

Supporting Information

Maleimide as efficient nucleophilic partner in *aza*-Morita-Baylis-Hillman reaction: Synthesis of chiral 3-substituted-3-aminooxindoles

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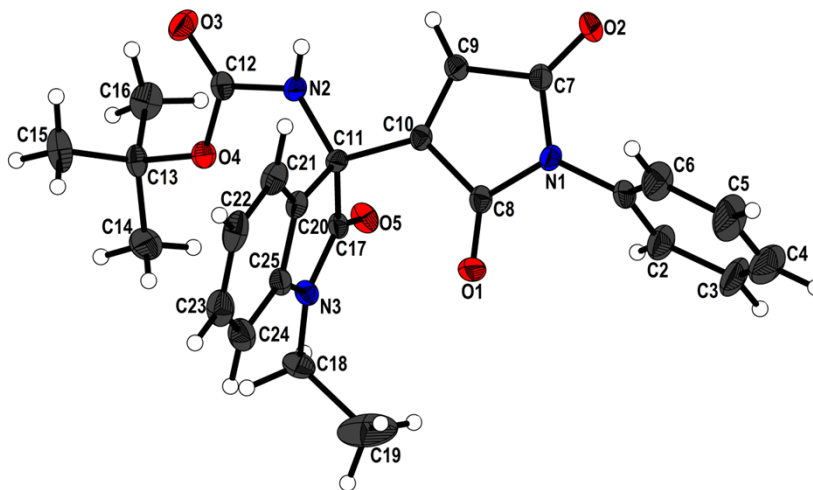
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1 Material:

Catalysts **CN**, **CD**, **QN** and **QD** were purchased from Sigma Aldrich. The catalysts **I**, **II**, **III** and **IV** were synthesized by the procedures reported in literature.¹ Isatins were purchased from Spectrochem, India. The *N*-methyl, *N*-allyl or *N*-benzyl protected isatins and their imines were prepared according to the literature method.² Maleimides **1a**, **1f**, **1c** were purchased from Sigma Aldrich. Maleimides **1b**, **1d** and **1e** were synthesized by following the known literature procedure.³

(2) Crystal data for enantiopure product (3g)



¹ (a) H. Li, Y. Wang, L. Tang and L. Deng, *J. Am. Chem. Soc.* 2004, **126**, 9906; (b) H. Li, B. Wang and L. Deng, *J. Am. Chem. Soc.* 2006, **128**, 732; (c) Y. Wang, X. Liu and L. Deng, *J. Am. Chem. Soc.*, 2006, **128**, 3928; (d) Y. Iwabuchi, M. Nakatani, N. Yokoyama and S. Hatakeyama, *J. Am. Chem. Soc.*, 1999, **121**, 10219; (e) V. Vakulya, S. Varga, A. Csámpai and T. Soos, *Org. Lett.*, 2005, **7**, 1967.

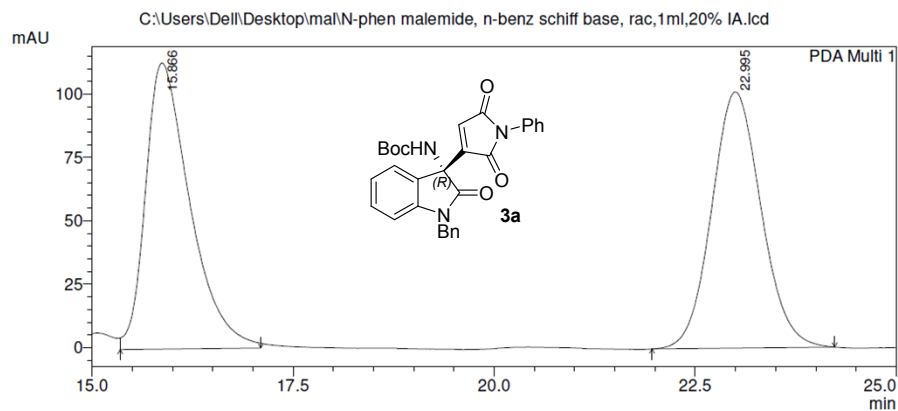
² (a) L.E. Overman and E. A. Peterson, *Tetrahedron.*, 2003, **59**, 6905; (b) W. Yan, D. Wang, J. Feng, P. Li, D. Zhao and R. Wang, *Org. Lett.*, 2012, **14**, 2512.

³ N. Matuszak, G. G. Muccioli, G. Labar and D. M. Lambert, *J. Med. Chem.* 2009, **52**, 7410.

Chemical formula	C ₂₅ H ₂₅ N ₃ O ₅
Formula Mass	447.48
Crystal system	Monoclinic
Colour	Colourless
a/Å	10.903(4)
b/Å	8.978(3)
c/Å	13.171(5)
α/°	90.00
β/°	108.452(12)
γ/°	90.00
Unit cell volume/Å³	1223.0(8)
Temperature/K	296(2)
Space group	P 21
No. of formula units per unit cell, Z	2
No. of reflections measured	1297
Final R_I values (all data)	0.1339
Final $wR(F^2)$ values (all data)	0.2062

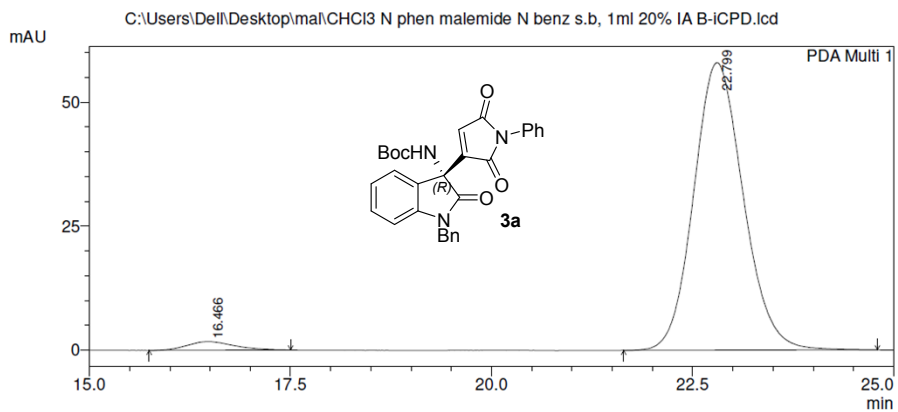
Goodness of fit on F^2	0.973
Flack parameter	-1(2)
CCDC number	1037308

==== Shimadzu LCsolution Analysis Report ====



PeakTable

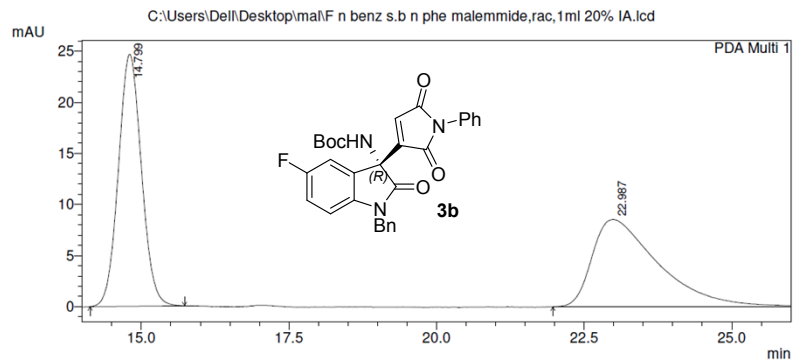
Peak#	Ret. Time	Area	Height	Area %	Height %
1	15.866	4332043	112840	49.999	52.753
2	22.995	4332211	101063	50.001	47.247
Total		8664253	213903	100.000	100.000



PeakTable

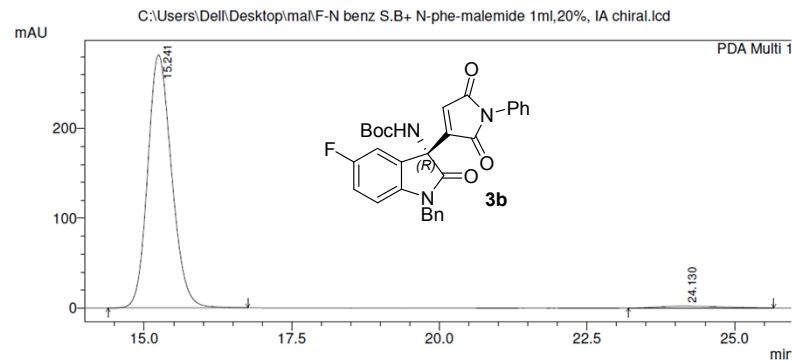
Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.466	70005	1724	2.738	2.888
2	22.799	2487205	57988	97.262	97.112
Total		2557211	59712	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====



PeakTable

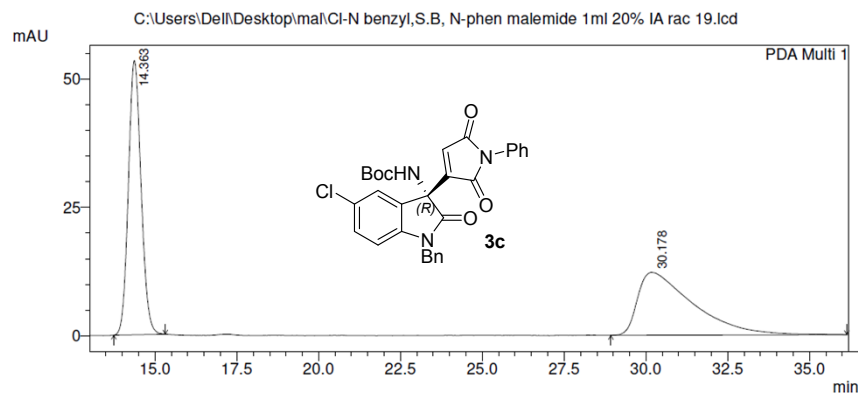
Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.799	670919	24664	50.023	74.247
2	22.987	670316	8555	49.977	25.753
Total		1341235	33219	100.000	100.000



PeakTable

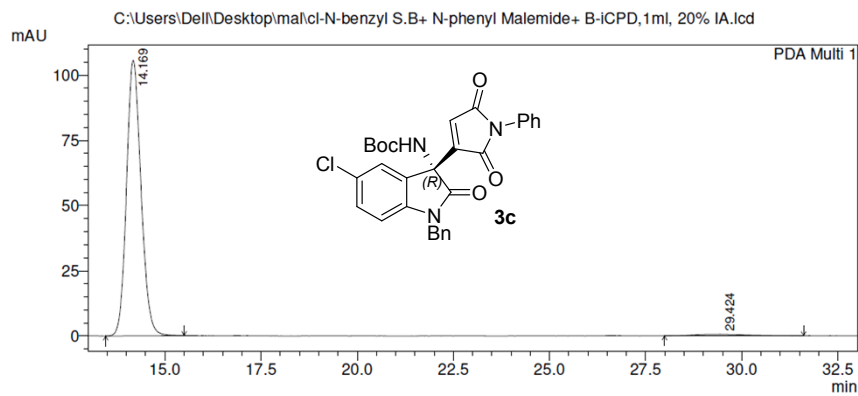
Peak#	Ret. Time	Area	Height	Area %	Height %
1	15.241	7945854	281982	98.283	99.311
2	24.130	138819	1956	1.717	0.689
Total		8084673	283937	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====



PeakTable

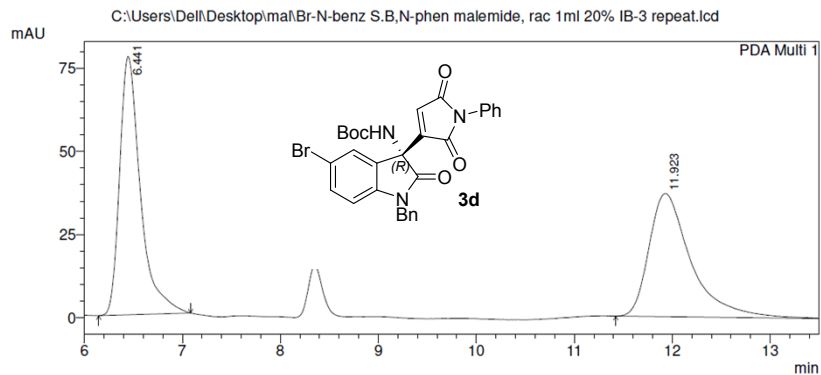
Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.363	1441856	53391	50.079	81.363
2	30.178	1437304	12230	49.921	18.637
Total		2879160	65621	100.000	100.000



PeakTable

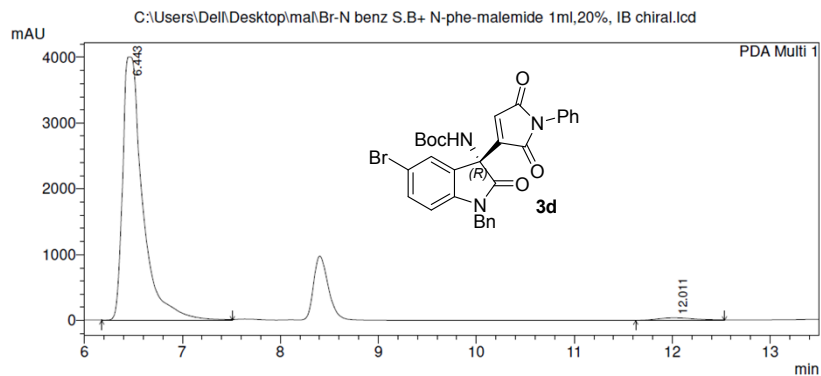
Peak#	Ret. Time	Area	Height	Area %	Height %
1	14.169	2769780	105682	98.012	99.430
2	29.424	56181	605	1.988	0.570
Total		2825960	106288	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====



PeakTable

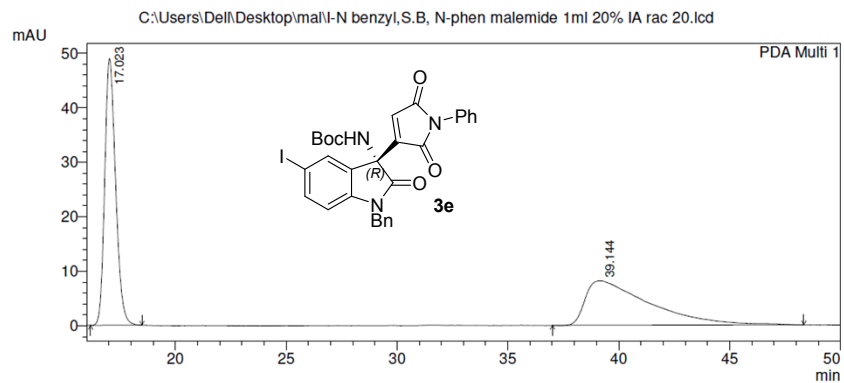
Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.441	1145246	77578	51.017	67.736
2	11.923	1099605	36952	48.983	32.264
Total		2244851	114530	100.000	100.000



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.443	57101482	3998072	97.904	98.963
2	12.011	1222519	41909	2.096	1.037
Total		58324001	4039980	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====

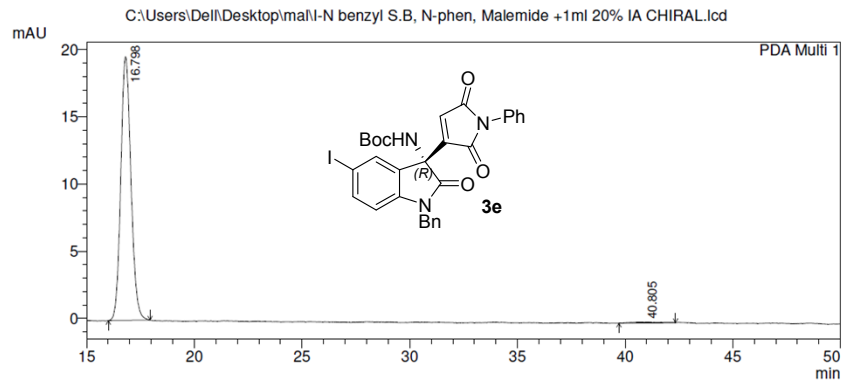


1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	17.023	1666318	48923	50.475	85.705
2	39.144	1634959	8160	49.525	14.295
Total		3301277	57083	100.000	100.000



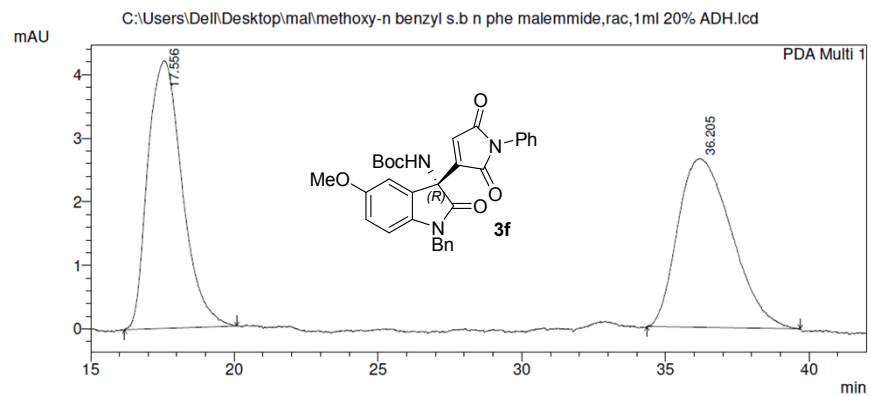
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	16.798	643402	19610	99.107	99.644
2	40.805	5796	70	0.893	0.356
Total		649198	19680	100.000	100.000

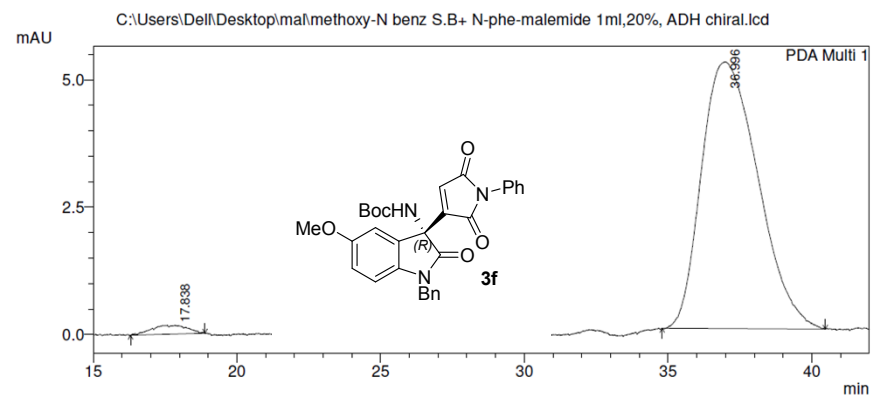
==== Shimadzu LCsolution Analysis Report ====



1 PDA Multi 1/254nm 4nm

PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	17.556	351514	4211	50.401	61.349
2	36.205	345921	2653	49.599	38.651
Total		697435	6864	100.000	100.000

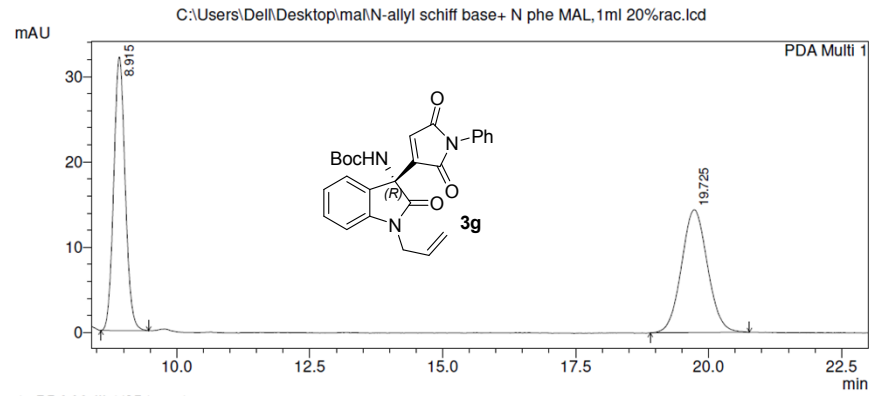


1 PDA Multi 1/254nm 4nm

PeakTable

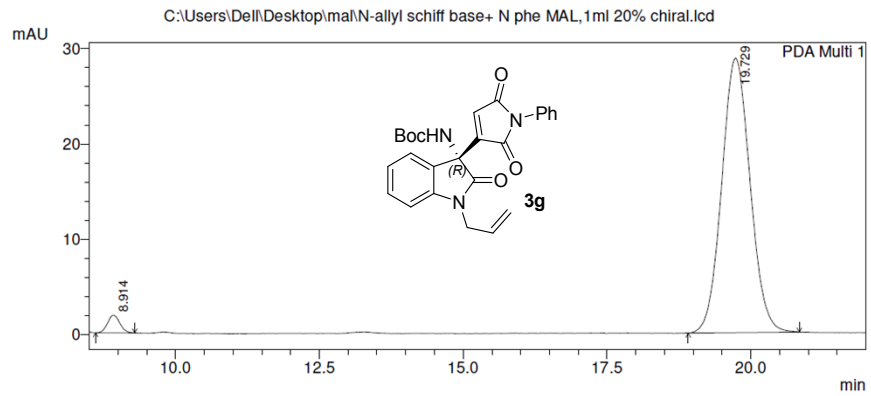
Peak#	Ret. Time	Area	Height	Area %	Height %
1	17.838	15143	175	2.068	3.232
2	36.996	717054	5236	97.932	96.768
Total		732197	5410	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====



PeakTable

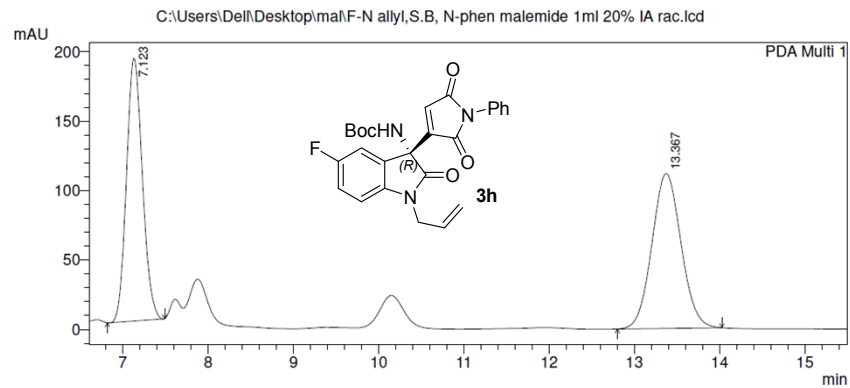
Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.915	481028	32043	49.582	69.019
2	19.725	489141	14383	50.418	30.981
Total		970168	46426	100.000	100.000



PeakTable

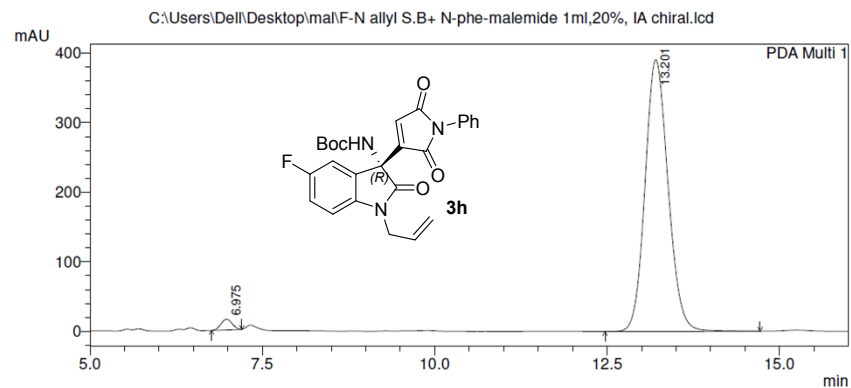
Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.914	27873	1873	2.738	6.103
2	19.729	990244	28810	97.262	93.897
Total		1018116	30682	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====



PeakTable

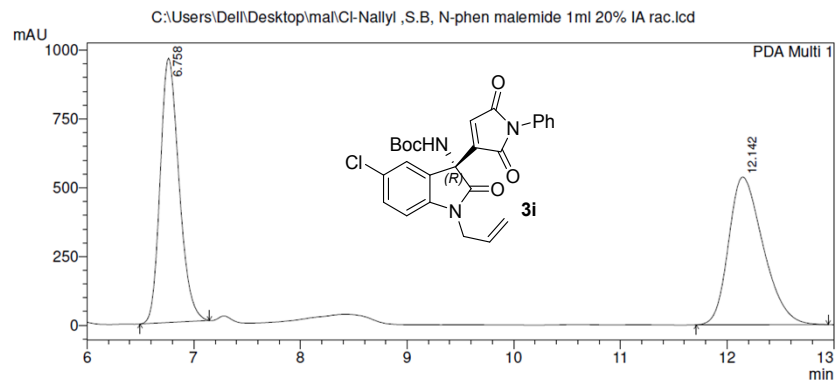
Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.123	2459628	189314	48.172	62.937
2	13.367	2646292	111485	51.828	37.063
Total		5105920	300799	100.000	100.000



