

ESERCIZI SU ^1H -NMR (RIPASSO IR)

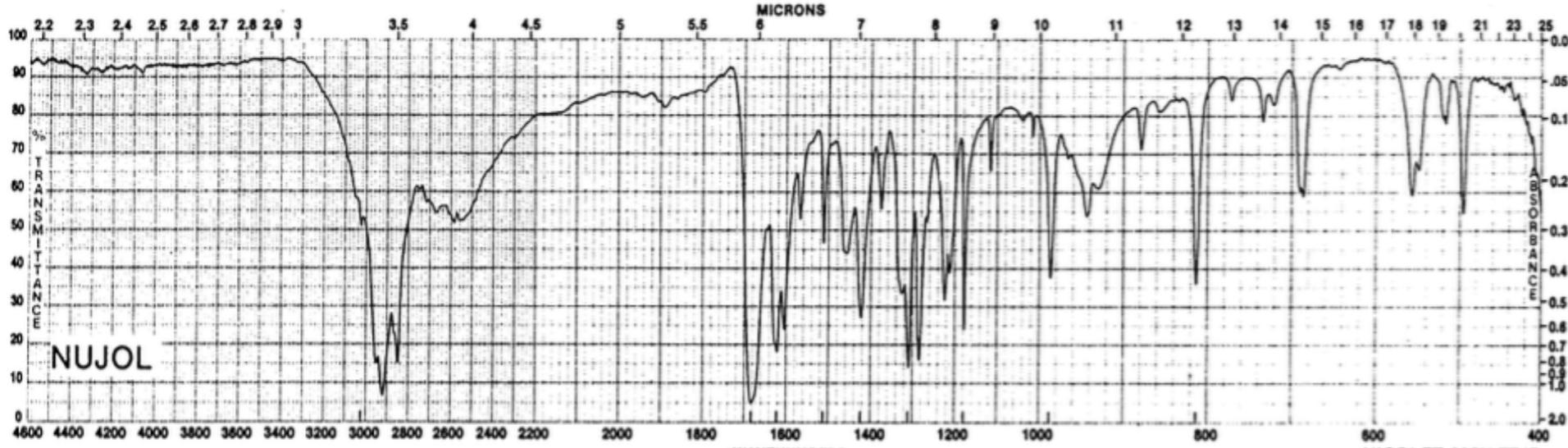
LEZIONE 11

SPETTRO 1

FW 162.19
mp 196-198°C

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

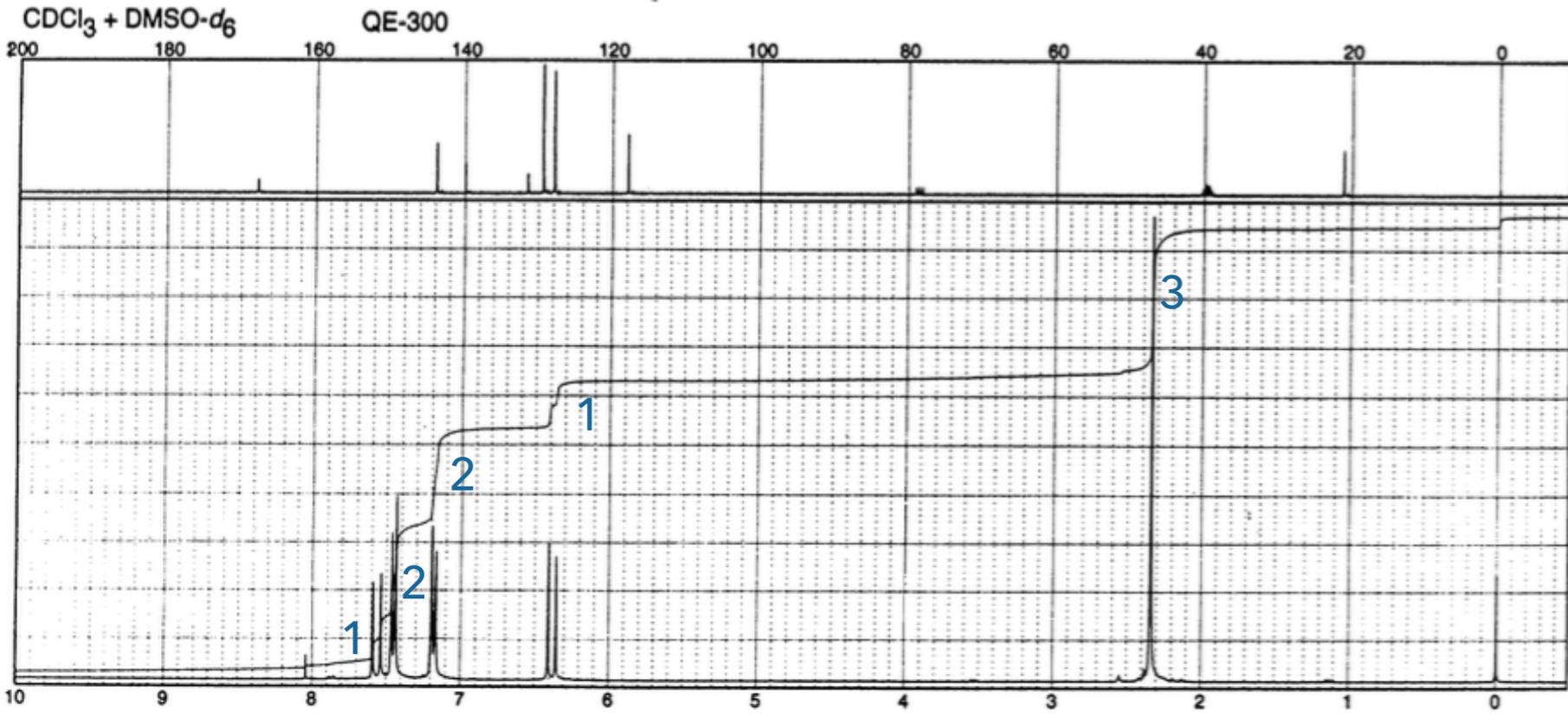
3026.2	1513.5	1179.5
1684.8	1424.7	987.6
1623.5	1311.4	814.3



WAVENUMBERS
C10H10O2
FW 162.19
mp 197°C

60 MHz: 2, 175D
FT-IR: 2, 179A

NICOLET 20SX FT-IR
167.82 129.37*
143.82* 127.83*
139.96 117.89*
131.45 21.13*



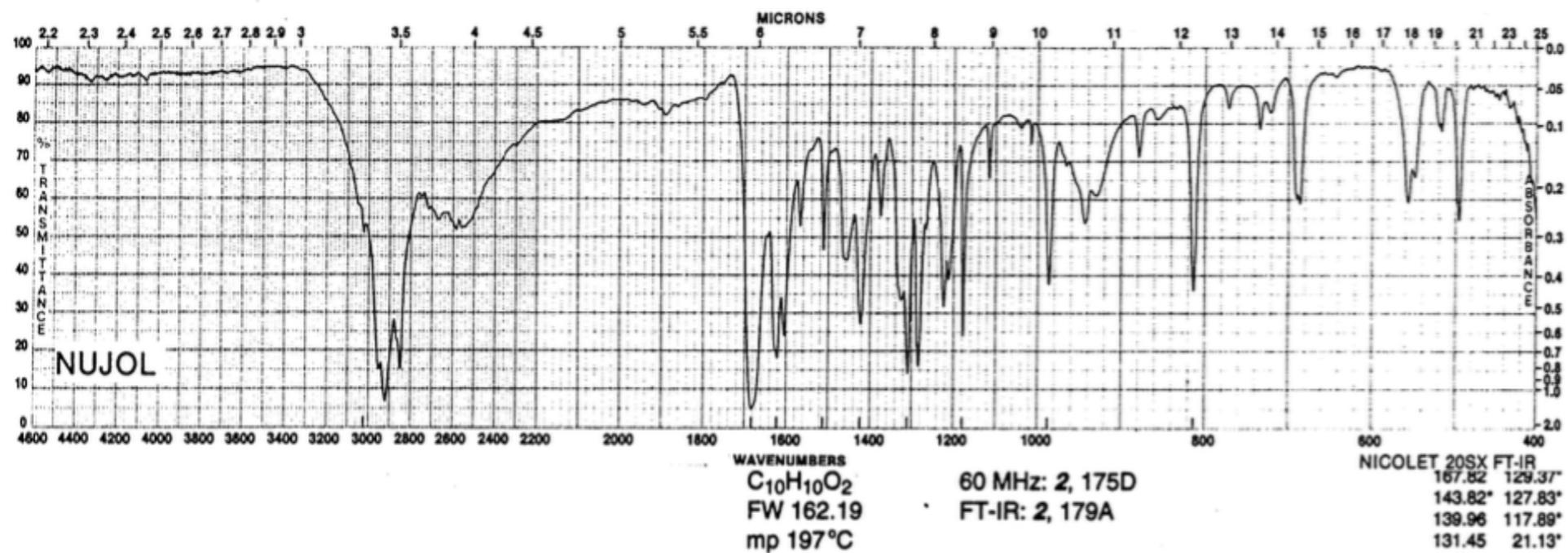
CDCl₃ + DMSO-d₆
QE-300

SOLUZIONE

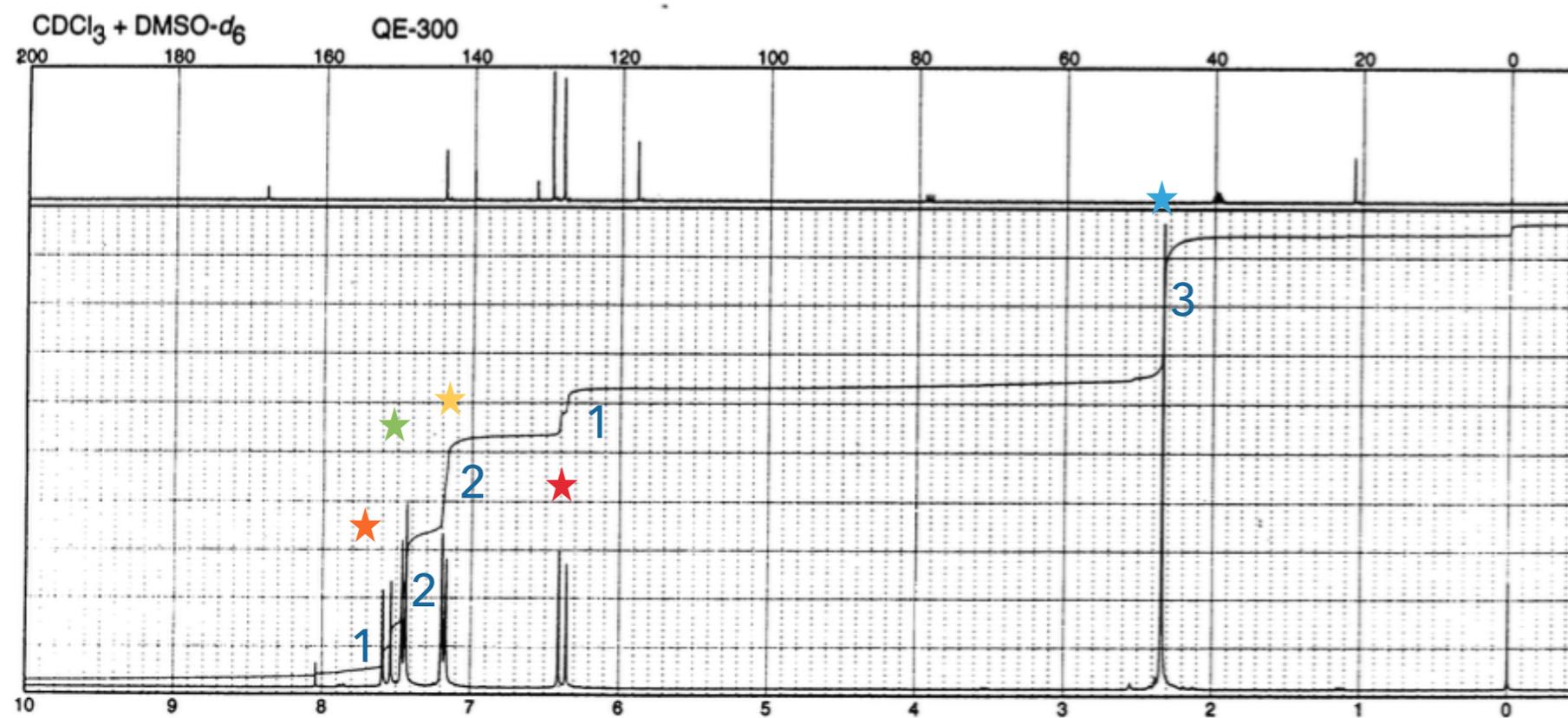
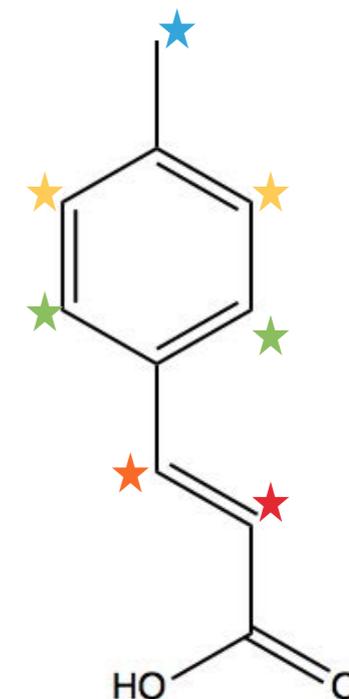
FW 162.19
mp 196-198°C

