First name:_____Last name:_____

i.d. (last 4 digits only):_____

Midterm 1

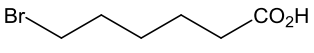
Organic Chemistry 2

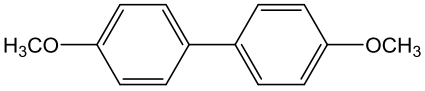
CHEM222 and CHEM234

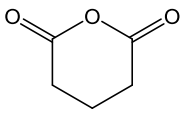
27 September 2018, 6:15-9:00 pm

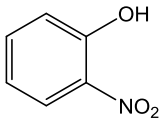
#	Version 1	Version 2	Version 3	Version 4
1	B	C	D	A
2	C	B	A	B
3	A	B	C	C
4	D	A	B	D
5	D	A	B	A
6	C	D	A	C
7	C	D	A	A
8	B	C	D	B
9	A	B	C	D
10	C	D	A	D
11	B	C	D	D
12	B	C	D	C
13	A	B	C	B
14	A	B	C	C
15	D	A	B	A
16	B	C	D	D
17	C	B	B	D
18	B	C	B	A
19	D	A	A	C
20	C	B	C	A
21	C	B	B	B
22	B	C	B	B
23	C	D	A	A
24	A	B	C	B
25	B	C	D	a

