Support Information

Synthesis and Evaluation of Potent (Iso)ellipticine-based Inhibitors of

MYLK4 Accessed via Expeditious Synthesis from Isoquinolin-5-ol

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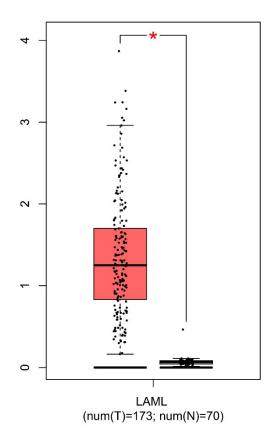


Figure S1. Expression level of MYLK4 in acute myeloid leukemia.

==== Shimadzu LabSolutions Analysis Report ====

: DHT-05107 (Ag 10mM ABC + NH4OH pH 8.5 60m) : 61-HPLC Buffer-60min.lcm Batch Filename : 1-35 Injection Volume : 20 uL Sample Name Method Filename : 20210719-LC-60m.lcb

: 2021/7/19 下午 06:18:28 : 2021/7/19 下午 07:18:30 Date Acquired Date Processed Acquired by Processed by System Administrator : System Administrator

<Method>

<<Data Acquisition>>

: SPD-20A AD1 Name LC Stop Time : 60.00 min

AD1 Sampling Frequency : 2 Hz

<<Autosampler>>

Autosampler Model : LC-2030 Autosampler

Enable Autosampler : Use

<<Oven>>

Oven Model : LC-2030 Oven Enable Oven : Not Used

<<Column Infomation>>

: ZORBAX Eclipse XDB-C18 Column Name : ZORBAX Eclipse XDB-C18 Column ID

Column Length : 150 mm Inner Diameter

<<Mobile Phase Name>>

Mobile Phase A : Acetonitrile Mobile Phase B : Water

Mobile Phase C Mobile Phase D : Buffer

<<Pump>>

Mode : LC-2030 Pump : Low pressure gradient Pump A

: 0.0 % : 0.5000 mL/min D Conc. : 0.0 % : 90.0 % C Conc.

<<LC Time Program>>

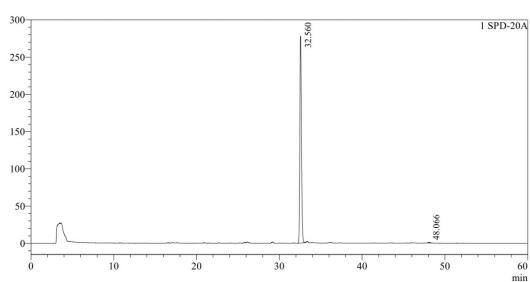
Module Command Value Comment

Solvent D Conc. 0.01 Pumps 90 Solvent D Conc. 45.00 10 Pumps 50.00 Solvent D Conc. Pumps 60.00 Pumps Solvent D Conc. 90

60.00Controller Stop

<Chromatogram>

mV



SPD-20A						
Peak#	Ret. Time	Area	Height	Area/Height	Area%	Tailing Factor
1	32.560	3802676	277699	13.694	99.650	1.216
2	48.066	13344	884	15.099	0.350	1.185
Total		3816020	278583		100 000	

==== Shimadzu LabSolutions Analysis Report ====

Data Filename : 20210719-LC-60m.lcb Sample Name Method Filename

Vial #

: DHT-05538 (Ag 10mM ABC + NH4OH pH 8.5 60m) : 61-HPLC Buffer-60min.lcm Batch Filename : 1-34 Injection Volume : 20 uL : 2021/7/19 下午 05:18:02 Acquired by : Syste : 2021/7/19 下午 06:18:06 Processed by : Syste : 20 uL : System Administrator Date Acquired Date Processed : System Administrator

<Method>

<<Data Acquisition>> AD1 Name : SPD-20A LC Stop Time : 60.00 min

AD1 Sampling Frequency : 2 Hz

<<Autosampler>>

Autosampler Model Enable Autosampler : LC-2030 Autosampler

: Use

<<Oven>>

Oven Model : LC-2030 Oven Enable Oven : Not Used

<<Column Infomation>>

: ZORBAX Eclipse XDB-C18 : 150 mm Column ID : ZORBAX Eclipse XDB-C18 Column Name Column Length

Inner Diameter : 4.6 mm

<<Mobile Phase Name>>

: Acetonitrile : Methanol Mobile Phase A Mobile Phase B : Water

Mobile Phase C Mobile Phase D : Buffer

<<Pump>> Mode : Low pressure gradient : 0.5000 mL/min Pump A : LC-2030 Pump

Flow C Conc. B Conc. D Conc. .00% : 90.0 % : 0.0 %

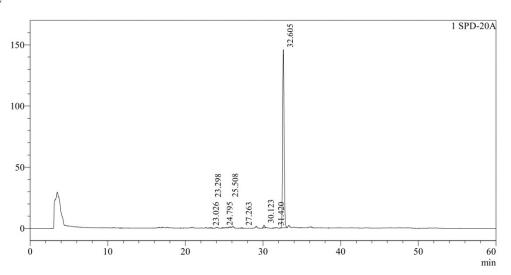
<<LC Time Program>>

Module Value Comment Time Command 0.01 45.00 Pumps

Solvent D Conc. Solvent D Conc. Solvent D Conc. Pumps 10 50.00 60.00 Pumps Solvent D Conc. Controller Stop

<Chromatogram>

mV



SPD-20A						
Peak#	Ret. Time	Area	Height	Area/Height	Area%	Tailing Factor
1	23.026	1106	148	7.493	0.056	0.977
2	23.298	3497	376	9.287	0.177	1.256
3	24.795	3460	360	9.603	0.175	1.013
4	25.508	2118	298	7.099	0.107	1.073
5	27.263	3809	383	9.956	0.192	1.153
6	30.123	26613	2180	12.209	1.345	1.114
7	31.420	1538	155	9.934	0.078	0.907
8	32.605	1937211	145497	13.314	97.871	1.155
Total		1979352	149397		100.000	

==== Shimadzu LabSolutions Analysis Report ====

: DHT-05540 (10mM NH4OAc+ 0.1 HCOOH 60m) : 61-HPLC Buffer-60min.lcm Batch Filename : 1-37 Injection Volume : 20 uL Sample Name Method Filename Vial # Data Filename : 2 : 20210705-LC (10mM NH40/

: 20 uL

: 2021/7/5 下午 08:02:31 : 2021/7/5 下午 09:02:32 Date Acquired Date Processed Acquired by Processed by System Administrator System Administrator

<Method>

<<Data Acquisition>>
AD1 Name : SPD-20A
AD1 Sampling Frequency LC Stop Time : 60.00 min

: 2 Hz

<<Autosampler>> Autosampler Model : LC-2030 Autosampler

Enable Autosampler : Use

<<Oven>>

Oven Model : LC-2030 Oven Enable Oven : Not Used

<<Column Infomation>>

: ZORBAX Eclipse XDB-C18 : 150 mm Column Name Column ID : ZORBAX Eclipse XDB-C18

Column Length Inner Diameter

<<Mobile Phase Name>> Mobile Phase A : Acet Mobile Phase C : Meti : Acetonitrile : Methanol : Water Mobile Phase D : Buffer

Mobile Phase B

<<Pump>>

Pump A : LC-2030 Pump

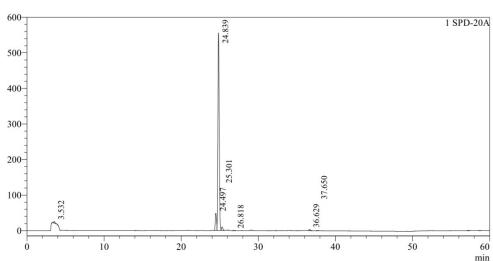
Mode Flow : Low pressure gradient : 0.5000 mL/min B Conc. : 0.0 % : 90.0 % C Conc. : 0.0 % D Conc.

