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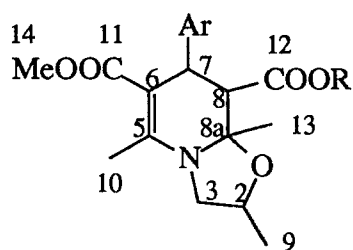
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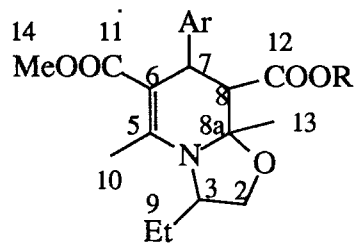
Table ^{13}C NMR Assignments of **3ar**, **3br**, **3cs**, **3dr** and **4** (major and minor).

C	3ar	3br	3cs	3dr	4	
					major	minor
2	72.8	72.7	72.6	72.7	68.0	67.5
3	52.7	52.5	52.5	52.6	59.7	59.7
5	152.0	151.1	152.0	151.2	150.0	152.0
6	92.5	92.5	92.5	92.3	92.0	92.0
7	41.0	40.9	40.9	41.0	44.3	41.3
8	53.2	53.2	53.5	54.4	59.2	53.7
8a	90.4	90.3	90.4	90.5	101.6	90.7
9	20.5	20.3	20.3	20.4	10.7	11.2
					26.6	28.1
10	18.7	18.6	18.7	18.7	18.6	18.7
11	169.3	169.3	169.3	169.4	167.6	167.6
12	171.6	171.2	171.1	171.3	171.6	171.6
13	28.7	28.6	28.7	28.7	17.6	24.7
14	50.5	50.5	50.5	50.4	50.0	50.4
R						
	Me	Et	Bn	<i>t</i>-Bu	Me	Me
	51.7	14.2	66.3	28.2(3)	51.7	51.7
		60.4	128.2(2)	80.5		
			128.5(3)			
			136.1			
Ar						
	3-ClPh	3-ClPh	3-ClPh	3-ClPh	3-ClPh	3-ClPh
1'	147.5	147.5	147.4	147.9	147.0	147.0
2'	126.3	126.3	126.3	126.2	126.4	126.2
3'	134.3	134.2	134.3	134.2	134.1	134.1
4'	125.9	125.9	125.9	125.9	125.5	125.8
5'	129.5	129.4	129.5	129.4	129.4	129.4
6'	127.9	127.7	127.9	127.9	127.0	127.3