26	A	B	B	
27	C	B	B	
28	D	D	A	
29	A	A	D	
30	A	B	C	
31	C	D	A	
32	B	C	D	
33	A	B	C	
34	B	C	D	

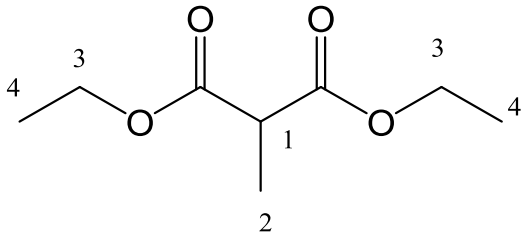
35- 

36- 

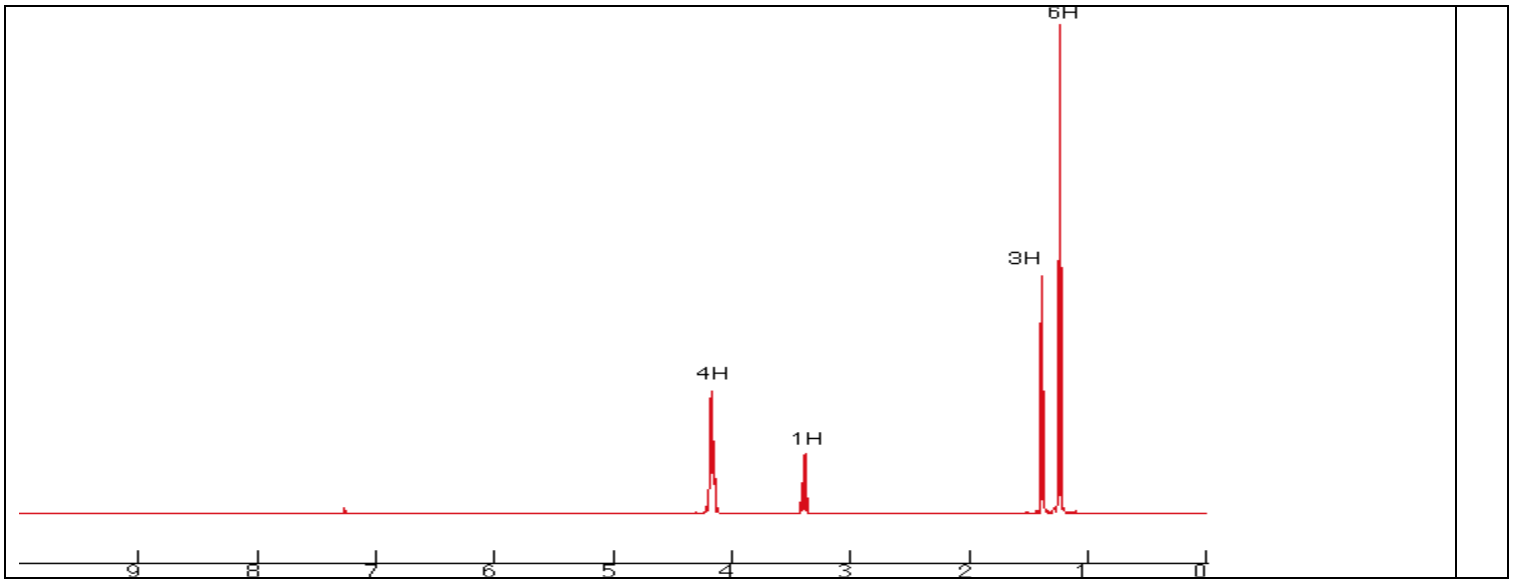
37- 

38- 

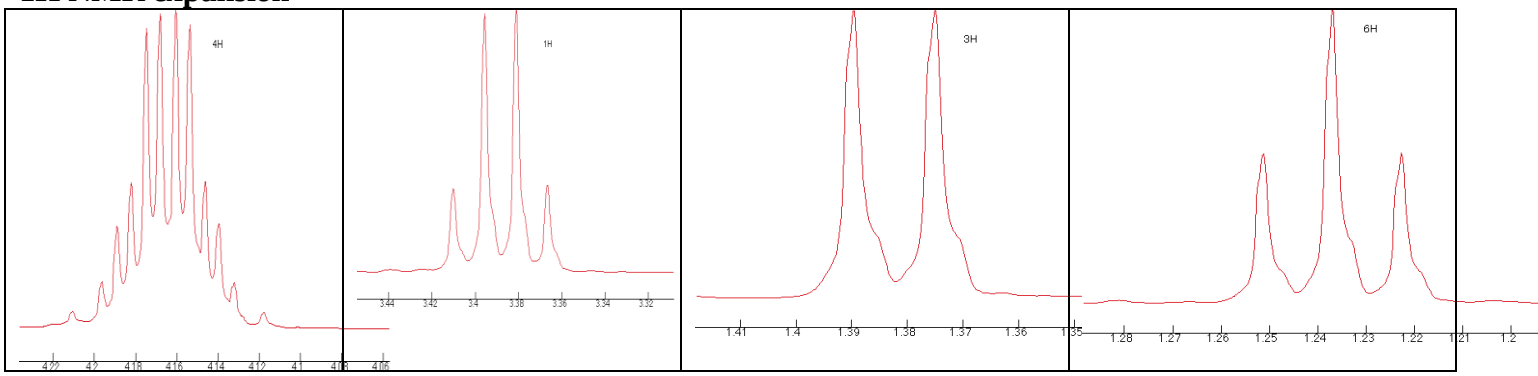
39-Shown below is the 1H NMR spectrum of compound:



