Article

Identification of Novel Antifungal Skeleton of Hydroxyethyl Naphthalimides with Synergistic Potential for Chemical and Dynamic Treatments

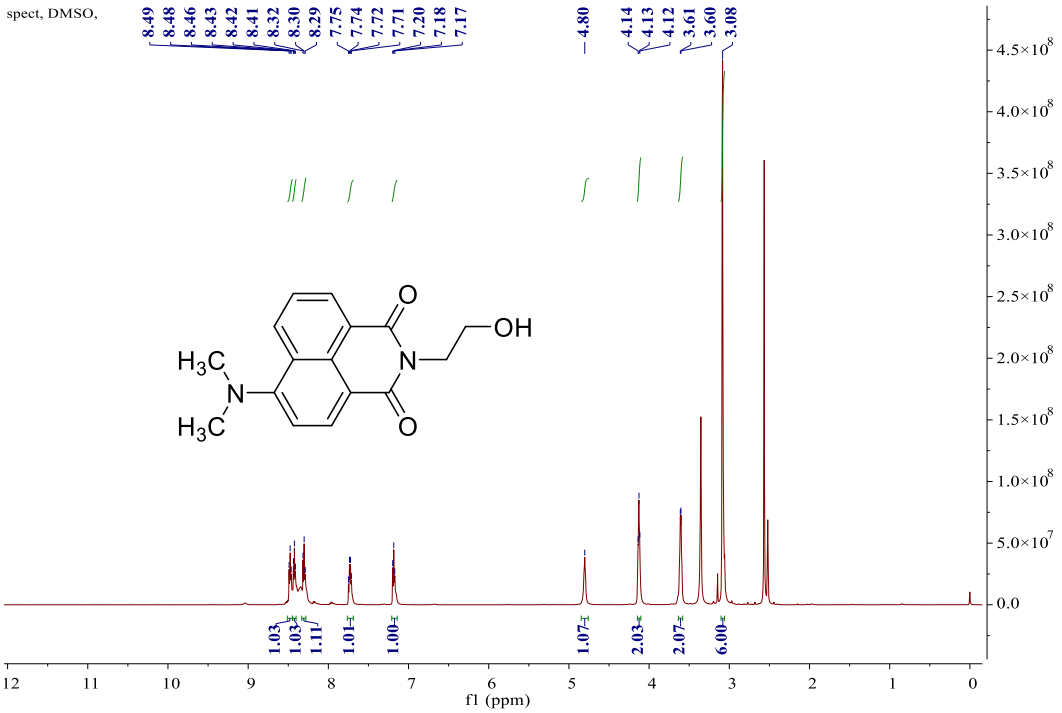
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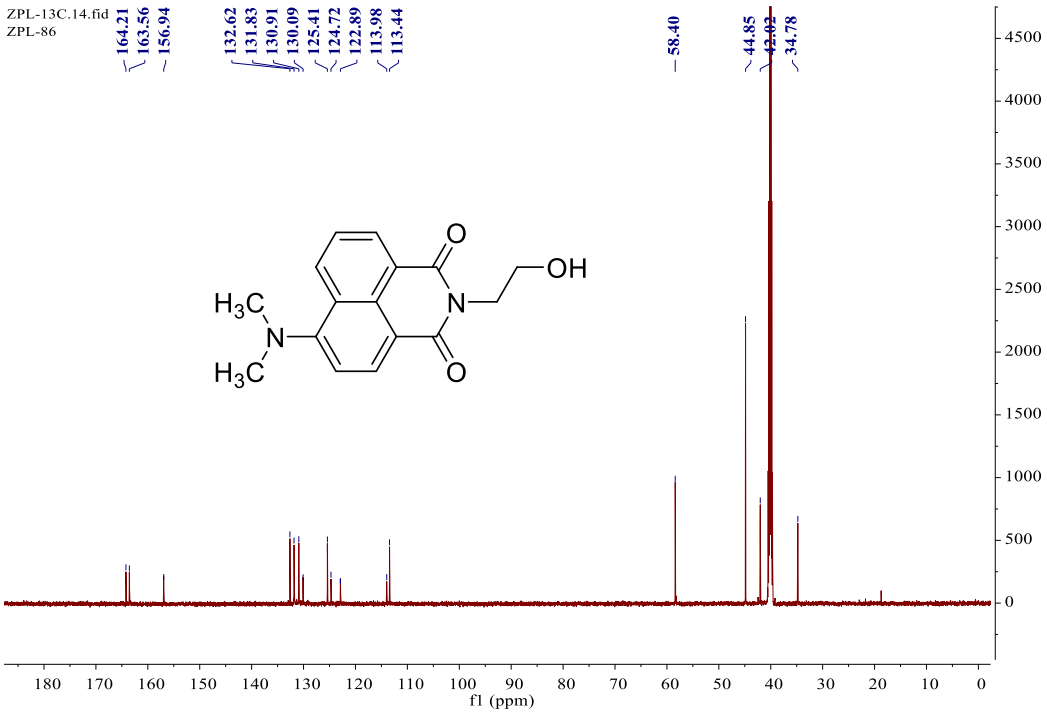
Characterizations of some representative compounds

1.1 Spectra of compound **3a**.

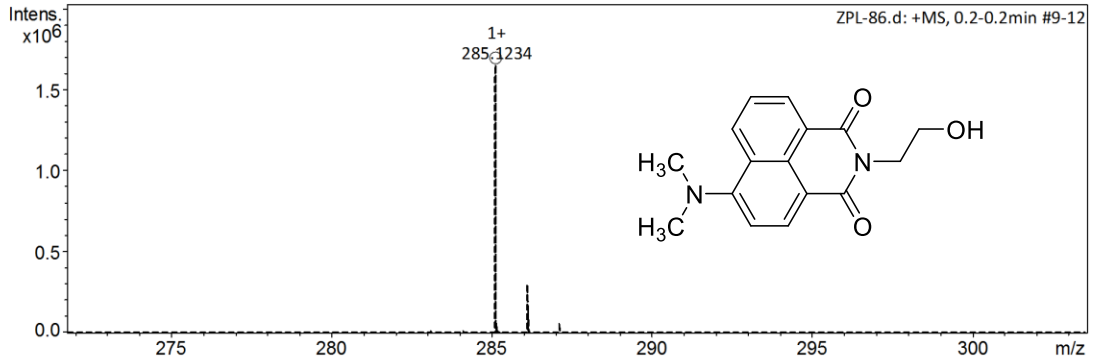
^{1}H NMR spectrum



^{13}C NMR spectrum

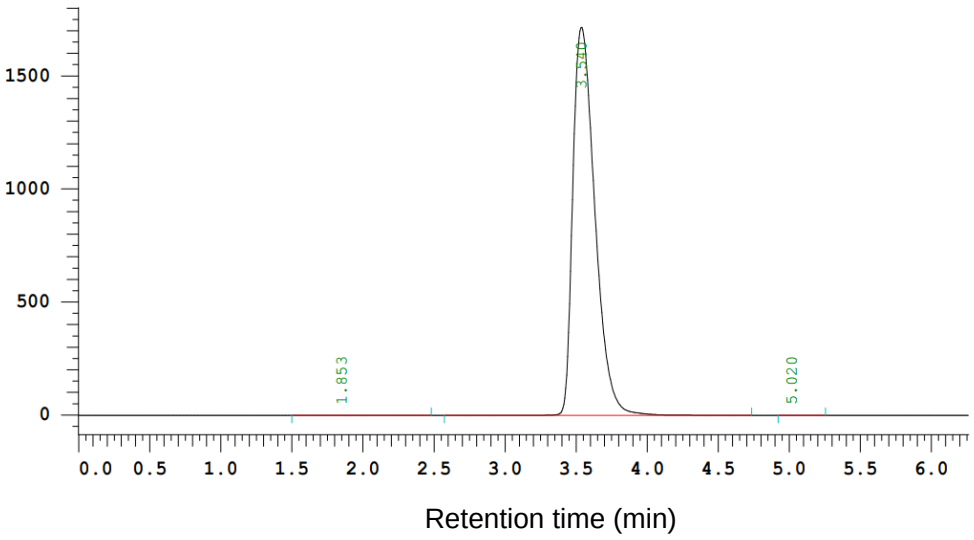


HRMS spectrum



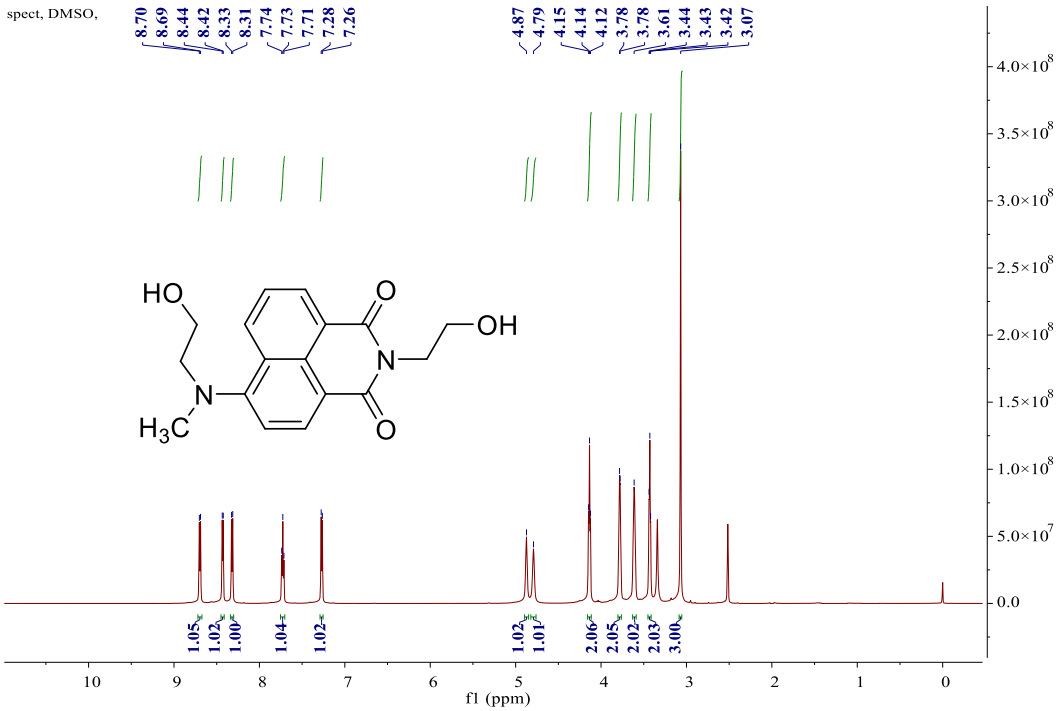
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.853	5681	0.031	BB
2	3.540	18542525	99.964	BB
3	5.020	1006	0.005	BB
		18549212	100.000	