<<LC Time Program>> Module Value Time Command Comment Pumps 90 10

Solvent D Conc. Solvent D Conc. Solvent D Conc. 0.01 45.00 Pumps 50.00 Pumps 60.00 Pumps Controller Solvent D Conc. 60.00 Stop

<Chromatogram>

mV



SPD-20A						
Peak#	Ret. Time	Area	Height	Area/Height	Area%	Tailing Factor
1	3.532	51152	3954	12.936	0.690	0.897
2	24.497	542388	48420	11.202	7.317	
3	24.839	6647504	556318	11.949	89.679	1.156
4	25.301	120021	10069	11.919	1.619	
5	26.818	6398	537	11.908	0.086	1.209
6	36.629	40518	2982	13.588	0.547	1.190
7	37.650	4601	428	10.756	0.062	1.049
Total		7412582	622709		100.000	

==== Shimadzu LabSolutions Analysis Report ====

: DHT-05392 (10mM NH4OAc+ 0.1 HCOOH 60m) : 61-HPLC Buffer-60min.lcm Batch Filename Data Filename : 2 : 20210705-LC (10mM NH40/ Sample Name Method Filename

Injection Volume

: 1-34 : 2021/7/5 下午 11:03:38 : 2021/7/6 上午 12:03:39 : 20 uL : System Administrator : System Administrator Date Acquired
Date Processed Acquired by Processed by

<Method>

<<Data Acquisition>> AD1 Name : SPD-20A LC Stop Time : 60.00 min

AD1 Sampling Frequency : 2 Hz

<<Autosampler>>

Autosampler Model Enable Autosampler : LC-2030 Autosampler

: Use

<<Oven>>

Oven Model : LC-2030 Oven Enable Oven : Not Used

<<Column Infomation>>

Column Name : ZORBAX Eclipse XDB-C18 Column ID : ZORBAX Eclipse XDB-C18

Inner Diameter Column Length : 150 mm : 4.6 mm

<<Mobile Phase Name>>

Mobile Phase B Mobile Phase D : Acetonitrile : Methanol Mobile Phase A Mobile Phase C : Water : Buffer

<<Pump>>

: Low pressure gradient : 0.5000 mL/min Mode Pump A : LC-2030 Pump

: 0.0 % B Conc. D Conc. Flow C Conc. : 0.0 % : 90.0 %

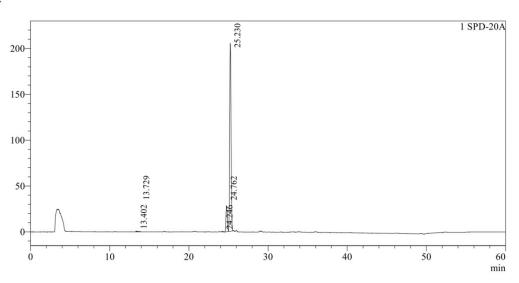
<<LC Time Program>>

Module Command Value Comment Time 0.01 45.00 Solvent D Conc. Solvent D Conc. 90 10 Pumps

Pumps Pumps 50.00 Solvent D Conc. 90 90 60.00 Pumps Controller Solvent D Conc. 60.00 Stop

<Chromatogram>

mV



SPD-20A						
Peak#	Ret. Time	Area	Height	Area/Height	Area%	Tailing Factor
1	13.402	7624	773	9.869	0.278	1.046
2	13.729	3509	365	9.619	0.128	1.219
3	24.246	4863	467	10.417	0.178	1.263
4	24.762	324055	28152	11.511	11.837	1.148
5	25.230	2397636	204819	11.706	87.579	1.159
Total		2737688	234576		100.000	

==== Shimadzu LabSolutions Analysis Report ====

: DHT-05530 (10mM NH4OAc+ 0.1 HCOOH 60m) : 61-HPLC Buffer-60min.lcm Batch Filename : 1-35 Injection Volume : 20 uL Data Filename : 2 : 20210705-LC (10mM NH4O/ Sample Name Method Filename

: 20 uL : System Administrator : System Administrator : 2021/7/5 下午 10:03:16 : 2021/7/5 下午 11:03:17 Date Acquired
Date Processed Acquired by Processed by

<Method>

<<Data Acquisition>> AD1 Name : SPD-20A LC Stop Time : 60.00 min

AD1 Sampling Frequency : 2 Hz

<<Autosampler>>

Autosampler Model Enable Autosampler : LC-2030 Autosampler

: Use

<<Oven>>

Oven Model : LC-2030 Oven Enable Oven : Not Used

<<Column Infomation>>

Column Name : ZORBAX Eclipse XDB-C18 Column ID : ZORBAX Eclipse XDB-C18

Column Length : 150 mm Inner Diameter

<<Mobile Phase Name>>

Mobile Phase B Mobile Phase D Mobile Phase A Mobile Phase C : Acetonitrile : Methanol : Water : Buffer

<<Pump>>

: Low pressure gradient : 0.5000 mL/min : 0.0 % : LC-2030 Pump Mode Pump A

B Conc. D Conc. : 0.0 % Flow

: 90.0 % C Conc.

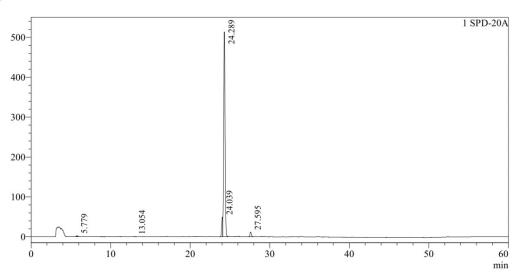
<<LC Time Program>>

Module Time Command Value Comment

Pumps Solvent D Conc. 45.00 50.00 Solvent D Conc. Solvent D Conc. Pumps 10 90 Pumps 60.00 Pumps Solvent D Conc.

60.00 Controller Stop

<Chromatogram>



SPD-20A						
Peak#	Ret. Time	Area	Height	Area/Height	Area%	Tailing Factor
1	5.779	23426	2352	9.959	0.340	1.082
2	13.054	4269	441	9.673	0.062	1.213
3	24.039	434390	49544	8.768	6.300	
4	24.289	6290796	513677	12.247	91.236	
5	27.595	142222	11865	11.986	2.063	1.164
Total		6895102	577880		100.000	*

==== Shimadzu LabSolutions Analysis Report ====

: DHT-05-quinone (10mM NH4OAc+ 0.1 HCOOH 60m) : 61-HPLC Buffer-60min.lcm Batch Filename : 1-38 Injection Volume : 20 uL Sample Name Method Filename Data Filename : 20210705-LC (10mM NH4O/

Injection Volume Acquired by : 20 uL : System Administrator Vial# : 2021/7/5 下午 09:02:53 : 2021/7/5 下午 10:02:54 Date Acquired Date Processed Processed by System Administrator

<Method>

<<Data Acquisition>> AD1 Name : SPD-20A AD1 Name : SPD-2 AD1 Sampling Frequency LC Stop Time : 60.00 min

: 2 Hz

<<Autosampler>>

: LC-2030 Autosampler Autosampler Model

Enable Autosampler : Use

<<Oven>>

Oven Model : LC-2030 Oven Enable Oven : Not Used

<<Column Infomation>>

Column Name Column Length : ZORBAX Eclipse XDB-C18 : ZORBAX Eclipse XDB-C18 Column ID

Inner Diameter : 150 mm : 4.6 mm

<<Mobile Phase Name>> Mobile Phase A : Acete Mobile Phase C : Meth Mobile Phase B Mobile Phase D : Acetonitrile : Methanol : Water : Buffer

<<Pump>> : Low pressure gradient : 0.5000 mL/min Mode Pump A : LC-2030 Pump

: 0.0 % B Conc. D Conc. Flow C Conc. : 0.0 % : 90.0 %

<<LC Time Program>>

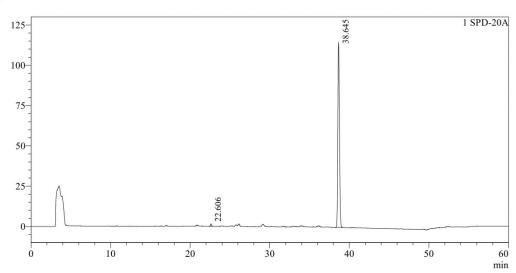
Module Value Comment Time Command

Solvent D Conc. Solvent D Conc. Solvent D Conc. 0.01 45.00 Pumps 90 Pumps 10 50.00 Pumps 60.00Pumps Solvent D Conc.

