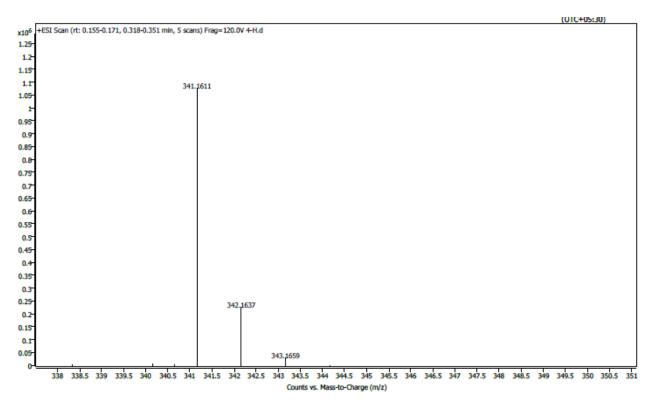
Electronic Supplementary Material (ESI) for RSC Advances. This journal is © The Royal Society of Chemistry 2020

Design, Synthesis, Biological Evaluation and Molecular Docking study of novel Pyridoxine-Triazoles as Anti-Alzheimer's Agents

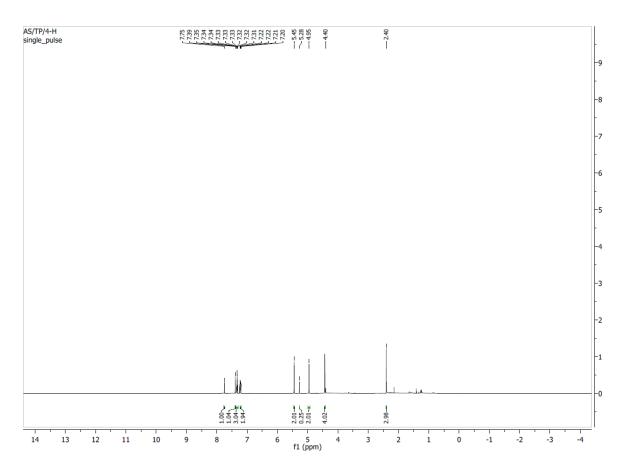
Tiyas Pal¹, Saipriyanka Bhimaneni², Abha Sharma¹* and S.J.S. Flora²*

¹Department of Medicinal Chemistry and ²Pharmacology & Toxicology National Institute of Pharmaceutical Education and Research, Raebareli, India *E-mail: <u>abha.sharma@niperraebareli.edu.in; sjsflora@hotmail.com</u>

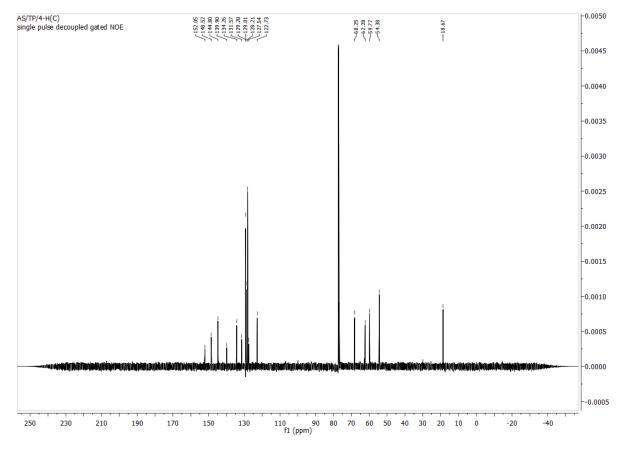
SPECTRAL DATA OF 5a



HRMS Spectrum of 5a

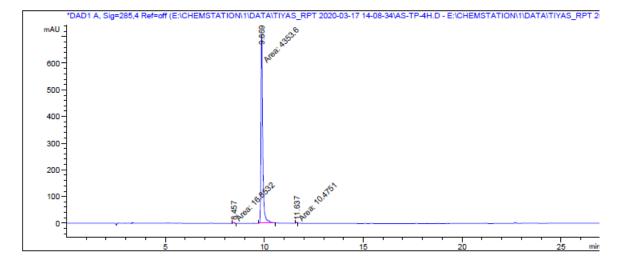


¹H NMR of 5a in CDCl₃ at 500MHz



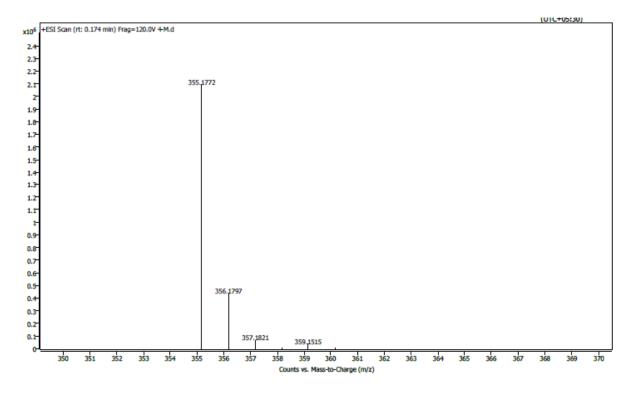
 ^{13}C NMR of 5a in CDCl3 at 125MHz

```
Data File E:\CHEMSTATION\1\DATA\TIYAS_RPT 2020-03-17 14-08-34\AS-TP-4H.D
Sample Name: AS-TP-4H
   -----
                                        Seq. Line : 6
   Acq. Operator : SYSTEM
   Sample Operator : SYSTEM
                                          Location : P2-C-03
   Acq. Instrument : HPLC
   Injection Date : 17-03-2020 16:32:24
                                              Inj: 1
                                        Inj Volume : 10.000 µl
             : E:\Chemstation\1\Data\TIYAS_RPT 2020-03-17 14-08-34\TIYAS_RPT.M
   Acq. Method
   Last changed : 17-03-2020 10:01:12 by SYSTEM
   Analysis Method : E:\Chemstation\1\Methods\AshimaFA_C-18_PREP.M
   Last changed : 23-06-2020 11:45:48 by SYSTEM
                (modified after loading)
   Additional Info : Peak(s) manually integrated
   -----
```

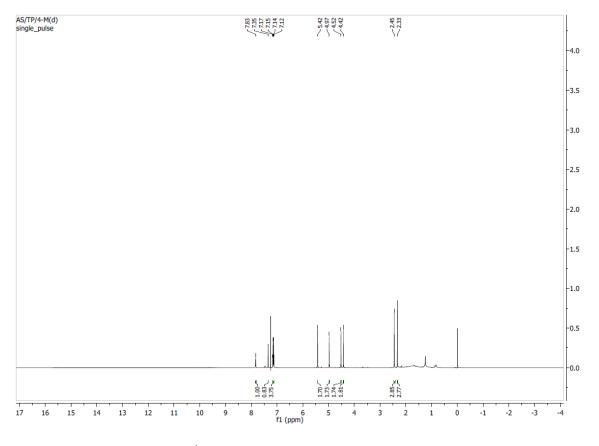


#	RetTime [min]		Width [min]	Area [mAU*s]	Height [mAU]	Area %
1 2	8.457 9.869 11.637	MM MM	0.0991 0.1025	16.85318 4353.60010 10.47512	2.83489 708.14874 2.84878	0.3847 99.3762 0.2391

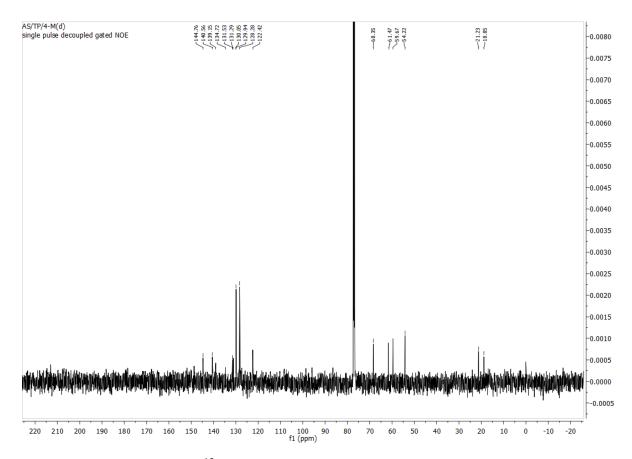
SPECTRAL DATA OF 5b

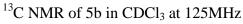


HRMS Spectrum of 5b

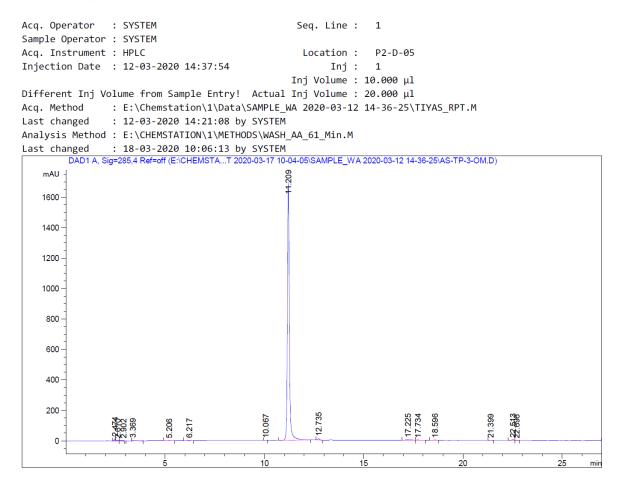


 $^1\mathrm{H}$ NMR of 5b in CDCl3 at 500MHz





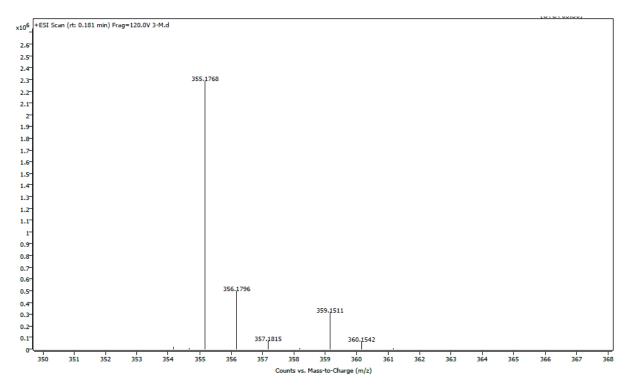
HPLC Purity data of 5b



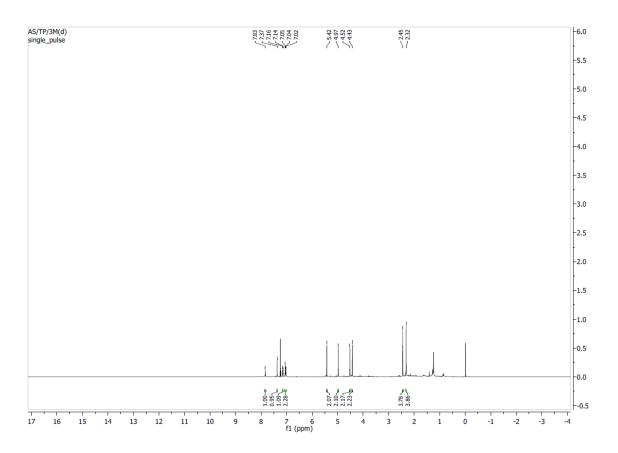
Peak	RetTime	Туре	Width	Area	Height	Area
#	[min]		[min]	[mAU*s]	[mAU]	%
1	2.474	BV R	0.0466	36.14810	12.93615	0.3074
2	2.610	VV E	0.0899	9.49463	1.49859	0.0807
3	2.902	VV E	0.1211	13.31856	1.45118	0.1133
4	3.369	BB	0.0606	21.35286	5.34617	0.1816
5	5.206	BB	0.1491	10.74166	1.05181	0.0913
6	6.217	BB	0.1094	14.74261	1.92288	0.1254
7	10.067	BB	0.0787	5.77354	1.14801	0.0491
8	11.209	BB	0.1008	1.14519e4	1695.04688	97.3894
9	12.735	BB	0.0927	58.90446	9.72381	0.5009
10	17.225	BV	0.2962	59.28908	2.88012	0.5042
11	17.734	VB	0.1228	17.43097	1.97860	0.1482
12	18.596	BB	0.1025	14.70604	2.13127	0.1251
13	21.399	BB	0.1002	8.52652	1.30474	0.0725
14	22.513	BV	0.0890	29.51746	5.14132	0.2510
15	22.696	VV	0.1000	7.03197	1.05244	0.0598

