Supporting Information:

Synthesis of Chiral Acyclic Nucleosides by Sharpless Asymmetric Dihydroxylation: Access to Cidofovir and Buciclovir

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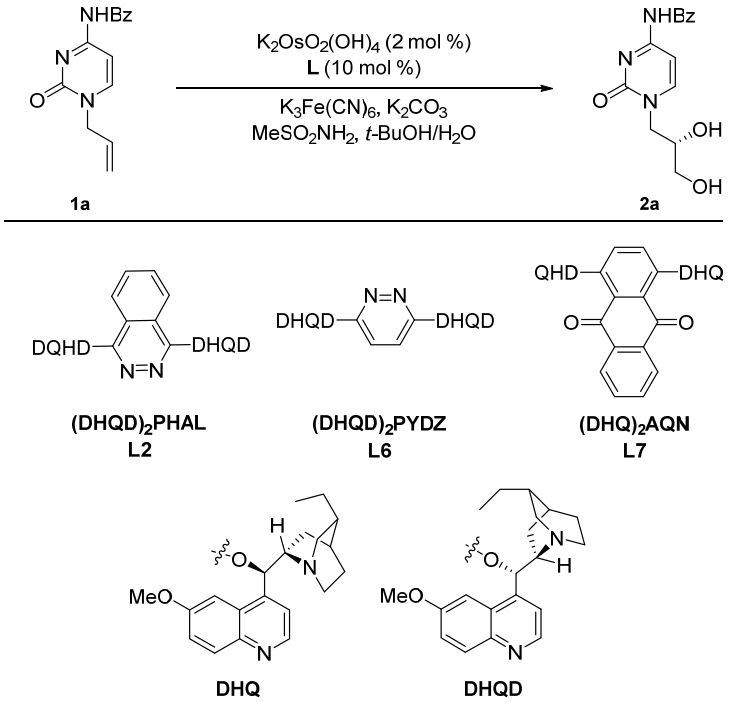
1. Optimization of reaction conditions

Table S1. Optimization of reaction conditions[a]



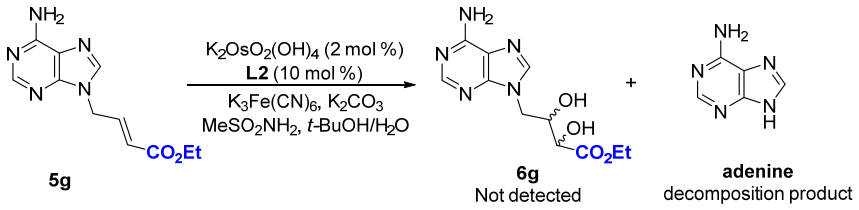
entry	L	t (°C)	base	solvent	yield (%)[b]	ee (%)[c]
1	**L6**	rt	K_2CO_3	t-BuOH/H_2O	93	48
2	**L7**	rt	K_2CO_3	t-BuOH/H_2O	96	37
3[d]	**L2**	0	Na_2CO_3	t-BuOH/H_2O	80	67
4[d]	**L2**	0	Cs_2CO_3	t-BuOH/H_2O	85	64
5[d]	**L2**	0	Et_3N	t-BuOH/H_2O	21	74
6[d]	**L2**	0	Ag_2CO_3	t-BuOH/H_2O	72	70
7[d]	**L2**	0	$NaHCO_3$	t-BuOH/H_2O	50	70
8[d]	**L2**	0	$KHCO_3$	t-BuOH/H_2O	30	73
9[d]	**L2**	0	CH_3COOK	t-BuOH/H_2O	NR	NR
10[d]	**L2**	0	DABCO	t-BuOH/H_2O	20	33
11[d,e]	**L2**	0	K_2CO_3	MeOH/H_2O	52	42
12[d,e]	**L2**	0	K_2CO_3	EtOH/H_2O	40	35
13[d,e]	**L2**	0	K_2CO_3	DCM/H_2O	40	15

[a]Unless otherwise noted, reaction conditions are: **1a** (0.05 mmol), $K_2OsO_2(OH)_4$ (2 mol %), **L** (10 mol %), $K_3Fe(CN)_6$ (6 equiv.), base (6 equiv.), $MeSO_2NH_2$ (2 equiv.) in t-BuOH/H_2O (1.0 mL,

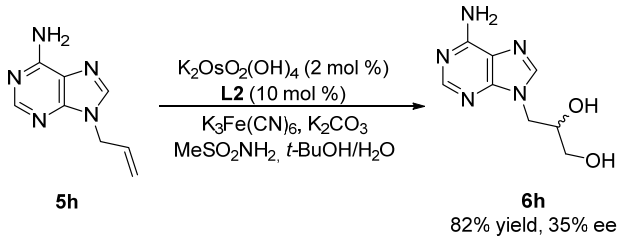
1:1) at rt for 12 h. [b]Isolated yield. [c]Determined by chiral HPLC analysis. [d]$K_3Fe(CN)_6$ (3 equiv.) and base (3 equiv.). [e]Solvent (2.0 mL, 2:1).

2. Substrate scope of N-alkenyladenine

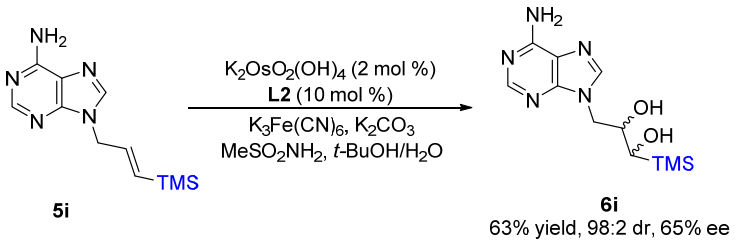
Scheme S1



Scheme S2



Scheme S3



3. The X-ray data for chiral acyclic nucleosides 4a and 6e

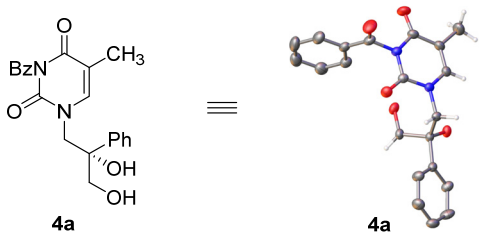


Figure S1. The ORTEP diagram of complex **4a** at 50% ellipsoid probability

The chiral product of **4a** was recrystallized by dichloromethane/methanol (3/1).

CCDC 1858644 **(4a)** contains the supplementary crystallographic data for this paper. These data can be obtained free of charge from The Cambridge Crystallographic Data Centre via www.ccdc.cam.ac.uk/data_request/cif

Table *S2* Crystal data and structure refinement for 4a.

Identification code	QT
Empirical formula	$C_{21}H_{19}N_2O_5$
Formula weight	379.38
Temperature/K	297.01(10)
Crystal system	monoclinic
Space group	$P2_1$
a/Å	5.81390(10)
b/Å	13.3695(2)
c/Å	12.32600(10)
α/°	90
β/°	91.9110(10)
γ/°	90
Volume/Å^3	957.55(2)
Z	2
ρ_{calc}g/cm^3	1.316
μ/mm^{-1}	0.787
F(000)	398.0
Crystal size/mm^3	0.4 × 0.2 × 0.03
Radiation	CuKα (λ = 1.54184)
2Θ range for data collection	7.176 to 145.158
Index ranges	$-6 \leq h \leq 7$, $-16 \leq k \leq 16$, $-15 \leq l \leq 15$
Reflections collected	20929

Independent reflections	3755 [R_{int} = 0.0415, R_{sigma} = 0.0243]
Data/restraints/parameters	3755/1/256
Goodness-of-fit on F^2	1.052
Final R indexes [I>=2σ (I)]	R_1 = 0.0391, wR_2 = 0.1028
Final R indexes [all data]	R_1 = 0.0423, wR_2 = 0.1049
Largest diff. peak/hole / e $Å^{-3}$	0.38/-0.24
Flack parameter	0.07(9)

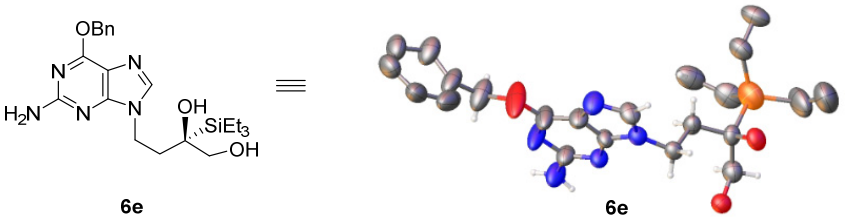


Figure S2. The ORTEP diagram of complex **6e** at 50% ellipsoid probability

The chiral product of **6e** was recrystallized by dichloromethane/ petroleum (2/1).

CCDC 1858645 (**6e**) contains the supplementary crystallographic data for this paper. These data can be obtained free of charge from The Cambridge Crystallographic Data Centre via www.ccdc.cam.ac.uk/data_request/cif

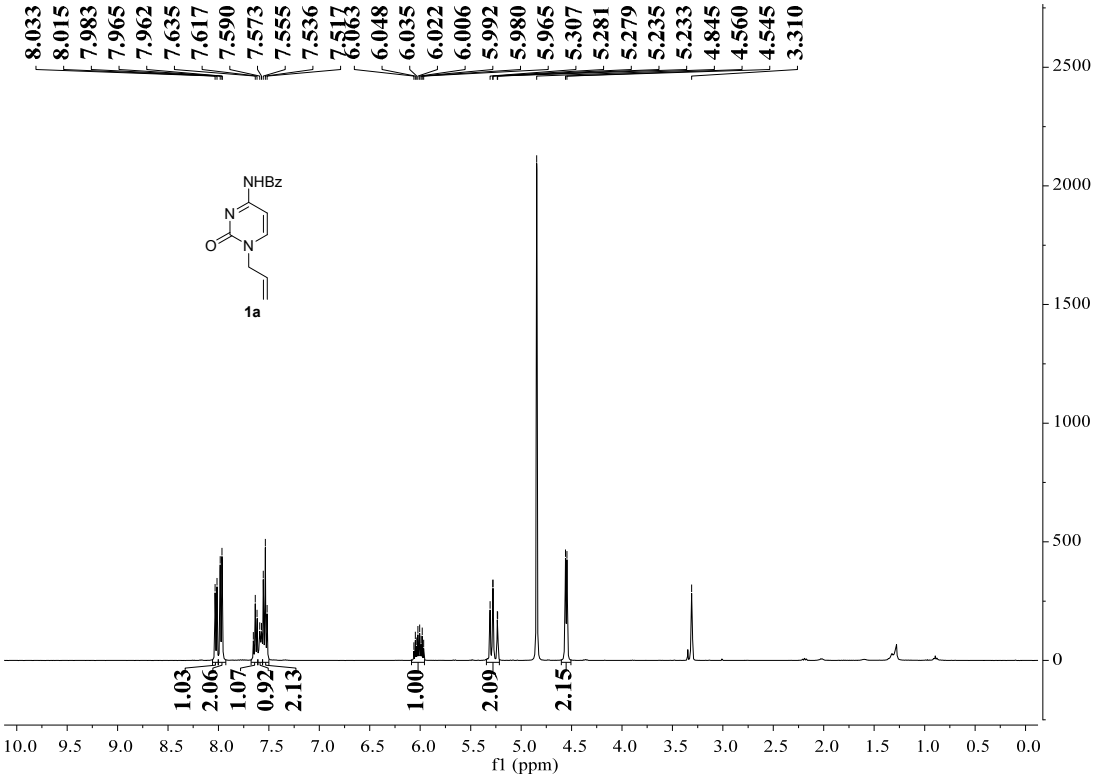
Table *S3* Crystal data and structure refinement for 6e.

Identification code	qt-20180612
Empirical formula	$C_{22}H_{31}N_5O_3Si$
Formula weight	441.61
Temperature/K	298.3(10)
Crystal system	monoclinic
Space group	I2
a/Å	23.3389(3)
b/Å	15.1799(2)
c/Å	42.3532(6)
α/°	90
β/°	102.714(2)
γ/°	90
Volume/$Å^3$	14637.1(4)
Z	16
ρ_{calc}g/cm^3	0.802

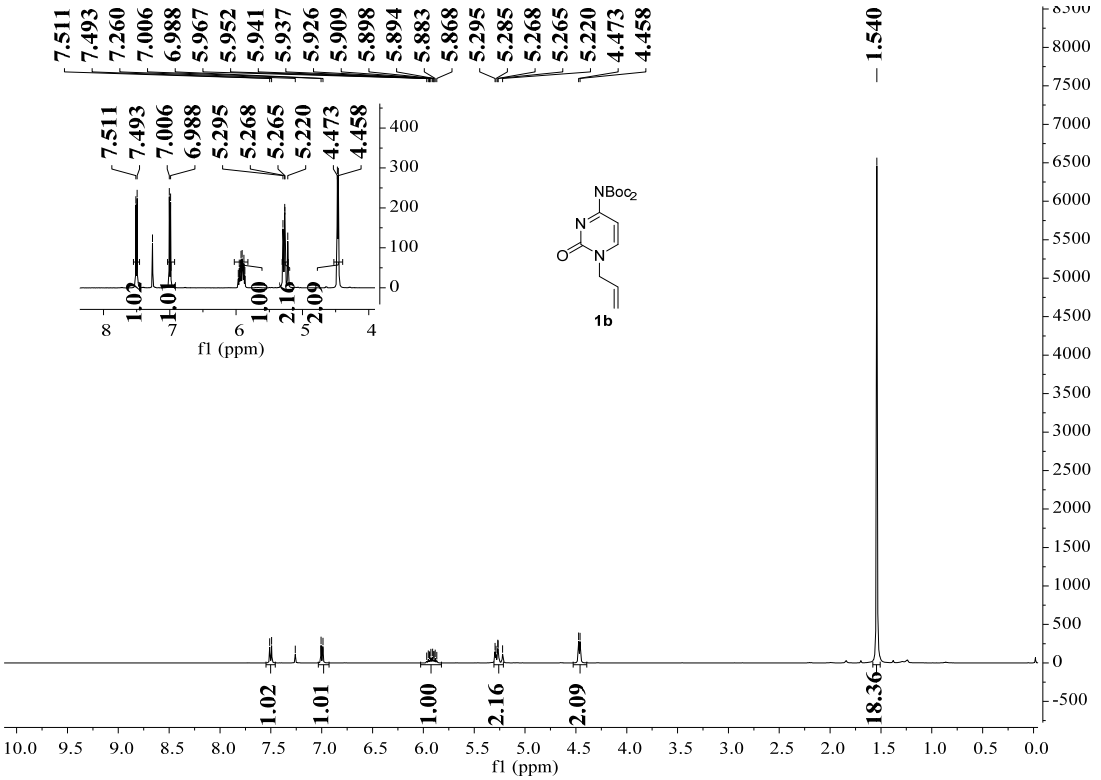
μ/mm^{-1}	0.737
F(000)	3776.0
Crystal size/mm^3	0.13 × 0.12 × 0.11
Radiation	CuKα (λ = 1.54184)
2Θ range for data collection	7.746 to 145.598
Index ranges	$-25 \leq h \leq 28$, $-18 \leq k \leq 18$, $-52 \leq l \leq 52$
Reflections collected	150046
Independent reflections	28692 [R_{int} = 0.0332, R_{sigma} = 0.0200]
Data/restraints/parameters	28692/1/1107
Goodness-of-fit on F^2	1.004
Final R indexes [I>=2σ (I)]	R_1 = 0.0872, wR_2 = 0.2750
Final R indexes [all data]	R_1 = 0.1005, wR_2 = 0.3009
Largest diff. peak/hole / e $Å^{-3}$	0.56/-0.34
Flack parameter	0.023(12)

4. Copies of ^{1}H and ^{13}C NMR spectra.

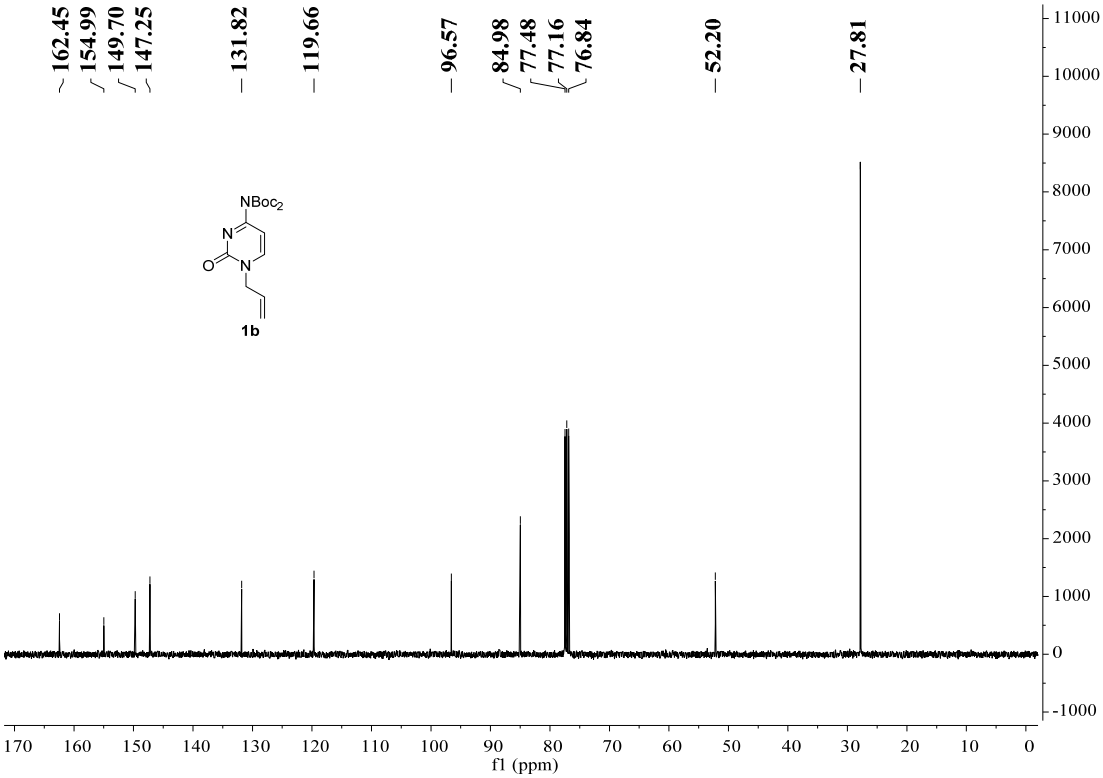
^{1}H-NMR of 1a (400 MHz, CD_3OD)



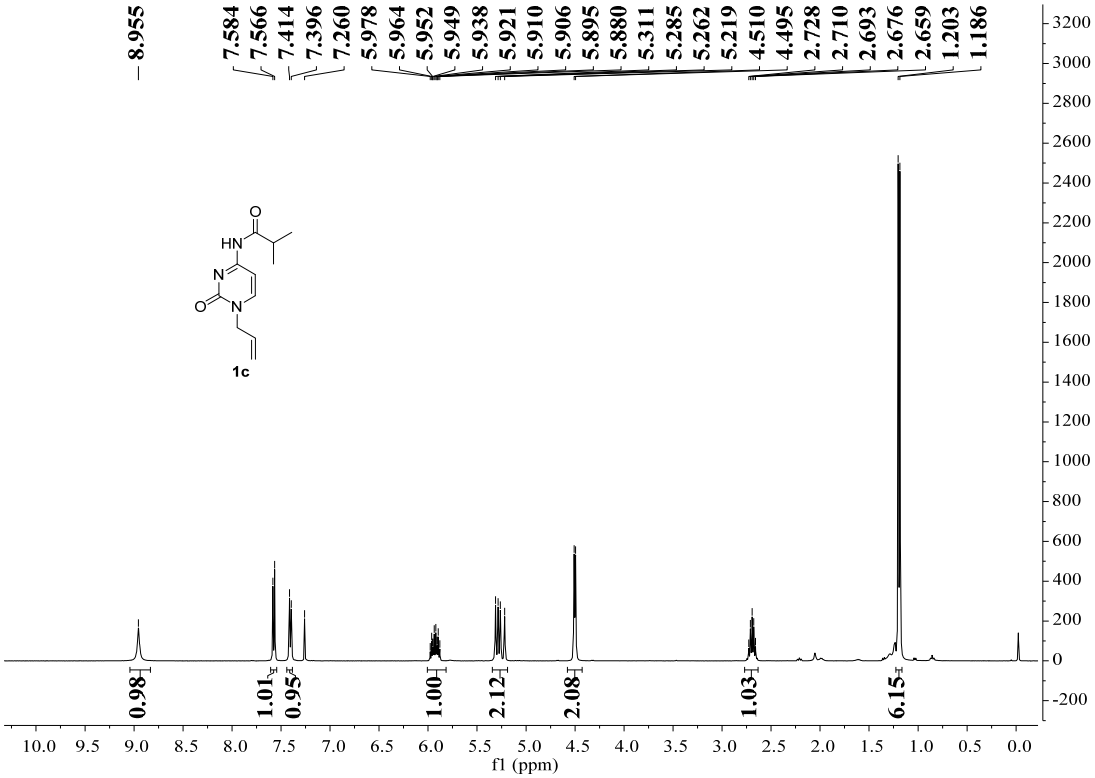
^{1}H-NMR of 1b (400 MHz, $CDCl_3$)



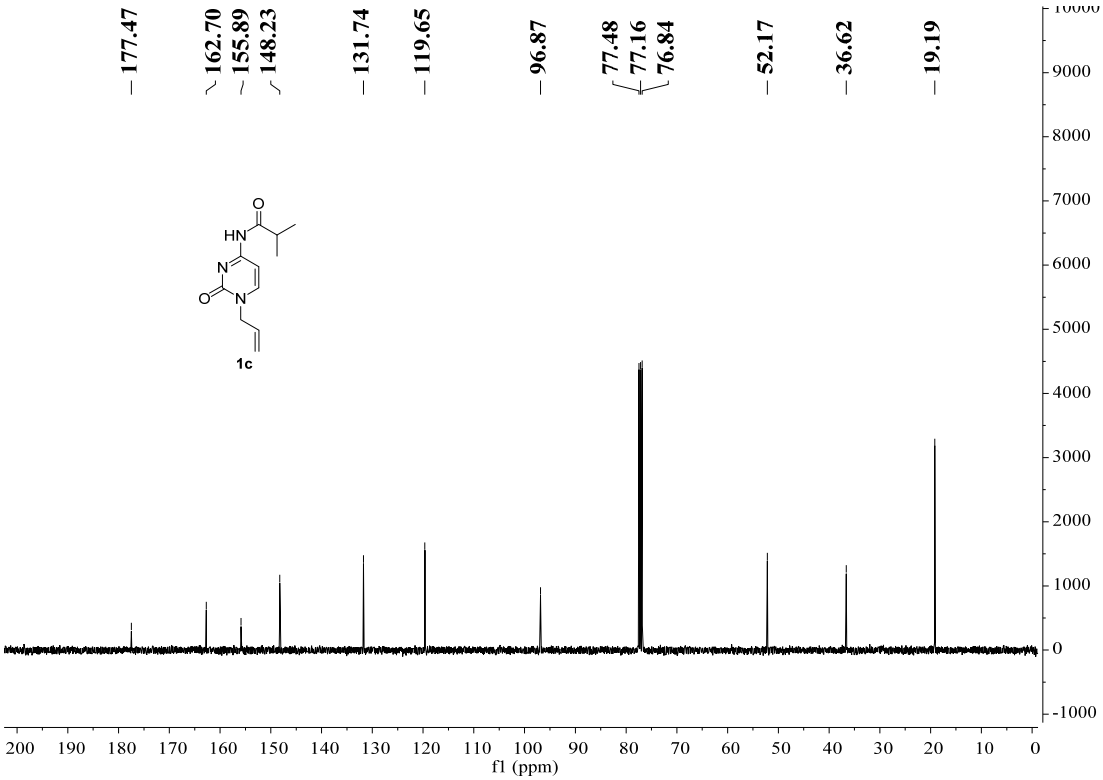
^{13}C-NMR of 1b (100 MHz, $CDCl_3$)



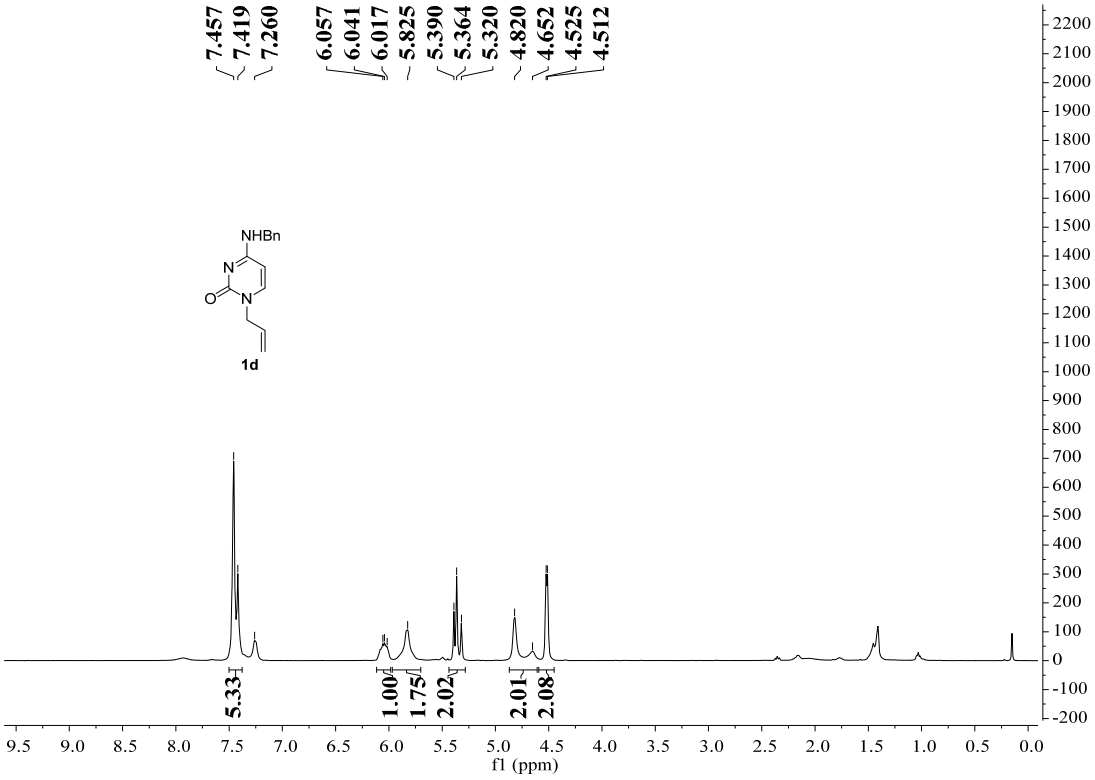
^{1}H-NMR of 1c (400 MHz, $CDCl_3$)



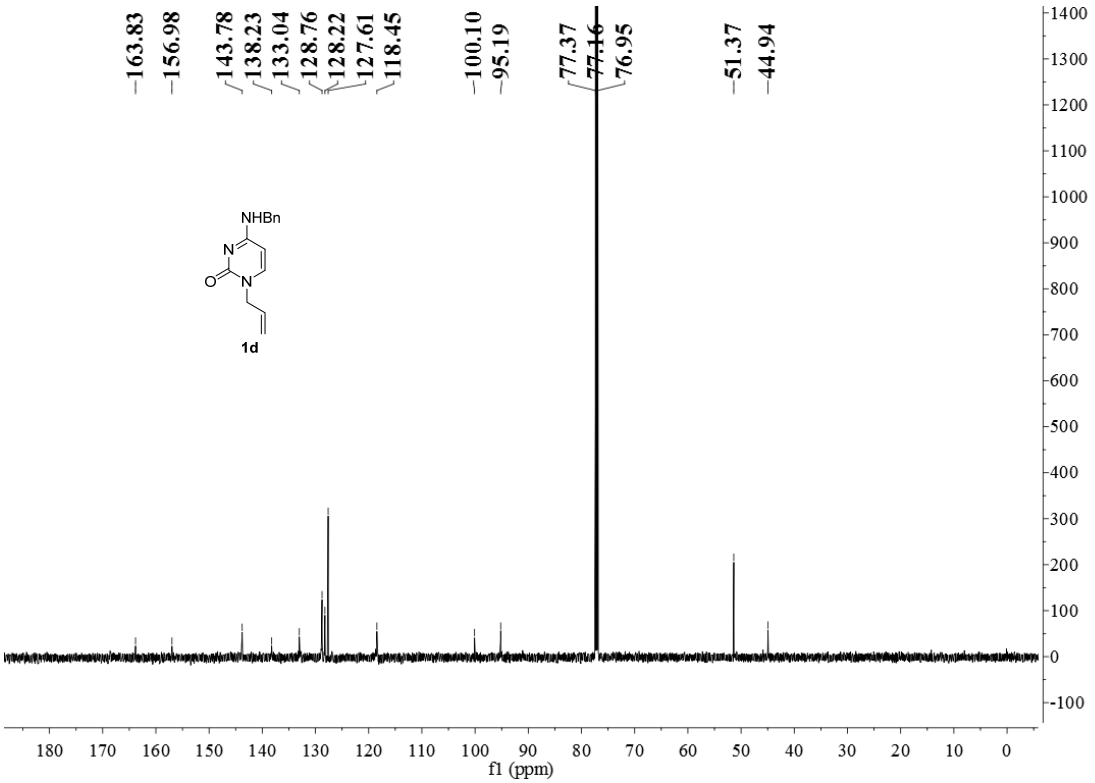
^{13}C-NMR of 1c (100 MHz, $CDCl_3$)



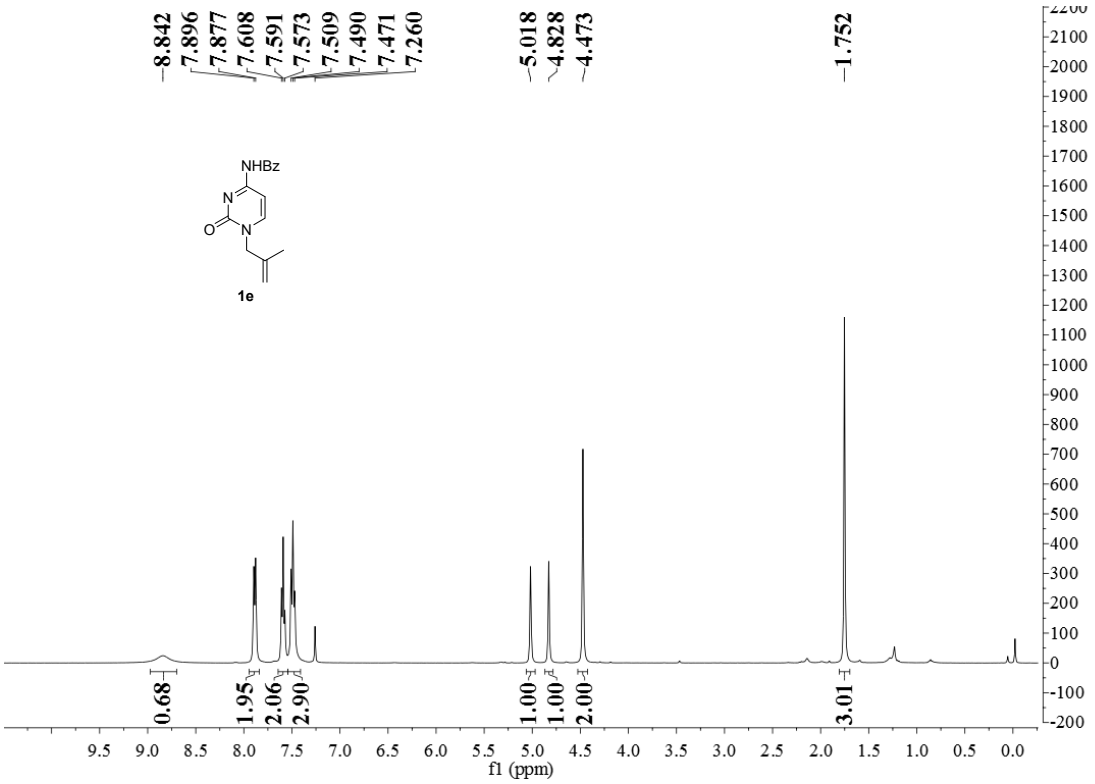
^{1}H-NMR of 1d (400 MHz, $CDCl_3$)



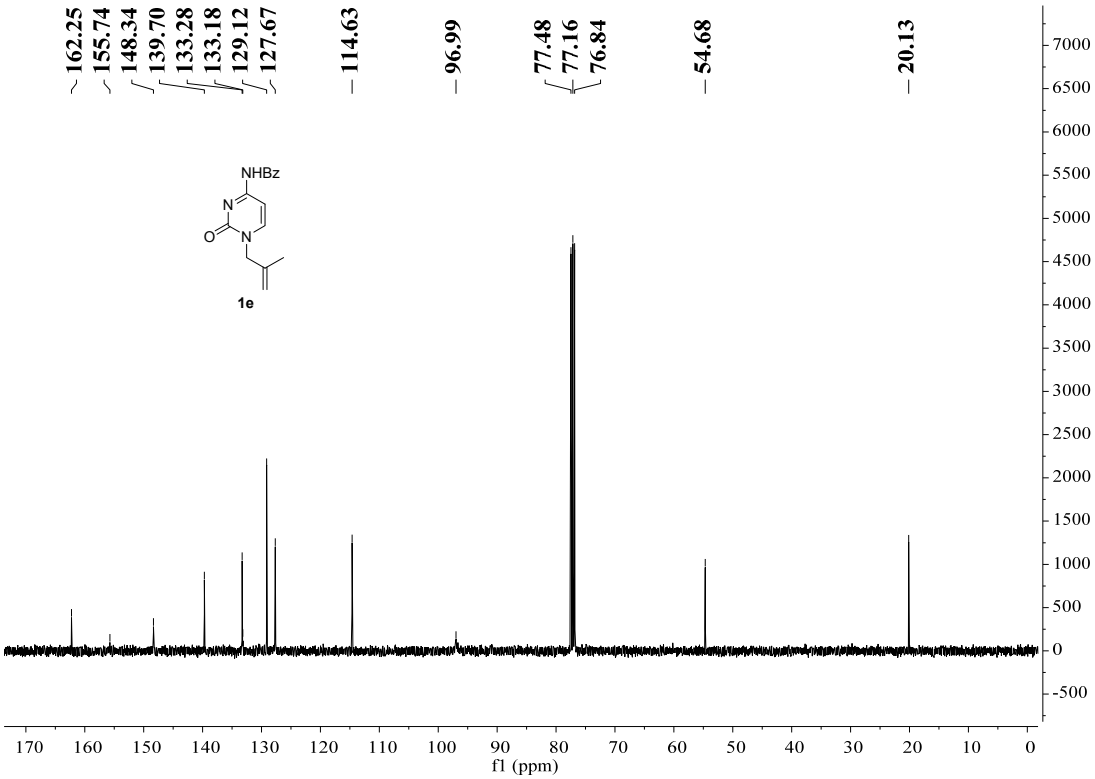
^{13}C-NMR of 1d (150 MHz, $CDCl_3$)



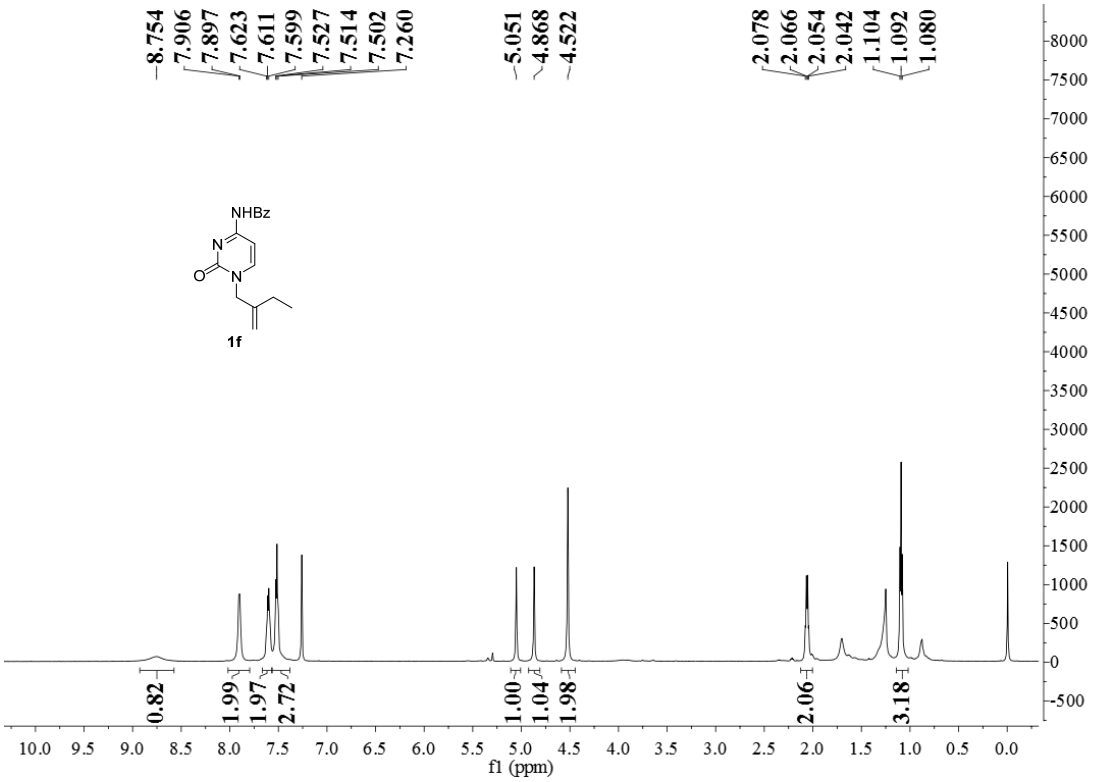
^{1}H-NMR of 1e (400 MHz, $CDCl_3$)



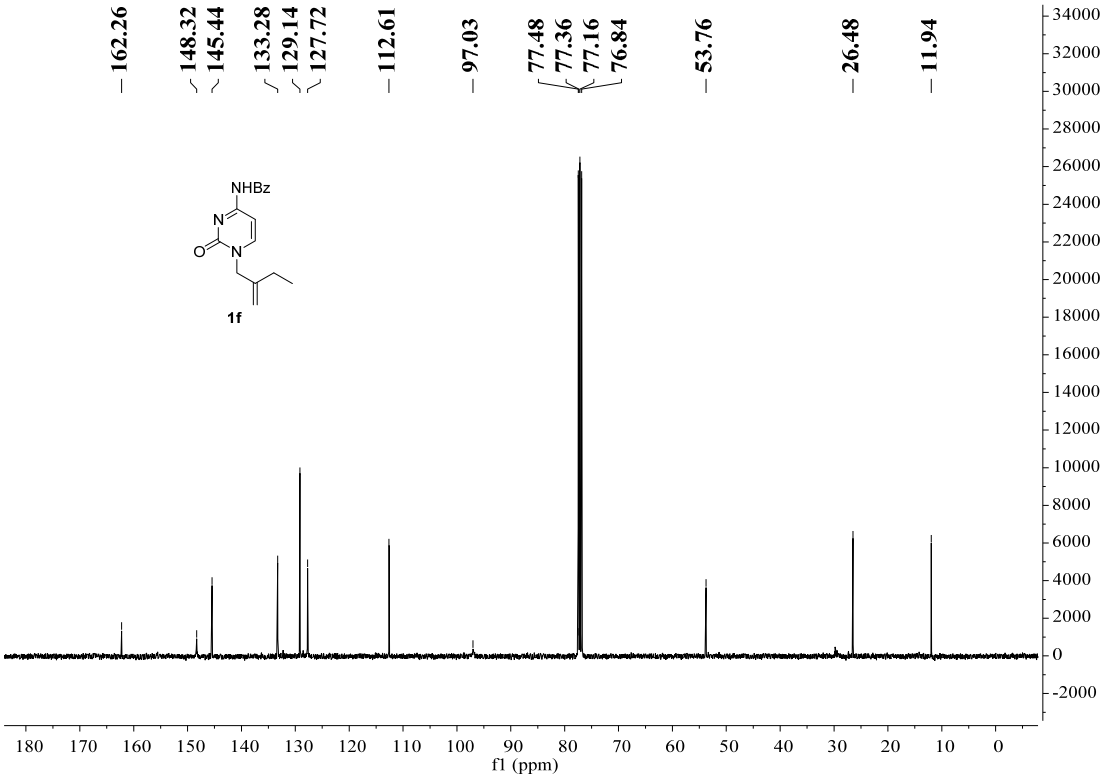
^{13}C-NMR of 1e (100 MHz, $CDCl_3$)



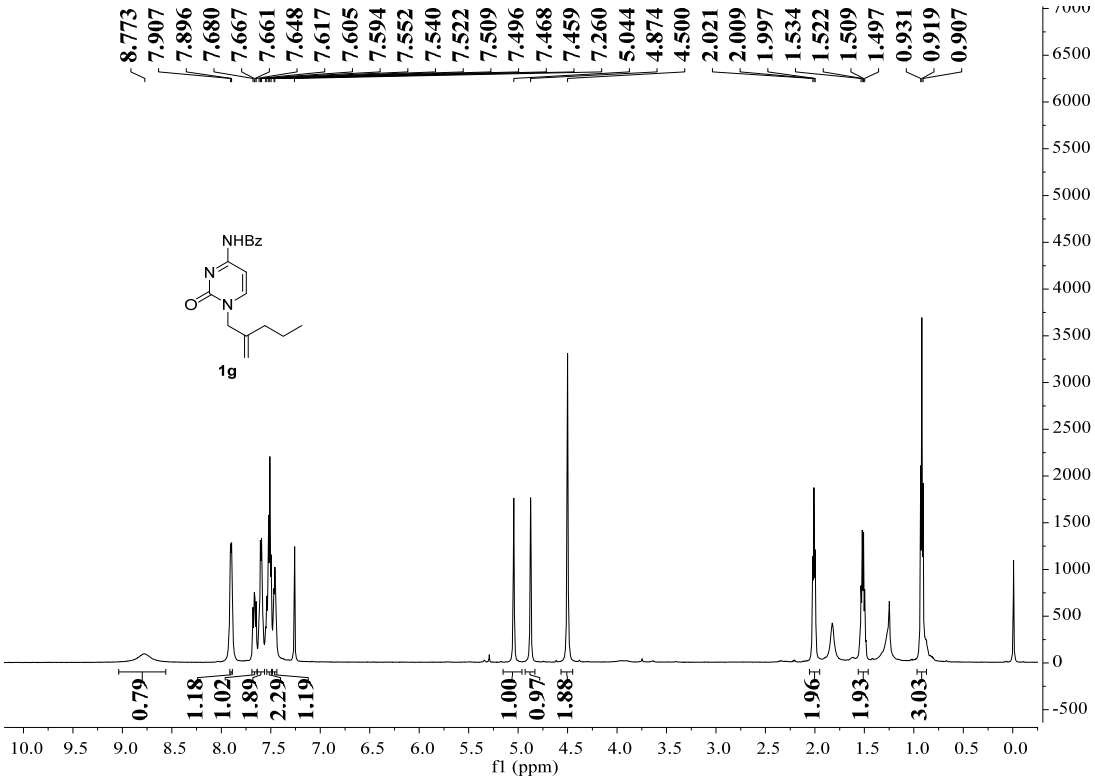
^{1}H-NMR of 1f (600 MHz, $CDCl_3$)



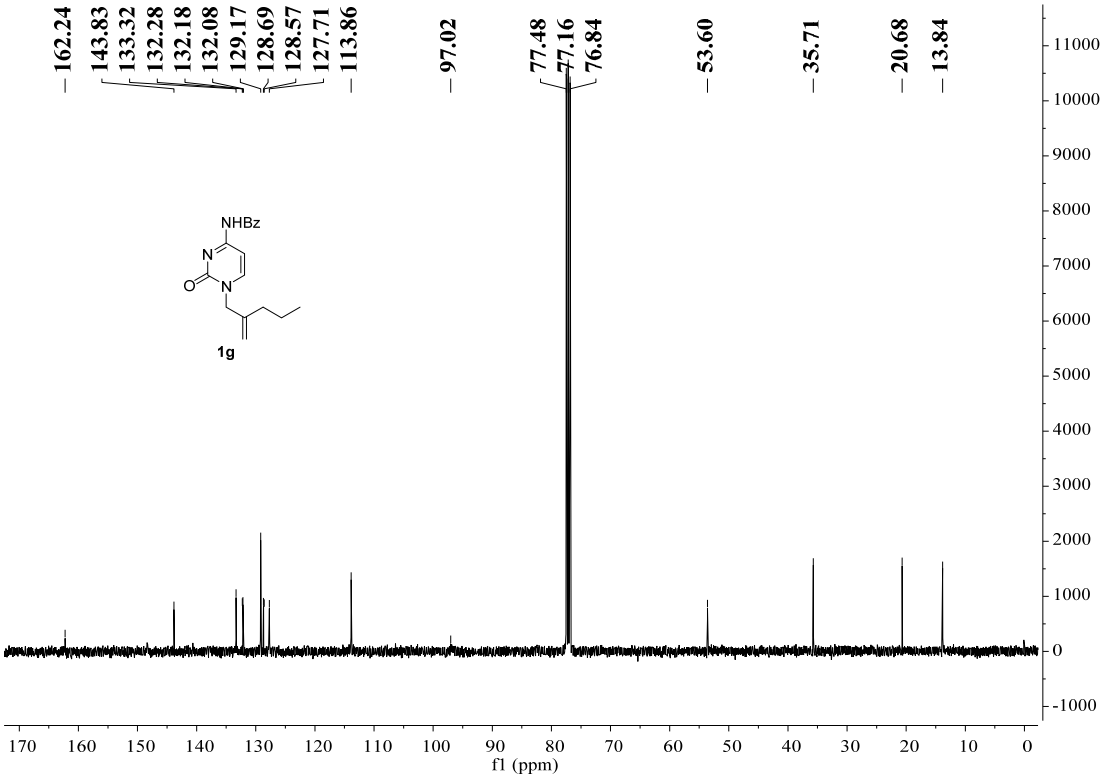
^{13}C-NMR of 1f (100 MHz, $CDCl_3$)



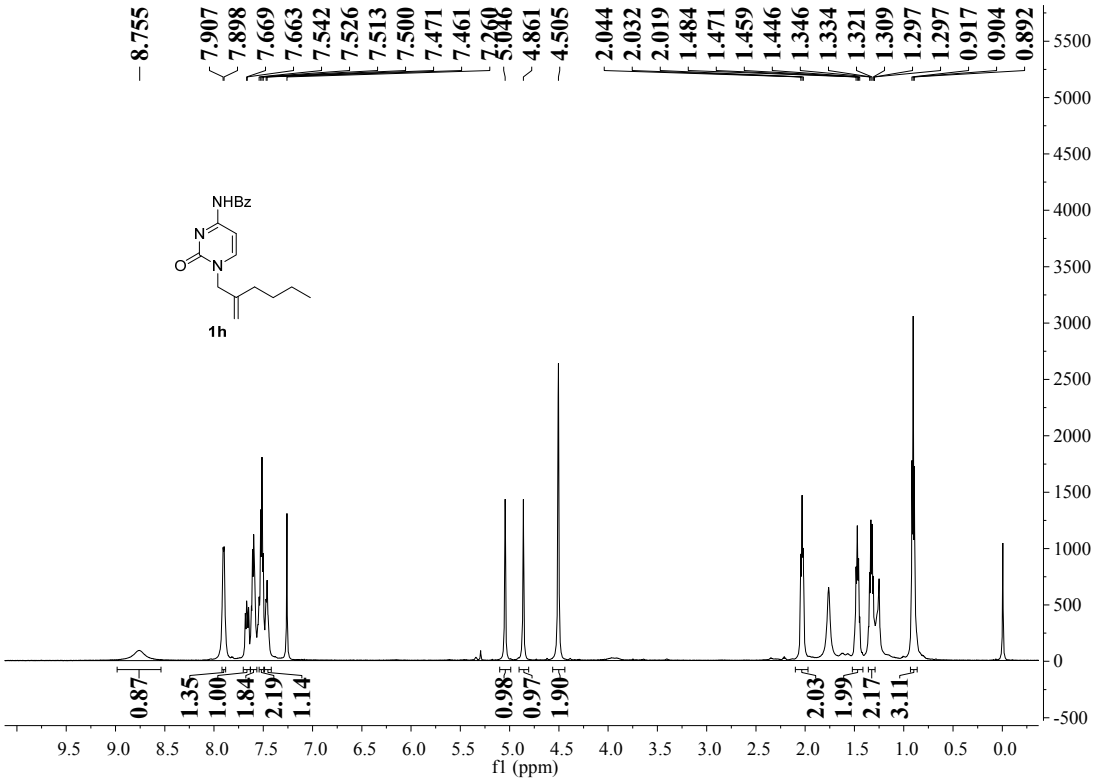
^{1}H-NMR of 1g (600 MHz, $CDCl_3$)



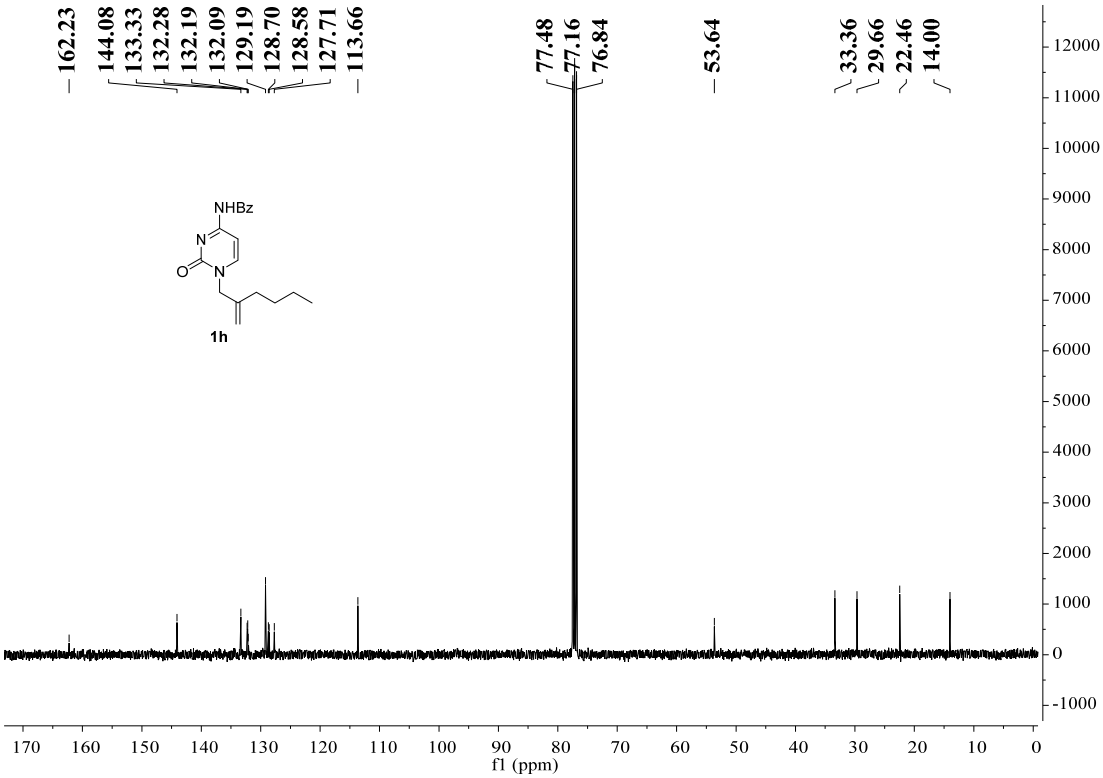
^{13}C-NMR of 1g (100 MHz, $CDCl_3$)



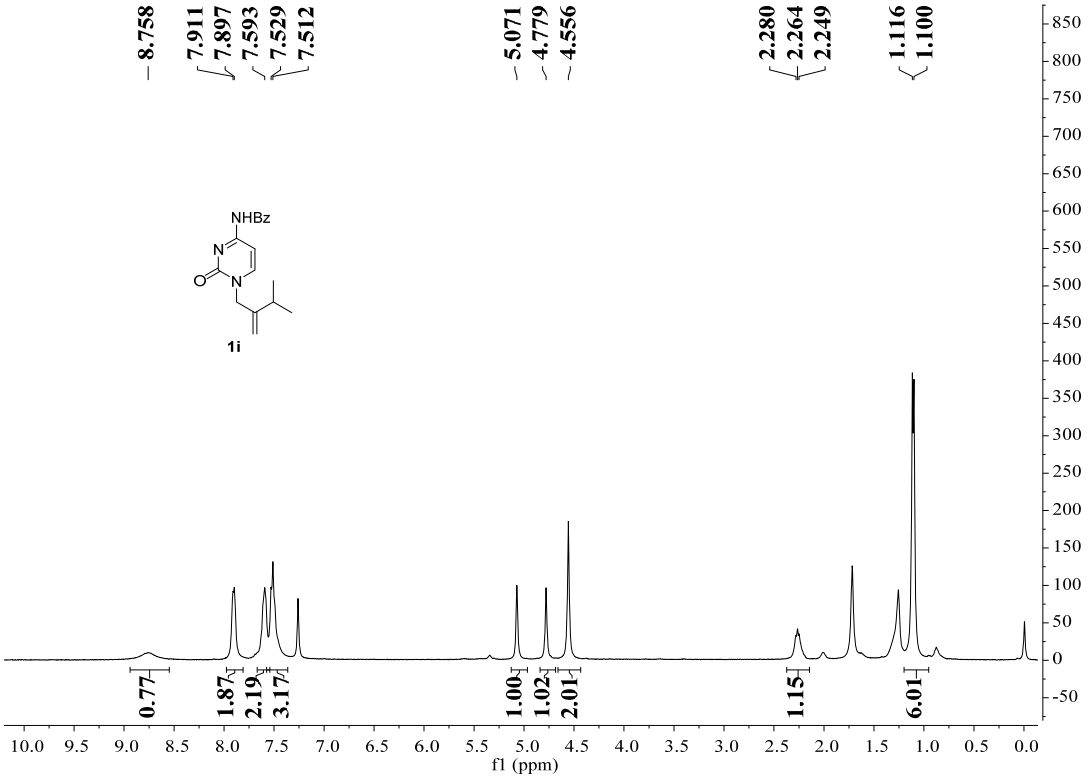
^{1}H-NMR of 1h (600 MHz, $CDCl_3$)



^{13}C-NMR of 1h (100 MHz, $CDCl_3$)



^{1}H-NMR of 1i (400 MHz, $CDCl_3$)



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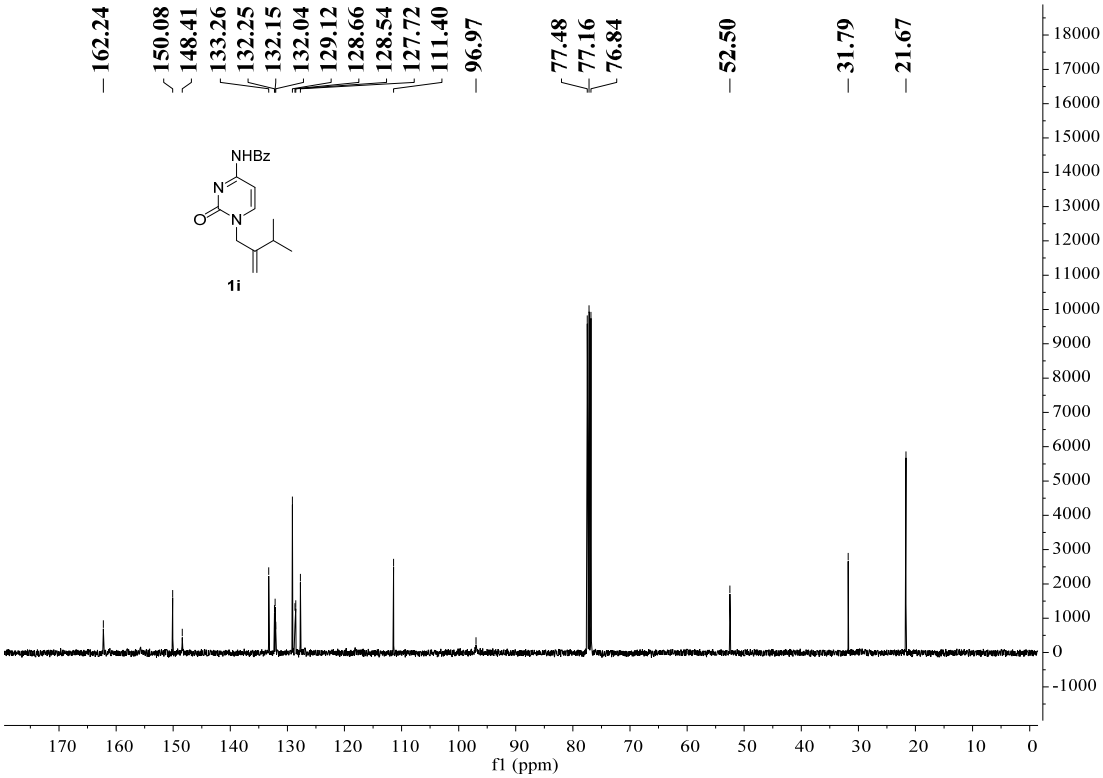
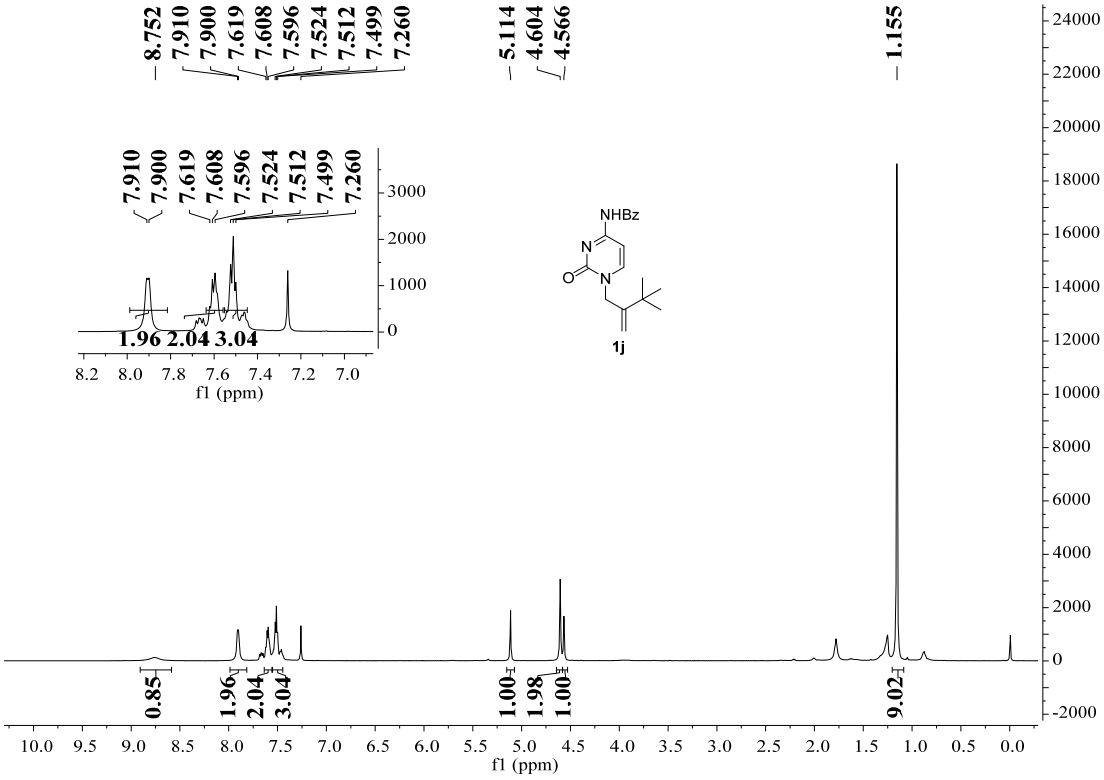


^{1}H-NMR of 1j (600 MHz, $CDCl_3$)



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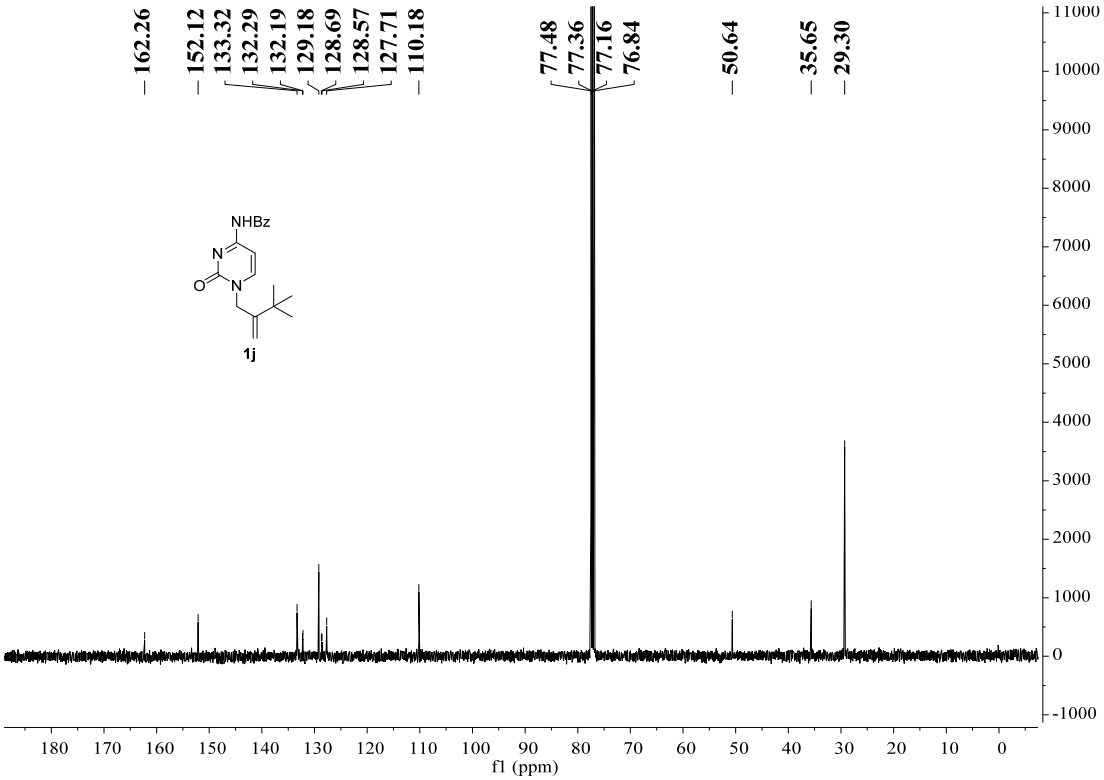
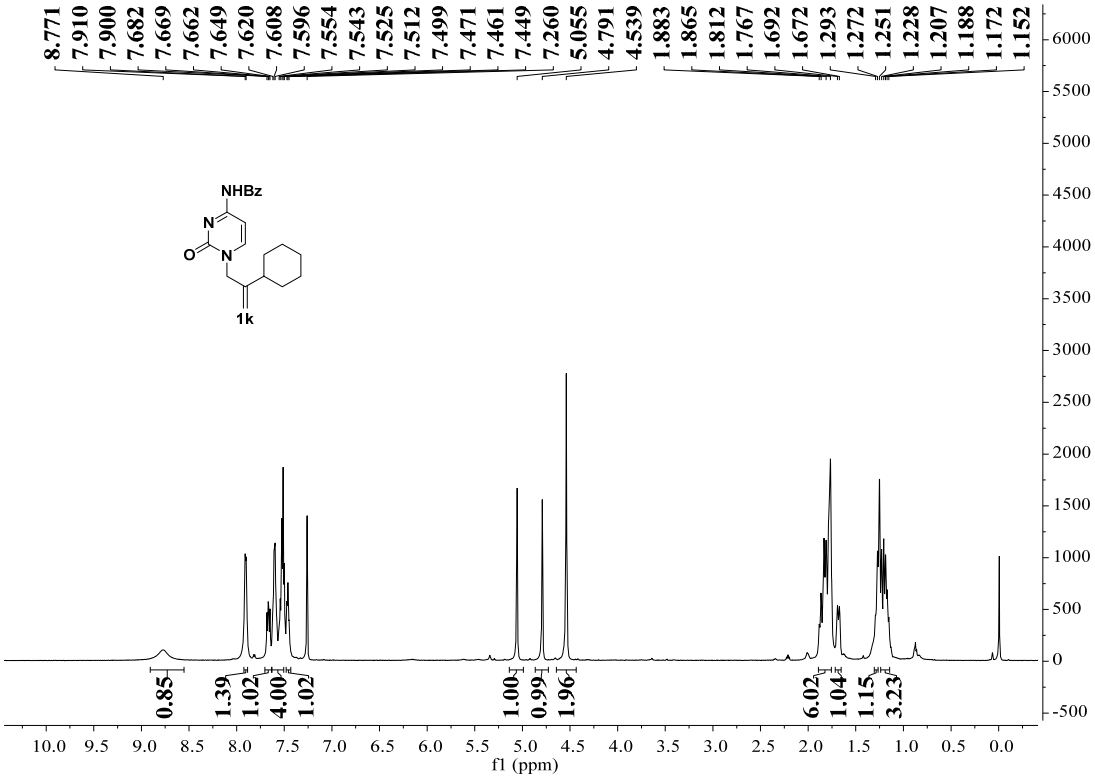
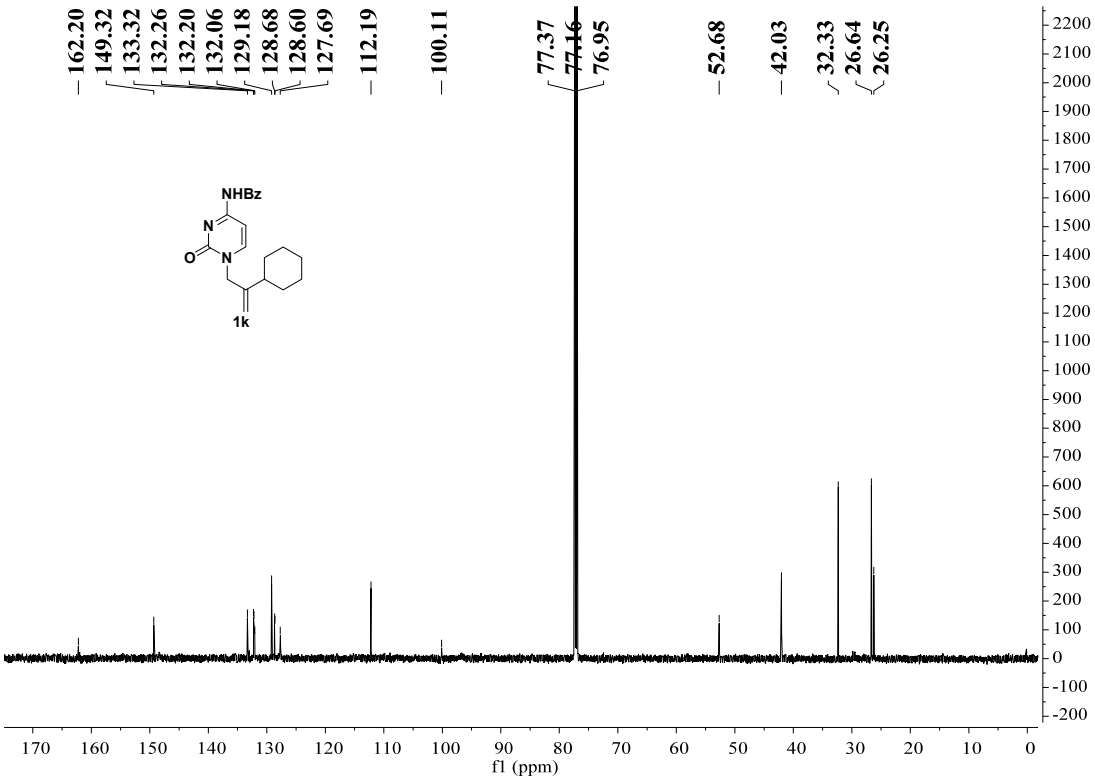