PeakTable

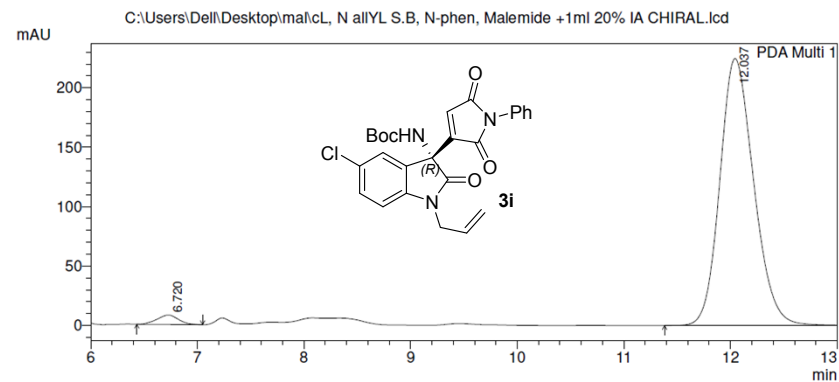
Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.975	171332	15177	1.853	3.742
2	13.201	9075589	390450	98.147	96.258
Total		9246922	405627	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====



PeakTable

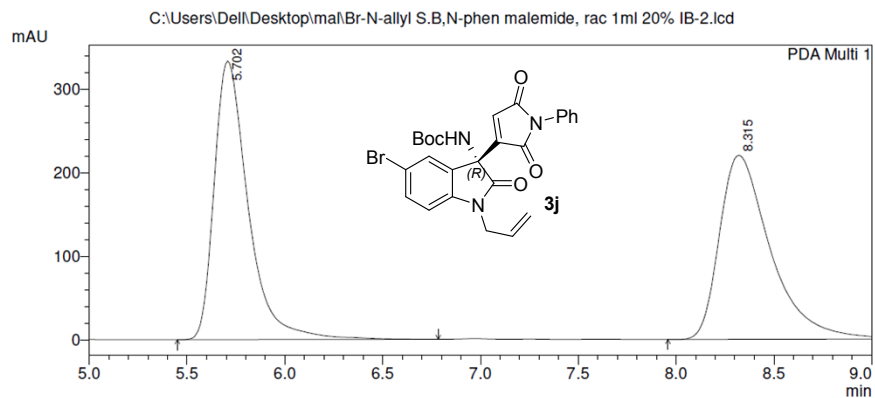
Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.758	11828130	961421	49.410	64.166
2	12.142	12110451	536918	50.590	35.834
Total		23938581	1498339	100.000	100.000



PeakTable

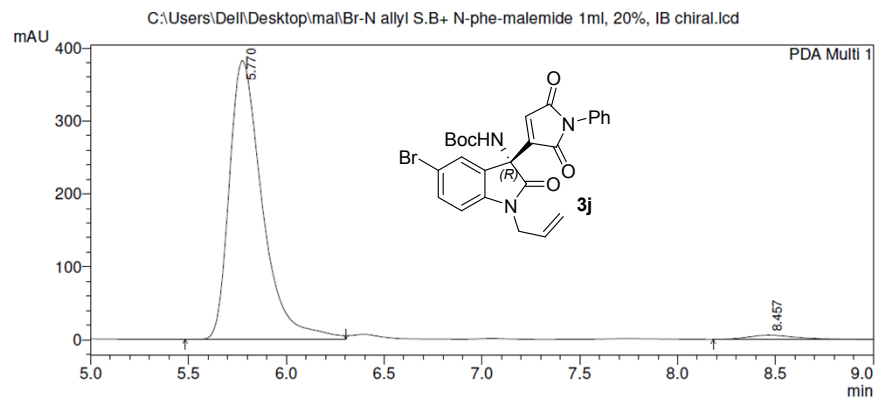
Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.720	112312	7958	2.211	3.419
2	12.037	4967065	224796	97.789	96.581
Total		5079377	232754	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====



PeakTable

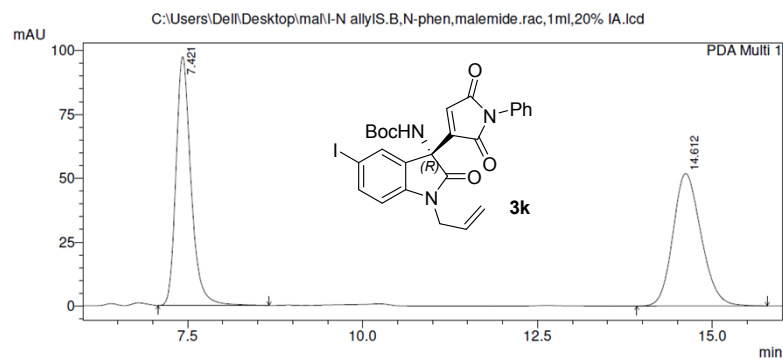
Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.702	4040444	333682	50.041	60.199
2	8.315	4033790	220612	49.959	39.801
Total		8074234	554294	100.000	100.000



PeakTable

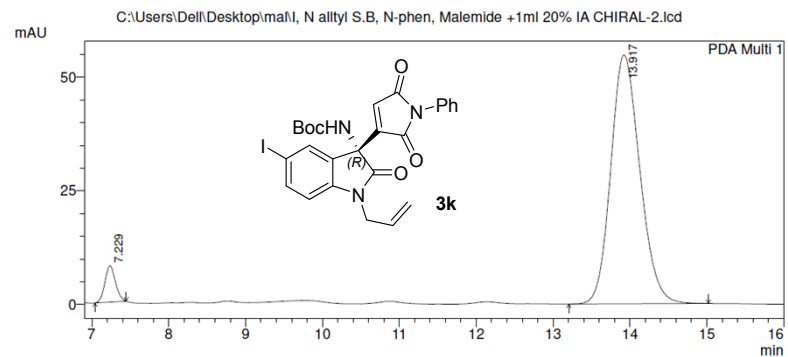
Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.770	4490964	381806	97.798	98.520
2	8.457	101129	5735	2.202	1.480
Total		4592093	387542	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====



PeakTable

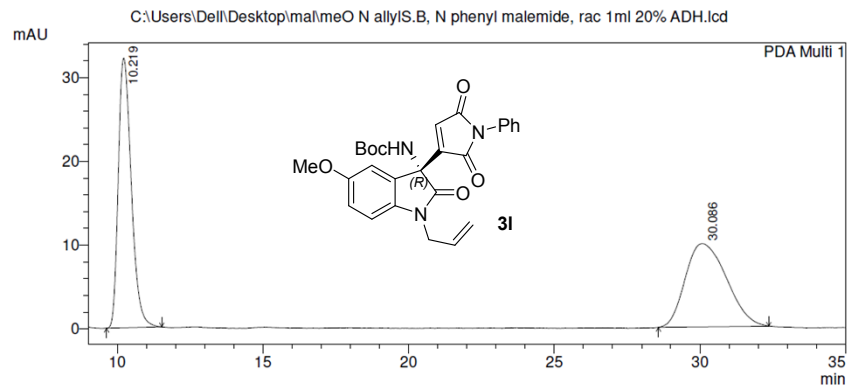
Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.421	1455262	97288	50.110	65.259
2	14.612	1448882	51792	49.890	34.741
Total		2904144	149080	100.000	100.000



PeakTable

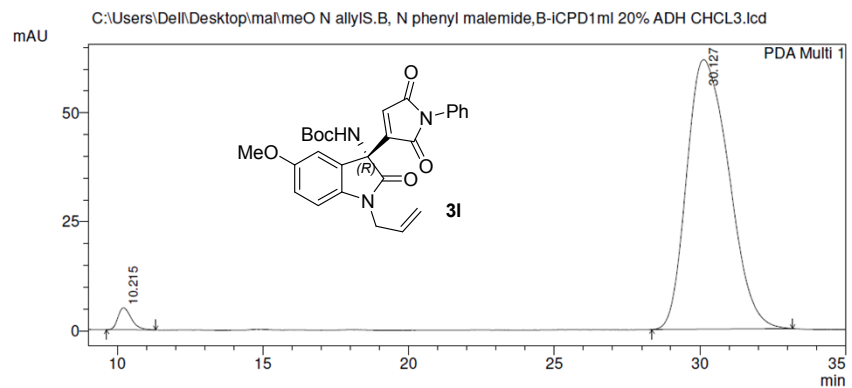
Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.229	76555	8019	5.033	12.760
2	13.917	1444445	54827	94.967	87.240
Total		1521001	62846	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====



PeakTable

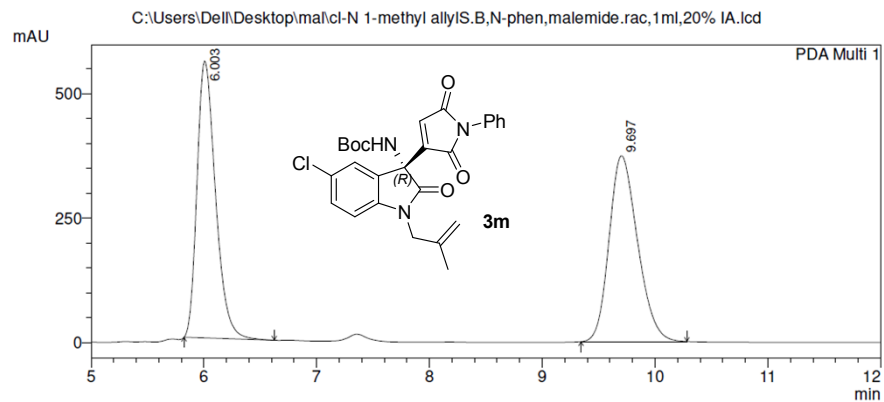
Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.219	1001640	32196	50.563	76.426
2	30.086	979342	9931	49.437	23.574
Total		1980983	42127	100.000	100.000



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.215	159740	5015	2.498	7.500
2	30.127	6236185	61855	97.502	92.500
Total		6395925	66870	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====

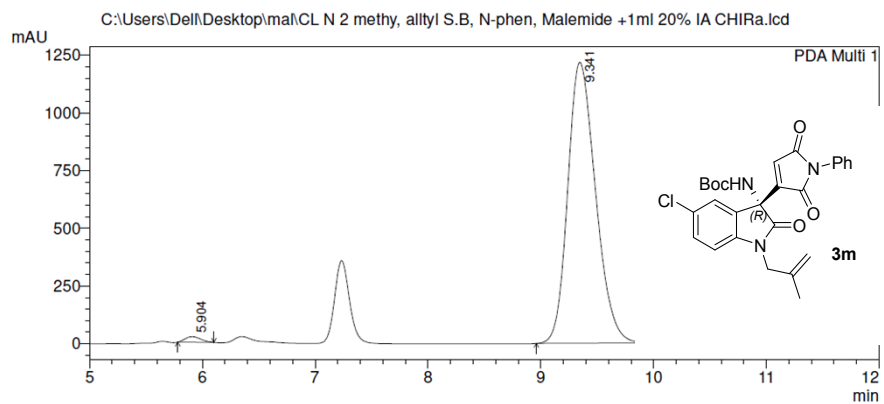


1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	6.003	6342513	556636	49.191	59.848
2	9.697	6551226	373449	50.809	40.152
Total		12893740	930086	100.000	100.000



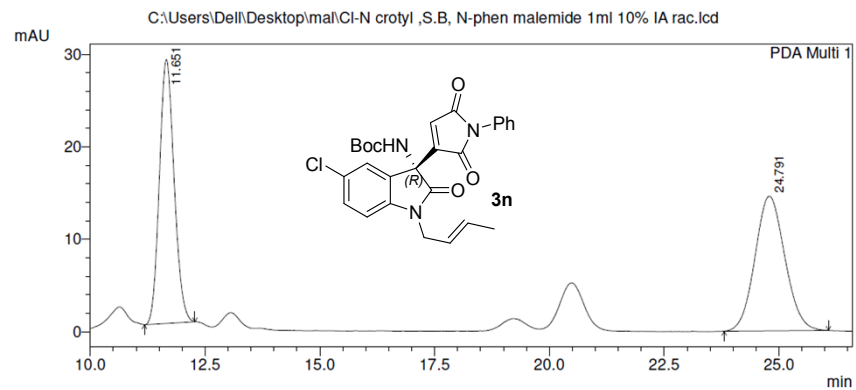
1 PDA Multi 1/218nm 4nm

PeakTable

PDA Ch1 218nm 4nm

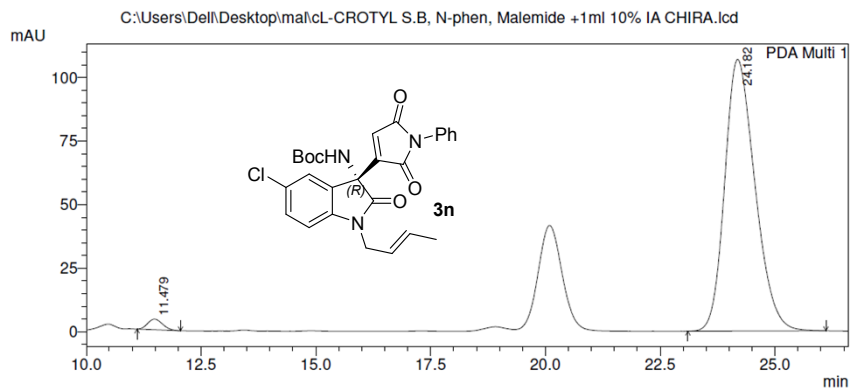
Peak#	Ret. Time	Area	Height	Area %	Height %
1	5.904	232381	24279	1.102	1.956
2	9.341	20857470	1216986	98.898	98.044
Total		21089851	1241265	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====



PeakTable

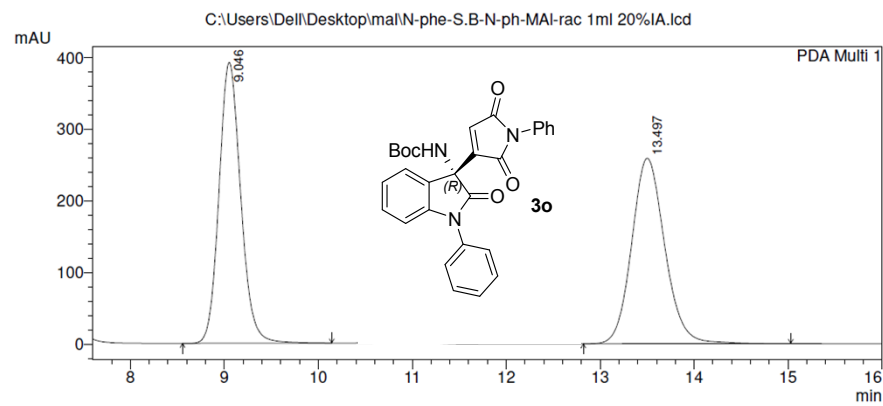
Peak#	Ret. Time	Area	Height	Area %	Height %
1	11.651	638222	28584	49.150	66.204
2	24.791	660306	14592	50.850	33.796
Total		1298529	43175	100.000	100.000



PeakTable

Peak#	Ret. Time	Area	Height	Area %	Height %
1	11.479	94805	4199	1.890	3.779
2	24.182	4921714	106935	98.110	96.221
Total		5016520	111134	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====

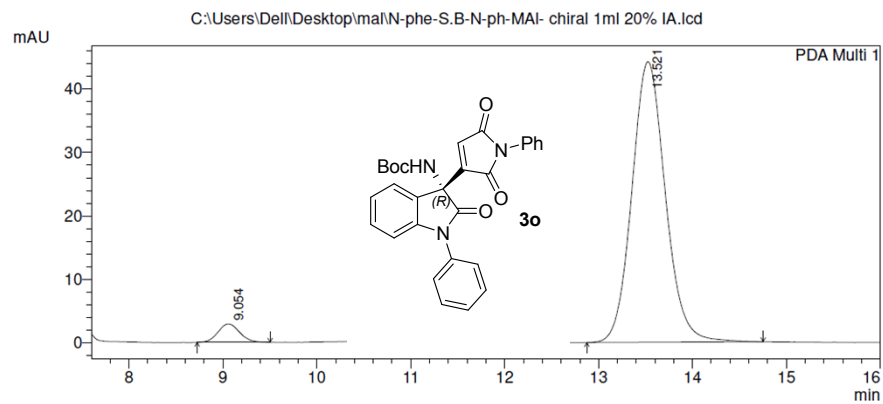


1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	9.046	6309639	392533	49.861	60.225
2	13.497	6344713	259246	50.139	39.775
Total		12654351	651779	100.000	100.000



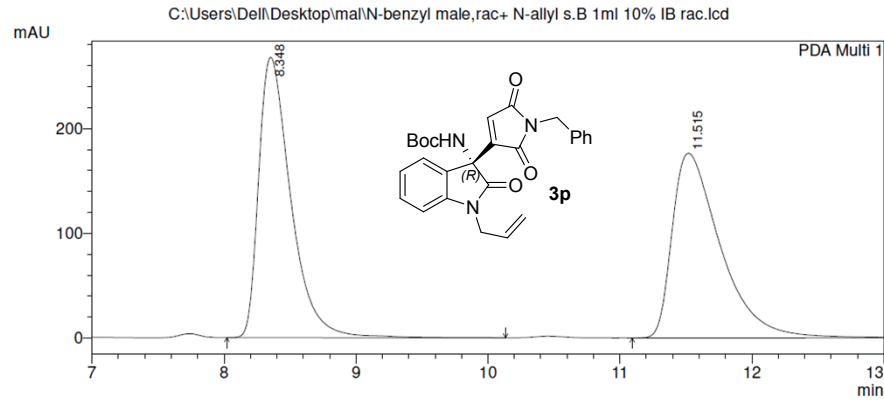
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	9.054	46470	2902	4.074	6.164
2	13.521	1094144	44171	95.926	93.836
Total		1140614	47072	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====

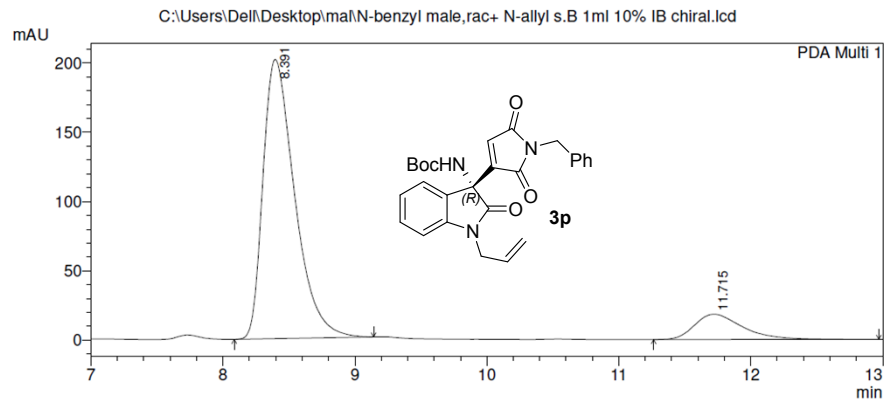


1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.348	4537584	267866	50.234	60.303
2	11.515	4495288	176337	49.766	39.697
Total		9032871	444203	100.000	100.000



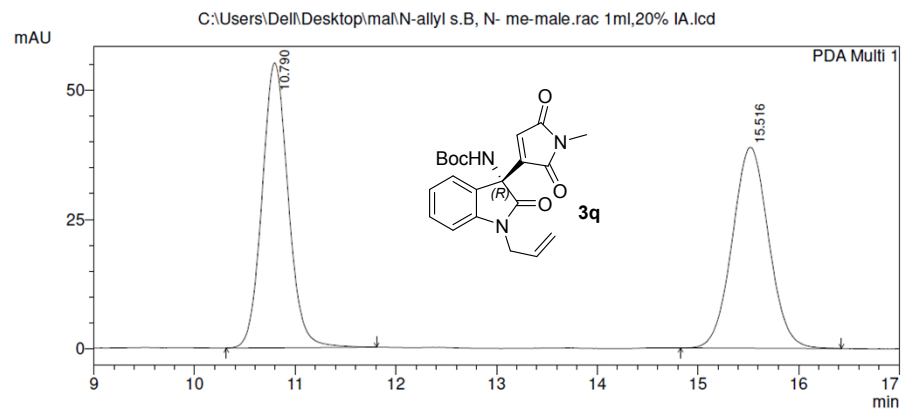
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	8.391	3363172	201755	87.863	91.705
2	11.715	464558	18248	12.137	8.295
Total		3827730	220003	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====

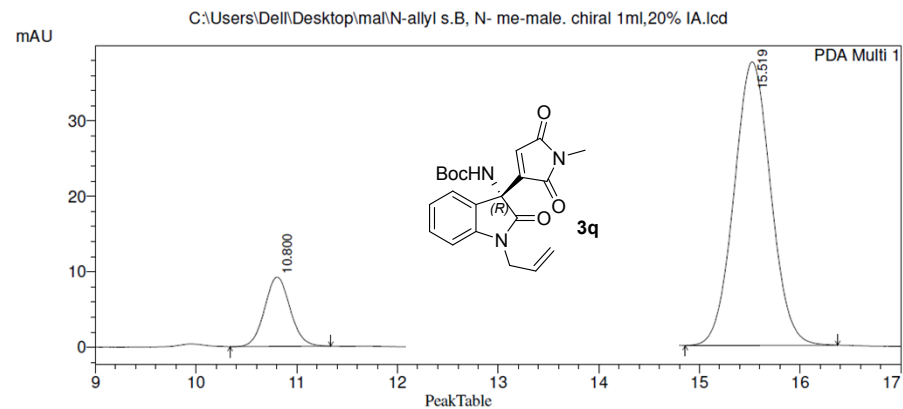


1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

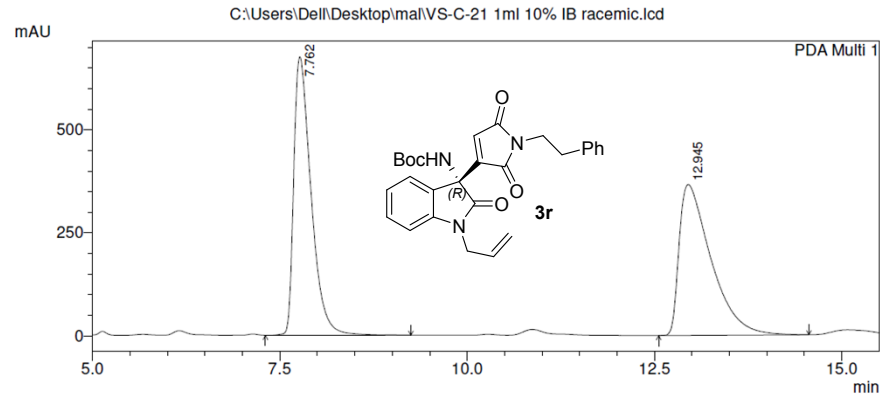
Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.790	995221	55152	50.480	58.654
2	15.516	976281	38877	49.520	41.346
Total		1971502	94029	100.000	100.000



PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	10.800	161967	9172	14.523	19.629
2	15.519	953292	37555	85.477	80.371
Total		1115259	46726	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====

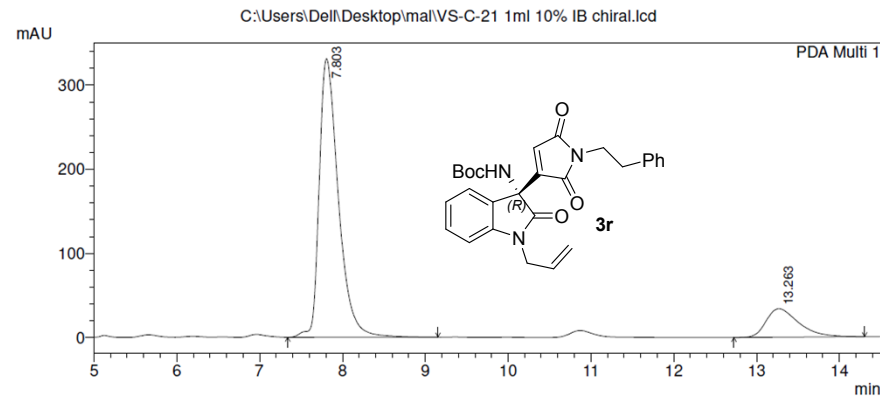


1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.762	10870438	676311	50.015	64.858
2	12.945	10863758	366451	49.985	35.142
Total		21734196	1042762	100.000	100.000



