

Catalytic Enantioselective Addition of Me₂Zn to Isatins

Carlos Vila^{a*}, Andrés del Campo,^a Gonzalo Blay,^a José R. Pedro^{a*}

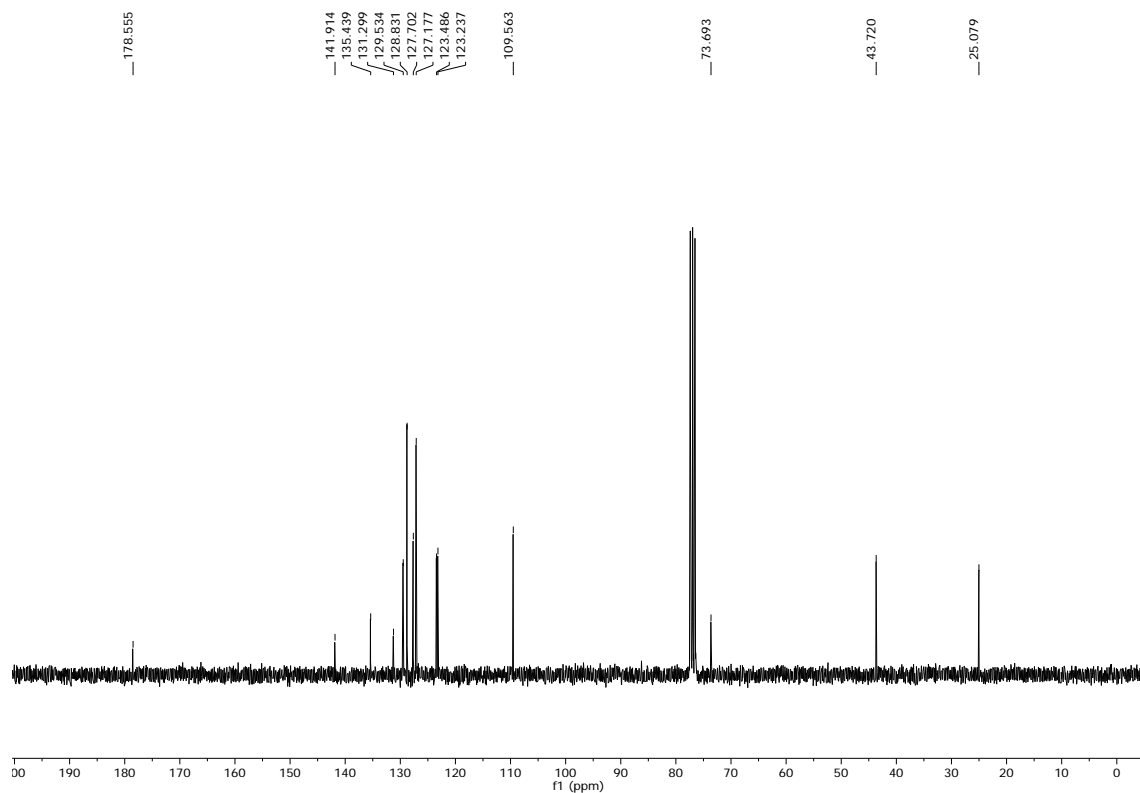
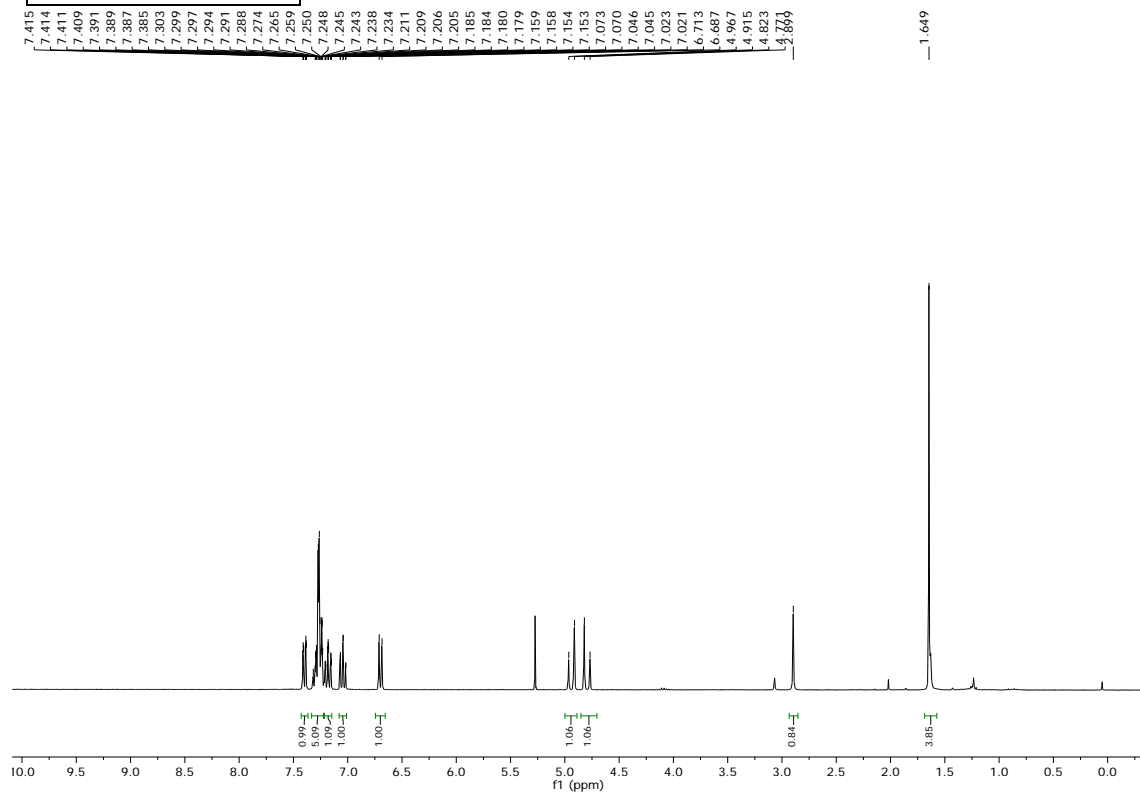
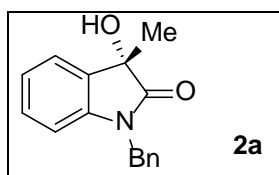
^a *Departament de Química Orgànica, Facultat de Química, Universitat de València, C/Dr. Moliner, 50, E-46100 Burjassot (València), Spain*

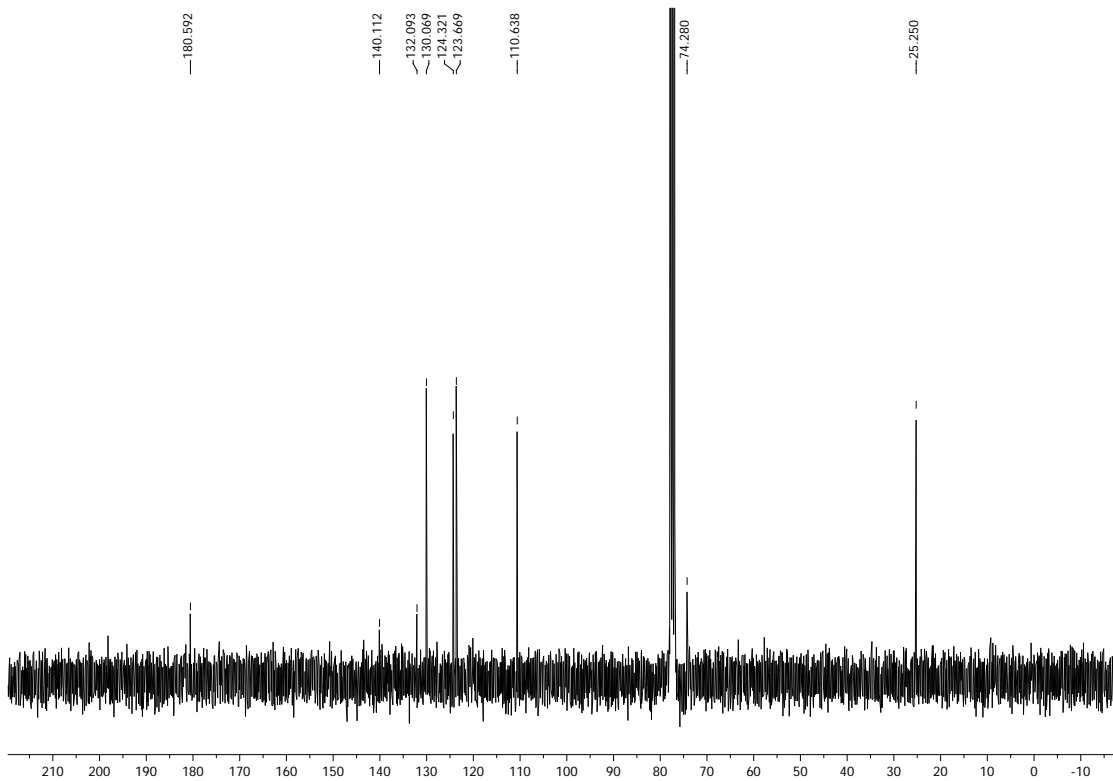
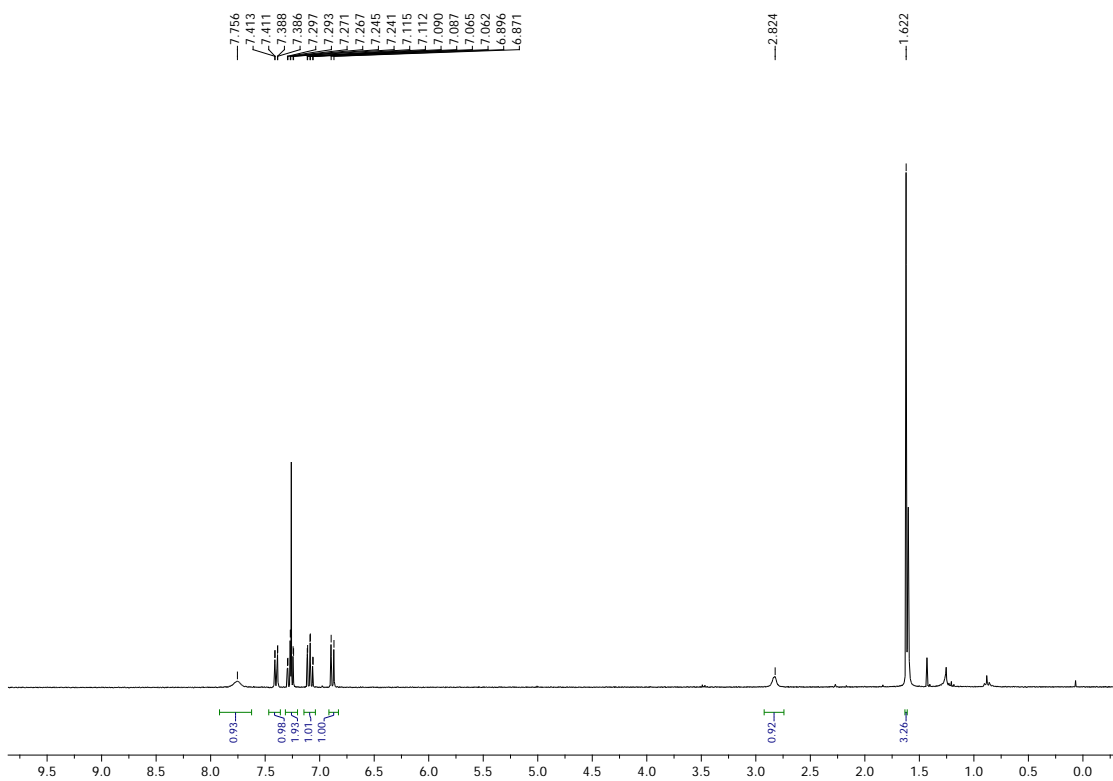
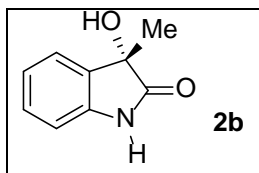
SUPPORTING INFORMATION

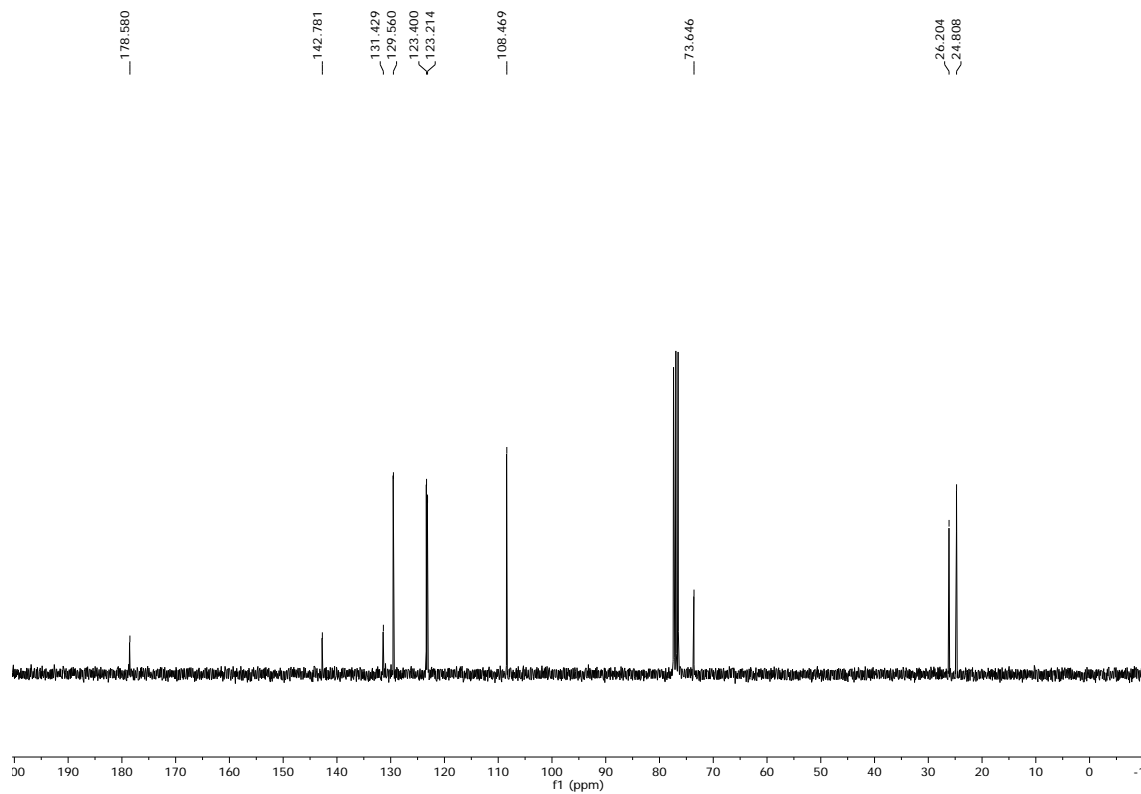
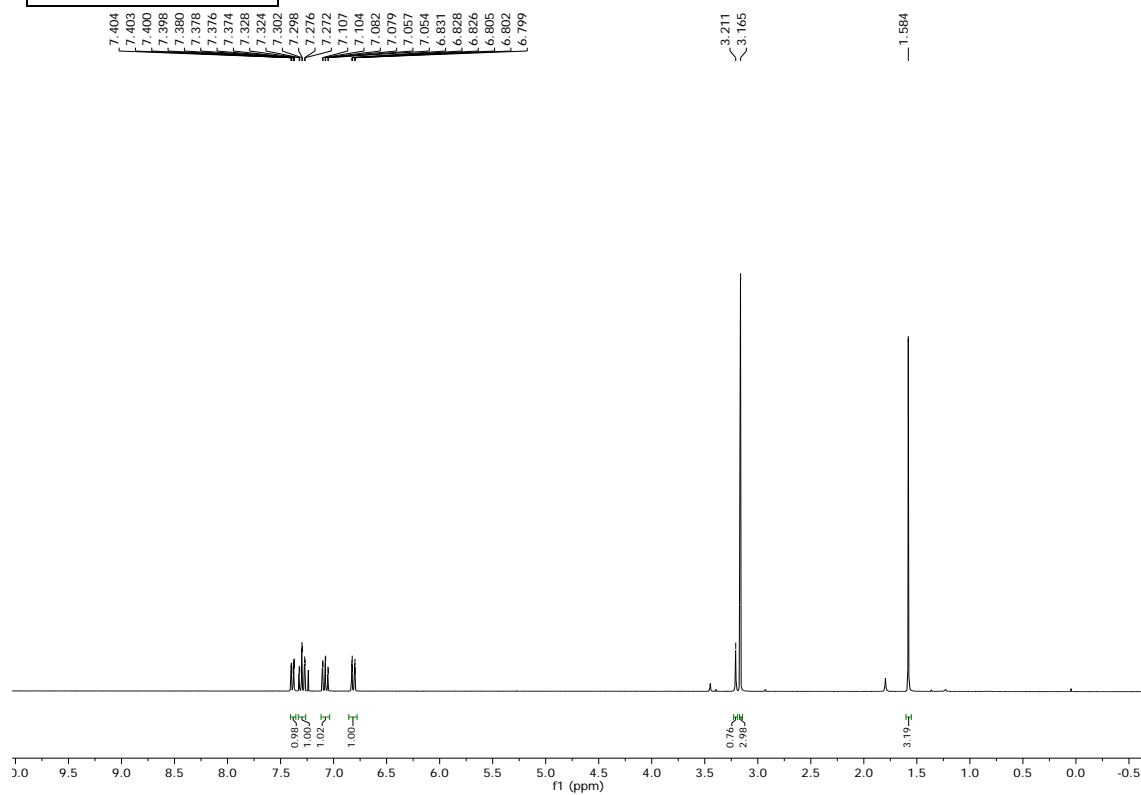
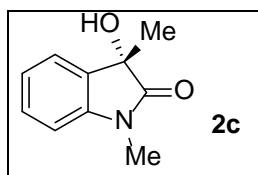
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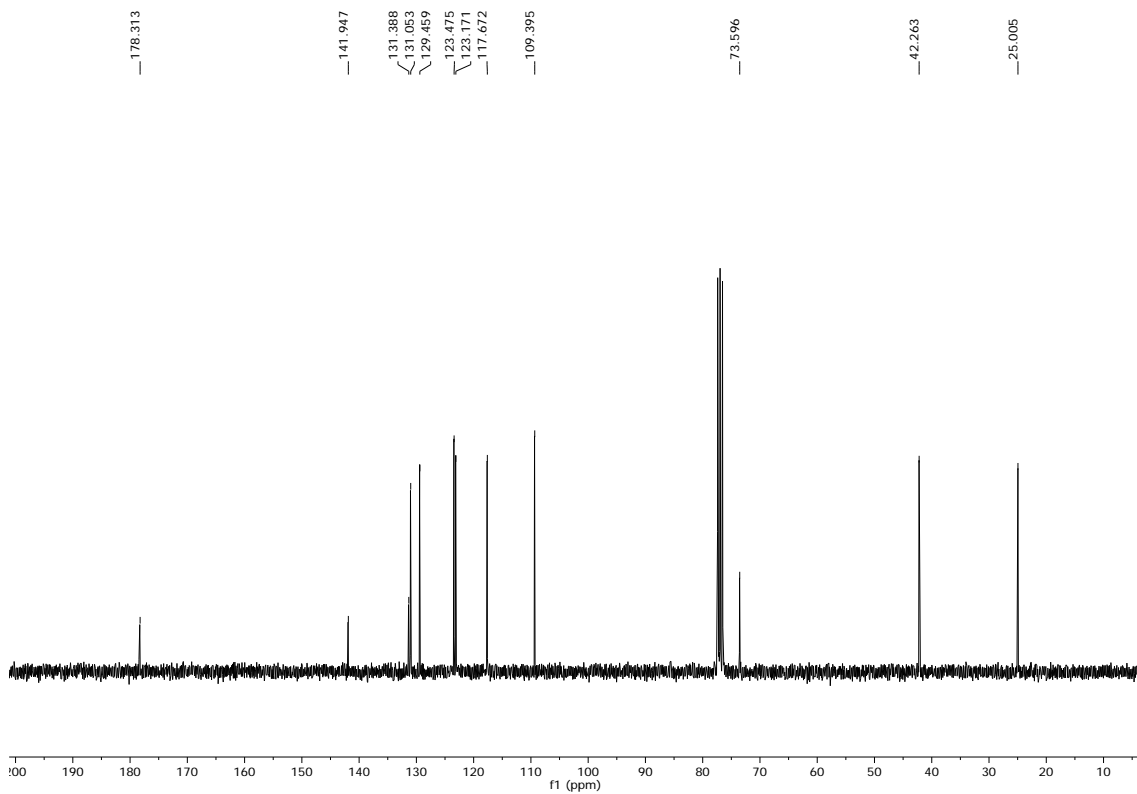
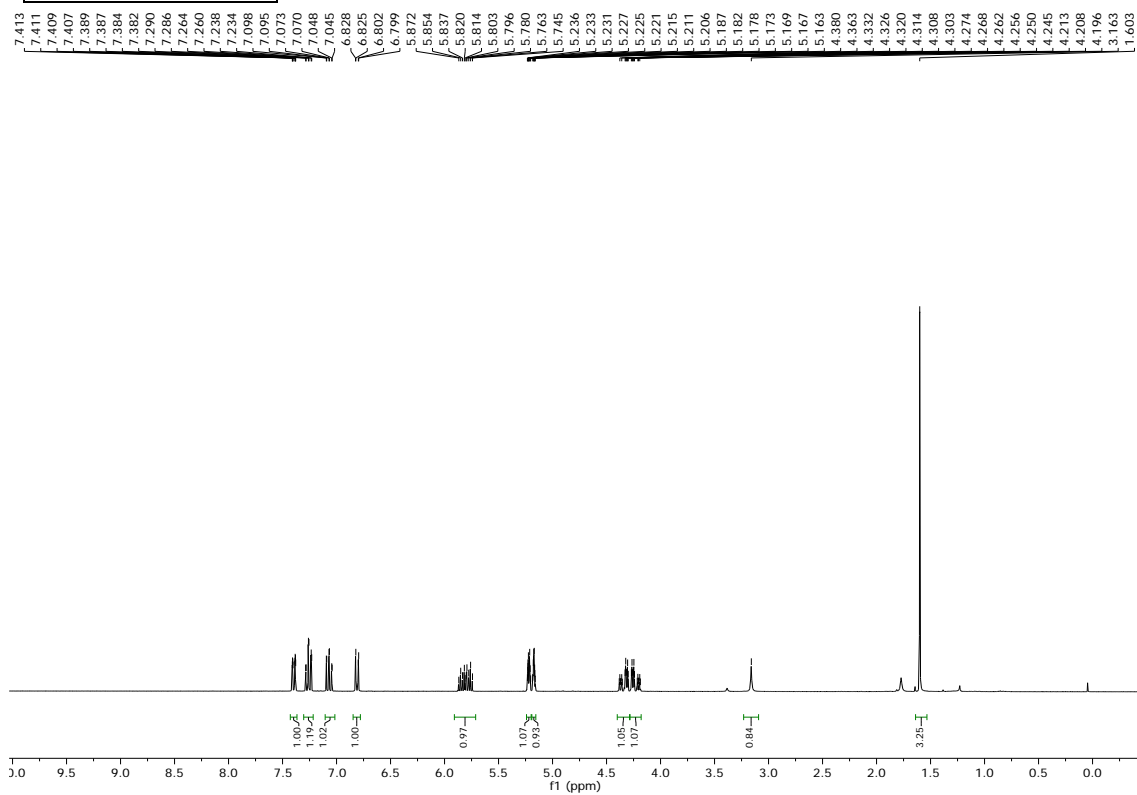
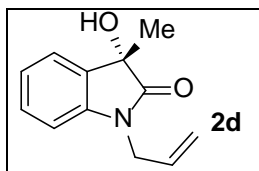
¹ H and ¹³ C NMR spectra	S2
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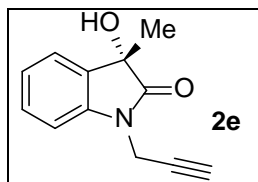
¹H and ¹³C NMR spectra



