

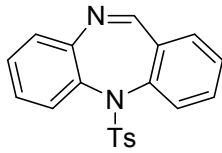
## **A one-pot synthetic strategy for construction of dibenzodiazepine skeleton *via* transition metal-free process**

Shuai Fang<sup>a</sup>, Xiaoyi Niu<sup>a</sup>, Zeyuan Zhang<sup>a</sup>, Xiaomeng Si<sup>a</sup>, Cuicui Shan<sup>a</sup>, Lei Wei<sup>a</sup>, Aiqing Xu<sup>a</sup>, Lei Feng<sup>a</sup>, Chen Ma<sup>\*a,b</sup>.

<sup>a</sup>*Key Laboratory of Special Functional Aggregated Materials, Ministry of Education, School of Chemistry and Chemical Engineering, Shandong University, Jinan, 250100, P. R. China.*

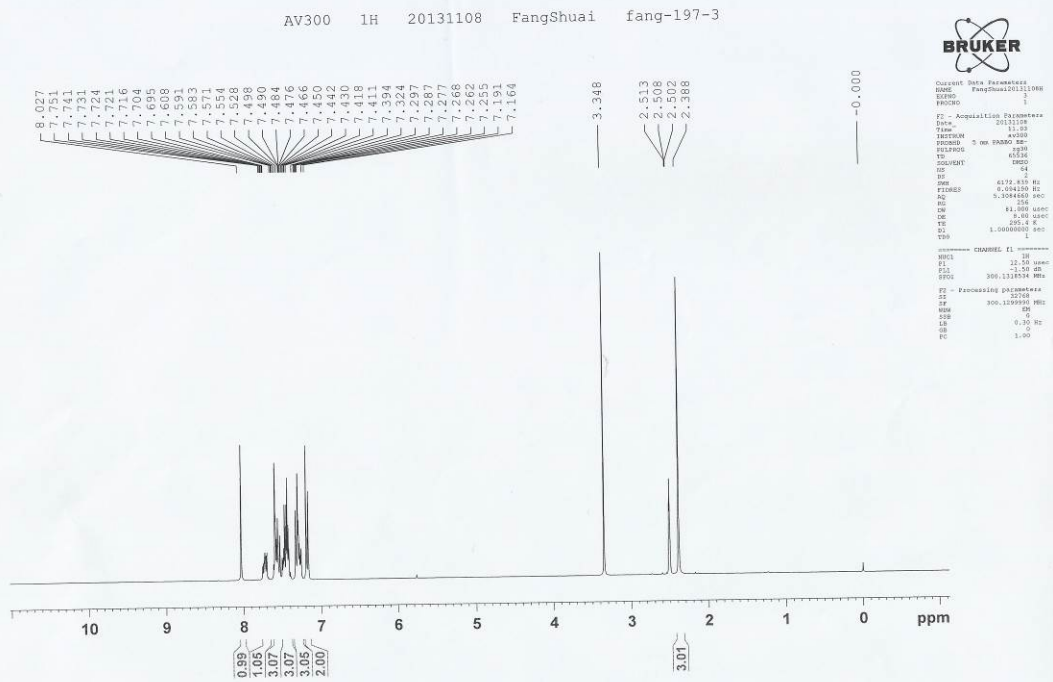
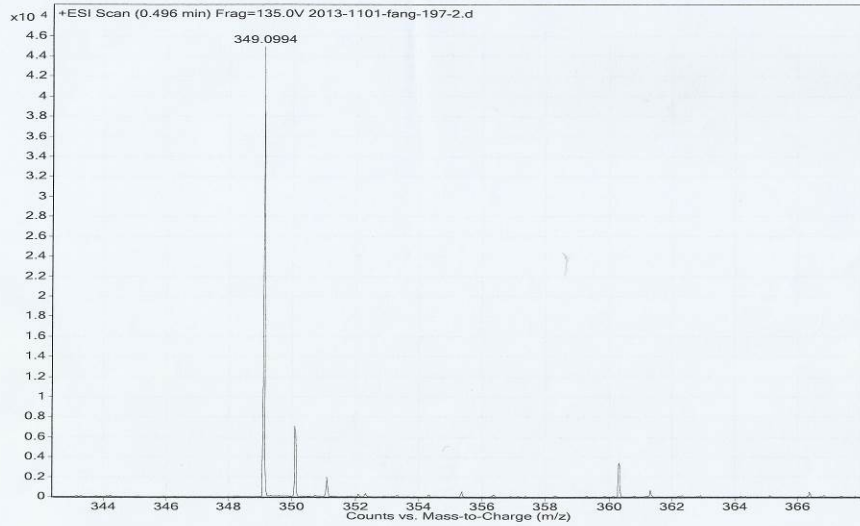
<sup>b</sup>*State Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, P. R. China.*

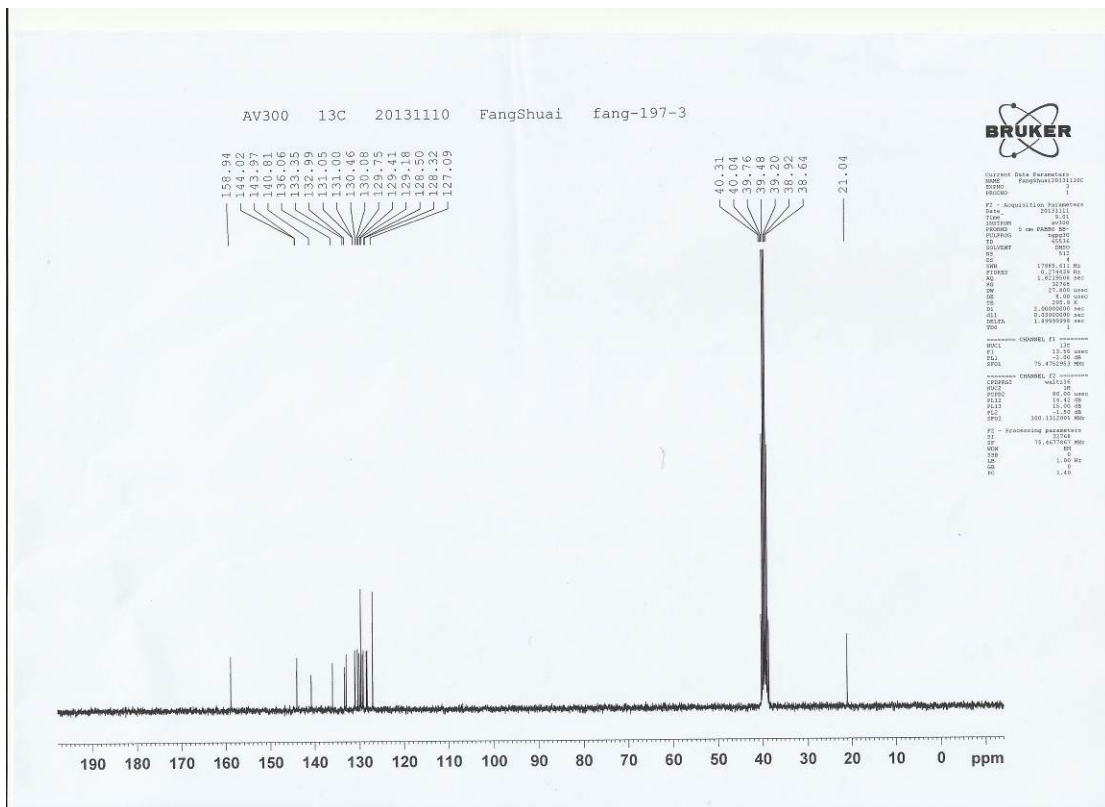
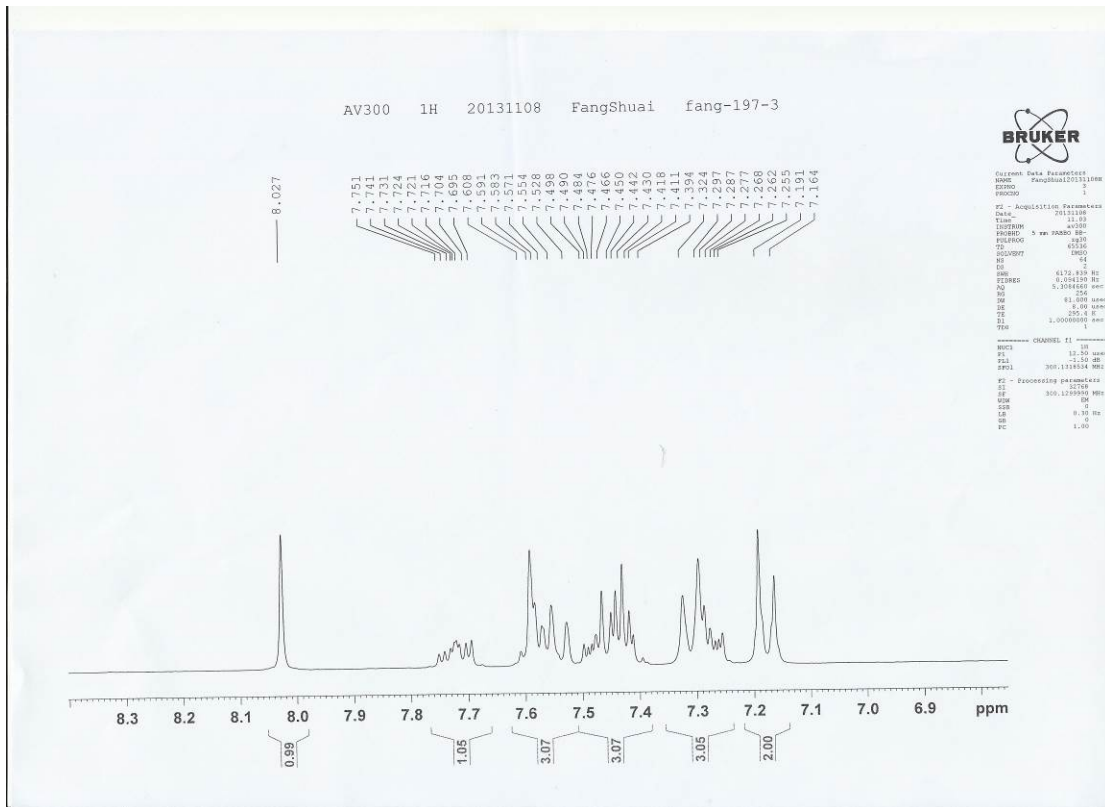
*E-mail: chenma@sdu.edu.cn*



7a

Sample Name	2013-1101-fang-197-2	Position	P1-A5	Instrument Name	Instrument 1	User Name	
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	2013-1101-fang-197-2	ACQ Method	0103.m	Comment		Acquired Time	11/2/2013 1:47:33 AM

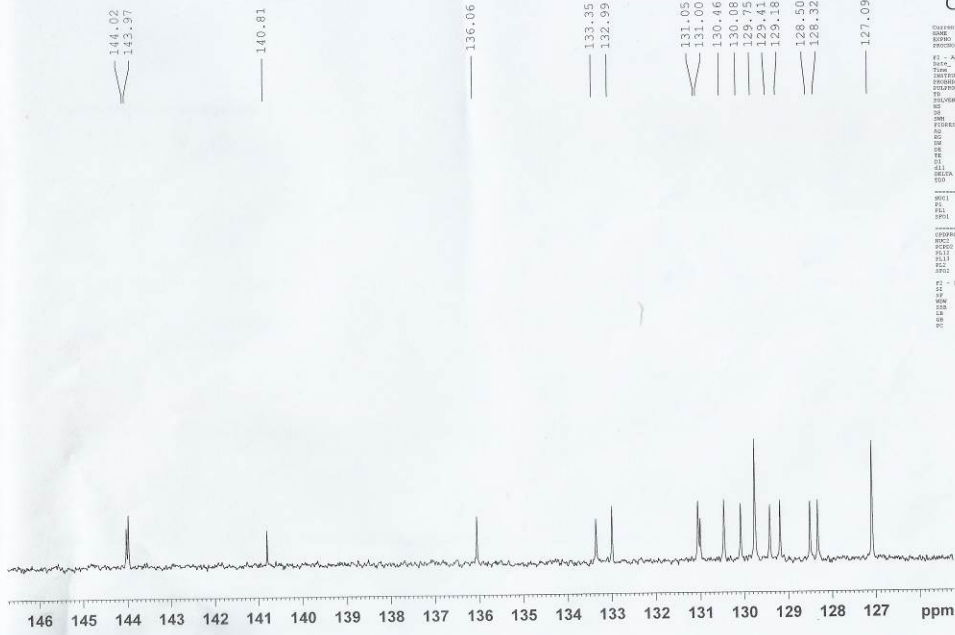


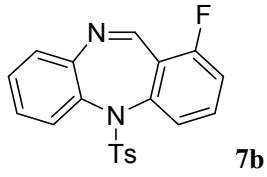


AV300 13C 20131110 FangShuai fang-197-3

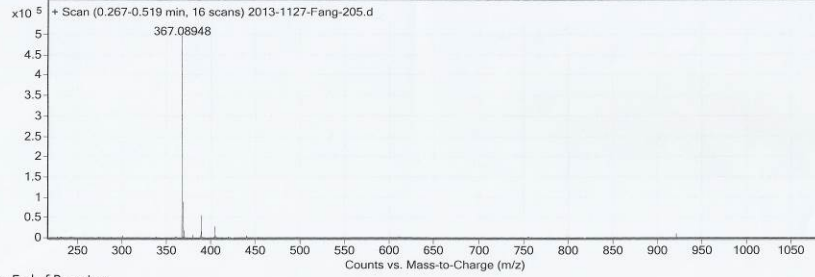


Current Data Parameters  
NAME: FangShuai20131110  
PROCNO: 1  
EX - Acquisition Parameters  
Date\_: 20131110  
Time: 0:20  
INSTRUM: spect  
PROBHD: 5 mm PNPX 1H  
PULPROG: zgpg30  
SFO: 125.760  
AQ: 1.00  
RG: 655  
SD: 1.00  
SR: 17981.611 Hz  
FIDRES: 0.21488 Hz  
AQRES: 1.621858 Hz  
EC: 27.00 Hz  
DE: 2.00 Hz  
TE: 300.2 K  
SI: 2.0000000 Hz  
SFO2: 61.9050000 Hz  
NUC1: 13C  
NUC2: 1H  
SFO3: 1.6999999 Hz  
===== CHANNEL f1 =====  
NUC1: 13C  
P1: 12.00 Hz  
PL1: -1.00 dB  
SFO1: 125.760000 MHz  
===== CHANNEL f2 =====  
NUC2: 1H  
P2: 0.00 Hz  
PL2: 0.00 dB  
SFO2: 400.146000 MHz  
===== PROBE PARAMETERS =====  
SI: 3752 Hz  
SFO: 125.760000 MHz  
NUC: 13C  
ZGPRG: zgpg30  
SFO: 125.760000 MHz  
=====

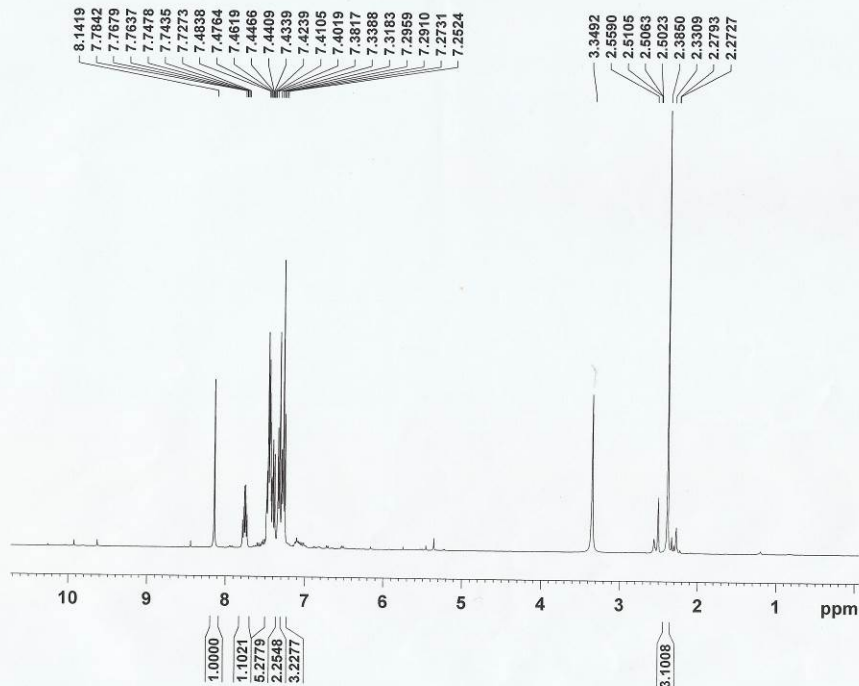




### Plot Window Report



### Fang\_205 HNMR Bruker AV400 in DMSO

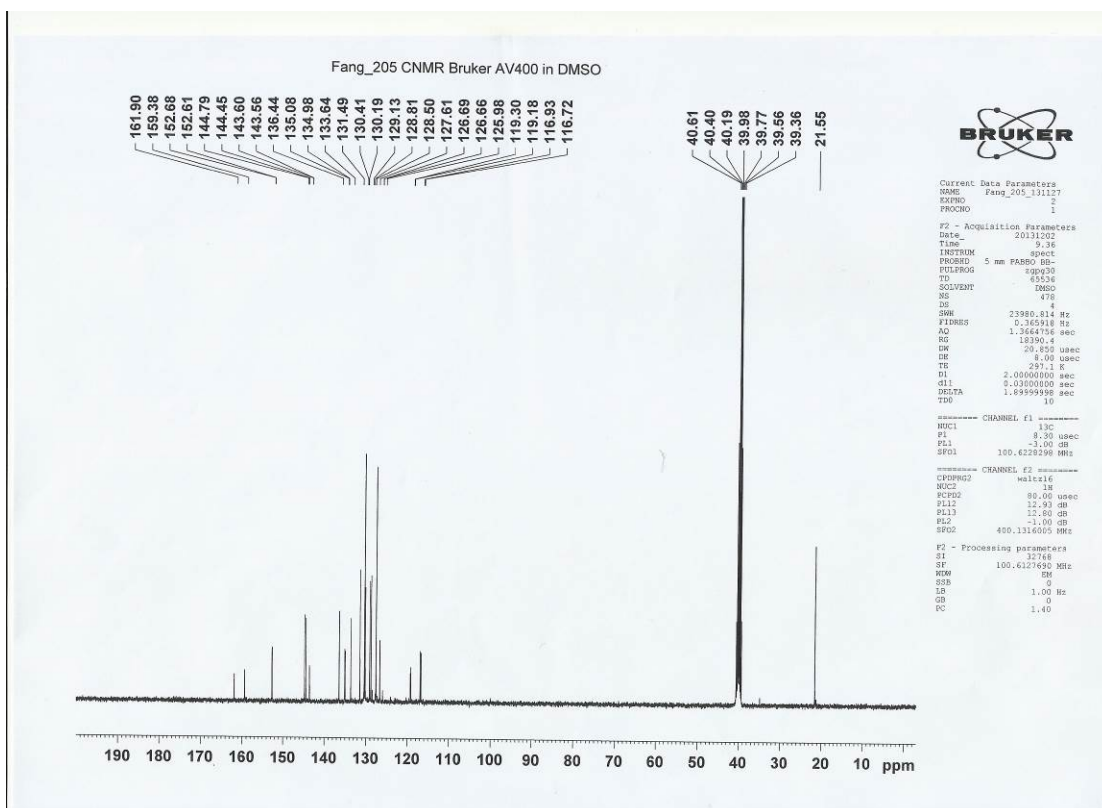
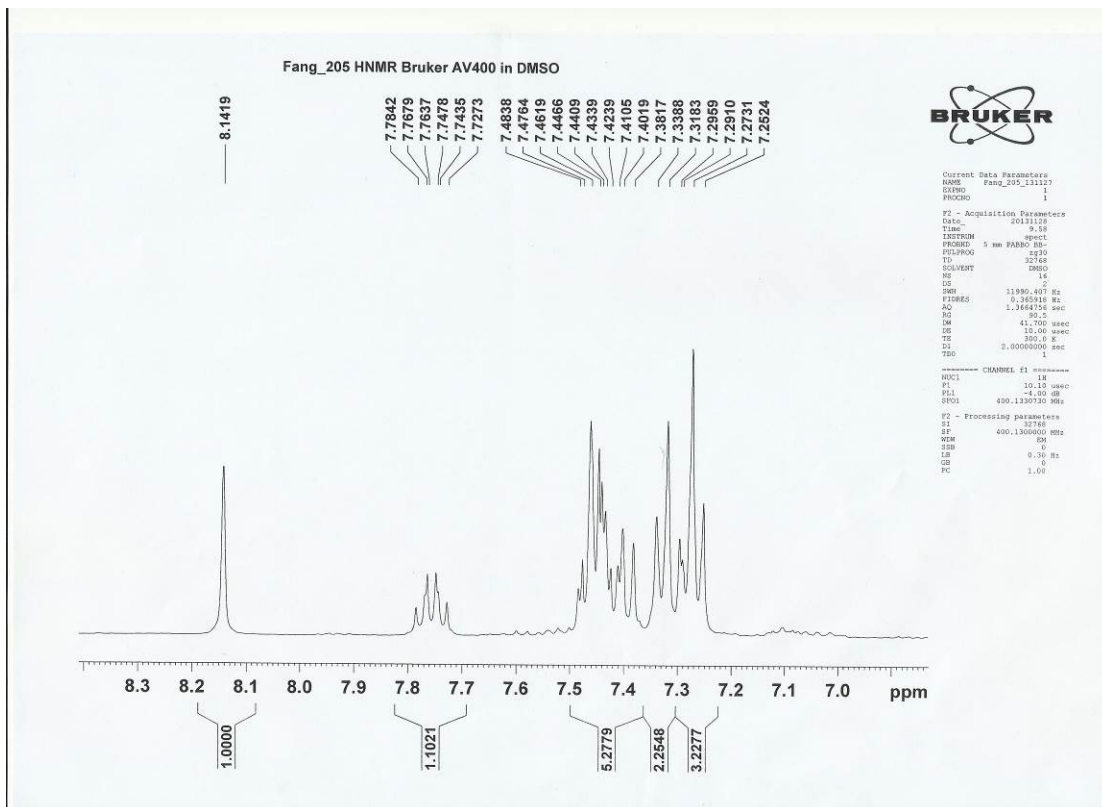


Current Data Parameters  
NAME Fang\_205\_111129  
EXNO 1  
PROCNO 1

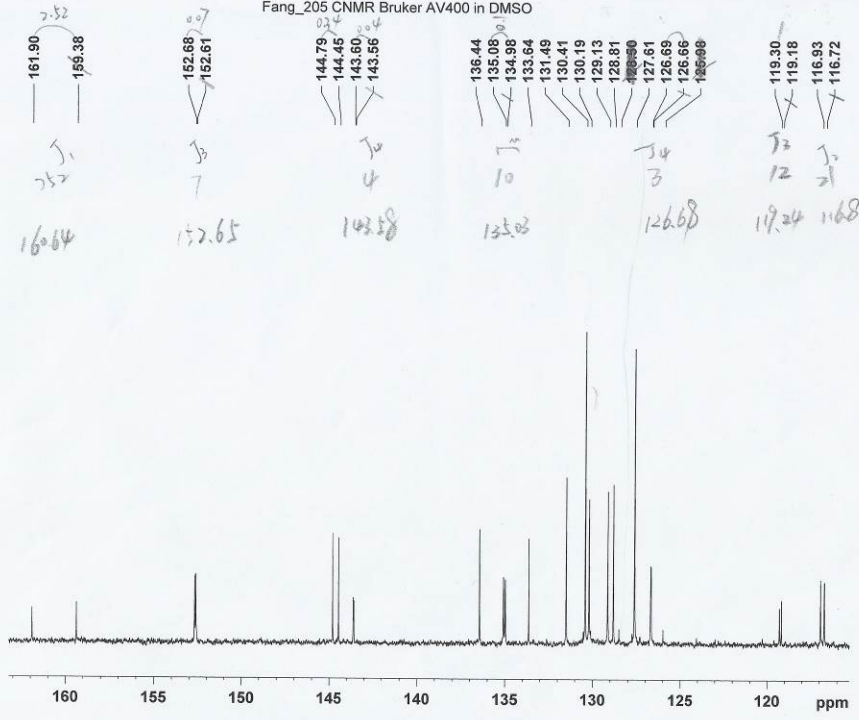
F1 - Acquisition Parameters  
Date\_ 20131128  
Time 9.58  
SPECTRUM spact  
PROCPRG 5 nm DABBO E4-  
PULPROG zg30  
TD 32768  
FID 32768  
SOLVENT DMSO  
DS 16  
DE 16  
SMB 11990.407 Hz  
FREQS 5.382018 Hz  
AQ 1.3664756 sec  
RG 90.5  
DP 41.700 usec  
DE 32.00 usec  
TE 300.0 K  
D1 2.0000000 sec  
TPO 1

===== CHANNEL F1 =====  
NUC1 1H  
P1 10.10 usec  
PL1 -4.50 dB  
SFO1 400.130720 MHz

F2 - Processing parameters  
SI 32768  
SF 400.1300000 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00



Fang\_205 CNMR Bruker AV400 in DMSO



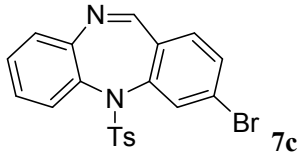
Current Data Parameters  
 NAME Fang\_205\_131127  
 EXPNO 2  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20111202  
 Time 9.36  
 INSTRUM spect  
 PROBRD 5 mm PABBO BS-  
 PULPROG zgpg30  
 ID 65.35  
 SOLVENT DMSO  
 NS 478  
 DS 4  
 SWH 23980.814 Hz  
 FIDRES 0.365918 Hz  
 AQ 1.366754 sec  
 RG 18390.4  
 SW 20.850 usec  
 DE 9.00 usec  
 TE 297.1 K  
 D1 2.0000000 sec  
 C11 0.0300000 sec  
 DELTA 1.8999998 sec  
 TD 10