1.17589e4 1744.61395

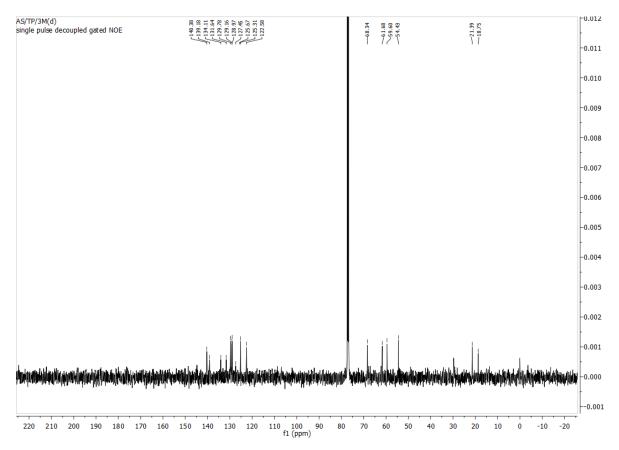
SPECTRAL DATA OF 5c



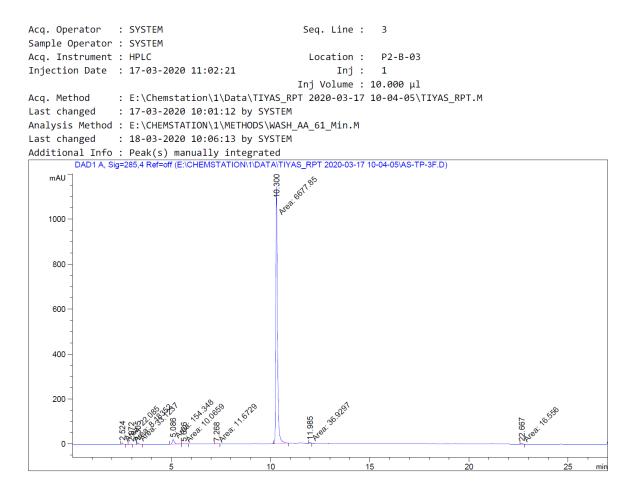
HRMS Spectrum of 5c



¹H NMR of **5c** in CDCl₃ at 500MHz

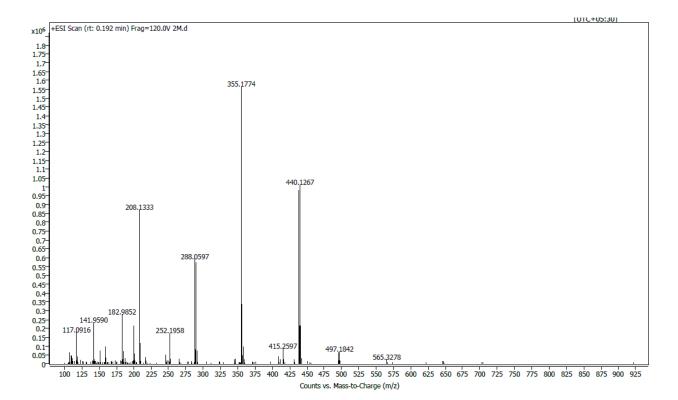


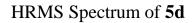
 ^{13}C NMR of 5c in CDCl3 at 125MHz

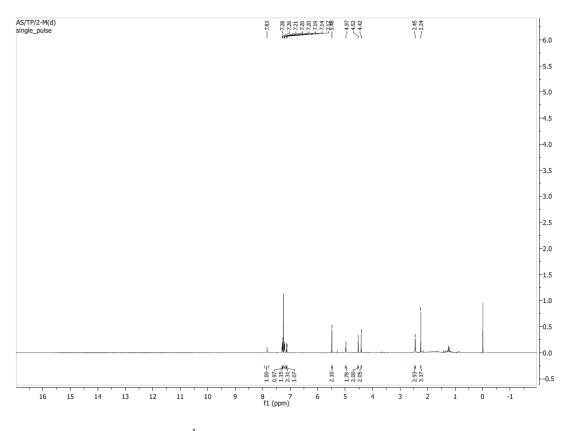


Peak #	RetTime [min]	Туре	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	2.524	MM	0.0525	22.08498	7.01564	0.3168
2	2.972	MM	0.1079	8.18352	1.26425	0.1174
3	3.305	MM	0.0755	33.12366	7.30831	0.4752
4	5.086	MM	0.1269	154.34805	20.27901	2.2142
5	5.626	MM	0.1555	10.06588	1.07914	0.1444
6	7.268	MM	0.1465	11.67288	1.32804	0.1675
7	10.300	MM	0.0971	6677.85449	1145.75696	95.7973
8	11.985	MM	0.0984	36.92974	6.25713	0.5298
9	22.667	MM	0.0944	16.55604	2.92175	0.2375

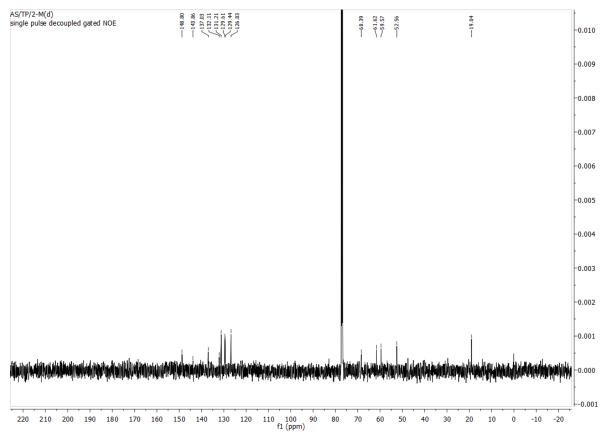
6970.81925 1193.21024





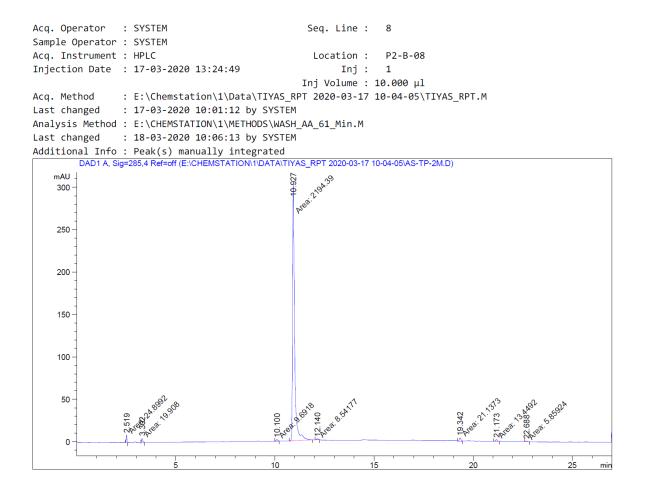


¹H NMR of **5d** in CDCl₃ at 500MHz



 ^{13}C NMR of 5d in CDCl_3 at 125MHz

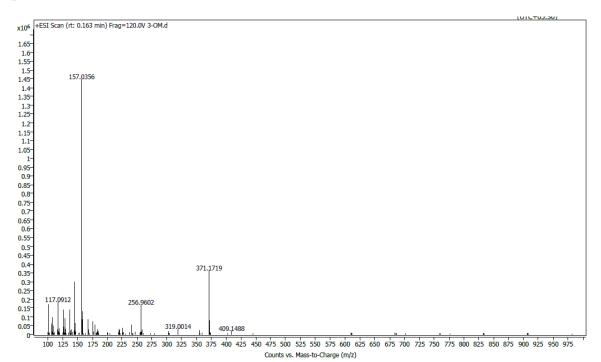
HPLC Purity data of 5d



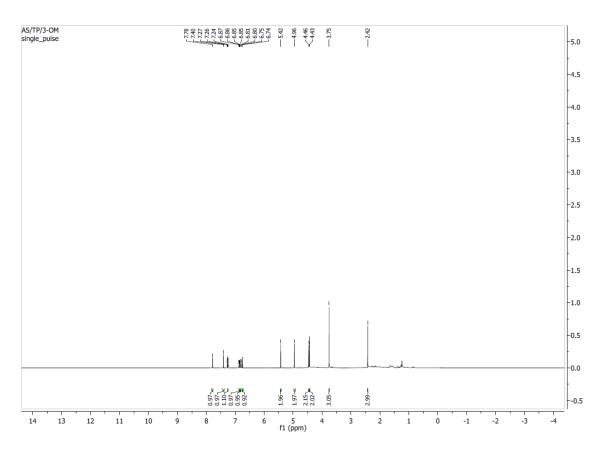
Peak #	RetTime [min]	Туре	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	2.519	MM	0.0466	24.89920	8.89867	1.0836
2	3.302	MM	0.0655	19.90803	5.06209	0.8664
3	10.100	MM	0.0891	9.69180	1.81386	0.4218
4	10.927	MM	0.1210	2194.39136	302.31458	95.4964
5	12.140	MM	0.1177	8.54177	1.20907	0.3717
6	19.342	MM	0.0962	21.13725	3.66172	0.9199
7	21.173	MM	0.1084	13.44915	2.06748	0.5853
8	22.688	MM	0.1025	5.85924	9.52977e-1	0.2550

