

Supplementary Material

Hantzsch reaction with 6-aminouracil: Synthesis of novel tetrakis(6-aminouracil-5-yl)methanes and bis(decahydropyrido[2,3-*d*:6,5-*d'*]dipyrimidine-tetraones) linked to aliphatic or aromatic cores *via* ether-amide or ester-amide linkages

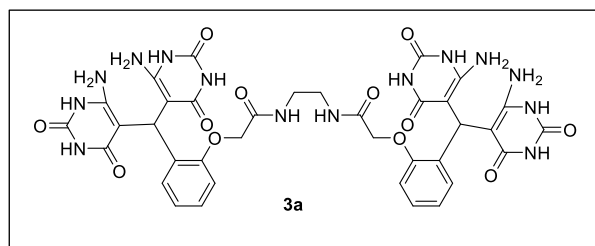
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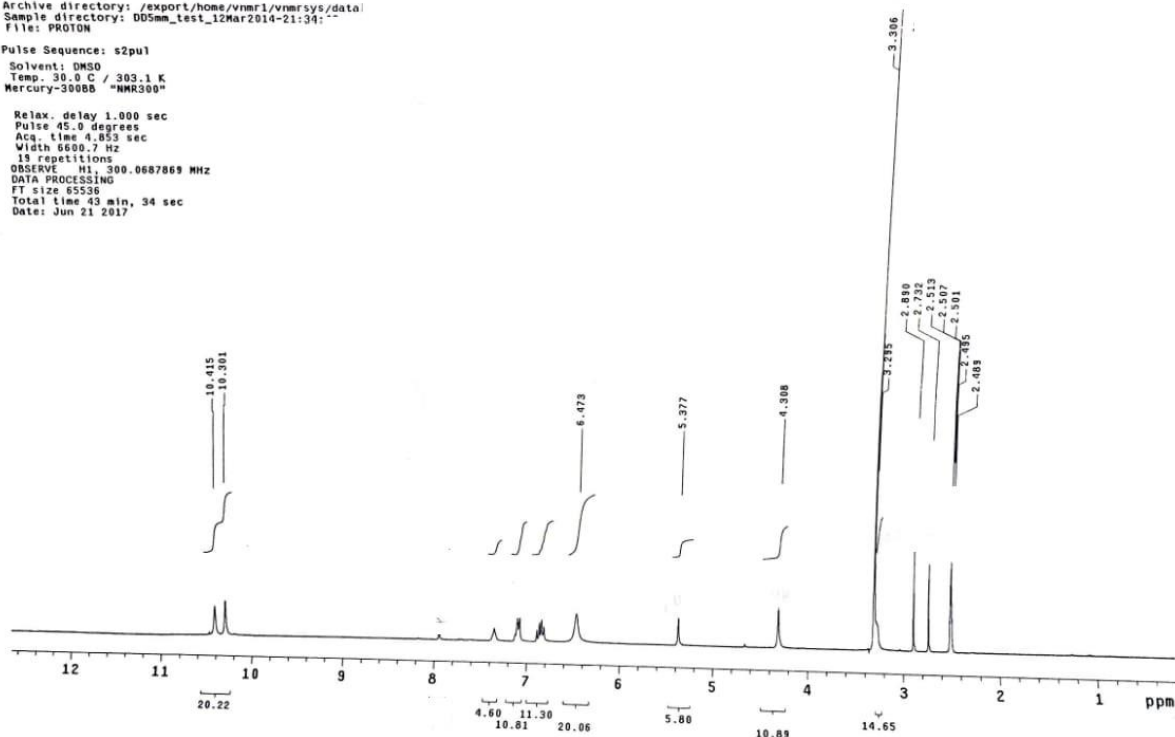
AhmadHelmy-A65-DMSO-1H