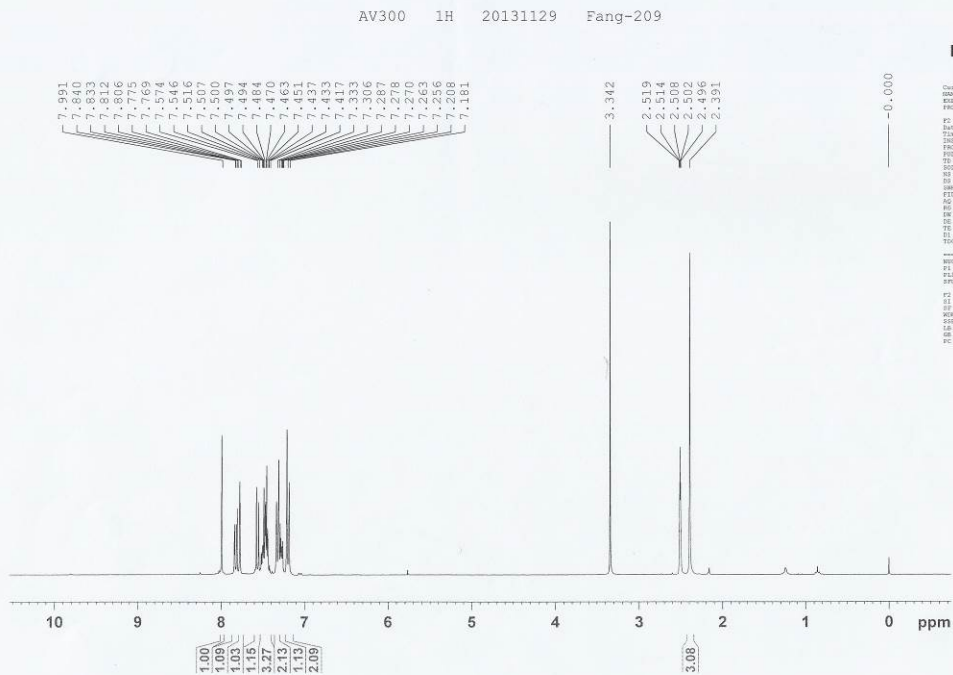
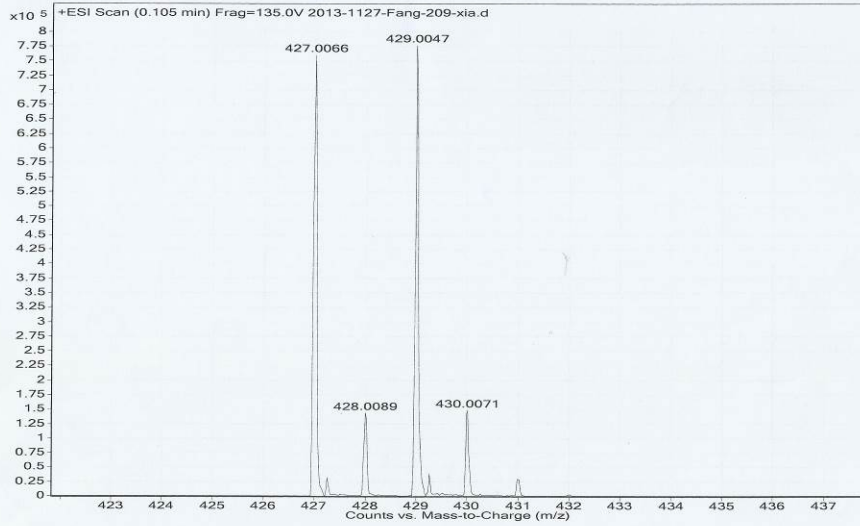
----- CHANNEL f1 -----  
 NUC1 13C  
 P1 4.30 usec  
 PL1 -1.00 dB  
 SFO1 100.6228298 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 P2 80.00 usec  
 PL2 12.93 dB  
 PL12 12.00 dB  
 PL3 -1.00 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6127680 MHz  
 WDE 0K  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40



Sample Name	2013-1127-Fang-209-x	Position	P1-B7	Instrument Name	Instrument 1	User Name	
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	2013-1127-Fang-209-x	ACQ Method	0103.m	Comment		Acquired Time	11/28/2013 3:26:56 AM

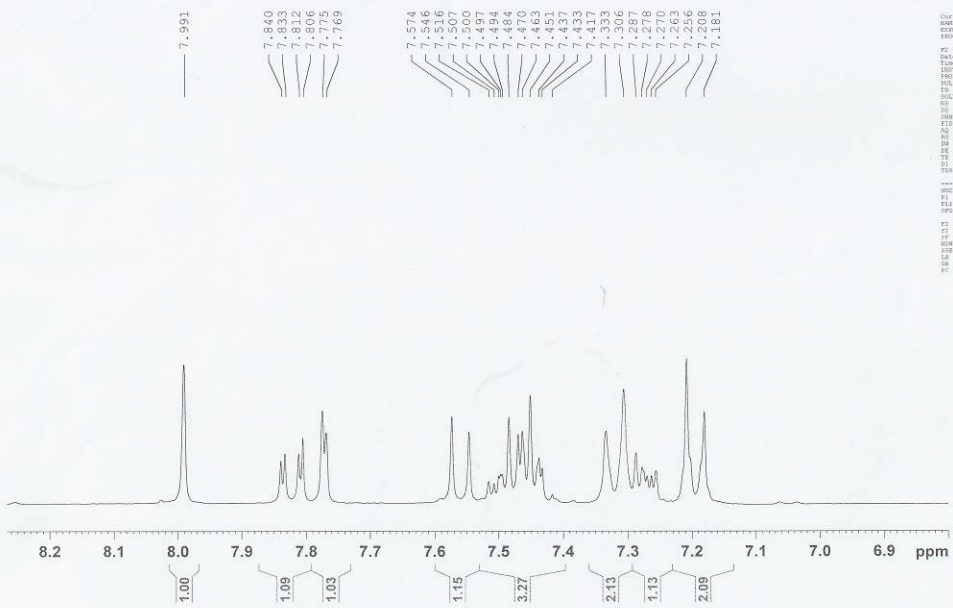




AV300 1H 20131129 Fang-209



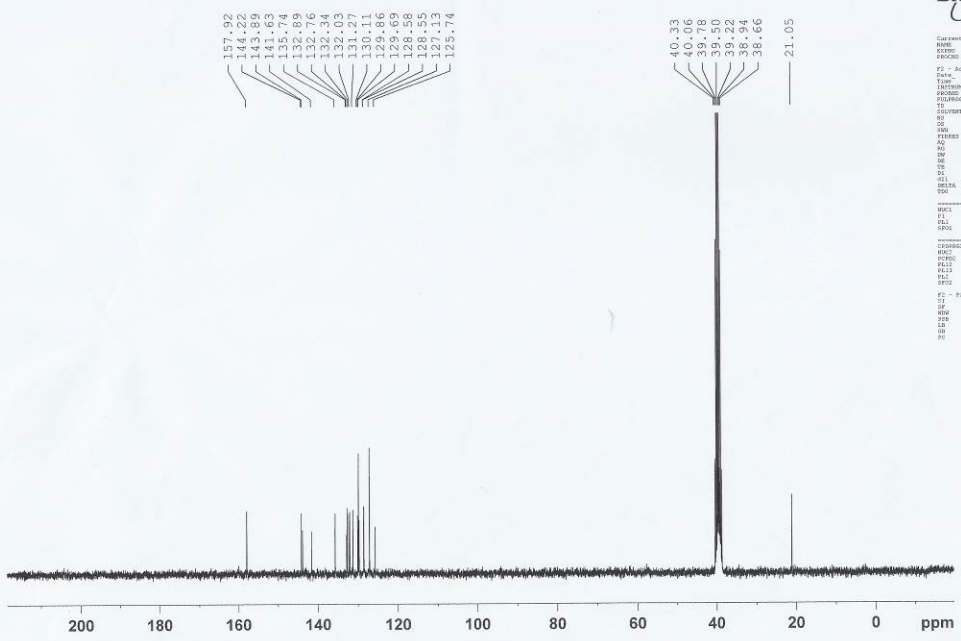
Current Data Parameters  
 NAME Fang-2091129  
 PROCNO 1  
 ----- Acquisition Parameters -----  
 DATE\_ 20131129  
 TIME 9:14  
 INSTRUM spect  
 PULPROG zgpg30  
 FIDRES 5 mm F4BBO 90-  
 TD 65536  
 SOLVENT DMSO  
 DS 4  
 SWH 4170.559 Hz  
 F2ACQ 2.04159 sec  
 AQ 5.328469 sec  
 RG 356  
 SFO 400.146 MHz  
 SF 400.146 MHz  
 DSF 3.00 sec  
 SI 1.0000000 sec  
 TMS 1  
 ----- CHANNEL f1 -----  
 NU1 130  
 PR1 12.50 usec  
 PL1 2.00 dB  
 SFO1 400.146534 MHz  
 ----- Processing parameters -----  
 SI 65536  
 SF 400.146534 MHz  
 DSF 3.00 sec  
 LE 0  
 GB 0.70 Hz  
 WB 1.00  
 PC 1.00



AV300 13C 20131203 Fang-209



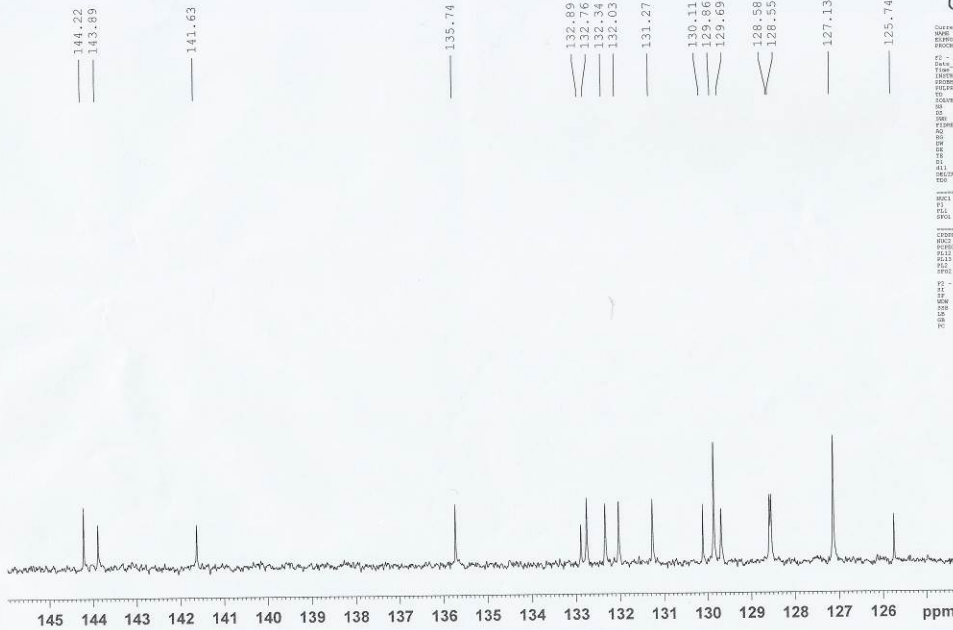
Current Data Parameters  
 NAME Fang-2091203  
 PROCNO 1  
 ----- Acquisition Parameters -----  
 DATE\_ 20131203  
 TIME 8:23  
 INSTRUM spect  
 PULPROG zgpg30  
 FIDRES 5 mm F4BBO 90-  
 TD 65536  
 SOLVENT DMSO  
 DS 4  
 SWH 1799.411 Hz  
 F2ACQ 2.04159 sec  
 AQ 5.328469 sec  
 RG 356  
 SFO 400.146 MHz  
 SF 400.146 MHz  
 DSF 3.00 sec  
 SI 1.0000000 sec  
 TMS 1  
 ----- CHANNEL f1 -----  
 NU1 130  
 PR1 12.50 usec  
 PL1 2.00 dB  
 SFO1 400.146534 MHz  
 ----- CHANNEL f2 -----  
 NAME waltz16  
 PR2 80.00 usec  
 PL2 18.00 dB  
 PR3 18.00 usec  
 PL3 18.00 dB  
 SFO2 125.761 MHz  
 SFO3 300.131000 MHz  
 ----- Processing parameters -----  
 SI 65536  
 SF 400.146534 MHz  
 DSF 3.00 sec  
 LE 0  
 GB 1.40  
 WB 1.40  
 PC 1.40

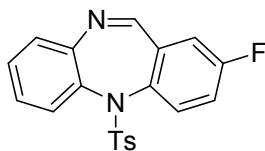


AV300 13C 20131203 Fang-209



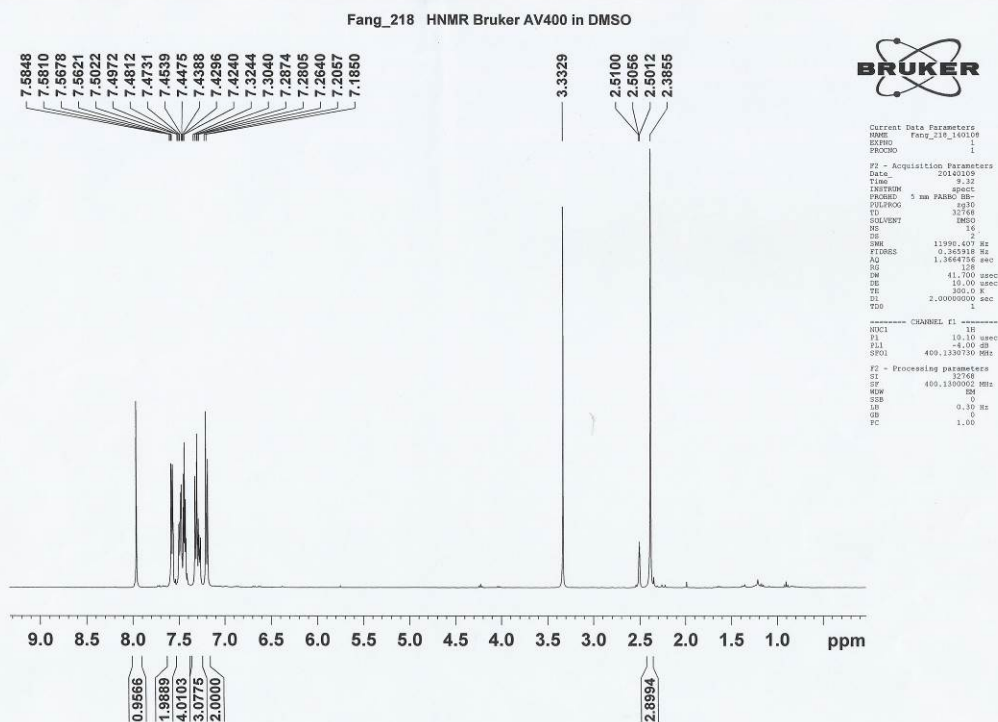
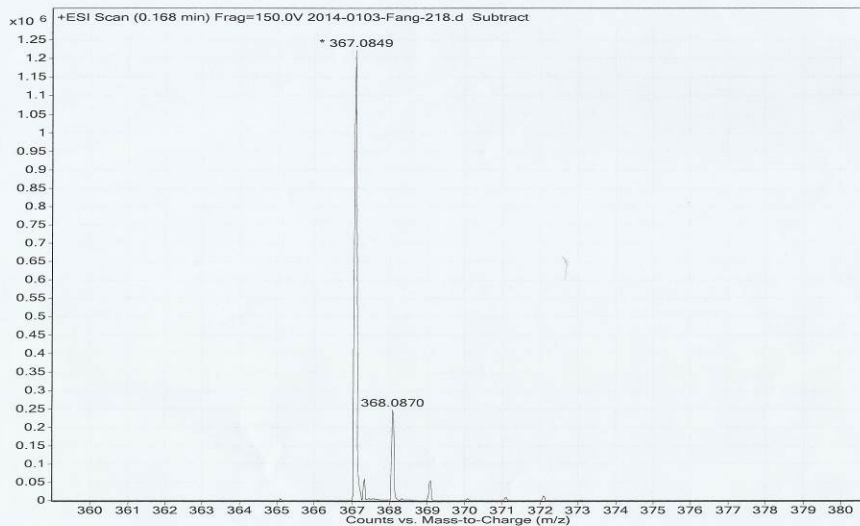
Current Data Parameters  
NAME: 201312031203  
EXPNO: 1  
PROCNO: 1  
F2 - Acquisition Parameters  
Date\_ : 20131203  
Time : 11:25  
INSTRUM : spect  
PROBHD : 5 mm PABBO-1H  
PULPROG : zgpg30  
TD : 65536  
SOLVENT : H2O  
AQ : 3.72  
RG : 1788.42 Hz  
FIDRES : 0.204450 Hz  
AQRES : 1.618200 Hz  
SFO : 125.760  
NUC1 : 13C  
NUC2 : 13C  
P1 : 21.000 usec  
PC : 8.00 usec  
PS : 298.2 K  
SFO2 : 0.000000 MHz  
DELTA : 1.3400000 sec  
TSC :  
----- CHANNEL f1 -----  
NUC1 : 13C  
P1 : 12.50 usec  
SFO1 : 101.626100 MHz  
SFO2 :  
----- CHANNEL f2 -----  
PROBHD : waltz16  
NUC1 : 1H  
NUC2 : 13C  
PUL1 : 14.42 usec  
PUL2 : 11.10 usec  
PUL3 : 11.10 usec  
SFO1 : 500.1312000 MHz  
F2 - Processing parameters  
SI : 32768  
SF : 125.760000 MHz  
WDW : EM  
SSB : 0  
GB : 0  
PC : 1.00 Hz  
IC : 1.40

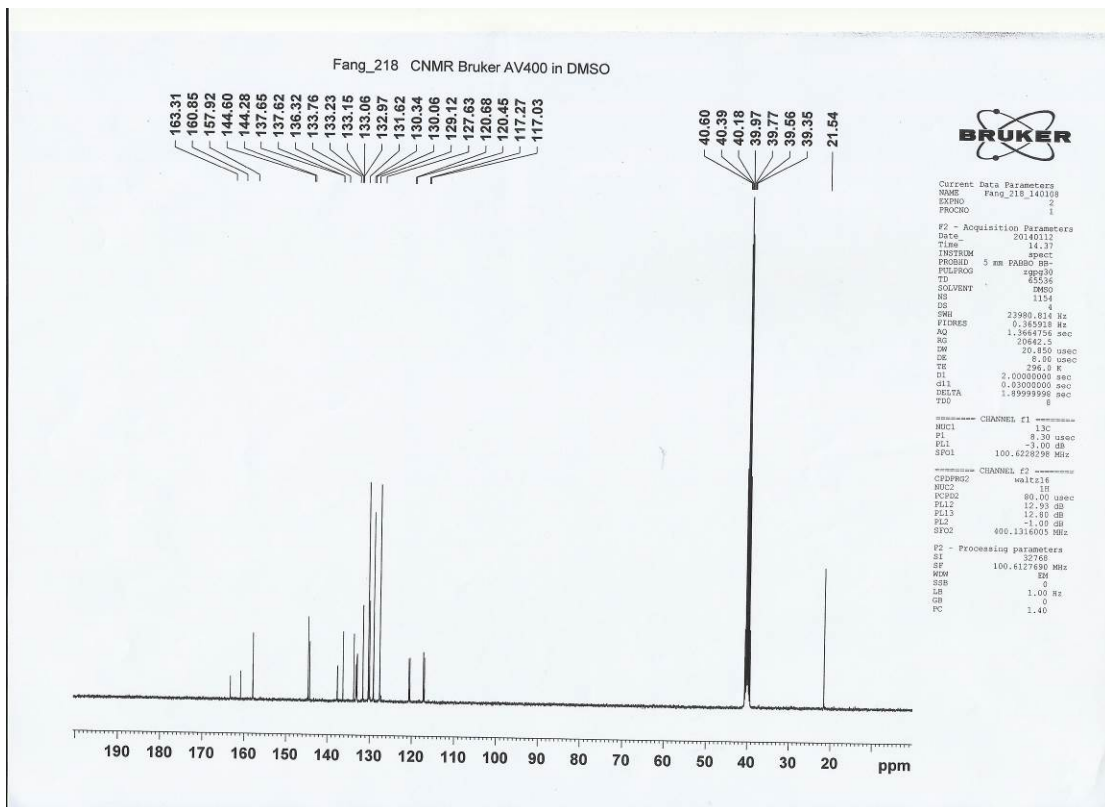
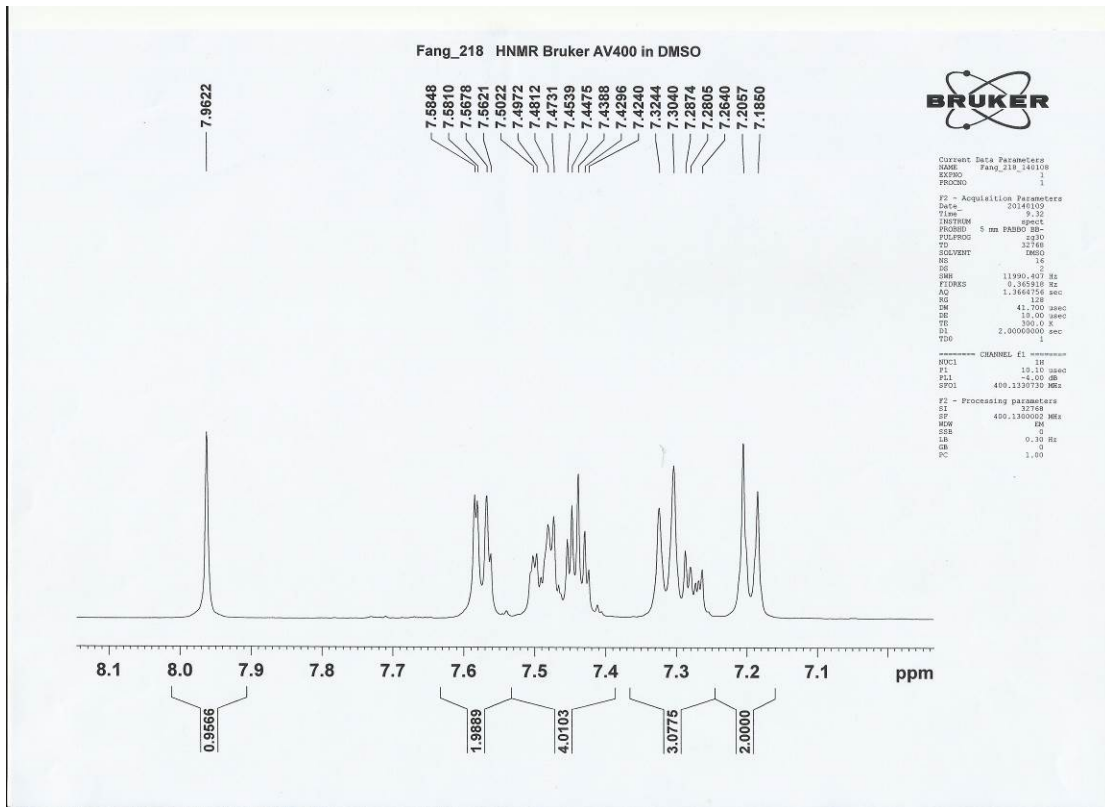




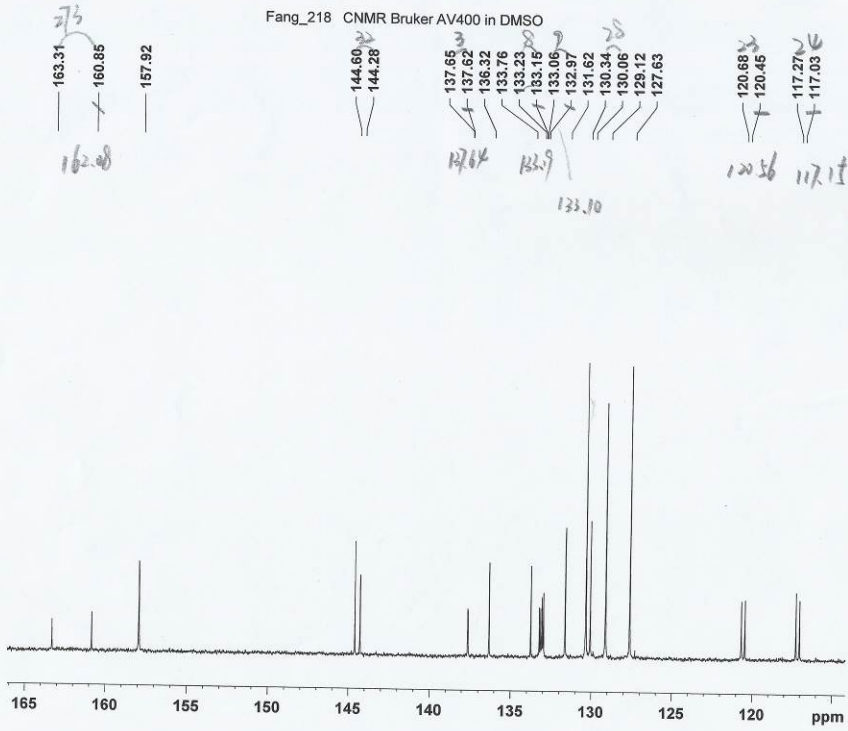
7d

Sample Name	2014-0103-Fang-218	Position	PI-E3	Instrument Name	Instrument 1	User Name	
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	2014-0103-Fang-218.d	ACQ Method	0103.m	Comment		Acquired Time	1/3/2014 3:11:51 PM