2297.87780 325.98045

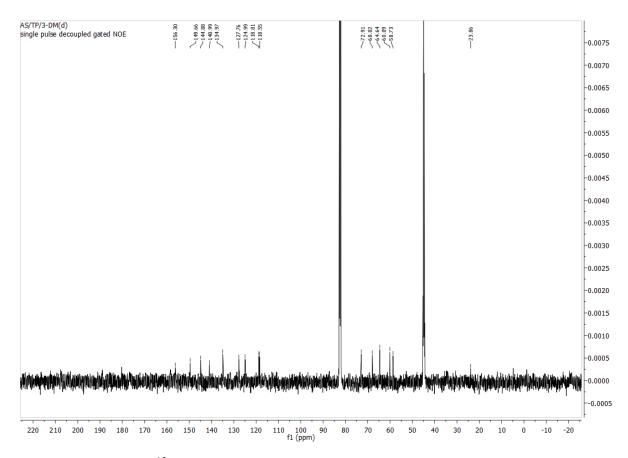
Spectral Data of 5e

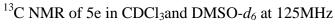


HRMS Spectrum of 5e



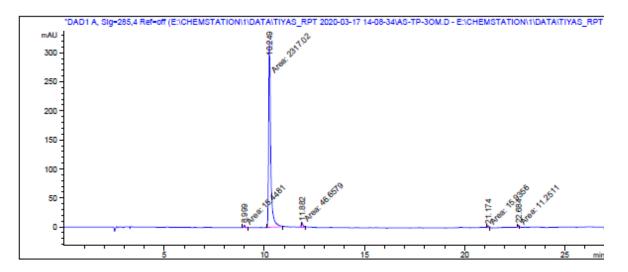
¹H NMR of 5e in CDCl₃ at 500MHz





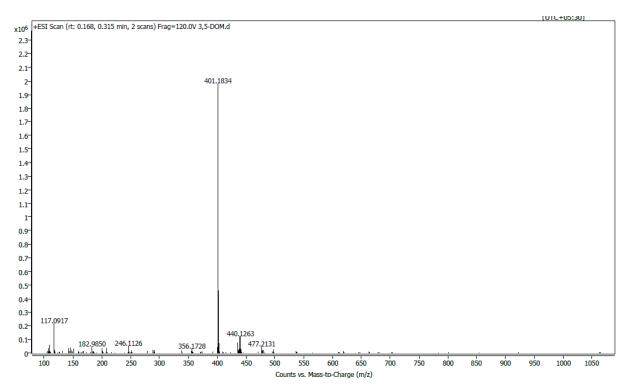
HPLC Purity of 5e

```
Data File E:\CHEMSTATION\1\DATA\TIYAS_RPT 2020-03-17 14-08-34\AS-TP-30M.D
Sample Name: AS-TP-30M
   _____
   Acq. Operator : SYSTEM
                                         Seq. Line : 5
   Sample Operator : SYSTEM
  Acq. Instrument : HPLC
                                          Location : P2-C-02
  Injection Date : 17-03-2020 16:03:55
                                              Inj: 1
                                        Inj Volume : 10.000 µl
             : E:\Chemstation\1\Data\TIYAS_RPT 2020-03-17 14-08-34\TIYAS_RPT.M
  Acq. Method
   Last changed : 17-03-2020 10:01:12 by SYSTEM
   Analysis Method : E:\Chemstation\1\Methods\AshimaFA_C-18_PREP.M
   Last changed
              : 23-06-2020 11:45:48 by SYSTEM
                 (modified after loading)
   Additional Info : Peak(s) manually integrated
```

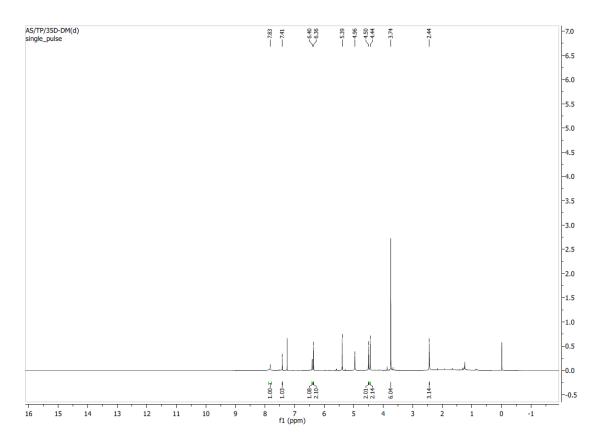


Peak #	RetTime [min]	Туре	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	8.999	MM	0.0765	15.44812	3.36473	0.6420
2	10.249	MM	0.1201	2317.02490	321.51514	96.2892
3	11.882	MM	0.1023	46.65788	7.60121	1.9390
4	21.174	MM	0.0863	15.93561	3.07669	0.6622
5	22.684	MM	0.0660	11.25109	2.83984	0.4676

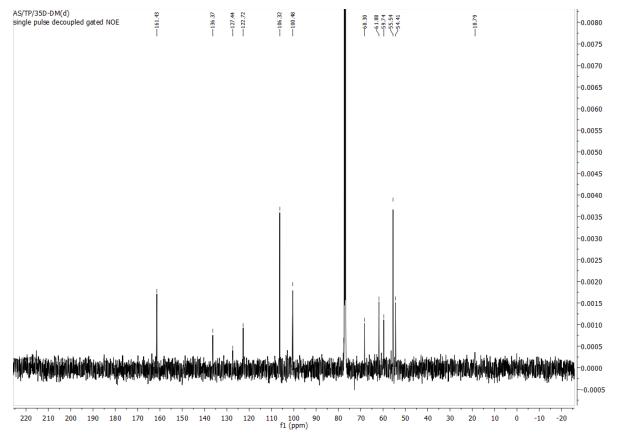
SPECTRAL DATA OF 5f



HRMS Spectrum of 5f

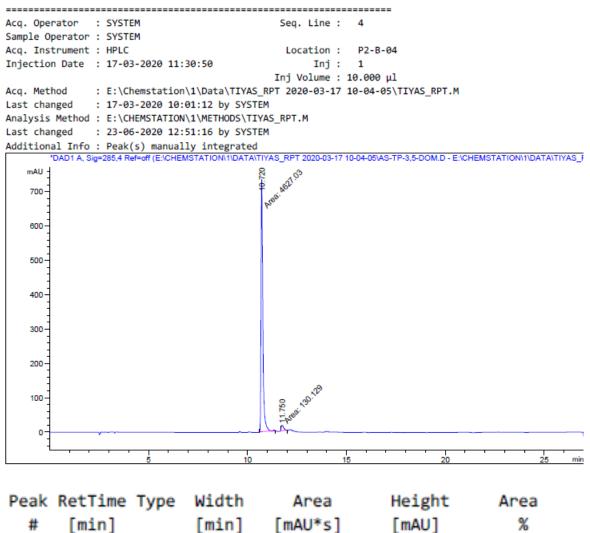


 ^1H NMR of $\mathbf{5f}$ in CDCl_3 at 500MHz



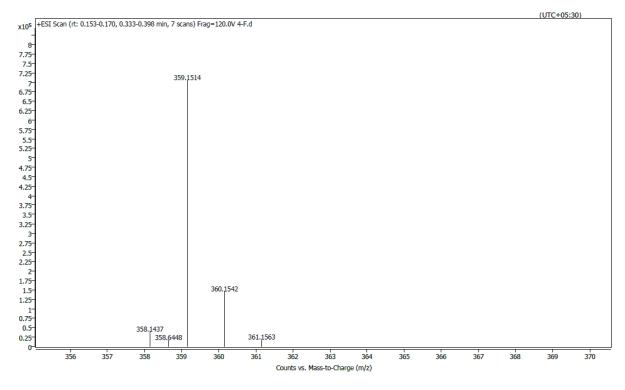
 ^{13}C NMR of 5f in CDCl_3 at 500MHz

Data File E:\CHEMSTATION\1\DATA\TIYAS_RPT 2020-03-17 10-04-05\AS-TP-3,5-DOM.D
Sample Name: AS-TP-3,5-DOM

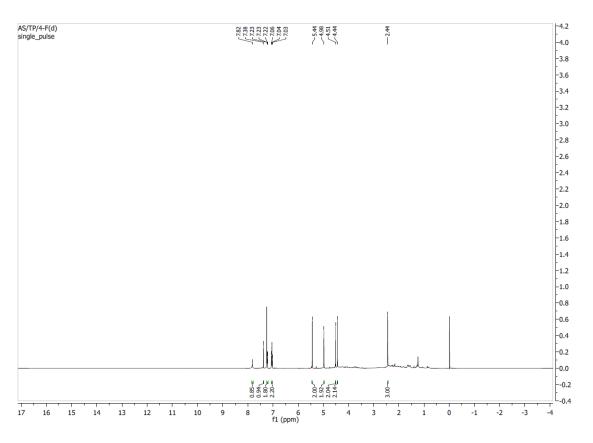


				[mau+s]		
		-				
1	10.720	MM	0.1046	4627.03076	737.33258	97.2646
2	11.750	MM	0.1396	130.12878	15.53761	2.7354
Total	s :			4757.15955	752.87019	