IR III, 952C
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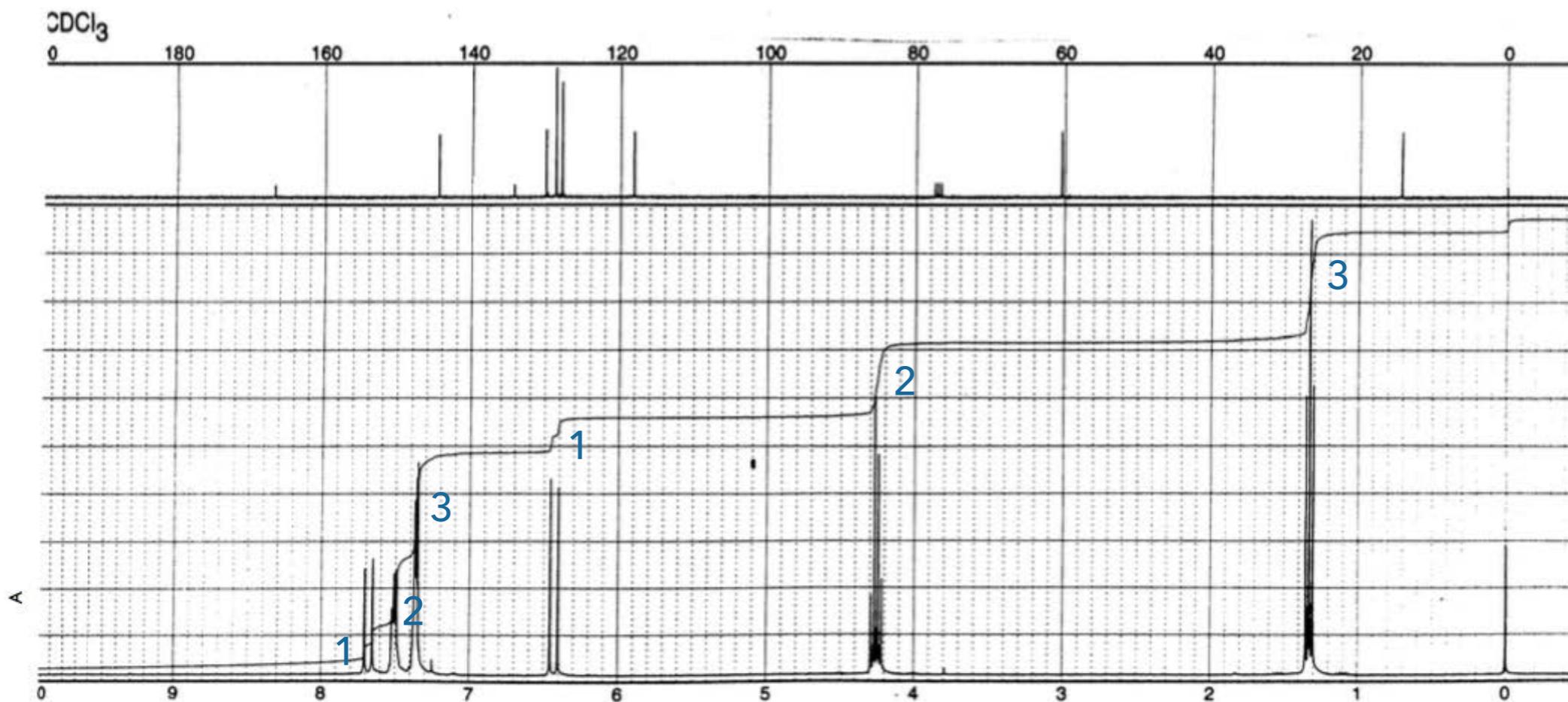
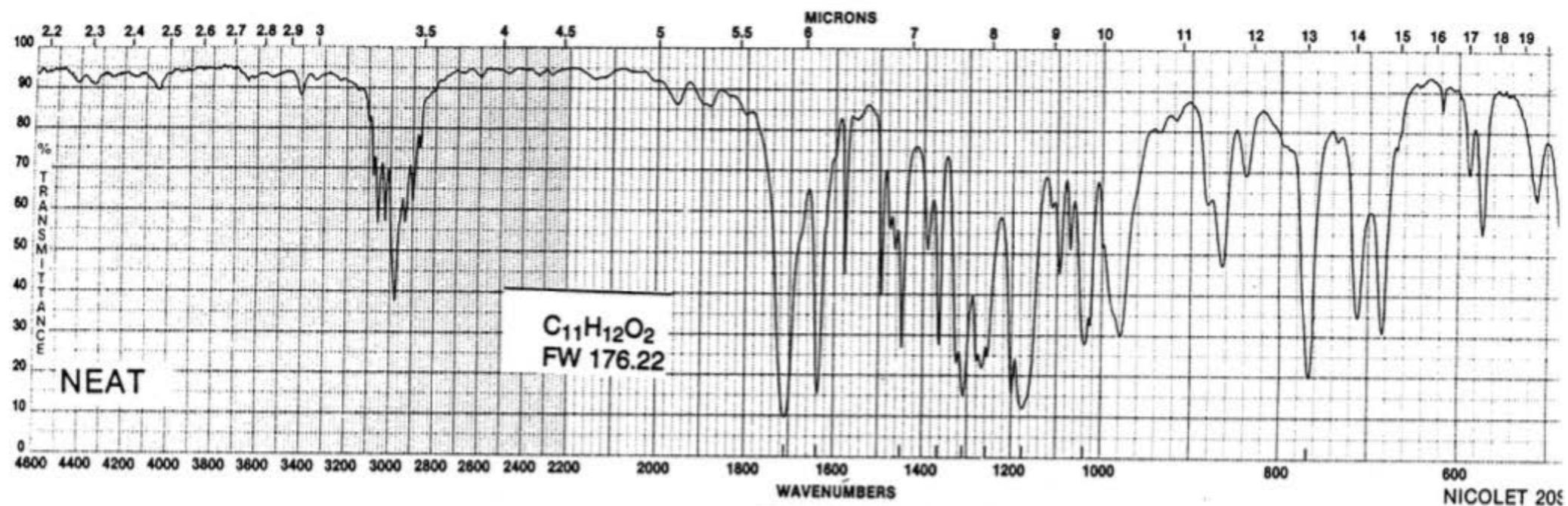
3026.2	1513.5	1179.5
1684.8	1424.7	987.6
1623.5	1311.4	814.3



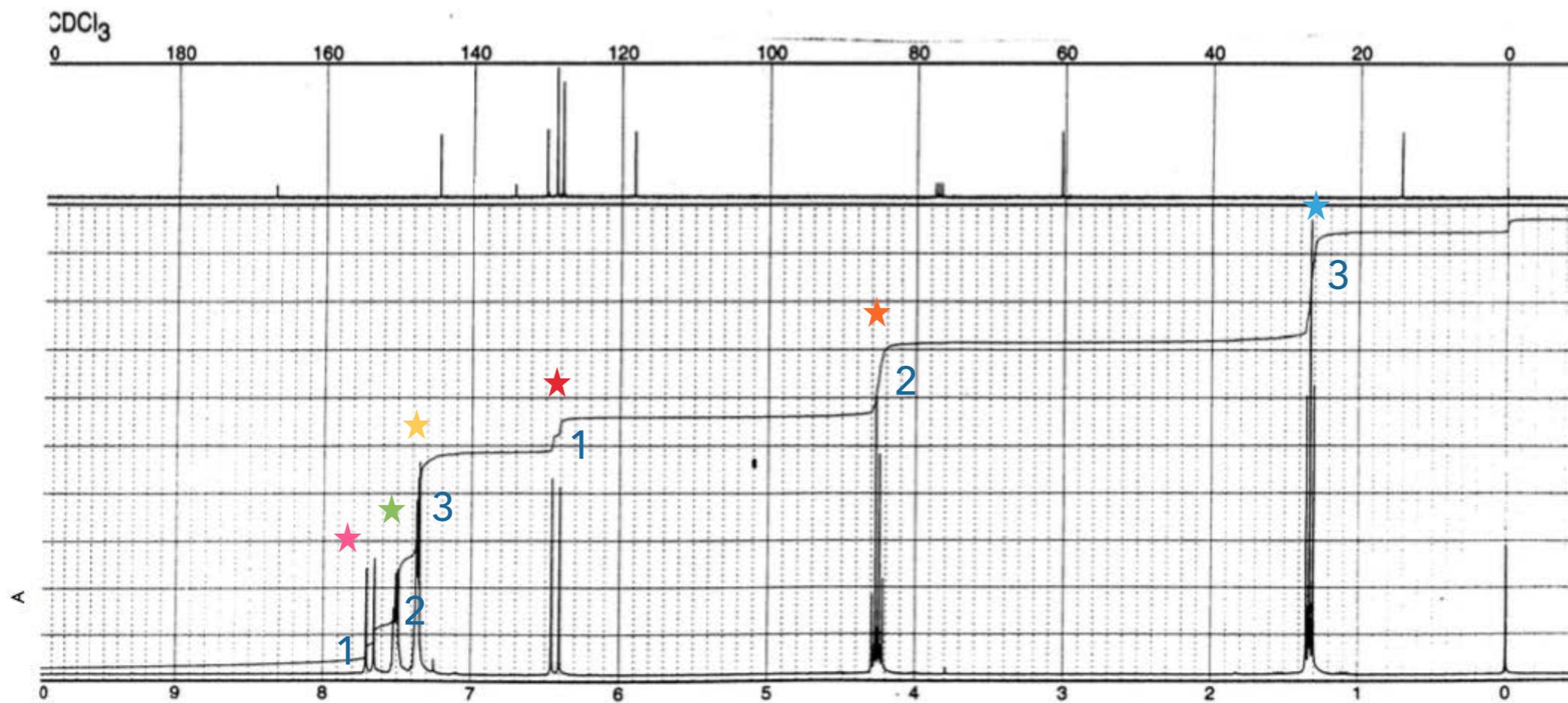
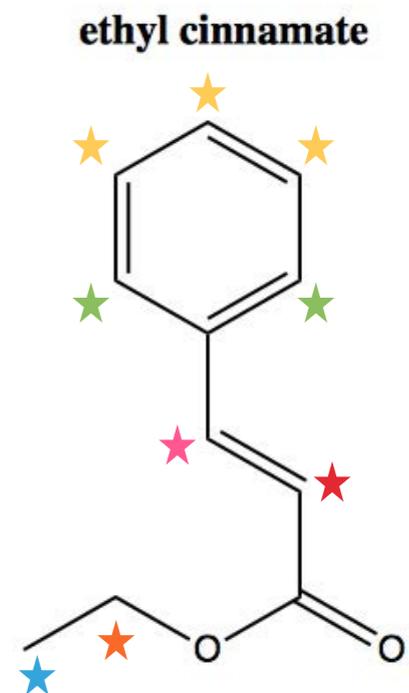
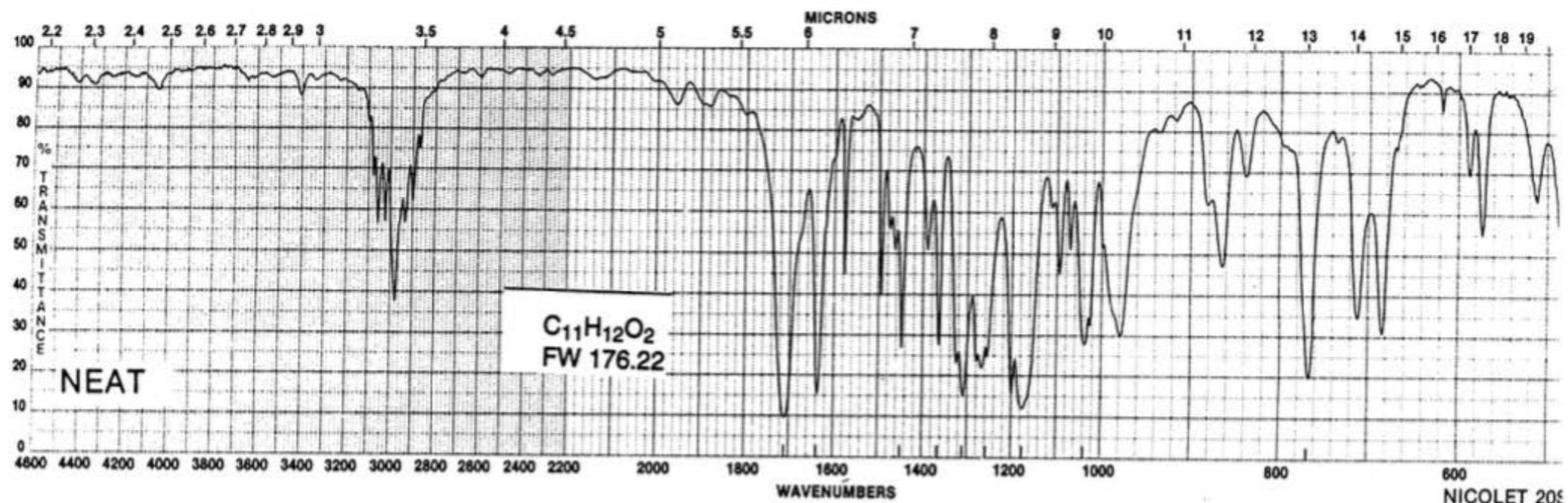
(E)-3-(p-tolyl)acrylic acid