Solvent CDCl_3 . TMS as internal standard

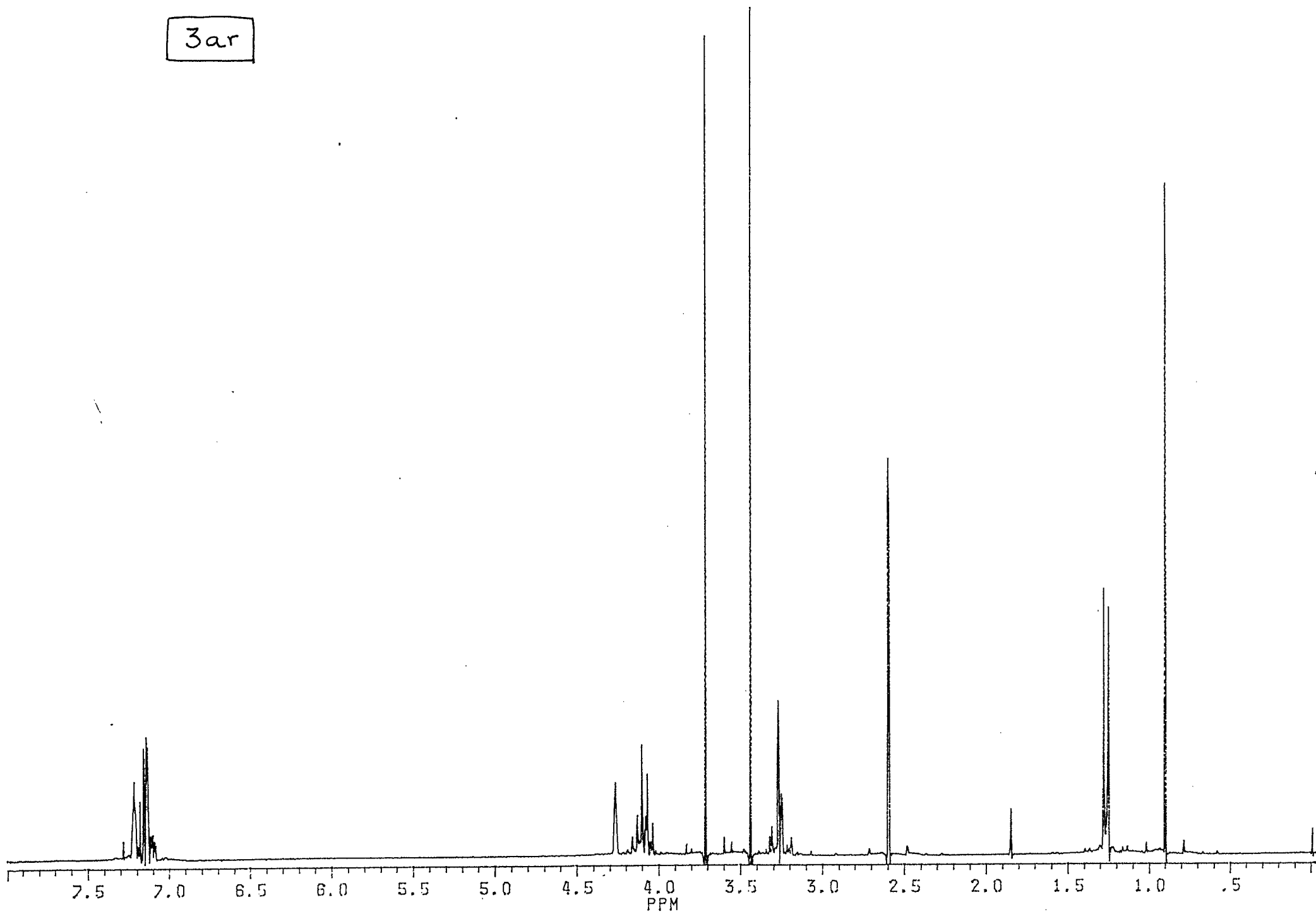


3



4

