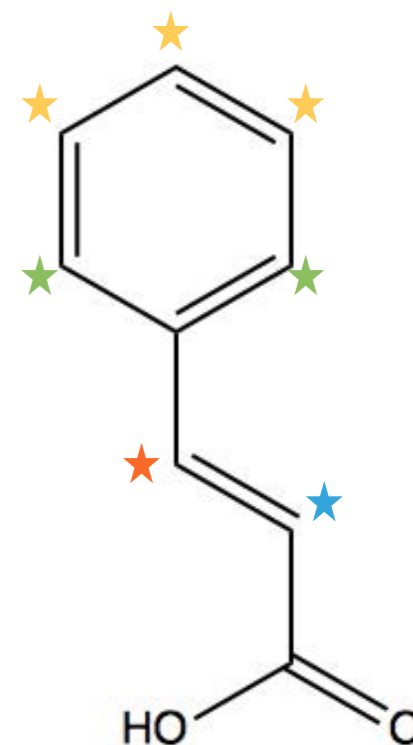
$C_9H_8O_2$
FW 148.16
mp 134°C
bp 300°C
d 1.248

60 MHz: 2, 171A
FT-IR: 2, 174B
VP-FT-IR: 3, 1321C

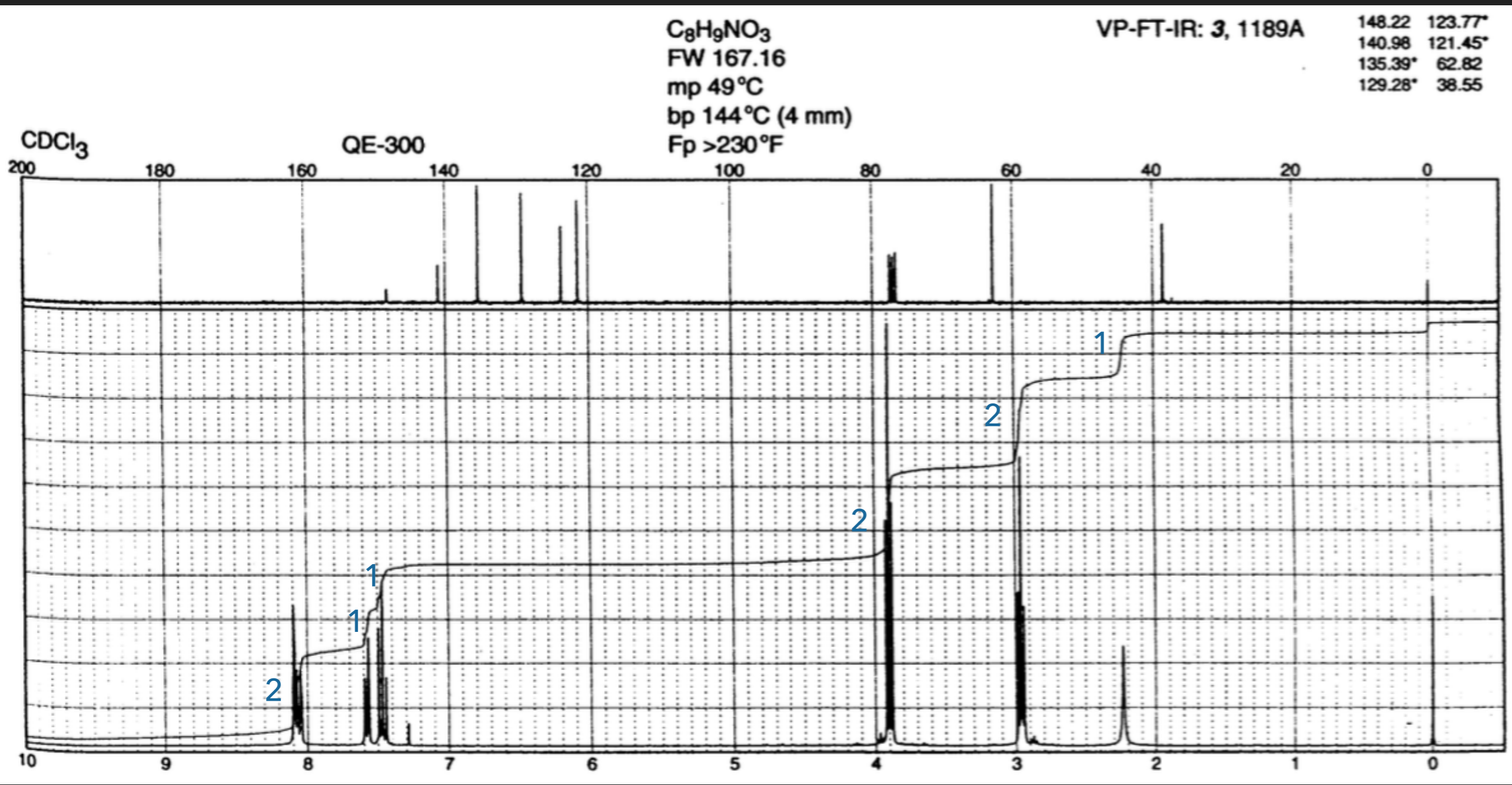
172.73
147.03*
133.95
130.68*
128.88*
128.32*
117.30*



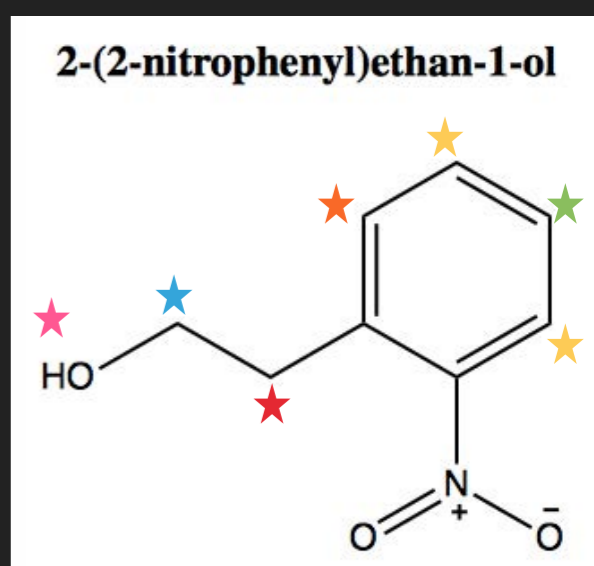
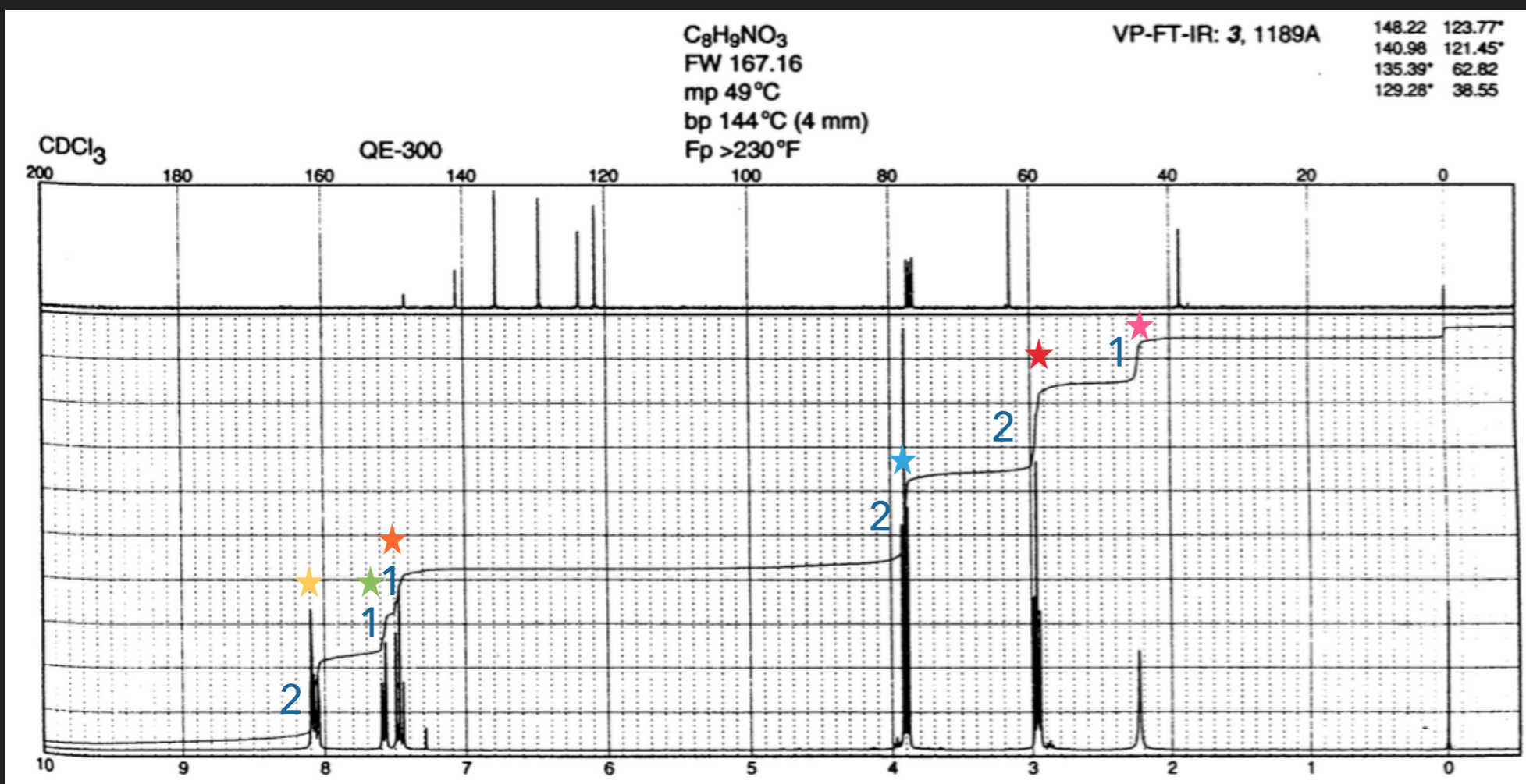
cinnamic acid