SPETTRO 2

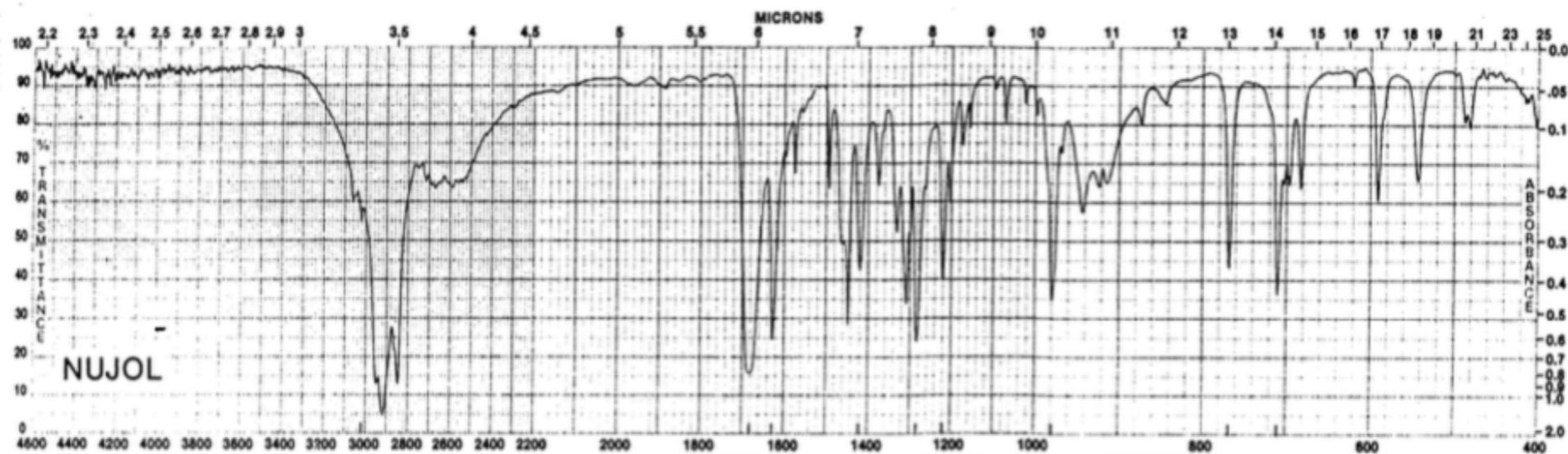


SOLUZIONE



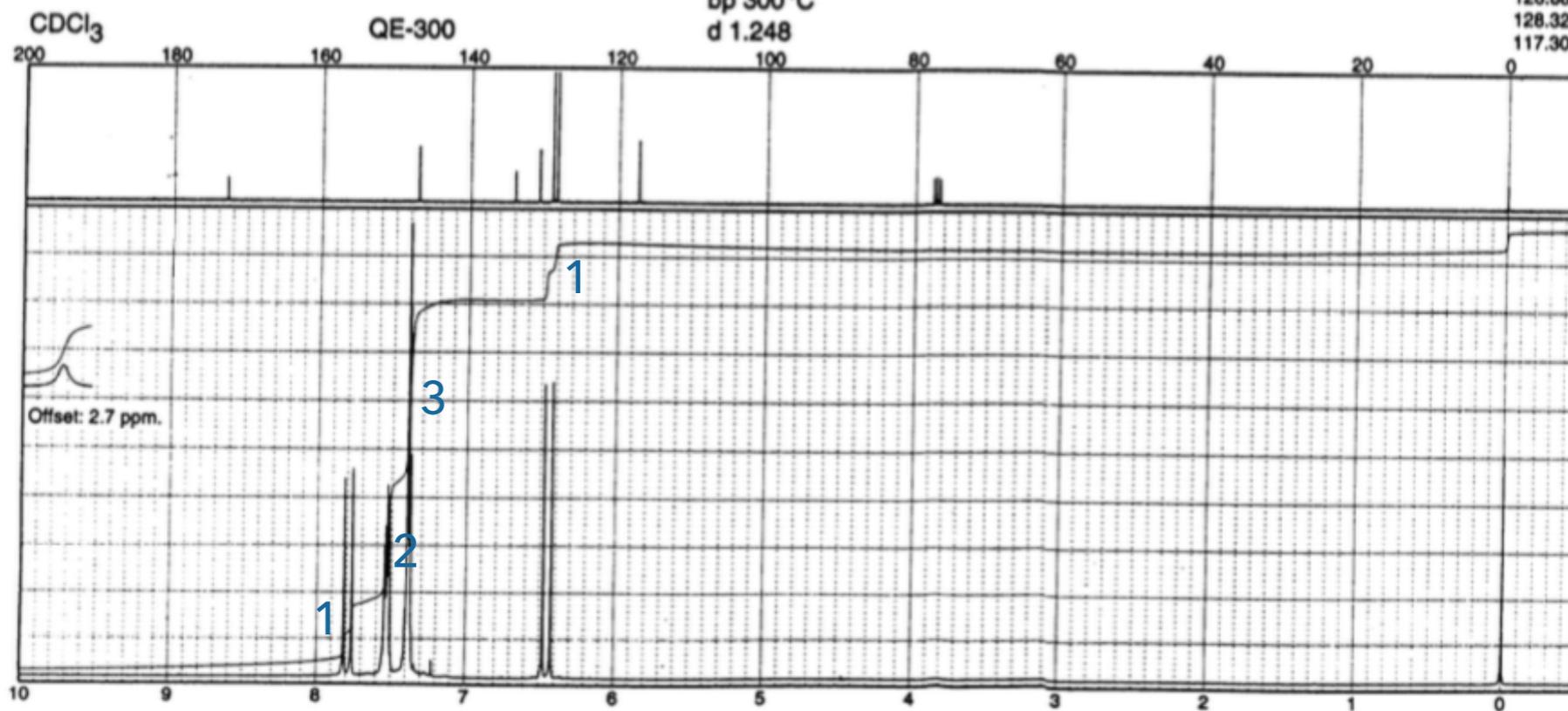
SPETTRO 3

rW 148.16 d 0.910 IR III, 950A 3026.3 1422.5 980.9
mp 132-135°C Merck 10,2273 1683.5 1286.8 769.1
bp 300°C 1630.3 1223.2 711.3

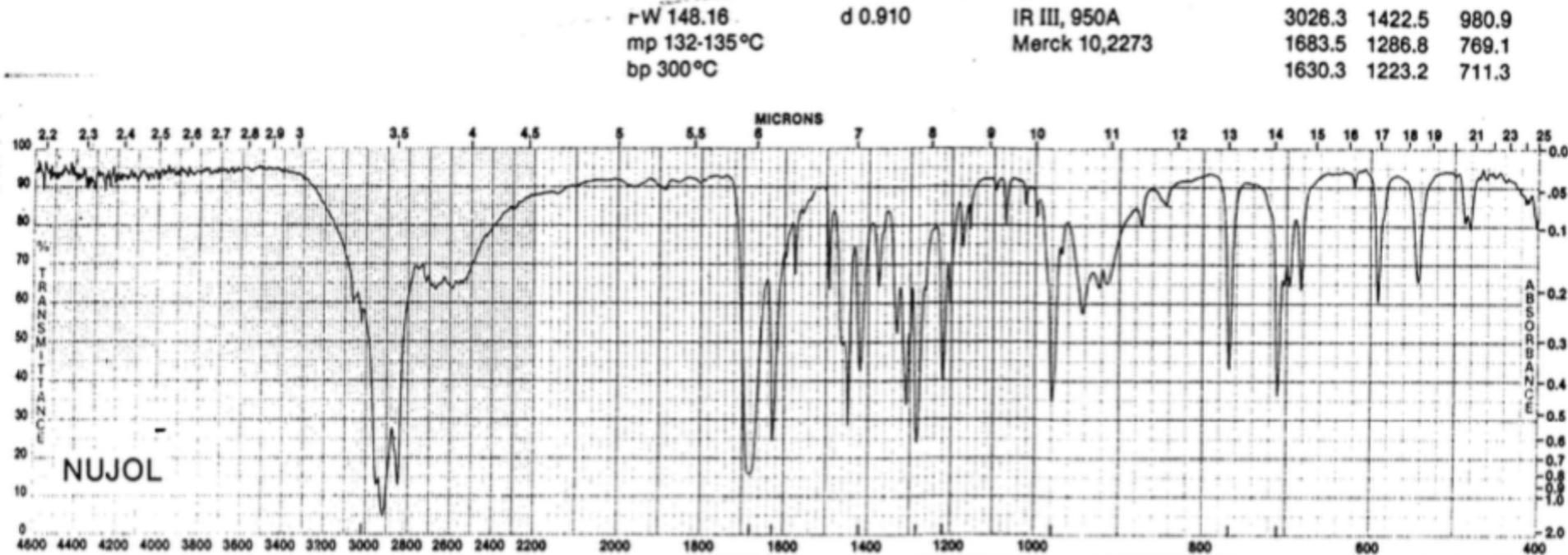


C9H8O2
FW 148.16 60 MHz: 2, 171A 172.73
mp 134°C FT-IR: 2, 174B 147.03*
bp 300°C VP-FT-IR: 3, 1321C 133.95
d 1.248 130.68*
128.88*
128.32*
117.30*