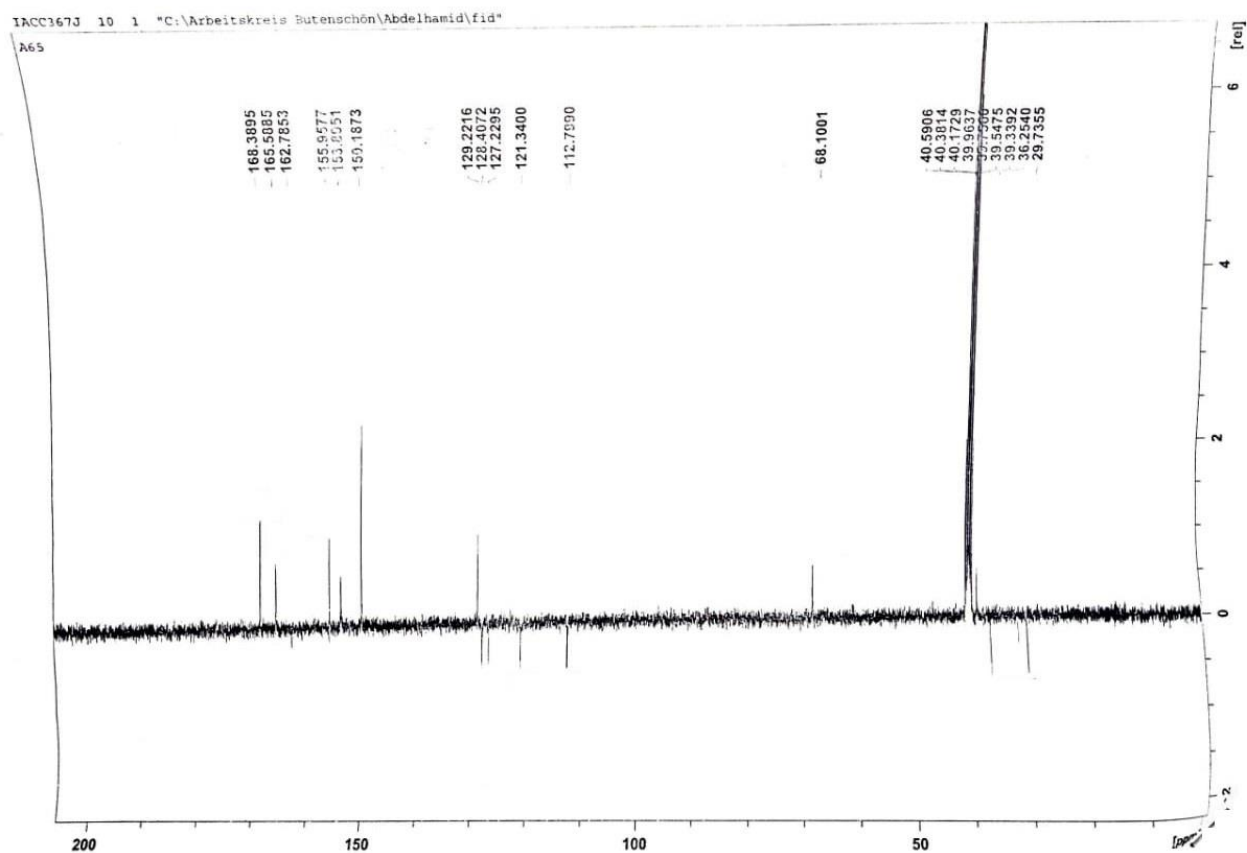
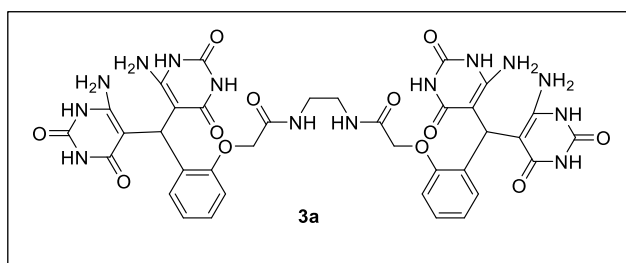
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Sample directory: D05mm_test_12Mar2014-21:34:--
File: PROTON

Pulse Sequence: s2pul1

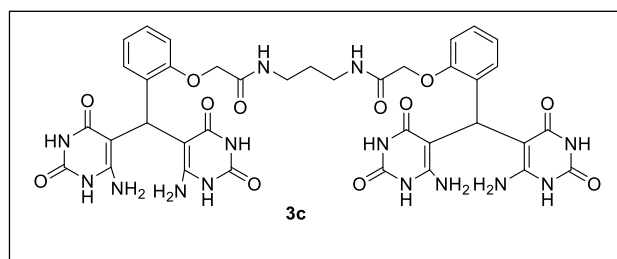
Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 4.853 sec
Width 6600.7 Hz
15 repetitions
OBSERVE H1, 300.0687869 MHz
DATA PROCESSING
FT size 65536
Total time 43 min, 34 sec
Date: Jun 21 2017