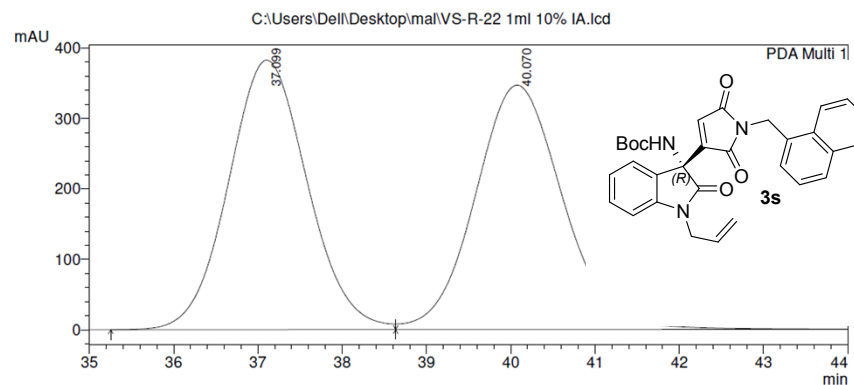
1 PDA Multi 1/254nm 4nm

PeakTable

PDA Ch1 254nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	7.803	5318838	331027	85.222	90.749
2	13.263	922312	33744	14.778	9.251
Total		6241151	364771	100.000	100.000

==== Shimadzu LCsolution Analysis Report ====

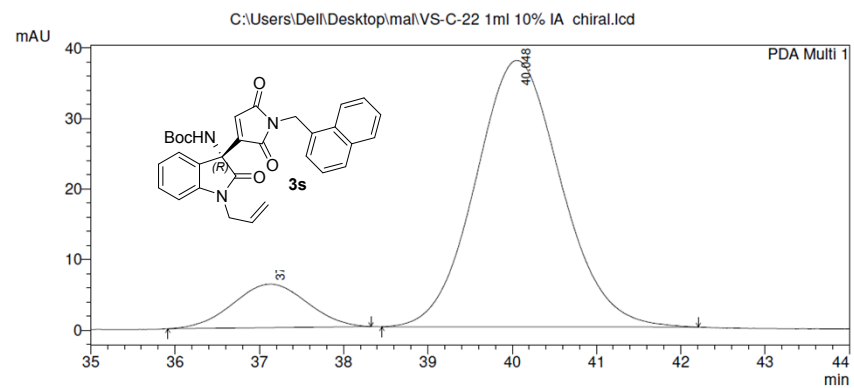


1 PDA Multi 1/218nm 4nm

PeakTable

PDA Ch1 218nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	37.099	24931766	382694	49.677	52.446
2	40.070	25256093	347004	50.323	47.554
Total		50187859	729698	100.000	100.000



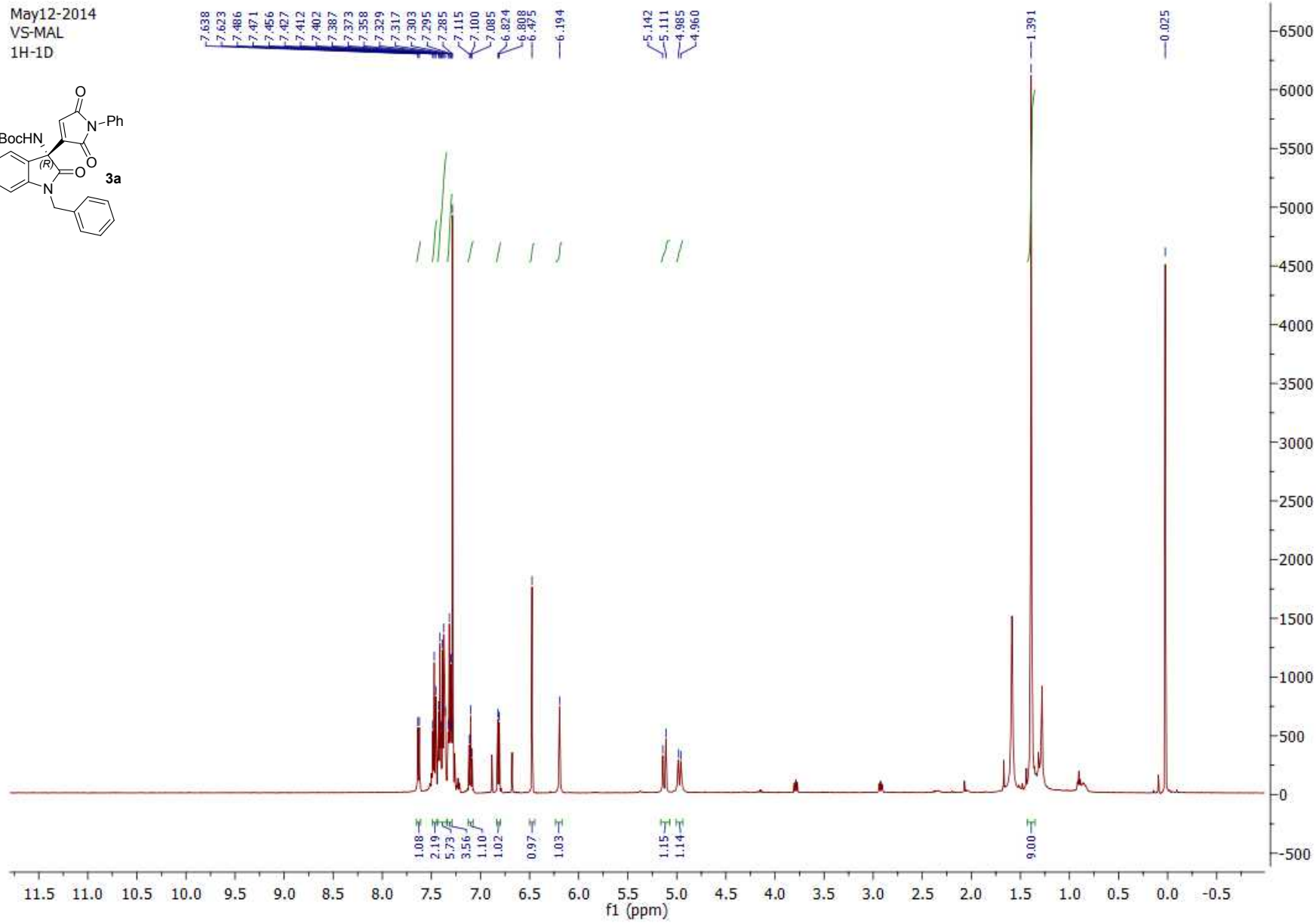
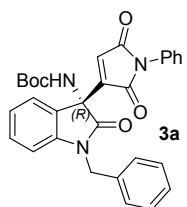
1 PDA Multi 1/254nm 4nm

PeakTable

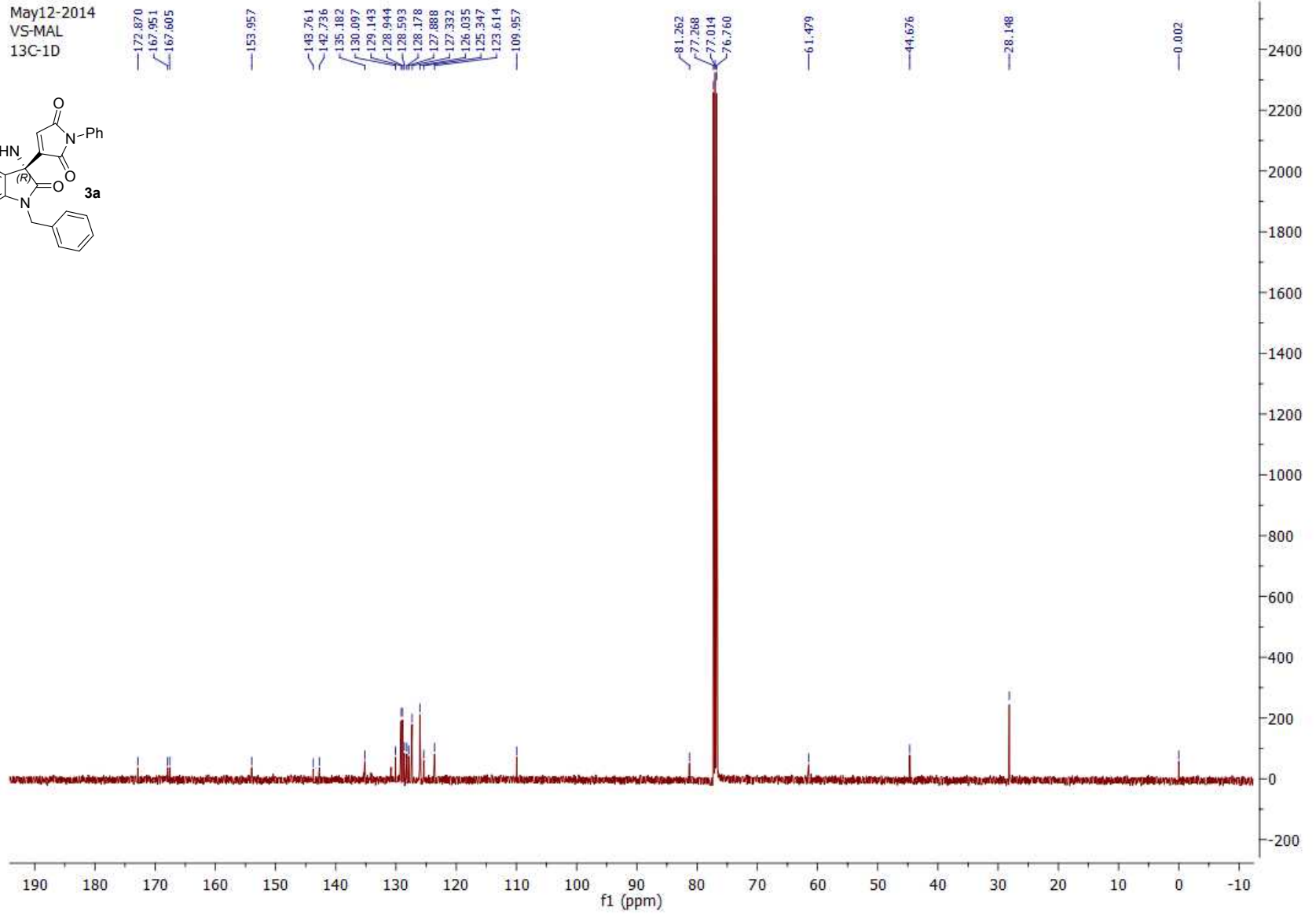
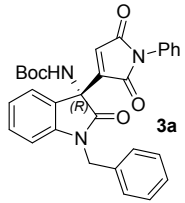
PDA Ch1 254nm 4nm

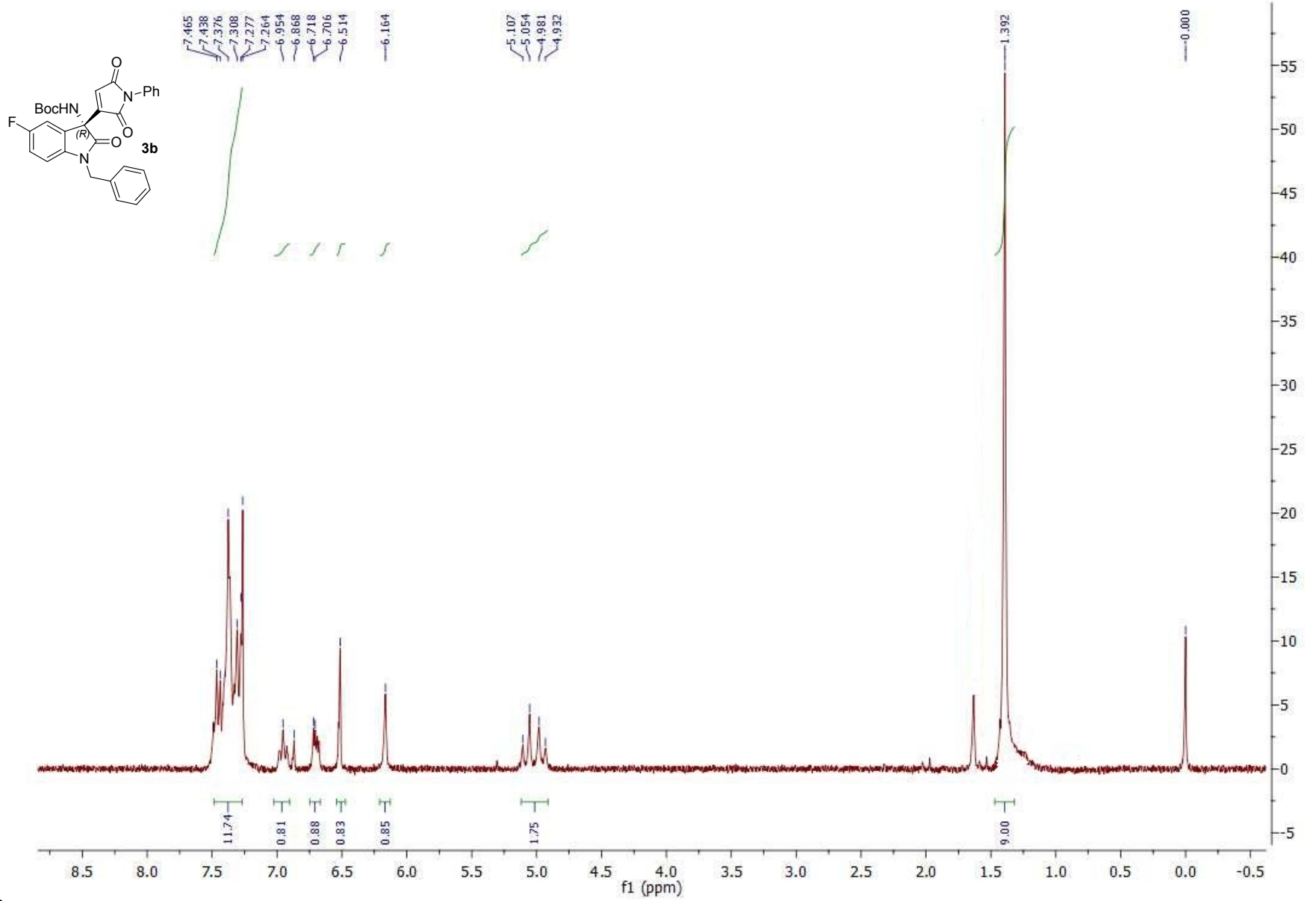
Peak#	Ret. Time	Area	Height	Area %	Height %
1	37.134	377598	6187	12.381	14.068
2	40.048	2672312	37789	87.619	85.932
Total		3049910	43976	100.000	100.000

May12-2014
VS-MAL
1H-1D

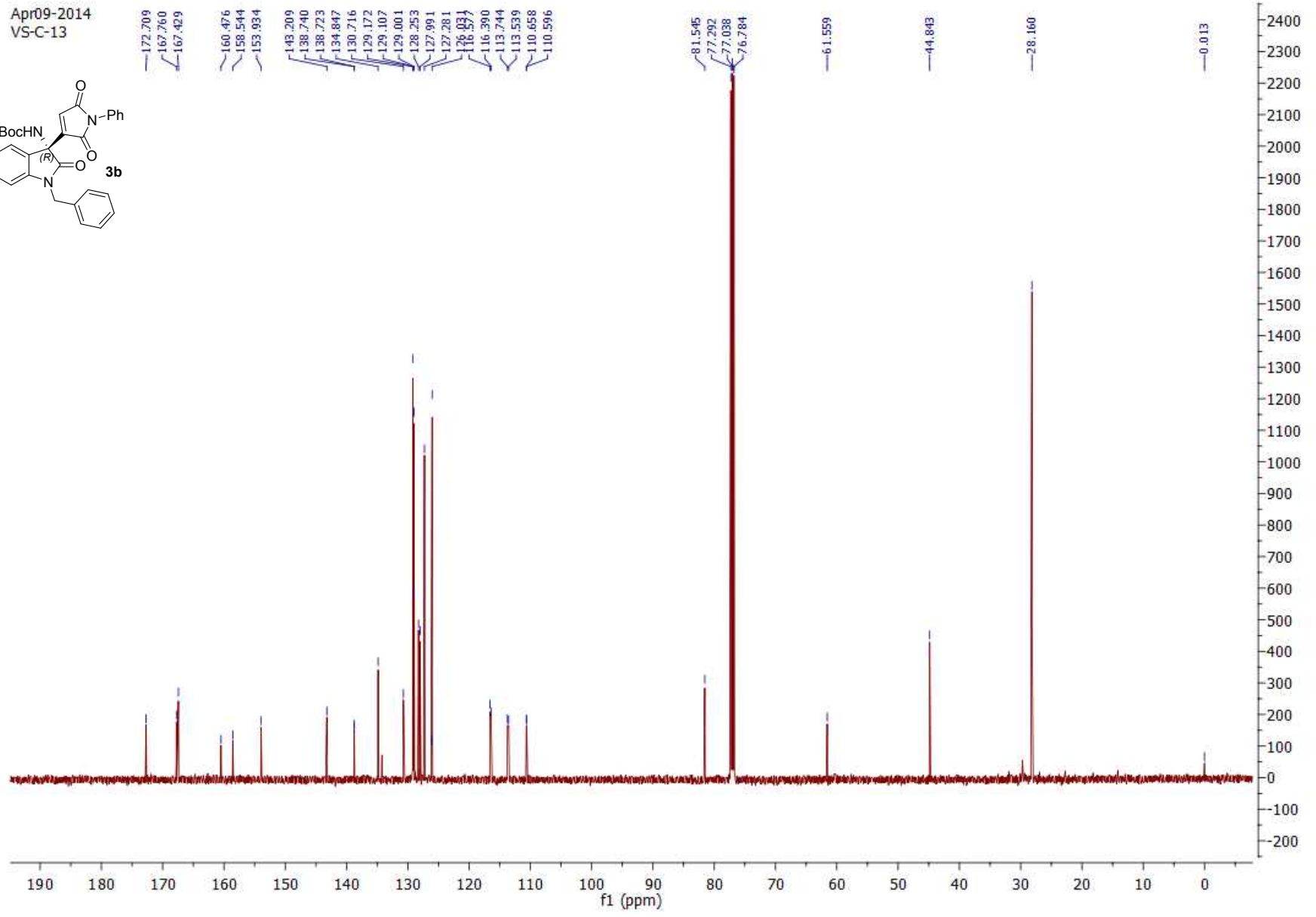
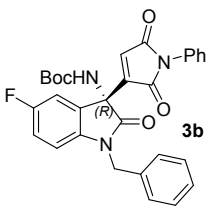


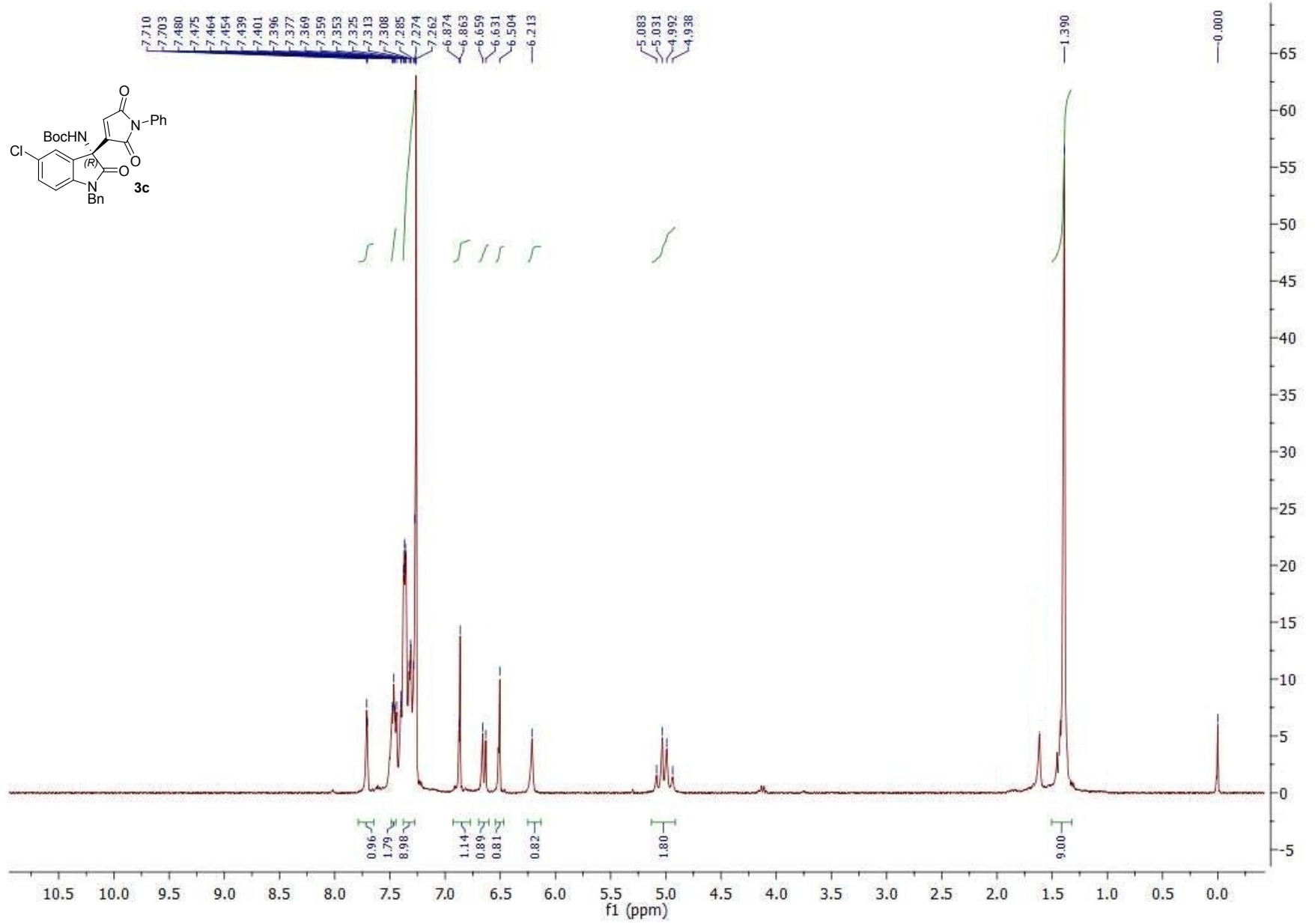
May12-2014
VS-MAL
13C-1D



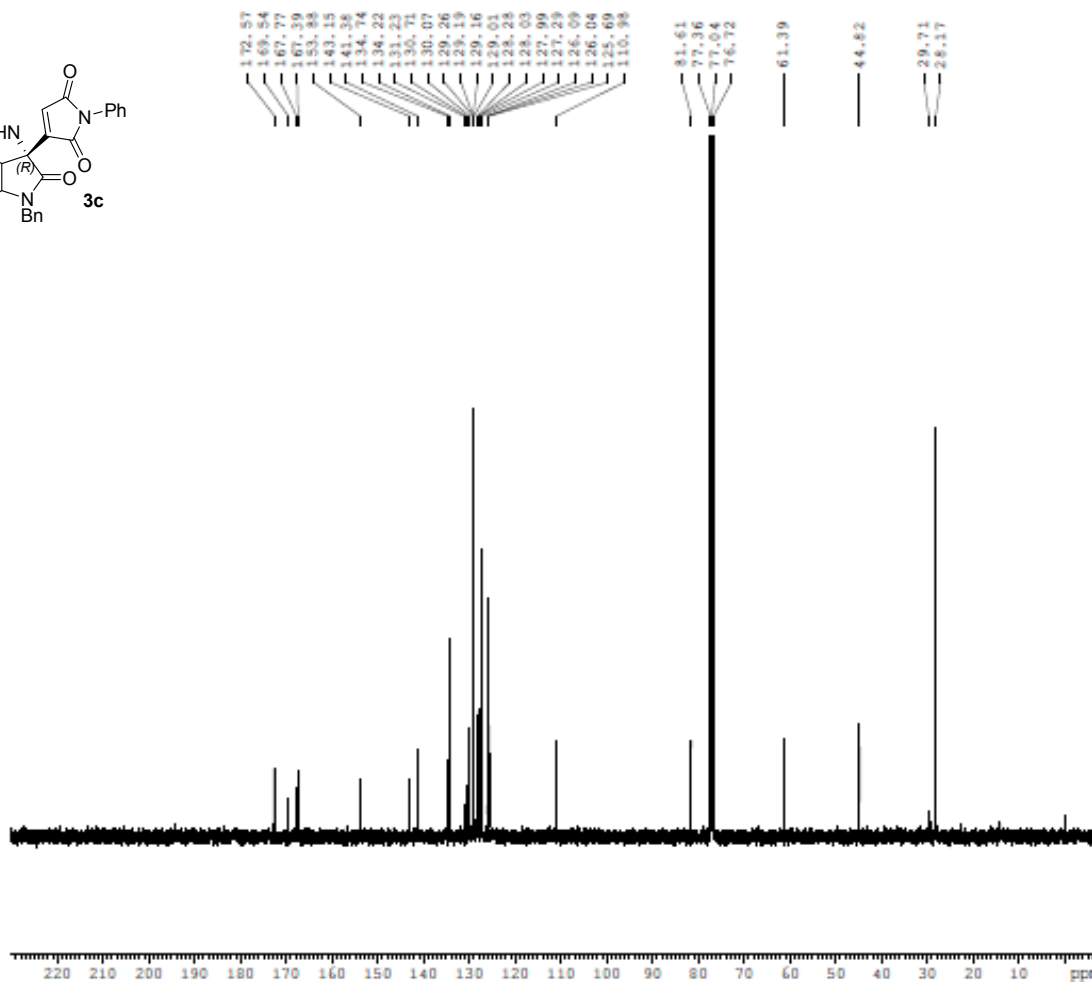
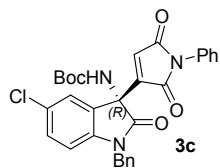