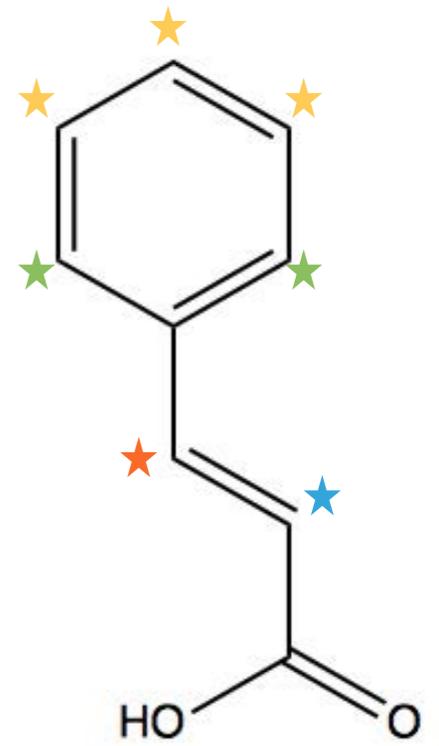
ma



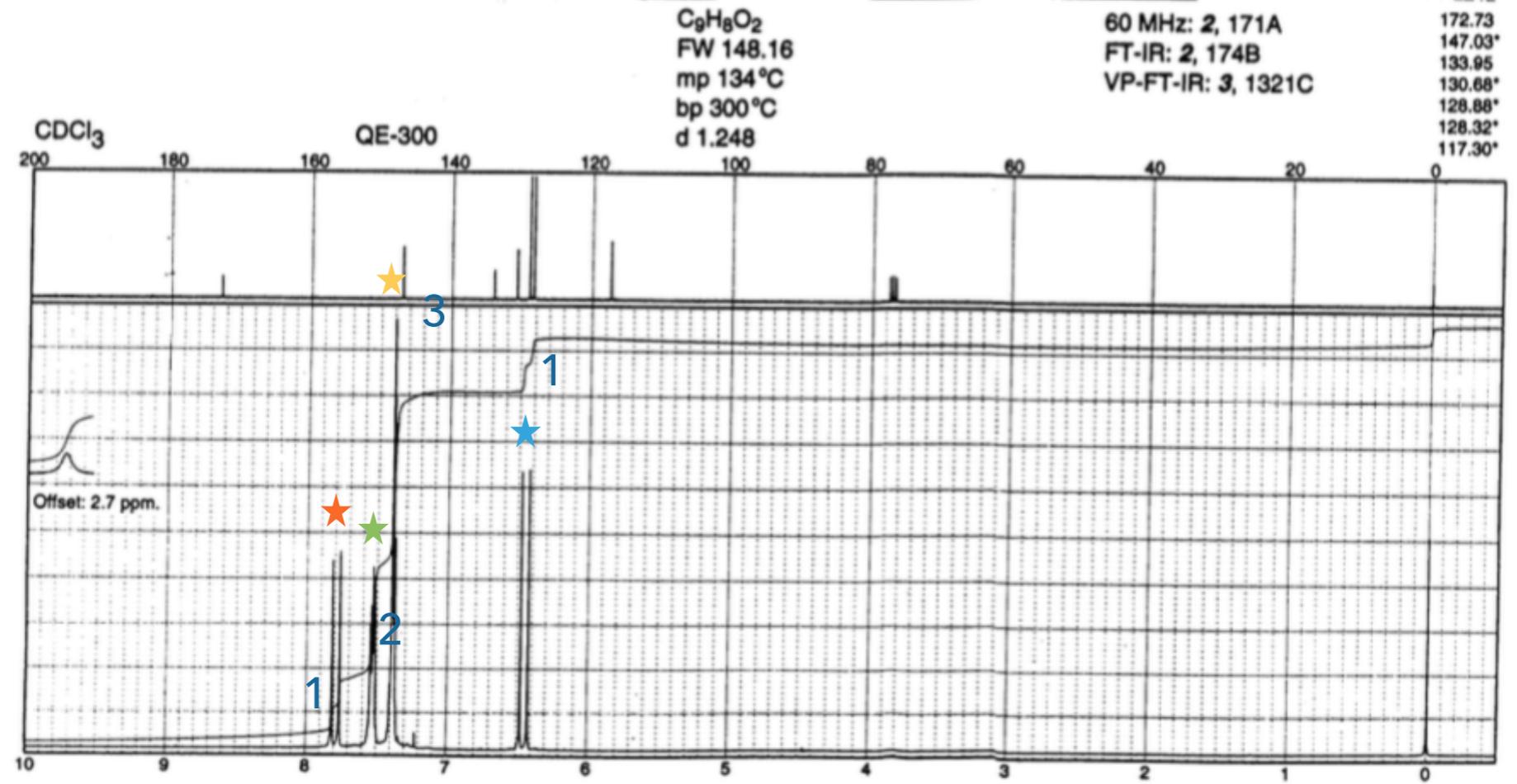
SOLUZIONE



cinnamic acid



ma

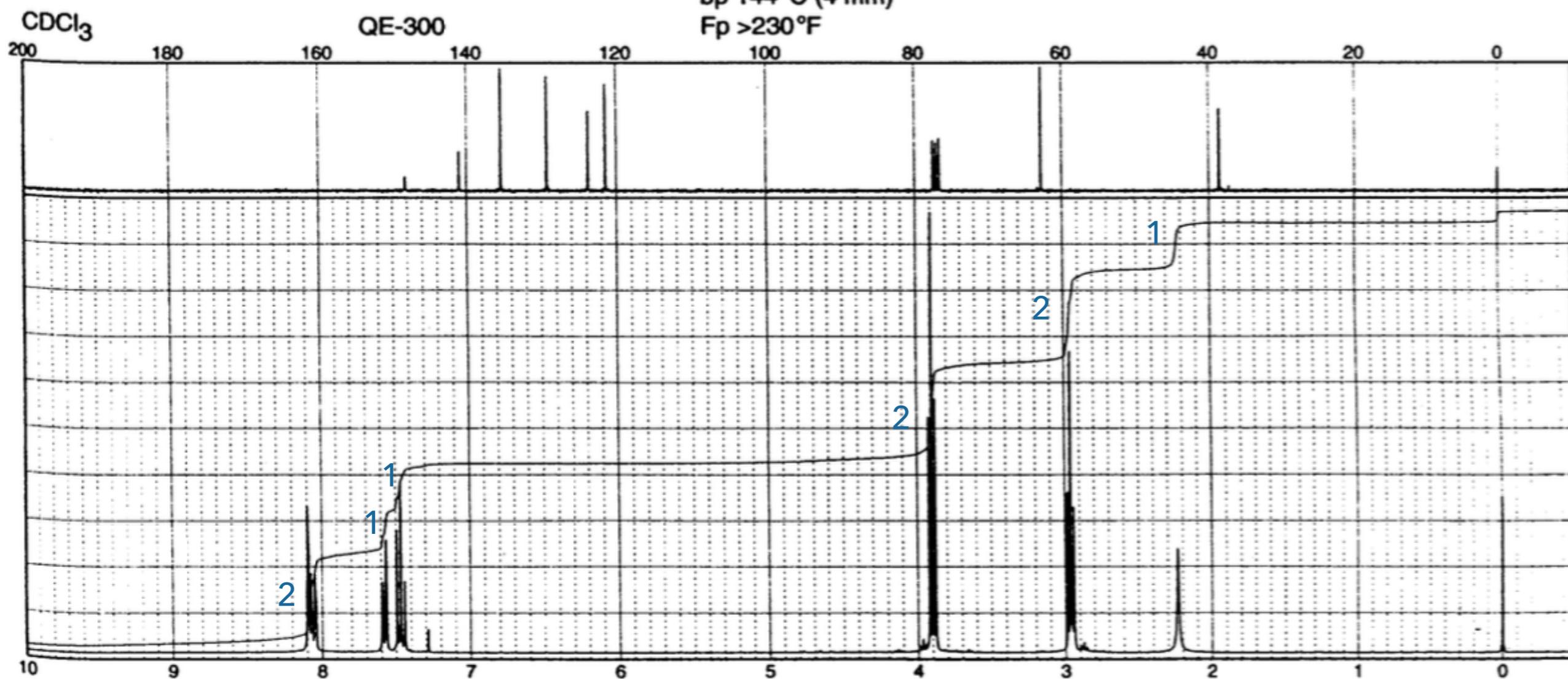


SPETTRO 4

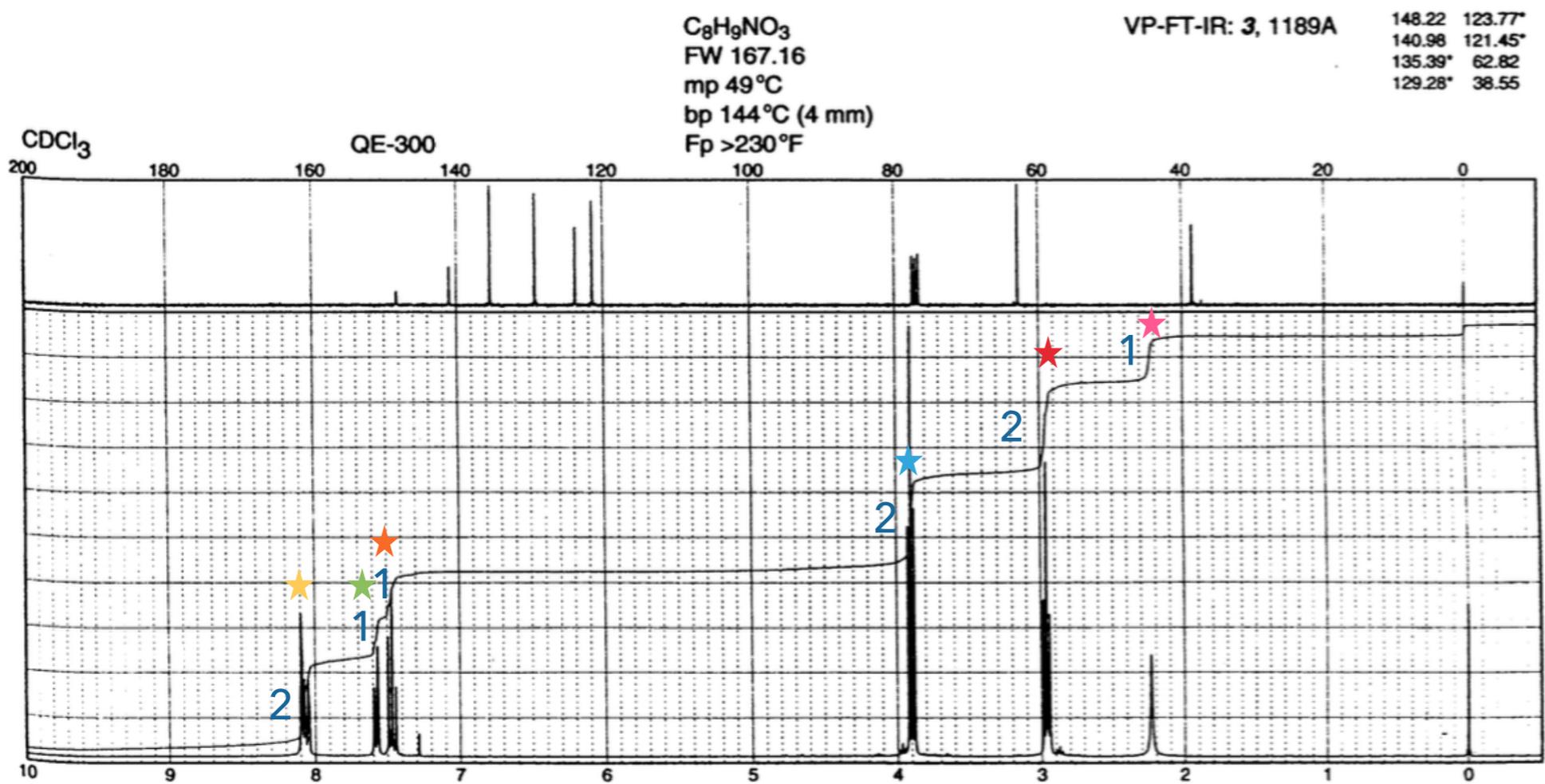
$C_8H_9NO_3$
FW 167.16
mp 49°C
bp 144°C (4 mm)
Fp >230°F

VP-FT-IR: 3, 1189A

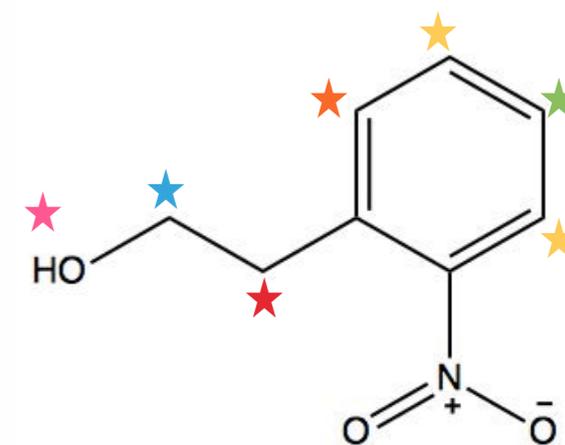
148.22	123.77*
140.98	121.45*
135.39*	62.82
129.28*	38.55