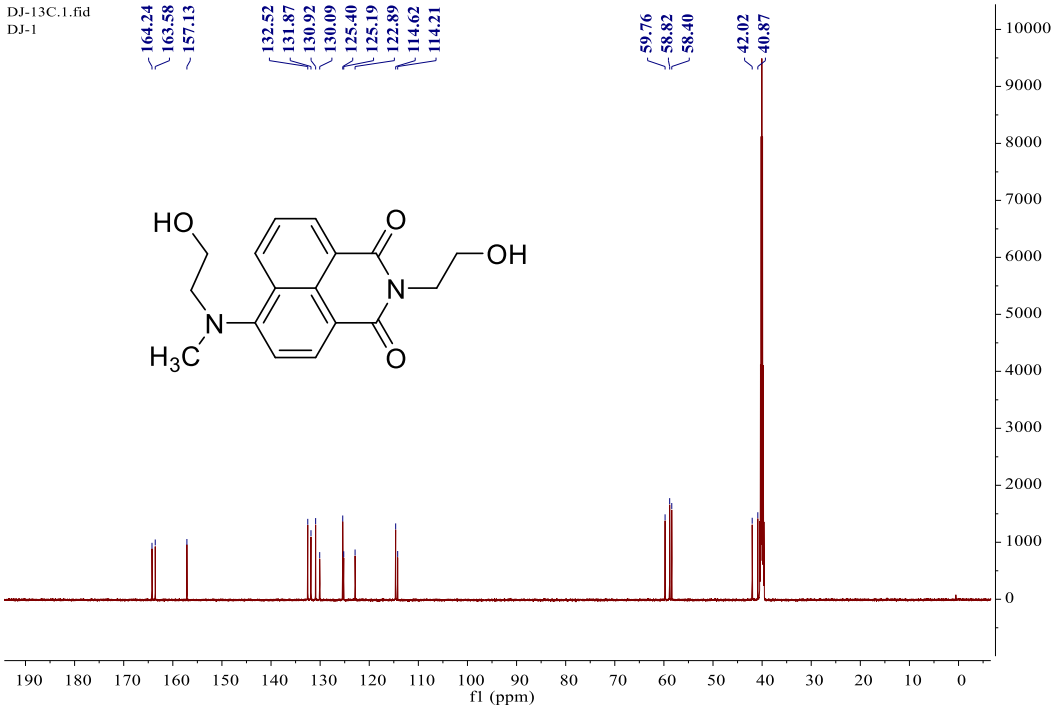


1.2 Spectra of compound **4a**.

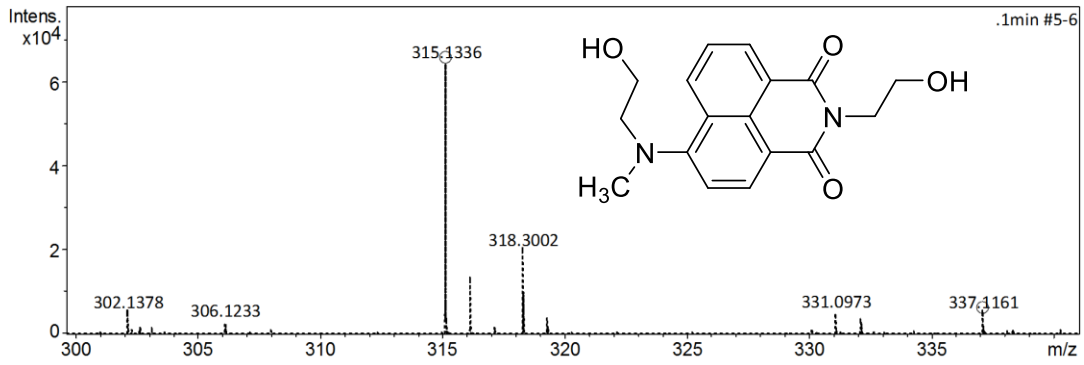
^{1}H NMR spectrum



^{13}C NMR spectrum

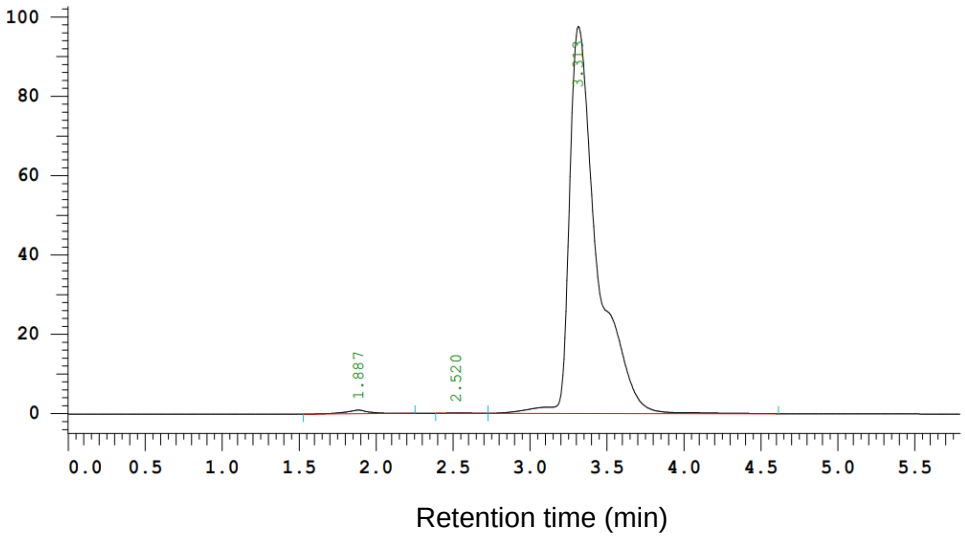


HRMS spectrum



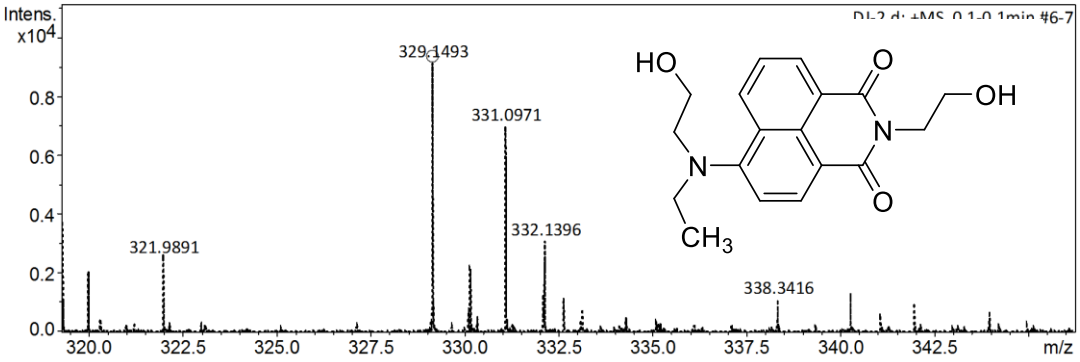
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.887	10064	0.818	BB
2	2.520	752	0.061	BB
3	3.313	1218945	99.120	BB
		1229761	100.000	



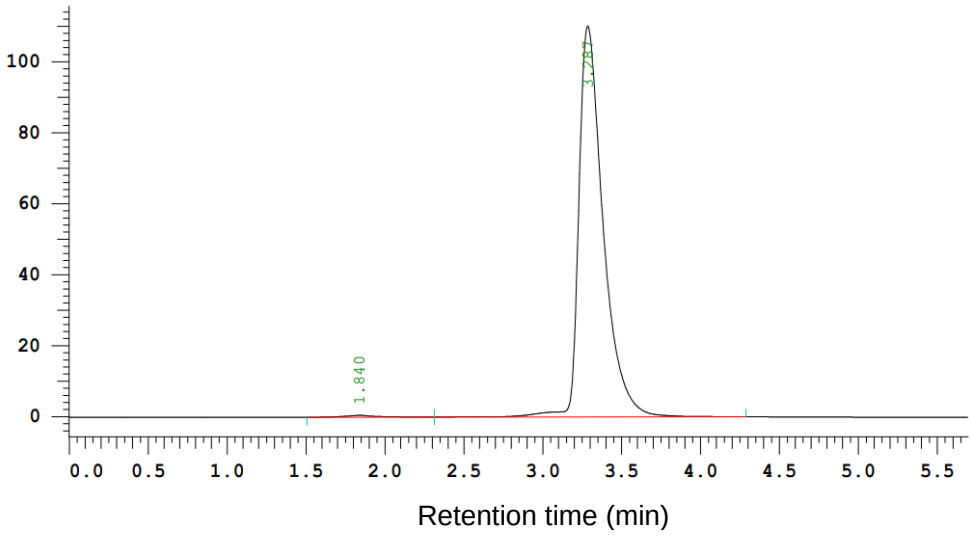
1.3 Spectra of compound **4b**.

HRMS spectrum



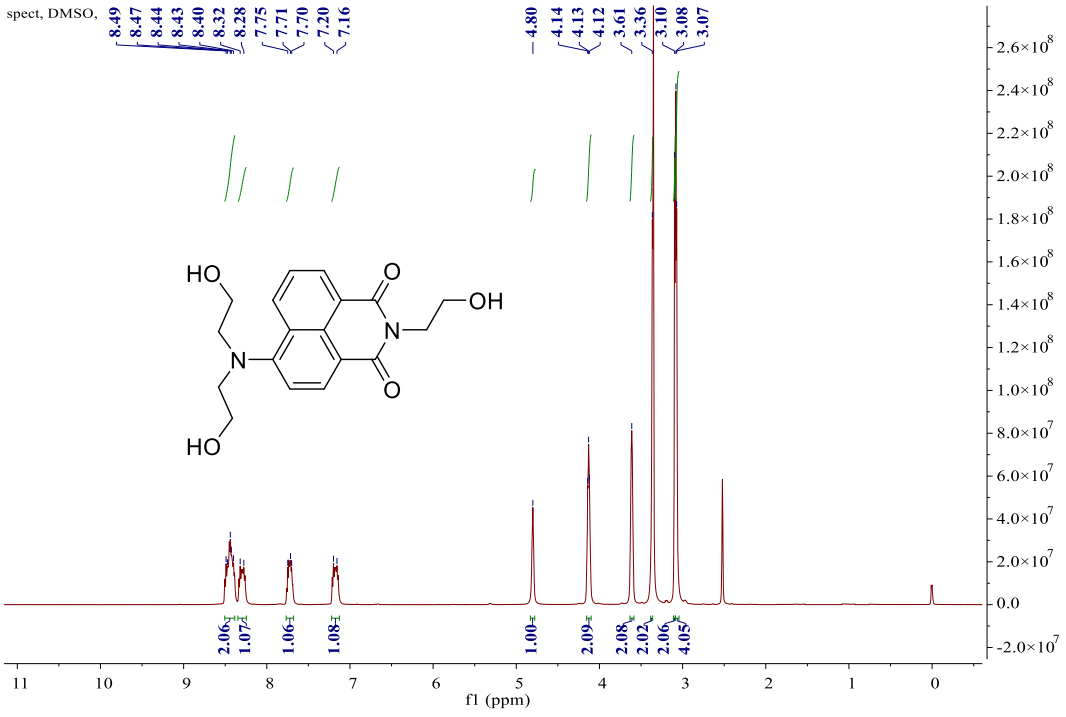
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.840	7864	0.660	BB
2	3.287	1183101	99.340	BB
		1190965	100.000	

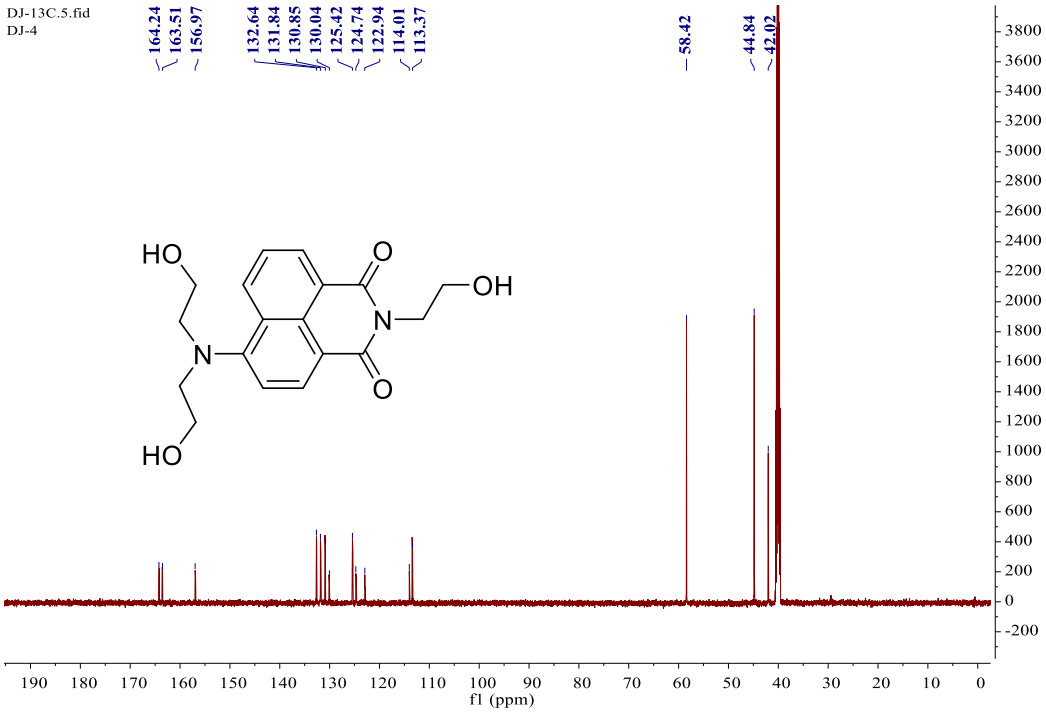


1.4 Spectra of compound **4c**.

^{1}H NMR spectrum

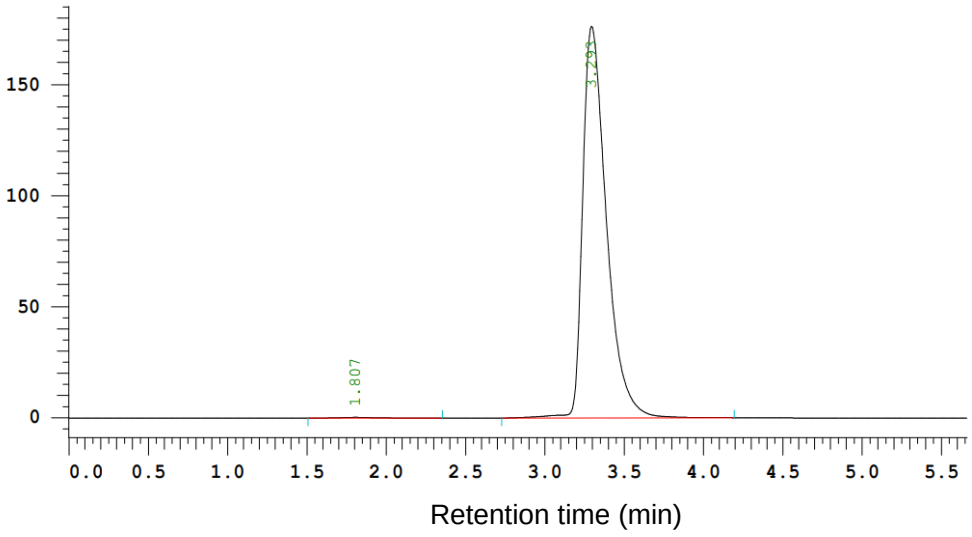


^{13}C NMR spectrum



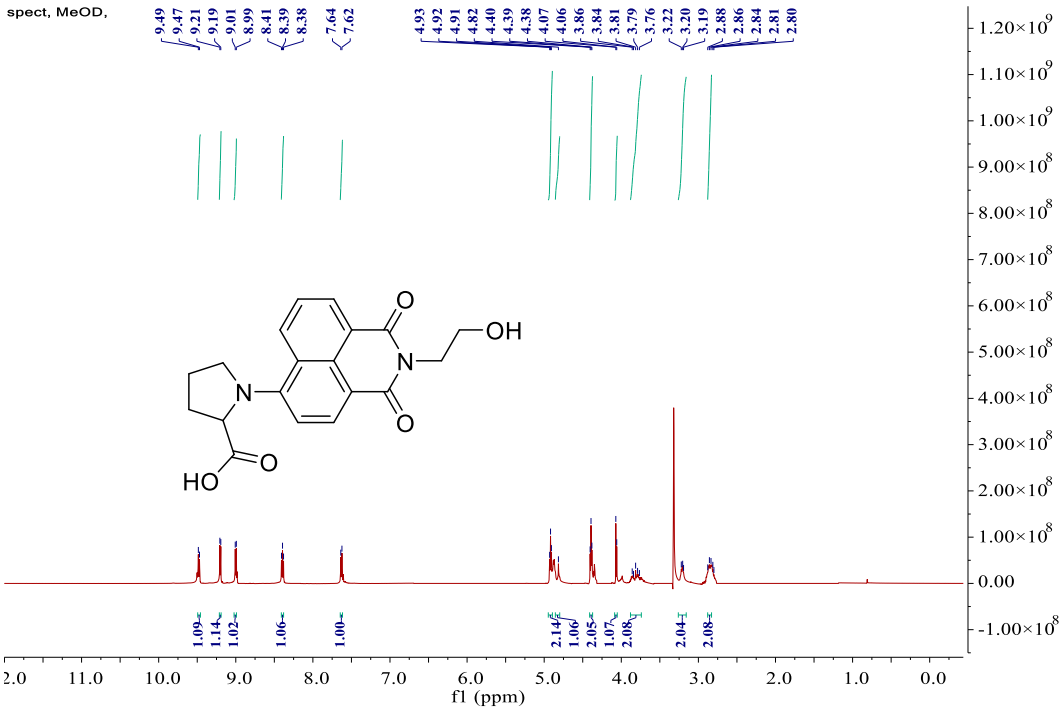
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.807	4968	0.270	BB
2	3.293	1835807	99.730	BB
		1840775	100.000	

