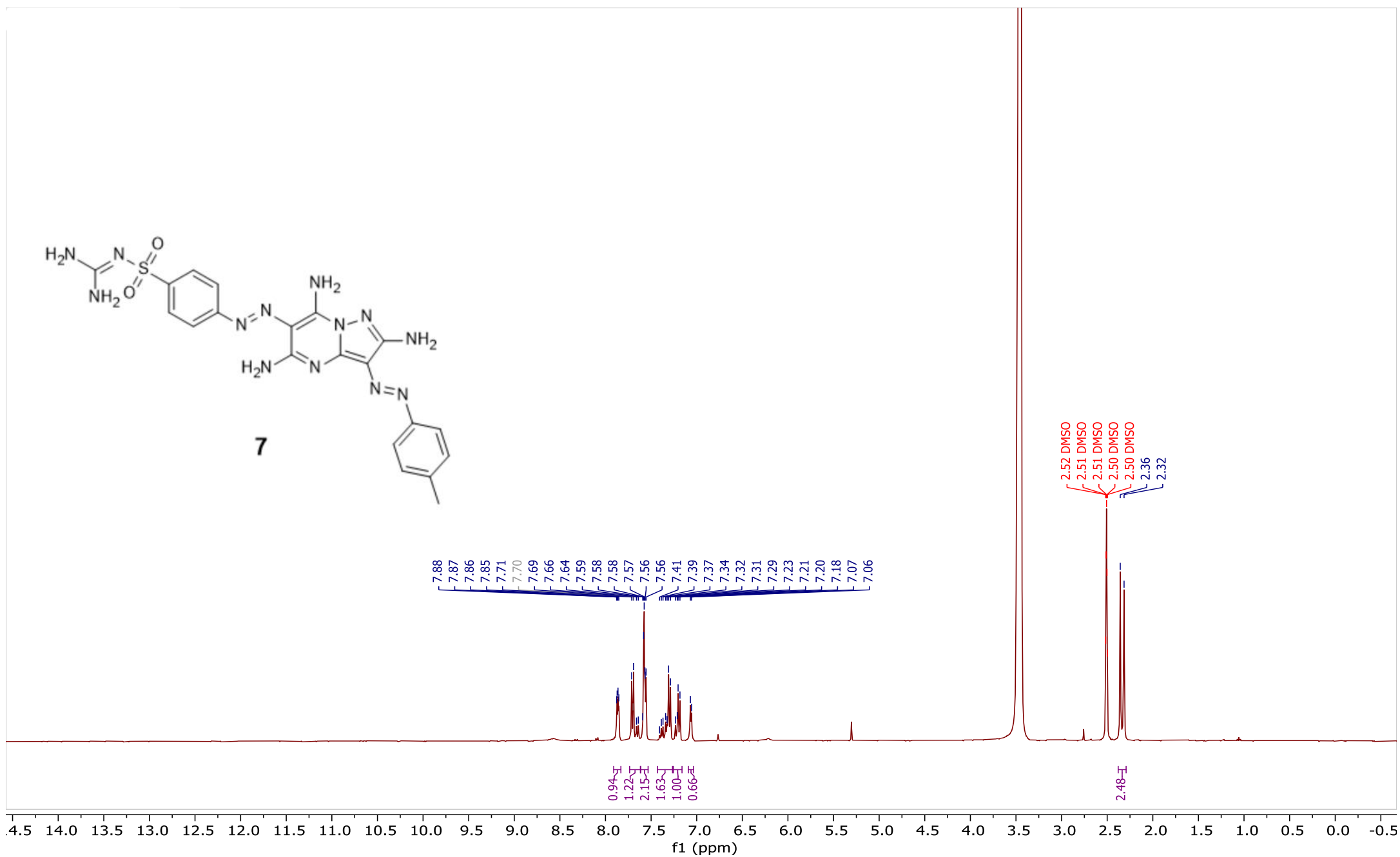
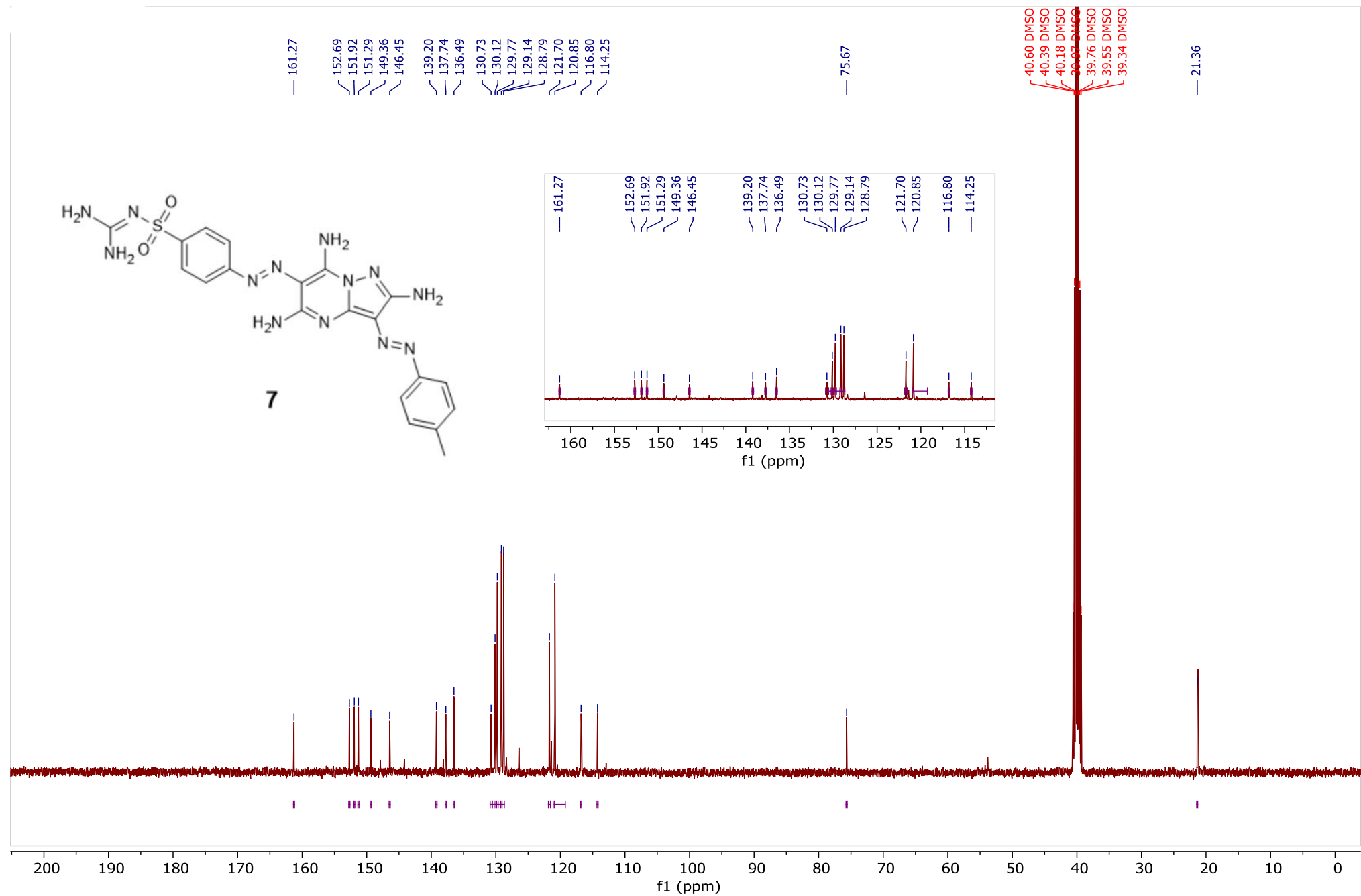


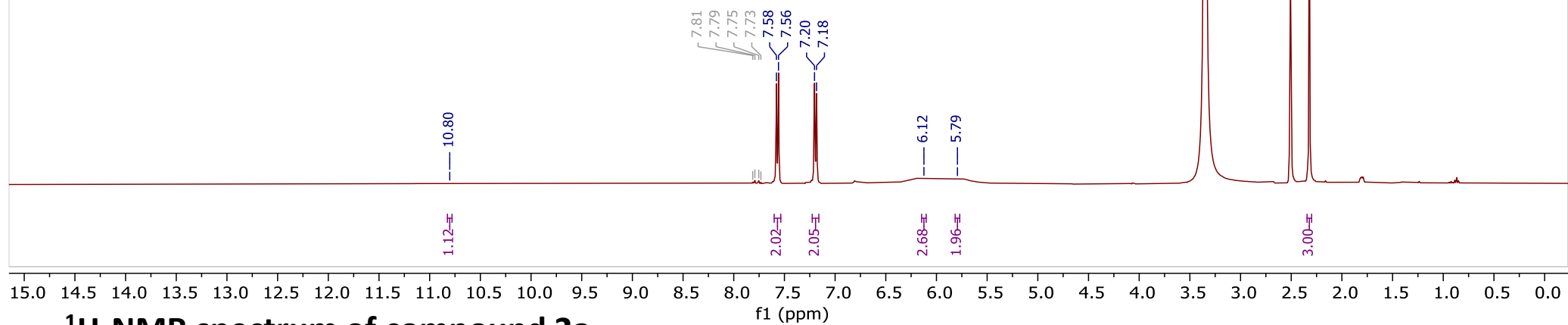
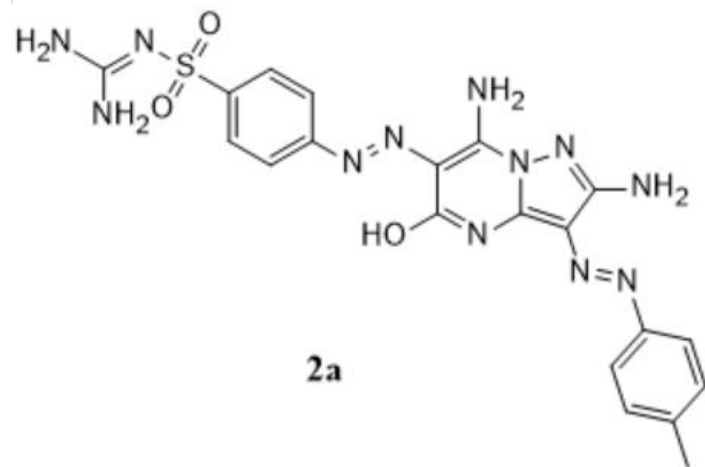
¹H-NMR spectrum of compound 7