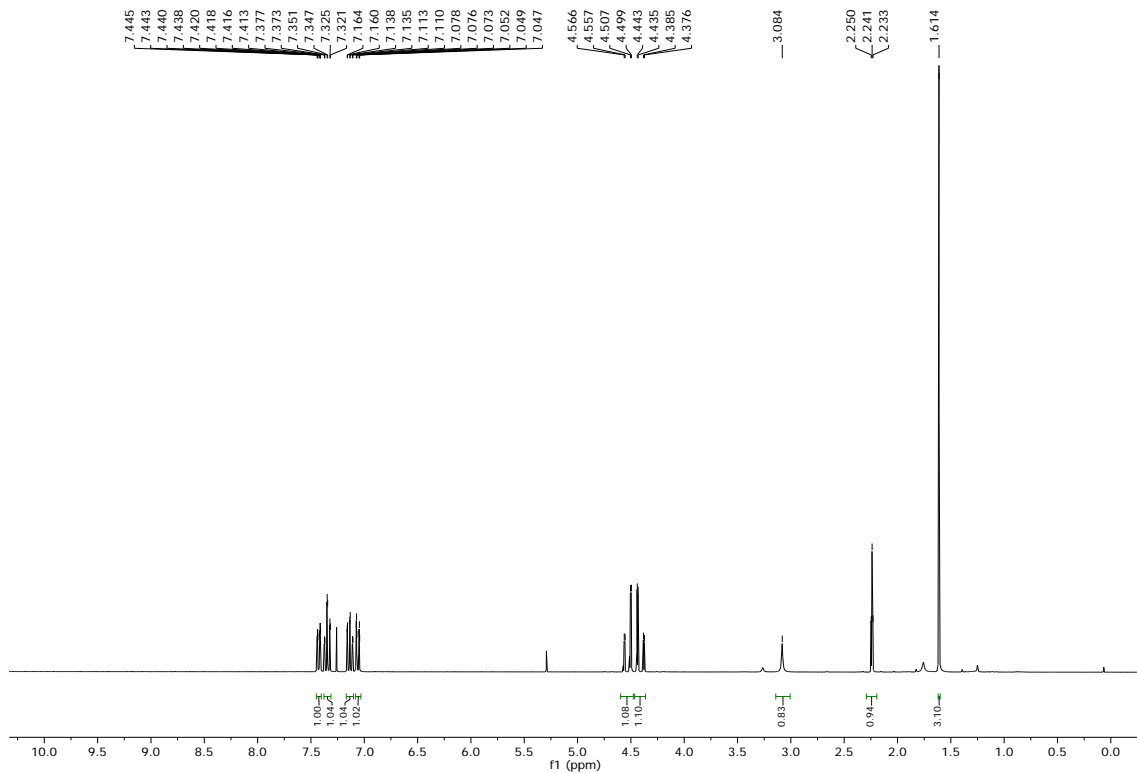




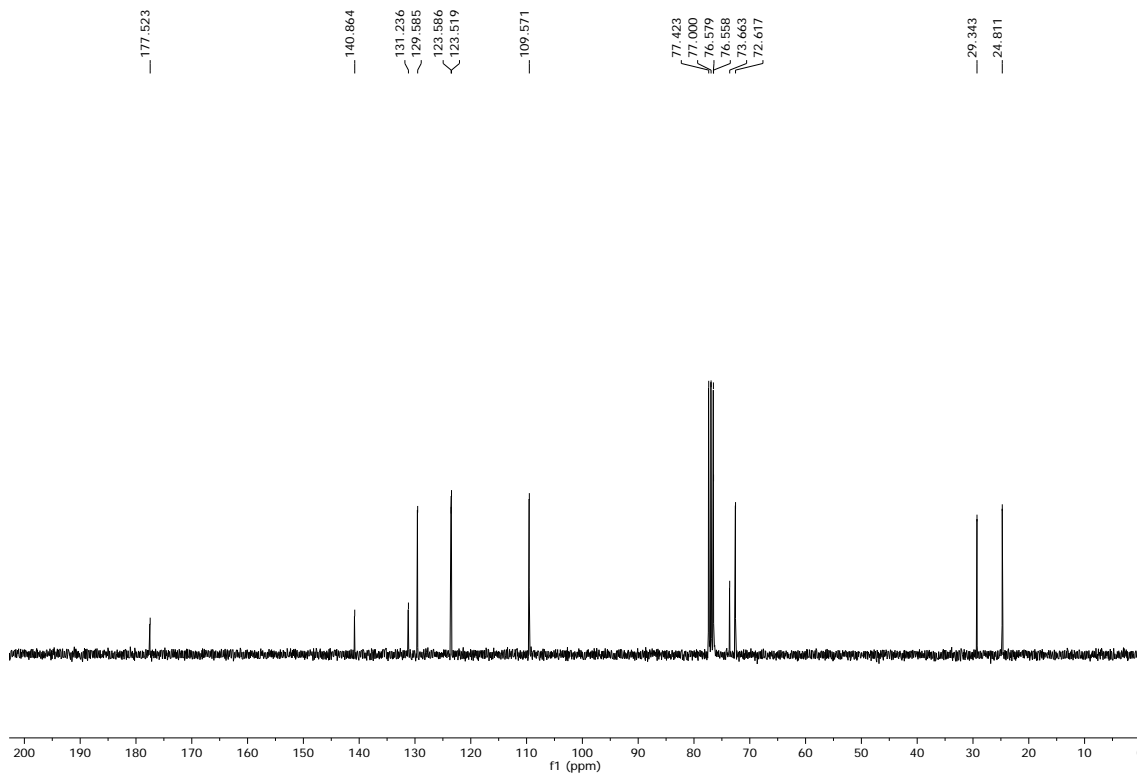


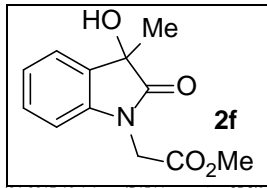


May08-2017.140.1.1r — JR6529 — proton CDCl3 /opt/topspin JRPE 42

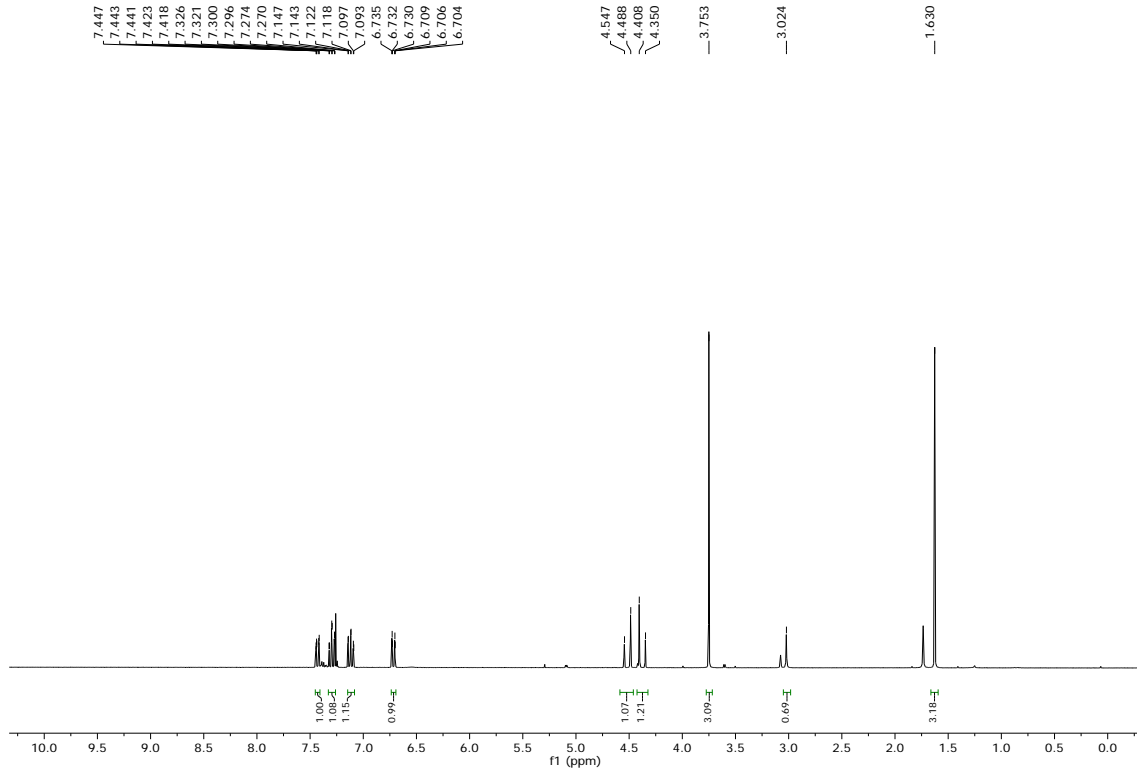


May08-2017.141.1.1r — JR6529 — c13cpdc CDCl3 /opt/topspin JRPE 42

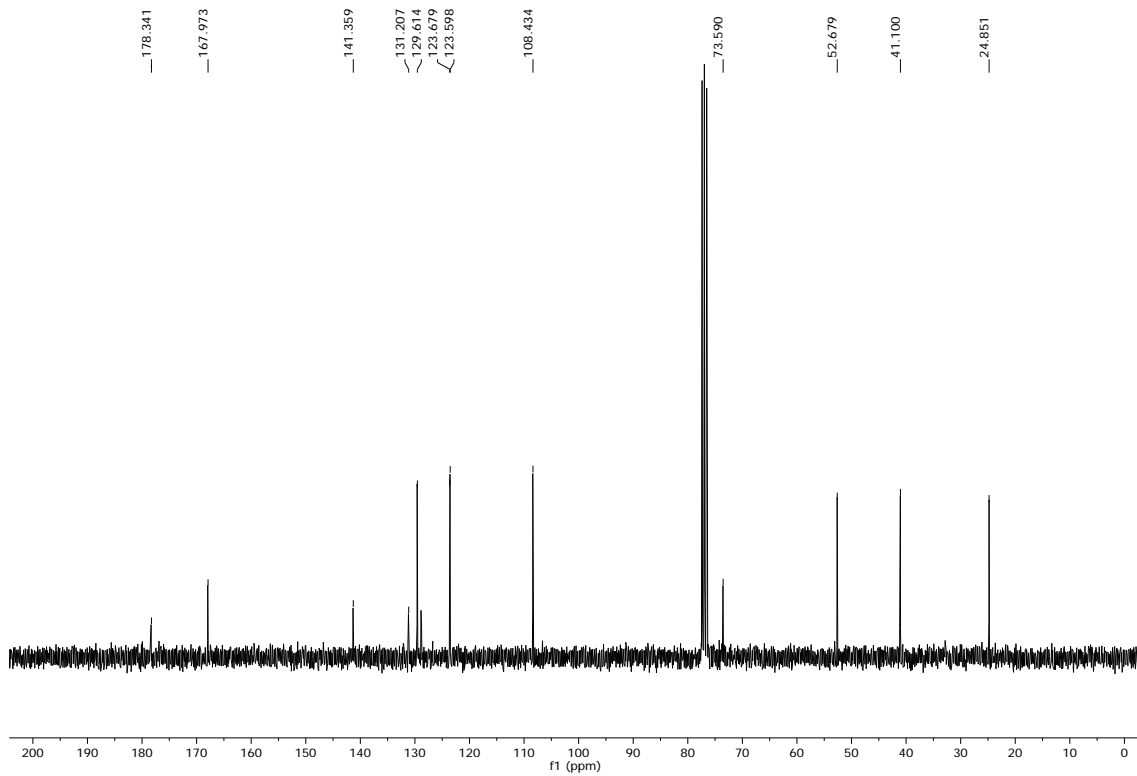


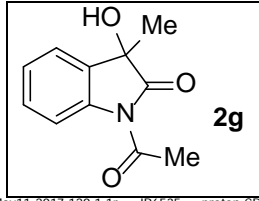


Jul04-2017.10.1.1r — JR6561 — proton CDCl3 /opt/topspin JRPE 21

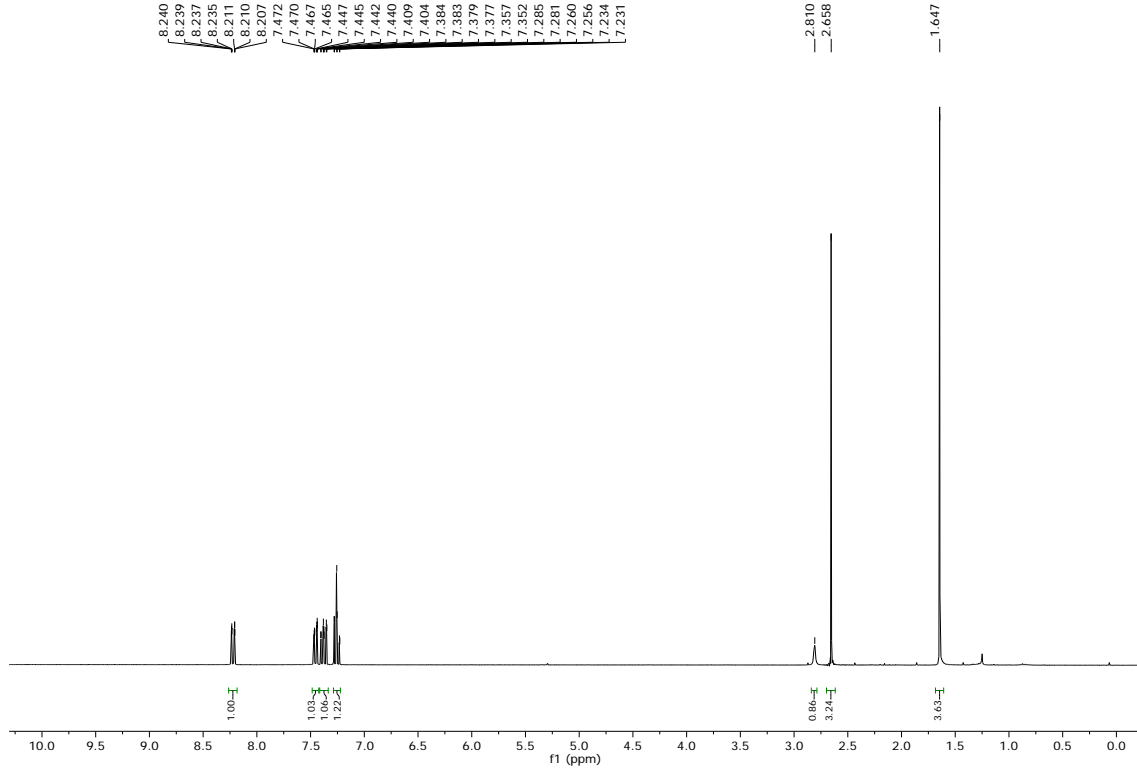


Jul04-2017.11.1.1r — JR6561 — c13cpdc CDCl3 /opt/topspin JRPE 21

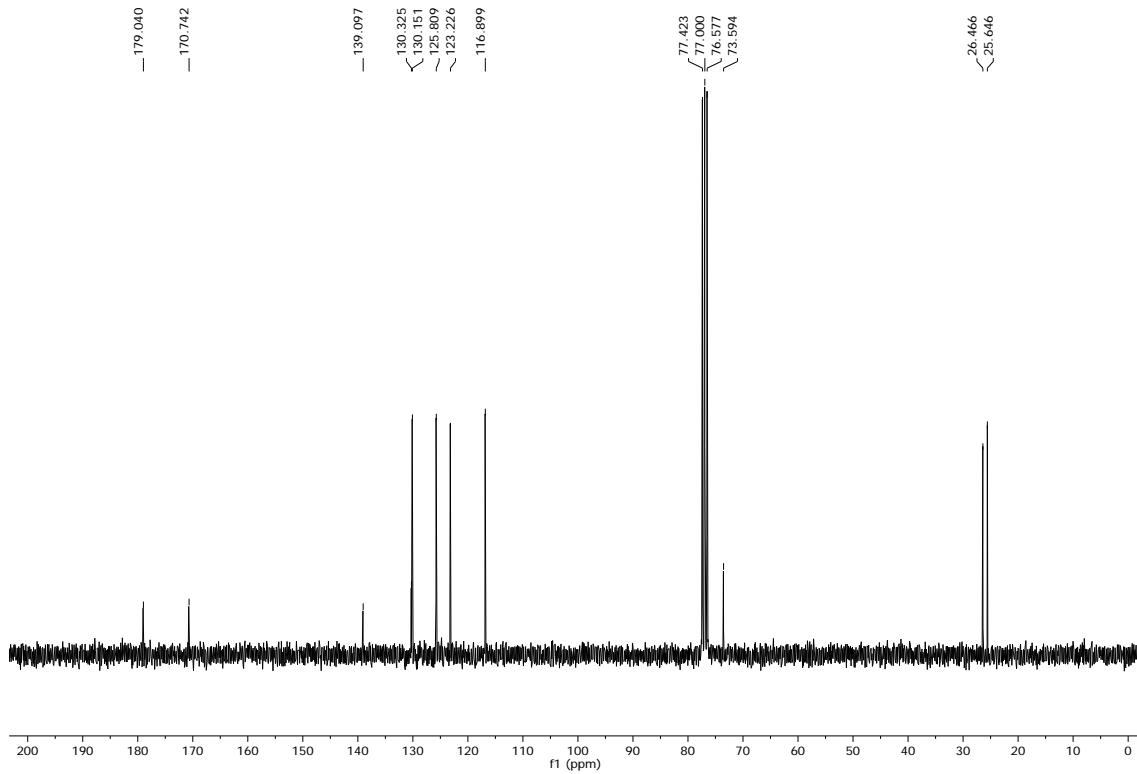


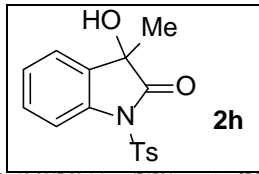