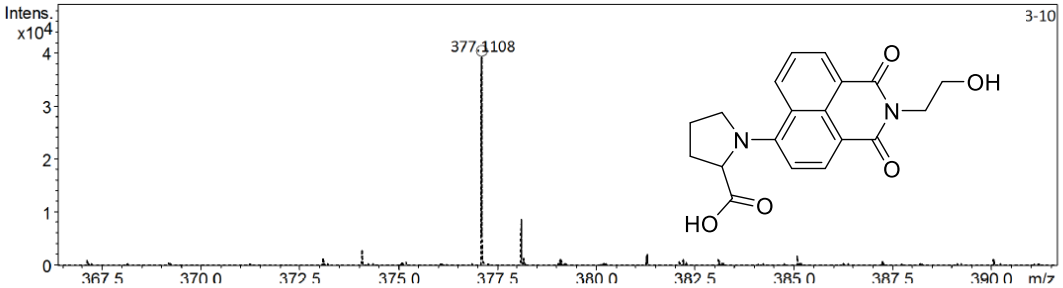


1.5 Spectra of compound **5**.

^{1}H NMR spectrum

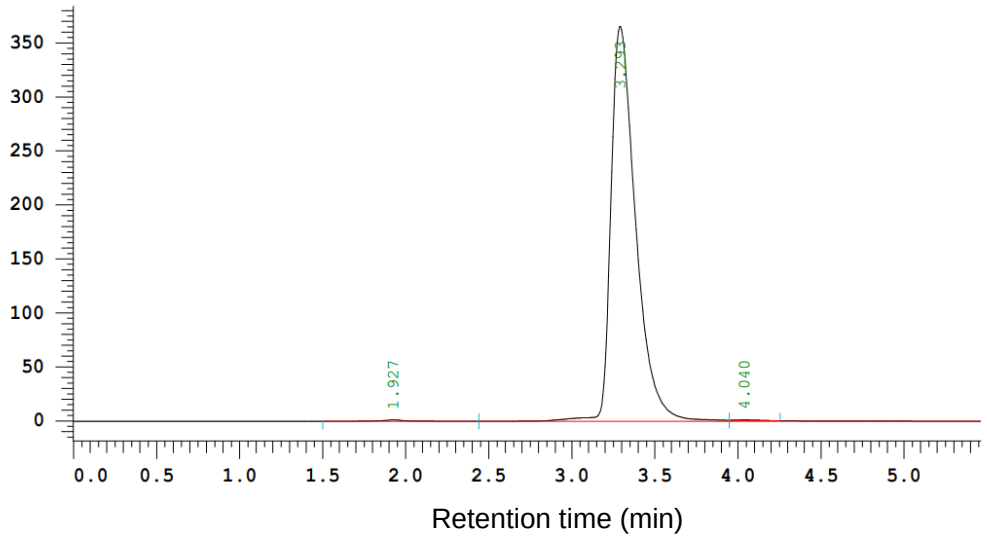


HRMS spectrum



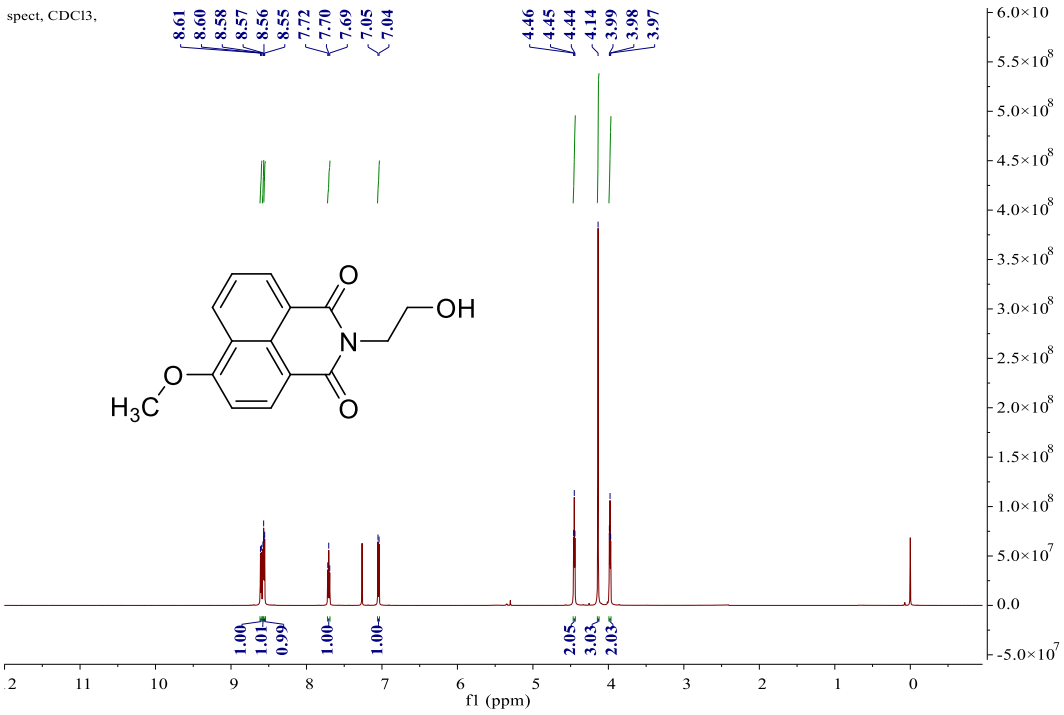
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.927	17050	0.444	BV
2	3.293	3820240	99.442	VV
3	4.040	4378	0.114	TBB
		3841668	100.000	

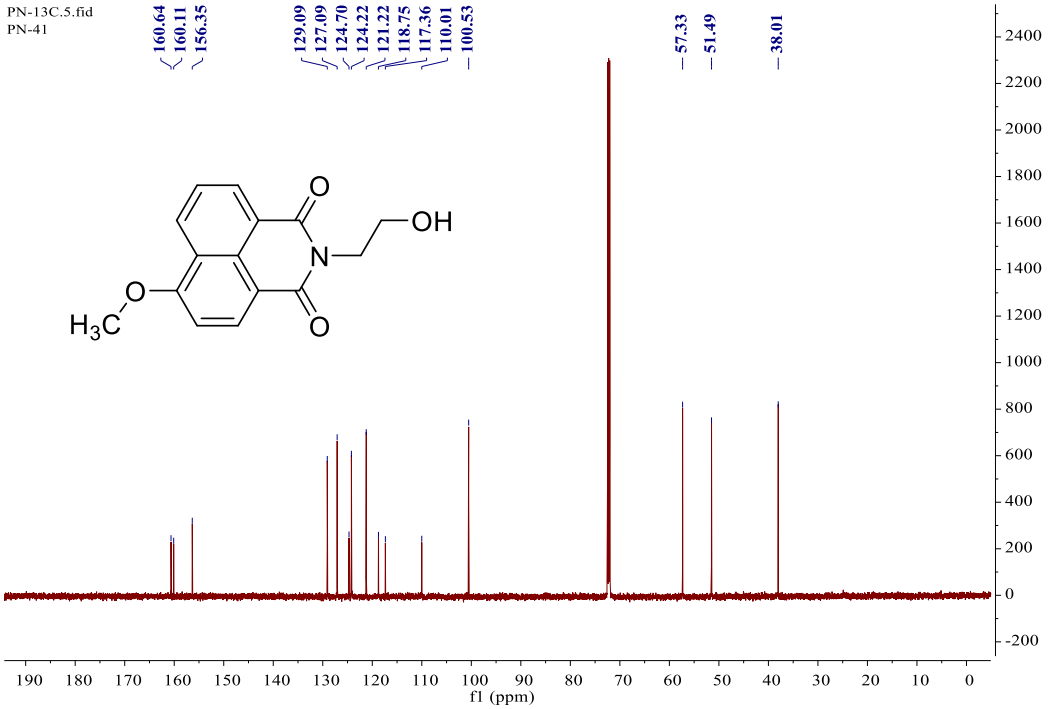


1.6 Spectra of compound **6a**.

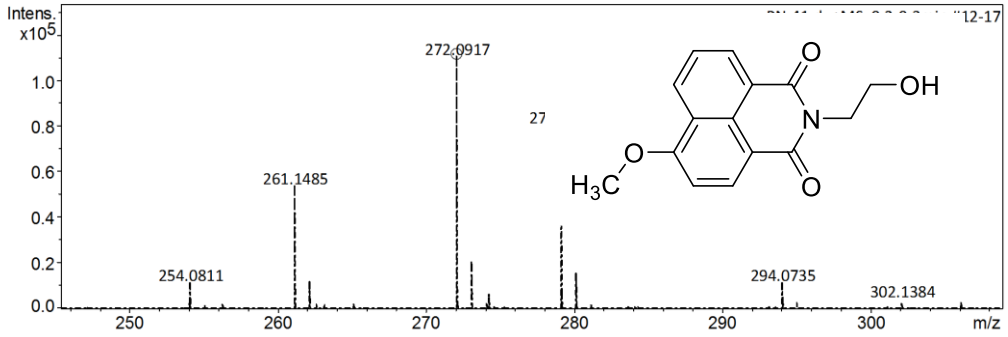
^{1}H NMR spectrum



^{13}C NMR spectrum

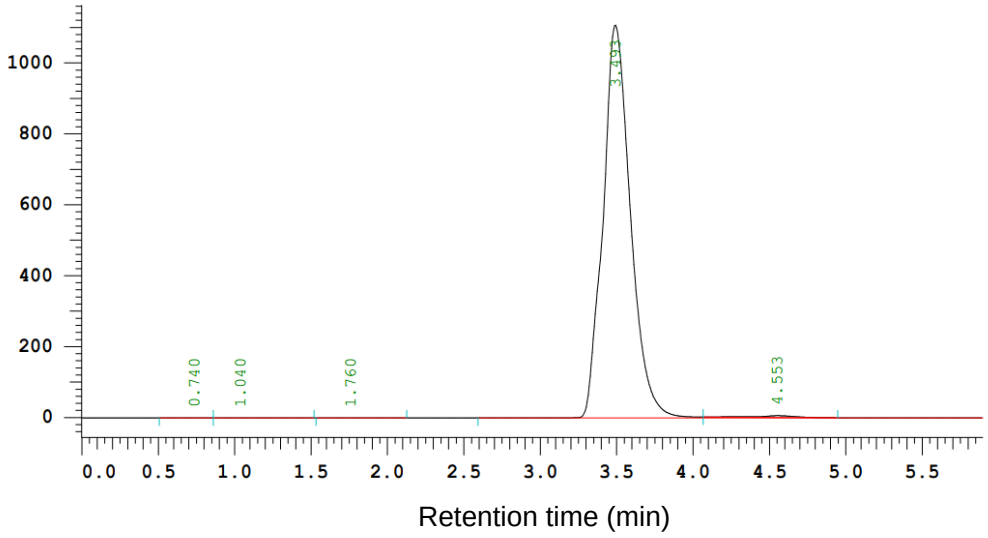


HRMS spectrum



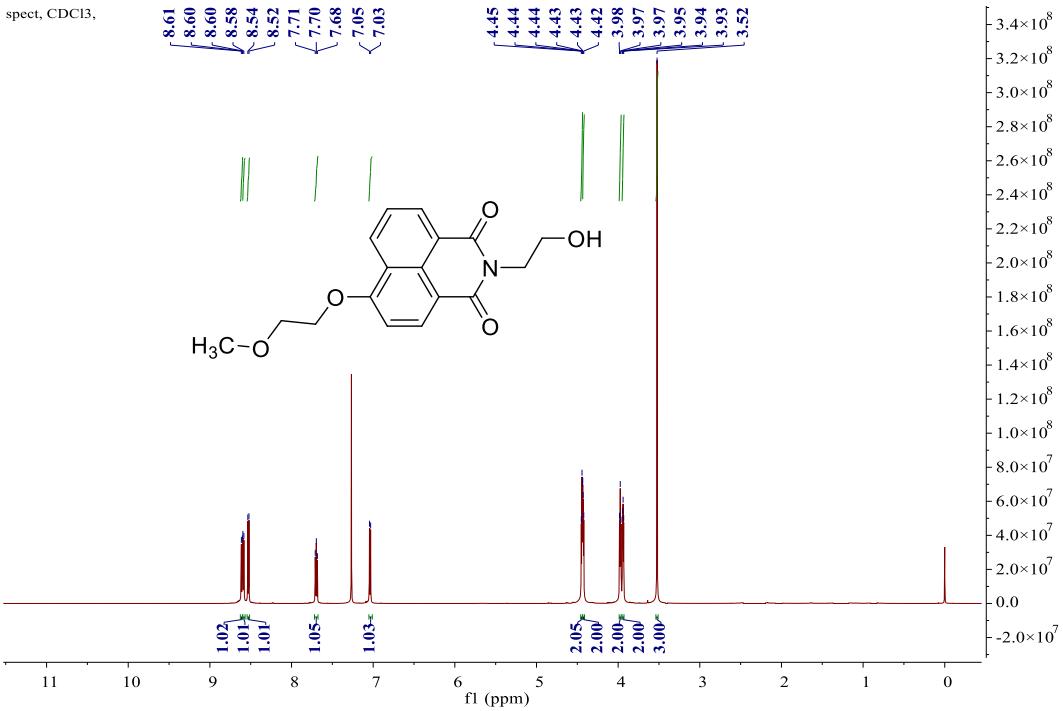
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	0. 740	1201	0. 009	BV
2	1. 040	2706	0. 019	VB
3	1. 760	3852	0. 027	BB
4	3. 493	13928568	99. 294	BV
5	4. 553	91253	0. 651	TBB
		14027580	100. 000	