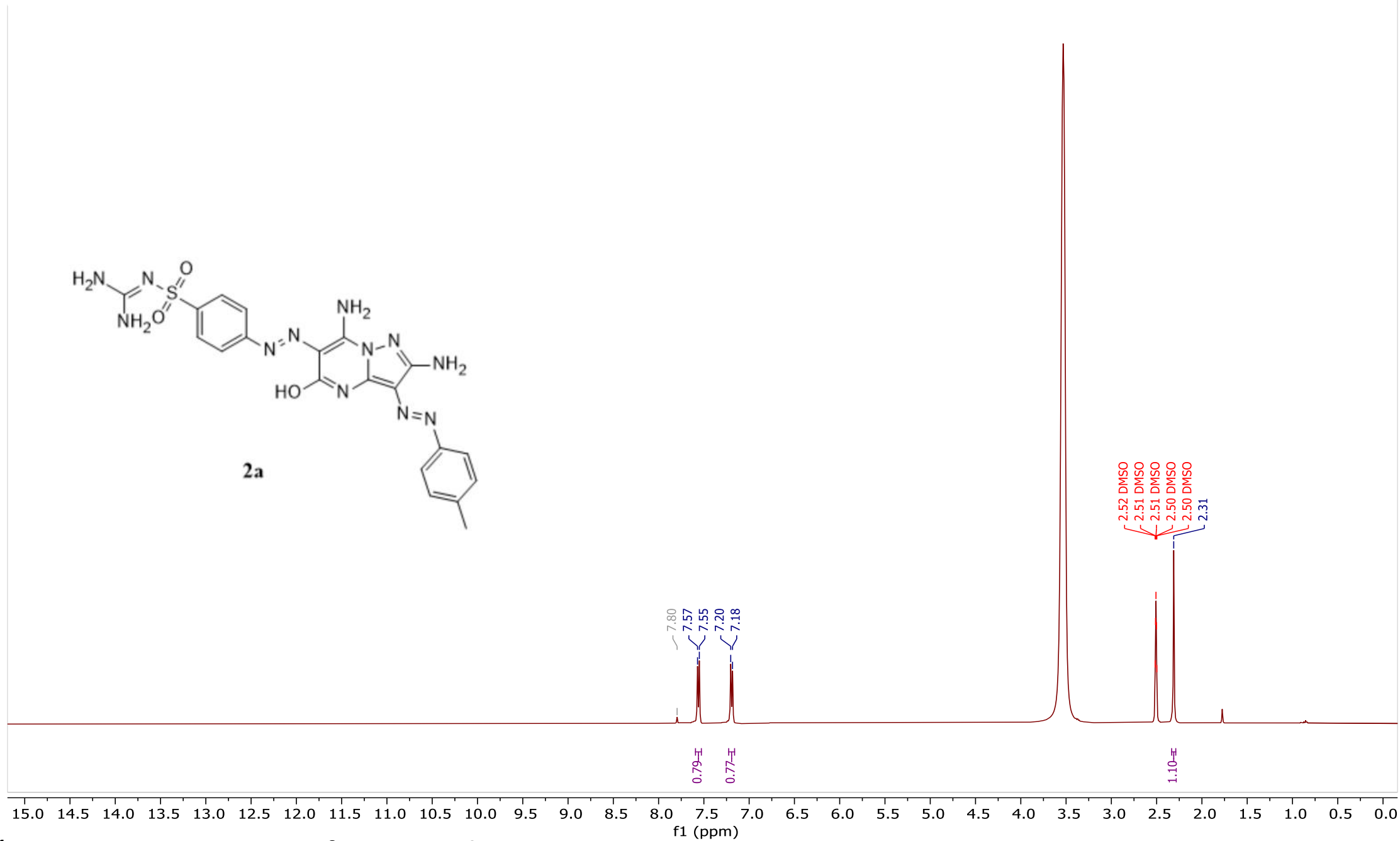
¹H-NMR – D₂O spectrum of compound 7



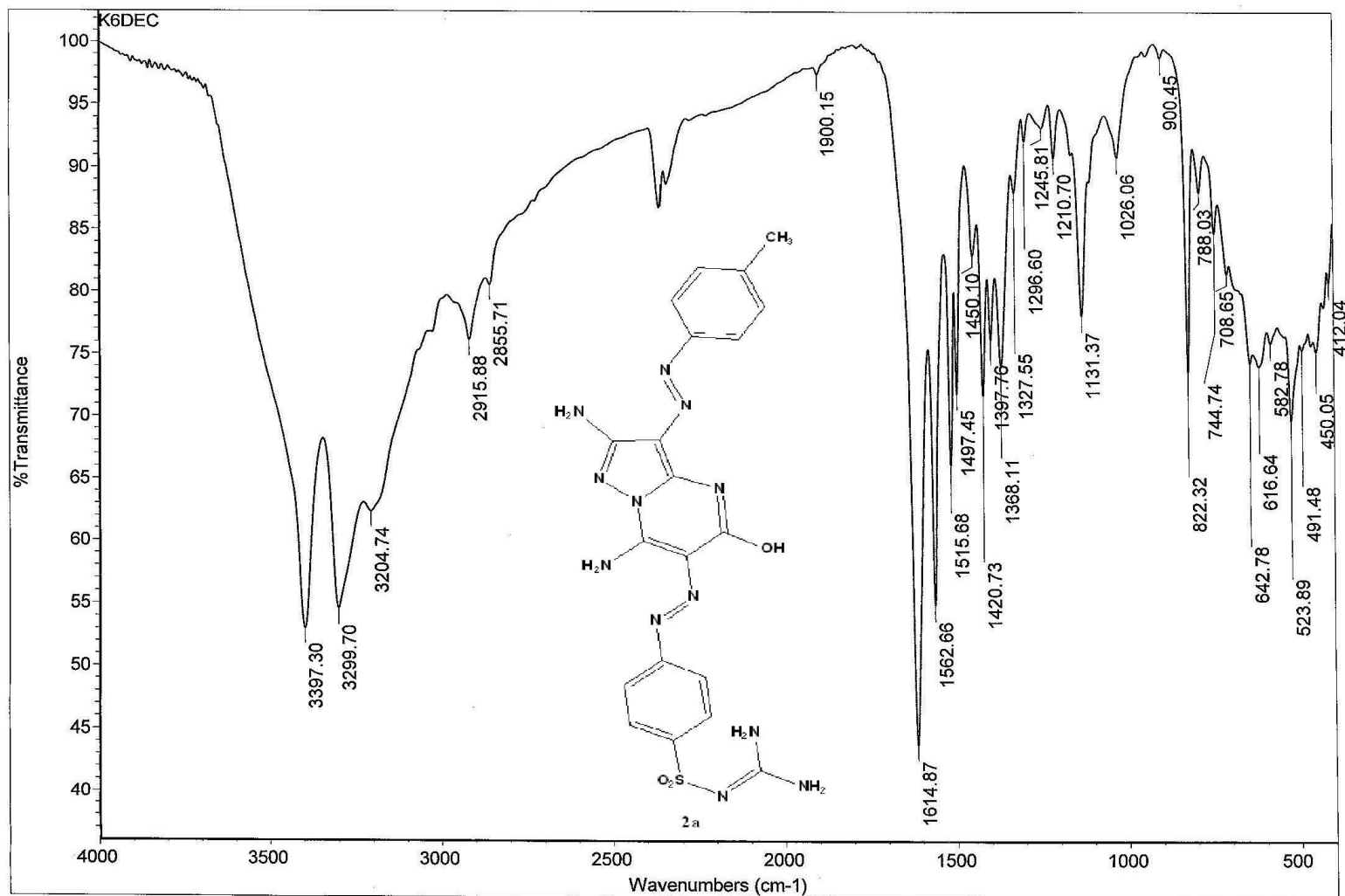
¹³C-NMR spectrum of compound 7



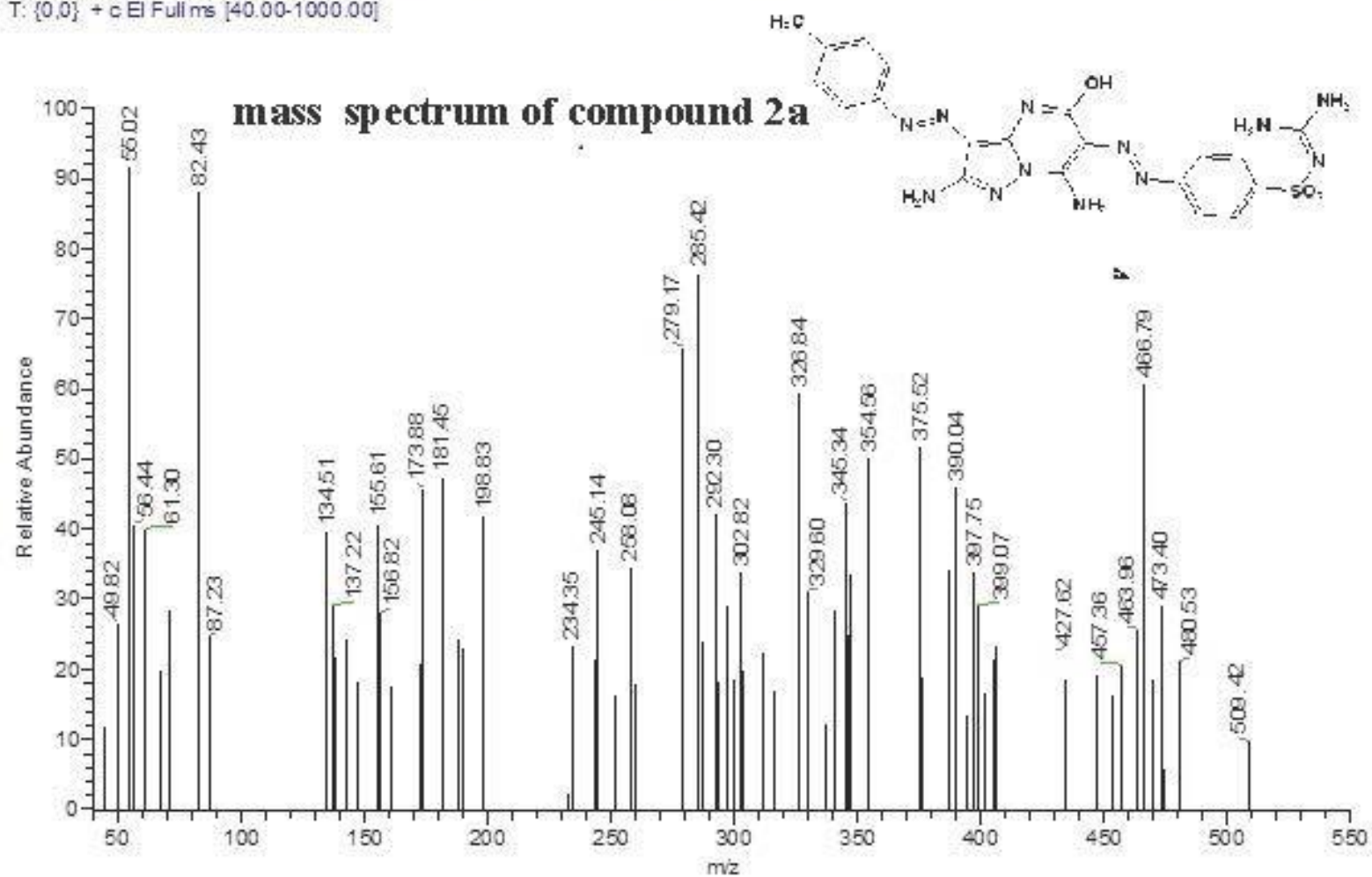
¹H-NMR spectrum of compound 2a



IR spectrum of compound 2a



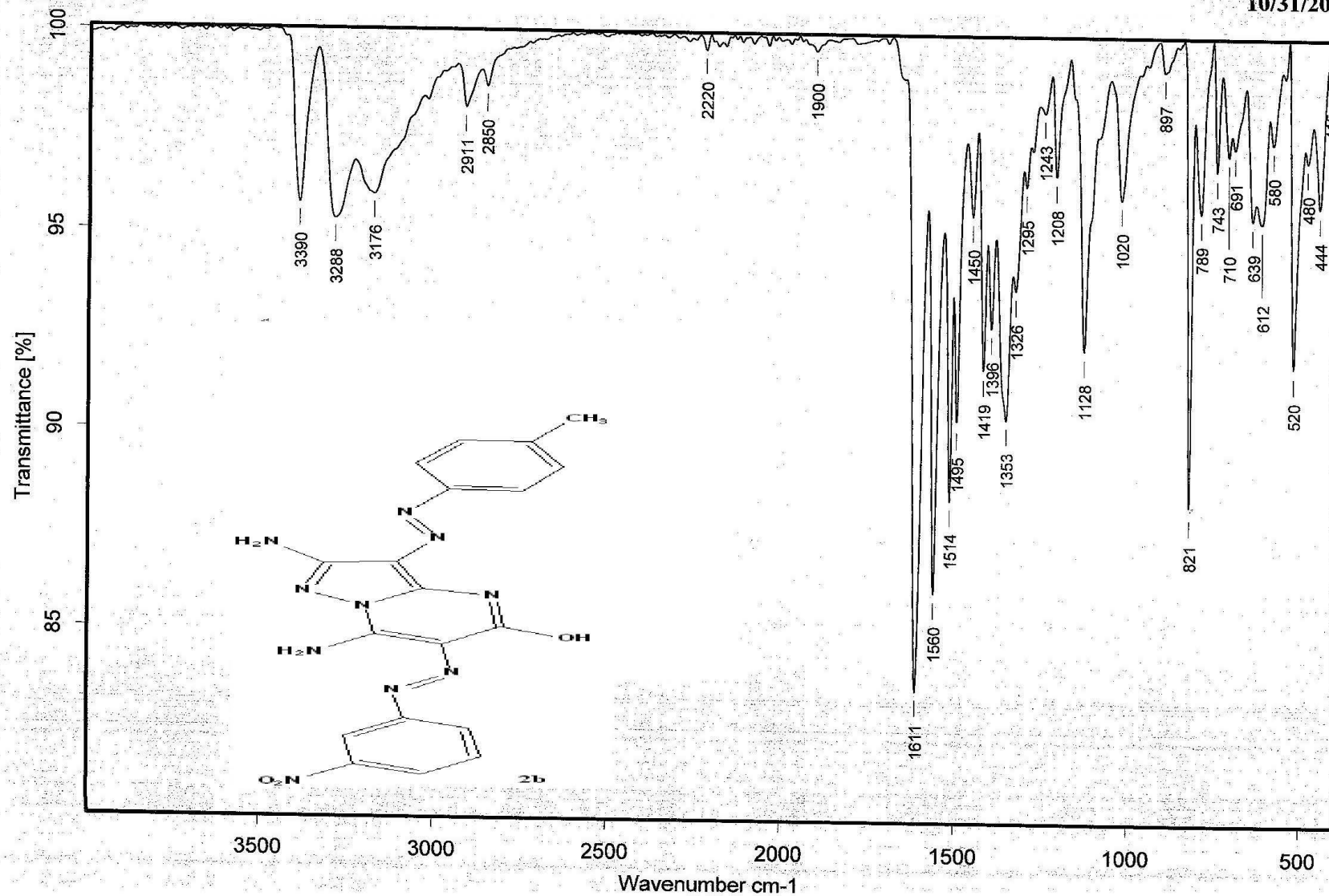
nshed-abd-elfattah-k6DEC #177 RT: 2.98 AV: 1 SB: 2 4.45 , 4.45 NL: 4.40E2
T: {0,0} + c EI Full ms [40.00-1000.00]



NECK6.0

IR spectrum of compound 2b

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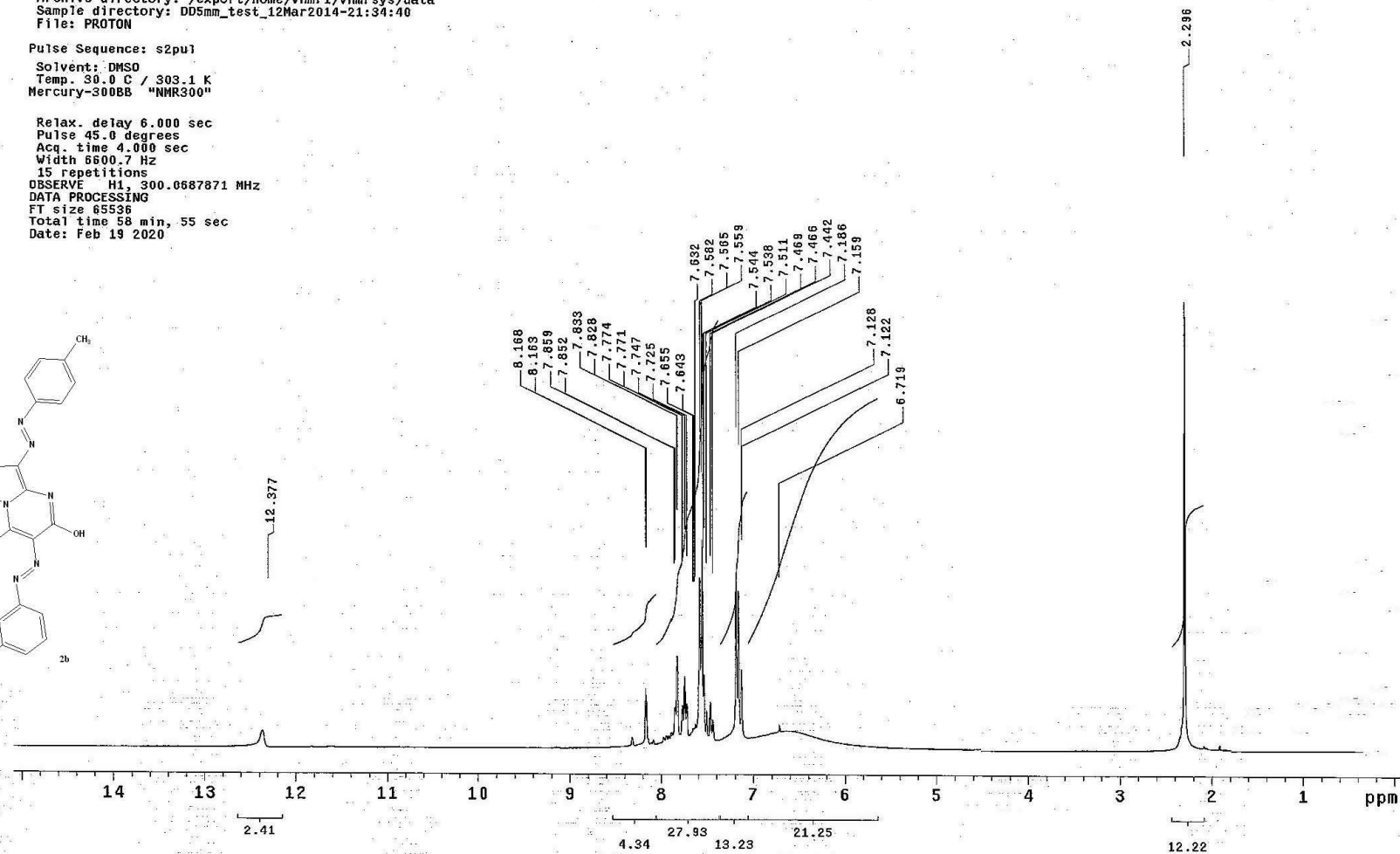
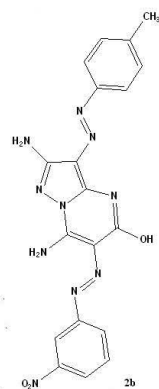
¹H-NMR spectrum of compound 2b

KerlessIkram-K6NEC-DMSO-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1
Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
15 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



¹H-NMR-D₂O spectrum of compound 2b

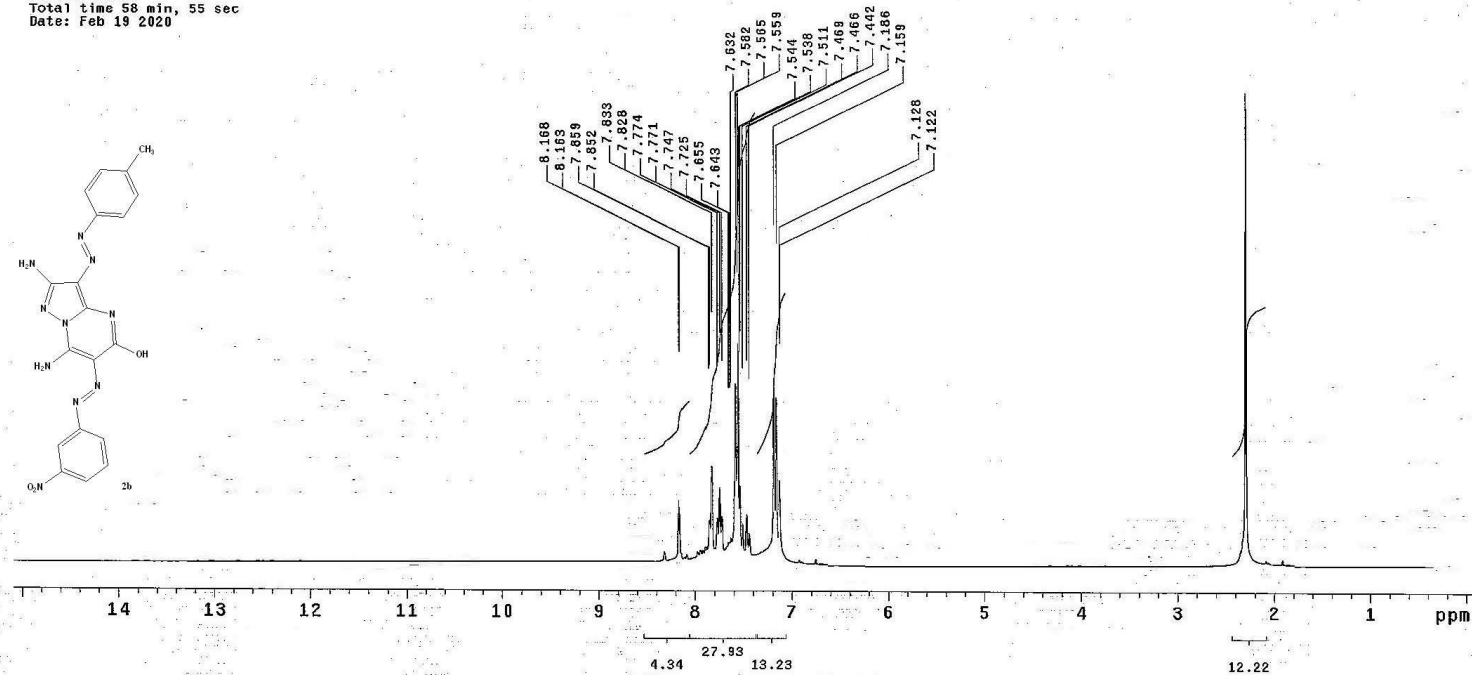
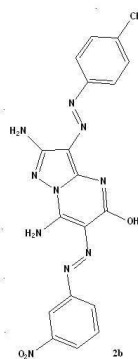
KerlessIkram-K6NEC-DMSO-D₂O-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
14 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



¹³C-NMR spectrum of compound 2b

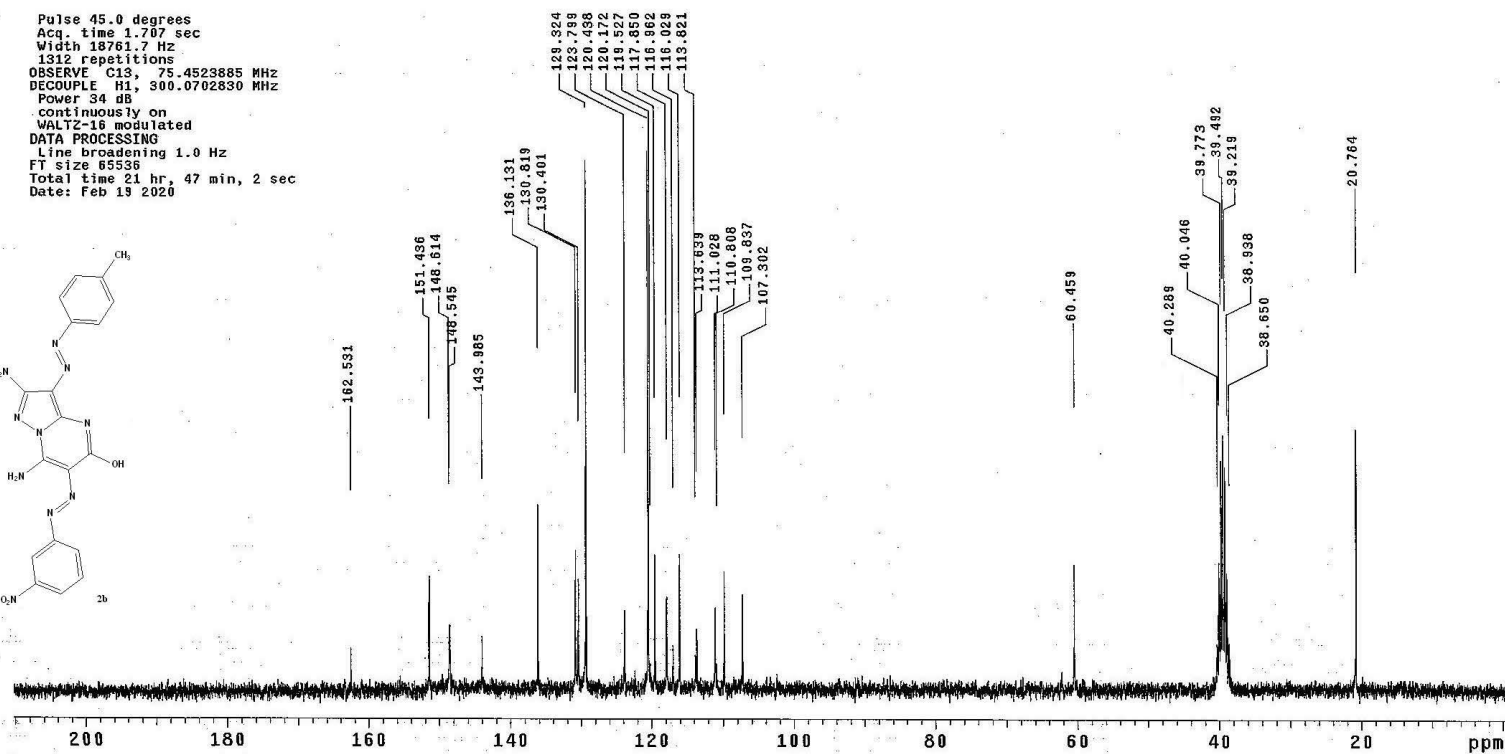
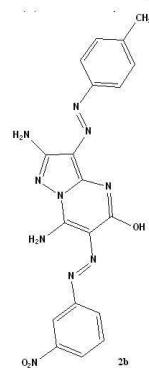
KerlessIkram-K6NEG-DMSO-C13

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: D05mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

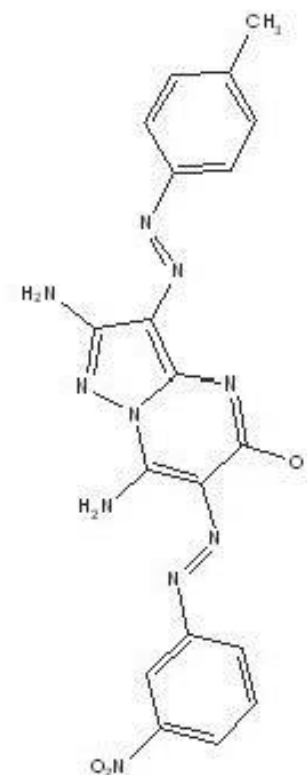
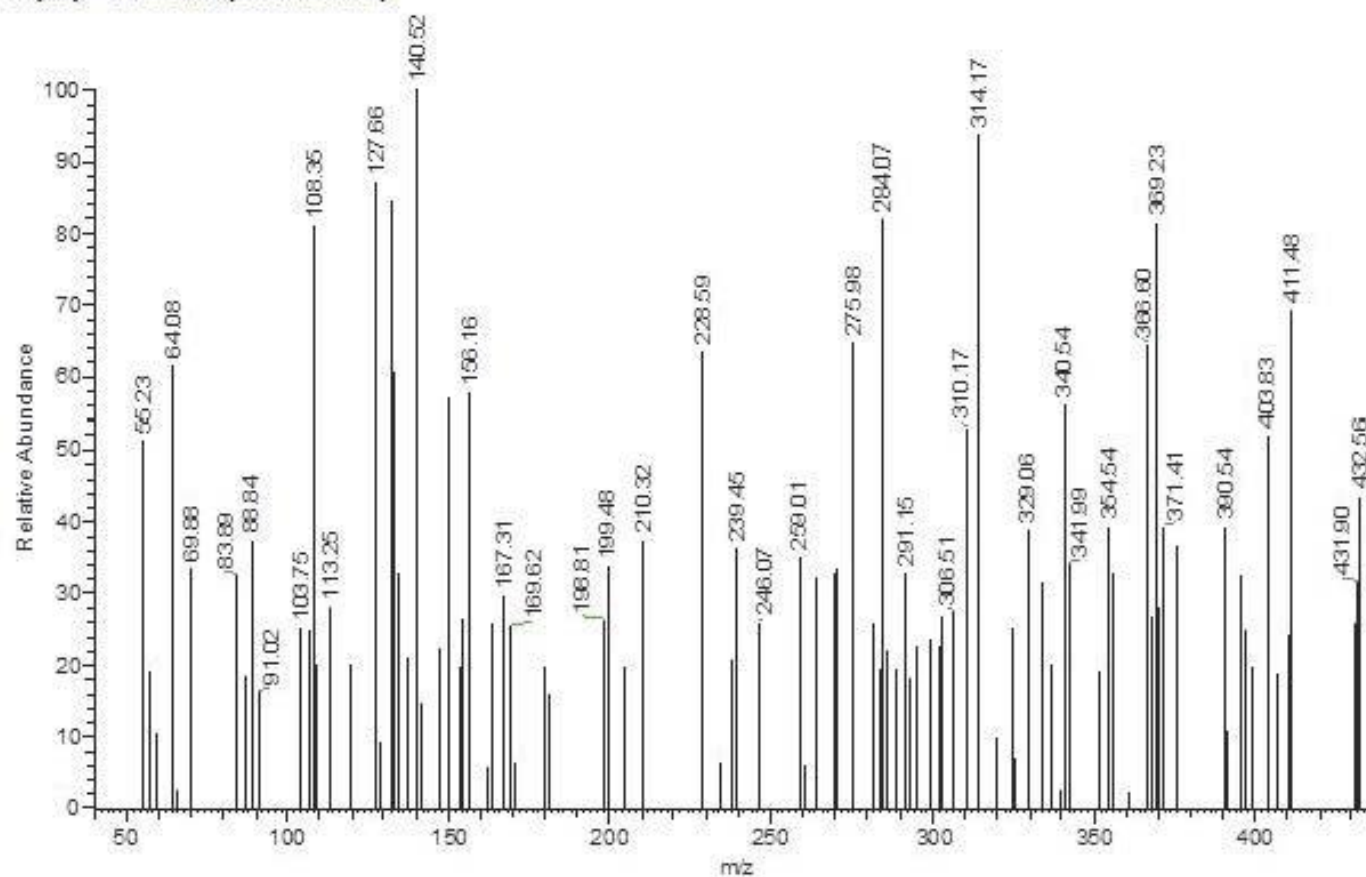
Solvent: DMSO
Ambient temperature
Mercury-300BB "NMR300"