May11-2017.120.1.1r — JR6535 — proton CDCl3 /opt/topspin JRPE 49

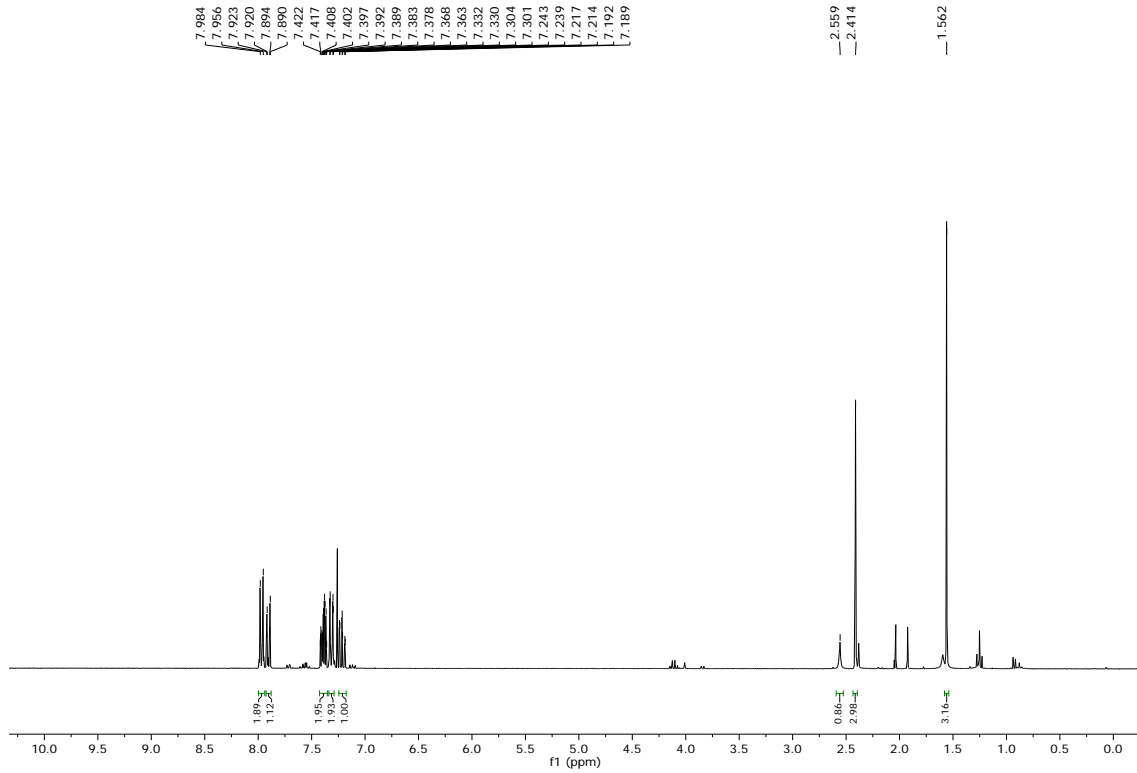


May11-2017.121.1.1r — JR6535 — c13cpdc CDCl3 /opt/topspin JRPE 49

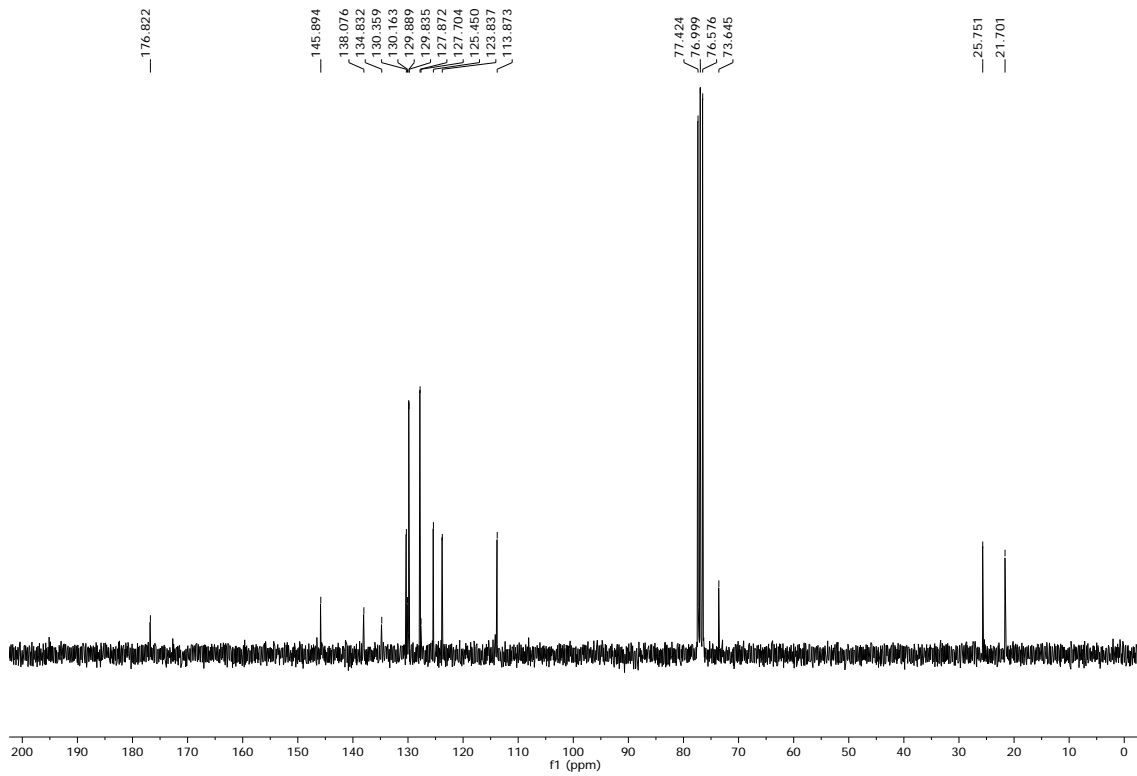


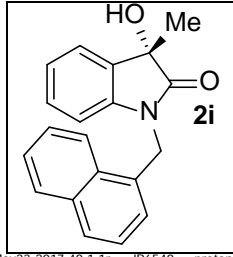


May12-2017.80.1.1r - JR6536 - proton CDCl3 /opt/topspin JRPE 35



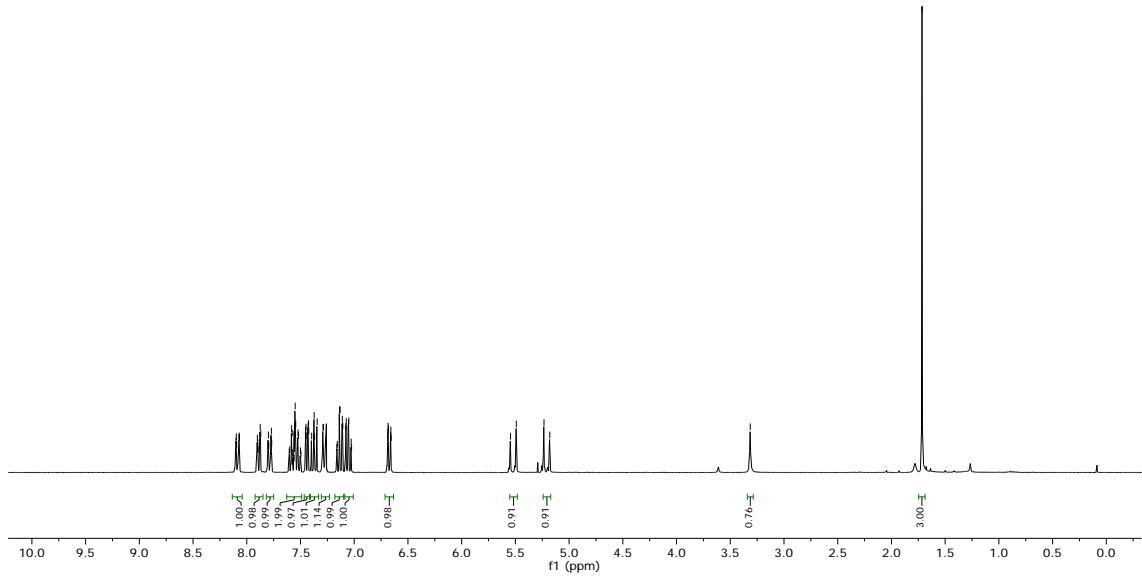
May15-2017.90.1.1r - JR6536 - c13cpdc CDCl3 /opt/topspin JRPE 53



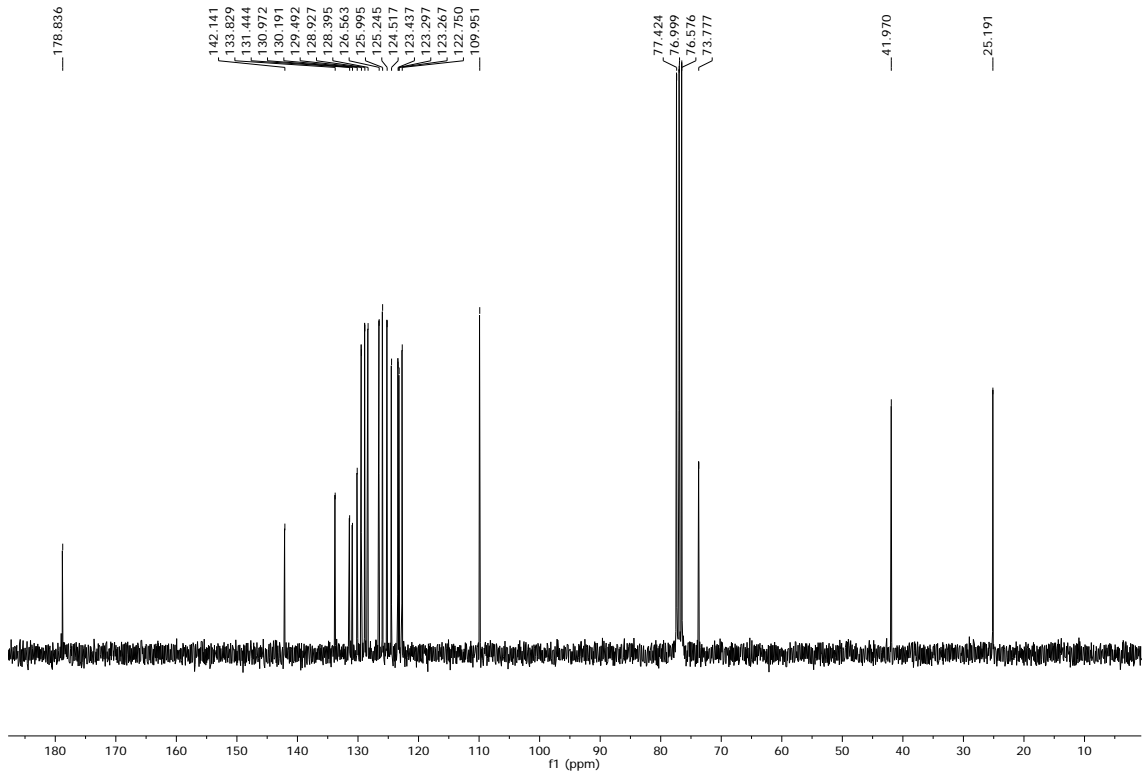


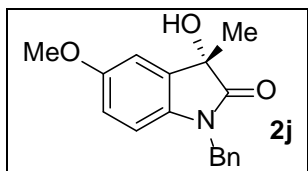
May23-2017.40.1.1r — JR6540 — proton CDCl3 /opt/topspin JRPE 48

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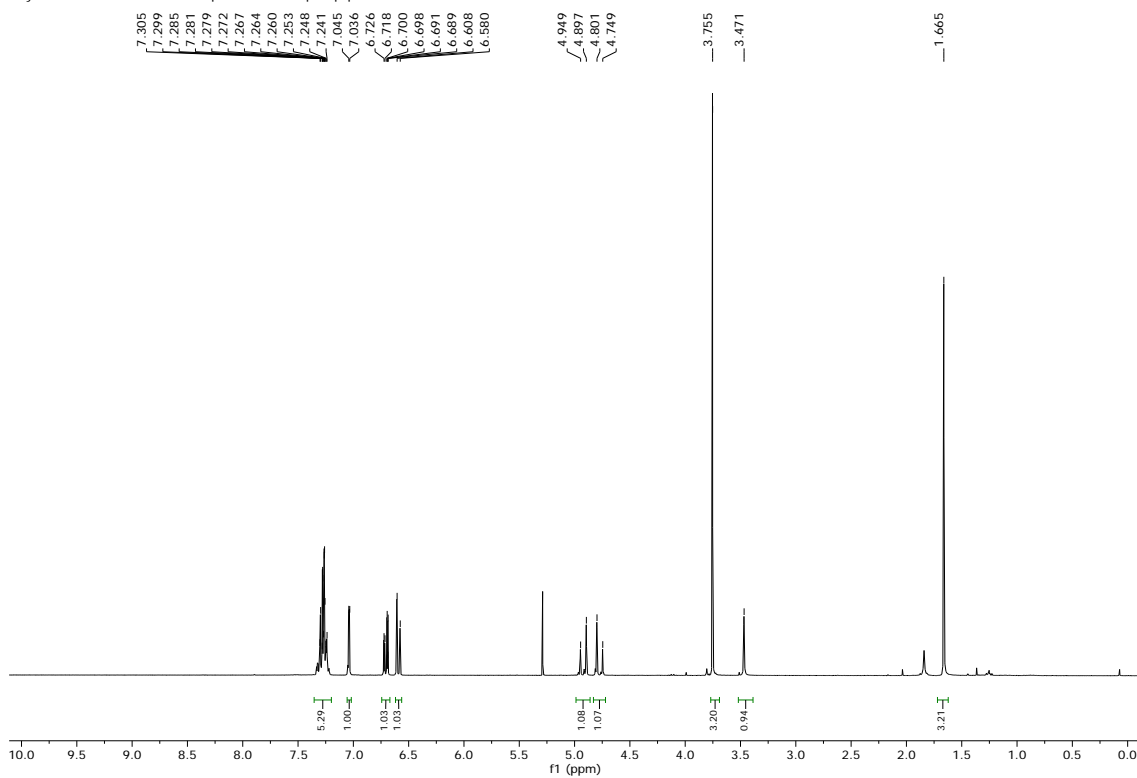