Apr09-2014
VS-C-13





VS-A-10



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Current Data Parameters
 NAME Mar25-2014
 EXPNO 370
 PROCNO 1

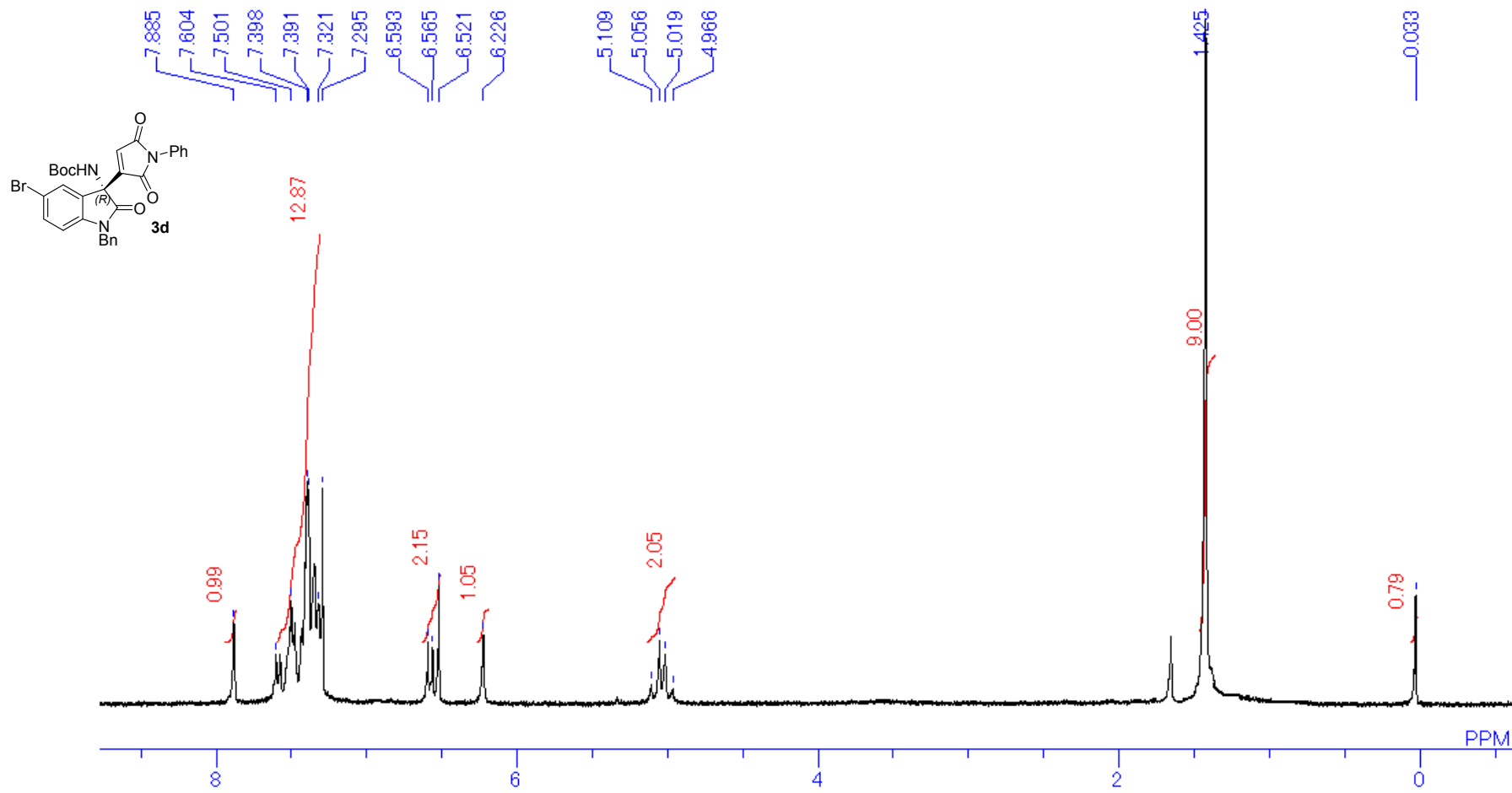
F2 - Acquisition Parameters
 Date_ 20140326
 Time 6.29
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zgpg30
 ID 65536
 SOLVENT CDC13
 NS 512
 DS 4
 SWH 29761.904 Hz
 FIDRES 0.454131 Hz
 AQ 1.1010548 sec
 RG 724
 LW 16.800 usec
 DE 6.00 usec
 TE 298.5 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 DELTA 1.89999998 sec
 TDO 1

----- CHANNEL f1 -----
 NUC1 13C
 P1 9.60 usec
 PL1 -2.00 dB
 SFO1 100.6228298 MHz

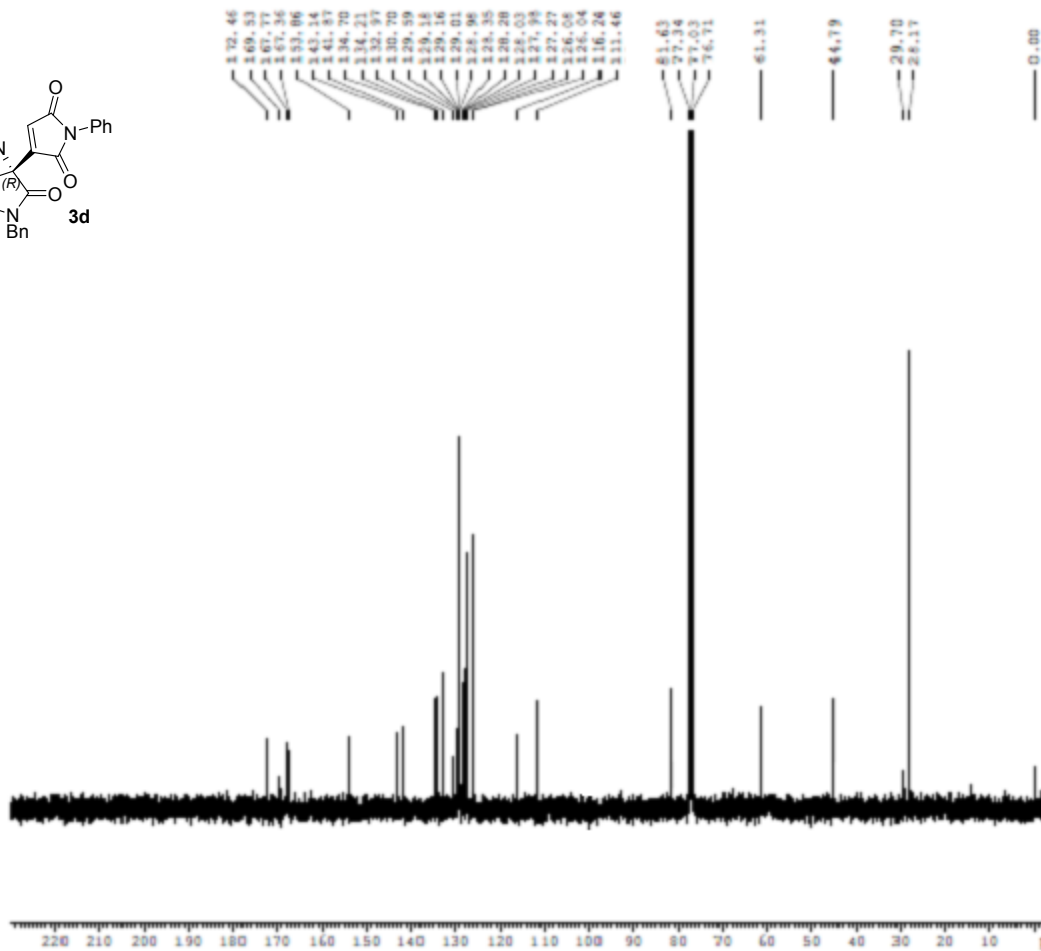
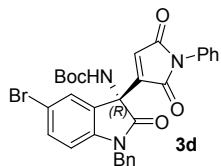
----- CHANNEL f2 -----
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -3.00 dB
 PL12 14.31 dB
 PL13 18.00 dB
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127690 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

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VS-A-4



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Current Data Parameters
 NAME Mar25-2014
 EXPNO 400
 PROCNO 1

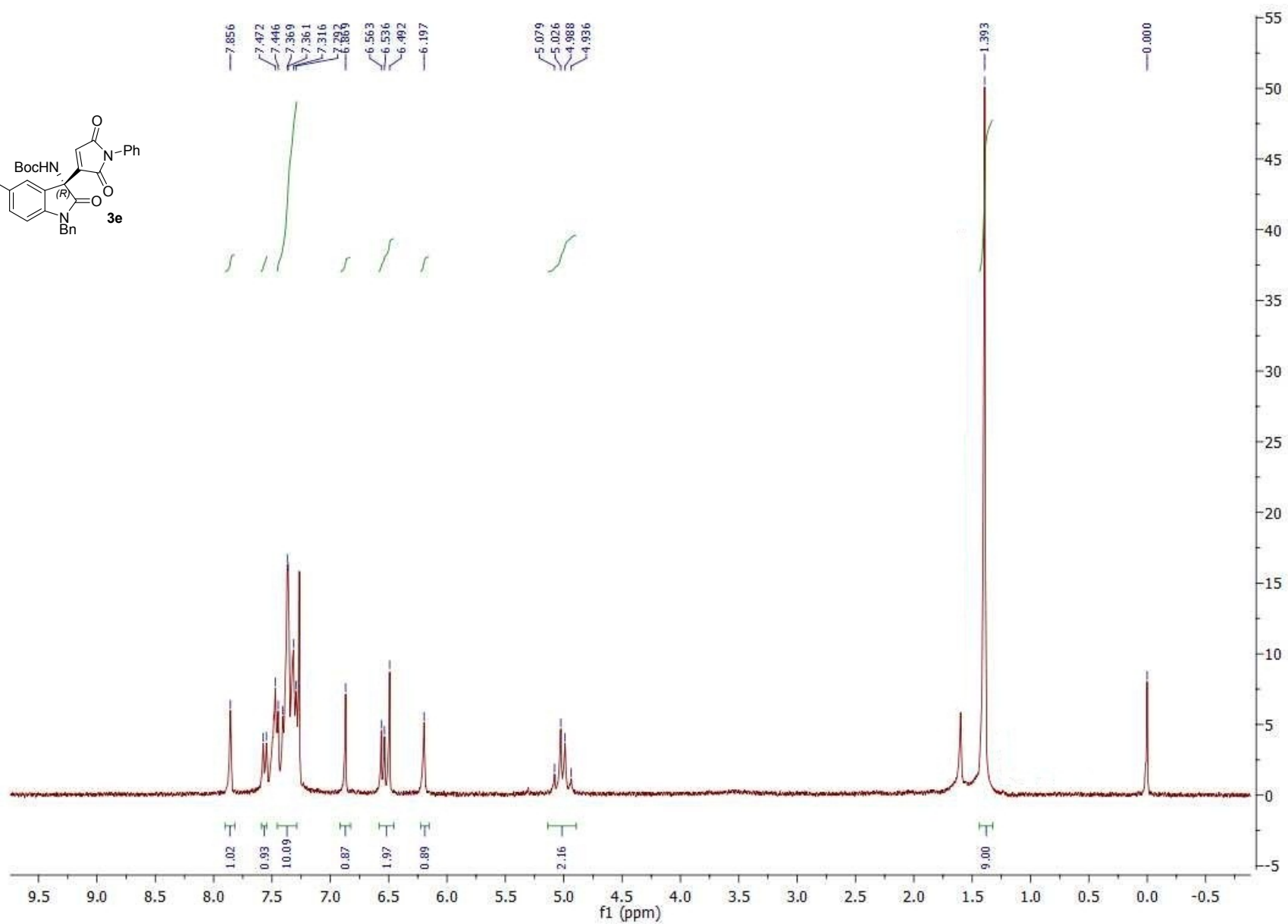
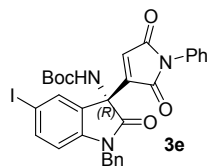
F2 - Acquisition Parameters
 Date_ 20140326
 Time 8.08
 INSTRUM spect
 PROBHD 5 mm WBBO BB-
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 512
 DS 4
 SWH 29761.904 Hz
 FIDRES 0.454131 Hz
 AQ 1.1010548 sec
 RG 36
 DM 16.800 usec
 DE 6.00 usec
 TE 298.5 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 DELTA 1.89999998 sec
 TDO 1

----- CHANNEL f1 -----
 NUC1 13C
 P1 9.60 usec
 PL1 -2.00 dB
 SFO1 100.6228298 MHz

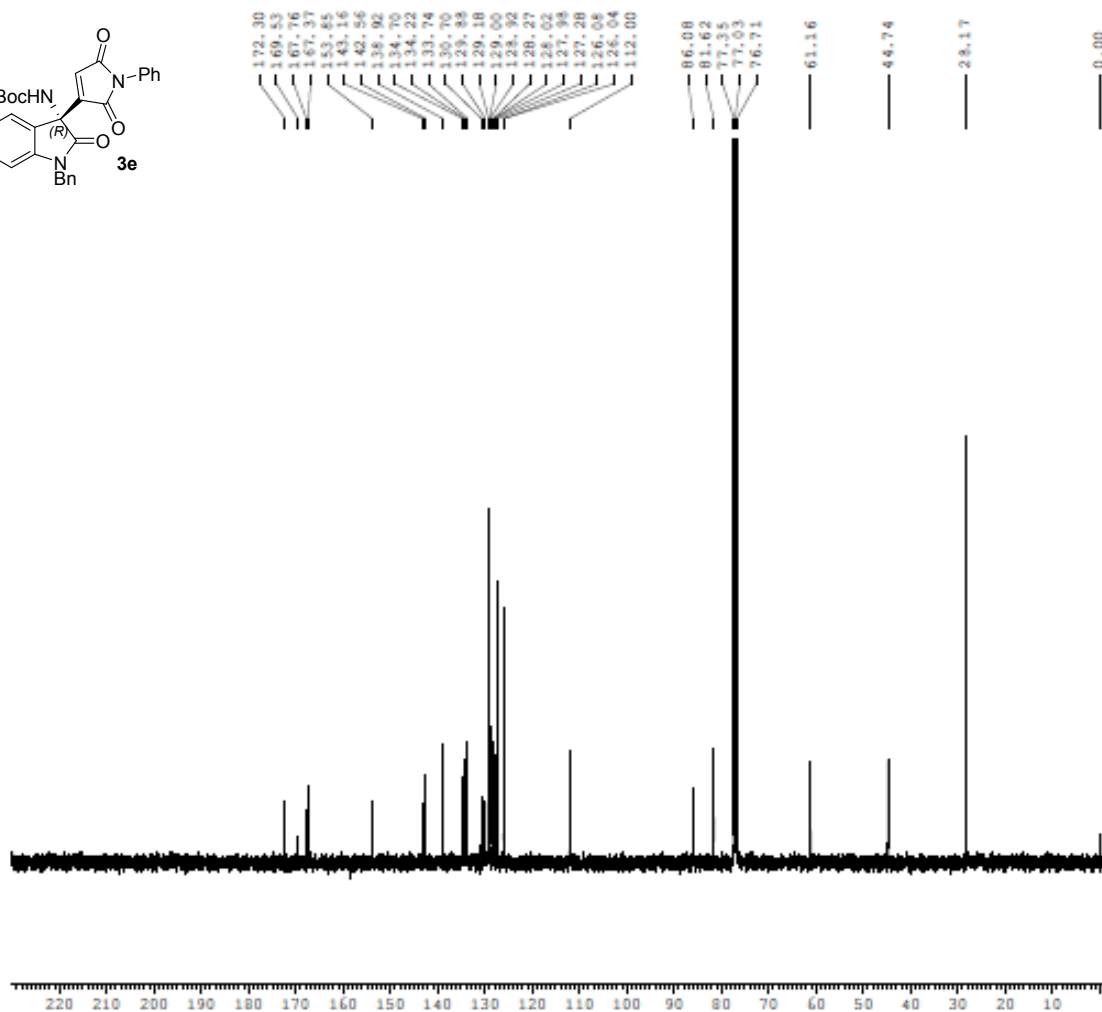
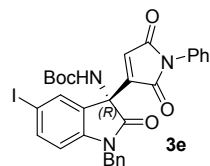
----- CHANNEL f2 -----
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -3.00 dB
 PL12 14.31 dB
 PL13 18.00 dB
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127697 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

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VS-A-12



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Current Data Parameters
NAME Mar25-2014
EXPNO 420
PROCNO 1

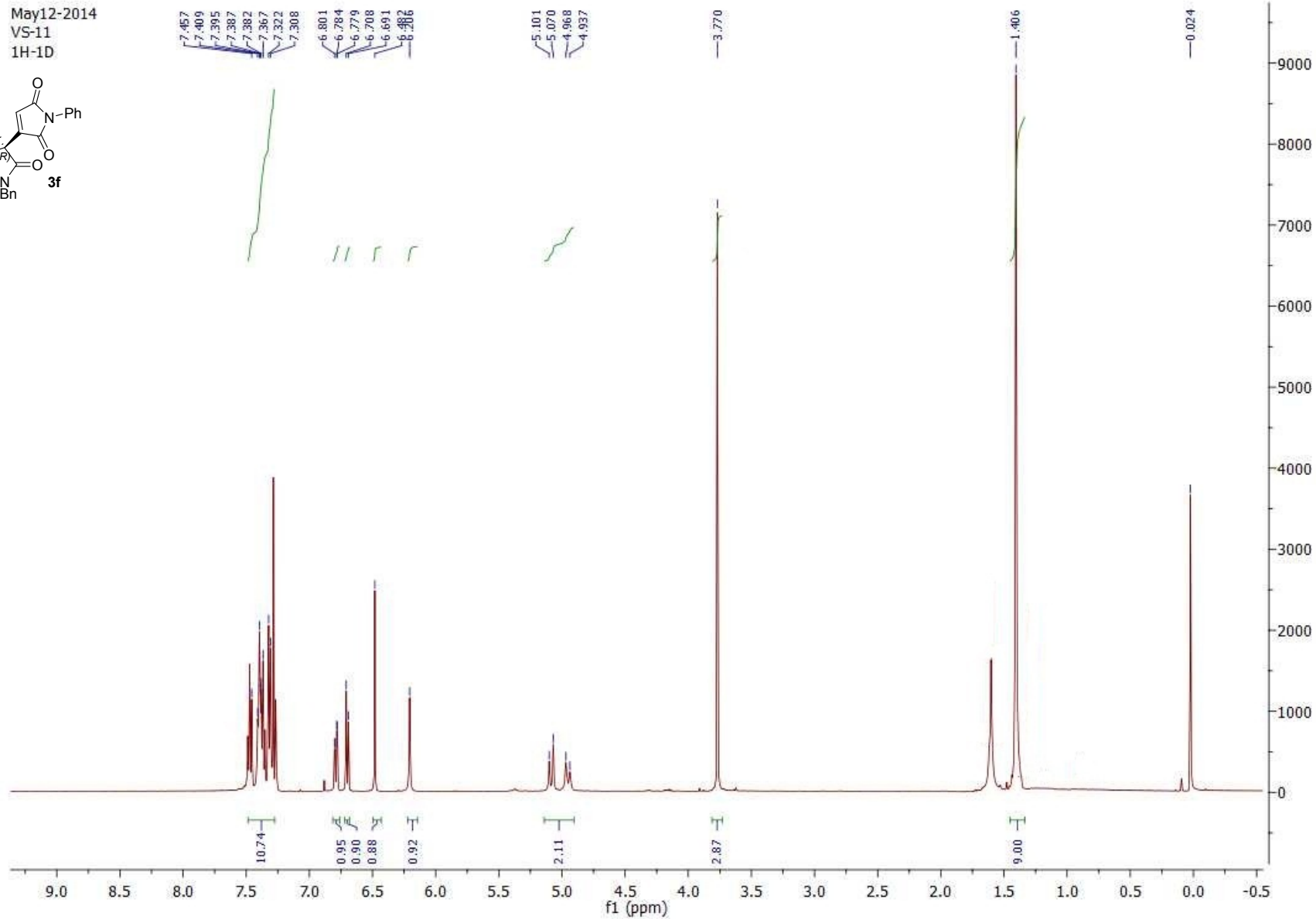
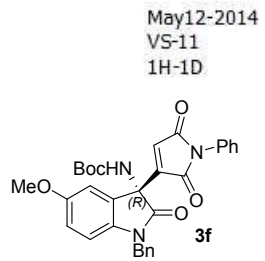
F2 - Acquisition Parameters
Date_ 20140326
Time 9.06
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
ID 65536
SOLVENT CDCl3
NS 512
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010548 sec
RG 724
DW 16.800 usec
DE 6.00 usec
TE 298.7 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
ID0 1

----- CHANNEL f1 -----
NUC1 13C
P1 9.60 usec
PL1 -2.00 dB
SFO1 100.6228298 MHz

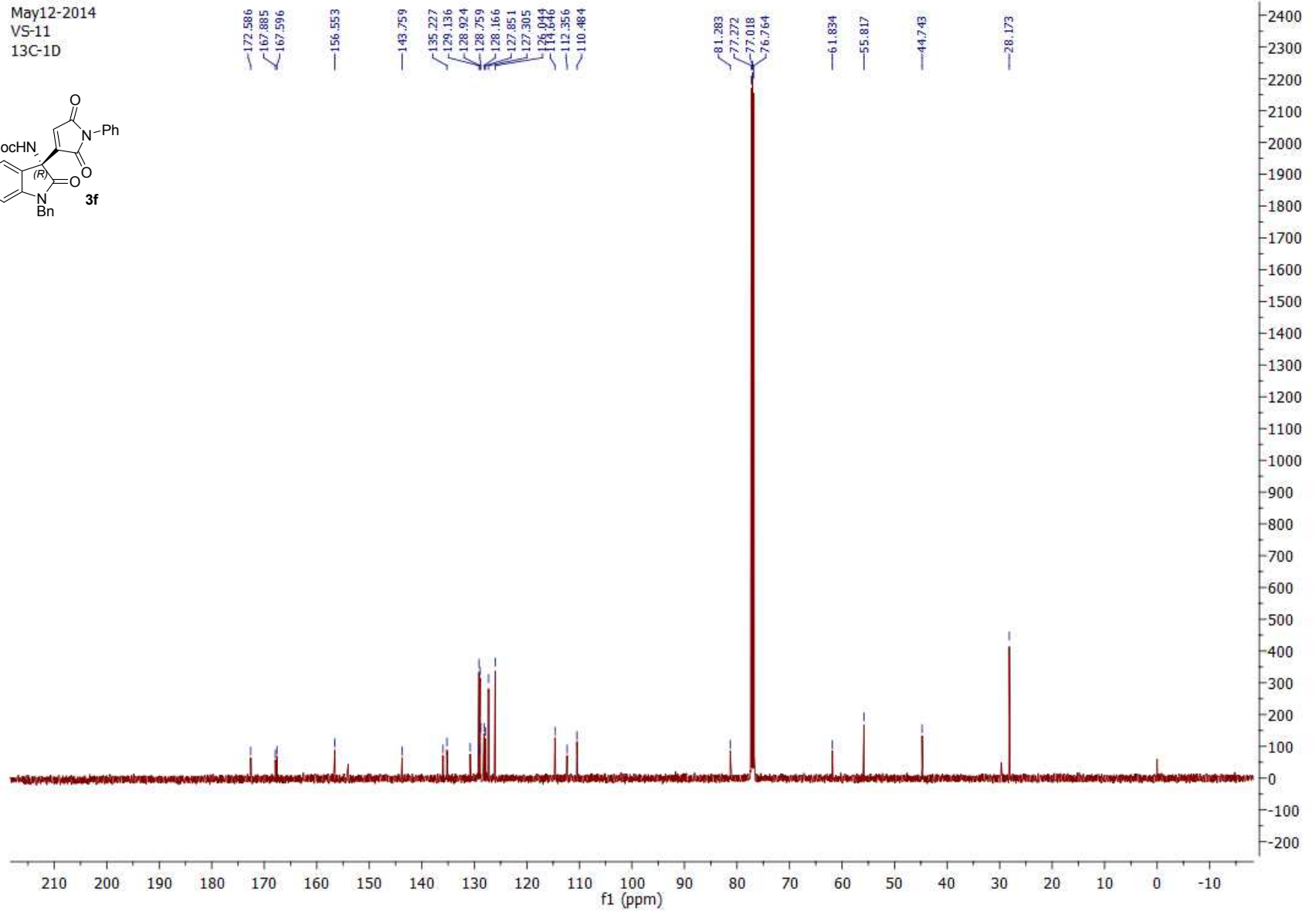
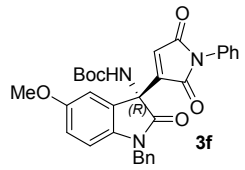
----- CHANNEL f2 -----
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -3.00 dB
PL12 14.31 dB
PL13 18.00 dB
SFO2 400.1316005 MHz