60.00 Controller Stop

<Chromatogram>

mV



SPD-20A						
Peak#	Ret. Time	Area	Height	Area/Height	Area%	Tailing Factor
1	22.606	13986	$14\overline{7}2$	9.501	0.845	1.267
2	38.645	1642058	114629	14.325	99.155	1.153
Total		1656045	116101		100.000	

==== Shimadzu LabSolutions Analysis Report ====

Data Filename : 2 : 20210705-LC (10mM NH4O/ Sample Name

Method Filename Vial #

: DHT-05532 (10mM NH4OAc+ 0.1 HCOOH 60m) : 61-HPLC Buffer-60min.lcm Batch Filename : 1-36 Injection Volume : 20 uL : 2021/7/6 上午 12:04:01 Acquired by : Syste : 2021/7/6 上午 01:04:04 Processed by : Syste **Date Acquired** System Administrator Date Processed : System Administrator

<Method>

<<Data Acquisition>>
AD1 Name : SPD-20A AD1 Name : SPD-2 AD1 Sampling Frequency LC Stop Time : 60.00 min

: 2 Hz

<< Autosampler>> Autosampler Model

: LC-2030 Autosampler

Enable Autosampler

<<Oven>>

Oven Model : LC-2030 Oven Enable Oven : Not Used

<<Column Infomation>>

: ZORBAX Eclipse XDB-C18 : ZORBAX Eclipse XDB-C18 Column Name Column ID

Inner Diameter Column Length : 150 mm : 4.6 mm

<<Mobile Phase Name>>

Mobile Phase B Mobile Phase D : Acetonitrile : Methanol Mobile Phase A Mobile Phase C : Water : Buffer

<< Pump>>

: Low pressure gradient : 0.5000 mL/min Mode Pump A : LC-2030 Pump

: 0.0 % B Conc. D Conc. Flow : 0.0 % : 90.0 % C Conc.

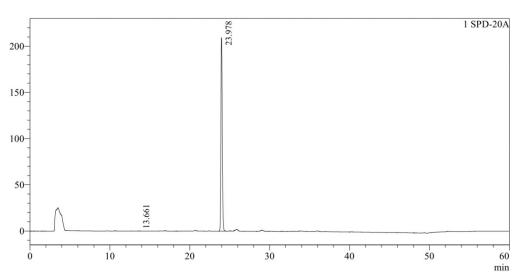
<<LC Time Program>>

Module Value Time Command Comment

Solvent D Conc. Solvent D Conc. Solvent D Conc. 0.01 45.00 Pumps Pumps 10 50.00 Pumps 60.00Pumps Solvent D Conc.

60.00 Controller Stop

<Chromatogram>



SPD-20A						
Peak#	Ret. Time	Area	Height	Area/Height	Area%	Tailing Factor
1	13.661	1152	108	10.622	0.047	1.400
2	23.978	2471312	209400	11.802	99.953	1.153
Total		2472463	209509		100.000	

==== Shimadzu LabSolutions Analysis Report ====

Sample Name Method Filename Vial # Data Filename : 20210909-LC-10m - ph 2.5.k

DHT-05485 (Ag 10mM AmAc HCOOH pH 2.5 60m)
61-HPLC Buffer-60min.lcm Batch Filename
1-12 Injection Volume : 20 uL
2021/9/10 上午 01:17:41 Acquired by : Syster
2021/9/10 上午 02:17:43 Processed by : Syster : System Administrator : System Administrator Date Acquired Date Processed

<Method>

<<Data Acquisition>> AD1 Name : SPD-20A LC Stop Time : 60.00 min

AD1 Sampling Frequency · 2 Hz

<<Autosampler>> Autosampler Model : LC-2030 Autosampler

Enable Autosampler

<<Oven>>

: LC-2030 Oven Enable Oven Oven Model : Not Used

<<Column Infomation>>

: ZORBAX Eclipse XDB-C18 : 150 mm Column ID : ZORBAX Eclipse XDB-C18 Column Name

Column Length Inner Diameter

<<Mobile Phase Name>>

Mobile Phase B Mobile Phase D Mobile Phase A Mobile Phase C : Acetonitrile : Methanol : Water : Buffer

<<Pump>>

: Low pressure gradient : 0.5000 mL/min Mode Pump A : LC-2030 Pump

: 0.0 % Flow C Conc. B Conc. D Conc. : 0.0 % : 90.0 %

<<LC Time Program>>

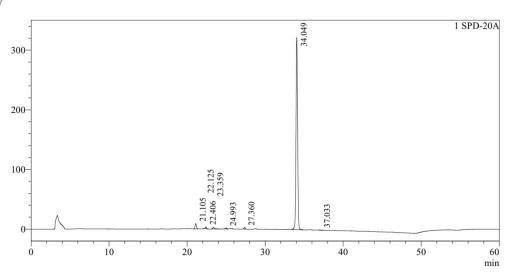
Time Command Value Comment

Module Pumps Pumps Solvent D Conc. Solvent D Conc. Solvent D Conc. Solvent D Conc. 0.01 90 10 50.00 60.00 Pumps 90 Pumps

60.00 Stop

<Chromatogram>

mV



SPD-20A						
Peak#	Ret. Time	Area	Height	Area/Height	Area%	Tailing Factor
1	21.105	95144	8845	10.757	1.975	1.154
2	22.125	1379	174	7.941	0.029	0.891
3	22.406	32168	2918	11.023	0.668	1.141
4	23.359	41781	2965	14.090	0.867	2.083
5	24.993	22224	1669	13.313	0.461	0.872
6	27.360	28188	2575	10.947	0.585	1.156
7	34.049	4590039	321423	14.280	95.286	1.082
8	37.033	6200	461	13.464	0.129	1.420
Total		4817124	341029		100.000	30

==== Shimadzu LabSolutions Analysis Report ====

: DHT-01125 (Ag 10mM AmAc HCOOH pH 2.5 60m) : 61-HPLC Buffer-60min.lcm Batch Filename : 1-11 Injection Volume : 20 uL Sample Name Method Filename Data Filename : 20210909-LC-10m - ph 2.5.k

Vial #

: 20 uL : System Administrator : System Administrator Date Acquired
Date Processed : 2021/9/10 上午 12:17:17 : 2021/9/10 上午 01:17:19 Acquired by Processed by

<Method>

<<Data Acquisition>> AD1 Name : SPD-20A LC Stop Time : 60.00 min

AD1 Sampling Frequency : 2 Hz

<<Autosampler>>

Autosampler Model Enable Autosampler : LC-2030 Autosampler

: Use

<<Oven>>

Oven Model : LC-2030 Oven Enable Oven : Not Used

<<Column Infomation>>
Column Name : ZORBAX Eclipse XDB-C18 Column ID : ZORBAX Eclipse XDB-C18

Column Length : 150 mm

<<Mobile Phase Name>>

Mobile Phase A Mobile Phase C : Acetonitrile : Methanol Mobile Phase B Mobile Phase D : Water : Buffer

<<Pump>>

Pump A B Conc. : LC-2030 Pump Mode : Low pressure gradient

: 0.5000 mL/min : 0.0 % C Conc. : 0.0 % D Conc. : 90.0 %

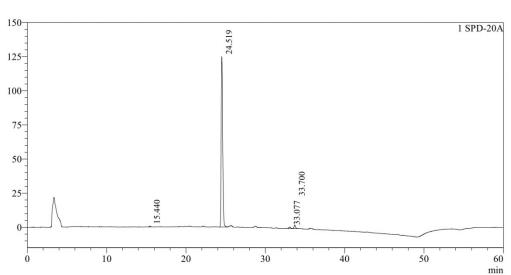
<<LC Time Program>>

Module Time Command Value Comment

Pumps Solvent D Conc. 45.00 50.00 Solvent D Conc. Solvent D Conc. Pumps 10 90 Pumps Solvent D Conc. Pumps

60.00 Controller

<Chromatogram>



SPD-20A						
Peak#	Ret. Time	Area	Height	Area/Height	Area%	Tailing Factor
1	15.440	5312	577	9.205	0.309	1.191
2	24.519	1668033	125108	13.333	97.088	1.257
3	33.077	14435	1019	14.165	0.840	1.139
4	33.700	30284	2436	12.430	1.763	1.126
Total		1718064	129141		100.000	

==== Shimadzu LabSolutions Analysis Report ====

Sample Name Method Filename Data Filename : 20210909-LC-10m - ph 2.5.k

Vial #

: DHT-01123 (Ag 10mM AmAc HCOOH pH 2.5 60m) : 61-HPLC Buffer-60min.lcm Batch Filename : 1-10 Injection Volume : 20 uL : 2021/9/9 下午 11:16:54 Acquired by : Syste : 2021/9/10 上午 12:16:56 Processed by : Syste : 20 uL : System Administrator : System Administrator Date Acquired Date Processed

<Method>

<<Data Acquisition>> AD1 Name : SPD-20A LC Stop Time : 60.00 min

AD1 Sampling Frequency : 2 Hz

<<Autosampler>>

Autosampler Model Enable Autosampler : LC-2030 Autosampler

: Use

<<Oven>>

Oven Model : LC-2030 Oven Enable Oven : Not Used

<<Column Infomation>>

Column Name Column Length : ZORBAX Eclipse XDB-C18 Column ID : ZORBAX Eclipse XDB-C18

Inner Diameter : 150 mm : 4.6 mm

<<Mobile Phase Name>>

Mobile Phase B Mobile Phase D Mobile Phase A Mobile Phase C : Acetonitrile : Methanol : Water : Buffer

<<Pump>> Mode : LC-2030 Pump Pump A

: Low pressure gradient : 0.5000 mL/min : 0.0 % B Conc. D Conc. : 0.0 % Flow

: 90.0 % C Conc.