Fang\_218 CNMR Bruker AV400 in DMSO



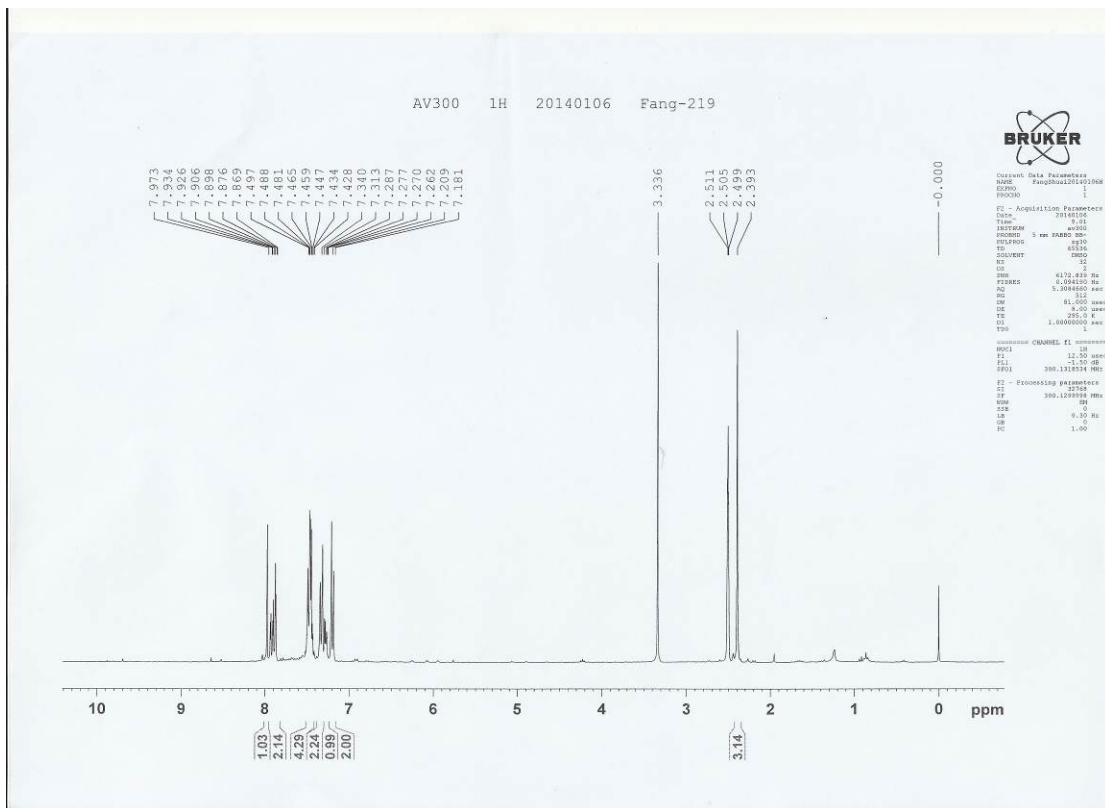
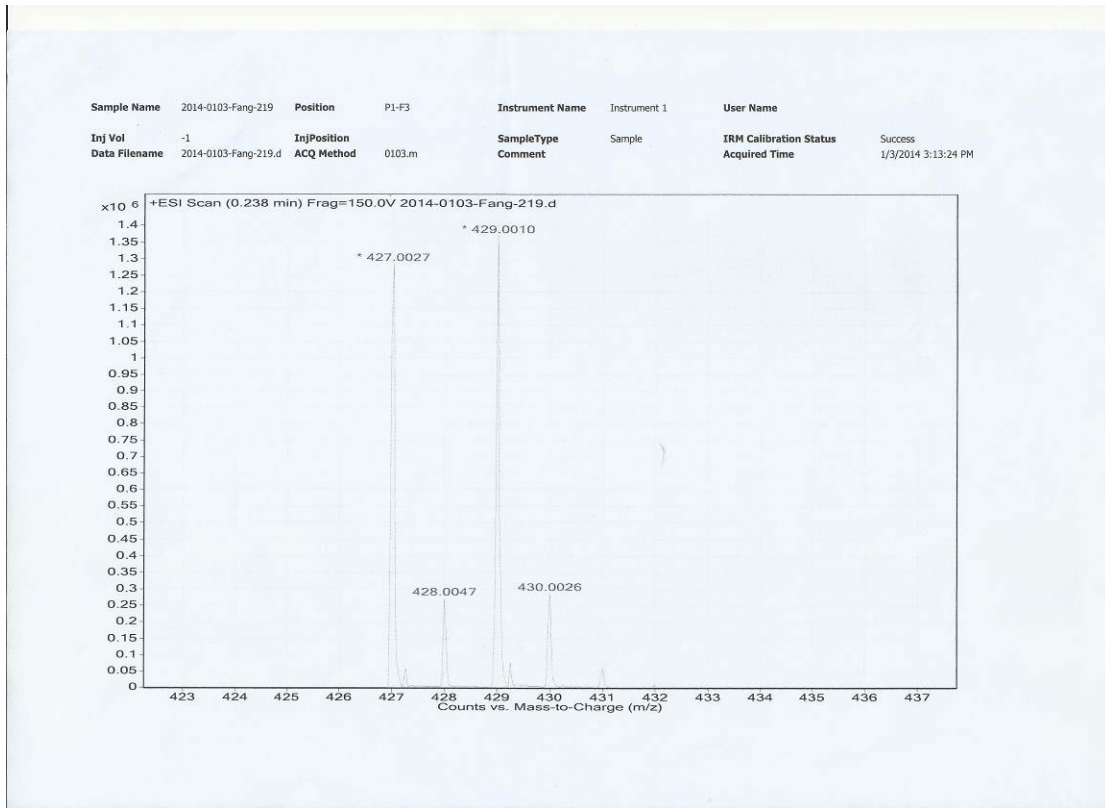
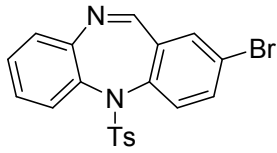
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 NAME Fang\_218\_140108  
 EXPNO 2  
 PROCNO 1

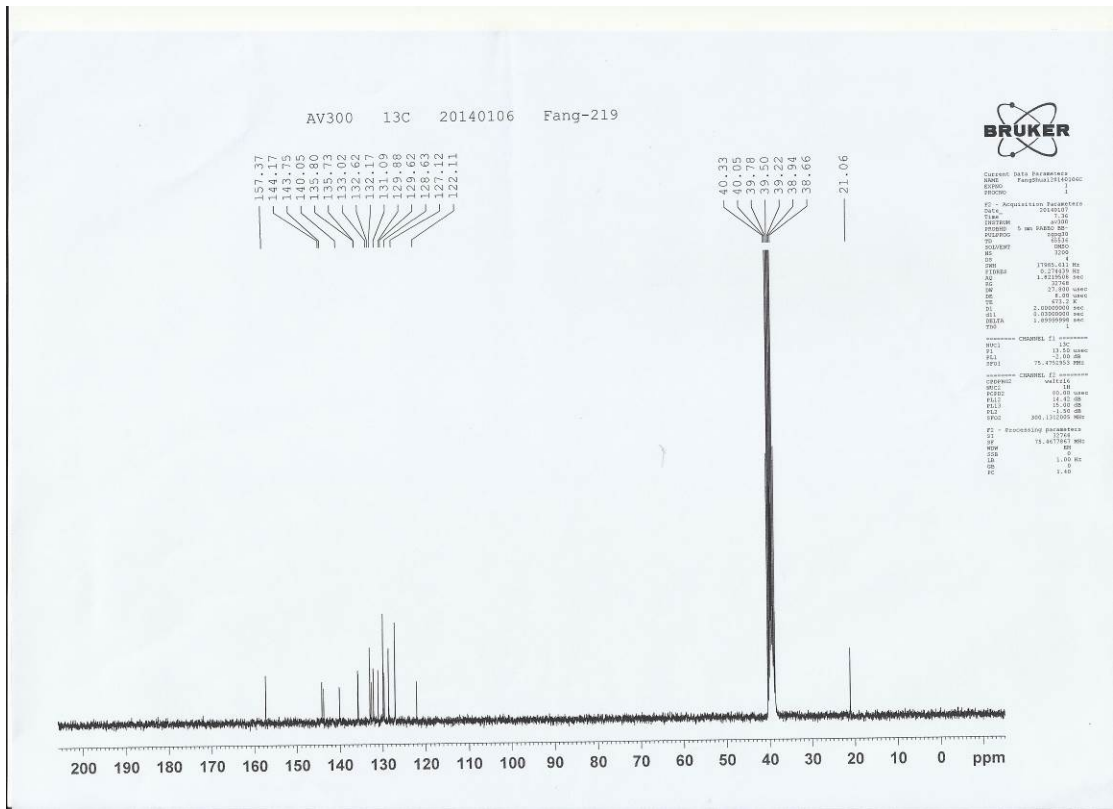
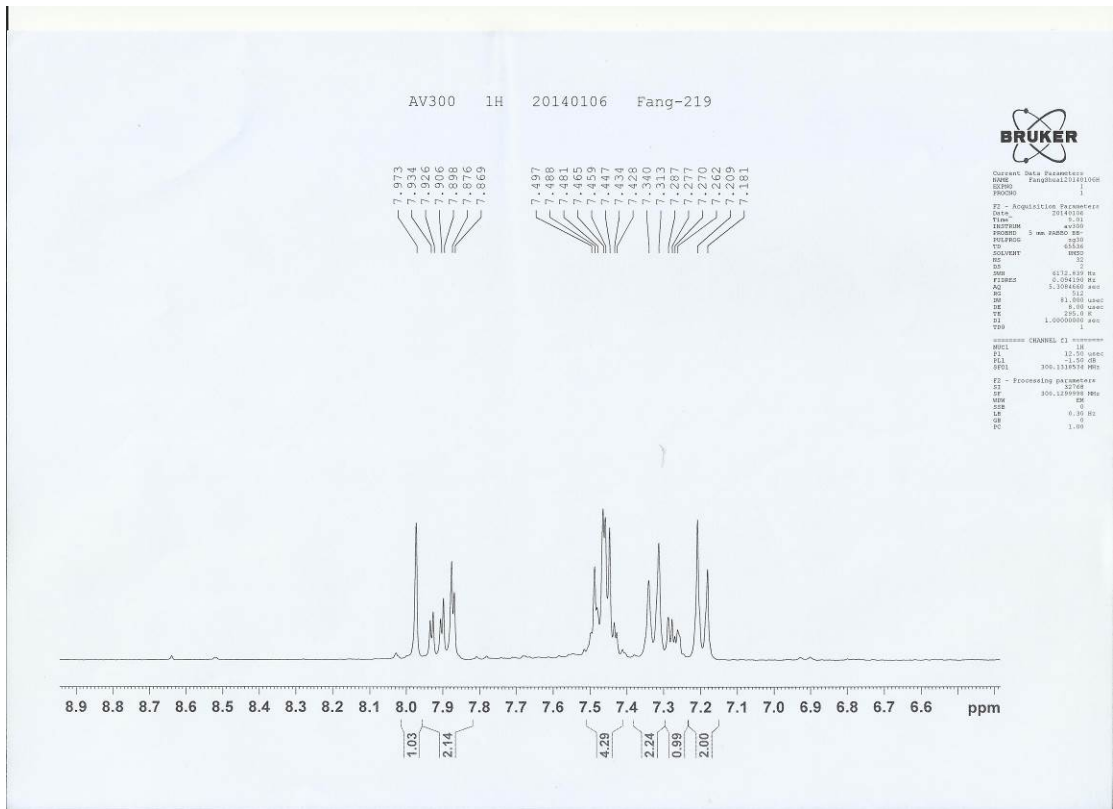
F2 - Acquisition Parameters  
 Date\_ 20140112  
 Time 14.37  
 INSTRUM spect  
 PROBRD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT DMSO  
 NS 1154  
 DS 2  
 SWH 23990.814 Hz  
 FIDRES 0.365918 Hz  
 AQ 1.3661756 sec  
 RG 20422.5  
 SW 20.850 usec  
 SE 4.50 usec  
 TE 296.0 K  
 D1 2.00200000 sec  
 d11 0.03000000 sec  
 DELTA 1.87999999 sec  
 TDO 8

==== CHANNEL f1 =====  
 NU1 13C  
 P1 8.30 usec  
 PL1 -3.00 dB  
 SFO1 100.6229298 MHz

==== CHANNEL f2 =====  
 CPDPRG2 waltz16  
 NU2 1H  
 PCPD2 88.00 usec  
 PL2 12.00 dB  
 PL13 12.80 dB  
 PL2 -1.00 dB  
 SFO2 400.1316005 MHz