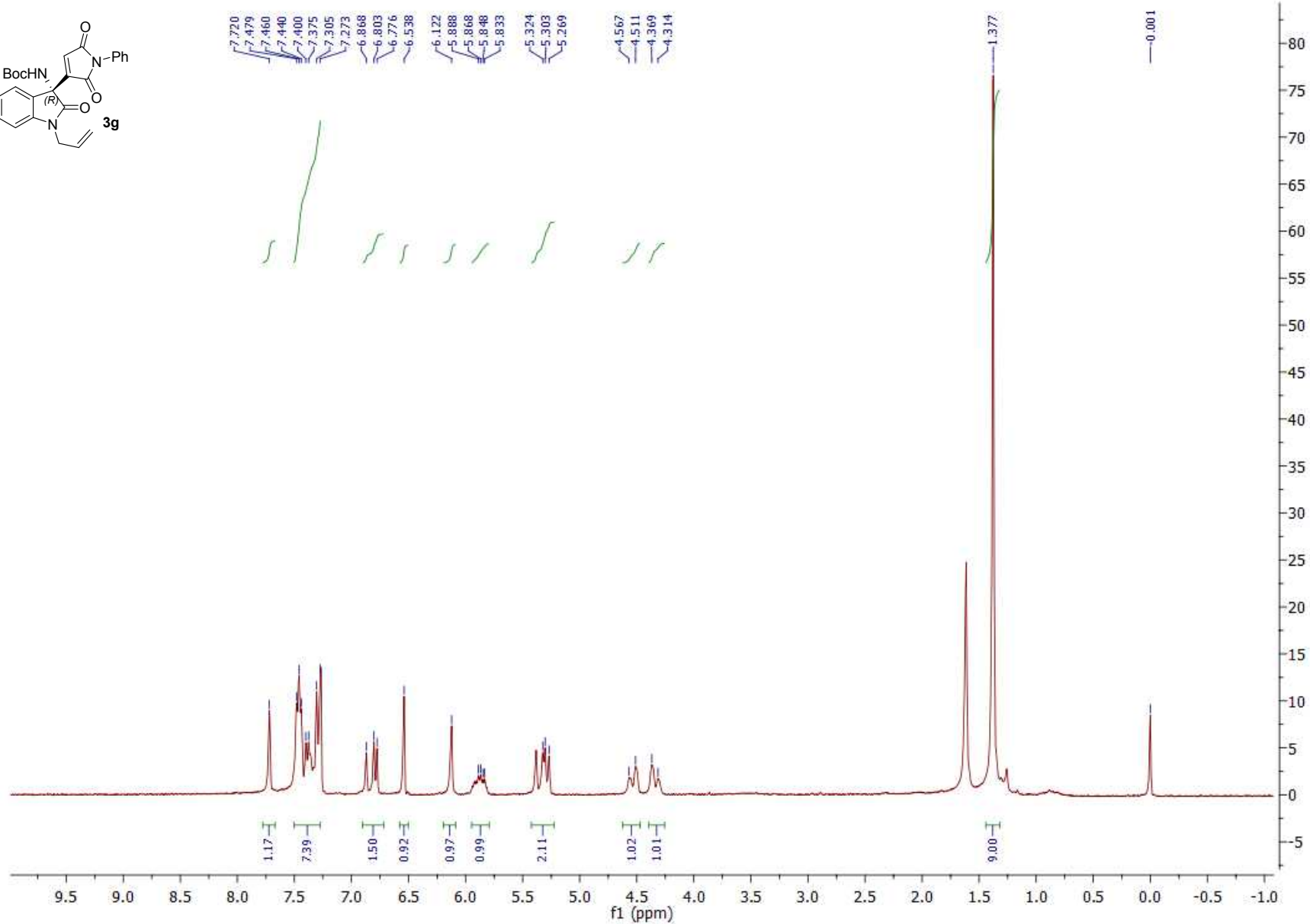
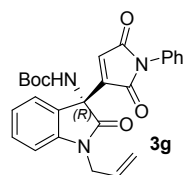
F2 - Processing parameters
SI 32768
SF 100.6127699 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

avtar_saiipu@yahoo.co.in

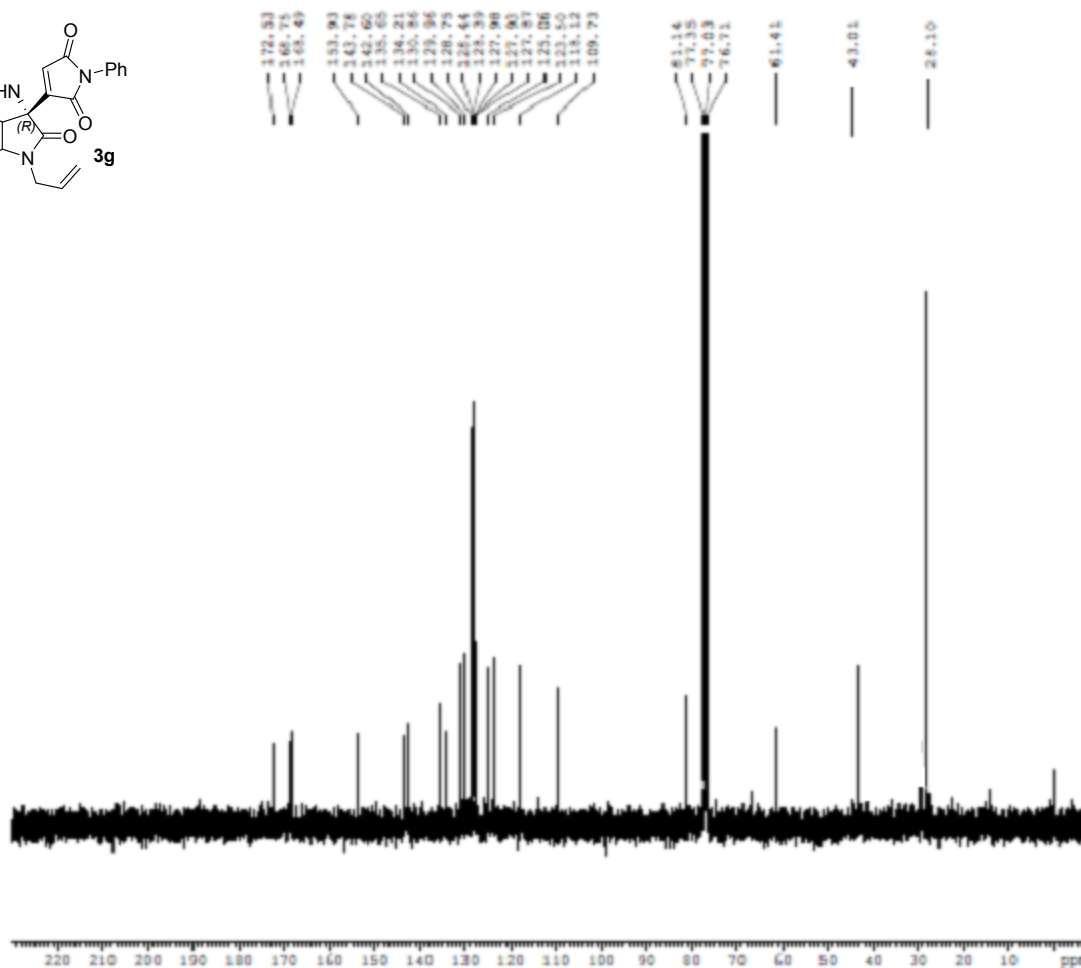
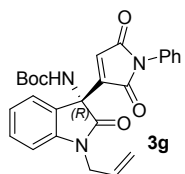


May12-2014
VS-11
13C-1D





VS-A-7



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Current Data Parameters
NAME Mar25-2014
EXPNO 410
PROCNO 1

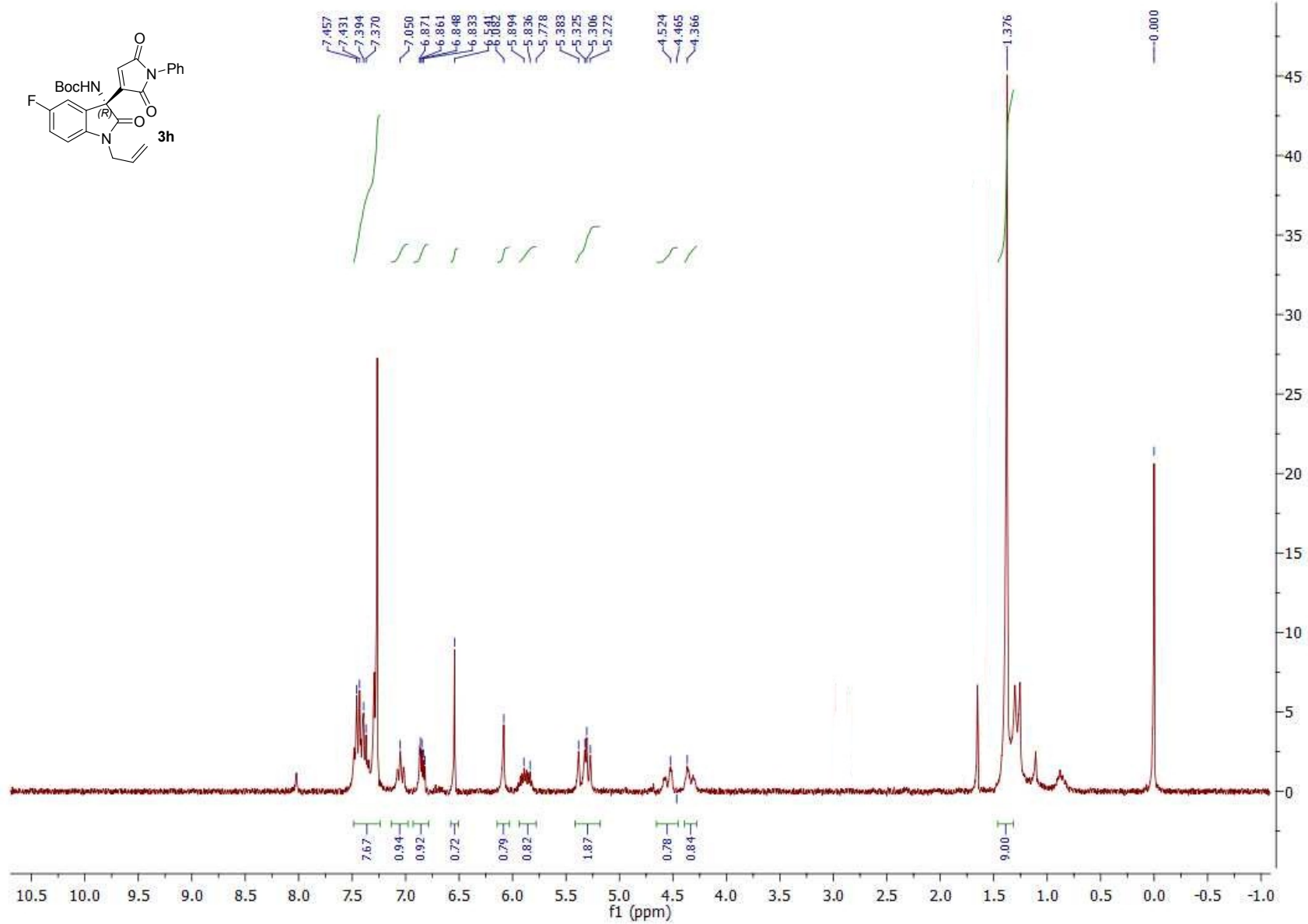
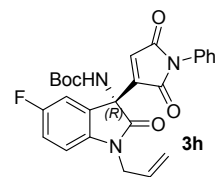
F2 - Acquisition Parameters
Date_ 20140326
Time 8.41
INSTRUM spect
PROBHD 5 mm DABBO BB-
PULPROG zgpg30
ID 65534
SOLVENT CDCl3
NS 512
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010548 sec
RG 912
DM 16.800 usec
DE 6.00 usec
TE 298.6 K
D1 2.0000000 sec
d11 0.0300000 sec
DELTA 1.8999999 sec
TD0 1

----- CHANNEL f1 -----
NUC1 13C
P1 9.60 usec
PL1 -2.00 dB
SFO1 100.6228298 MHz

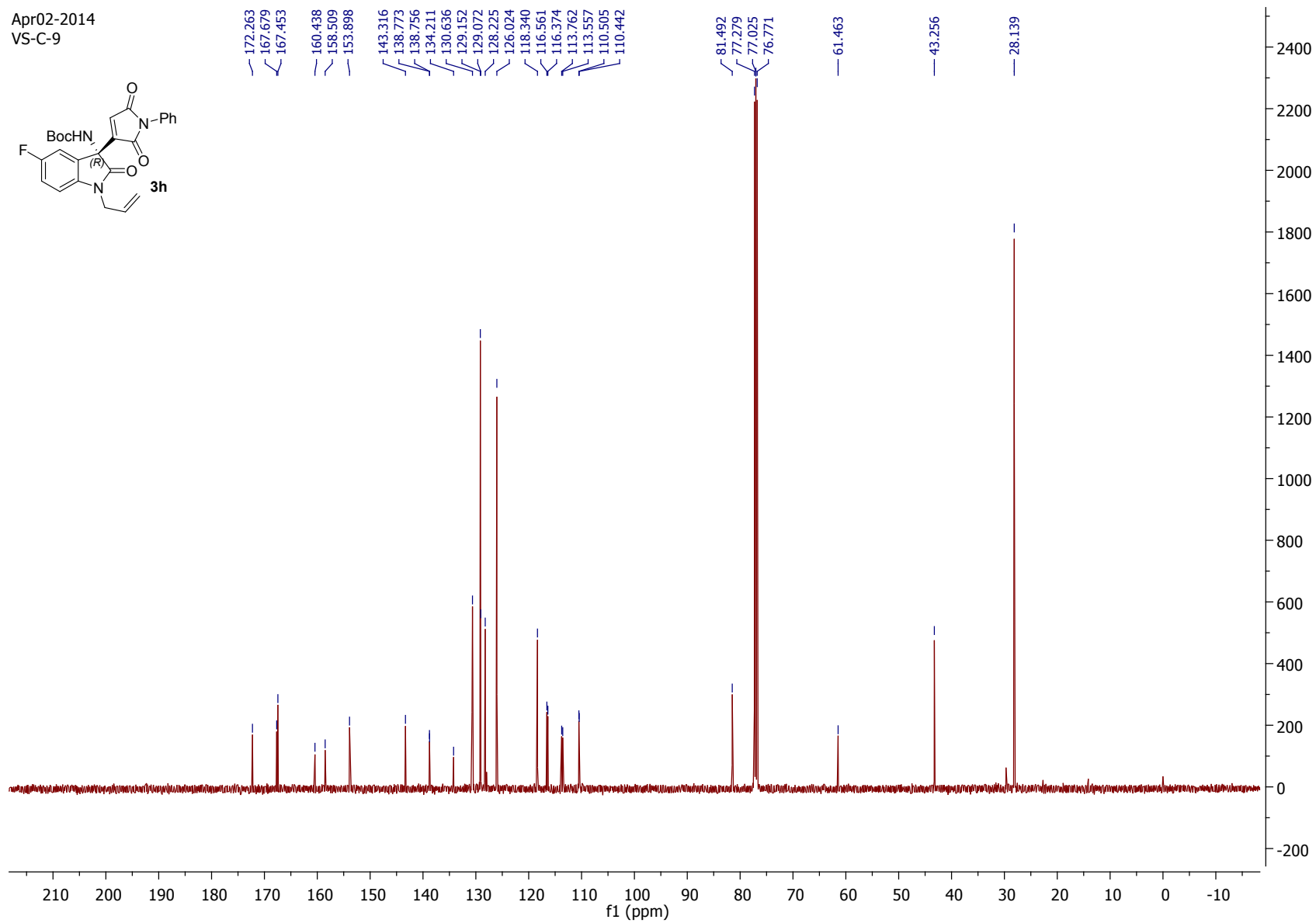
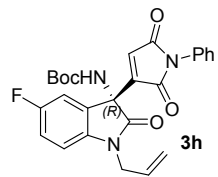
----- CHANNEL f2 -----
CDDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -3.00 dB
PL12 14.31 dB
PL13 18.00 dB
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127689 MHz
WDW EM
SSB 0
LB 1.00 Hz
CB 0
PC 1.40

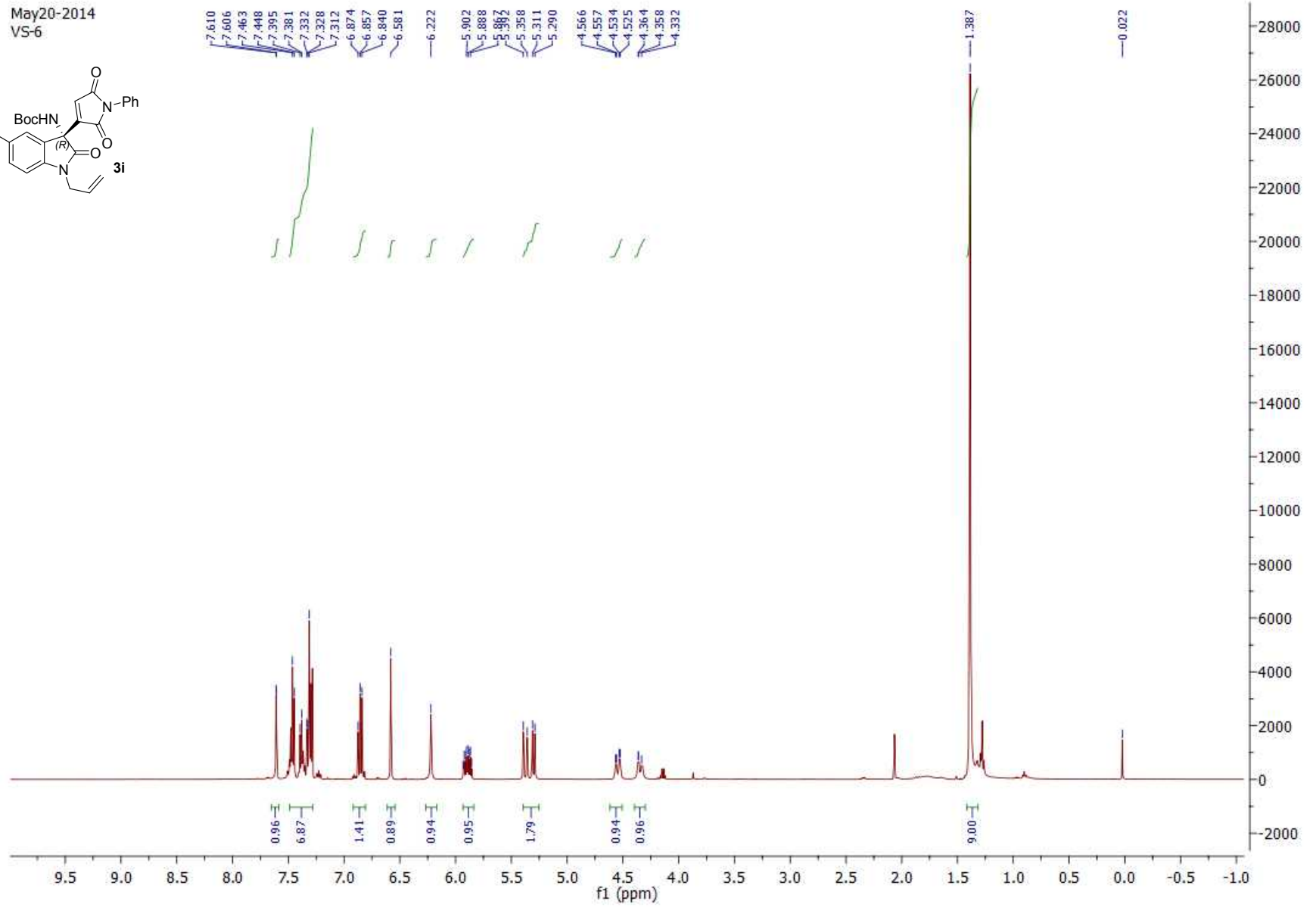
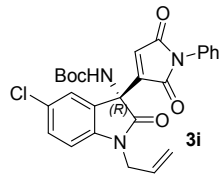
avtar_saifpu@yahoo.co.in



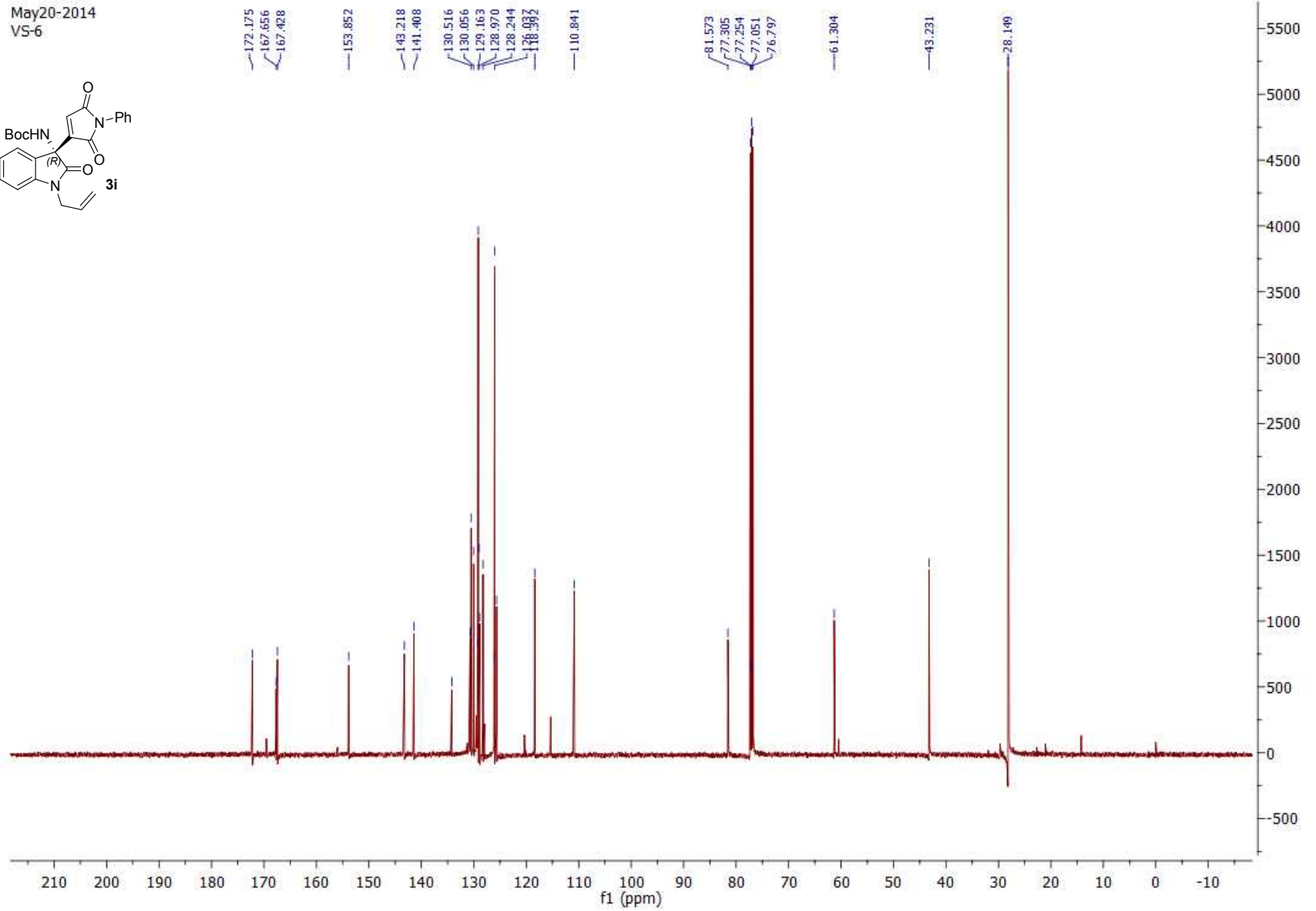
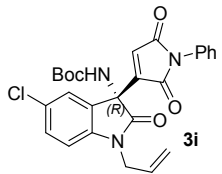
Apr02-2014
VS-C-9