Pulse 45.0 degrees
Acq. time 1.707 sec
Width 18761.7 Hz
1312 repetitions
OBSERVE C13, 75.4523885 MHz
DECOUPLE H1, 300.0702830 MHz
Power 34 dB
continuously on
WALTZ-16 modulated
DATA PROCESSING
Line broadening 1.0 Hz
FT size 65536
Total time 21 hr, 47 min, 2 sec
Date: Feb 13 2020

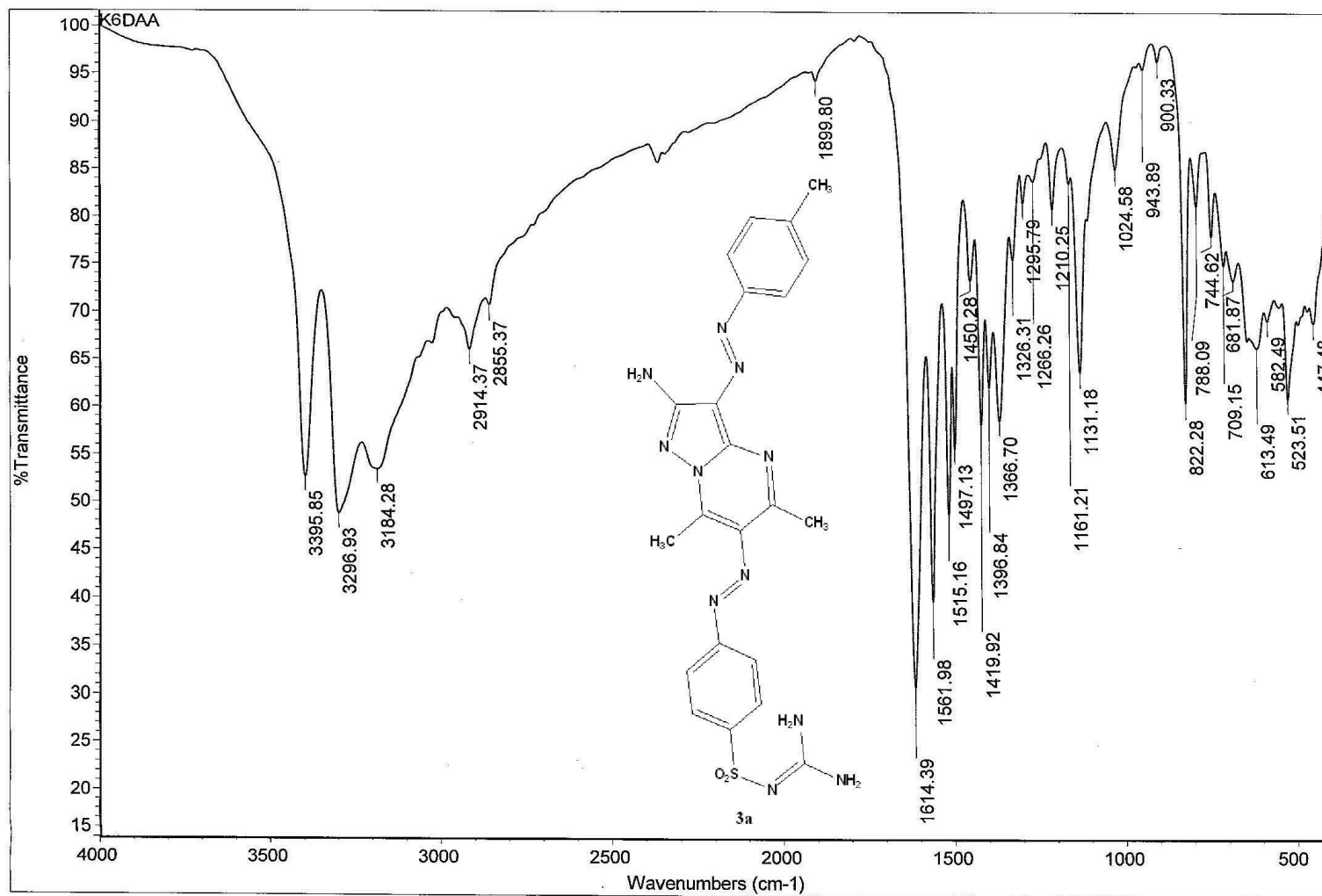


nshed-abd-elfattah-k6NEC #49 RT: 0.84 AV: 1 SB: 2 4.45, 4.45 NL: 3.53E2
T: {0,0} + c EI Full ms [40.00-1000.00]

mass spectrum of compound 2b

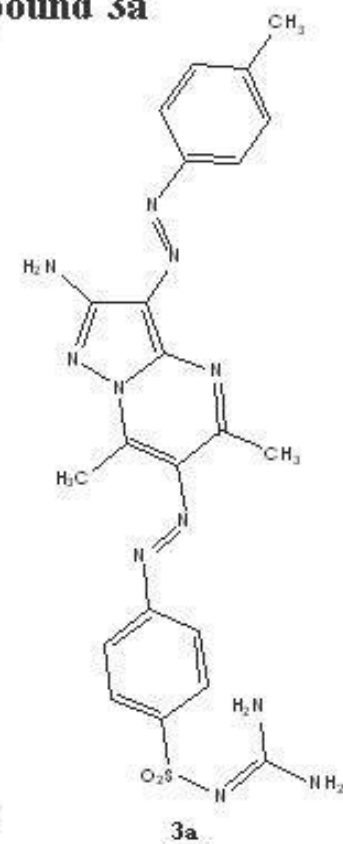
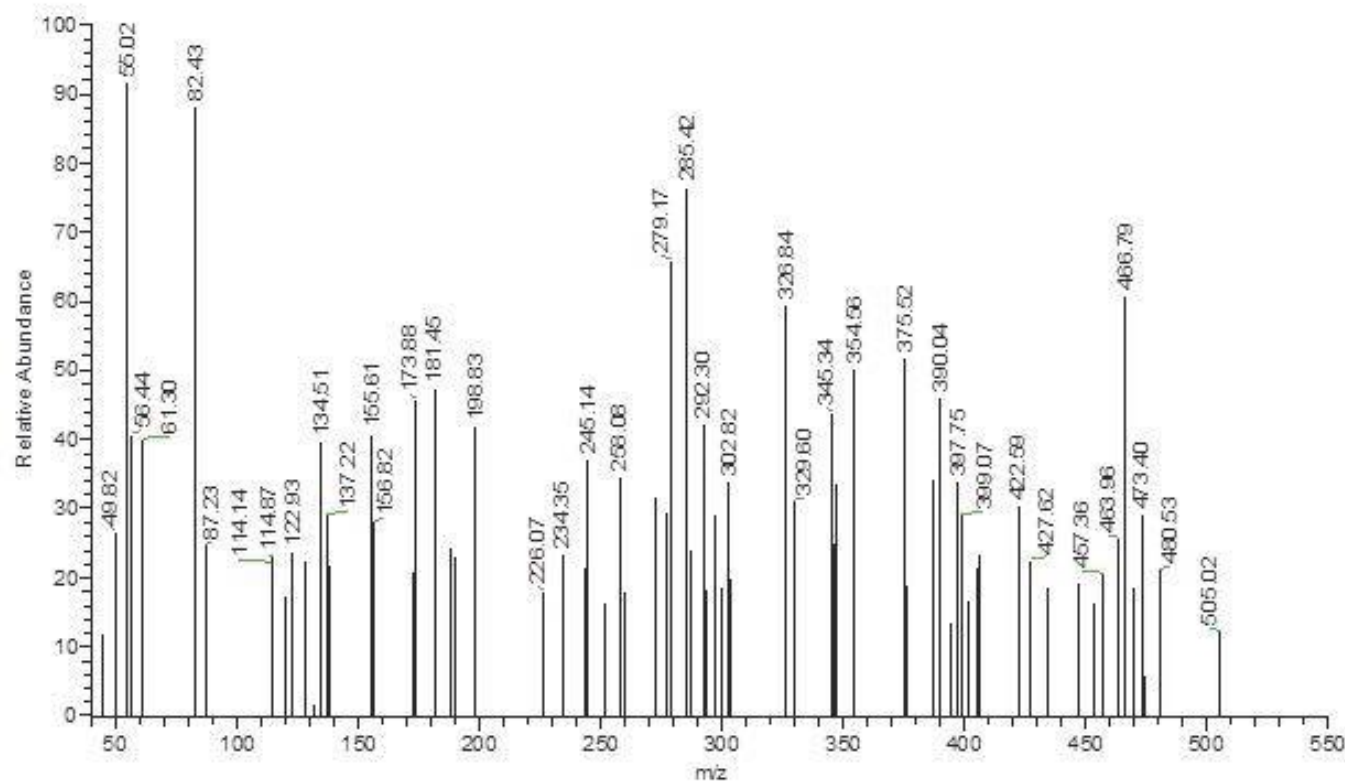


IR spectrum of compound 3a



nahed-abb-elfattah-k6DAA #177 RT: 2.98 AV: 1 SB: 2 4.46 , 4.46 NL: 4.00E2
T: {0,0} + e EI Full ms [40.00-1000.00]

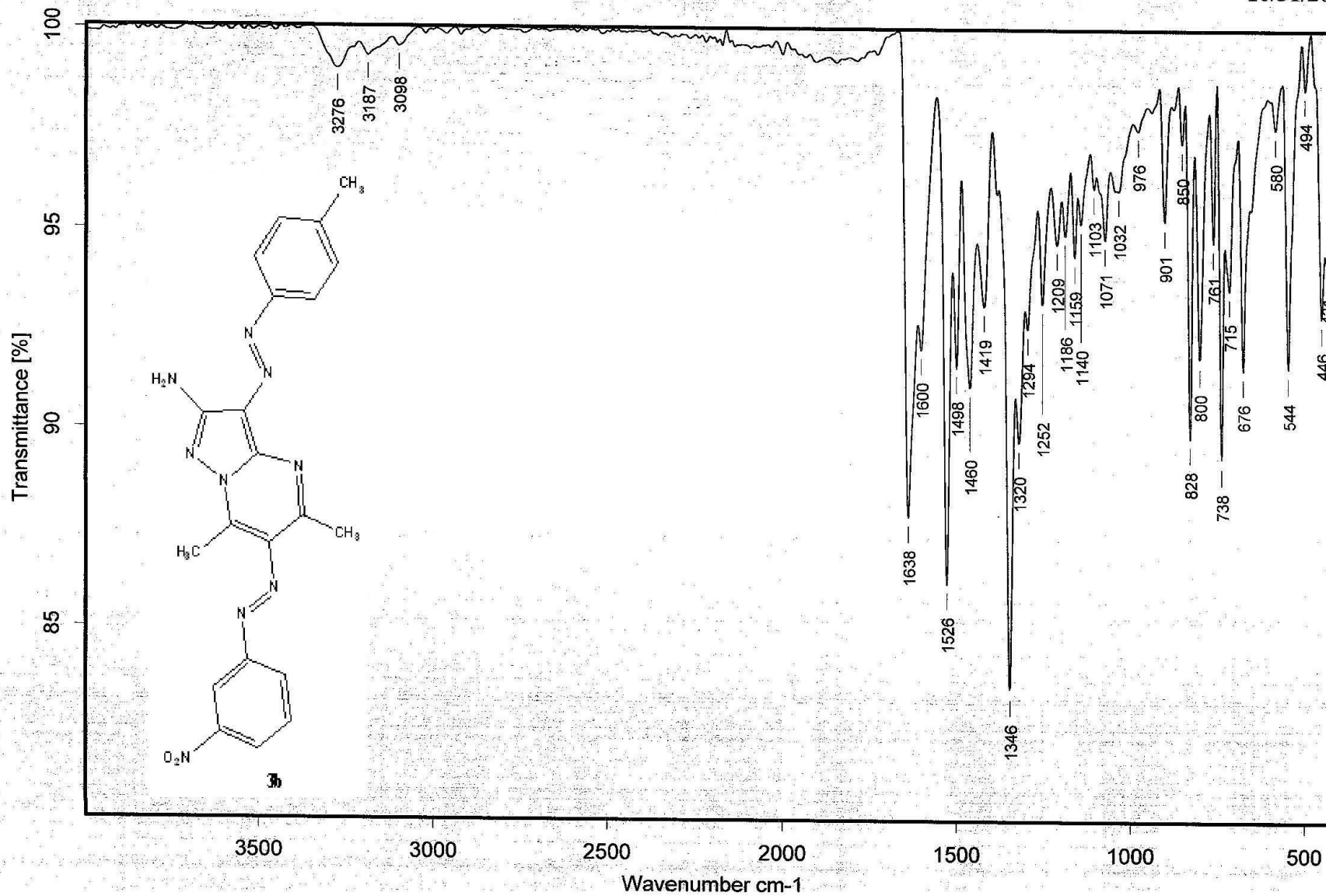
mass spectrum of compound 3a



NAAK6.0

IR spectrum of compound 3b

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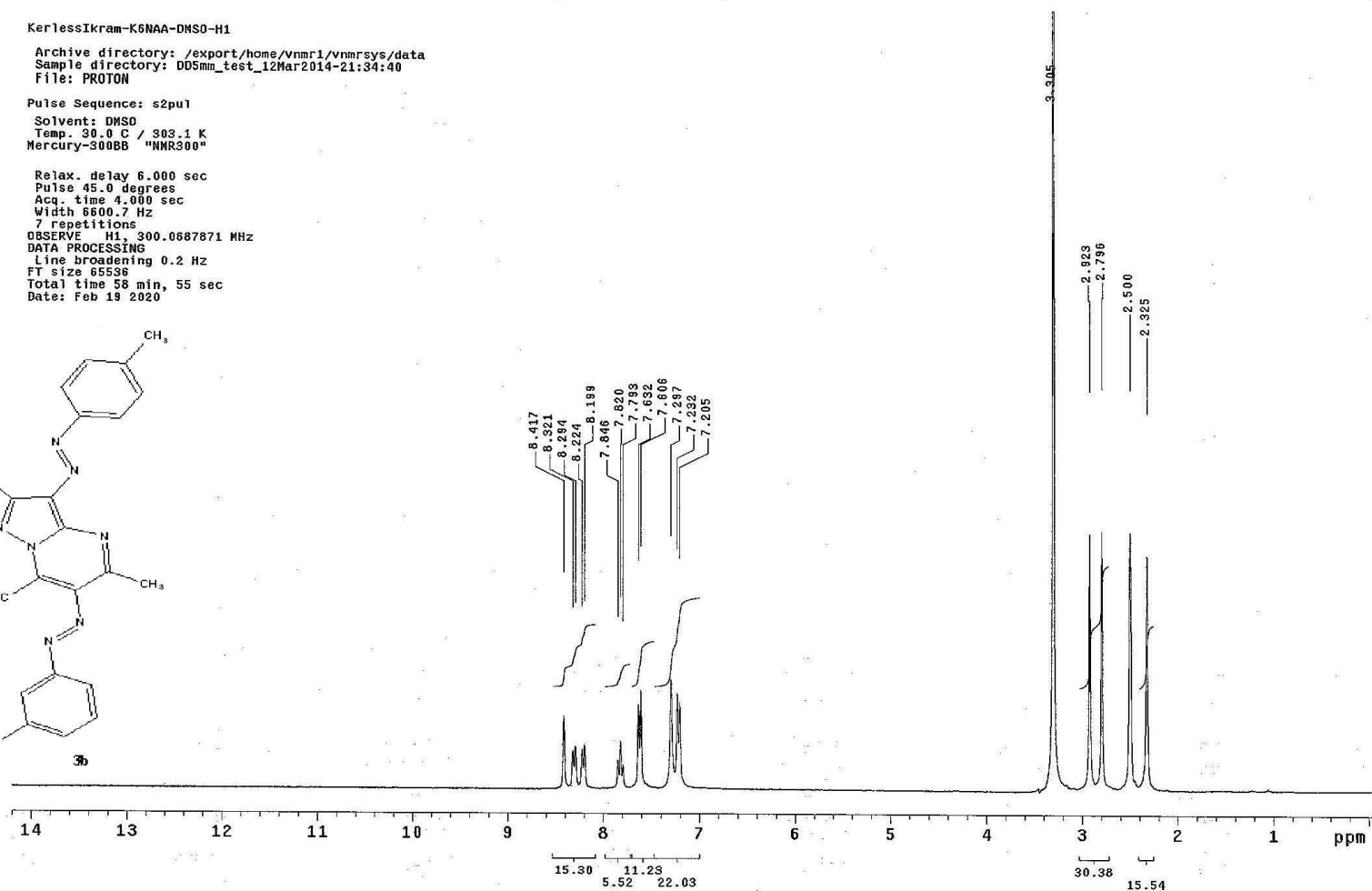
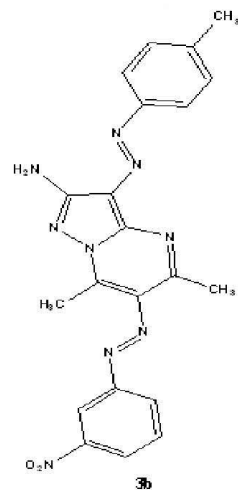
¹H-NMR spectrum of compound 3b

KerlessIkram-K6NAA-DMSO-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1
Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
7 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
Line broadening 0.2 Hz
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