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

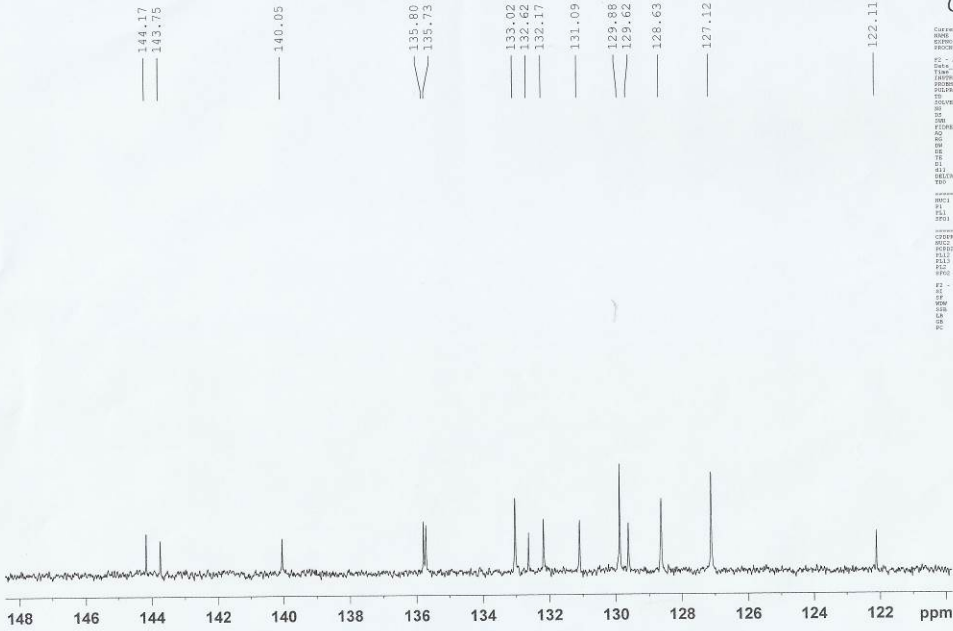




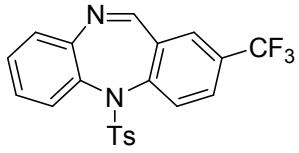
AV300 13C 20140106 Fang-219



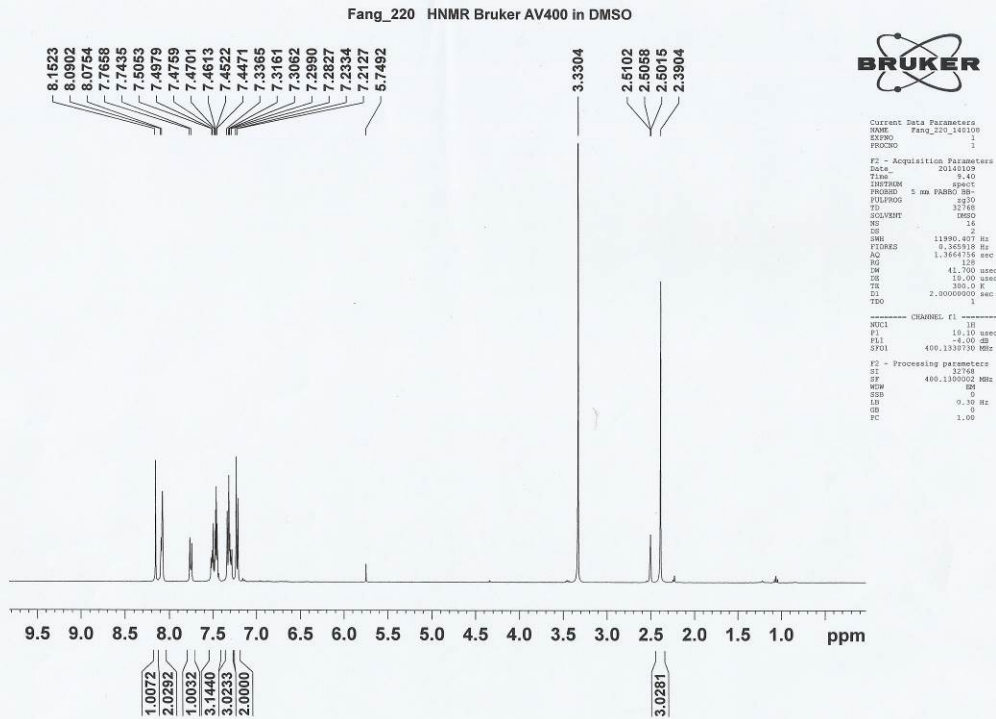
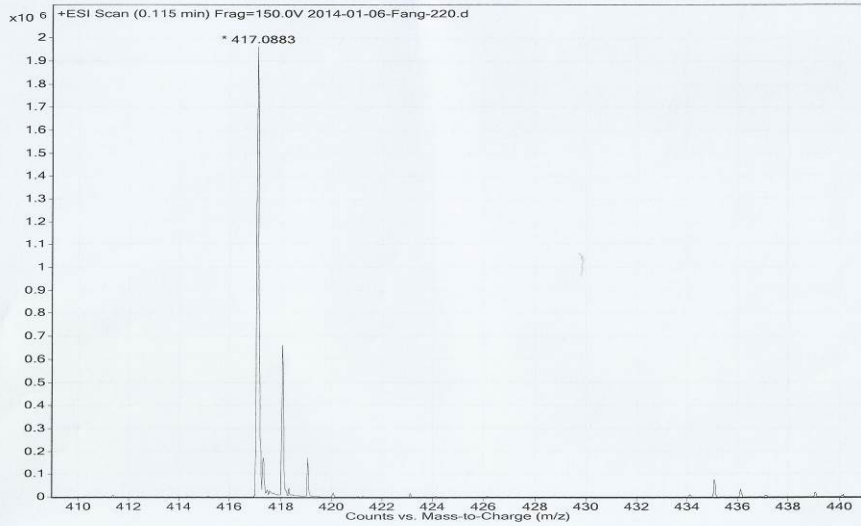
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Current Data Parameters
NAME: Fang20140106
PROBHD:
PULPROG: zgpg30
PROCNO: 1
AQ: 0.10000000
RG: 327.680
SQ: 3.000
WDW: EM
SSB: 0
LB: 0.30000000
GB: 0
PC: 1.00000000
DC: 0
SC: 0
RC: 0
WD: 0
TE: 300.2
F2 - Processing parameters
F2:
PC: 1.00000000
RG: 327.680
SQ: 3.000
WDW: EM
SSB: 0
LB: 0.30000000
GB: 0
PC: 1.00000000
DC: 0
SC: 0
RC: 0
WD: 0
TE: 300.2
F1 - Processing parameters
F1:
PC: 1.00000000
RG: 327.680
SQ: 3.000
WDW: EM
SSB: 0
LB: 0.30000000
GB: 0
PC: 1.00000000
DC: 0
SC: 0
RC: 0
WD: 0
TE: 300.2
```



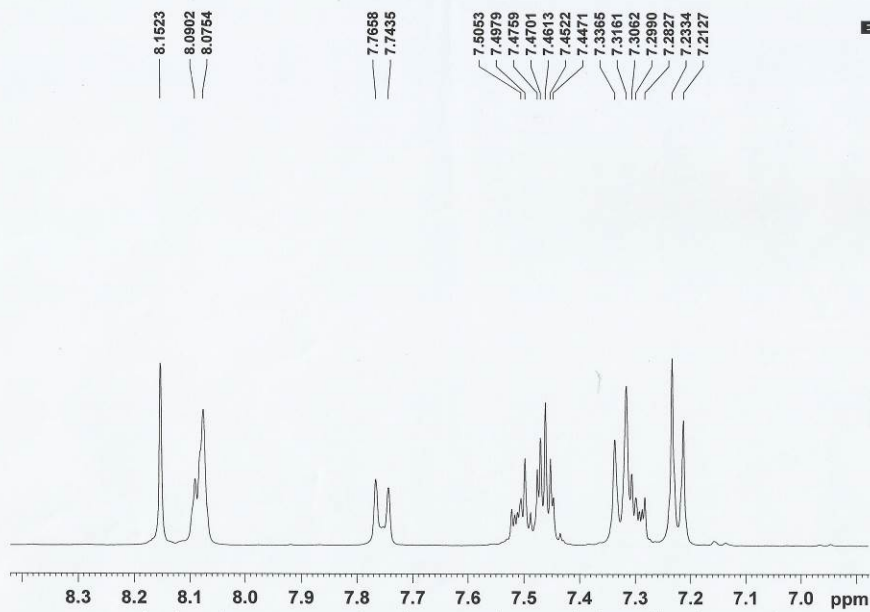




Sample Name	2014-01-06-Fang-220	Position	P1-D5	Instrument Name	Instrument 1	User Name	
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	2014-01-06-Fang-220	ACQ Method	0103.m	Comment		Acquired Time	1/7/2014 2:52:58 AM



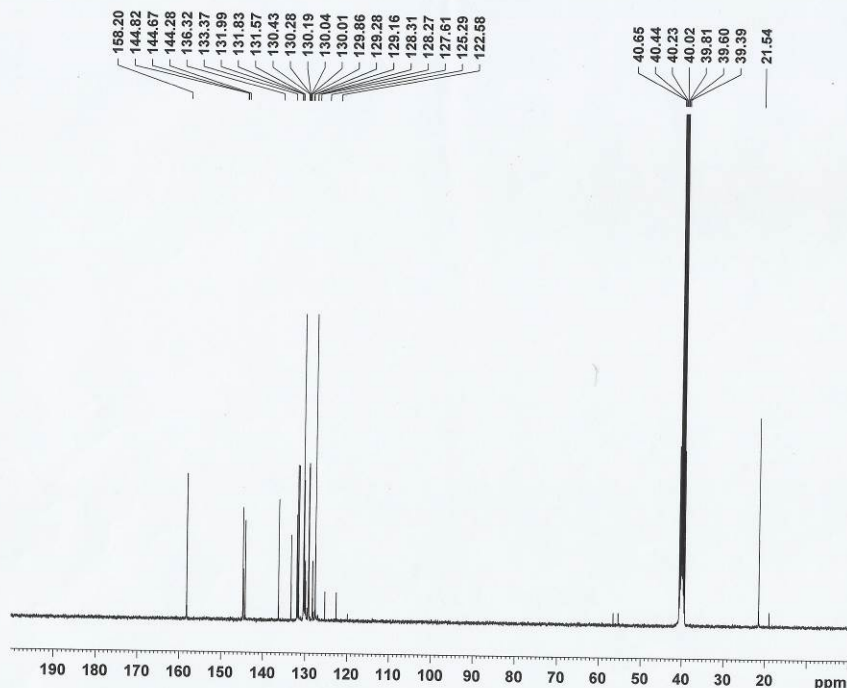
Fang\_220 HNMR Bruker AV400 in DMSO



Current Data Parameters  
 NAME Fang\_220\_140108  
 EXPNO 1  
 PROCNO 1  
 F2 - Acquisition Parameters  
 Date\_ 20140109  
 Time 9.40  
 INSTRUM spect  
 PROBRD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT DMSO  
 NS 4720  
 DS 4  
 SWH 11990.607 Kz  
 FIDRES 0.346898 Hz  
 AQ 1.3464756 sec  
 RG 133  
 DW 19.853 usec  
 DE 8.08 usec  
 TE 297.3 K  
 D1 2.0000000 sec  
 DELTA 1.8899998 sec  
 TDO

==== CHANNEL f1 =====  
 NUC1 13C  
 P1 19.10 usec  
 PL1 0.00 dB  
 SFO1 400.1330730 MHz  
 F2 - Processing parameters  
 SI 32768  
 SF 400.1330000 MHz  
 WSW 80  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

Fang\_220 CNMR Bruker AV400 in DMSO

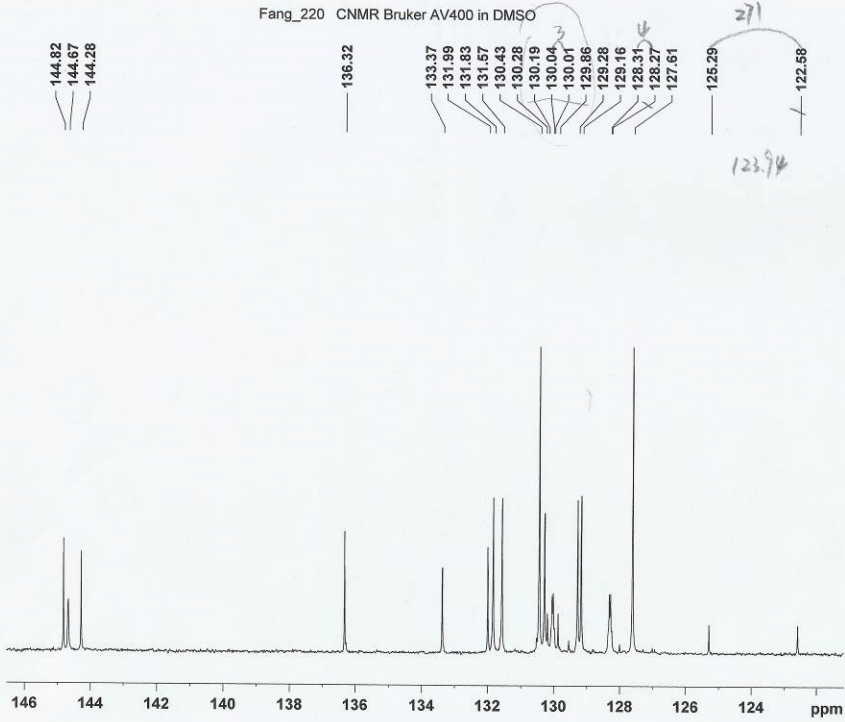


Current Data Parameters  
 NAME Fang\_220\_140108  
 EXPNO 1  
 PROCNO 1  
 F2 - Acquisition Parameters  
 Date\_ 20140112  
 Time 13.47  
 INSTRUM spect  
 PROBRD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT DMSO  
 NS 4720  
 DS 4  
 SWH 23940.814 Hz  
 FIDRES 0.345918 Hz  
 AQ 1.3464756 sec  
 RG 133  
 DW 19.853 usec  
 DE 8.08 usec  
 TE 297.3 K  
 D1 2.0000000 sec  
 DELTA 1.8899998 sec  
 TDO

==== CHANNEL f1 =====  
 NUC1 13C  
 P1 8.30 usec  
 PL1 0.00 dB  
 SFO1 100.6228239 MHz

==== CHANNEL f2 =====  
 CROSS2 wait16  
 NUC2 13C  
 P1 80.00 usec  
 PL1 12.80 dB  
 PL13 12.80 dB  
 PL2 -1.00 dB  
 SFO2 400.1316005 MHz  
 F2 - Processing parameters  
 SI 32768  
 SF 100.6127590 MHz  
 WSW 80  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

Fang\_220 CNMR Bruker AV400 in DMSO



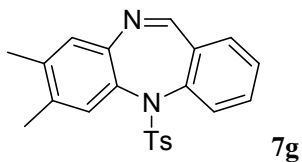
Current Data Parameters  
NAME Fang\_220\_140108  
EXPNO 2  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20160112  
Time\_ 15.47  
INSTRUM spect  
PROBHD 5 mm PABBO sp-  
PULPROG zgpg30  
PC 6576  
SOLVENT DMSO  
NS 4250  
DS 2  
SWH 23980.614 Hz  
FIDRES 0.3659118 Hz  
AQ 1.3664736 sec  
RG 192  
DM 20.600 usec  
DE 8.00 usec  
TE 307.2 K  
D1 2.00000000 sec  
d11 0.03000000 sec  
DELTA 1.99999999 sec  
TDO 8

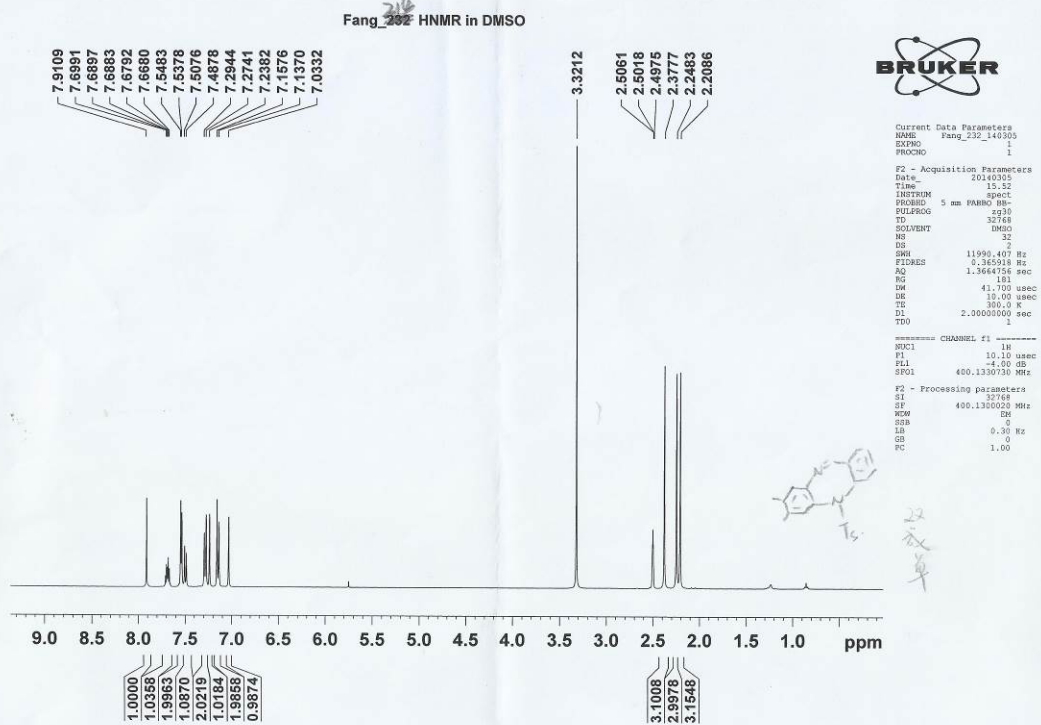
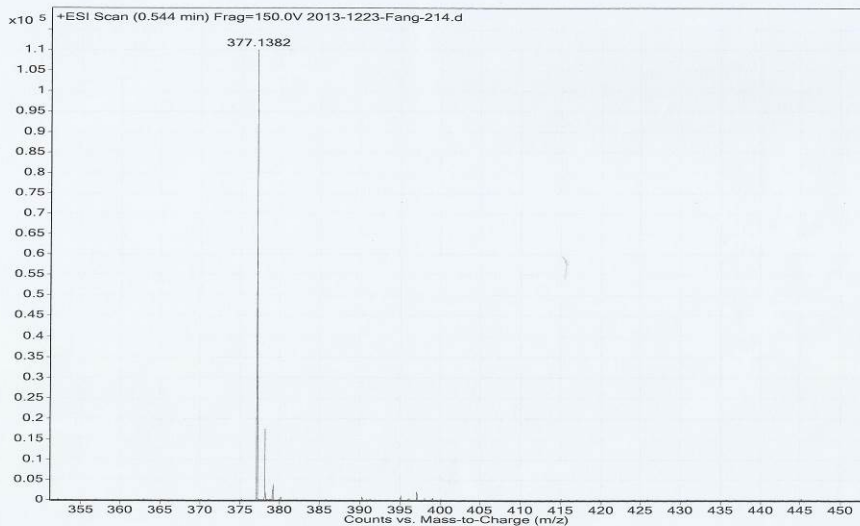
===== CHANNEL f1 =====  
NUC1 13C  
P1 8.30 usec  
PL1 -3.00 dB  
SFO1 100.6212098 MHz

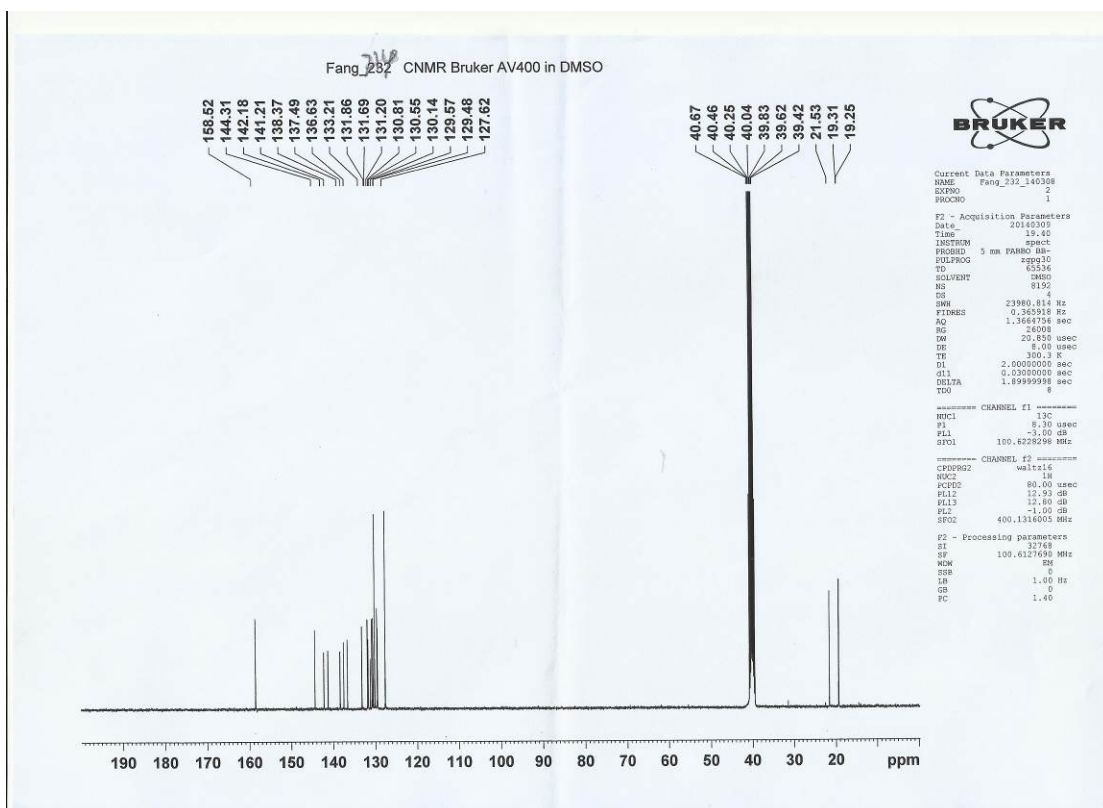
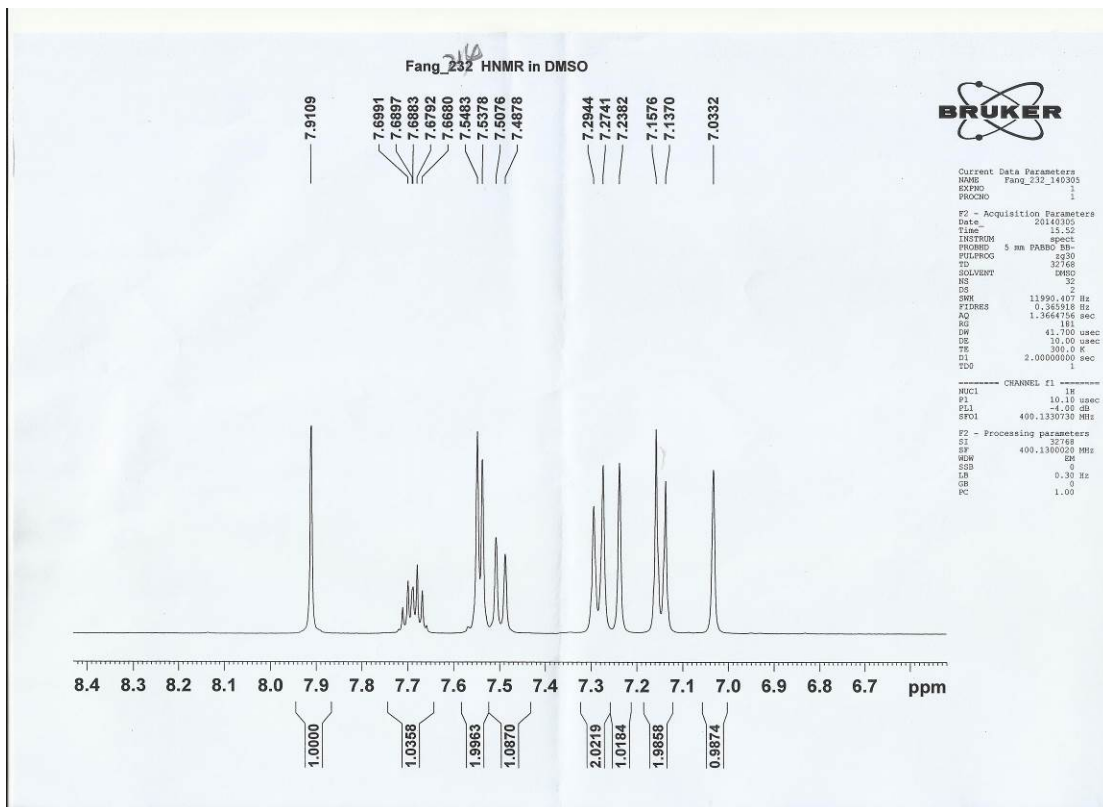
===== CHANNEL f2 =====  
CPOBPG2 waltz16  
NUC2 1H  
PCPD2 88.00 usec  
PL2 12.93 dB  
PL13 12.80 dB  
PL2 -1.00 dB  
SFO2 400.1316005 MHz

F2 - Processing parameters  
SI 32768  
SF 100.6127690 MHz  
MW 0  
SFB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

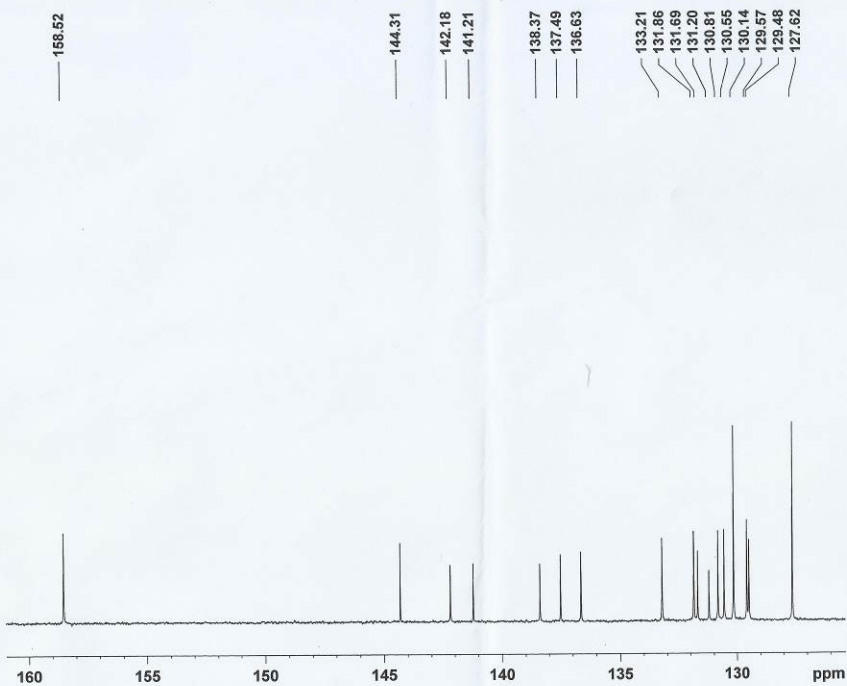


Sample Name	2013-1223-Fang-214	Position	P1-D5	Instrument Name	Instrument 1	User Name	
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	2013-1223-Fang-214.d	ACQ Method	0103.m	Comment		Acquired Time	12/24/2013 7:31:59 AM





Fang\_232 CNMR Bruker AV400 in DMSO



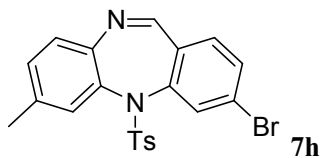
Current Data Parameters  
 NAME Fang\_232\_140309  
 EXPRNO 2  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140309  
 Time 19.40  
 INSTRUM spect  
 PROBHD 5 mm F400 H1  
 PULPROG zgpg30  
 TD 65536  
 SOLVENT DMSO  
 NS 8192  
 DS 4  
 SMI 23980.914 Hz  
 FIDRES 0.365918 Hz  
 AQ 1.3664756 sec  
 RG 26008  
 DW 20.850 usec  
 DE 8.00 usec  
 TE 300.3 K  
 D1 2.0000000 sec  
 d11 0.0300000 sec  
 DELTA 1.8999998 sec  
 TDD 8

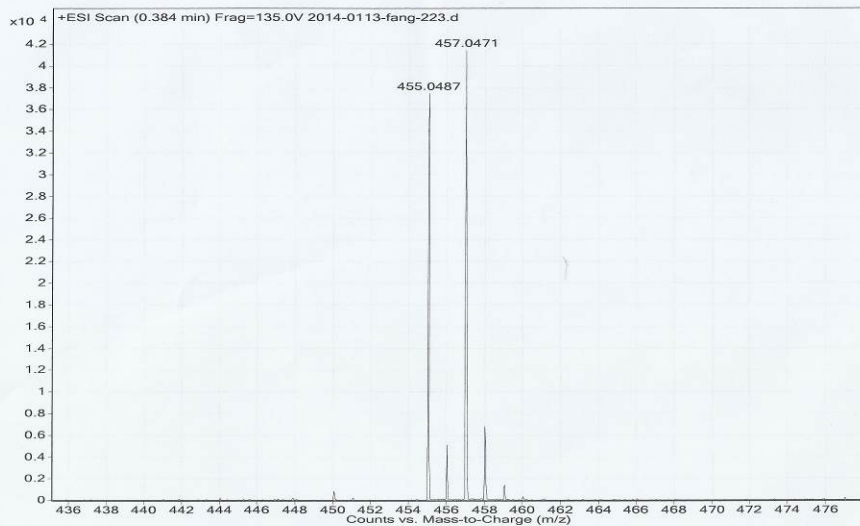
----- CHANNEL f1 -----  
 NUCL1 13C  
 P1 8.30 usec  
 PL1 -3.00 dB  
 SFO1 100.6228298 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUCL2 1H  
 PCPD2 80.00 usec  
 PL12 12.92 dB  
 PL13 12.80 dB  
 PL2 -1.00 dB  
 SFO2 400.1316005 MHz

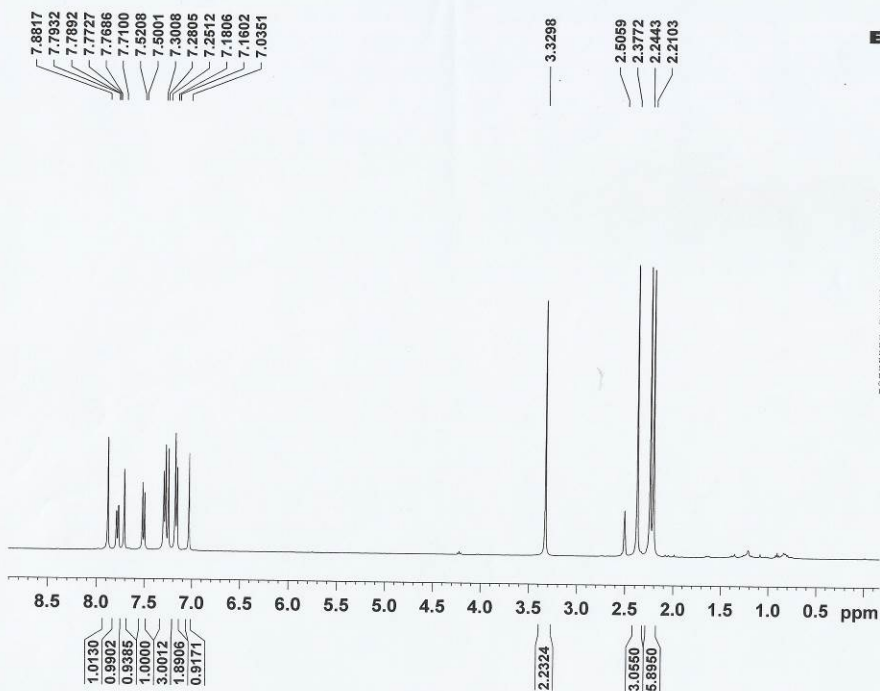
F2 - Processing parameters  
 SI 32768  
 SF 100.6127690 MHz  
 MDW 68  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40



Sample Name	2014-0113-fang-223	Position	P1-A3	Instrument Name	Instrument 1	User Name	
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	2014-0113-fang-223.d	ACQ Method	0103.m	Comment		Acquired Time	1/13/2014 10:57:24 AM



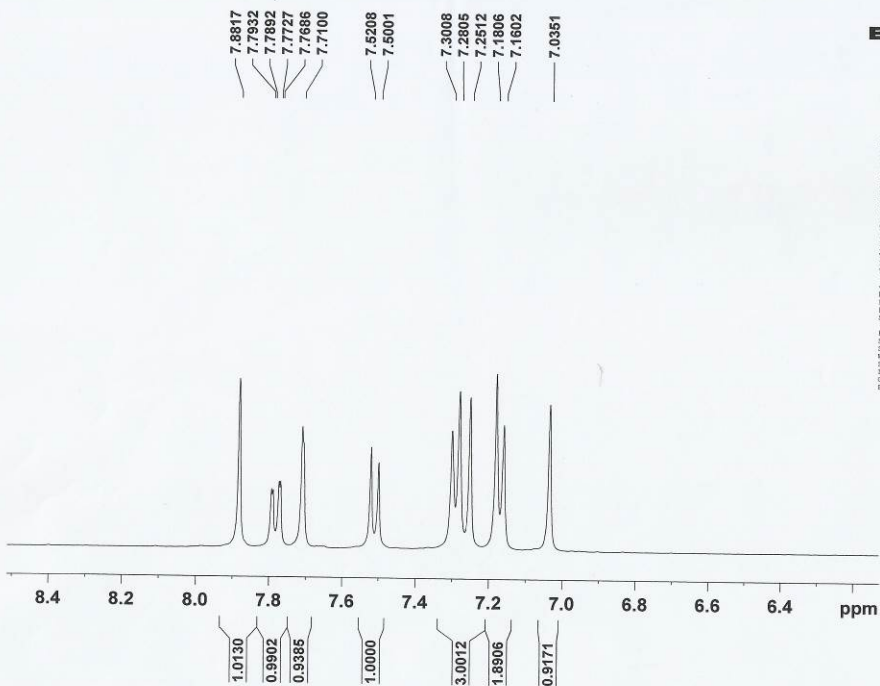
Fang\_223 HNMR Bruker AV400 in DMSO



Fang\_223 HNMR Bruker AV400 in DMSO



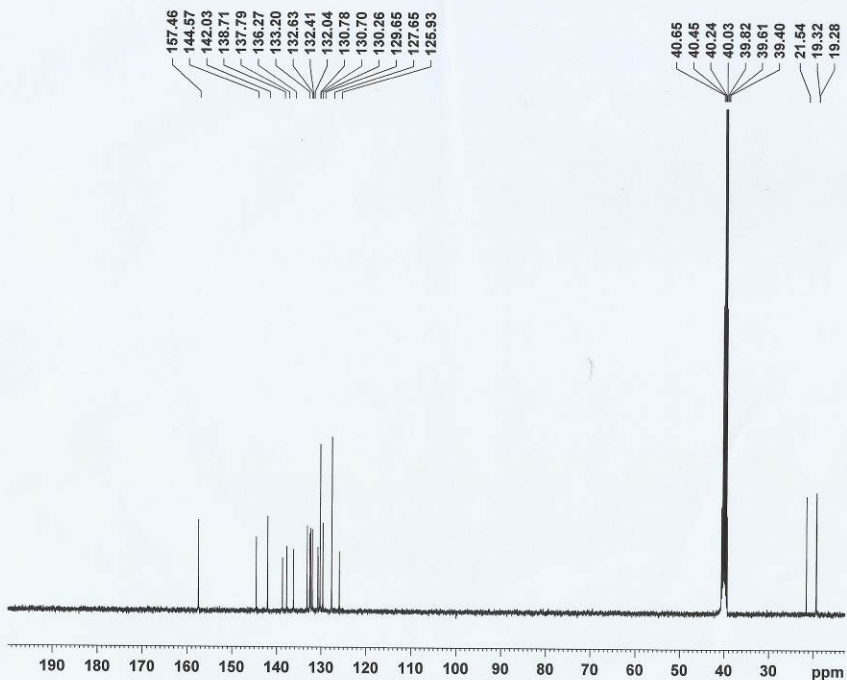
Current Data Parameters  
 NAME Fang\_223\_140113  
 EXPNO 1  
 PROCNO 1  
 F2 - Acquisition Parameters  
 Date\_ 20140114  
 Time 9:36  
 INSTRUM spect  
 PRBHD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 32768  
 SFO 400.130002  
 SOLVENT DMSO  
 NS 14  
 DS 2  
 SWH 11990.407 Hz  
 FIDRES 0.364918 Hz  
 AQ 1.3664756 sec  
 RG 128  
 DW 41.700 usec  
 DE 10.00 usec  
 TE 298.3 K  
 D1 2.00000000 sec  
 T2 1  
 ----- CHANNEL f1 -----  
 NUC1 1H  
 P1 10.10 usec  
 PL1 -1.00 dB  
 SFO1 400.130010 MHz  
 F2 - Processing parameters  
 SI 32768  
 SF 400.130002 MHz  
 WF 0  
 SSB 0  
 GB 0  
 PC 1.00



Fang\_223 CNMR Bruker AV400 in DMSO

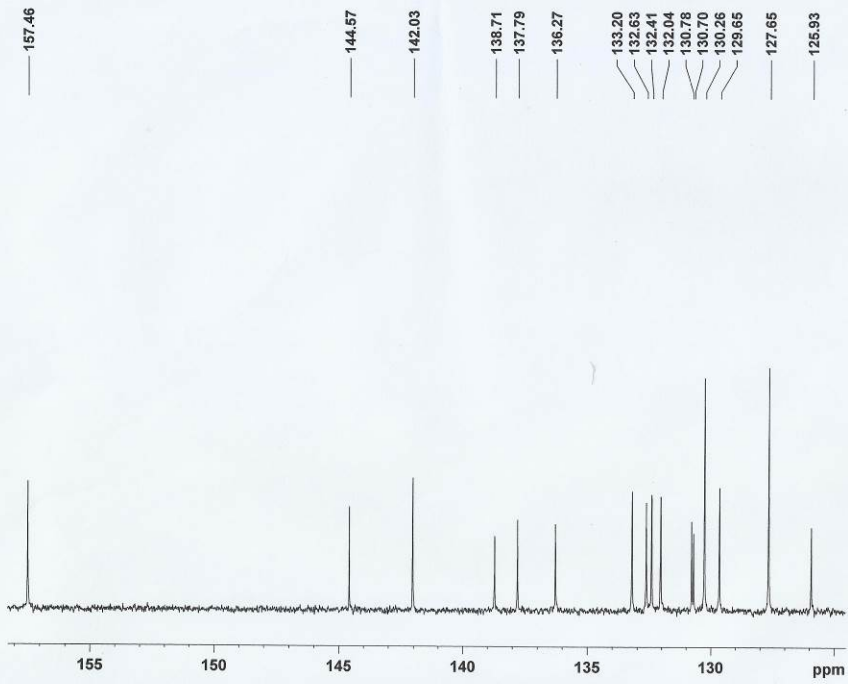


Current Data Parameters  
 NAME Fang\_223\_140113  
 EXPNO 1  
 PROCNO 1  
 F2 - Acquisition Parameters  
 Date\_ 20140114  
 Time 9:51  
 INSTRUM spect  
 PRBHD 5 mm PABBO BB-  
 PULPROG zgpg30  
 TD 65536  
 SFO 100.626299  
 SOLVENT DMSO  
 NS 769  
 DS 2  
 SWH 23980.814 Hz  
 FIDRES 0.165918 Hz  
 AQ 1.3664756 sec  
 RG 128  
 DW 23170.3 usec  
 DE 20.850 usec  
 TE 298.3 K  
 D1 2.00000000 sec  
 D11 0.01000000 sec  
 DELTA 1.89999999 sec  
 T2 1  
 ----- CHANNEL f1 -----  
 NUC1 13C  
 P1 8.00 usec  
 PL1 -3.00 dB  
 SFO1 100.626299 MHz  
 ----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 SFO2 400.130010 MHz  
 PL12 12.93 dB  
 PL13 12.00 dB  
 PL2 -1.00 dB  
 SFO2 400.1316025 MHz  
 F2 - Processing parameters  
 SI 65536  
 SF 100.6127690 MHz  
 WF 0  
 SSB 0  
 GB 0  
 PC 1.40





Fang\_223 CNMR Bruker AV400 in DMSO