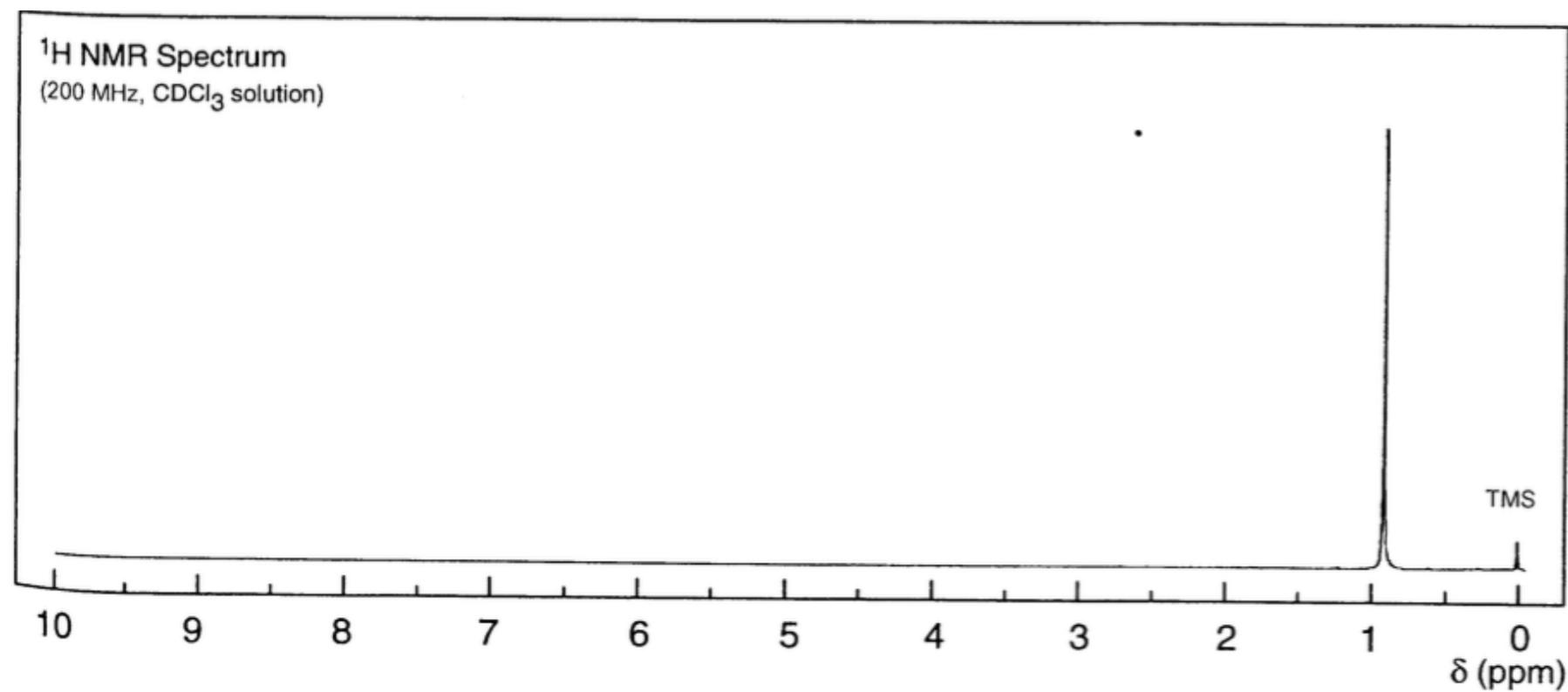
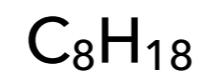
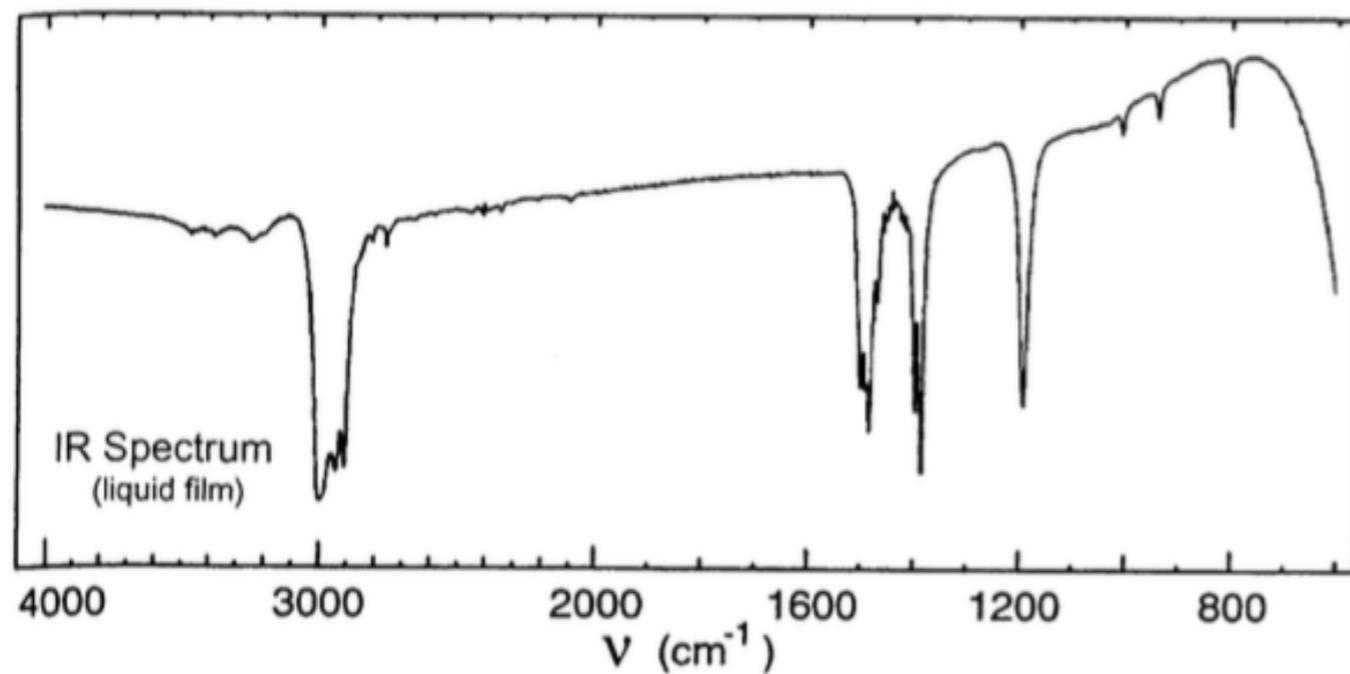
SOLUZIONE



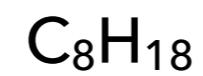
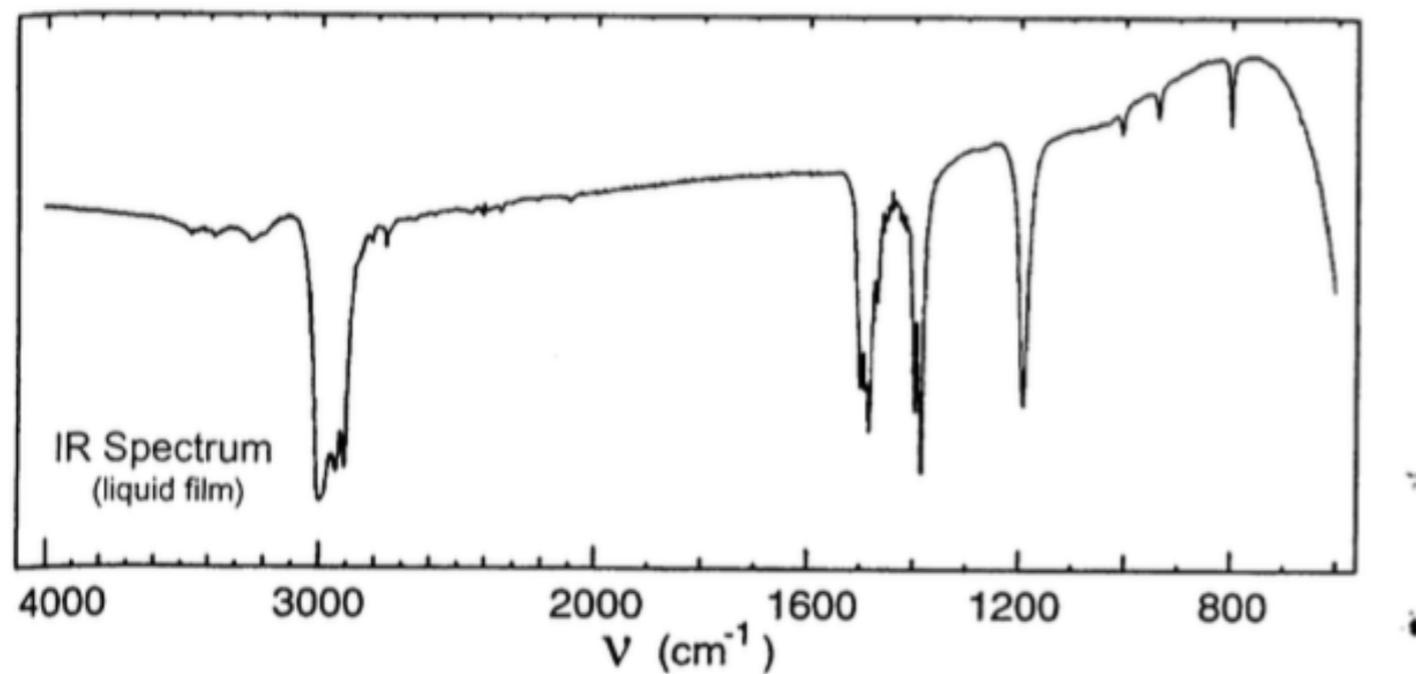
2-(2-nitrophenyl)ethan-1-ol



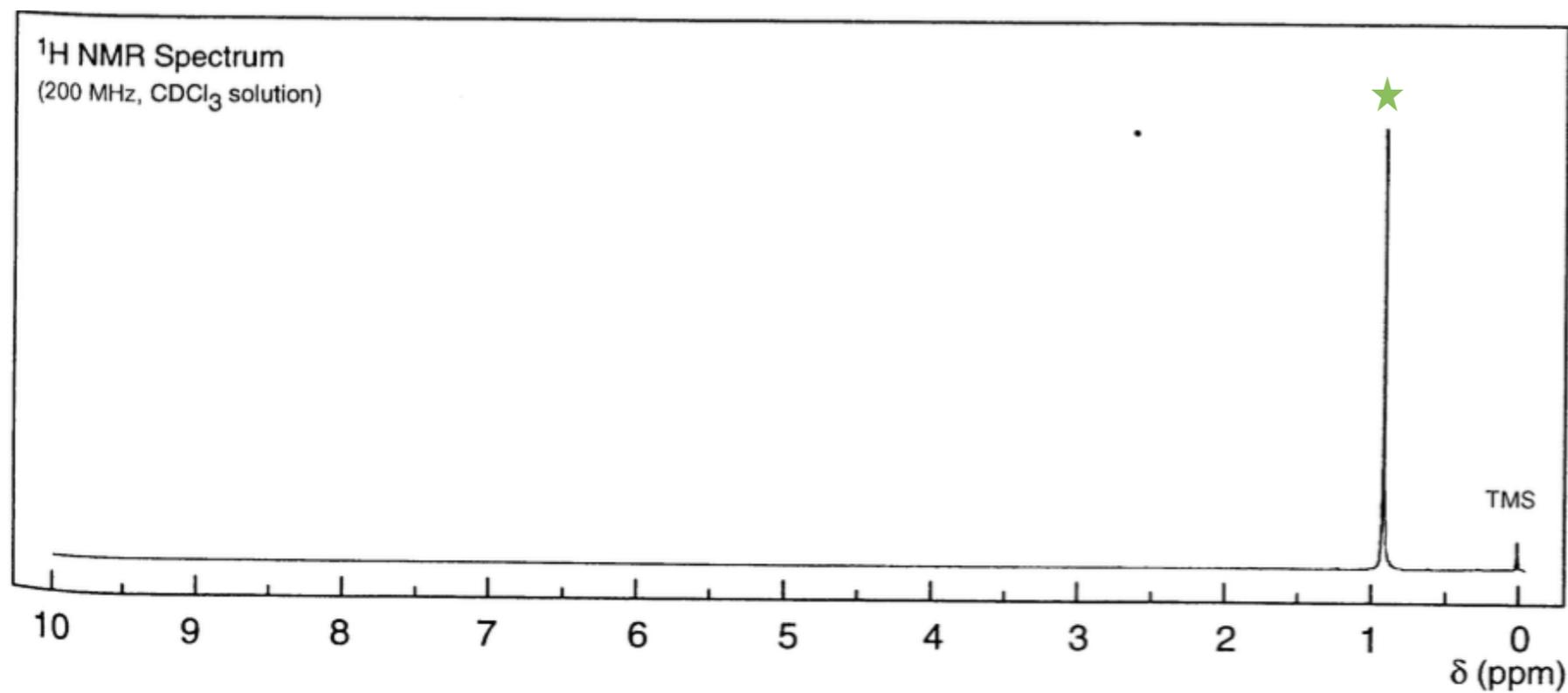
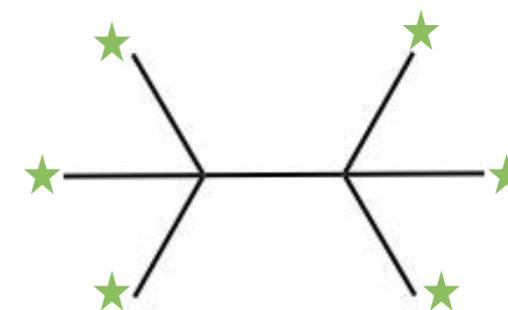
SPETTRO 5