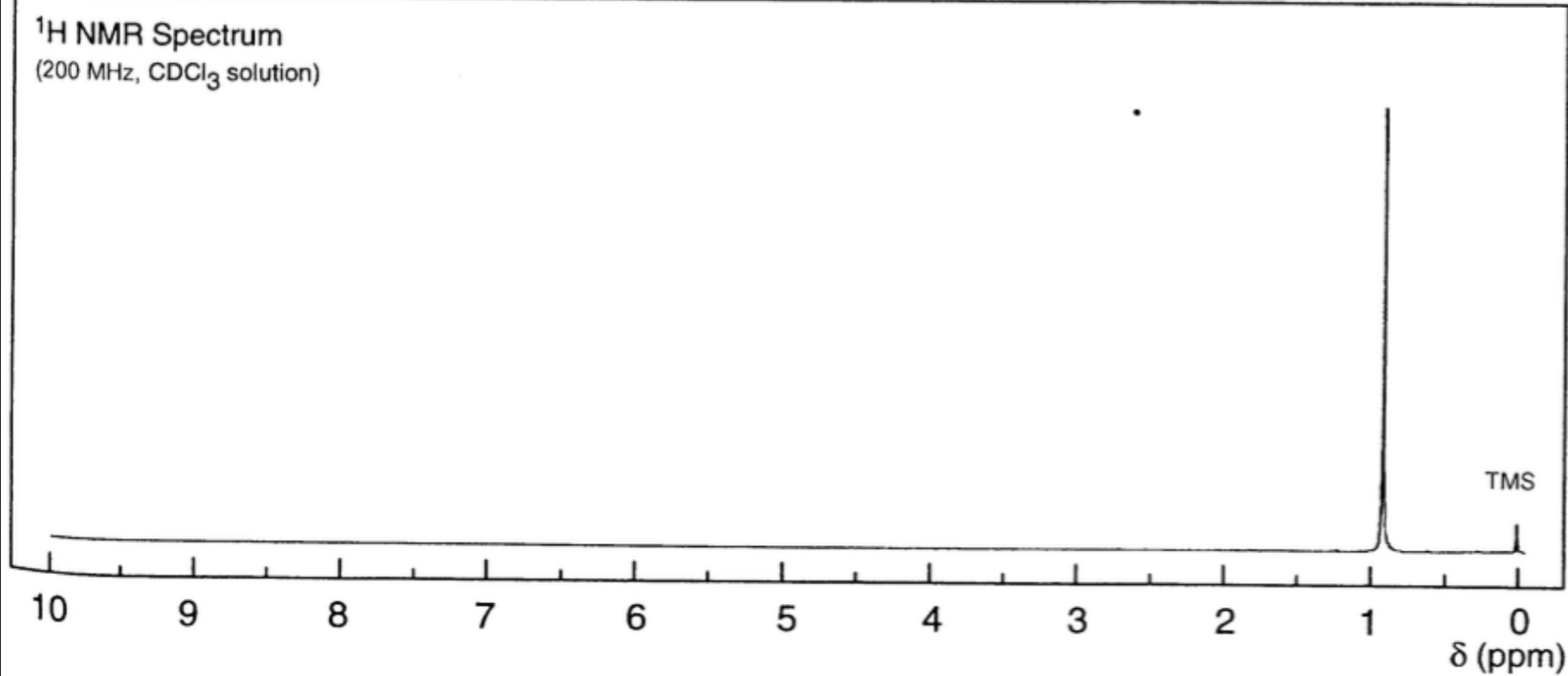
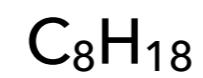
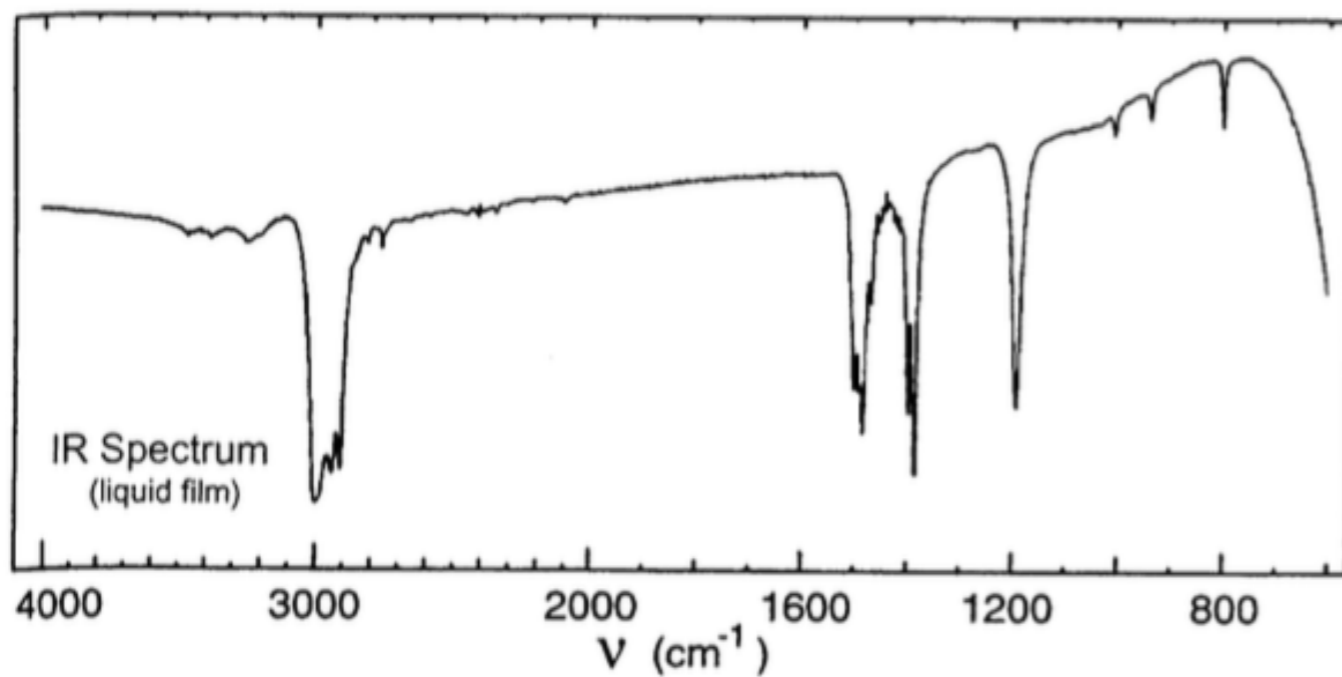
SPETTRO 4