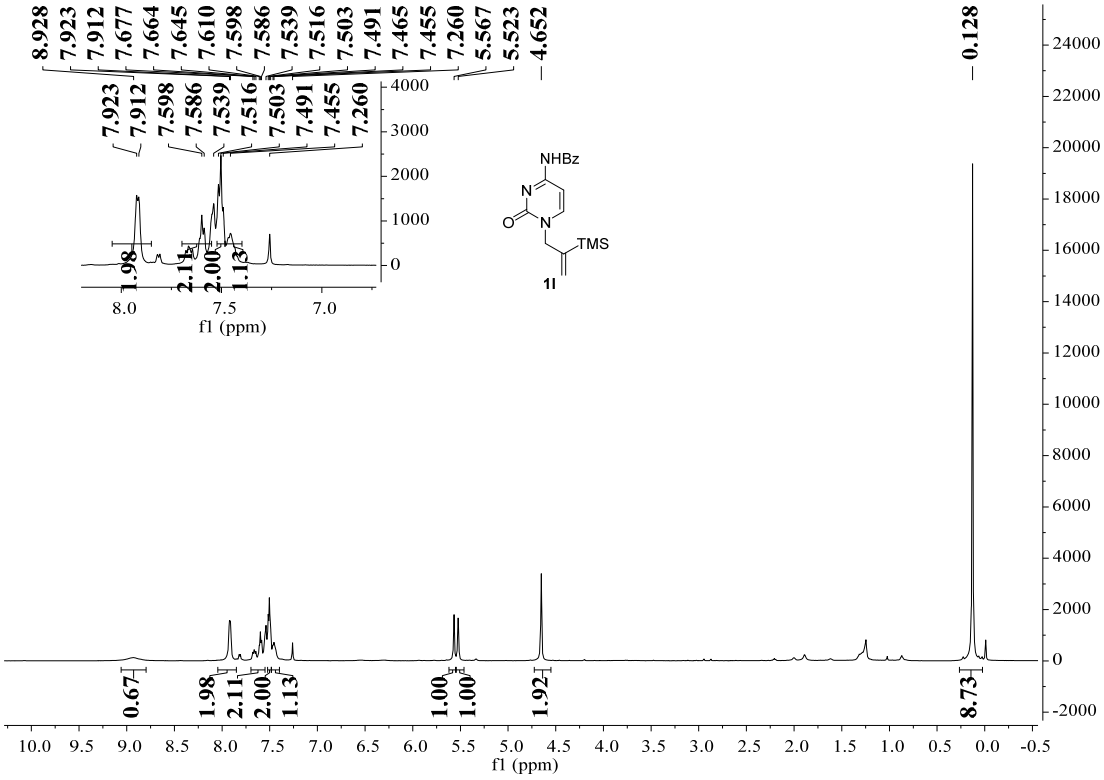
^{1}H-NMR of 1k (600 MHz, $CDCl_3$)



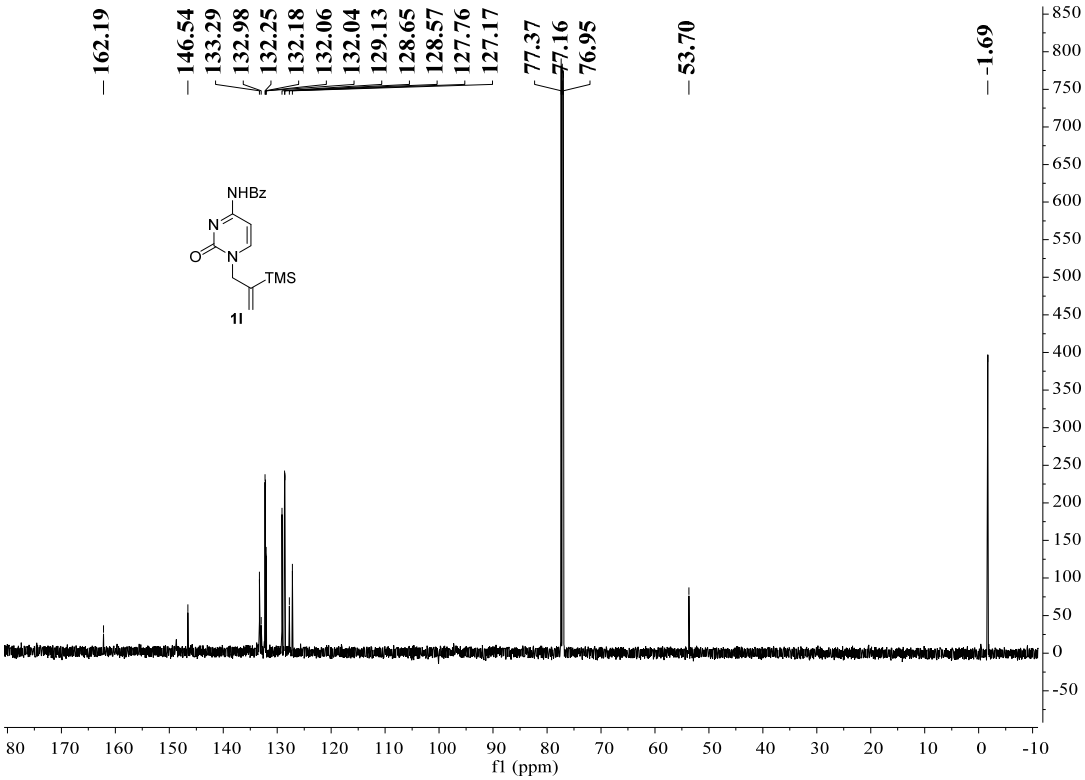
^{13}C-NMR of 1k (150 MHz, $CDCl_3$)



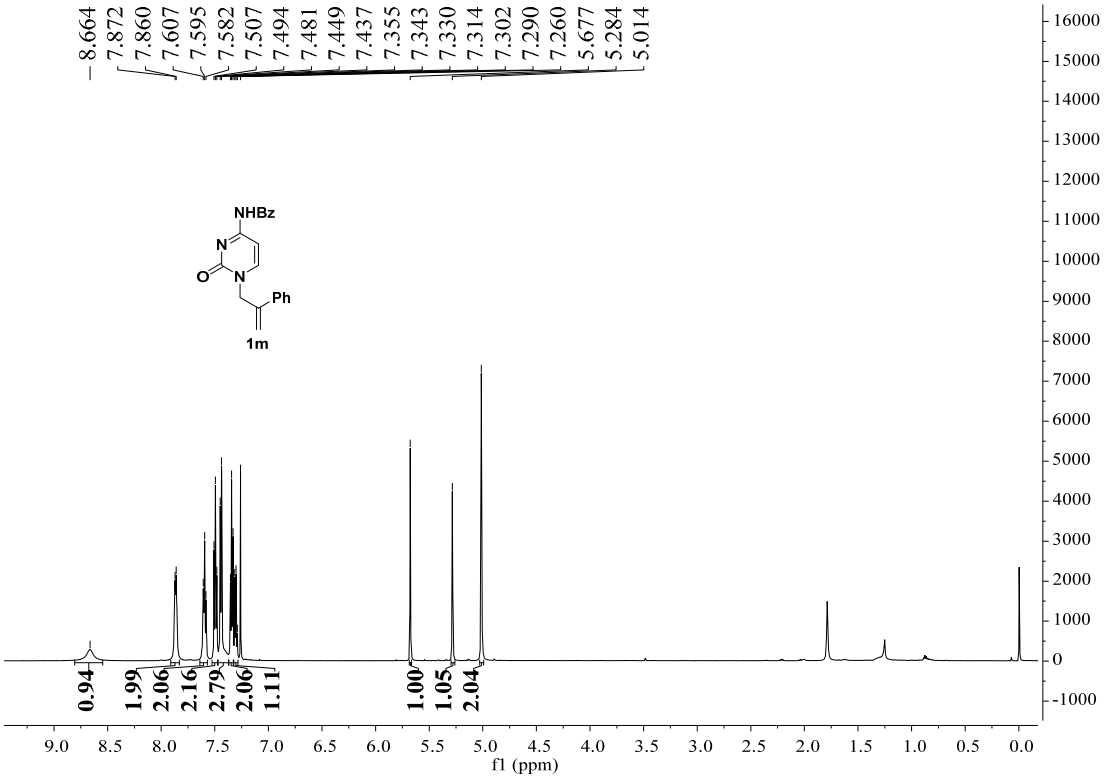
^{1}H-NMR of 1l (600 MHz, $CDCl_3$)



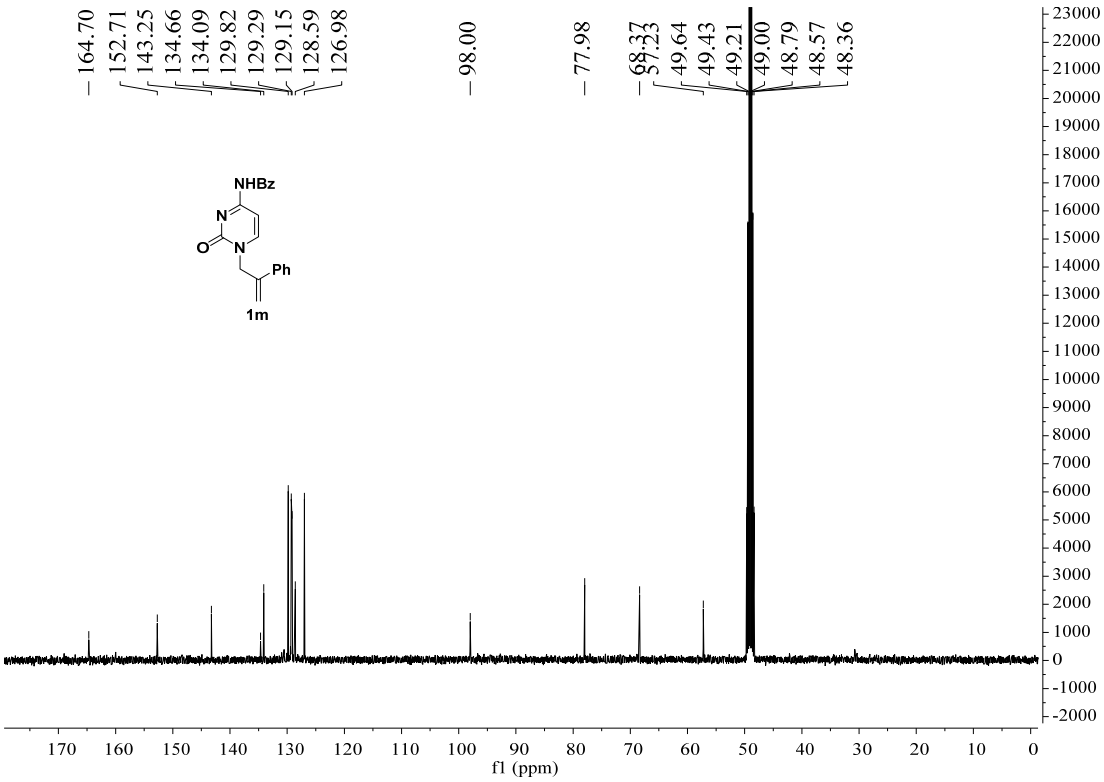
^{13}C-NMR of 1l (150 MHz, $CDCl_3$)



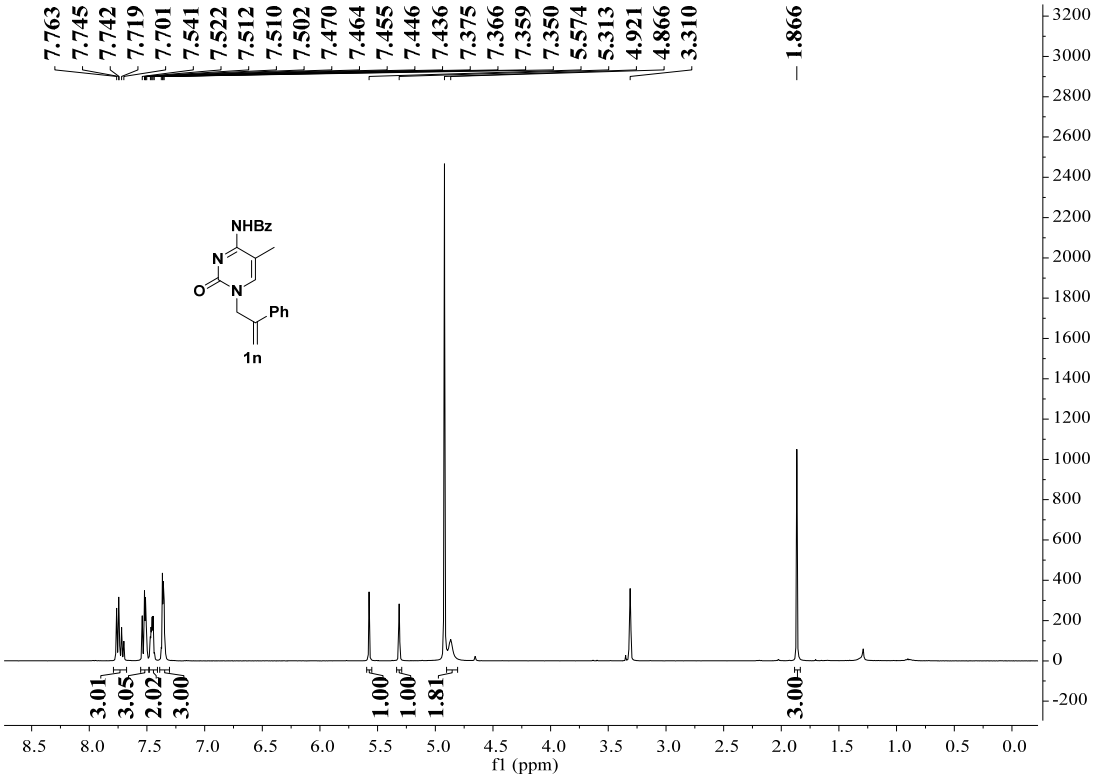
^{1}H-NMR of 1m (600 MHz, $CDCl_3$)



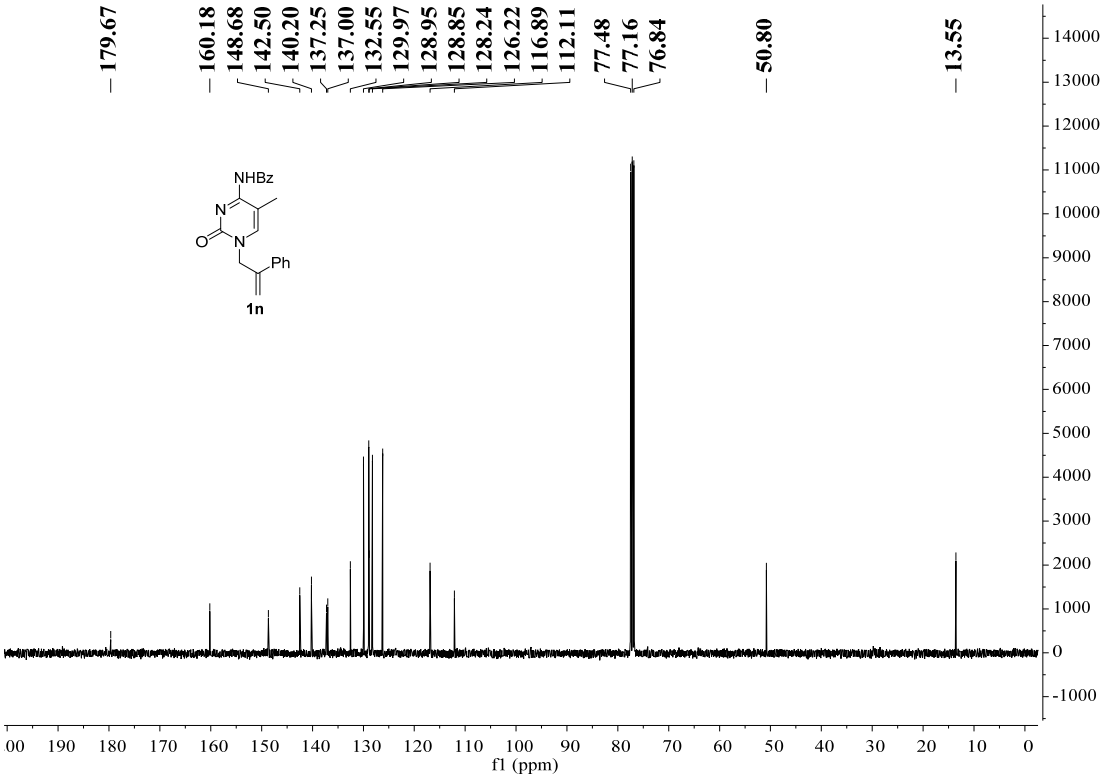
^{13}C-NMR of 1m (100 MHz, CD_3OD)



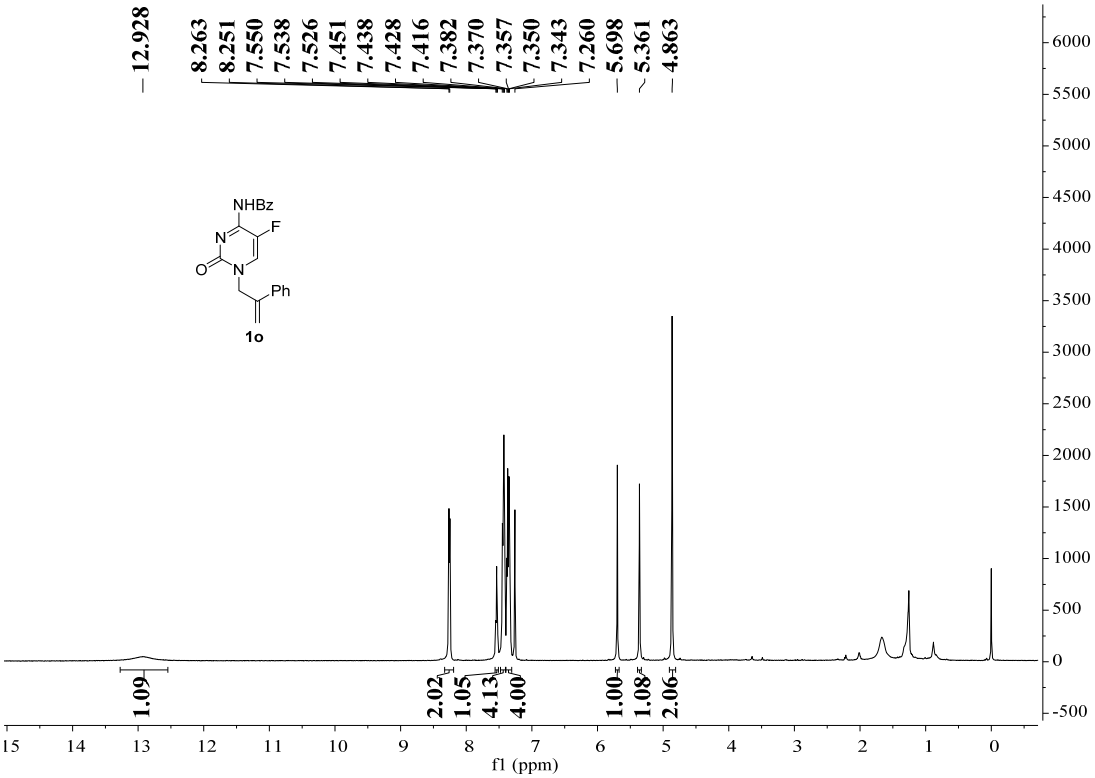
^{1}H-NMR of 1n (400 MHz, CD_3OD)



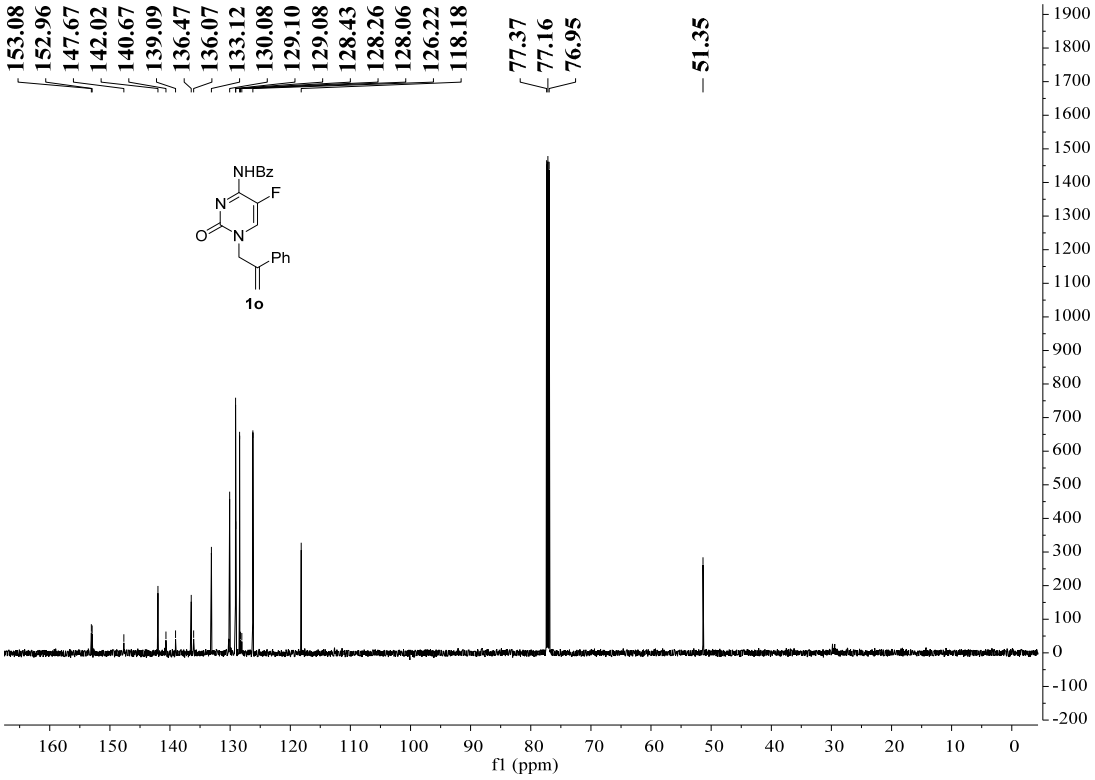
^{13}C-NMR of 1n (100 MHz, $CDCl_3$)



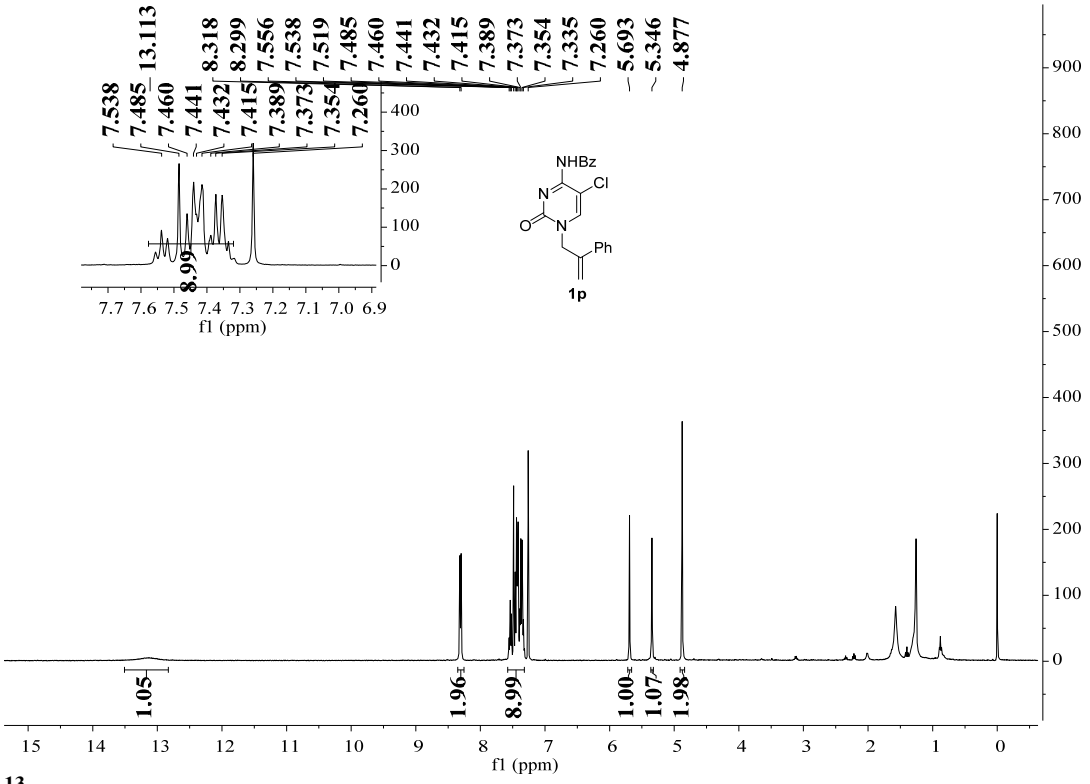
^{1}H-NMR of 1o (600 MHz, $CDCl_3$)



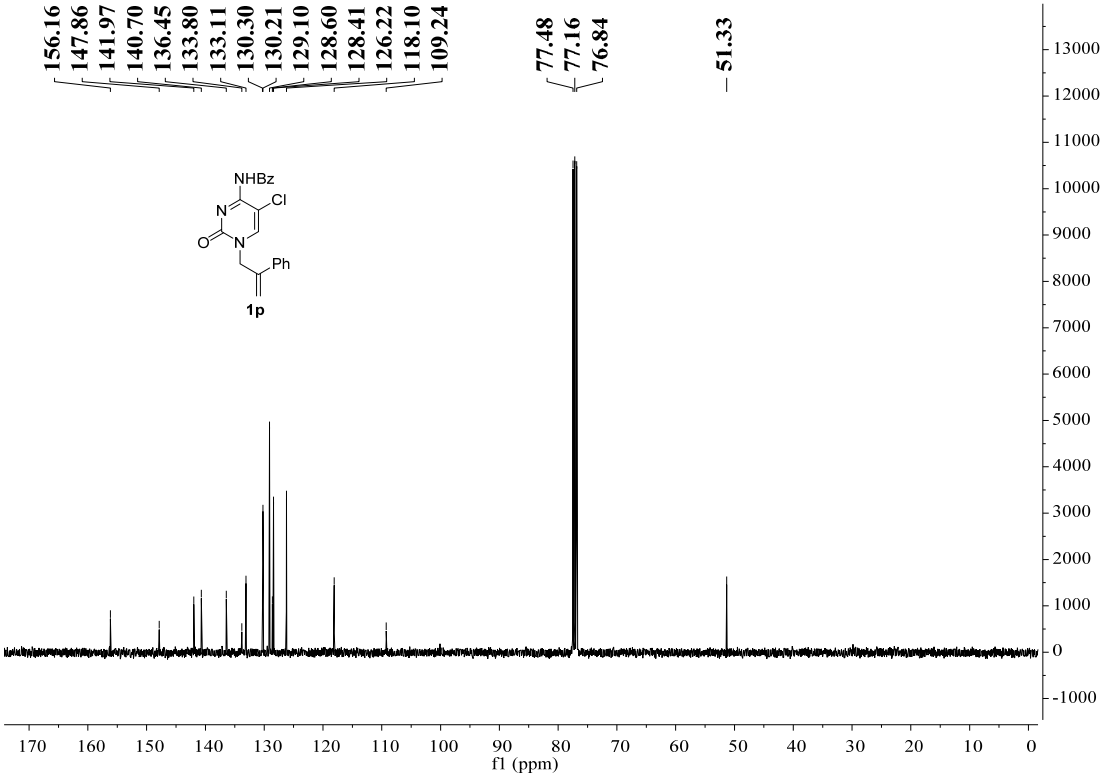
^{13}C-NMR of 1o (100 MHz, $CDCl_3$)



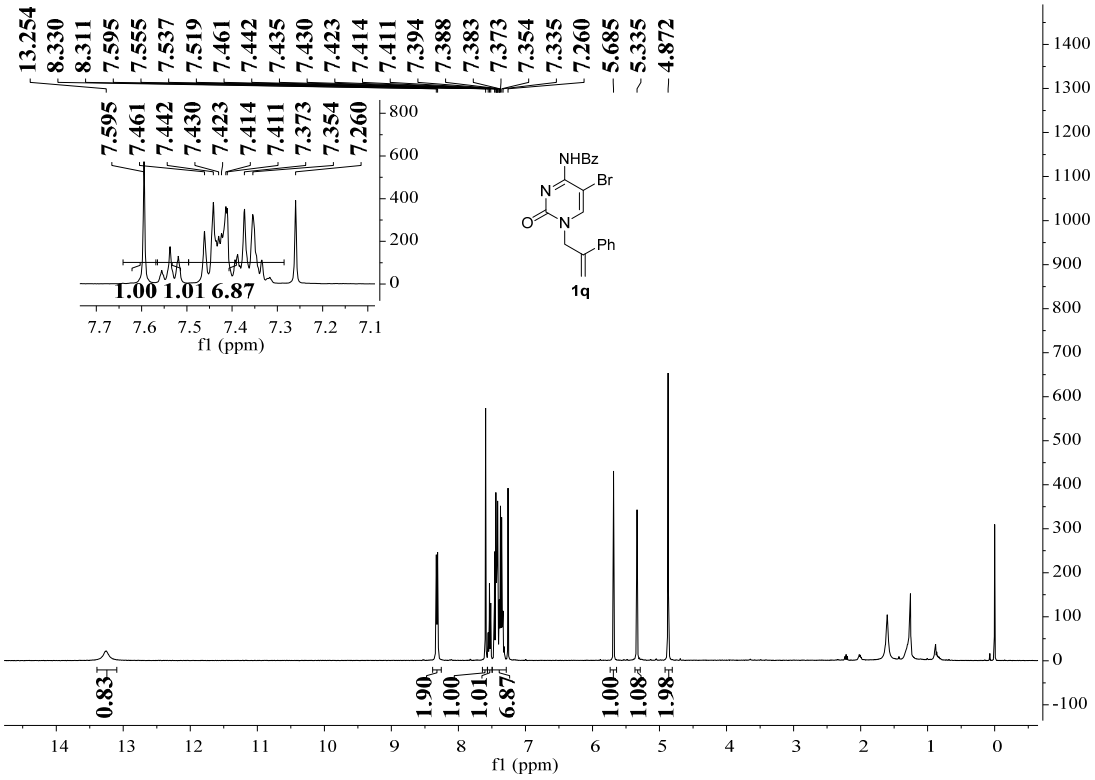
^{1}H-NMR of 1p (400 MHz, $CDCl_3$)



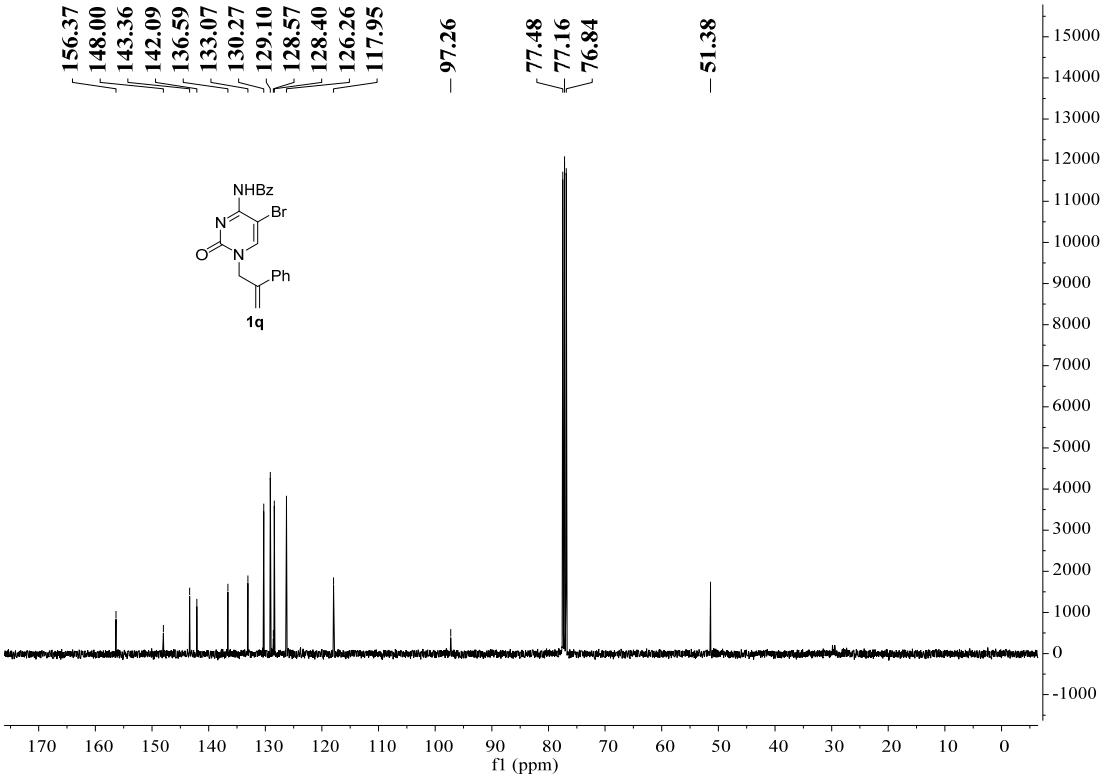
^{13}C-NMR of 1p (100 MHz, $CDCl_3$)



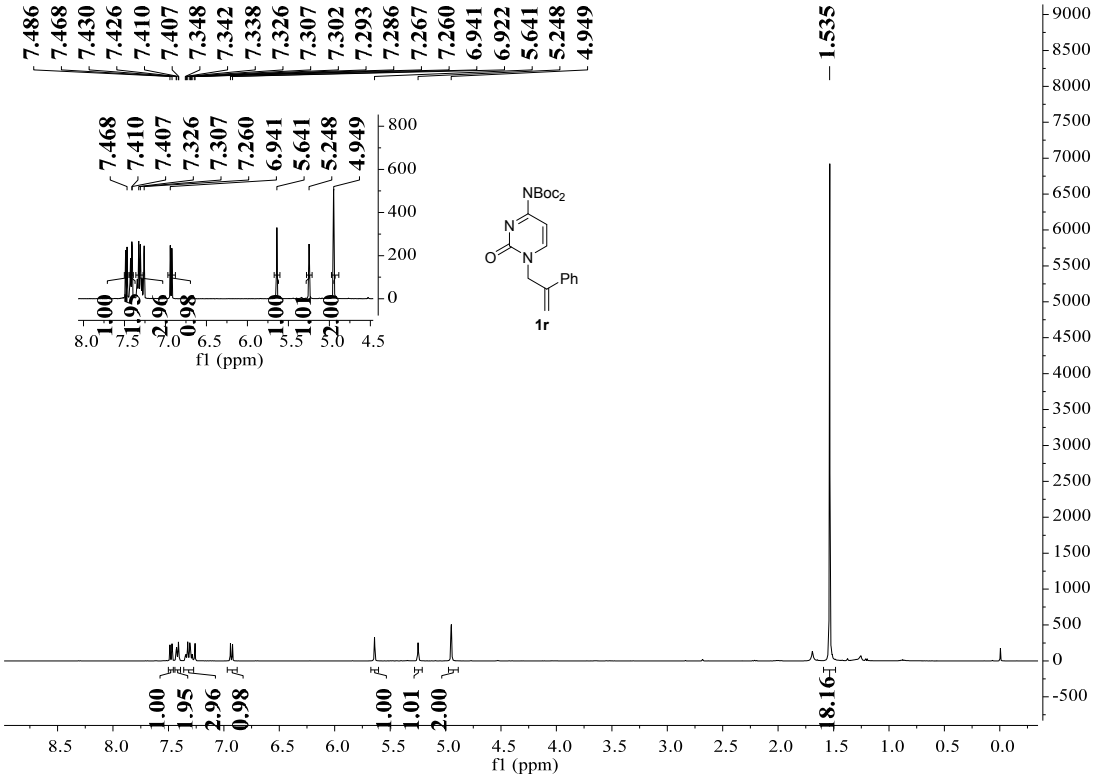
^{1}H-NMR of 1q (400 MHz, $CDCl_3$)



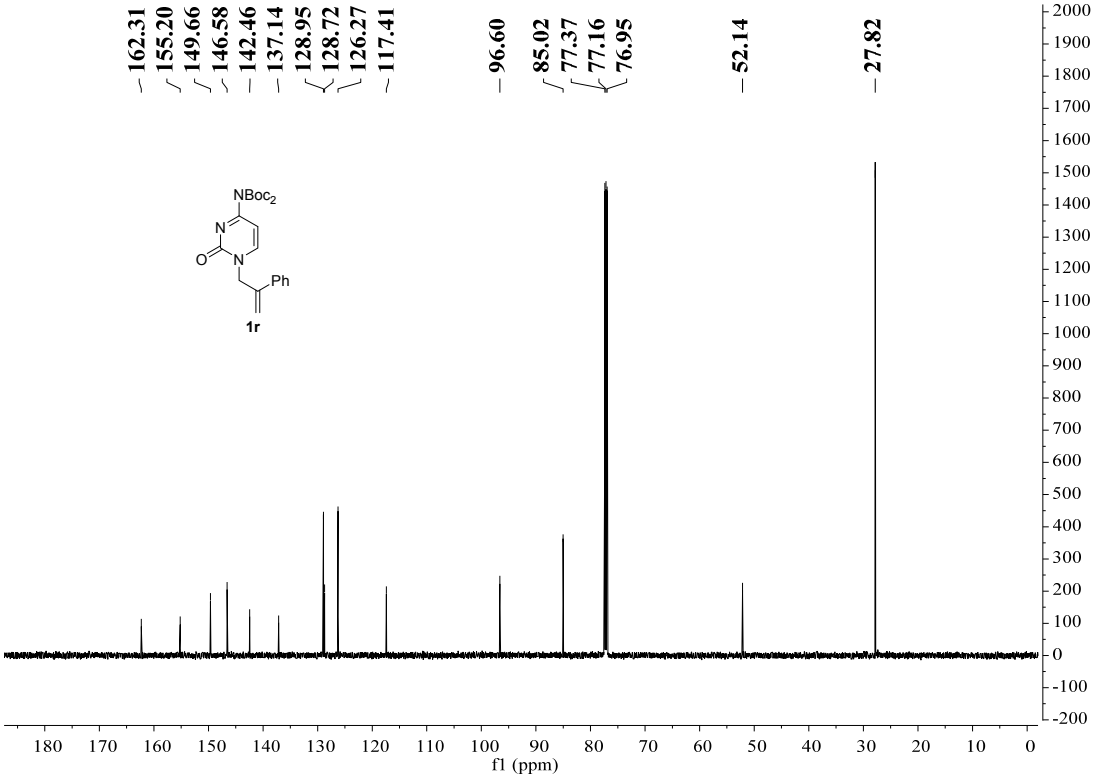
^{13}C-NMR of 1q (100 MHz, $CDCl_3$)



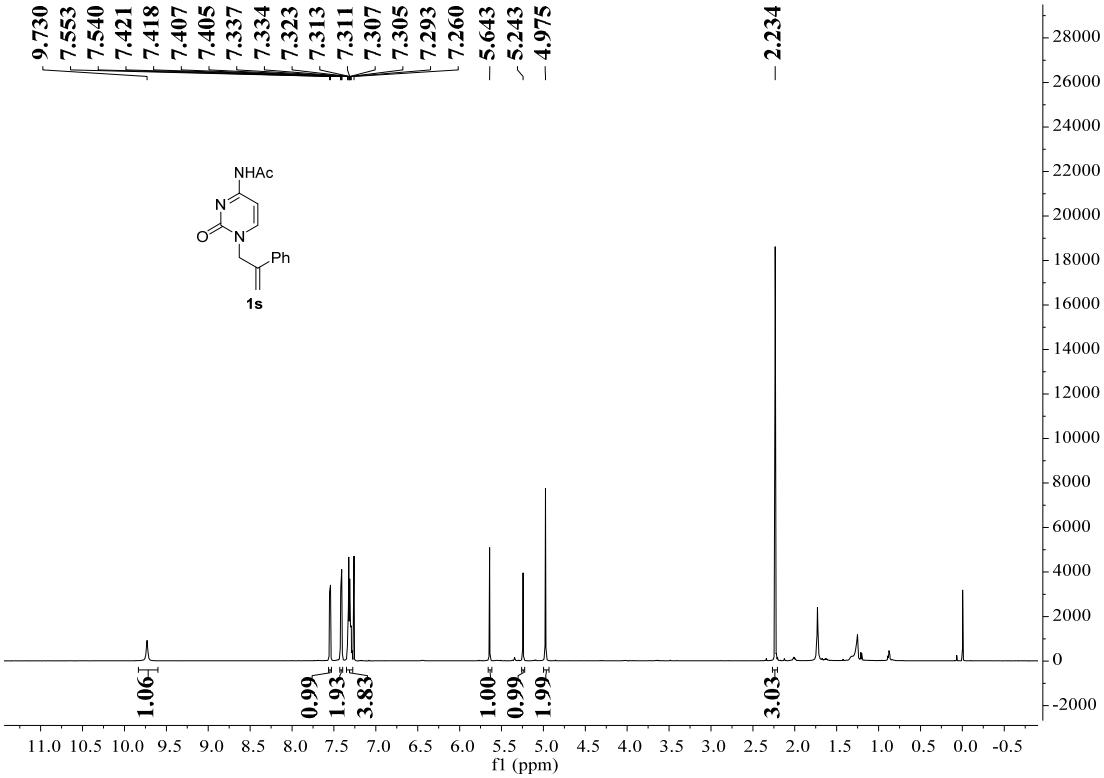
^{1}H-NMR of 1r (400 MHz, $CDCl_3$)



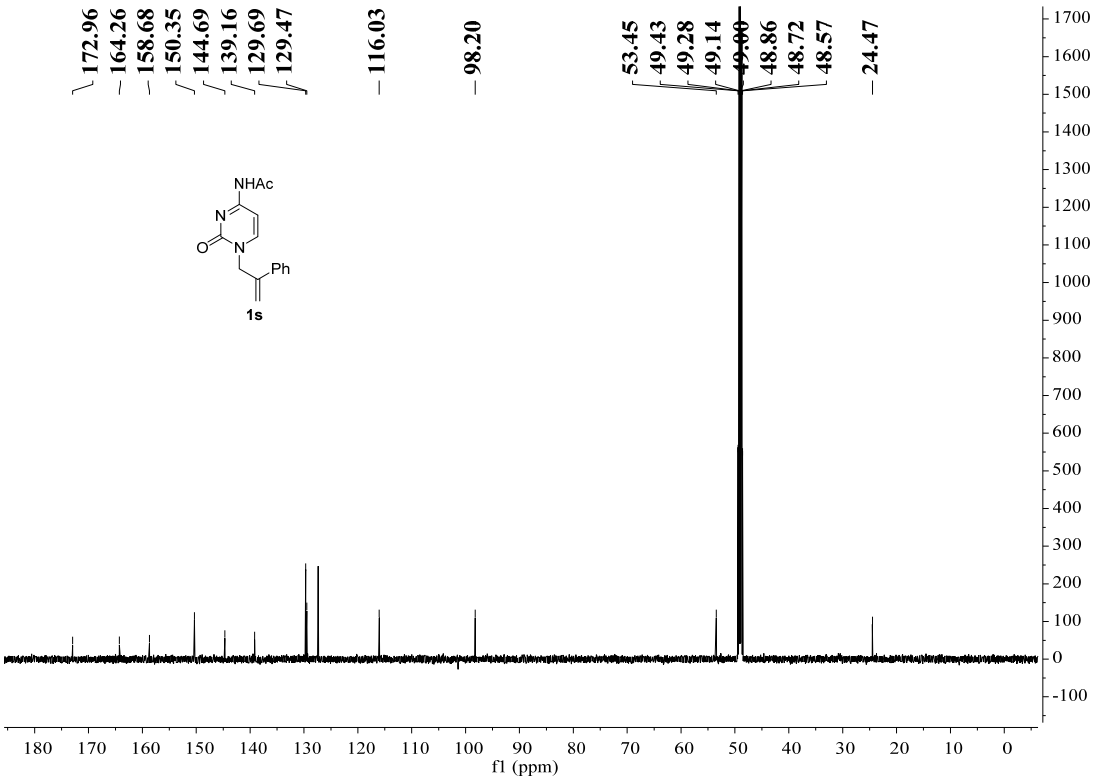
^{13}C-NMR of 1r (150 MHz, $CDCl_3$)



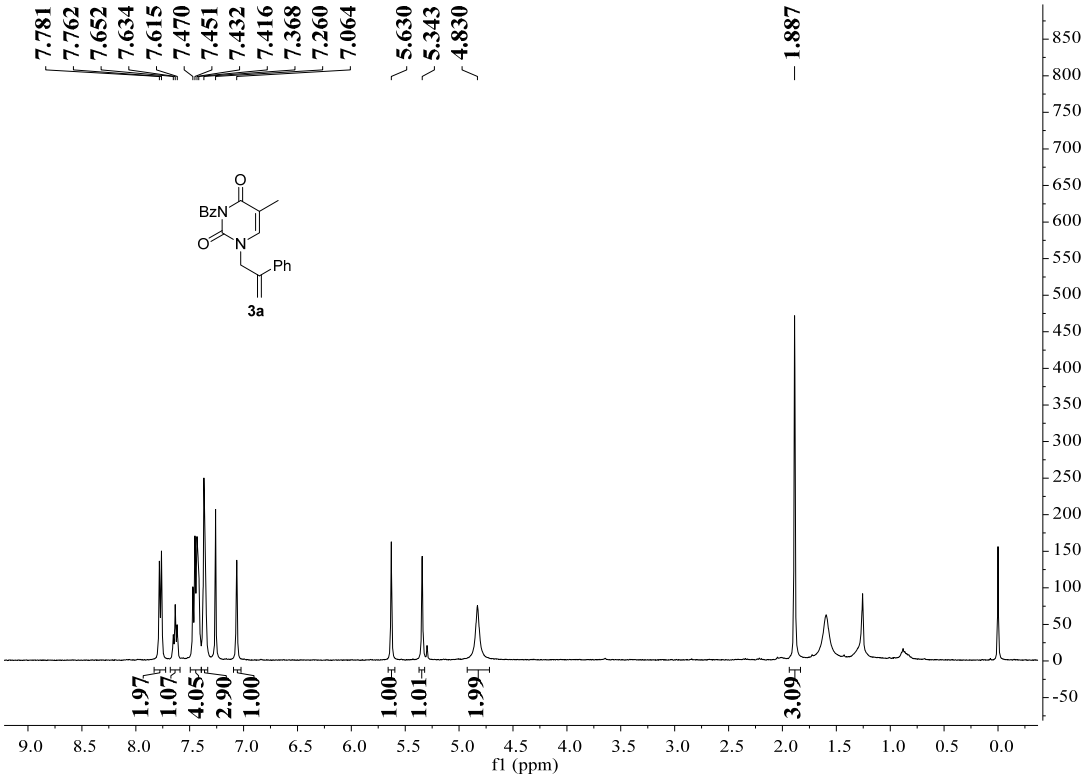
^{1}H-NMR of 1s (600 MHz, $CDCl_3$)



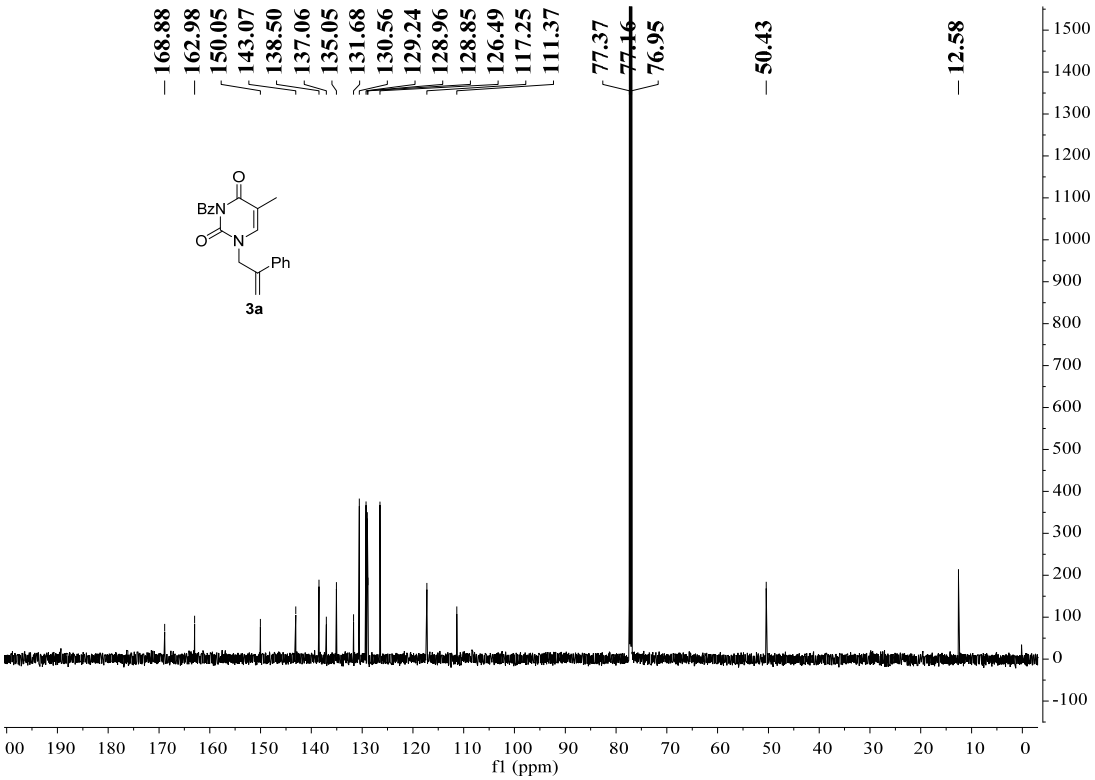
^{13}C-NMR of 1s (150 MHz, CD_3OD)



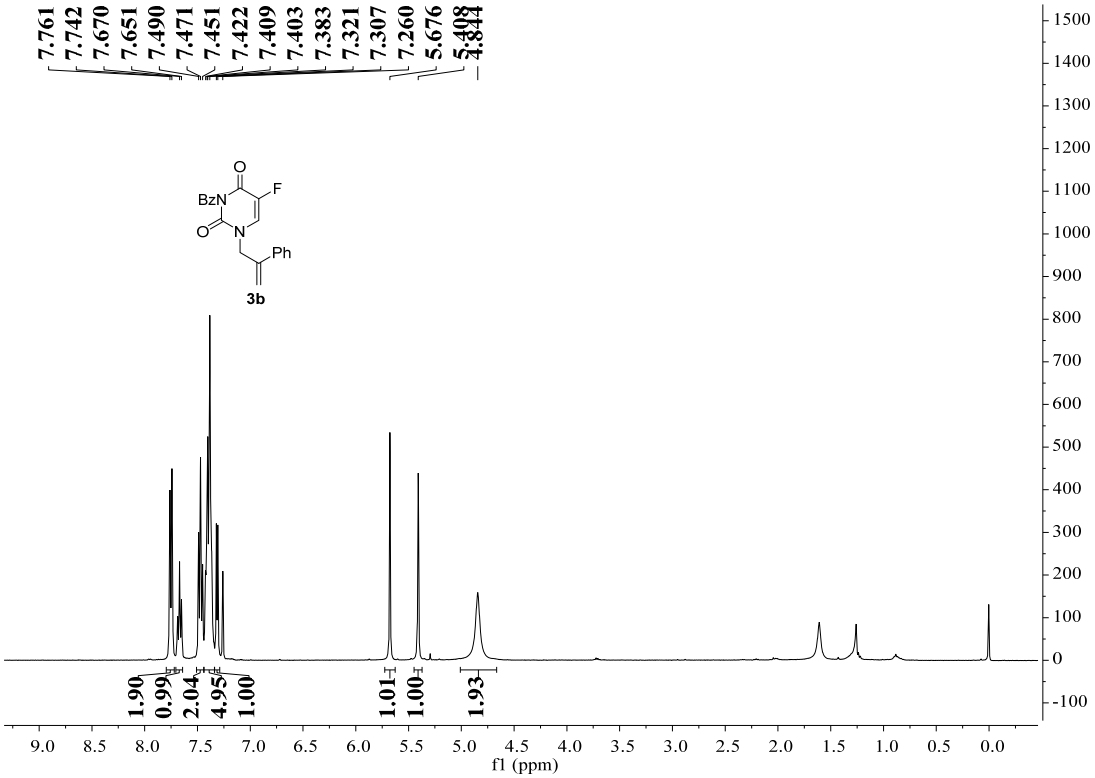
^{1}H-NMR of 3a (400 MHz, $CDCl_3$)



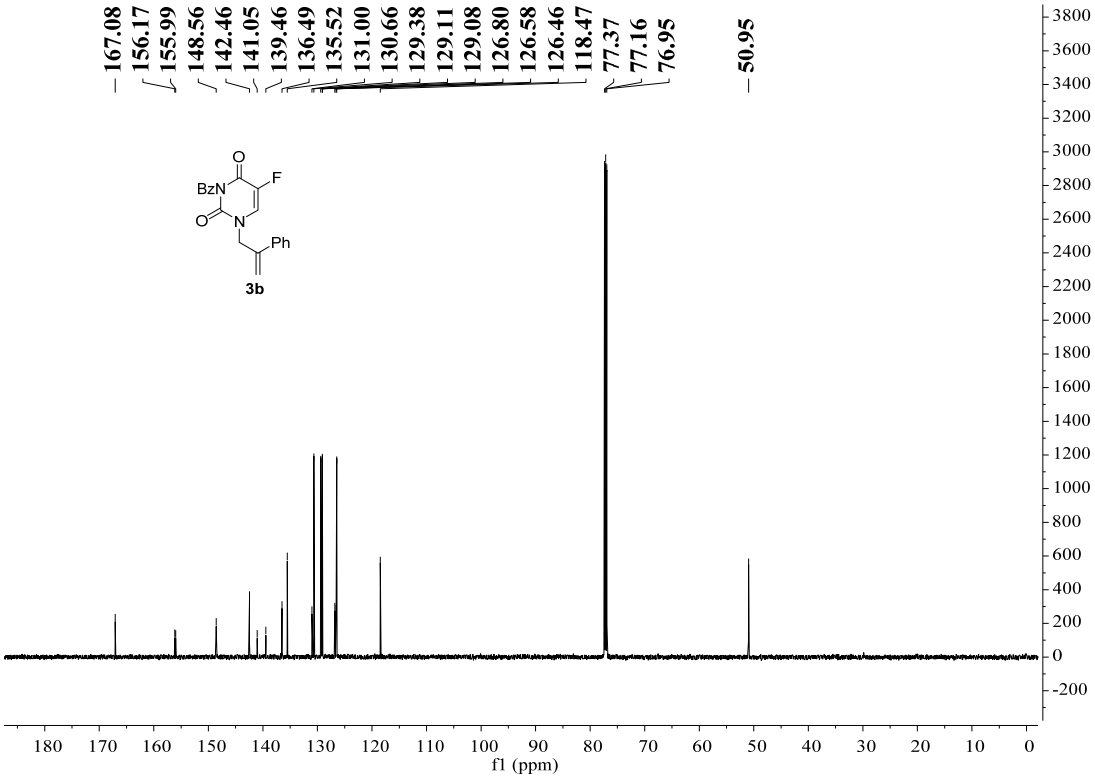
^{13}C-NMR of 3a (150 MHz, $CDCl_3$)



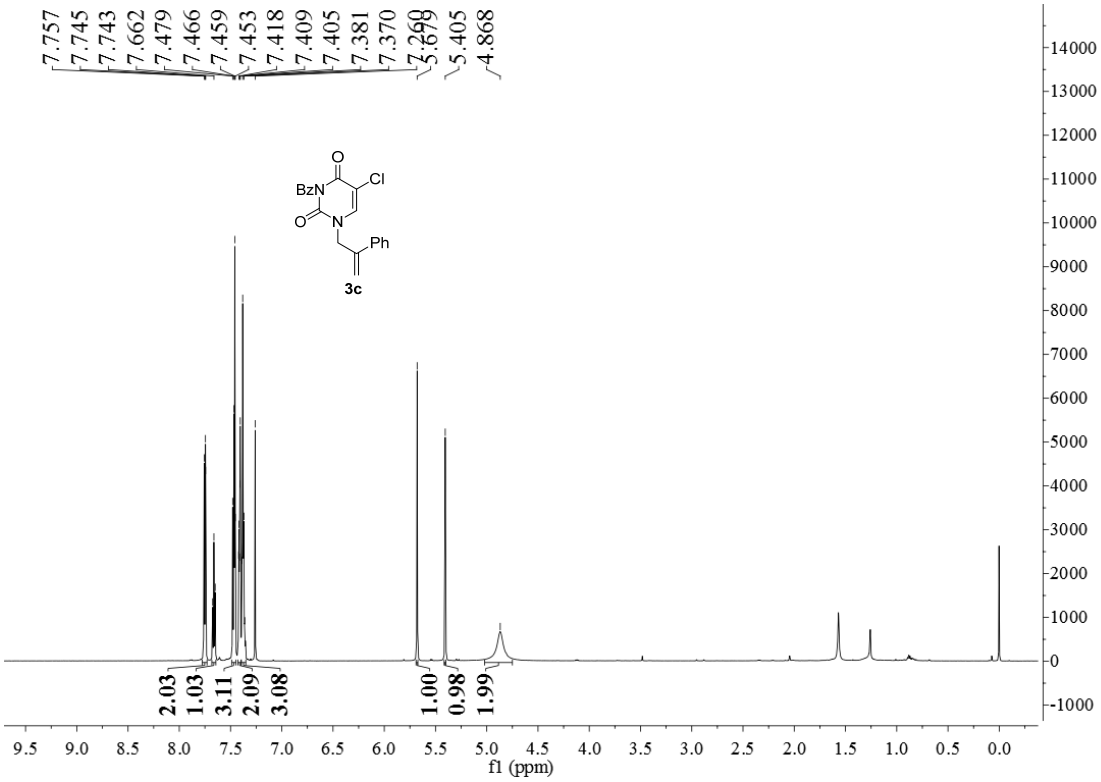
^{1}H-NMR of 3b (400 MHz, $CDCl_3$)



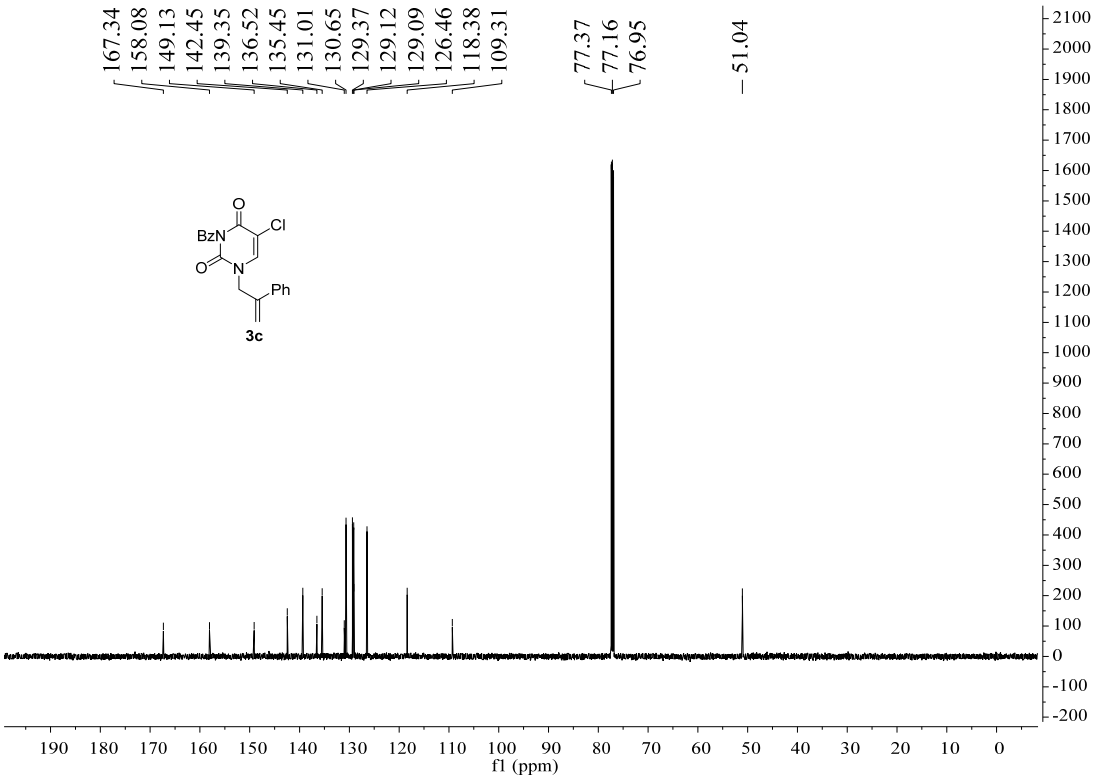
^{13}C-NMR of 3b (150 MHz, $CDCl_3$)



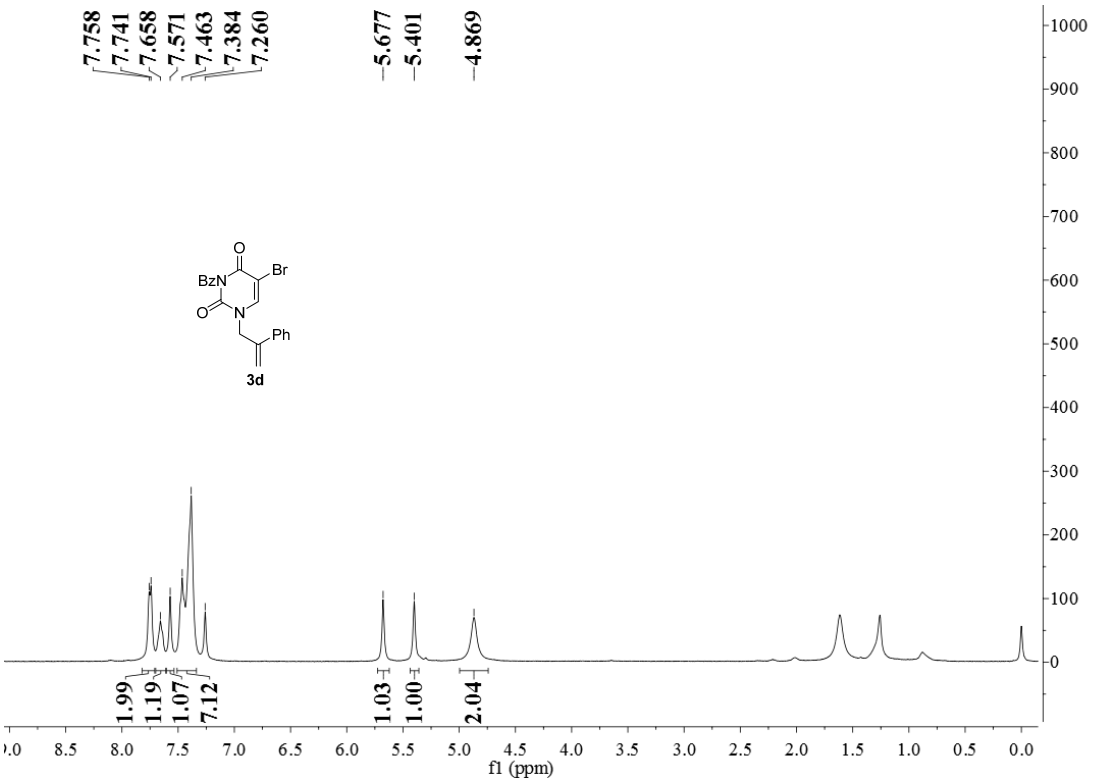
^{1}H-NMR of 3c (600 MHz, $CDCl_3$)