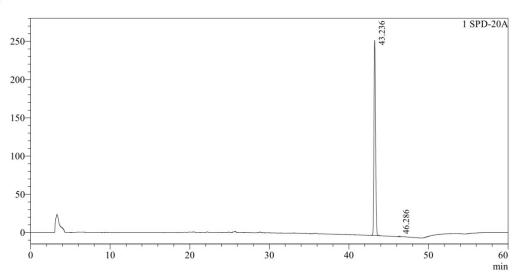
<<LC Time Program>>

Module Time Value Comment Command

0.01 45.00 50.00 Pumps Solvent D Conc. Solvent D Conc. Solvent D Conc. Pumps 10 Pumps 60.00 Pumps Solvent D Conc. 90

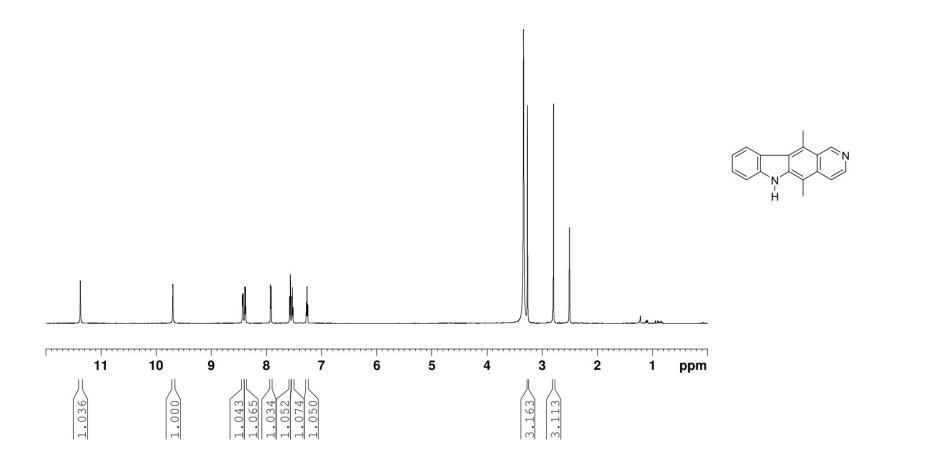
60.00 Controller Stop

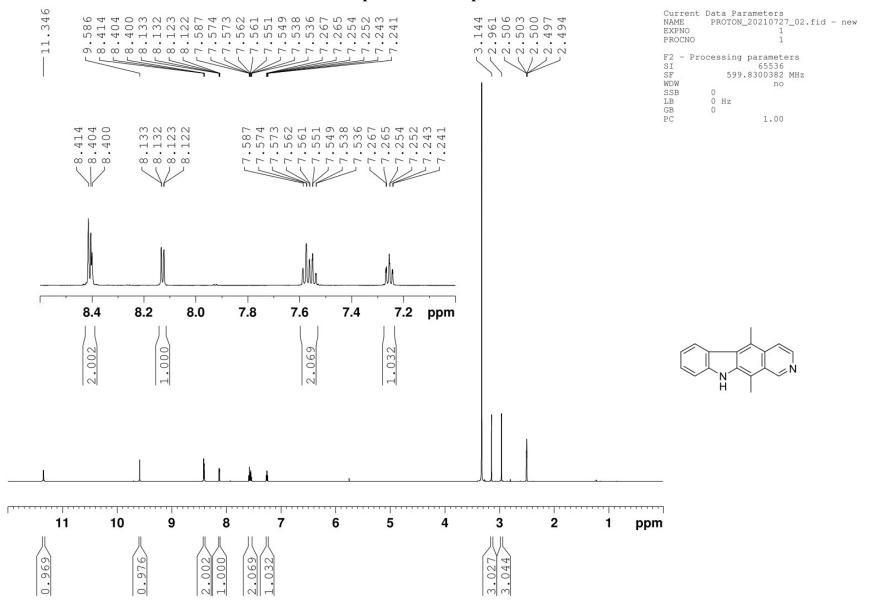
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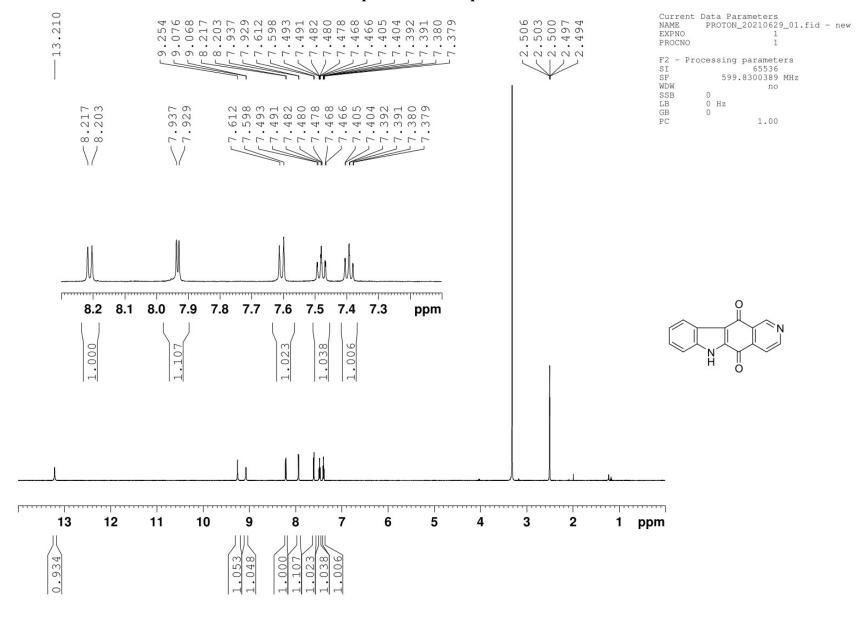


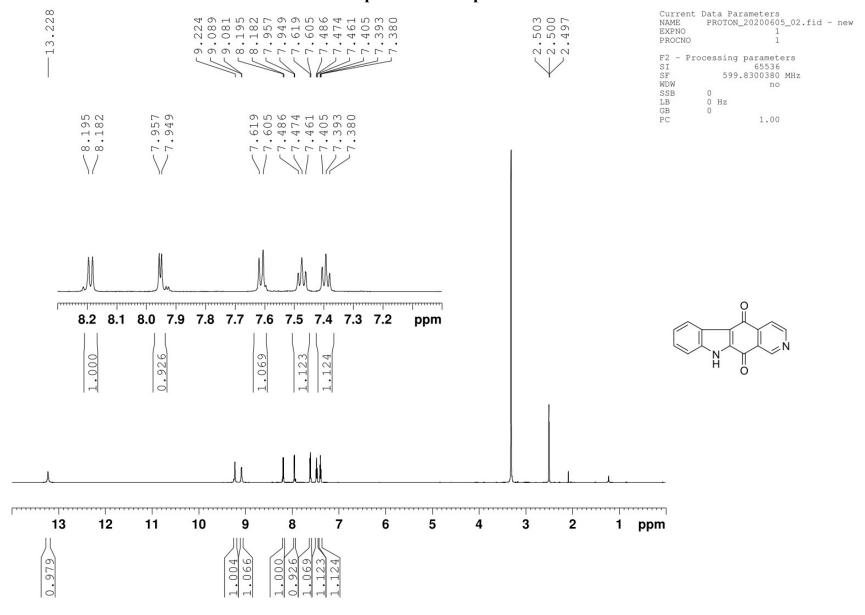
SPD-20A						
Peak#	Ret. Time	Area	Height	Area/Height	Area%	Tailing Factor
1	43.236	3473308	255082	13.616	99.832	1.161
2	46.286	5841	542	10.775	0.168	1.204
Total		3479149	255624		100.000	