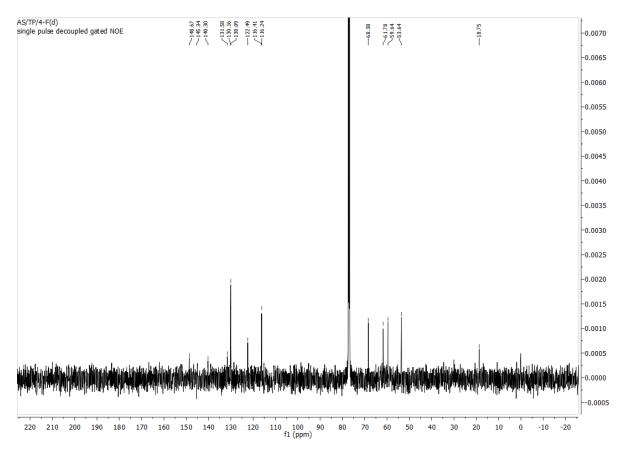
SPECTRAL DATA OF 5g



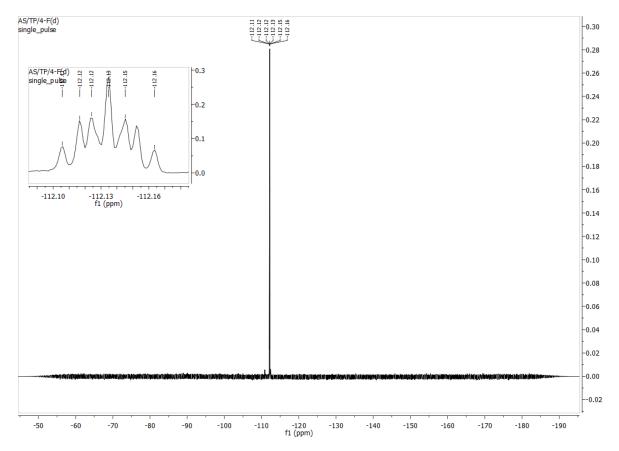
HRMS Spectrum of 5g



¹H NMR of 5g in CDCl₃ at 500MHz



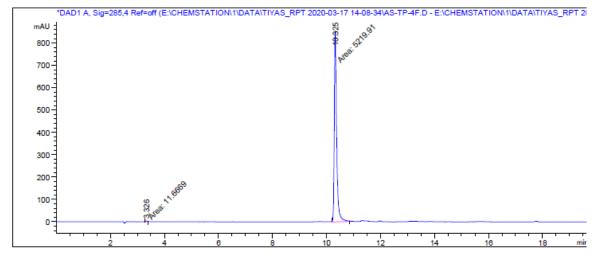




 $^{19}\mathrm{F}$ NMR of $\mathbf{5g}$ in CDCl_3 at 470MHz

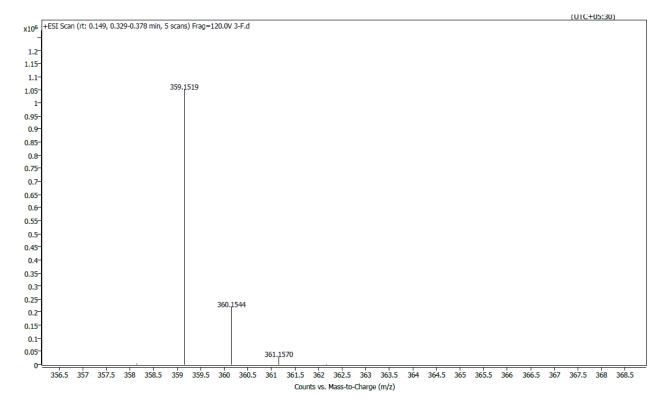
HPLC Purity Data of 5g

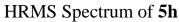
				==	
Acq. Operator	:	SYSTEM	Seq. Line	:	7
Sample Operator	:	SYSTEM			
Acq. Instrument	:	HPLC	Location	:	P2-C-04
Injection Date	:	17-03-2020 17:00:52	Inj	:	1
			Inj Volume	:	10.000 µl
Acq. Method	:	E:\Chemstation\1\Data\TI	AS_RPT 2020-03-1	7	14-08-34\TIYAS_RPT.M
Last changed	:	17-03-2020 10:01:12 by SY	/STEM		
Analysis Method	:	E:\Chemstation\1\Methods	AshimaFA_C-18_PR	EP	P.M
Last changed	:	23-06-2020 11:45:48 by SY	/STEM		
		(modified after loading)			
Additional Info	:	Peak(s) manually integrat	ted		

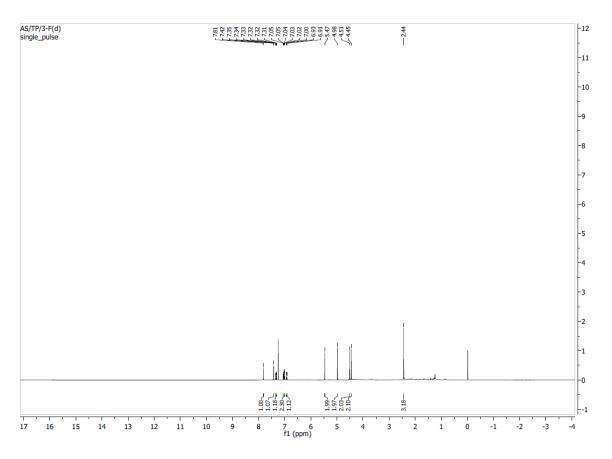


Peak	RetTime	Туре	Width	Area	Height	Area
#	[min]		[min]	[mAU*s]	[mAU]	%
1	3.326	MM	0.0525	11.66694	3.70133	0.2230
2	10.325	MM	0.1016	5219.90576	856.56024	99.7770

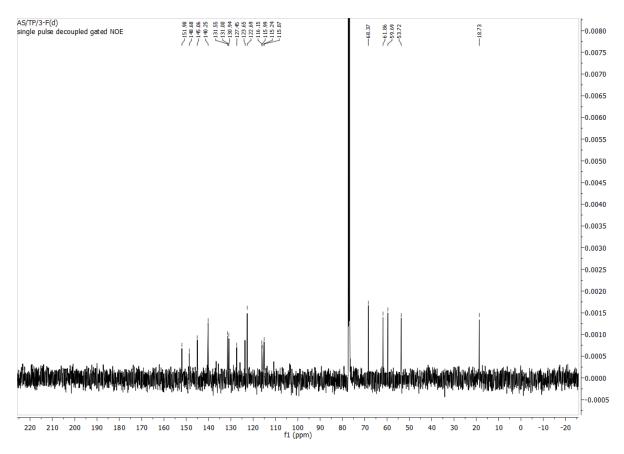
SPECTRAL DATA OF 5h

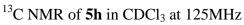


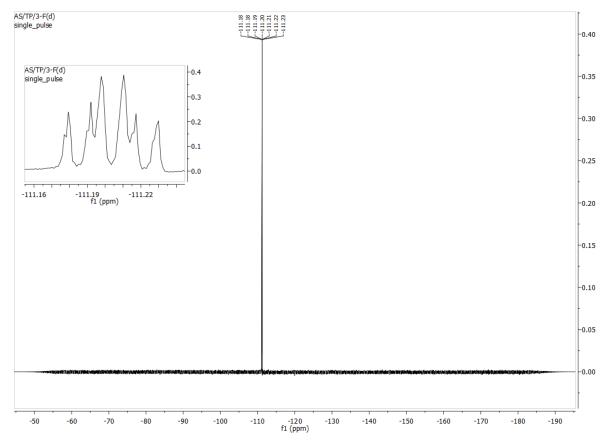




 1 H NMR of **5h** in CDCl₃ at 500MHz







 ^{19}F NMR of 5h in CDCl3 at 470MHz

HPLC Purity Data of 5h

lata File E:\CHEMSTATION\1\DATA\TIYAS_RPT 2020-03-17 10-04-05\AS-TP-3F.D
iample Name: AS-TP-3F

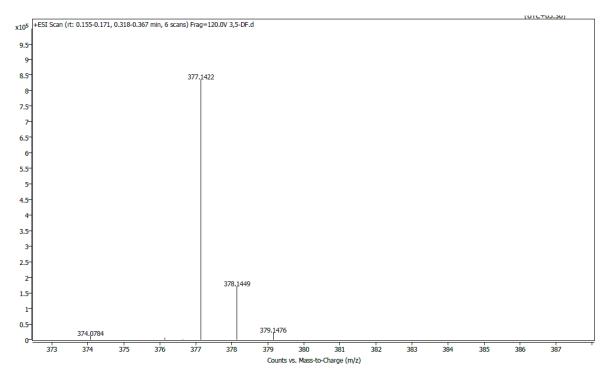
Acq. Operator	: SYSTEM		Seq.	Line :	3			
Sample Operator	: SYSTEM							
Acq. Instrument	: HPLC		Loca	ation :	P2-B-03			
Injection Date	: 17-03-2	020 11:02:21		Inj :	1			
			Inj Vo	olume :	10.000 µl			
Acq. Method	: E:\Chem	station\1\Data	TIYAS_RPT 2020	0-03-17	10-04-05\TI	YAS_RPT.M		
Last changed	: 17-03-2	020 10:01:12 by	SYSTEM					
Analysis Method	: E:\CHEM	STATION\1\METH	DS\TIYAS_RPT.M	1				
Last changed	: 23-06-2	020 12:51:16 by	SYSTEM					
Additional Info	: Peak(s)	manually integ	grated					
"DAD1 A, SI	g=285,4 Ref=of	f (E:\CHEMSTATION)	I\DATA\TIYAS_RPT 2	020-03-17 1	0-04-05\AS-TP-3	SF.D - E:\CHEMSTATIC	N\1\DATA\TIYAS_F	RPT 20
mAU			8 8					
			Nr05- 6661.5					
			PLOB.					
1000 -			r i					
1								
800 -								
1								
600 -								
400 -								
200 -		Spine VI A32						
]		8 NI						
		e se						
0		4			_			
		5	10	1	5	20	25	min

Peak	RetTime	Туре	Width	Area	Height	Area
#	[min]		[min]	[mAU*s]	[mAU]	%
1	5.086	MM	0.1105	127.43169	19.22895	1.8771
2	10.300	MM	0.0970	6661.14844	1144.58276	98.1229

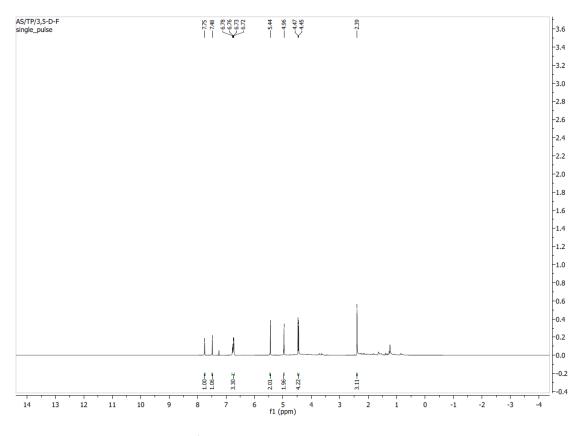
Totals :

6788.58012 1163.81171

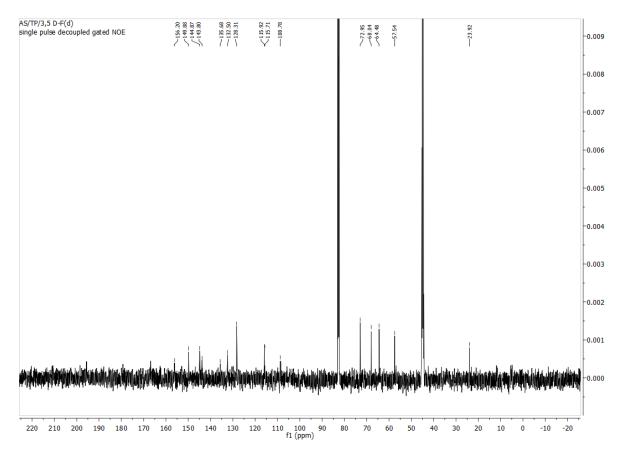
SPECTRAL DATA OF 5i



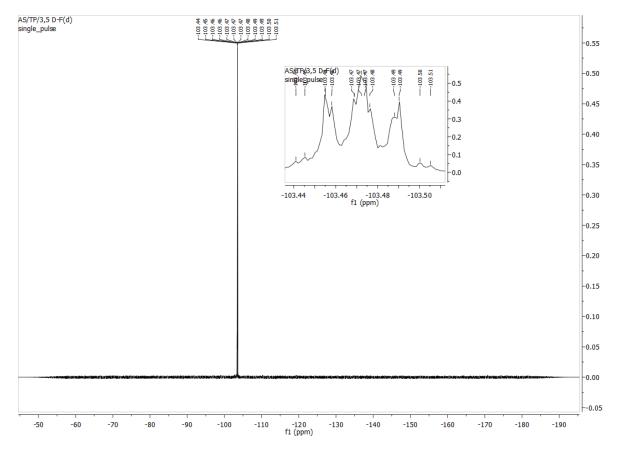
HRMS Spectrum of 5i



¹H NMR of **5i** in CDCl₃ at 500MHz



¹³C NMR of **5i** in CDCl₃and DMSO-*d*₆ at 125MHz

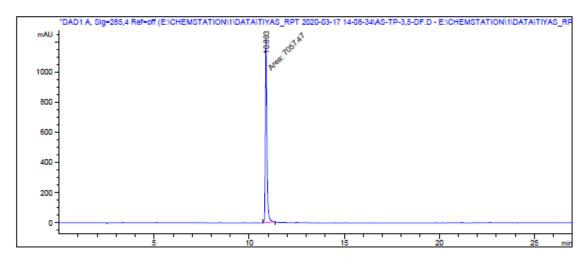


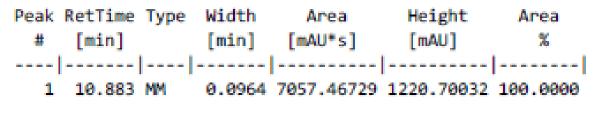
 $^{19}\mathrm{F}\,\mathrm{NMR}$ of 5i in CDCl_3 at $470\mathrm{MHz}$