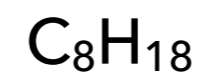
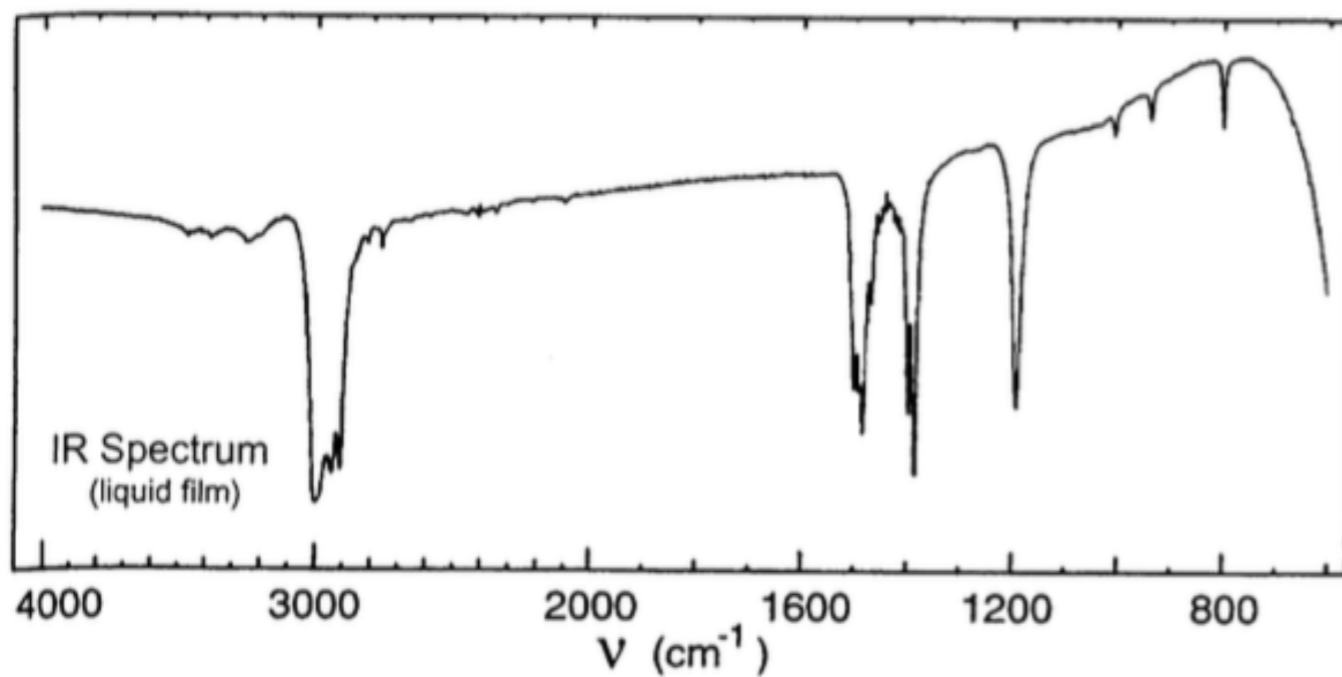
SOLUZIONE



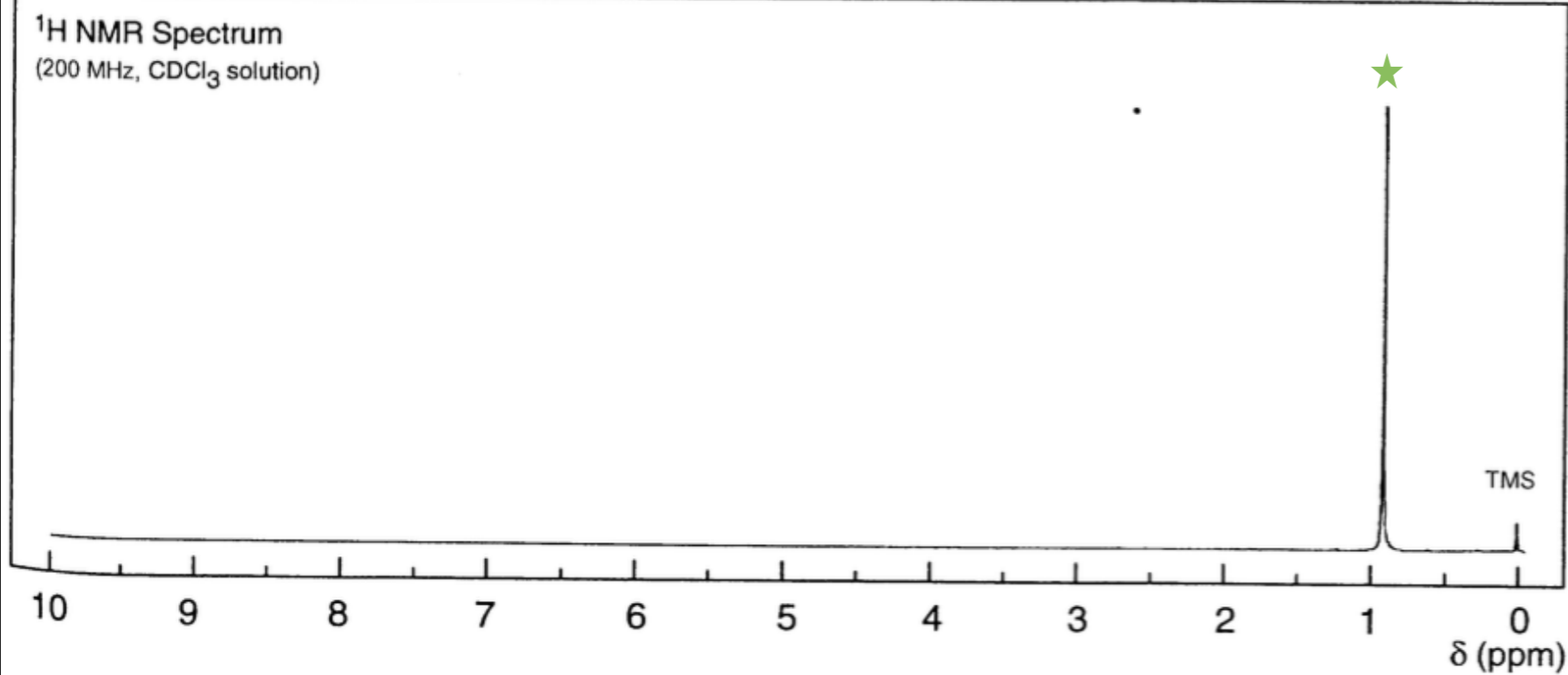
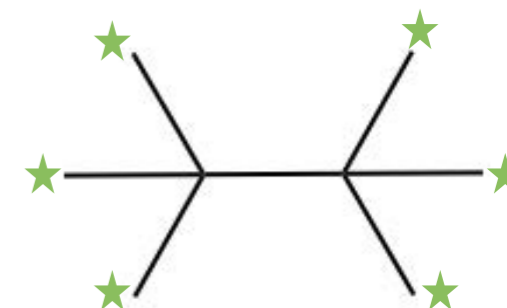
SPETTRO 5