May23-2017.180.1.1r — JR6540 — c13cpdc CDCl3 /opt/topspin JRPE 35

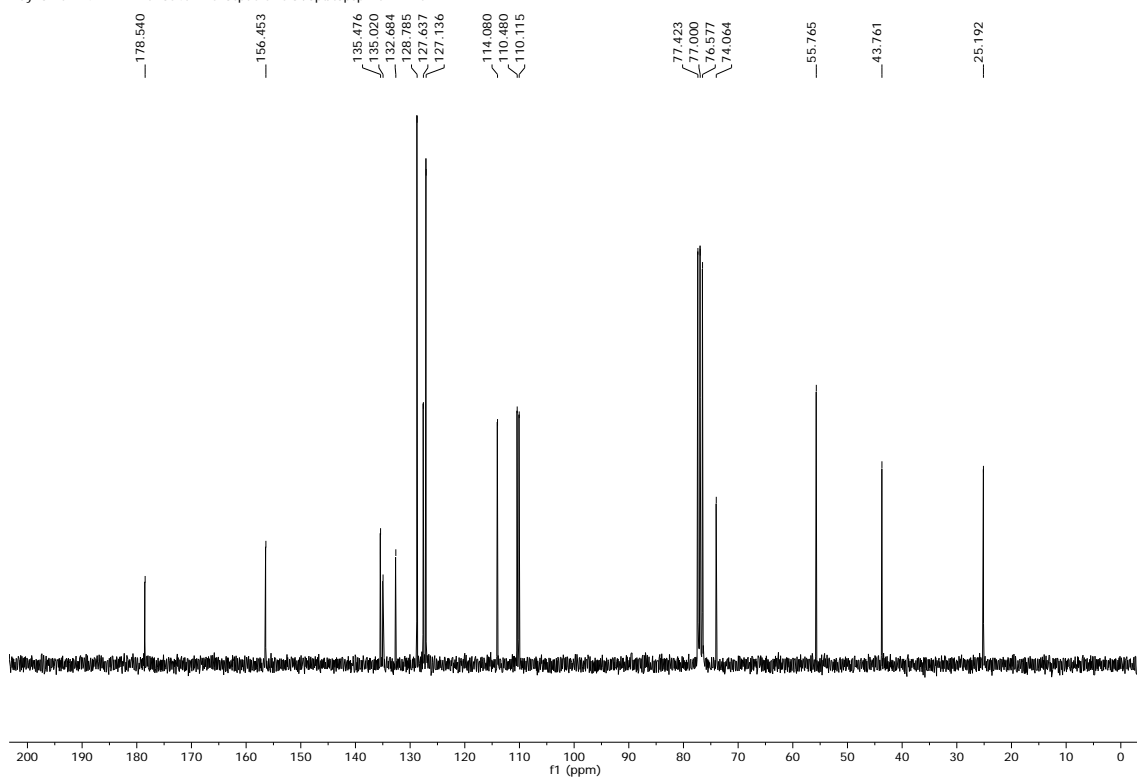


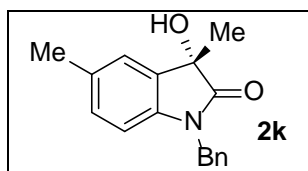


May26-2017.40.1.1r - JR6545 - proton CDCl3 /opt/topspin JRPE 20

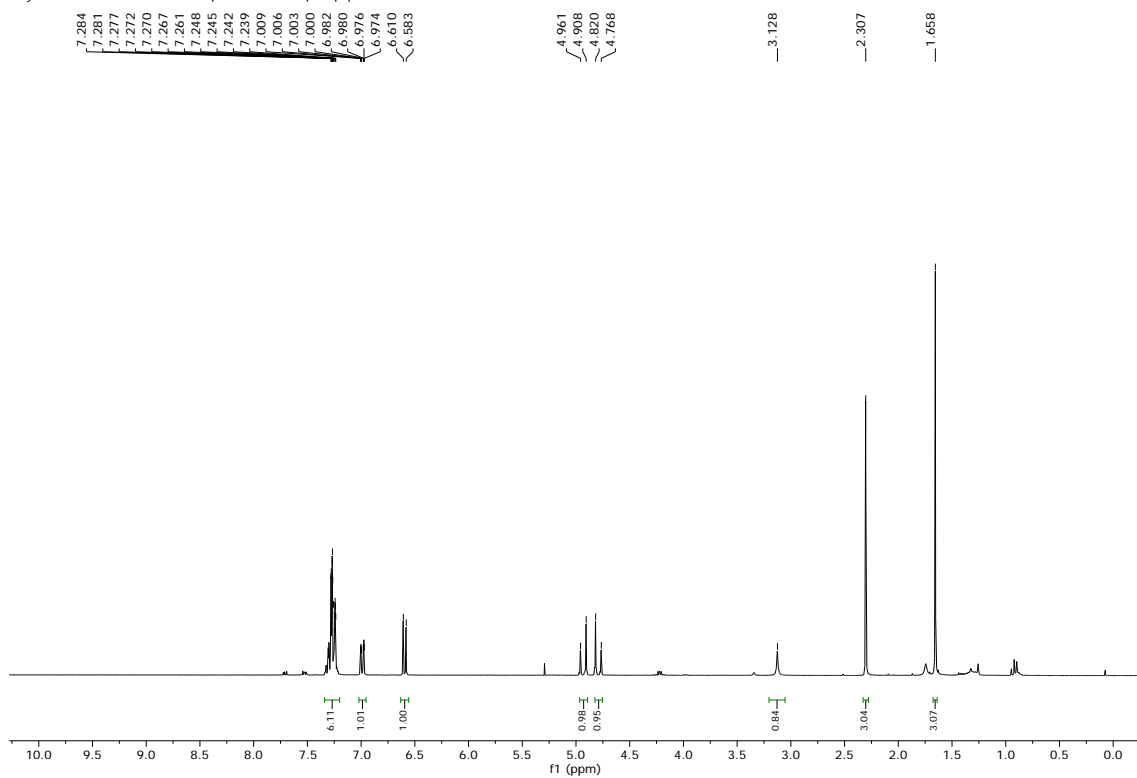


May26-2017.41.1.1r - JR6545 - c13cpdc CDCl3 /opt/topspin JRPE 20

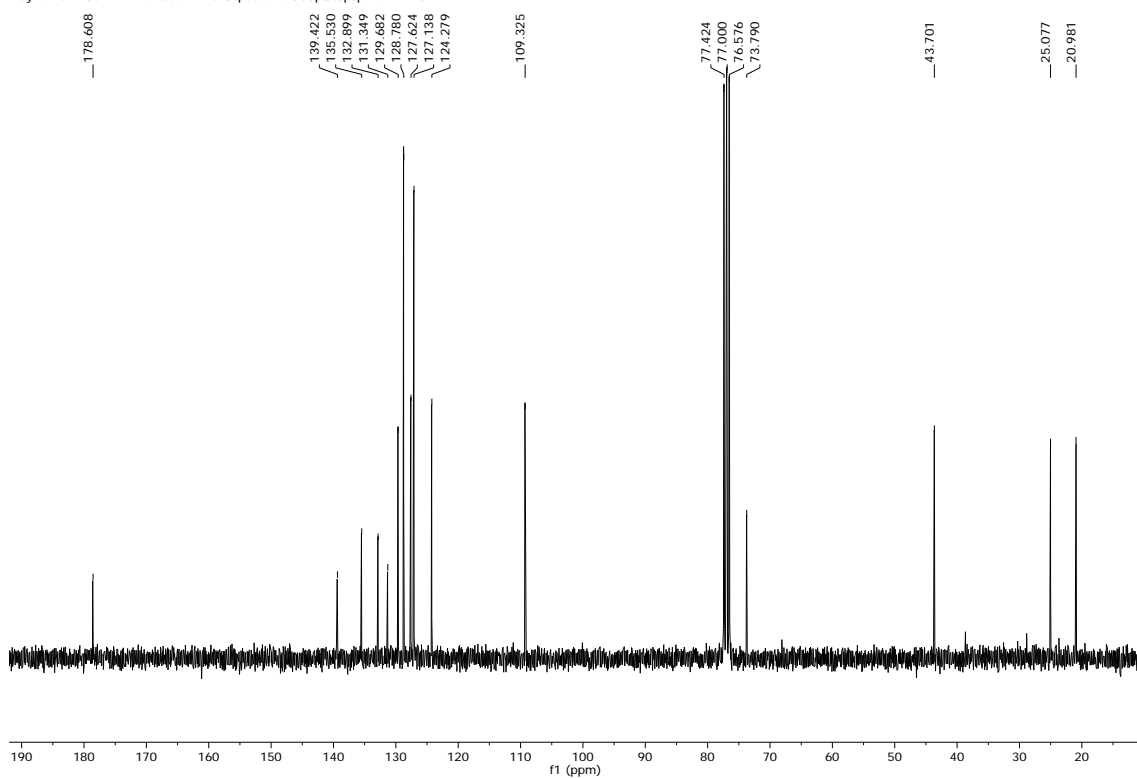


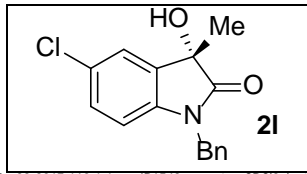


May23-2017.50.1.1r — JR6541 — proton CDCl3 /opt/topspin JRPE 49

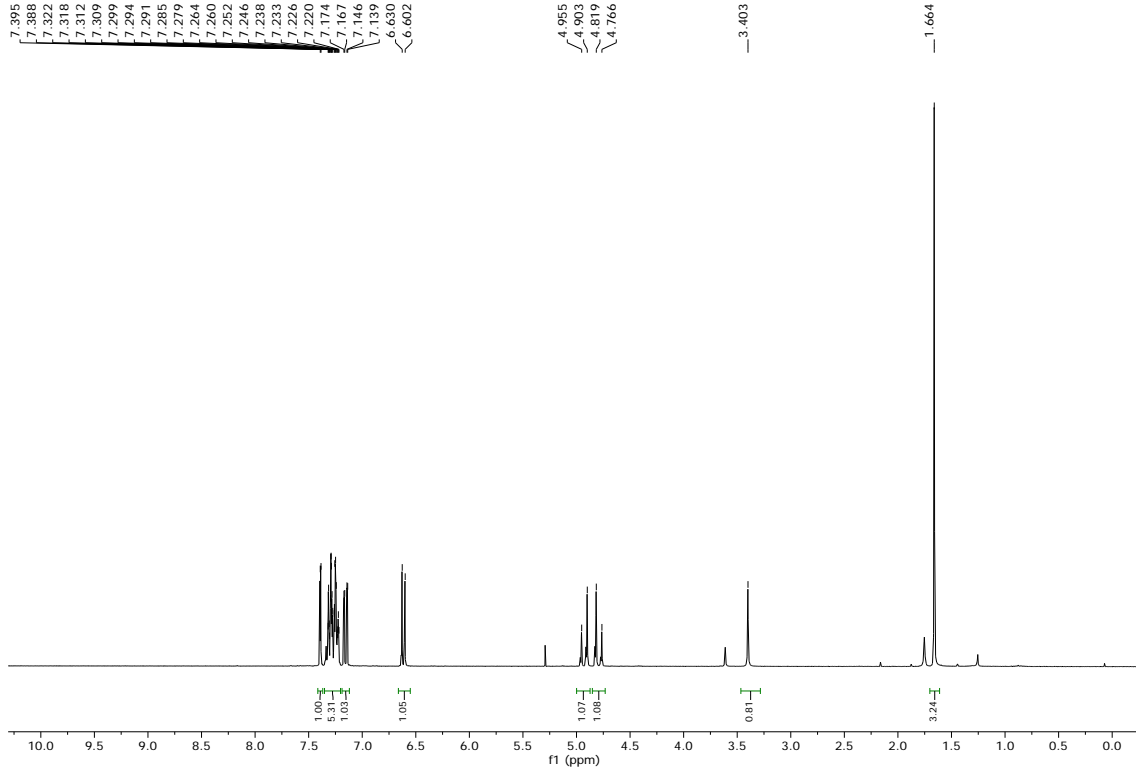


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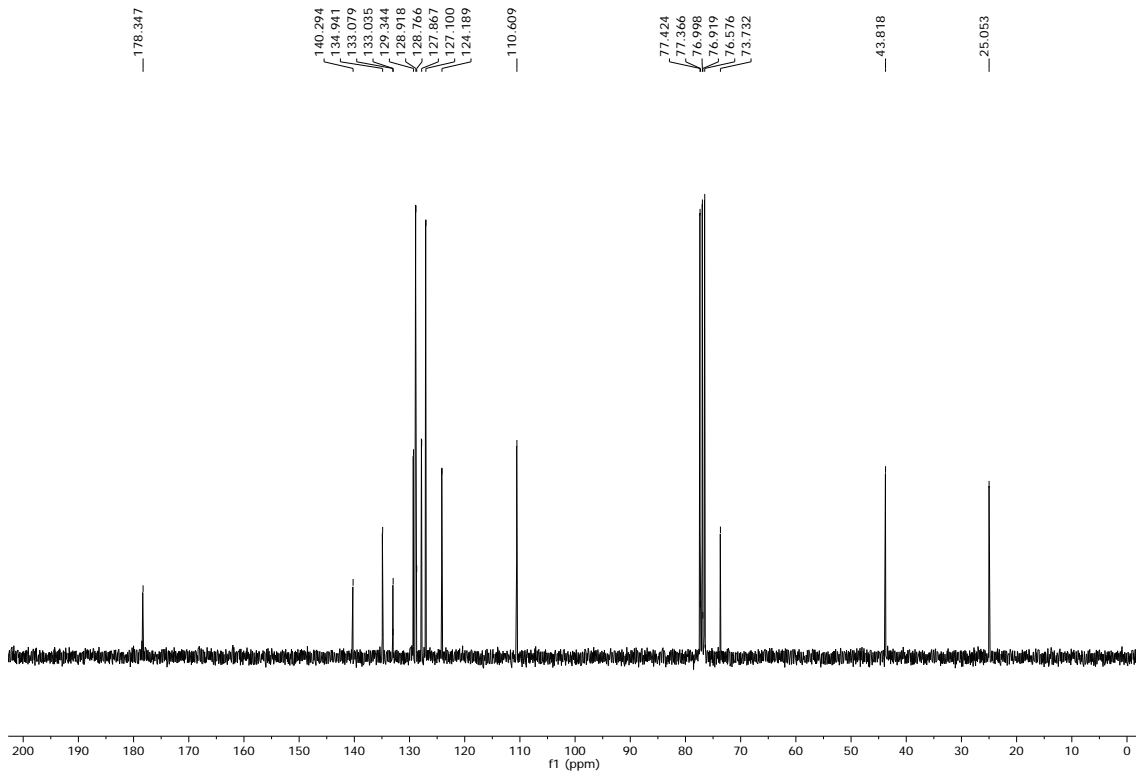


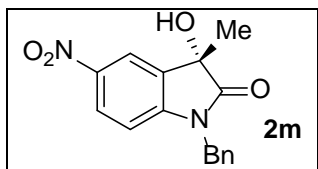


May23-2017.160.1.1r — JR6543 — proton CDCl3 /opt/topspin JRPE 22

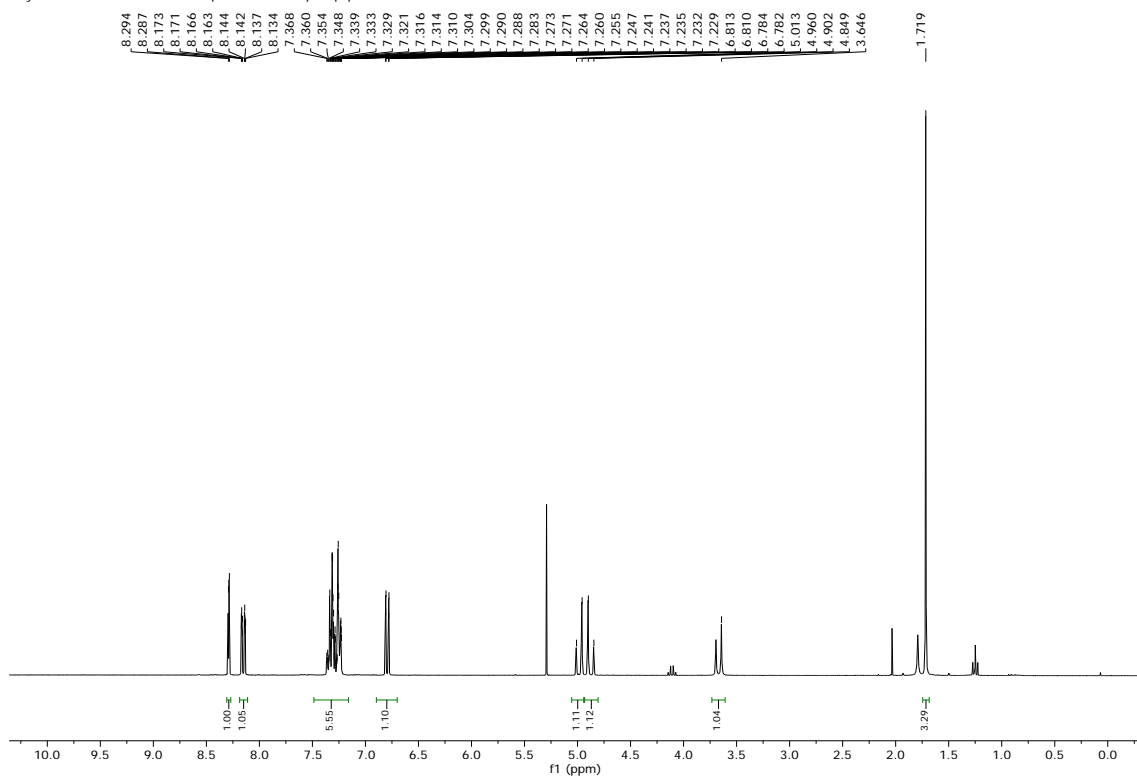


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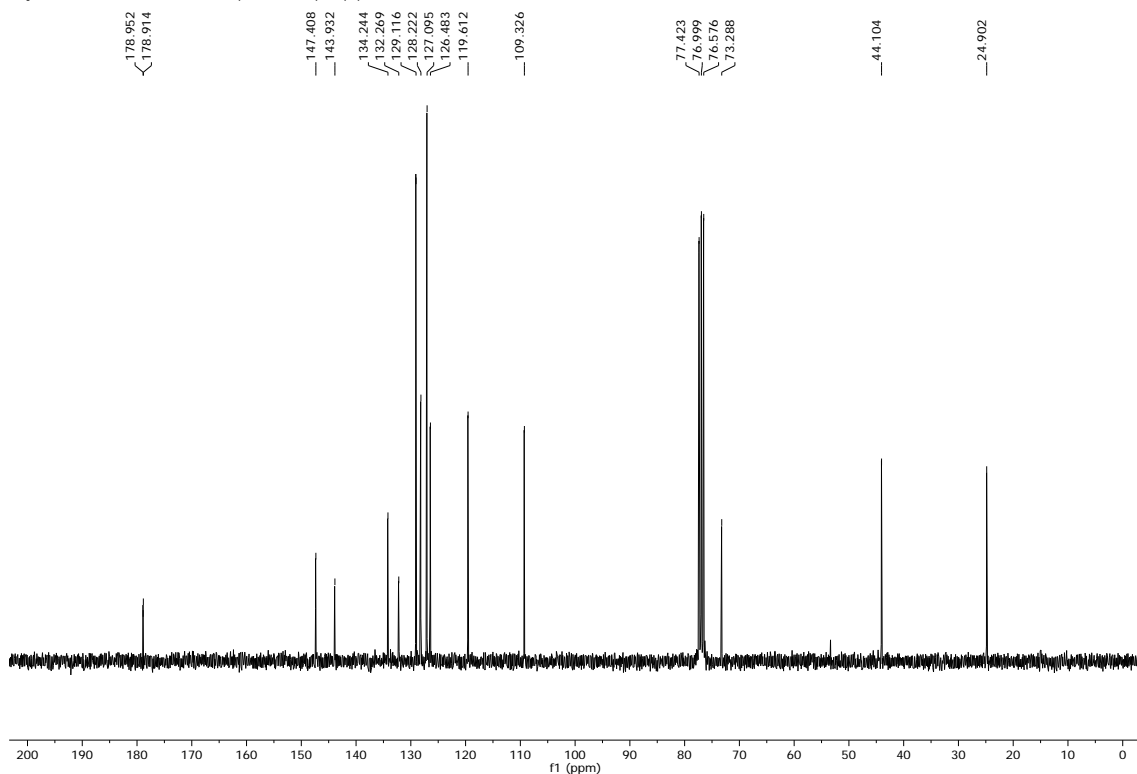


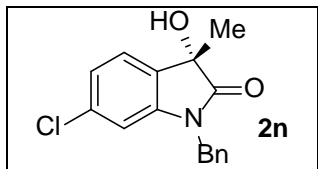


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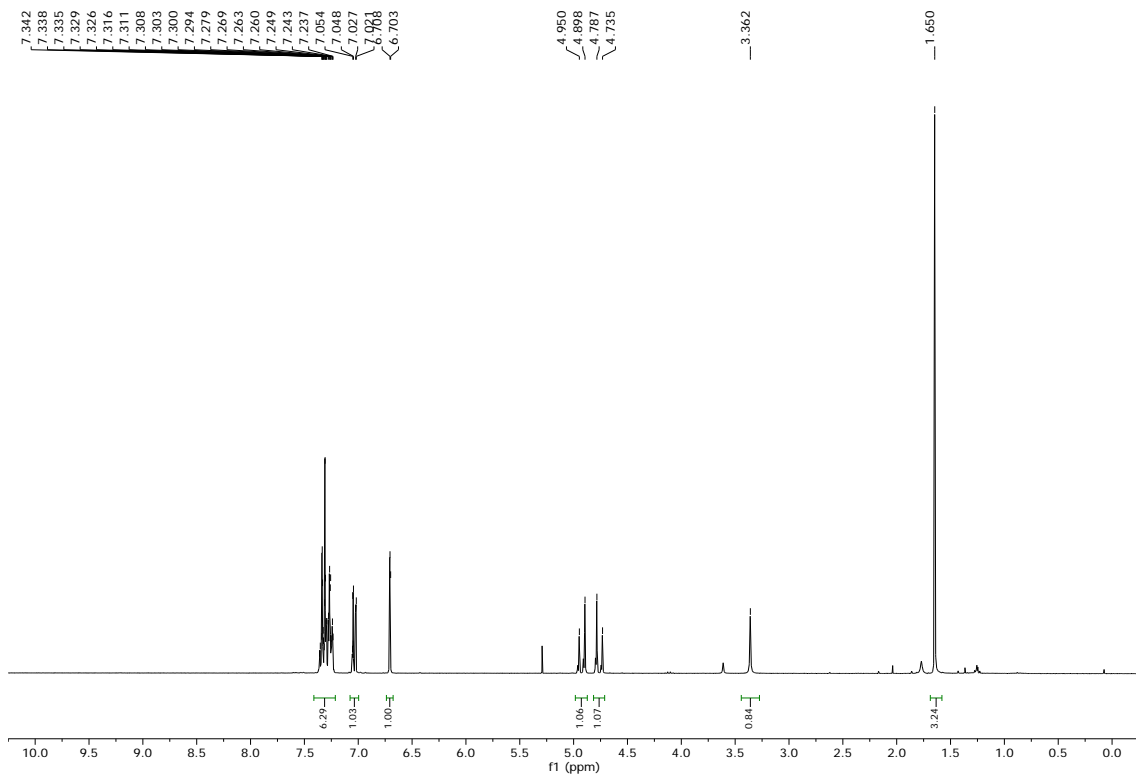


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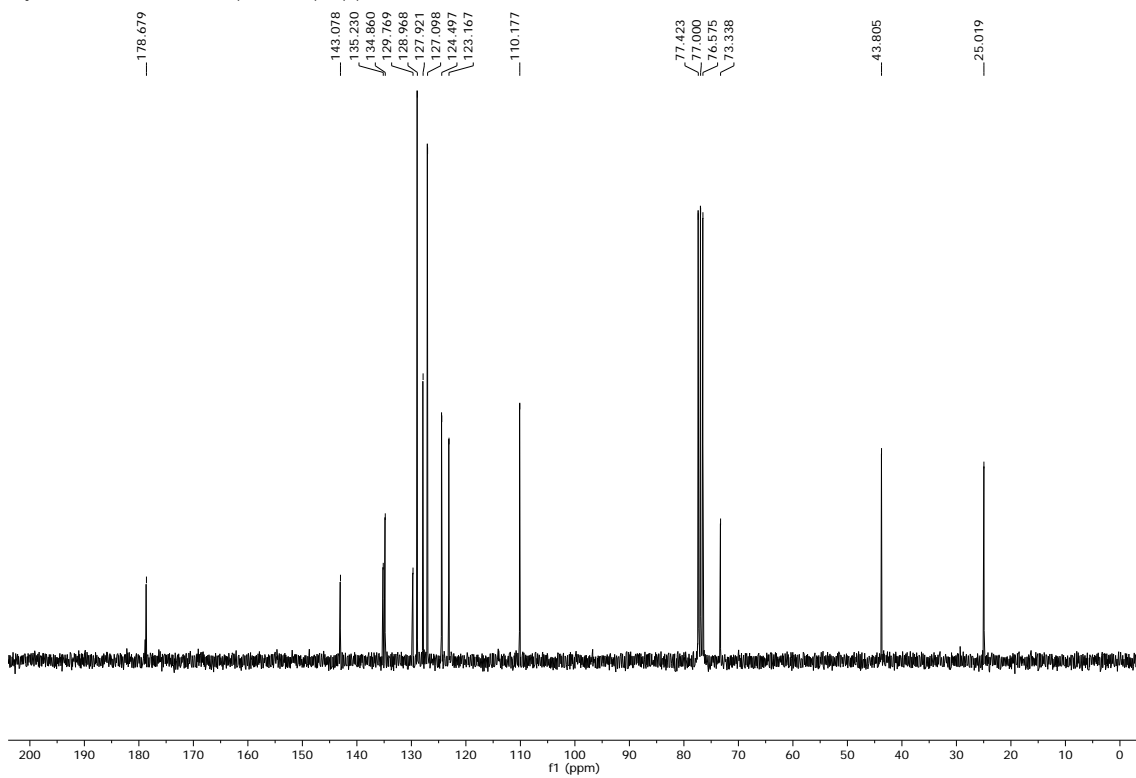