HPLC Purity Data of 5i

Jata File E:\CHEMSTATION\1\DATA\TIYAS_RPT 2020-03-17 14-08-34\AS-TP-3,5-DF.D
Sample Name: AS-TP-3,5-DF

				==	
Acq. Operator	:	SYSTEM	Seq. Line	:	4
Sample Operator	:	SYSTEM			
Acq. Instrument	:	HPLC	Location	:	P2-C-01
Injection Date	:	17-03-2020 15:35:26	Inj	:	1
			Inj Volume	:	10.000 µl
Acq. Method	:	E:\Chemstation\1\Data\TIYAS	_RPT 2020-03-	17	14-08-34\TIYAS_RPT.M
Last changed	:	17-03-2020 10:01:12 by SYST	EM		
Analysis Method	:	E:\Chemstation\1\Methods\As	himaFA_C-18_P	RE	P.M
Last changed	:	23-06-2020 11:45:48 by SYST	EM		
		(modified after loading)			
Additional Info	:	Peak(s) manually integrated			

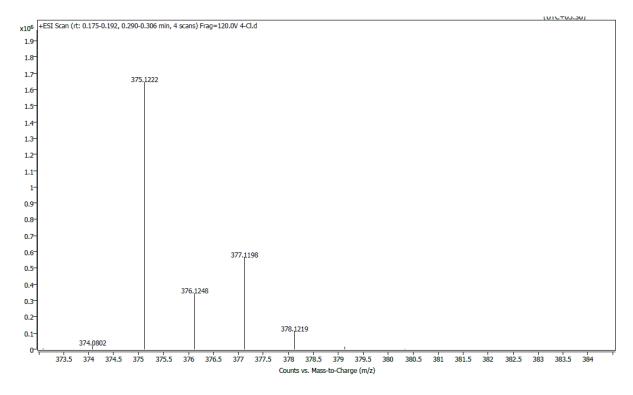




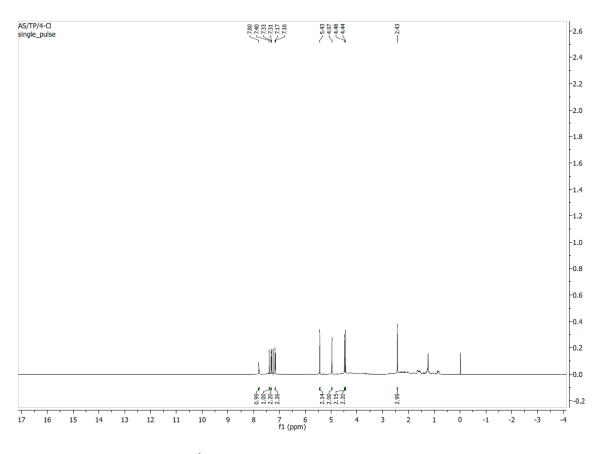
```
Totals :
```

7057.46729 1220.70032

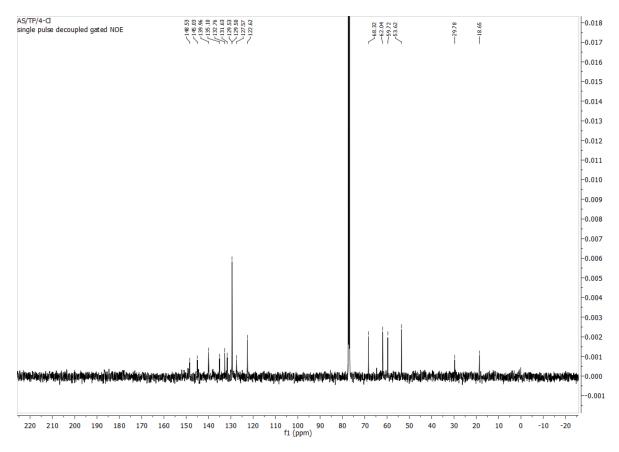
SPECTRAL DATA OF 5j



HRMS Spectrum of 5j

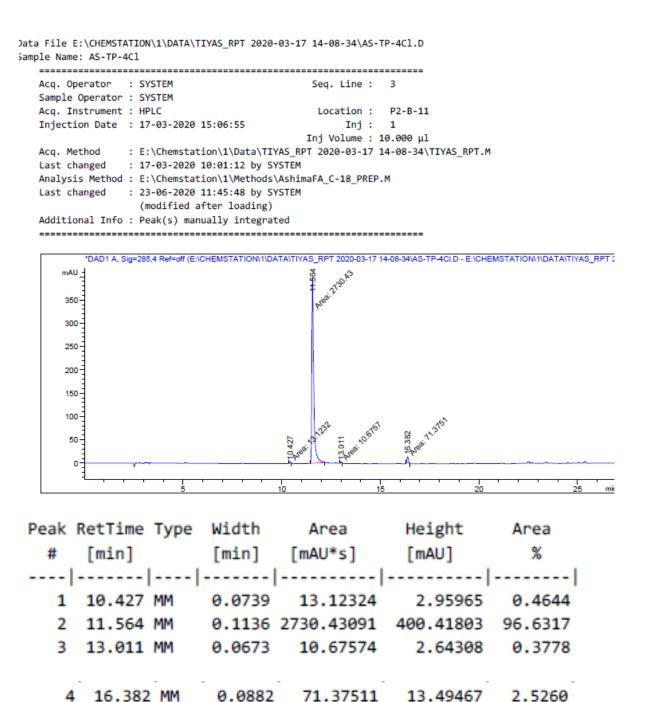


 ^1H NMR of 5j in CDCl_3 at 500MHz



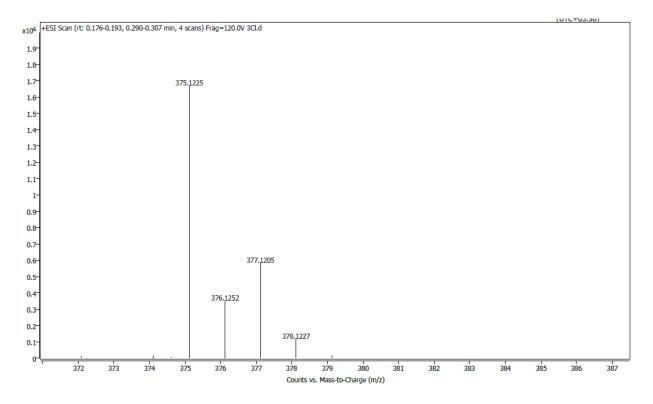
¹³C NMR of **5j** in CDCl₃ at 125MHz

HPLC Purity Data of 5j

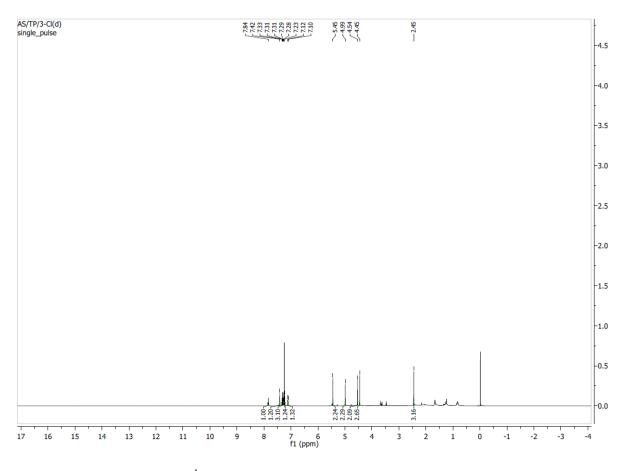


2825.60500 419.51544

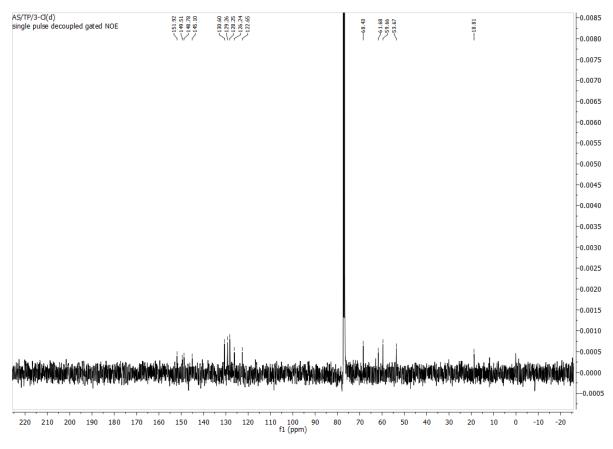
SPECTRAL DATA OF 5k



HRMS Spectrum of 5k



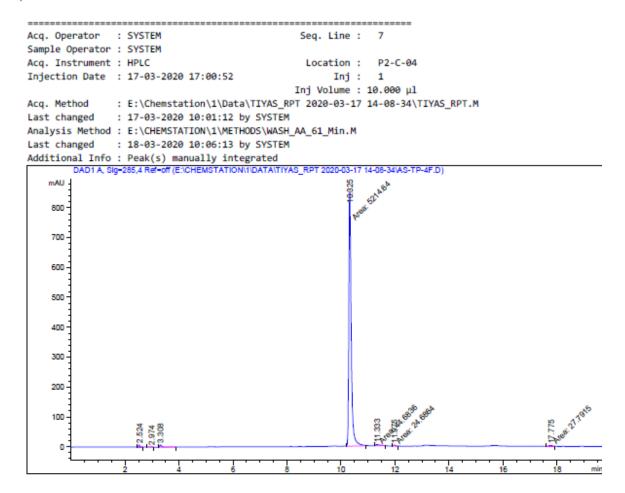
 1 H NMR of **5k** in CDCl₃ at 500MHz



 ^{13}C NMR of 5k in CDCl_3 at 125MHz

HPLC Purity Data of 5k

ata File E:\CHEMSTATION\1\DATA\TIYAS_RPT 2020-03-17 14-08-34\AS-TP-4F.D ample Name: AS-TP-4F