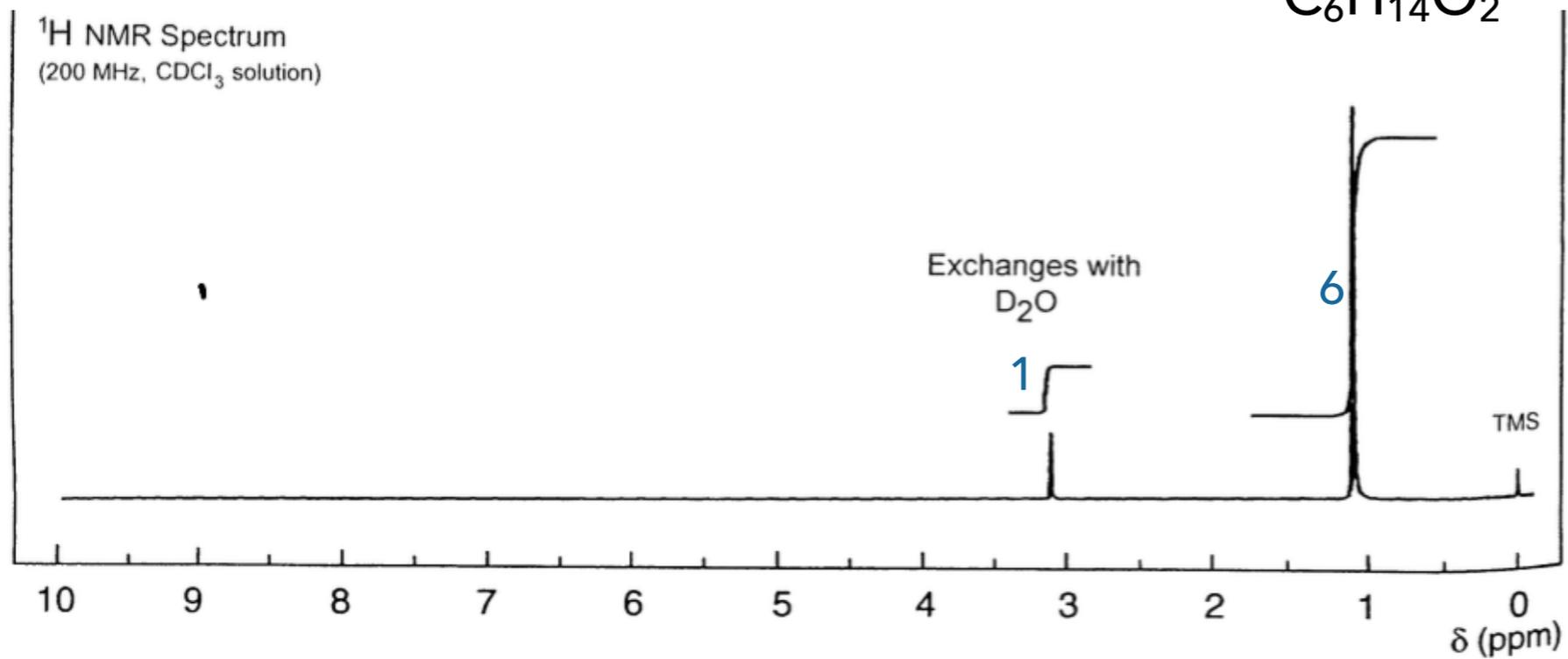
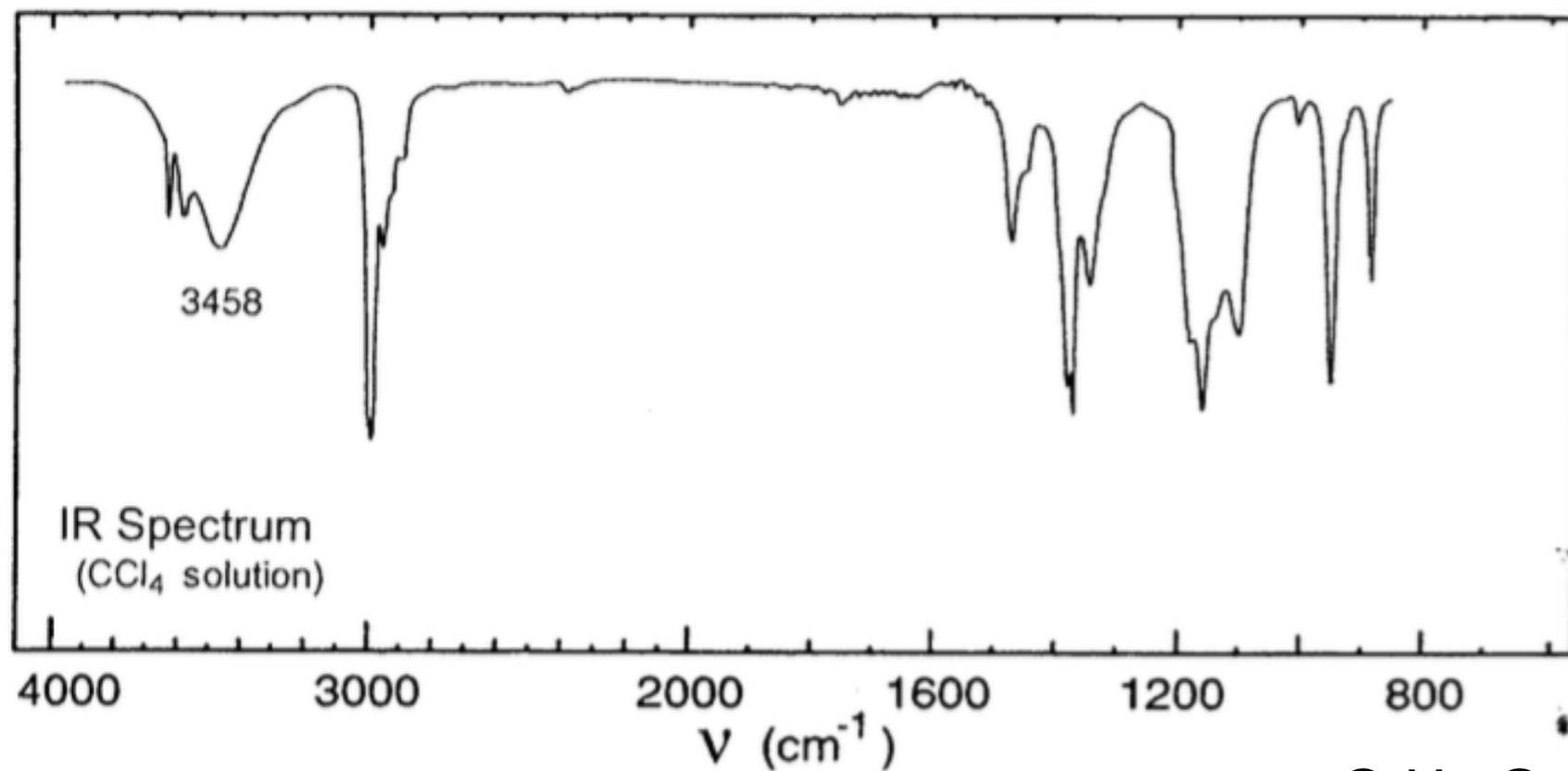
SOLUZIONE



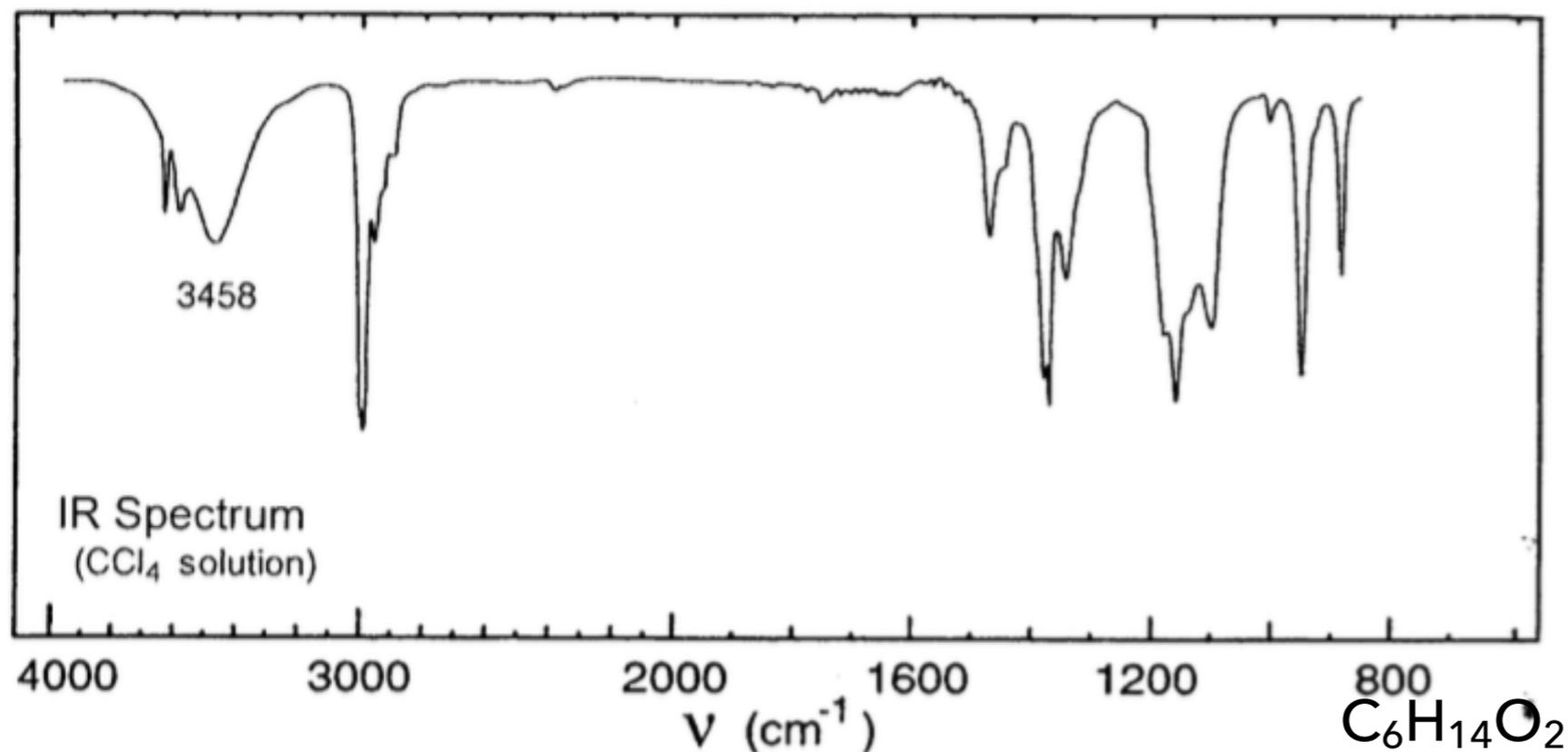
2,2,3,3-tetramethylbutane



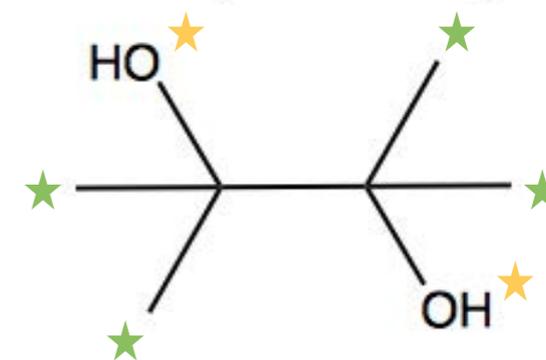
SPECTRO 6



SOLUZIONE

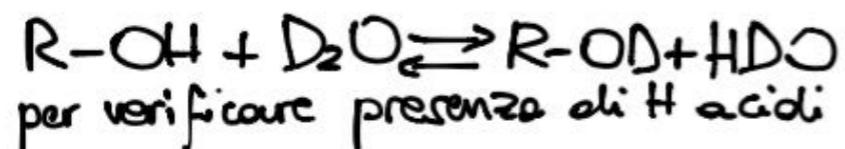


2,3-dimethylbutane-2,3-diol



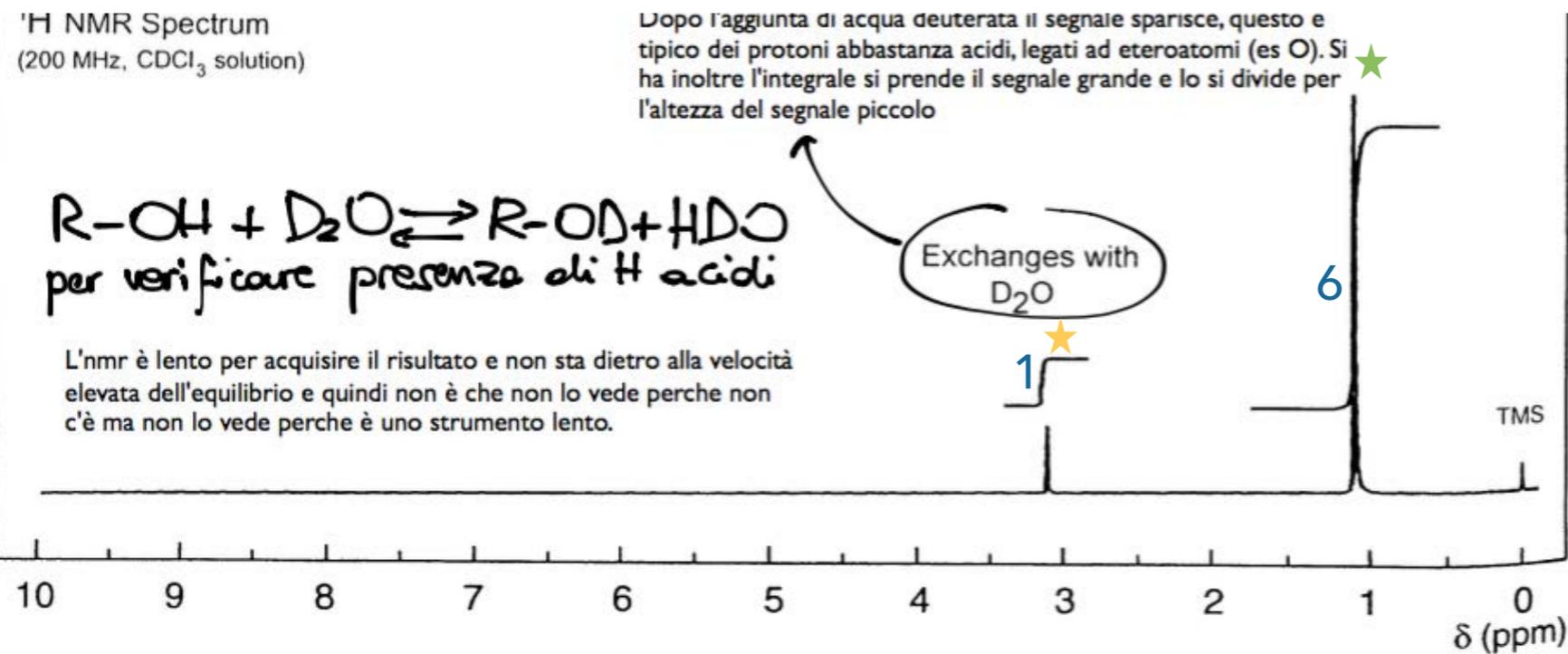
¹H NMR Spectrum
(200 MHz, CDCl₃ solution)