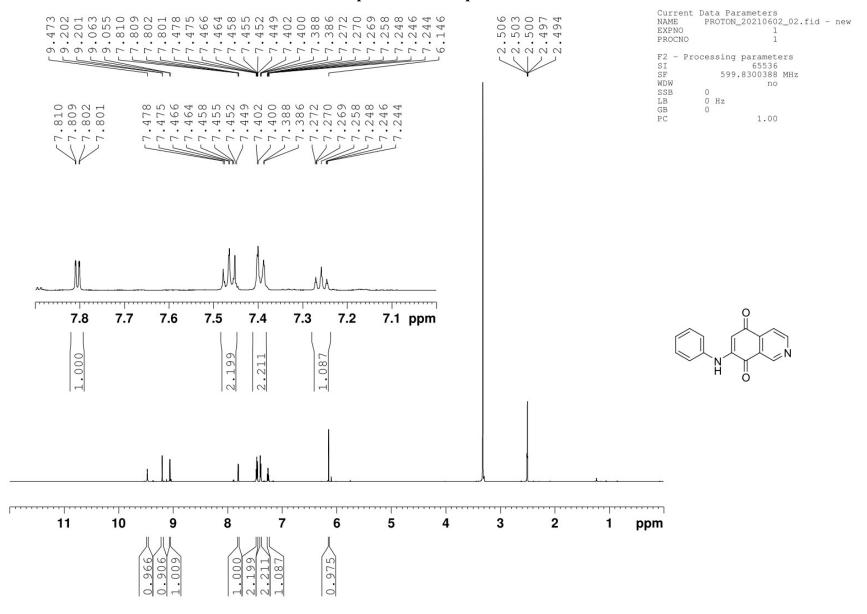






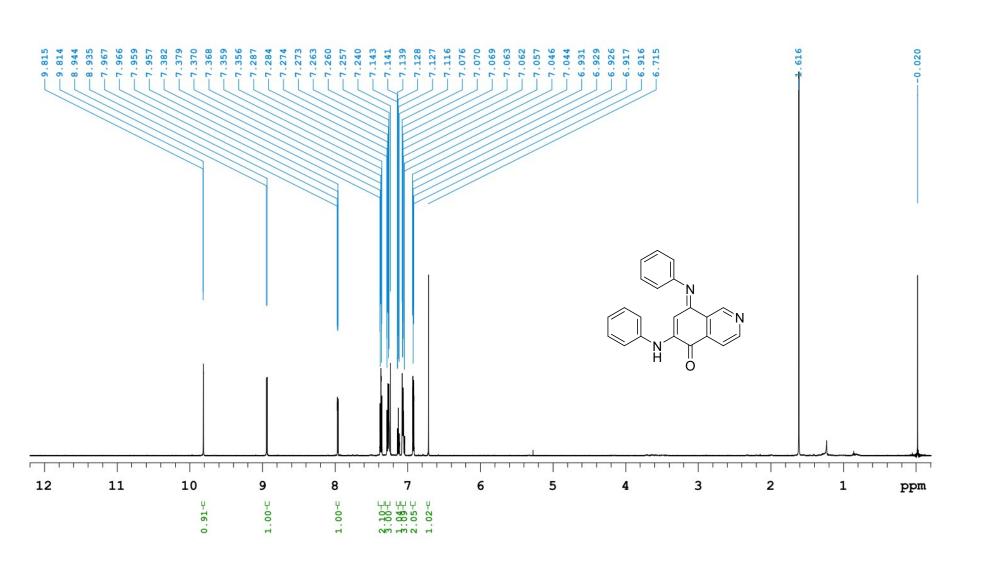


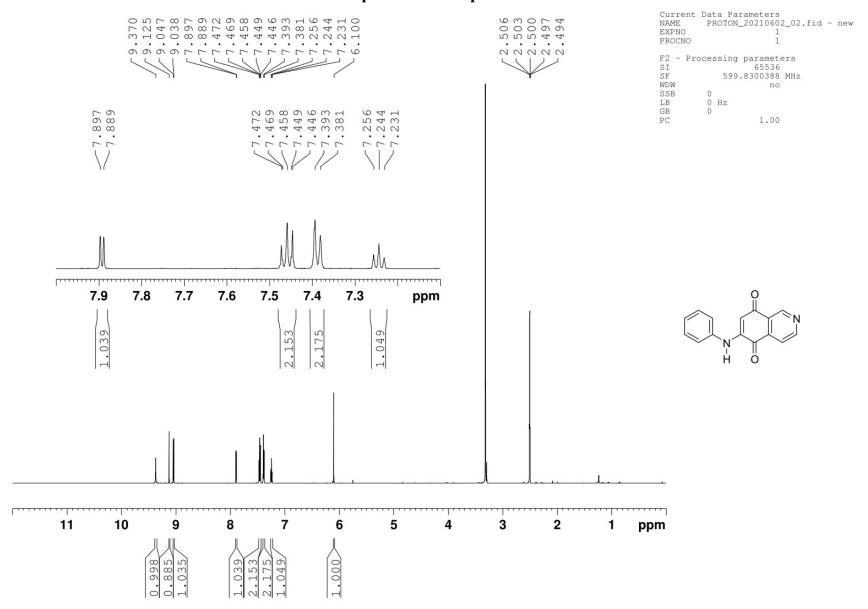


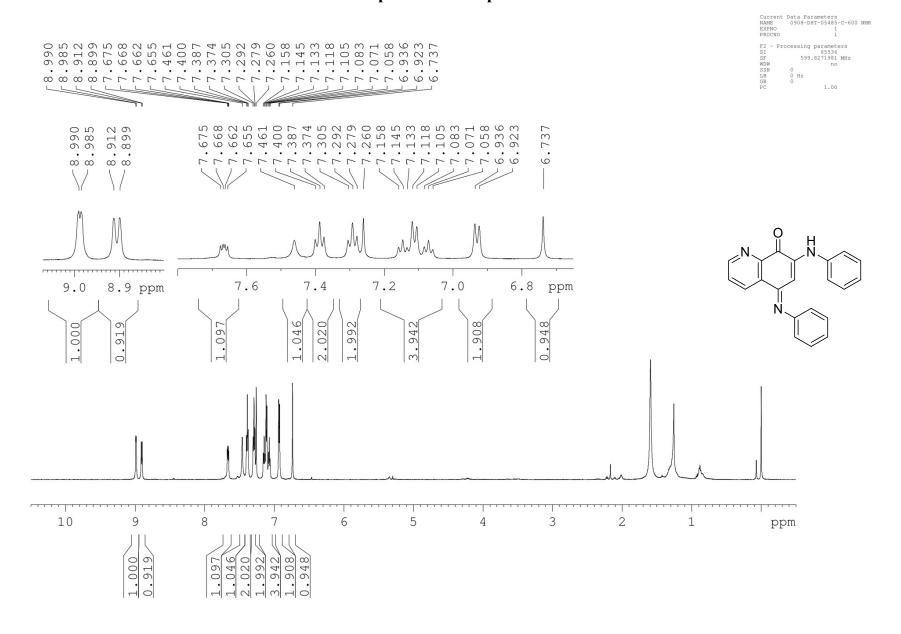


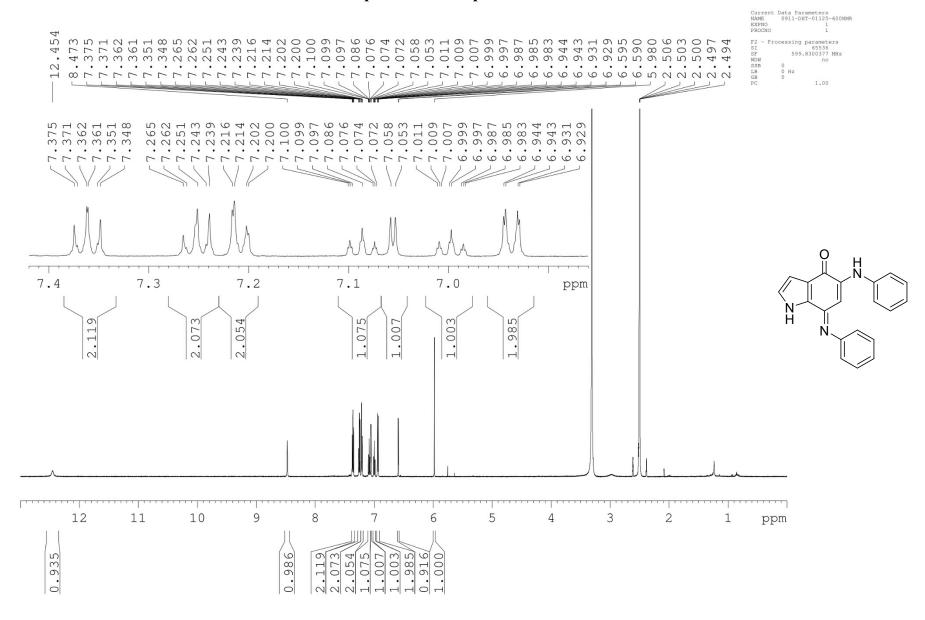
0601-DHT-quinone

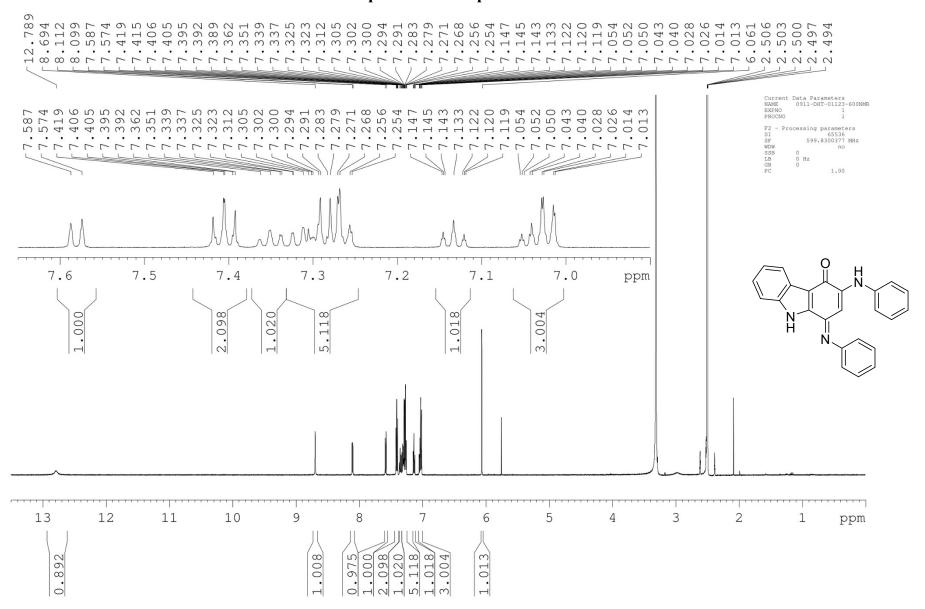
Sample Name Date collected 0601-DHT-quinone Pulse sequence PROTON Temperature 27 Study owner tmu
Solvent cdc13 Spectrometer Agilent-NMR-vnmrs600 Operator tmu