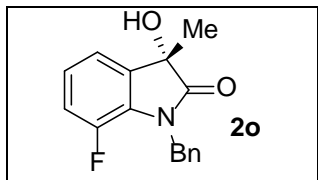


May29-2017.80.1.1r — JR6546 — proton CDCl3 /opt/topspin JRPE 47

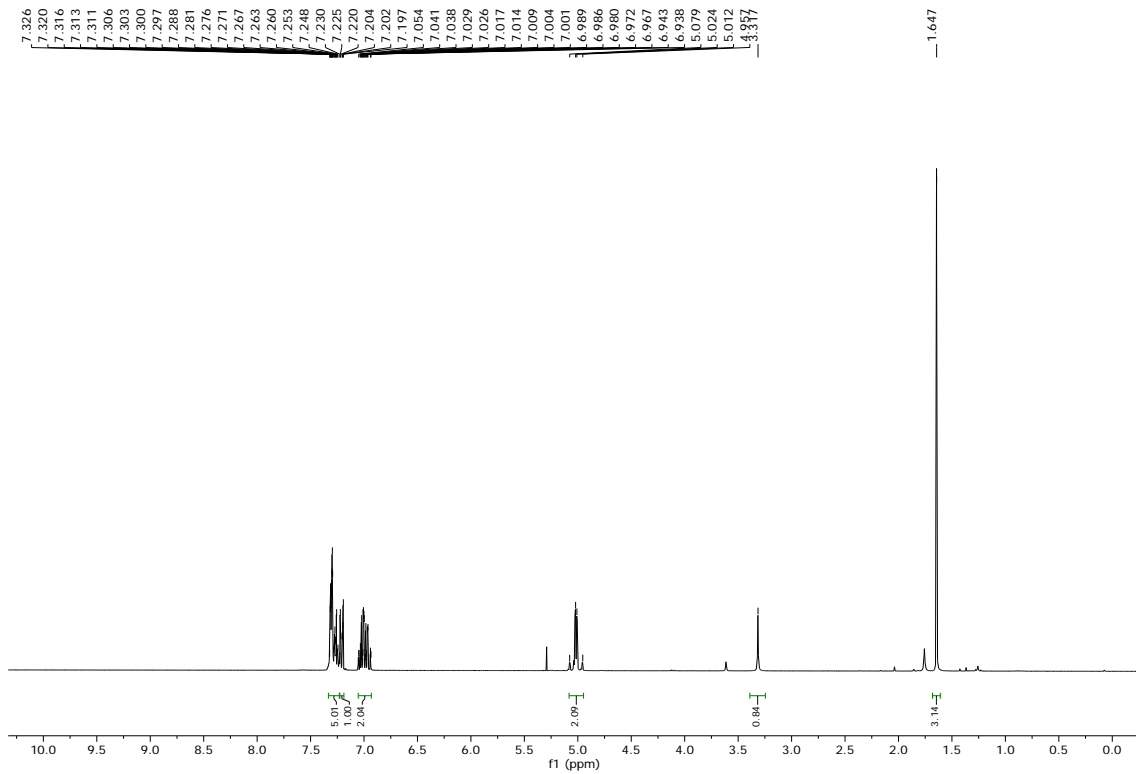


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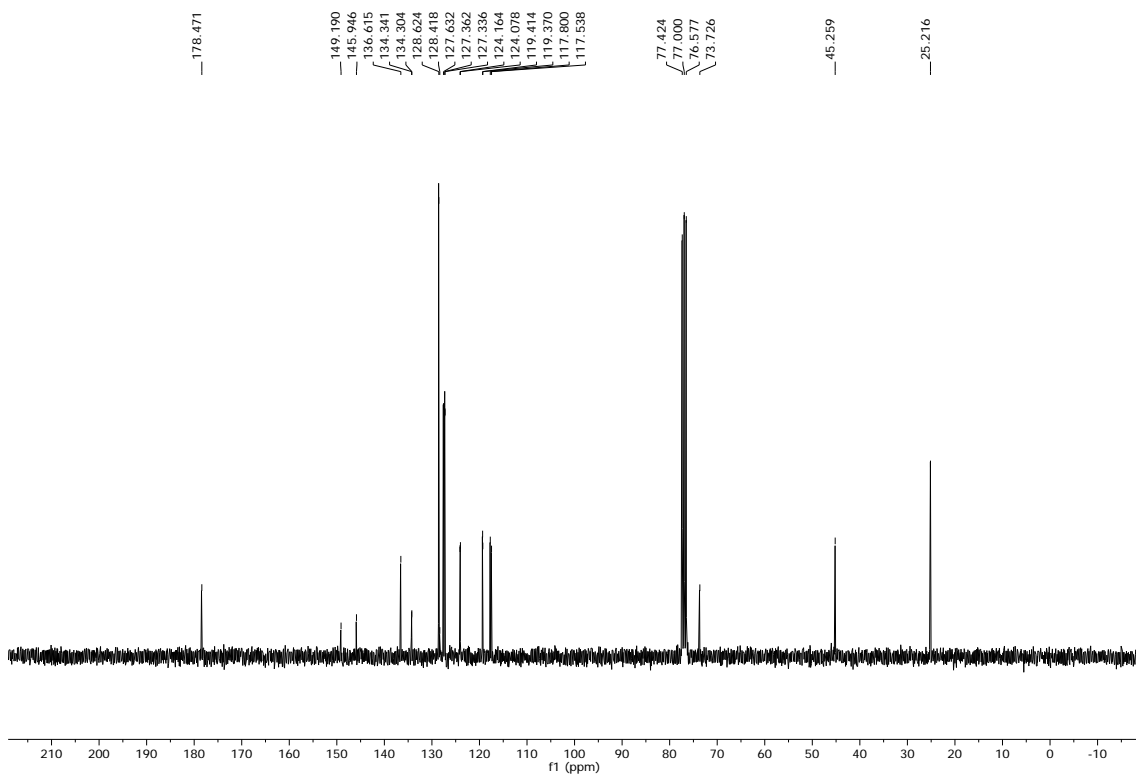


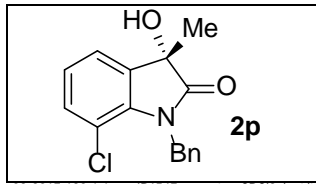


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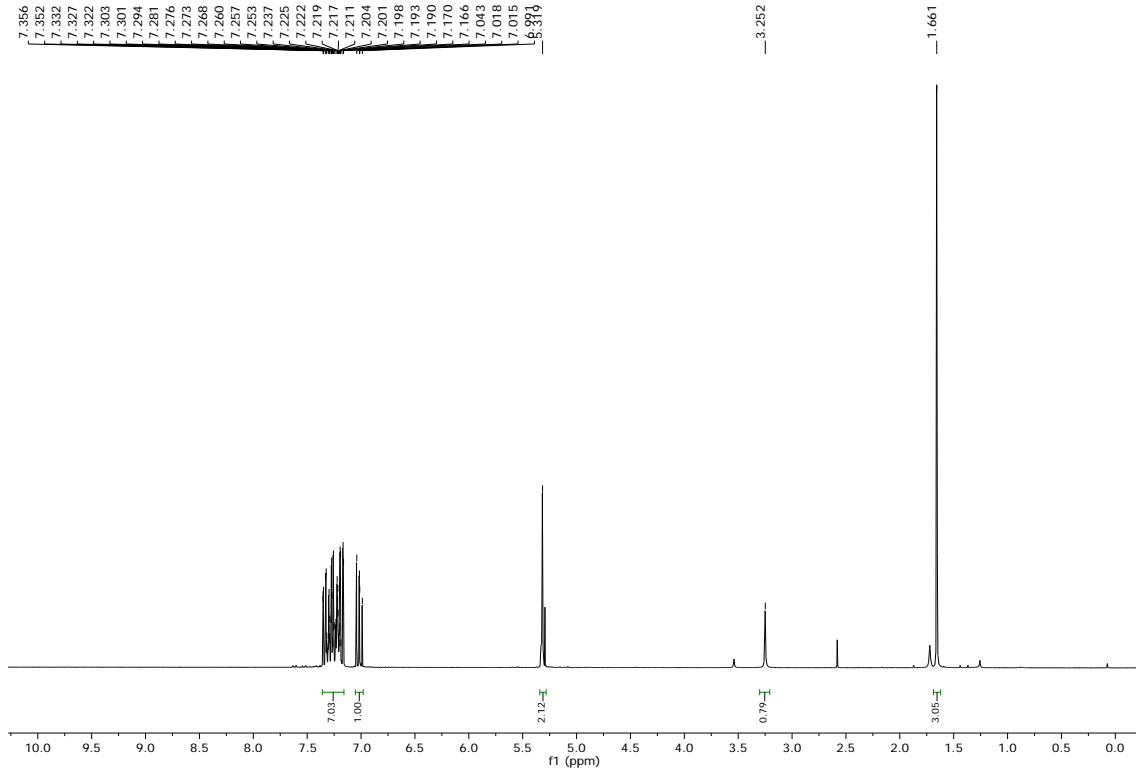


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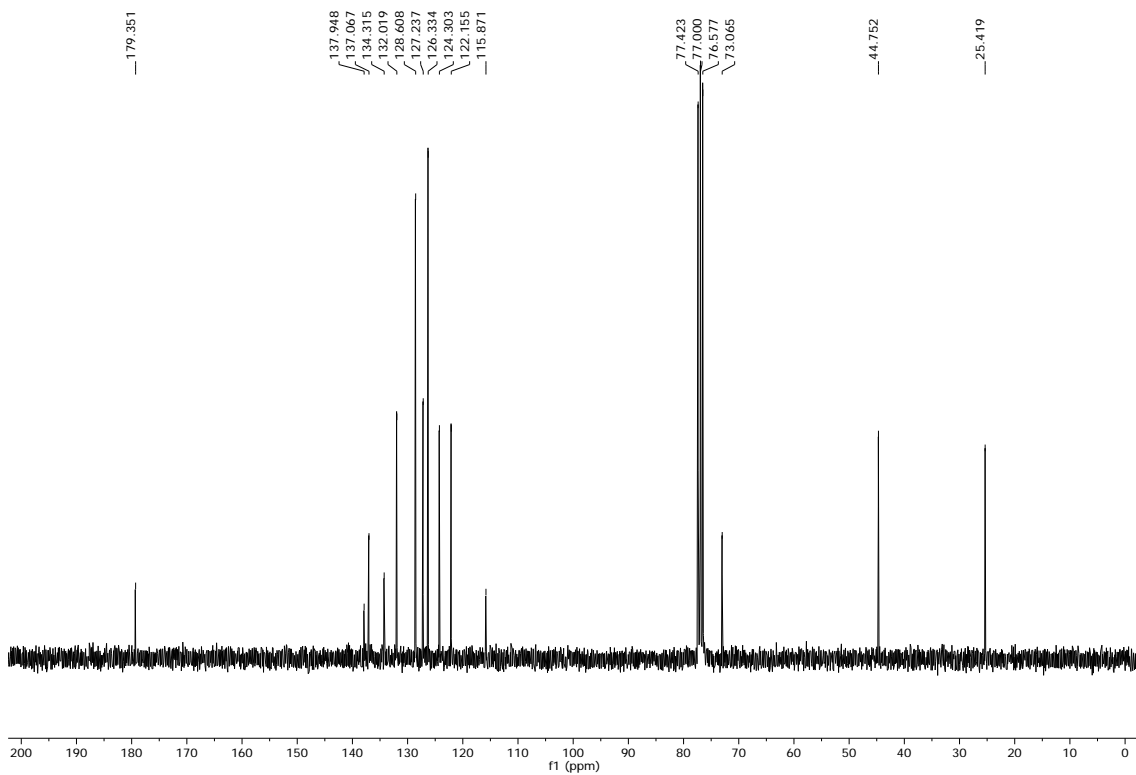


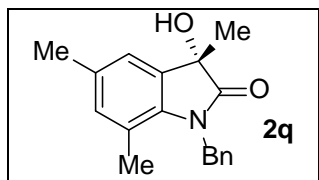


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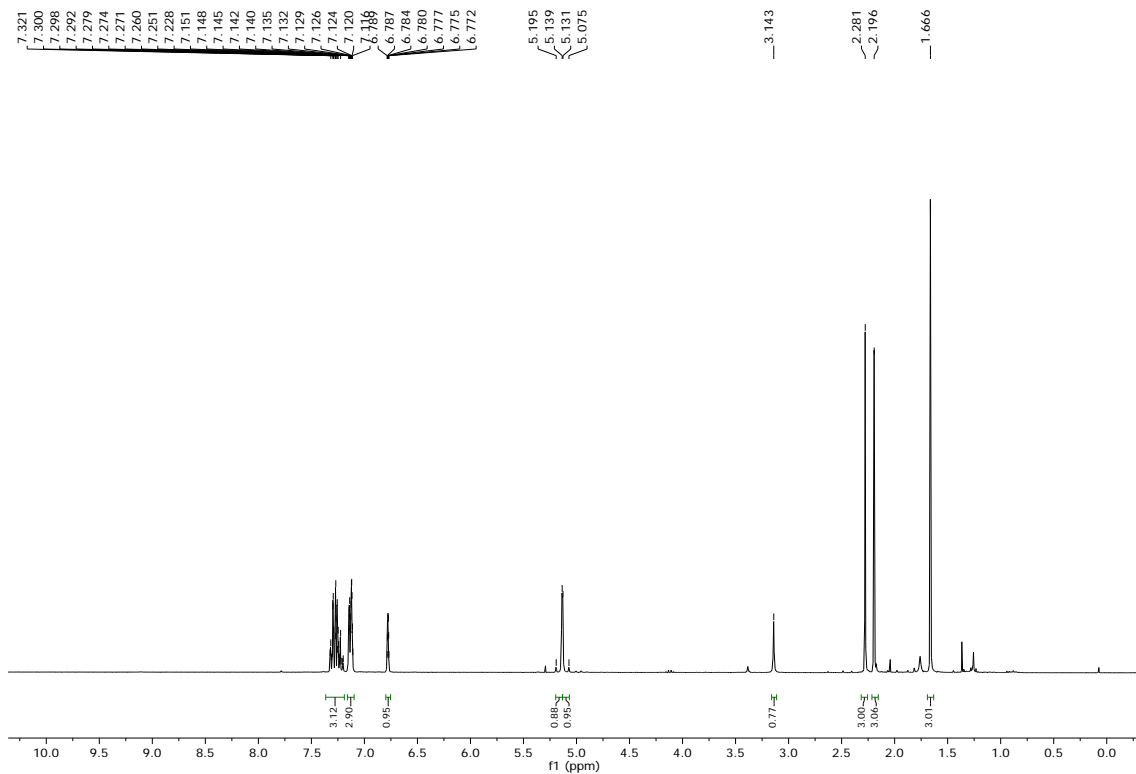


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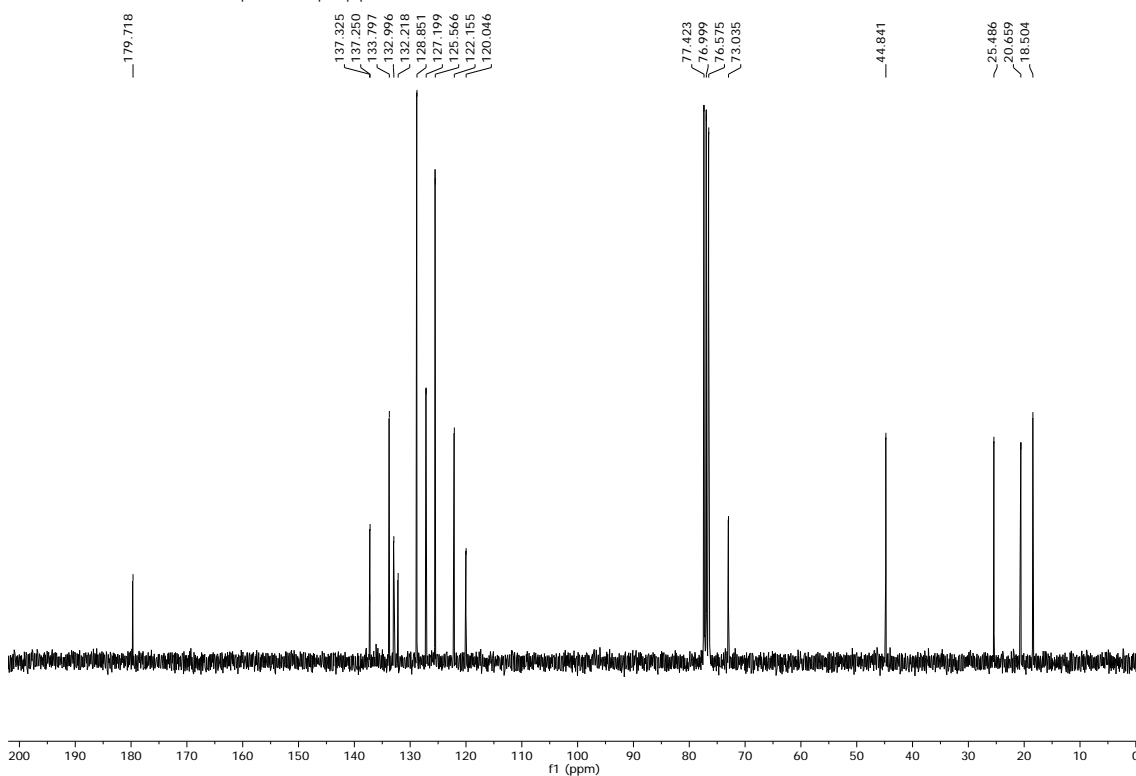


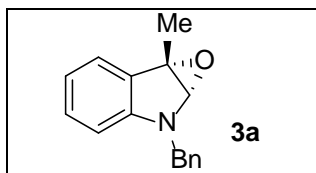


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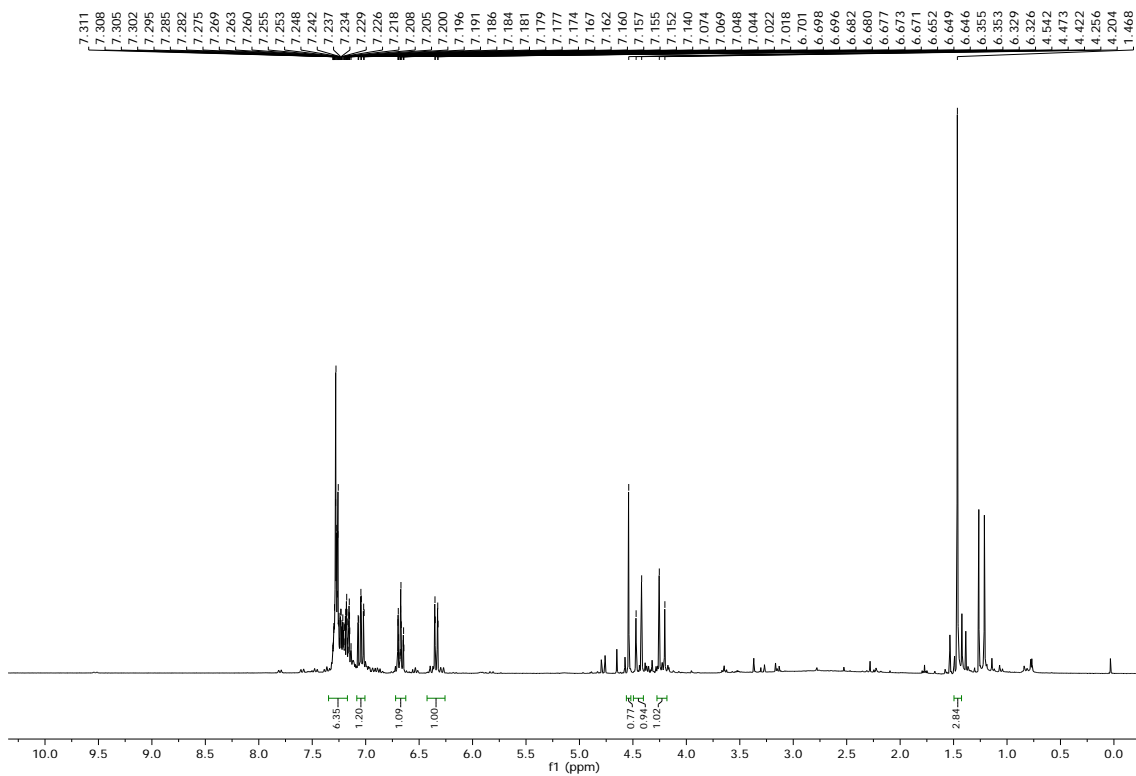


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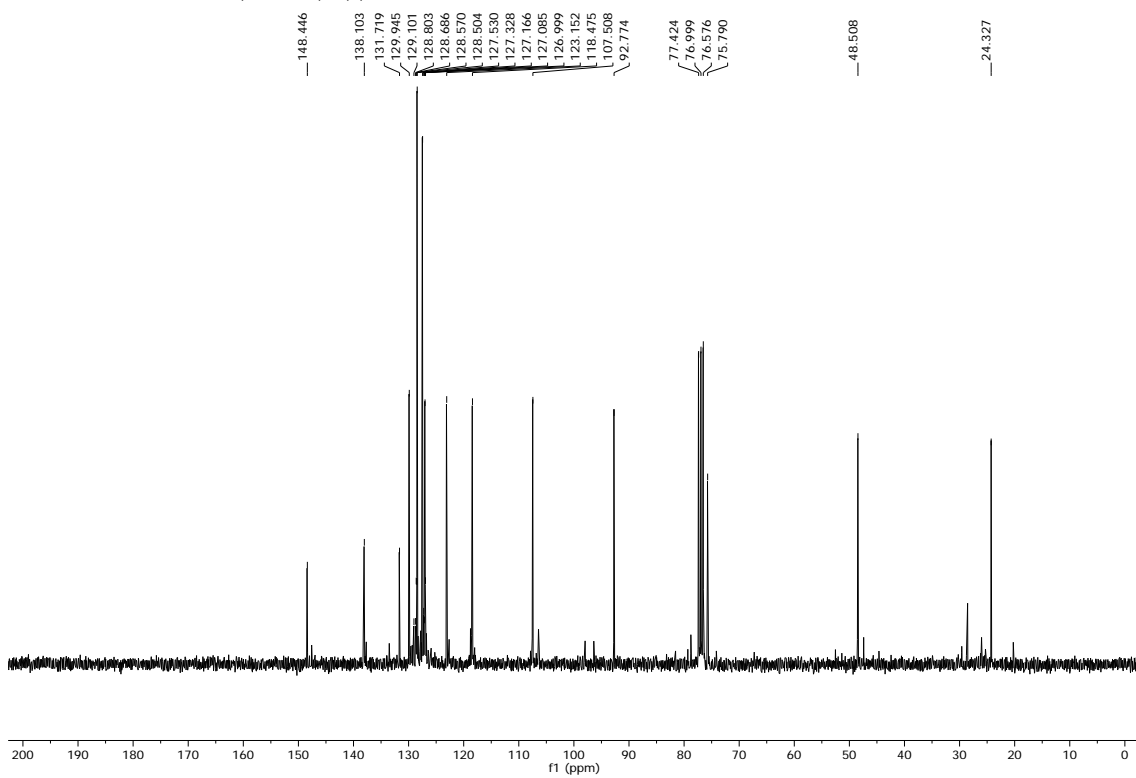