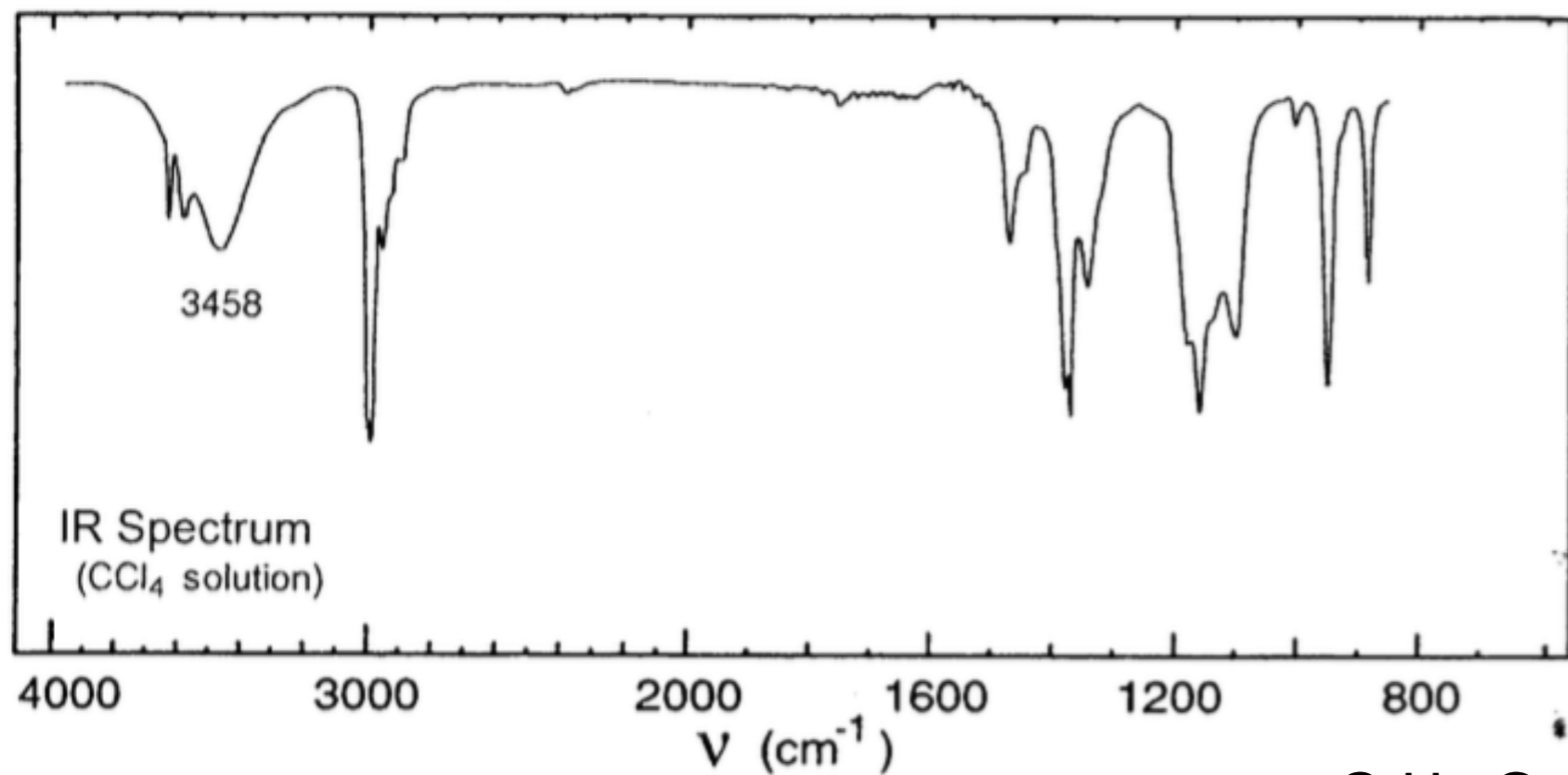
SOLUZIONE



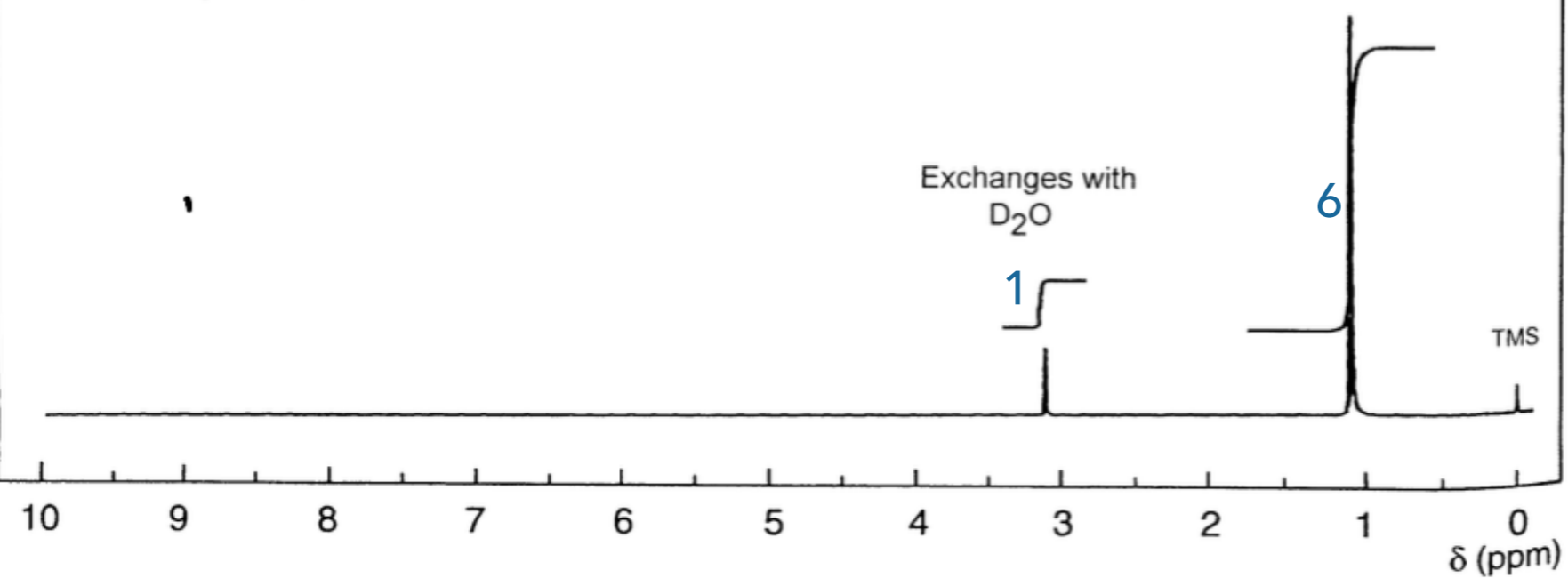
2,2,3,3-tetramethylbutane



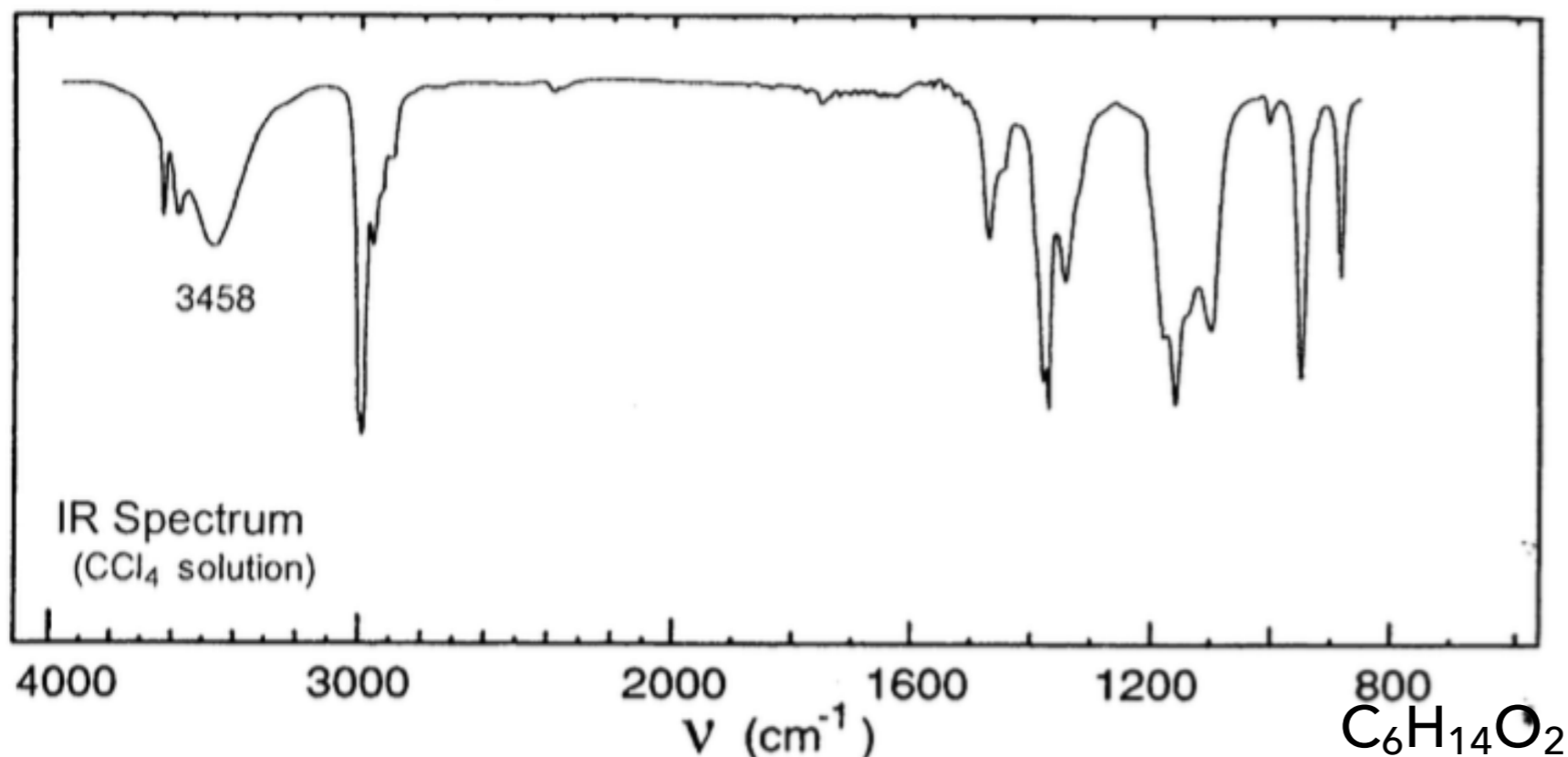
SPETTRO 6



¹H NMR Spectrum
(200 MHz, CDCl₃ solution)

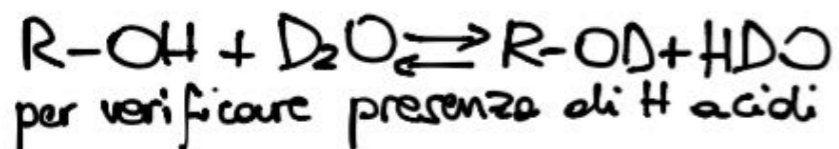


SOLUZIONE

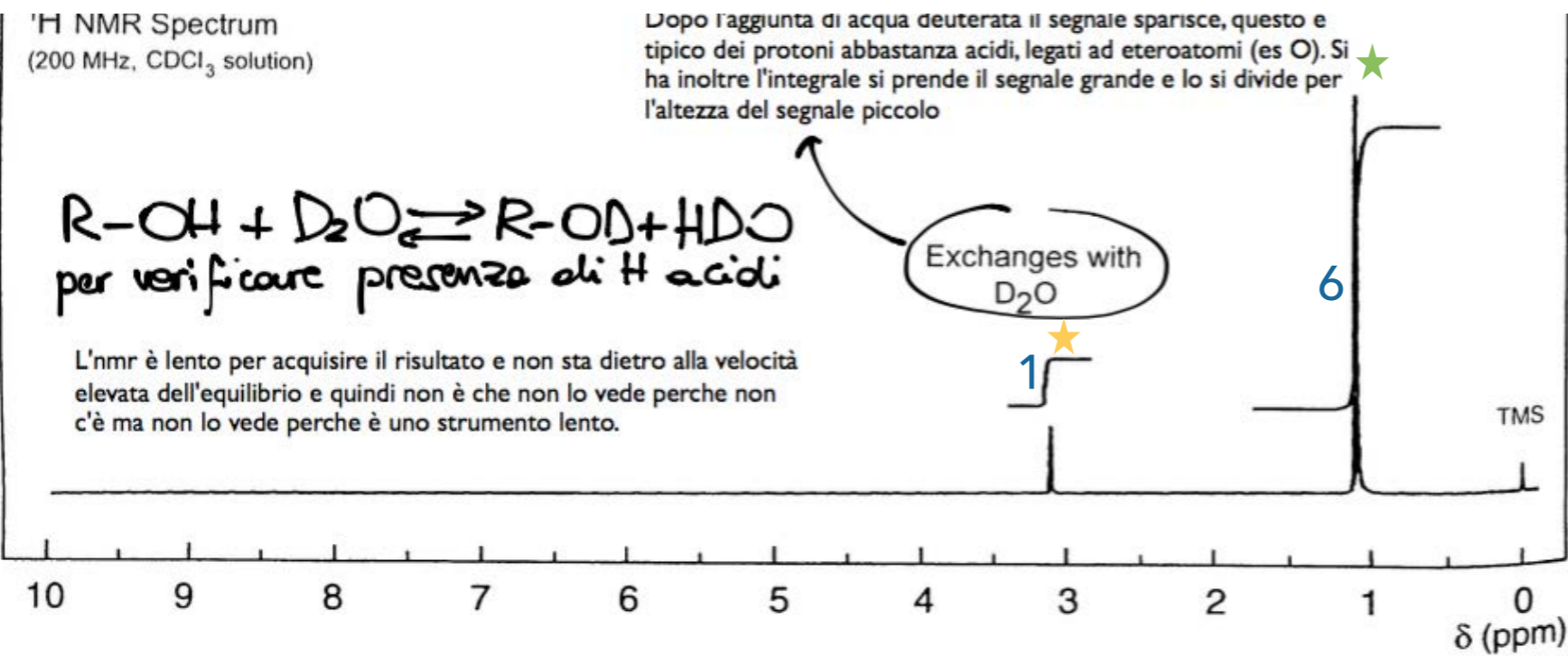


¹H NMR Spectrum
(200 MHz, CDCl₃ solution)

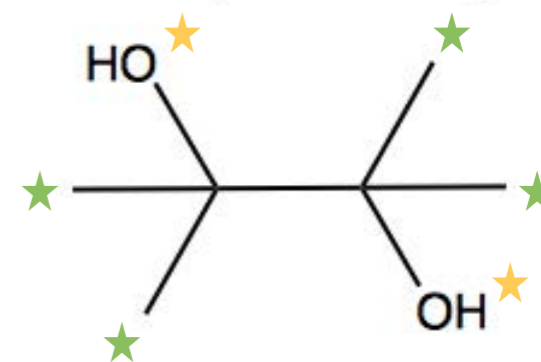
Dopo l'aggiunta di acqua deuterata il segnale sparisce, questo è tipico dei protoni abbastanza acidi, legati ad eteroatomi (es O). Si ha inoltre l'integrale si prende il segnale grande e lo si divide per l'altezza del segnale piccolo