^{13}C-NMR of 3c (150 MHz, $CDCl_3$)



^{1}H-NMR for 3d (400 MHz, $CDCl_3$)



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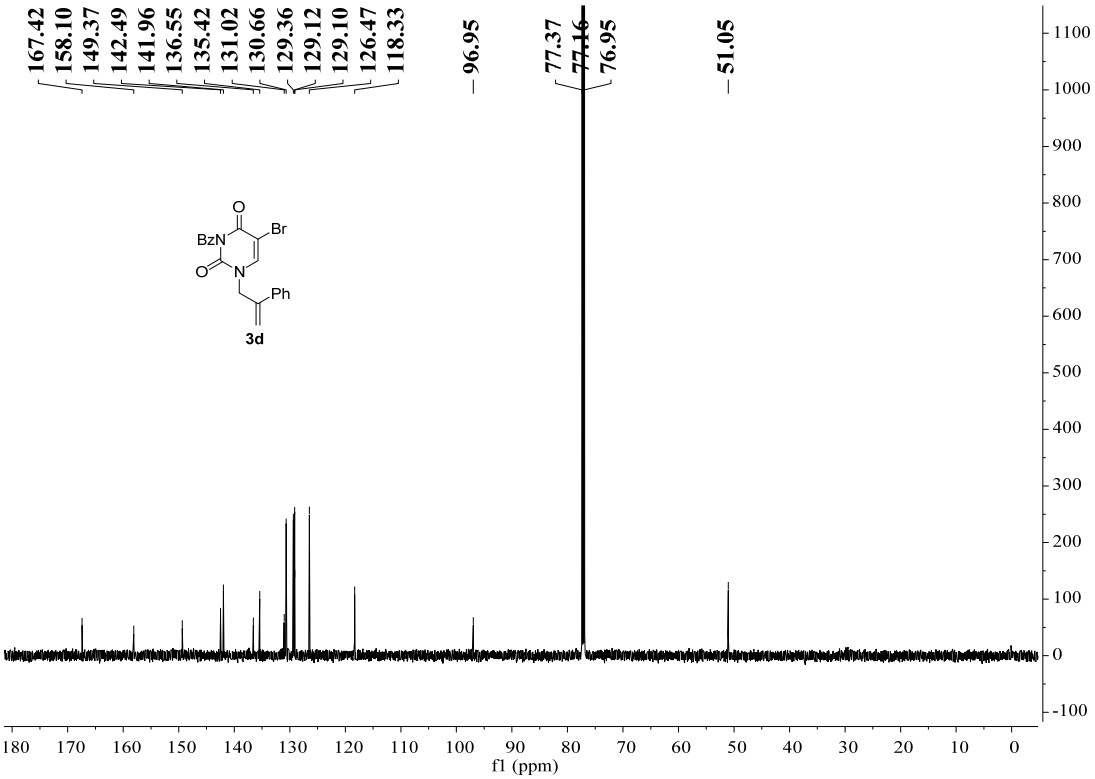
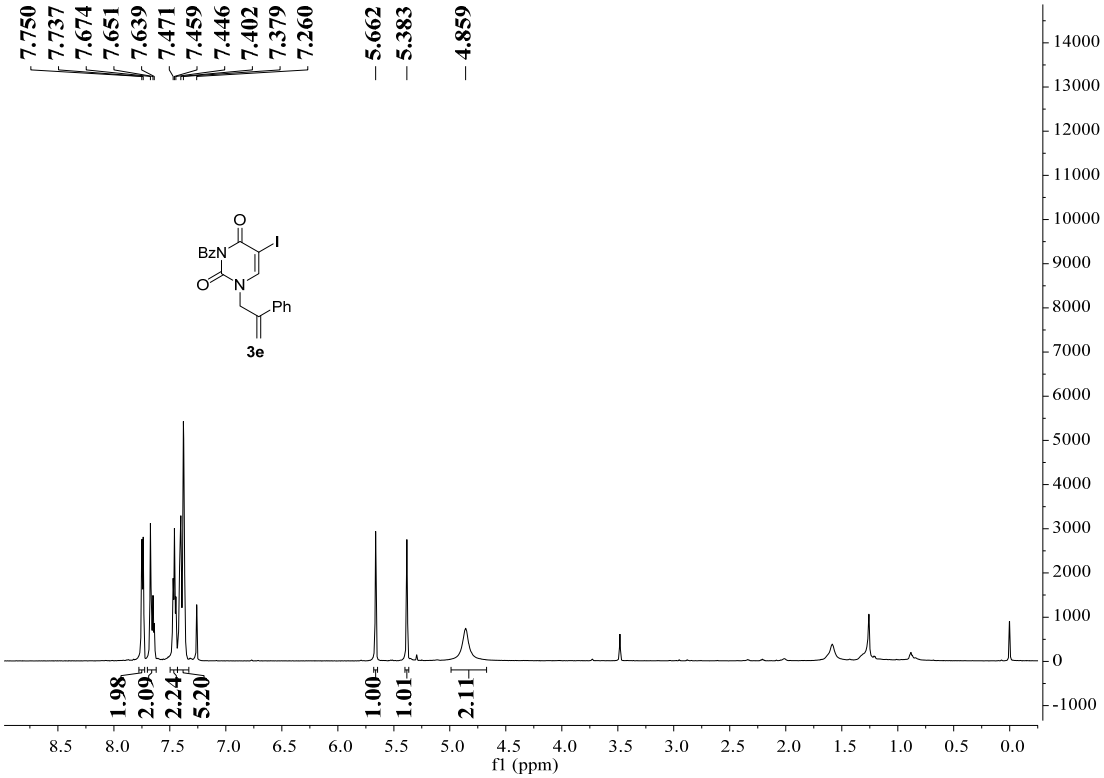
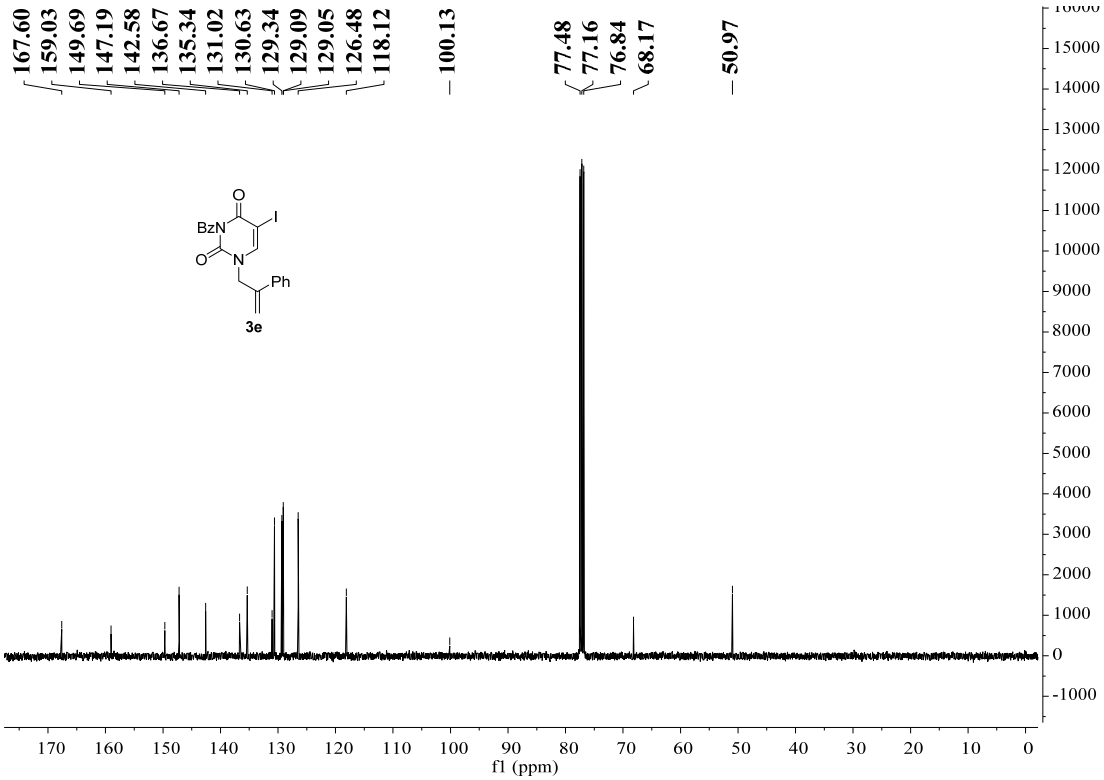


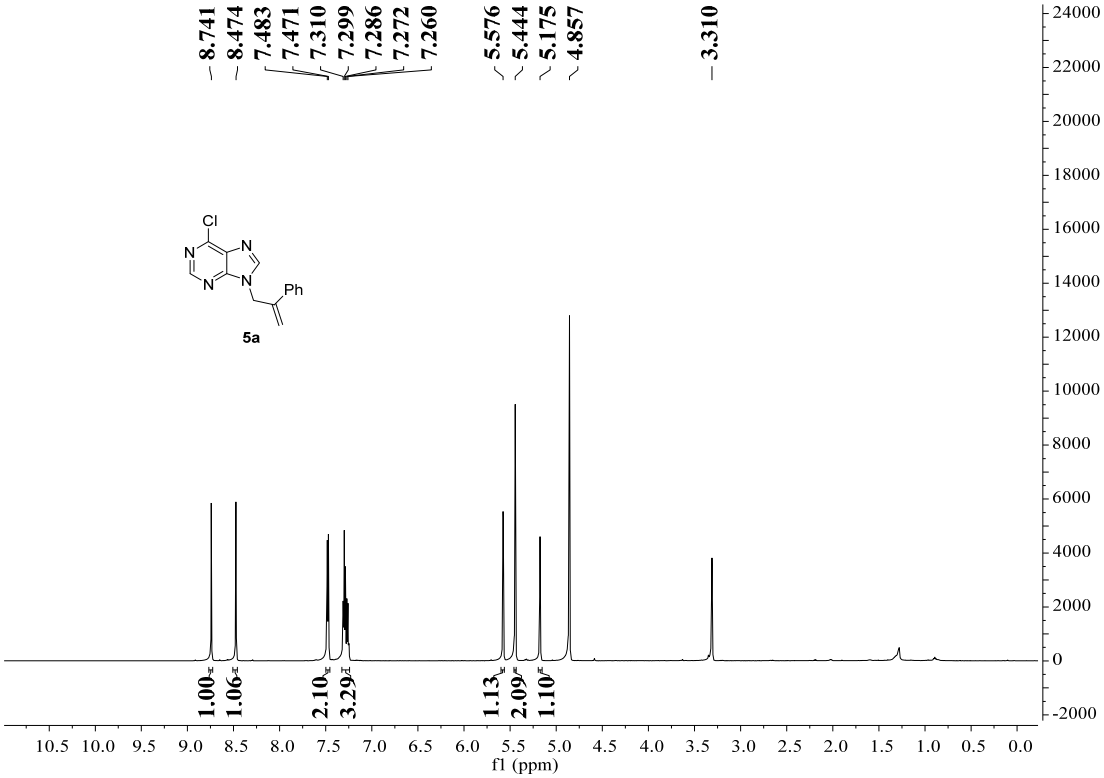
^{1}H-NMR of 3e (600 MHz, $CDCl_3$)



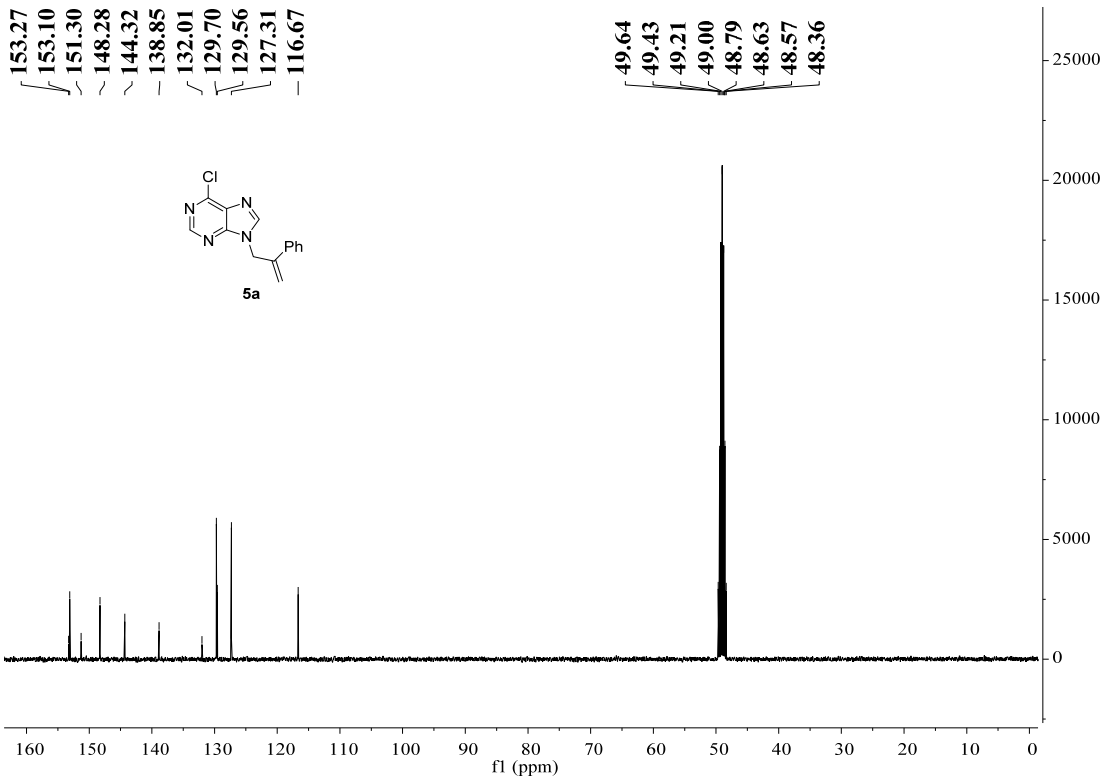
^{13}C-NMR of 3e (100 MHz, $CDCl_3$)



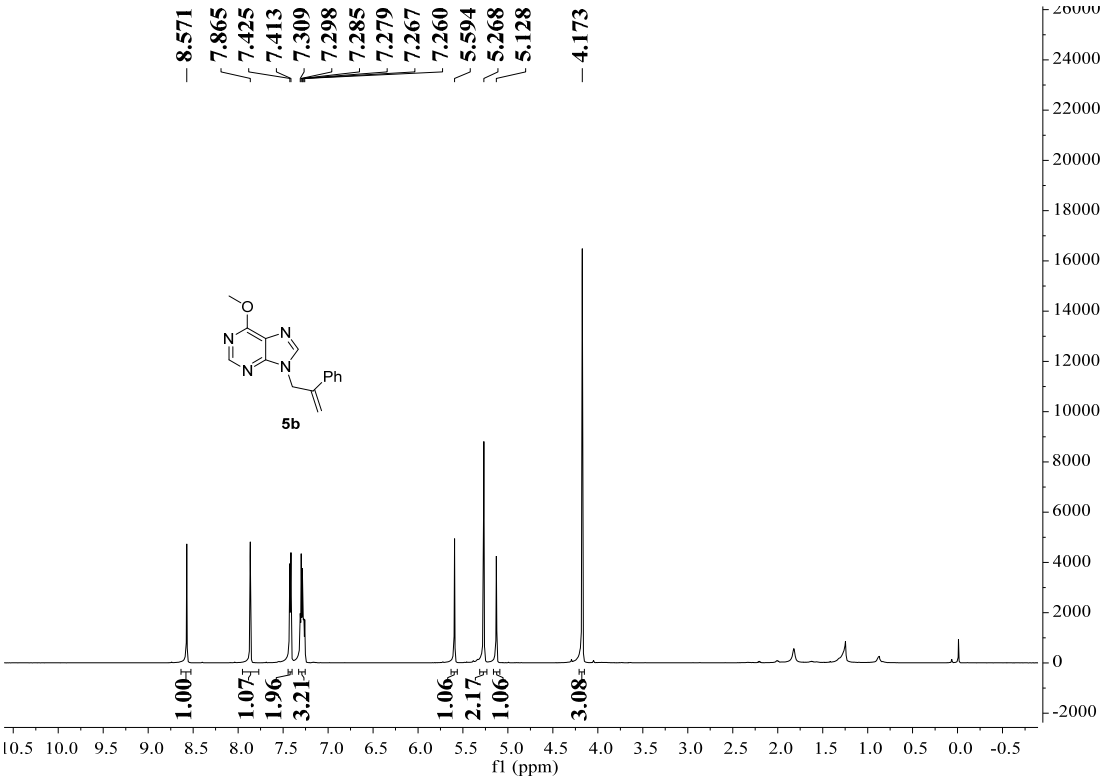
^{1}H-NMR of 5a (600 MHz, CD_3OD)



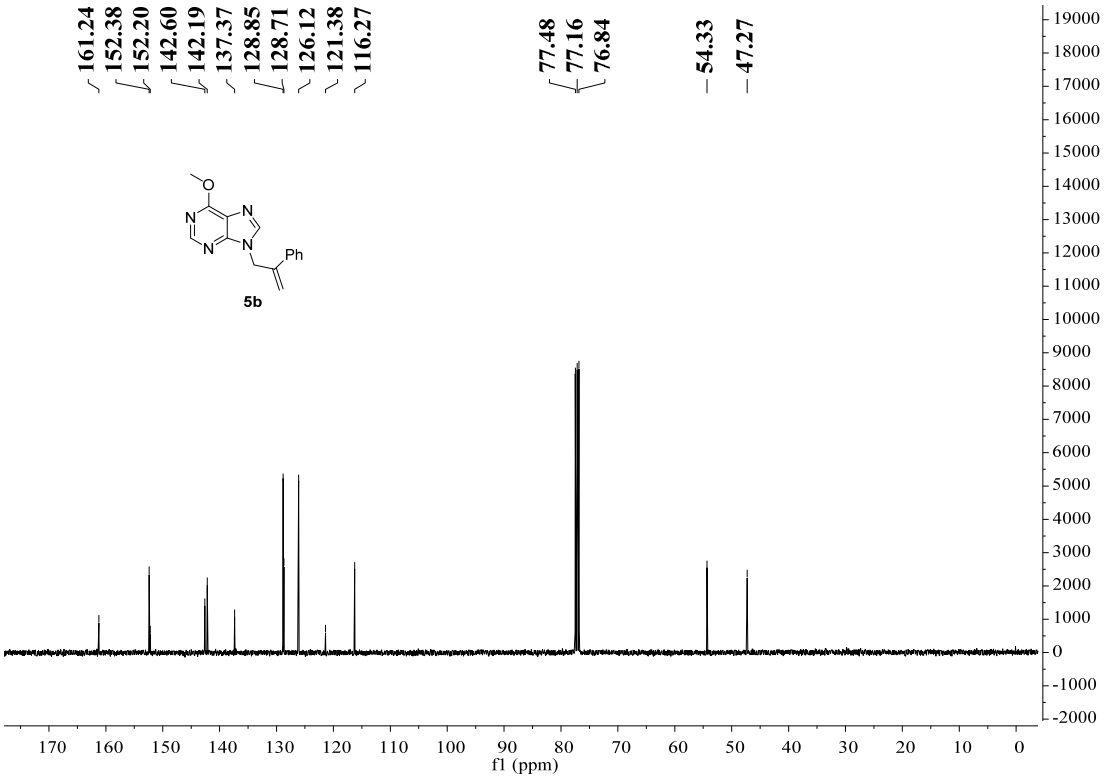
^{13}C-NMR of 5a (100 MHz, CD_3OD)



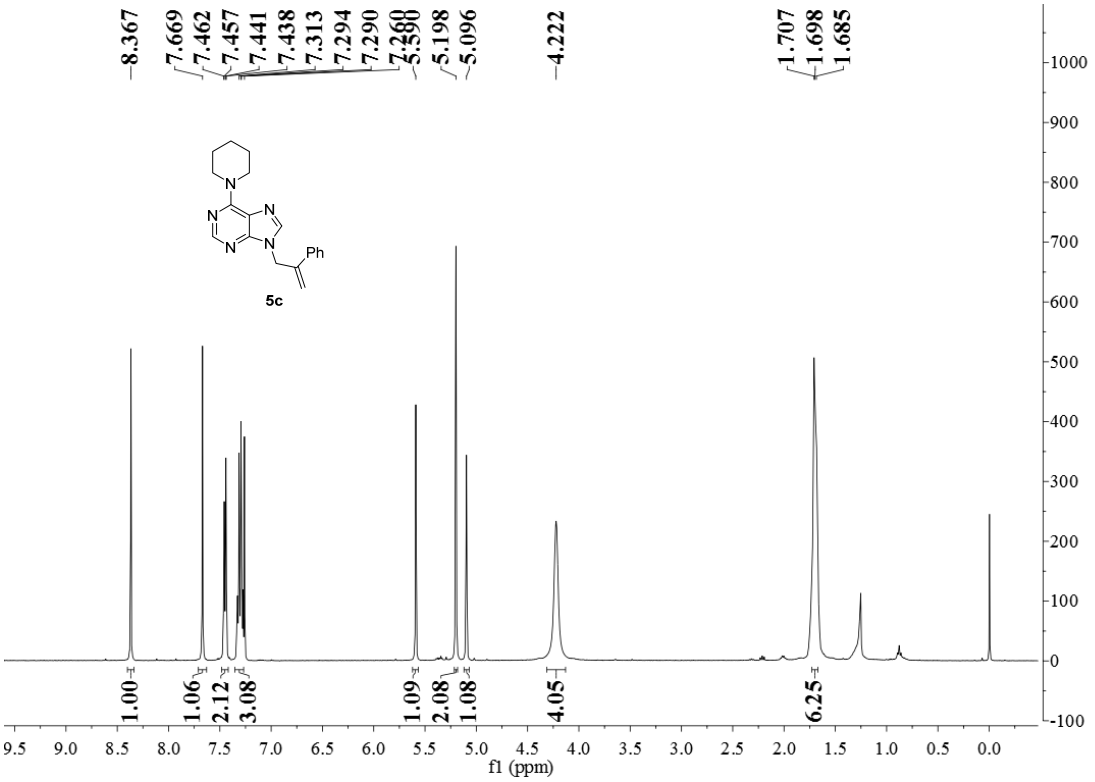
^{1}H-NMR of 5b (600 MHz, $CDCl_3$)



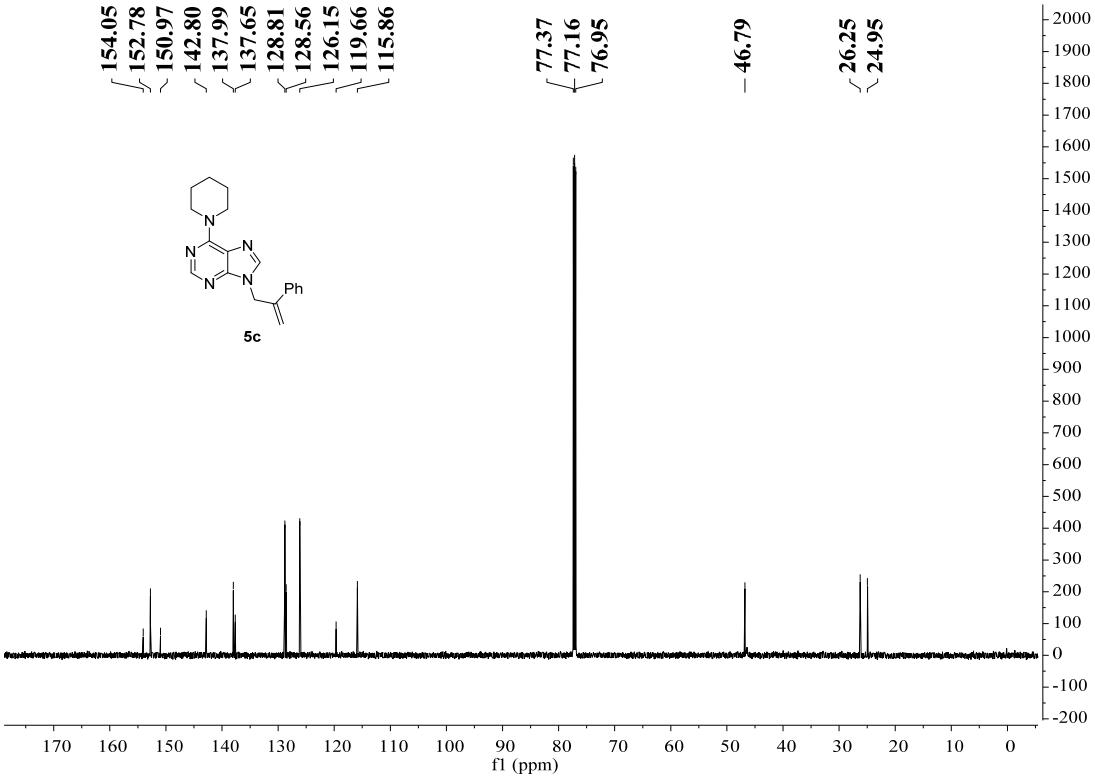
^{13}C-NMR of 5b (100 MHz, $CDCl_3$)



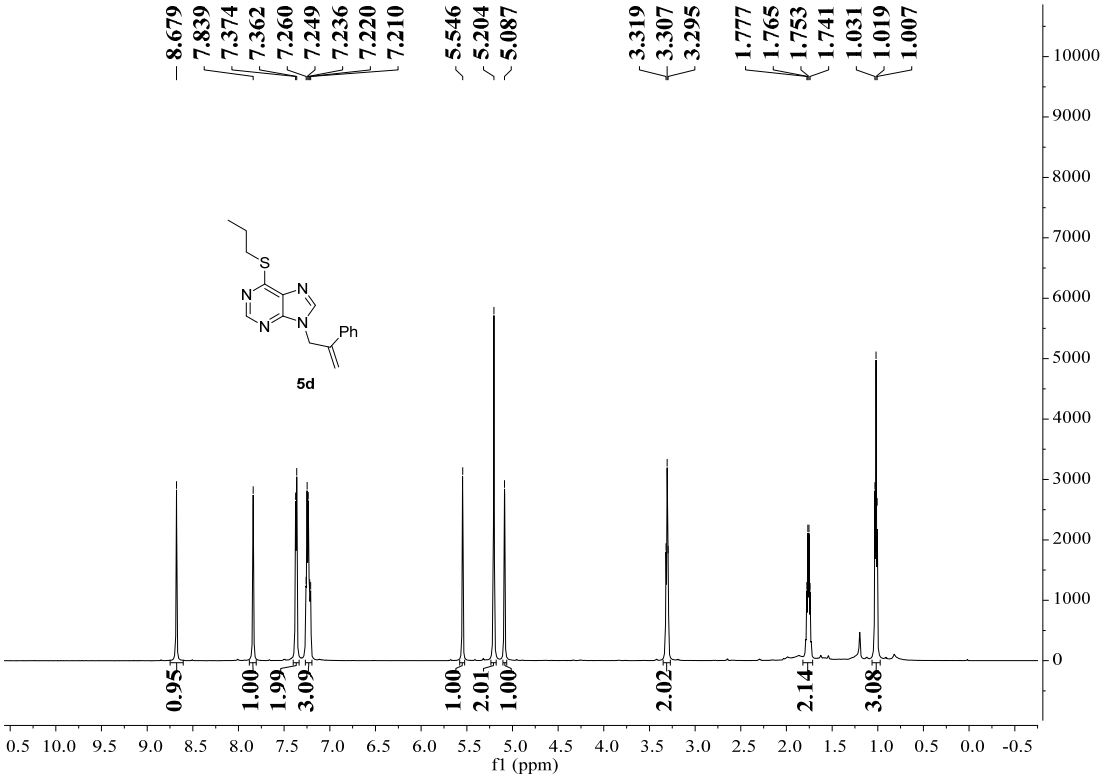
^{1}H-NMR of 5c (400 MHz, $CDCl_3$)



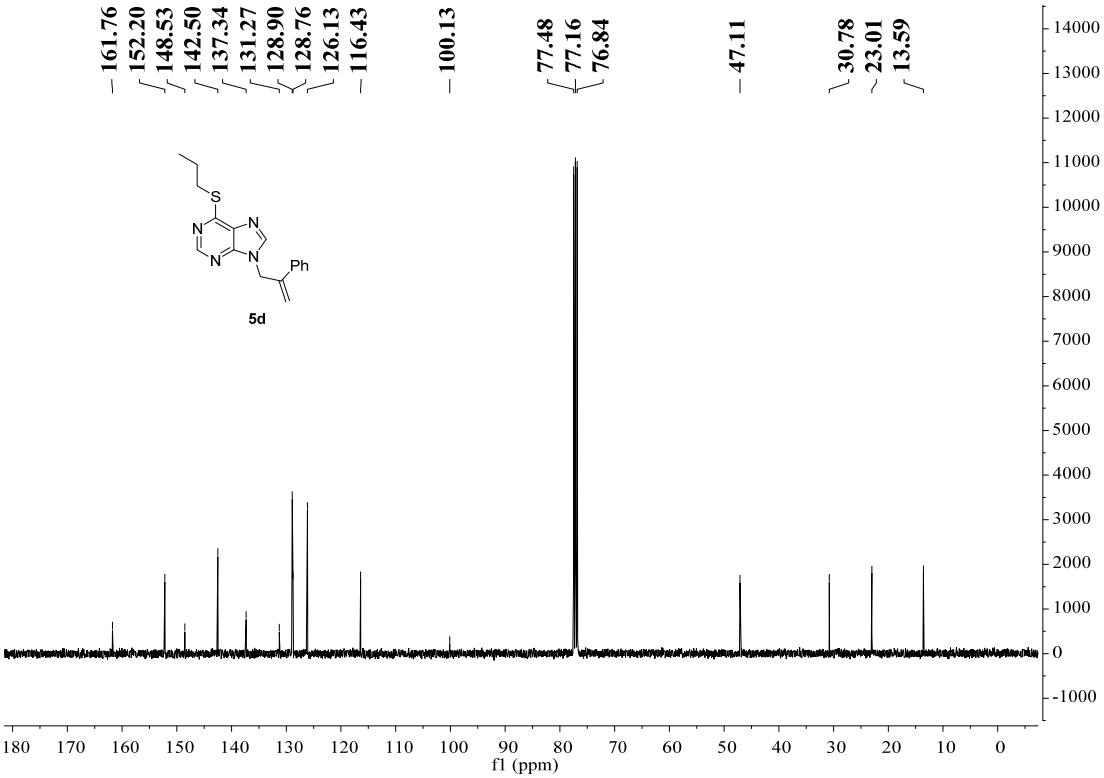
^{13}C-NMR of 5c (150 MHz, $CDCl_3$)



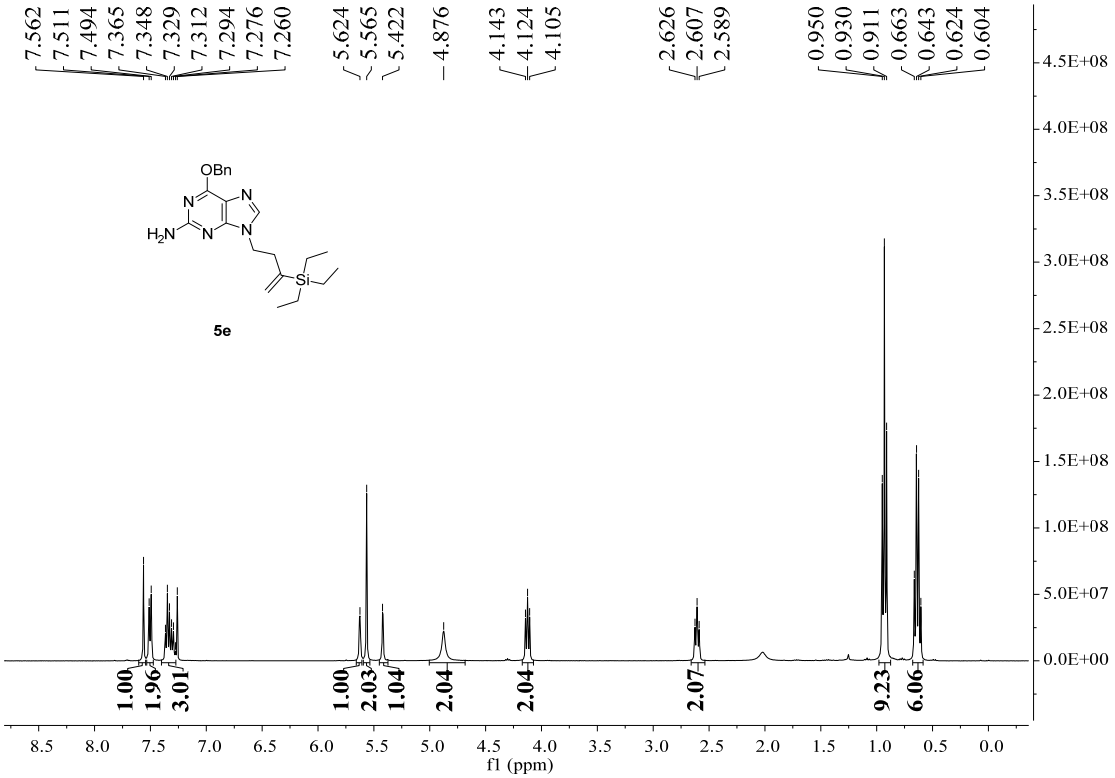
^{1}H-NMR of 5d (600 MHz, $CDCl_3$)



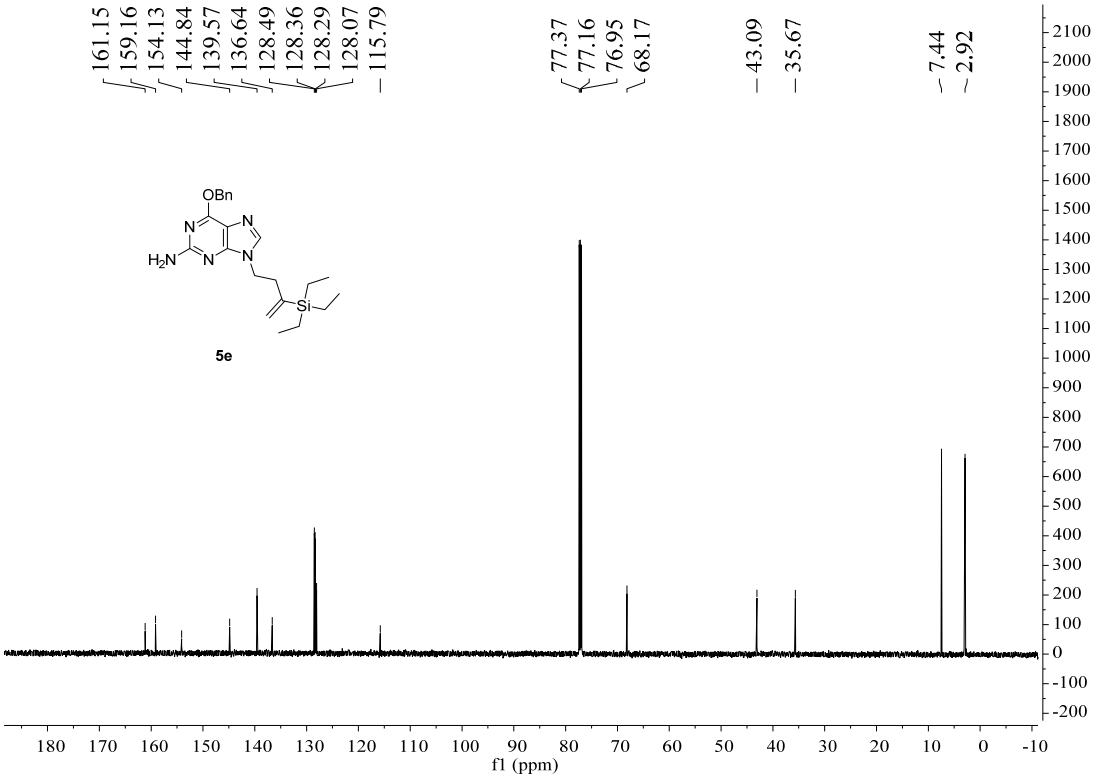
^{13}C-NMR of 5d (100 MHz, $CDCl_3$)



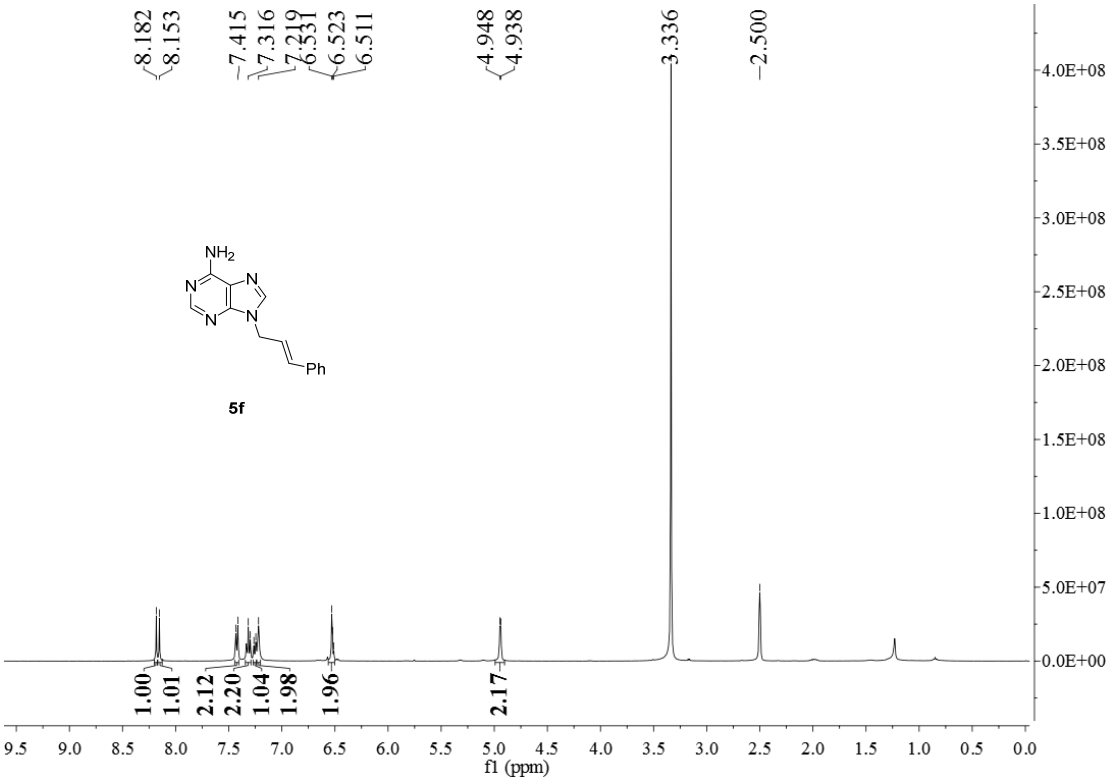
^{1}H-NMR of 5e (400 MHz, $CDCl_3$)



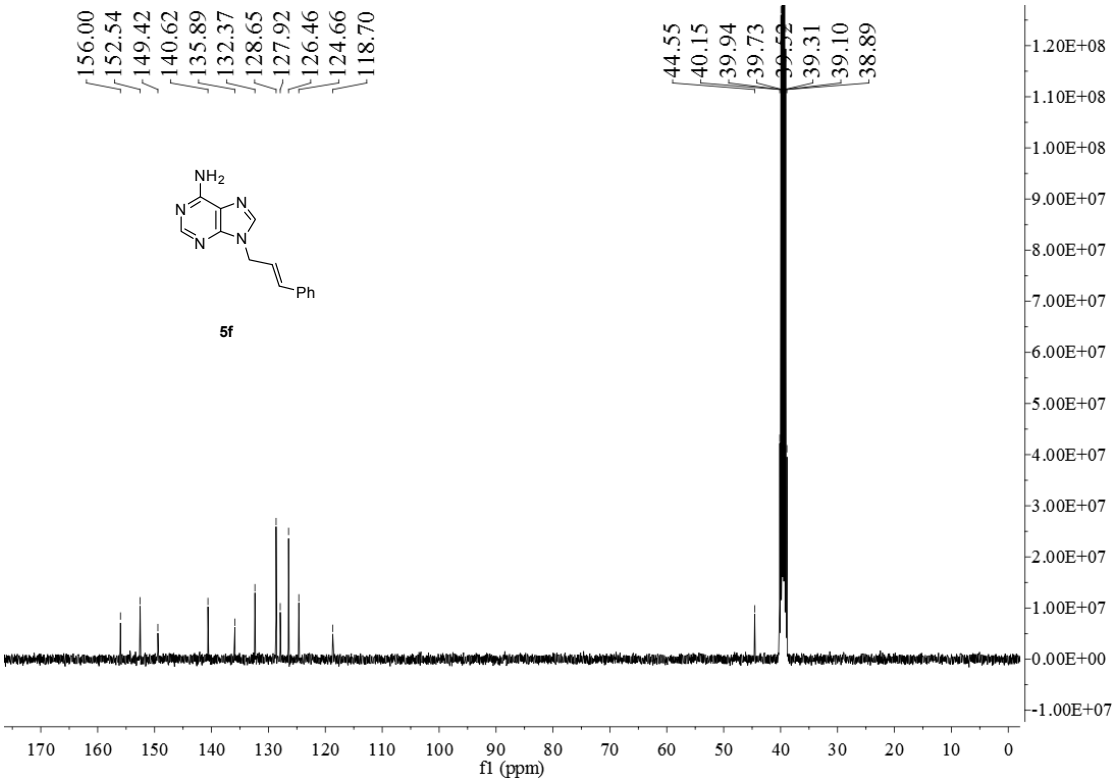
^{13}C-NMR of 5e (150 MHz, $CDCl_3$)



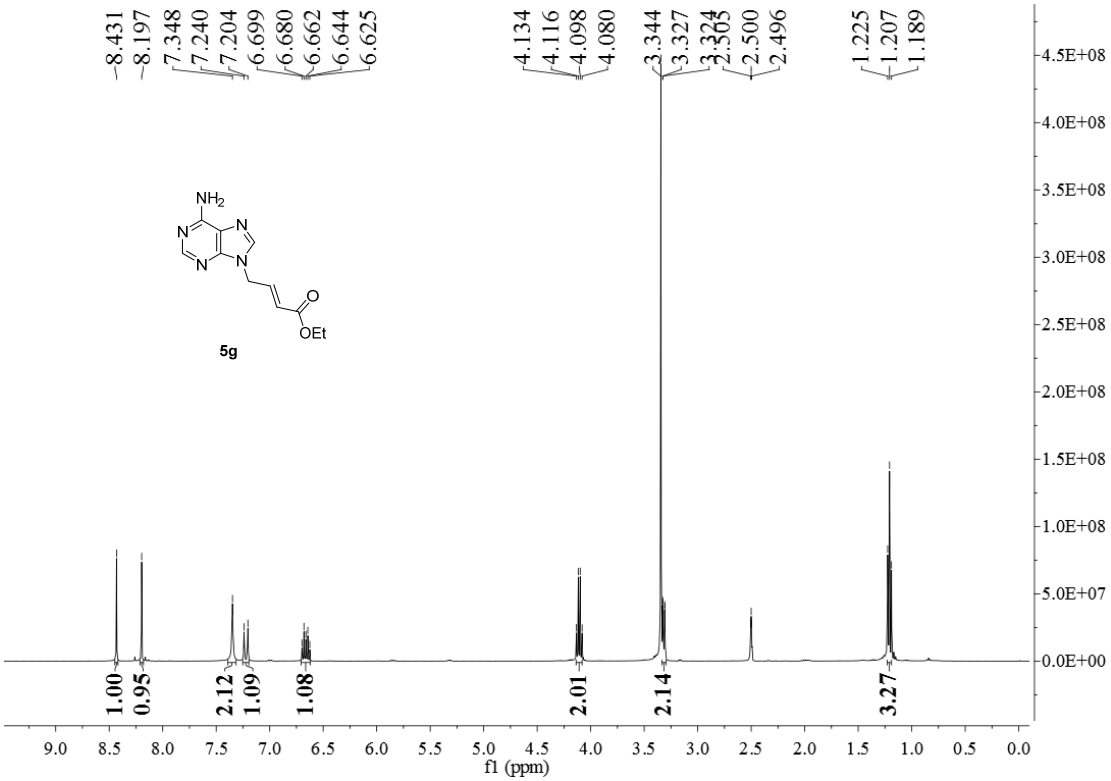
^{1}H-NMR of 5f (400 MHz, d^{6}-DMSO)



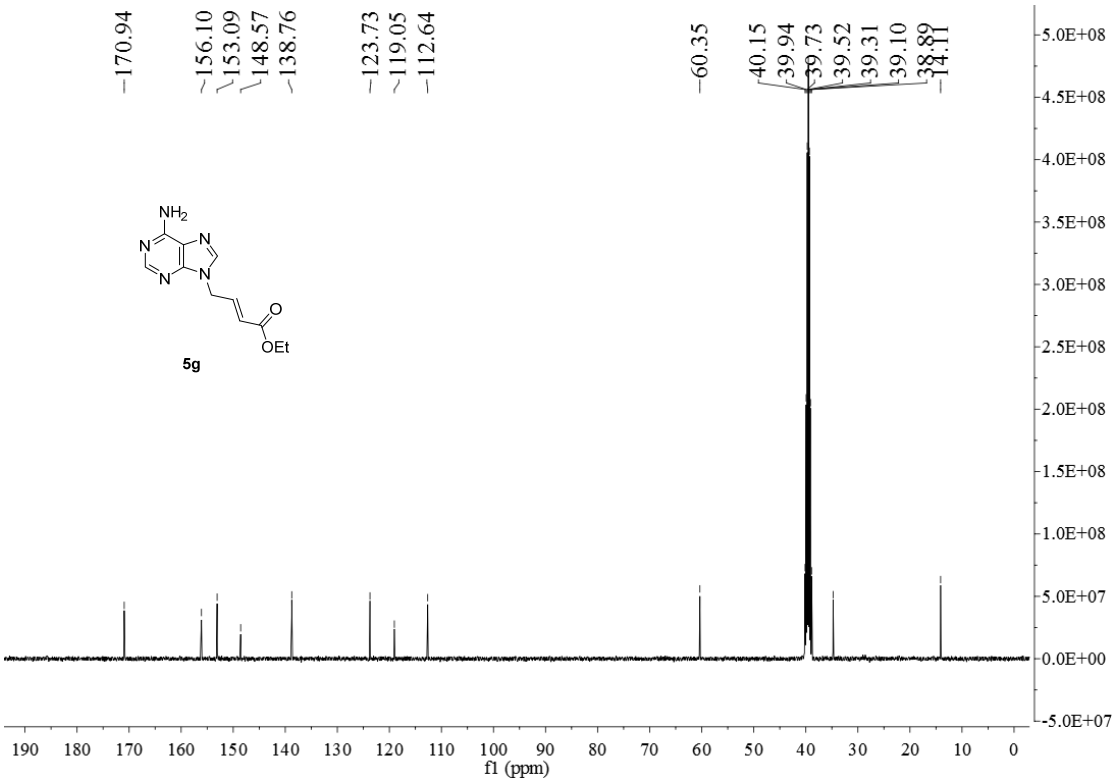
^{13}C-NMR of 5f (100 MHz, d^{6}-DMSO)



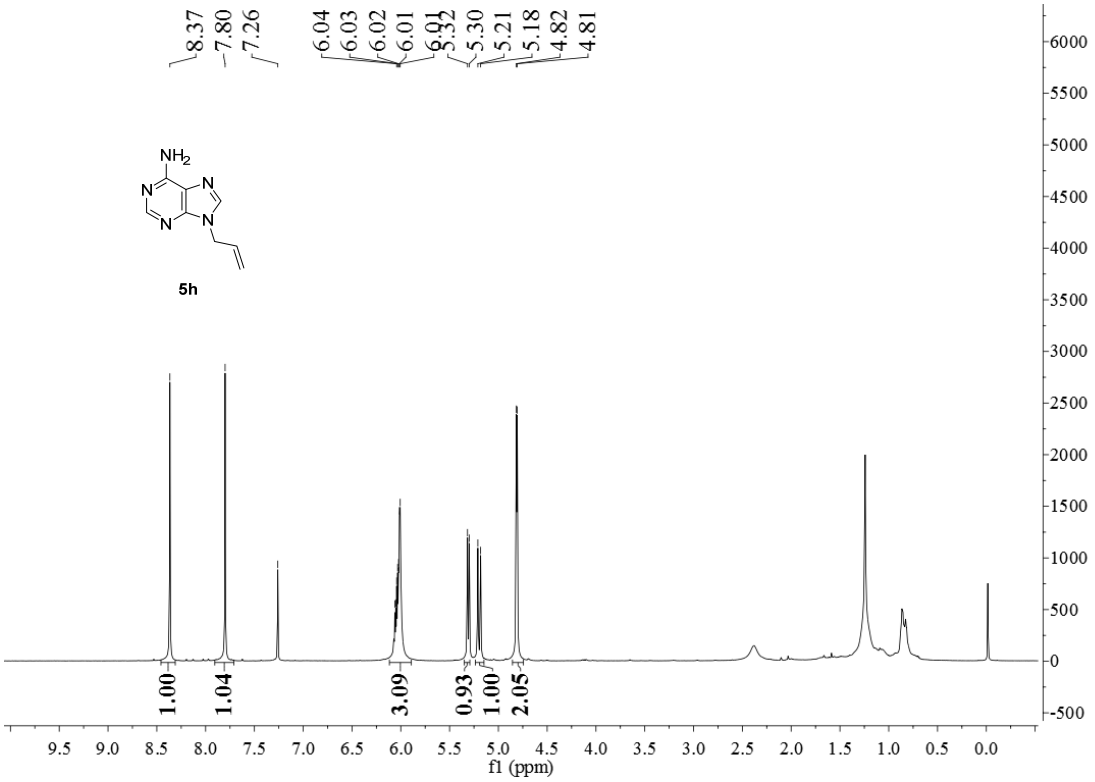
^{1}H-NMR of 5g (400 MHz, d^{6}-DMSO)



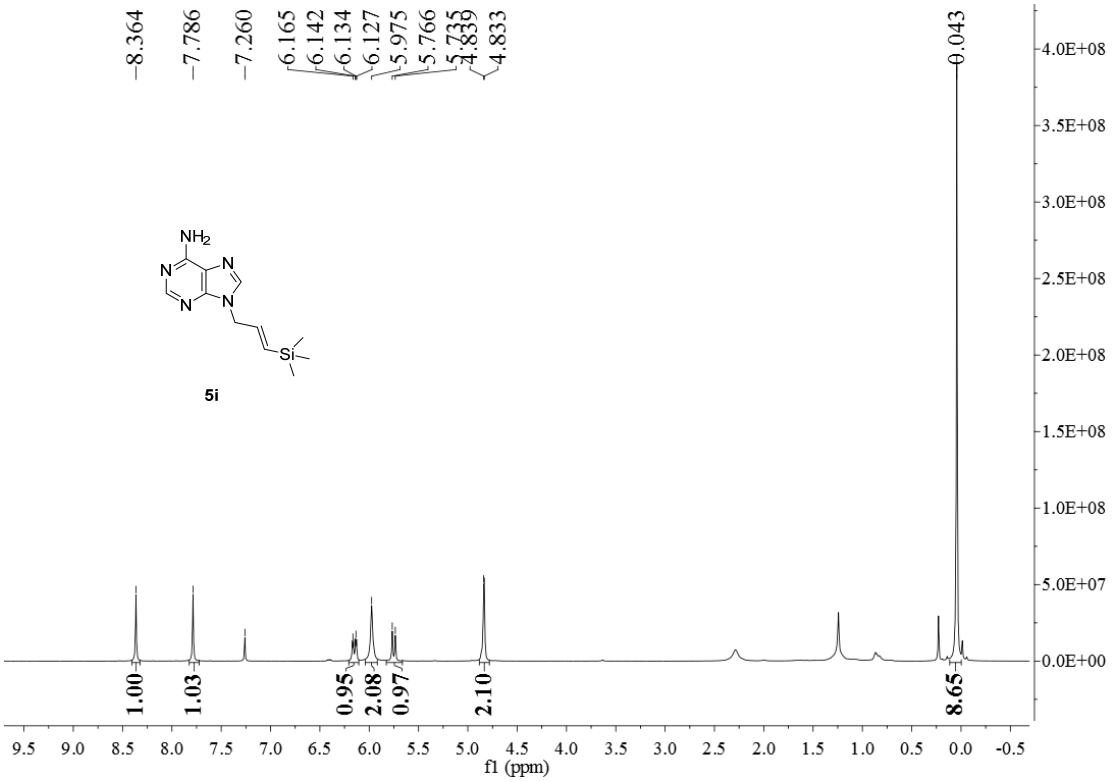
^{13}C-NMR of 5g (100 MHz, d^{6}-DMSO)



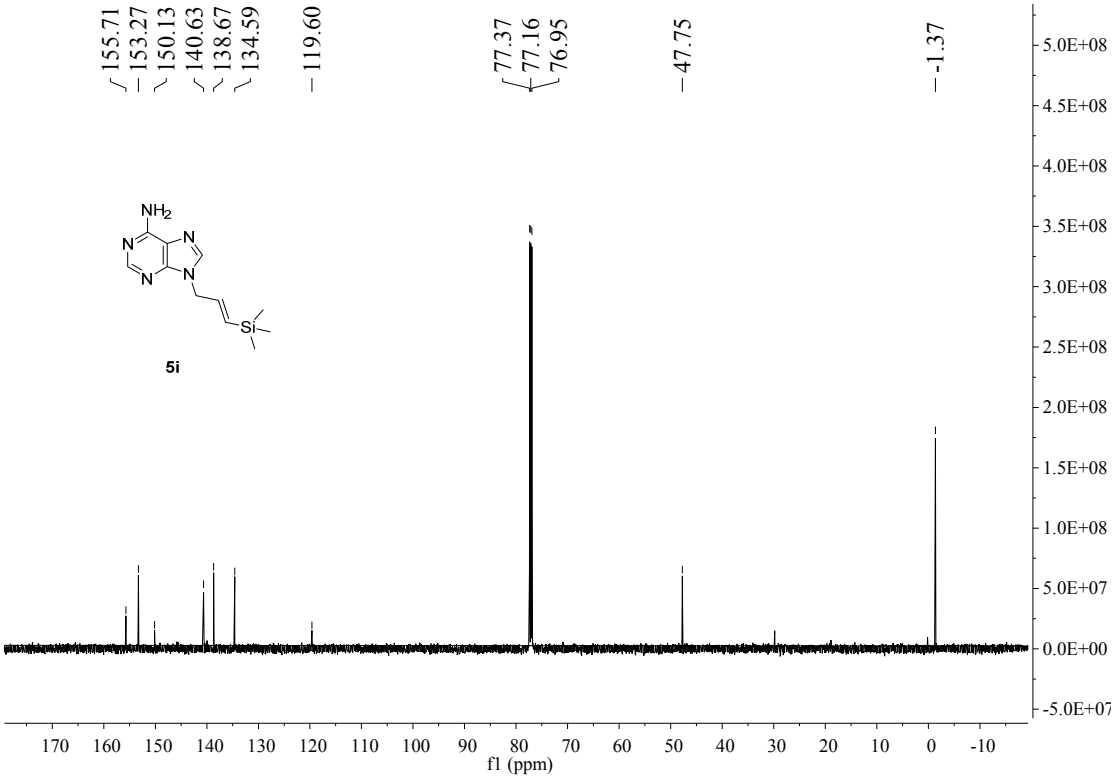
^{1}H-NMR of 5h (600 MHz, $CDCl_3$)



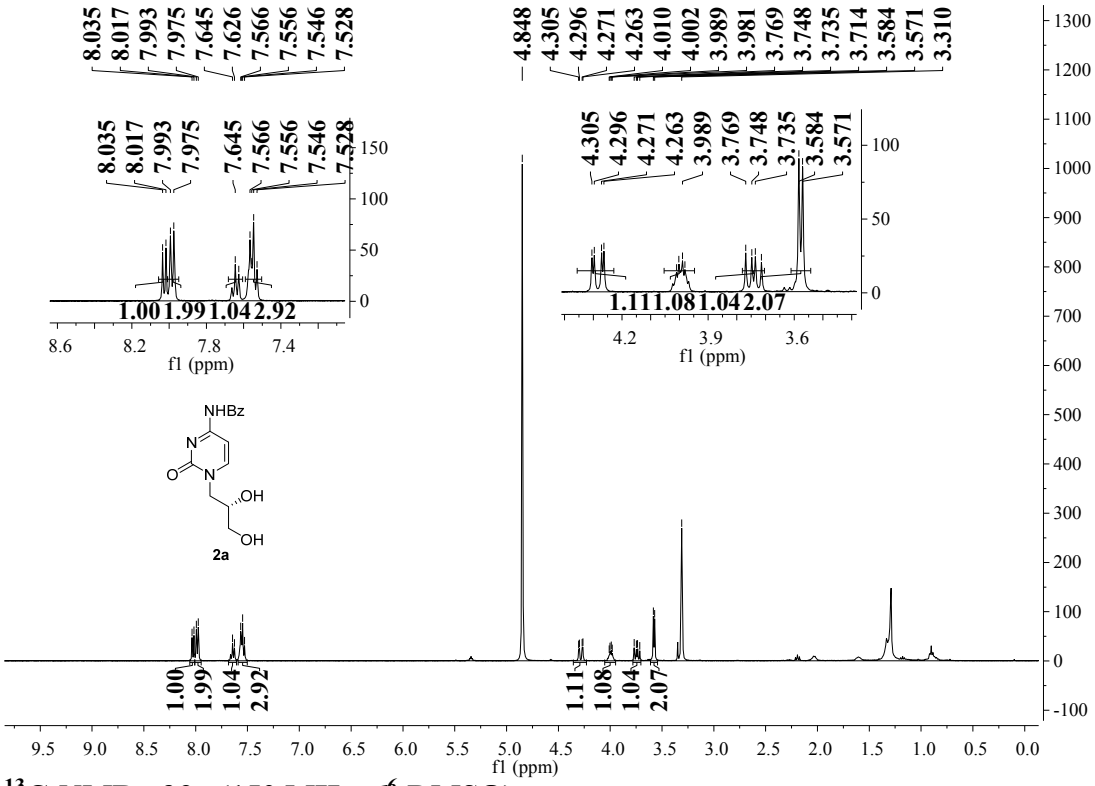
^{1}H-NMR of 5i (600 MHz, $CDCl_3$)



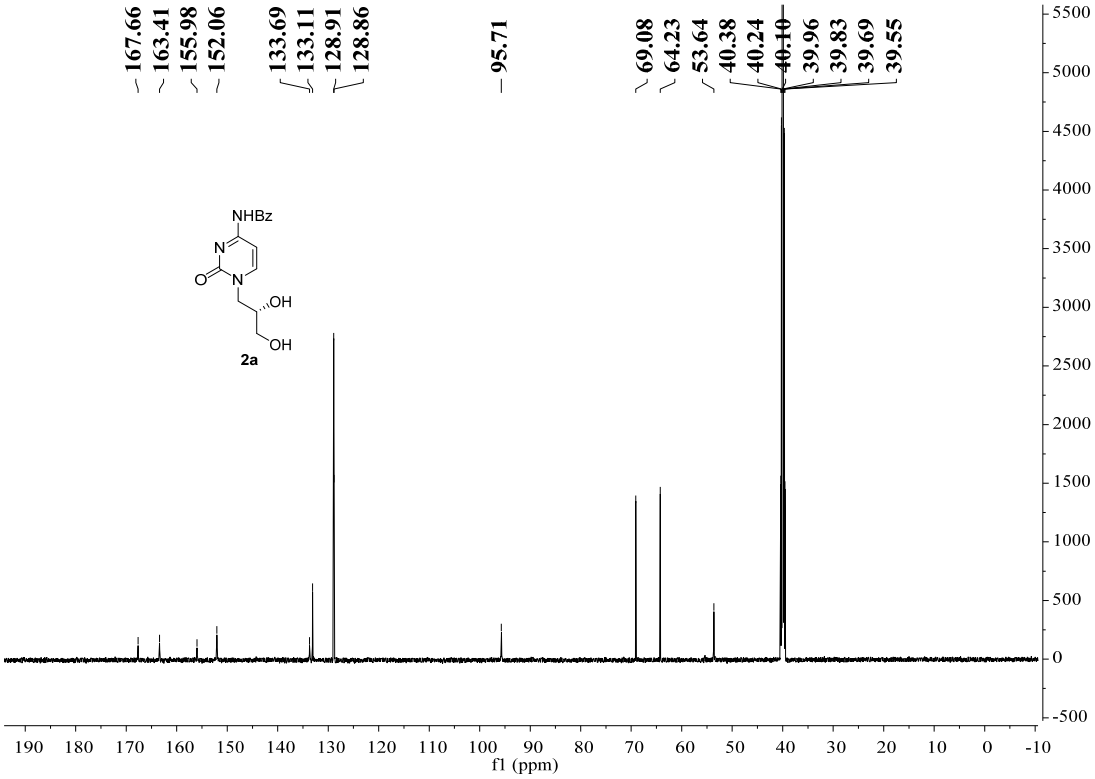
^{13}C-NMR of 5i (150 MHz, $CDCl_3$)



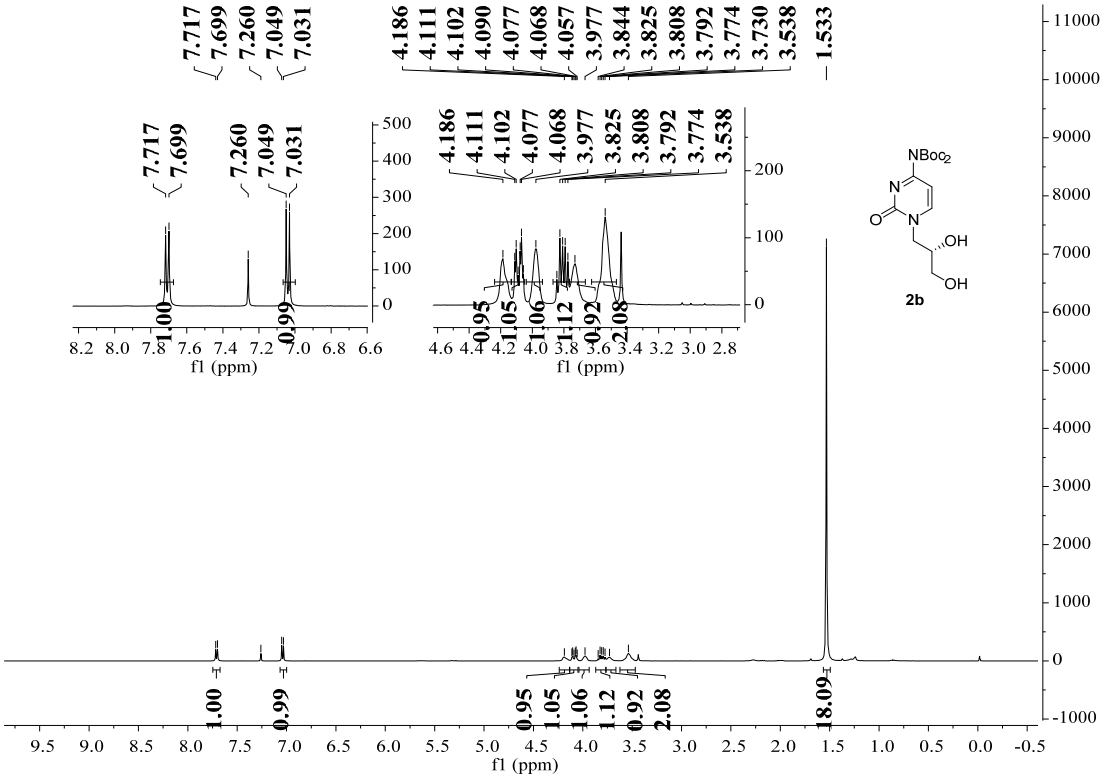
^{1}H-NMR of 2a (400 MHz, CD_3OD)