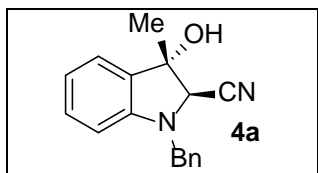


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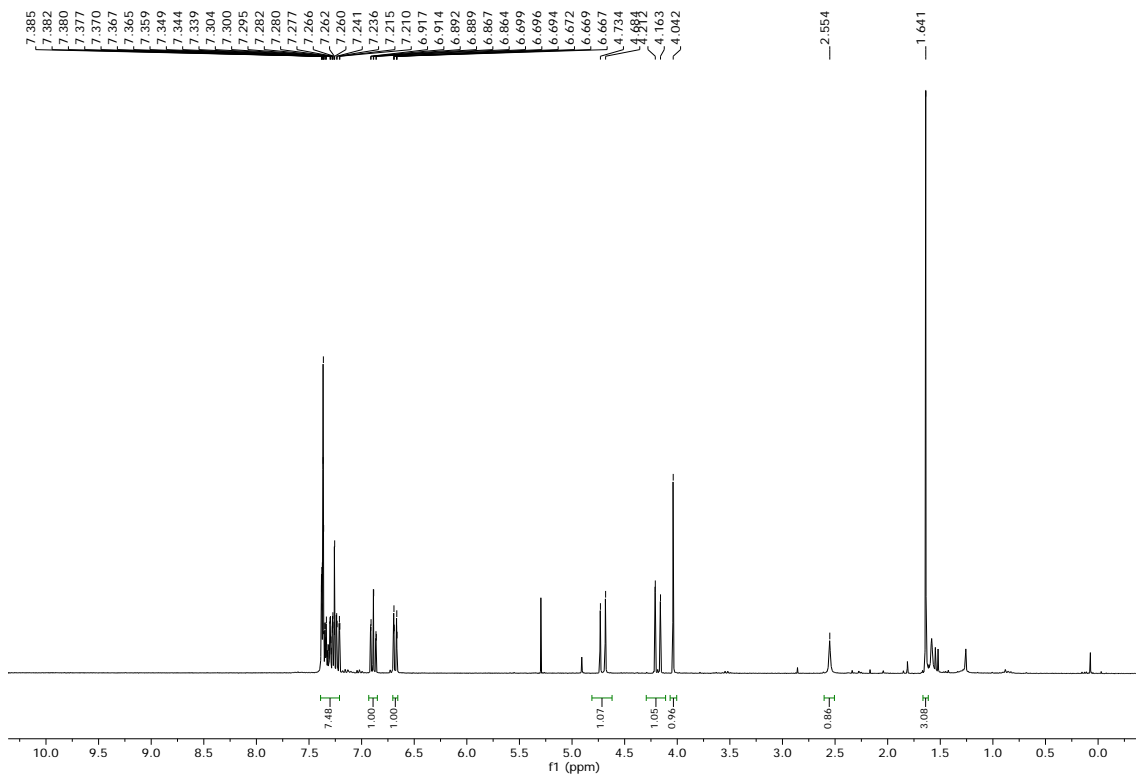


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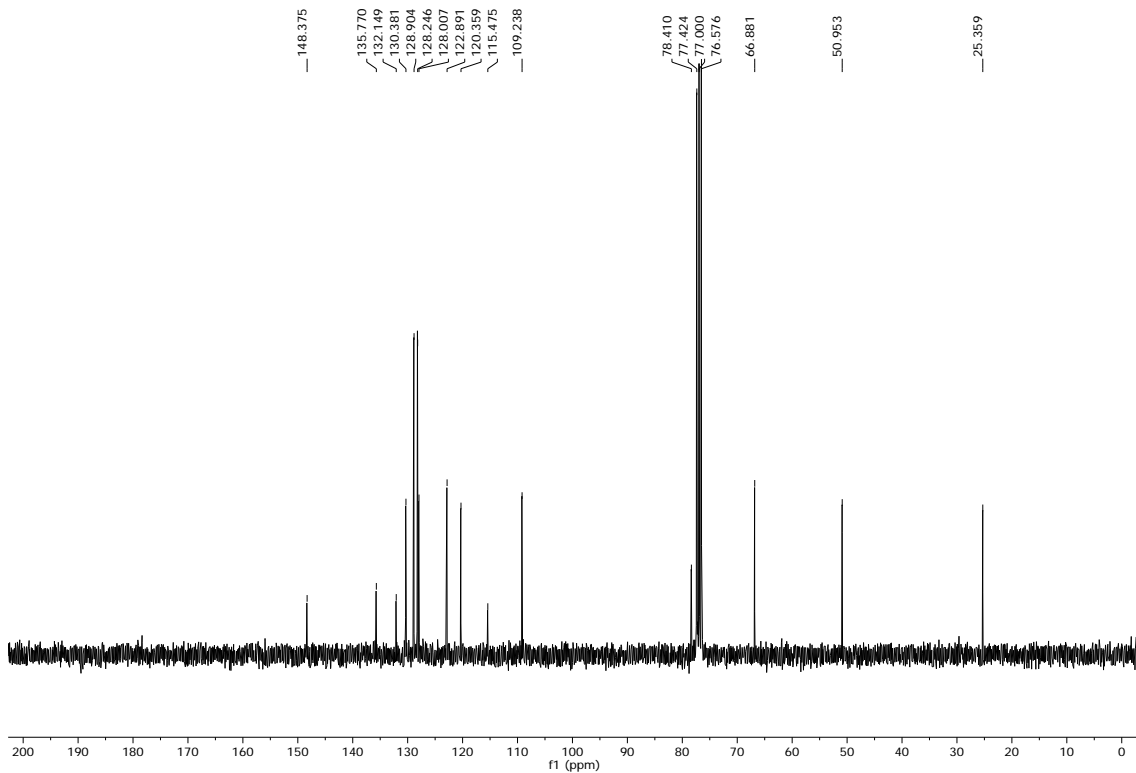




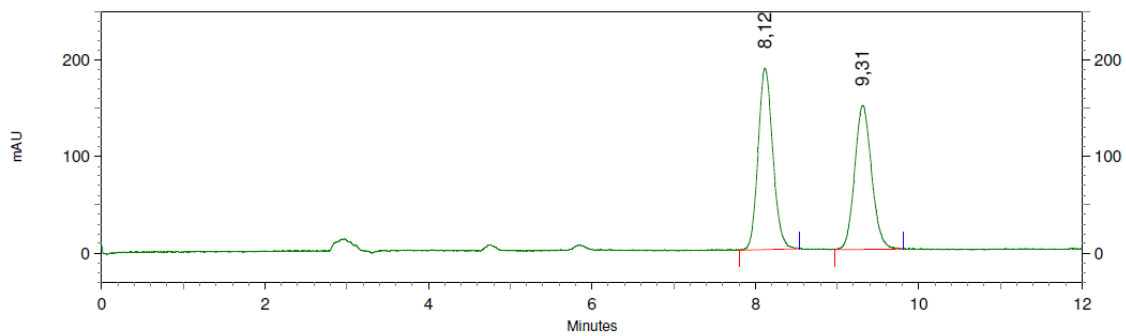
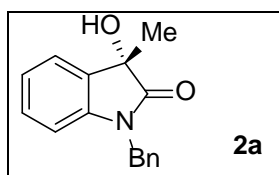
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Jun23-2017.21.1.1r — JR6559 — c13cpdc CDCl₃ /opt/topspin JRPE 33

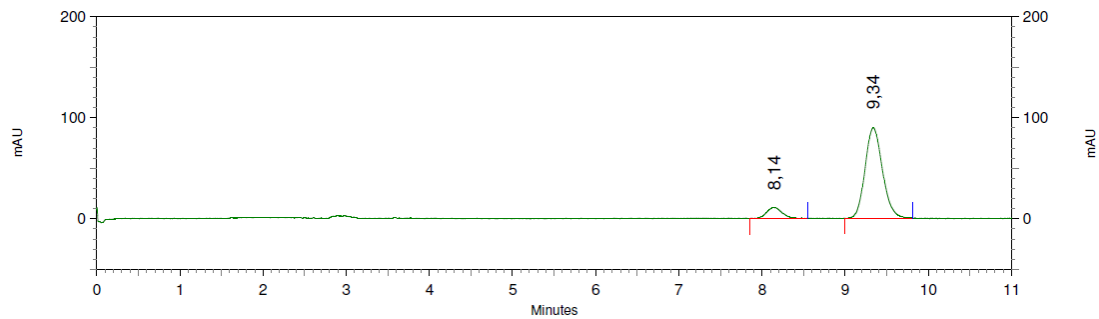


Chiral analysis chromatograms



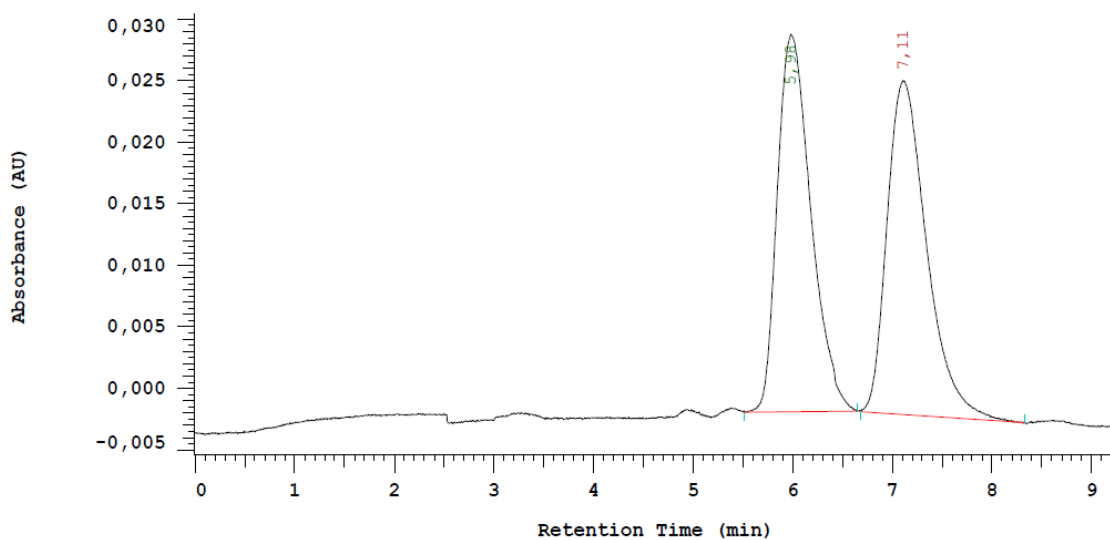
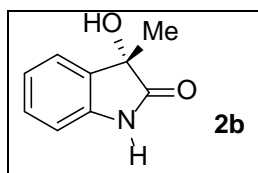
3: 210 nm, 4 nm Results

Retention Time	Area	Area Percent
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9,31	8607163	47,801

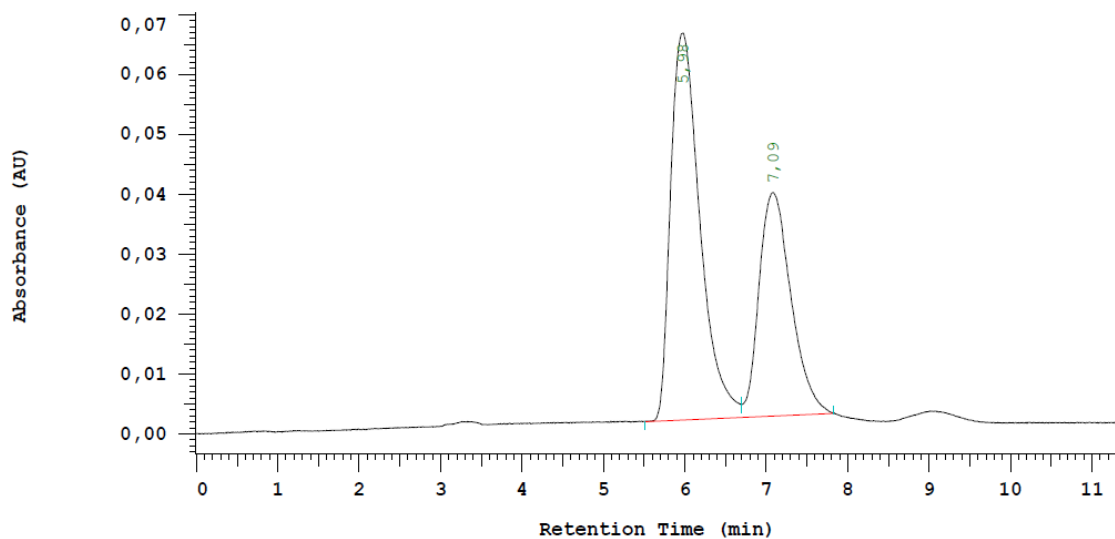


12: 240 nm, 4 nm
Results

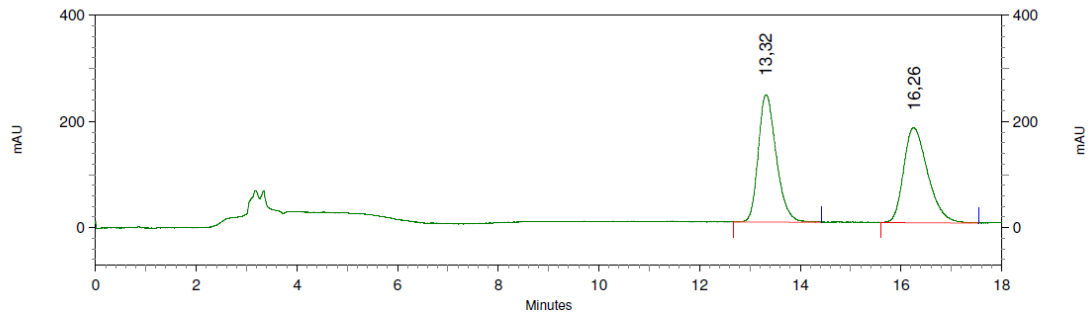
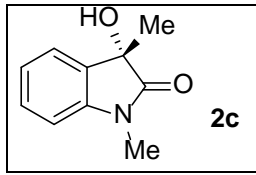
Retention Time	Area	Area Percent
8,14	579338	9,954
9,34	5241100	90,046



No.	RT	Area	Area %
1	5,98	359290	49,002
2	7,11	373930	50,998
		733220	100,000

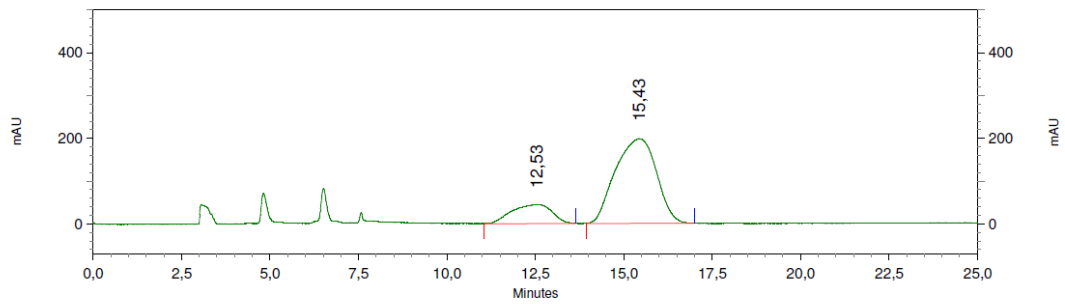


No.	RT	Area	Area %
1	5,98	806916	61,235
2	7,09	510813	38,765
		1317729	100,000



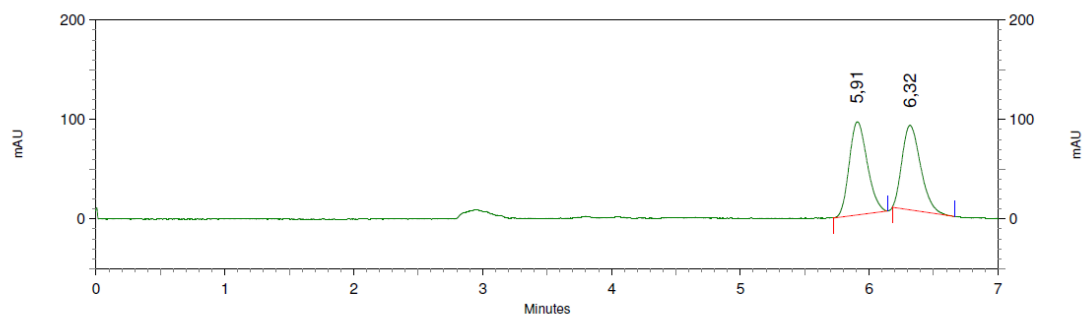
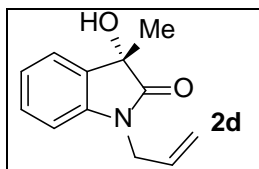
8: 215 nm, 4 nm Results

Retention Time	Area	Area Percent
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16,26	23773992	49,963



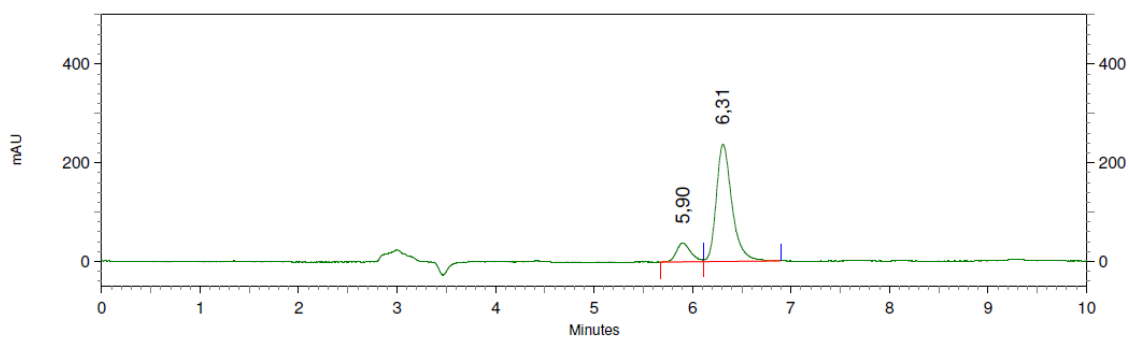
8: 215 nm, 4 nm Results

Retention Time	Area	Area Percent
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15,43	64241135	81,864



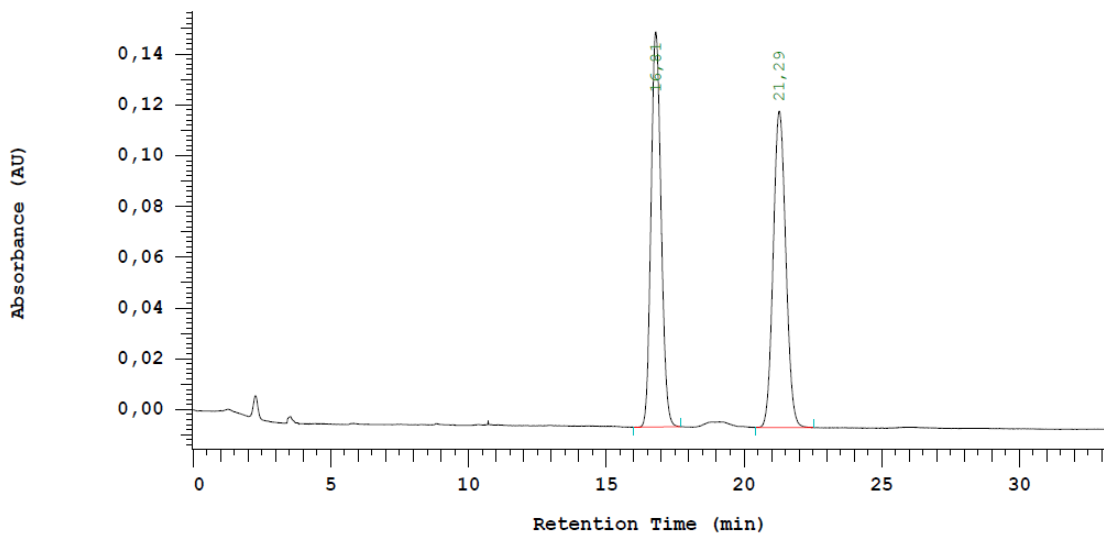
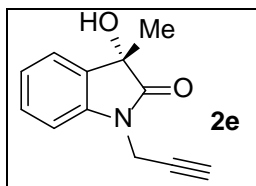
2: 220 nm, 4 nm Results