```

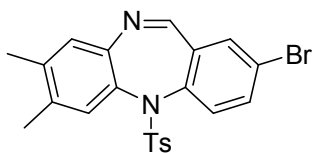
Current Data Parameters
NAME      Fang_223_140113
EXPNO    2
PROCNO   1

F2 - Acquisition Parameters
Date_    20160122
Time     9.51
INSTRUM  spect
PROBHD   5 mm PABBO 1H-
PULPROG  zgpg30
TD       65536
SOLVENT  DMSO
NS       769
DS       4
SWH      23989.814 Hz
FIDRES   0.385208 Hz
AQ       1.3664756 sec
RG       23379.5
DW       20.850 usec
DE       0.00 usec
TE       298.0 K
D1       2.0000000 sec
d11      0.0300000 sec
DELTA    1.8999998 sec
TD0      8

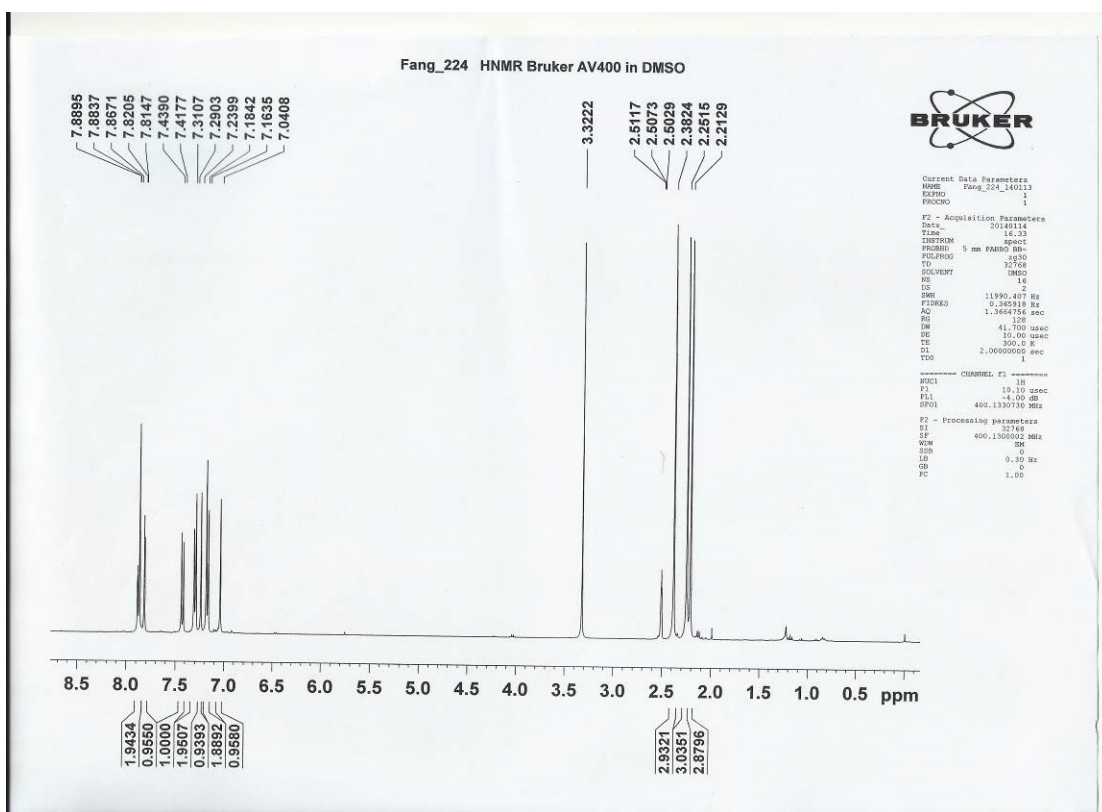
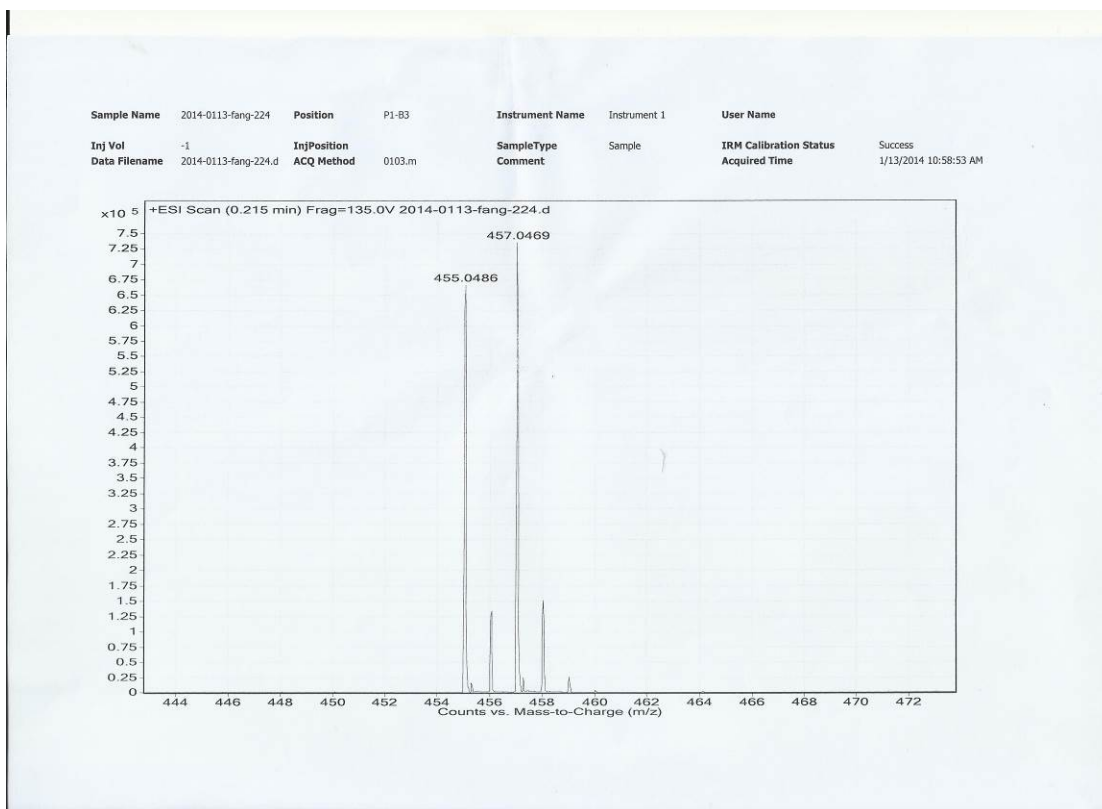
===== CHANNEL f1 =====
NUC1     13C
P1       8.30 usec
PL1      -3.00 dB
SFO1    100.626190 MHz

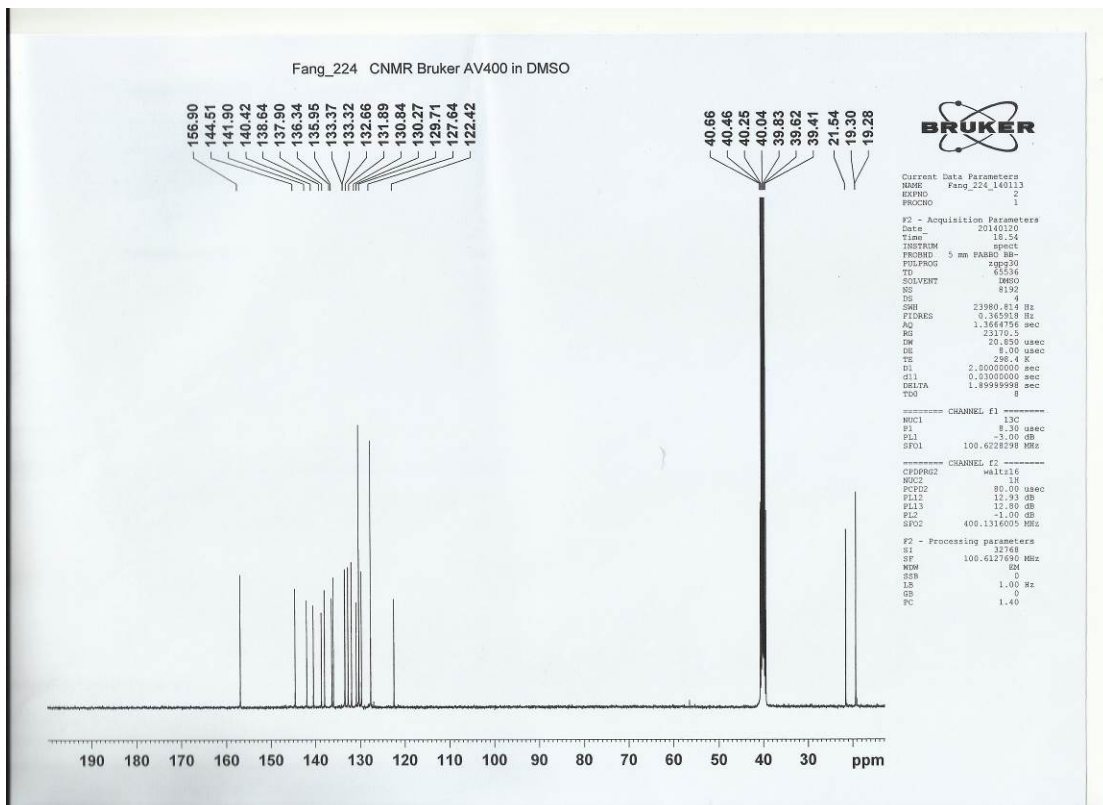
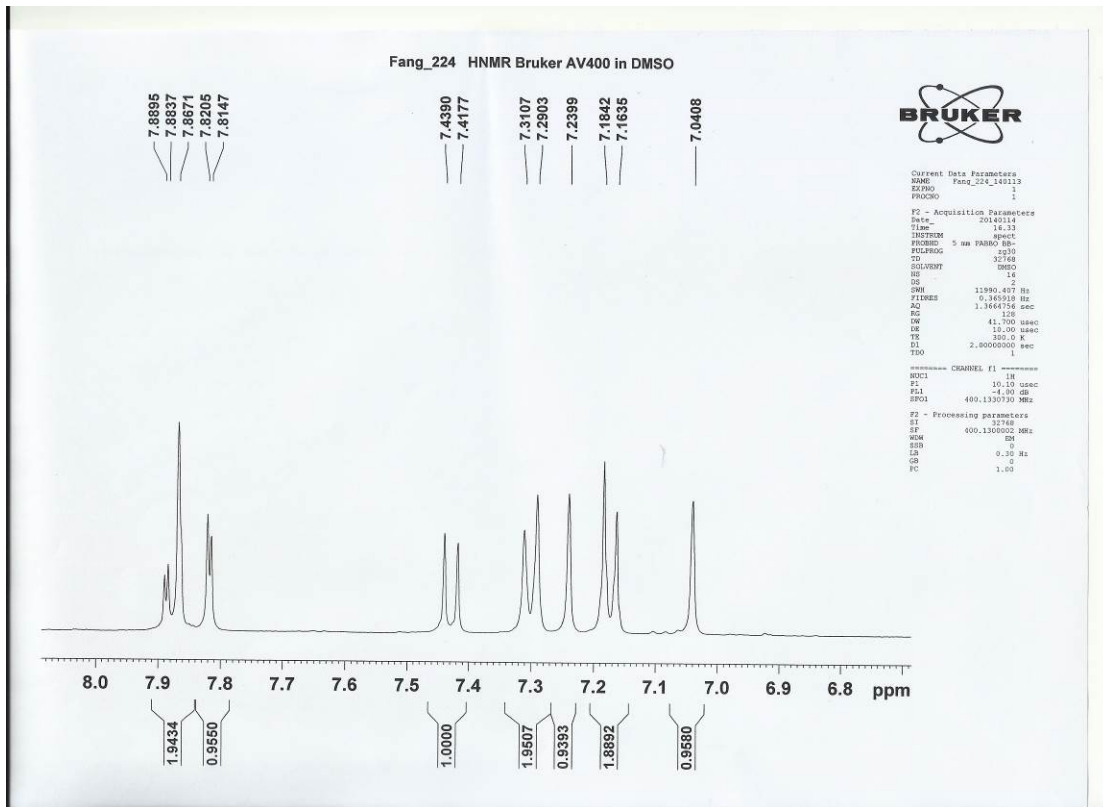
===== CHANNEL f2 =====
CPDPRG2  waltz16
NUC2     1H
PCPD2    80.00 usec
PL12     12.93 dB
PL13     12.80 dB
PL14     -1.00 dB
SFO2    400.1316095 MHz

F2 - Processing parameters
SI       32768
SF       100.6176500 MHz
WDW      EM
SSB      0
LB       1.00 Hz
GB       0
PC       1.40
    