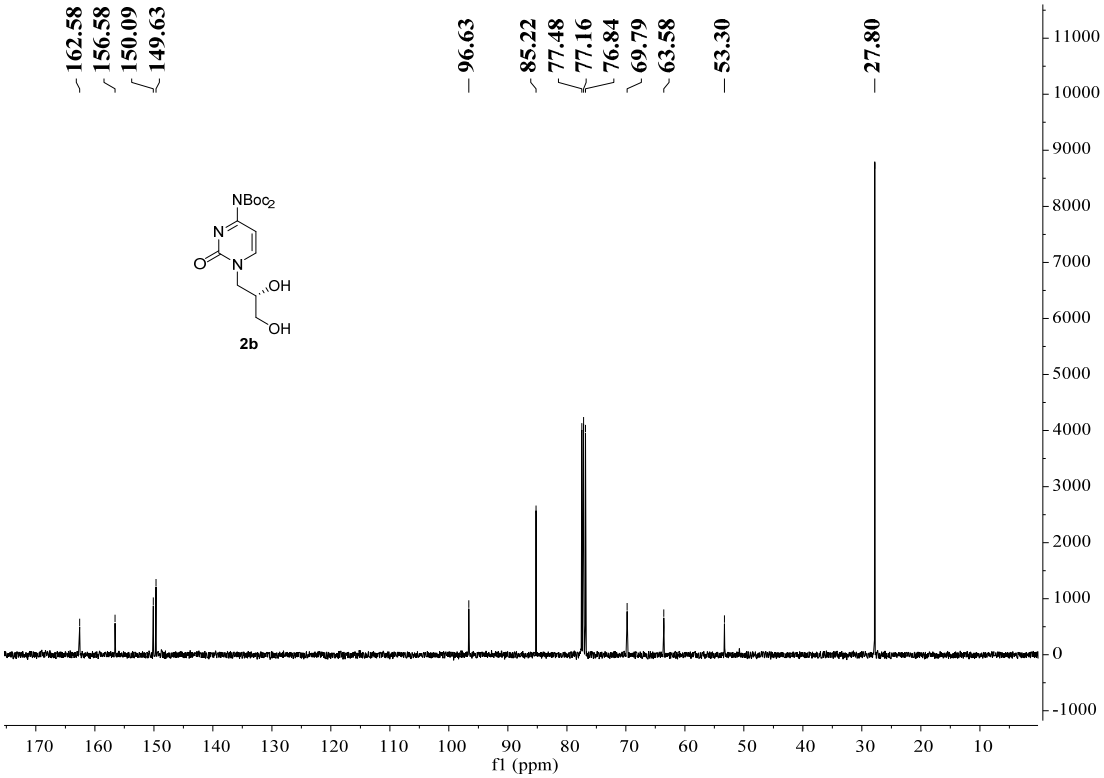
^{13}C-NMR of 2a (150 MHz, d^6-DMSO)



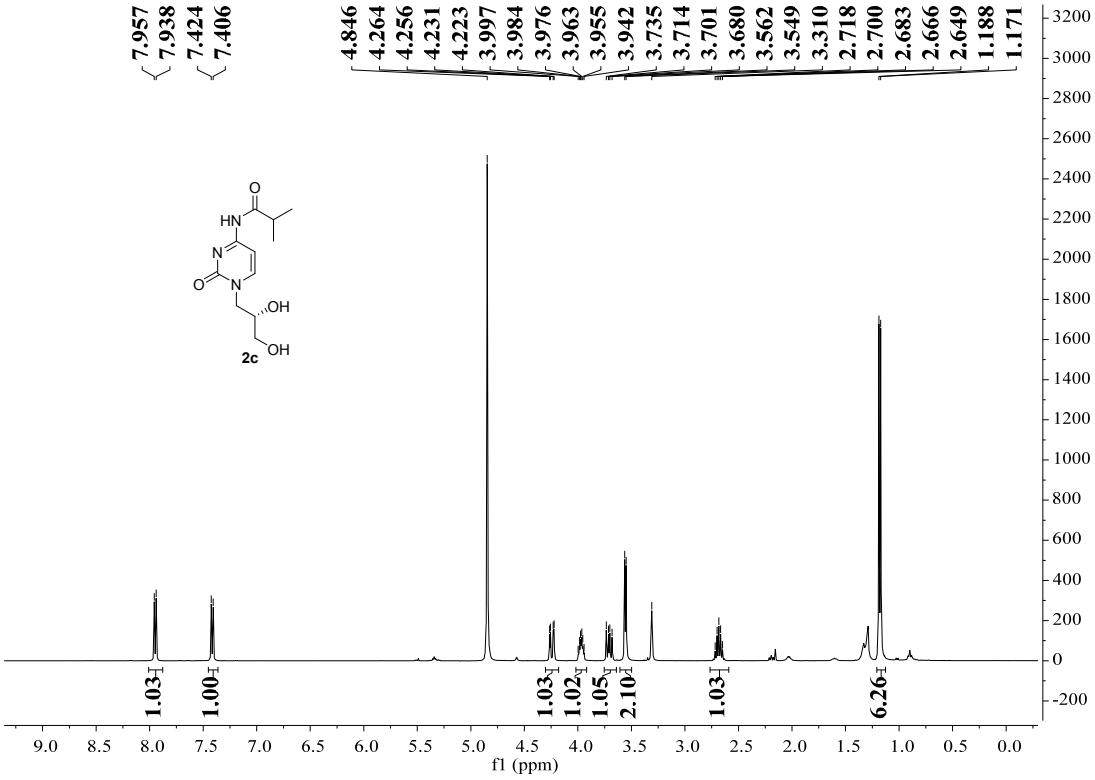
^{1}H-NMR of 2b (400 MHz, $CDCl_3$)



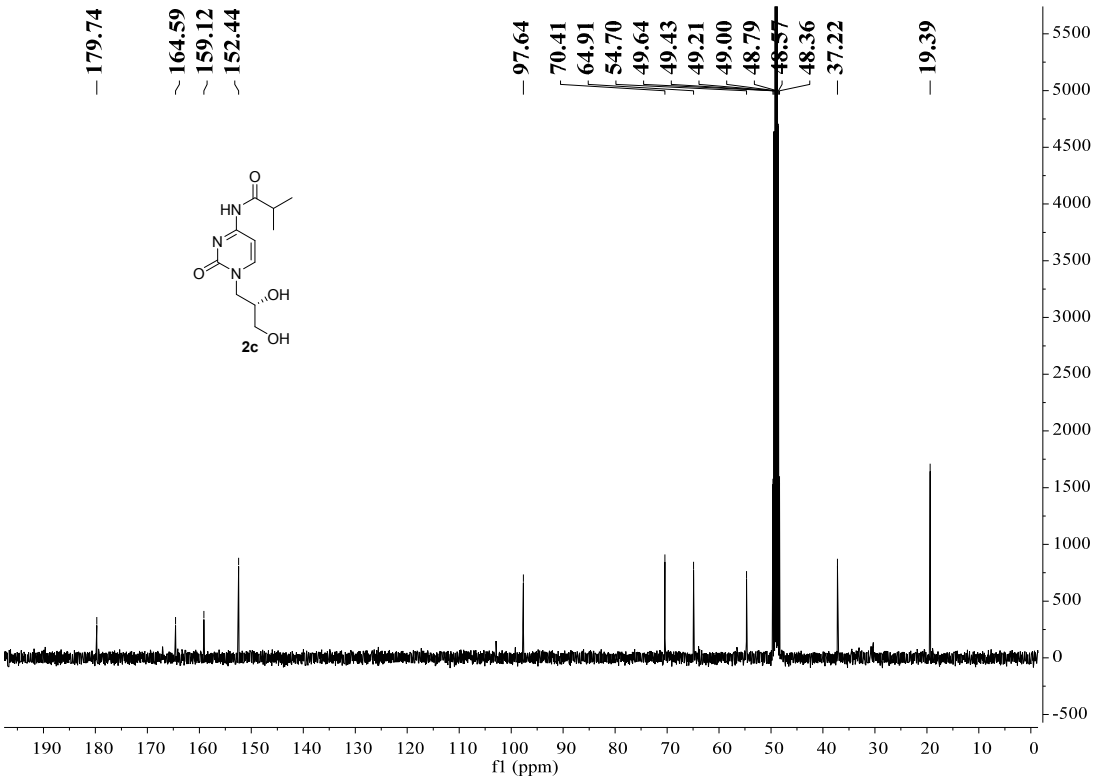
^{13}C-NMR of 2b (100 MHz, $CDCl_3$)



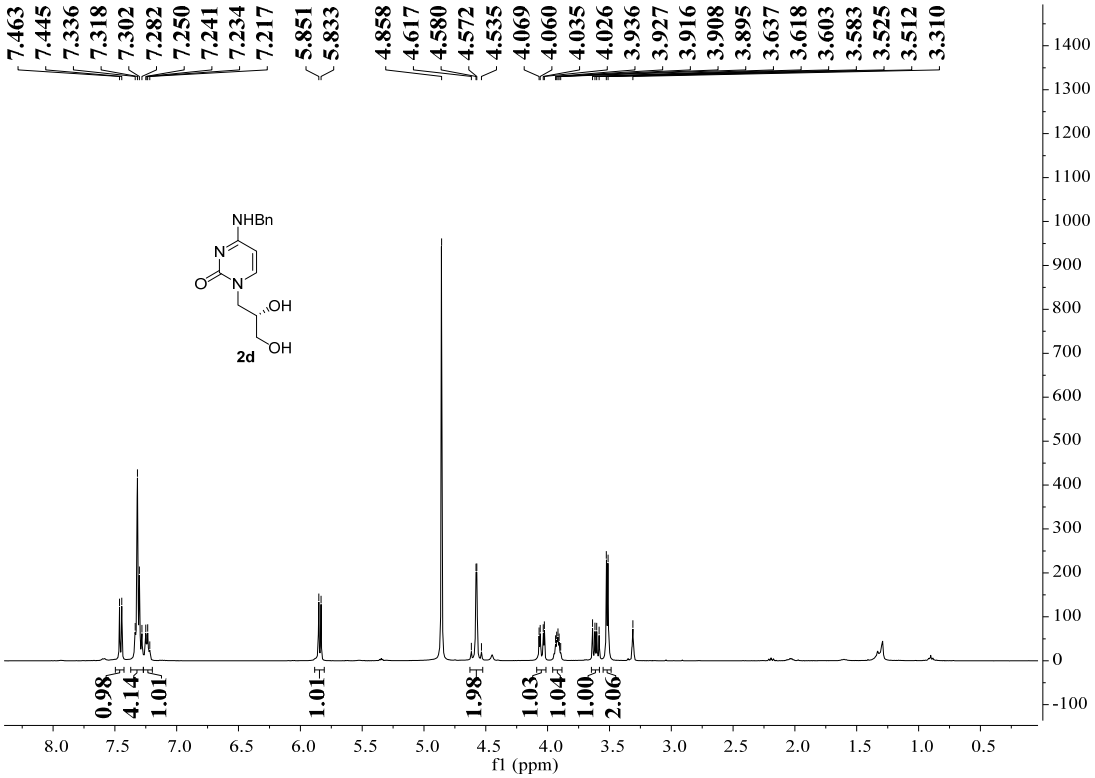
^{1}H-NMR of 2c (400 MHz, CD_3OD)



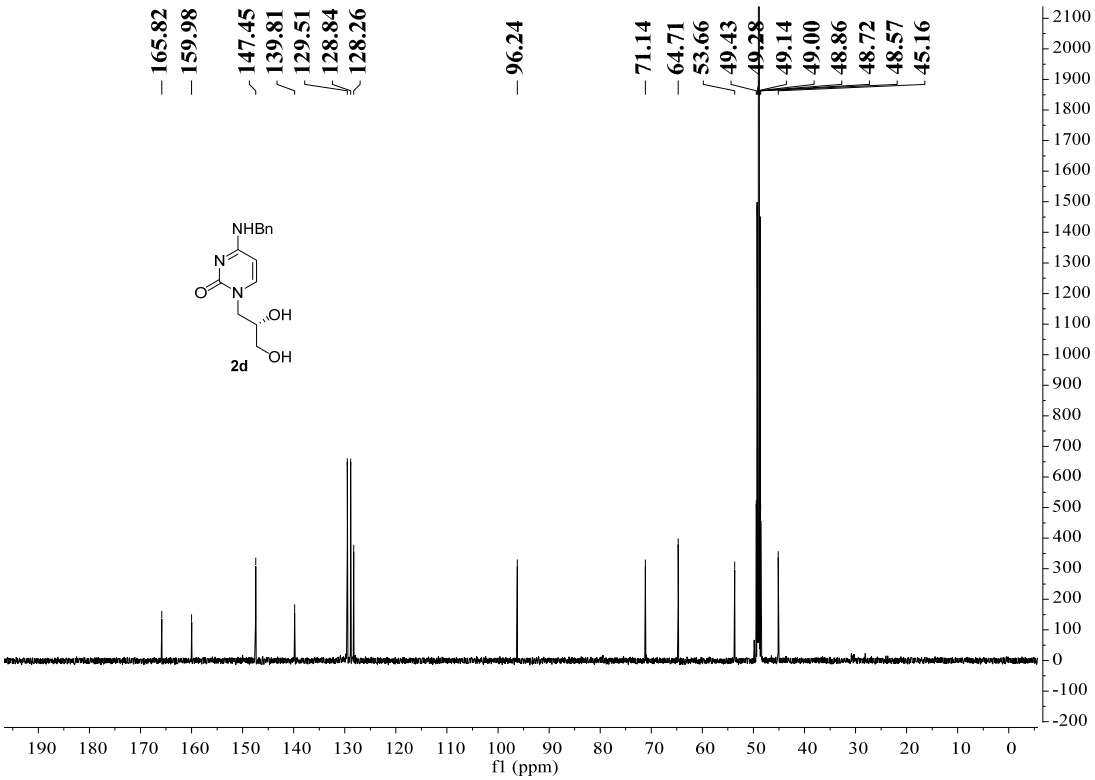
^{13}C-NMR of 2c (100 MHz, CD_3OD)



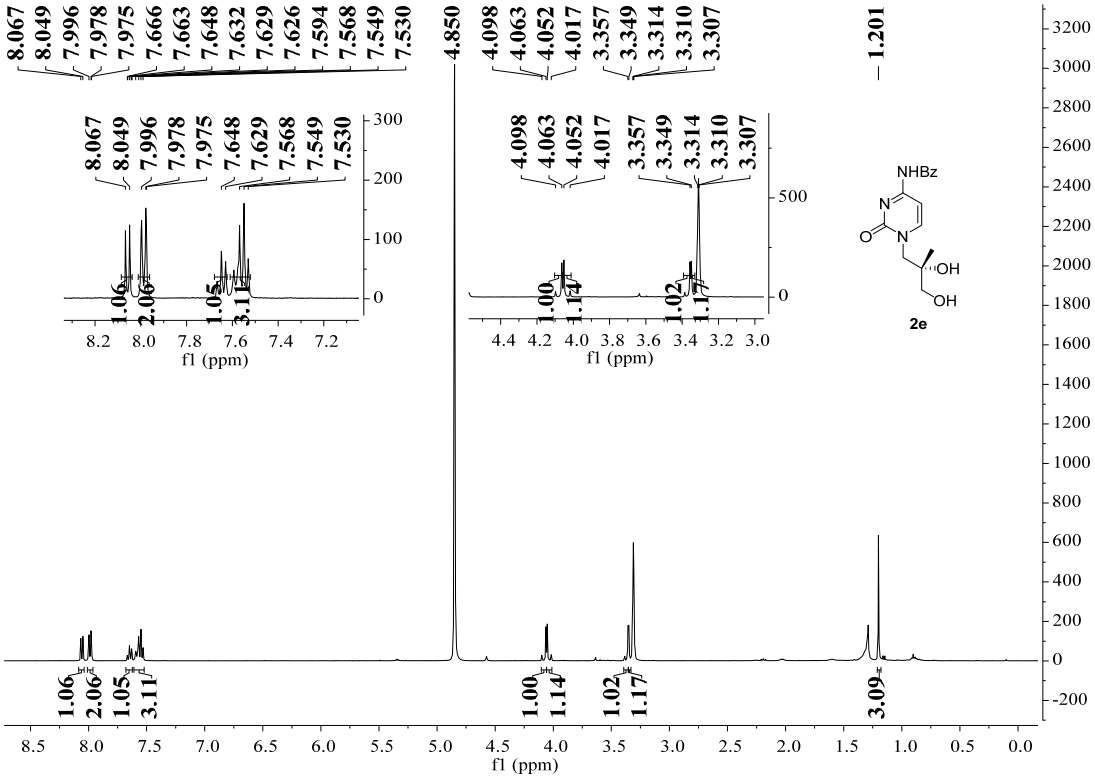
^{1}H-NMR of 2d (400 MHz, CD_3OD)



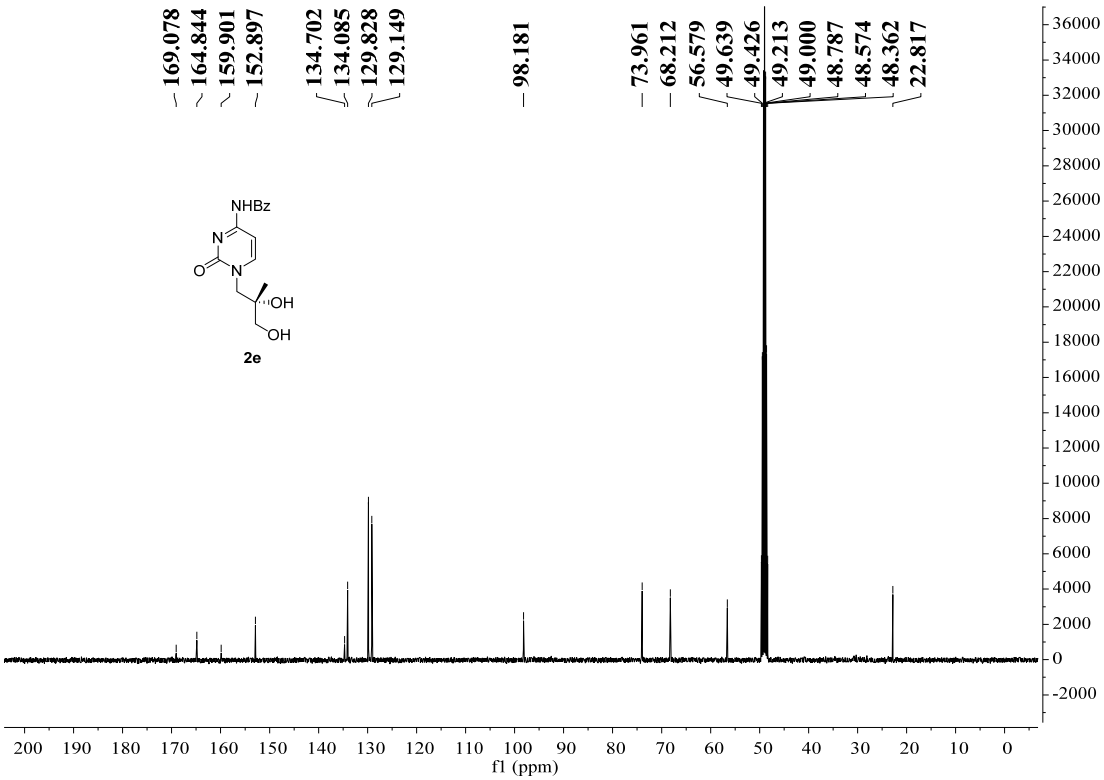
^{13}C-NMR of 2d (150 MHz, CD_3OD)



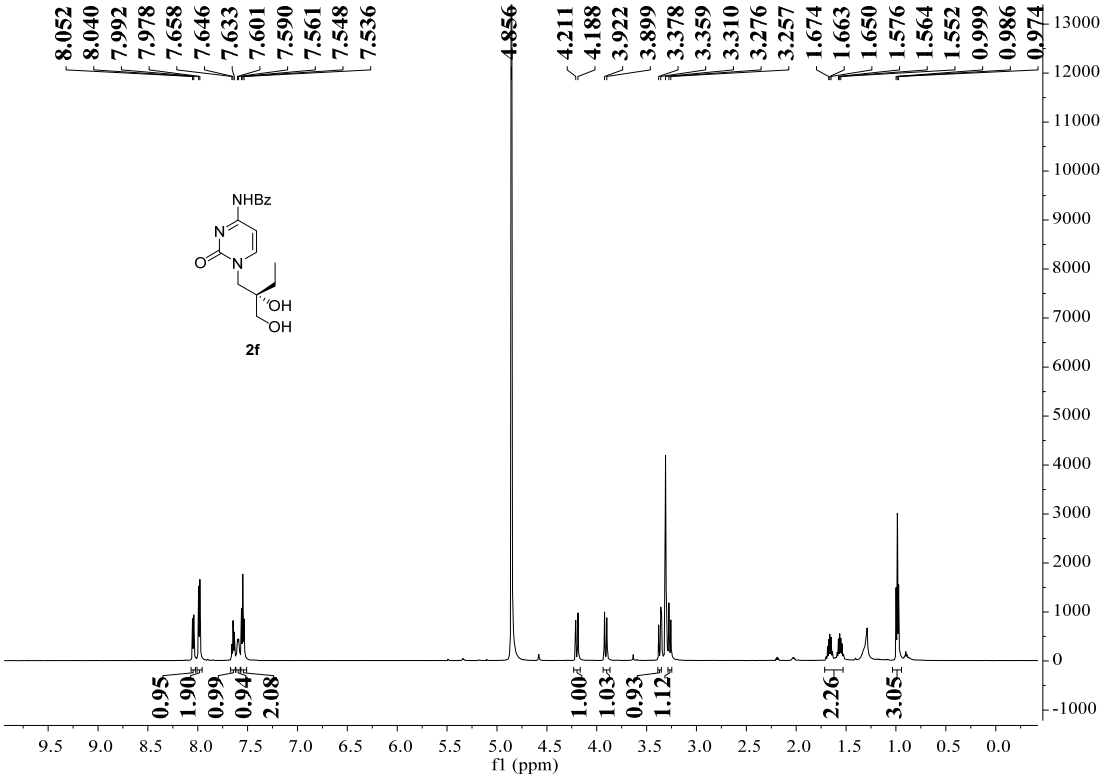
^{1}H-NMR of 2e (600 MHz, CD_3OD)



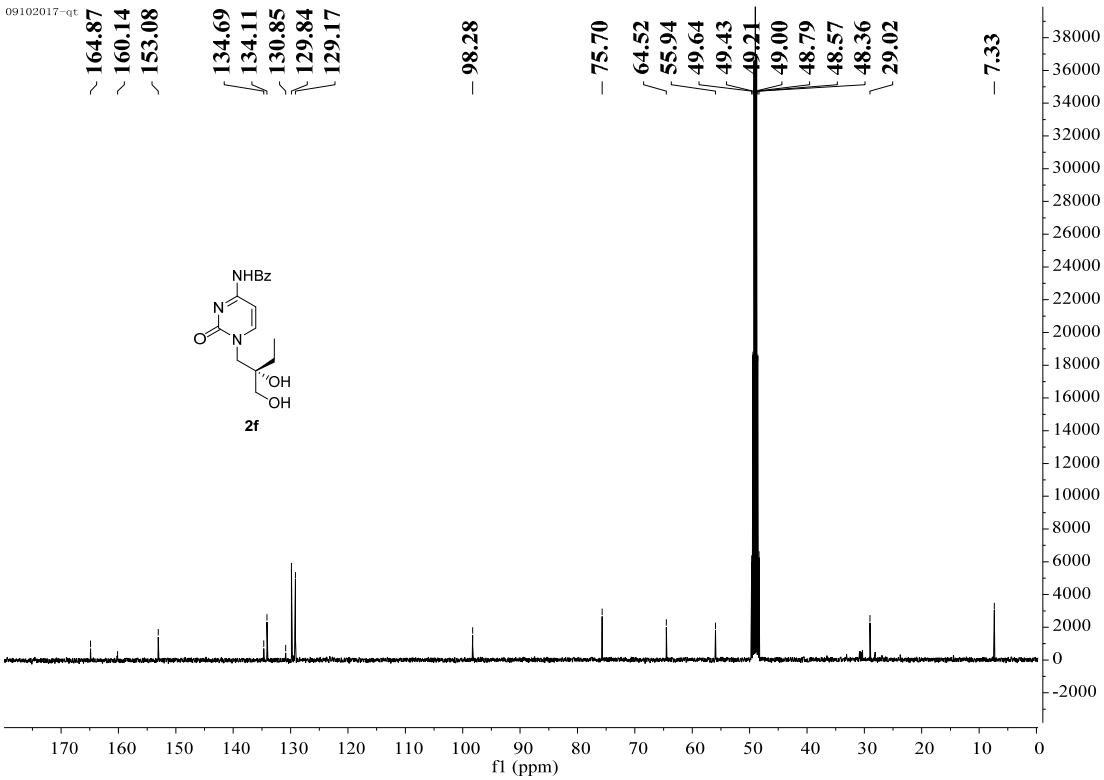
^{13}C-NMR of 2e (100 MHz, CD_3OD)



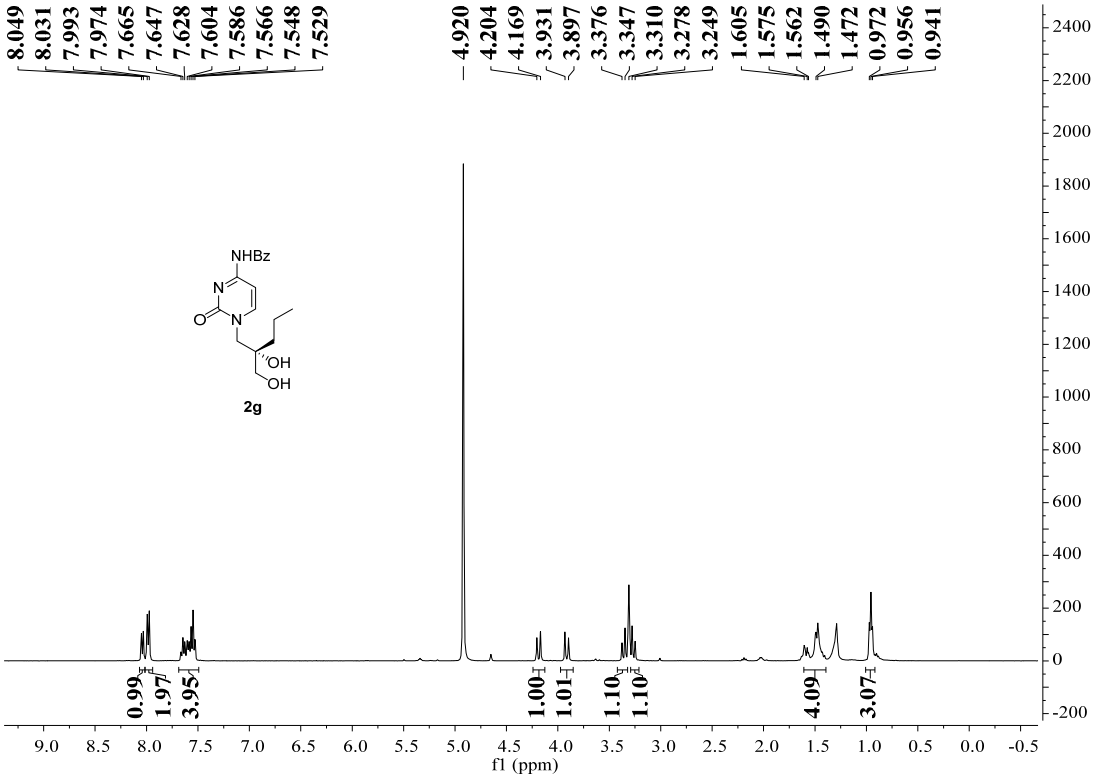
^{1}H-NMR of 2f (600 MHz, CD_3OD)



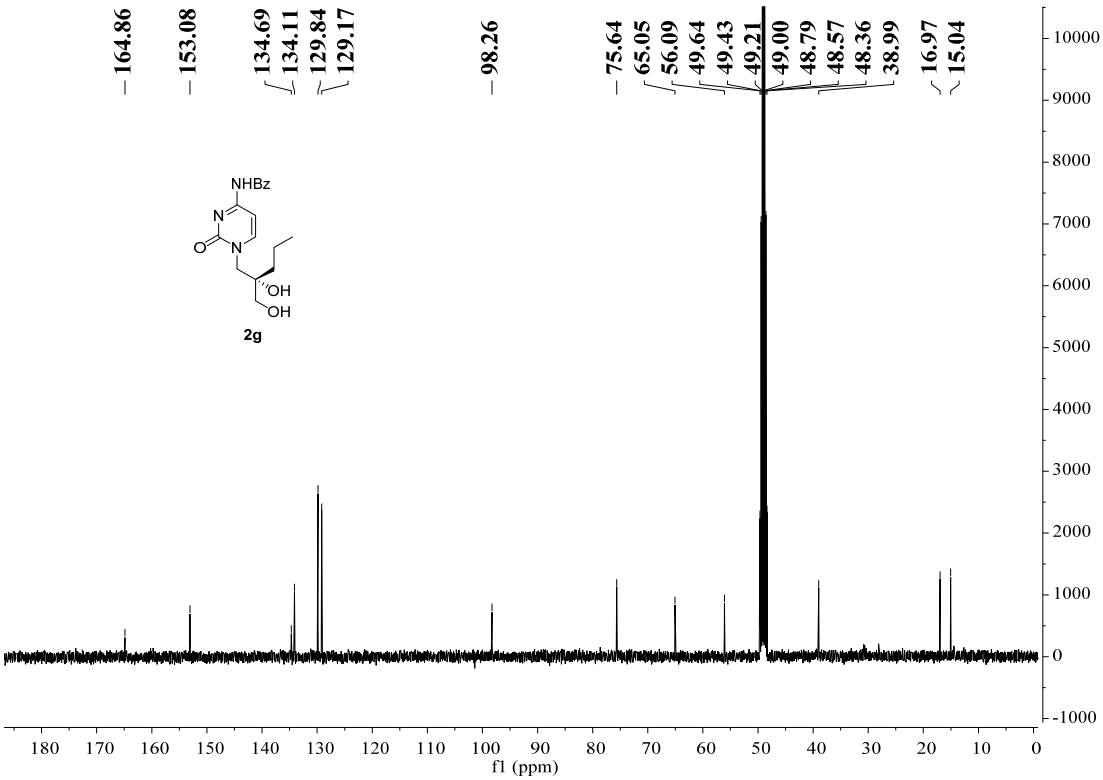
^{13}C-NMR of 2f (100 MHz, CD_3OD))



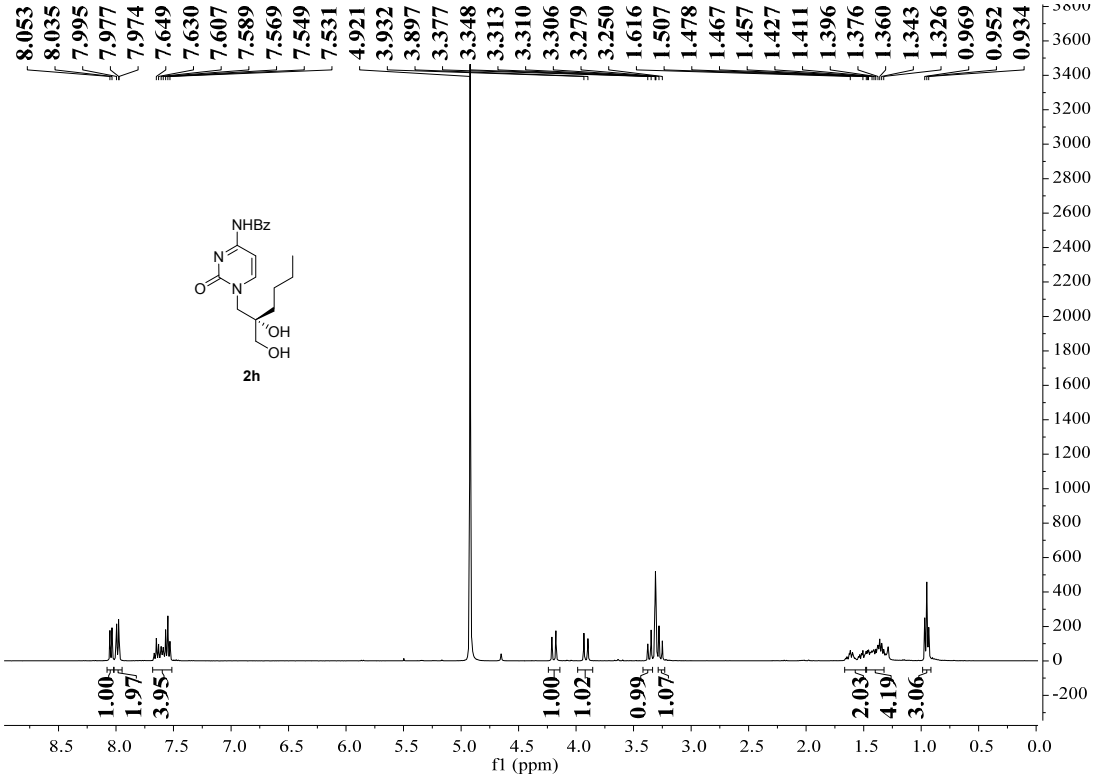
^{1}H-NMR of 2g (400 MHz, CD_3OD)



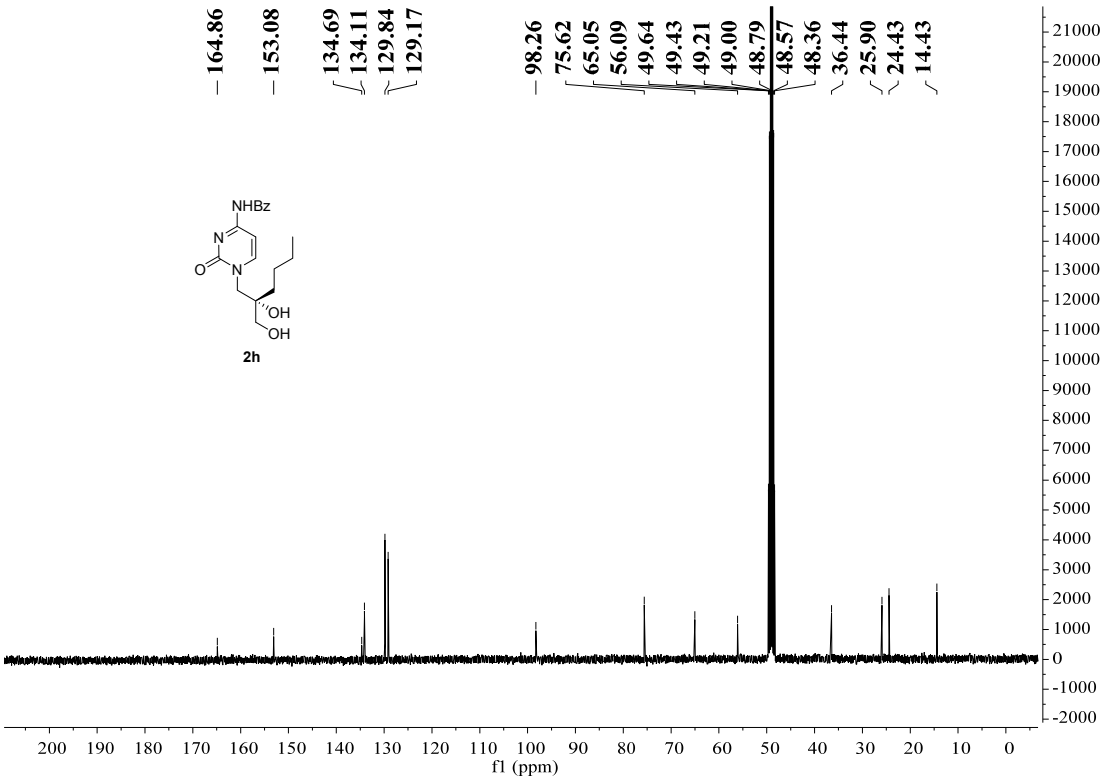
^{13}C-NMR of 2g (100 MHz, CD_3OD)



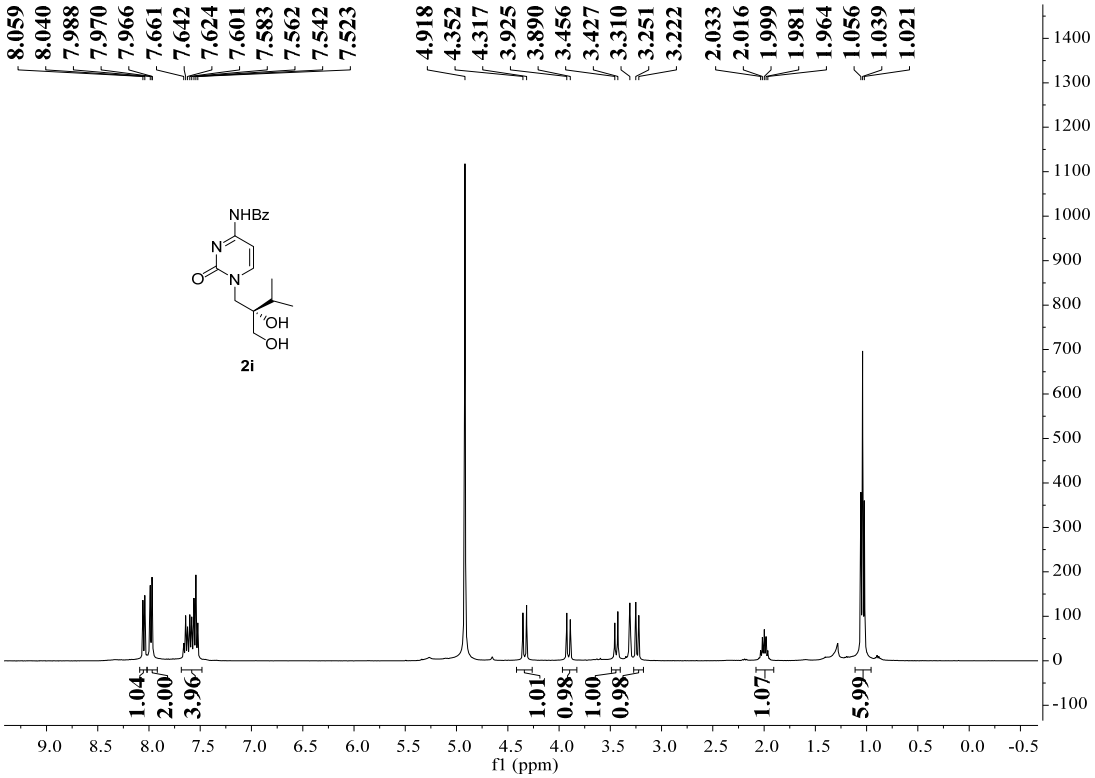
^{1}H-NMR of 2h (400 MHz, CD_3OD)



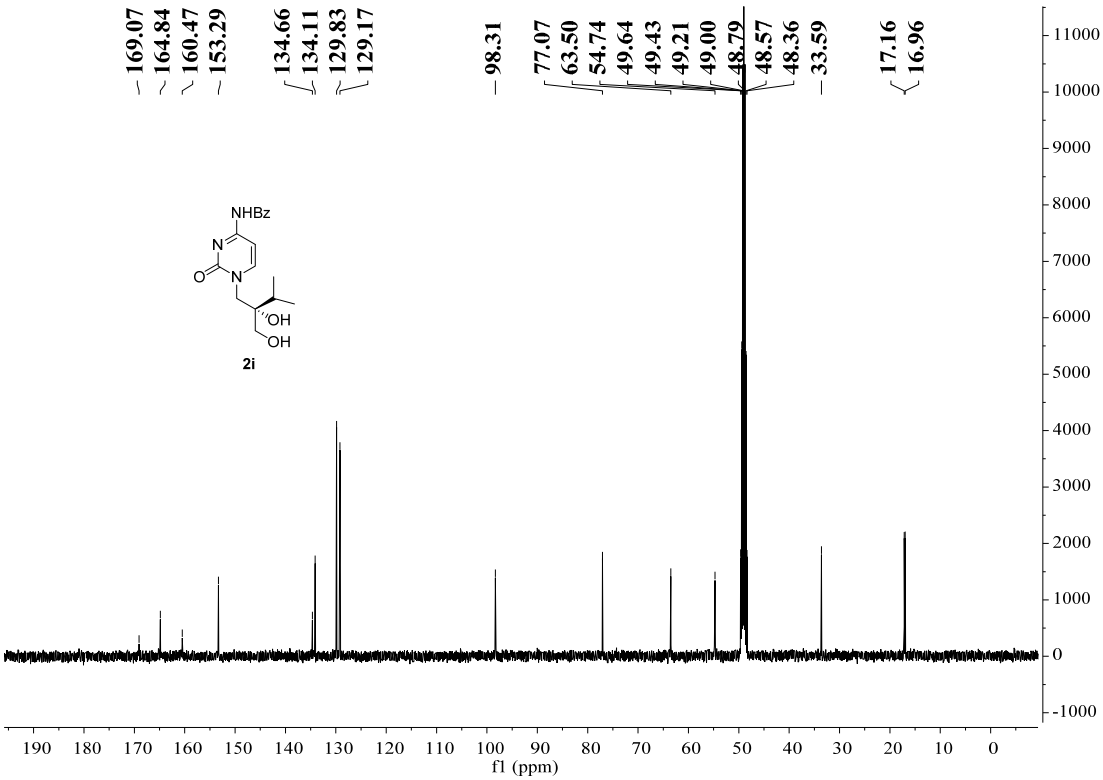
^{13}C-NMR of 2h (100 MHz, CD_3OD)



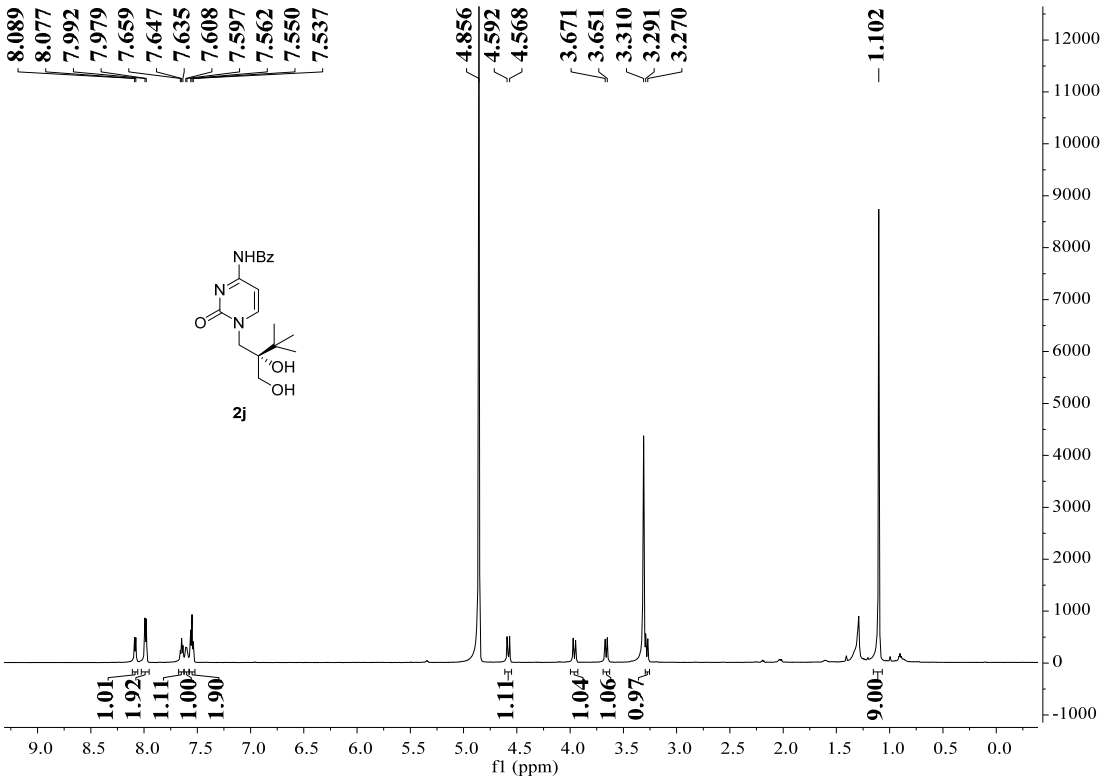
^{1}H-NMR of 2i (400 MHz, CD_3OD)



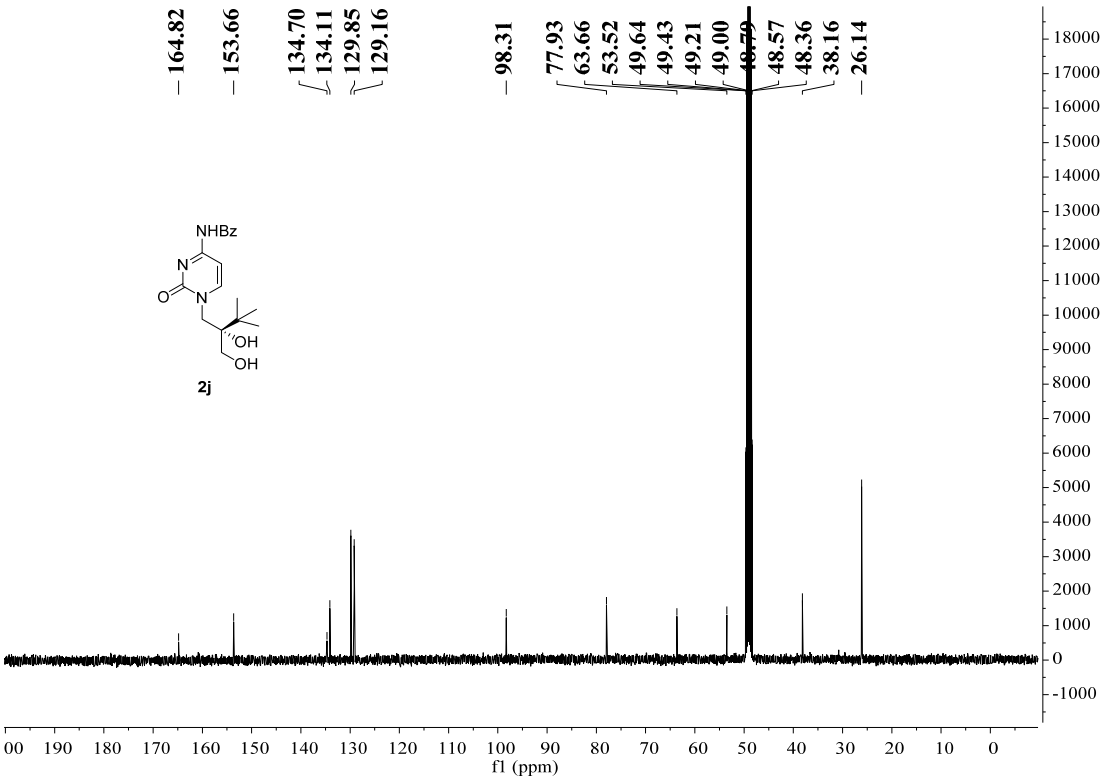
^{13}C-NMR of 2i (100 MHz, CD_3OD)



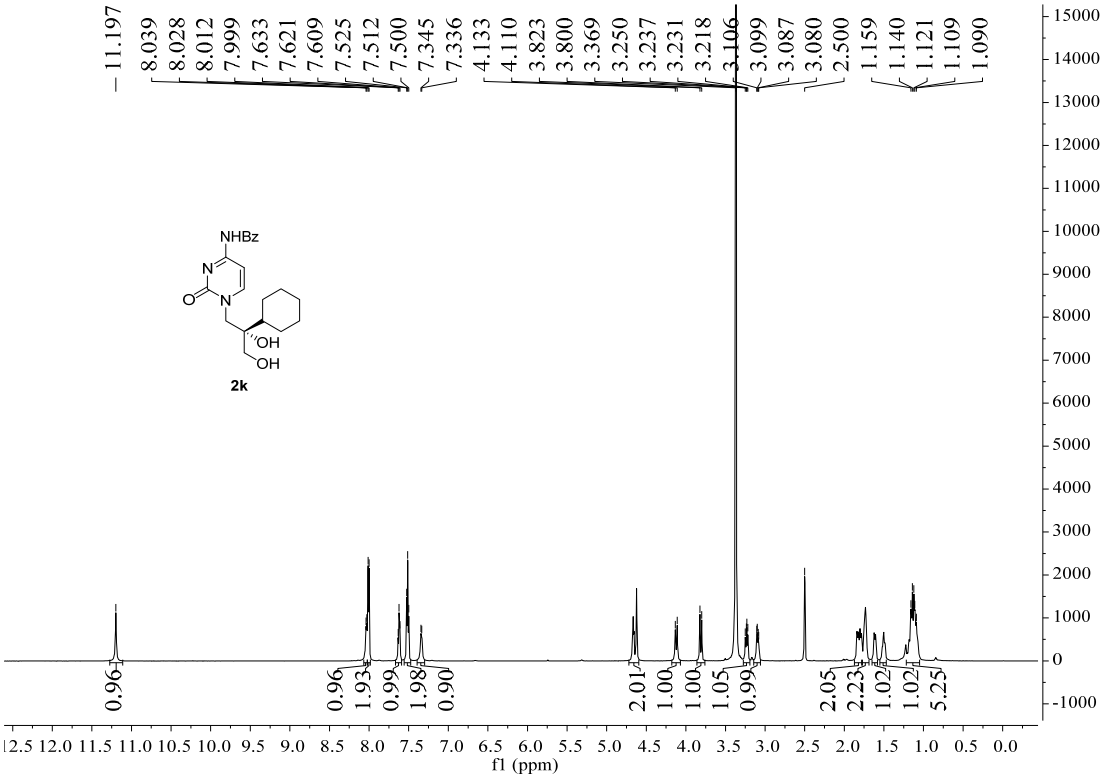
^{1}H-NMR of 2j (600 MHz, CD_3OD)



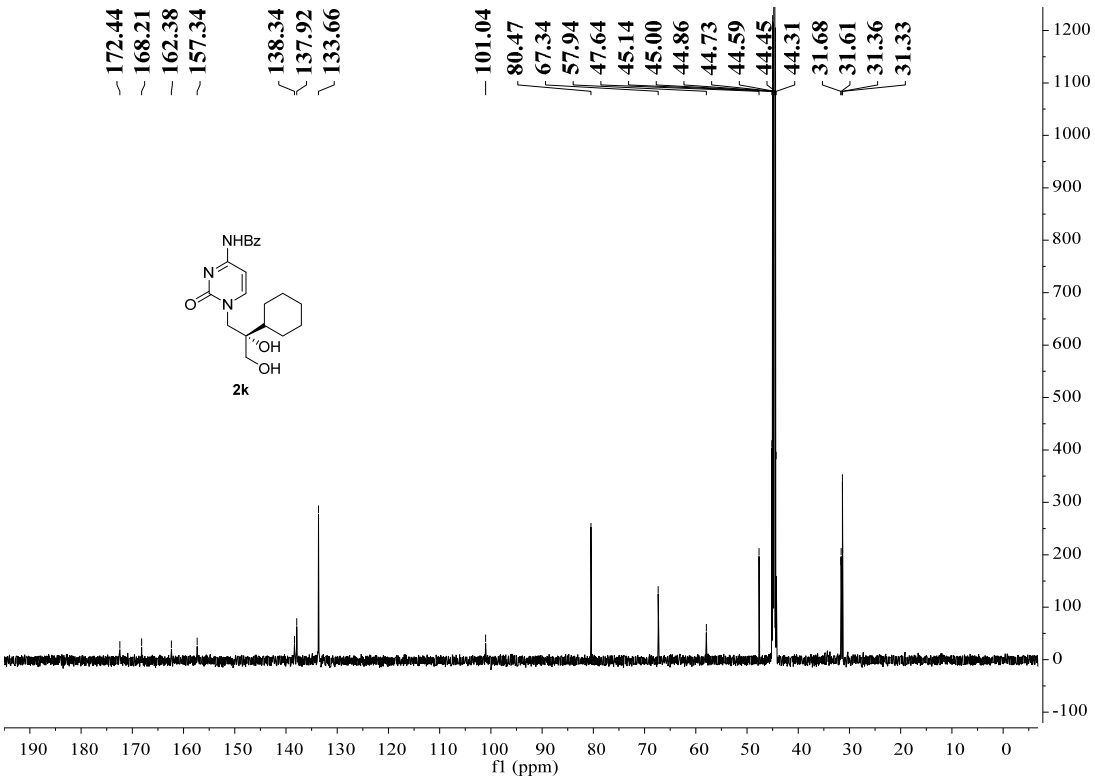
^{13}C-NMR of 2j (100 MHz, CD_3OD)



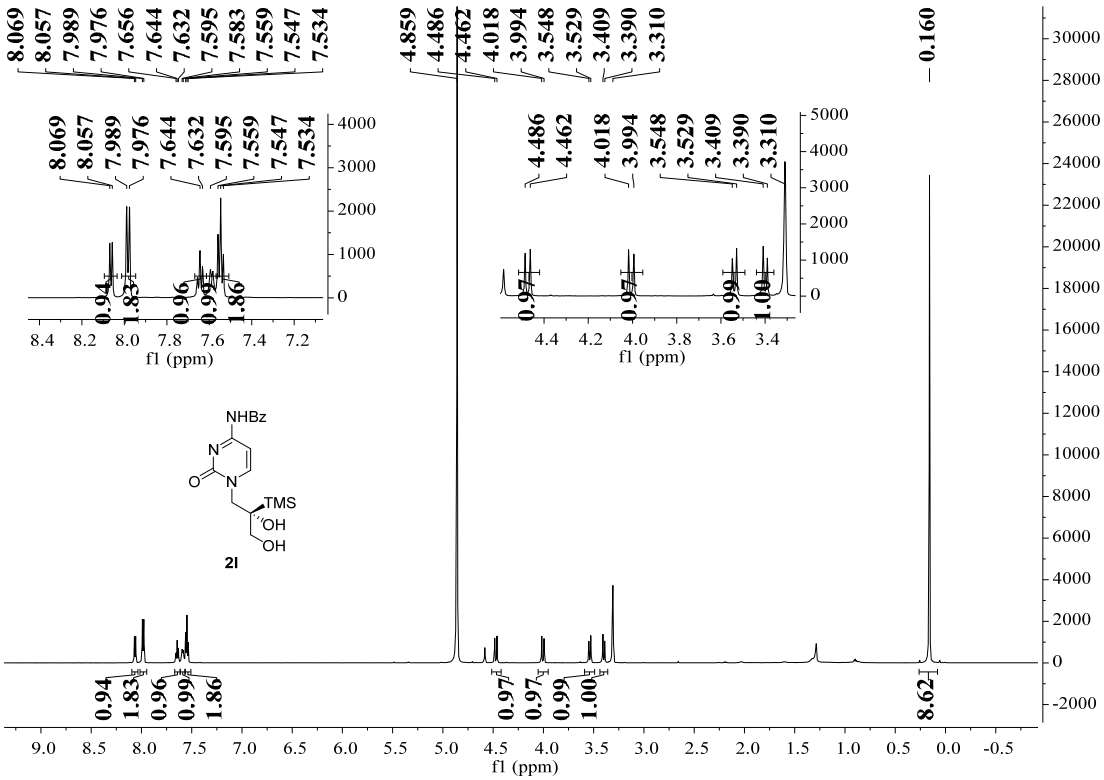
^{1}H-NMR of 2k (600 MHz, d^{6}-DMSO)



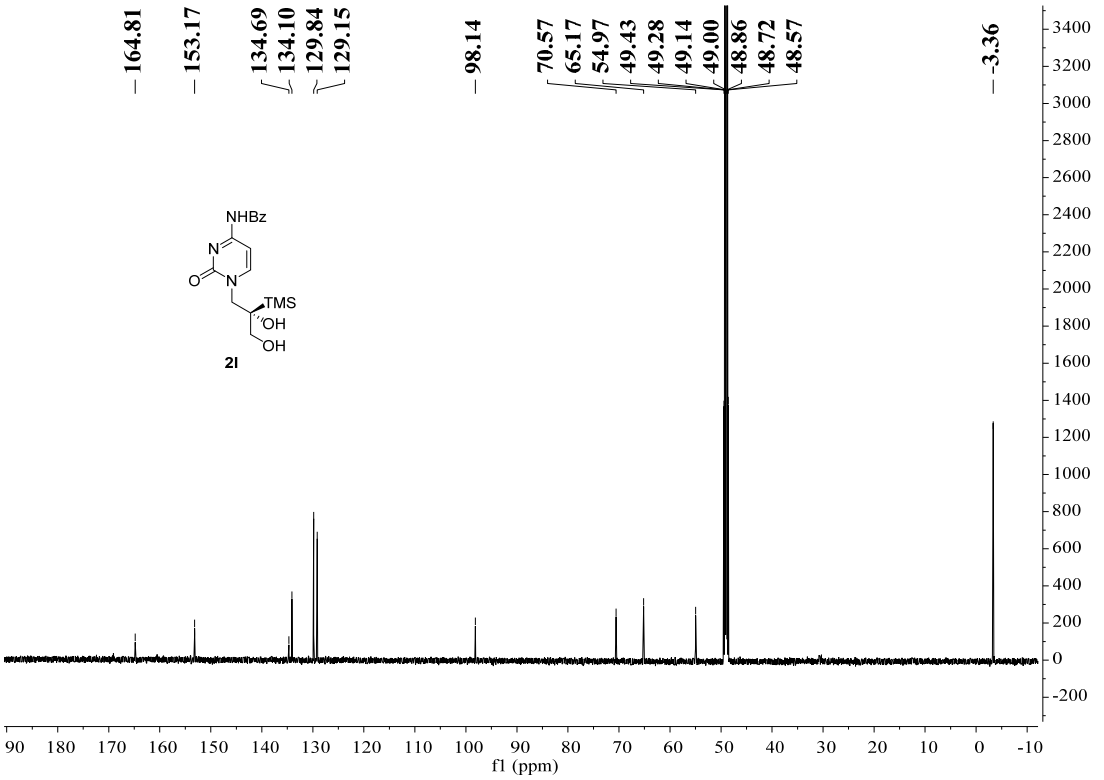
^{13}C-NMR of 2k (100 MHz, d^{6}-DMSO)



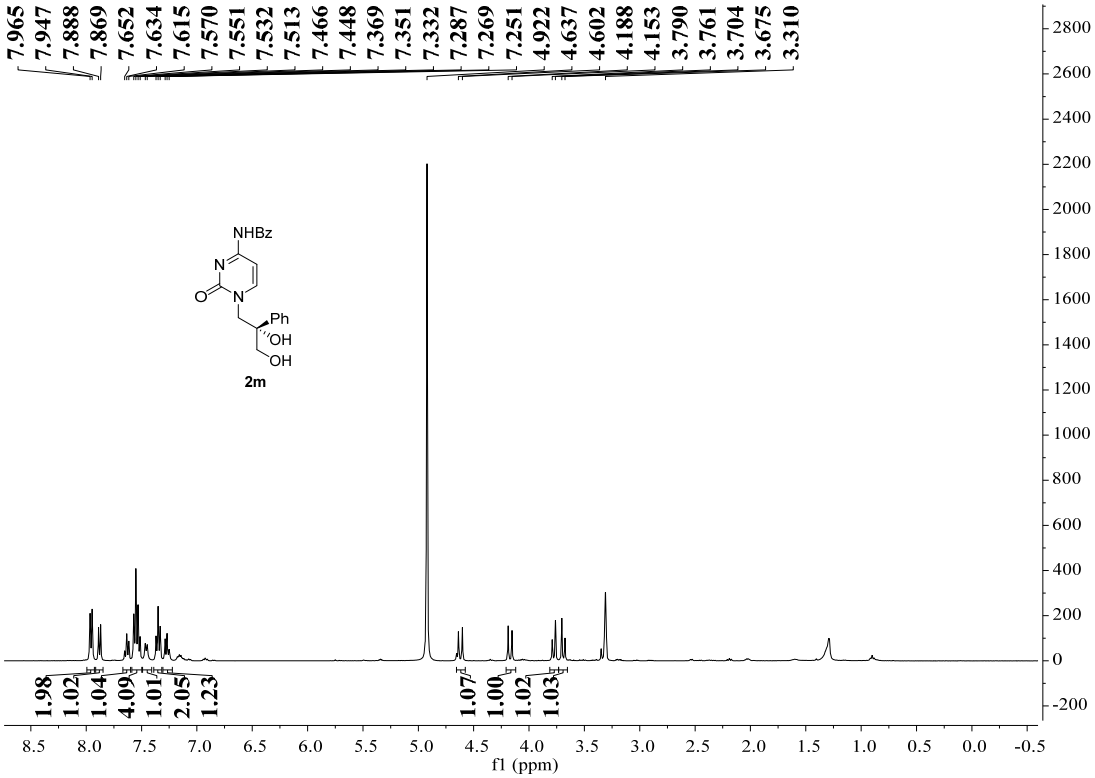
^{1}H-NMR of 2l (600 MHz, CD_3OD)



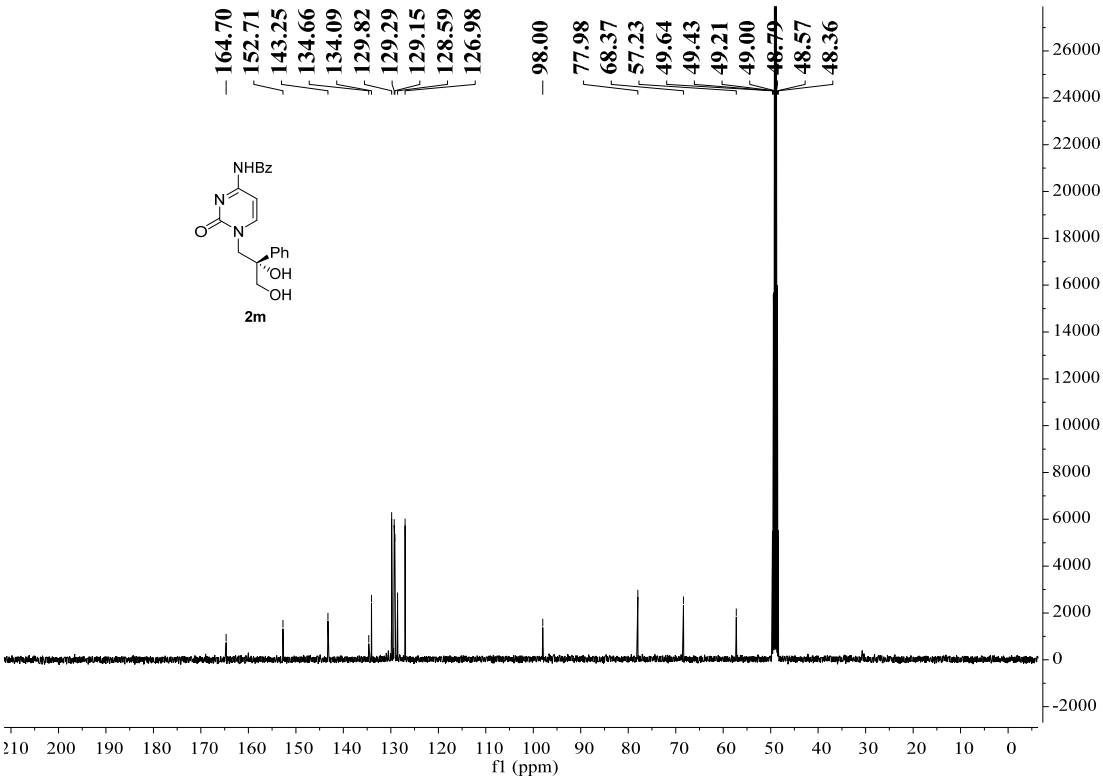
^{13}C-NMR of 2l (150 MHz, CD_3OD)



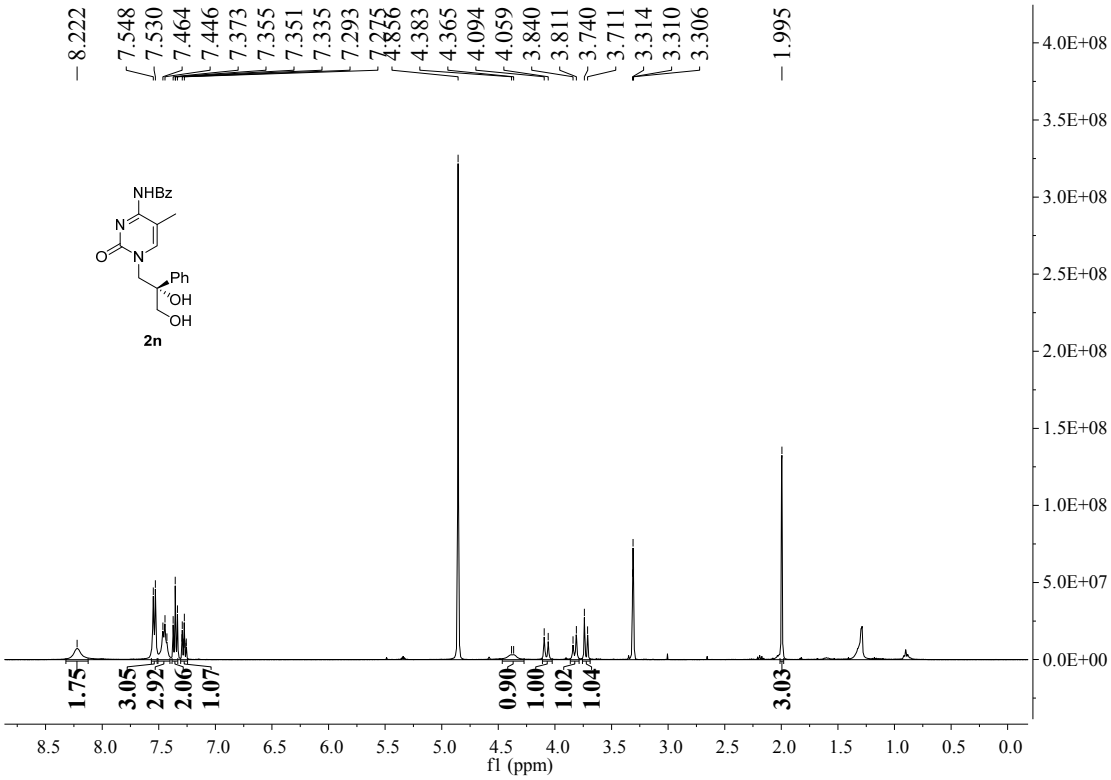
^{1}H-NMR of 2m (400 MHz, CD_3OD)