¹HNMR of compound 3a



¹³CNMR of compound 3a

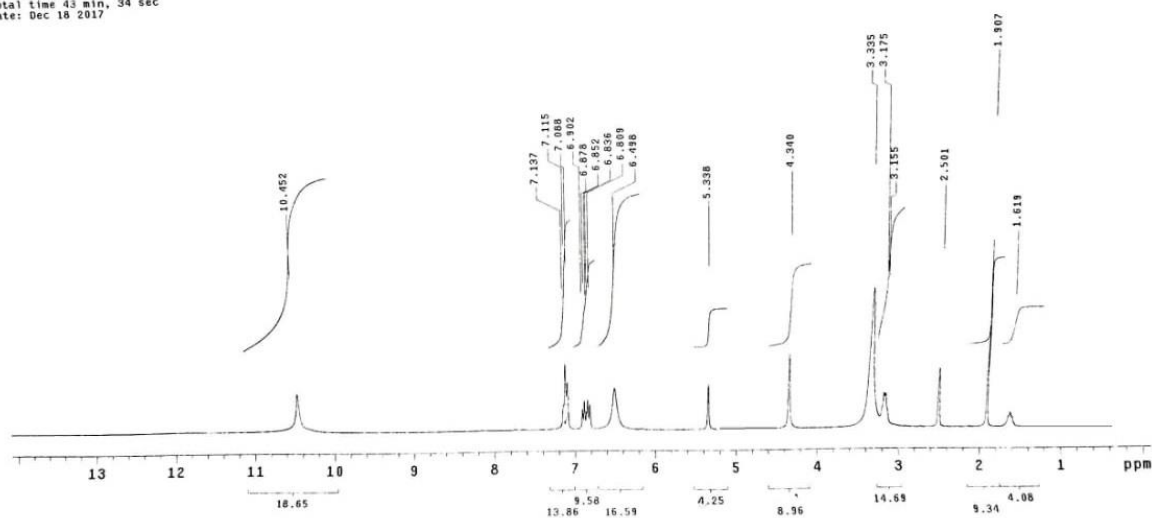


SaledGhozlan-A111-DMSO-H1

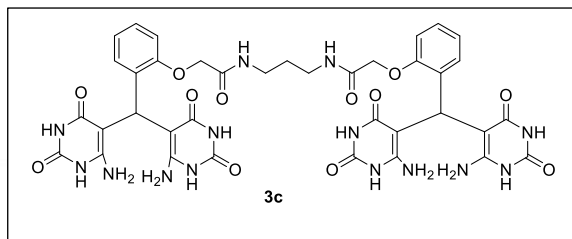
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File: PROTON

Pulse Sequence: s2pul
Solvent: DMSO
Temp: 30.0 C / 303.1 K
Mercury-300SB "NMR300"

Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 4.855 sec
Width 6600.7 Hz
28 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
FT size 65536
Total time 43 min, 34 sec
Date: Dec 18 2017