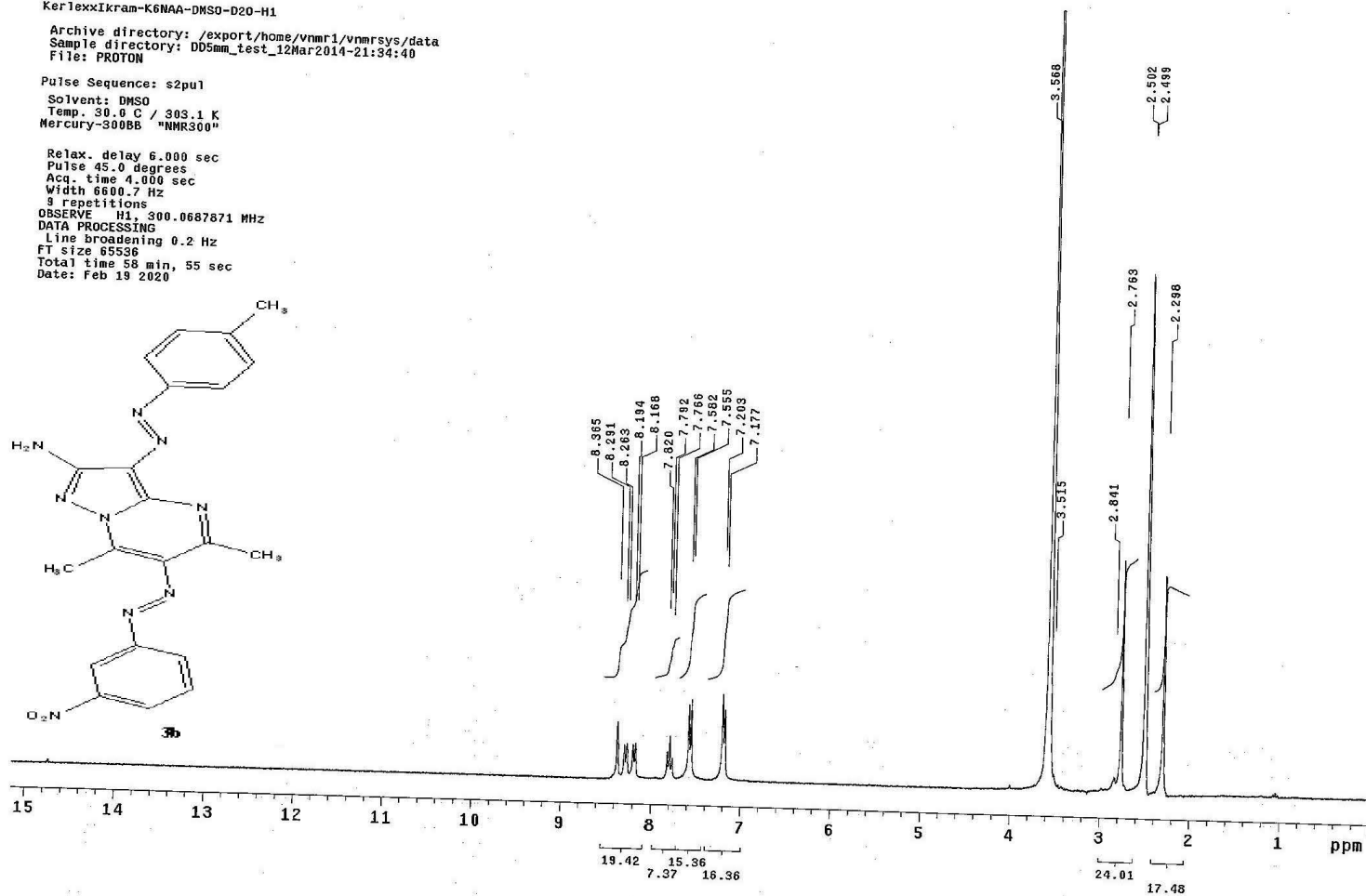
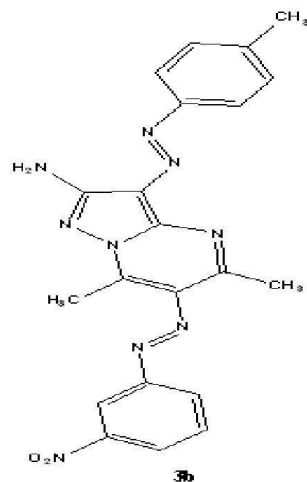
¹H-NMR-D₂O spectrum of compound 3b

KerlexxIkram-K6NAA-DMSO-D₂O-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1
Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
3 repetitions
OBSERVE H1, 300.0687671 MHz
DATA PROCESSING
Line broadening 0.2 Hz
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



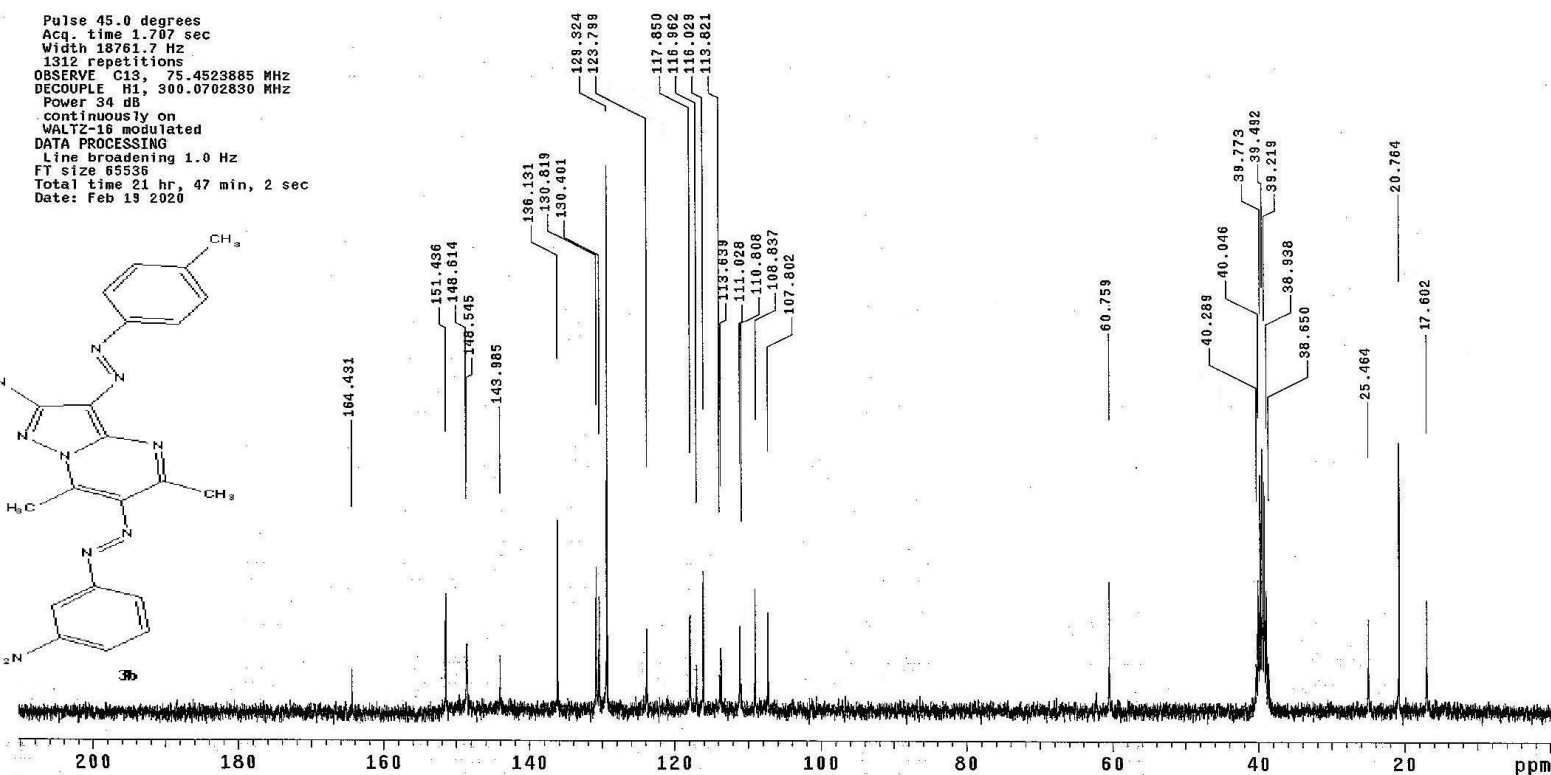
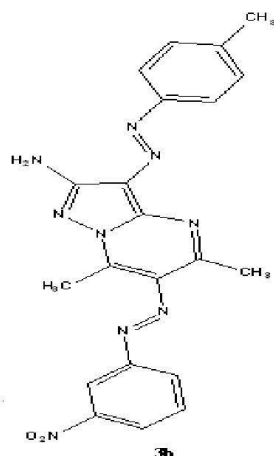
¹³C-NMR spectrum of compound 3b

KerlessIkram-K6NAA-DMSO-C13

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

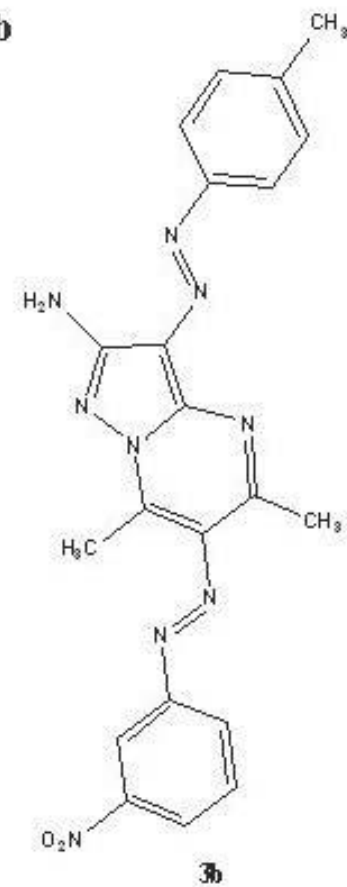
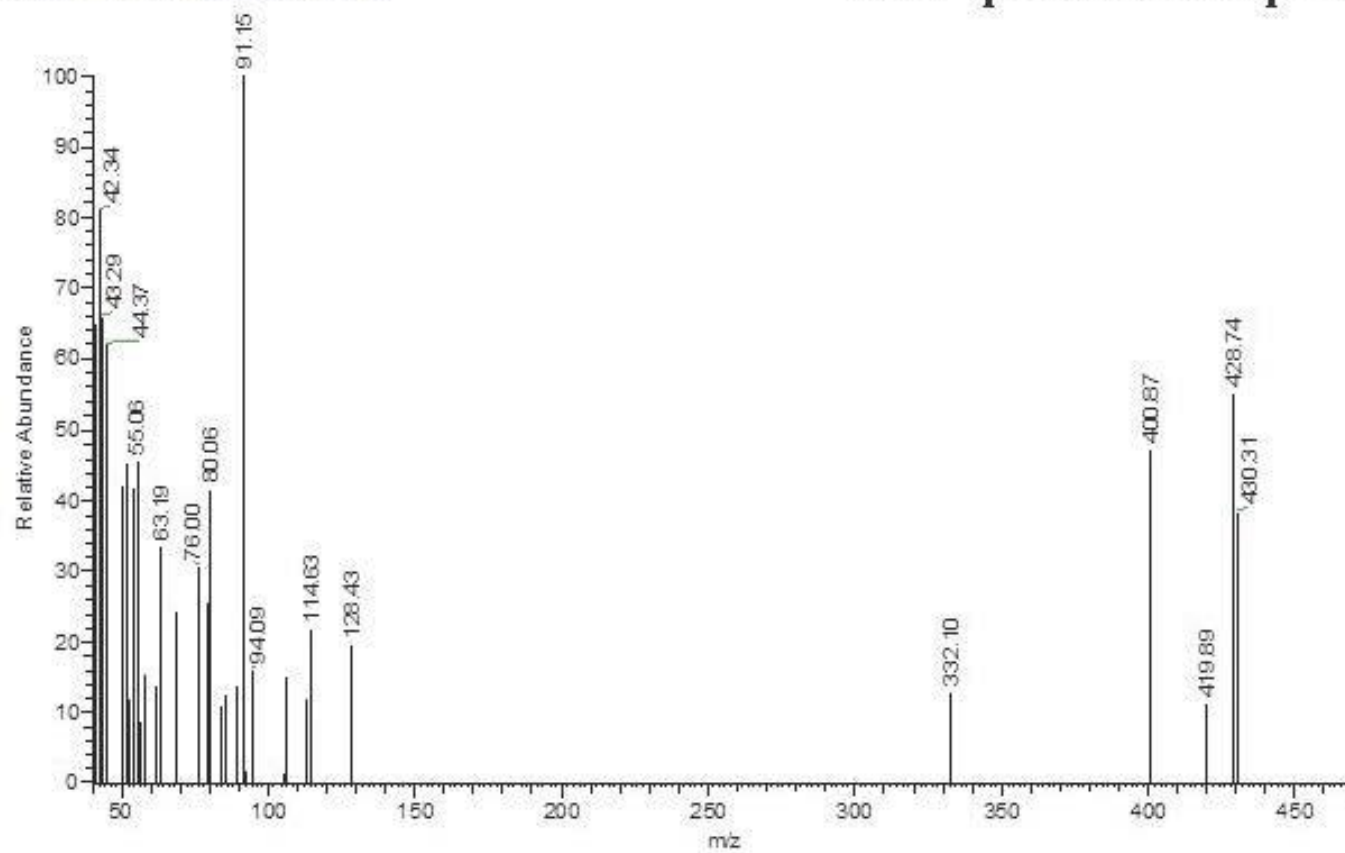
Pulse Sequence: s2pu1
Solvent: DMSO
Ambient temperature
Mercury-300BB "NMR300"

Pulse 45.0 degrees
Acq. time 1.787 sec
Width 18761.7 Hz
1312 repetitions
OBSERVE C13, 75.4523885 MHz
DECOUPLE H1, 300.0702830 MHz
Power 34 dB
Continuously on
WALTZ-16 modulated
DATA PROCESSING
Line broadening 1.0 Hz
FT size 65536
Total time 21 hr, 47 min, 2 sec
Date: Feb 19 2020

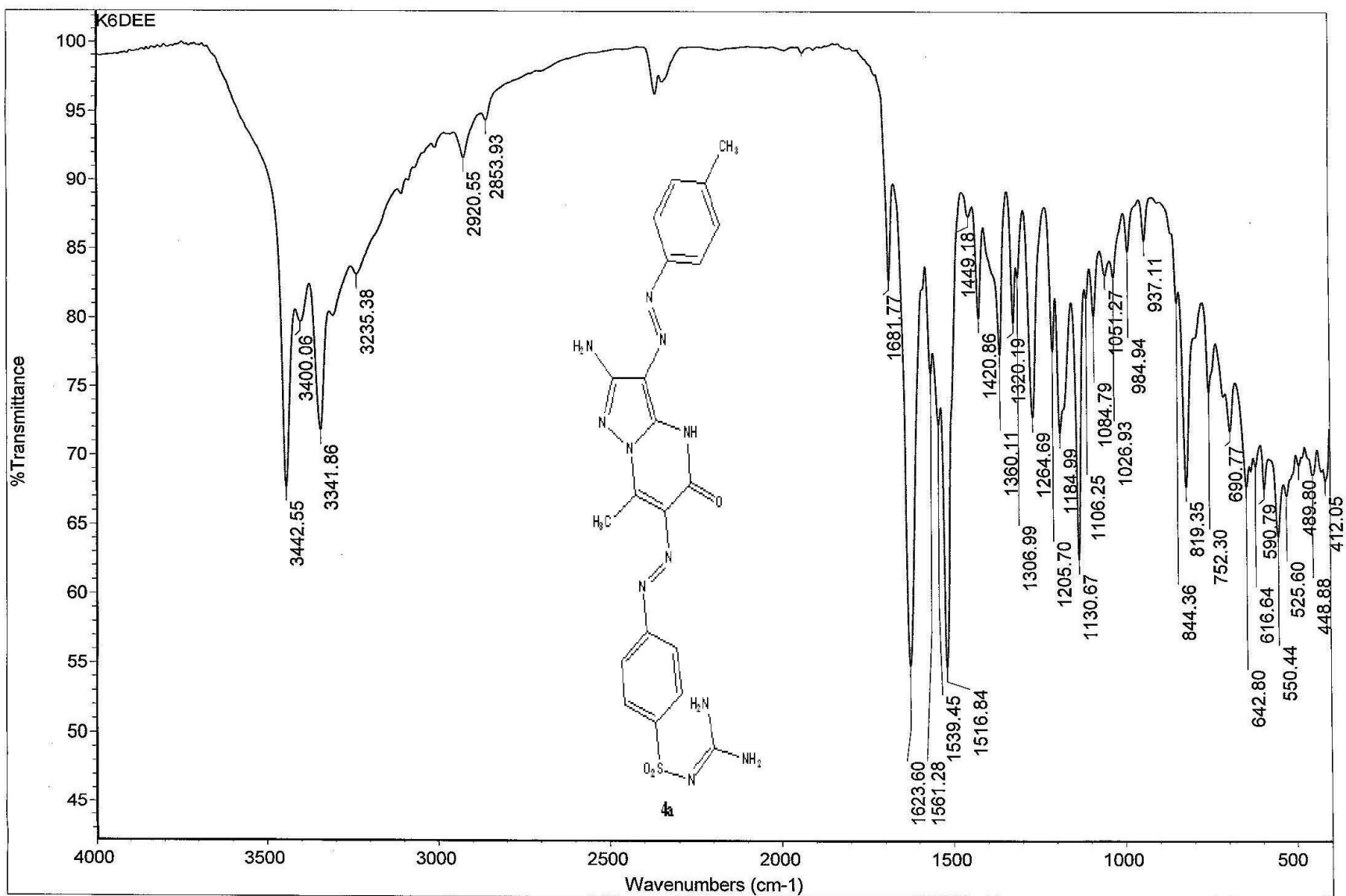


nshed-abd-elfattah-k6NAA #237 RT: 3.98 AV: 1 SB: 2 4.45, 4.45 NL: 8.82E2
T: {0,0} + c EI Full ms [40.00-1000.00]

mass spectrum of compound 3b

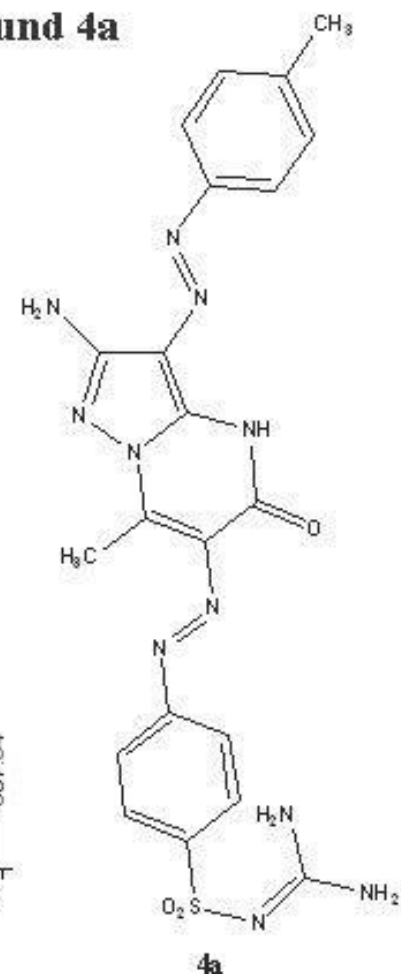
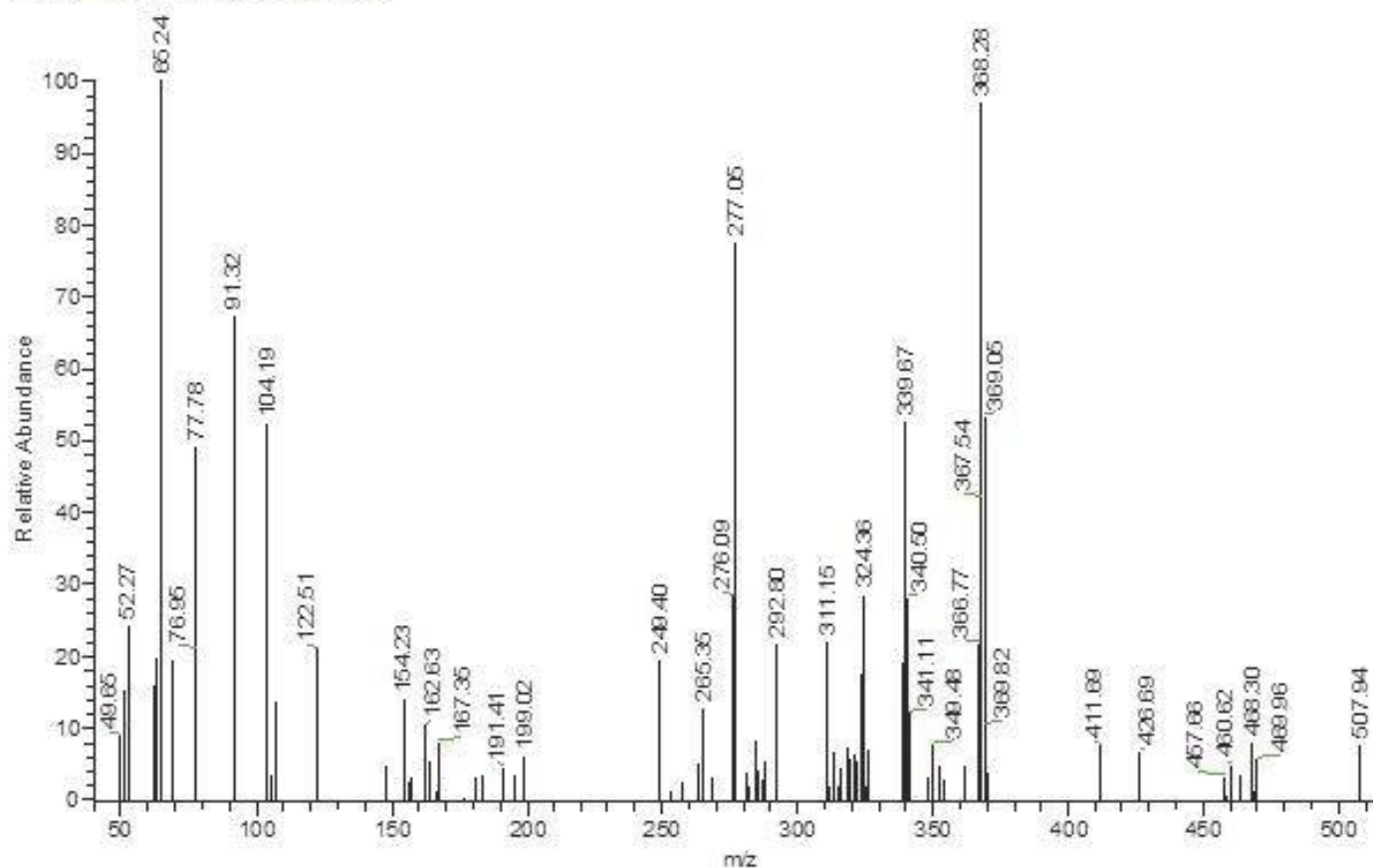