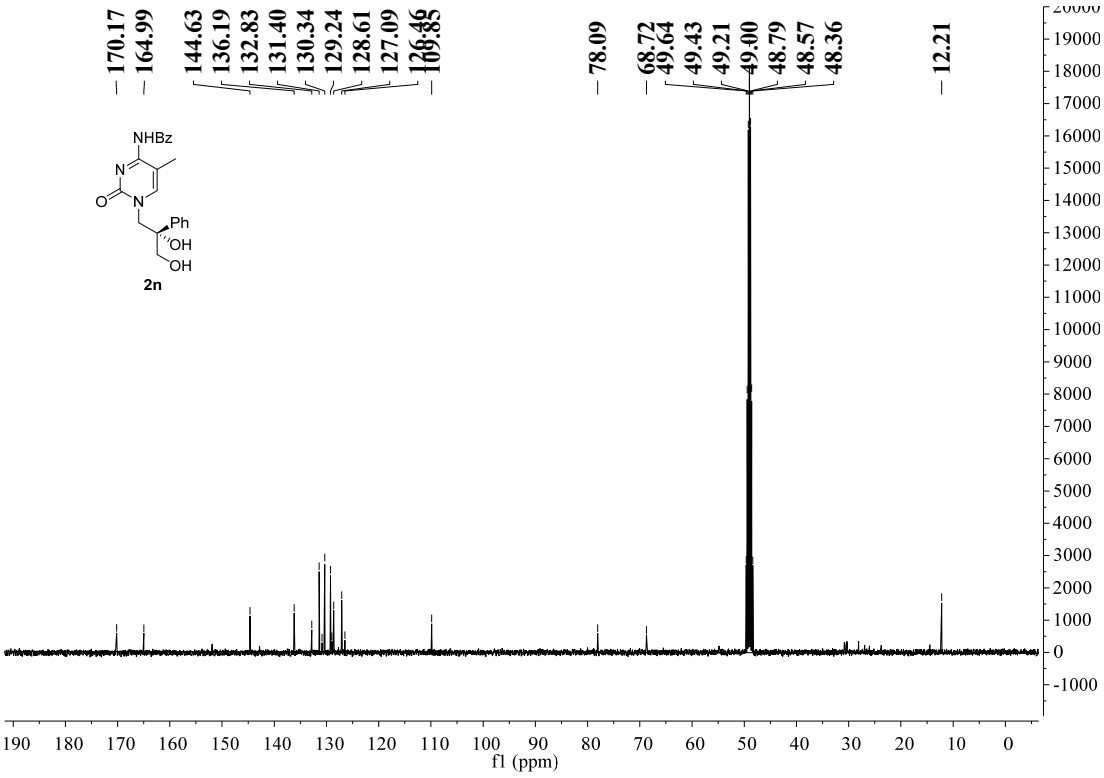
^{13}C-NMR of 2m (100 MHz, CD_3OD)



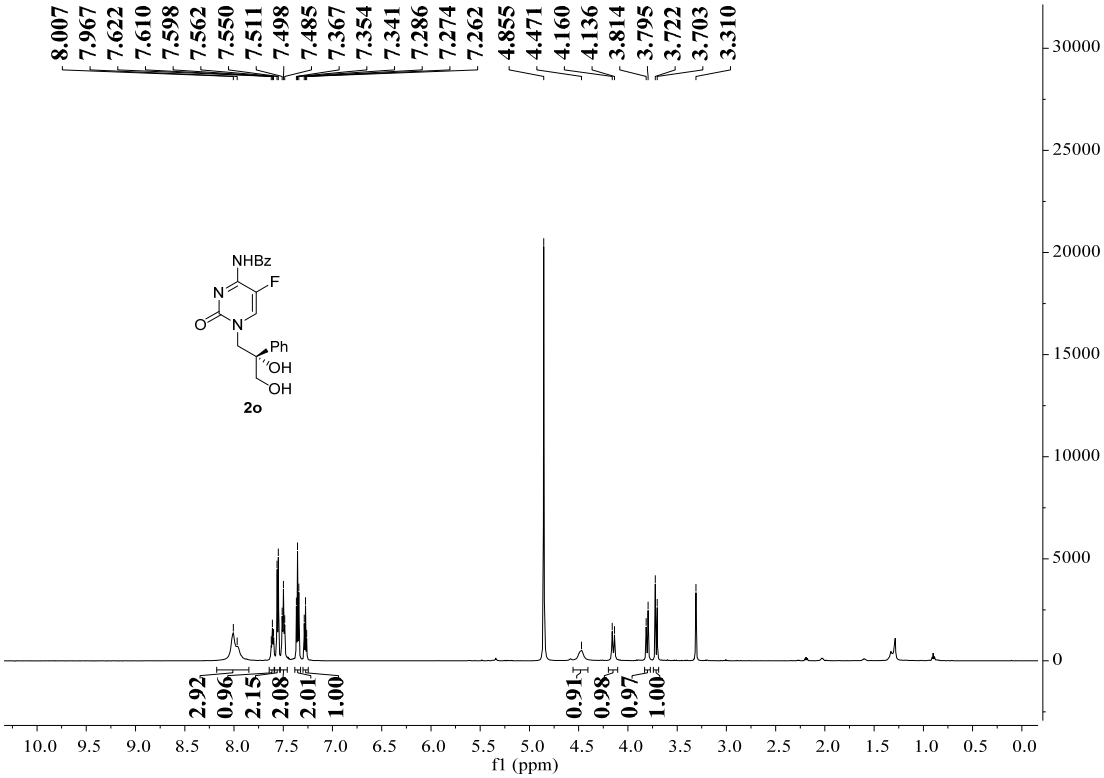
^{1}H-NMR of 2n (400 MHz, CD_3OD)



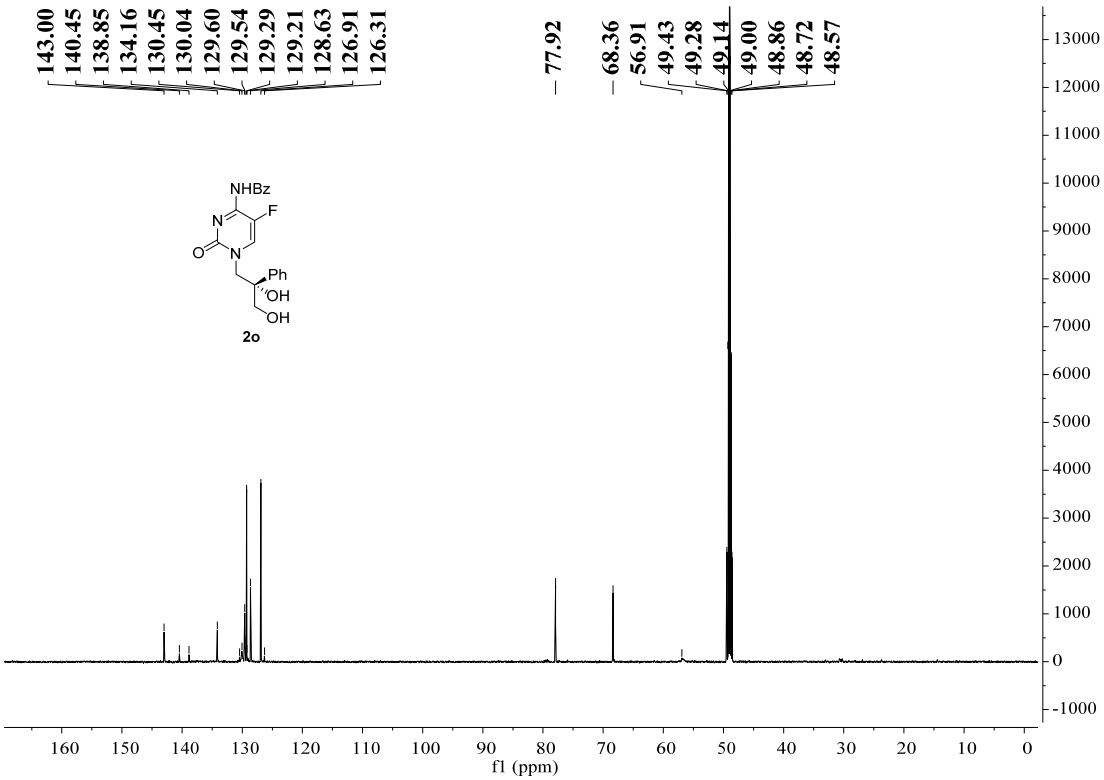
^{13}C-NMR of 2n (100 MHz, CD_3OD)



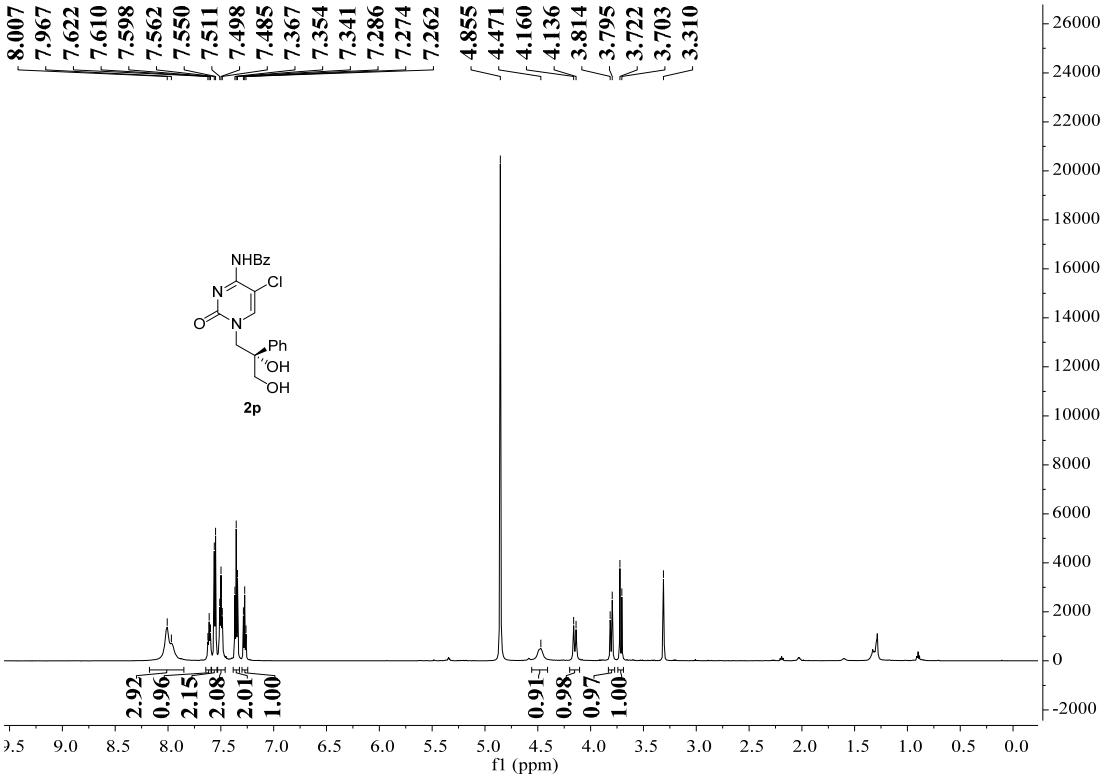
^{1}H-NMR of 2o (600 MHz, CD_3OD)



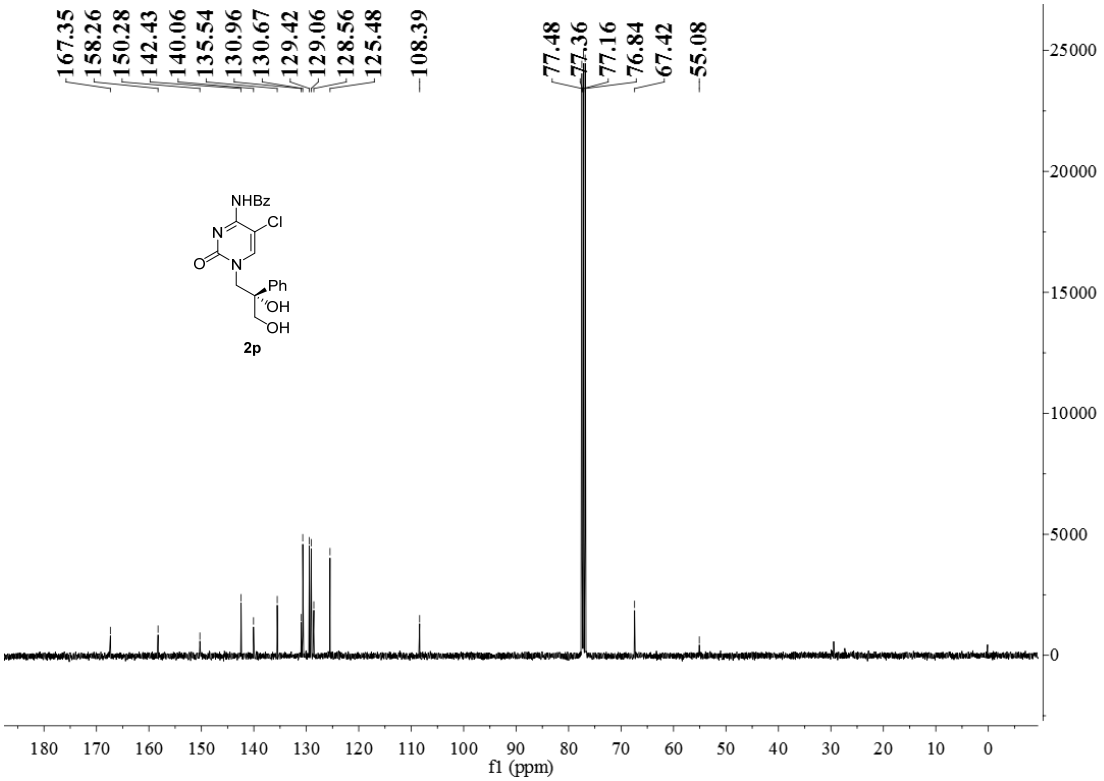
^{13}C-NMR of 2o (150 MHz, CD_3OD)



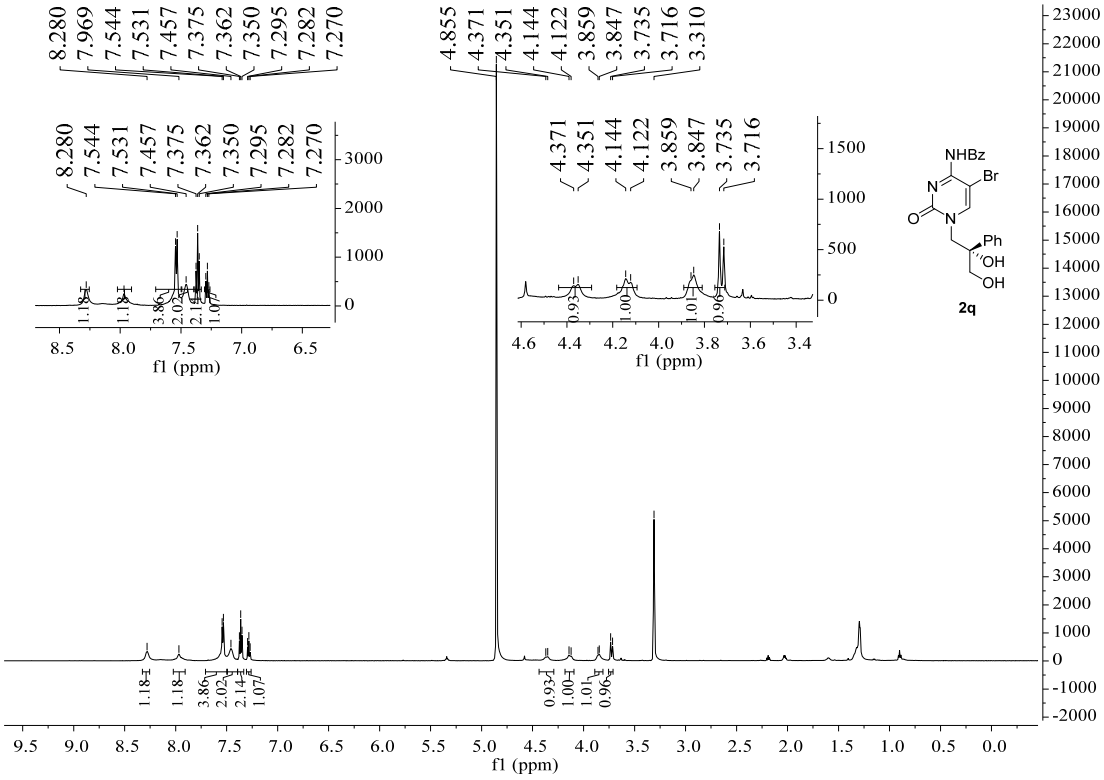
^{1}H-NMR of 2p (400 MHz, CD_3OD)



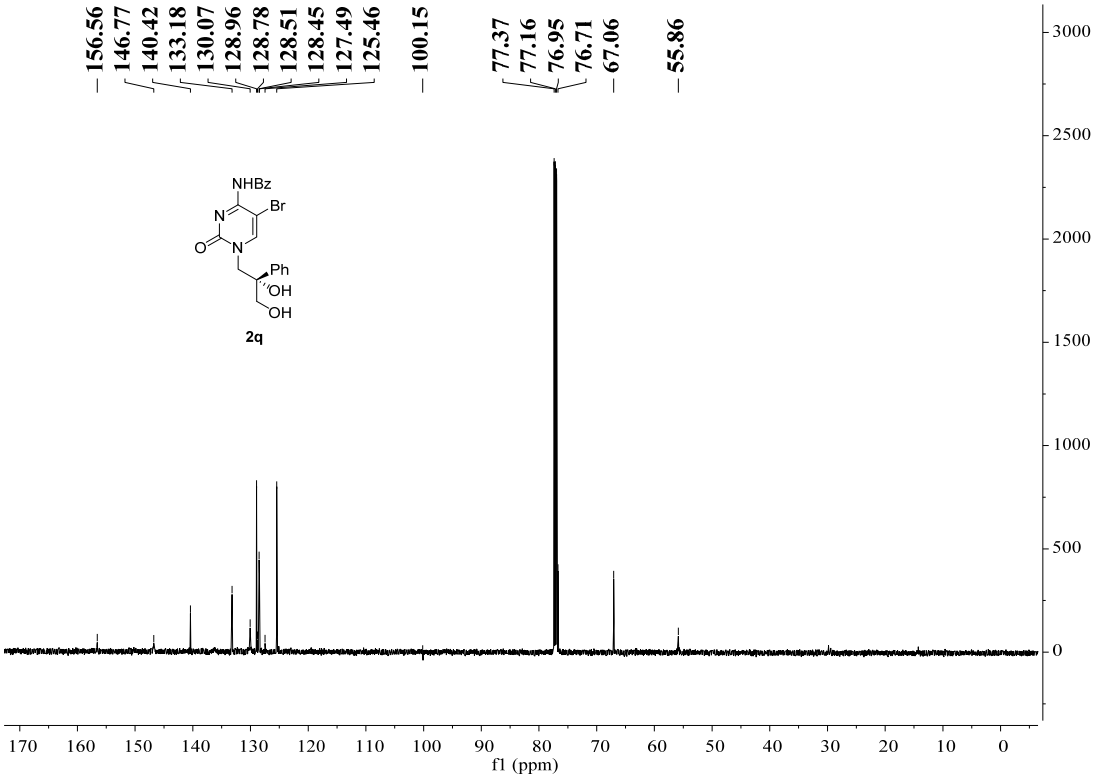
^{13}C-NMR for 2p (100 MHz, $CDCl_3$)



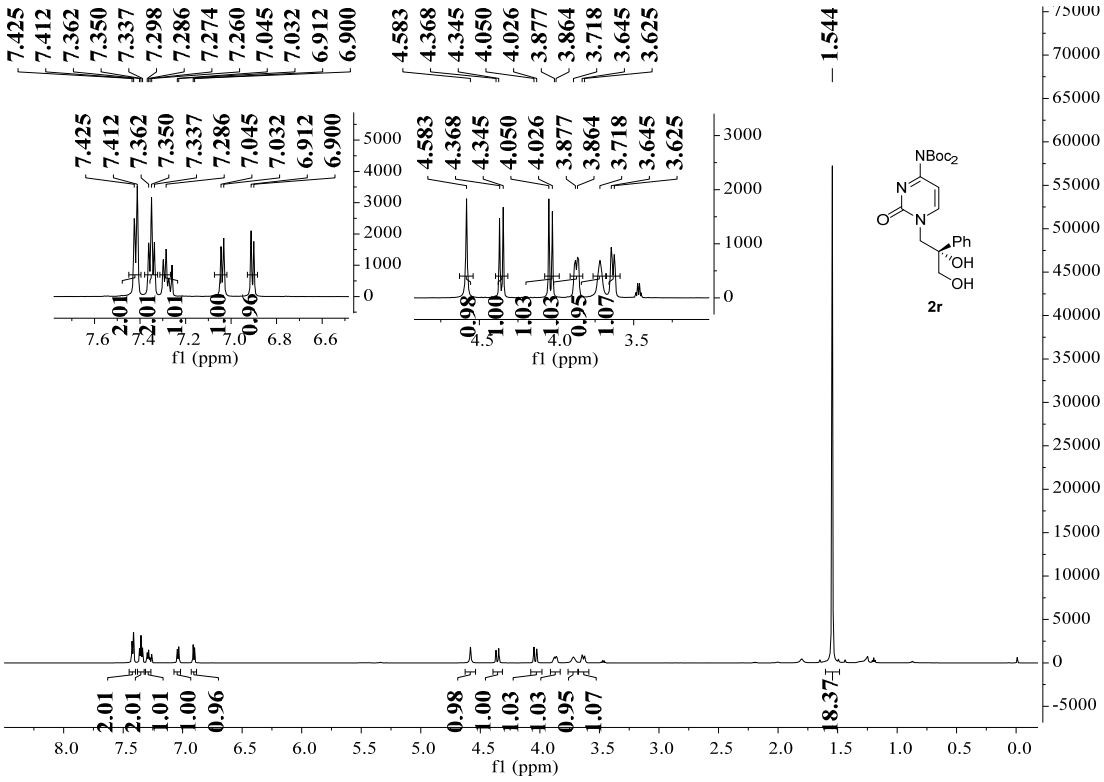
^{1}H-NMR of 2q (600 MHz, CD_3OD)



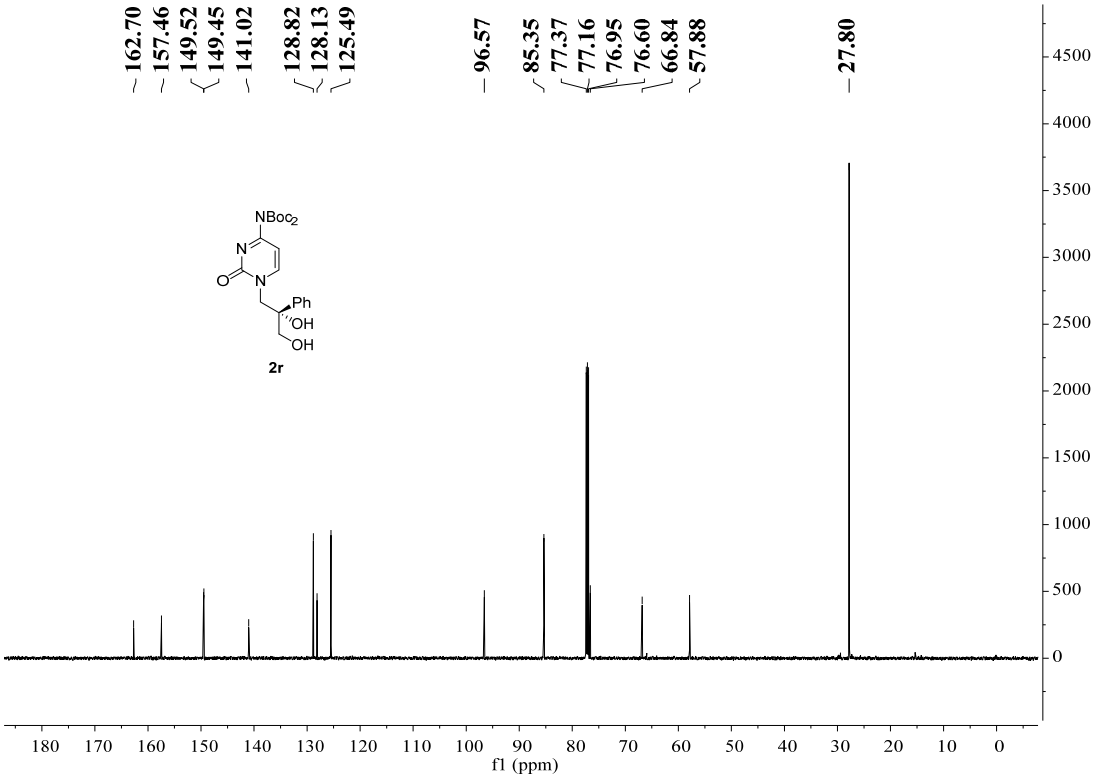
^{13}C-NMR of 2q (150 MHz, $CDCl_3$)



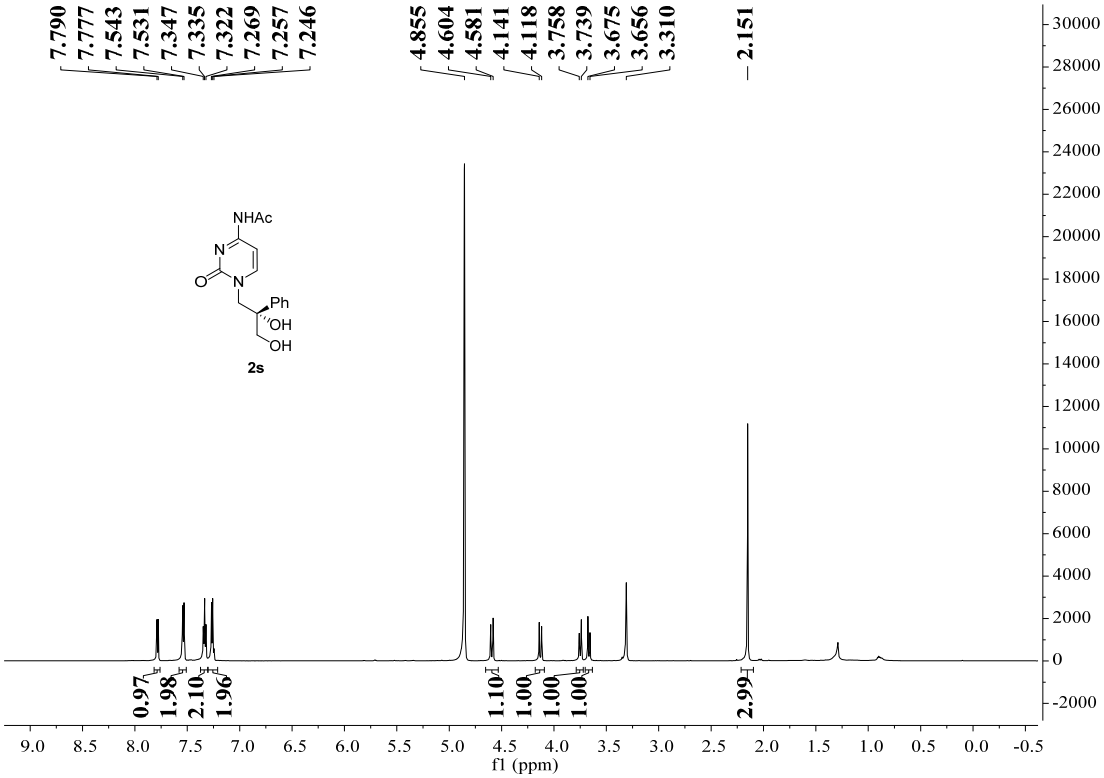
^{1}H-NMR of 2r (600 MHz, $CDCl_3$)



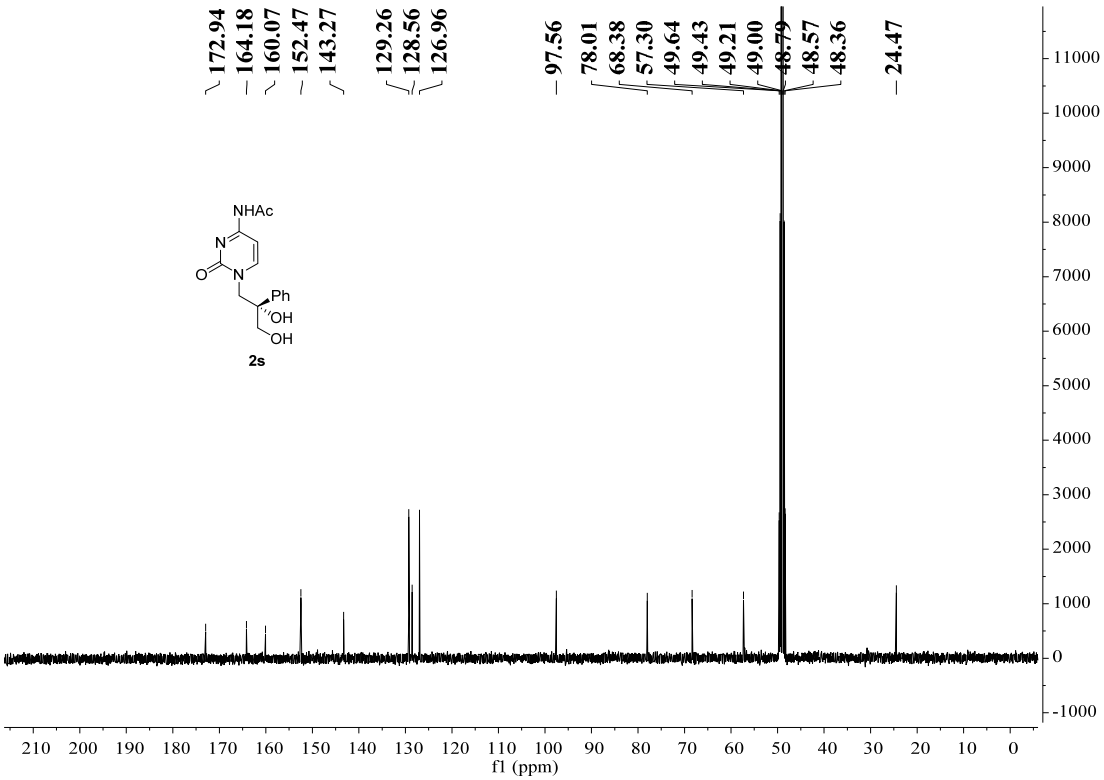
^{13}C-NMR of 2r (150 MHz, $CDCl_3$)



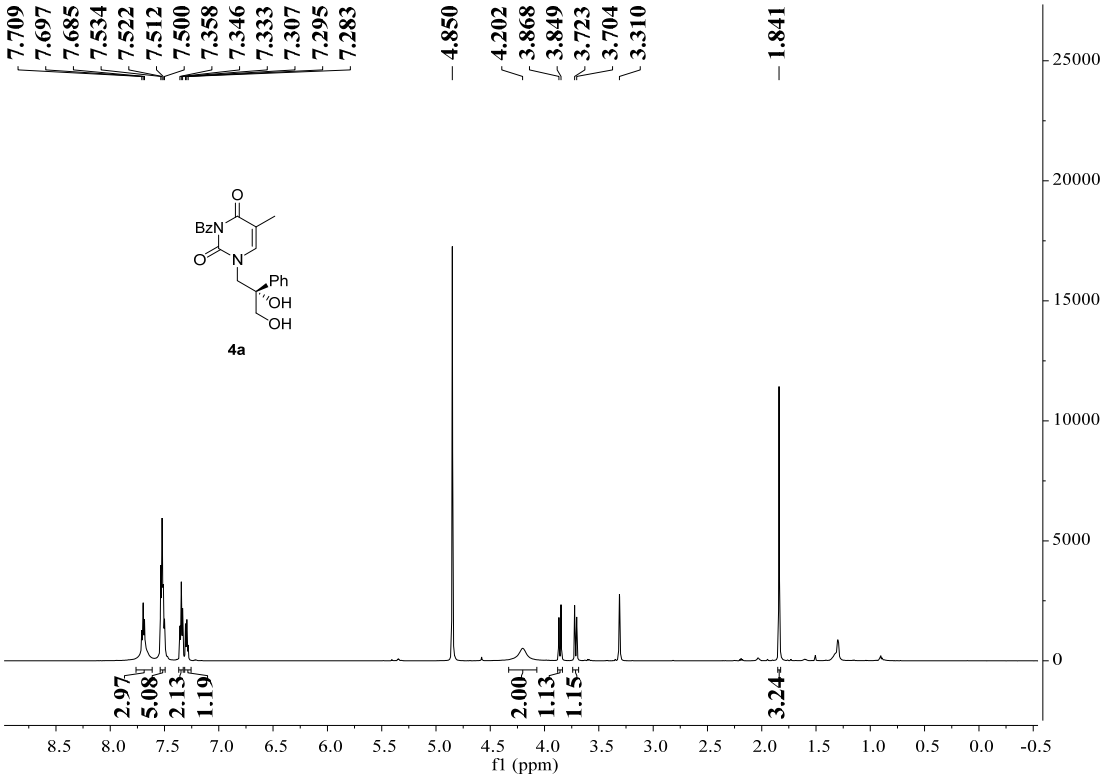
^{1}H-NMR of 2s (600 MHz, CD_3OD)



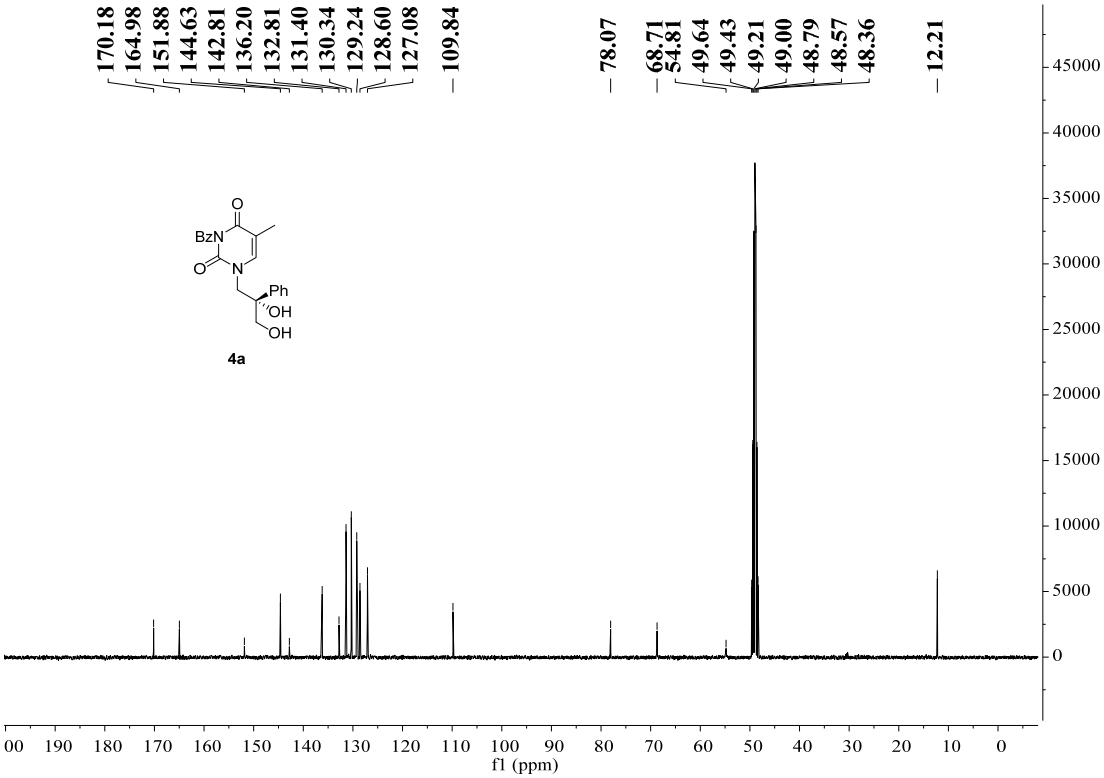
^{13}C-NMR of 2s (100 MHz, CD_3OD)



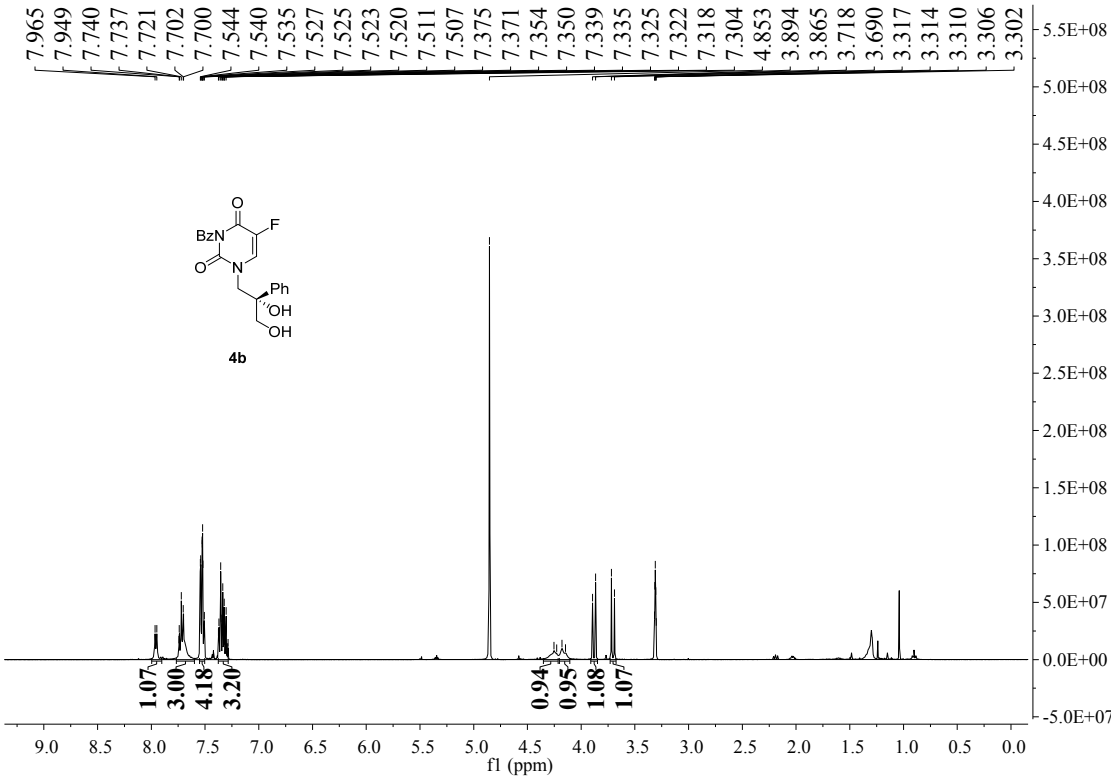
^{1}H-NMR of 4a (600 MHz, CD_3OD)



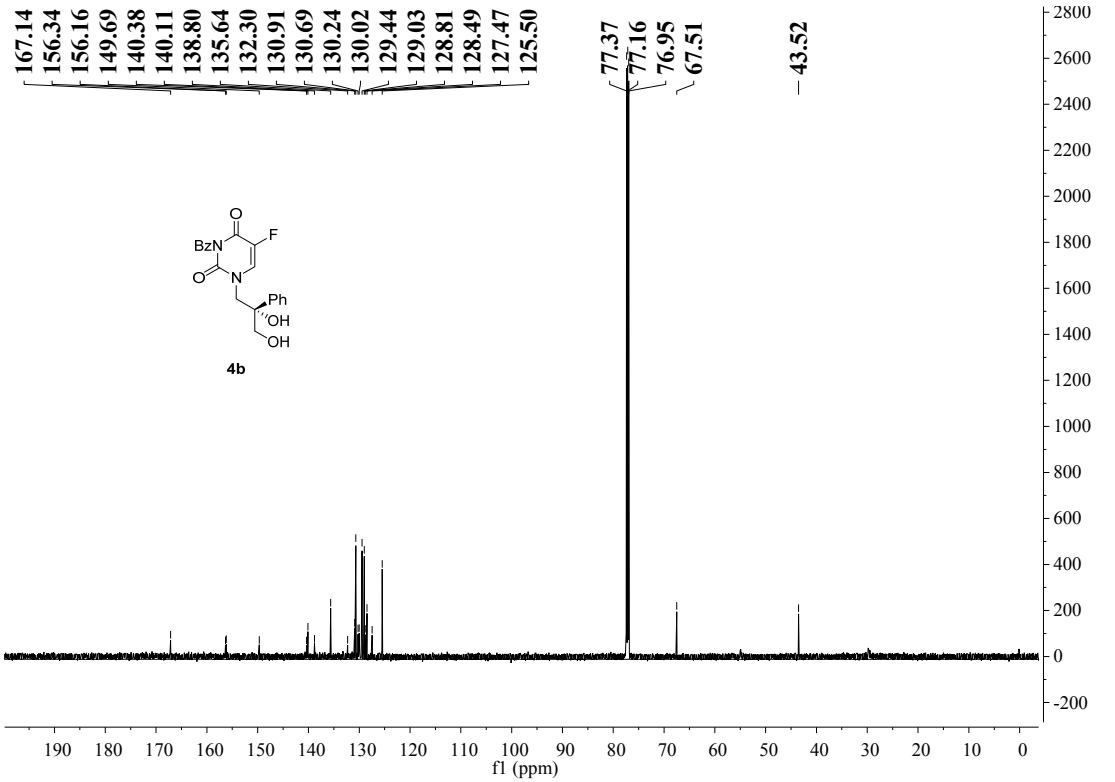
^{13}C-NMR of 4a (100 MHz, CD_3OD)



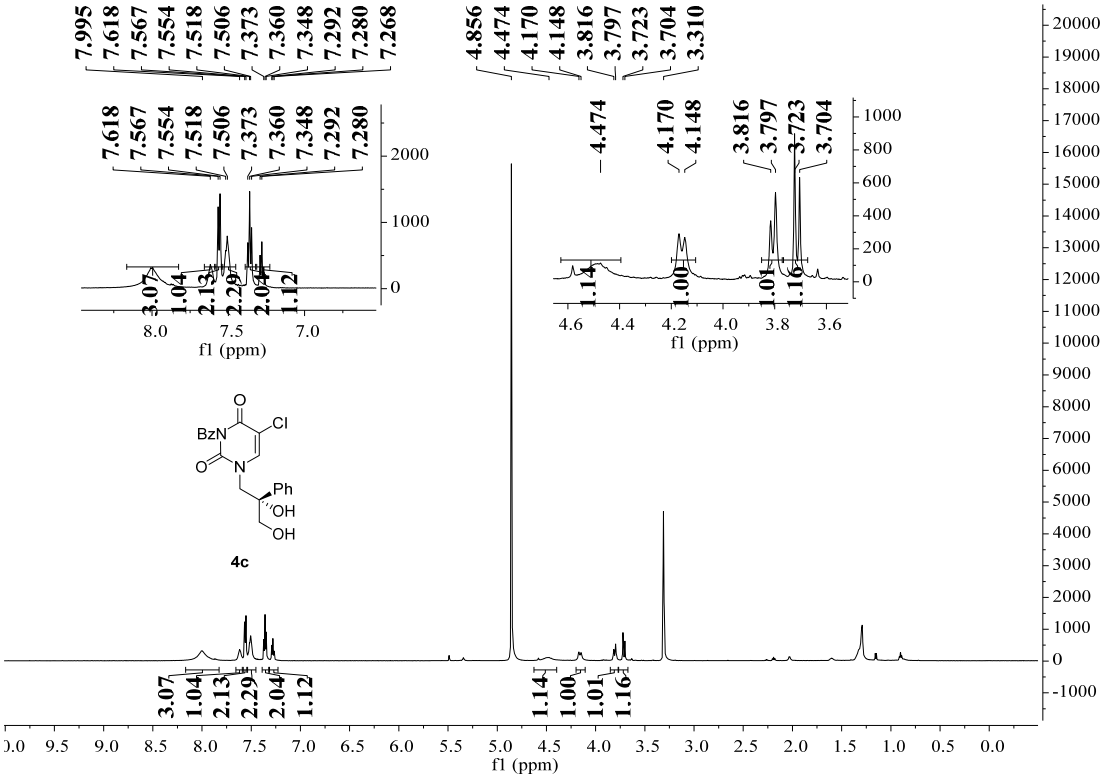
^{1}H-NMR of 4b (400 MHz, CD_3OD)



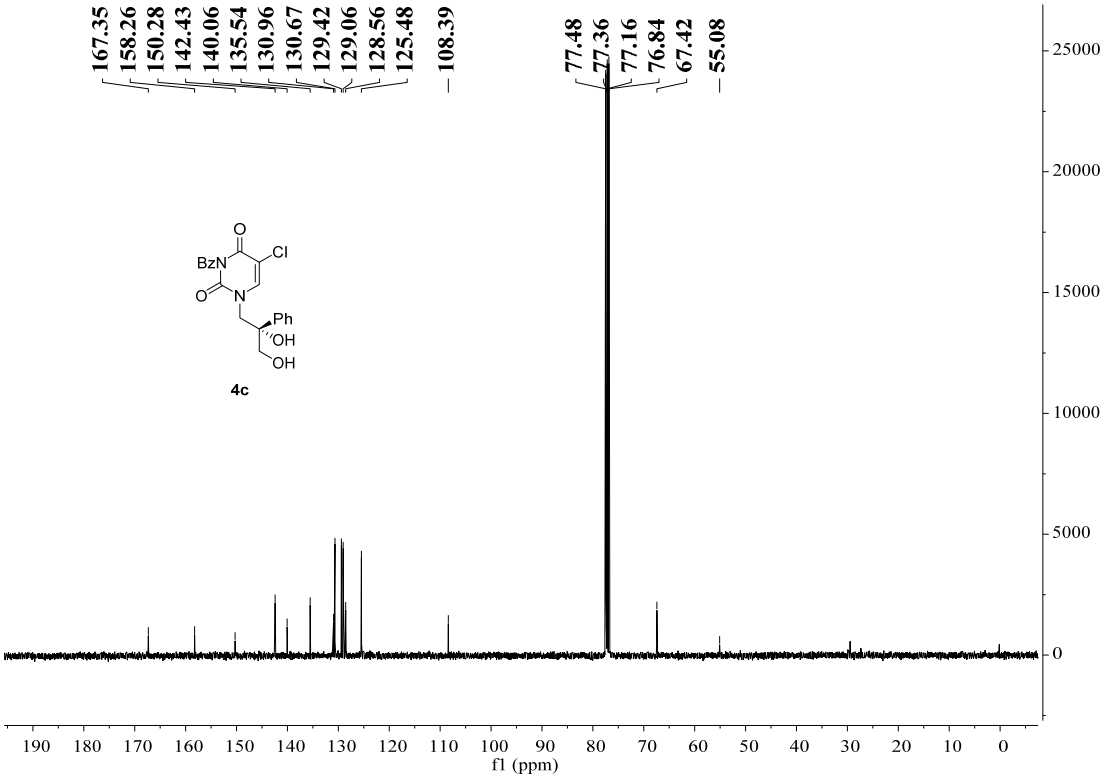
^{13}C-NMR of 4b (150 MHz, $CDCl_3$)



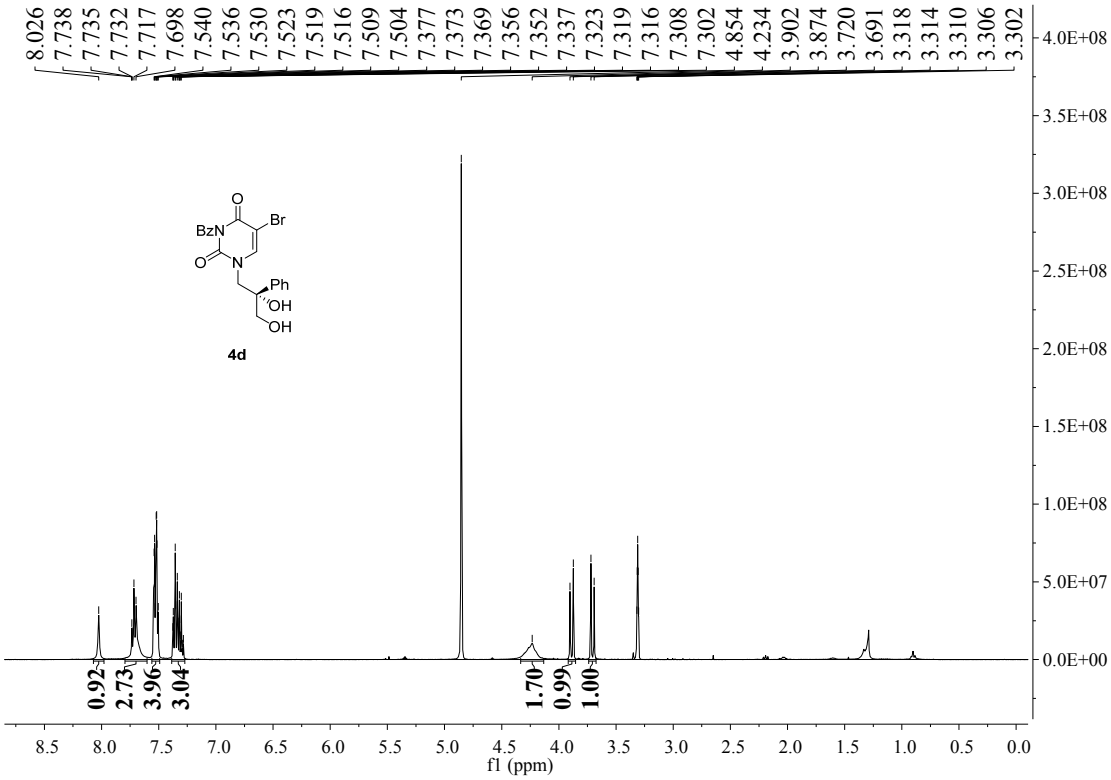
^{1}H-NMR of 4c (600 MHz, CD_3OD)



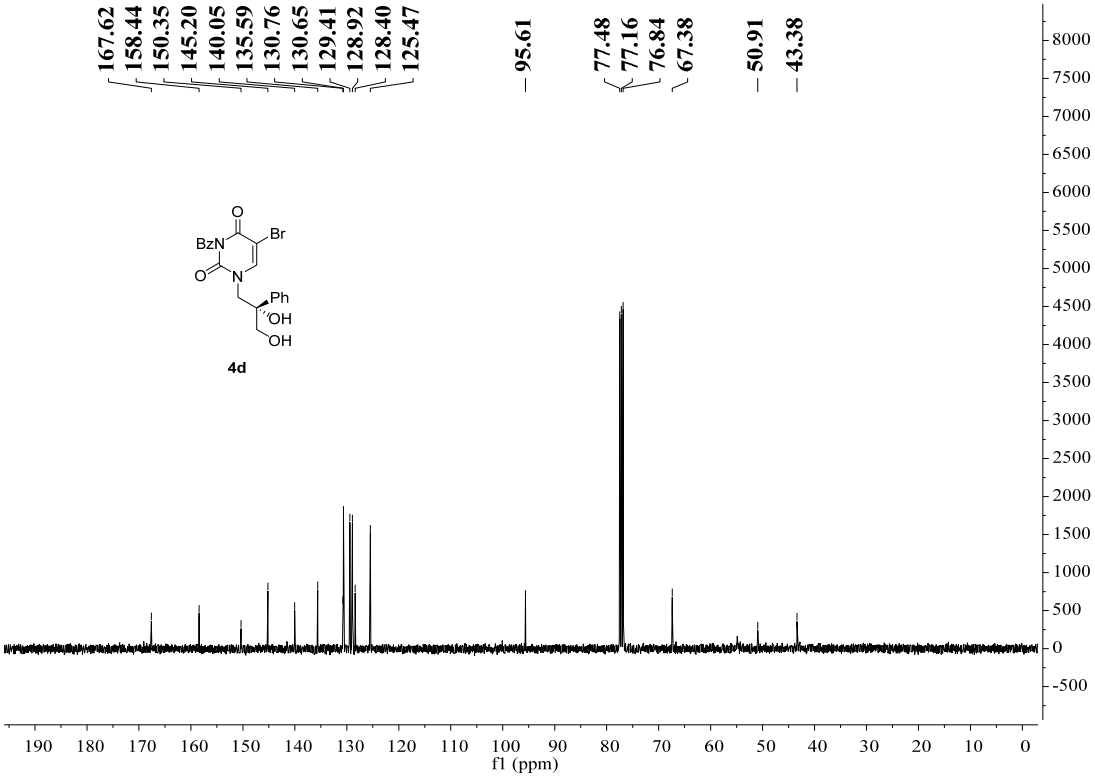
^{13}C-NMR of 4c (100 MHz, $CDCl_3$)



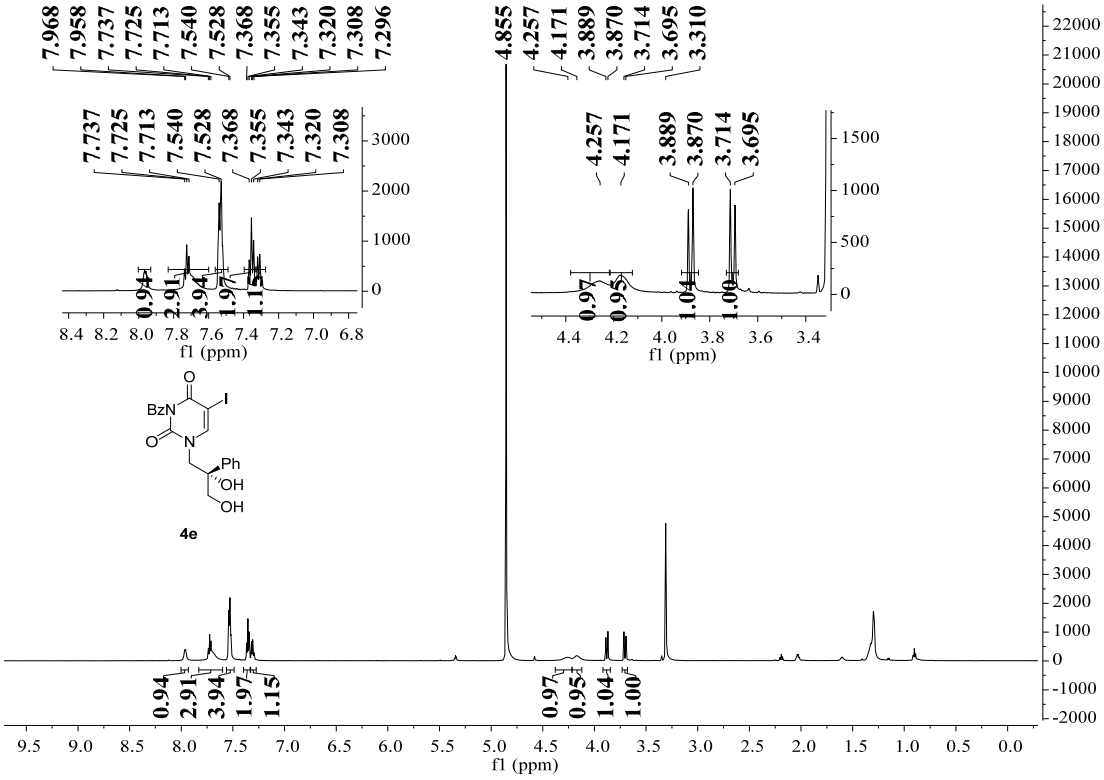
^{1}H-NMR of 4d (600 MHz, CD_3OD)



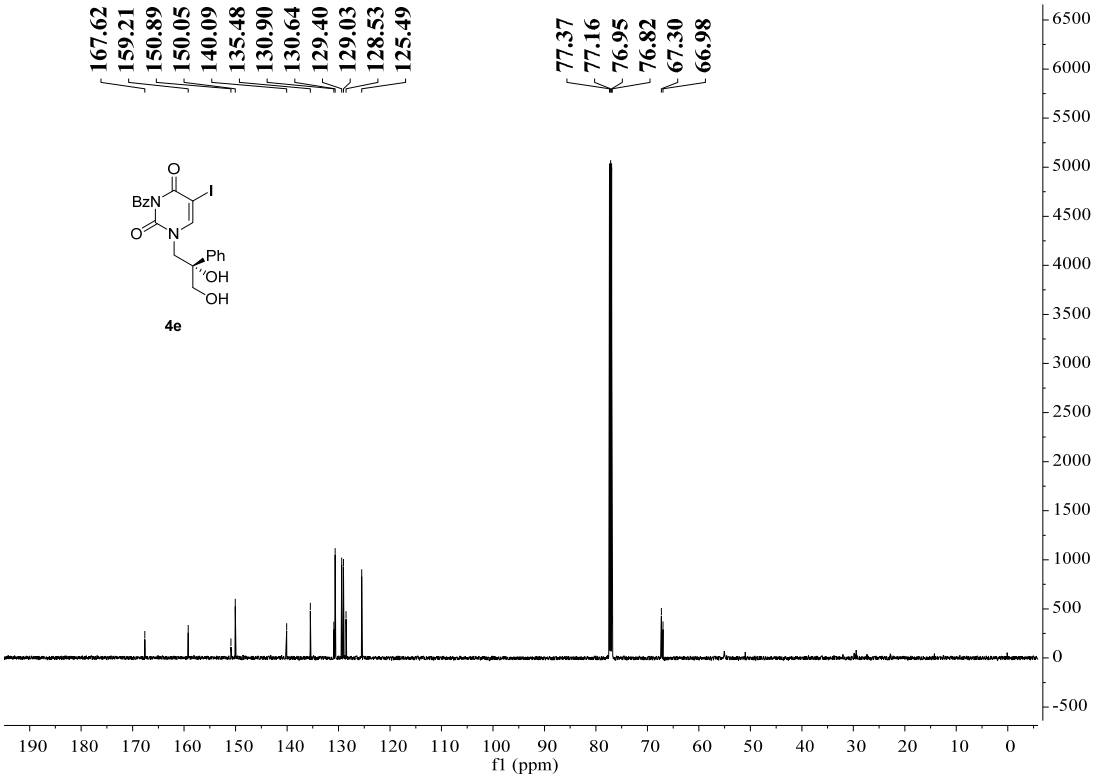
^{13}C-NMR of 4d (100 MHz, $CDCl_3$)



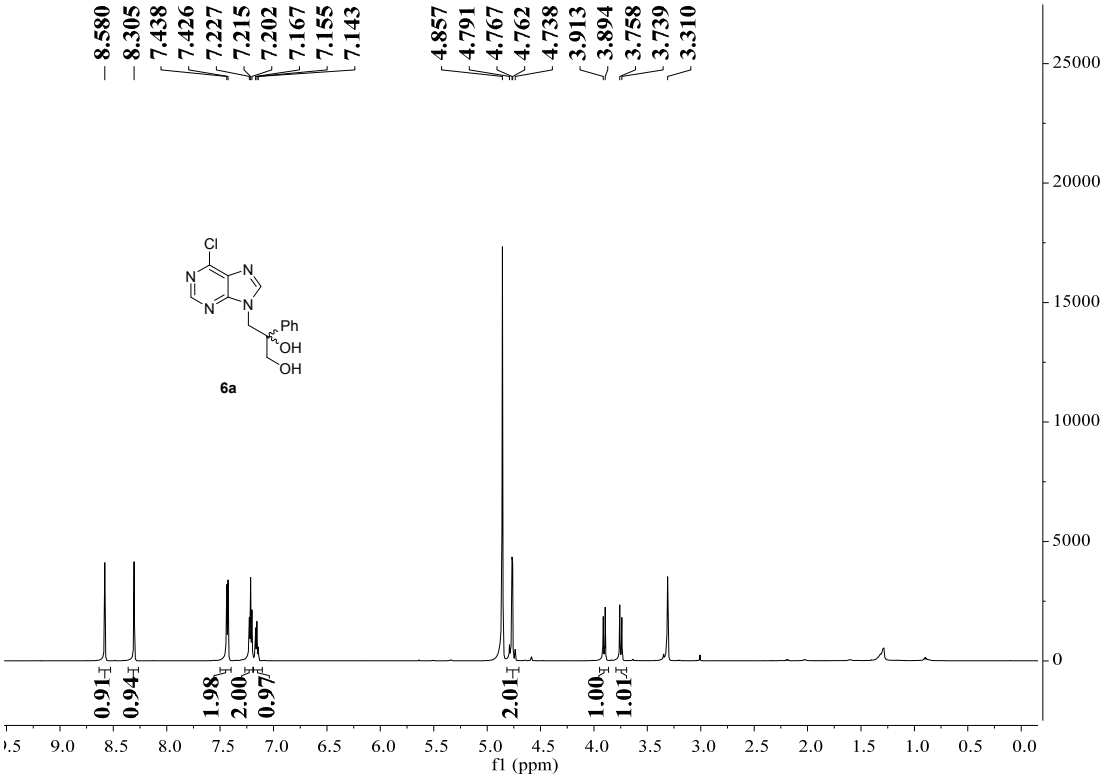
^{1}H-NMR of 4e (600 MHz, CD_3OD)



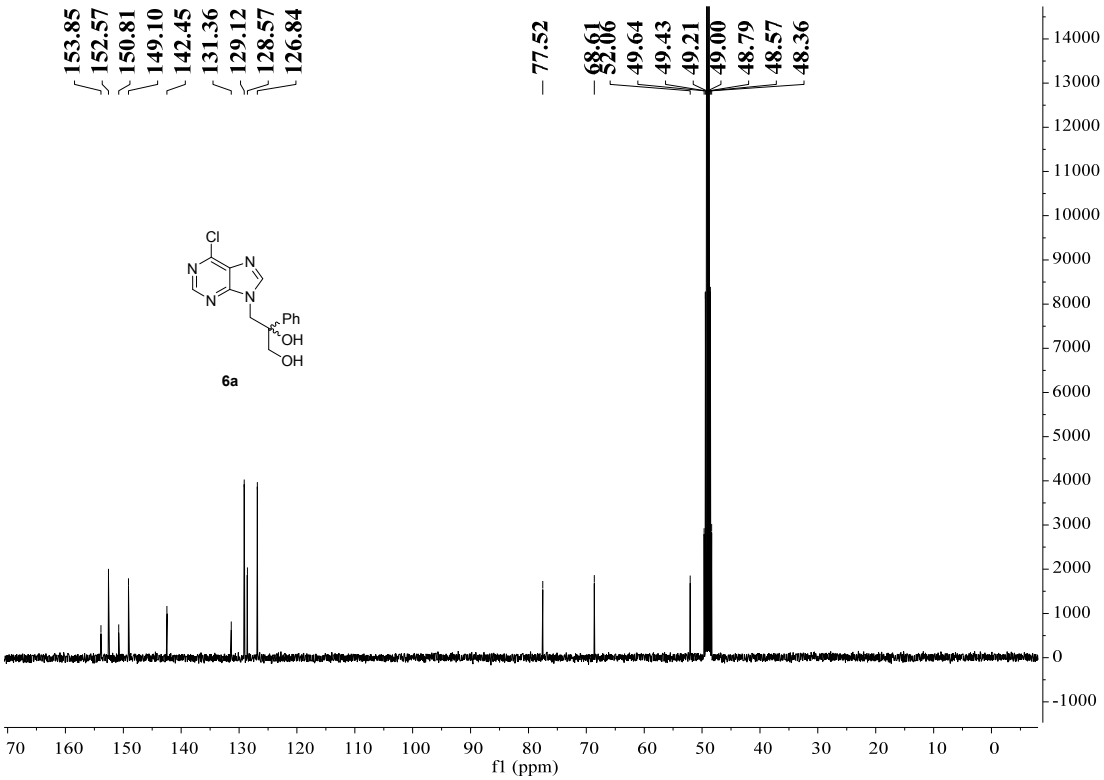
^{13}C-NMR of 4e (150 MHz, $CDCl_3$)