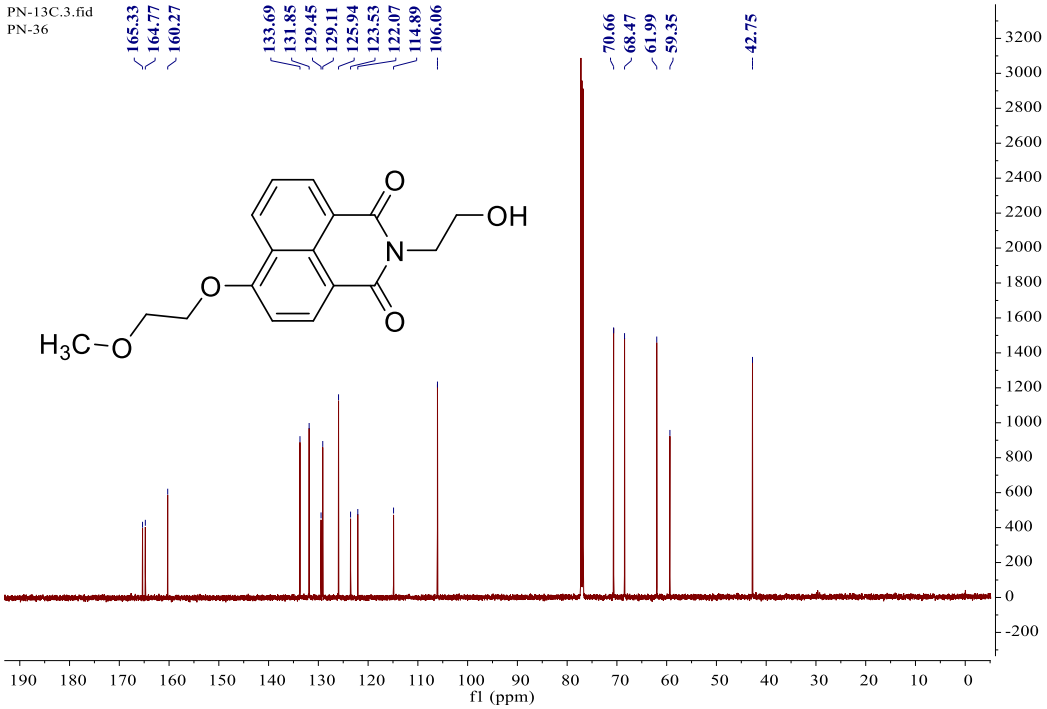


1.7 Spectra of compound **6c**.

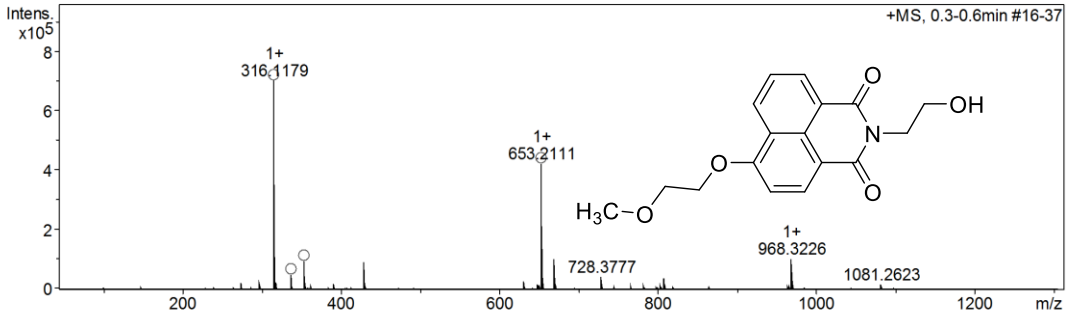
^{1}H NMR spectrum



^{13}C NMR spectrum

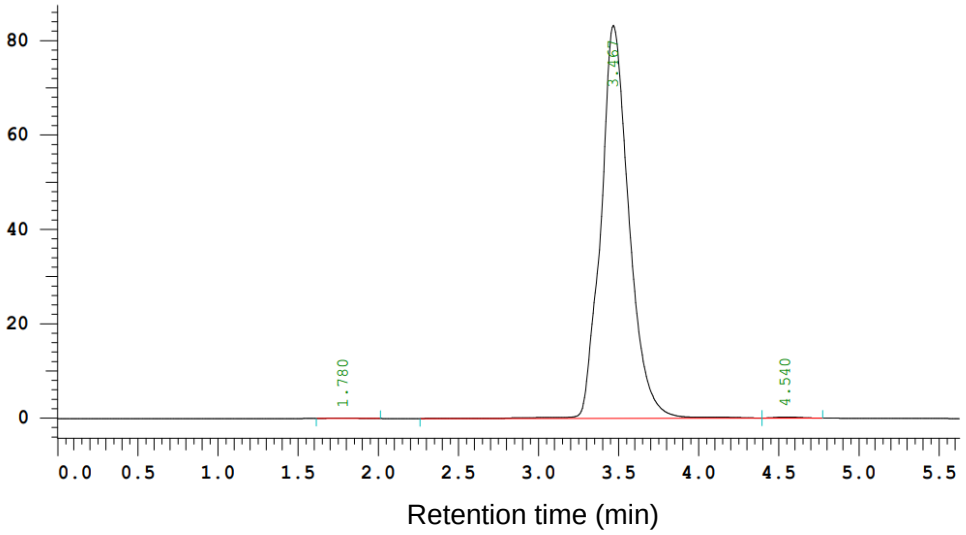


HRMS spectrum



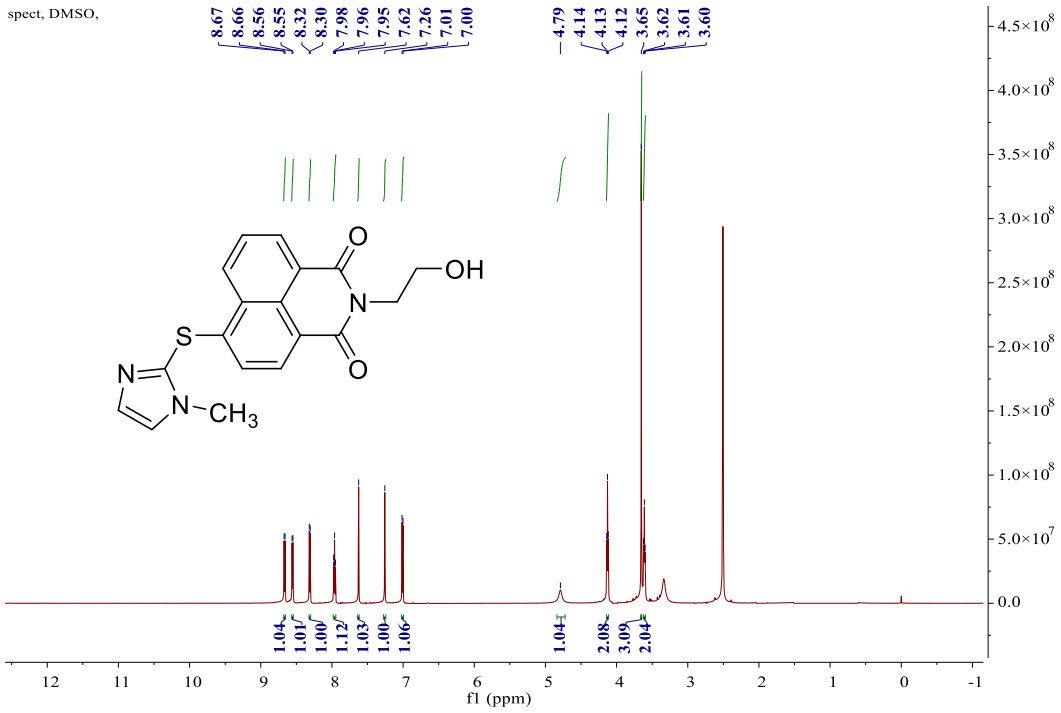
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.780	1129	0.110	BB
2	3.467	1023672	99.682	BB
3	4.540	2132	0.208	TBB
		1026933	100.000	

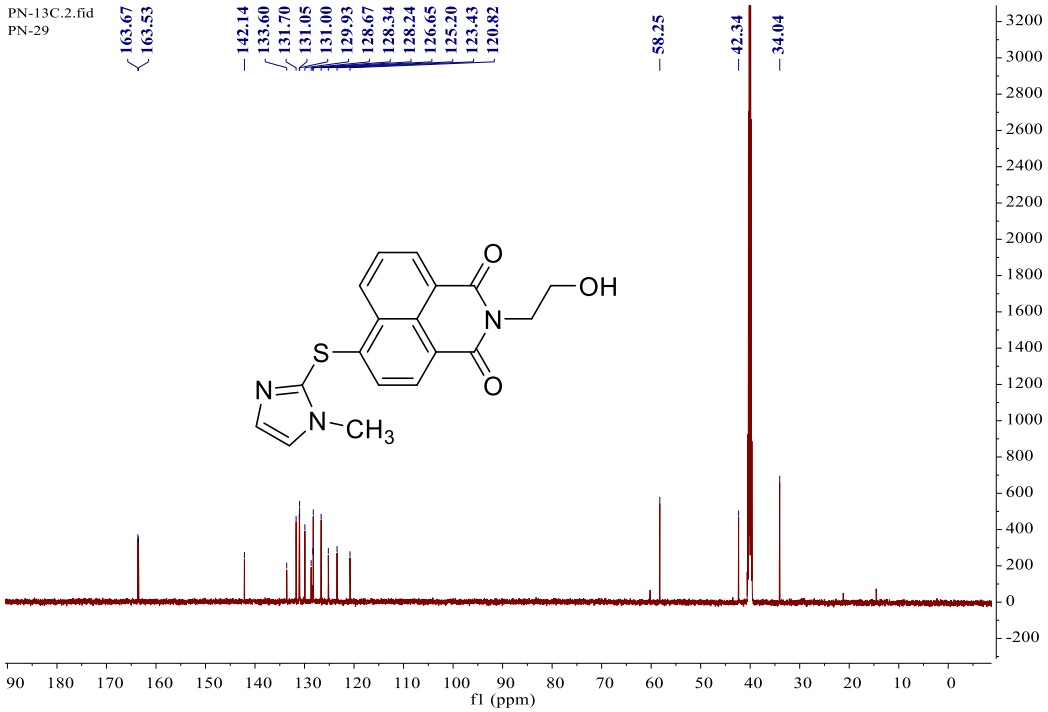


1.8 Spectra of compound **7a**.

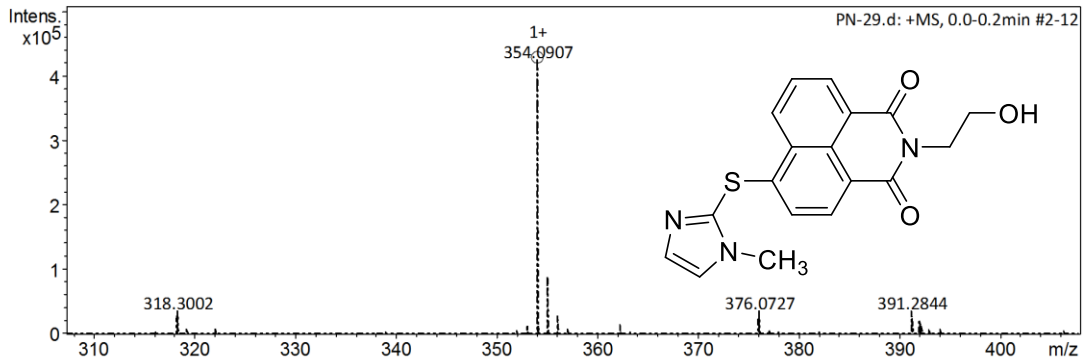
^{1}H NMR spectrum



^{13}C NMR spectrum

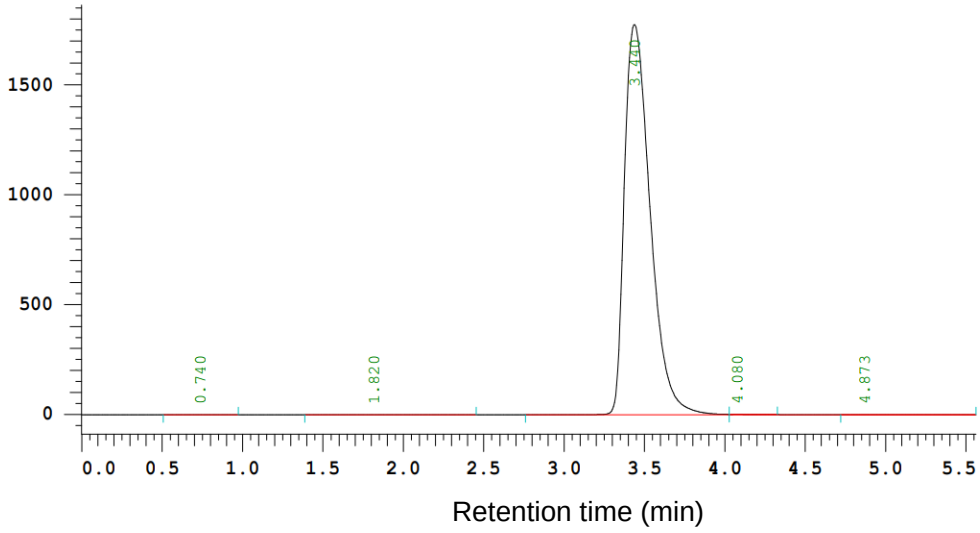


HRMS spectrum



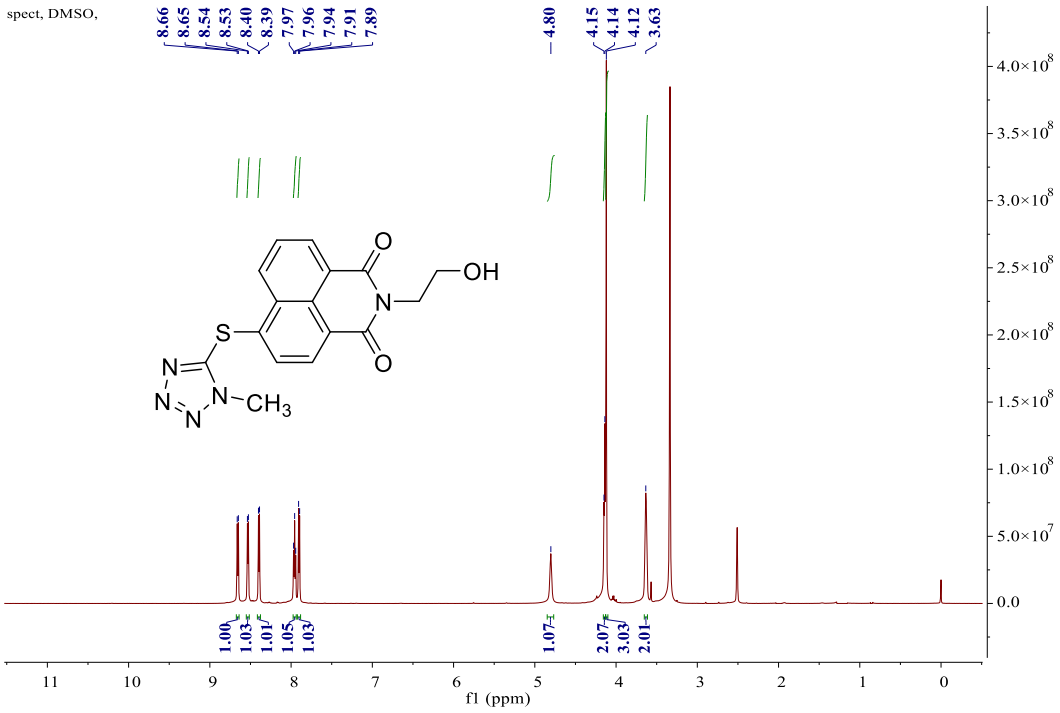
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	0. 740	1596	0. 008	BB
2	1. 820	5616	0. 028	BB
3	3. 440	19797858	99. 920	BV
4	4. 080	3352	0. 017	TBB
5	4. 873	5323	0. 027	TBB
		19813745	100. 000	