IR spectrum of compound 4a



nahed-abd-elfattah-k6DEE #195 RT: 3.28 AV: 1 SB: 2 4.45, 4.46 NL: 3.18E3
T: {0,0} + e EI Full ms [40.00-1000.00]

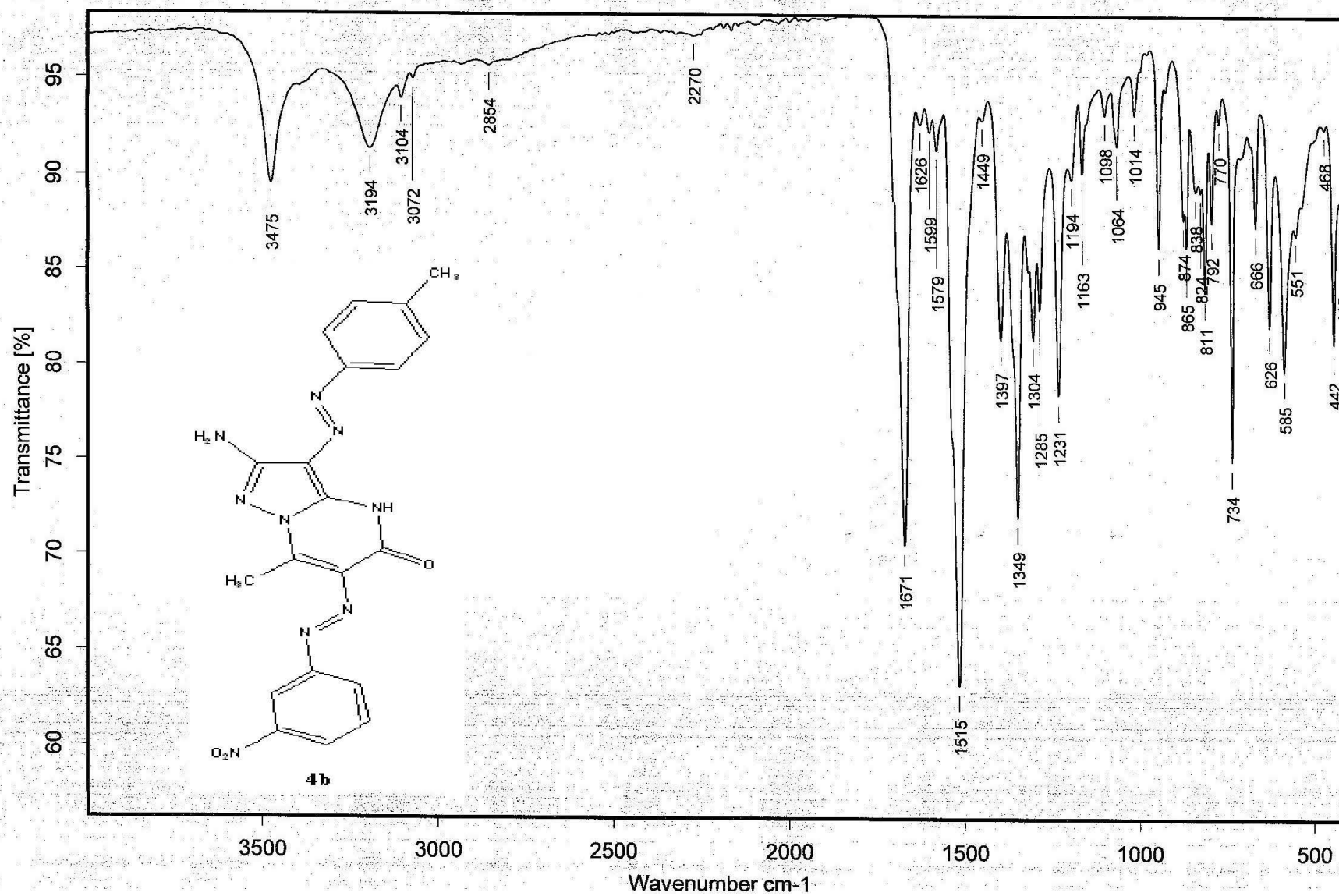
mass spectrum of compound 4a



NEEK6.0

IR spectrum of compound 4b

10/22/2019



¹H-NMR spectrum of compound 4b

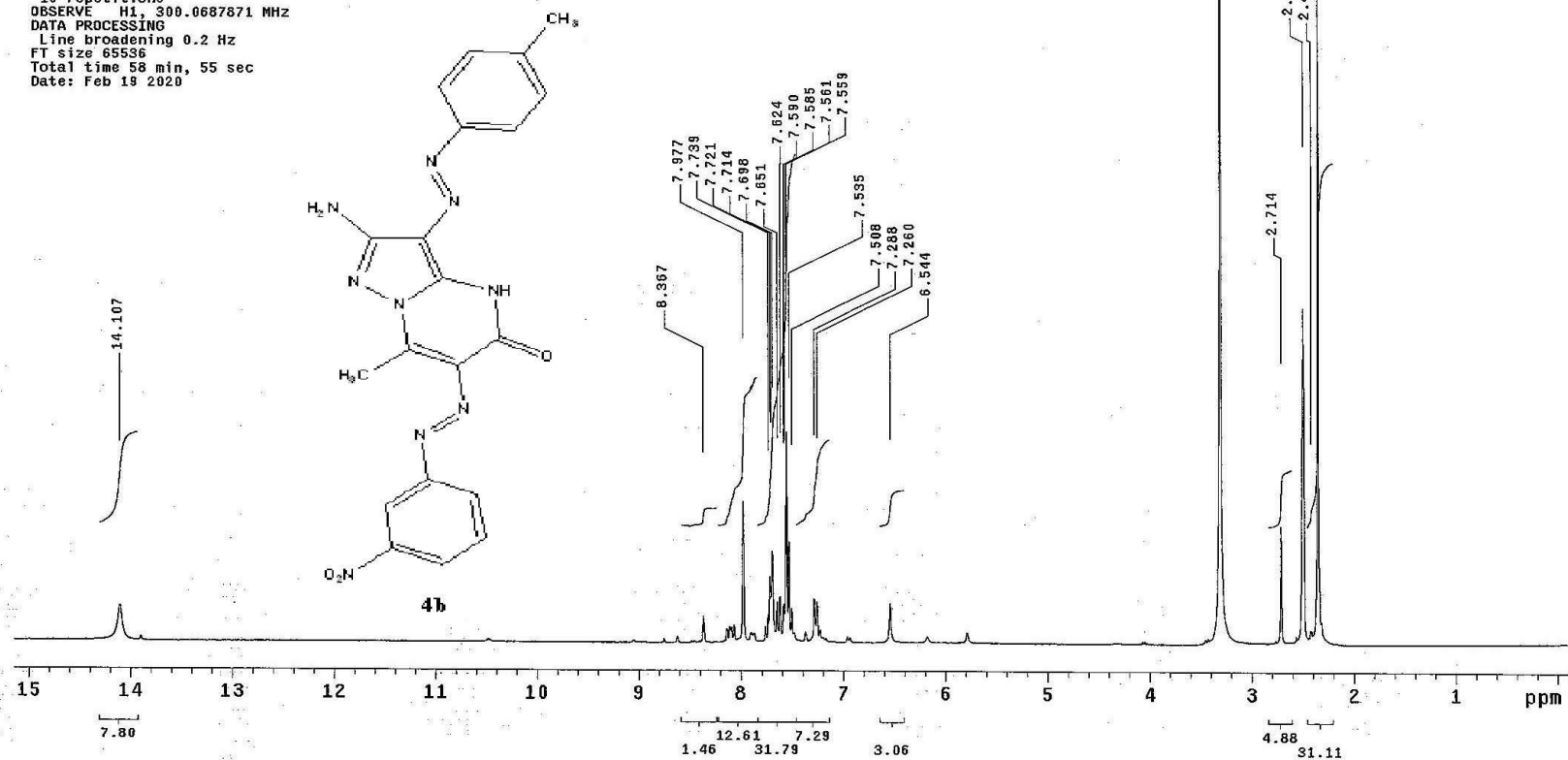
KerlessIkram-K6NEE-DMSO-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: D05mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
19 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
Line broadening 0.2 Hz
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



¹H-NMR-D₂O spectrum of compound 4b

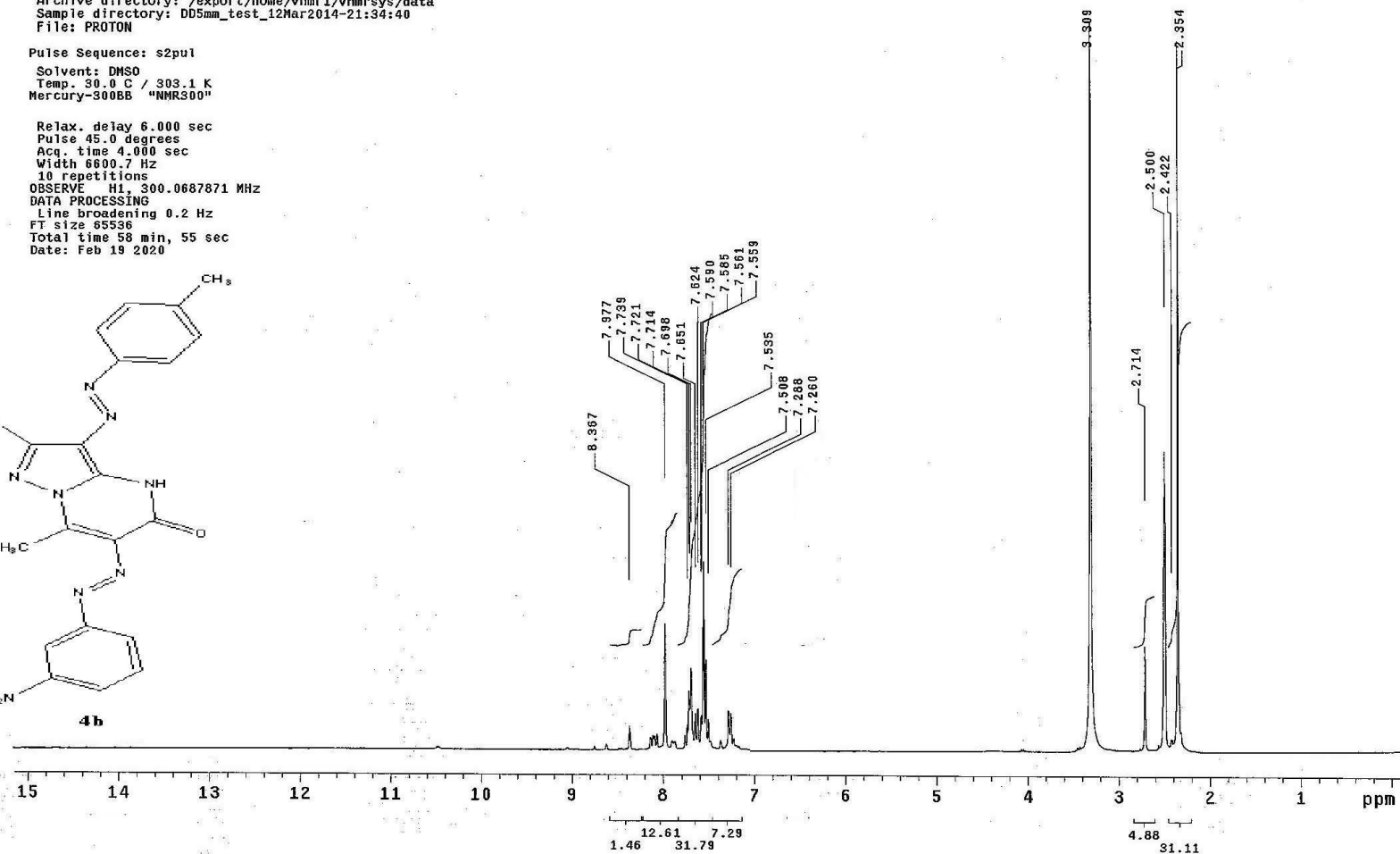
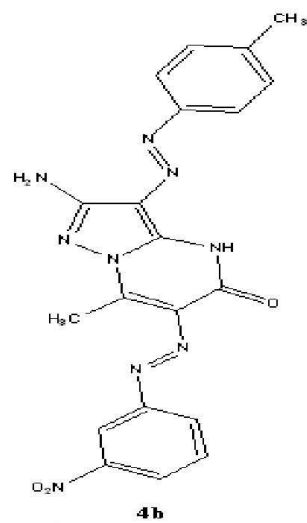
KerlexxIkram-K6NEE-DMSO-D2O-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
10 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
Line broadening 0.2 Hz
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



¹³C-NMR spectrum of compound 4b

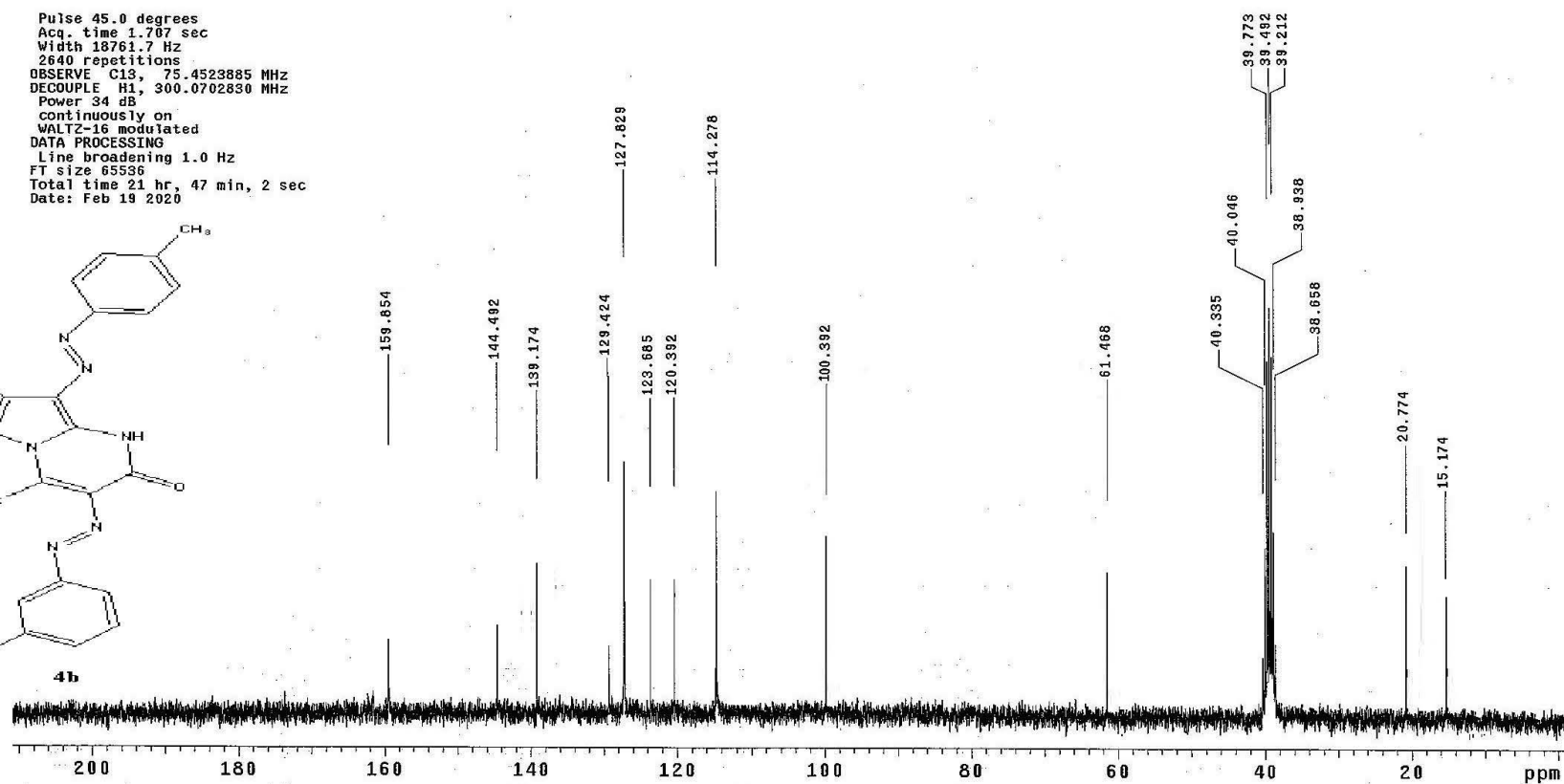
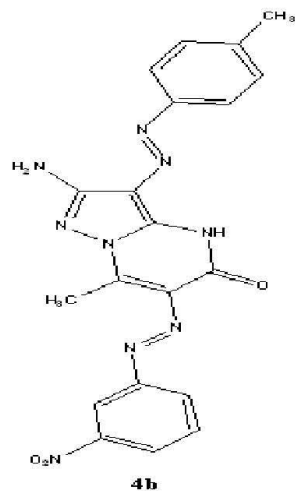
KerlessIkram-K6NEE-DMSO-C13