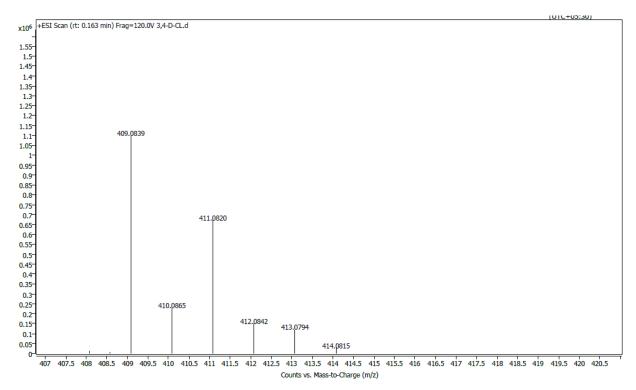


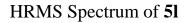
Peak	RetTime	Туре	Width	Area	Height	Area
#	[min]		[min]	[mAU*s]	[mAU]	%
1	2.524	BV R	0.0527	23.56682	7.09809	0.4377
2	2.974	BB	0.0865	7.85408	1.29955	0.1459
3	3.308	BB	0.0783	40.85798	7.41770	0.7589
4	10.325	MM	0.1015	5214.64063	856.06323	96.8529
5	11.333	MM	0.1868	44.68361	3.98615	0.8299
6	11.975	MM	0.1035	24.68643	3.97545	0.4585
7	17.775	MM	0.1364	27.79146	3.39607	0.5162

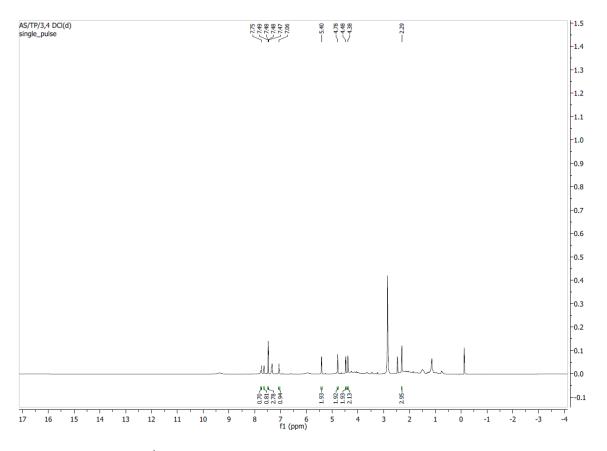
Totals :

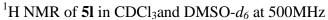
5384.08101 883.23625

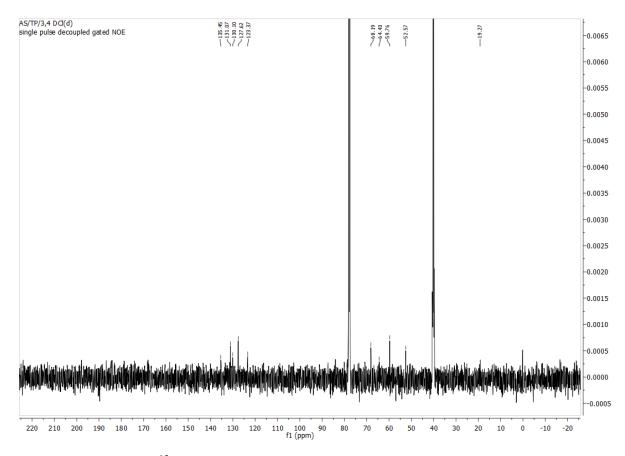
SPECTRAL DATA OF 51

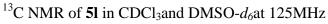




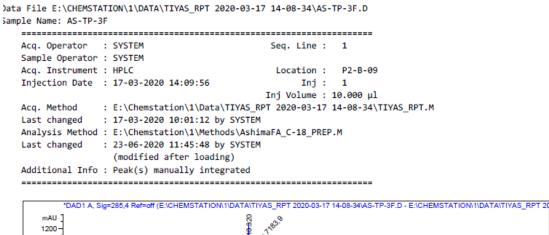


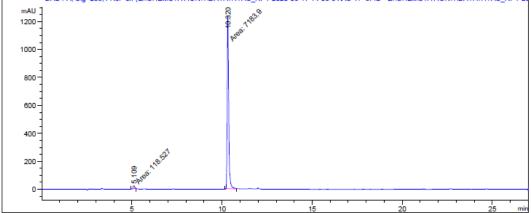


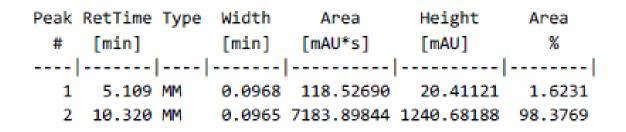




HPLC Purity Data of 51

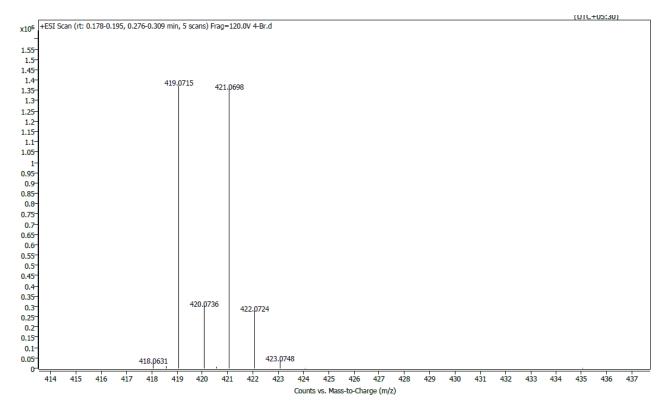


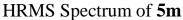


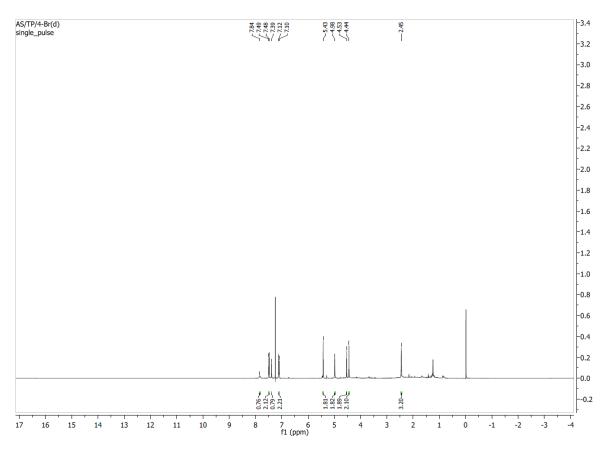


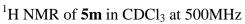
7302.42534 1261.09309

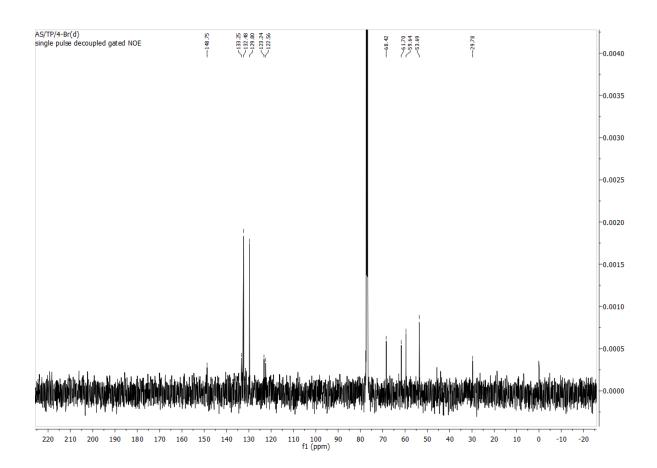
SPECTRAL DATA OF 5m











HPLC Purity Data of 5m

Data File E:\CHEMSTATION\1\DATA\TIYAS_RPT 2020-03-17 10-04-05\AS-TP-4Br.D Sample Name: AS-TP-4Br

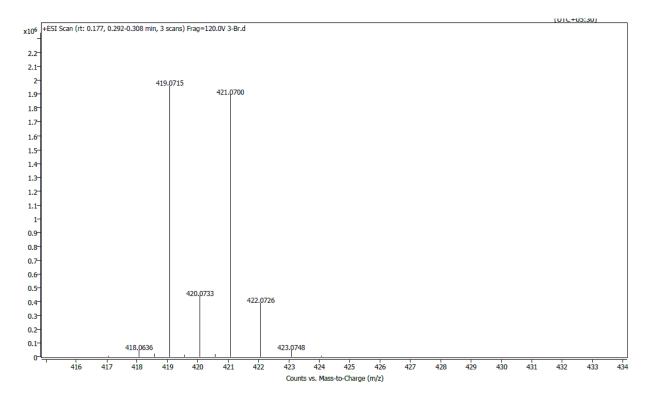
Acq. Operator	: SYSTEM	Seq. Lin	2 :	5				
Sample Operator	: SYSTEM							
Acq. Instrument	: HPLC	Locatio	1:	P2-B-05				
Injection Date	: 17-03-2020 11:59:2	20 In	j :	1				
		Inj Volum	e : 1	0.000 µl				
Acq. Method	: E:\Chemstation\1\0	Data\TIYAS_RPT 2020-03	17 1	0-04-05\TIYAS_RPT.M				
Last changed	: 17-03-2020 10:01:12 by SYSTEM							
Analysis Method	: E:\CHEMSTATION\1\METHODS\TIYAS_RPT.M							
Last changed	: 23-06-2020 12:51:16 by SYSTEM							
	: Peak(s) manually i							
"DAD1 A, S	Ig=285,4 Ref=off (E:\CHEMSTA	TION\1\DATA\TIYAS_RPT 2020-0	3-17 10	H04-05/AS-TP-4Br.D - E:/CHEMSTATION/1/DATA/TIYAS_RPT				
mAU - 1200 -		26 a2						
1200		New TONA						
		Plag.						
1000 -								
800 -								
600 -								
000-								
400 -								
-								
200 -		1000 Martin Barris						
		E ~ 100 €						
		and a start of the						
0		n						
	5	10	15	20 25 mi				
	0	IV	10	20 25 11				

Peak	RetTime	Type	Width	Area	Height	Area
#	[min]		[min]	[mAU*s]	[mAU]	%
1	8.017	MM	0.0634	49.86025	13.11576	0.7033
2	11.915	MM	0.0977	7039.33203	1200.87622	99.2967