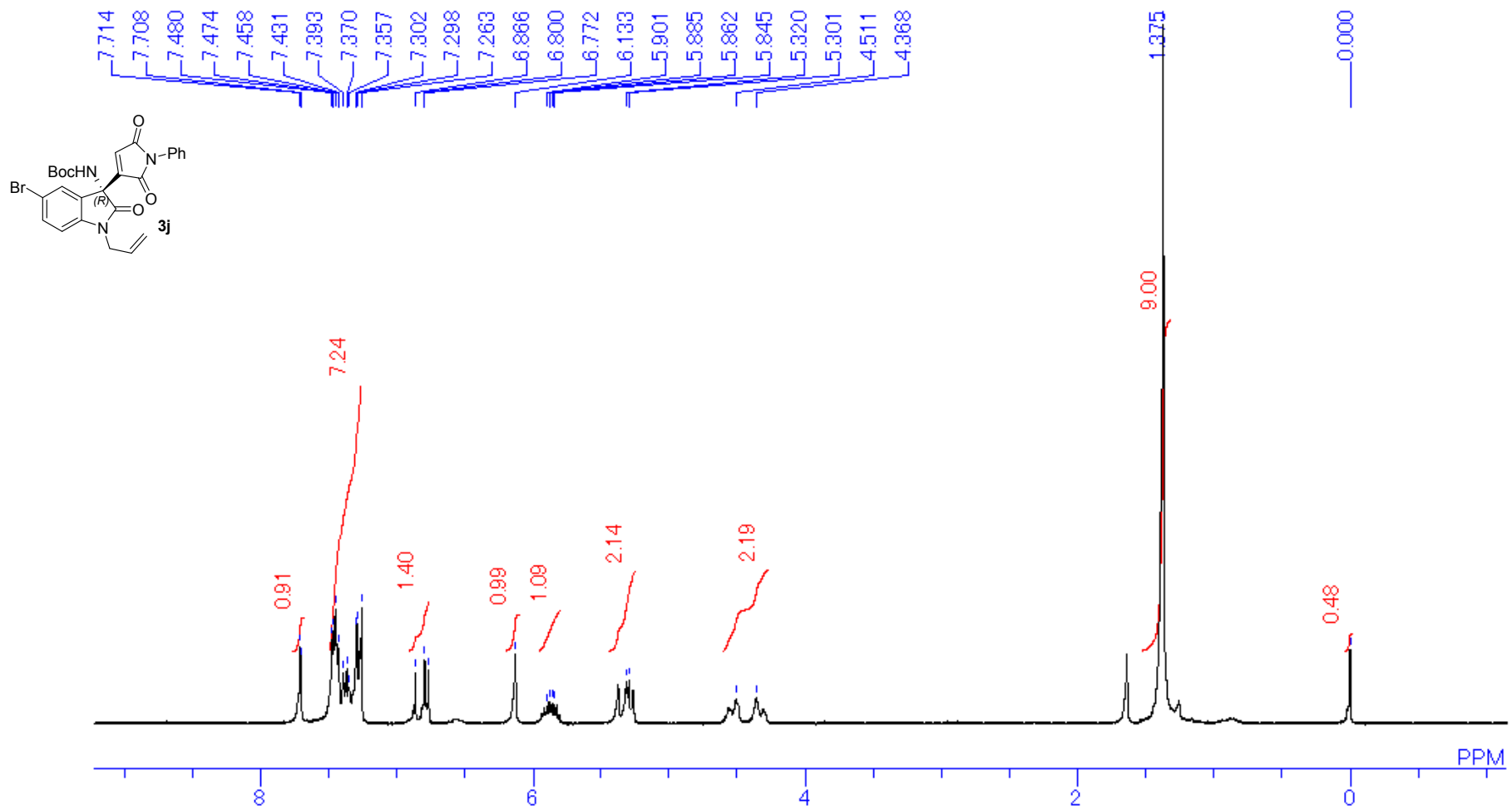


May20-2014
VS-6

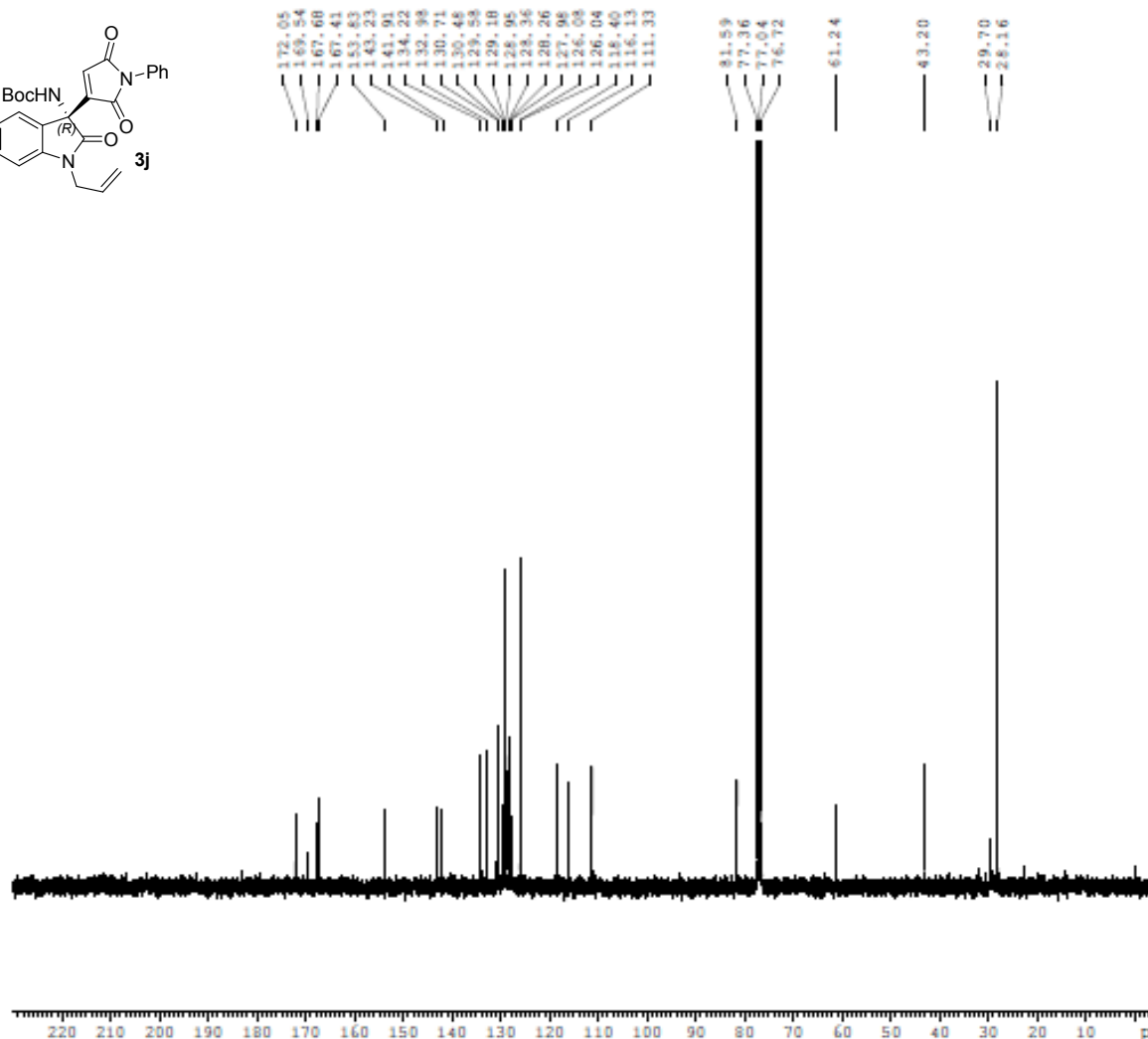
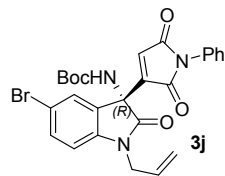


May20-2014
VS-6





VS-A-3



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Current Data Parameters
 NAME Mar25-2014
 EXPNO 340
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140326
 Time 4.52
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zgpg30
 ID 65536
 SOLVENT CDCl3
 NS 512
 DS 4
 SWH 29761.904 Hz
 FIDRES 0.454131 Hz
 AQ 1.1010548 sec
 RC 912
 DW 16.800 usec
 DE 6.00 usec
 TE 298.5 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 DELTA 1.89999998 sec
 TDO 1

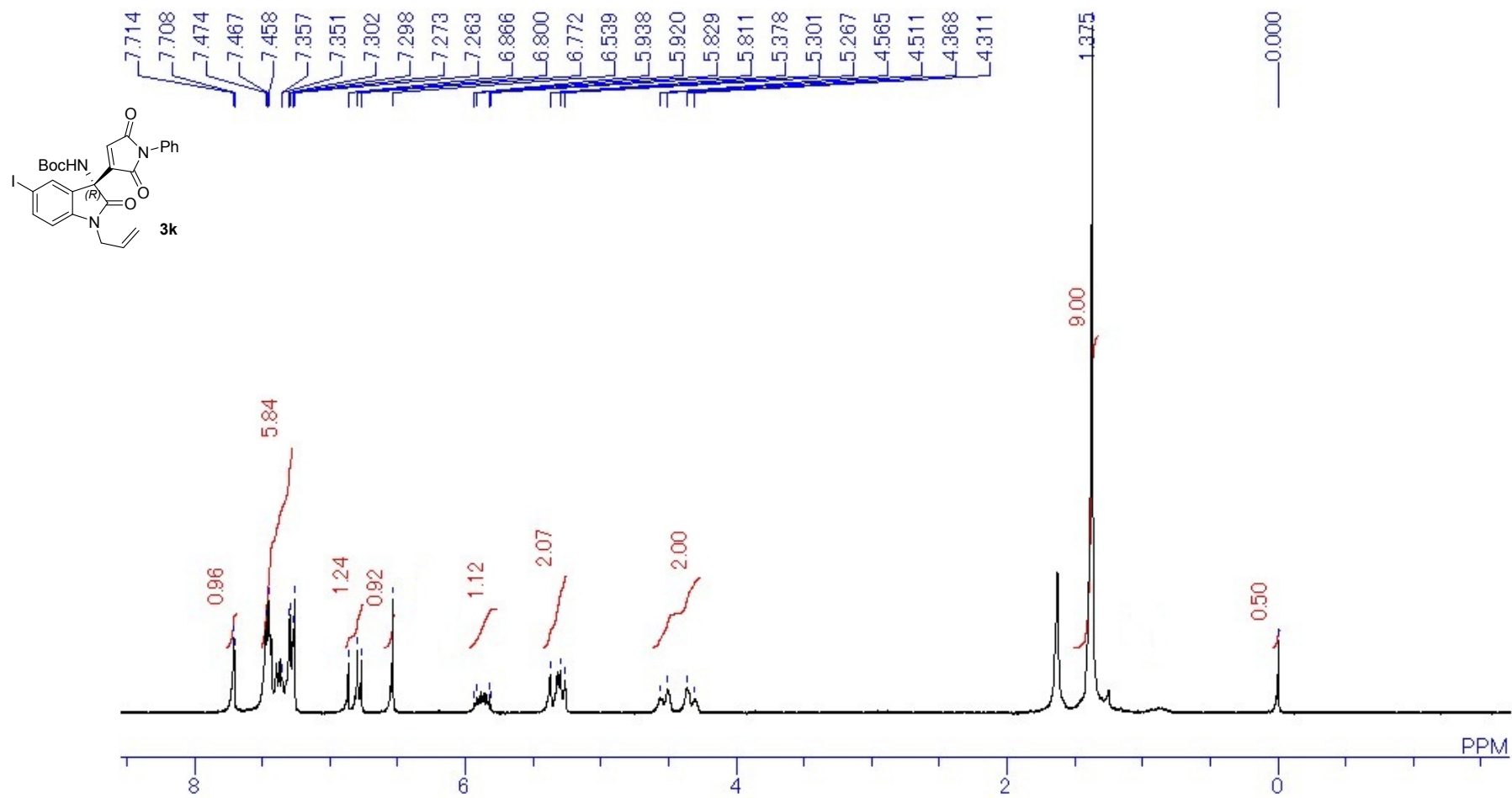
----- CHANNEL f1 -----
 NUC1 13C
 P1 9.60 usec
 PL1 -2.00 dB
 SFO1 100.6228298 MHz

----- CHANNEL f2 -----
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -3.00 dB
 PL12 14.31 dB
 PL13 18.00 dB
 SFO2 400.1316005 MHz

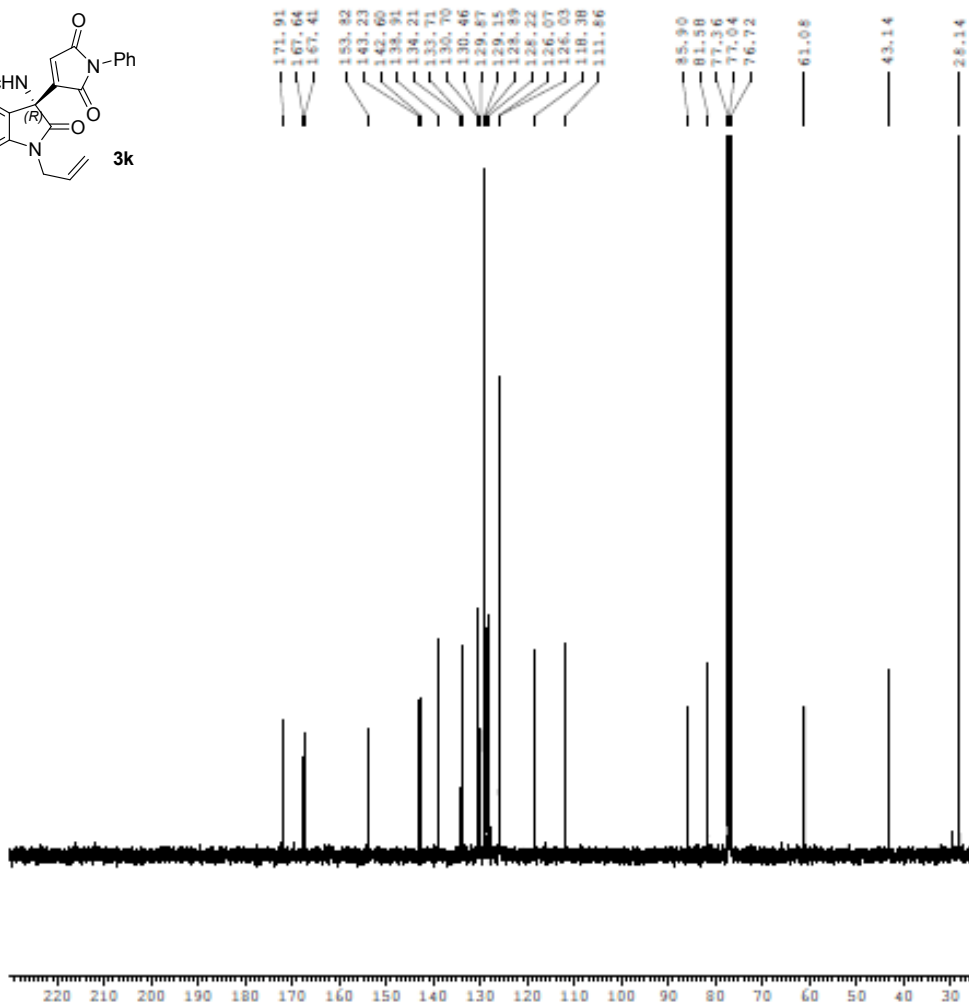
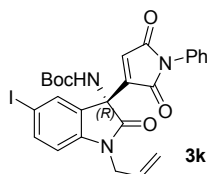
F2 - Processing parameters
 SI 32768
 SF 100.6127690 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

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VSA-1



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Current Data Parameters
NAME Mar25-2014
EXPNO 360
PROCNO 1

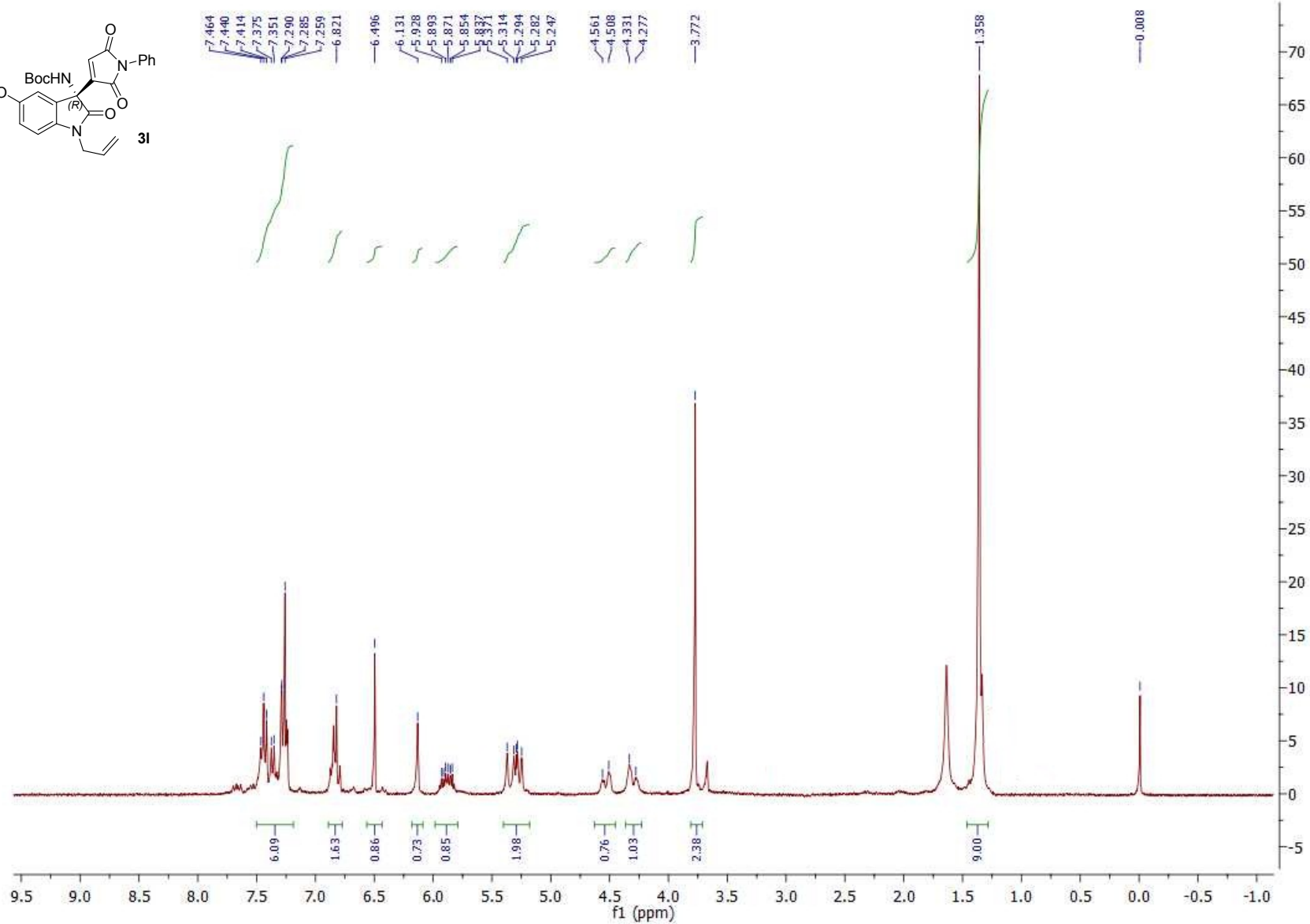
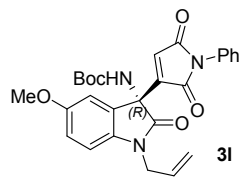
F2 - Acquisition Parameters
Date_ 20140326
Time 5.57
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 55536
SOLVENT CDCl3
NS 512
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010548 sec
RG 724
EW 16.800 usec
DE 6.00 usec
TE 298.5 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1

----- CHANNEL f1 -----
NUC1 13C
P1 9.60 usec
PL1 -2.00 dB
SFO1 100.6228298 MHz

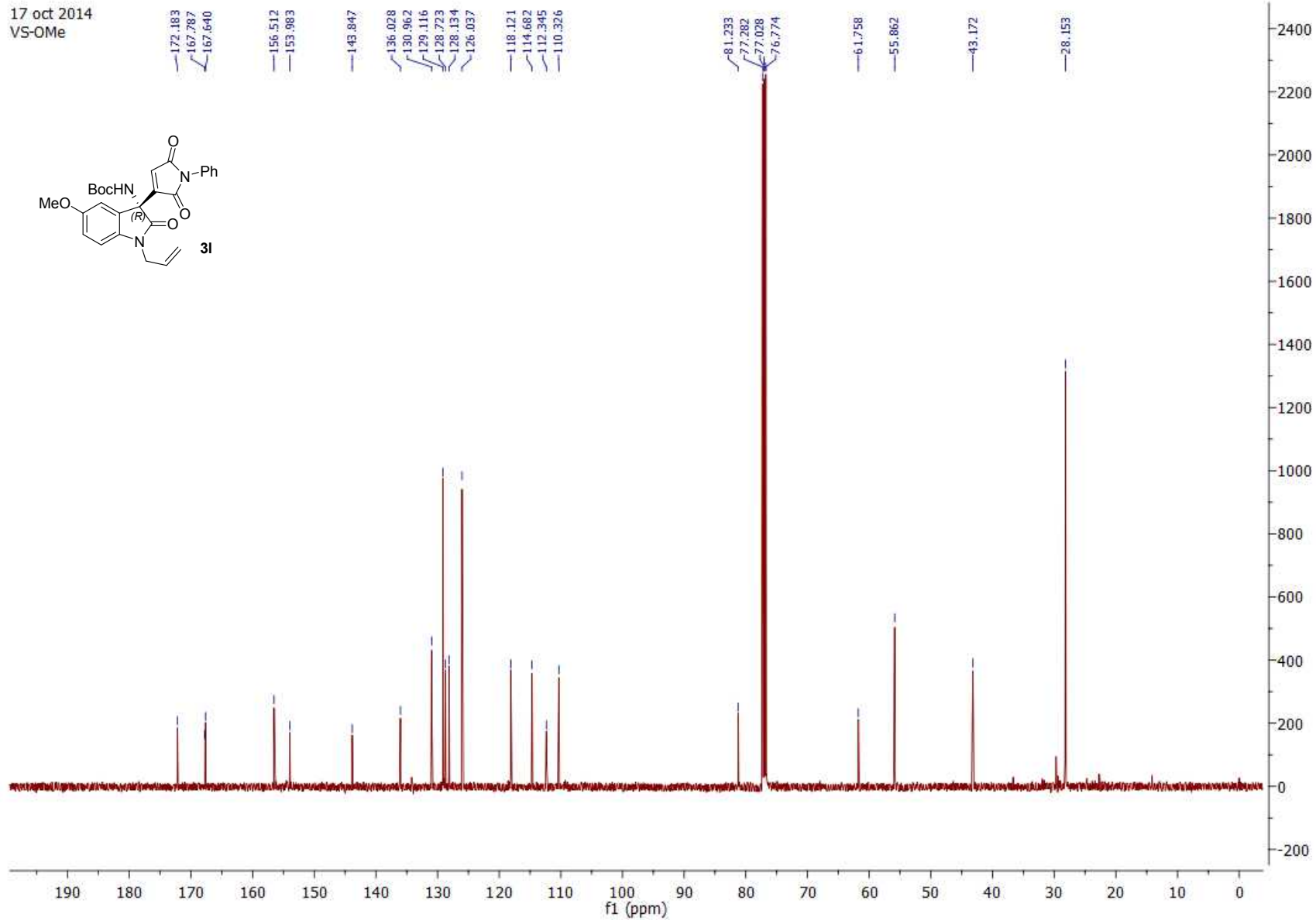
----- CHANNEL f2 -----
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -3.00 dB
PL12 14.31 dB
PL13 18.00 dB
SFO2 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127709 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