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

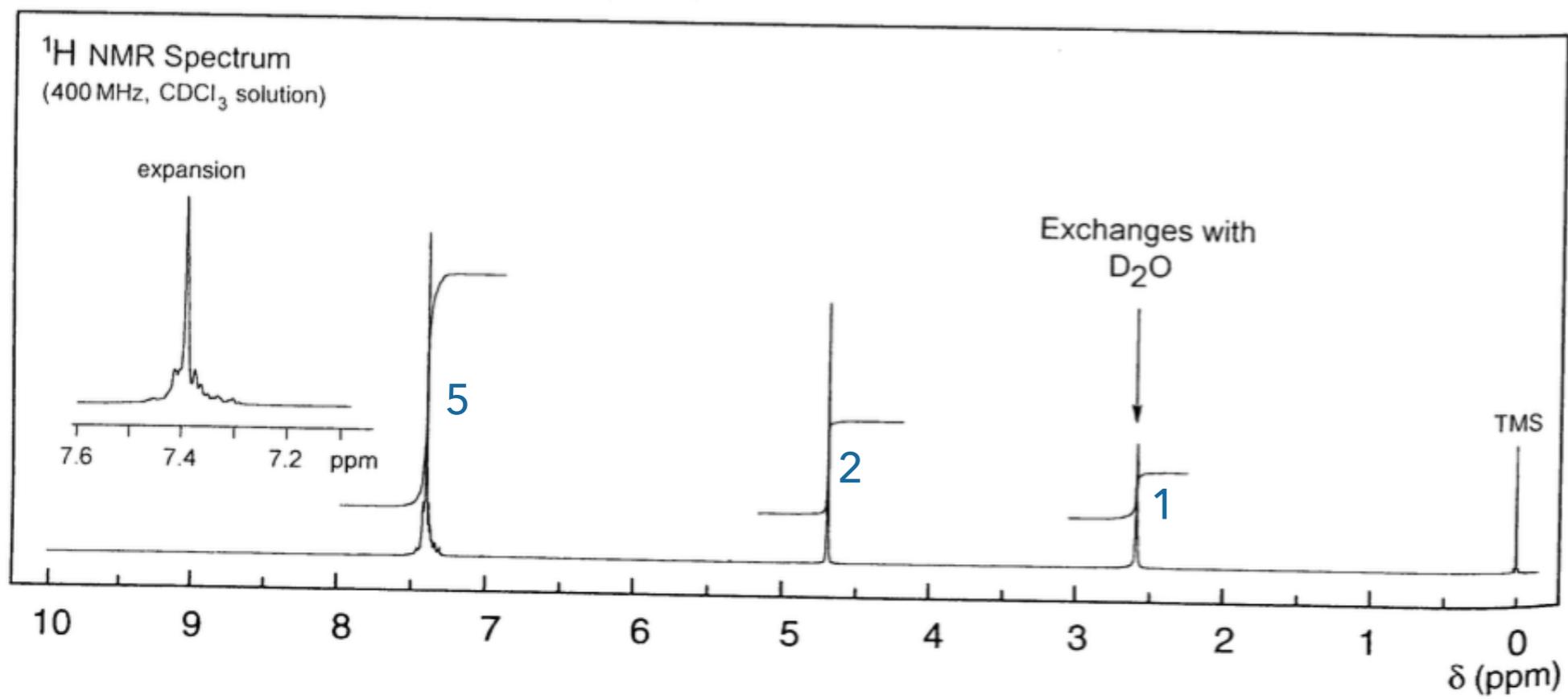
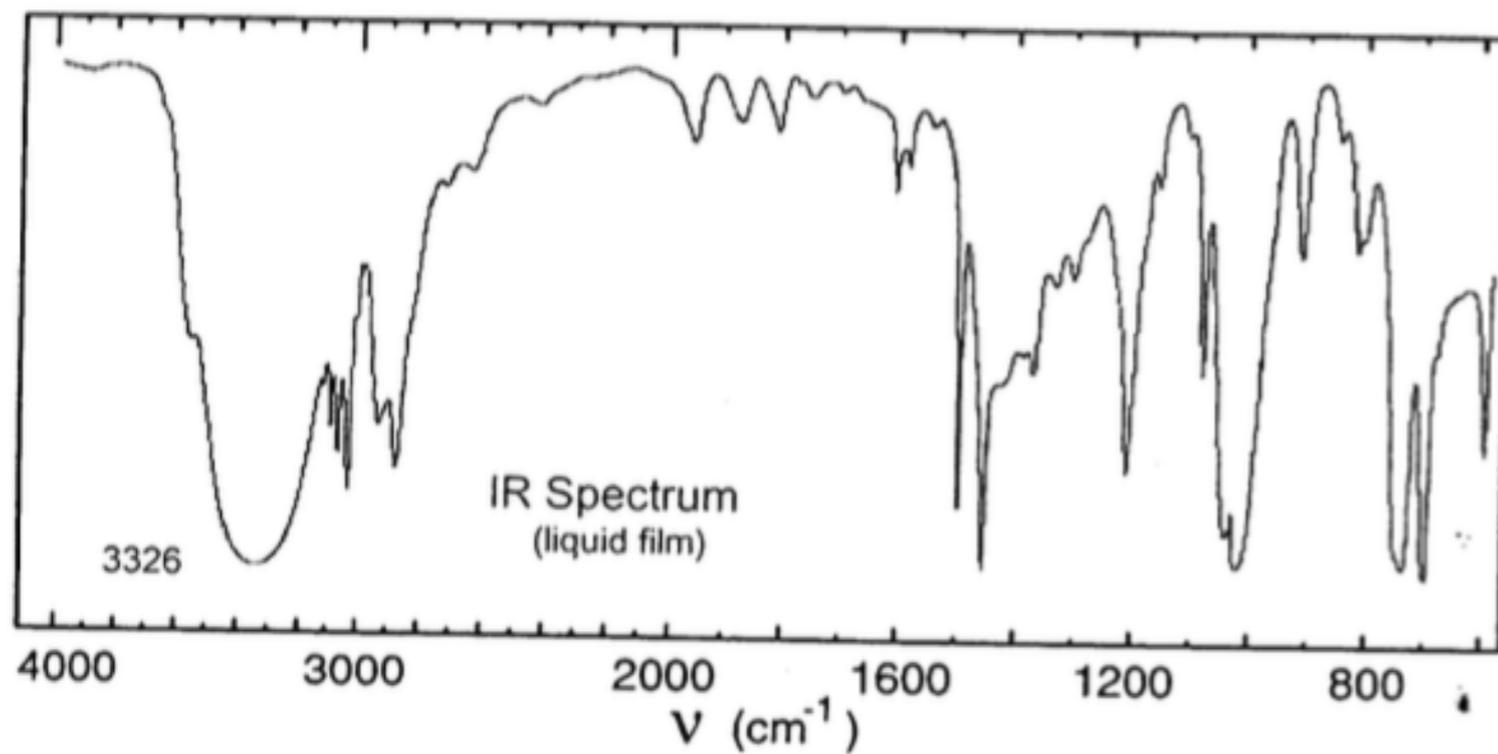


L'nmr è lento per acquisire il risultato e non sta dietro alla velocità elevata dell'equilibrio e quindi non è che non lo vede perché non c'è ma non lo vede perché è uno strumento lento.

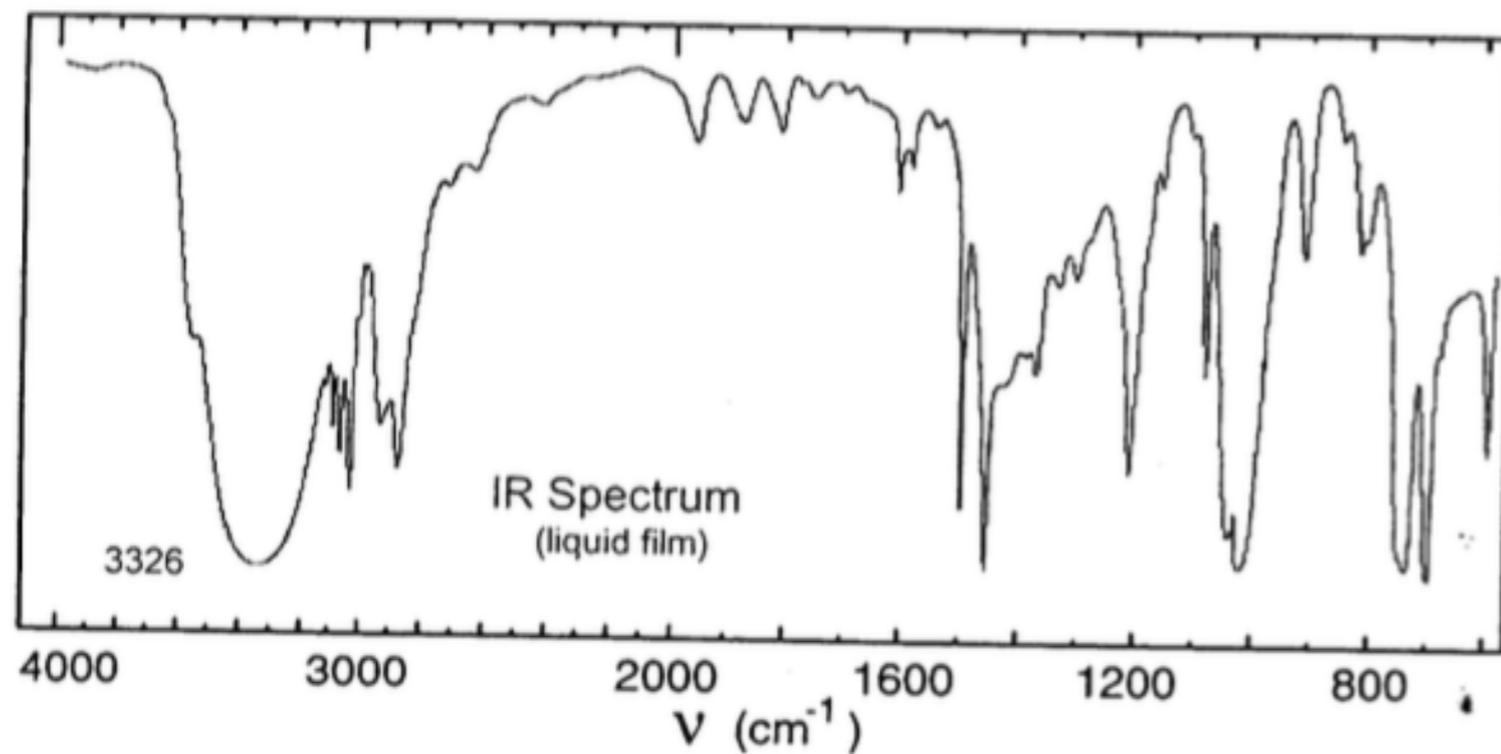
Exchanges with D₂O



SPETTRO 7

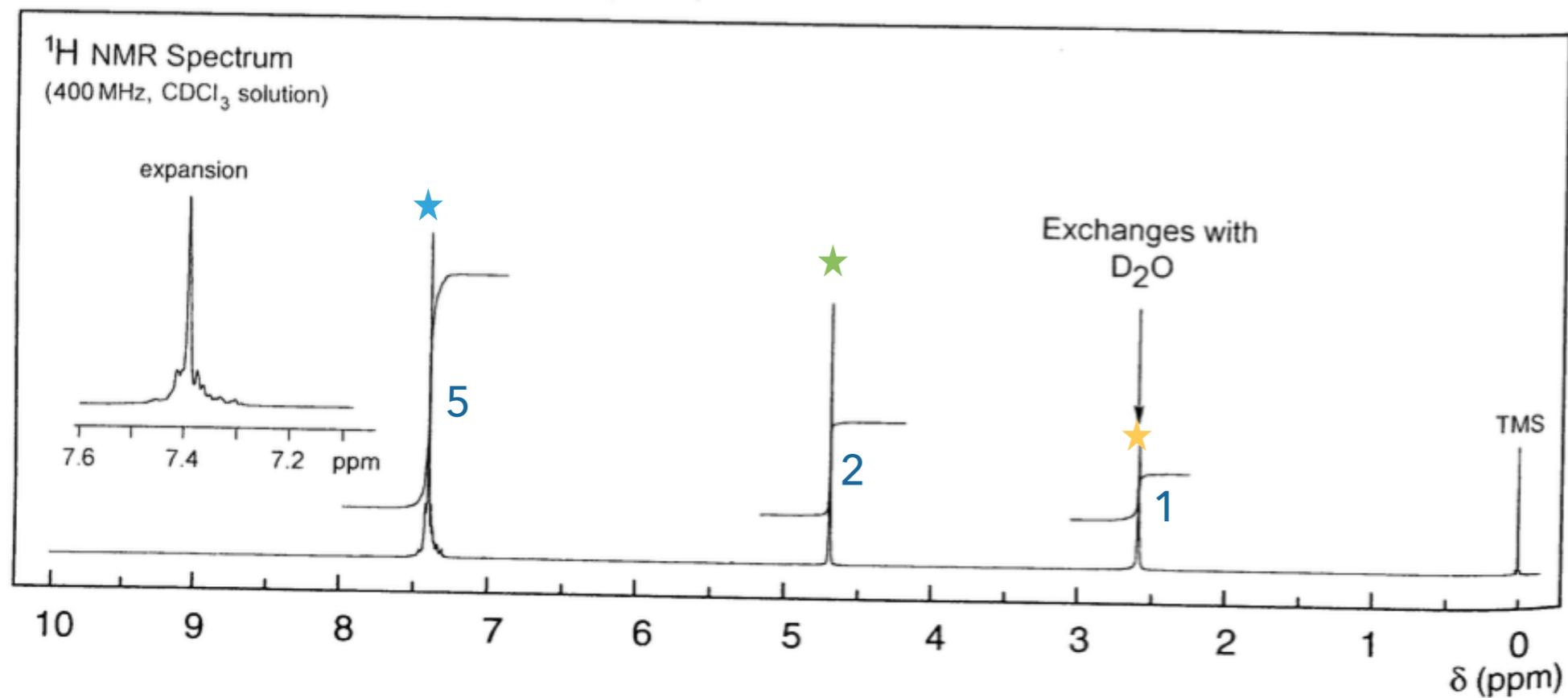
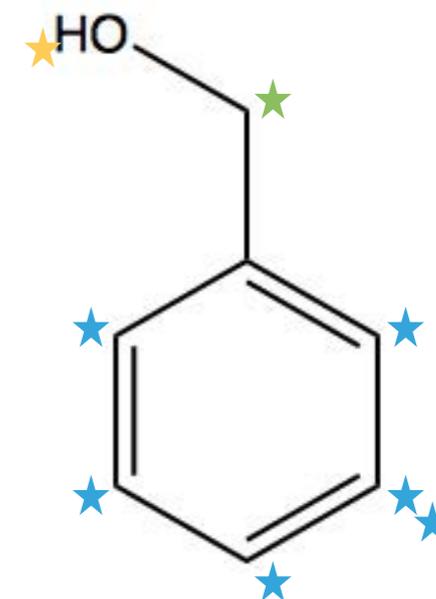