¹H NMR of compound 3c



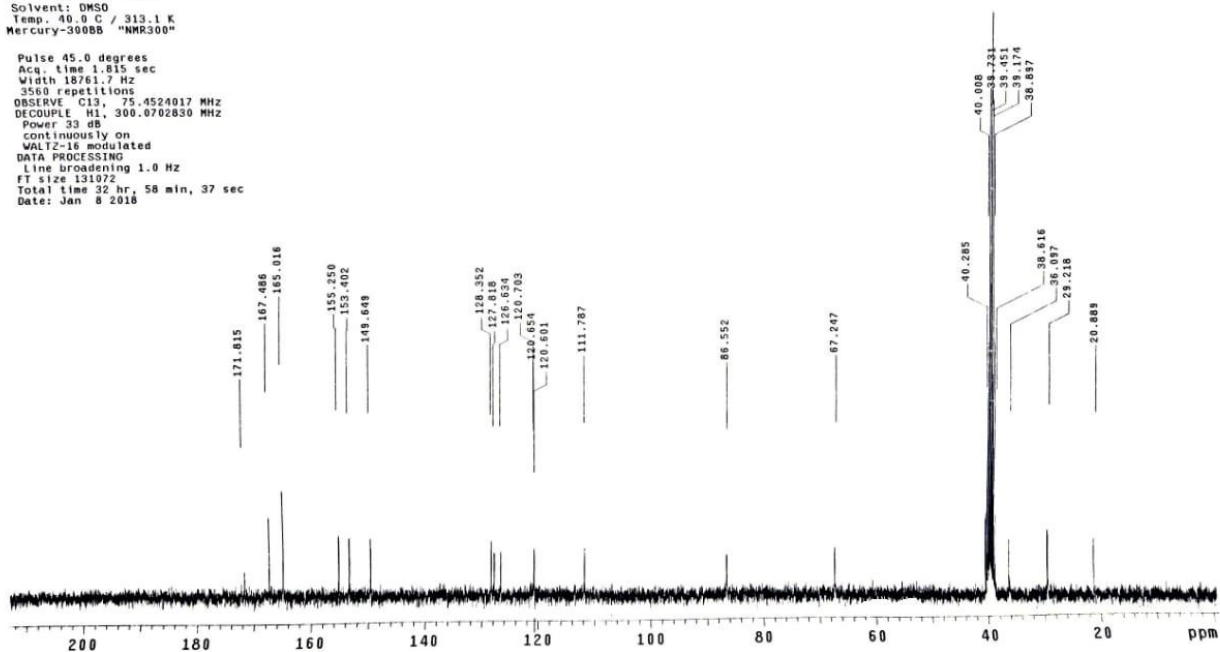
SaiedGhozlan-A111-DMSO-13C

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File: PROTON

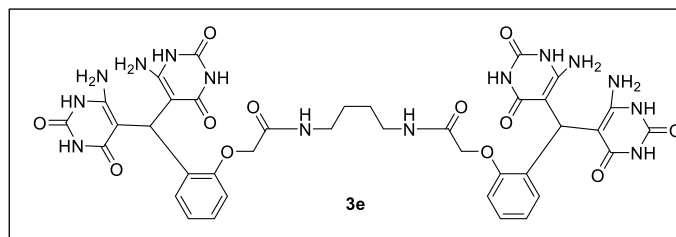
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Solvent: DMSO
Temp. 40.0 C / 313.1 K
Mercury-300BB "NMR300"

Pulse 45.0 degrees
Acq. time 1.815 sec
Width 18761.7 Hz
3560 repetitions
OBSERVE C13, 75.4524017 MHz
DECOUPLE H1, 300.0702830 MHz
Power 33 dB
continuously on
WALTZ-16 modulated
DATA PROCESSING
Line broadening 1.0 Hz
FT size 131072
Total time 32 hr, 58 min, 37 sec
Date: Jan 8 2018