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

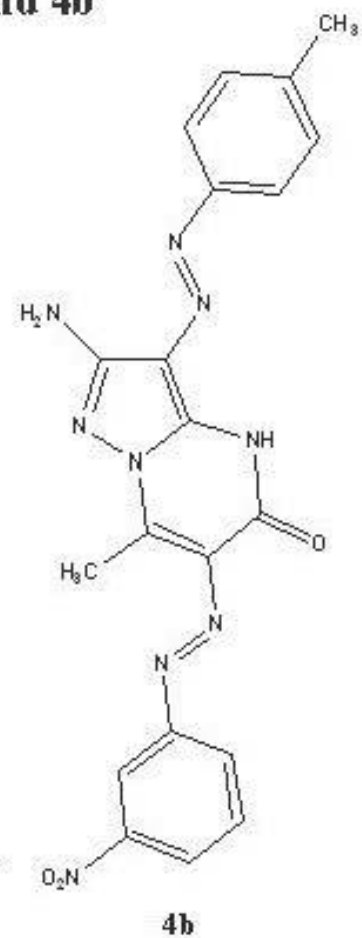
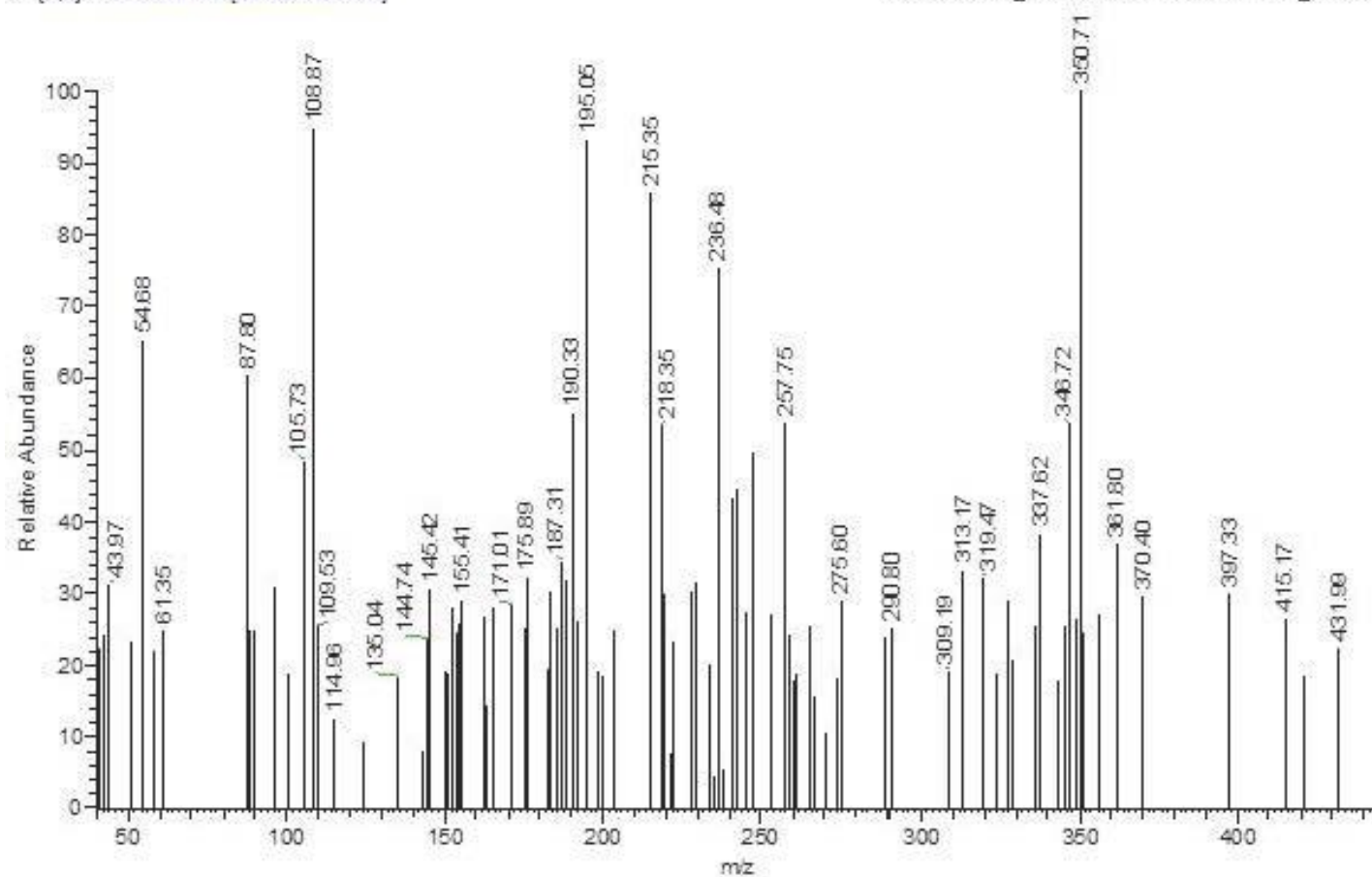
Solvent: DMSO
Ambient temperature
Mercury-300BB "NMR300"

Pulse 45.0 degrees
Acq. time 1.787 sec
Width 18761.7 Hz
2640 repetitions
OBSERVE C13, 75.4523885 MHz
DECOUPLE H1, 300.0702830 MHz
Power 34 dB
continuously on
WALTZ-16 modulated
DATA PROCESSING
Line broadening 1.0 Hz
FT size 65536
Total time 21 hr, 47 min, 2 sec
Date: Feb 19 2020



nahed-abd-elfattah-k8-nee #256 RT: 4.30 AV: 1 SB: 2 4.45, 4.45 NL: 3.49E2
T: (0,0) + c EI Full ms [40.00-1000.00]

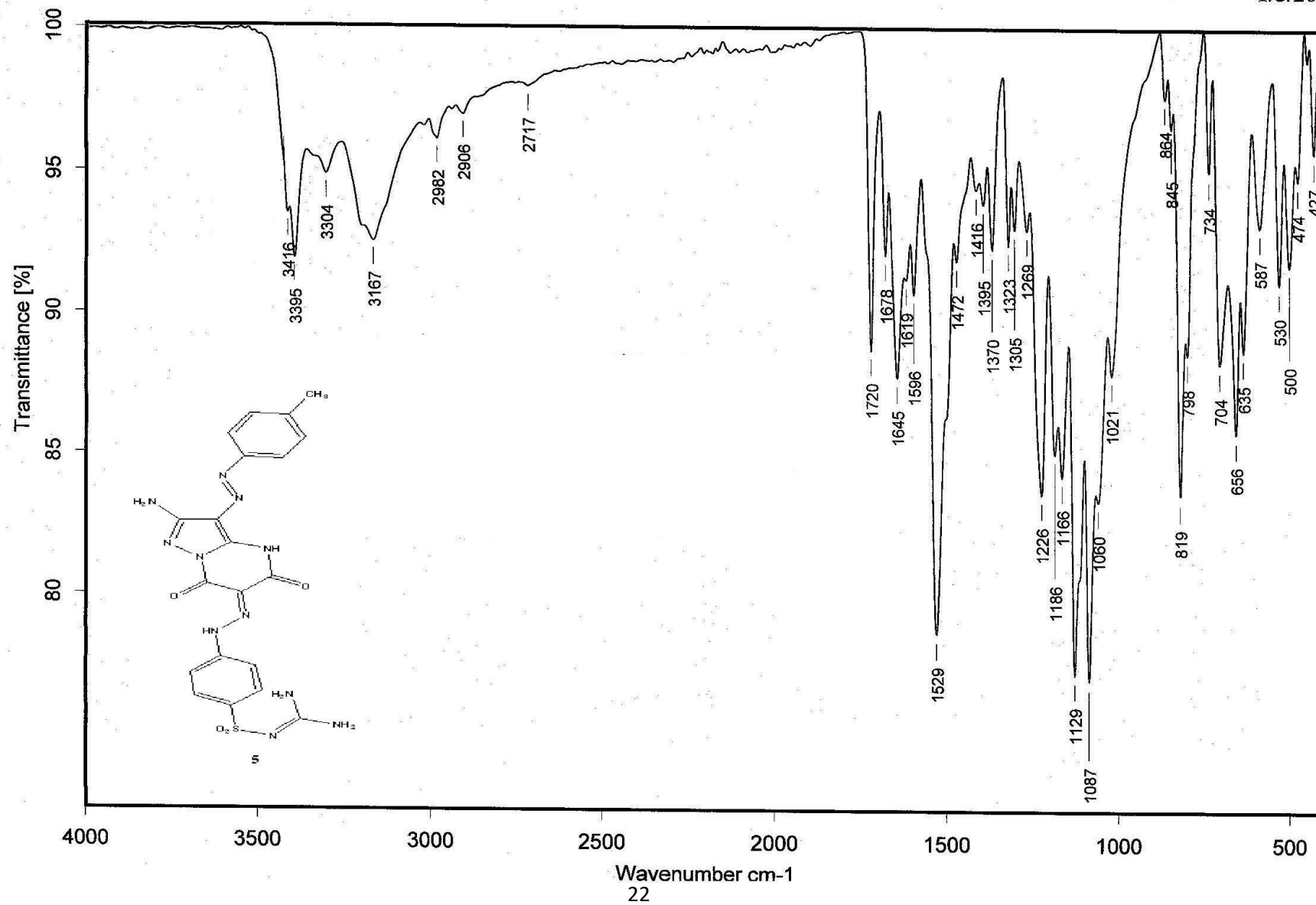
mass spectrum of compound 4b



K6DEM.1

IR spectrum of compound 5

1/5/2020



¹H-NMR spectrum of compound 5

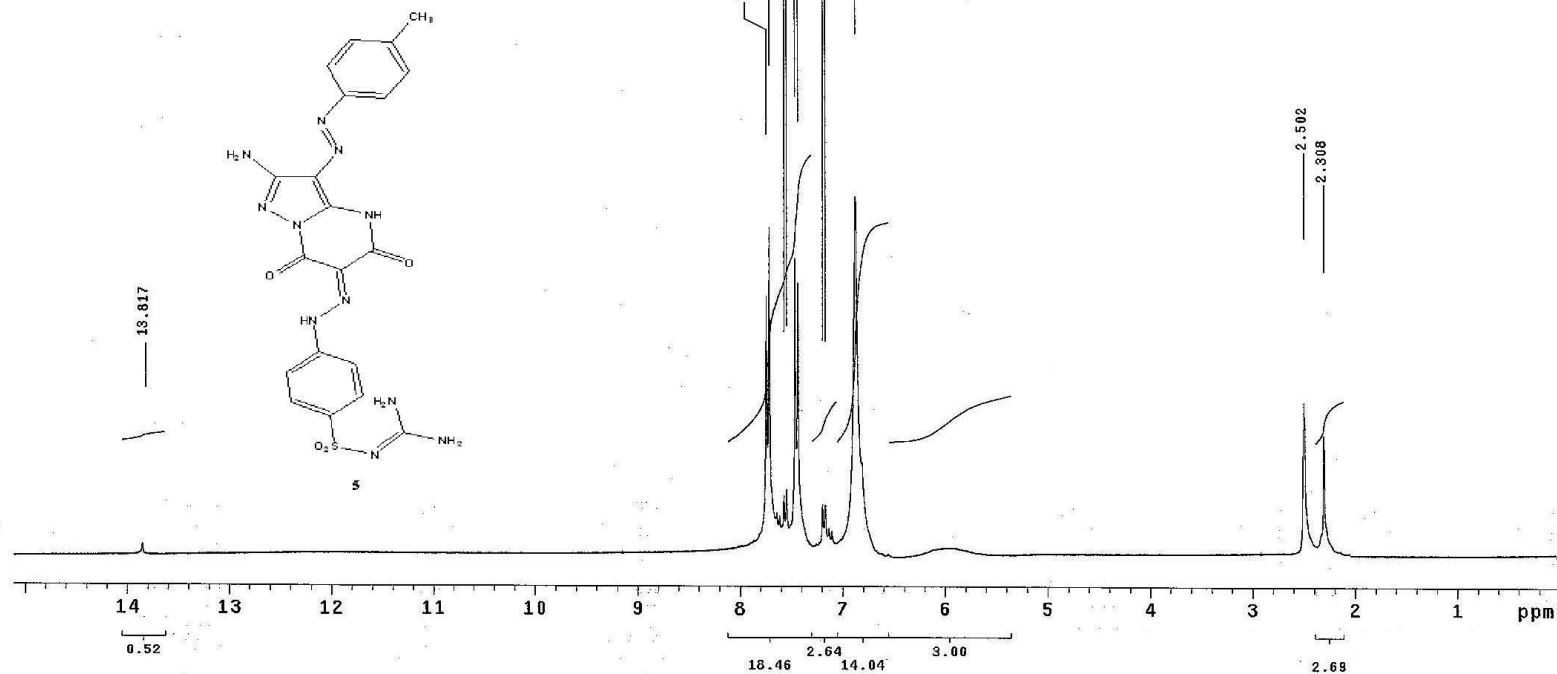
KerlessIkram-K6DEM-DMSO-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMRS00"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
35 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



¹H-NMR-D2O spectrum of compound 5

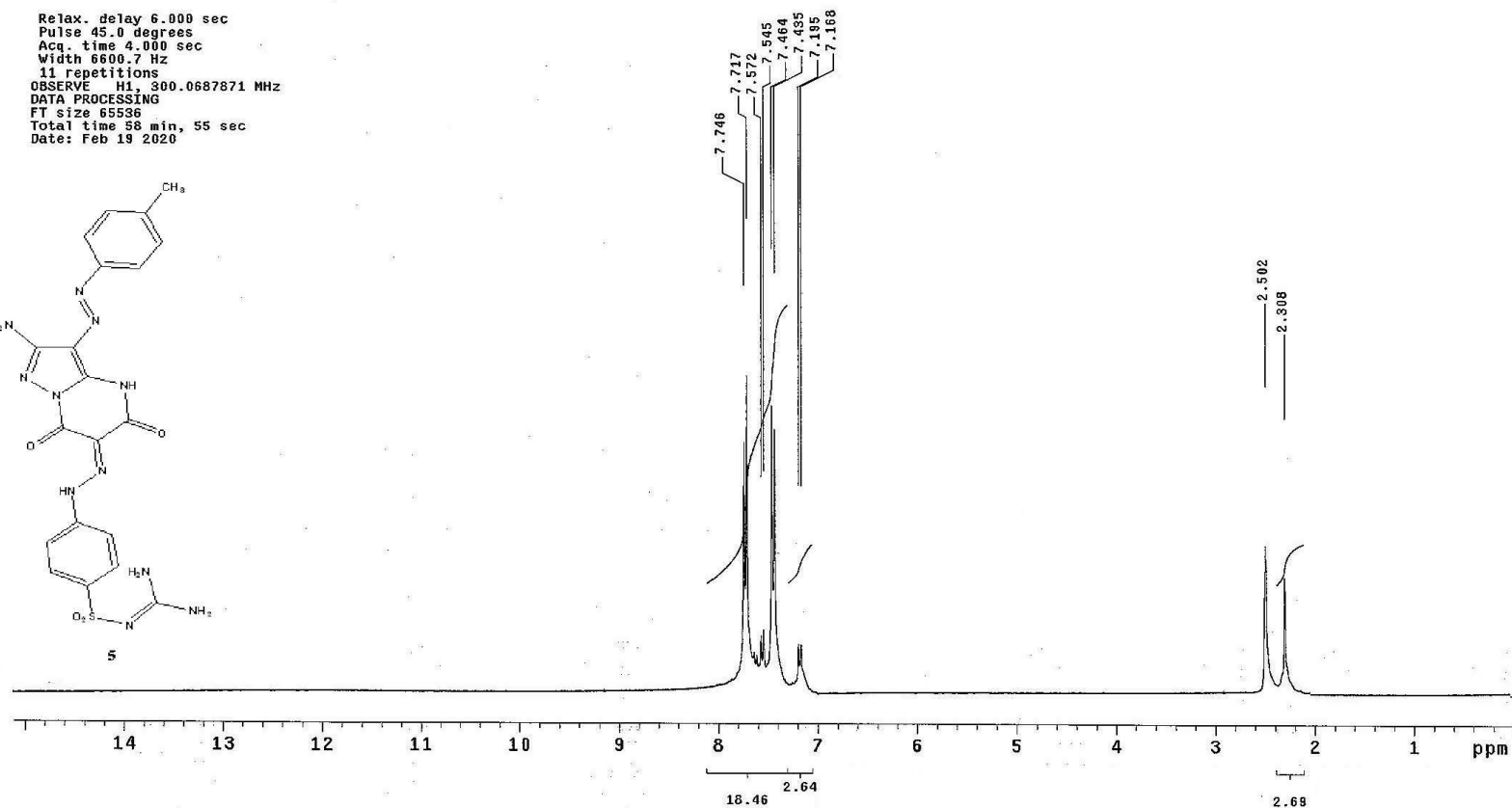
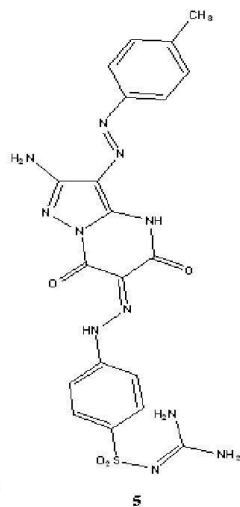
KerlessIkram-K6DEM-DMSO-D2O-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
11 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



13C-NMR spectrum of compound 5

KerlessIkram-K6DEM-DMSO-C13

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

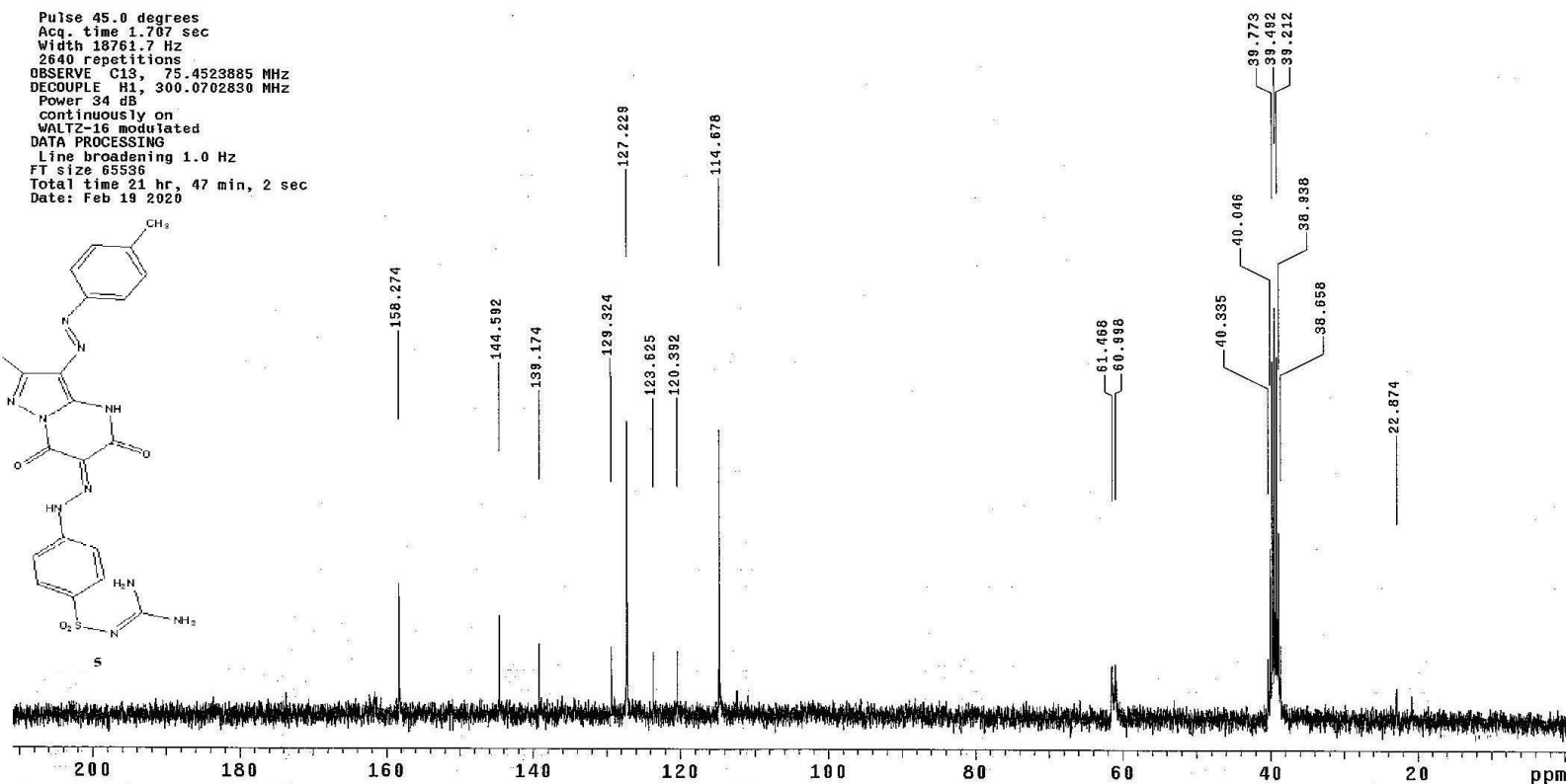
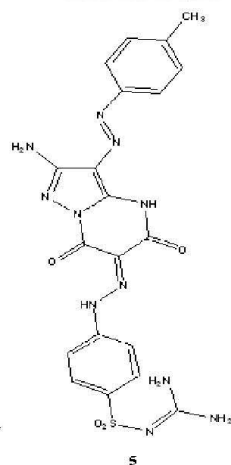
Pulse Sequence: s2pu1