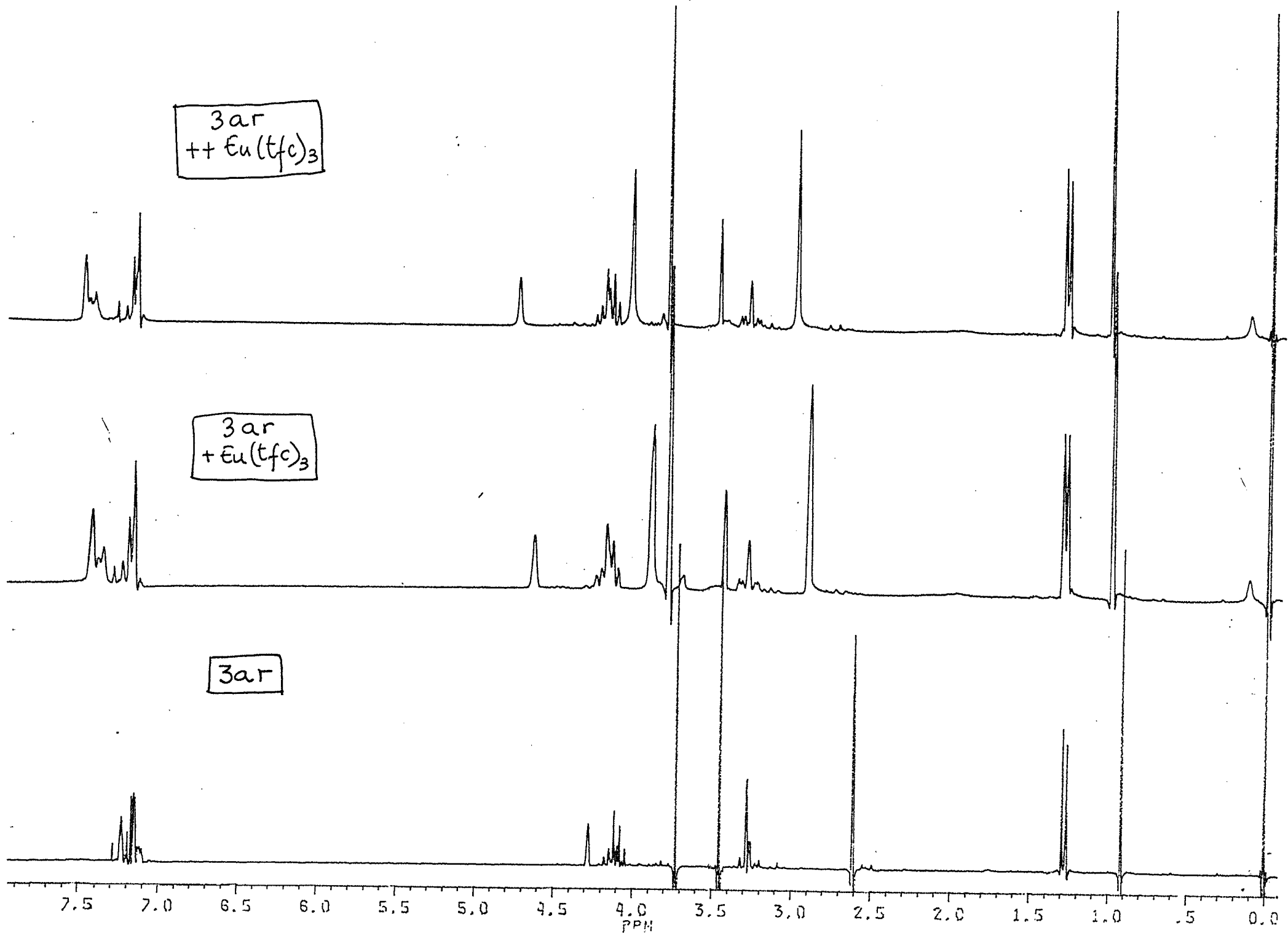
3ar



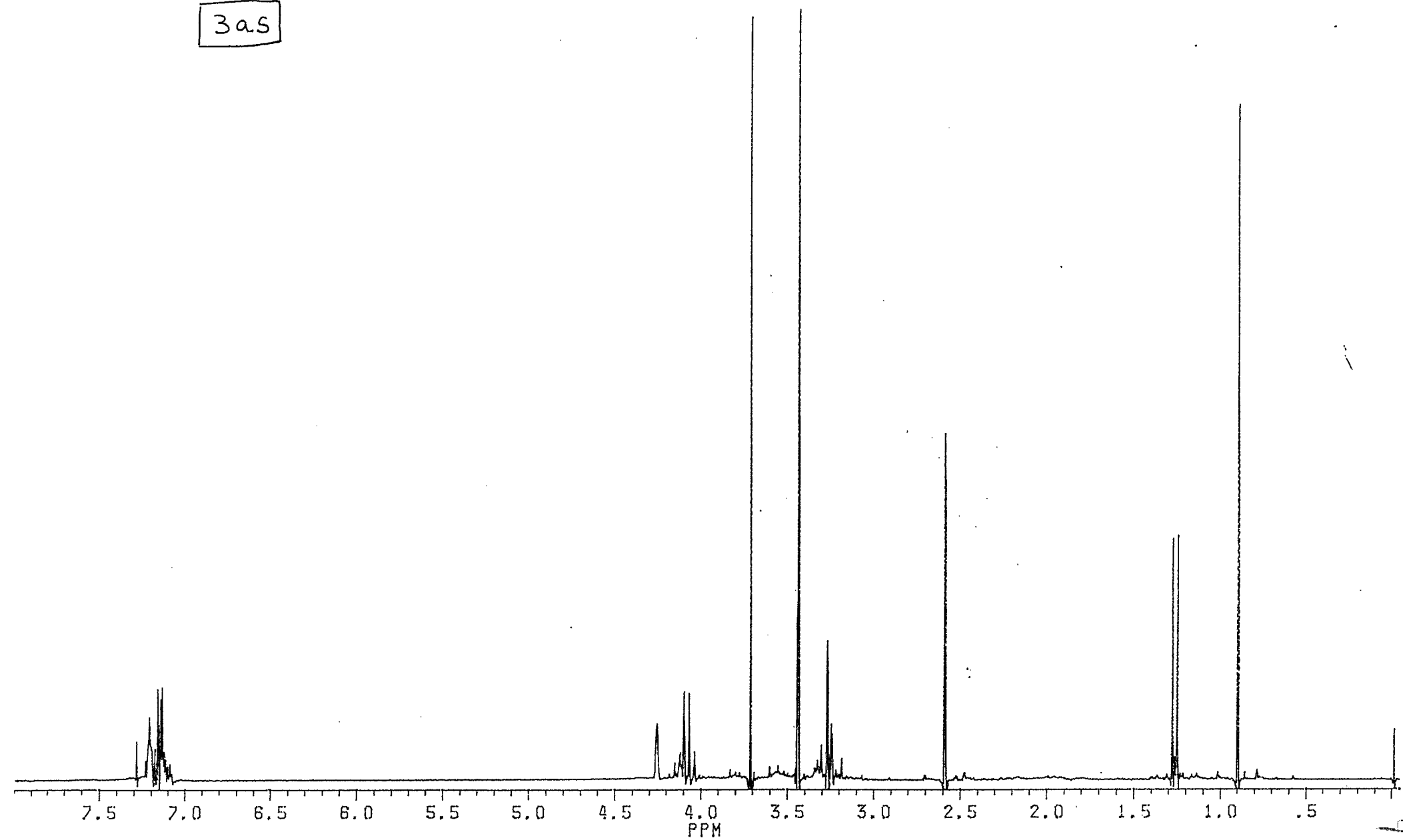
3ar
++ Eu(tfc)₃

3ar