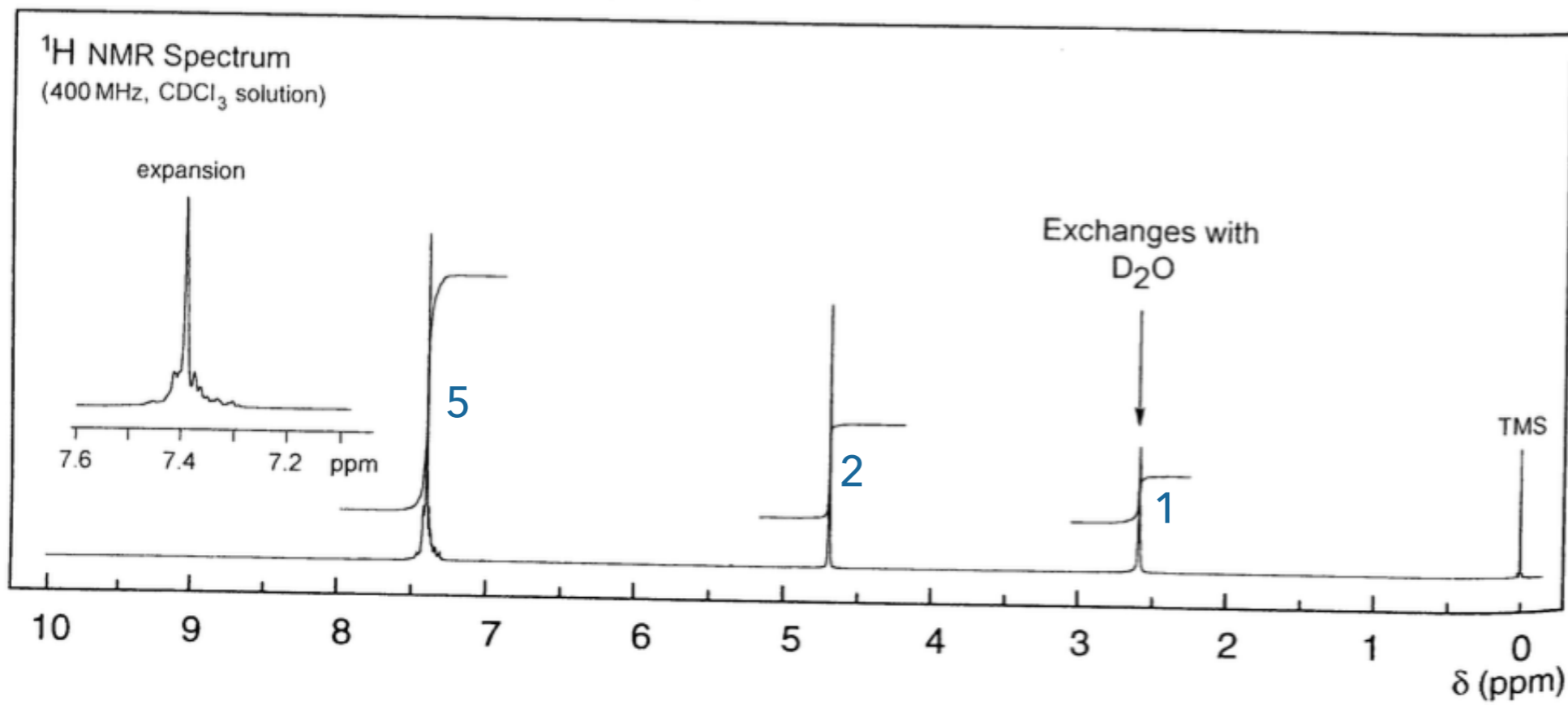
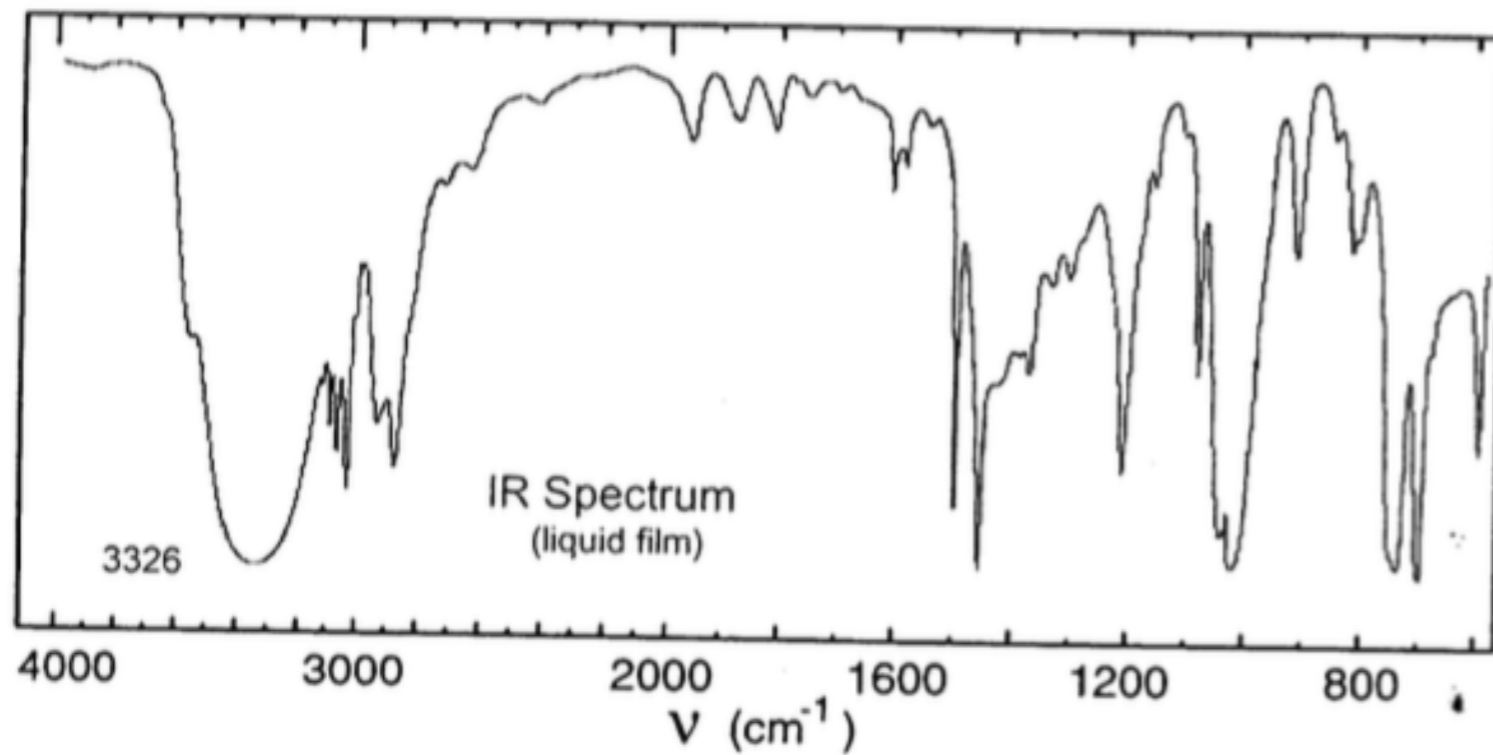
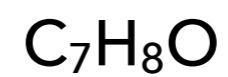
L'nmr è lento per acquisire il risultato e non sta dietro alla velocità elevata dell'equilibrio e quindi non è che non lo vede perché non c'è ma non lo vede perché è uno strumento lento.