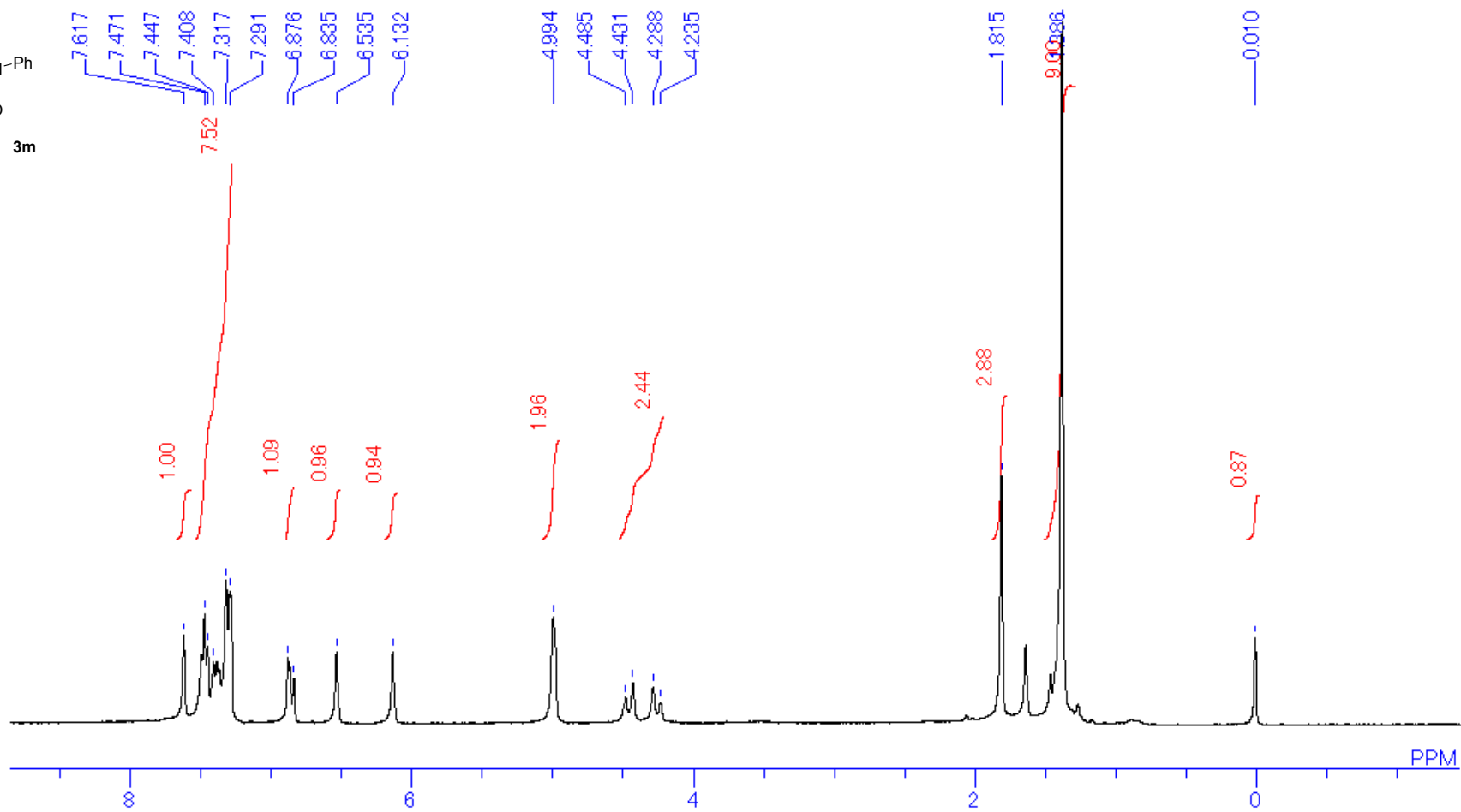
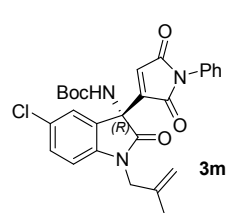
avtar_saifpu@yahoo.co.in



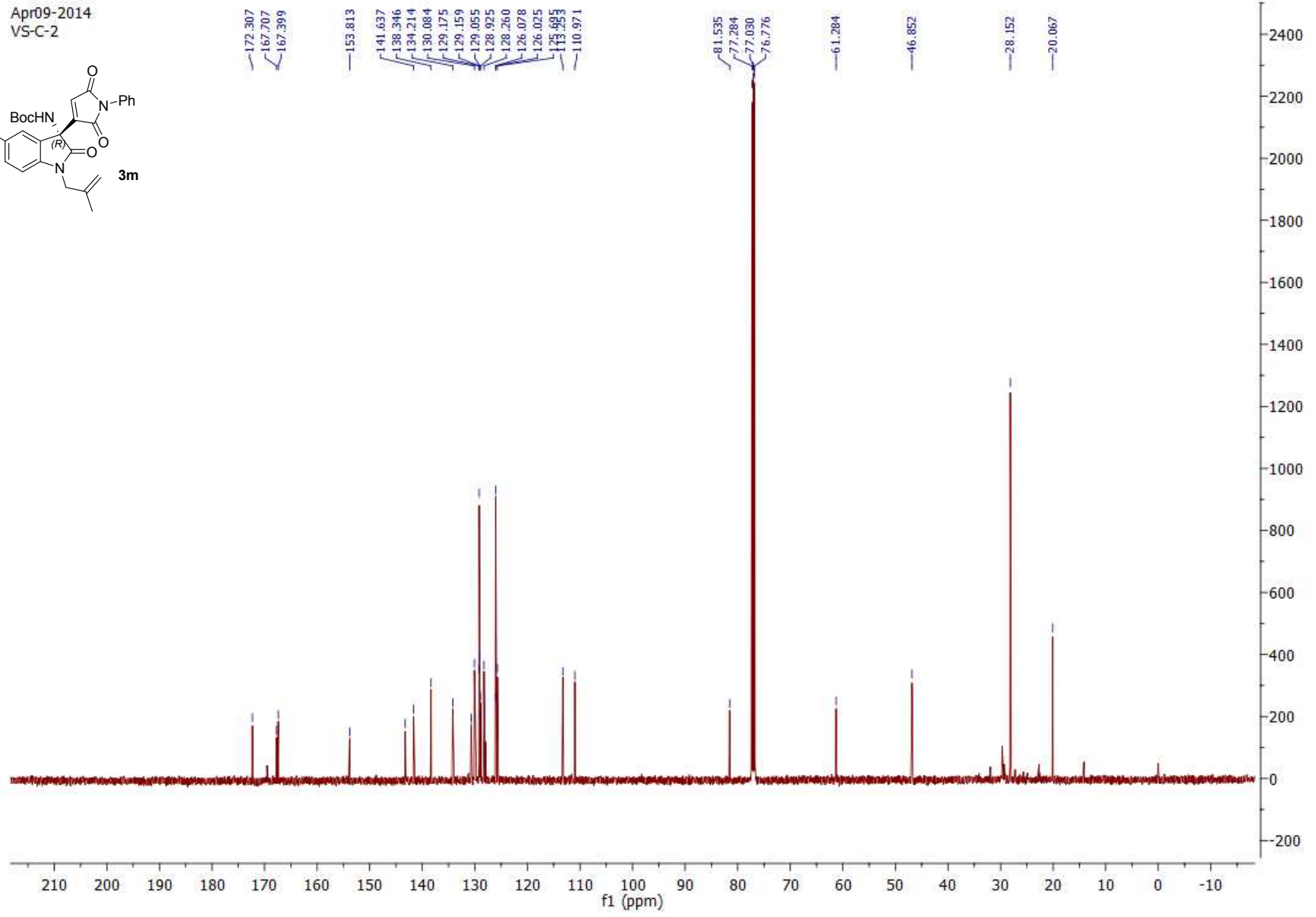
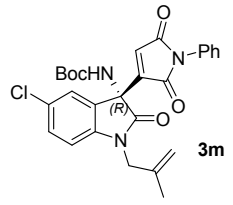
17 oct 2014
VS-OMe

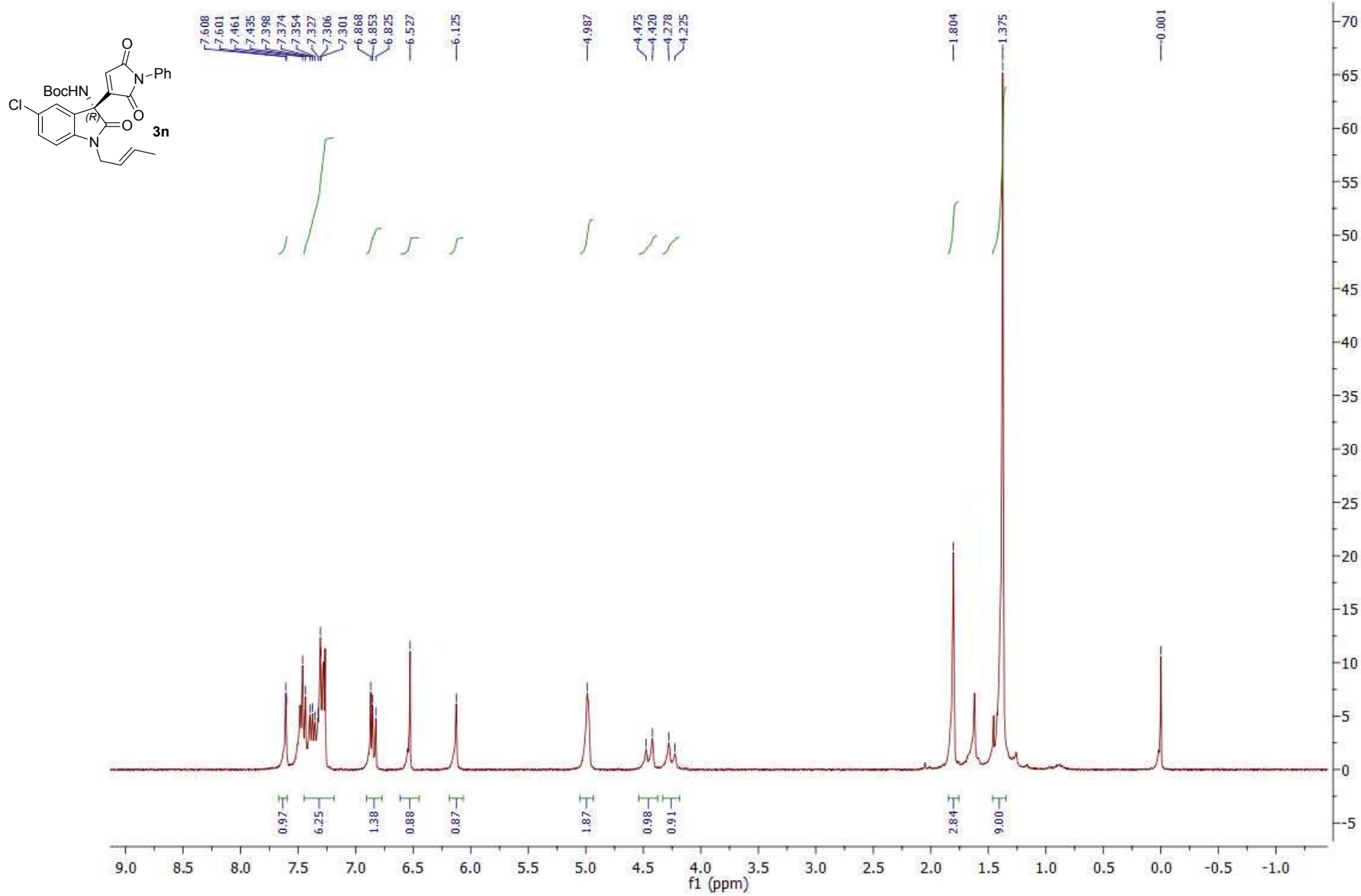


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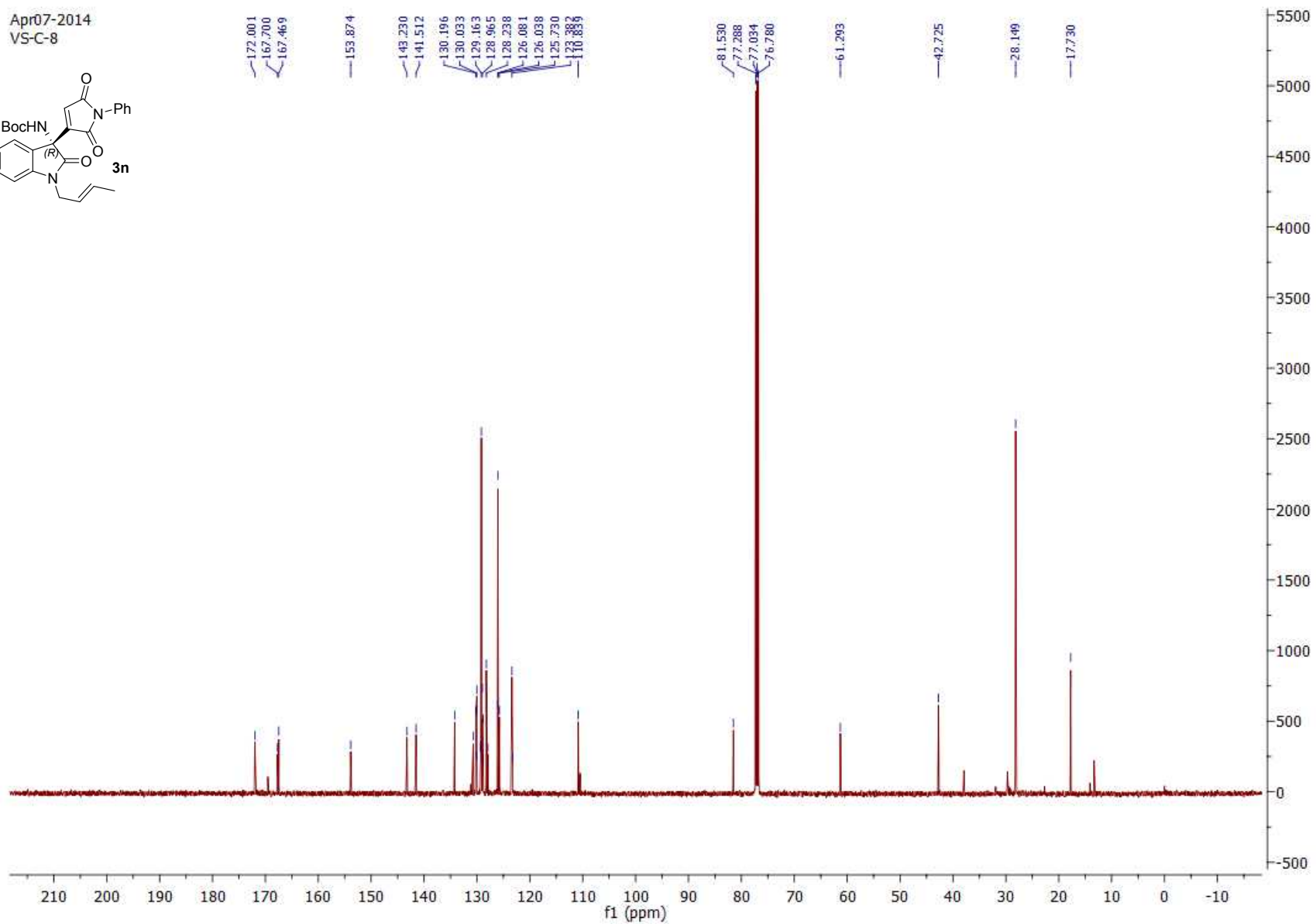
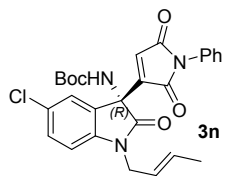


Apr09-2014
VS-C-2

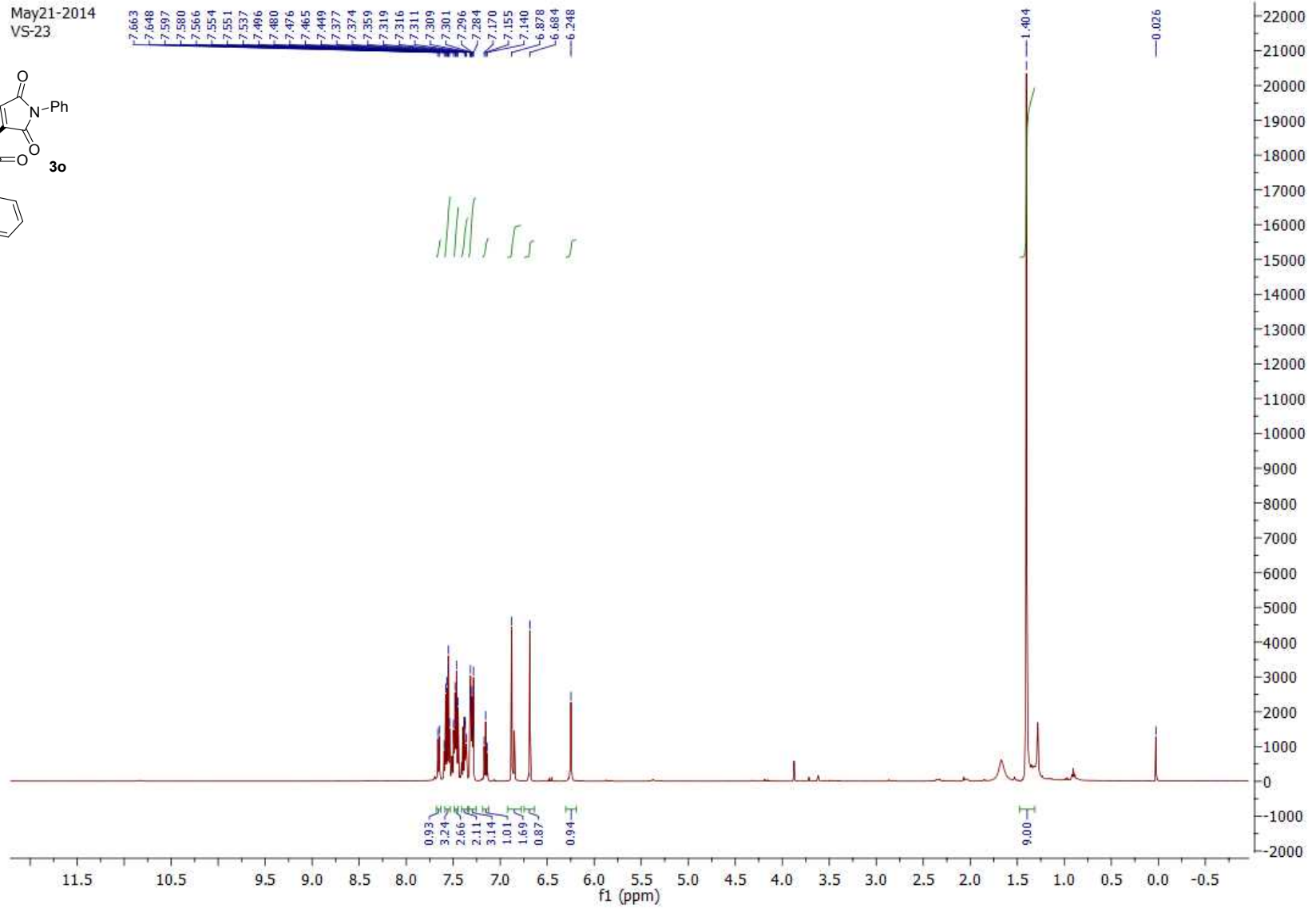
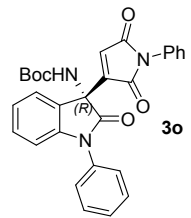




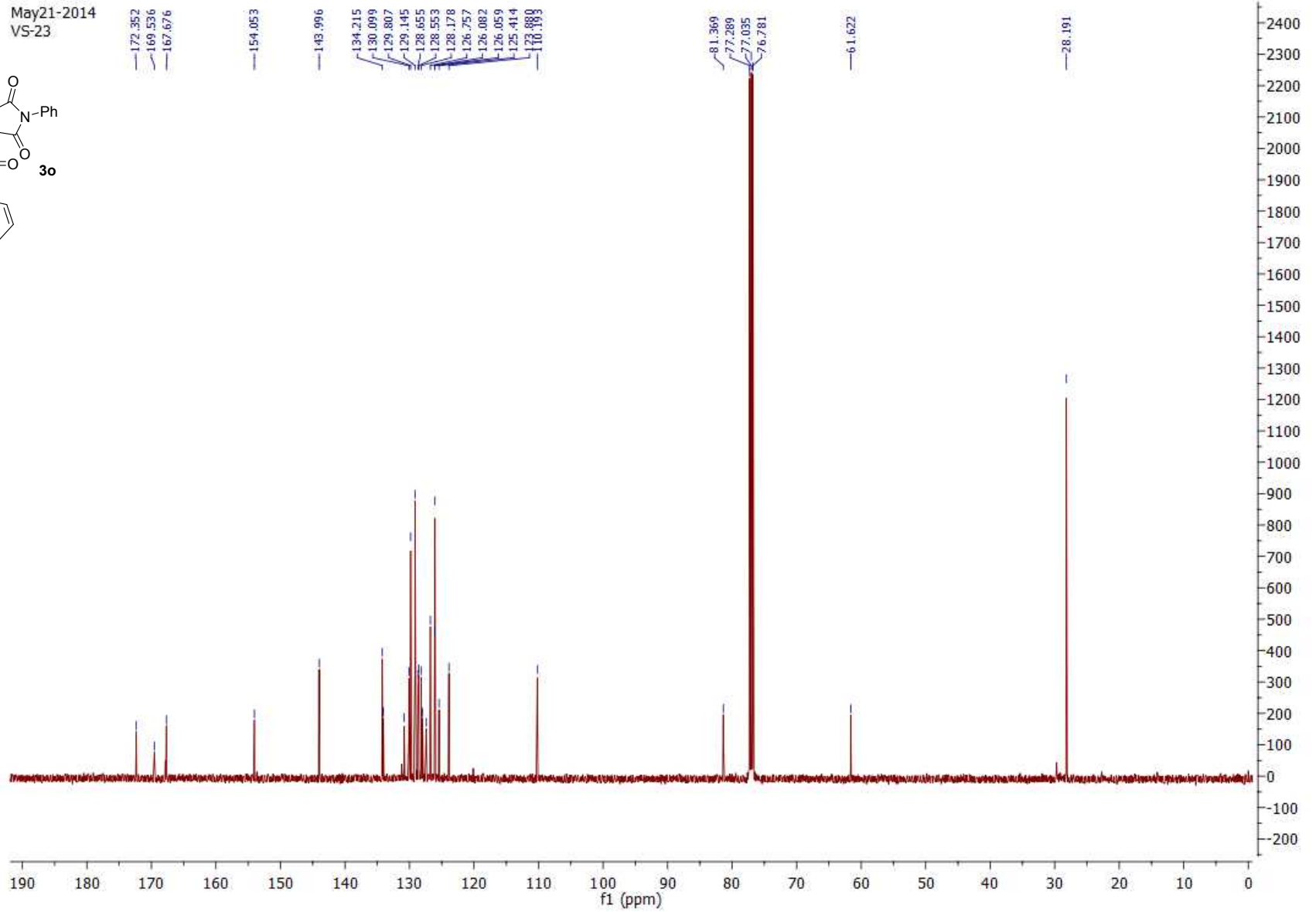
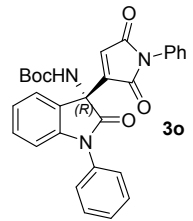
Apr07-2014
VS-C-8

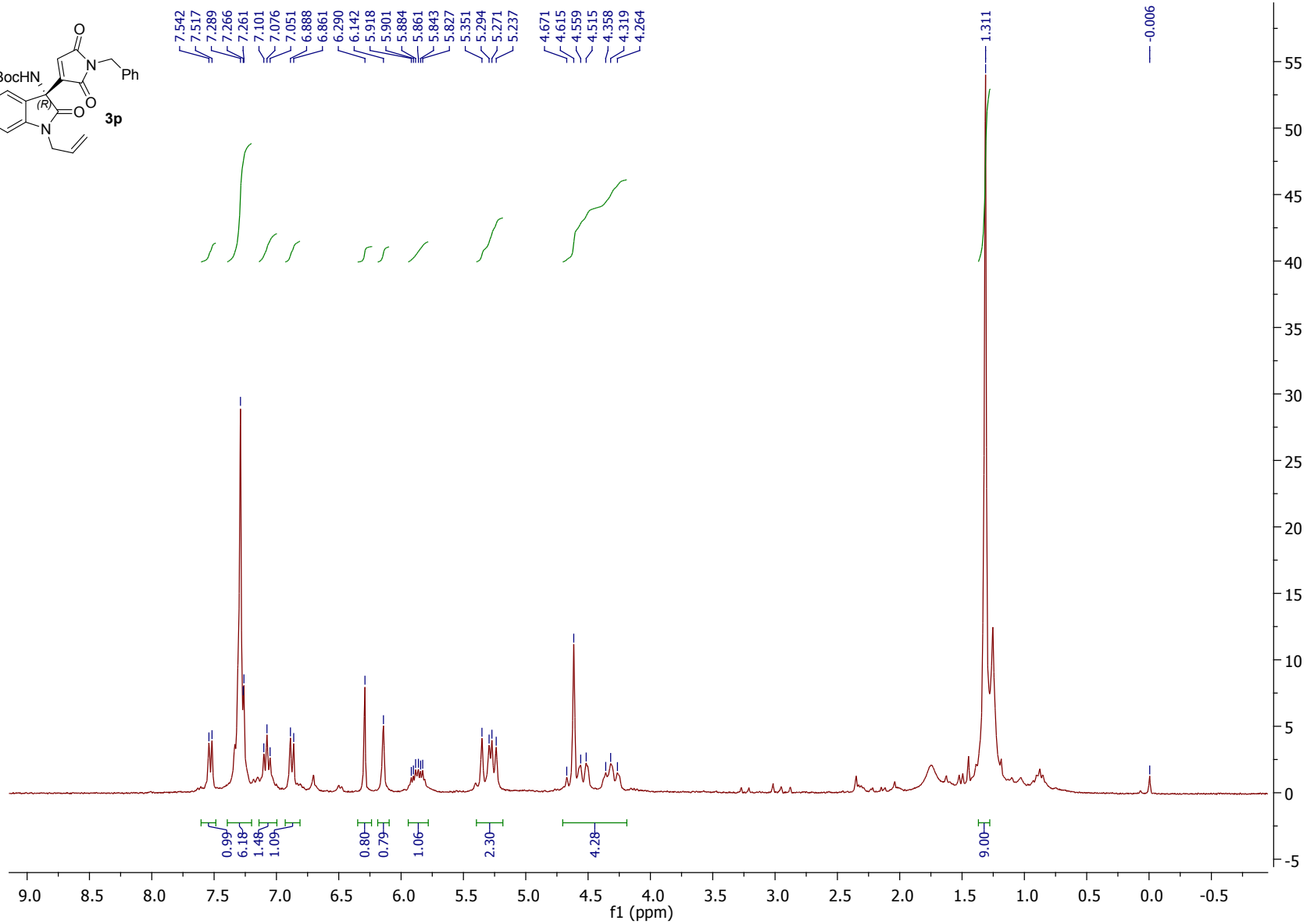
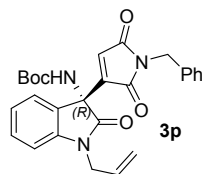