+ Eu(tfc)₃

3ar



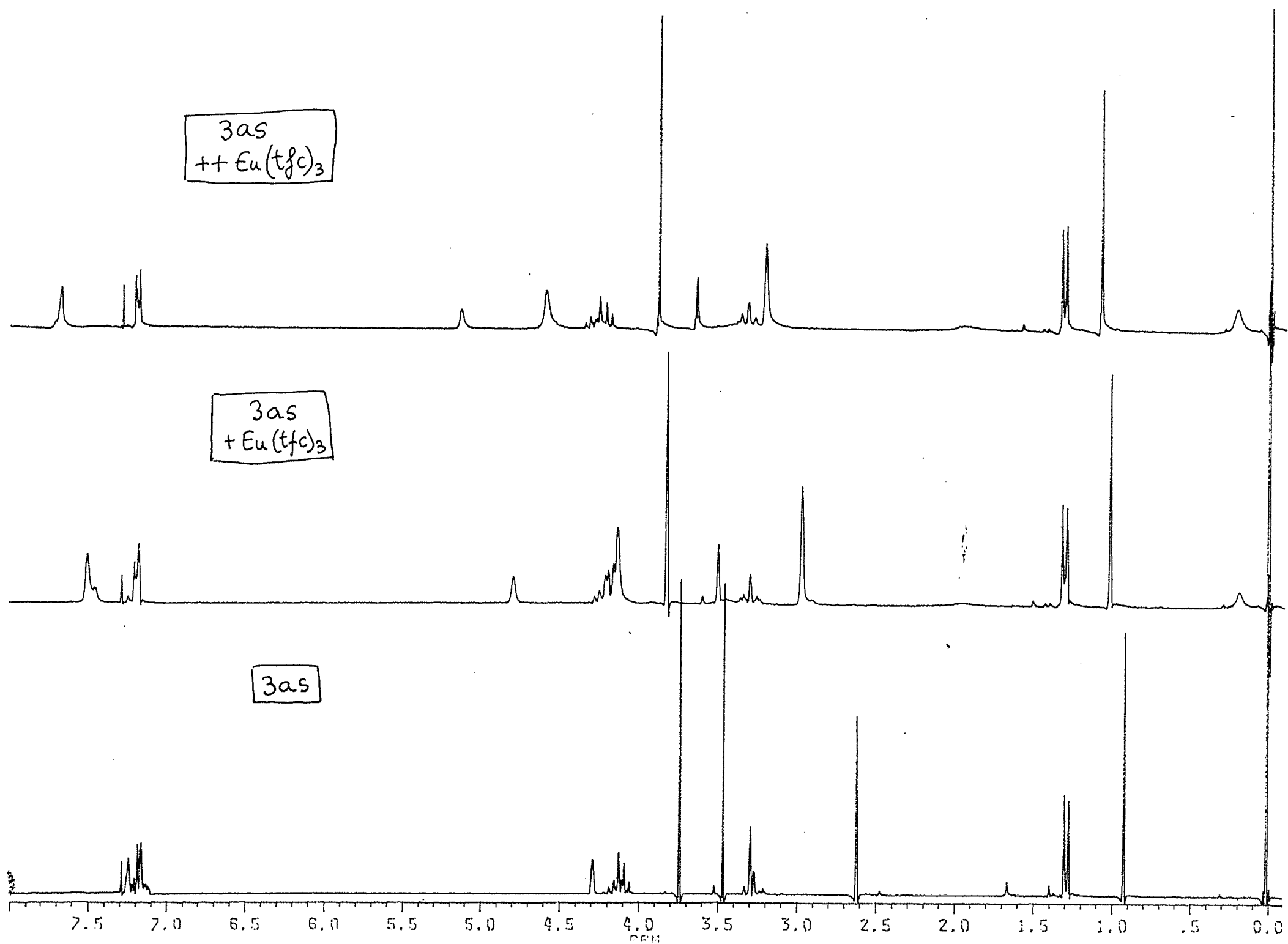
3as



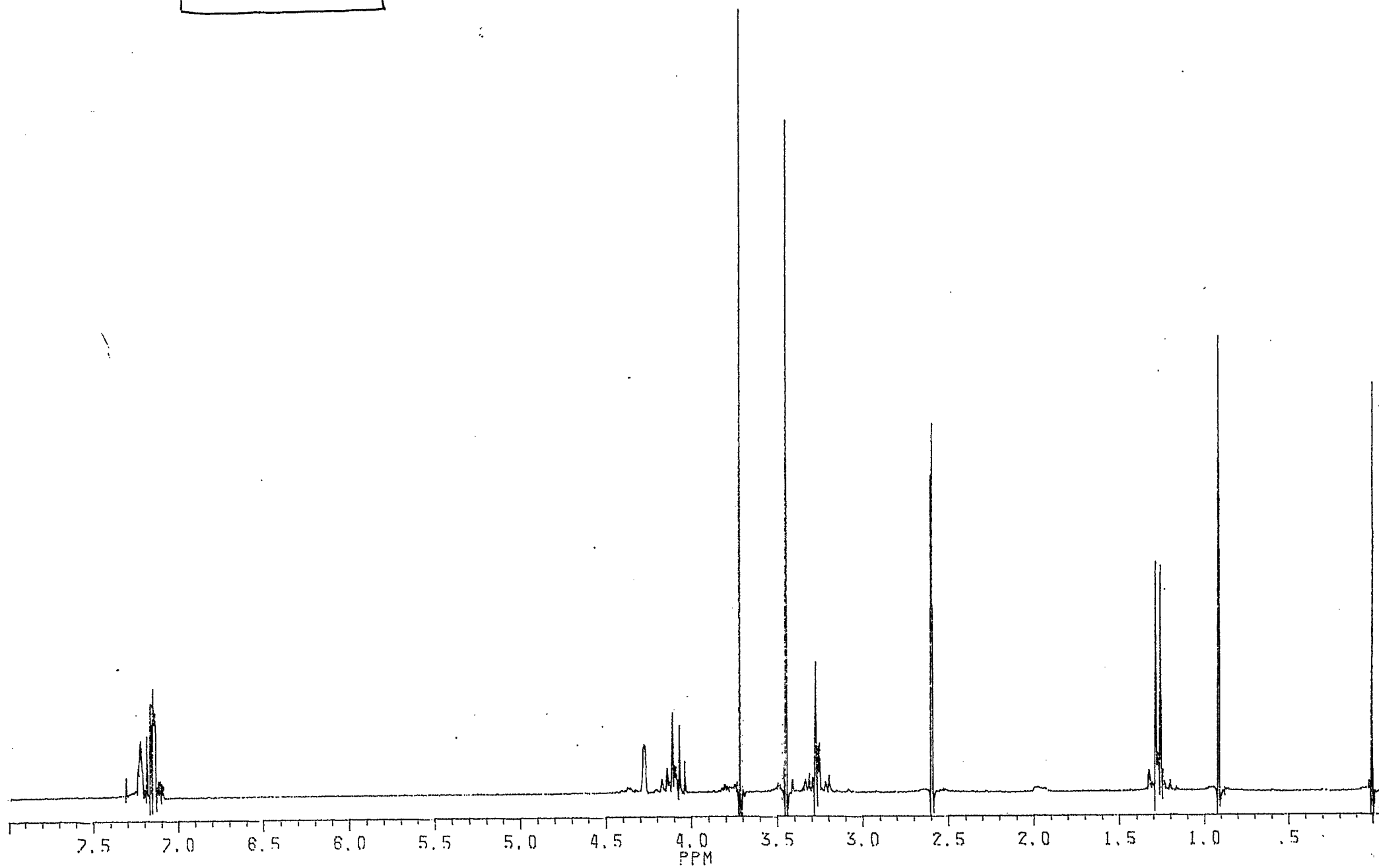