Solvent: DMSO

Ambient temperature

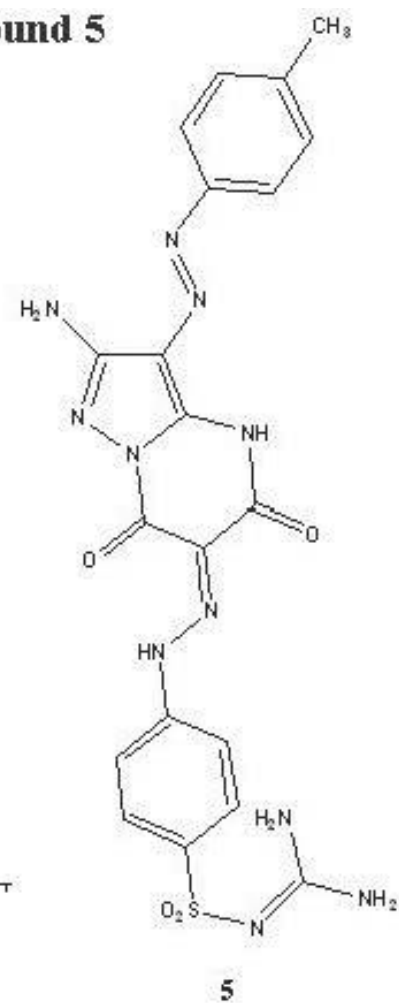
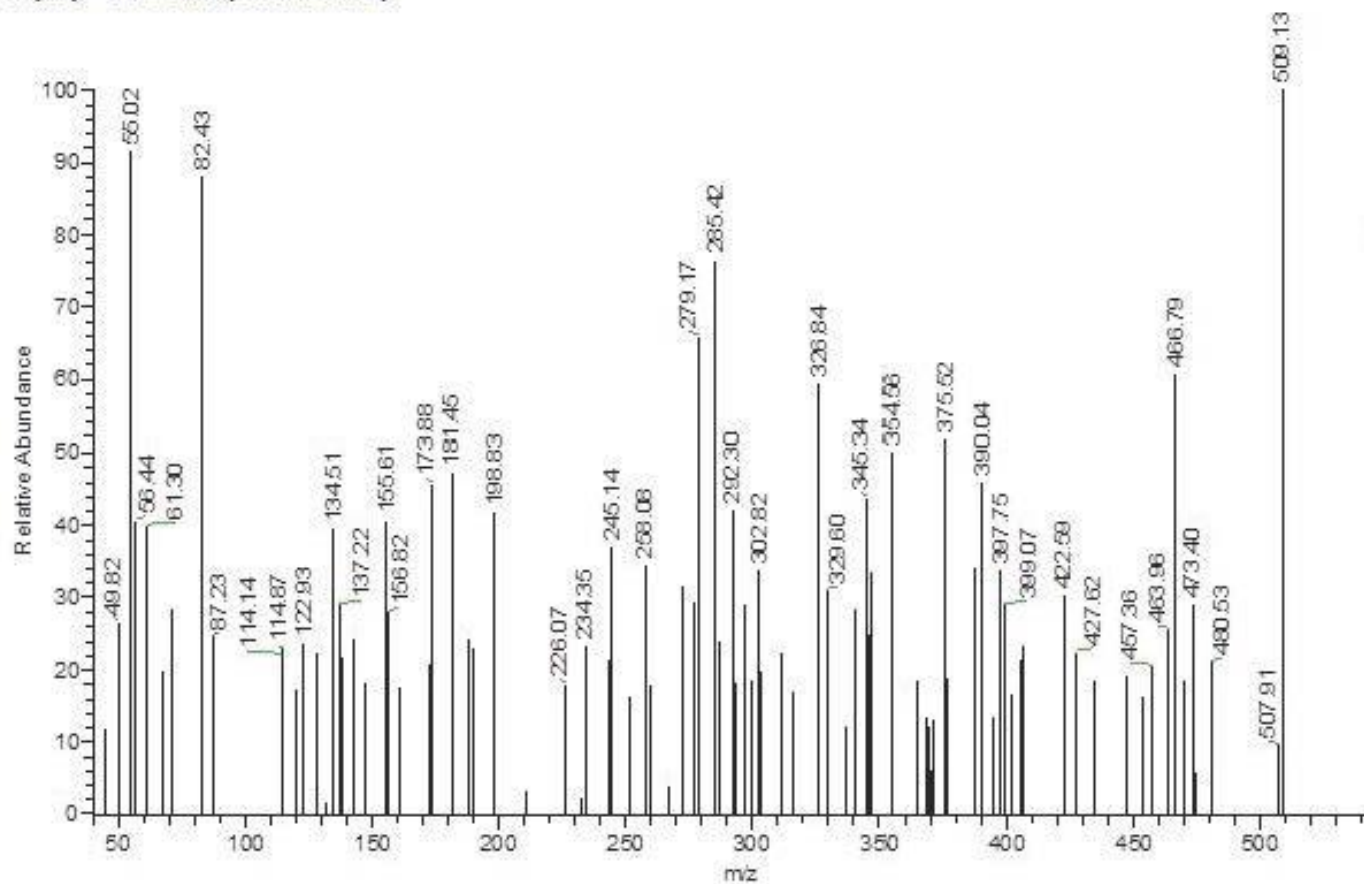
Mercury-30088 "NMR300"

Pulse 45.0 degrees
Acq. time 1.787 sec
Width 18761.7 Hz
2640 repetitions
OBSERVE C13, 75.4523885 MHz
DECOUPLE H1, 300.0702830 MHz
Power 34 dB
continuously on
WALTZ-16 modulated
DATA PROCESSING
Line broadening 1.0 Hz
FT size 65536
Total time 21 hr, 47 min, 2 sec
Date: Feb 19 2020



nshed-abd-elfattah-k6DME #177 RT: 2.98 AV: 1 SB: 2 4.45 , 4.45 NL: 4.40E2
T: {0,0} + e EI Full ms [40.00-1000.00]

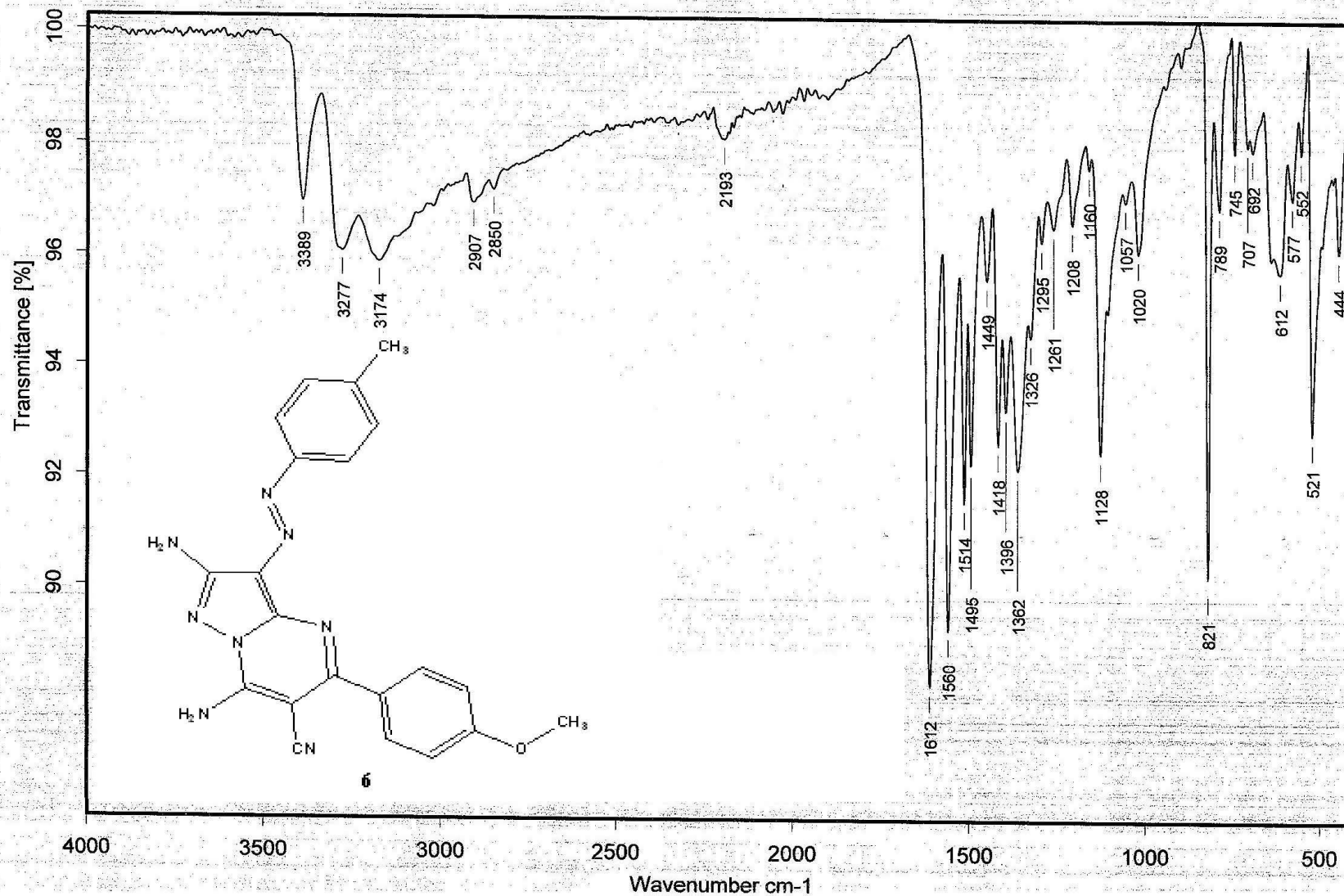
mass spectrum of compound 5



K6AMY.0

IR spectrum of compound 6

12/2/2019



¹H-NMR spectrum of compound 6

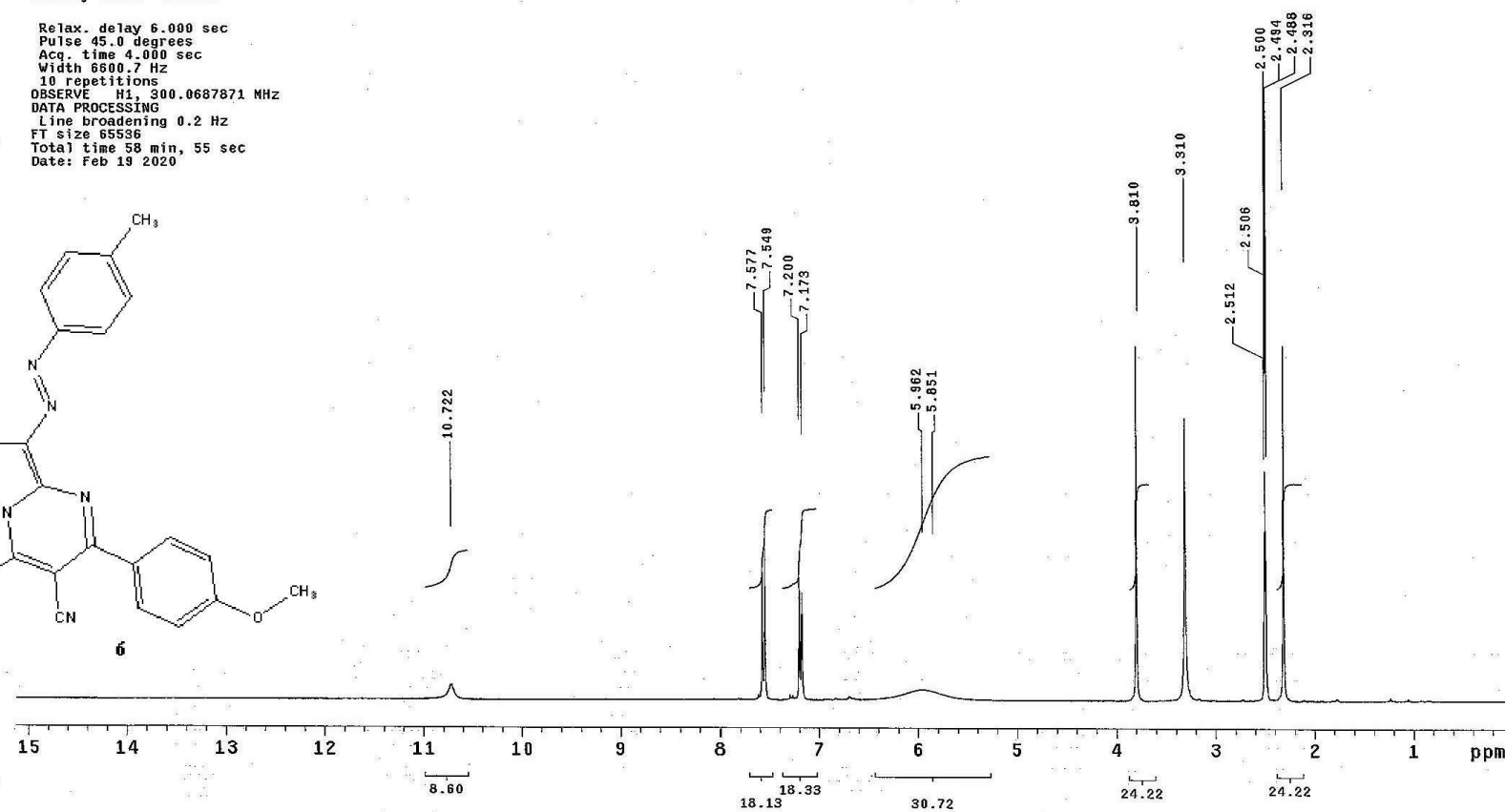
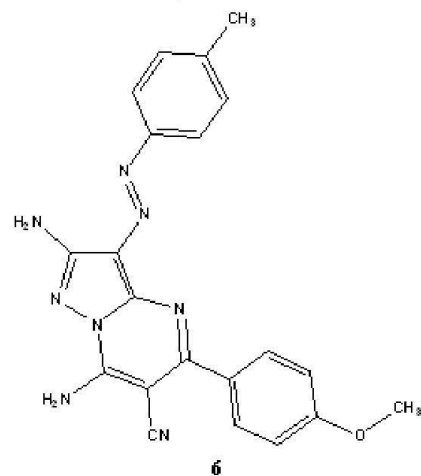
KerlessIkram-K6Ary-DMSO-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6500.7 Hz
10 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
Line broadening 0.2 Hz
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



¹H-NMR-D₂O spectrum of compound 6

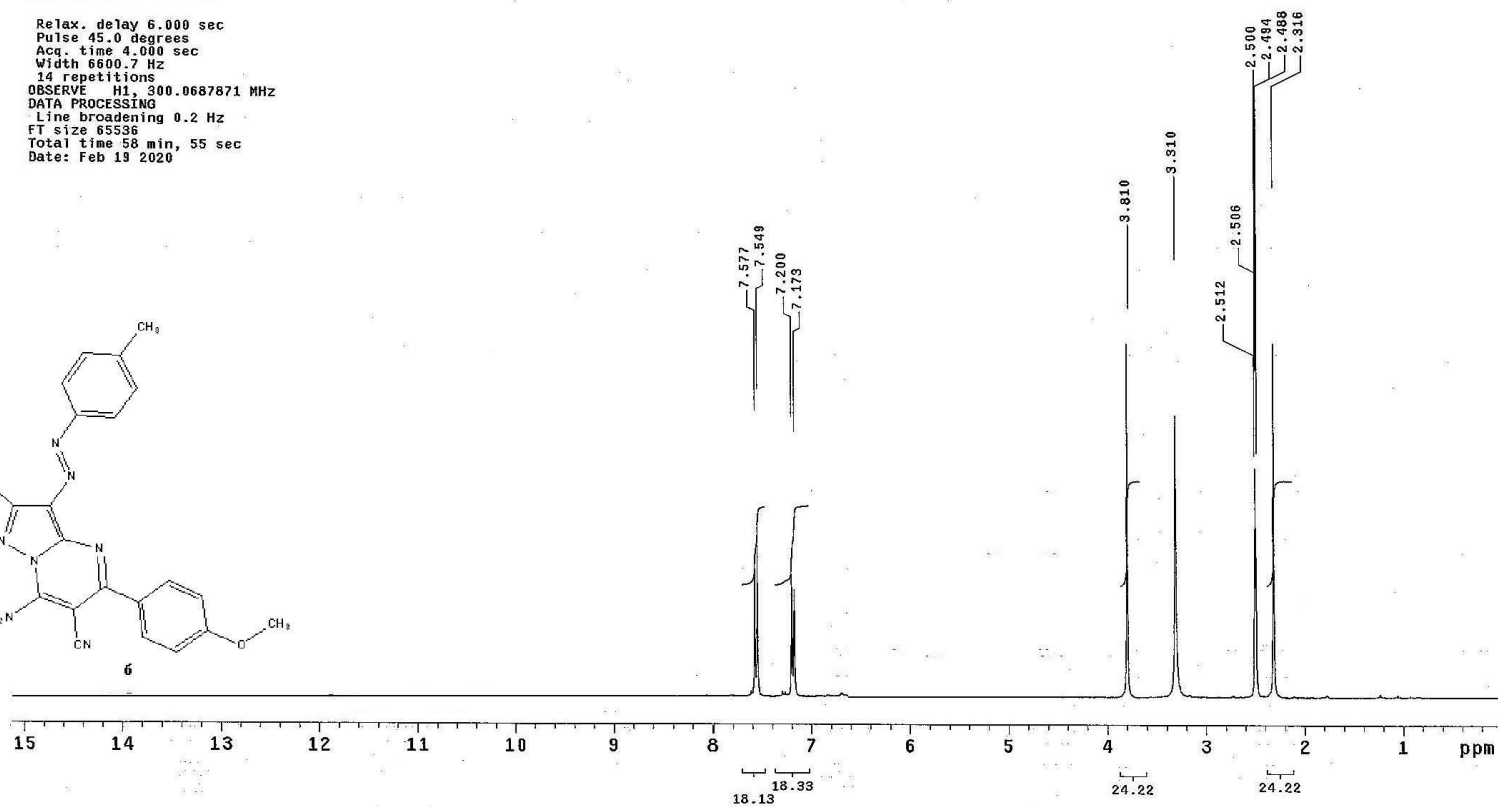
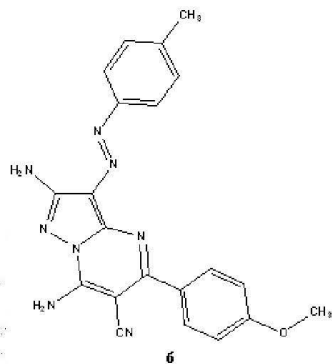
KerlexxIkram-K6Ary-DMSO-D₂O-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
14 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
Line broadening 0.2 Hz
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



¹³C-NMR spectrum of compound 6

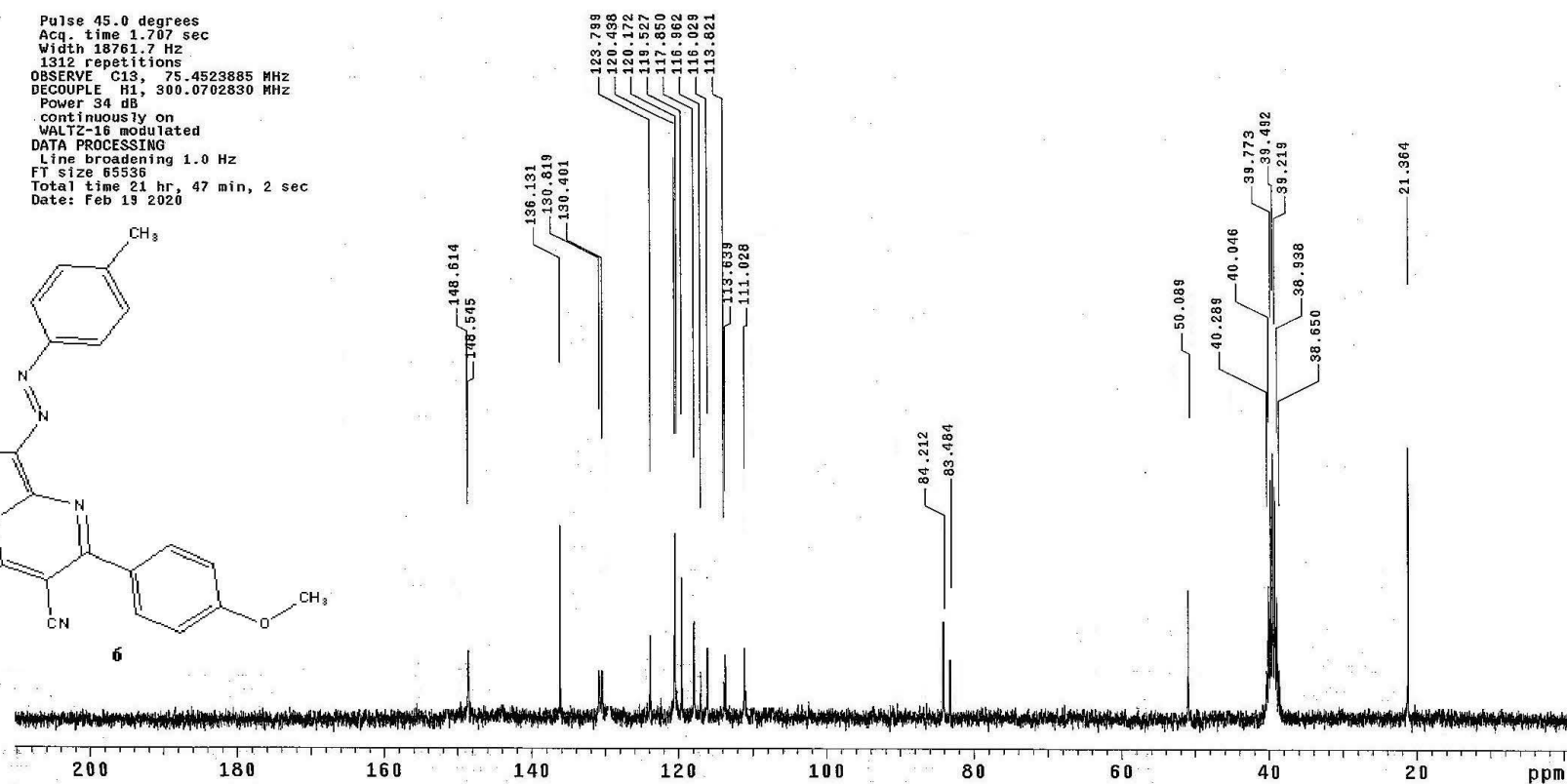
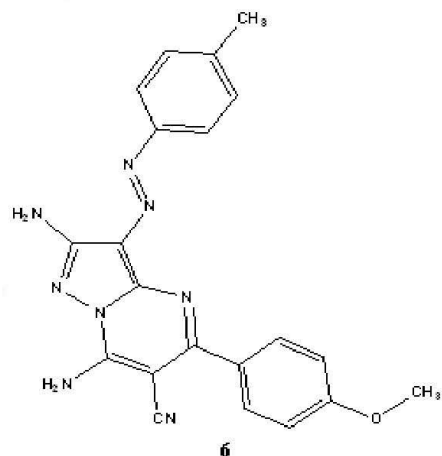
KerlessIkram-K6Ary-DMSO-C13