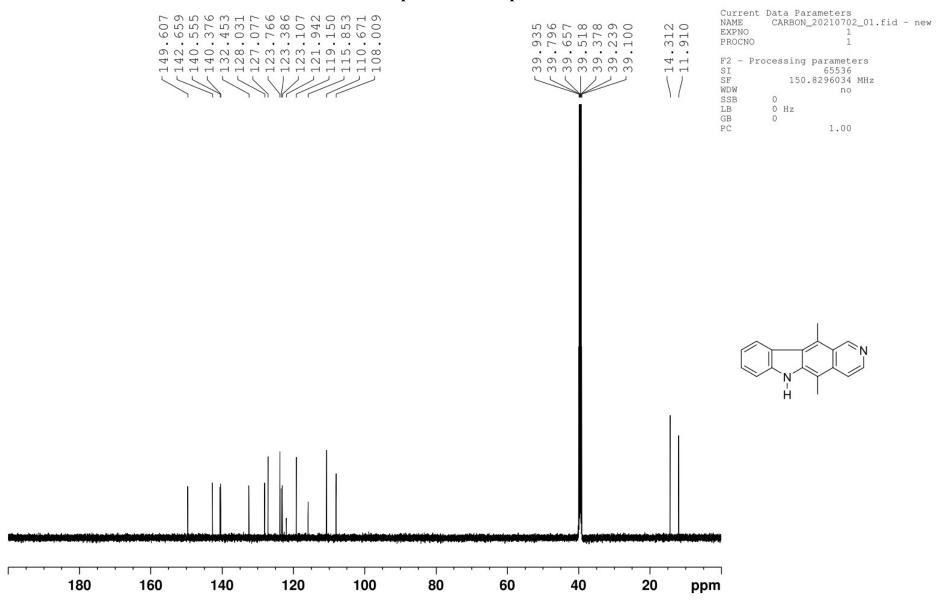


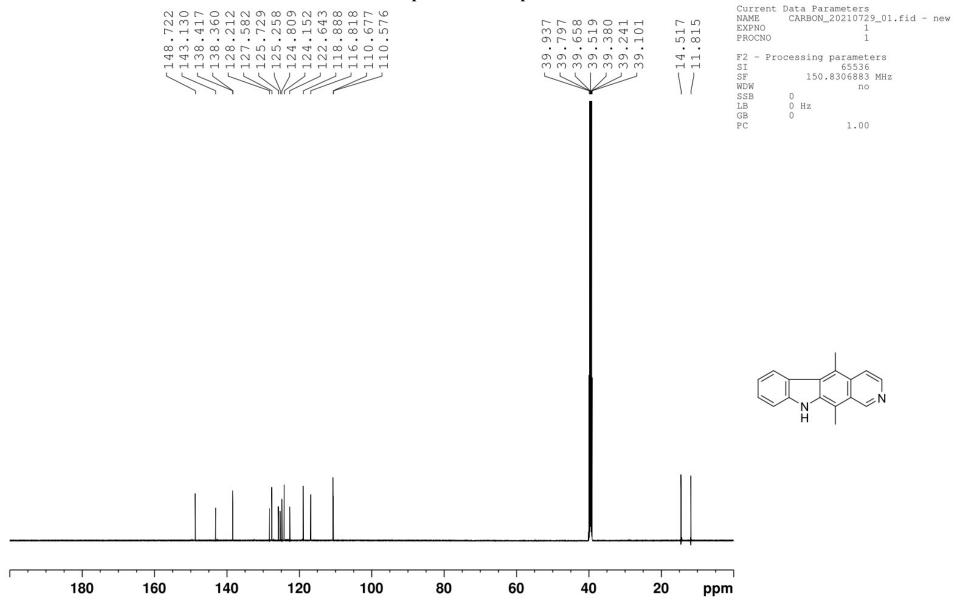


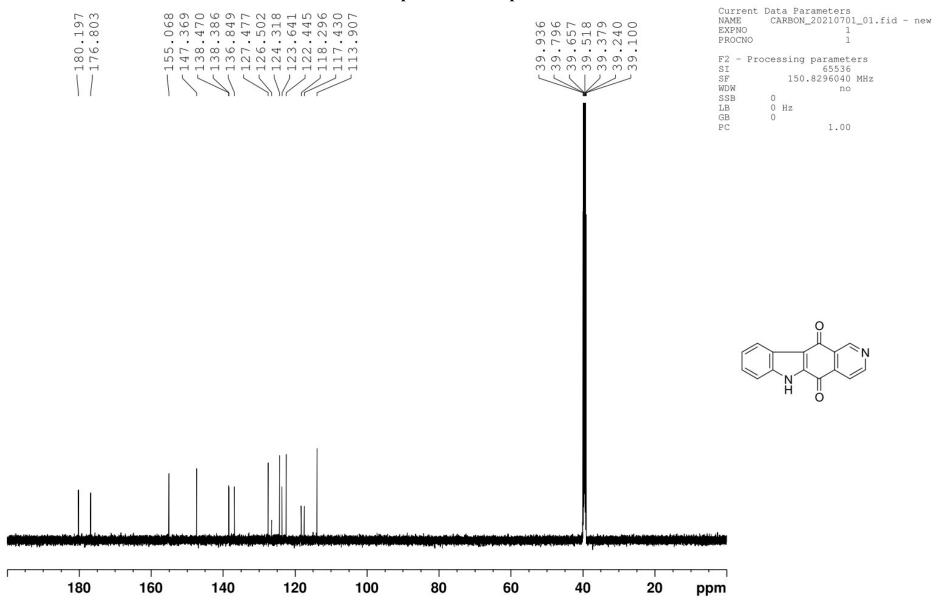


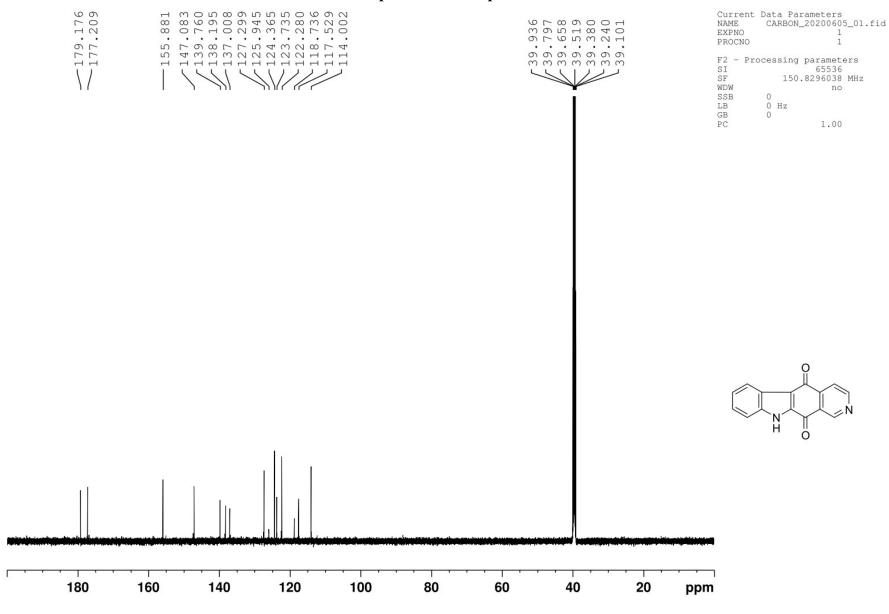


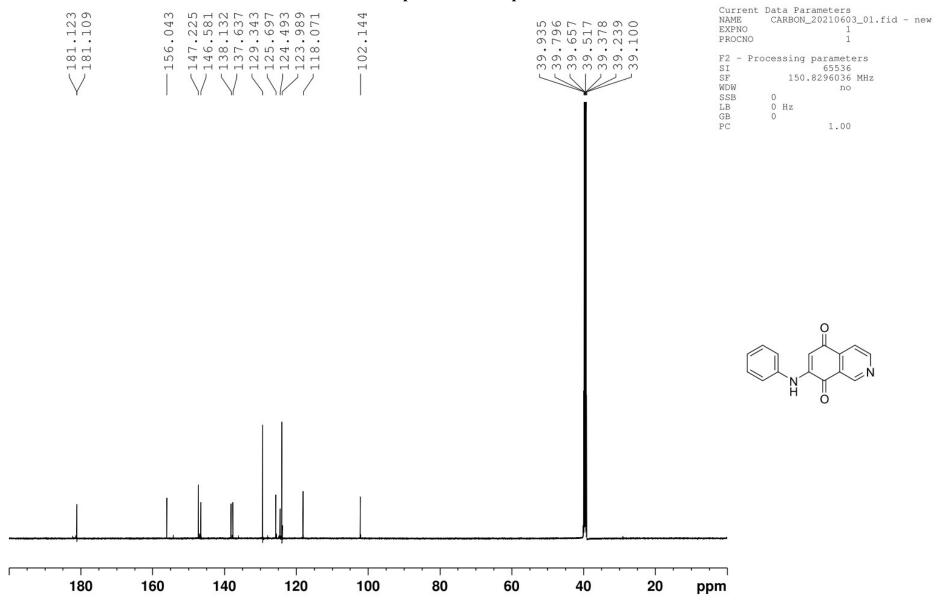