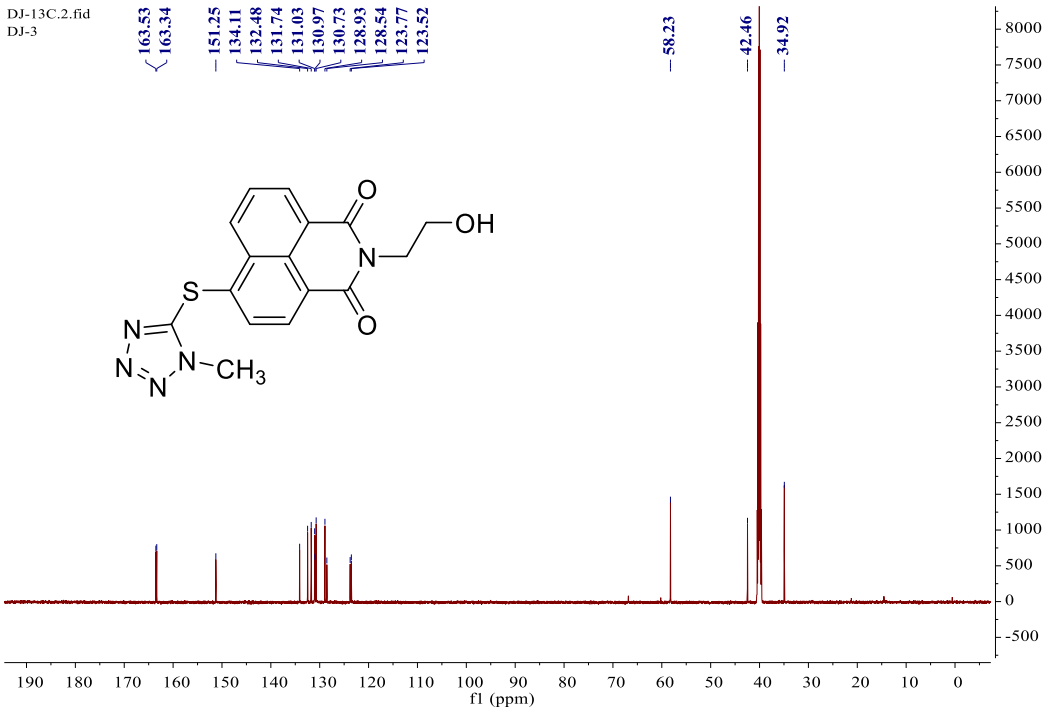


1.9 Spectra of compound **7b**.

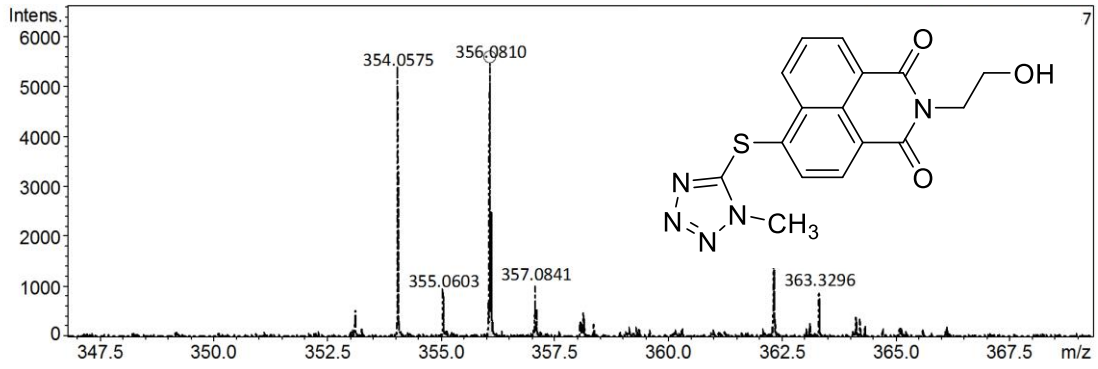
^{1}H NMR spectrum



^{13}C NMR spectrum

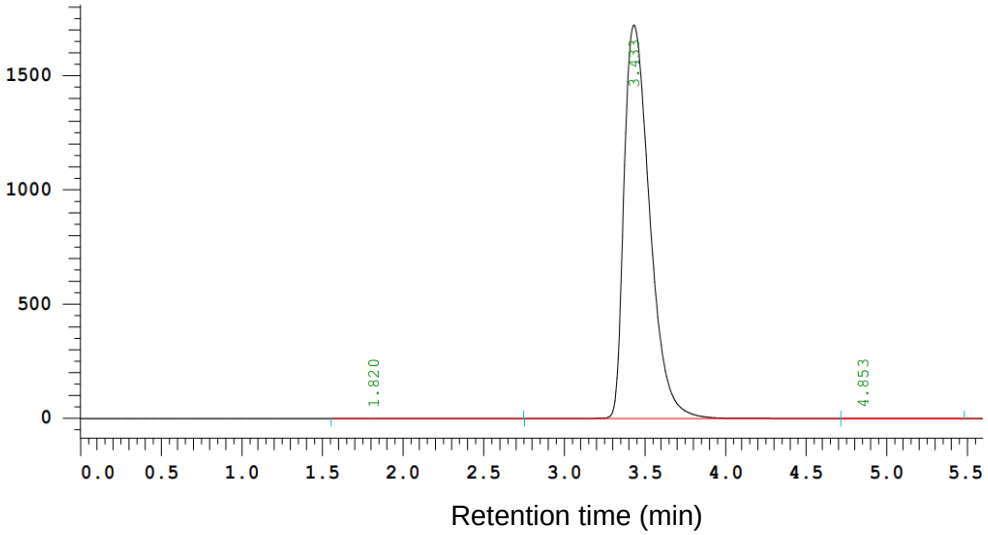


HRMS spectrum



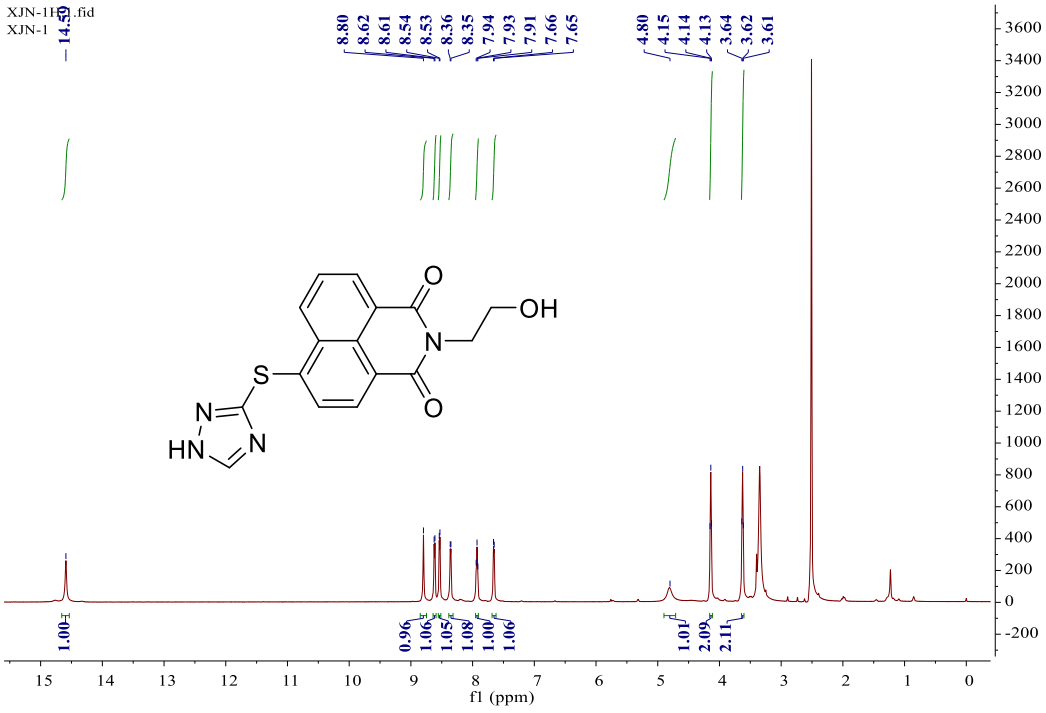
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.820	5196	0.027	BB
2	3.433	19103287	99.956	BV
3	4.853	3124	0.016	TBB
		19111607	100.000	

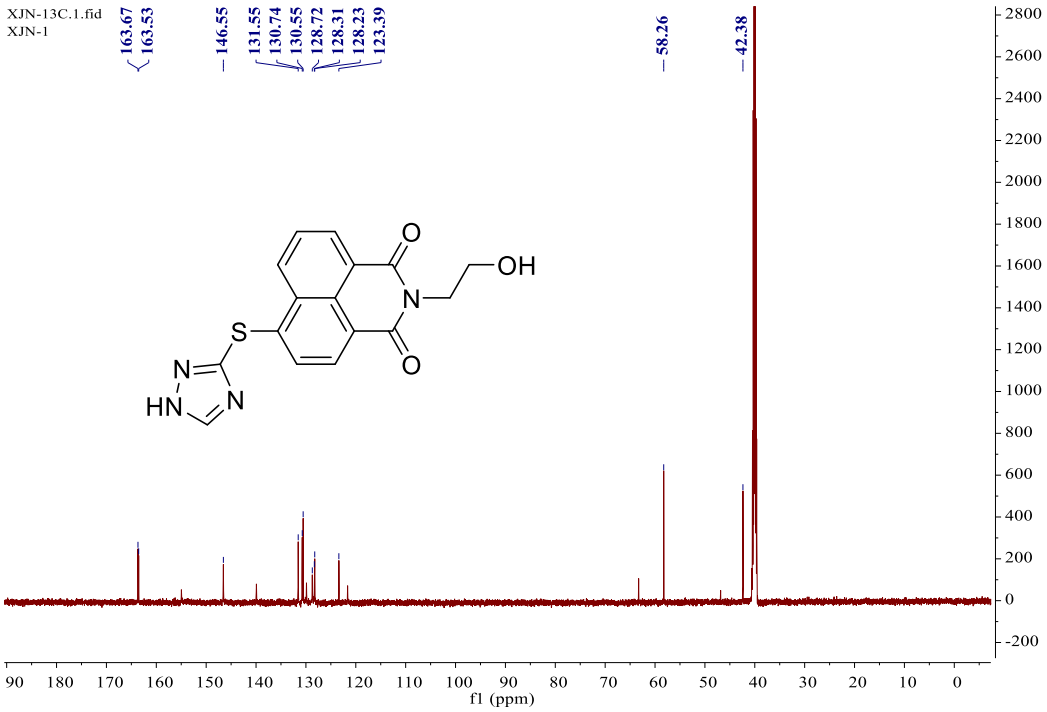


1.10 Spectra of compound **7c**.

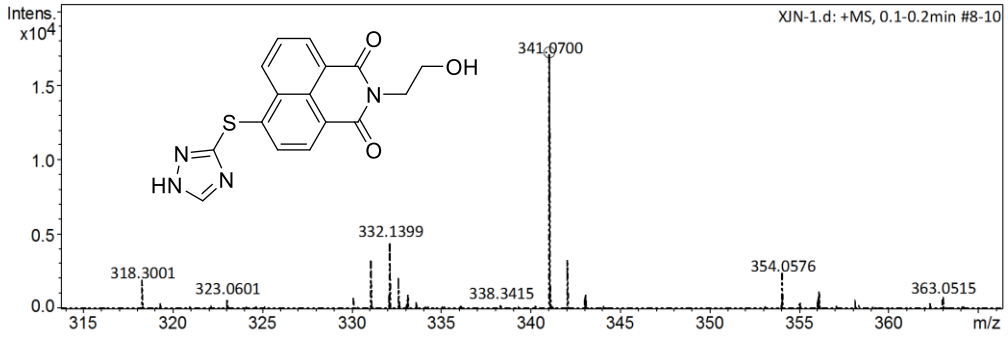
^{1}H NMR spectrum



^{13}C NMR spectrum

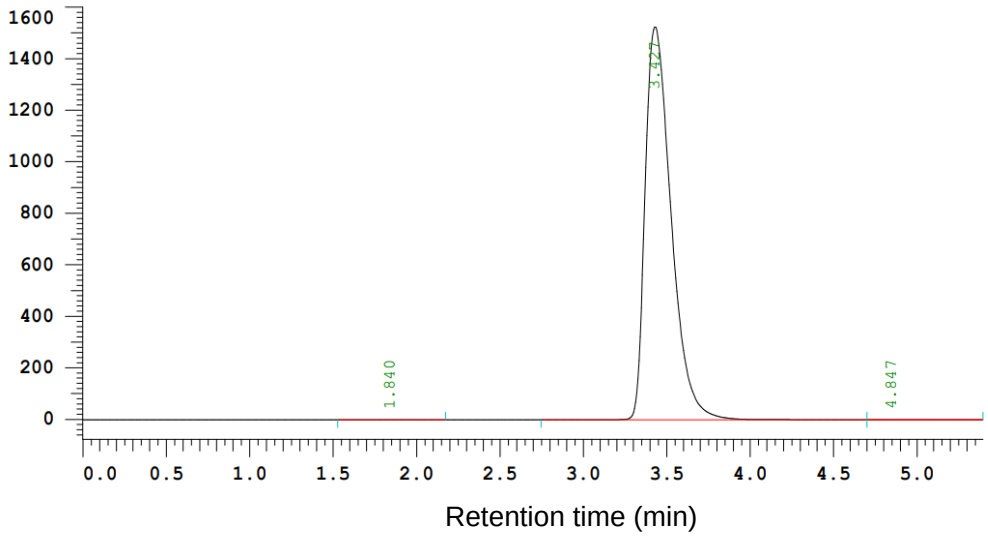


HRMS spectrum



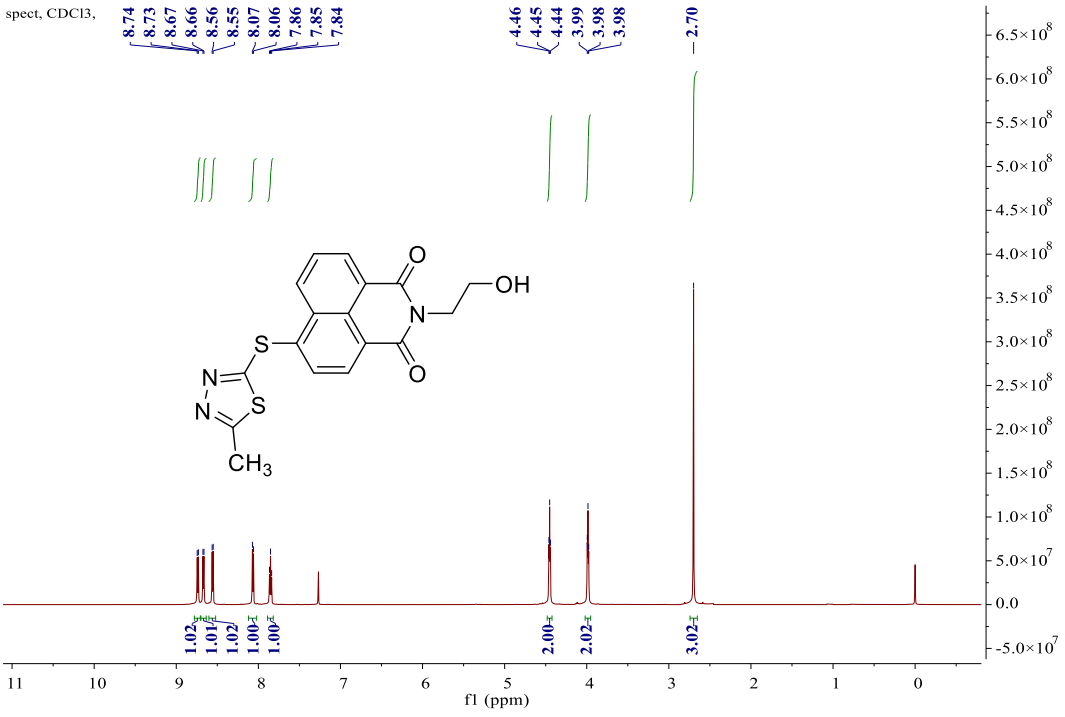
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.840	3720	0.022	BB
2	3.427	16536450	99.965	BV
3	4.847	1995	0.012	TBB
		16542165	100.000	