¹³CNMR of compound 3c



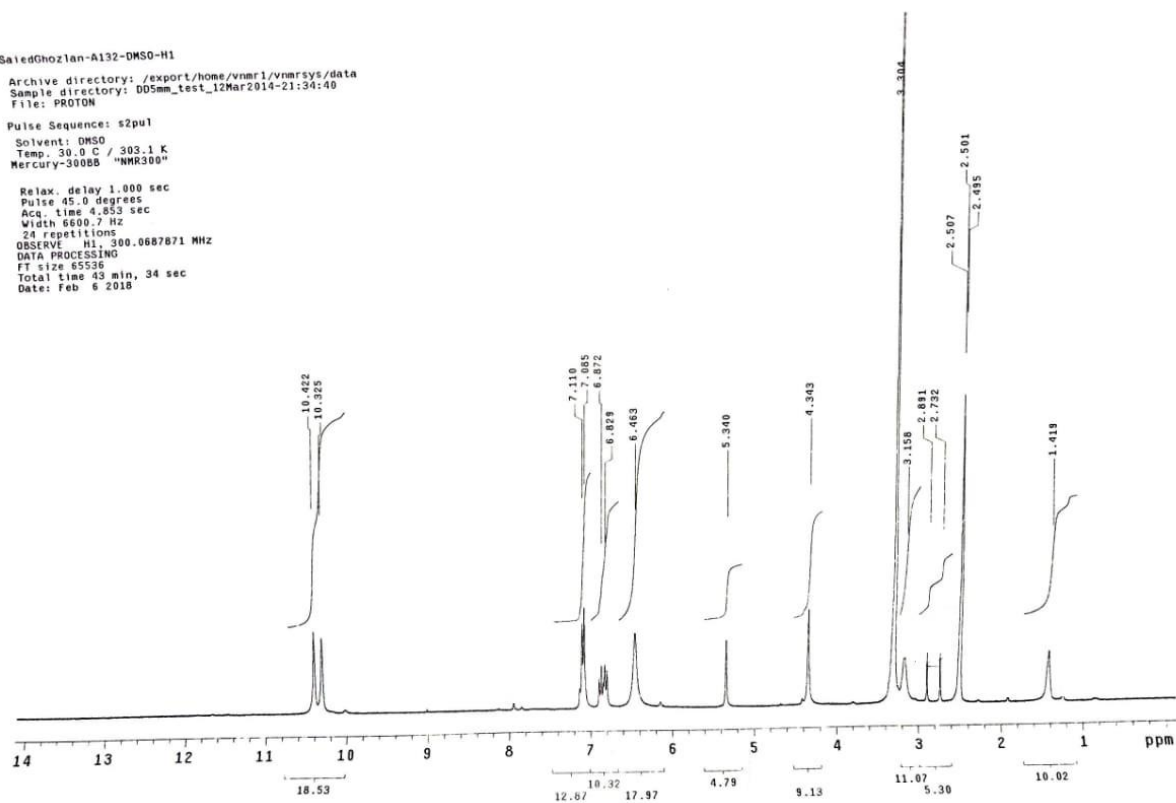
SaiedGhozlan-A132-DMSO-H1

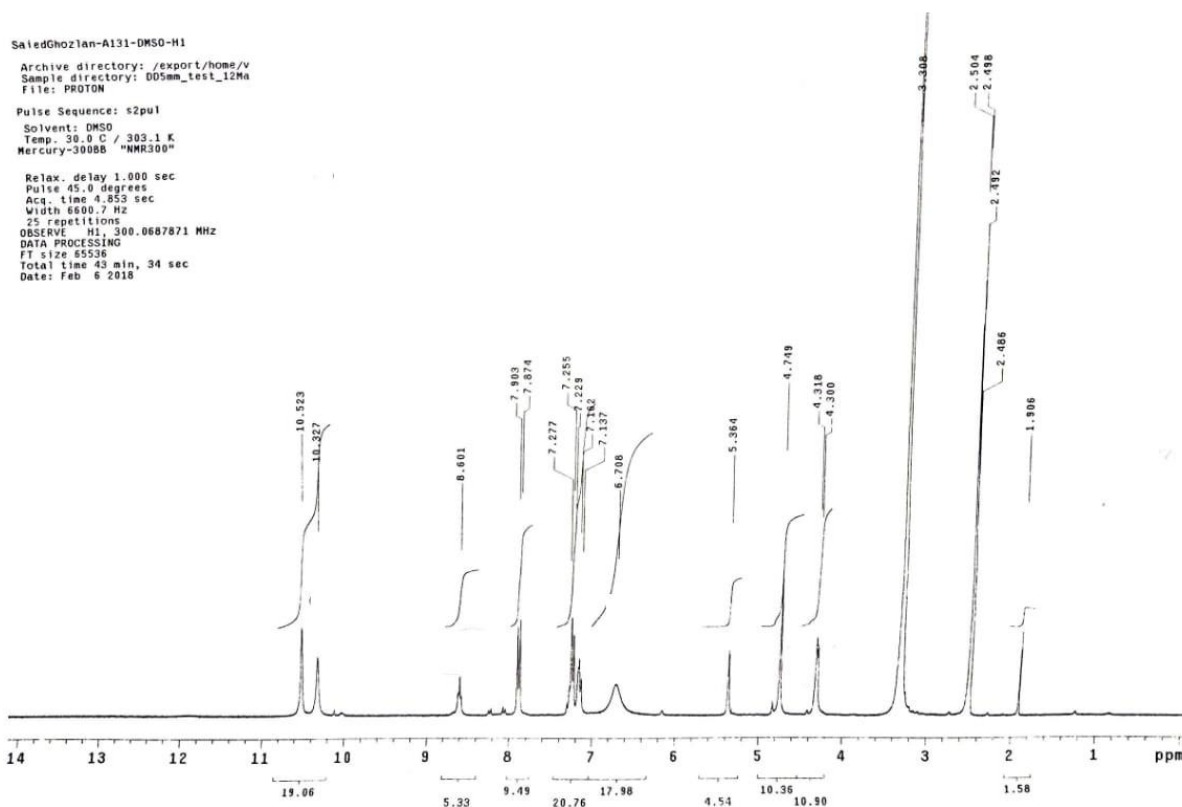
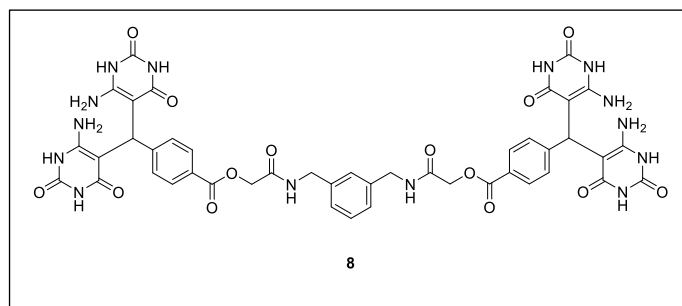
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File: PROTON