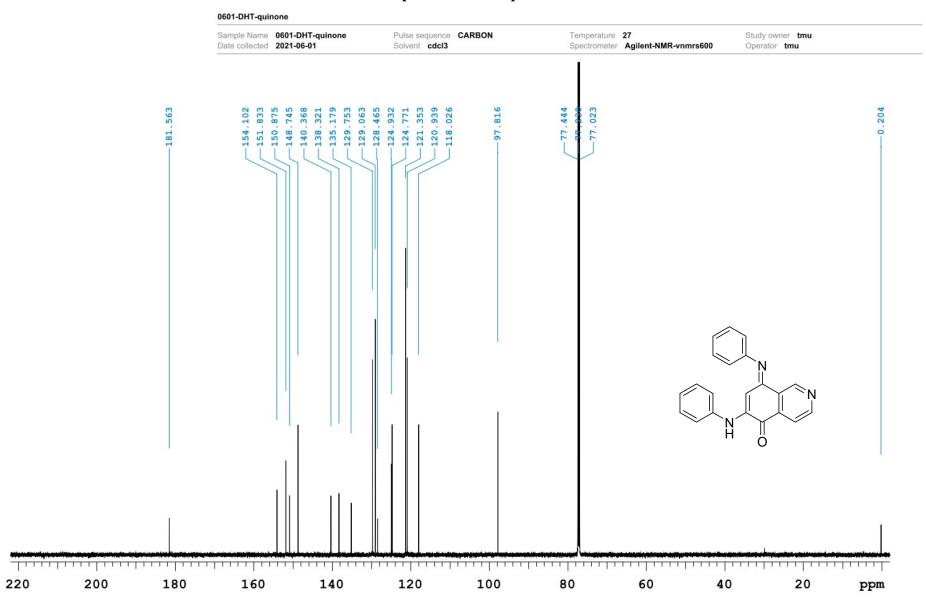


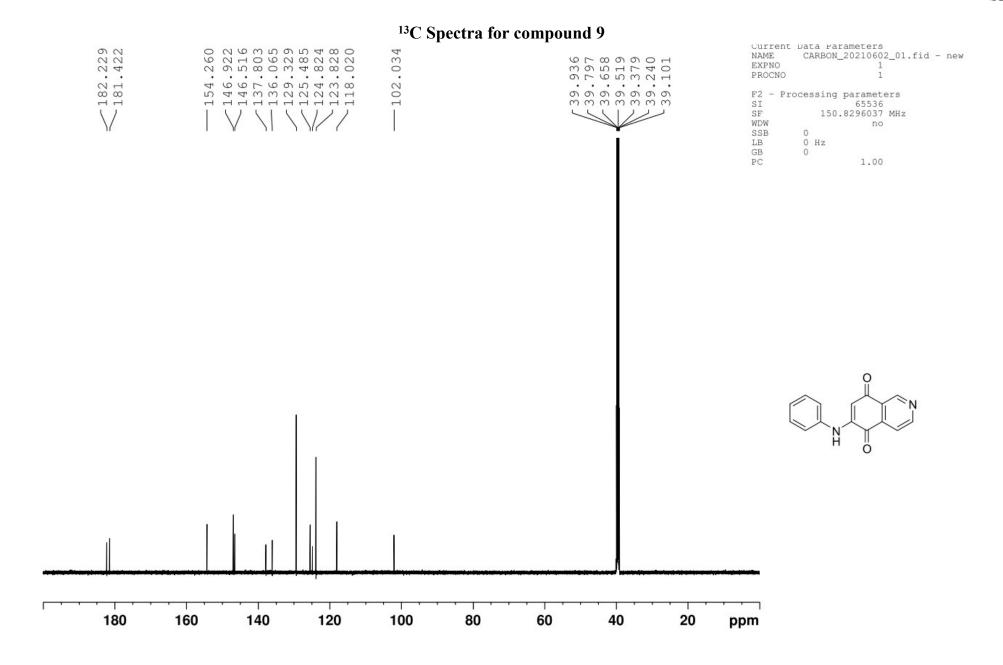


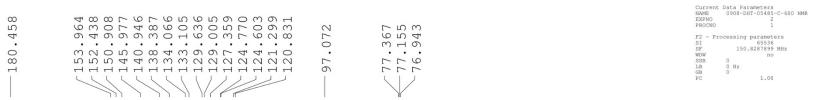


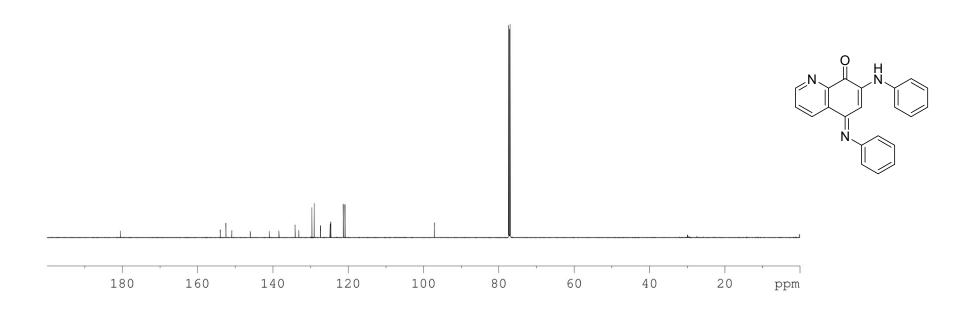


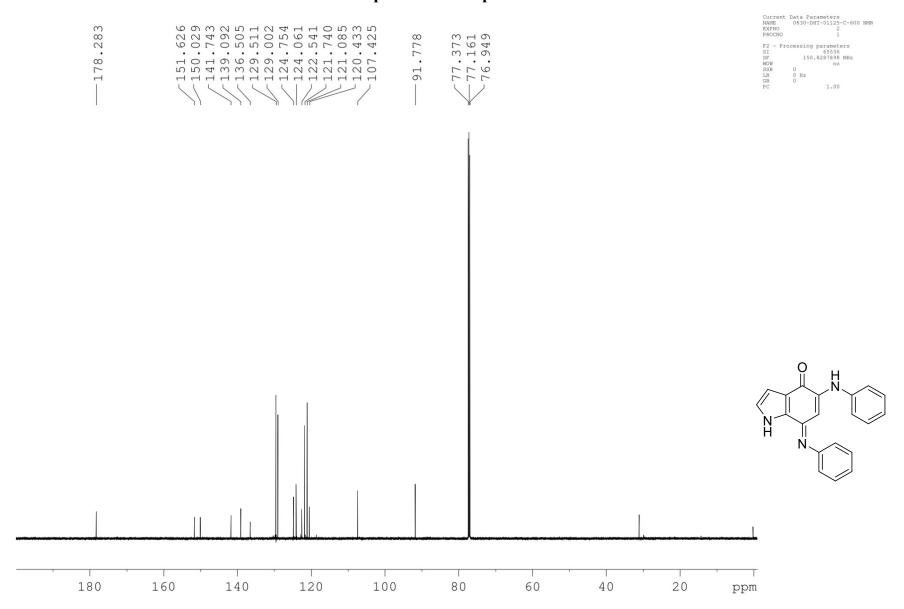