SOLUZIONE

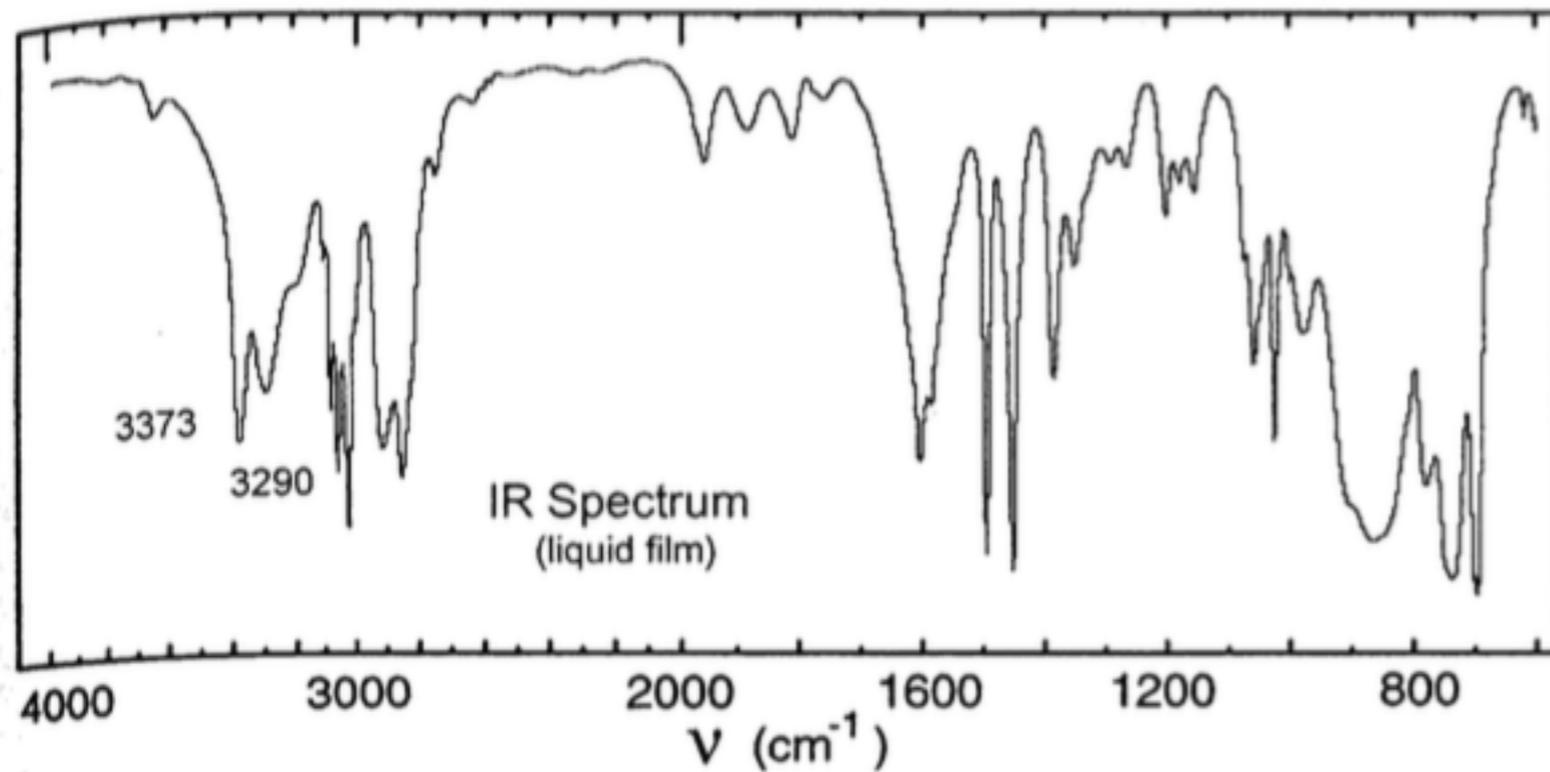


$\text{C}_7\text{H}_8\text{O}$

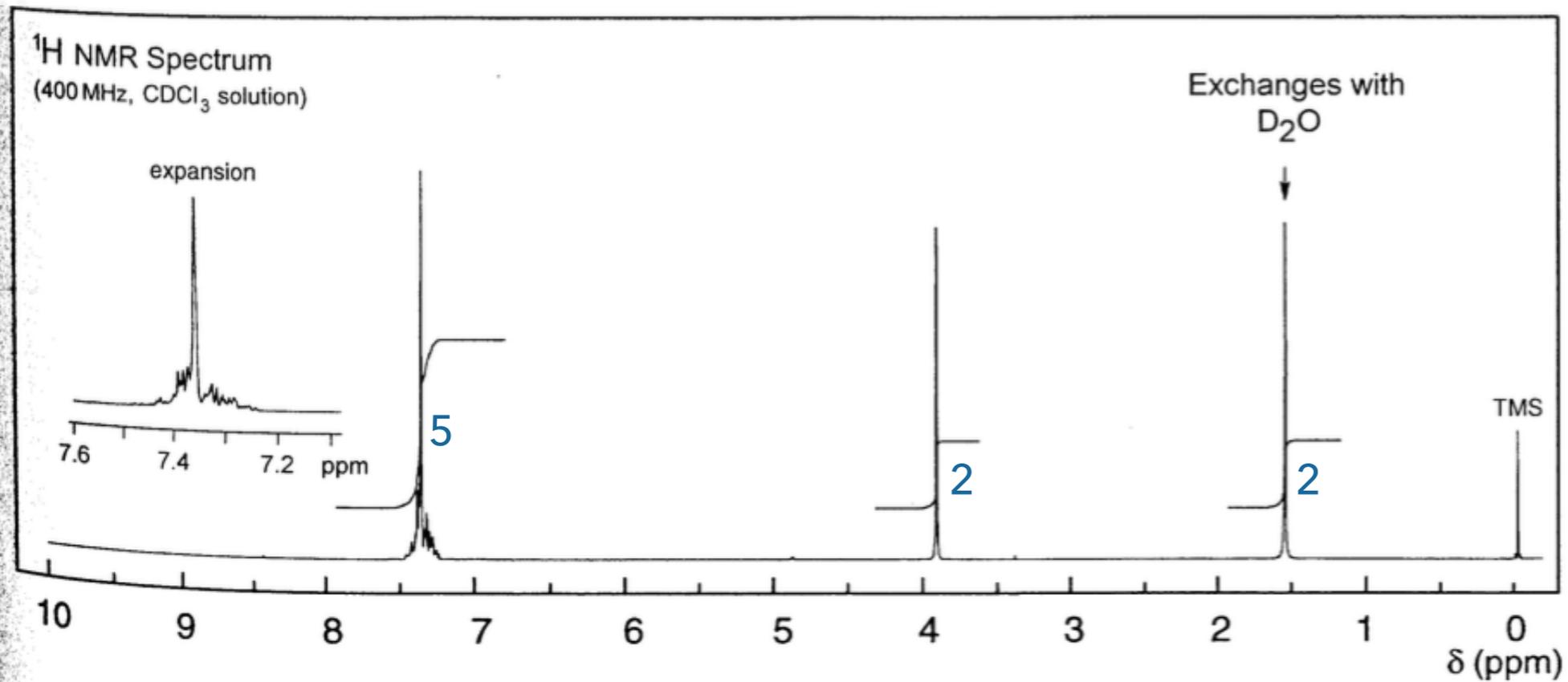
phenylmethanol



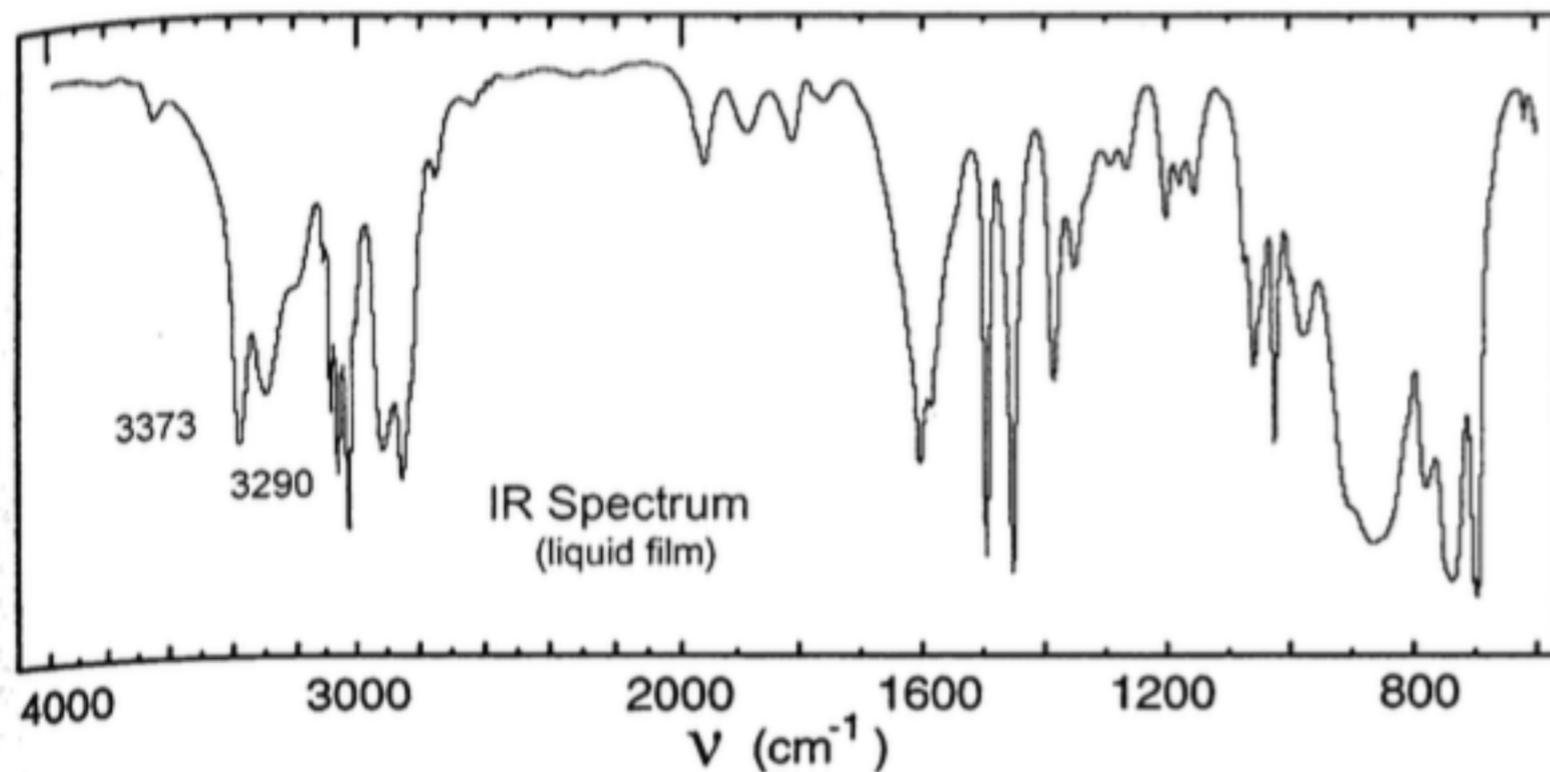
SPETTRO 8



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



SOLUZIONE



C₇H₉N

phenylmethanamine