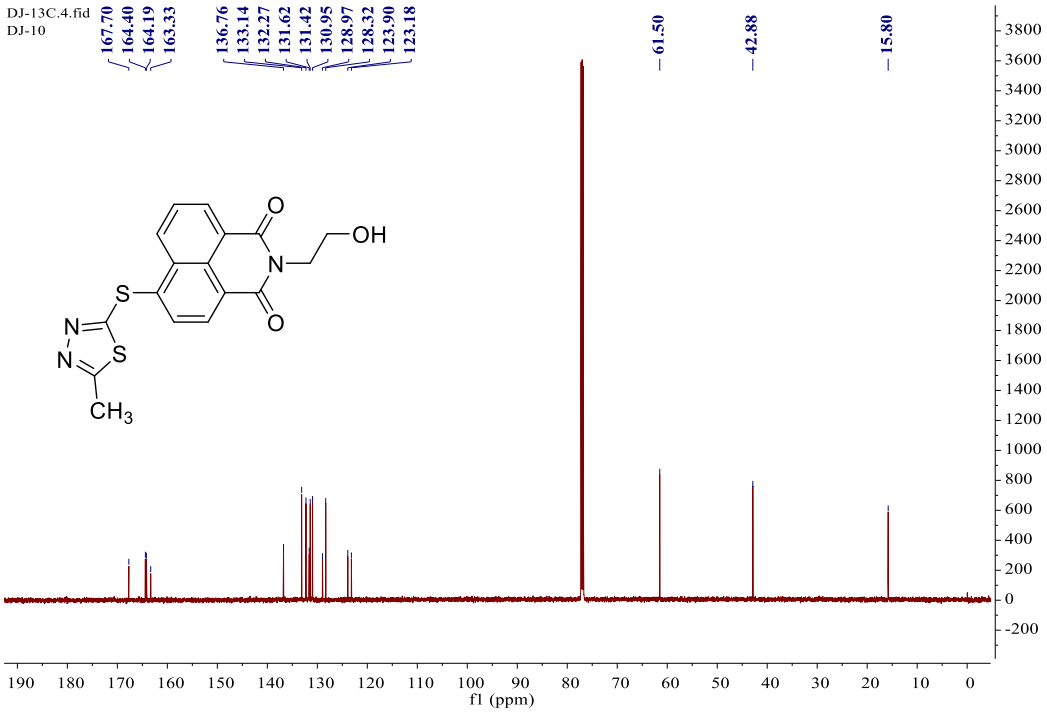


1.11 Spectra of compound **7d**.

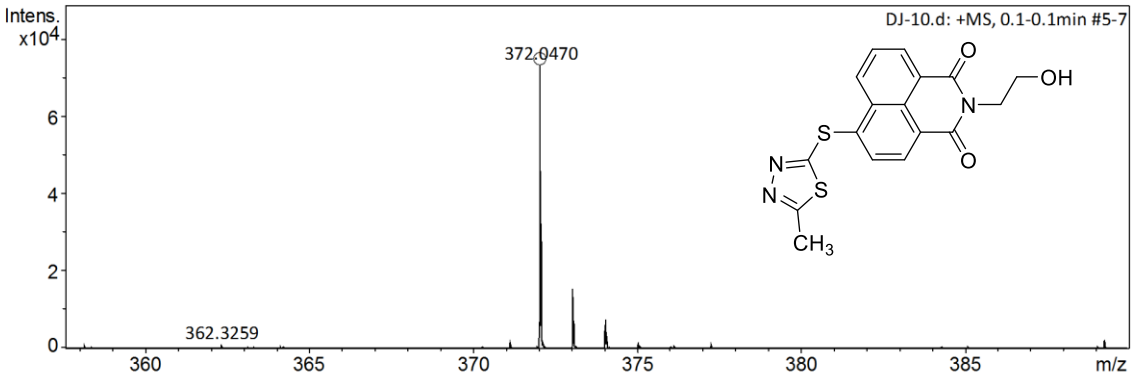
^{1}H NMR spectrum



^{13}C NMR spectrum

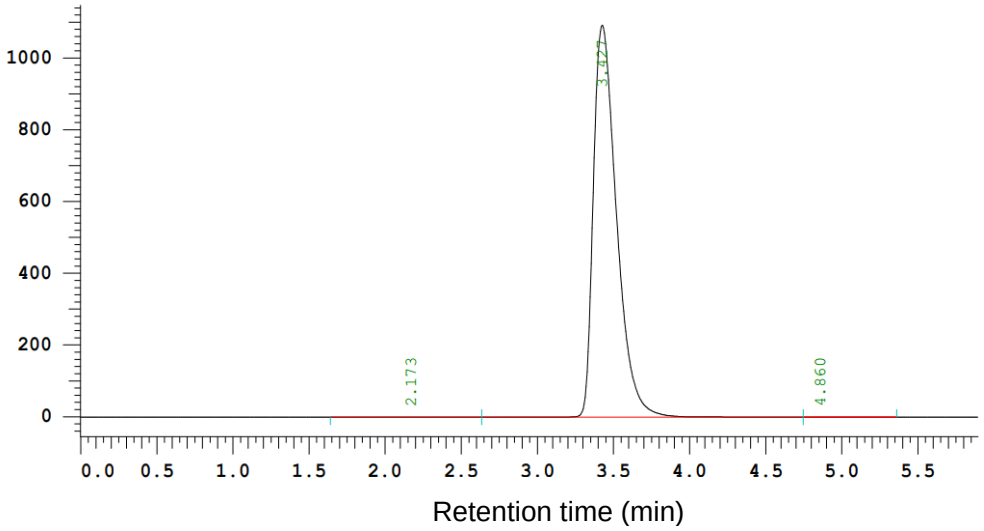


HRMS spectrum



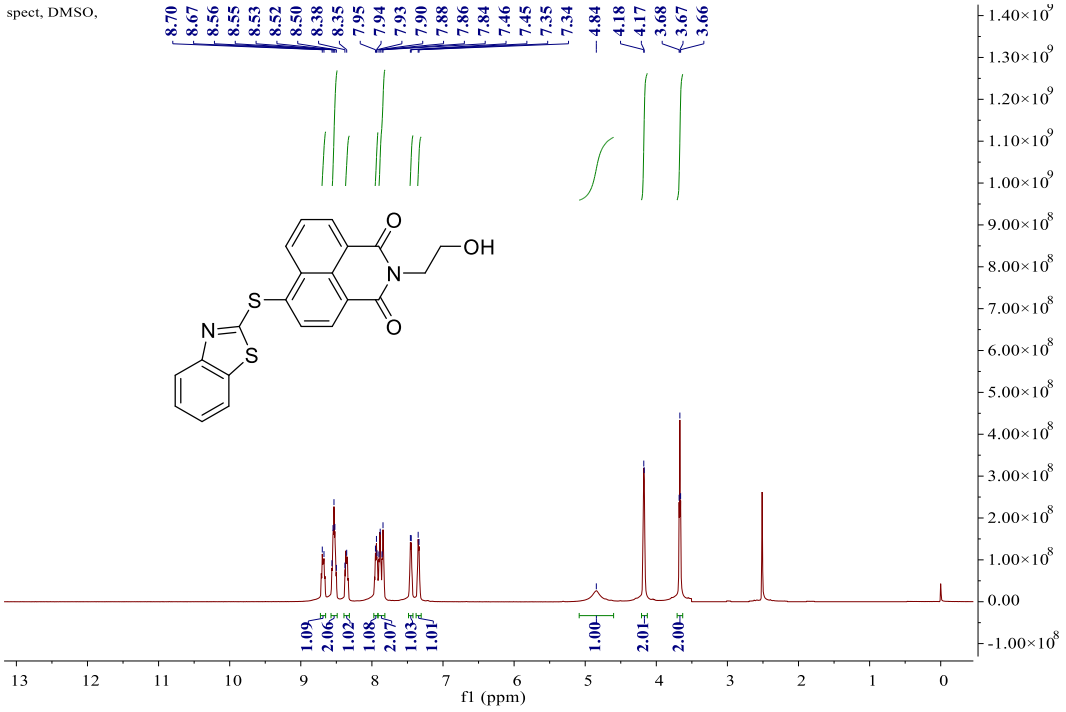
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	2. 173	4373	0. 038	BB
2	3. 427	11567703	99. 949	BV
3	4. 860	1490	0. 013	TBB
		11573566	100. 000	

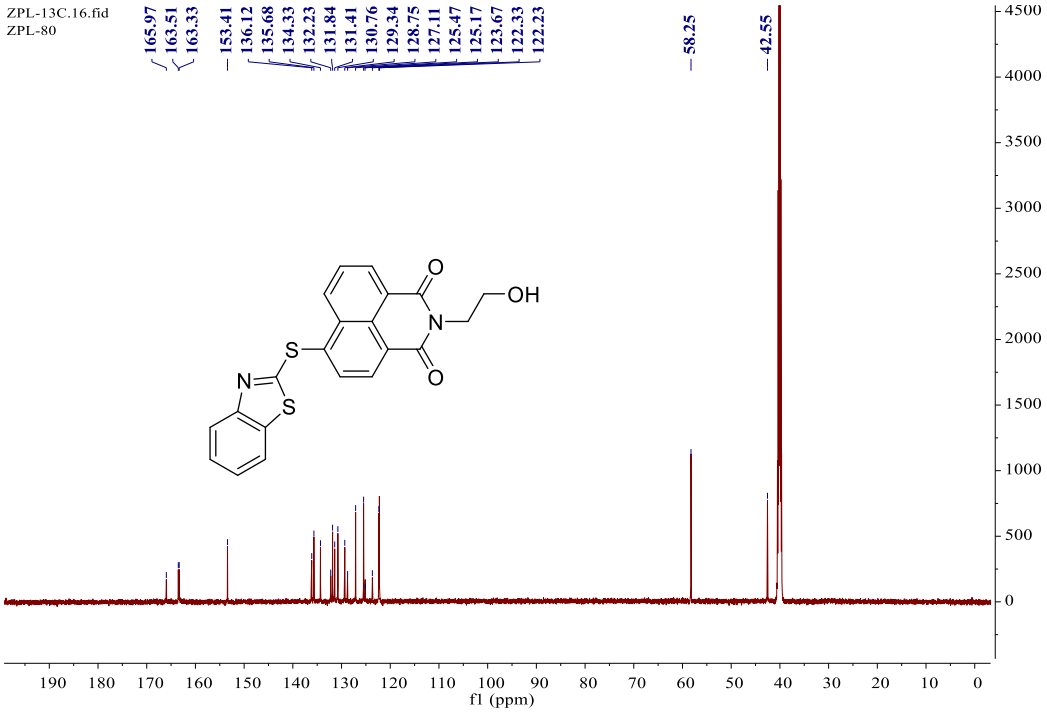


1.12 Spectra of compound **7e**.

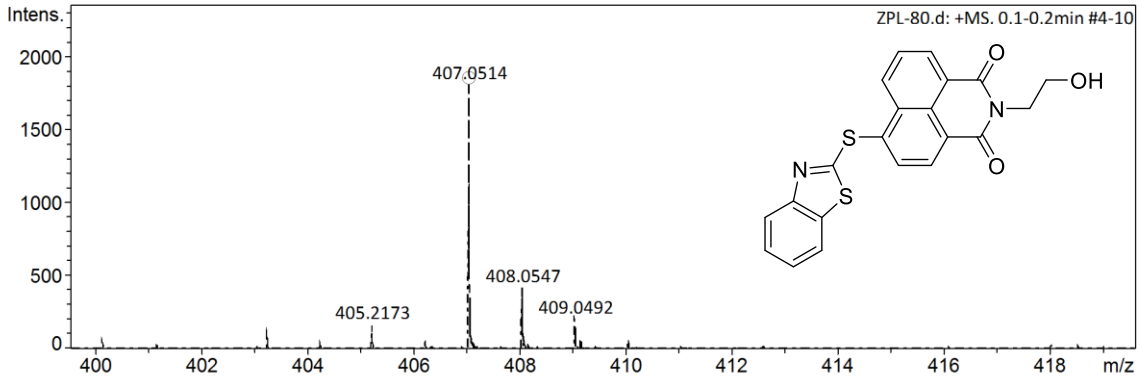
^{1}H NMR spectrum



^{13}C NMR spectrum

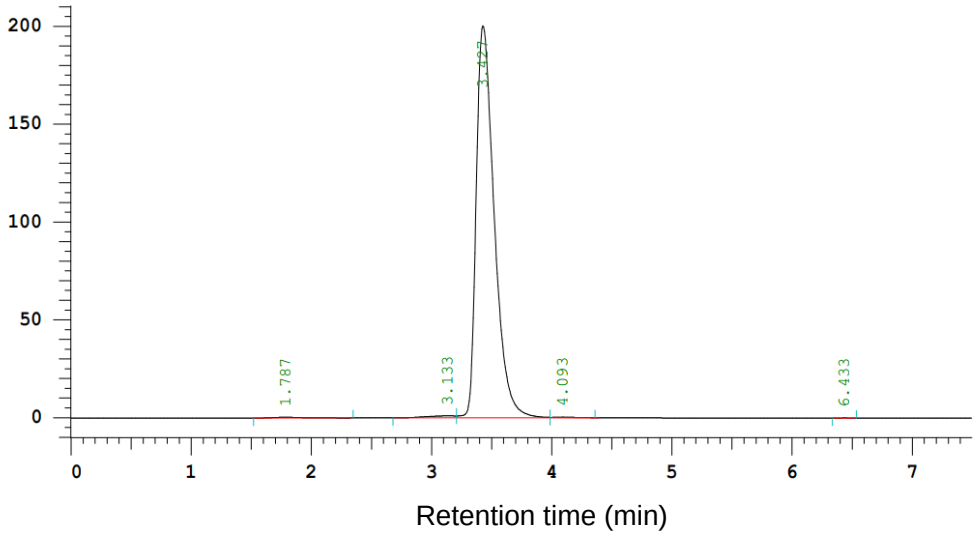


HRMS spectrum



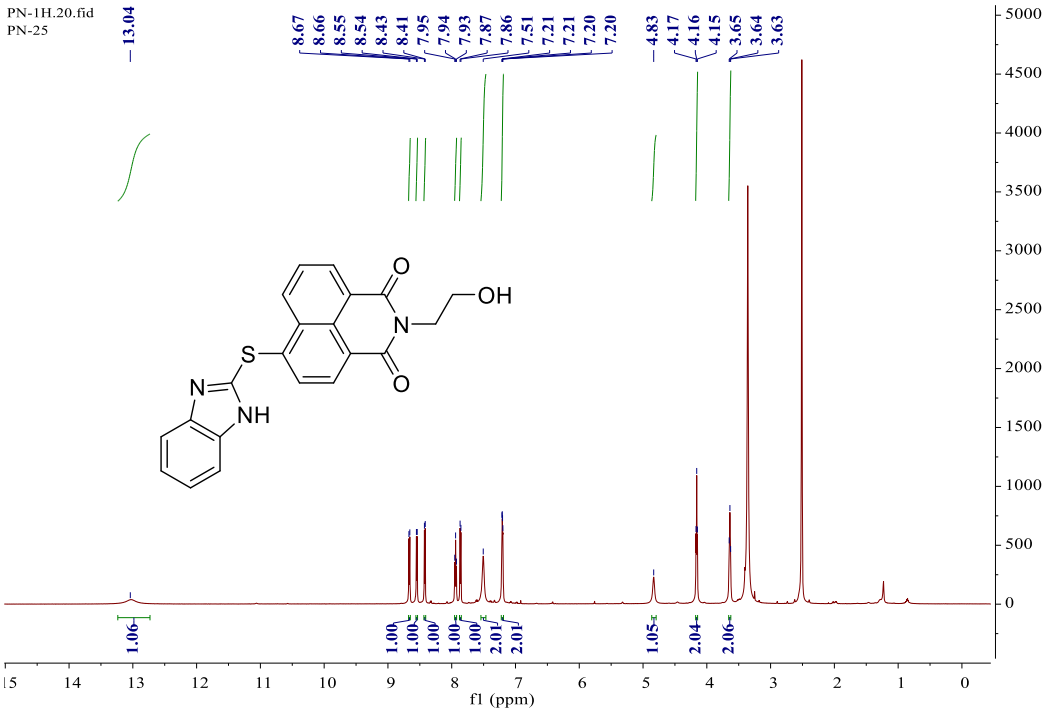
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.787	7092	0.335	BB
2	3.133	17028	0.805	BV
3	3.427	2089339	98.757	VV
4	4.093	1924	0.091	TBB
5	6.433	247	0.012	BB
		2115630	100.000	