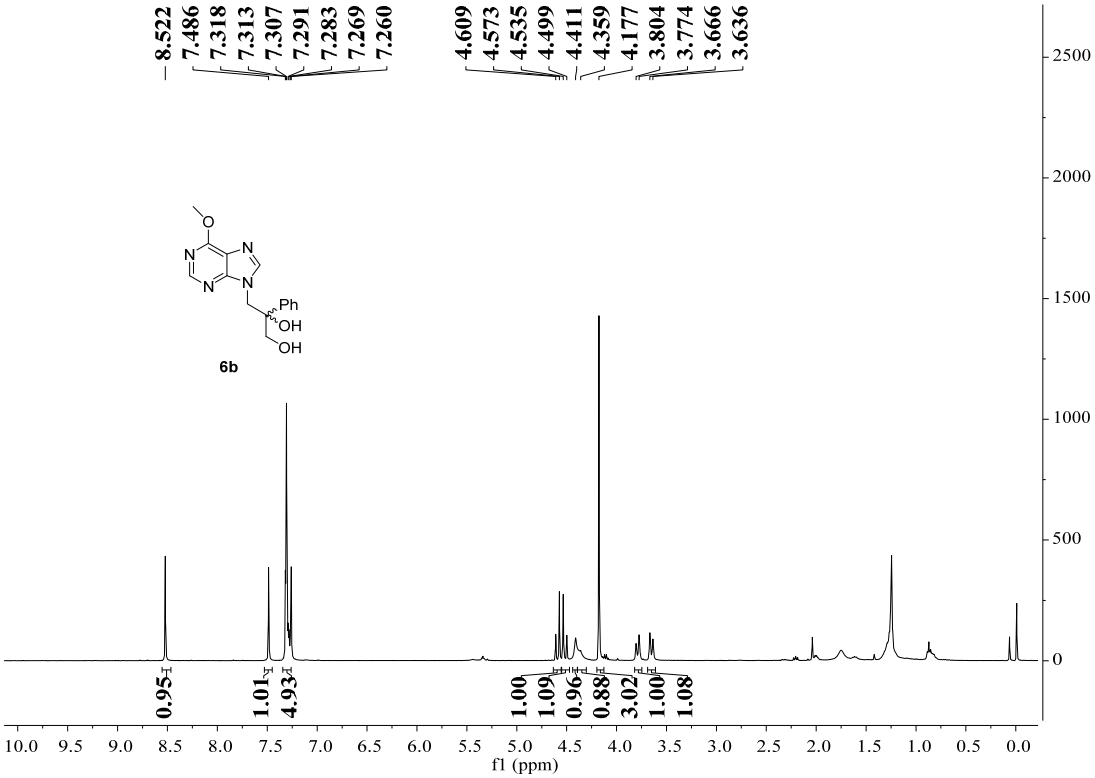
^{1}H-NMR of 6a (600 MHz, CD_3OD)



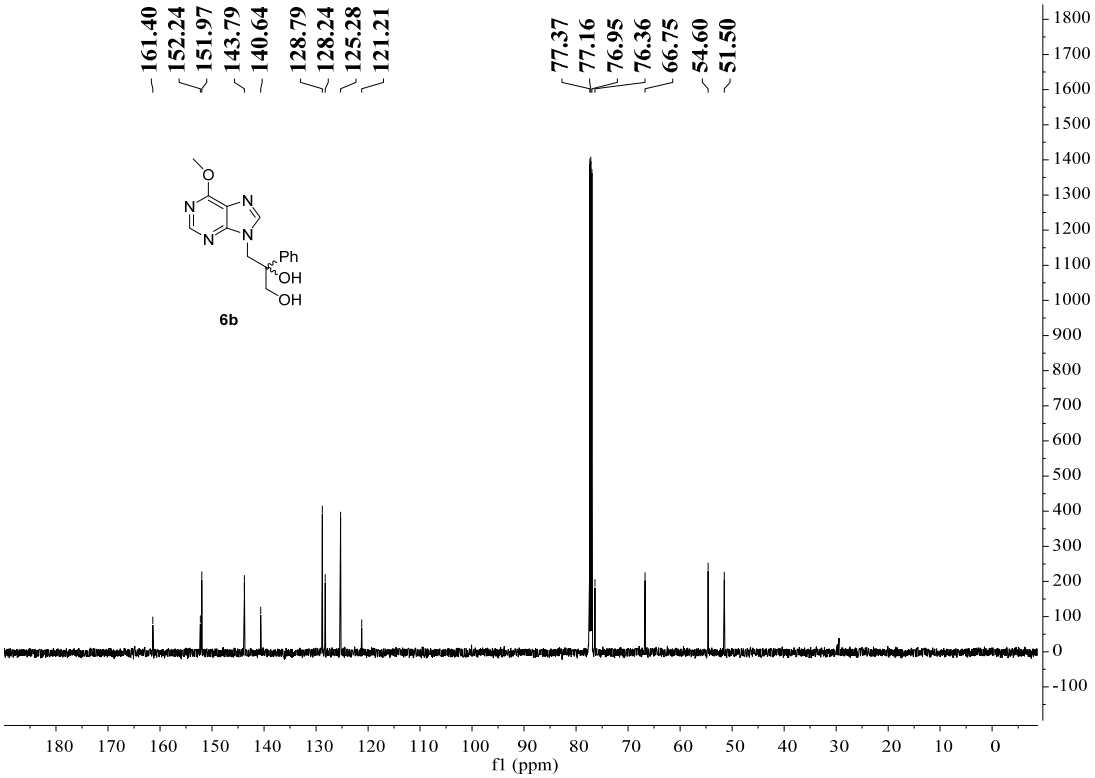
^{13}C-NMR of 6a (100 MHz, CD_3OD)



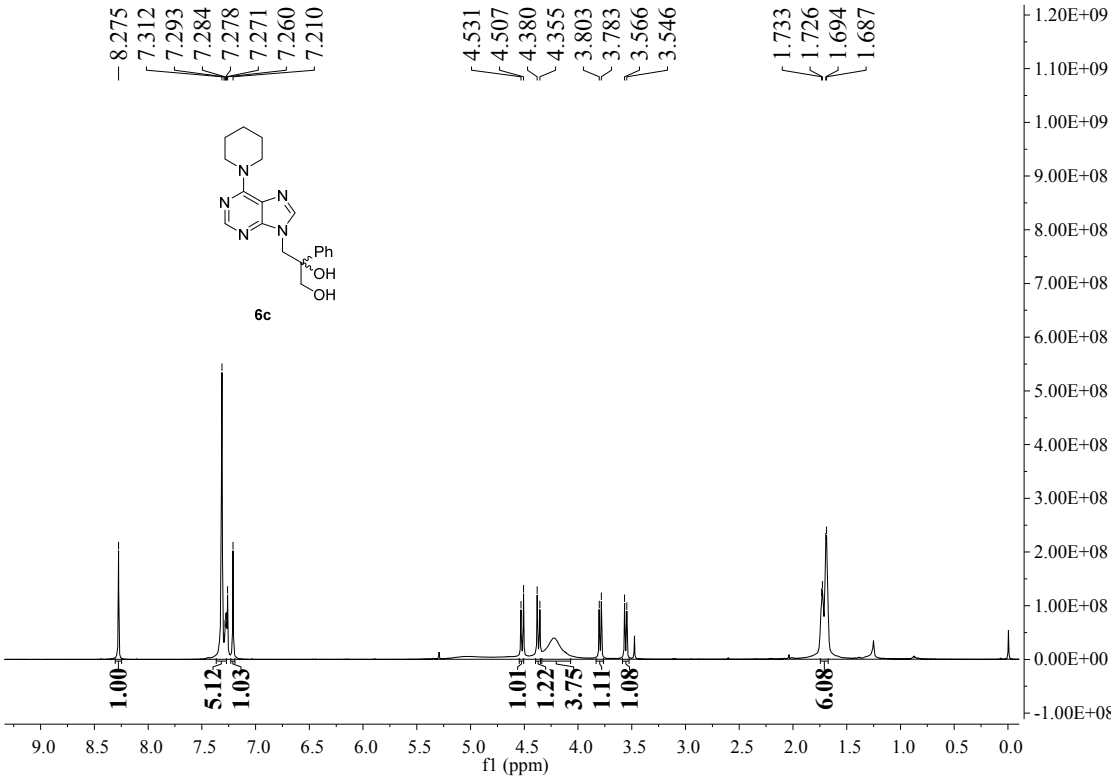
^{1}H-NMR of 6b (400 MHz, $CDCl_3$)



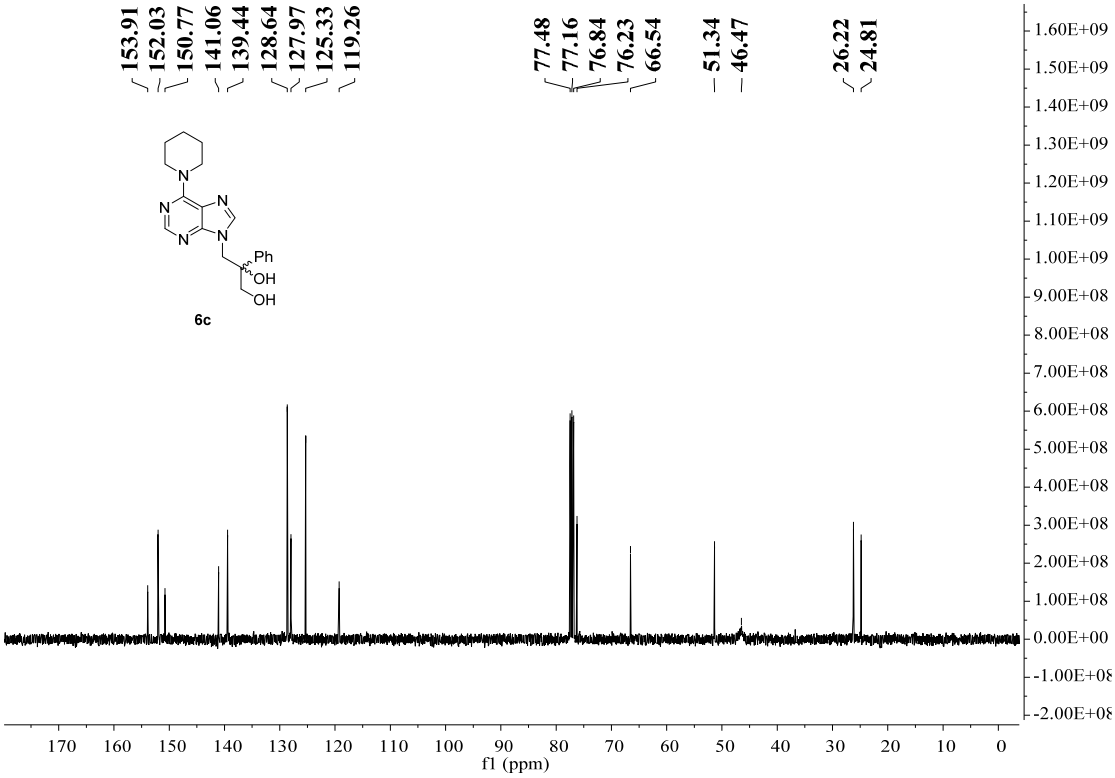
^{13}C-NMR of 6b (150 MHz, $CDCl_3$)



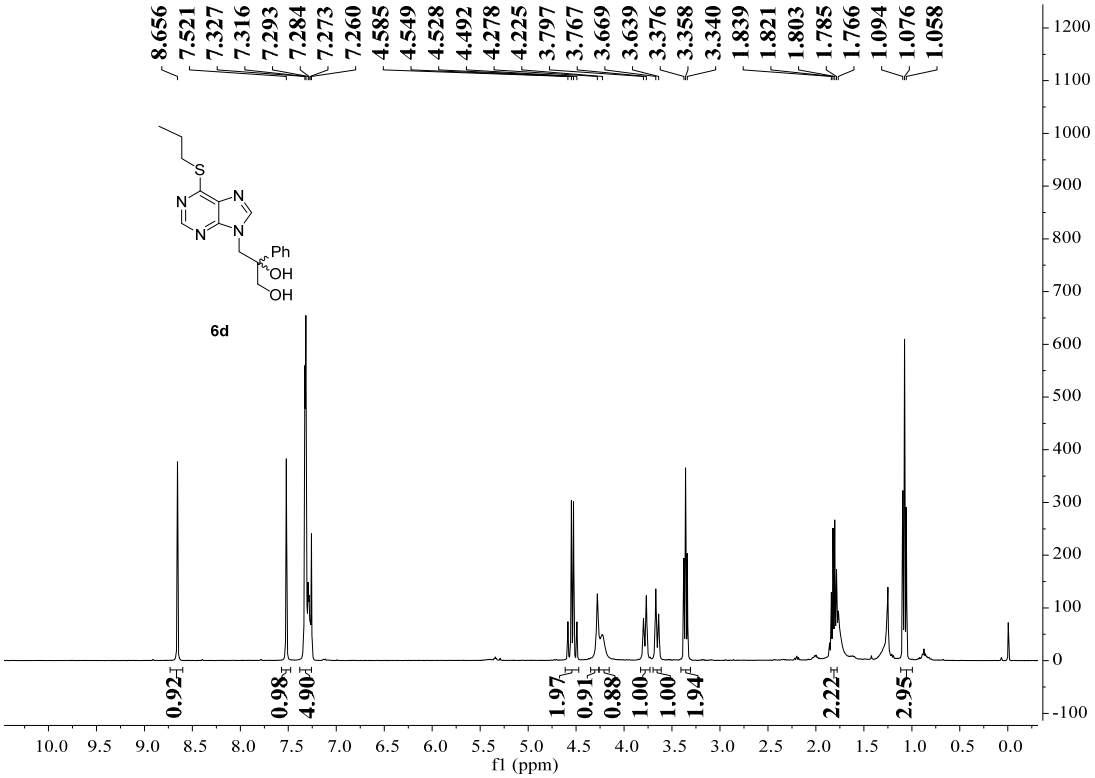
^{1}H-NMR of 6c (600 MHz, $CDCl_3$)



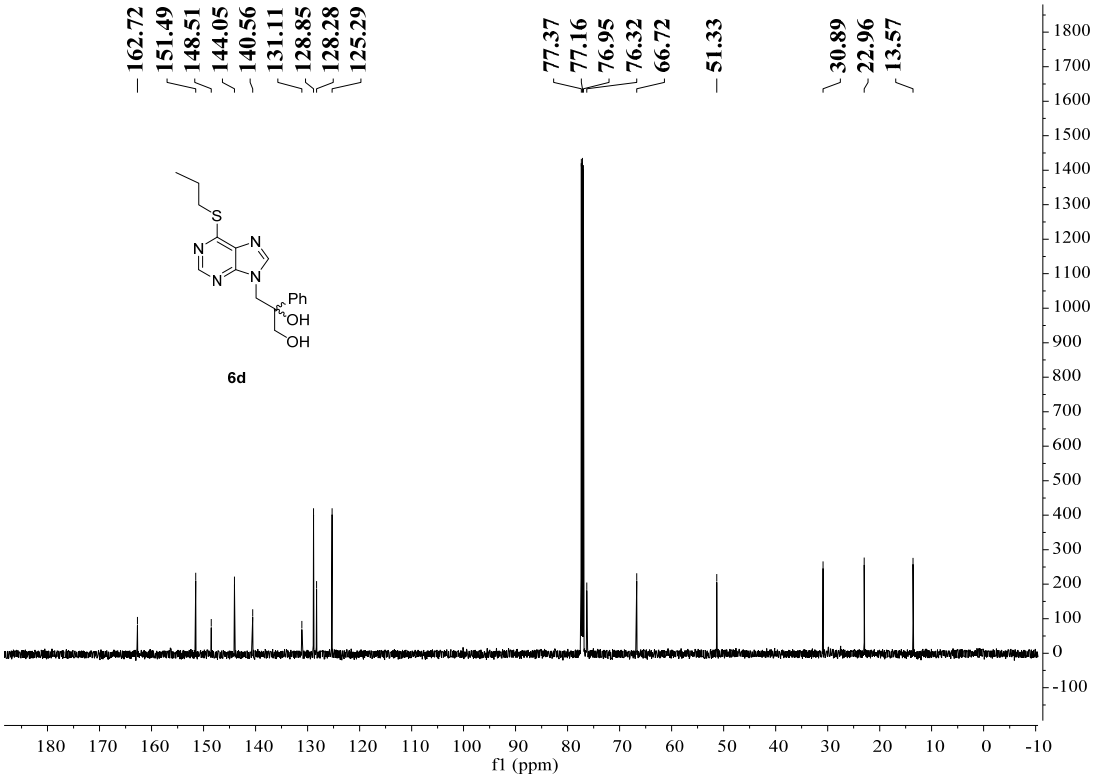
^{13}C-NMR of 6c (100 MHz, $CDCl_3$)



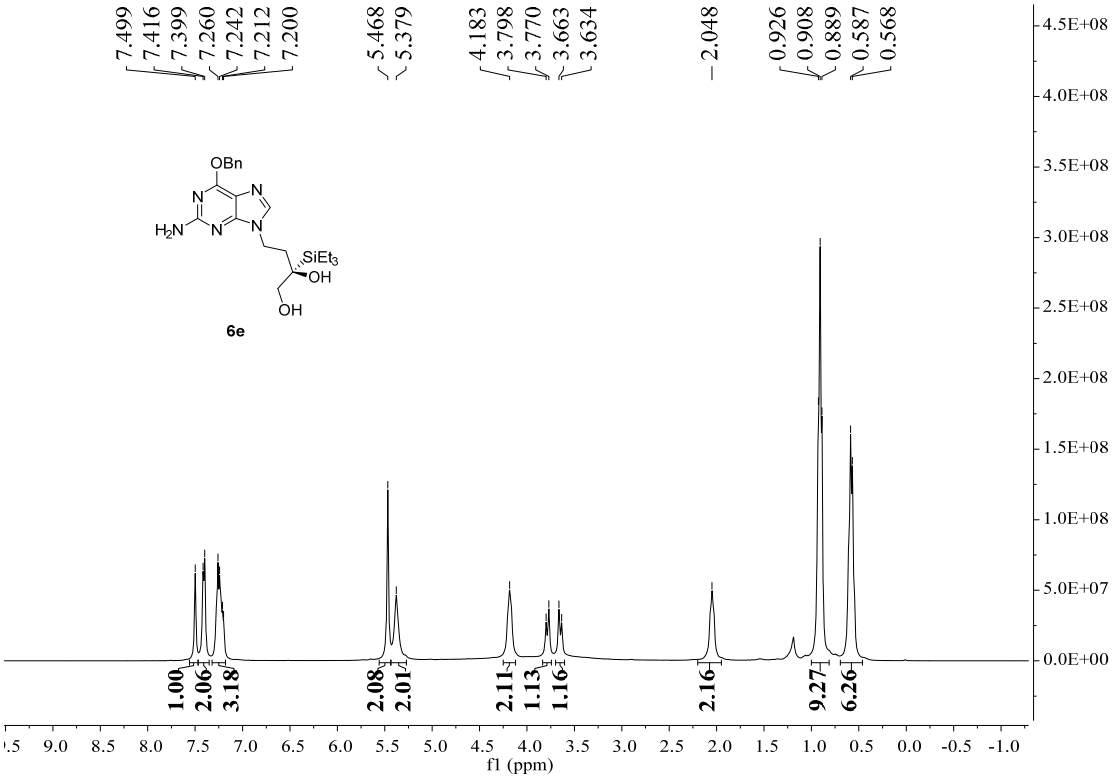
^{1}H-NMR of 6d (400 MHz, $CDCl_3$)



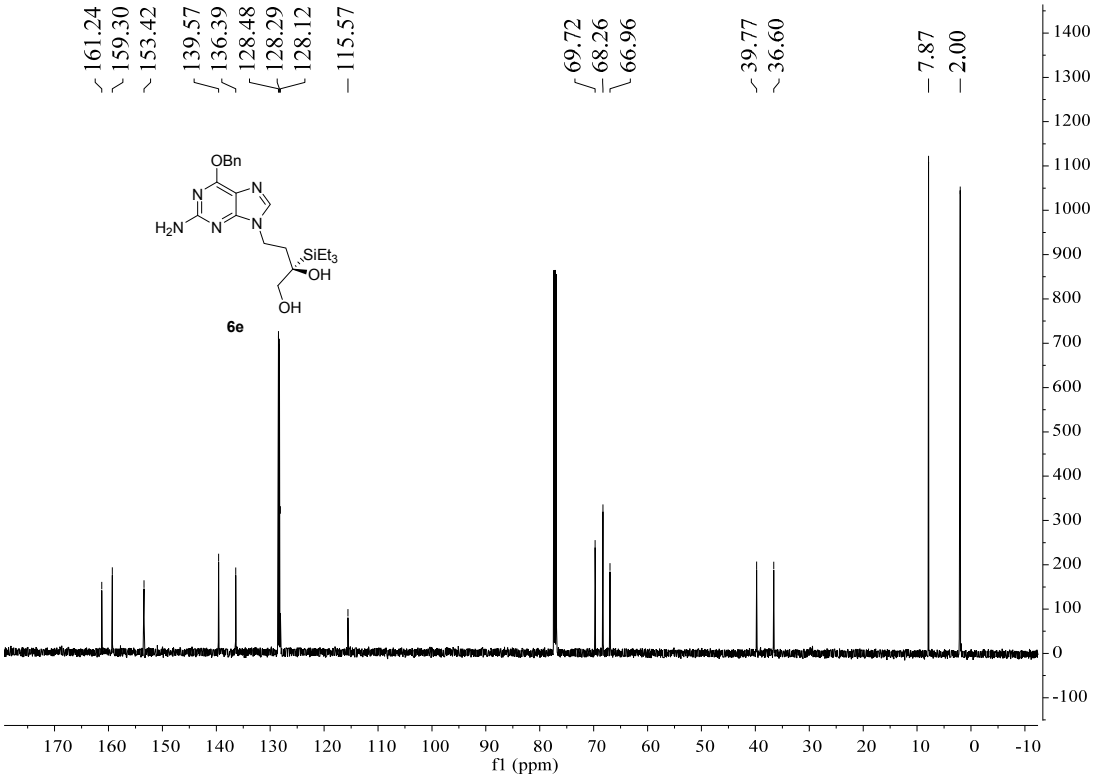
^{13}C-NMR of 6d (150 MHz, $CDCl_3$)



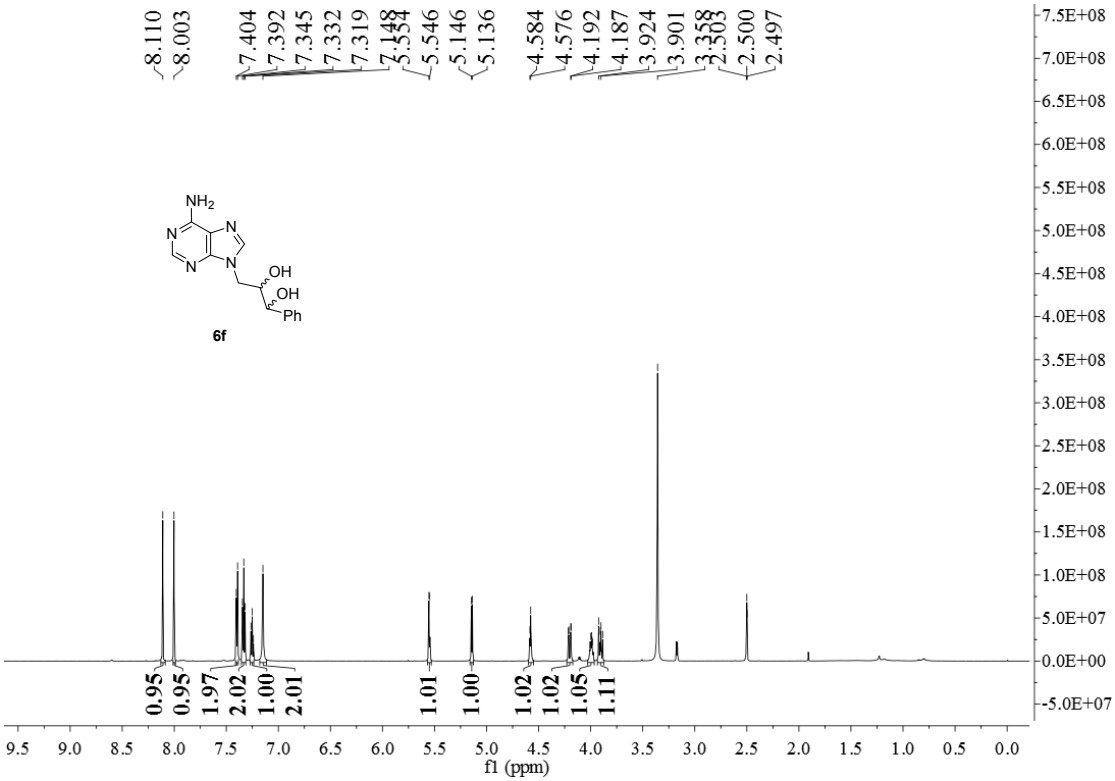
^{1}H-NMR of 6e (400 MHz, $CDCl_3$)



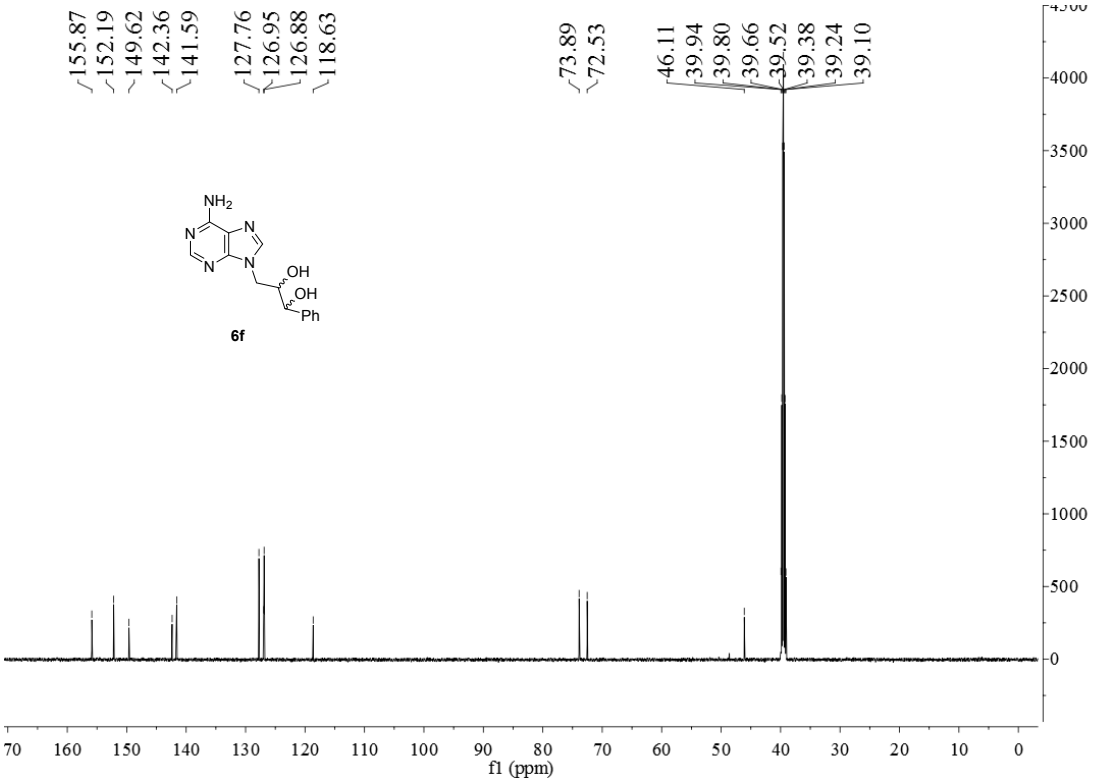
^{13}C-NMR of 6e (150 MHz, $CDCl_3$)



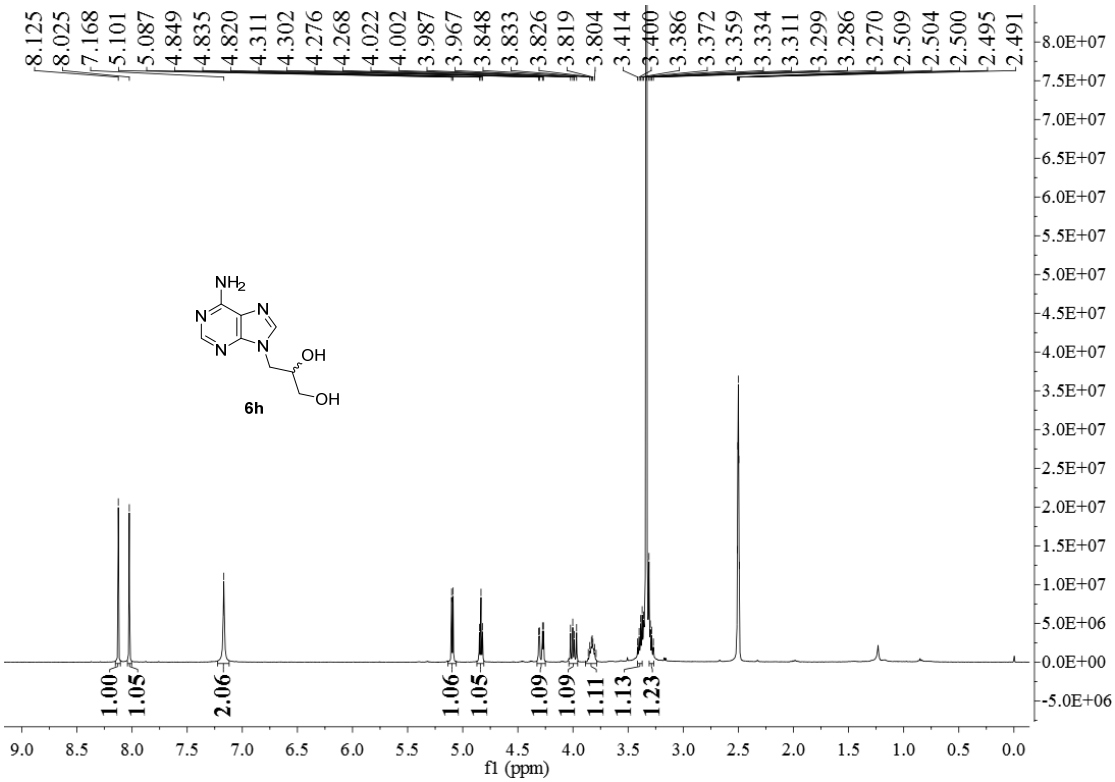
^{1}H-NMR of 6f (600 MHz, d^{6}-DMSO)



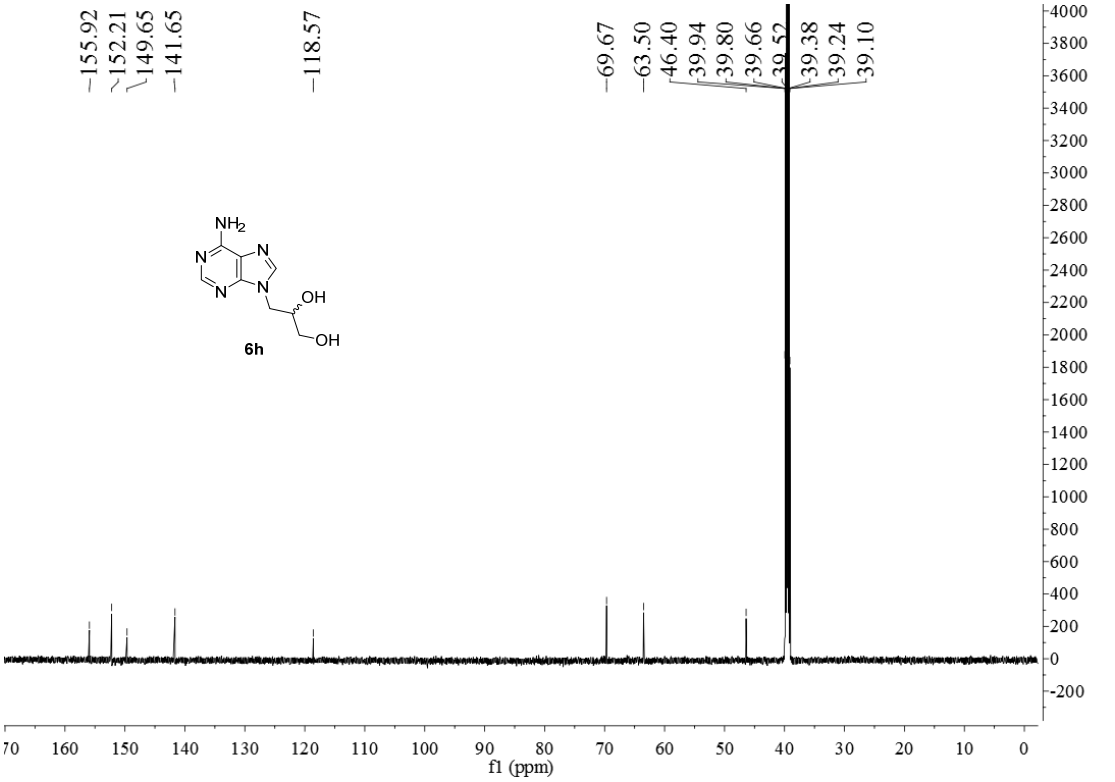
^{13}C-NMR of 6f (150 MHz, d^{6}-DMSO)



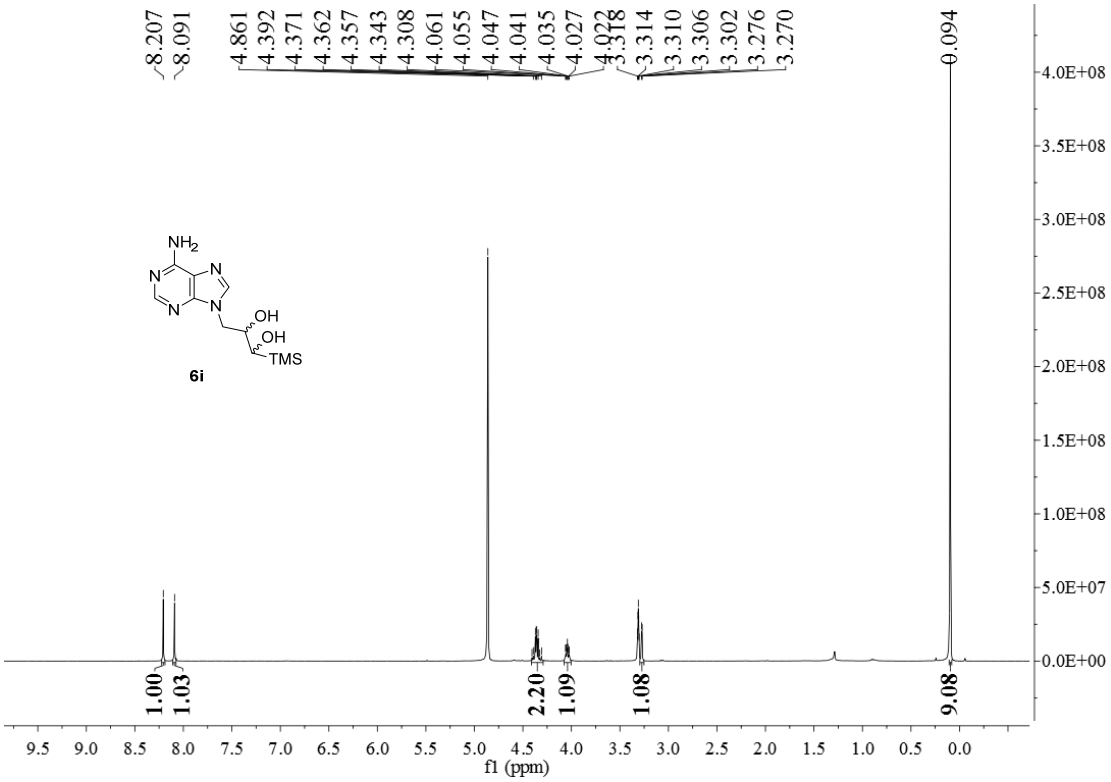
^{1}H-NMR of 6h (400 MHz, d^{6}-DMSO)



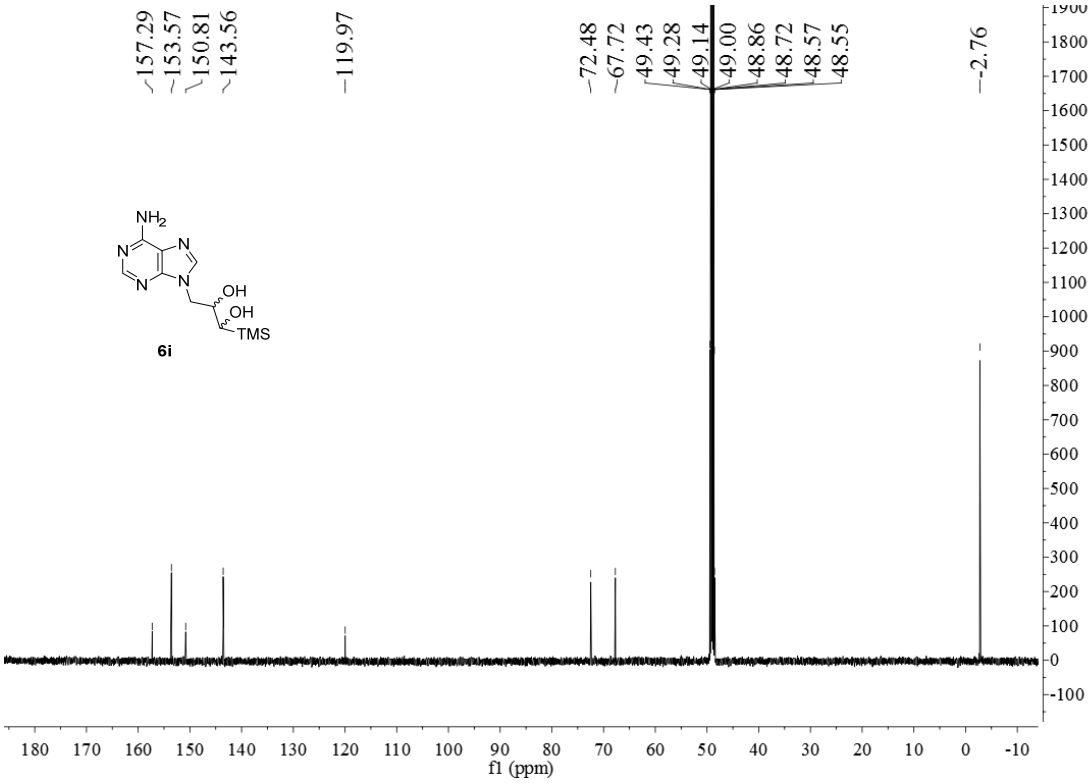
^{13}C-NMR of 6h (150 MHz, d^{6}-DMSO)



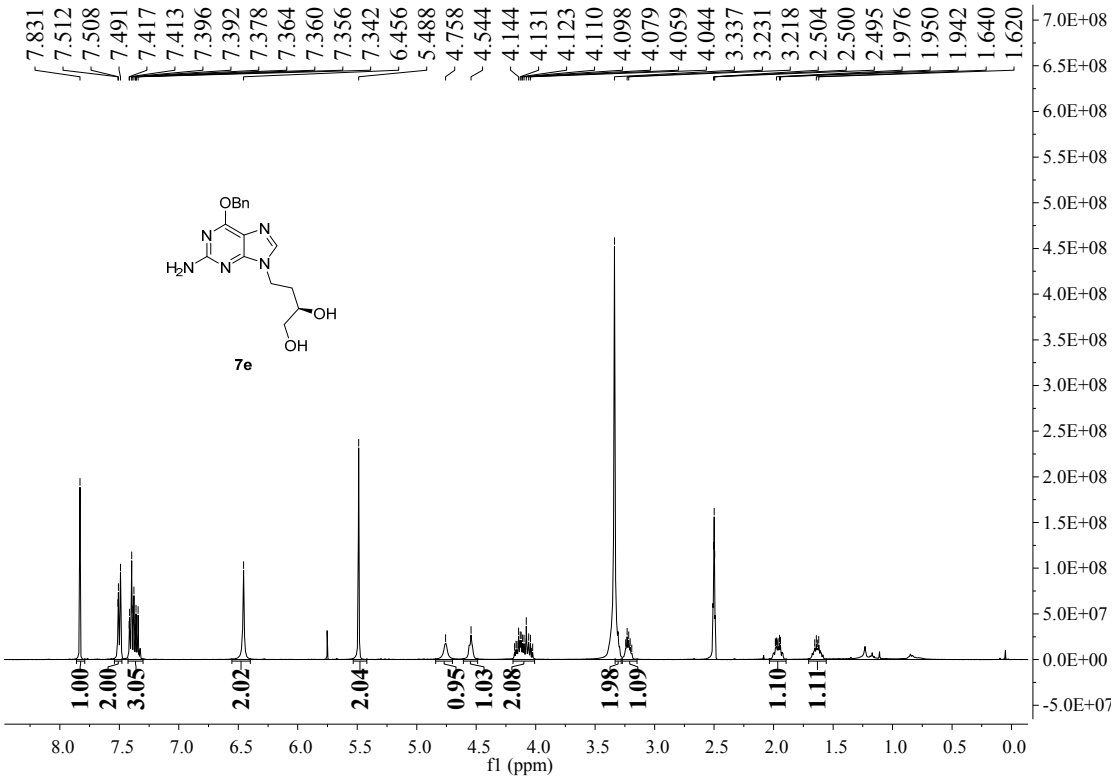
^{1}H-NMR of 6i (400 MHz, CD_3OD)



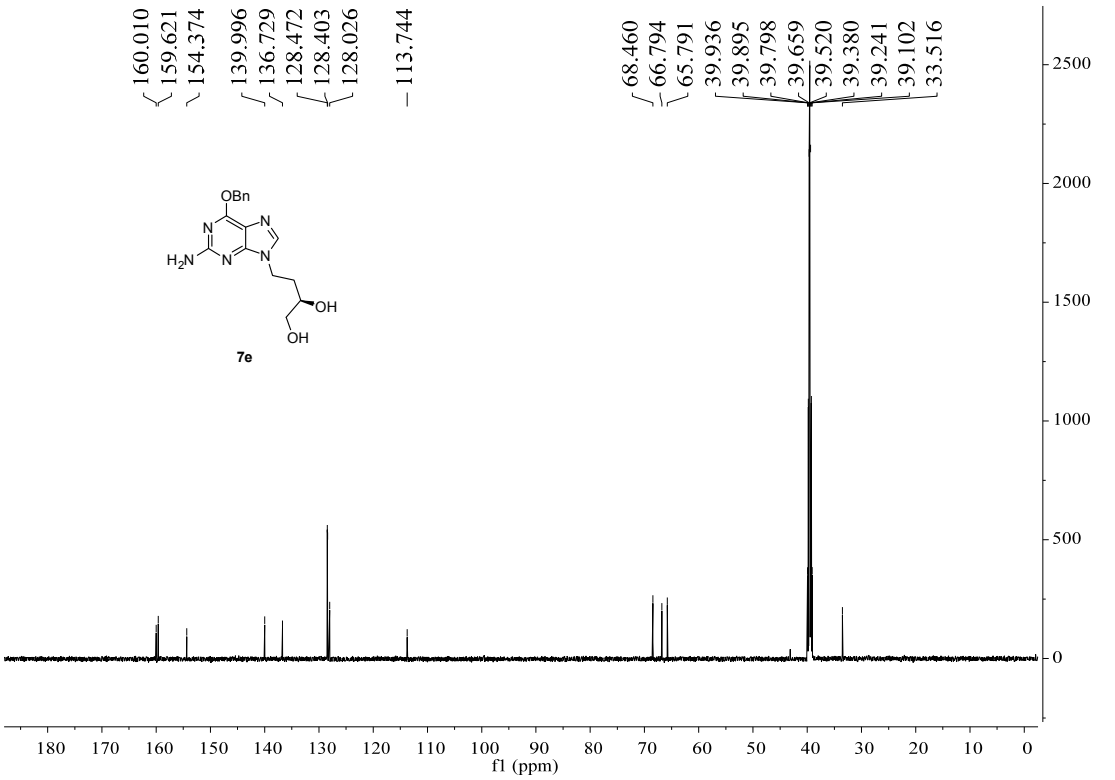
^{13}C-NMR of 6i (150 MHz, CD_3OD)



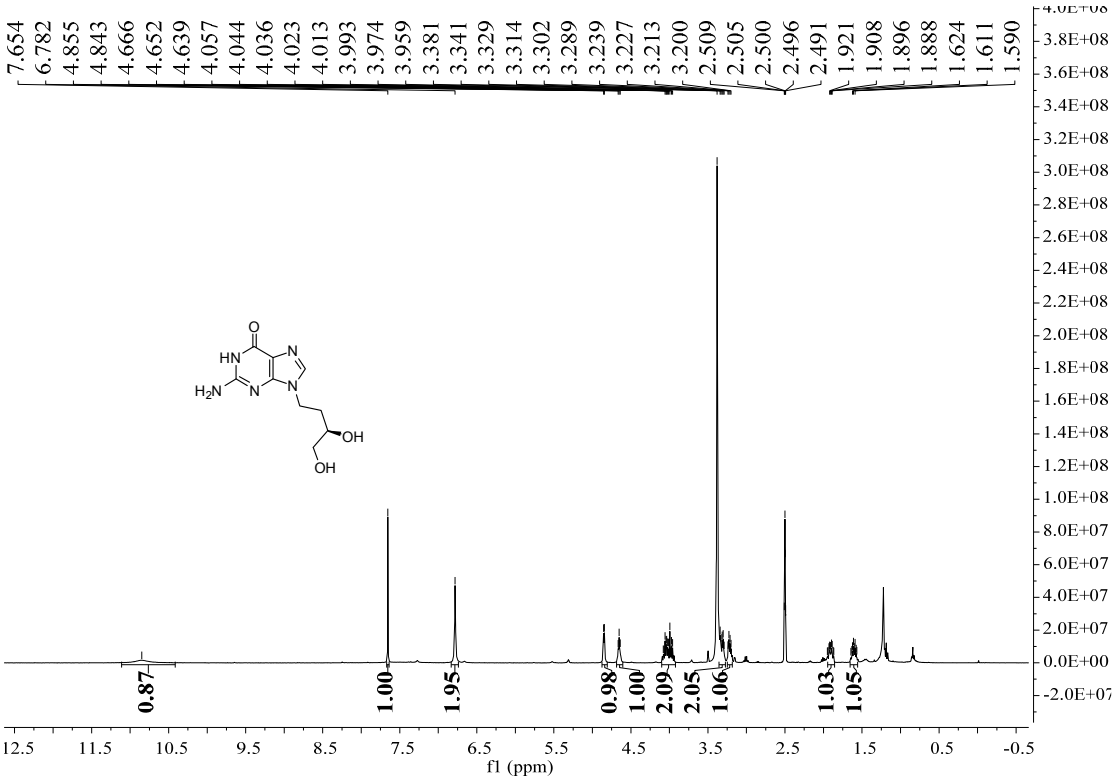
^{1}H-NMR of 7e (400 MHz, d^{6}-DMSO)



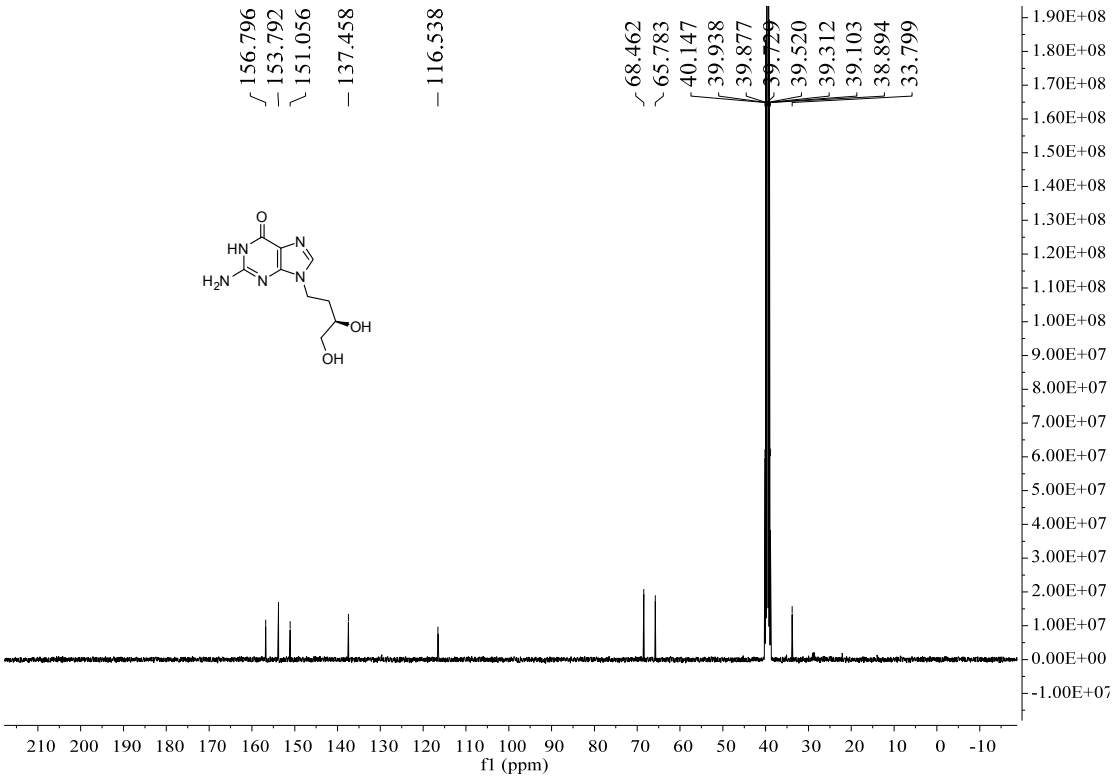
^{13}C-NMR of 7e (150 MHz, d^{6}-DMSO)



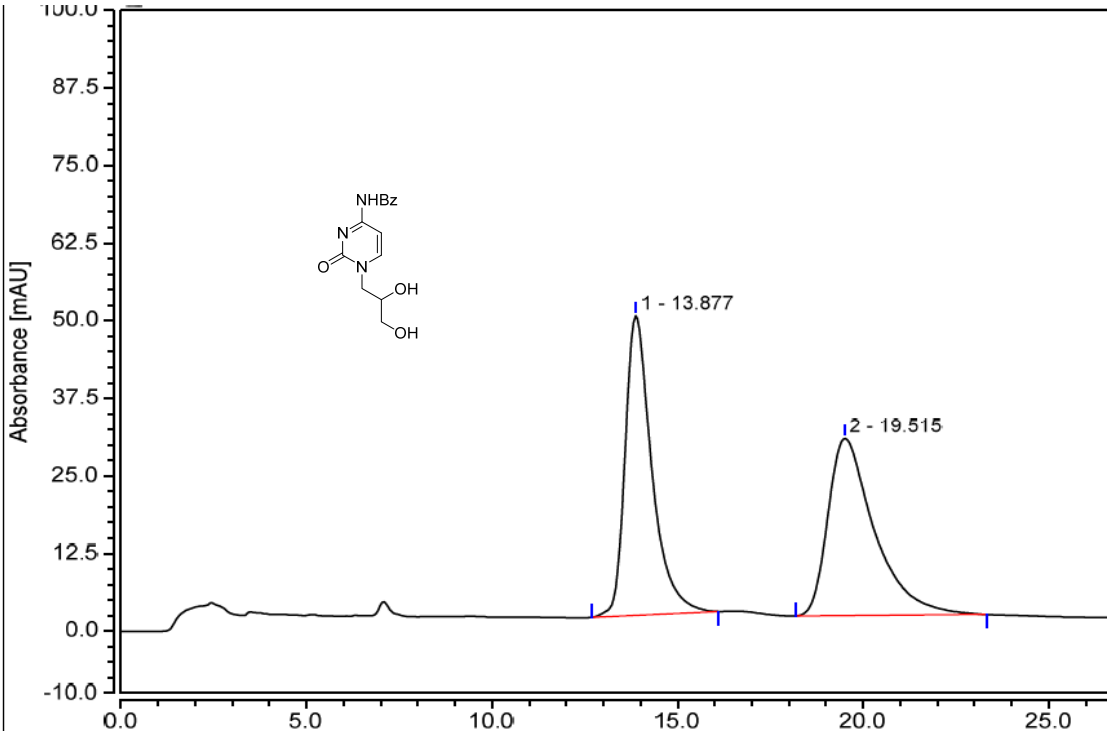
^{1}H-NMR of Buciclovir (400 MHz, d^{6}-DMSO)



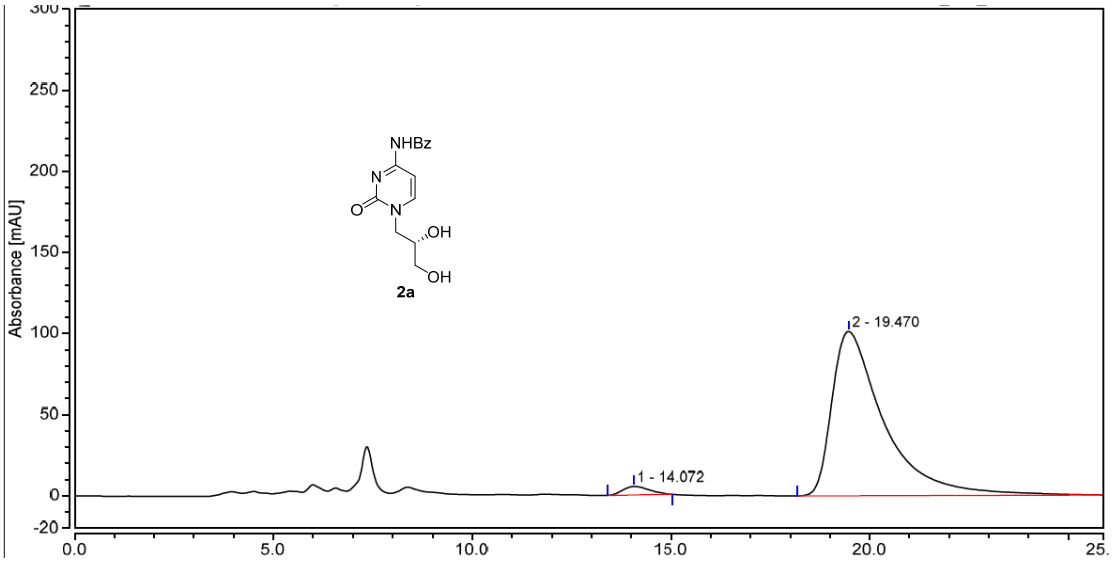
^{13}C-NMR of Buciclovir (100 MHz, d^{6}-DMSO)



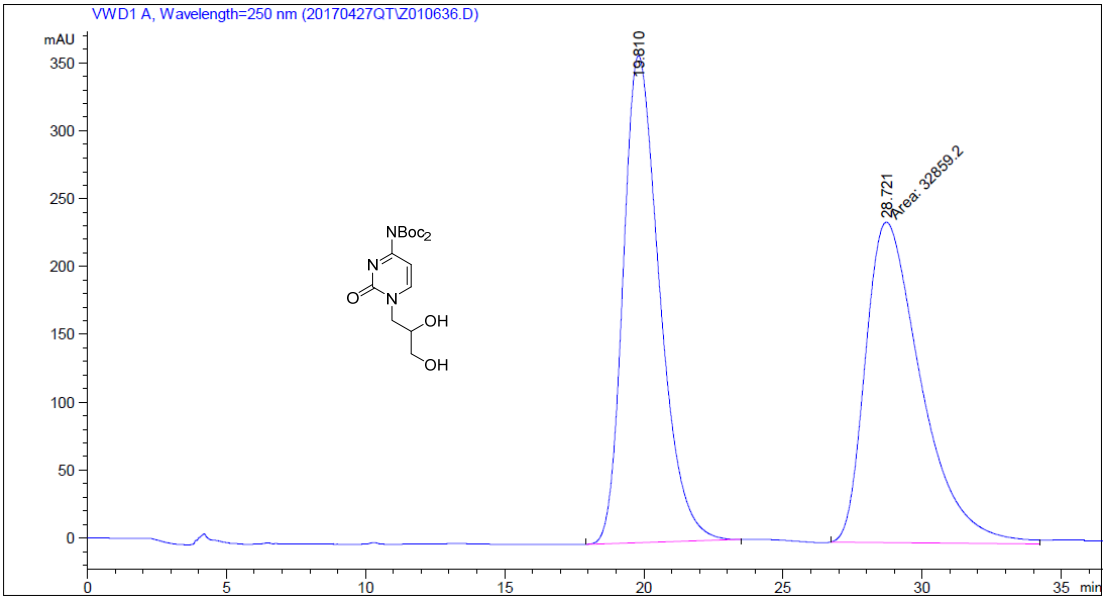
5.Copies of HPLC spectra for racemic and chiral compounds



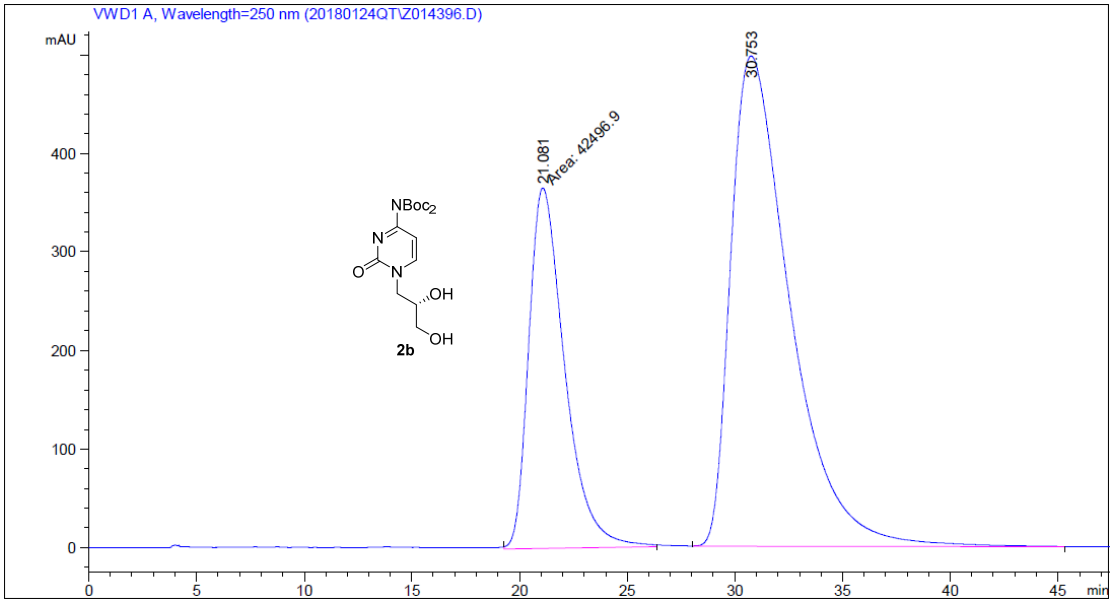
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	13.877	40.269	48.264	49.30
2	19.515	41.412	28.520	50.70
Total:		**81.680**	**76.785**	**100.00**



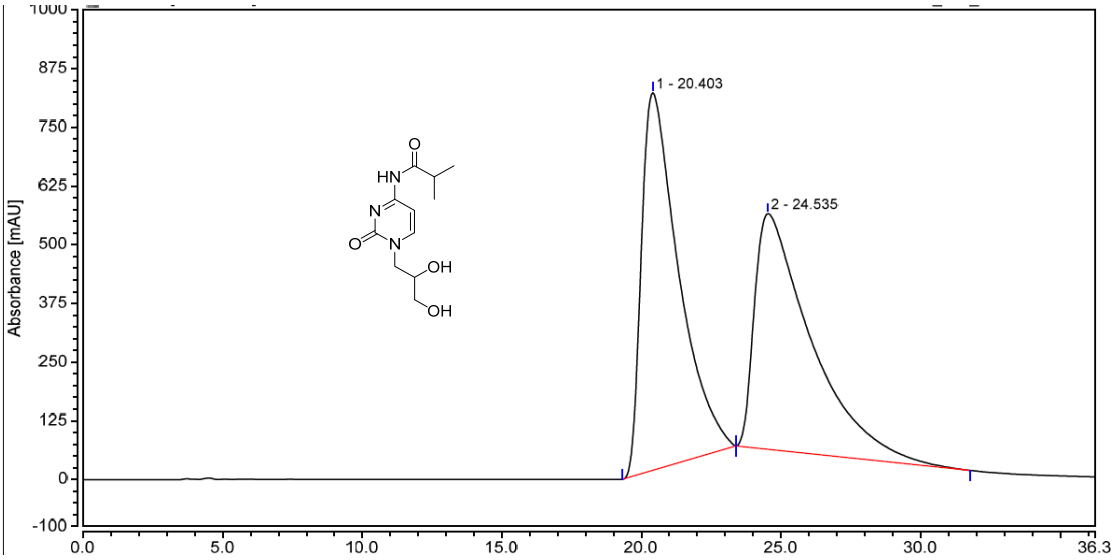
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	14.072	4.075	5.271	2.58
2	19.470	153.889	101.226	97.42
Total:		**157.964**	**106.497**	**100.00**



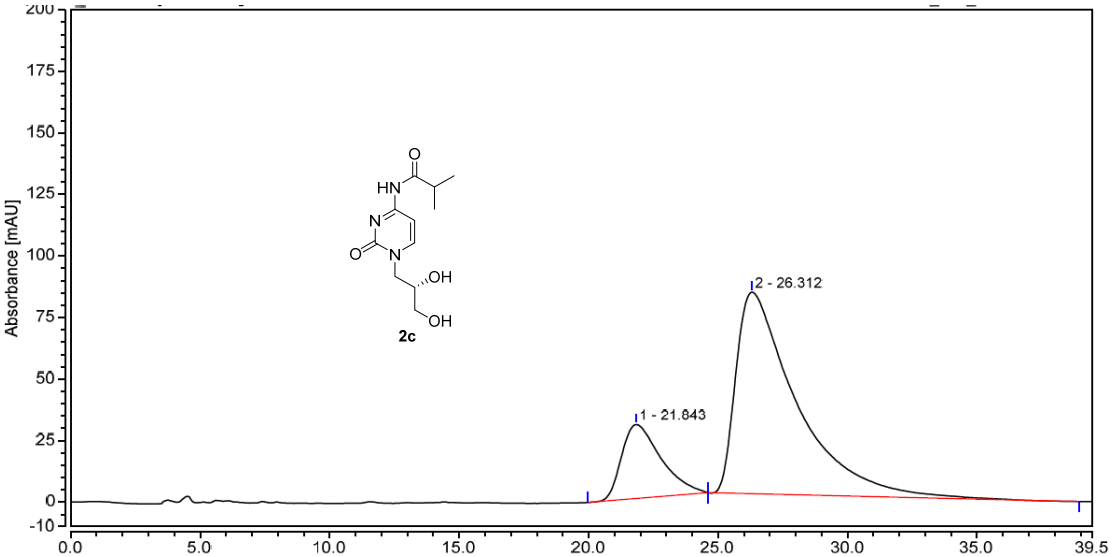
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	19.810	BB	1.3913	3.26158e4	358.72583	49.8141
2	28.721	MM	2.3194	3.28592e4	236.11896	50.1859



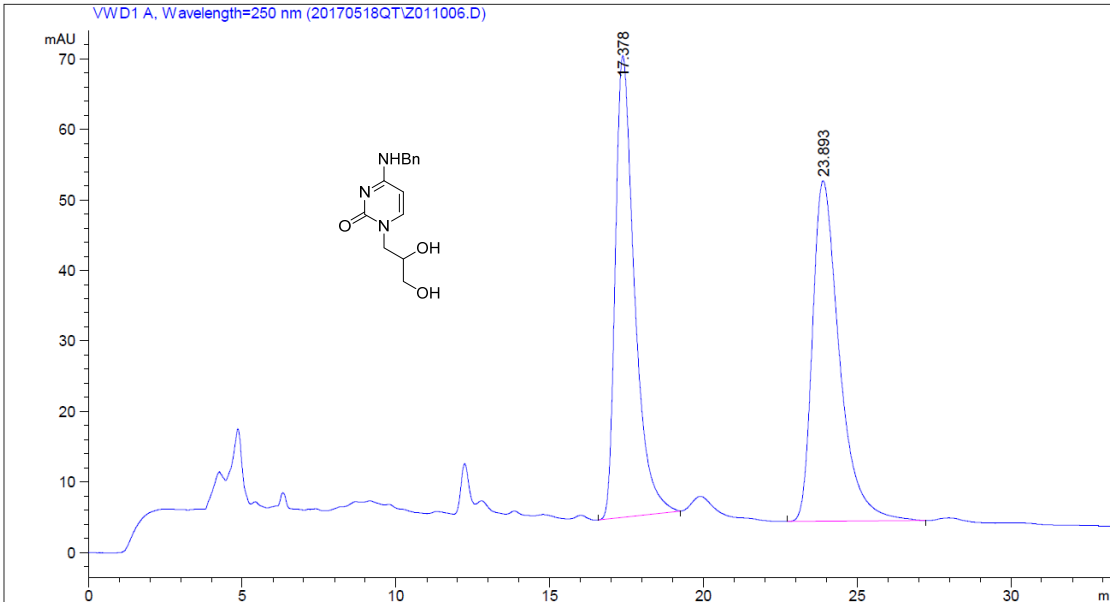
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	21.081	MM	1.9370	4.24969e4	365.66415	30.8683
2	30.753	BB	2.6337	9.51749e4	497.52118	69.1317