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

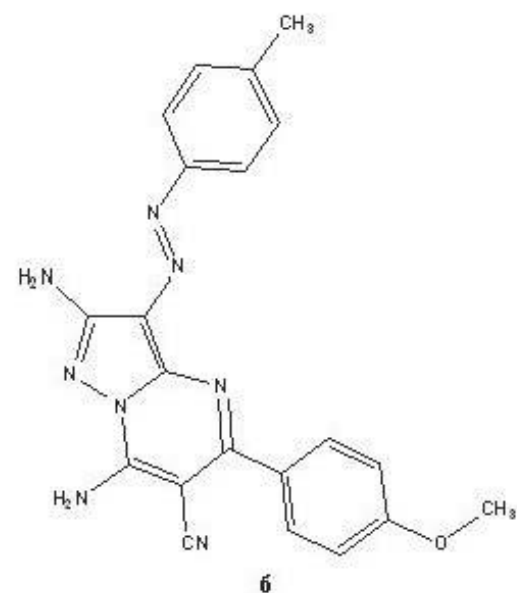
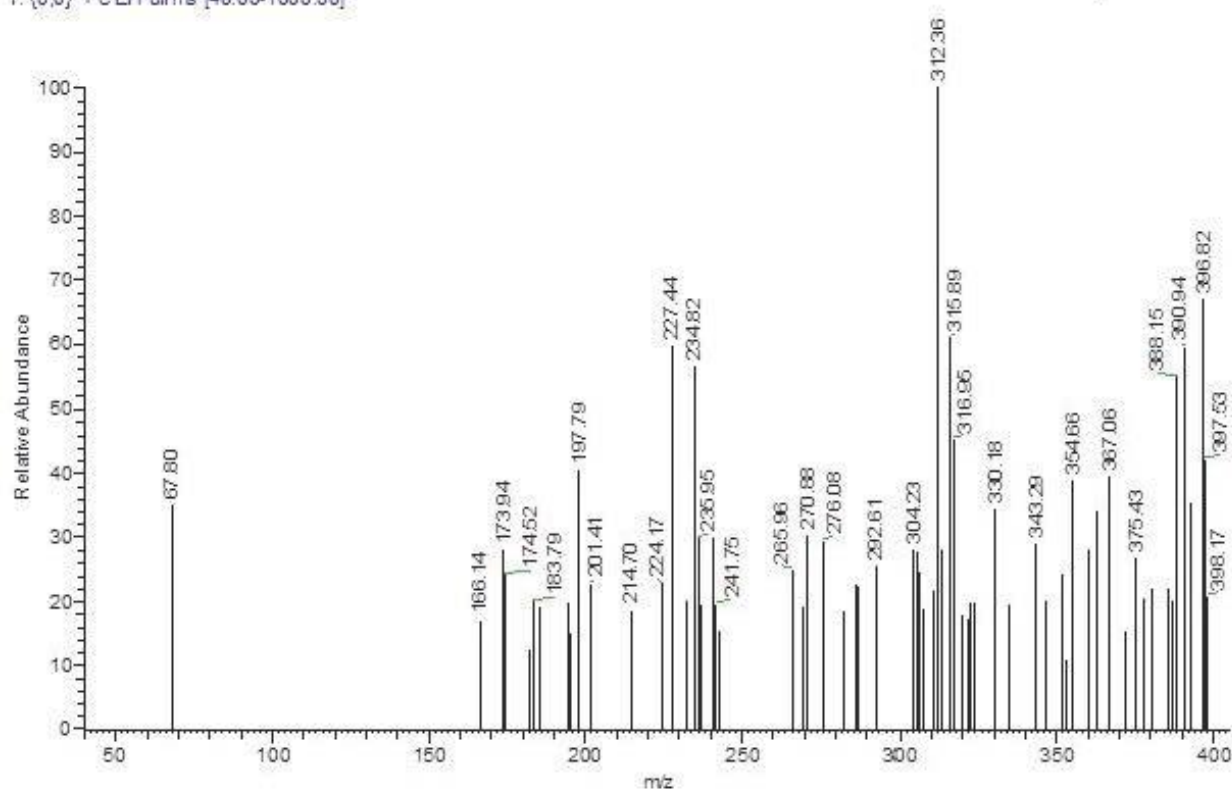
Solvent: DMSO
Ambient temperature
Mercury-300BB "NMR300"

Pulse 45.0 degrees
Acq. time 1.707 sec
Width 18761.7 Hz
1312 repetitions
OBSERVE C13, 75.4523885 MHz
DECOUPLE H1, 300.0702830 MHz
Power 34 dB
Continuously on
WALTZ-16 modulated
DATA PROCESSING
Line broadening 1.0 Hz
FT size 65536
Total time 21 hr, 47 min, 2 sec
Date: Feb 19 2020



nahed-abd-elfattah-k6ary#92 RT: 1.56 AV: 1 SB: 2 4.45, 4.45 NL: 4.41E2
T: {0,0} + e EI Full ms [40.00-1000.00]

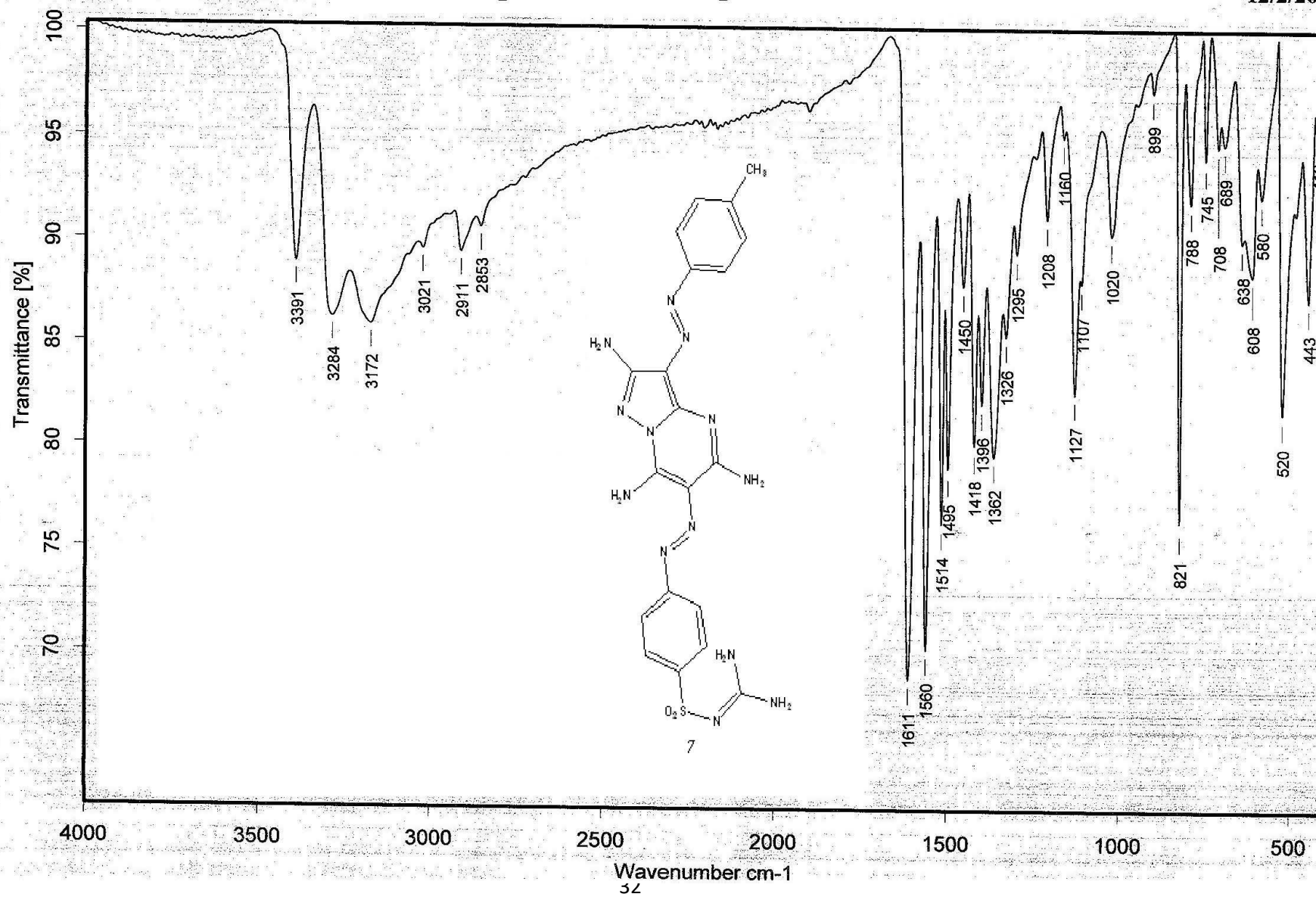
mass spectrum of compound 6



K6Mn.0

IR spectrum of compound 7

12/2/2019



1H-NMR-D2O spectrum of compound 7

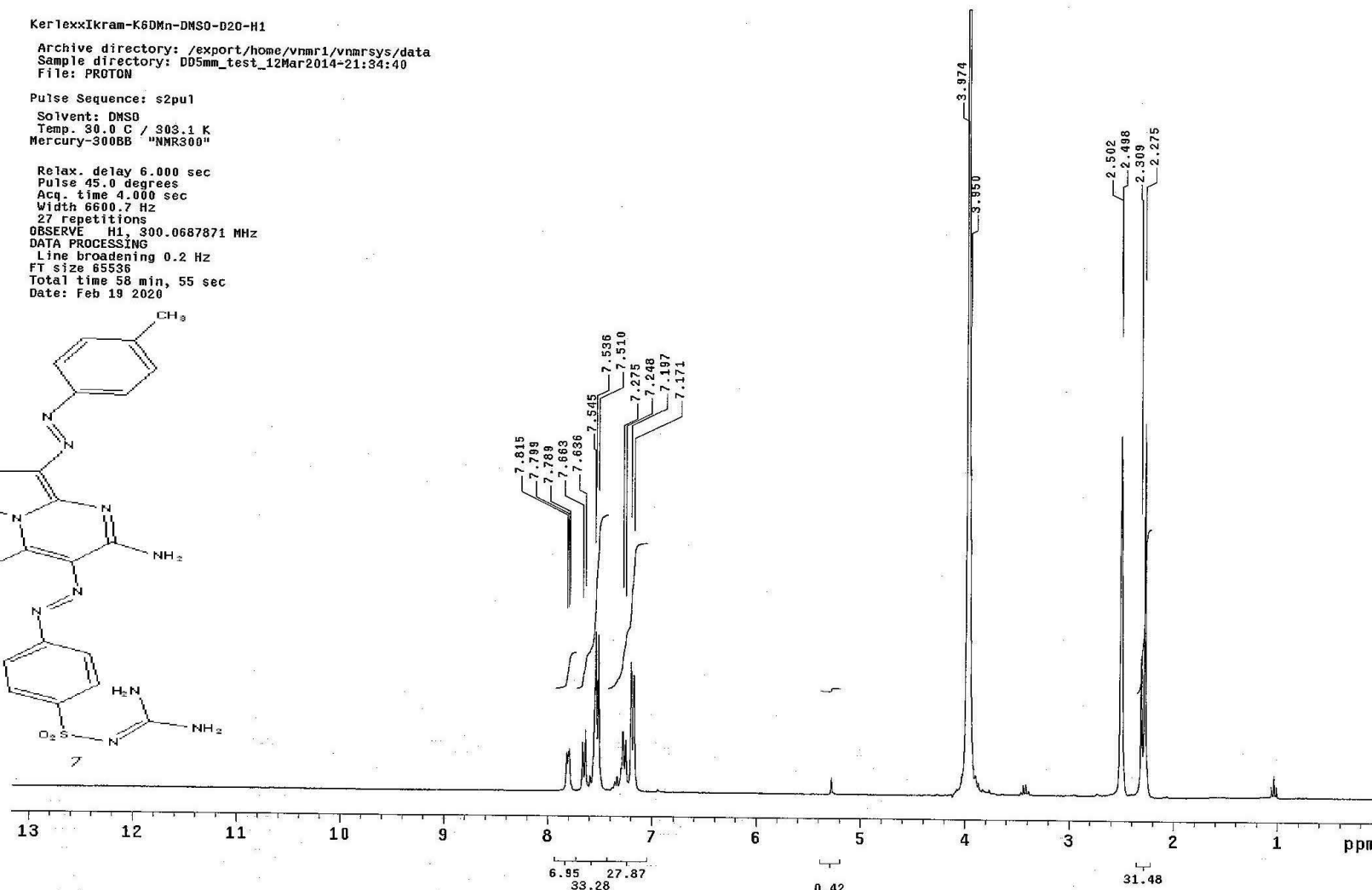
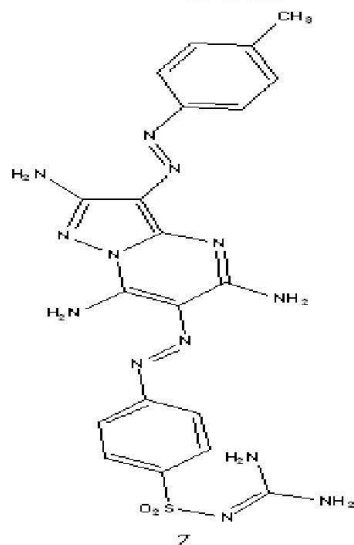
KerlexxIkram-K6DMn-DMSO-D2O-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: D05mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
27 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
Line broadening 0.2 Hz
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



¹H-NMR spectrum of compound 7

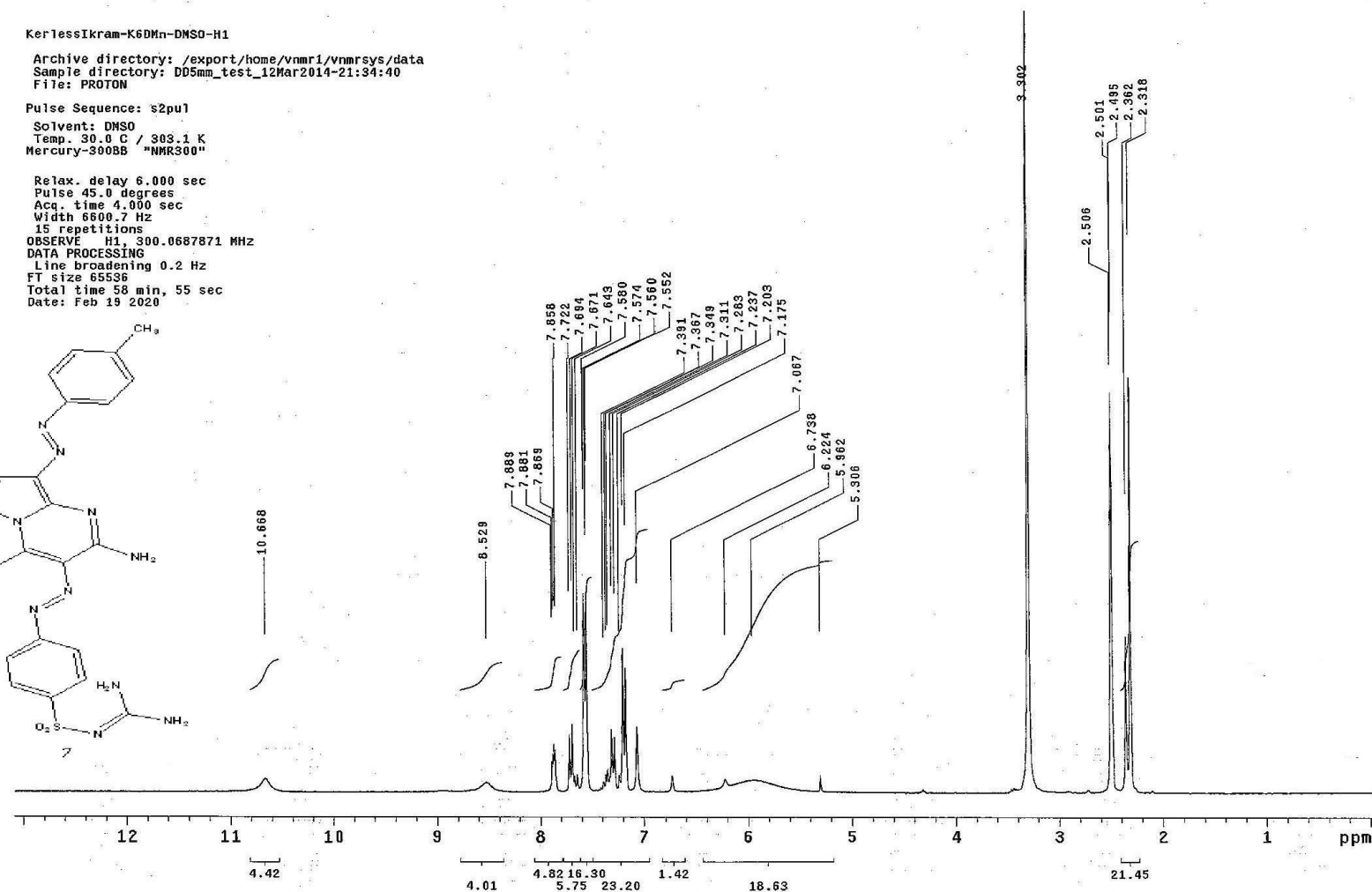
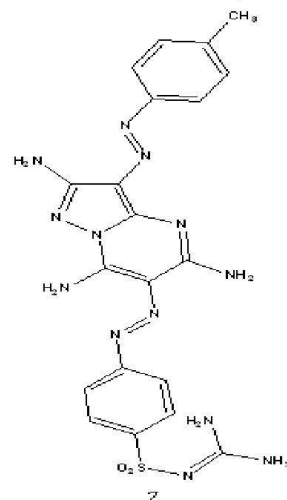
KerlessIkram-K6DMn-DMSO-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
Sample directory: DD5mm_test_12Mar2014-21:34:40
File: PROTON

Pulse Sequence: s2pu1

Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300SB "NMR300"

Relax. delay 6.000 sec
Pulse 45.0 degrees
Acq. time 4.000 sec
Width 6600.7 Hz
15 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
Line broadening 0.2 Hz
FT size 65536
Total time 58 min, 55 sec
Date: Feb 19 2020



nahed-abd-elfattah-k6DMin #195 RT: 3.28 AV: 1 SB: 2 4.45, 4.46 NL: 3.18E3
T: {0.0} + c EI Full ms [40.00-1000.00]

mass spectrum of compound 7