Pulse Sequence: s2pu1

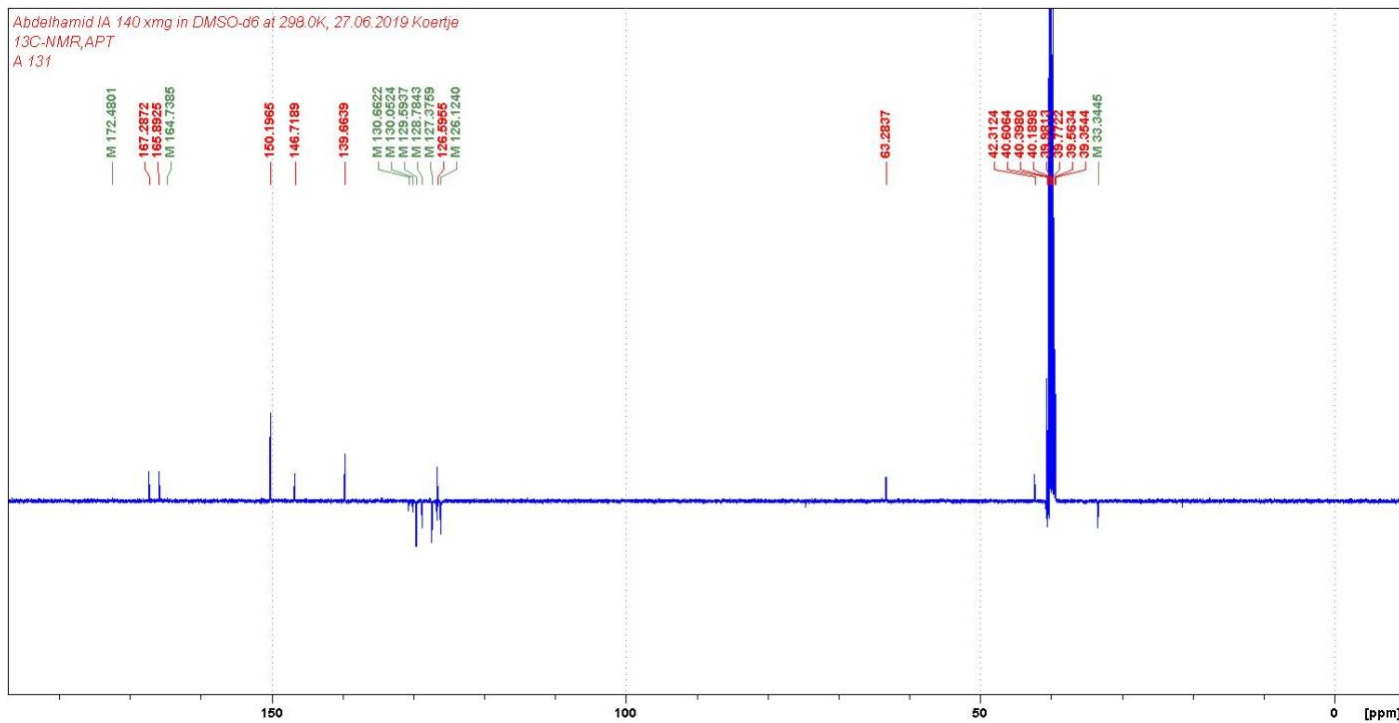
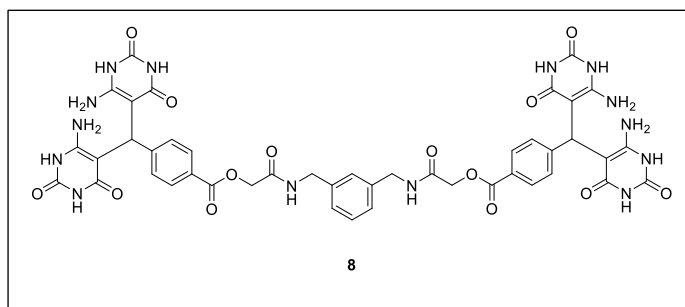
Solvent: DMSO
Temp. 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 4.853 sec
Width 6600.7 Hz
24 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
F1 size 65536
Total time 43 min, 34 sec
Date: Feb 6 2018