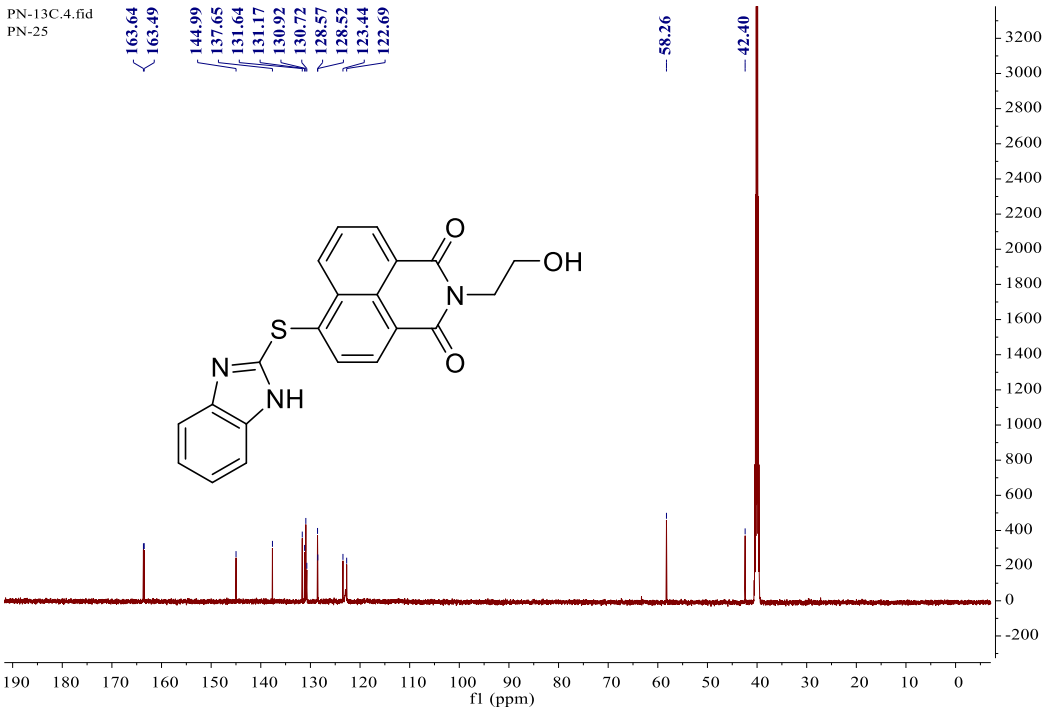


1.13 Spectra of compound **7f**.

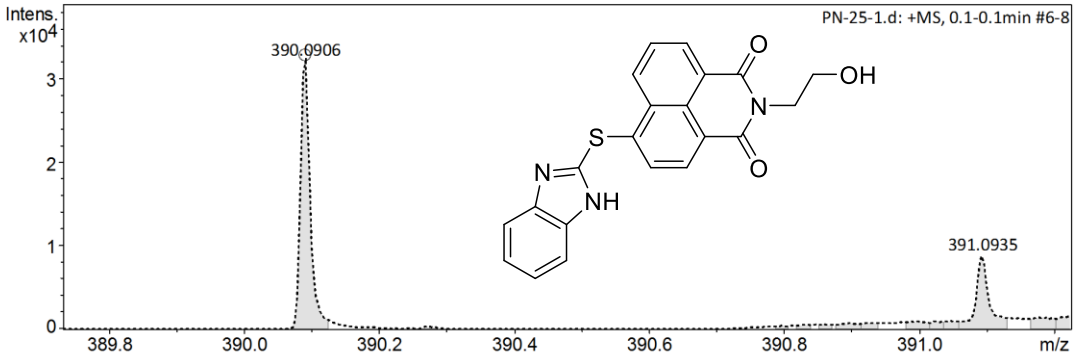
^{1}H NMR spectrum



^{13}C NMR spectrum

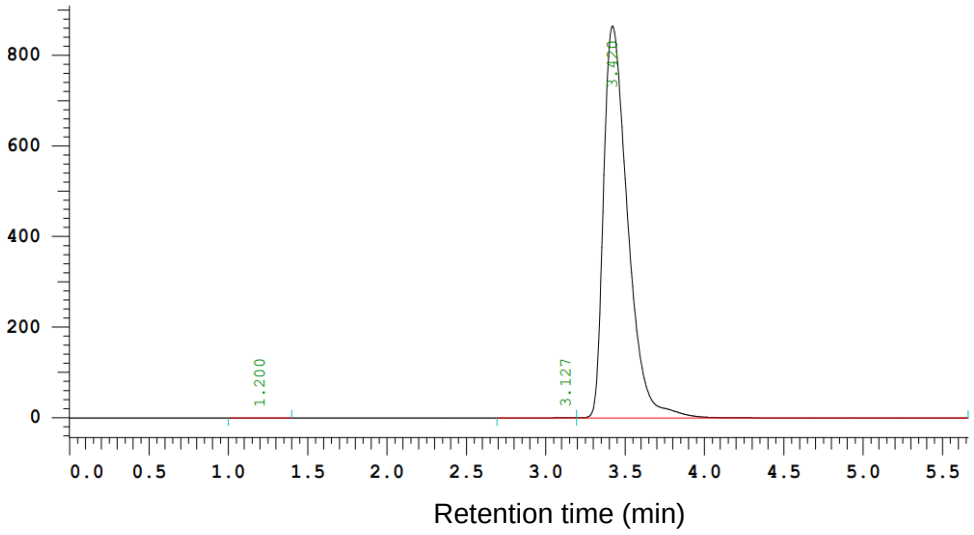


HRMS spectrum



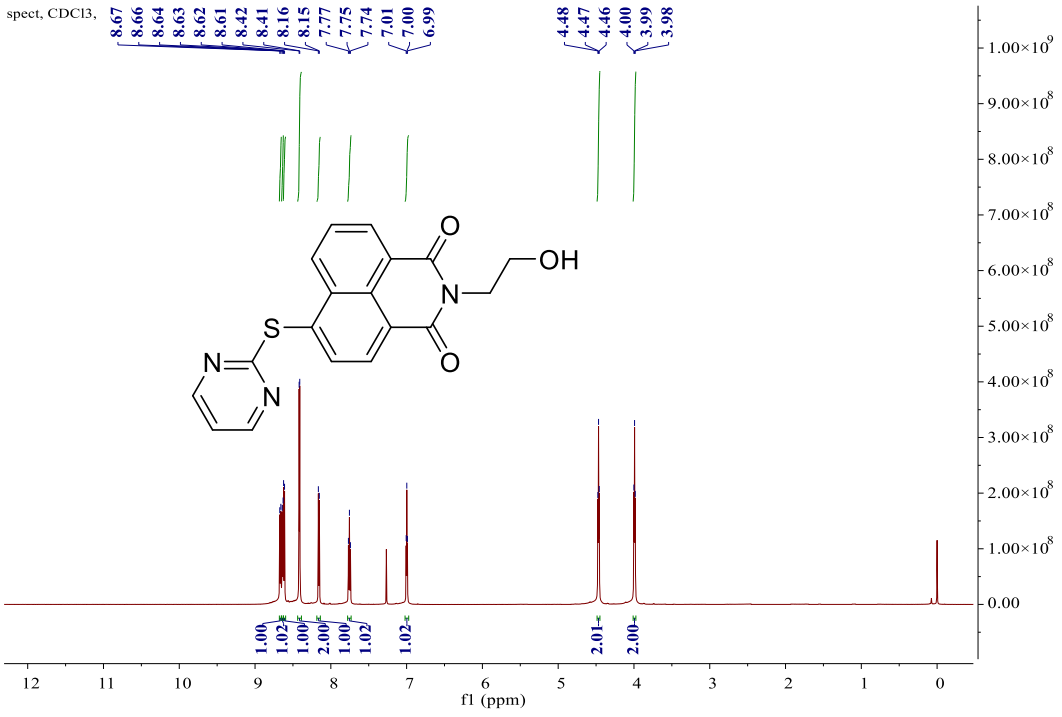
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.200	1445	0.016	BB
2	3.127	8031	0.088	BV
3	3.420	9163452	99.897	VB
		9172928	100.000	

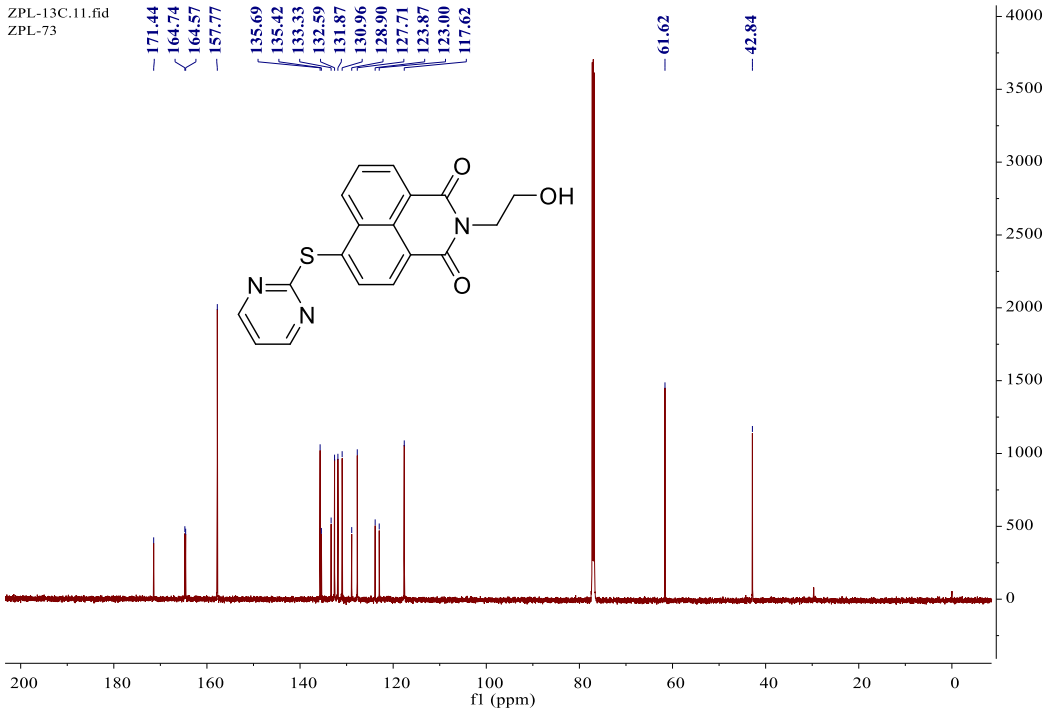


1.14 Spectra of compound **8a**.

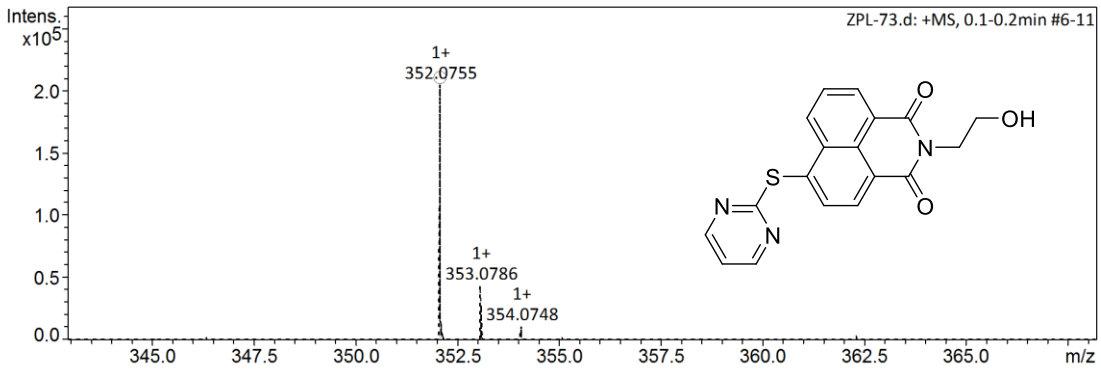
^{1}H NMR spectrum



^{13}C NMR spectrum

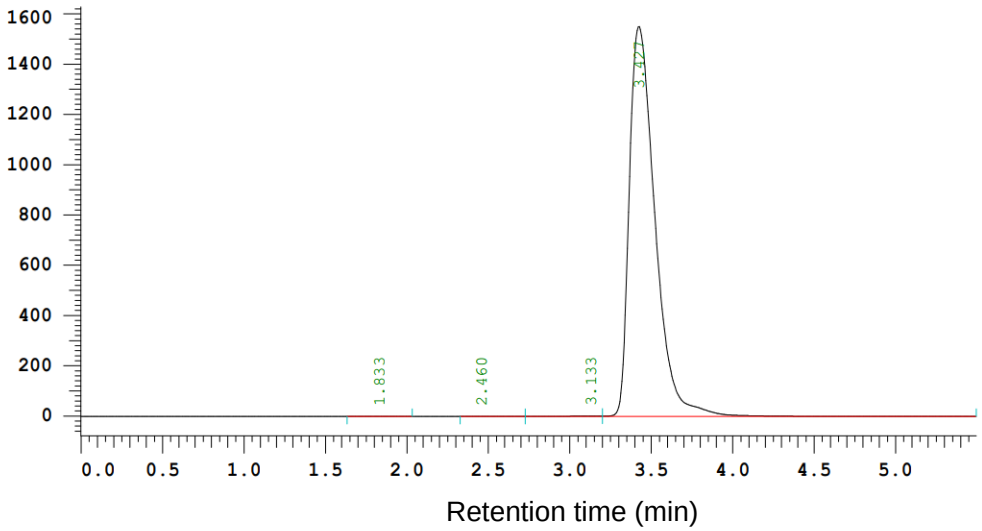


HRMS spectrum



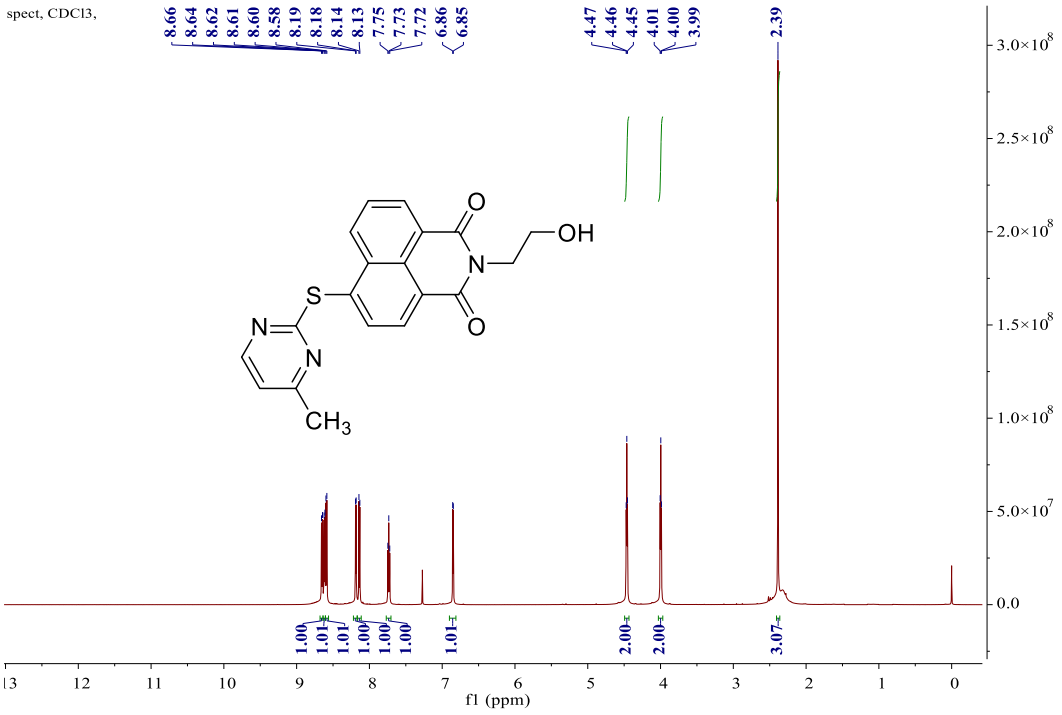
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.833	1817	0.011	BB
2	2.460	484	0.003	BB
3	3.133	18422	0.108	BV
4	3.427	17013696	99.878	VB
		17034419	100.000	