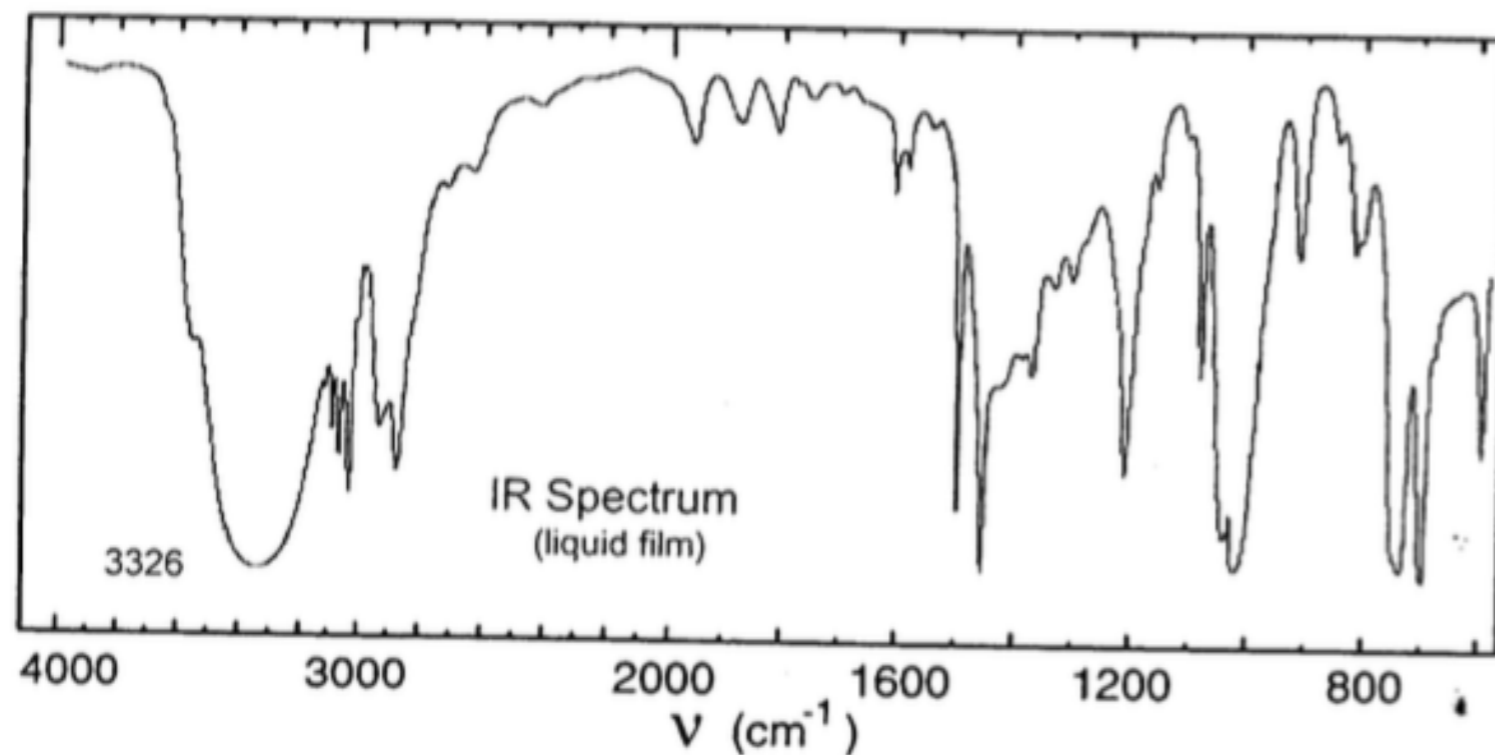
2,3-dimethylbutane-2,3-diol



SPETTRO 7

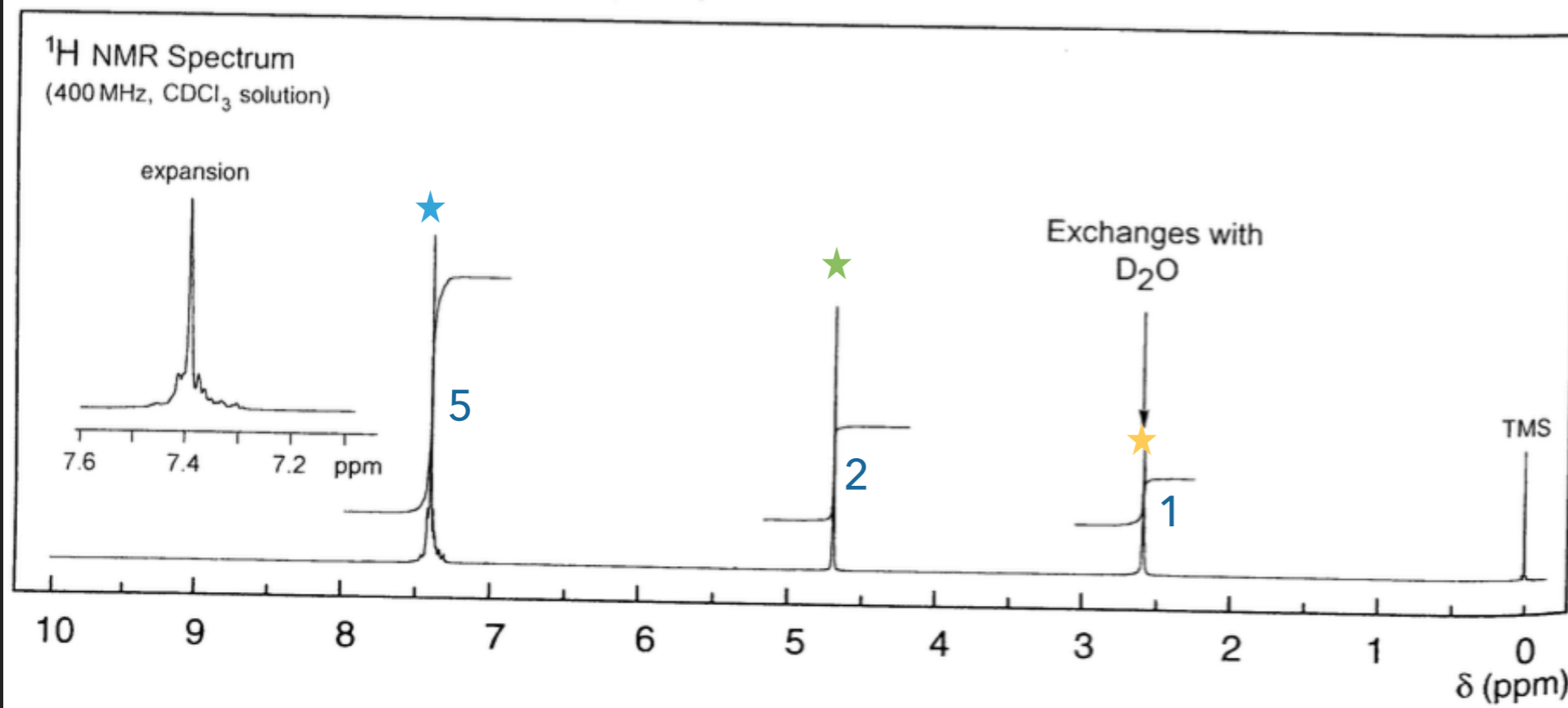
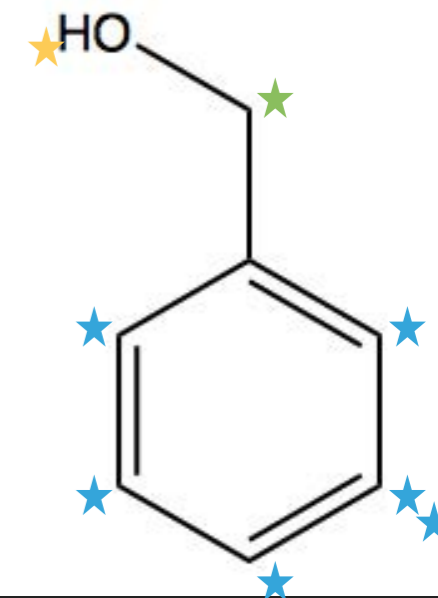