```

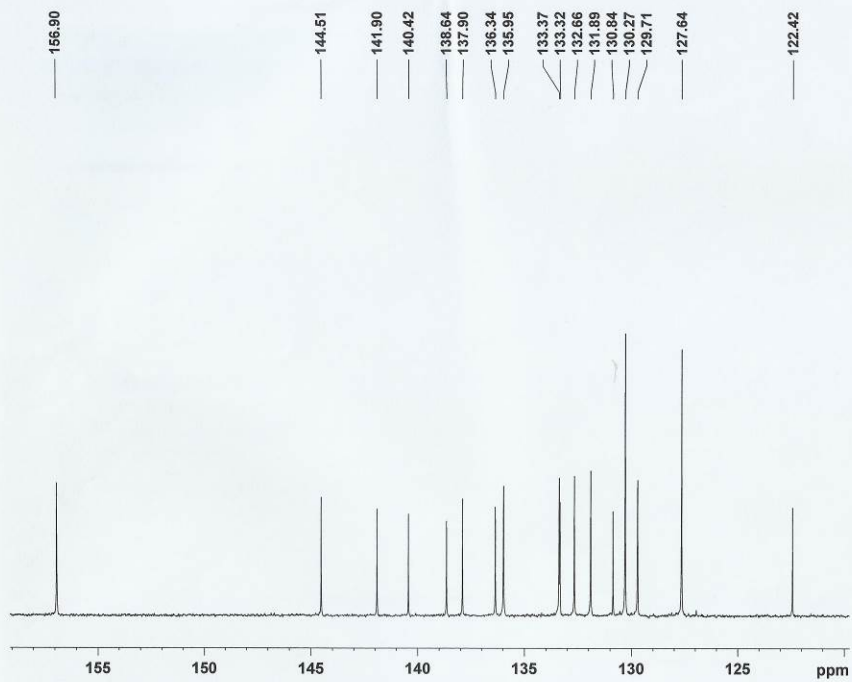


7i





Fang\_224 CNMR Bruker AV400 in DMSO



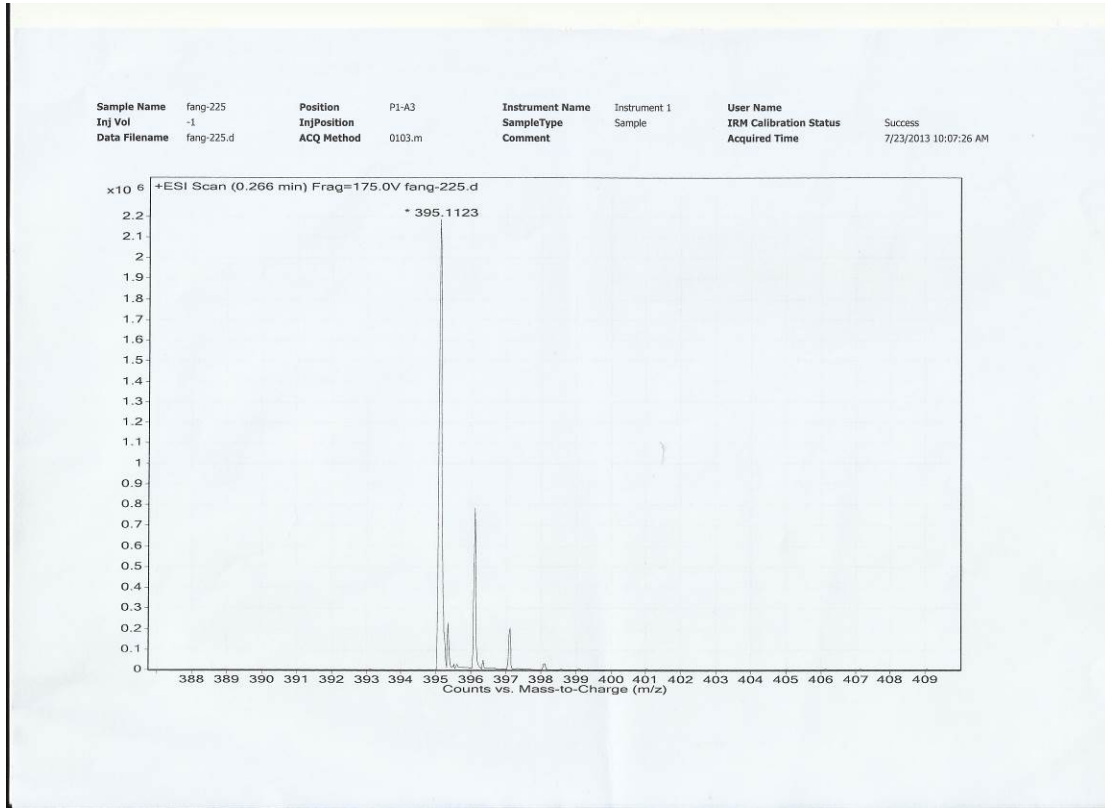
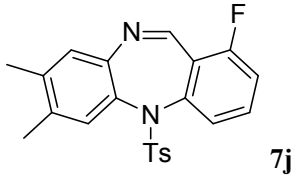
Current Data Parameters  
NAME Fang\_224\_140113  
EXPNO 2  
PROCNO 1

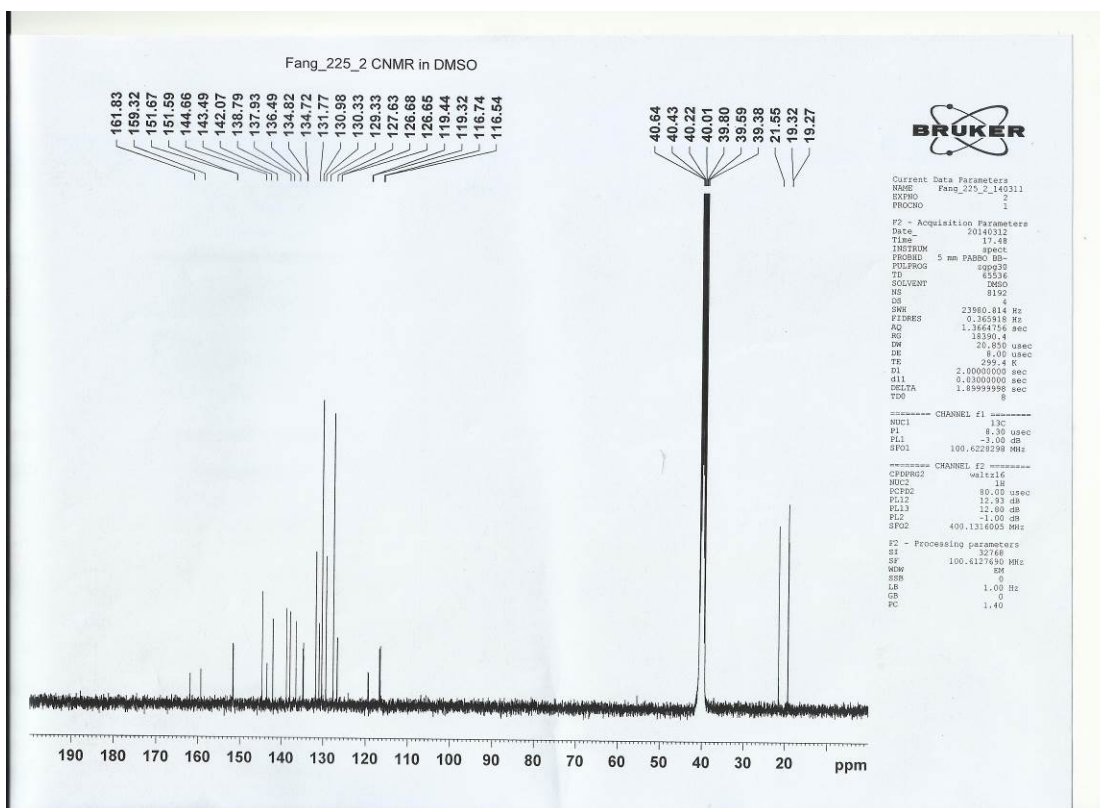
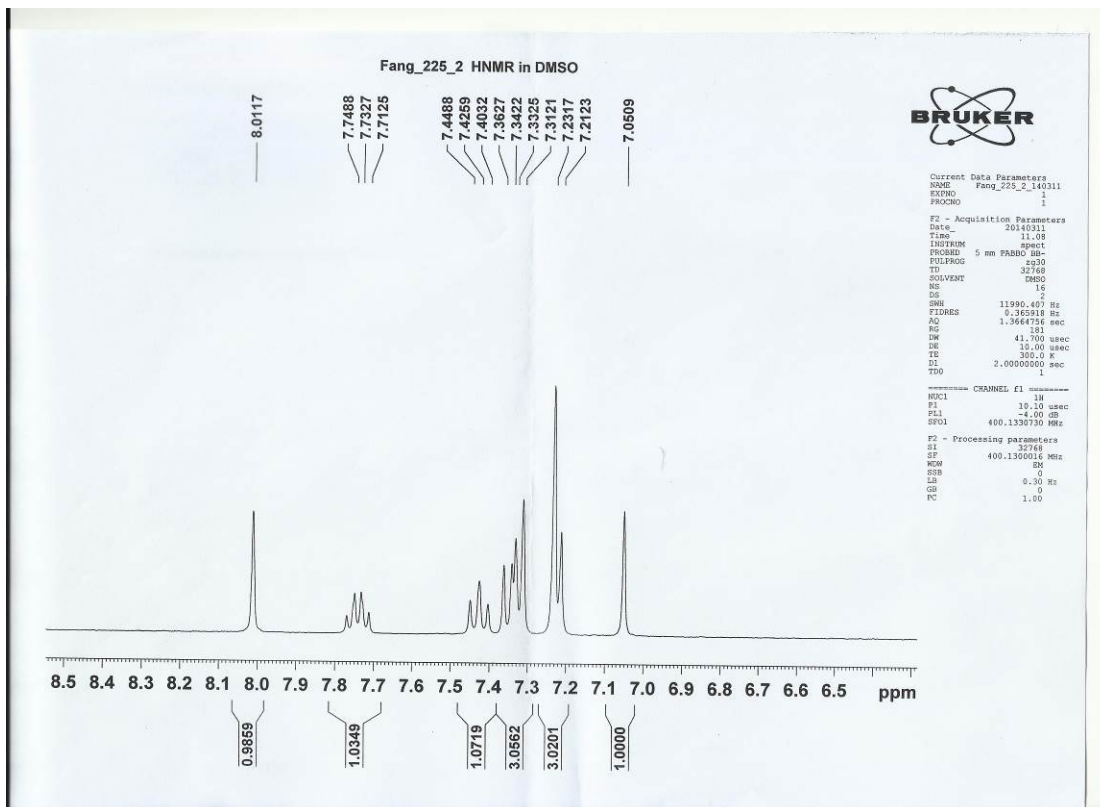
F2 - Acquisition Parameters  
Date\_ 20140120  
Time 19.54  
INSTRUM spect  
PROBHD 5 mm BBOG 1H-  
PULPROG zgpg30  
TD 65536  
SOLVENT DMSO  
NS 8192  
DS 4  
SWH 23980.014 Hz  
FIDRES 0.365508 Hz  
AQ 1.3664756 sec  
RG 23170.5  
DK 20.850 usec  
DE 8.00 usec  
TR 298.4 K  
D1 2.0000000 sec  
d11 0.0300000 sec  
DELTA 1.8999998 sec  
TD 8

===== CHANNEL f1 =====  
NUC1 13C  
P1 8.30 usec  
PL1 -3.00 dB  
SFO1 100.628256 MHz

===== CHANNEL f2 =====  
CPUPROG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL12 12.83 dB  
PL13 12.80 dB  
PL2 -1.00 dB  
SFO2 400.1318005 MHz

F2 - Processing parameters  
SI 32768  
SF 100.6187890 MHz  
KHZ 0  
L8 1.00 Hz  
GB 0  
PC 1.40





Fang\_225\_2 CNMR in DMSO



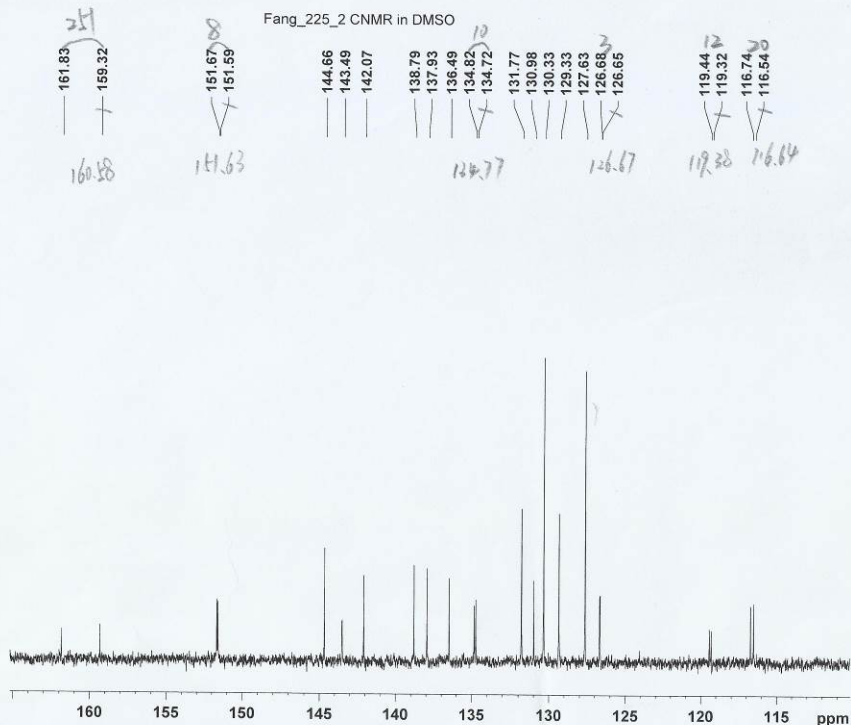
Current Data Parameters  
 NAME Fang\_225\_2\_140311  
 EXPNO 2  
 PROCNO 1

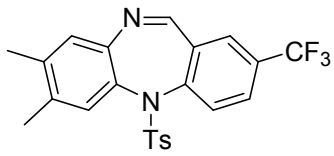
F2 - Acquisition Parameters  
 Date\_ 20140312  
 Time 17.48  
 INSTRUM spect  
 PROBRD 5 mm PABBO DB-  
 PULPROG zgpg30  
 TD 45136  
 SOLVENT DMSO  
 NS 8192  
 DS 4  
 SWH 23680.814 Hz  
 FIDRES 0.363918 Hz  
 AQ 1.3668758 sec  
 RG 48384  
 DW 20.850 usec  
 DE 8.00 usec  
 TE 293.4 K  
 Q1 2.0000000 sec  
 Q11 4.0000000 sec  
 DELTA 1.8339999 sec  
 TMS 0

----- CHANNEL F1 -----  
 NUC1 13C  
 P1 8.30 usec  
 PL1 -2.00 dB  
 SFO1 100.629299 MHz

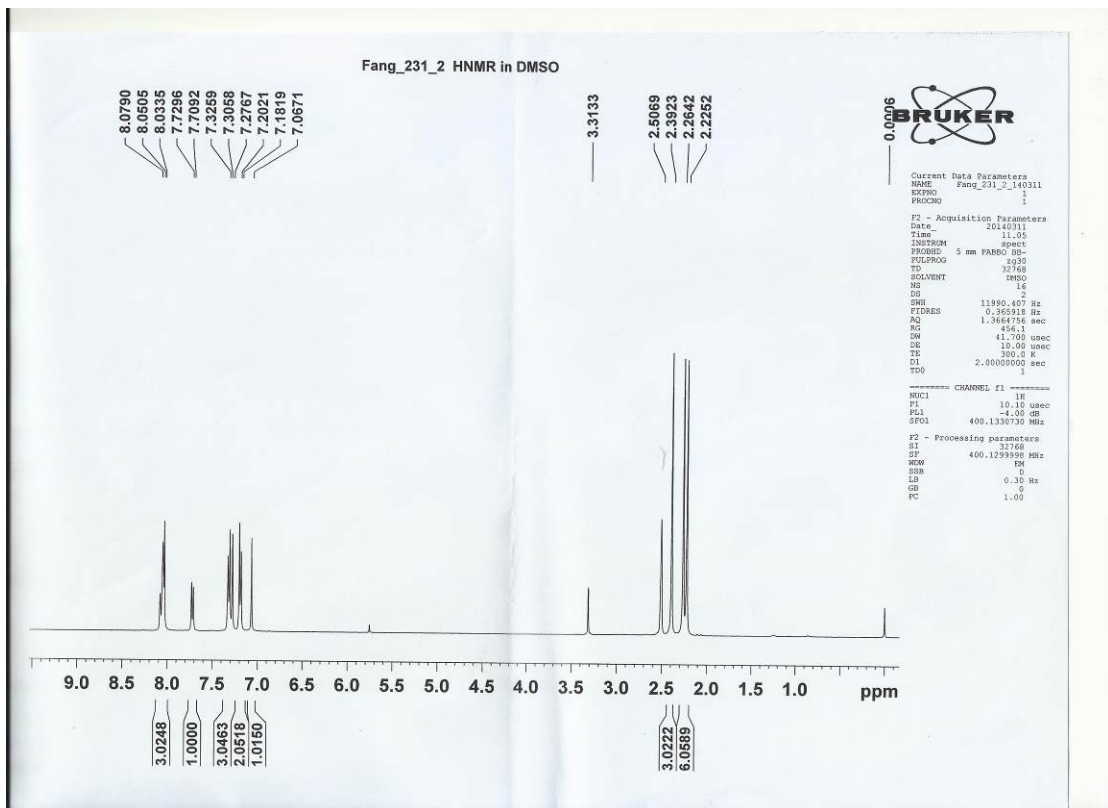
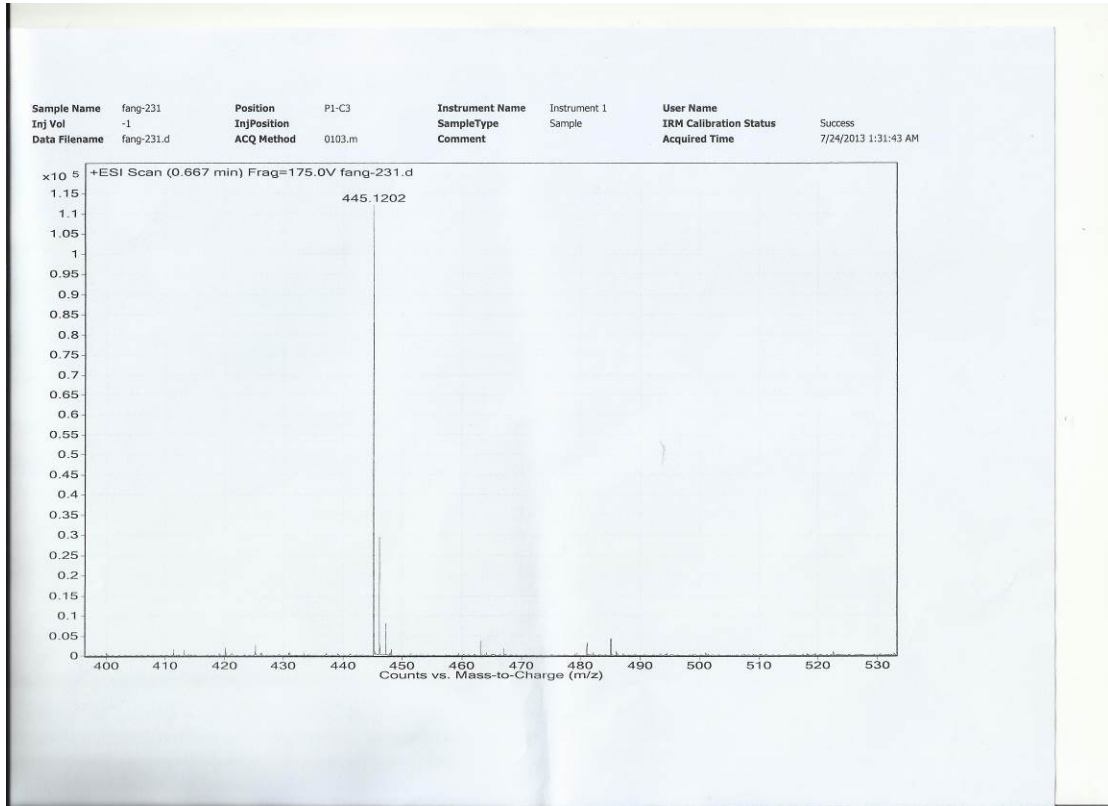
----- CHANNEL F2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 P2 80.00 usec  
 PL2 12.90 dB  
 PL12 12.80 dB  
 PL3 -1.00 dB  
 SFO2 400.1314000 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6127895 MHz  
 SD 0  
 SW 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

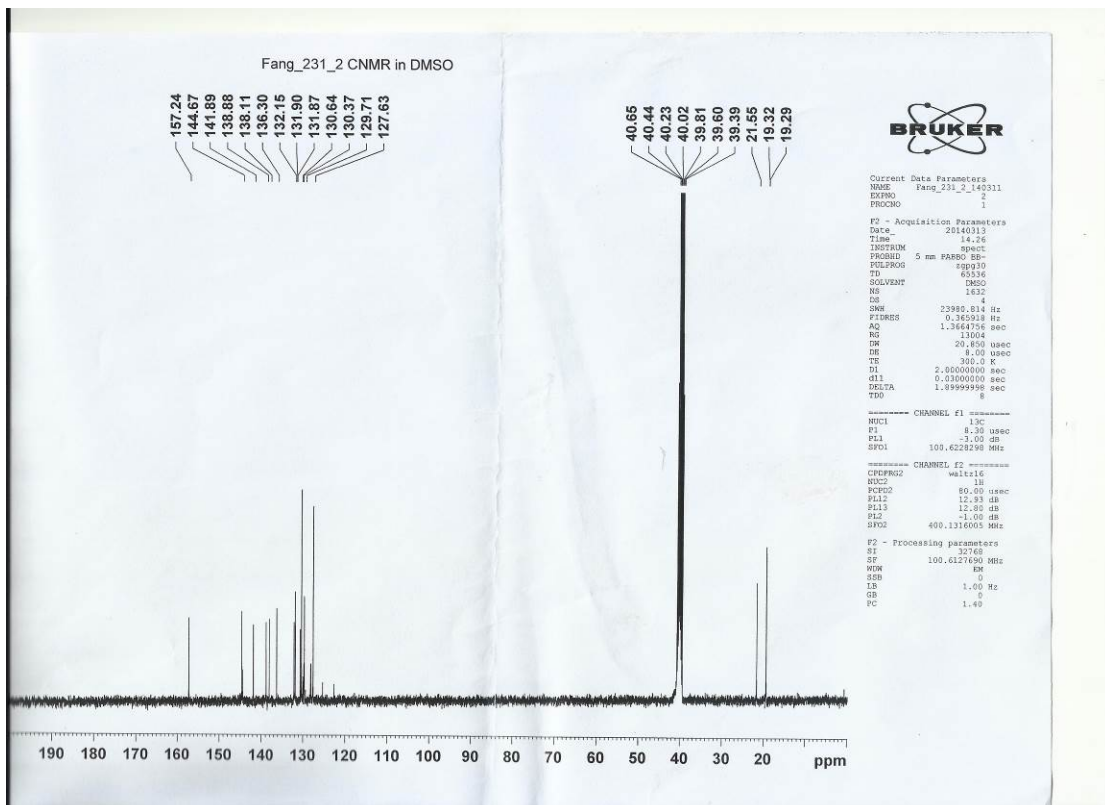
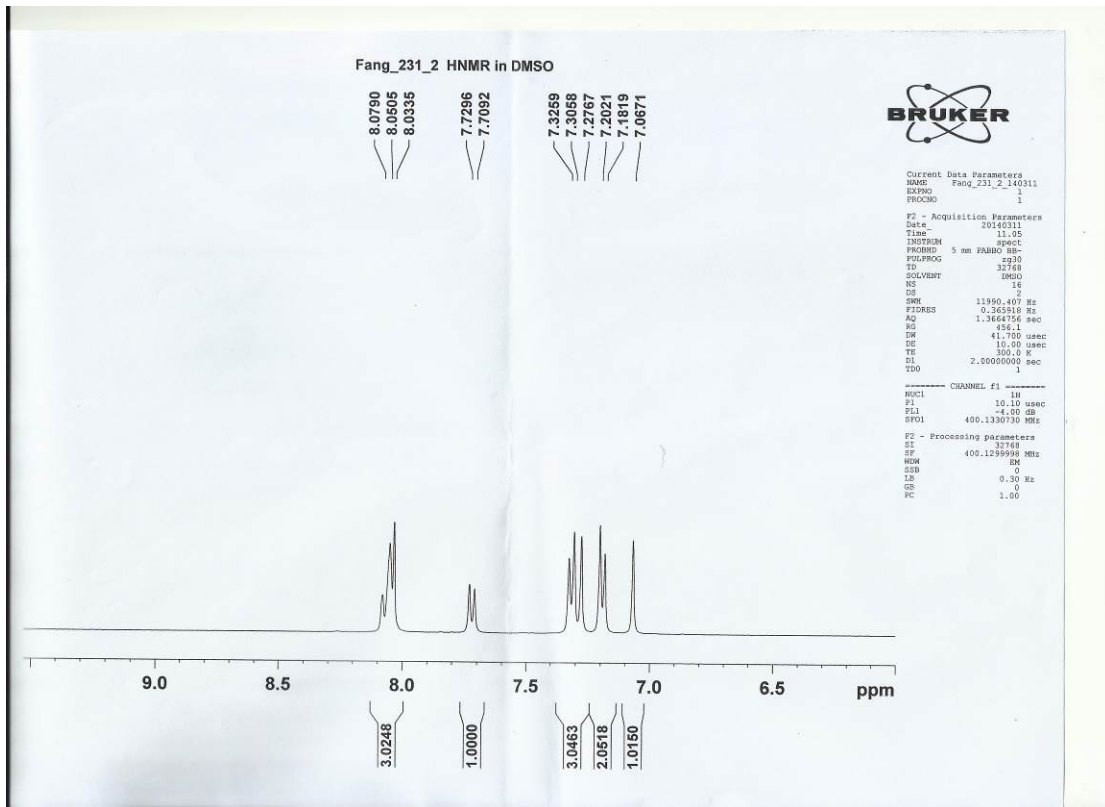




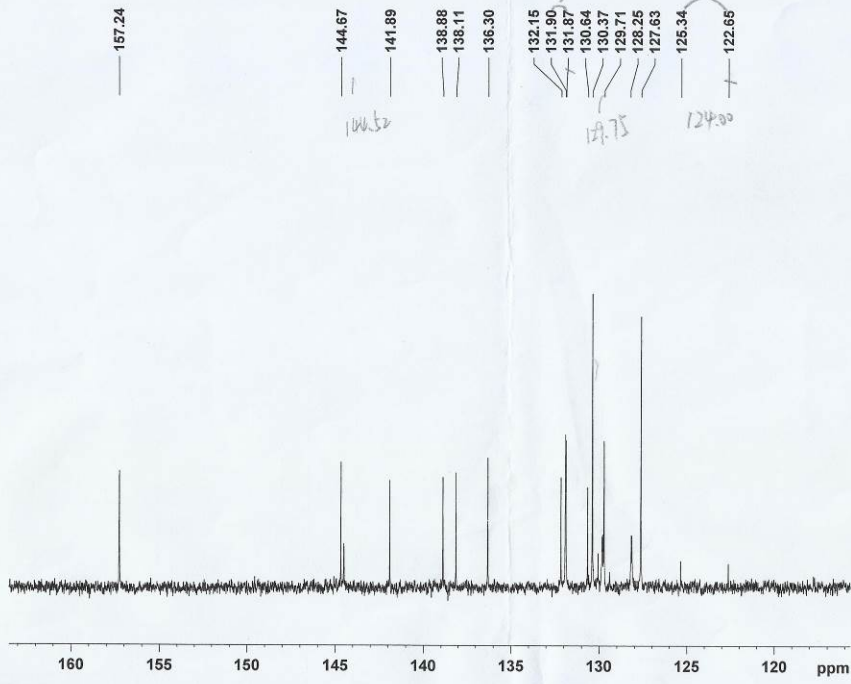
7k







Fang\_231\_2 CNMR in DMSO



```

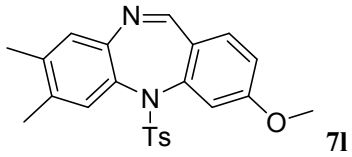
Current Data Parameters
NAME: Fang_231_2_140311
EXPNO: 2
PROCNO: 1

F2 - Acquisition Parameters
Date_: 20140311
Time: 14.26
INSTRUM: spect
PROBHD: 5 mm F400 QNP
PULPROG: zgpg30
TD: 65536
SOLVENT: DMSO
NS: 1632
DS: 4
SWH: 23980.814 Hz
FIDRES: 0.365918 Hz
AQ: 1.3664756 sec
RG: 13004
DW: 20.850 usec
DE: 8.00 usec
TE: 300.0 K
D1: 2.0000000 sec
d11: 0.0100000 sec
DELTA: 1.8999998 sec
T00: 6

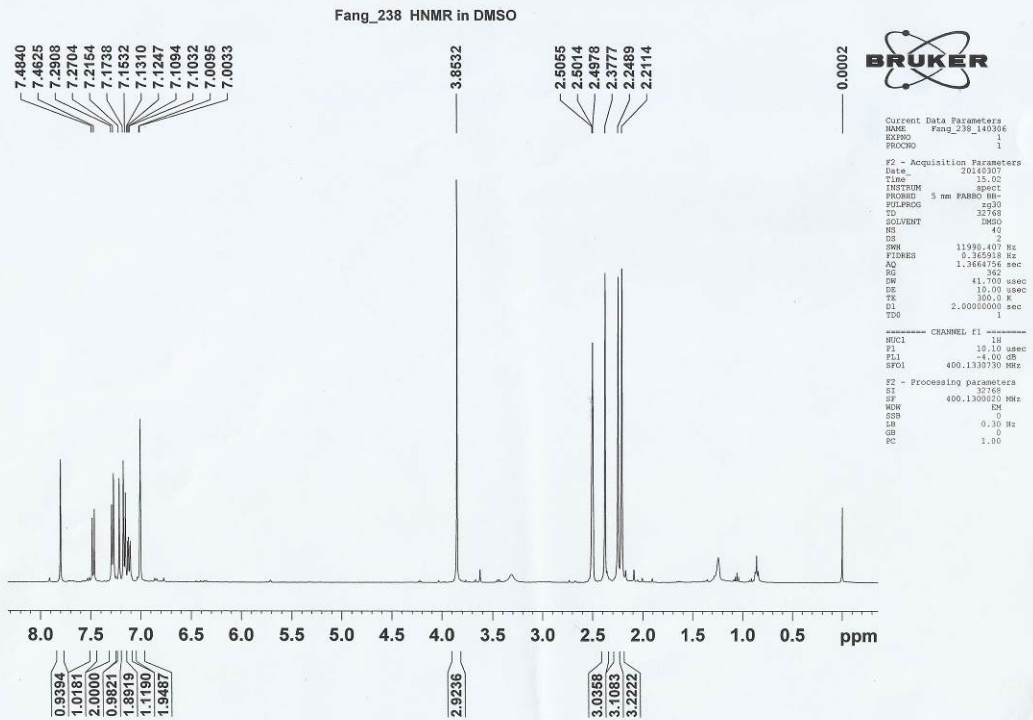
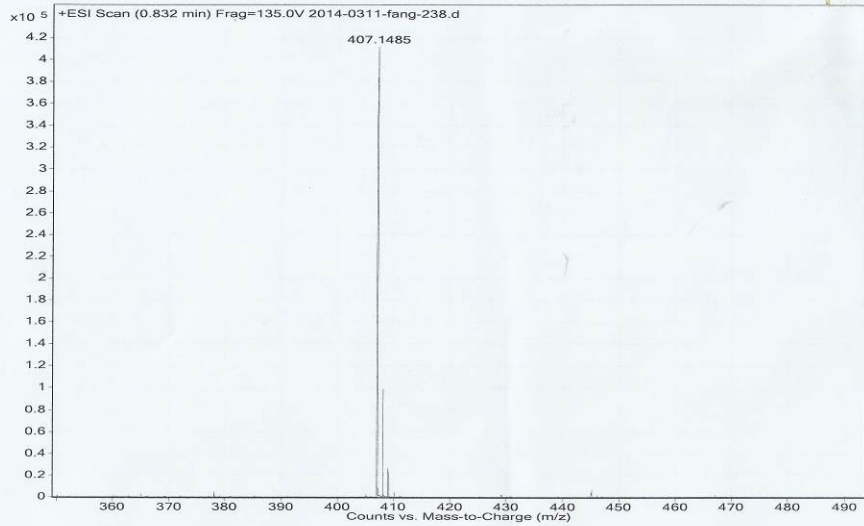
----- CHANNEL f1 -----
NUC1: 13C
P1: 8.15 usec
PL1: -3.00 dB
SFO1: 100.628498 MHz

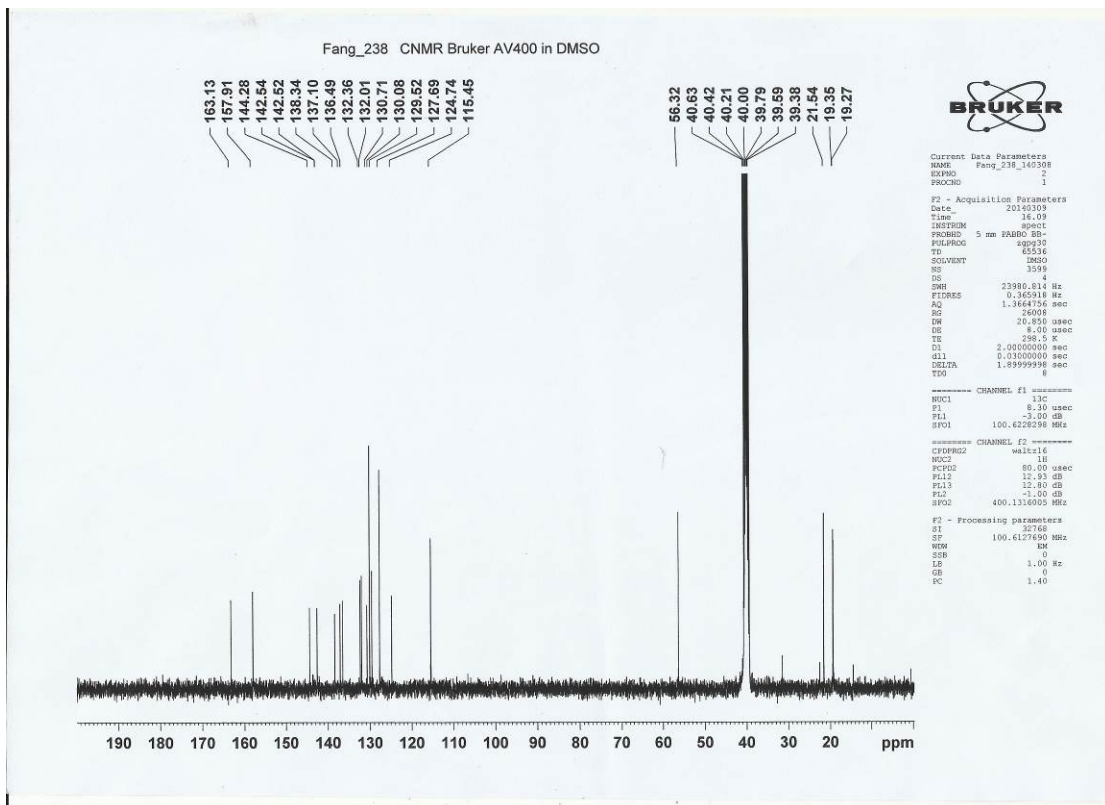
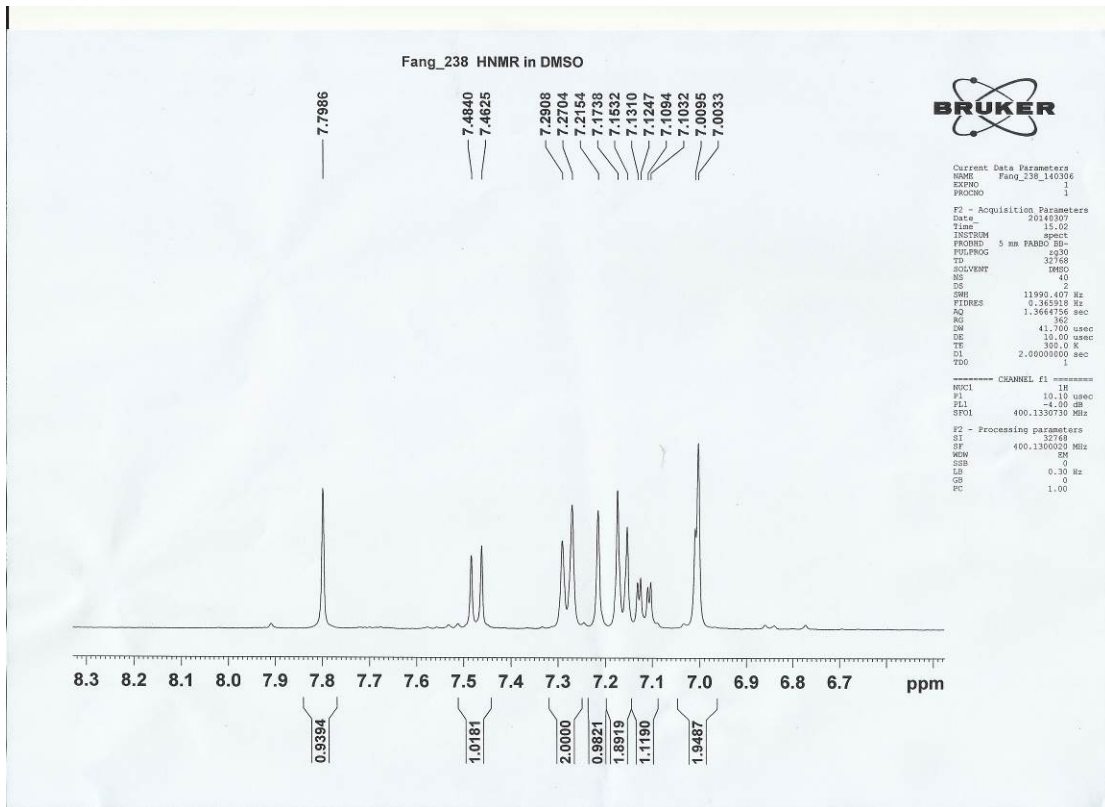
----- CHANNEL f2 -----
CPDPRG2: waltz16
NUC2: 1H
PCPD2: 86.00 usec
PL12: 12.93 dB
PL13: 12.85 dB
PL2: -1.00 dB
SFO2: 400.1514003 MHz