1H NMR



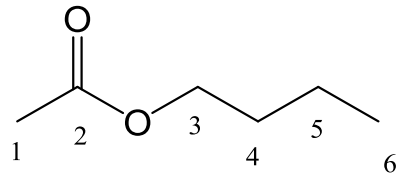
1H NMR expansion



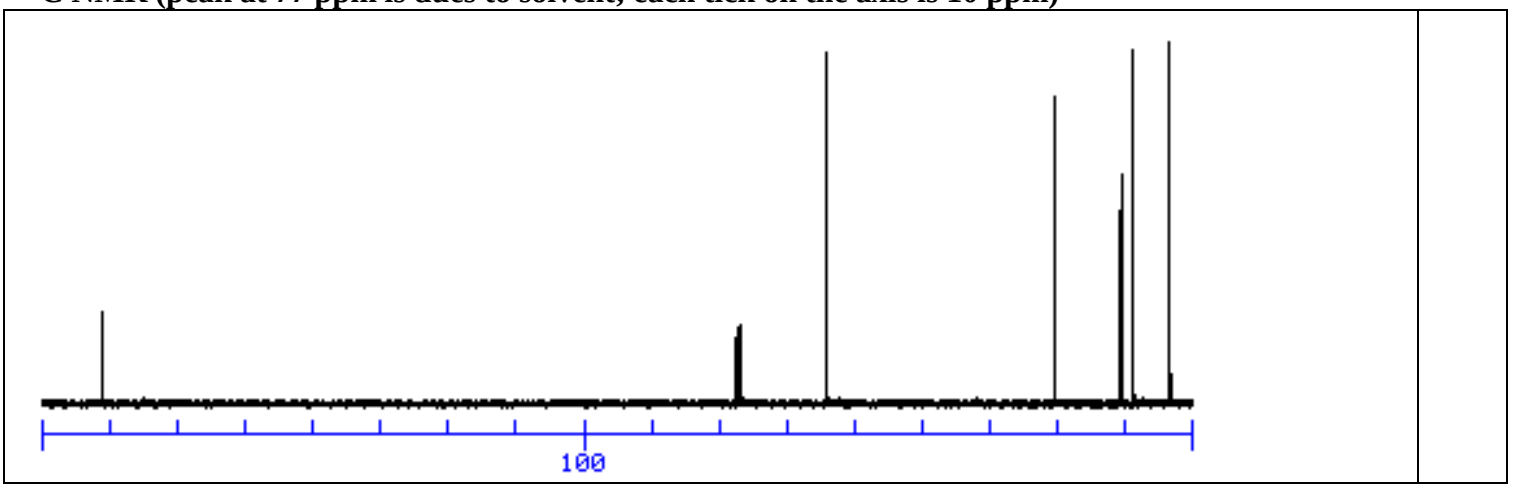
Using the numbering above, assign all the signals in the table provided:

Chemical shift (ppm)	**Which H**	**Integration**	**splitting**
4.1	H-3 (diastereotopic)	4H	m
3.3	H-1	1H	q
1.4	H-2	3H	d
1.2	H-4	6H	t

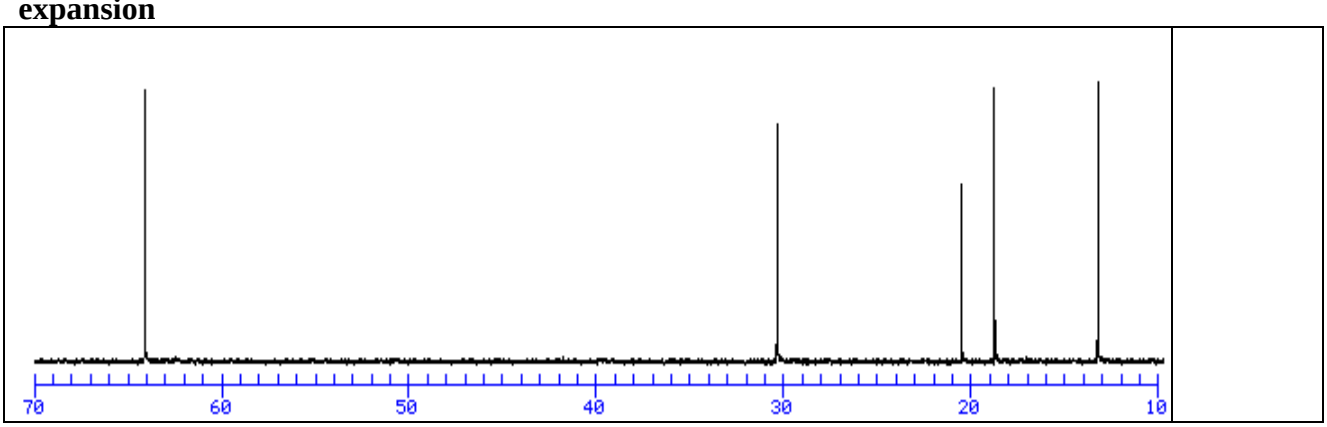
40-Shown below is the ^{13}C NMR spectrum of compound:



^{13}C NMR (peak at 77 ppm is dues to solvent; each tick on the axis is 10 ppm)



expansion



Using the numbering above, assign all the signals in the table provided:

Chemical shift (ppm)	**Which C (1-6)**
13	C-6
19	C-5
21	C-4
30	C-1
64	C-3
170	C-2