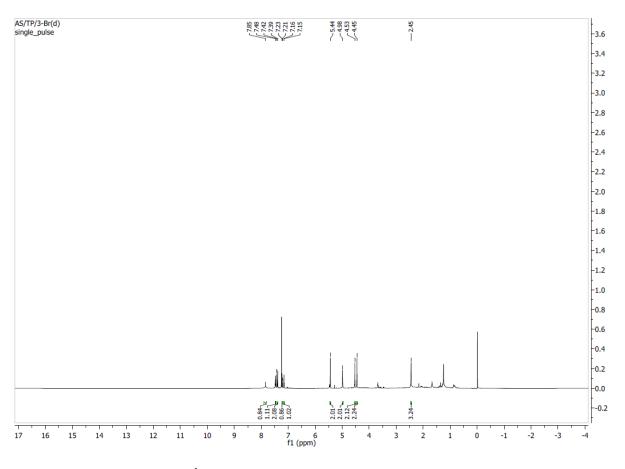
Totals :

7089.19228 1213.99198

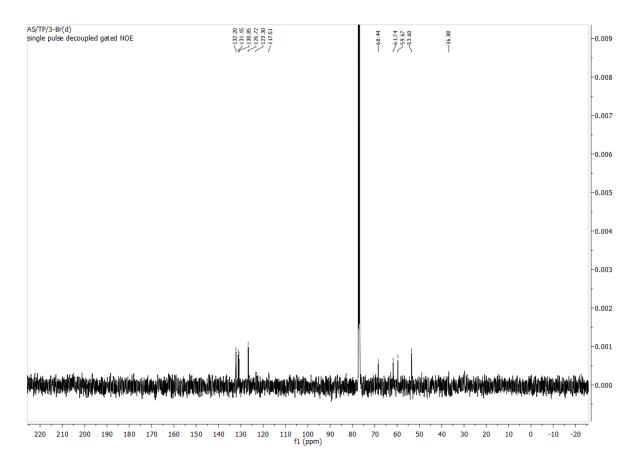
SPECTRAL DATA OF 5n



HRMS Spectrum of 5n



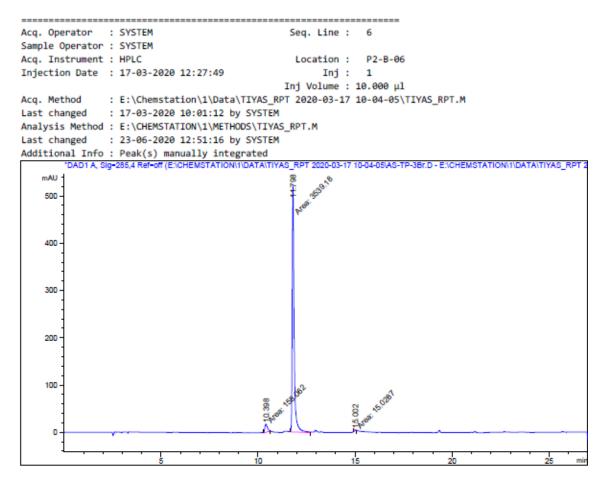
 1 H NMR of **5n** in CDCl₃ at 500MHz

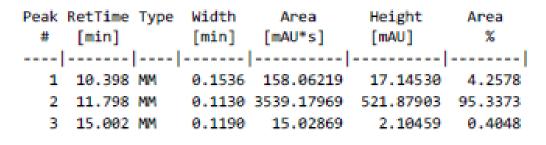


¹³C NMR of **5n** in CDCl₃ at 125MHz

HPLC Purity Data of 5n

lata File E:\CHEMSTATION\1\DATA\TIYAS_RPT 2020-03-17 10-04-05\AS-TP-3Br.D
iample Name: AS-TP-3Br

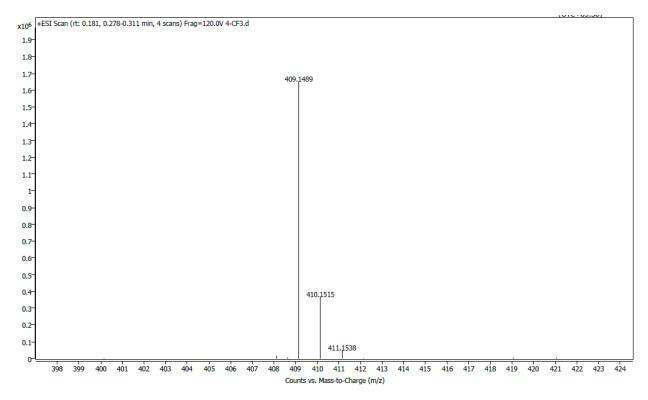




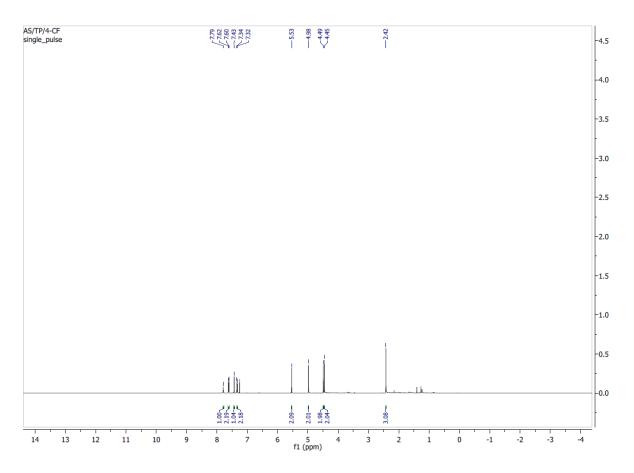
Totals :

3712.27057 541.12892

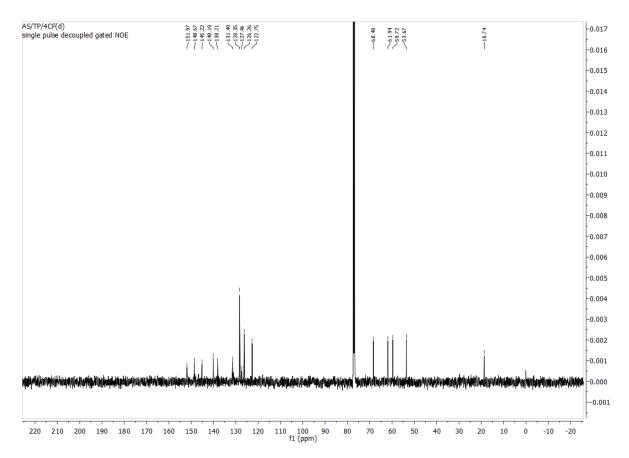
SPECTRAL DATA OF 50



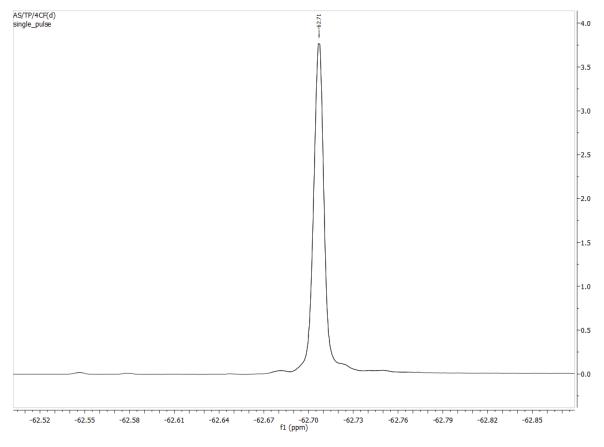




 1 H NMR of **50** in CDCl₃ at 500MHz



 ^{13}C NMR of 50 in CDCl3 at 125MHz

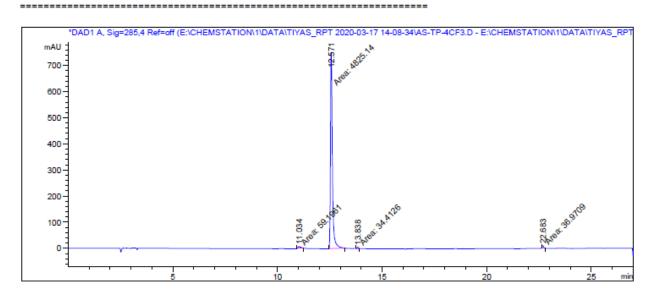


 ^{19}F NMR of **50** in CDCl₃ at 470MHz

HPLC Purity Data of 50

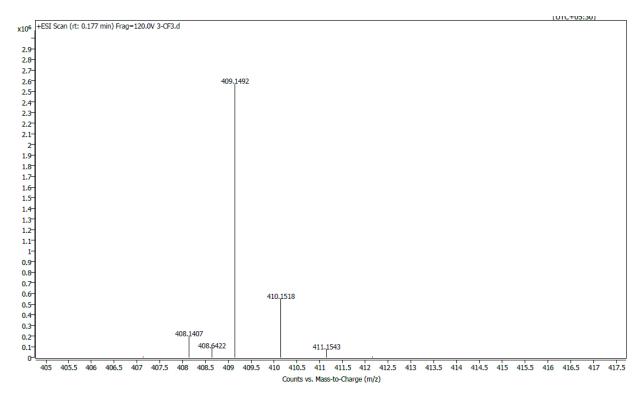
Data File E:\CHEMSTATION\1\DATA\TIYAS_RPT 2020-03-17 14-08-34\AS-TP-4CF3.D Sample Name: AS-TP-4CF3

Acq. Operator	: SYSTEM	Seq. Line :	2				
Sample Operator	: SYSTEM						
Acq. Instrument	: HPLC	Location :	P2-B-10				
Injection Date	: 17-03-2020 14:38:25	Inj :	1				
		Inj Volume : 1	0.000 µl				
Acq. Method	: E:\Chemstation\1\Data\TIYAS	_RPT 2020-03-17 1	4-08-34\TIYAS_RPT.M				
Last changed	: 17-03-2020 10:01:12 by SYST	EM					
Analysis Method	: E:\Chemstation\1\Methods\As	himaFA_C-18_PREP.	M				
Last changed	: 23-06-2020 11:45:48 by SYST	EM					
	(modified after loading)						
Additional Info	: Peak(s) manually integrated	I					