F2 - Processing parameters
SI: 32768
SF: 100.617690 MHz
WDW: EM
SSB: 0
LB: 1.00 Hz
GB: 0
PC: 1.40
    
```

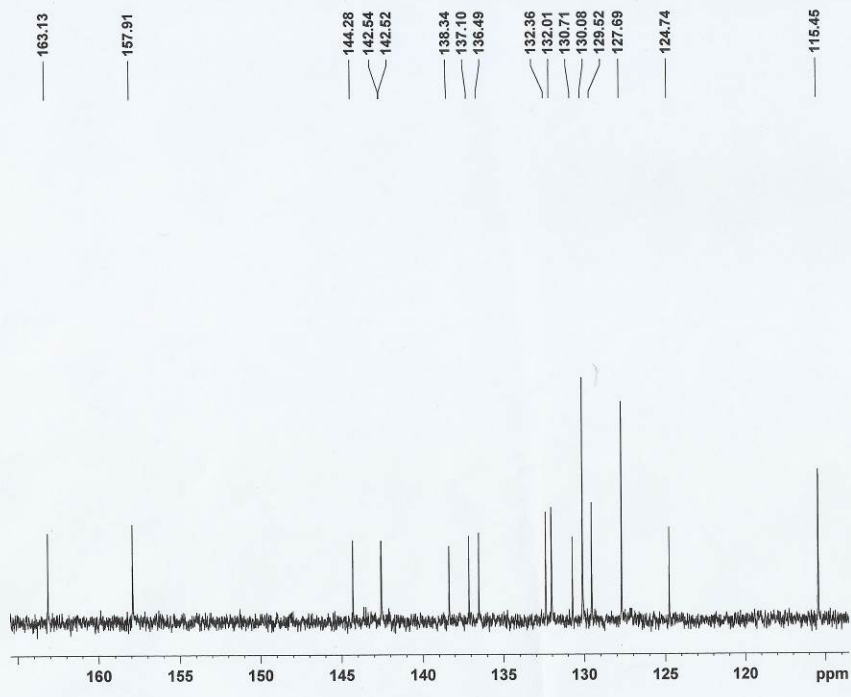


Sample Name	2014-0311-fang-238	Position	P1-B5	Instrument Name	Instrument 1	User Name	
Inj Vol	-1	InjPosition		SampleType	Sample	IRM Calibration Status	Success
Data Filename	2014-0311-fang-238.d	ACQ Method	0103.m	Comment		Acquired Time	3/11/2014 4:50:42 PM





Fang\_238 CNMR Bruker AV400 in DMSO



```

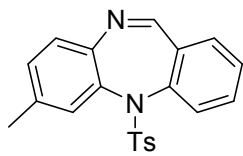
Current Data Parameters
NAME Fang_238_140308
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140309
Time 16:09
INSTRUM spect
PROBHD 5 mm WAGAO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 1599
DS 4
SWH 23960.814 Hz
FIDRES 0.365918 Hz
AQ 1.3644756 sec
RG 26008
DM 20.850 usec
DE 8.00 usec
TE 296.5 K
D1 2.0000000 sec
d11 0.0300000 sec
DELTA 1.8999998 sec
TD0 8

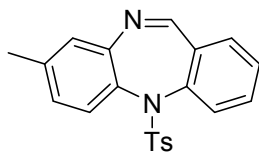
===== CHANNEL F1 =====
NUC1 13C
P1 8.00 usec
PL1 -1.80 dB
SFO1 100.6228298 MHz

===== CHANNEL F2 =====
CDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL12 12.00 dB
PL13 12.00 dB
PL2 -1.00 dB
SFO2 400.1316005 MHz

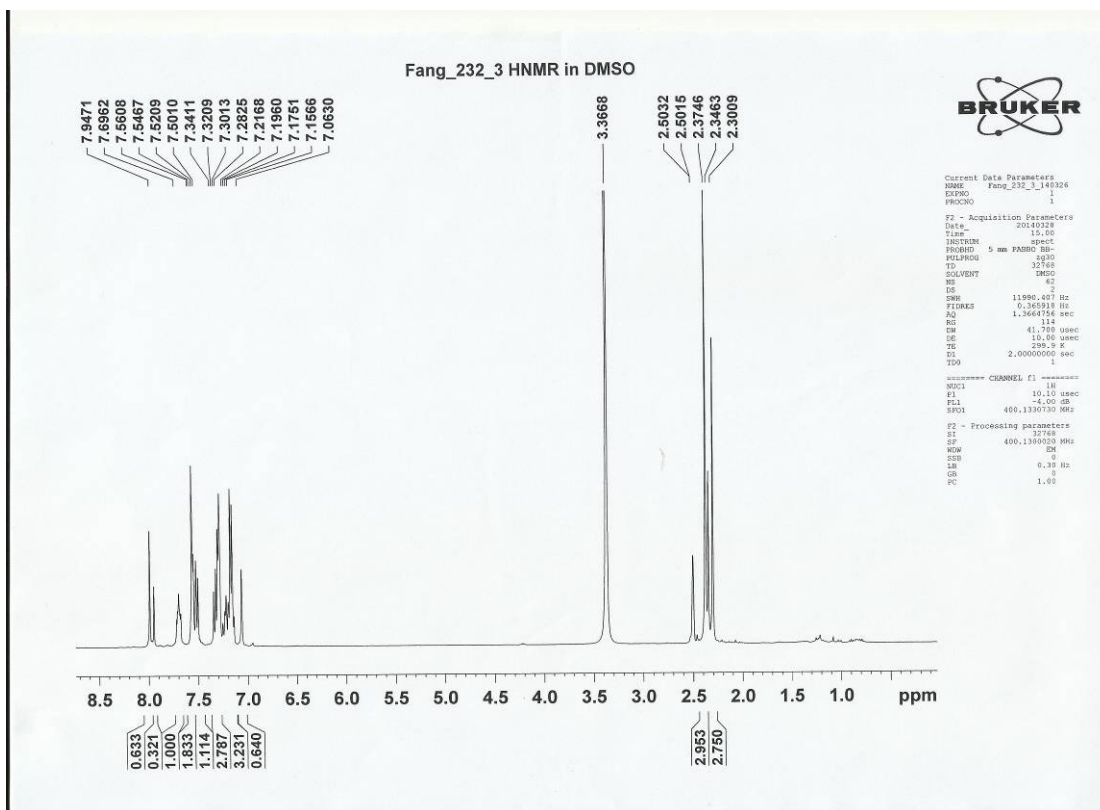
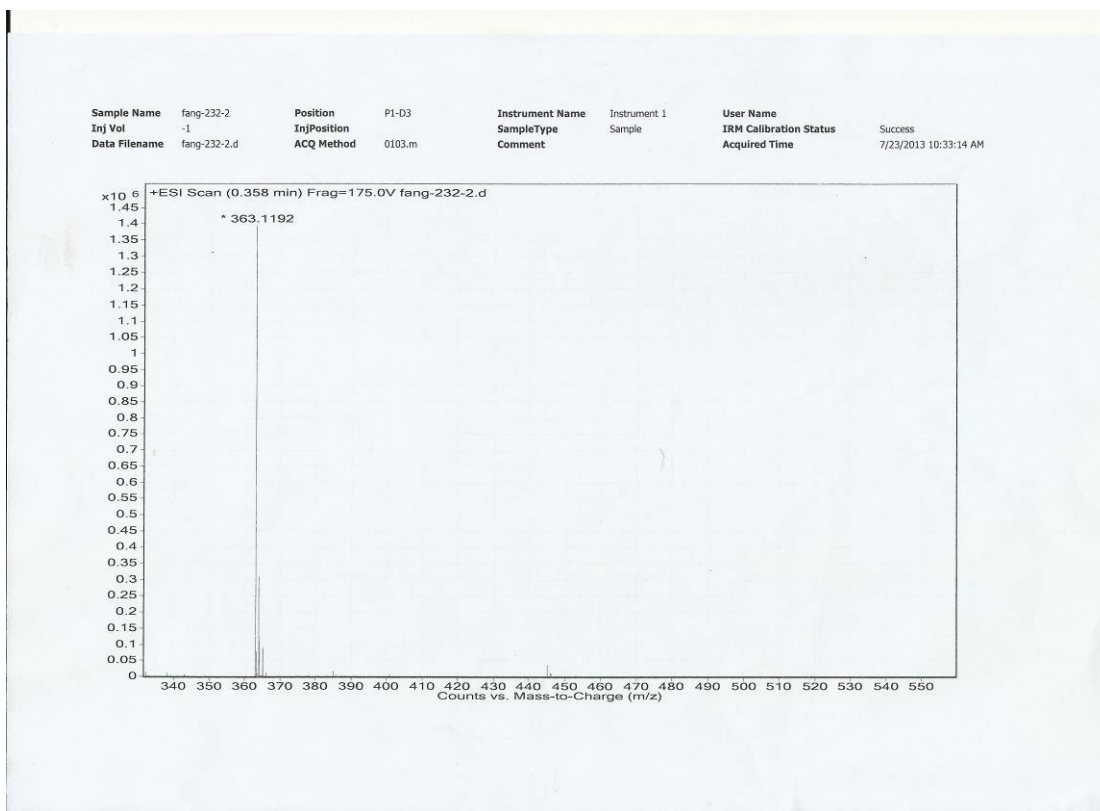
F2 - Processing parameters
SI 32768
SF 100.6127490 MHz
WDW EM
SSB 0
LA 1.00 Hz
GB 0
FC 1.40
    
```



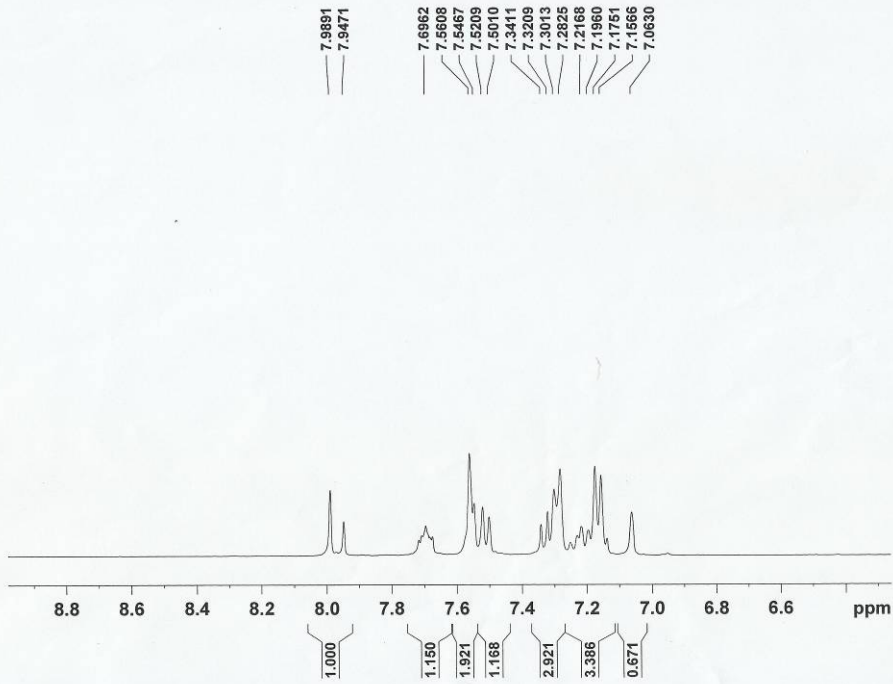
7m1



7m2



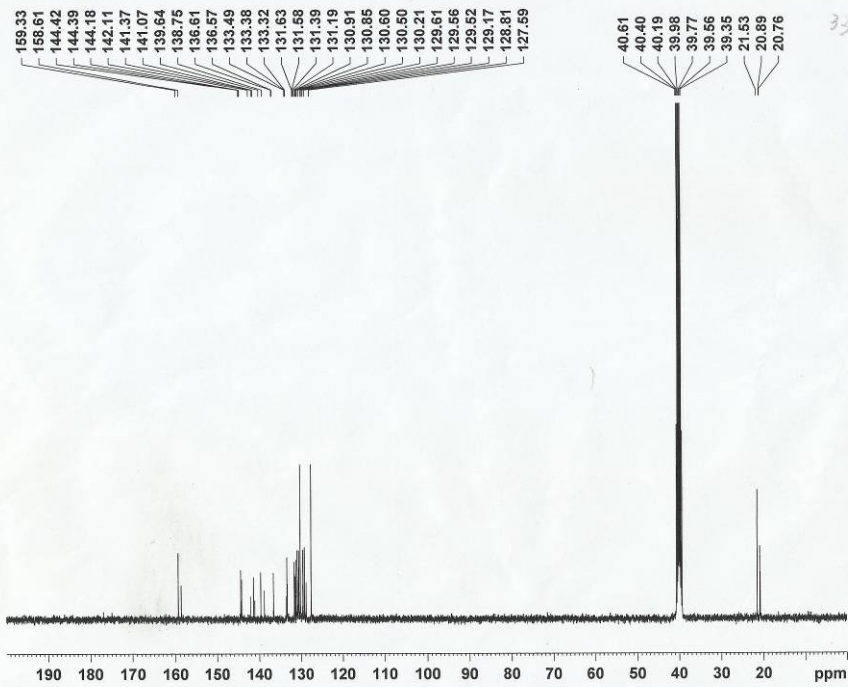
Fang\_232\_3 HNMR in DMSO



```

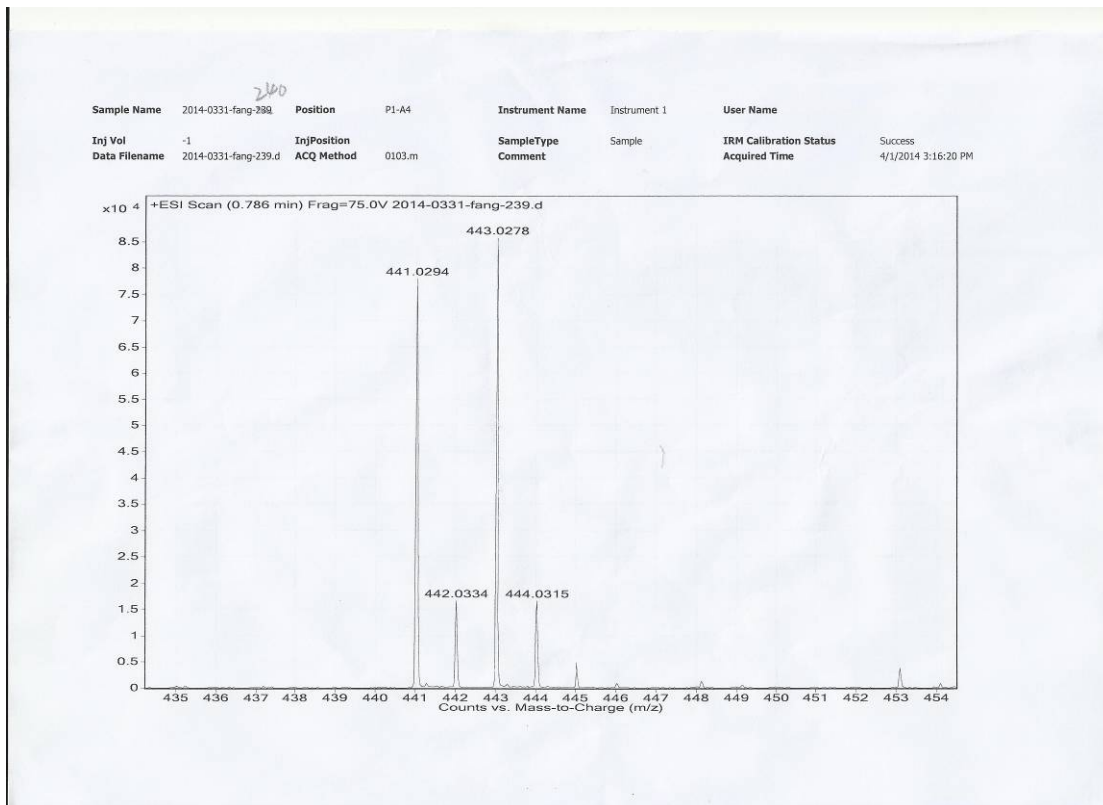
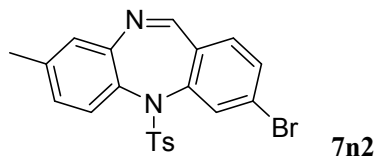
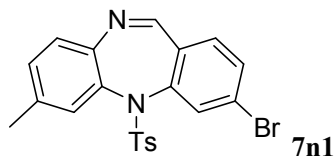
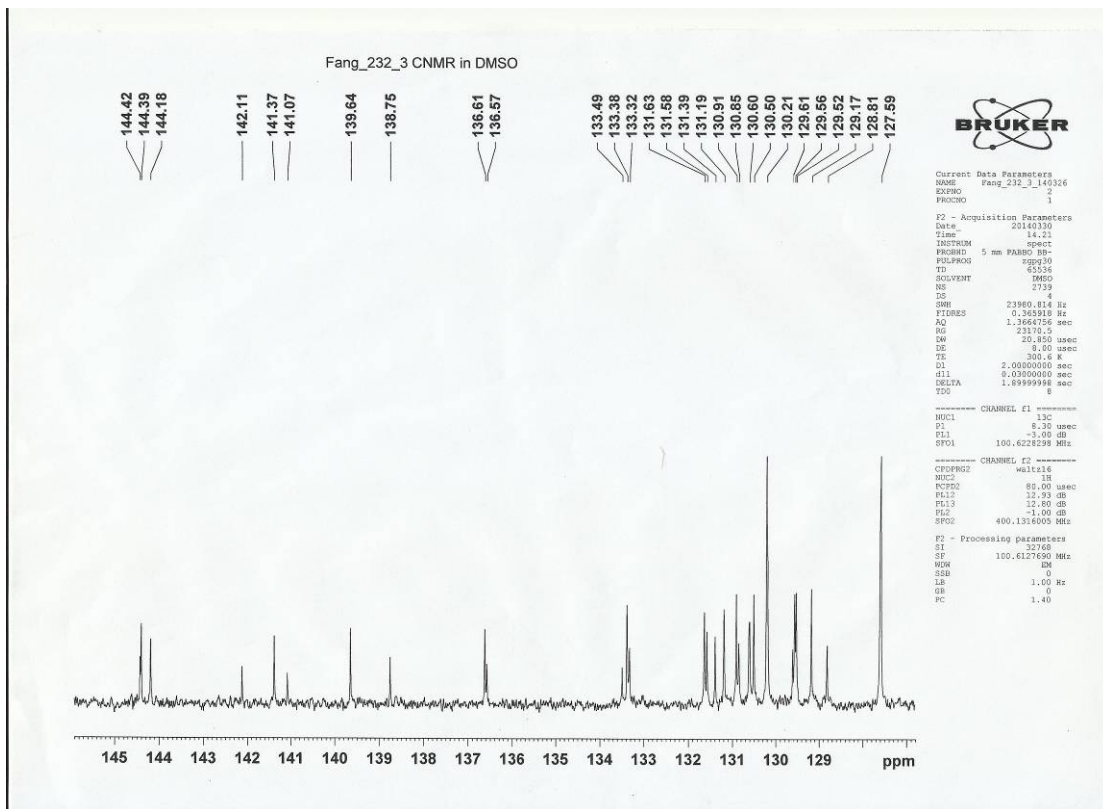
Current Data Parameters
NAME Fang_232_3_140226
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20140320
Time 13.00
INSTRUM spect
PROBHD 5 mm DABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 2739
DS 4
SWH 23980.814 Hz
FIDRES 0.365018 Hz
AQ 1.2664736 sec
RG 23170.5
DE 20.4800 usec
ER 8.00 usec
TE 300.6 K
D1 2.0000000 sec
d11 0.2000000 sec
DELTA 1.8999999 sec
TSD 0
===== CHANNEL f1 =====
NUC1 13C
P1 8.30 usec
PL1 -2.00 dB
SFO1 100.6262298 MHz
===== CHANNEL f2 =====
CHPROG2 zgpg30
NUC2 1H
PCPD2 80.00 usec
PL12 12.93 dB
PL13 12.40 dB
PL2 -1.00 dB
SFO2 400.1316005 MHz
F2 - Processing parameters
SI 32768
SF 100.6176900 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
    