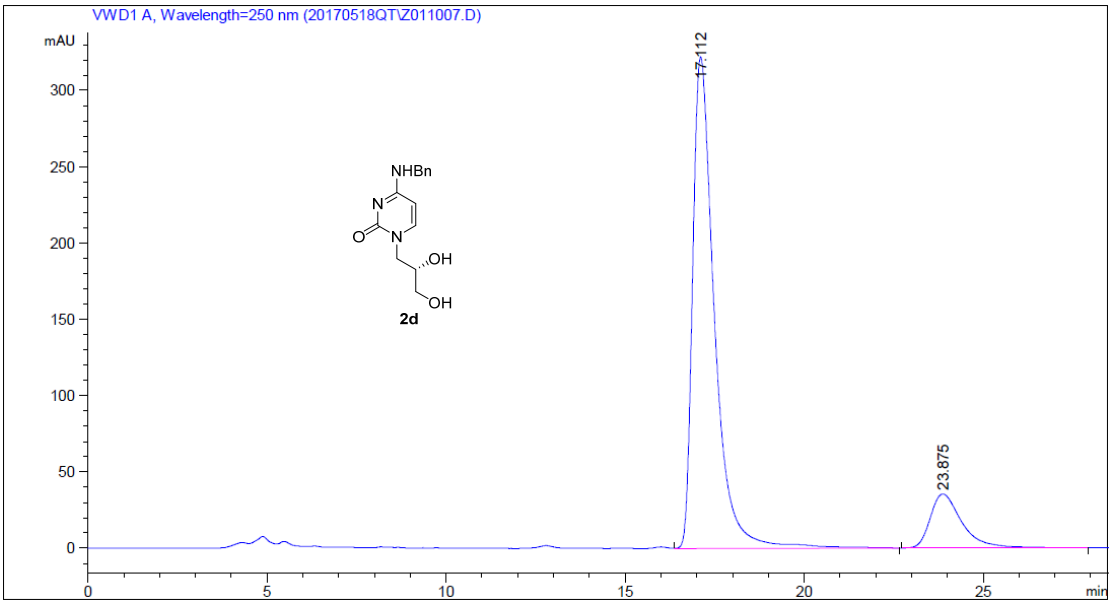
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	20.403	1241.792	803.464	51.19
2	24.535	1183.974	502.121	48.81
Total:		**2425.766**	**1305.585**	**100.00**



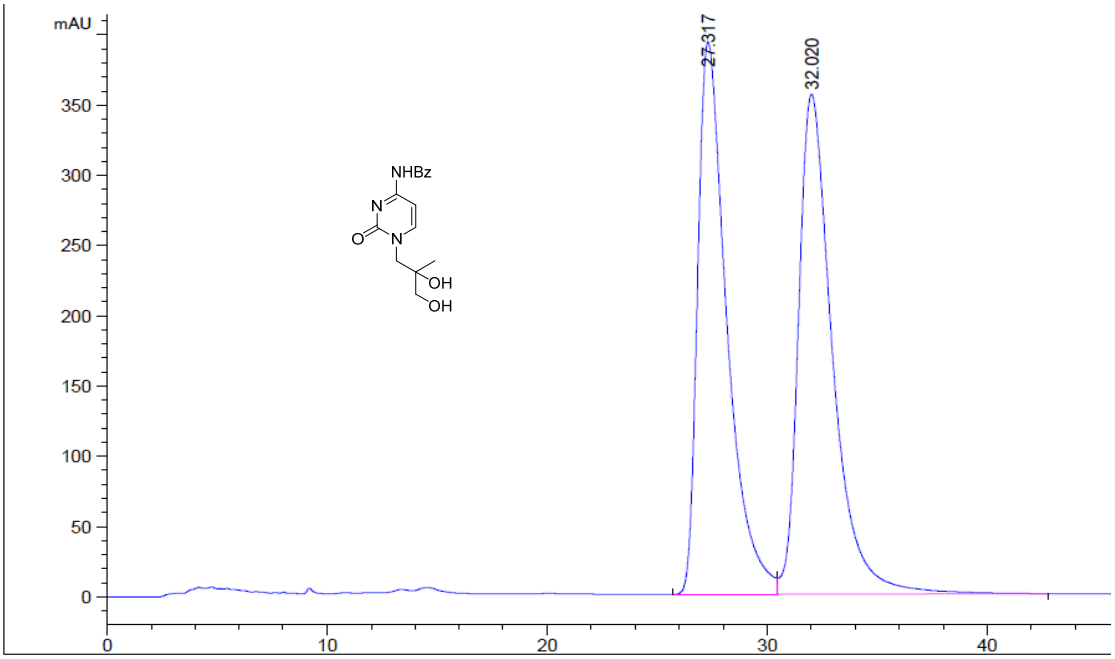
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	21.843	52.755	30.048	19.23
2	26.312	221.569	81.885	80.77
Total:		**274.324**	**111.933**	**100.00**



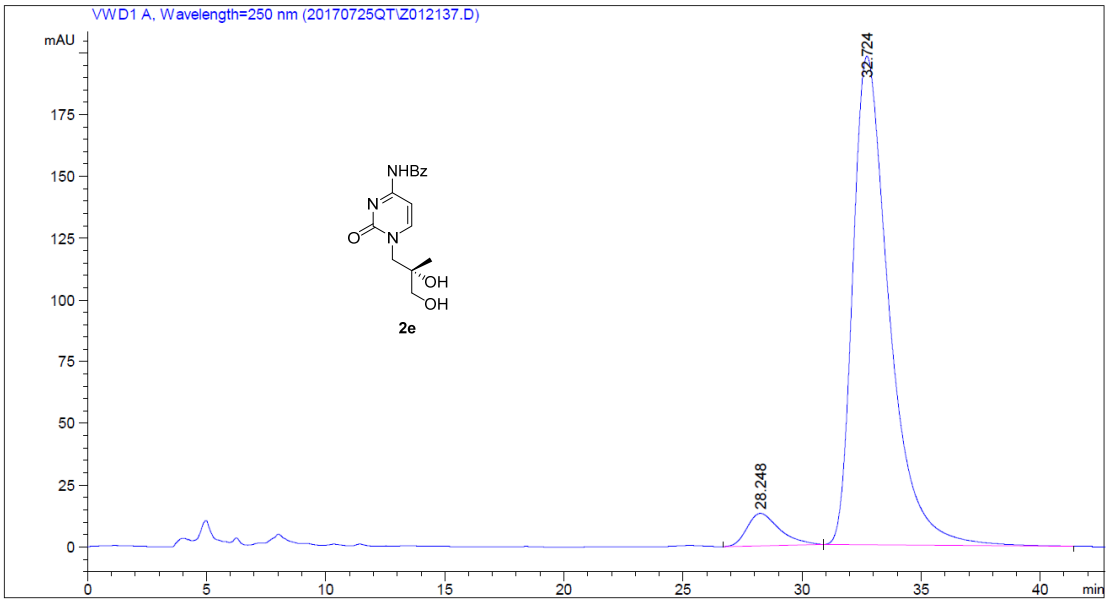
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	17.378	BB	0.6537	2833.47559	65.43469	49.1366
2	23.893	BB	0.9158	2933.04883	48.25969	50.8634



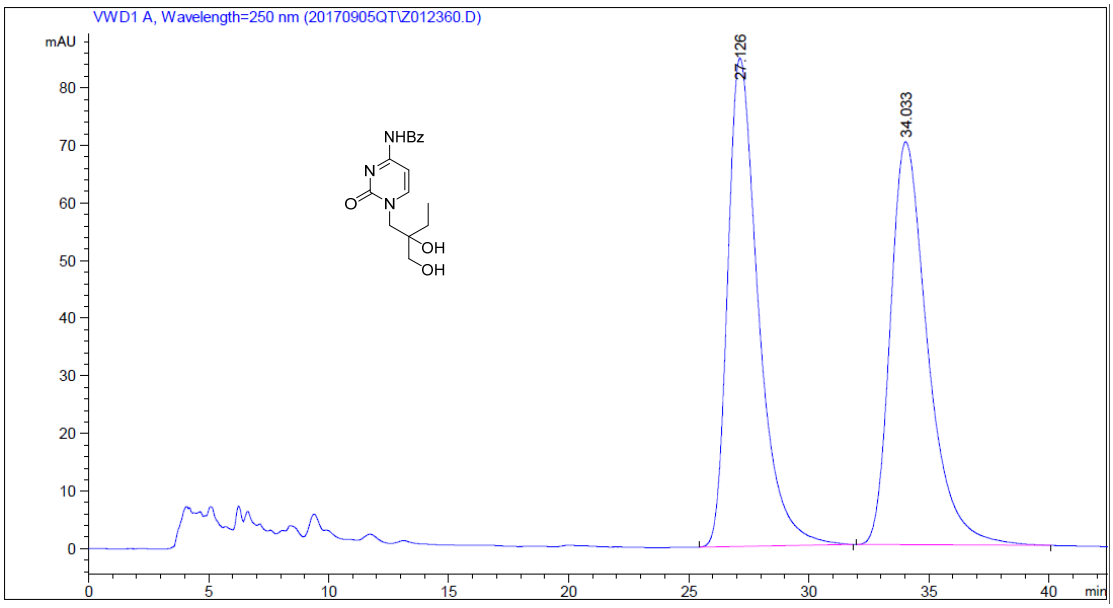
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	17.112	VB	0.6406	1.35845e4	322.07639	86.1178
2	23.875	BB	0.9141	2189.82300	35.38808	13.8822



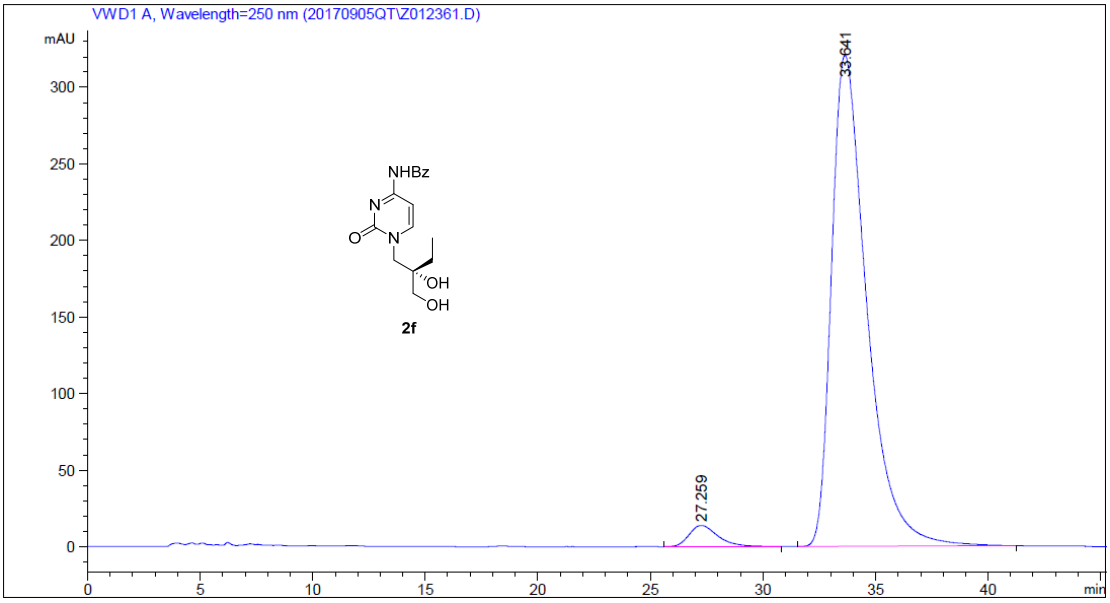
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	27.317	BV	1.3876	3.63206e4	393.26321	48.7019
2	32.020	VB	1.6224	3.82568e4	355.90558	51.2981



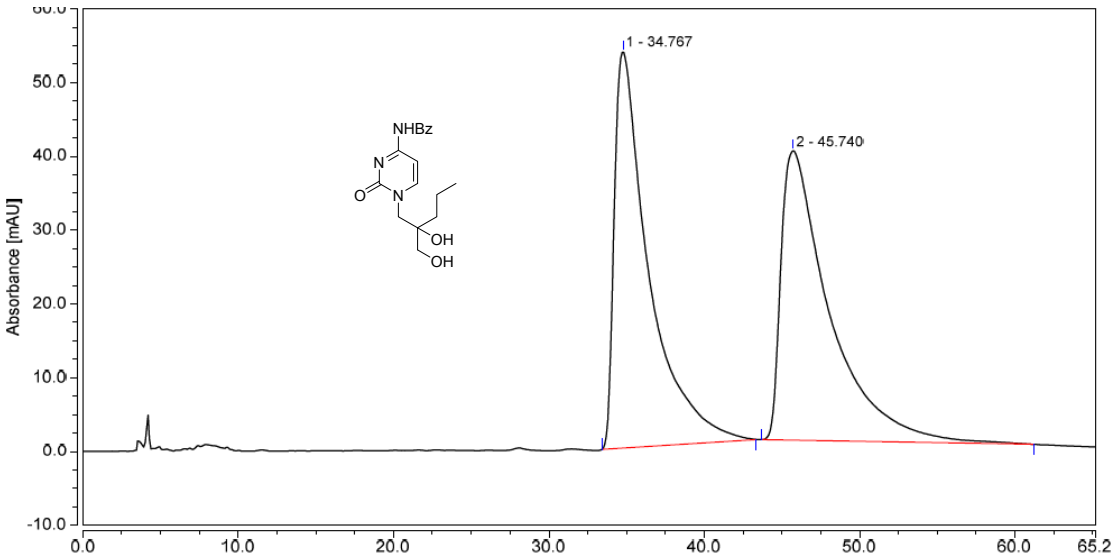
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	28.248	MM	1.5207	1148.16931	12.58340	5.1368
2	32.724	MM	1.7845	2.12038e4	198.04143	94.8632



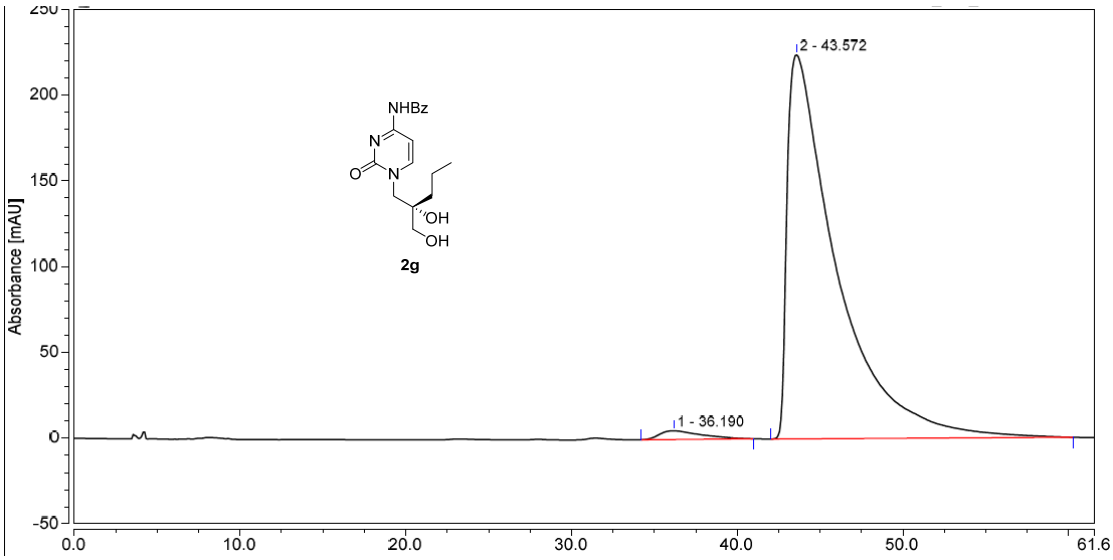
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	27.126	BB	1.3150	7520.67090	84.74105	49.9348
2	34.033	BB	1.6013	7540.31836	69.94749	50.0652



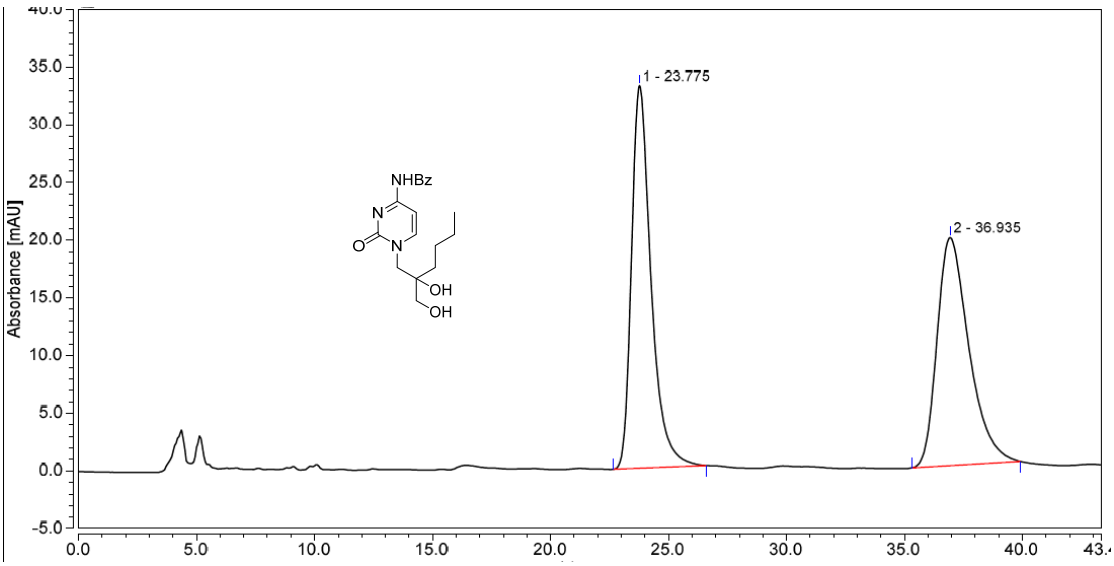
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	27.259	BB	1.3040	1243.41846	13.92300	3.4345
2	33.641	BB	1.6297	3.49602e4	320.77594	96.5655



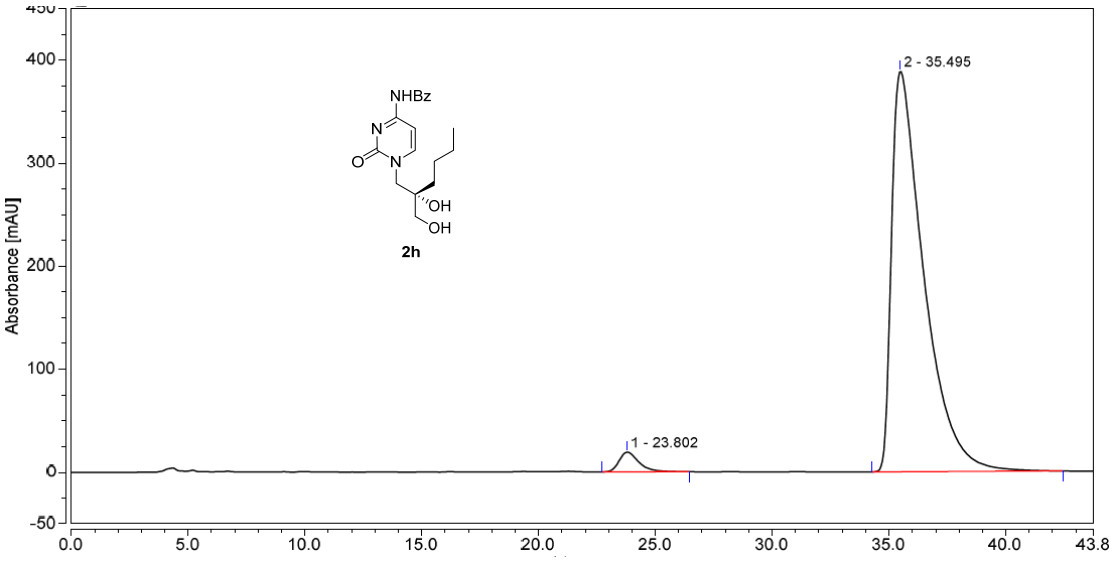
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	34.767	138.193	53.743	49.44
2	45.740	141.321	39.218	50.56
Total:		**279.514**	**92.961**	**100.00**



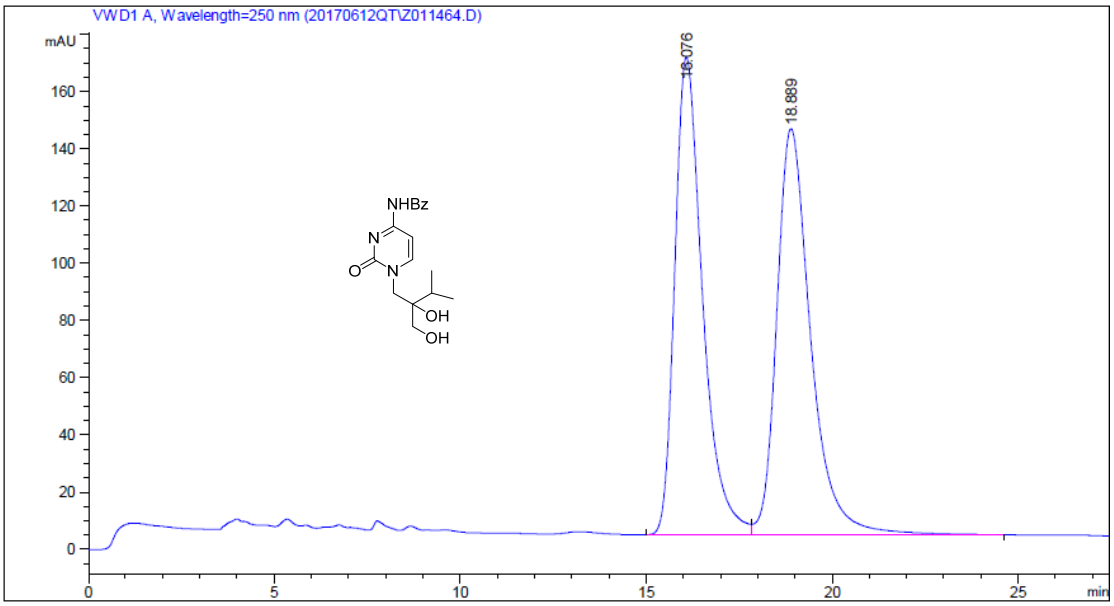
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	36.190	14.676	5.069	1.86
2	43.572	772.358	224.084	98.14
Total:		**787.033**	**229.153**	**100.00**



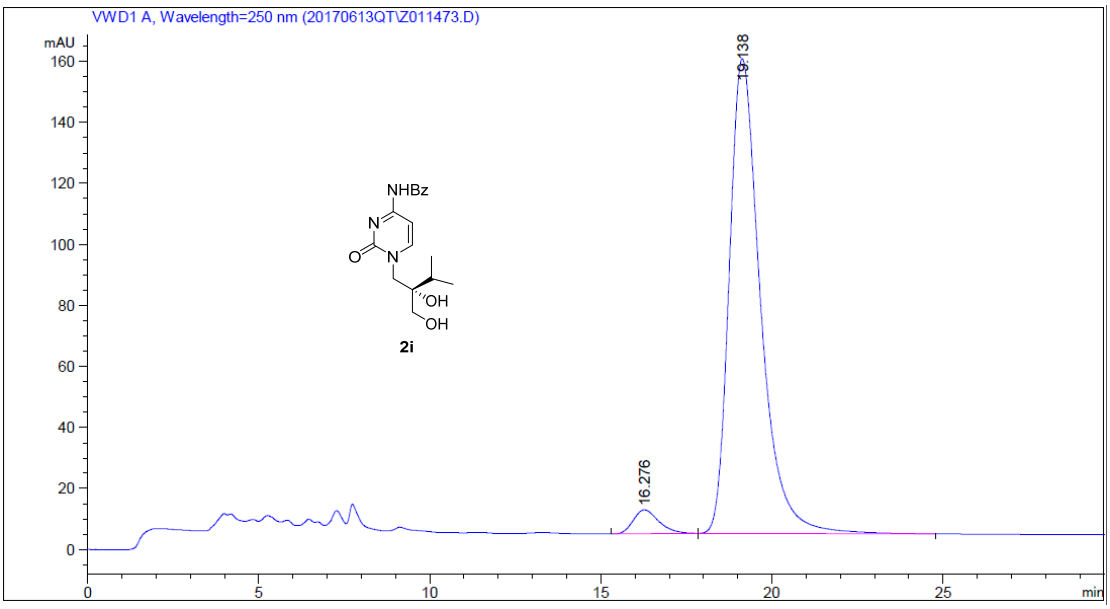
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	23.775	31.930	33.178	50.78
2	36.935	30.951	19.796	49.22
Total:		**62.880**	**52.974**	**100.00**



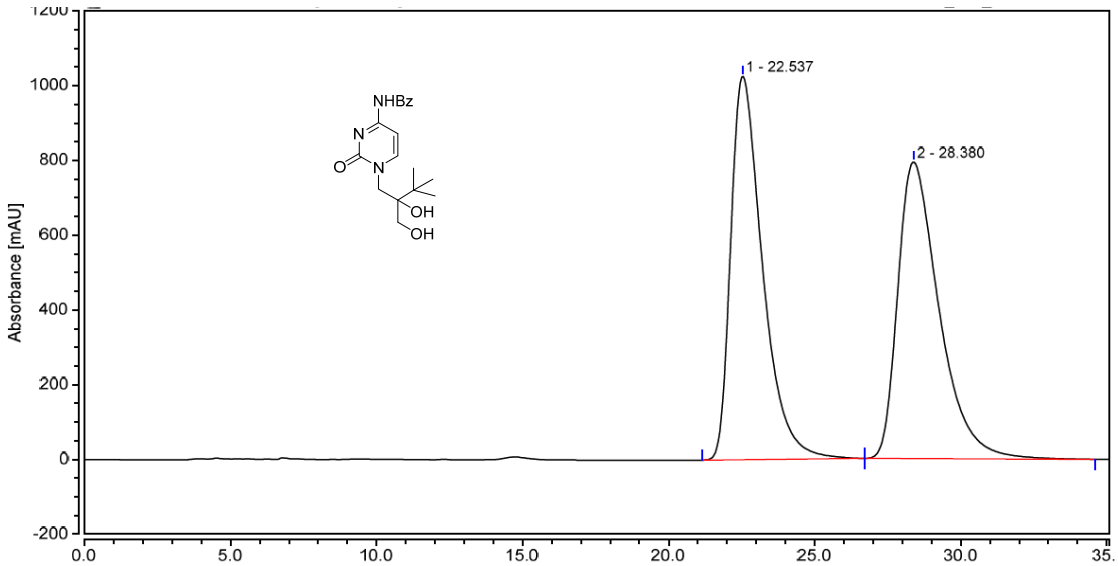
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	23.802	18.891	19.186	2.96
2	35.495	620.347	388.618	97.04
Total:		**639.238**	**407.804**	**100.00**



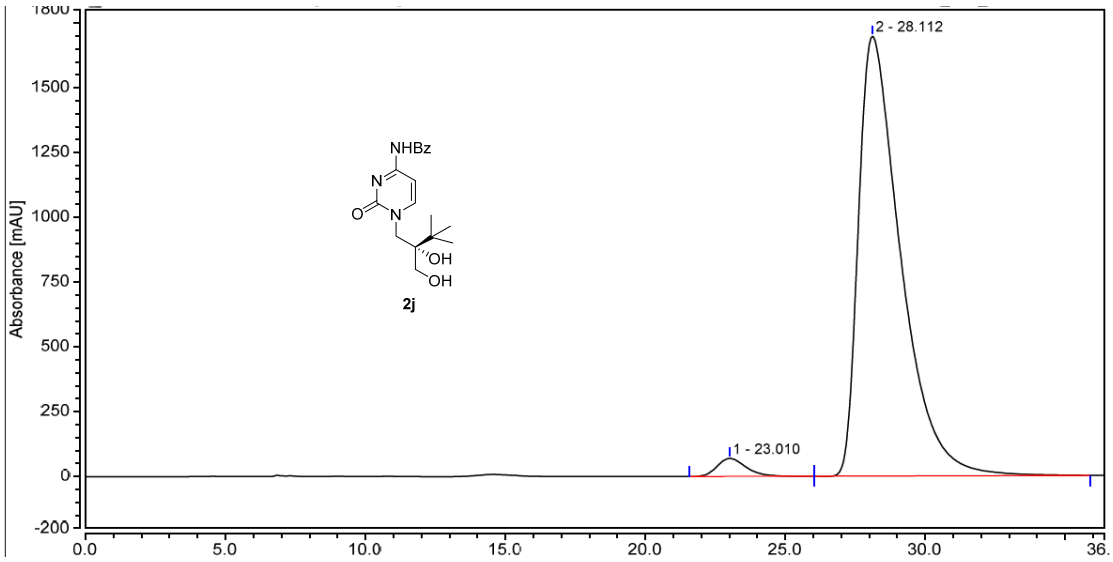
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	16.076	BV	0.7892	8667.16016	166.92351	49.0349
2	18.889	VB	0.9588	9008.31641	141.95178	50.9651



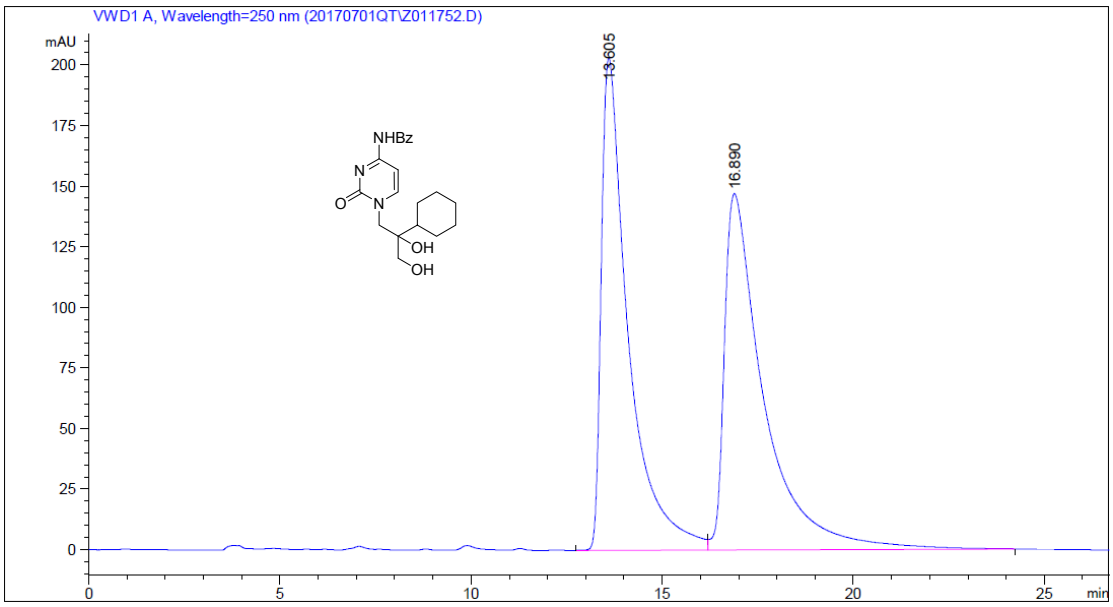
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	16.276	BB	0.7521	407.33328	7.83496	3.9638
2	19.138	BB	0.9572	9868.89648	155.54729	96.0362



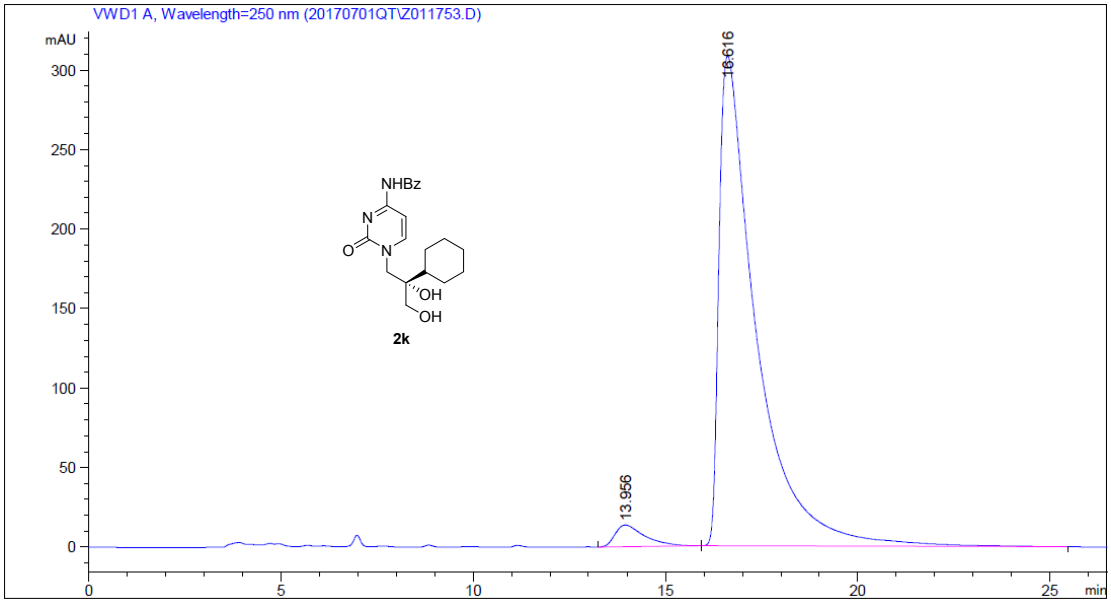
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	22.537	1295.968	1026.179	49.91
2	28.380	1300.757	793.689	50.09
Total:		**2596.724**	**1819.868**	**100.00**



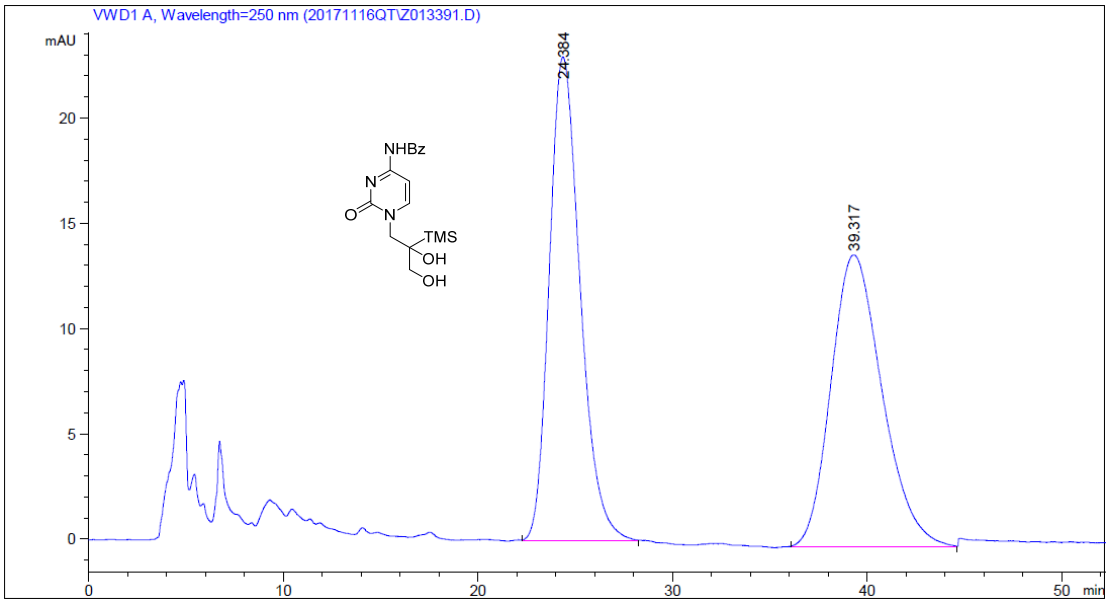
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	23.010	84.016	69.505	2.76
2	28.112	2965.170	1696.478	97.24
Total:		**3049.186**	**1765.983**	**100.00**



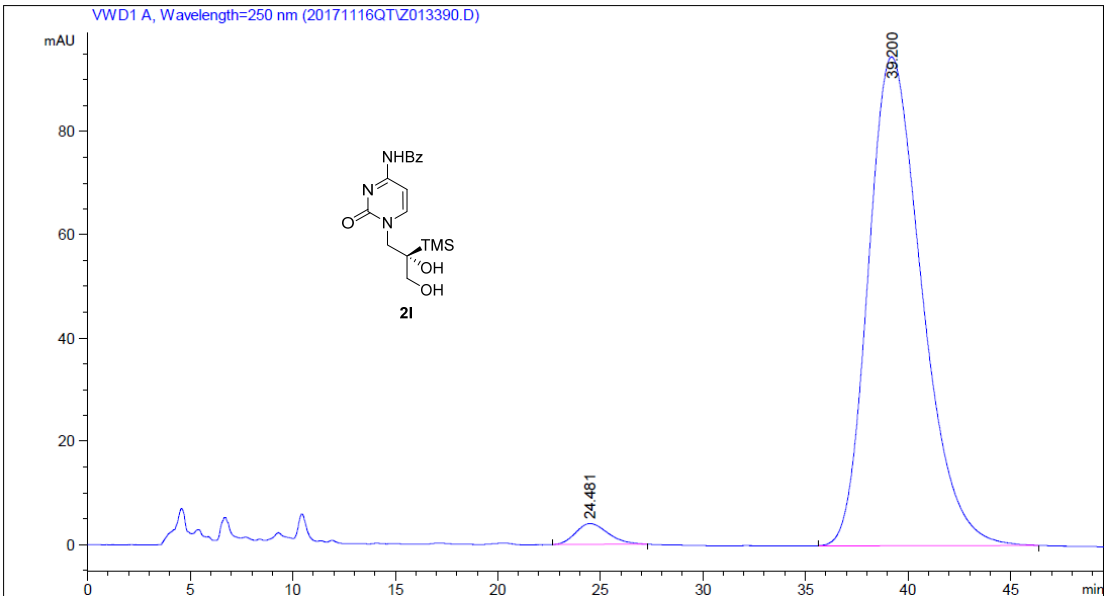
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	13.605	BV	0.7019	9966.57129	203.18253	48.6756
2	16.890	VB	1.0116	1.05089e4	147.02081	51.3244



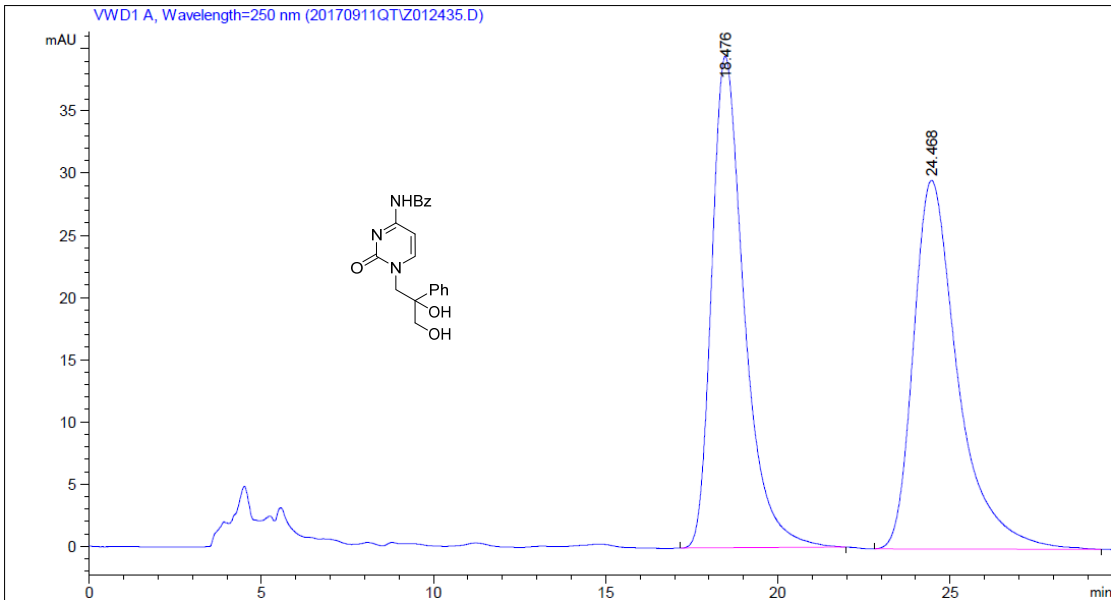
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	13.956	BB	0.7705	737.42810	13.70358	3.4224
2	16.616	BB	0.9580	2.08097e4	308.24026	96.5776



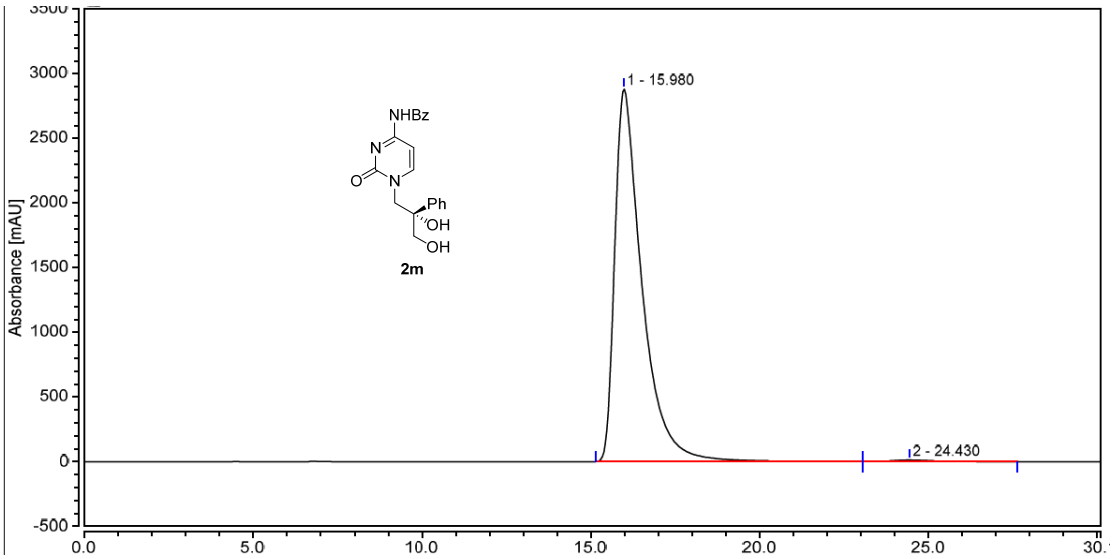
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	24.384	BB	1.4793	2526.82983	22.95635	50.0569
2	39.317	BB	2.1467	2521.08521	13.84199	49.9431



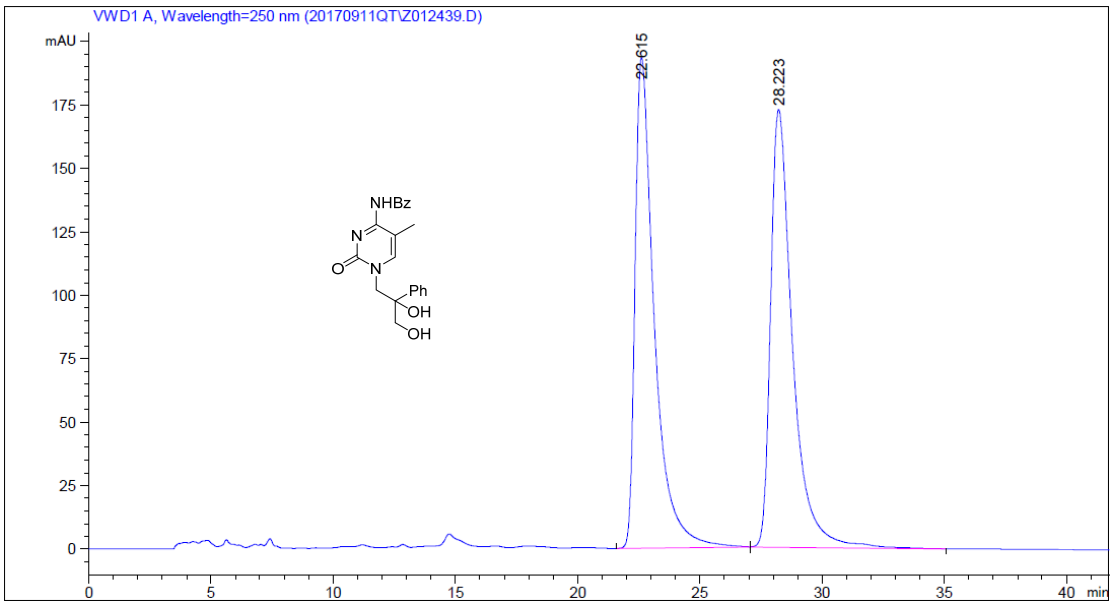
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	24.481	BB	1.2865	441.10791	4.03674	2.5044
2	39.200	BB	2.5834	1.71719e4	94.67884	97.4956



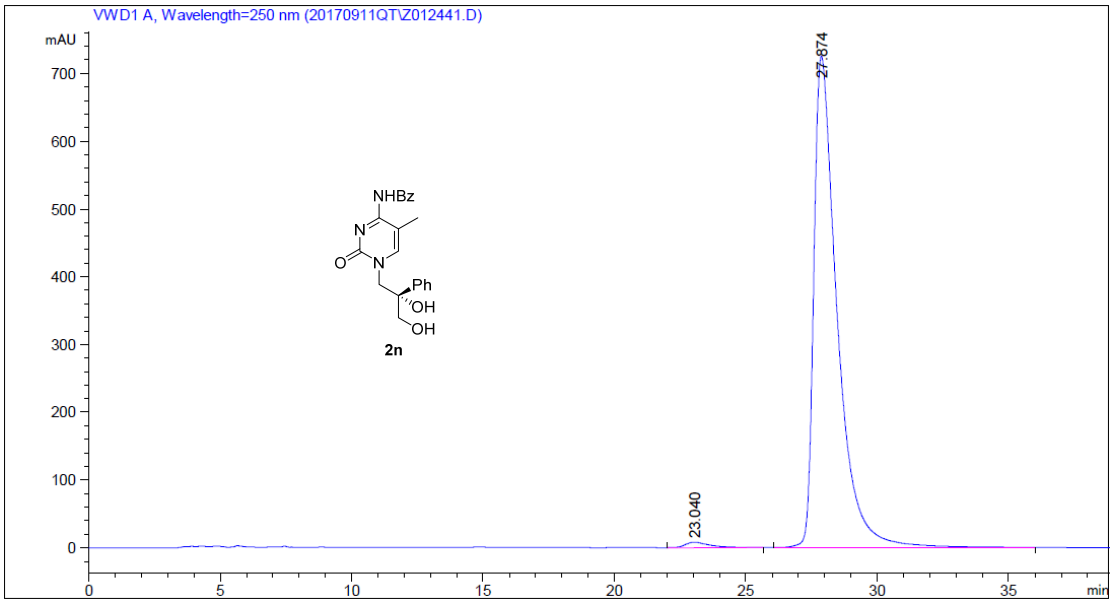
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	18.476	BB	0.9898	2592.83716	39.51468	49.4006
2	24.468	BB	1.3221	2655.75513	29.63606	50.5994



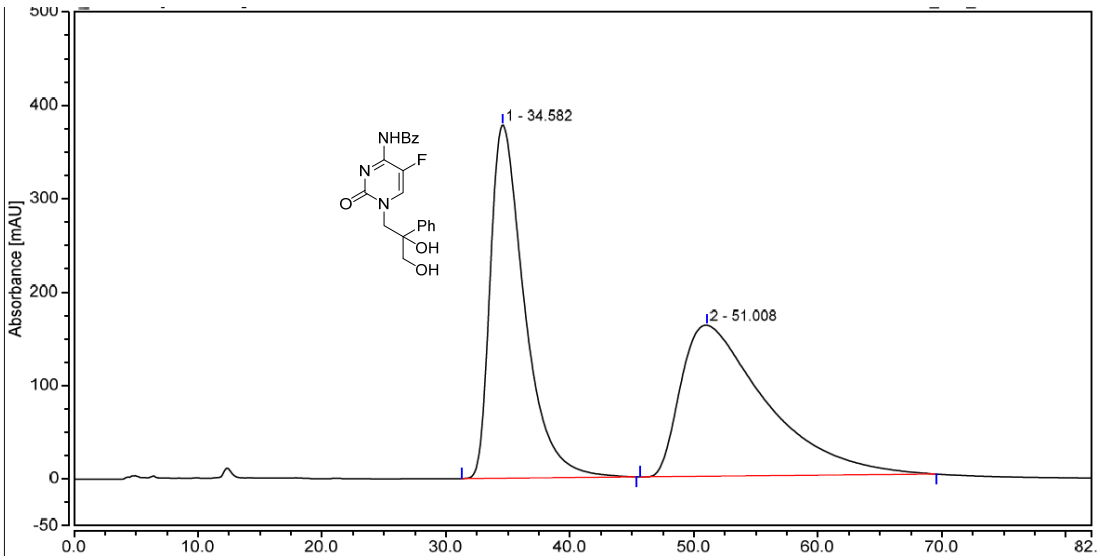
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	15.980	2694.850	2880.868	99.27
2	24.430	19.730	12.773	0.73
Total:		**2714.580**	**2893.640**	**100.00**



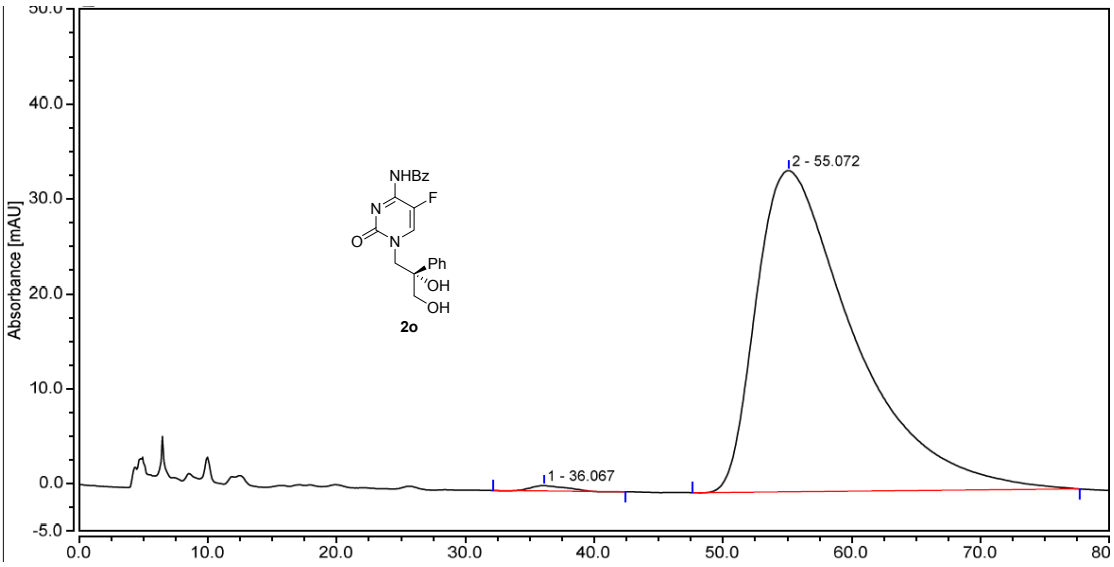
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	22.615	BB	0.8092	1.05902e4	193.40884	49.6948
2	28.223	BB	0.9258	1.07203e4	172.53931	50.3052



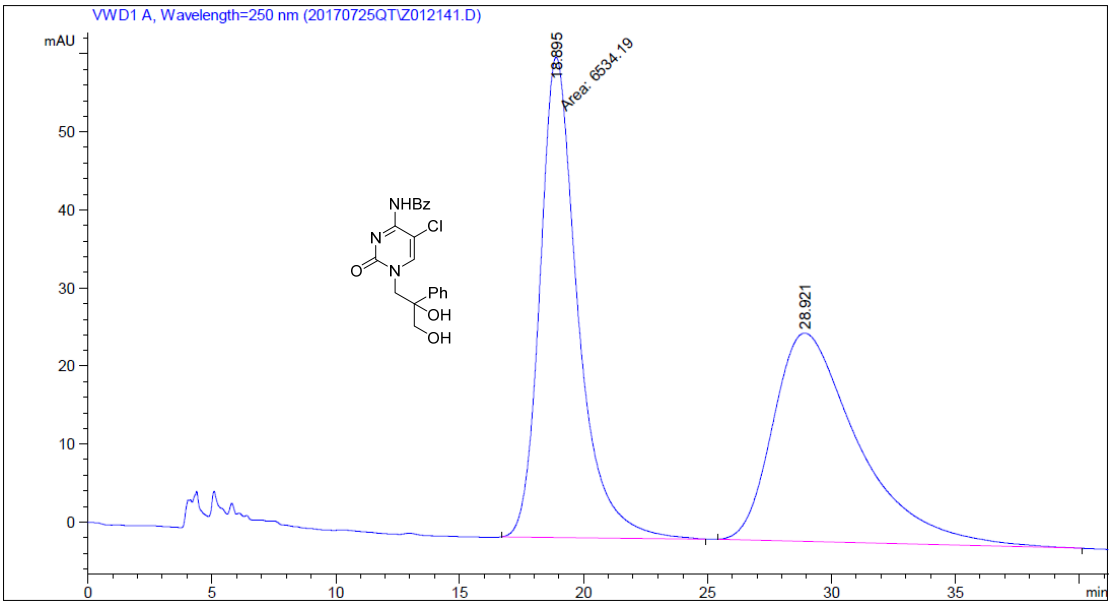
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	23.040	BB	0.9010	520.06866	8.09411	1.1499
2	27.874	BB	0.9086	4.47076e4	725.16675	98.8501



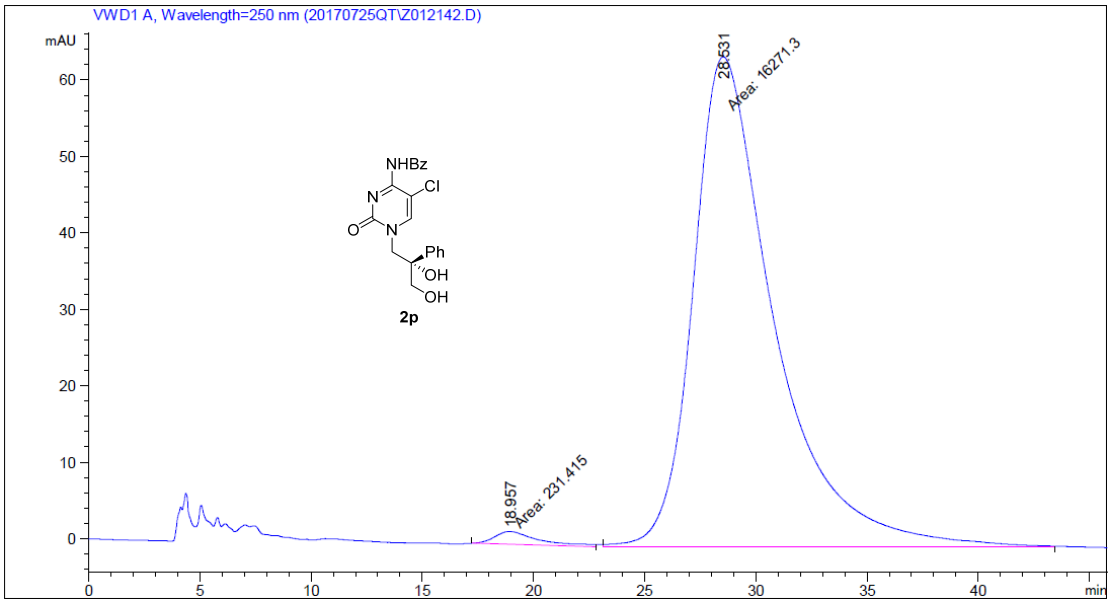
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	34.582	1207.344	378.048	48.37
2	51.008	1288.578	161.903	51.63
Total:		**2495.922**	**539.951**	**100.00**



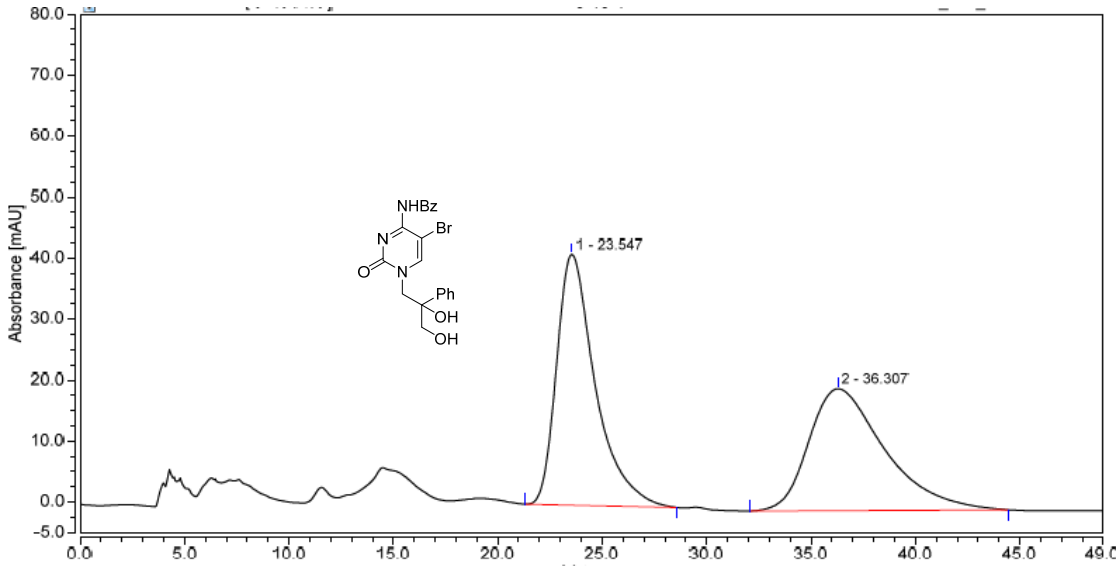
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	36.067	1.704	0.560	0.57
2	55.072	298.079	33.814	99.43
Total:		**299.784**	**34.375**	**100.00**



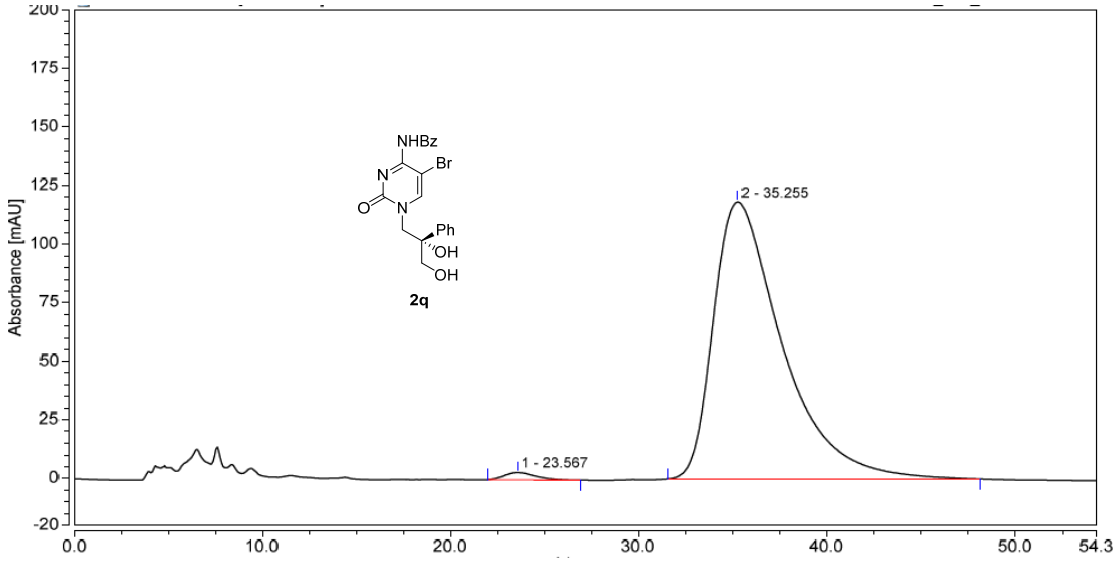
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	18.895	MM	1.7688	6534.19092	61.56887	50.6591
2	28.921	BB	2.7917	6364.15527	26.69327	49.3409



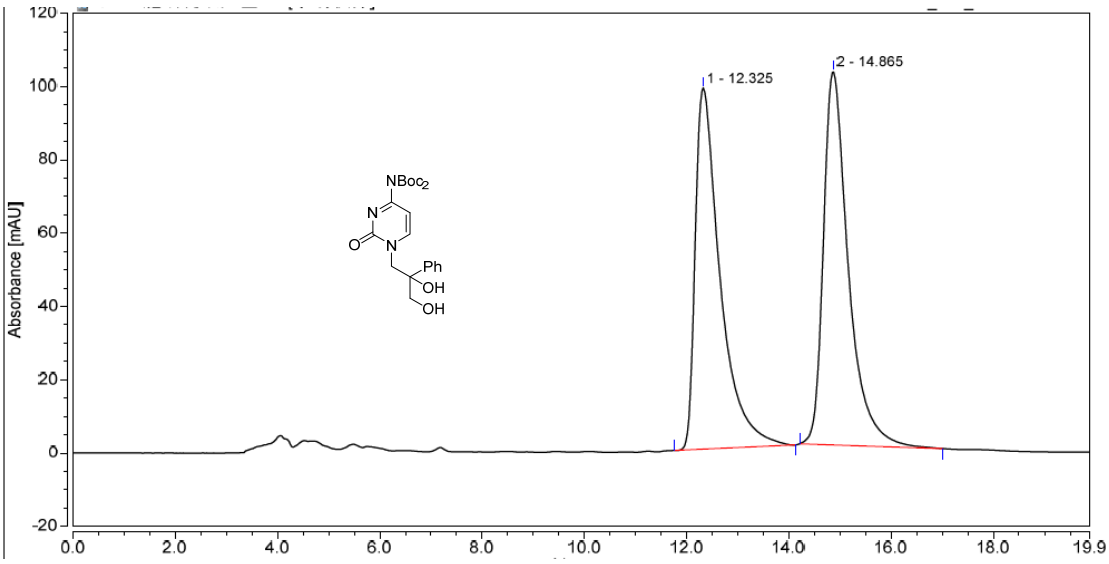
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	18.957	MM	2.3056	231.41539	1.67285	1.4023
2	28.531	MM	4.2332	1.62713e4	64.06184	98.5977



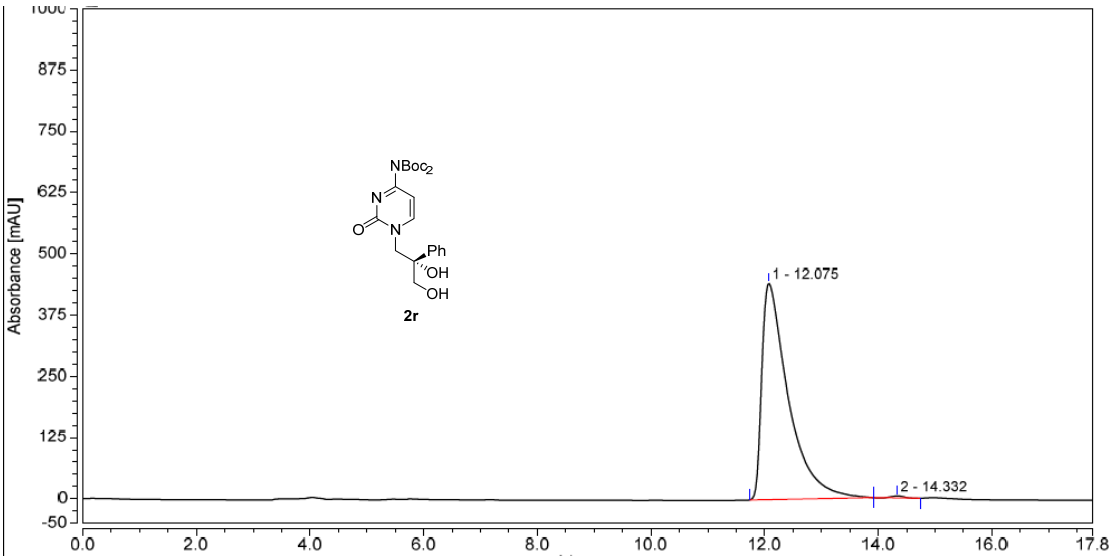
Peak	Retention min	Area mAU*min	Height mAU	Area %
1	23.547	86.648	40.939	51.27
2	36.307	82.364	19.884	48.73
Total:		**169.012**	**60.823**	**100.00**



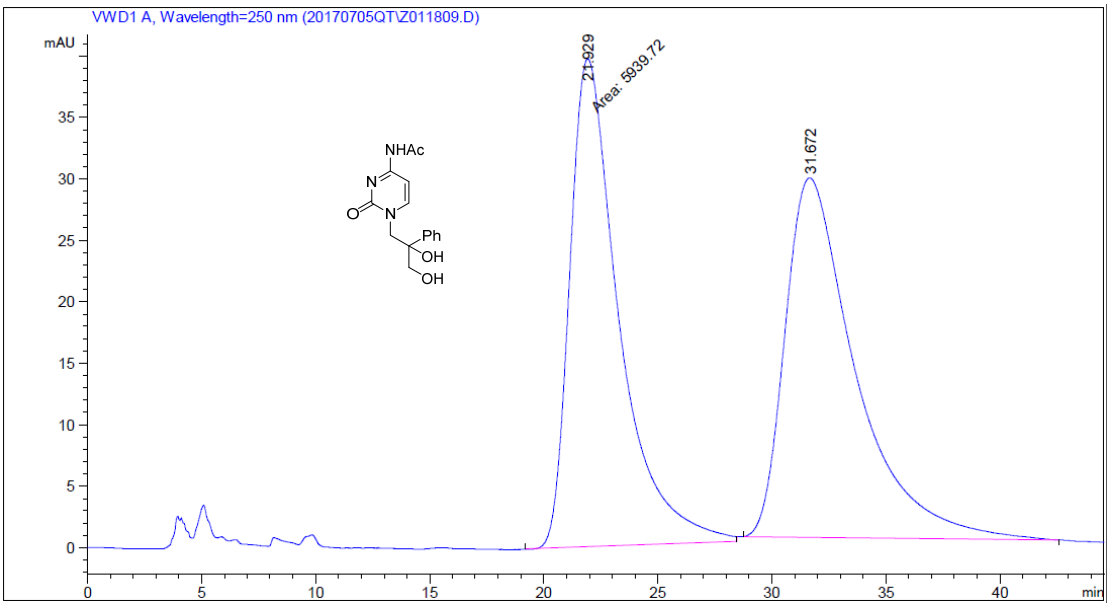
Peak	Retention min	Area mAU*min	Height mAU	Area %
1	23.567	5.970	3.108	1.18
2	35.255	499.558	118.153	98.82
Total:		**505.528**	**121.260**	**100.00**