SOLUZIONE

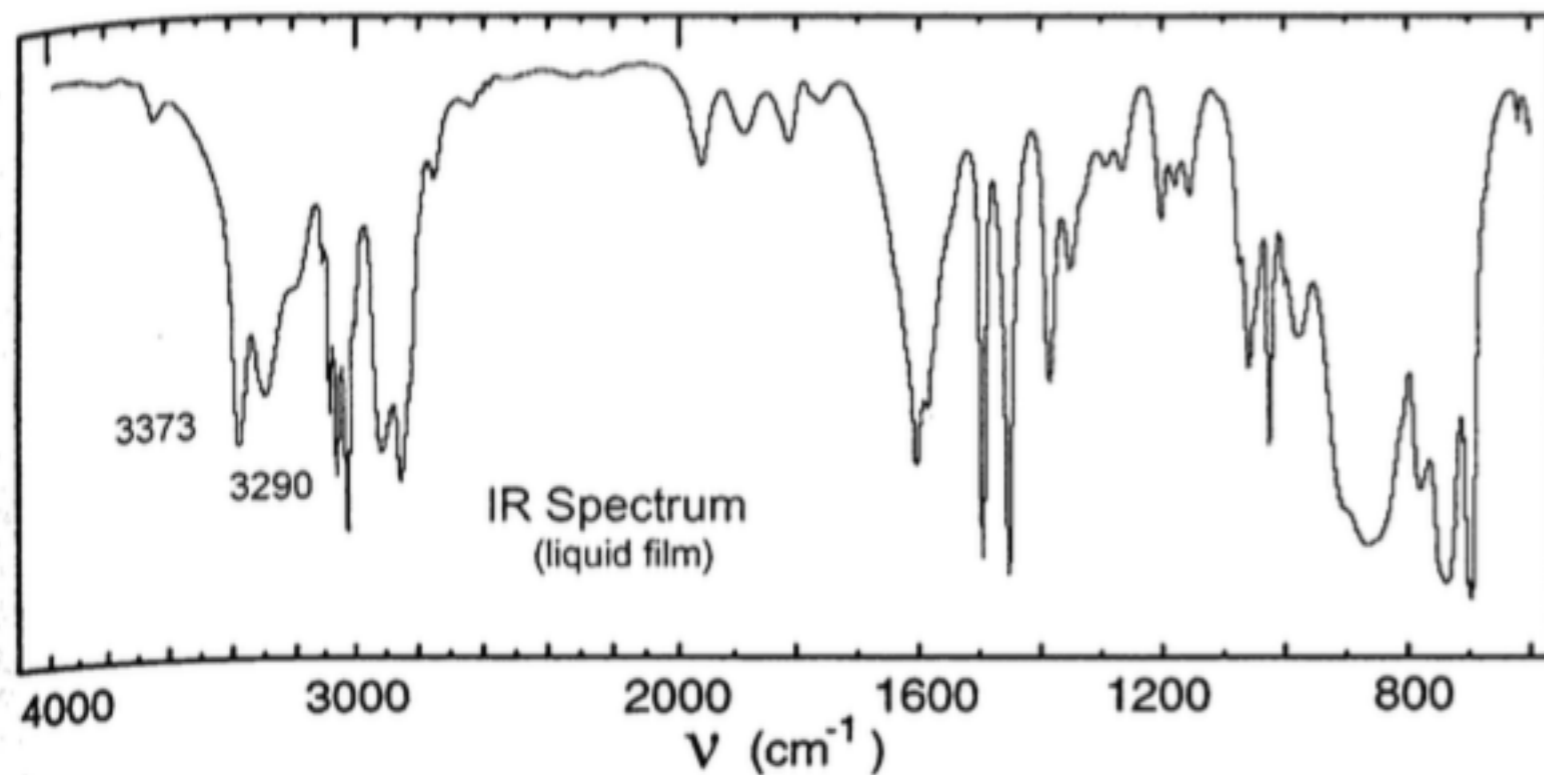


$\text{C}_7\text{H}_8\text{O}$

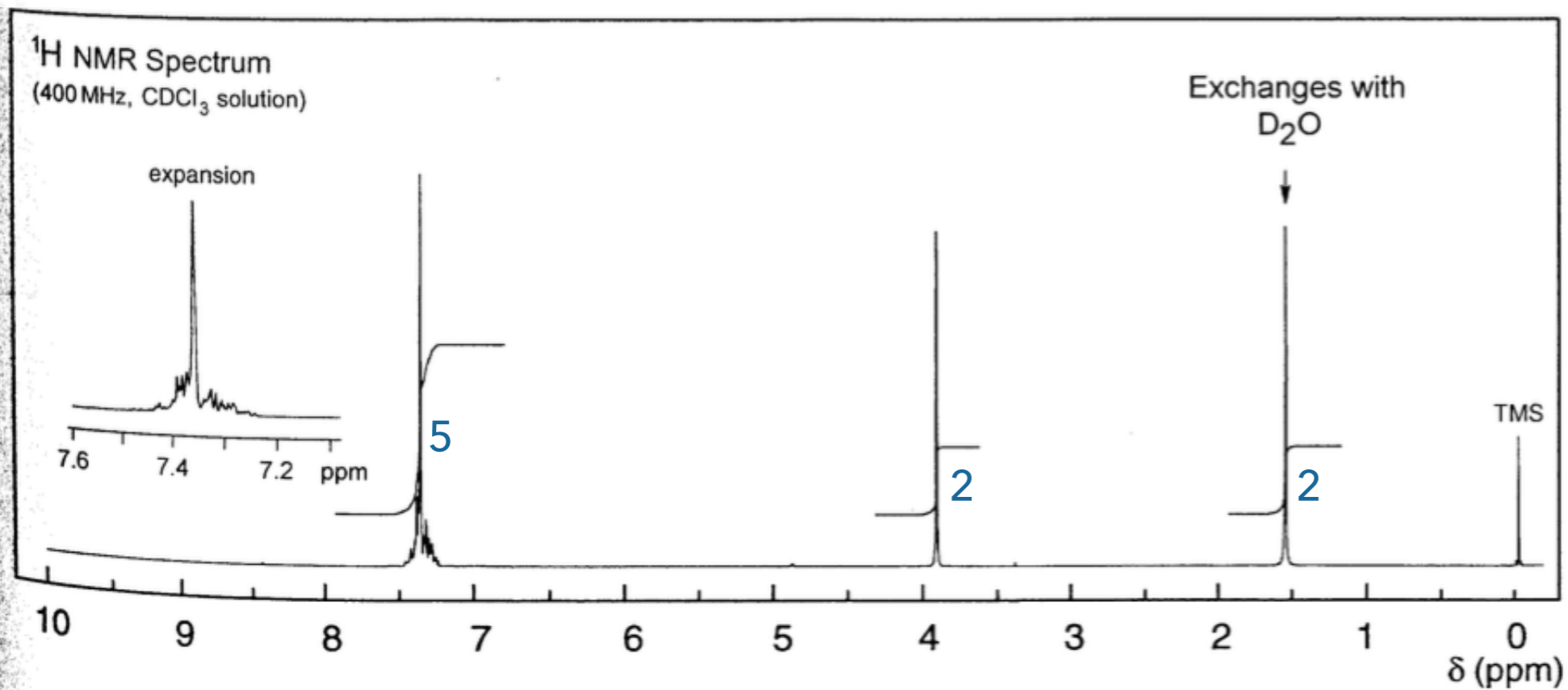
phenylmethanol



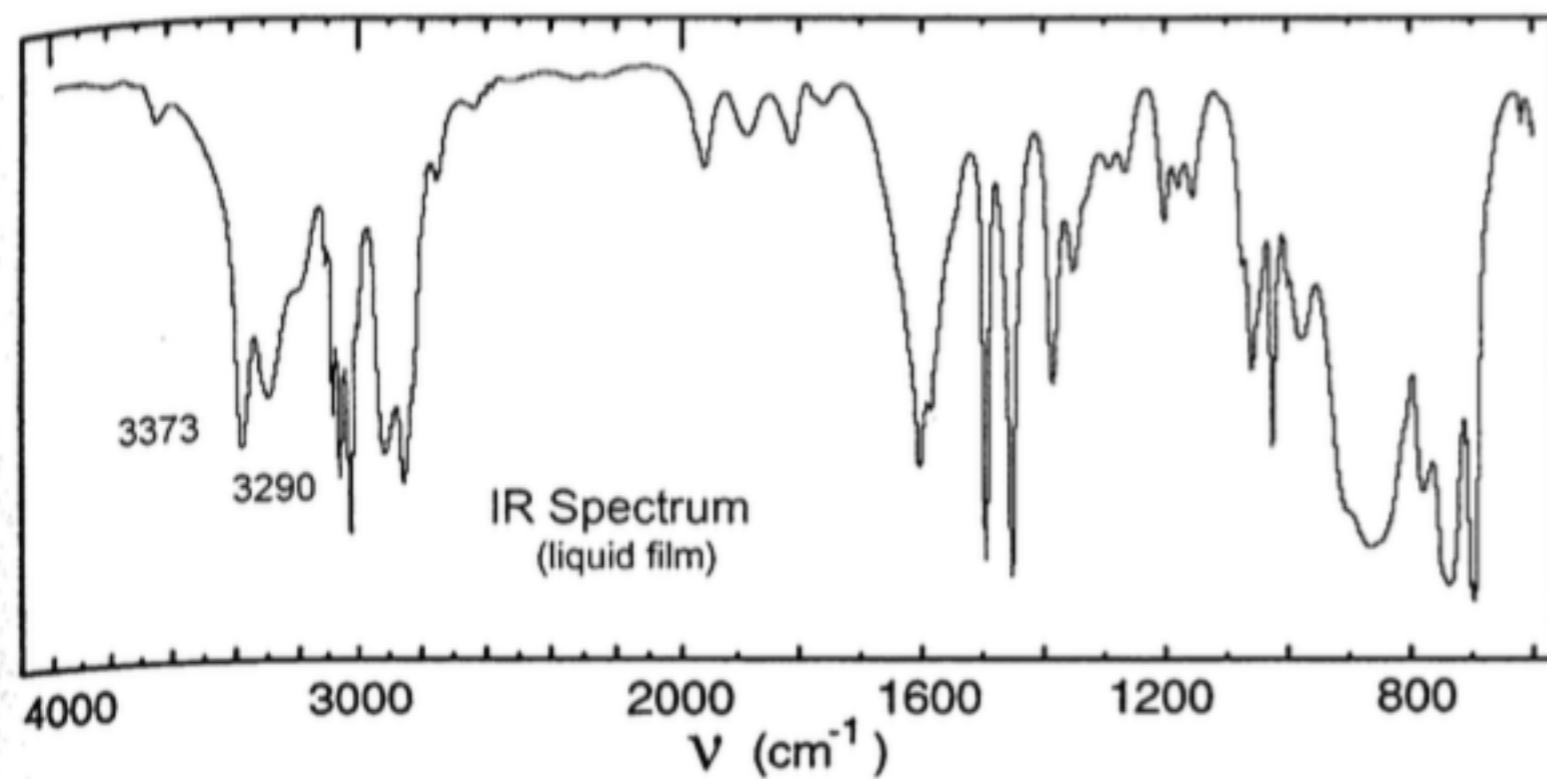
SPETTRO 8



$\text{C}_7\text{H}_9\text{N}$



SOLUZIONE



$\text{C}_7\text{H}_9\text{N}$

phenylmethanamine