Retention Time	Area	Area Percent
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6,32	3406531	48,247

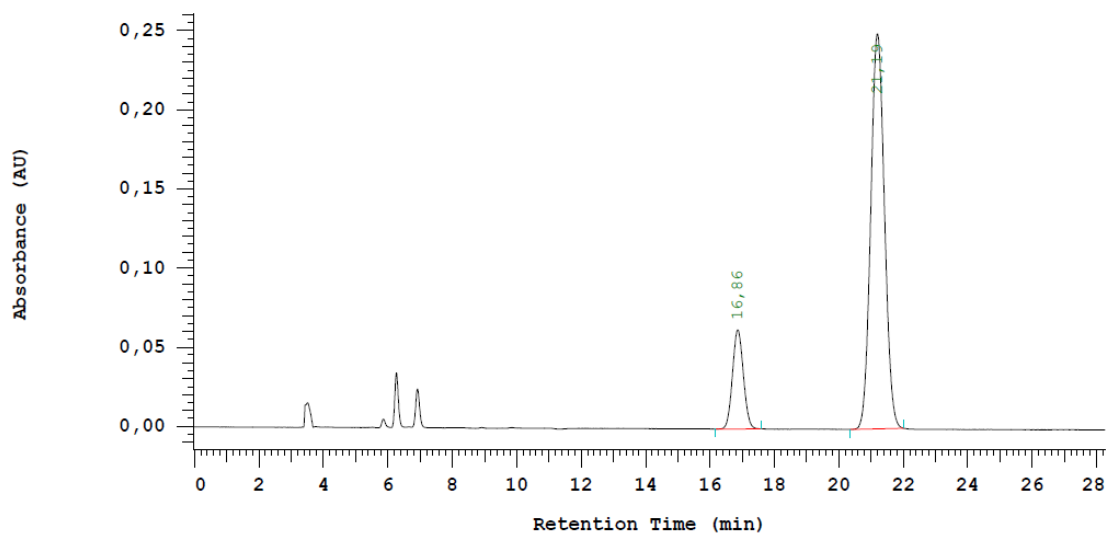


9: 219 nm, 4 nm Results

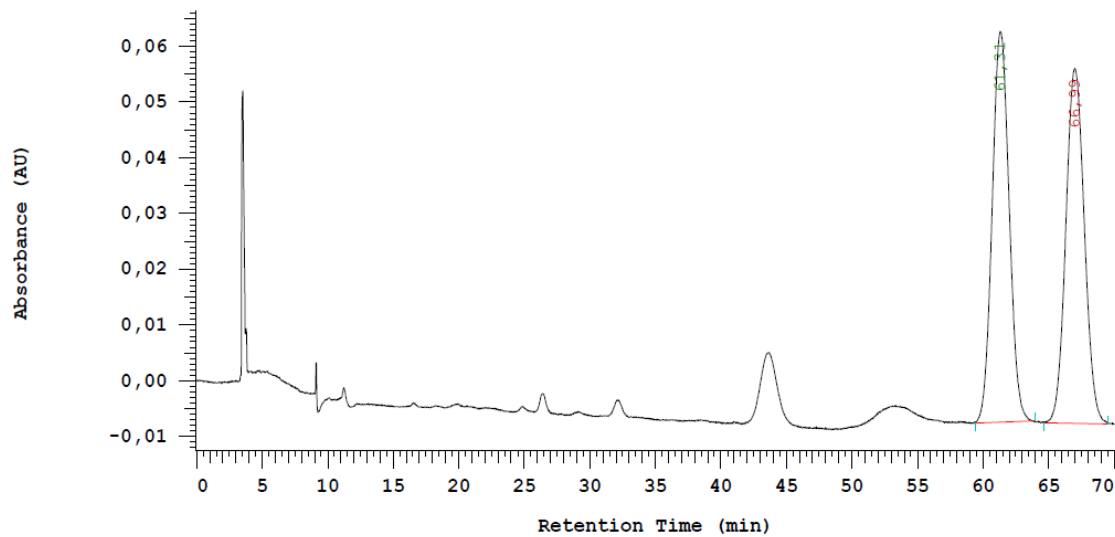
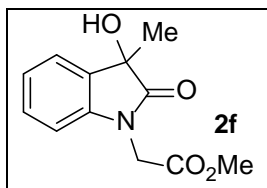
Retention Time	Area	Area Percent
5,90	1526955	12,673
6,31	10522059	87,327



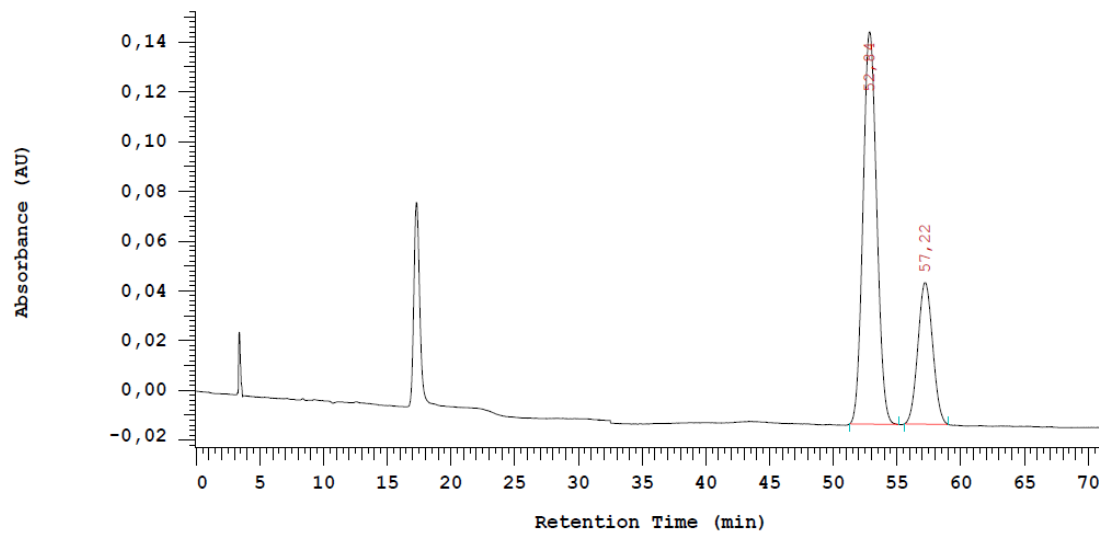
No.	RT	Area	Area %
1	16,81	1957400	49,889
2	21,29	1966090	50,111
		3923490	100,000



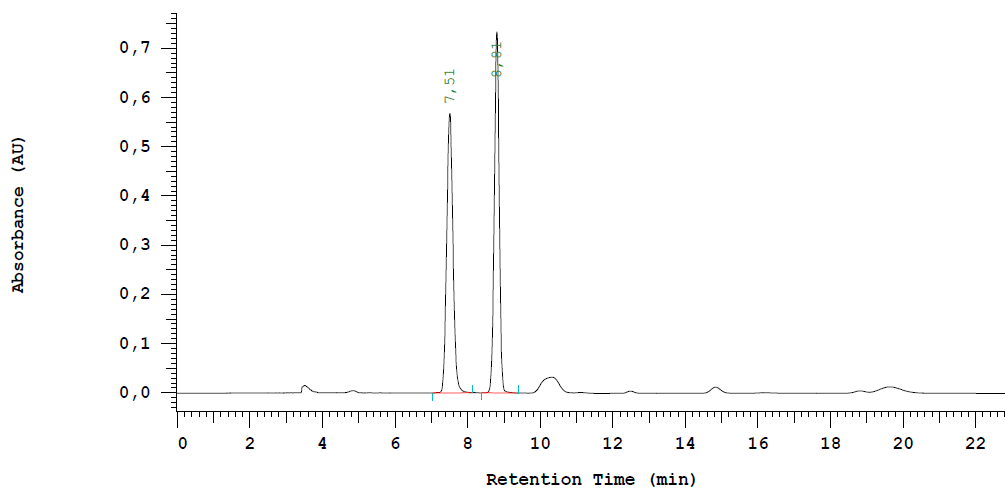
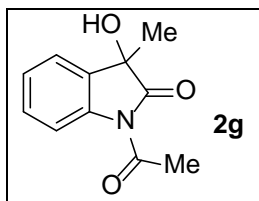
No.	RT	Area	Area %
1	16,86	729360	16,574
2	21,19	3671260	83,426
		4400620	100,000



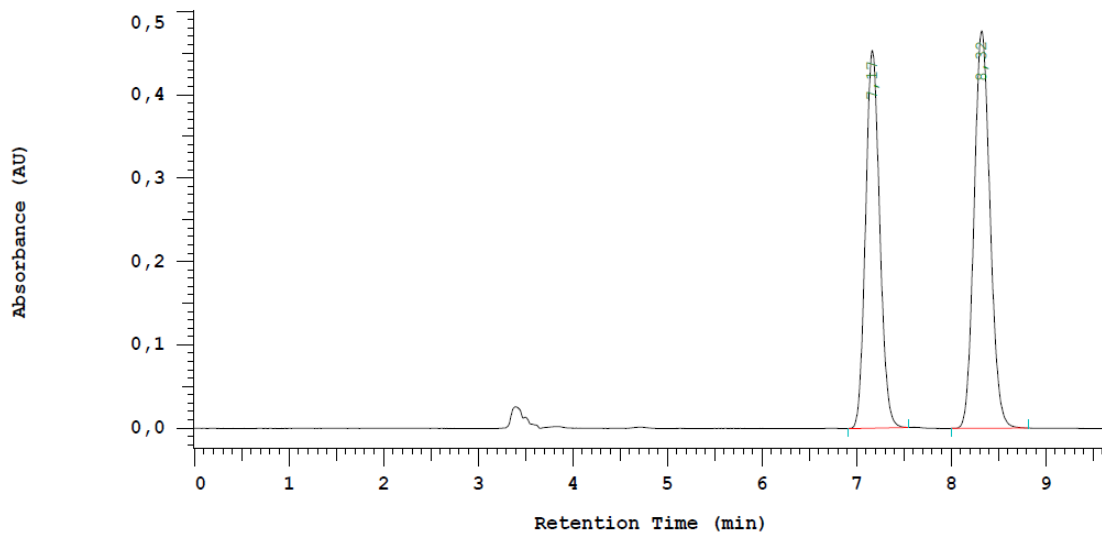
No.	RT	Area	Area %
1	61,31	3110670	50,119
2	66,99	3095850	49,881
		6206520	100,000



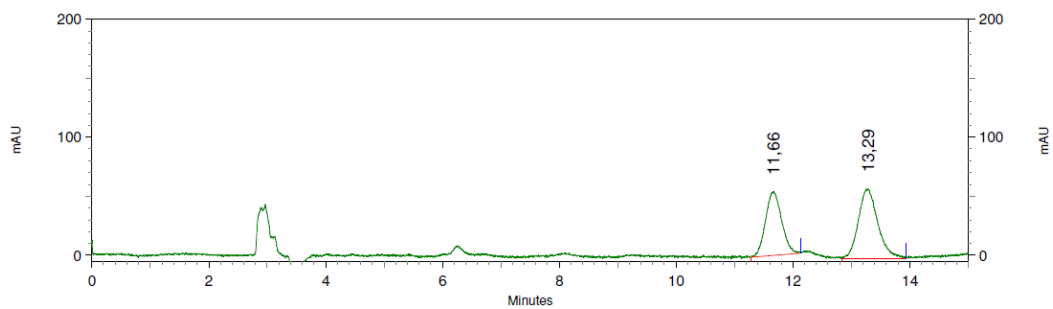
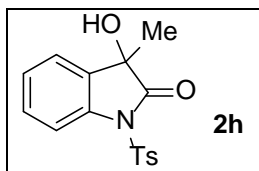
No.	RT	Area	Area %
1	52,84	5800790	71,922
2	57,22	2264560	28,078
		8065350	100,000



No.	RT	Area	Area %	Name
1	7,51	3465704	49,673	
2	8,81	3511355	50,327	
		6977059	100,000	

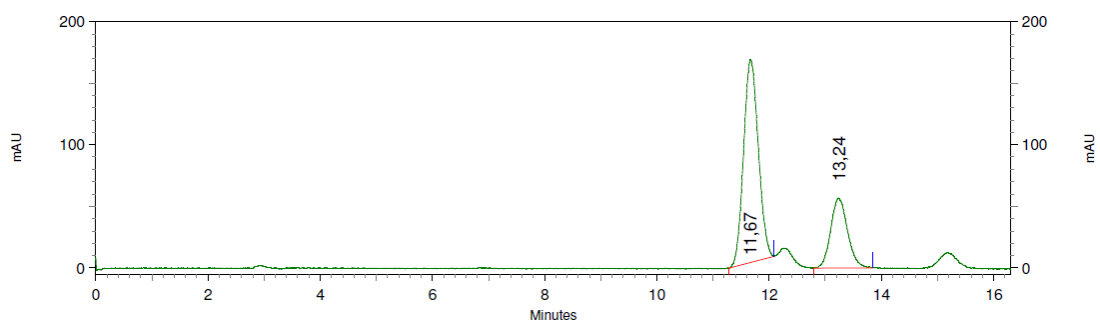


No.	RT	Area	Area %
1	7,17	2347745	45,636
2	8,32	2796770	54,364
		5144515	100,000



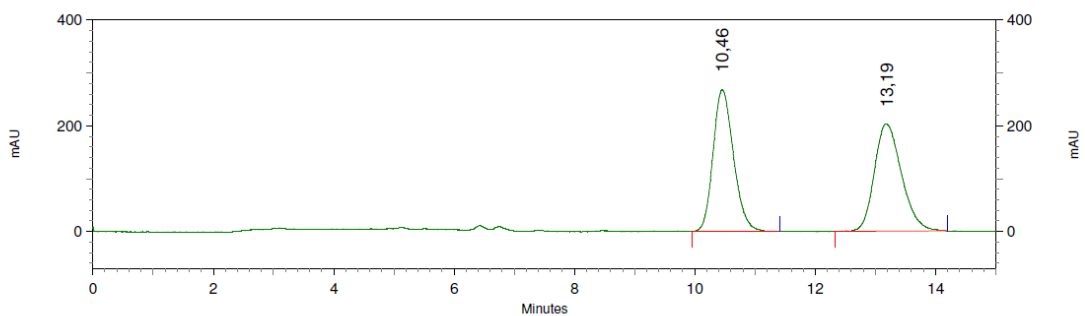
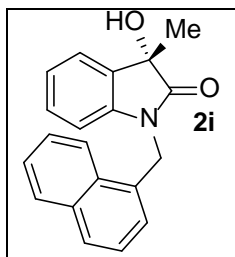
3: 210 nm, 4 nm Results

Retention Time	Area	Area Percent
11,66	4132975	43,293
13,29	5413495	56,707



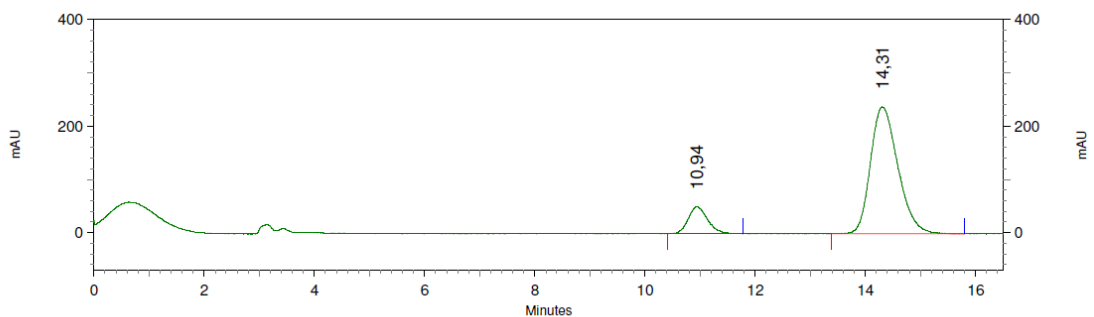
3: 250 nm, 4 nm Results

Retention Time	Area	Area Percent
11,67	12062414	71,805
13,24	4736373	28,195



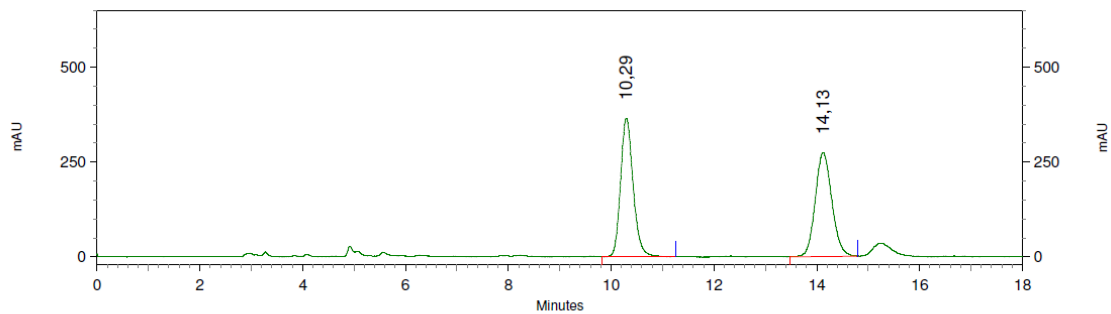
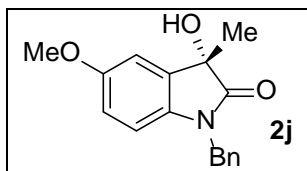
1: 235 nm, 4 nm Results

Retention Time	Area	Area Percent
10,46	25293527	49,855
13,19	25440381	50,145



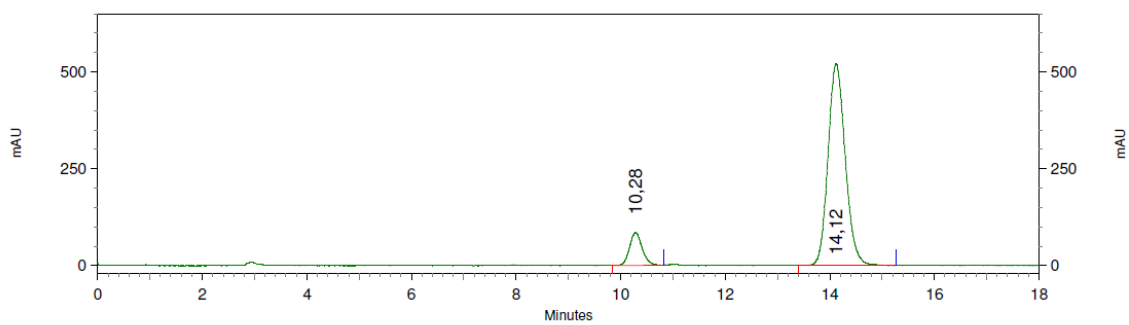
1: 235 nm, 4 nm Results

Retention Time	Area	Area Percent
10,94	4998046	13,154
14,31	32997917	86,846



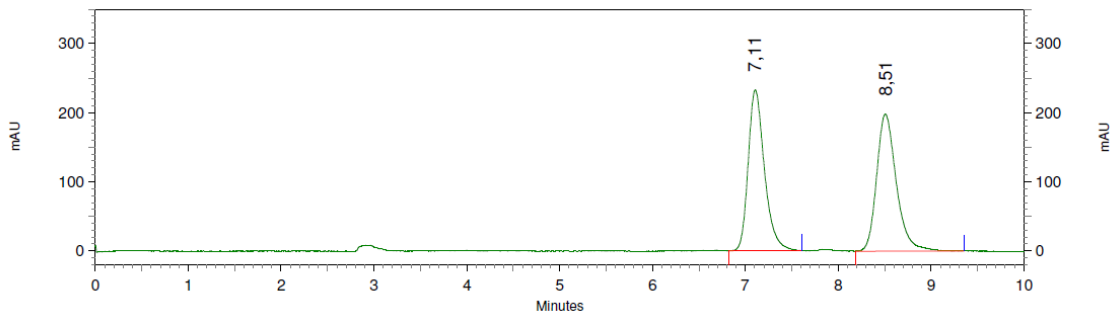
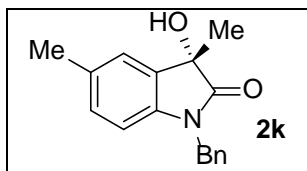
12: 220 nm, 4 nm
Results