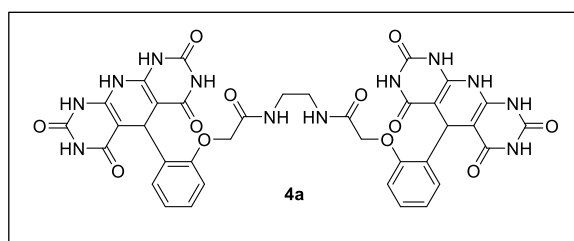
¹H NMR of compound **3e**



¹H NMR of compound 8



¹³CNMR of compound 8

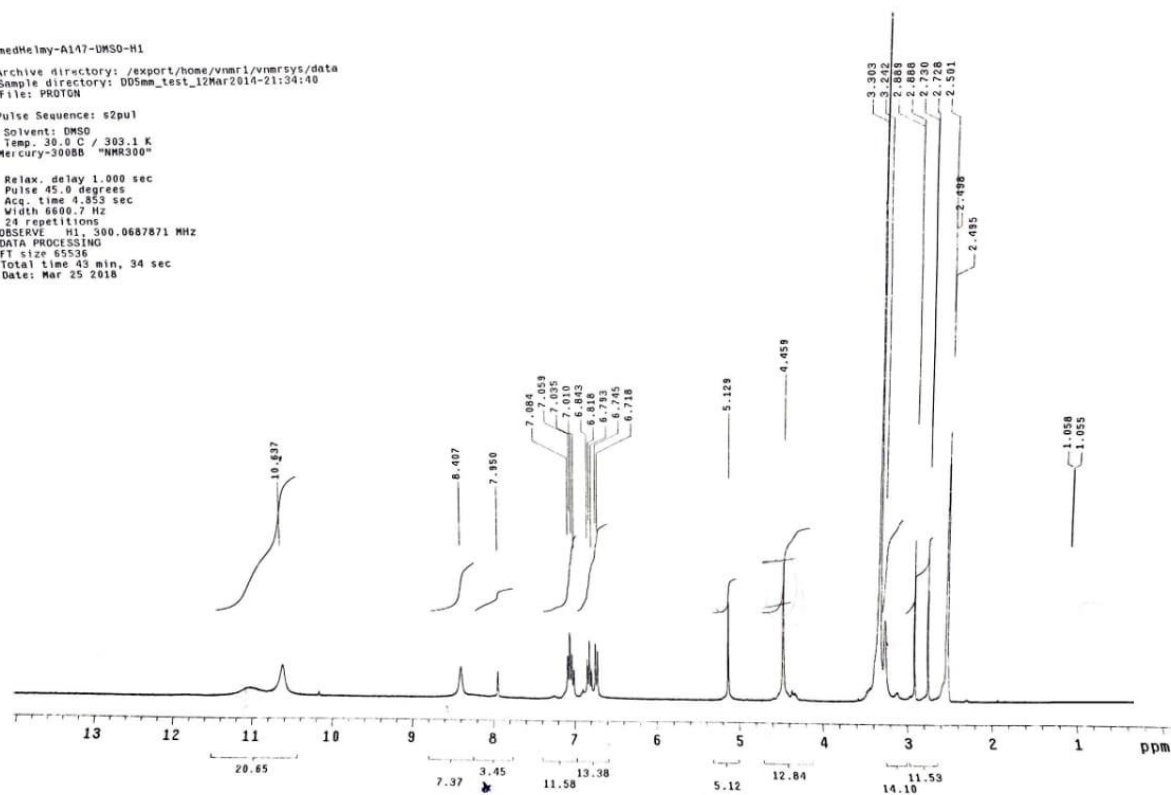


AhmedHelay-A147-DMSO-H1

Archive directory: /export/home/vnmr1/vnmrsys/data
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File: PROTGN