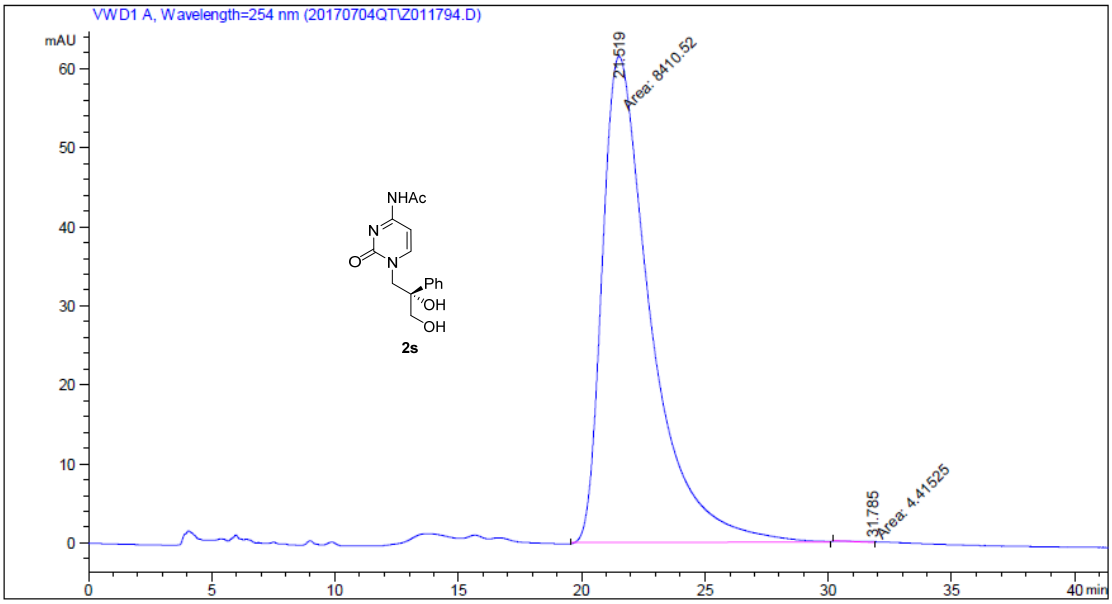
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	12.325	55.528	98.593	49.12
2	14.865	57.511	101.905	50.88
Total:		**113.039**	**200.498**	**100.00**



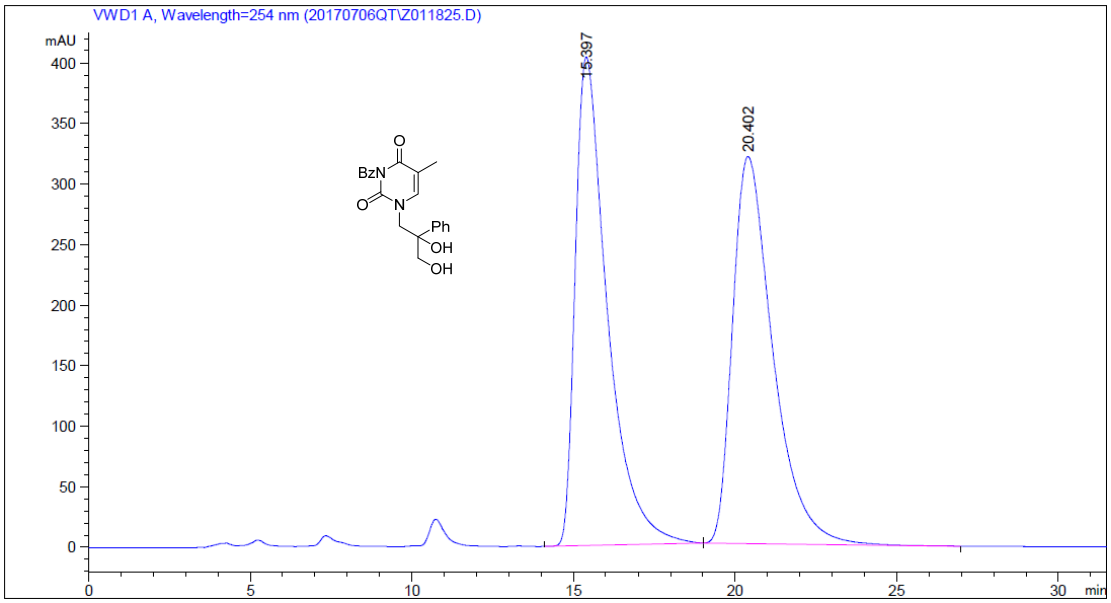
Peak	Retention min	Area mAU*min	Height mAU	Area %
1	12.075	238.100	441.196	99.62
2	14.332	0.908	3.829	0.38
Total		**239.008**	**445.025**	**100.00**



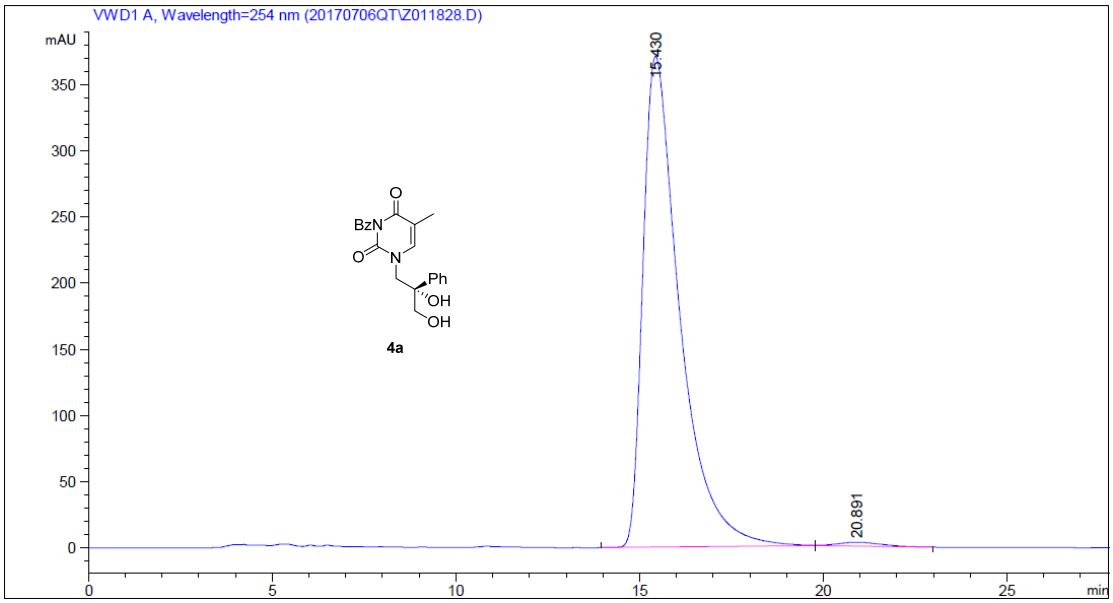
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	21.929	MM	2.4944	5939.72461	39.68705	48.7281
2	31.672	BB	2.5072	6249.80371	29.23454	51.2719



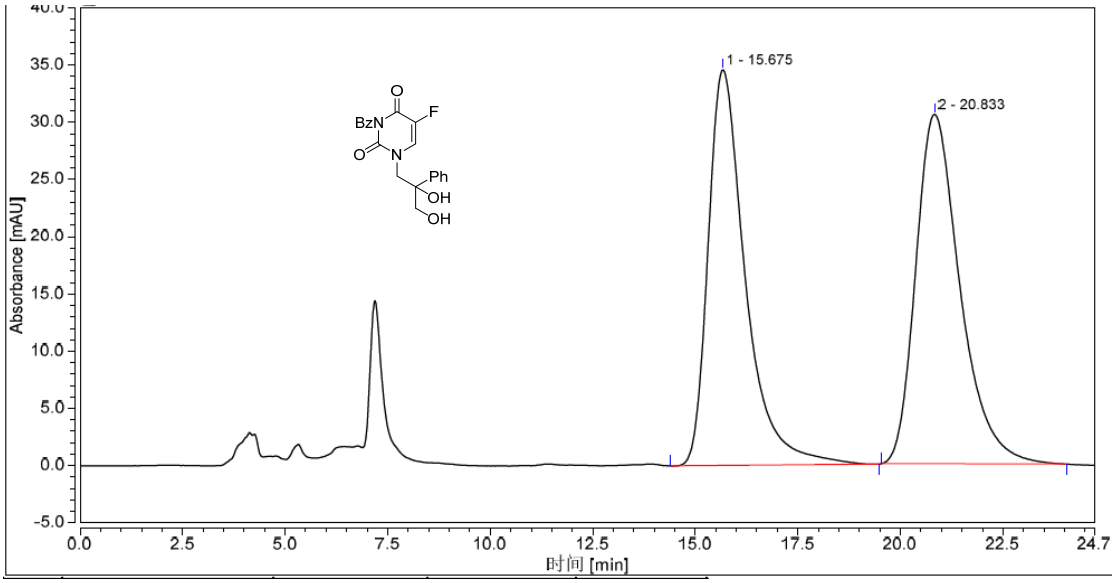
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	21.519	MM	2.2775	8410.51758	61.54819	99.9475
2	31.785	MM	0.6527	4.41525	1.12742e-1	0.0525



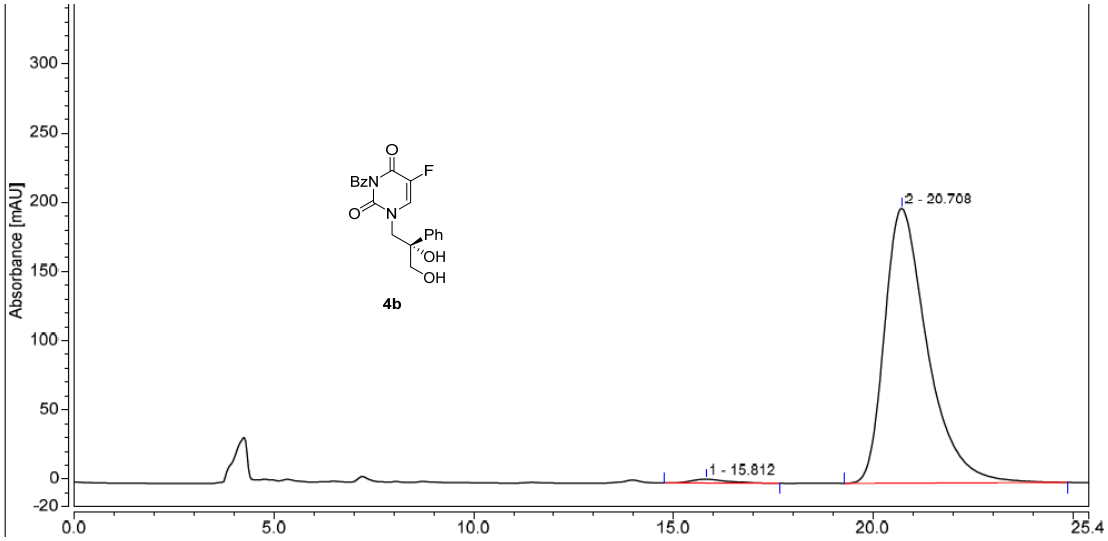
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	15.397	BB	1.0108	2.78218e4	403.71835	50.1019
2	20.402	BB	1.2786	2.77086e4	319.83594	49.8981



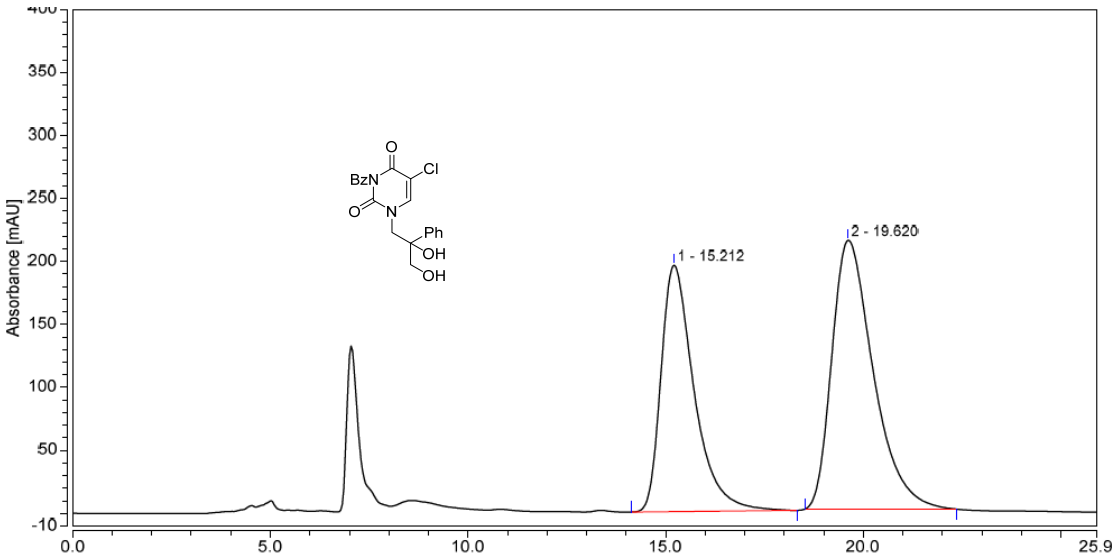
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	15.430	BB	1.0178	2.57887e4	370.95477	99.1103
2	20.891	BB	0.9601	231.48921	2.86511	0.8897



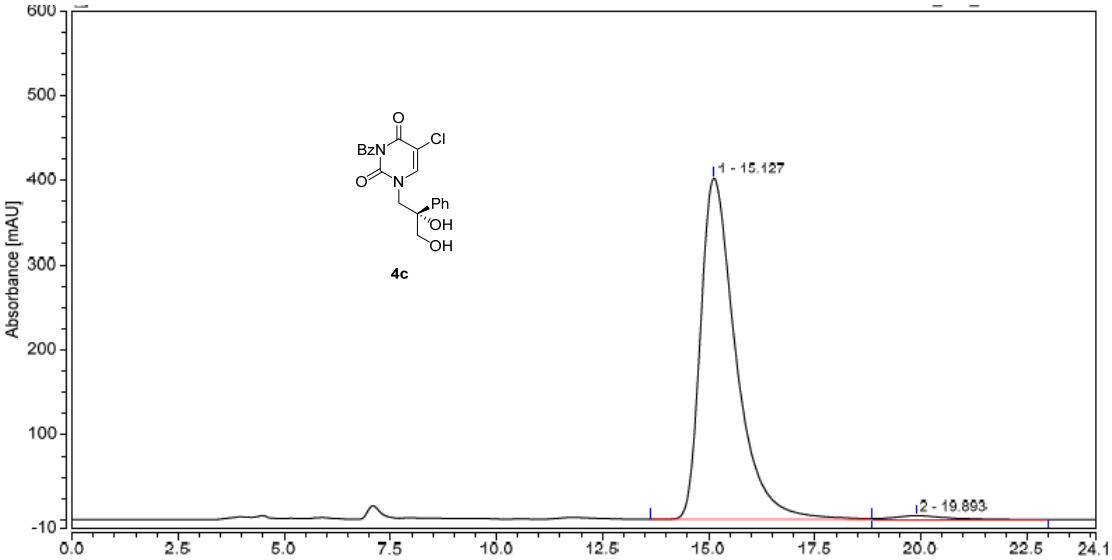
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	15.675	36.247	34.580	48.66
2	20.833	38.245	30.540	51.34
Total:		**74.492**	**65.120**	**100.00**



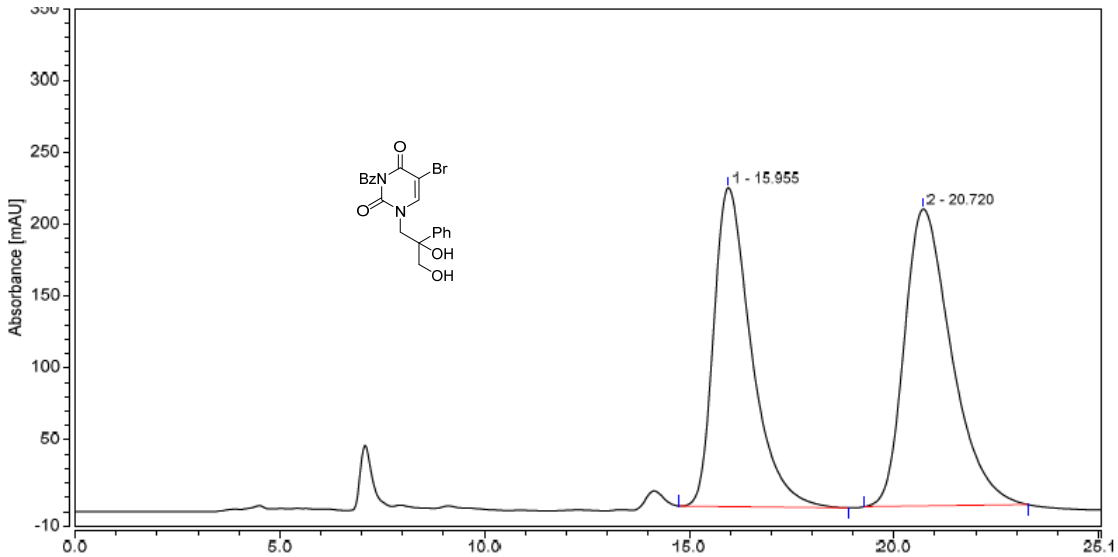
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	15.812	2.959	2.769	1.18
2	20.708	247.080	198.444	98.82
Total:		**250.039**	**201.214**	**100.00**



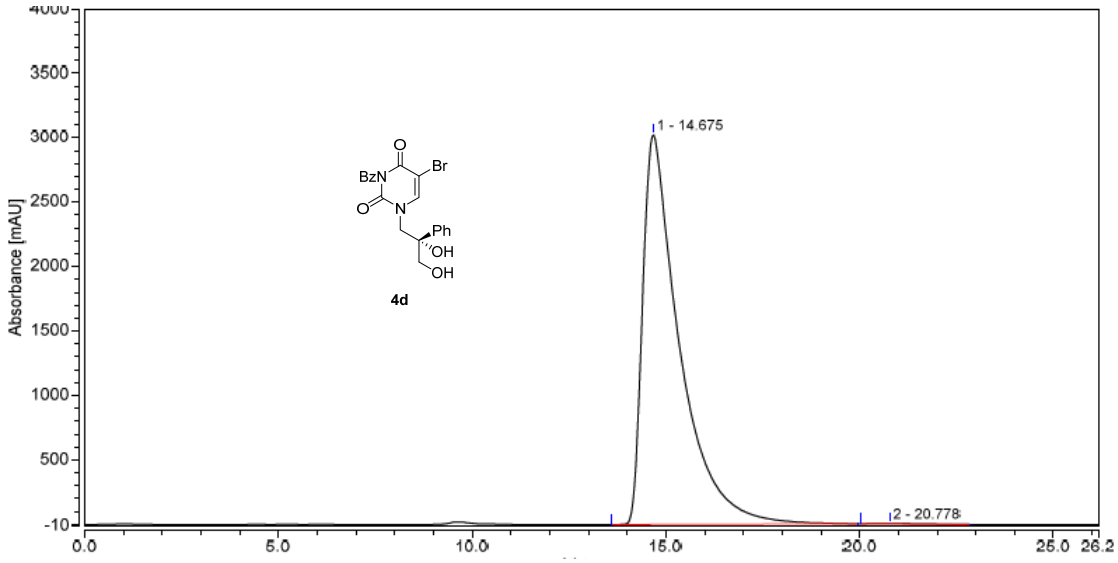
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	15.212	189.758	195.563	42.26
2	19.620	259.284	213.456	57.74
Total		**449.042**	**409.019**	**100.00**



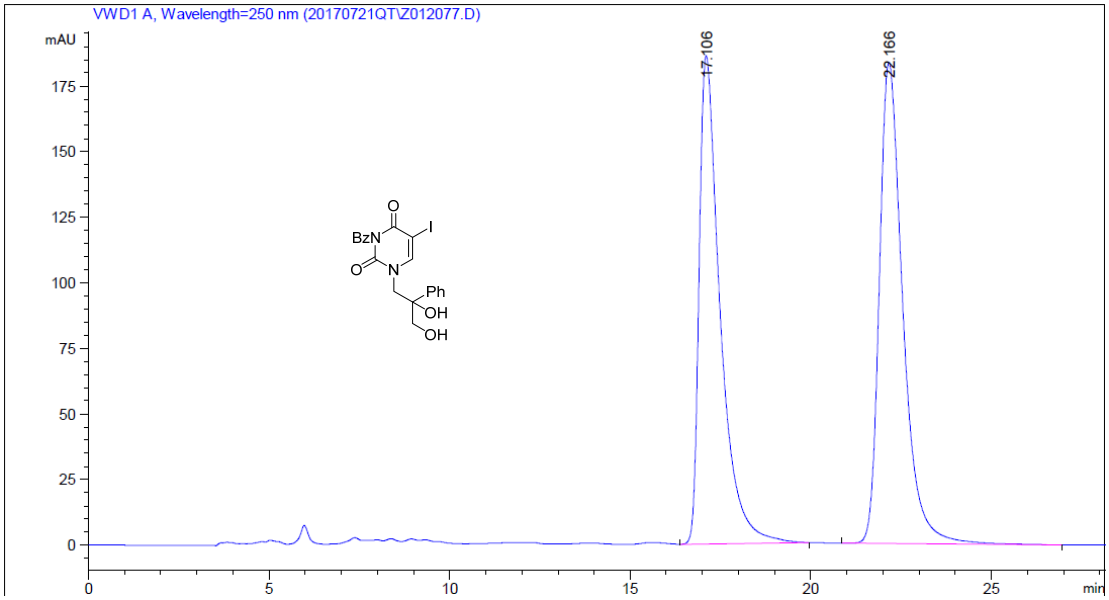
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	15.127	387.506	402.349	98.44
2	19.893	6.134	4.339	1.56
Total		**393.639**	**406.688**	**100.00**



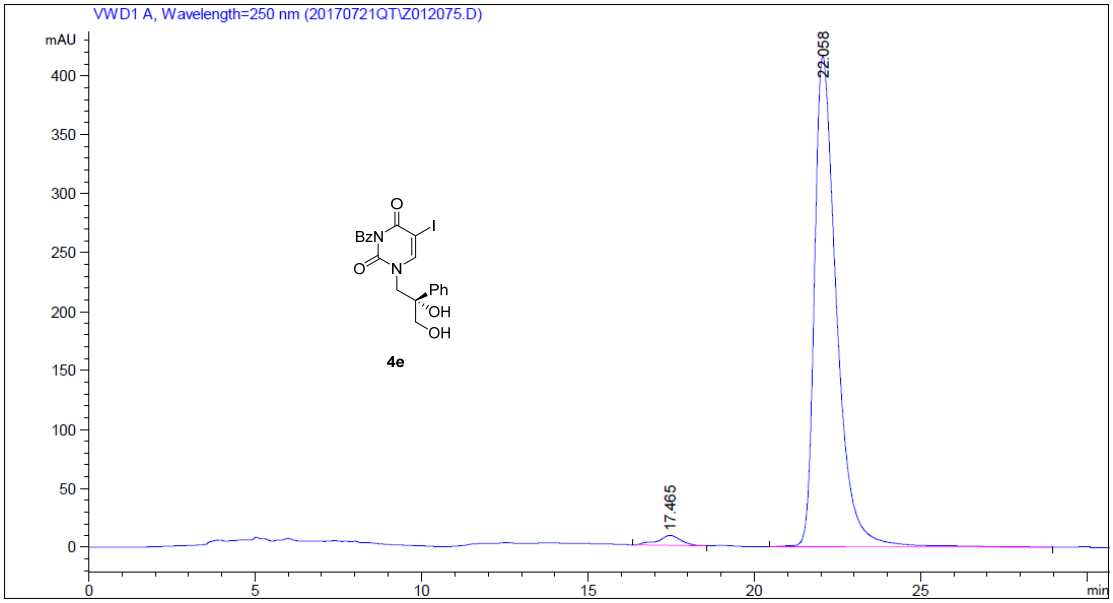
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	15.955	234.243	221.681	47.51
2	20.720	258.801	202.681	52.49
Total		**493.044**	**424.362**	**100.00**



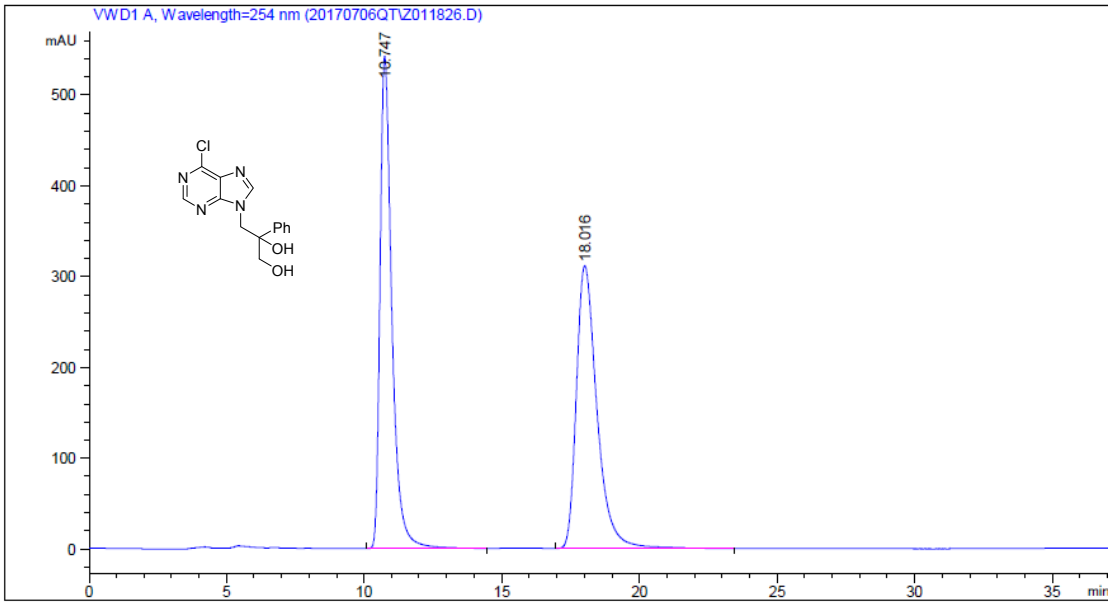
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	14.675	3314.645	3023.812	99.87
2	20.778	4.327	3.728	0.13
Total		**3318.973**	**3027.539**	**100.00**



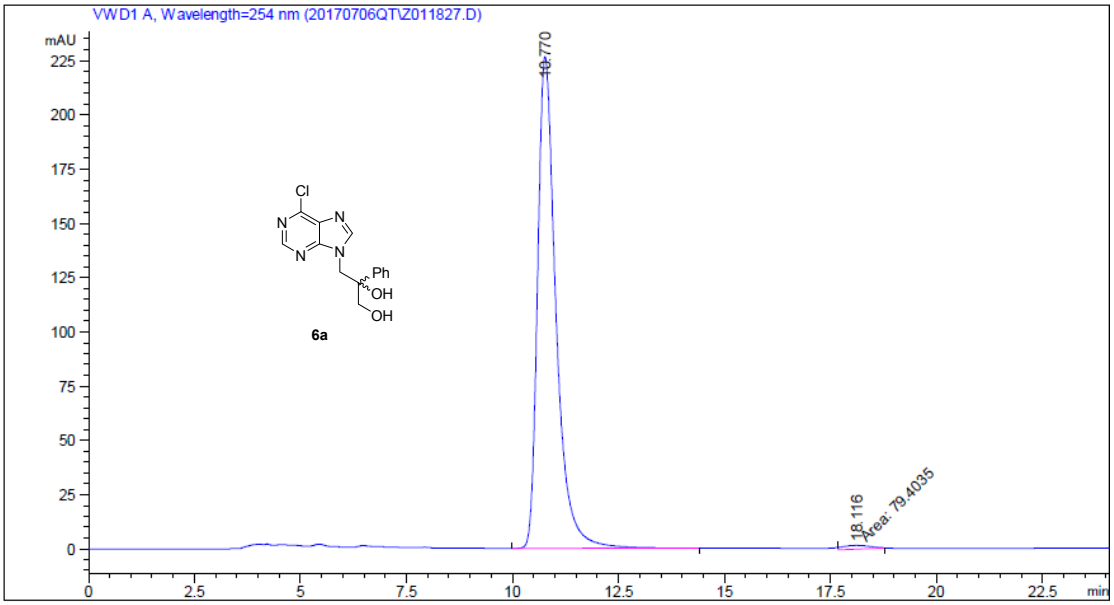
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	17.106	BB	0.6022	7515.89844	186.08920	47.5825
2	22.166	BB	0.6838	8279.61816	183.44119	52.4175



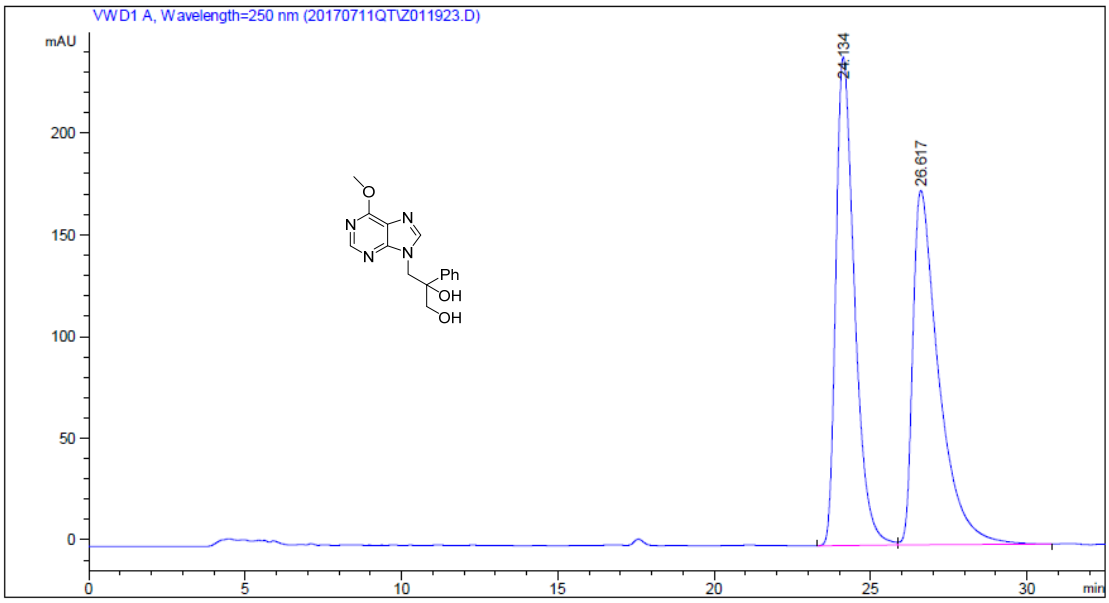
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	17.465	BB	0.6944	403.06876	8.39079	2.0604
2	22.058	BB	0.6941	1.91591e4	416.37936	97.9396



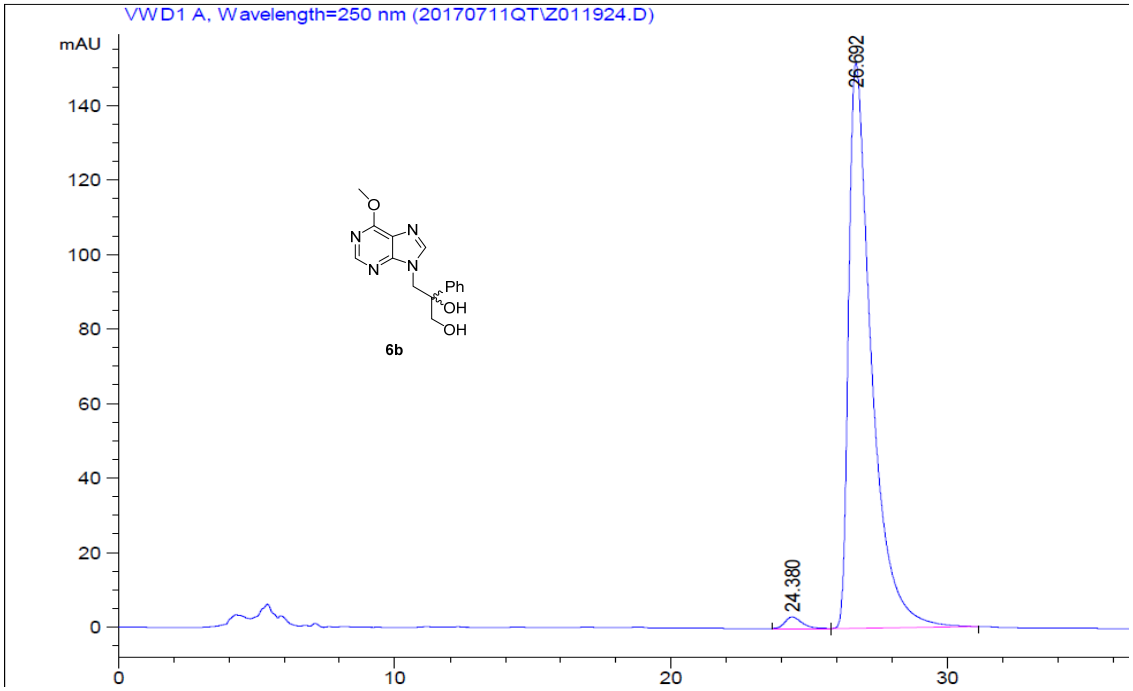
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	10.747	BB	0.4484	1.61589e4	541.86469	49.9452
2	18.016	BB	0.7931	1.61944e4	311.37766	50.0548



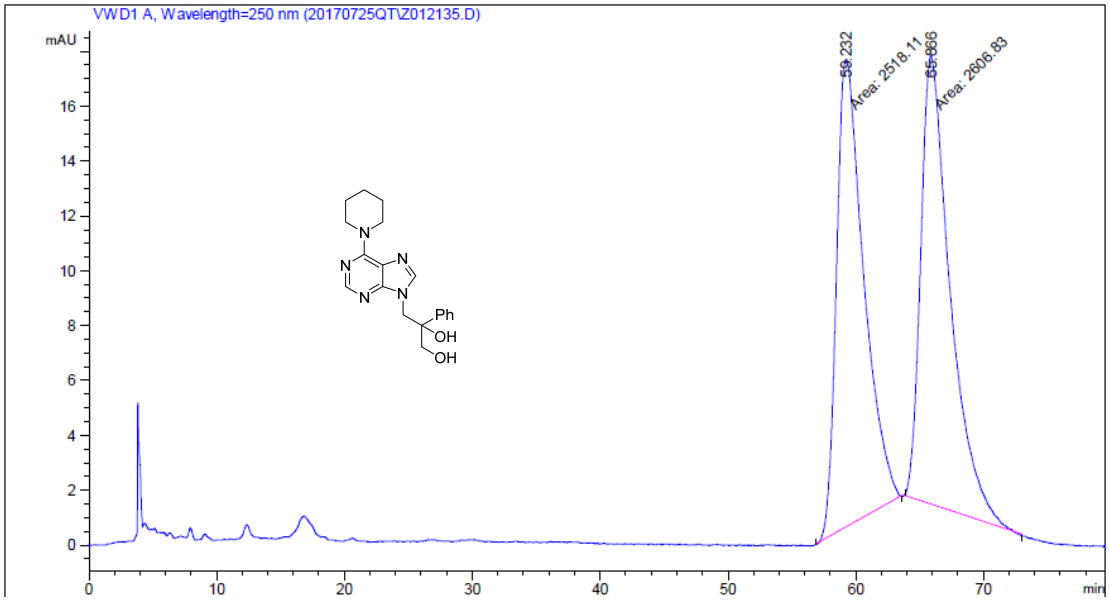
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	10.770	BB	0.4569	6845.20068	226.85646	98.8533
2	18.116	MM	0.7432	79.40353	1.78074	1.1467



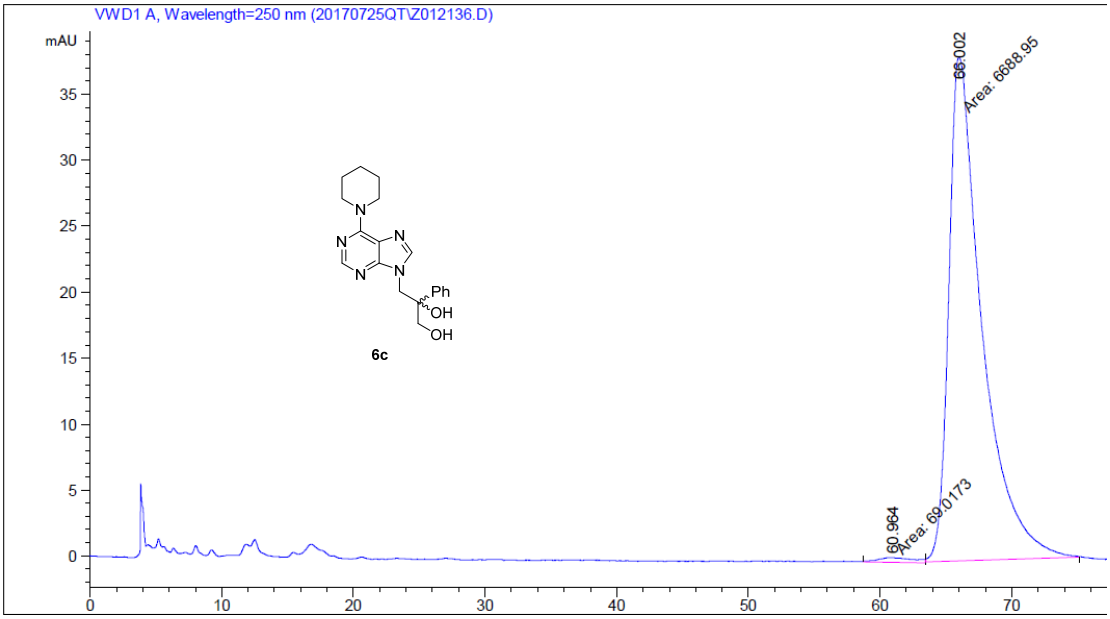
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	24.134	BV	0.6280	9955.07422	240.03333	49.7456
2	26.617	VB	0.8351	1.00569e4	174.21440	50.2544



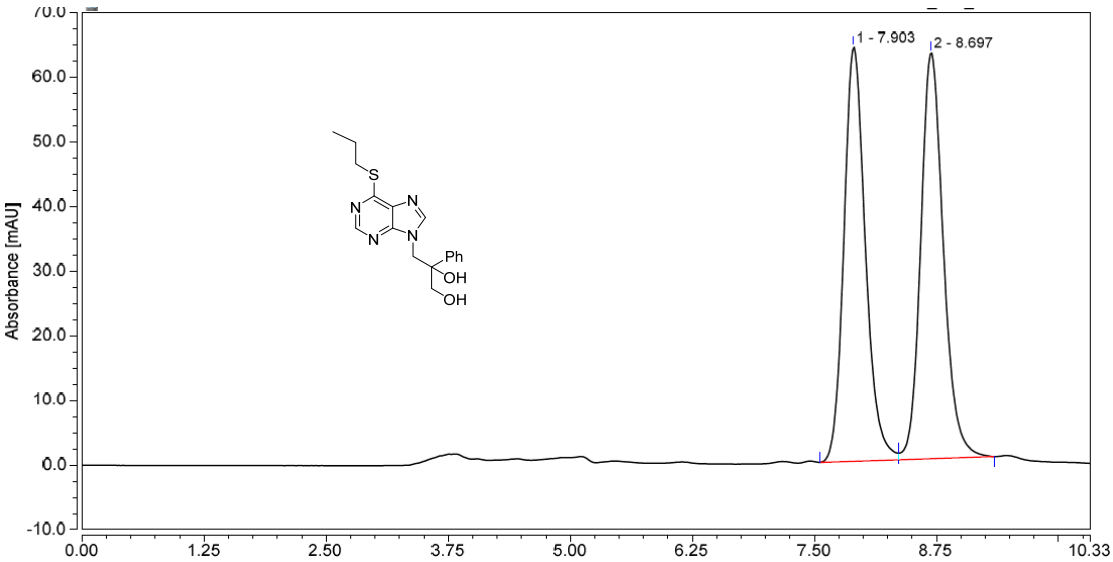
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	24.380	BB	0.6036	129.84419	3.08232	1.4734
2	26.692	BB	0.8440	8682.77539	151.69086	98.5266



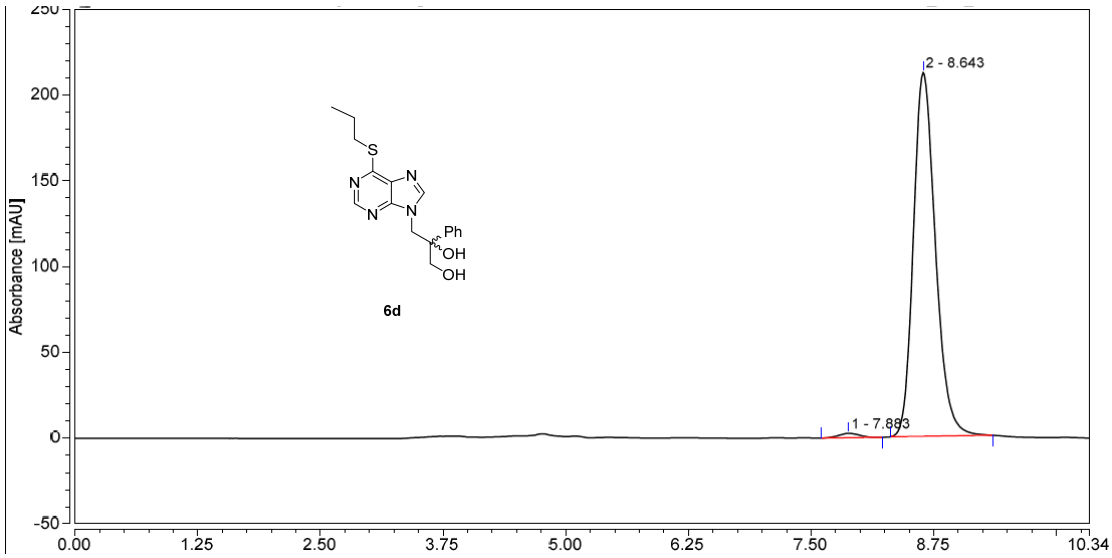
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	59.232	MM	2.4632	2518.11328	17.03840	49.1344
2	65.866	MM	2.6588	2606.83276	16.34104	50.8656



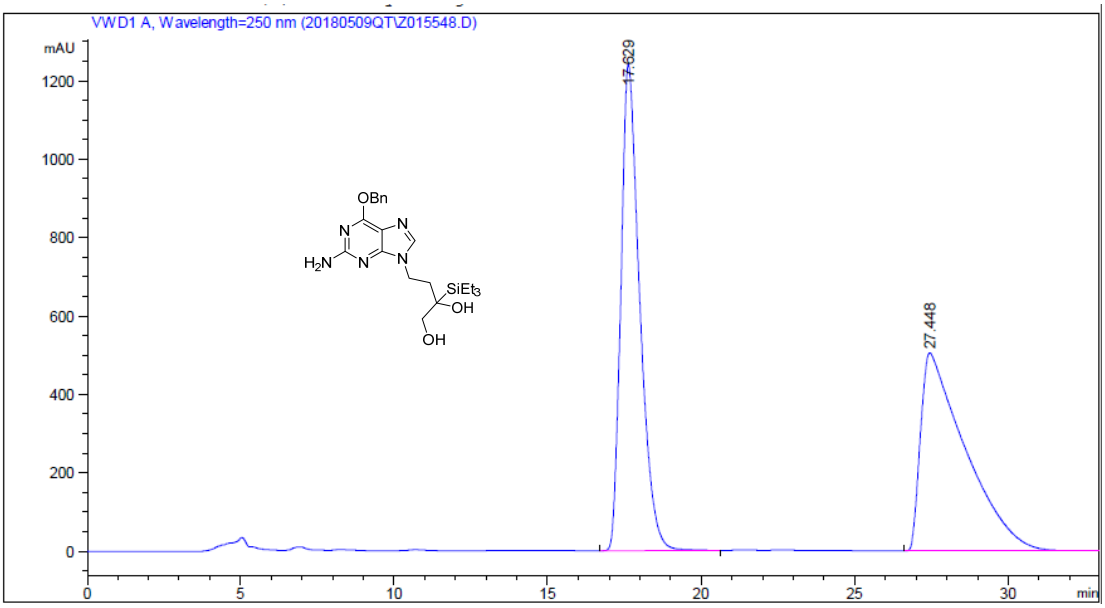
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	60.964	MM	3.1337	69.01731	3.67066e-1	1.0213
2	66.002	MM	2.9189	6688.94678	38.19278	98.9787



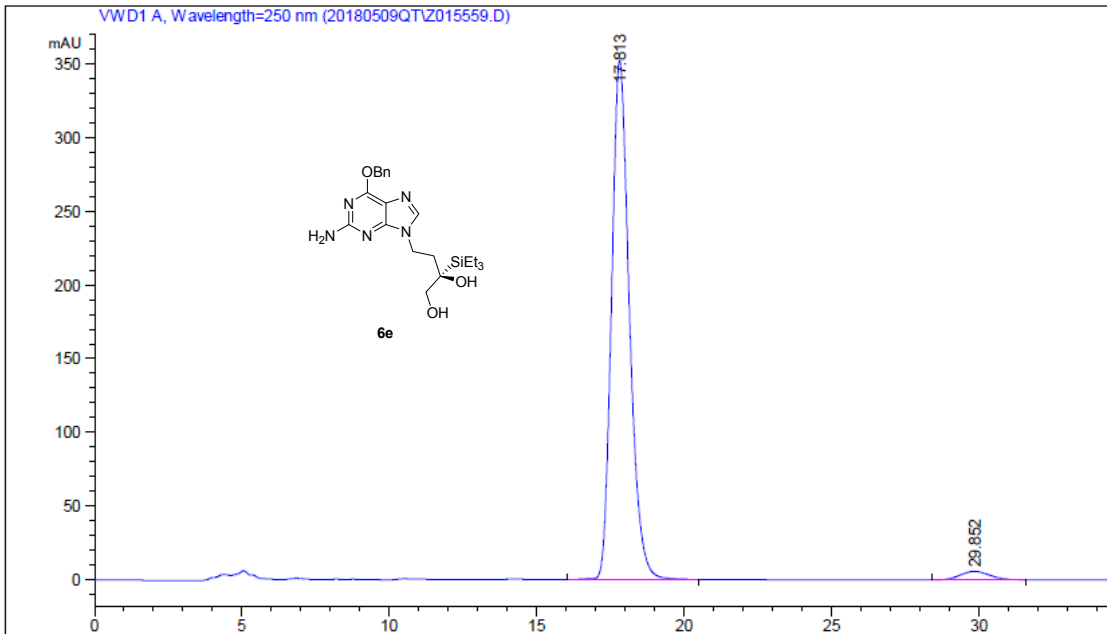
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	7.903	16.341	64.096	49.17
2	8.697	16.896	62.841	50.83
Total:		**33.237**	**126.937**	**100.00**



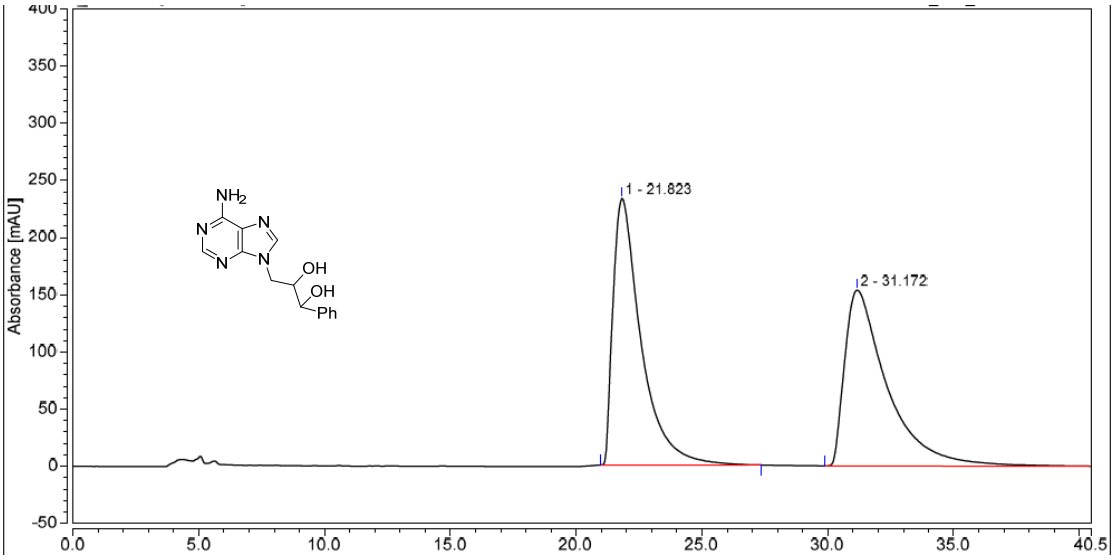
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	7.883	0.598	2.513	1.07
2	8.643	55.167	212.386	98.93
Total:		**55.765**	**214.899**	**100.00**



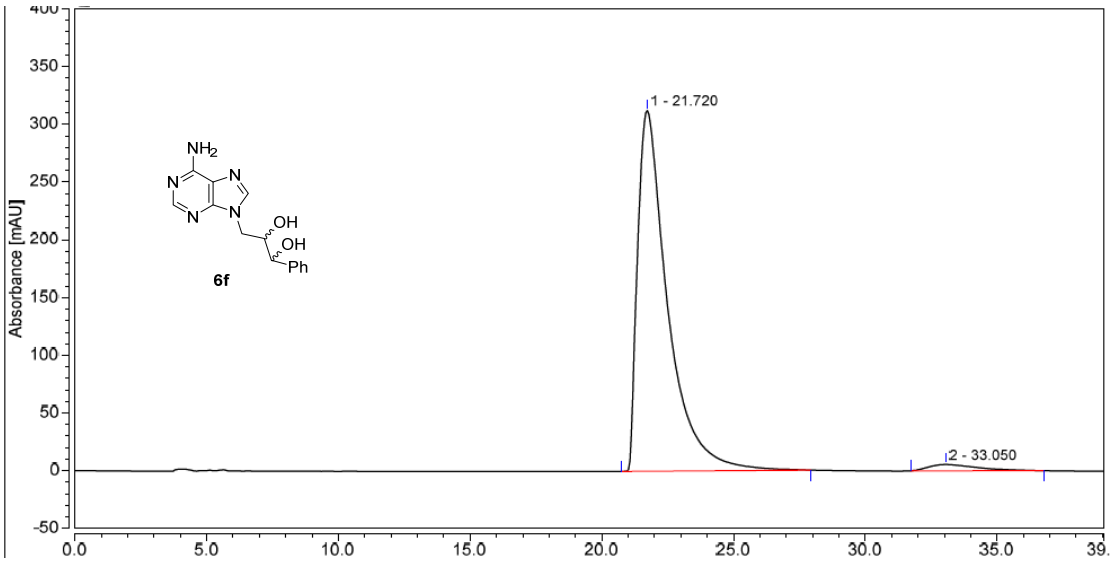
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	17.629	BB	0.6207	5.27316e4	1241.52185	50.7604
2	27.448	BBA	1.3743	5.11517e4	504.84940	49.2396



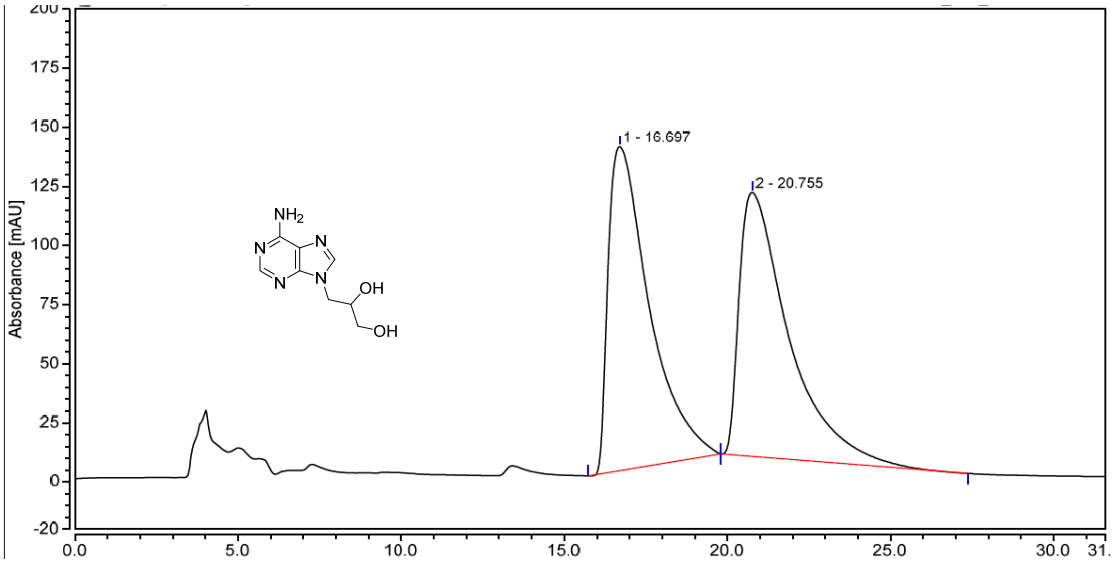
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	17.813	BB	0.6332	1.47647e4	352.23743	97.3341
2	29.852	BB	0.8685	404.39120	5.82247	2.6659



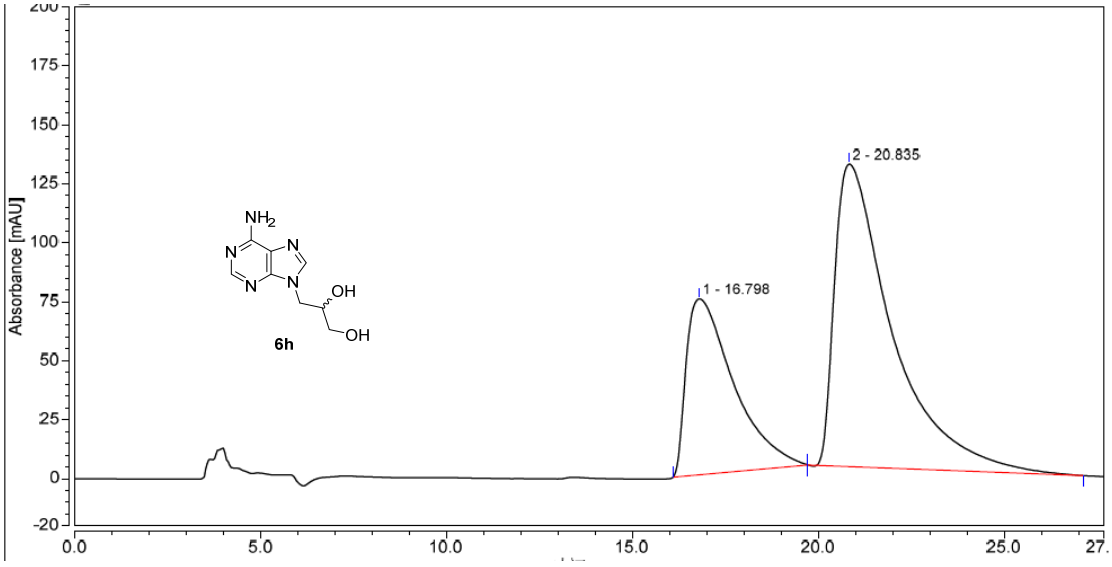
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	21.823	301.494	233.293	50.11
2	31.172	300.116	153.948	49.89
Total:		**601.610**	**387.241**	**100.00**



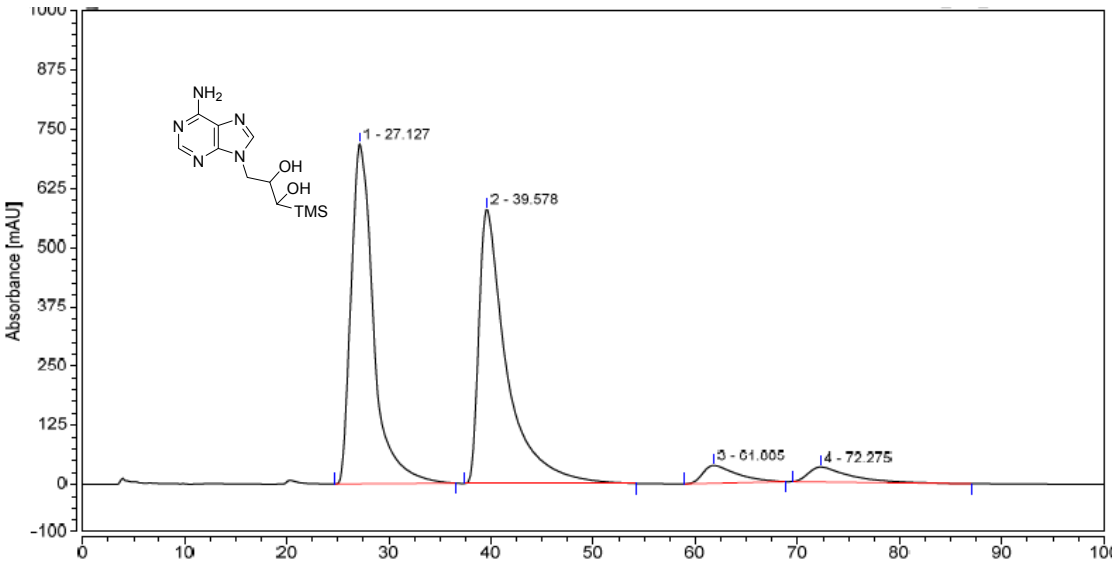
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	21.720	412.406	312.351	97.27
2	33.050	11.564	5.404	2.73
Total:		**423.970**	**317.756**	**100.00**



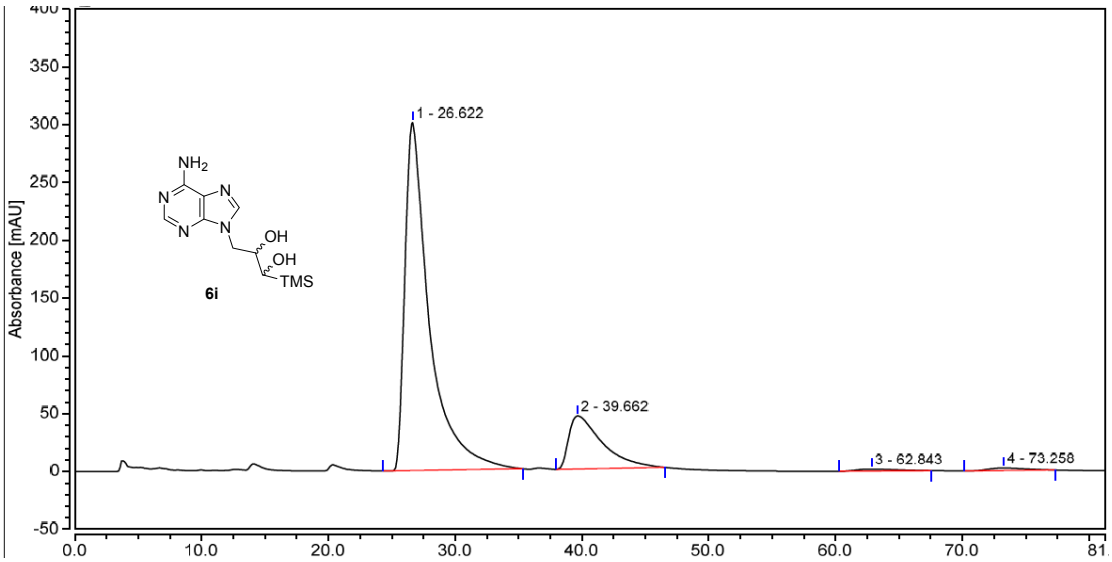
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	16.697	199.821	136.919	50.45
2	20.755	196.290	111.602	49.55
Total:		**396.112**	**248.521**	**100.00**



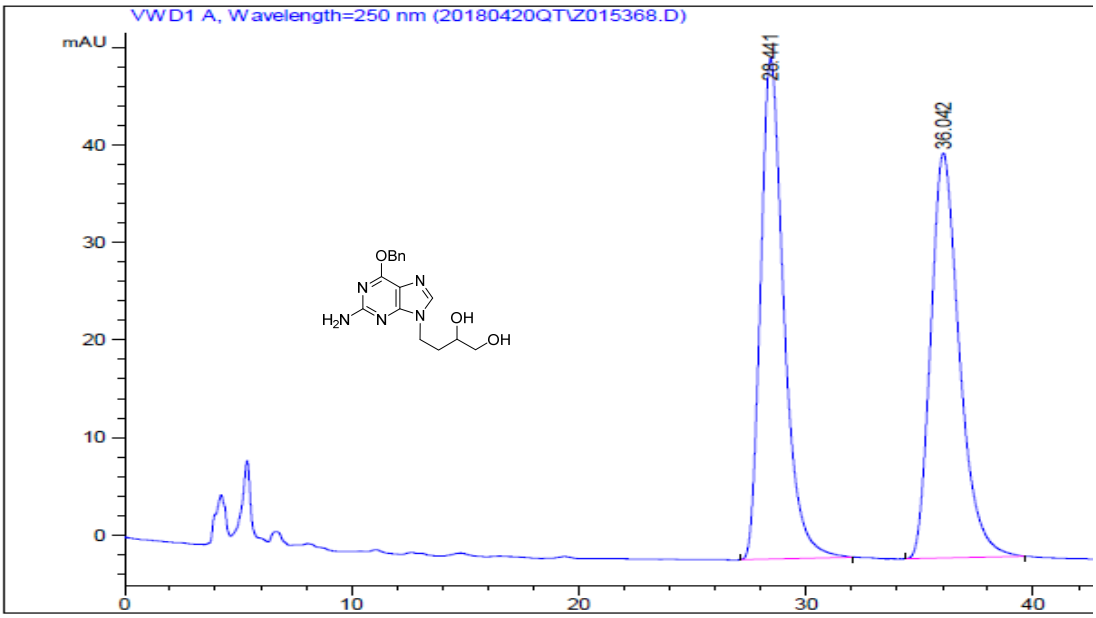
Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	16.798	109.792	74.568	32.43
2	20.835	228.795	128.230	67.57
Total:		**338.587**	**202.798**	**100.00**



Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	27.127	1829.152	718.193	46.47
2	39.578	1815.857	579.462	46.13
3	61.805	144.634	37.678	3.67
4	72.275	146.755	31.448	3.73
Total:		**3936.398**	**1366.780**	**100.00**

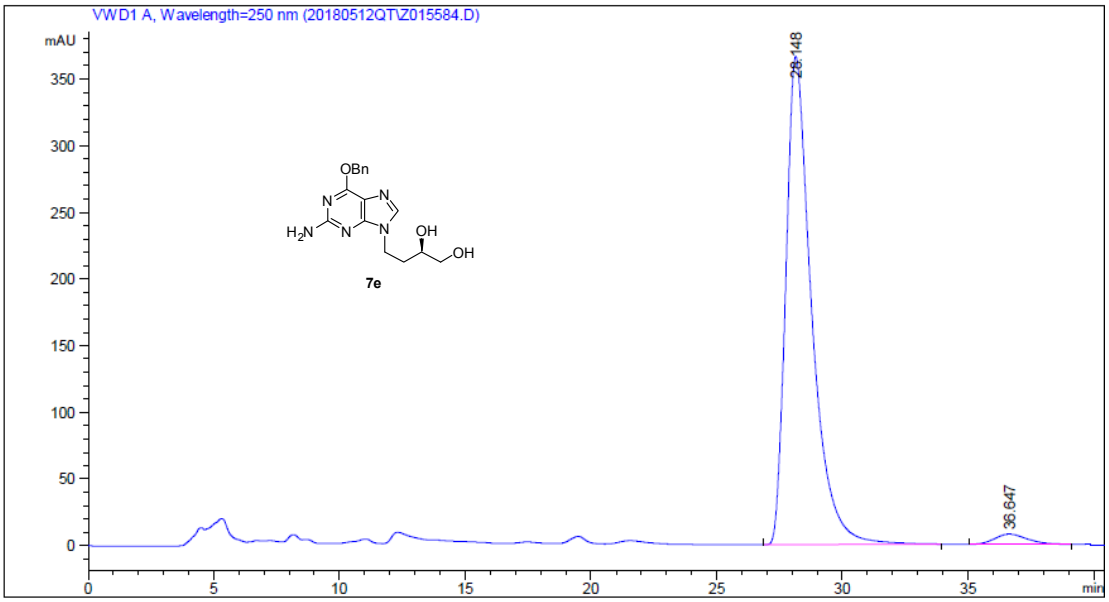


Peak	Retention Time min	Area mAU*min	Height mAU	Area %
1	26.622	667.716	301.028	81.24
2	39.662	140.448	45.912	17.09
3	62.843	6.253	1.737	0.76
4	73.258	7.504	2.163	0.91
Total:		**821.921**	**350.841**	**100.00**



Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	28.441	BB	1.0468	3653.42920	51.36385	50.1465
2	36.042	BB	1.2826	3632.08691	41.52243	49.8535

Totals : 7285.51611 92.88629



Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	28.148	BB	1.0347	2.60134e4	365.90369	97.4785
2	36.647	BB	1.0694	672.88562	7.57855	2.5215