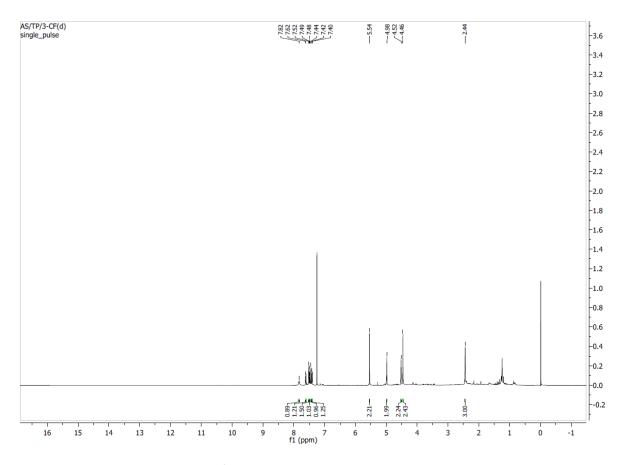


Peak I	RetTime	Туре	Width	Area	Height	Area
#	[min]		[min]	[mAU*s]	[mAU]	%
-						
1	11.034	MM	0.1571	59.19608	6.28135	1.1945
2	12.571	MM	0.1067	4825.13770	753.77130	97.3651
3	13.838	MM	0.0903	34.41263	6.35487	0.6944
4	22.683	мм	0.0753	36.97089	8.17996	0.7460
Total	s :		4	955.71730	774.58748	

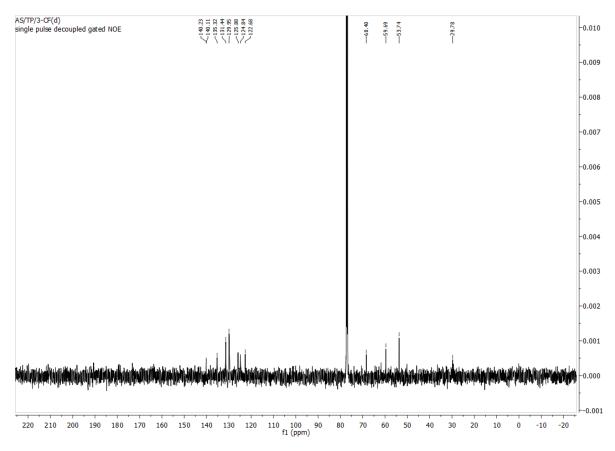
SPECTRAL DATA OF 5p



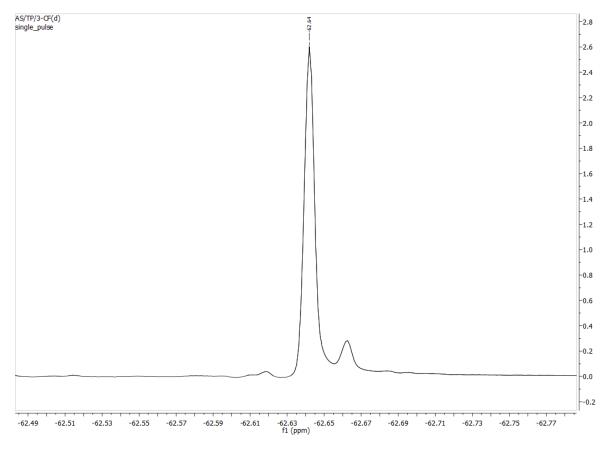
HRMS Spectrum of 5p



¹H NMR of **5p** in CDCl₃ at 500MHz



 ^{13}C NMR of 5p in CDCl3 at 125MHz

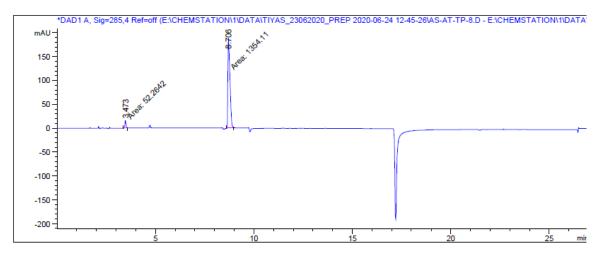




HPLC Purity Data of 5p

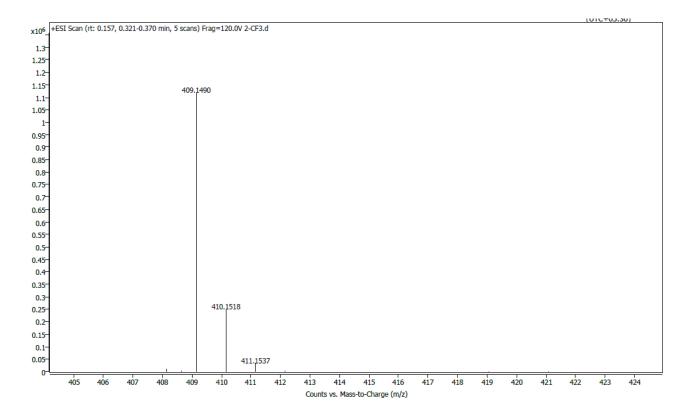
```
Data File E:\CHEMSTATION\1\DATA\TIYAS_23062020_PREP 2020-06-24 12-45-26\AS-AT-TP-8.D
Sample Name: AS-AT-TP-7
   _____
   Acq. Operator : SYSTEM
                                              Seq. Line : 1
   Sample Operator : SYSTEM
                                               Location : P2-D-03
Inj : 1
   Acq. Instrument : HPLC
   Injection Date : 24-06-2020 12:46:28
                                             Inj Volume : 10.000 µl
   Different Inj Volume from Sample Entry! Actual Inj Volume : 4.000 µl
   Acq. Method : E:\Chemstation\1\Data\TIYAS_23062020_PREP 2020-06-24 12-45-26\TIYAS_RPT.M
   Last changed
               : 23-06-2020 12:51:16 by SYSTEM
   Analysis Method : E:\CHEMSTATION\1\METHODS\AshimaFA_C-18_PREP.M
   Last changed : 23-06-2020 15:02:47 by SYSTEM
   Sample Info
                 : AS-AT-TP-8
```

```
Additional Info : Peak(s) manually integrated
```

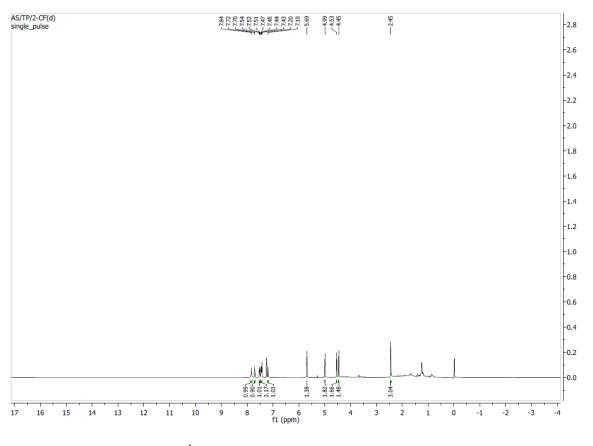


Peak	RetTime	Туре	Width	Area	Height	Area	
#	[min]		[min]	[mAU*s]	[mAU]	%	
1	3.473	MM	0.0593	52.26423	14.68460	3.7162	
2	8.706	MM	0.1199	1354.10974	188.24948	96.2838	
	Totals :		1406.37397 202.93408				

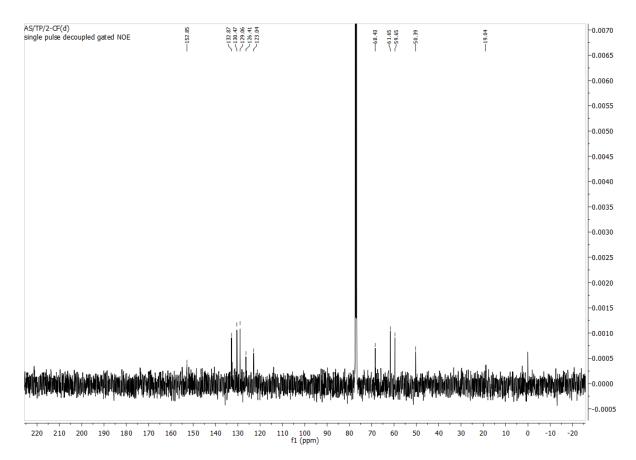
SPECTRAL DATA OF 5q



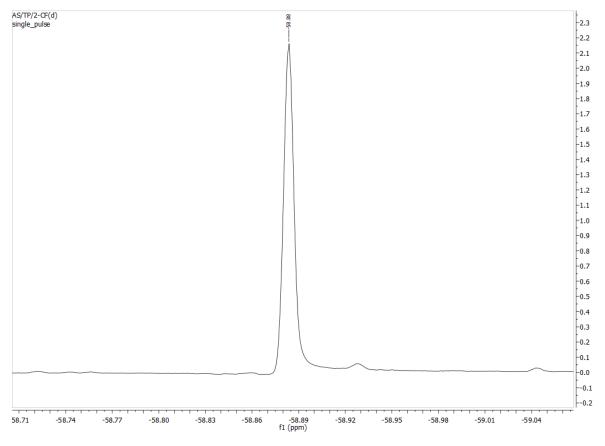
HRMS Spectrum of 5q



 ^1H NMR of 5q in CDCl3 at 500MHz





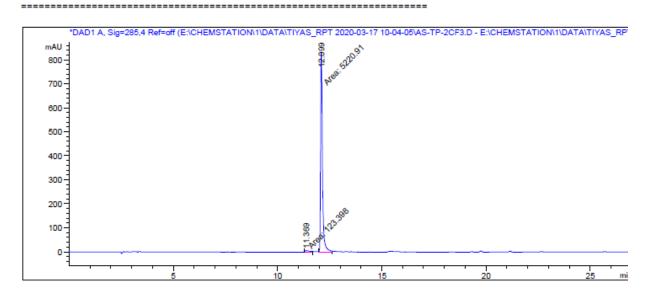


 $^{19}\mathrm{F}$ NMR of $\mathbf{5q}$ in CDCl_3 at 470MHz

HPLC Purity Data of 5q

Data File E:\CHEMSTATION\1\DATA\TIYAS_RPT 2020-03-17 10-04-05\AS-TP-2CF3.D Sample Name: AS-TP-2CF3

Acq. Operator	:	SYSTEM	Seq.	Line	:	2
Sample Operator	:	SYSTEM				
Acq. Instrument	:	HPLC	Loca	ation	:	P2-B-02
Injection Date	:	17-03-2020 10:33:53		Inj	:	1
		:	Inj V	olume	: 1	10.000 µl
Acq. Method	:	E:\Chemstation\1\Data\TIYAS_RP	T 202	0-03-1	17 1	10-04-05\TIYAS_RPT.M
Last changed	:	17-03-2020 10:01:12 by SYSTEM				
Analysis Method	:	E:\Chemstation\1\Methods\Ashima	aFA_C	-18_PF	REP.	.м
Last changed	:	23-06-2020 11:45:48 by SYSTEM				
		(modified after loading)				
Additional Info	:	Peak(s) manually integrated				



Peak	RetTime	Туре	Width	Area	Height	Area
#	[min]		[min]	[mAU*s]	[mAU]	%
1	11.369	MM	0.2720	123.39763	7.56185	2.3090
2	12.099	MM	0.1041	5220.90869	836.01648	97.6910

Totals :

5344.30632 843.57833

Metal Chelation UV spectrum of Compounds 5c, 5d, 5h, 5i, 5n, 5q against Fe, Cu, Zn, Al.