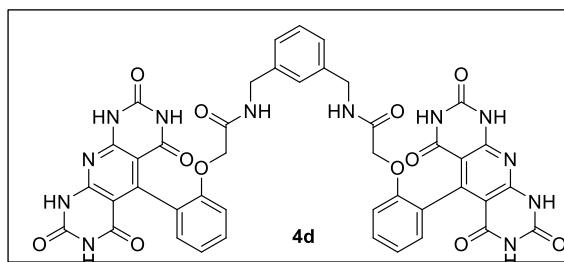
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Solvent: DMSO
Temp: 30.0 C / 303.1 K
Mercury-300BB "NMR300"

Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 4.855 sec
Width 6600.7 Hz
24 repetitions
OBSERVE H1, 300.0687871 MHz
DATA PROCESSING
FT size 65536
Total time 45 min, 34 sec
Date: Mar 25 2018

**¹H NMR of compound 4a**



¹³CNMR of compound 4a



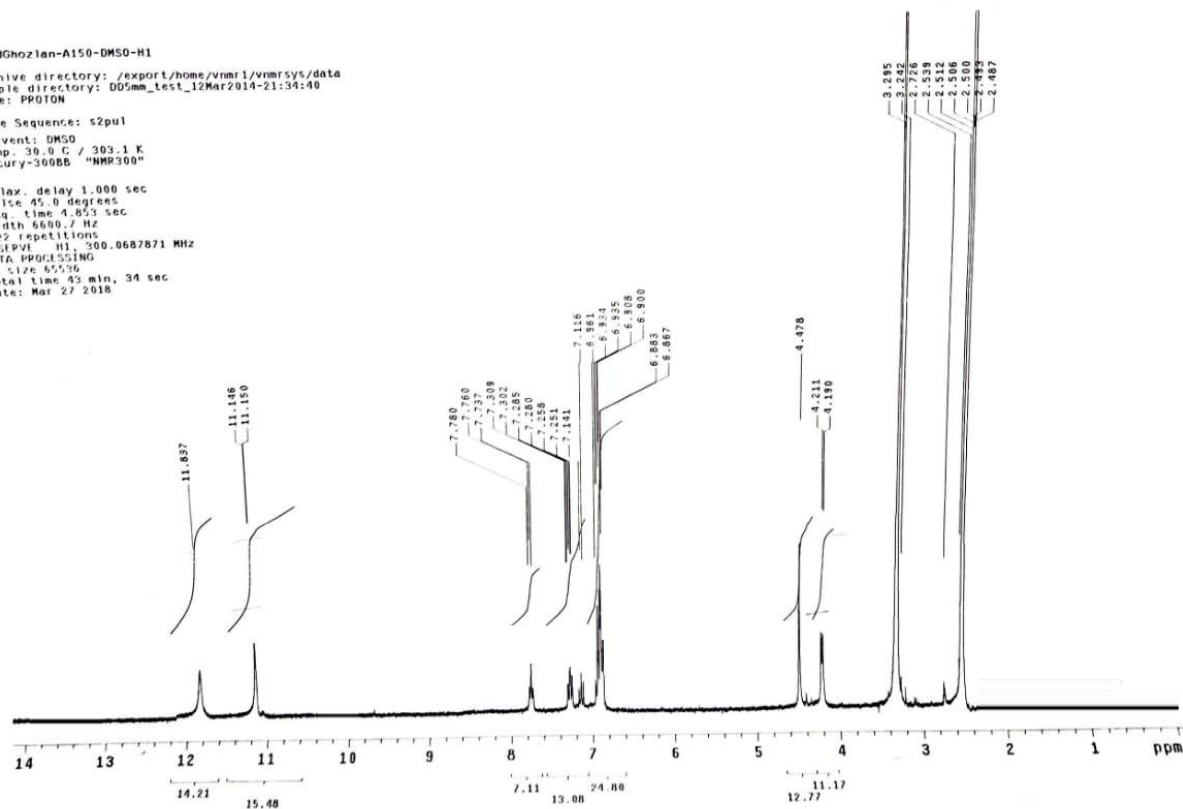
SaledGhozlan-A150-DMSO-H1

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

Pulse Sequence: s2pul

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

Relax. delay 1.000 sec
 Pulse 45.0 degrees
 Acq. time 4.853 sec
 Width 6600.7 Hz
 122 repetitions
 OBSFREQ H1: 300.0687871 MHz
 DATA PROCESSING
 FI size 65536
 Total time 43 min, 34 sec
 Date: Mar 27 2018

**¹H NMR of compound 4d**