May21-2014
VS-23

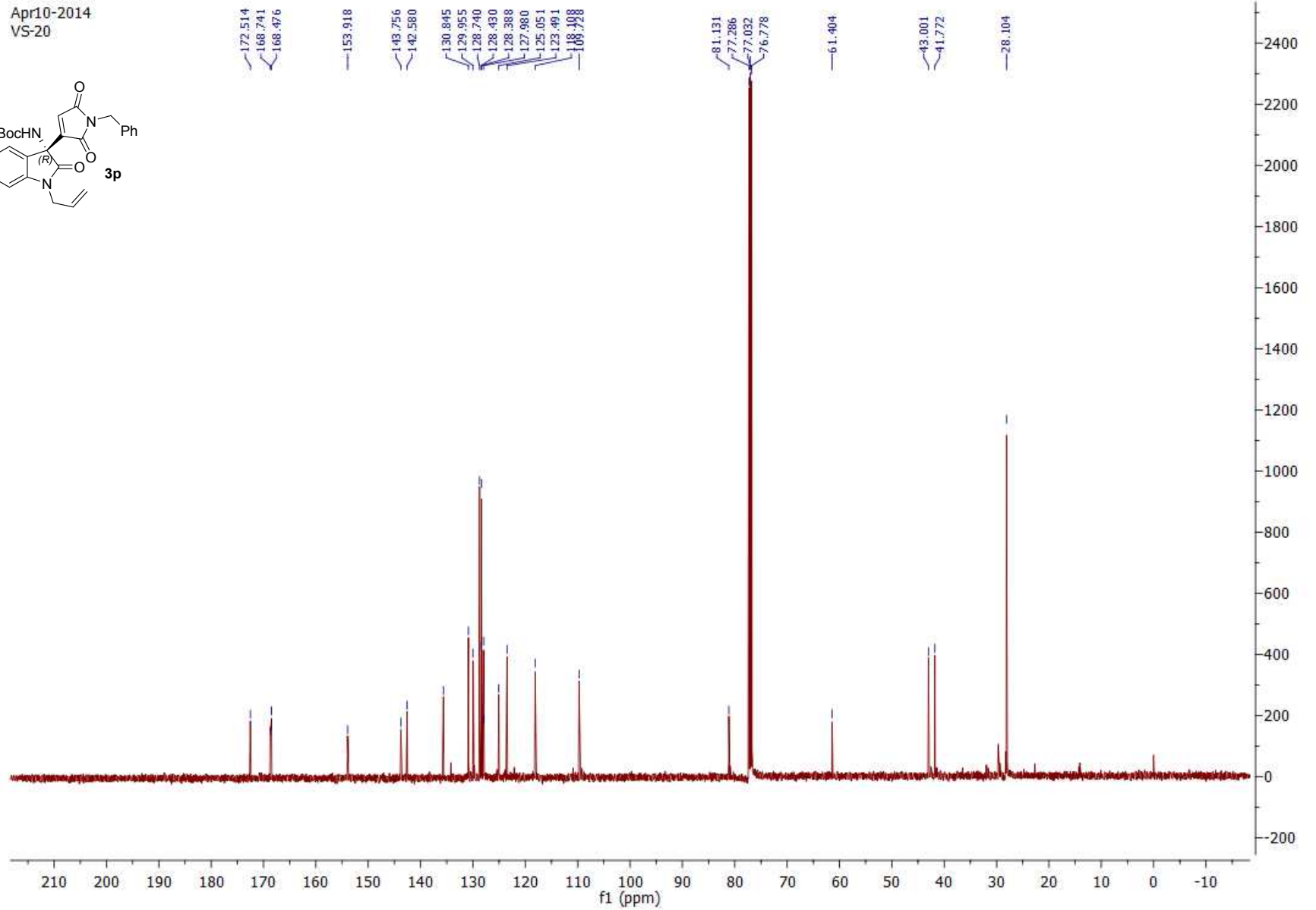
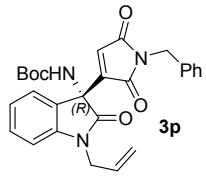


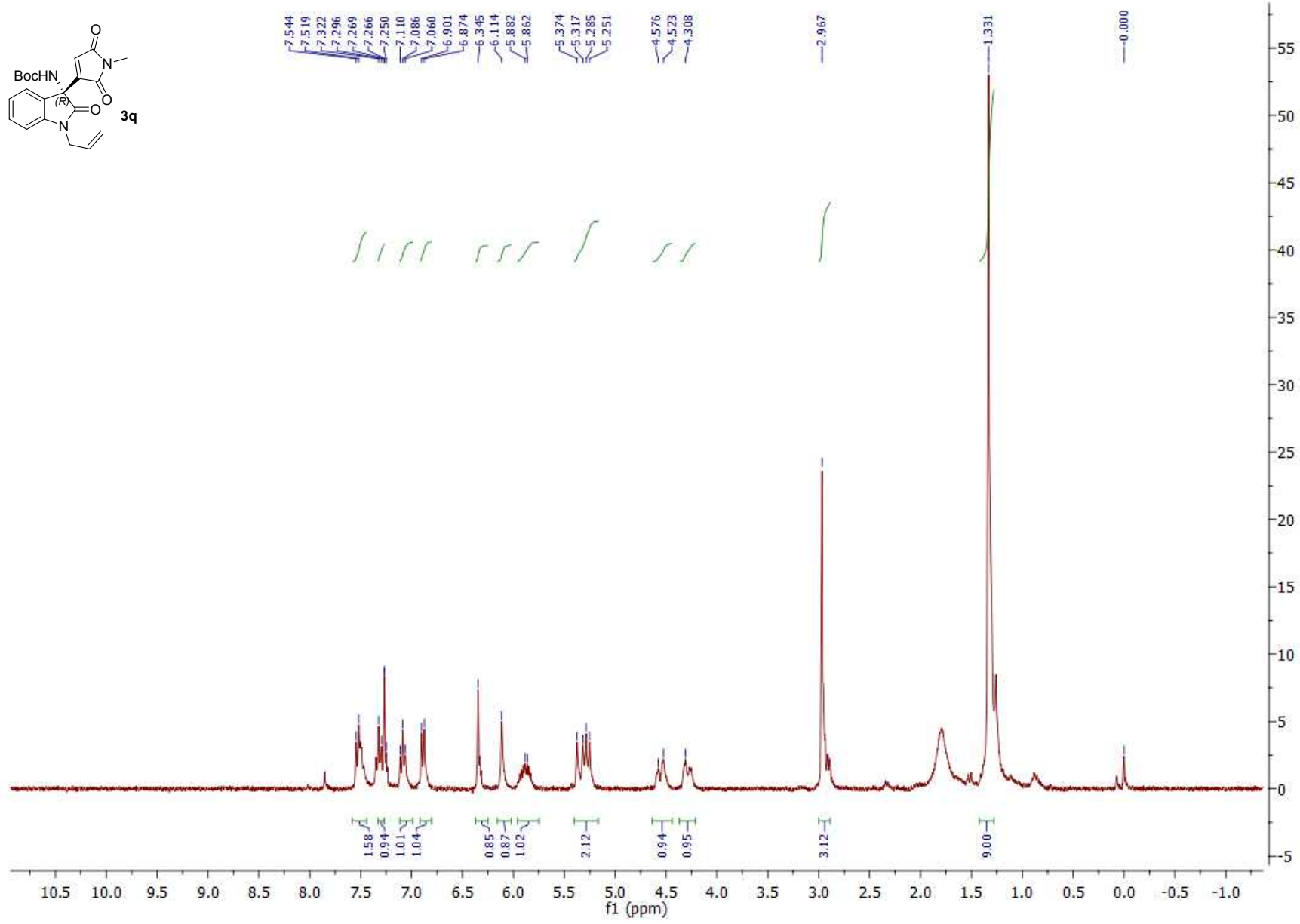
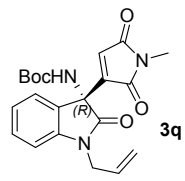
May21-2014
VS-23



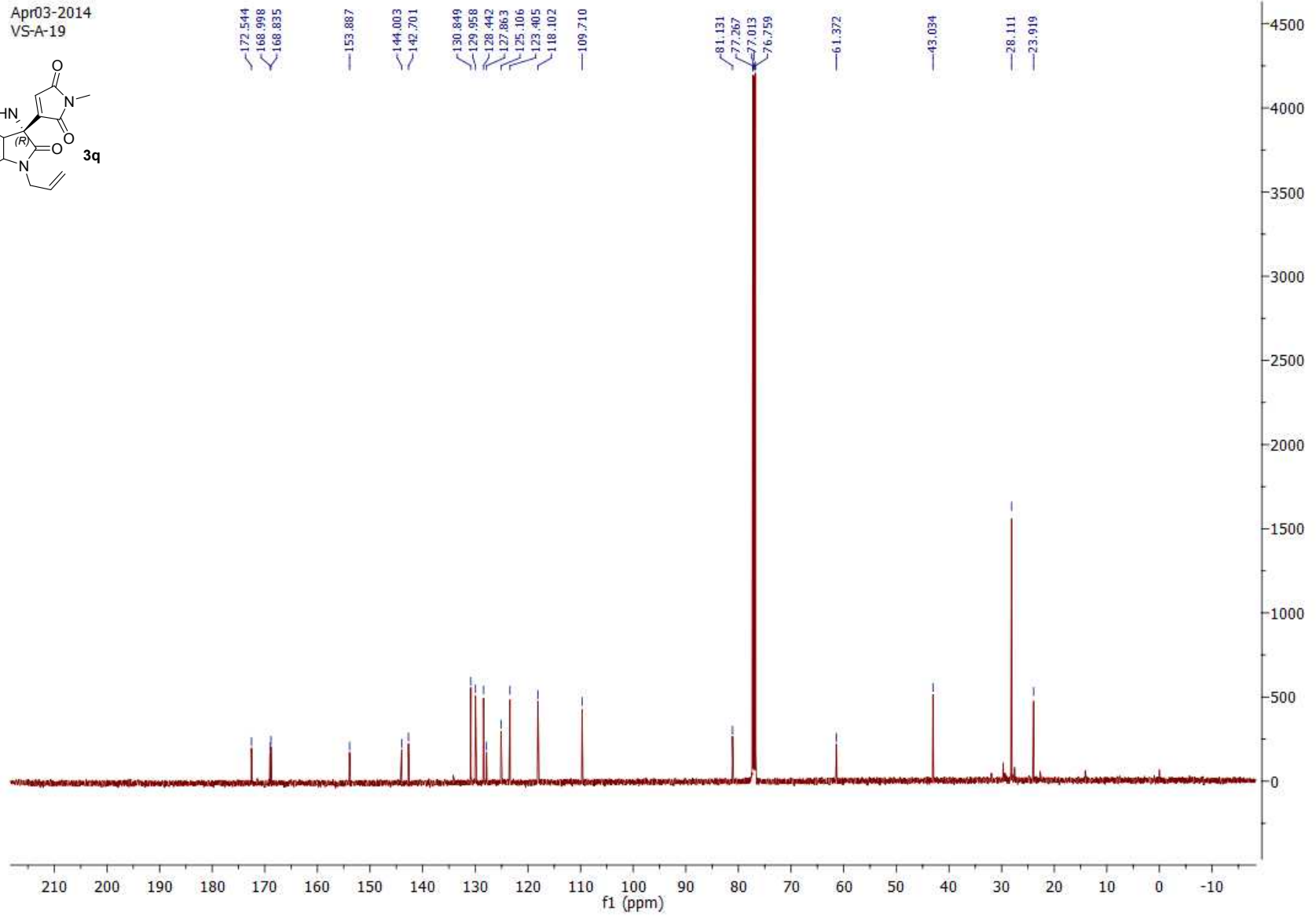
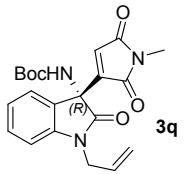


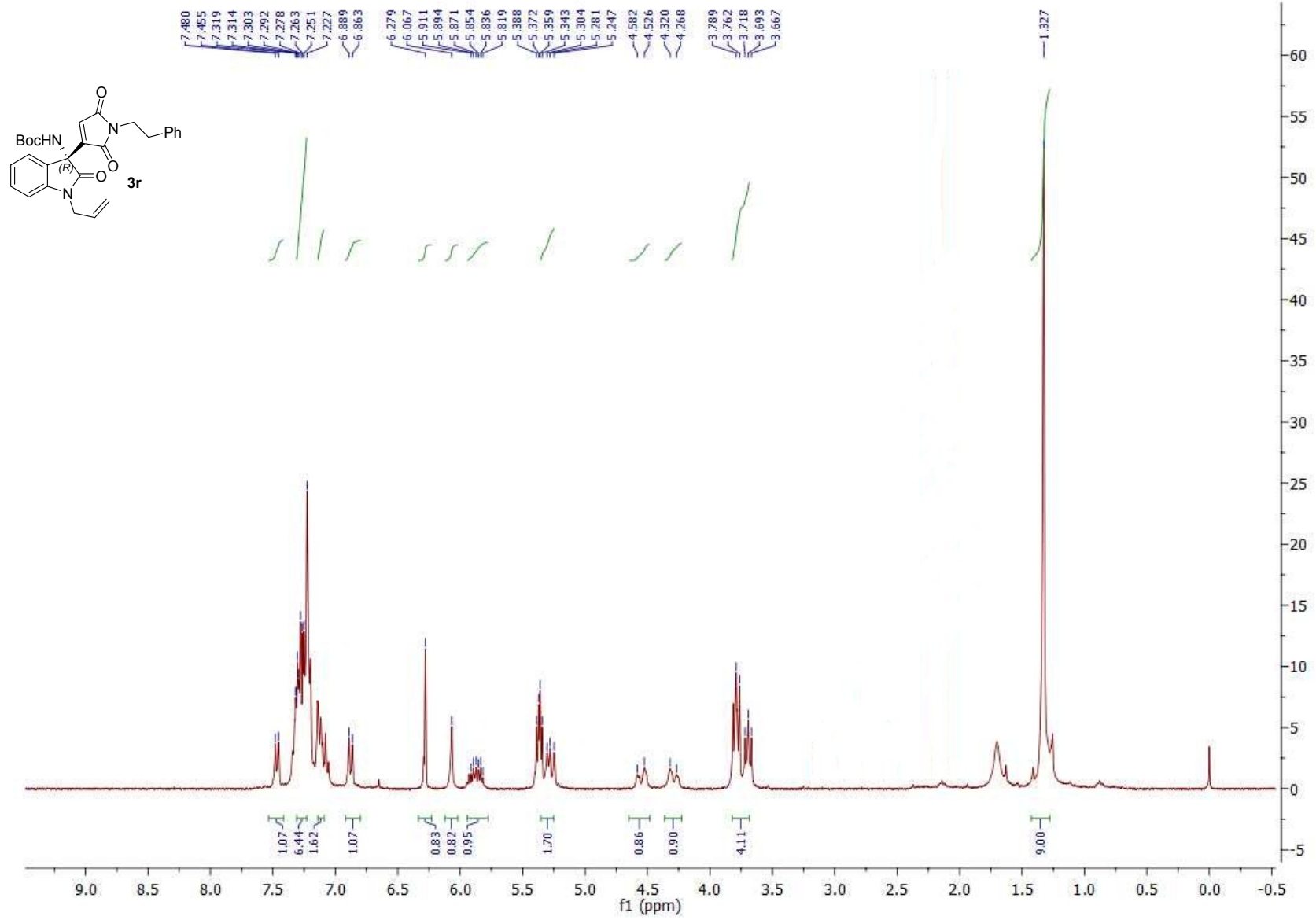
Apr10-2014
VS-20



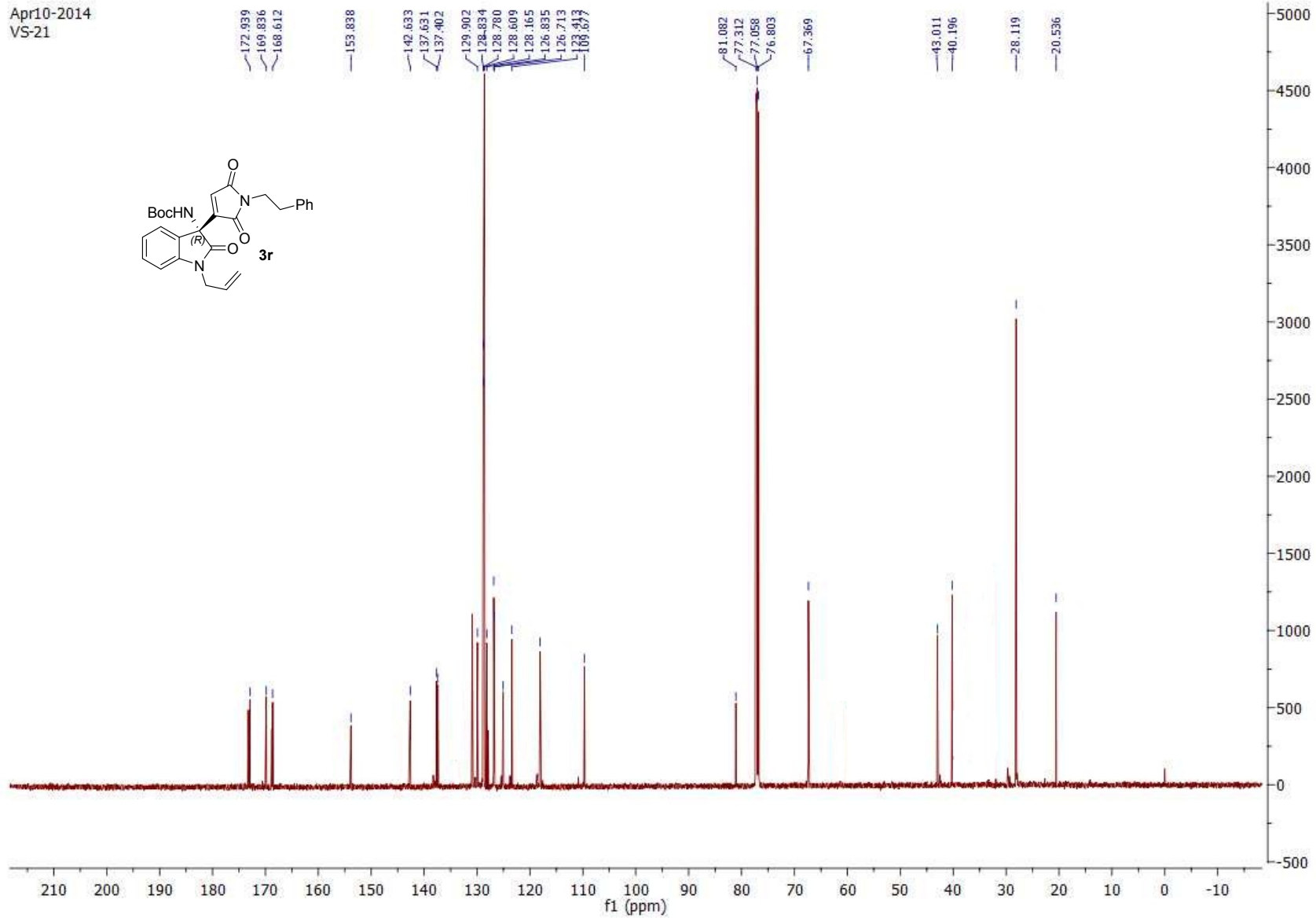
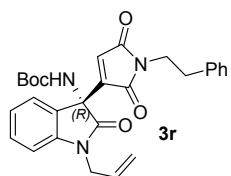


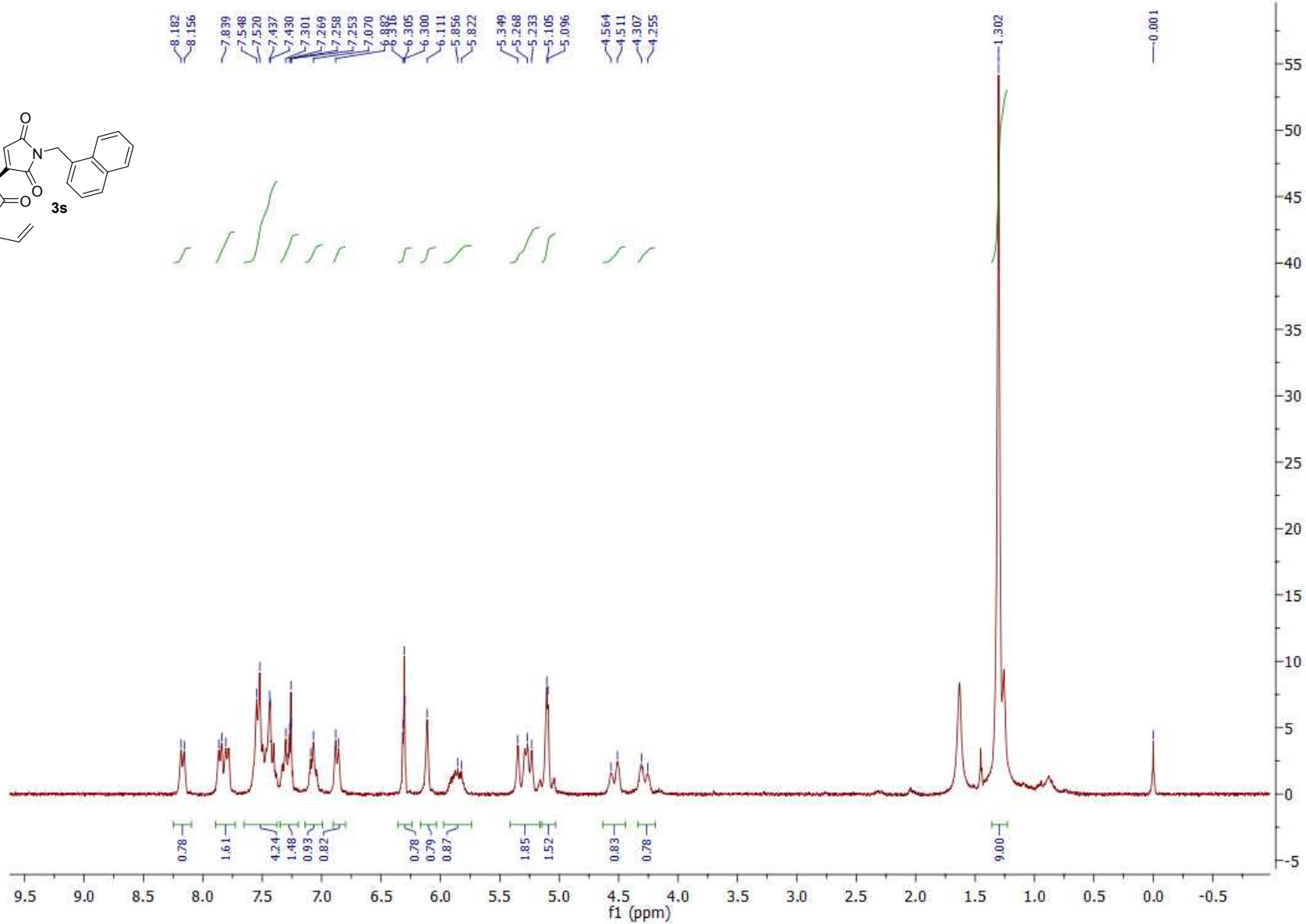
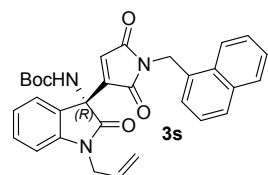
Apr03-2014
VS-A-19





Apr10-2014
VS-21





Mar28-2014
VS-R-22