```

Fang\_232\_3 CNMR in DMSO

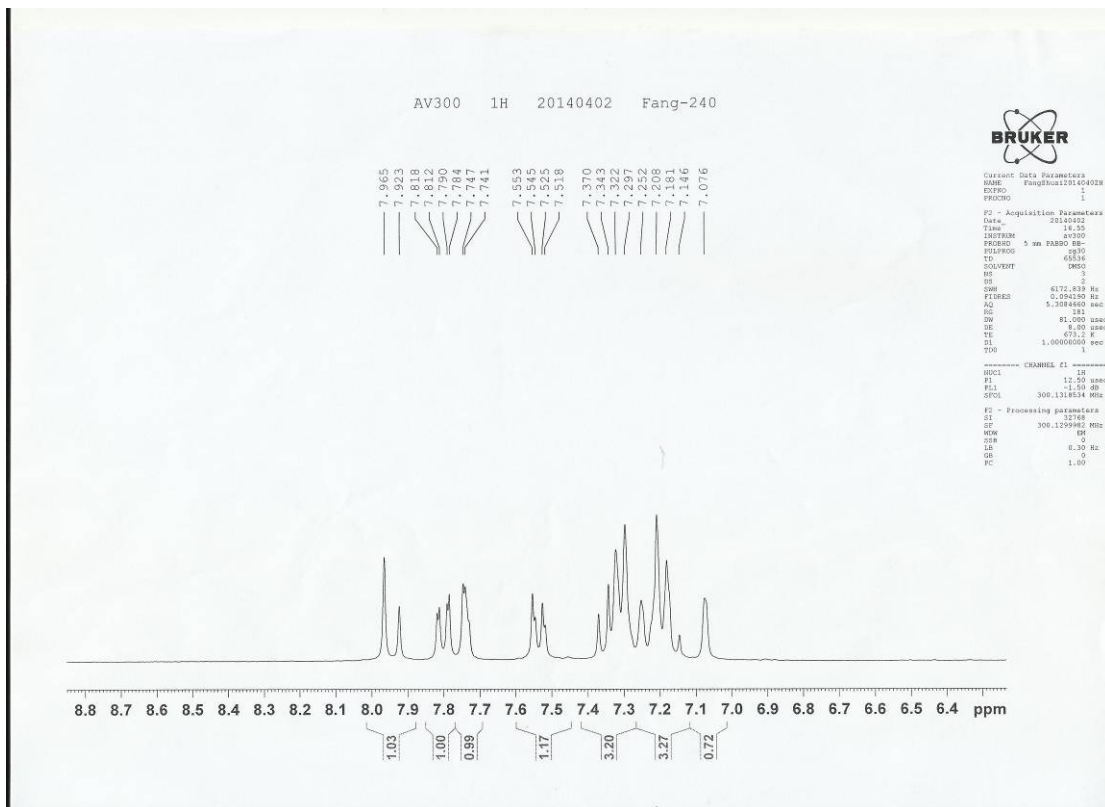
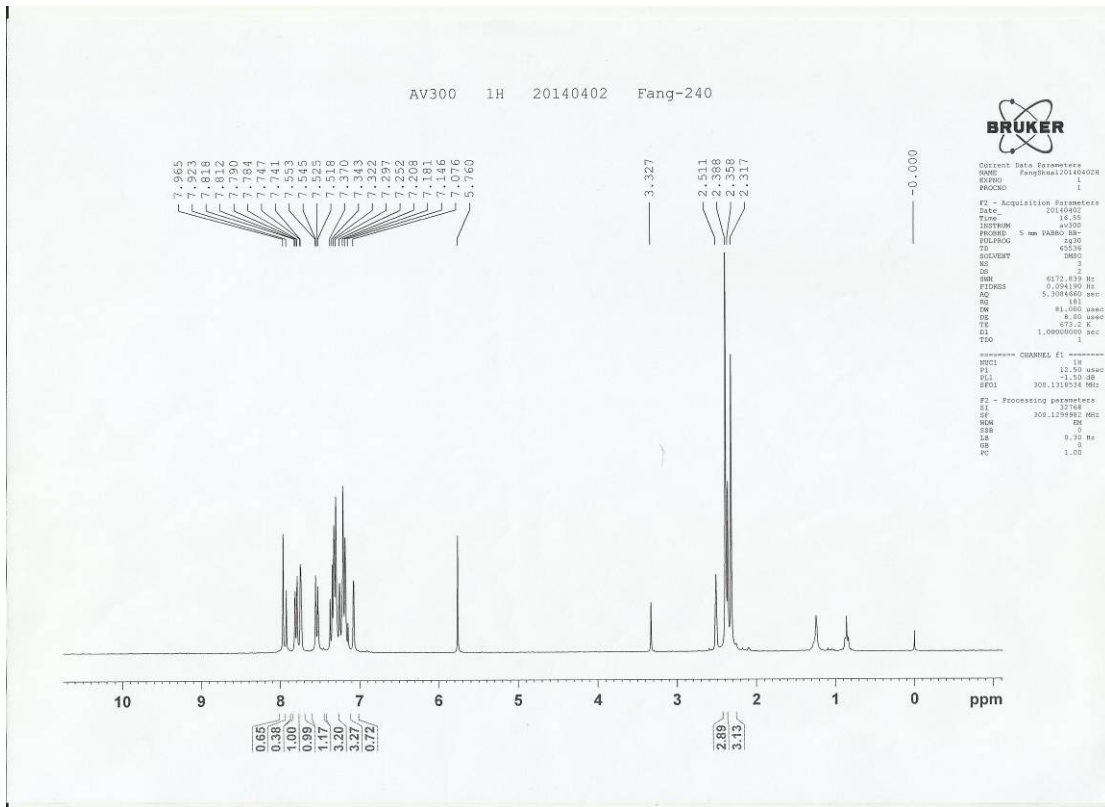


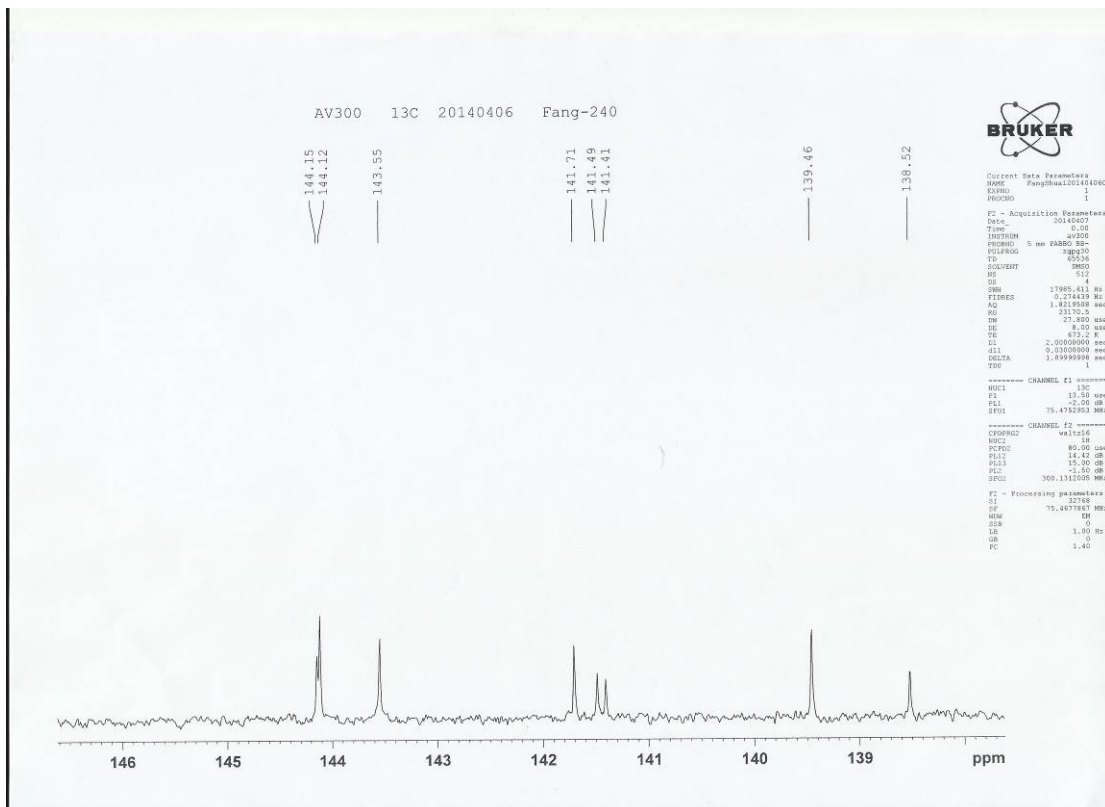
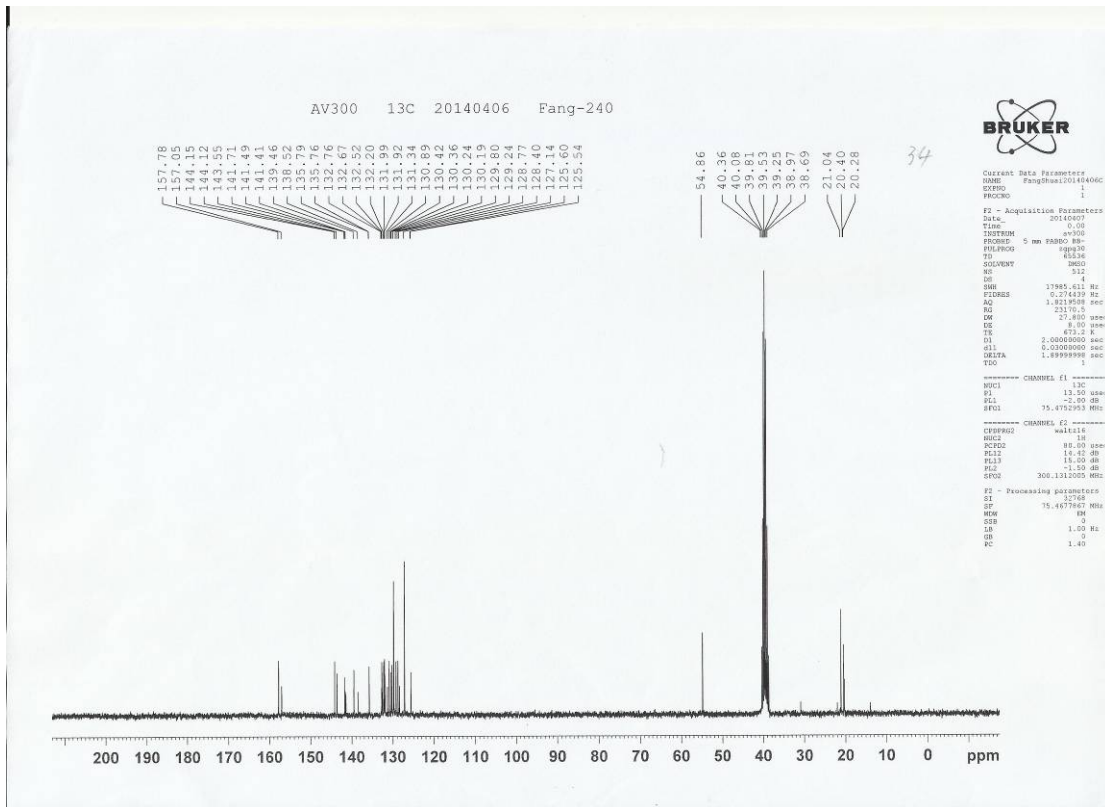
```

Current Data Parameters
NAME Fang_232_3_140226
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20140320
Time 14.21
INSTRUM spect
PROBHD 5 mm DABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 2739
DS 4
SWH 23980.814 Hz
FIDRES 0.365018 Hz
AQ 1.2664736 sec
RG 23170.5
DE 20.4800 usec
ER 8.00 usec
TE 300.6 K
D1 2.0000000 sec
d11 0.2000000 sec
DELTA 1.8999999 sec
TSD 0
===== CHANNEL f1 =====
NUC1 13C
P1 8.30 usec
PL1 -2.00 dB
SFO1 100.6262298 MHz
===== CHANNEL f2 =====
CHPROG2 zgpg30
NUC2 1H
PCPD2 80.00 usec
PL12 12.93 dB
PL13 12.40 dB
PL2 -1.00 dB
SFO2 400.1316005 MHz
F2 - Processing parameters
SI 32768
SF 100.6176900 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
    
```









AV300 13C 20140406 Fang-240



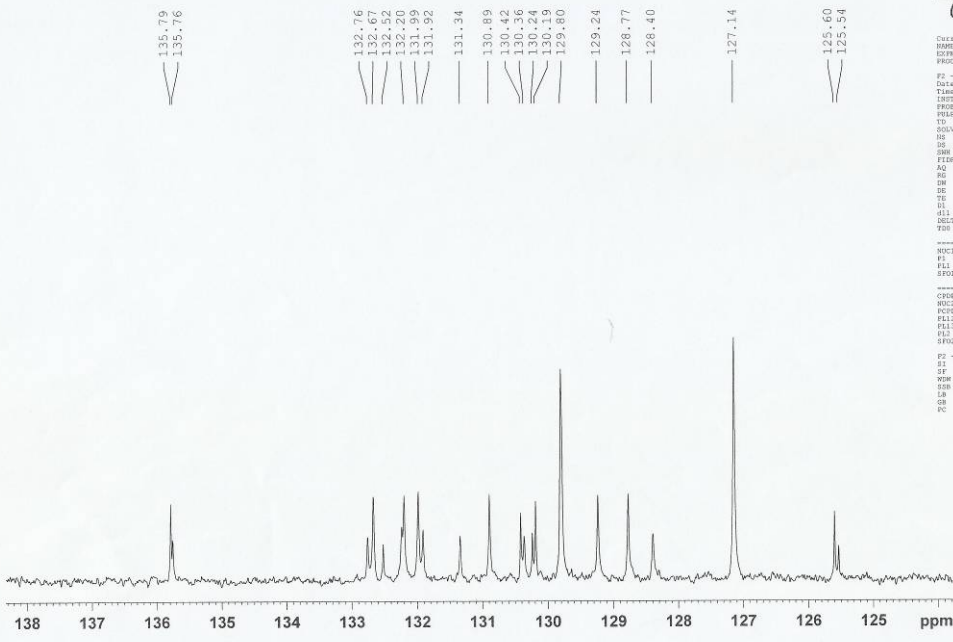
```
Current Data Parameters
NAME Fang20140406
EXPNO 1
PROCNO 1

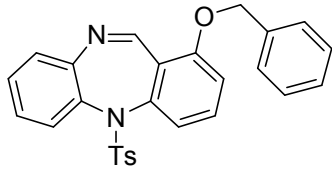
F2 - Acquisition Parameters
Date_ 20140406
Time 00.00
INSTRUM v3000
PROBHD 5 mm 13BBO BBO-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 12
DS 17882.411 Hz
SWH 17882.411 Hz
FIDRES 0.21489 Hz
AQ 1.8218558 sec
RG 221.00
SQ 71.850 usec
SM 8.00 usec
VE 671.3 K
SI 2.0000000 sec
MI1 0.0300000 sec
SFO1 100.6281250 MHz
SFO2 100.6281250 MHz
YD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 13.00 usec
PL1 -2.00 dB
SFO1 75.4702953 MHz

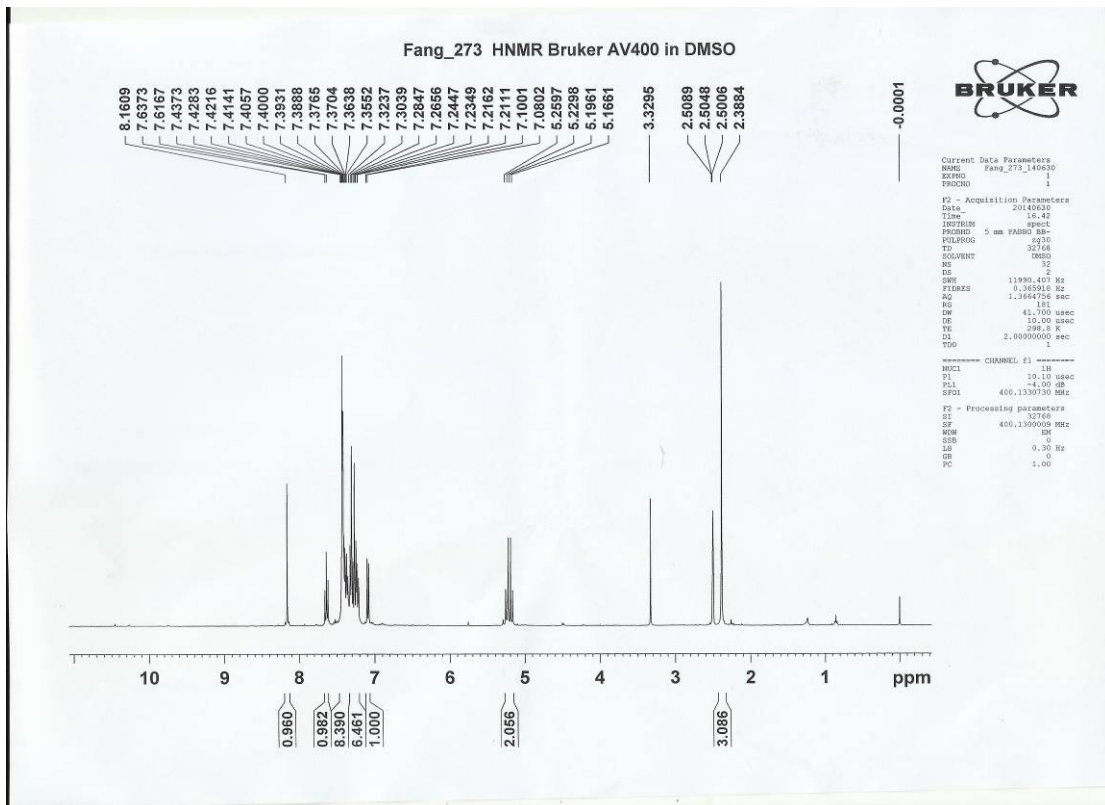
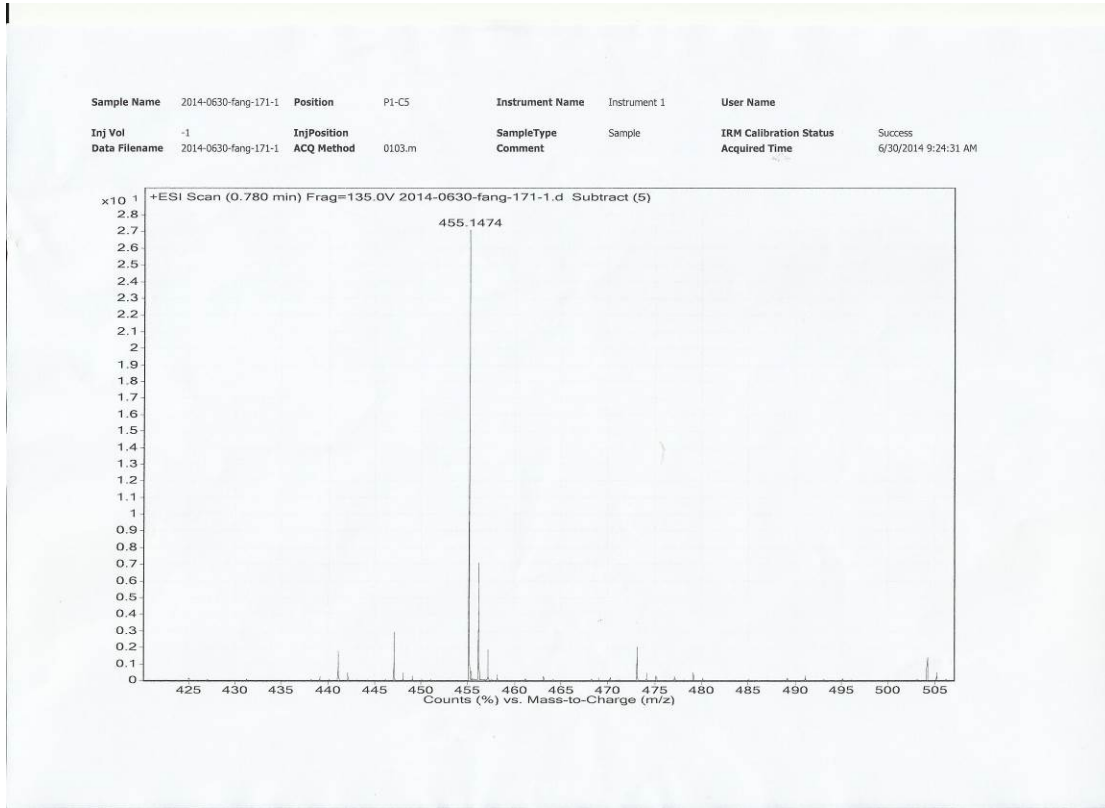
===== CHANNEL f2 =====
CPROG2 zgpg30
NUC2 13C
PCPD 88.00 usec
PL12 14.00 dB
PL13 15.00 dB
PL1 1.00 dB
SFO2 100.6281250 MHz

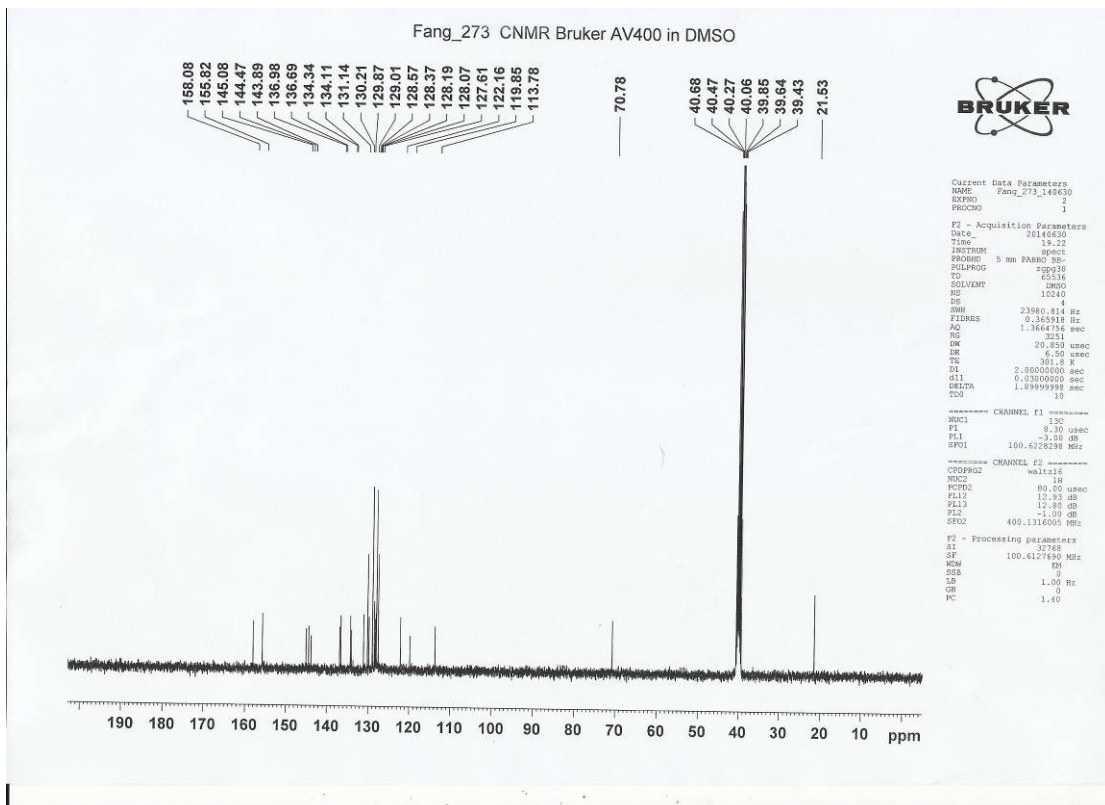
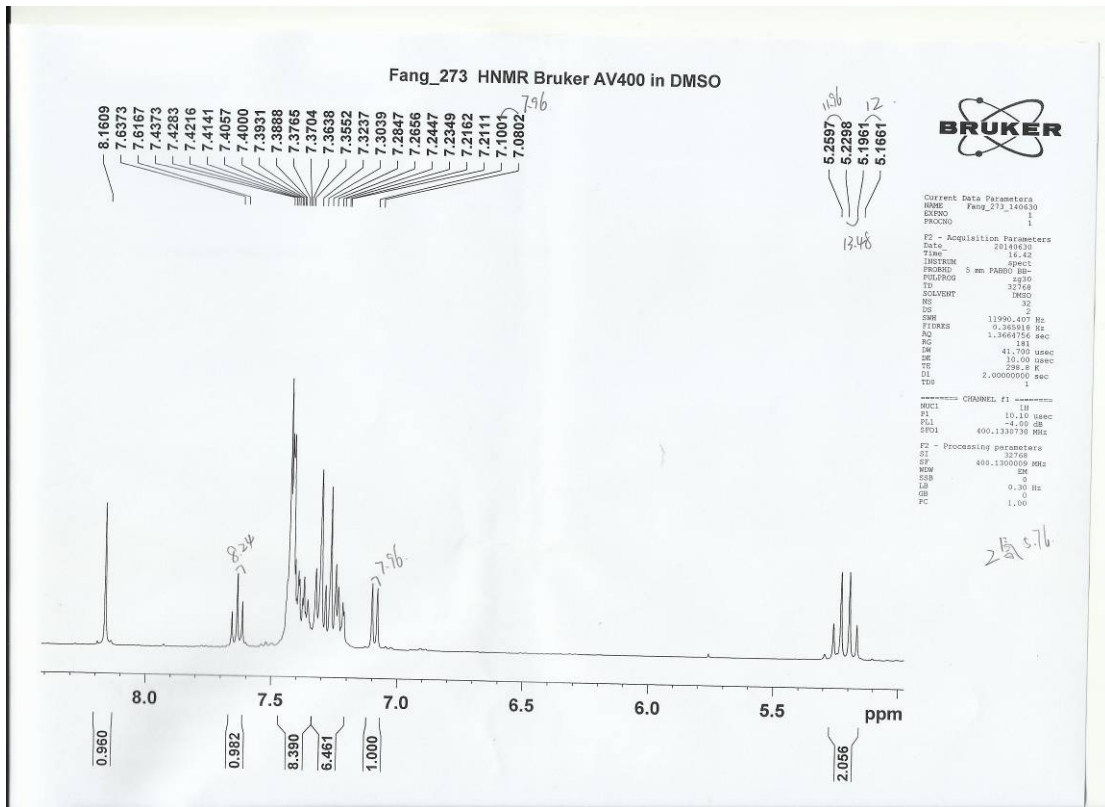
F2 - Processing parameters
SI 32768
SF 75.4677867 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
```



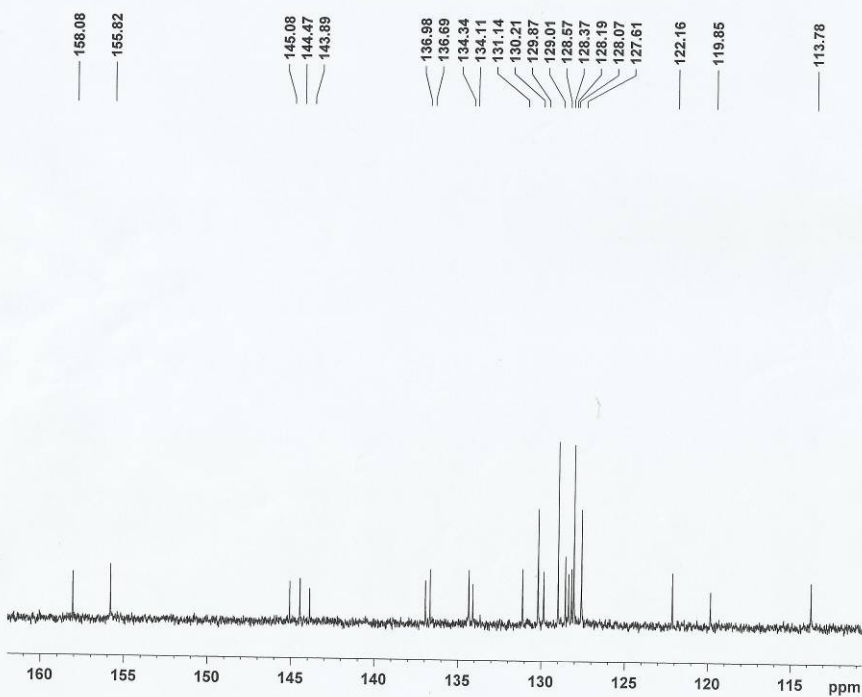


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Fang\_273 CNMR Bruker AV400 in DMSO



```

Current Data Parameters
NAME Fang_273_10630
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 2016030
Time 13.22
INSTRUM spect
PROBHD 5 mm PARBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 1634
DS 4
SWH 23980.814 Hz
FIDRES 0.365918 Hz
AQ 1.1864768 sec
RG 251
DW 20.835 usec
DE 4.50 usec
TE 301.2 K
D1 2.0000000 sec
d11 0.0300000 sec
DELTA 1.8999998 sec
TD0 10

===== CHANNEL f1 =====
NUC1 13C
P1 8.30 usec
PL1 -3.00 dB
SFO1 100.6225299 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL12 12.93 dB
PL13 12.93 dB
PL2 -1.00 dB
SFO2 400.1314001 MHz

F2 - Processing parameters
SI 32768
SF 100.617450 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
    
```