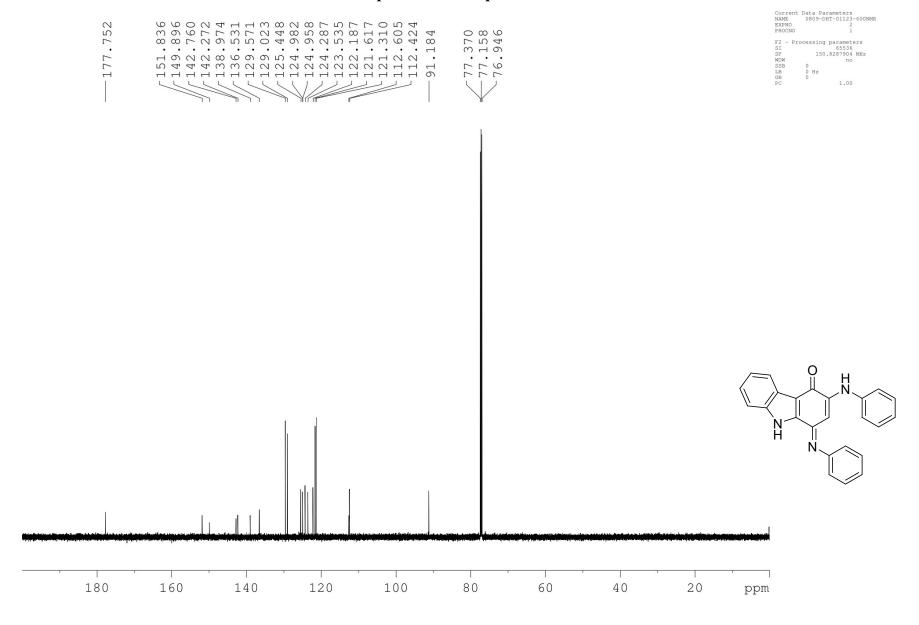




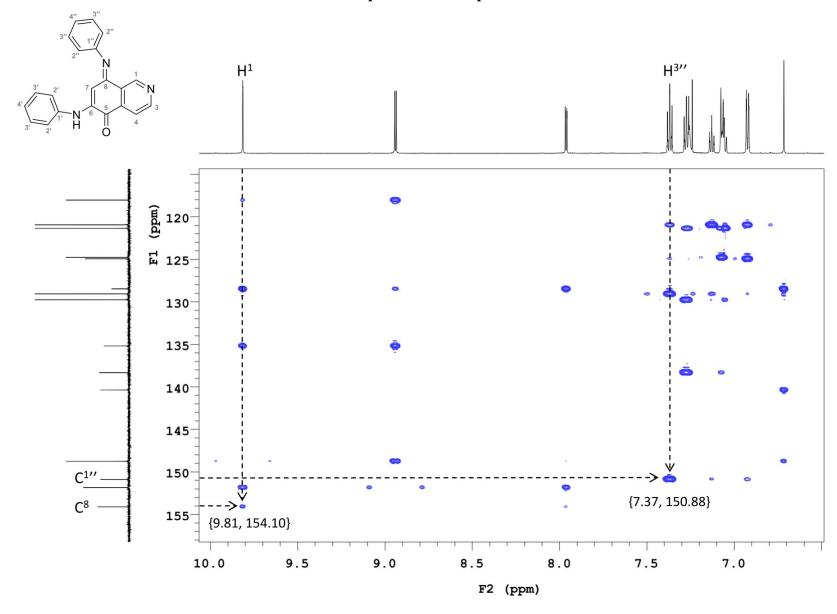




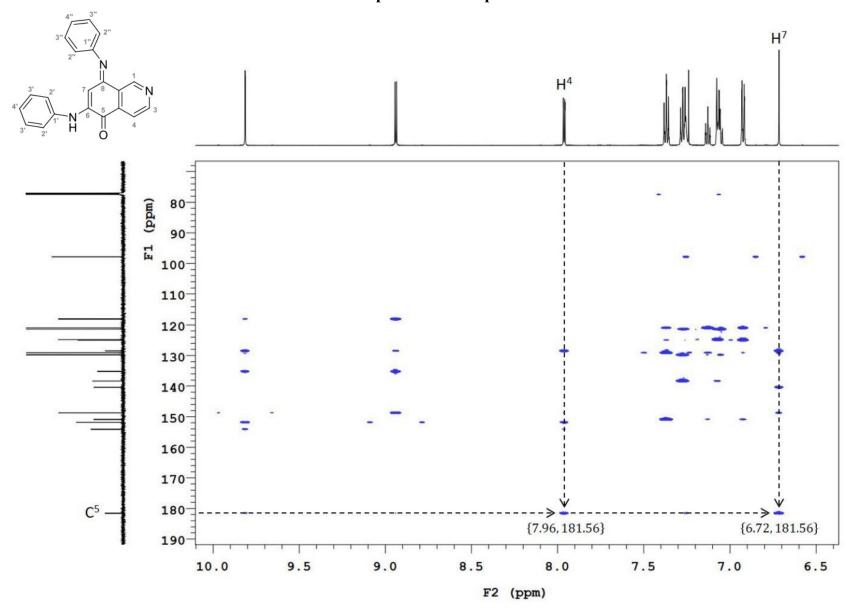




HMBC Spectra for compound 8



HMBC Spectra for compound 8



NOESY Spectra for compound 8