3as
++ Eu(tfc)₃

3as
+ Eu(tfc)₃

3as

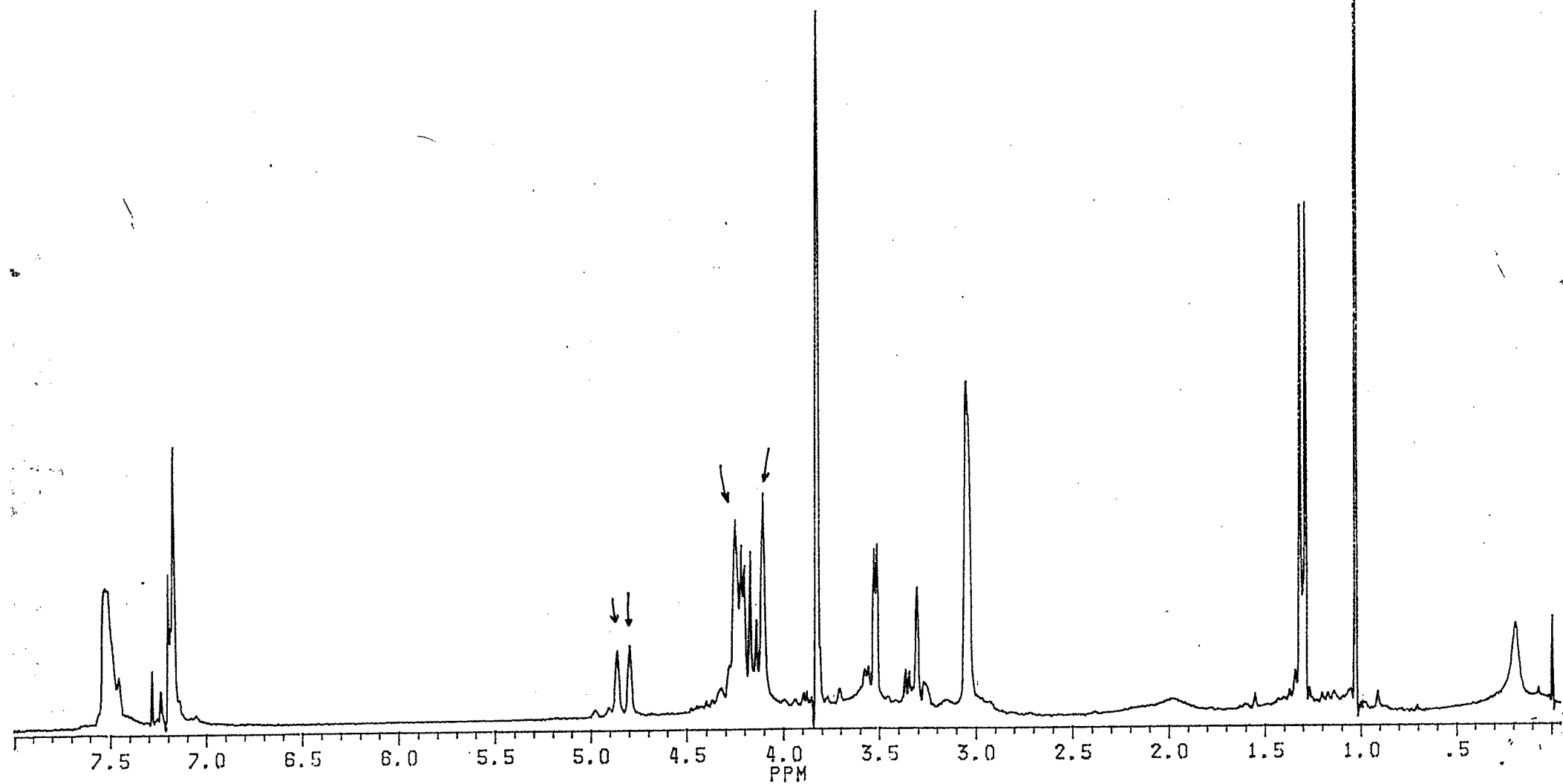


3a racemic