Retention Time	Area	Area Percent
10,29	24782292	50,284
14,13	24502070	49,716



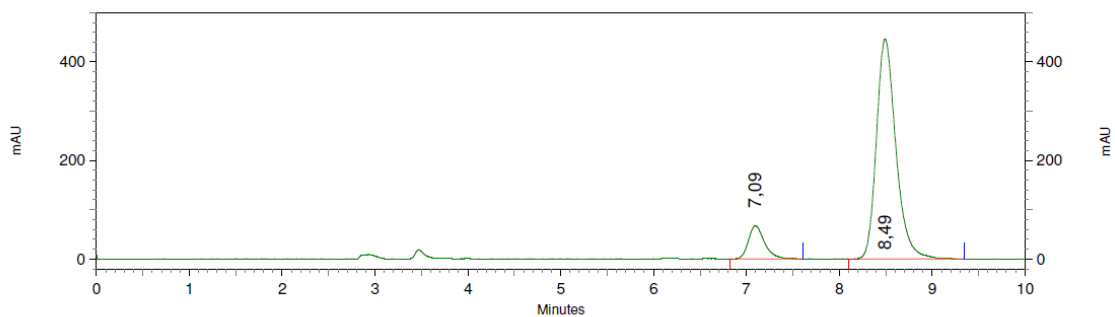
12: 220 nm, 4 nm
Results

Retention Time	Area	Area Percent
10,28	5707791	10,686
14,12	47708001	89,314



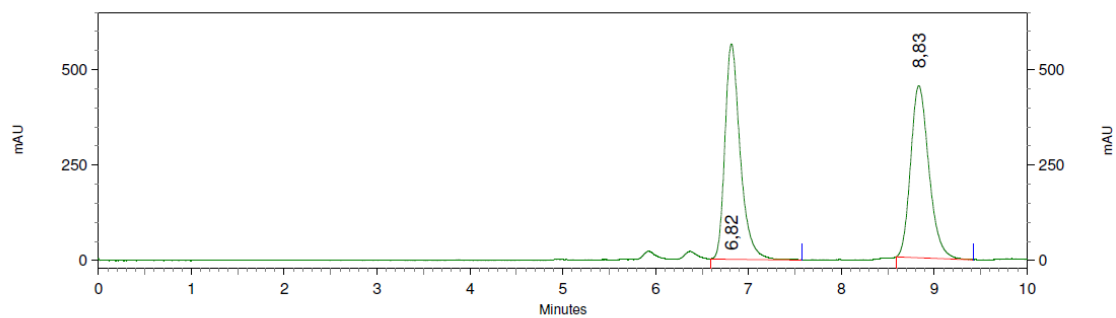
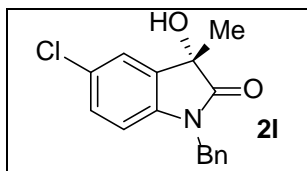
6: 220 nm, 4 nm Results

Retention Time	Area	Area Percent
7,11	11331638	49,137
8,51	11729833	50,863



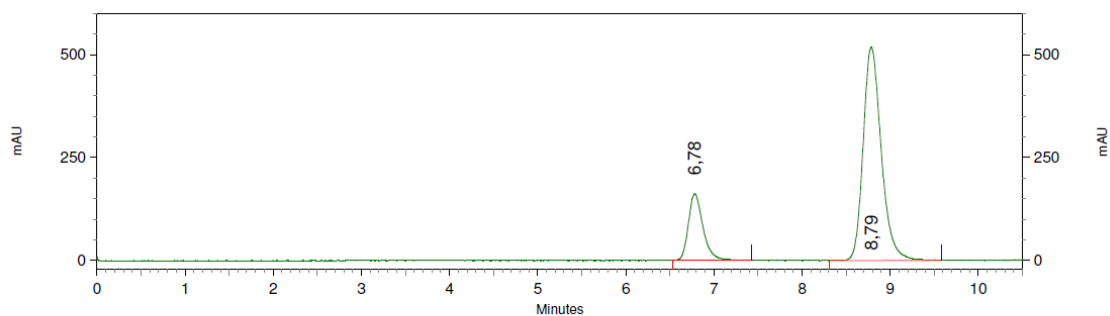
6: 220 nm, 4 nm Results

Retention Time	Area	Area Percent
7,09	3274944	11,167
8,49	26051690	88,833



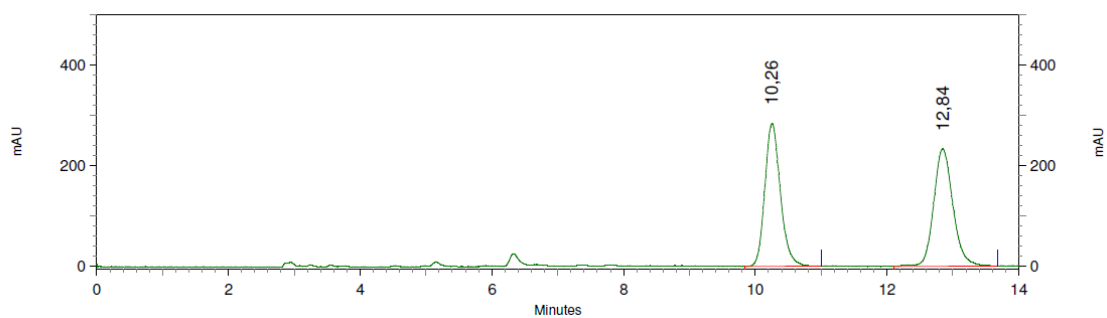
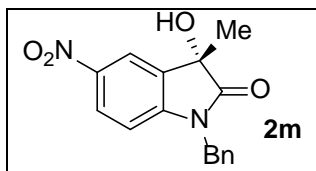
2: 275 nm, 4 nm Results

Retention Time	Area	Area Percent
6,82	25788332	51,116
8,83	24662691	48,884



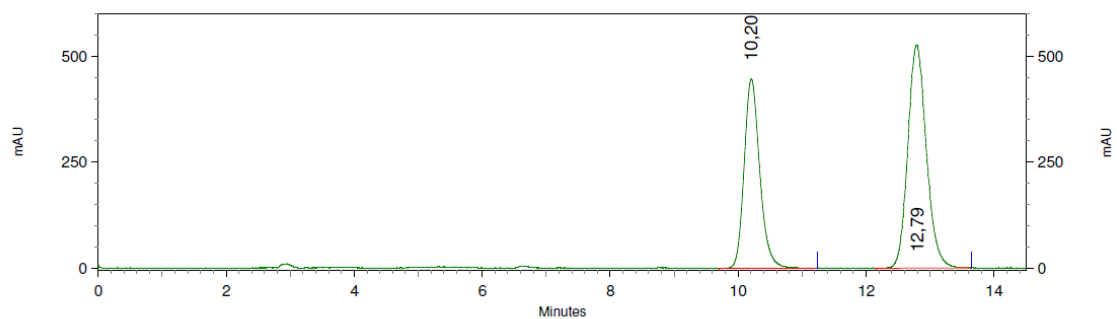
2: 275 nm, 4 nm Results

Retention Time	Area	Area Percent
6,78	7482176	20,144
8,79	29661140	79,856



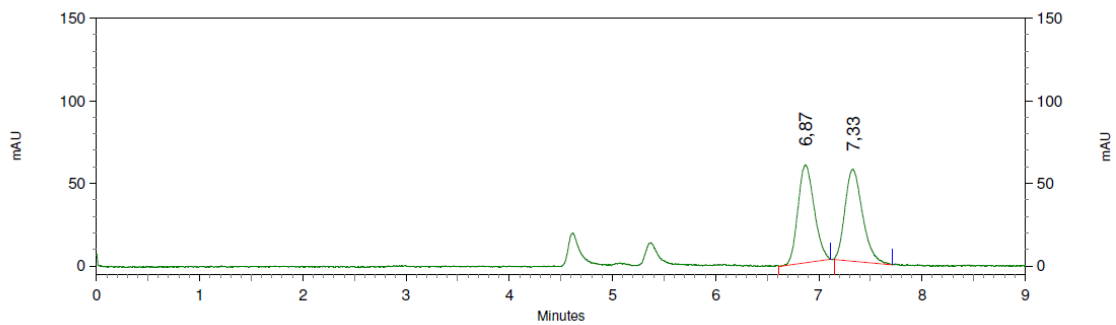
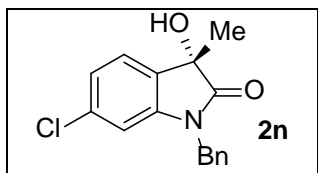
17: 220 nm, 4 nm
Results

Retention Time	Area	Area Percent
10,26	18687204	49,556
12,84	19021820	50,444



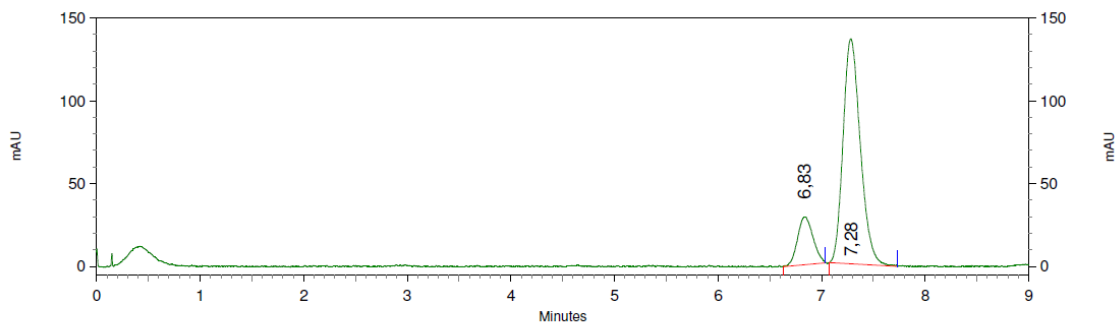
17: 220 nm, 4 nm
Results

Retention Time	Area	Area Percent
10,20	30267870	41,458
12,79	42740004	58,542



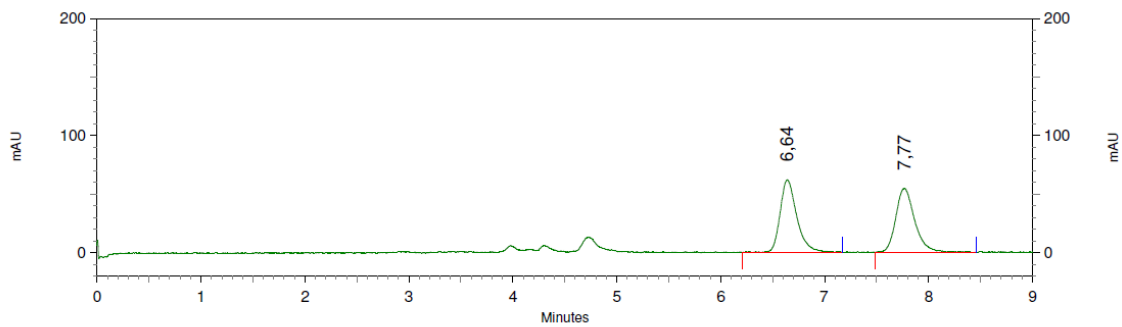
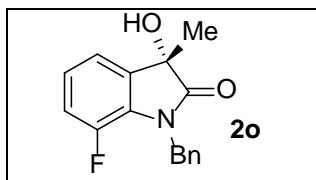
6: 280 nm, 4 nm Results

Retention Time	Area	Area Percent
6,87	2593140	49,601
7,33	2634889	50,399



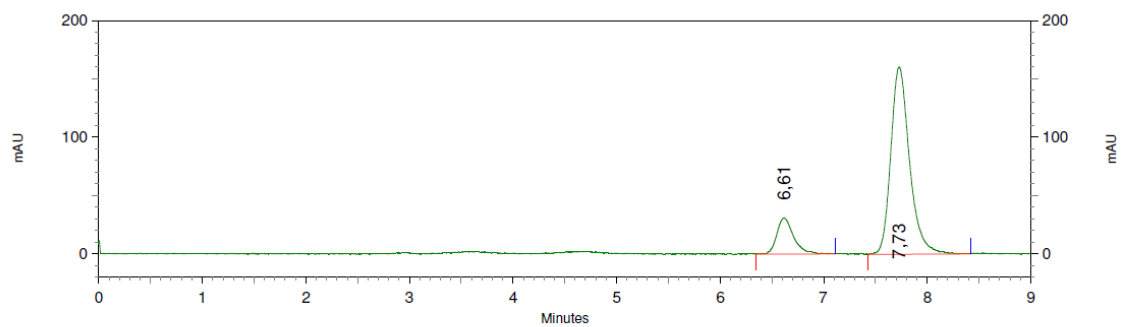
6: 280 nm, 4 nm Results

Retention Time	Area	Area Percent
6,83	1197334	15,945
7,28	6311696	84,055



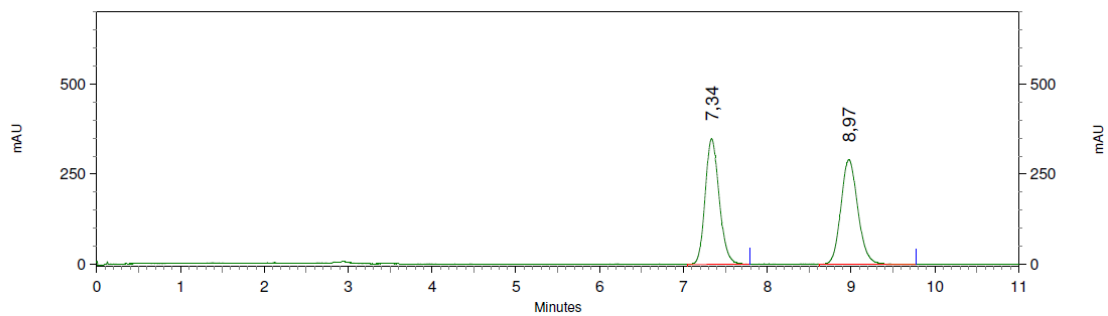
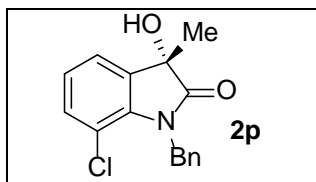
2: 275 nm, 4 nm Results

Retention Time	Area	Area Percent
6,64	2808637	49,953
7,77	2813934	50,047



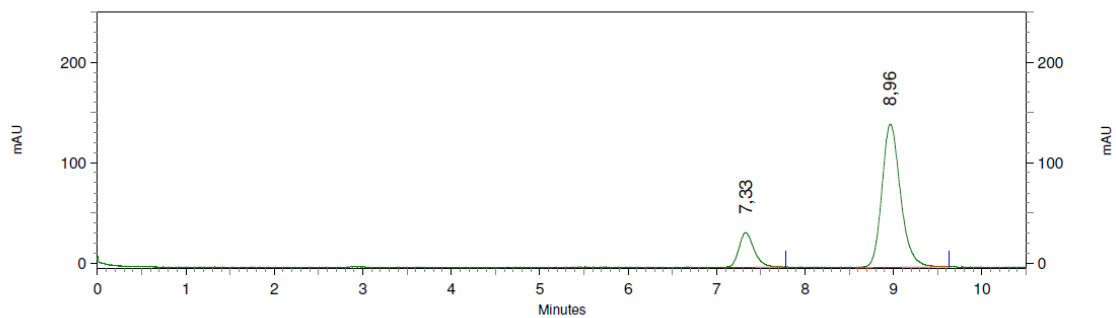
2: 275 nm, 4 nm Results

Retention Time	Area	Area Percent
6,61	1411371	14,816
7,73	8114722	85,184



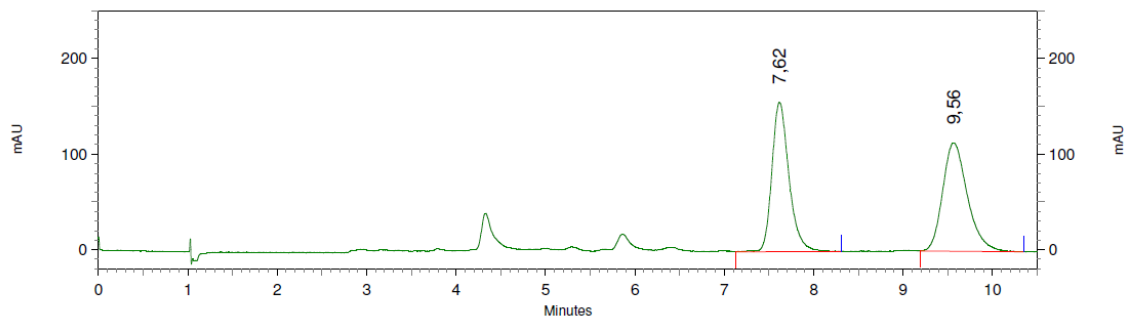
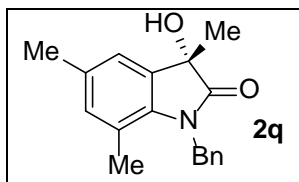
3: 250 nm, 4 nm Results

Retention Time	Area	Area Percent
7,34	16234790	49,844
8,97	16336556	50,156



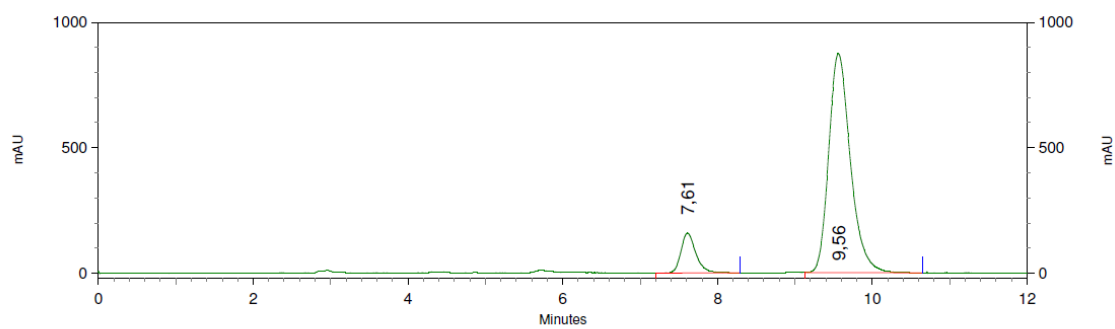
7: 270 nm, 4 nm Results

Retention Time	Area	Area Percent
7,33	1679422	16,754
8,96	8344749	83,246



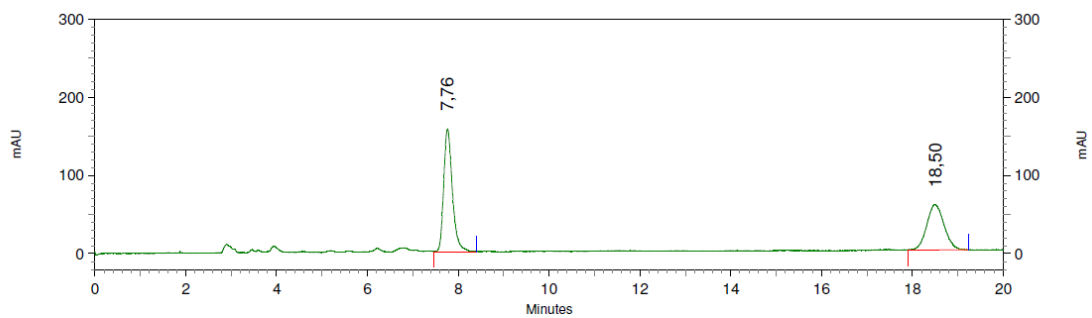
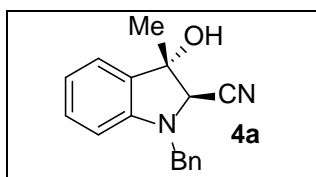
9: 240 nm, 4 nm Results

Retention Time	Area	Area Percent
7,62	8315983	48,738
9,56	8746760	51,262



12: 220 nm, 4 nm Results

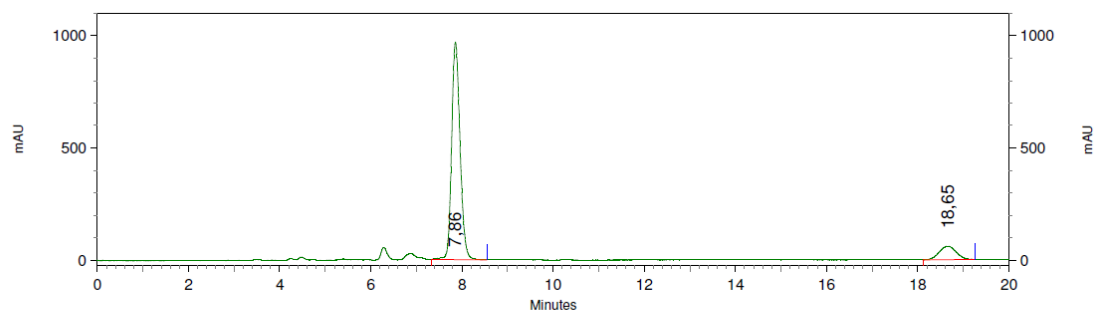
Retention Time	Area	Area Percent
7,61	8576524	11,195
9,56	68031094	88,805



17: 220 nm, 4 nm

Results

Retention Time	Area	Area Percent
7,76	8328804	57,395
18,50	6182669	42,605



13: 250 nm, 4 nm

Results

Retention Time	Area	Area Percent
7,86	49729209	88,819
18,65	6260457	11,181