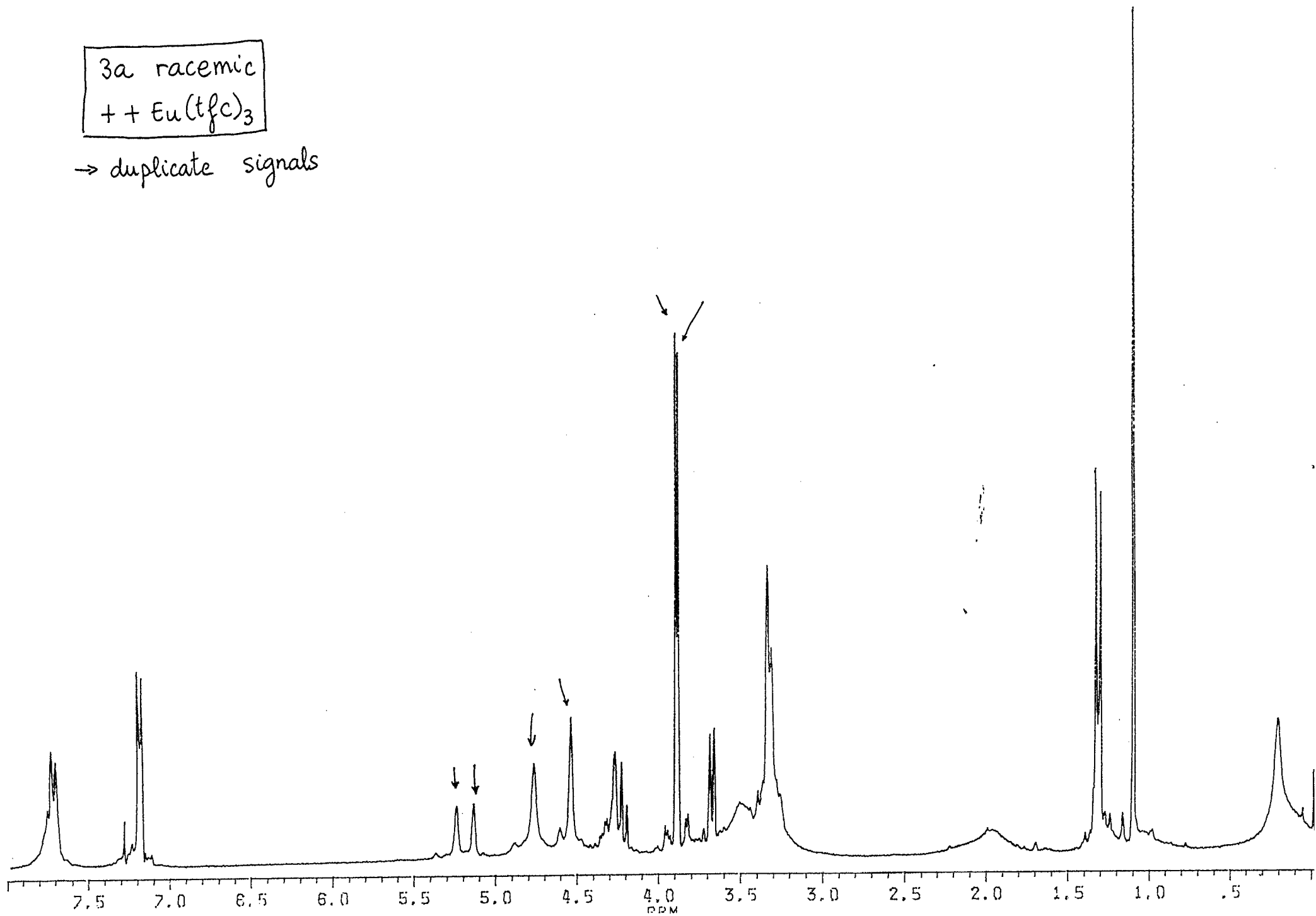
3a racemic
+ $\text{Eu}(\text{tfc})_3$

→ duplicate signals



3a racemic
++ Eu(tfc)₃

→ duplicate signals



mixture

2× 3ar + Eu(tfc)₃ •

1× 3as + Eu(tfc)₃ →