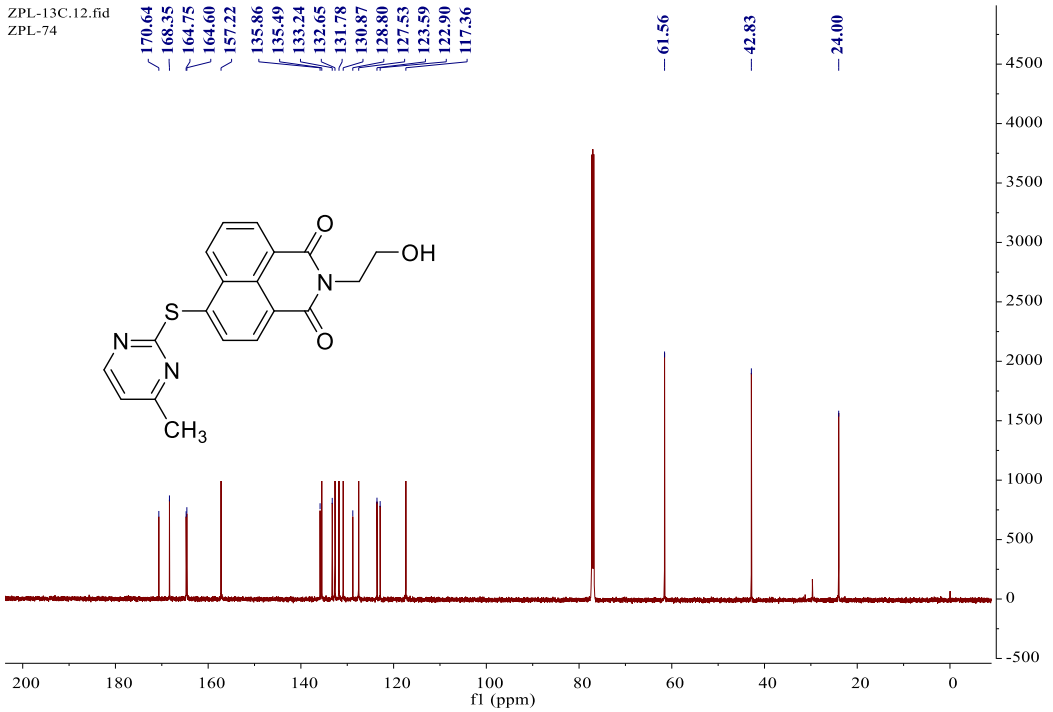


1.15 Spectra of compound **8b**.

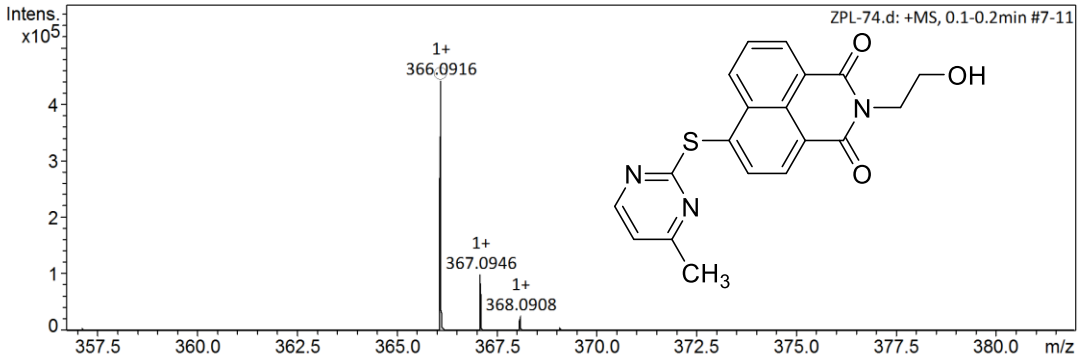
^{1}H NMR spectrum



^{13}C NMR spectrum

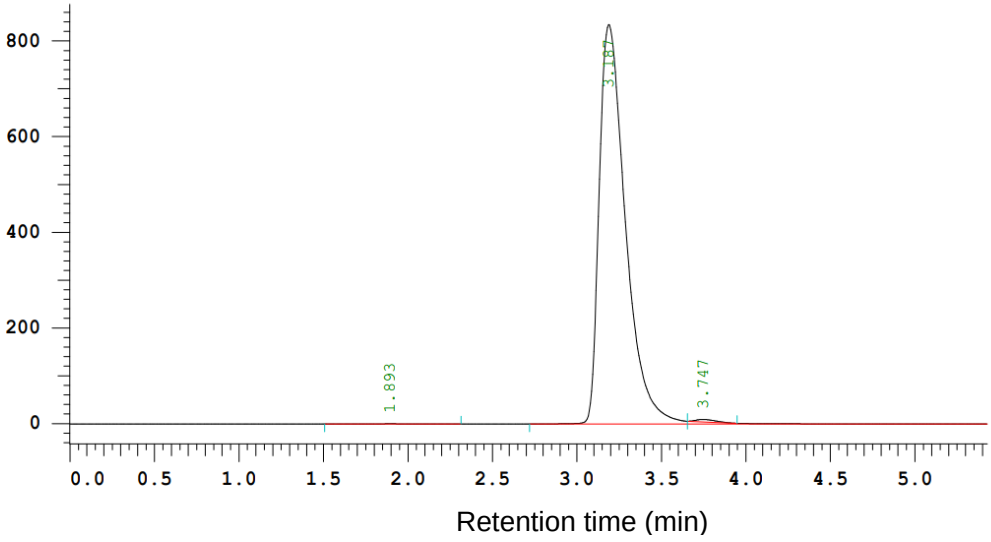


HRMS spectrum



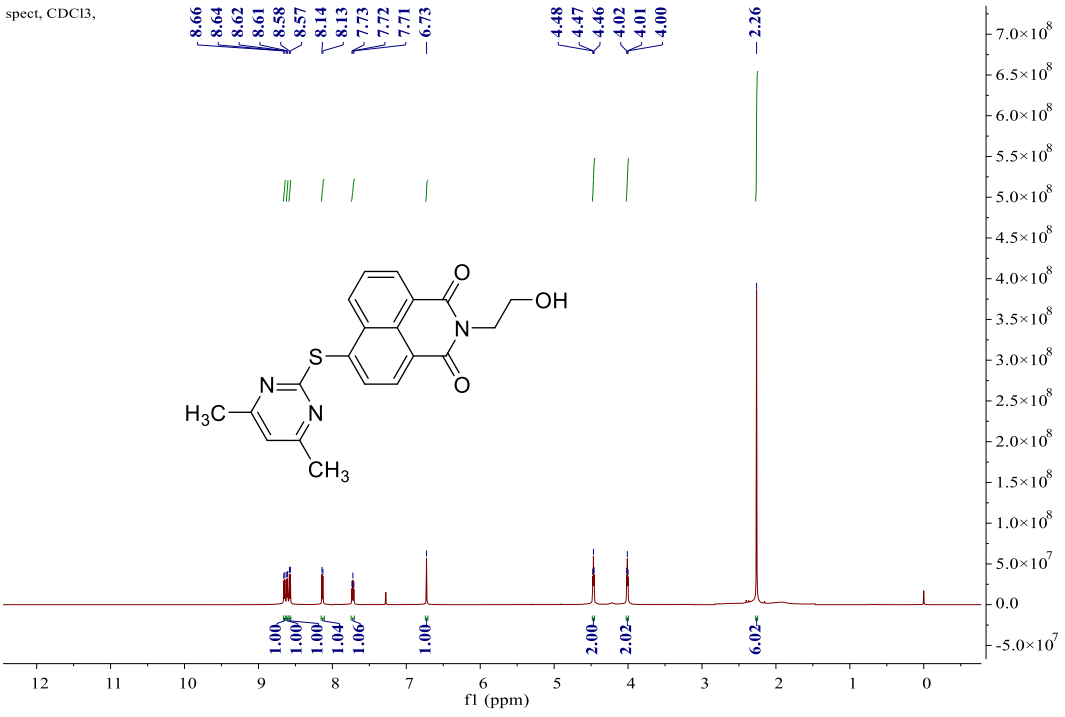
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.893	6700	0.073	BB
2	3.187	9098760	99.461	BV
3	3.747	42581	0.465	TBB
		9148041	100.000	

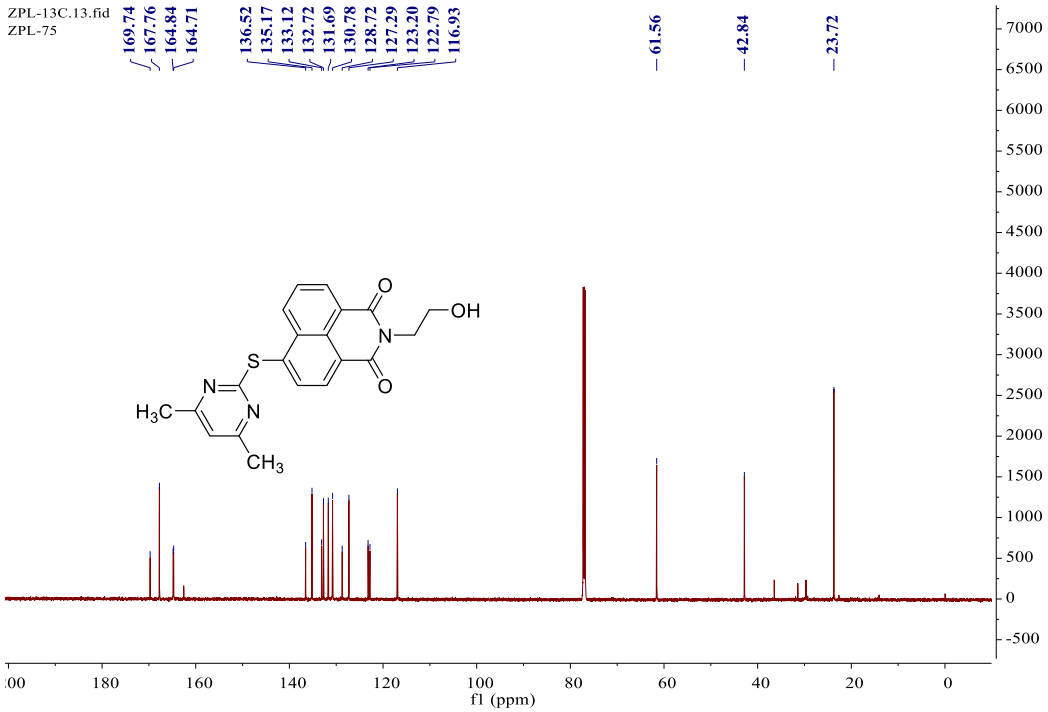


1.16 Spectra of compound **8c**.

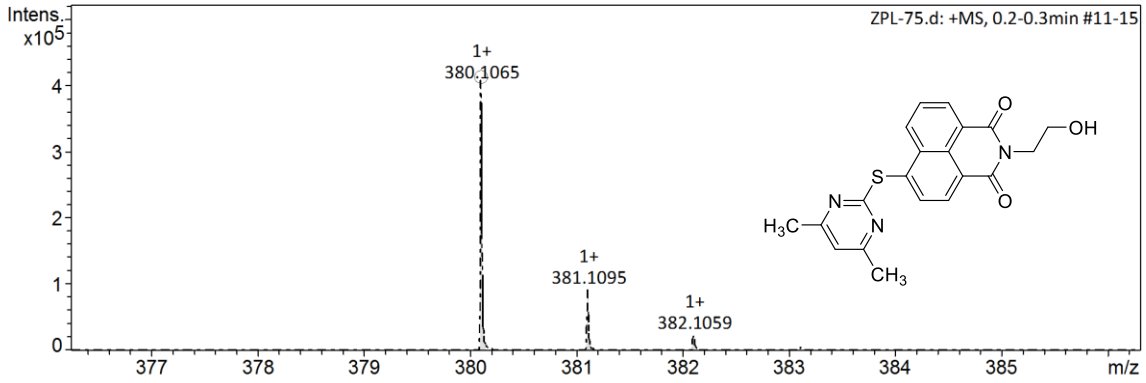
^{1}H NMR spectrum



^{13}C NMR spectrum

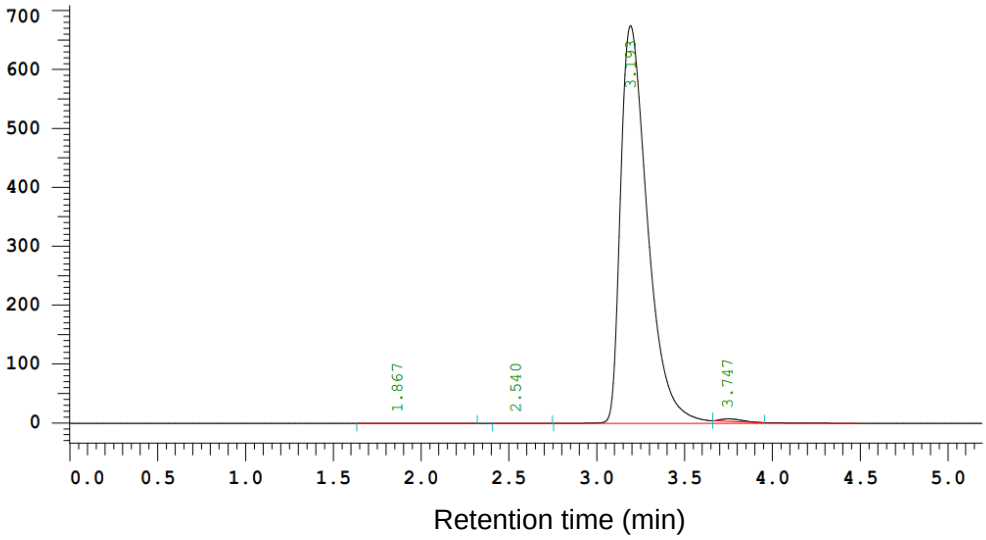


HRMS spectrum



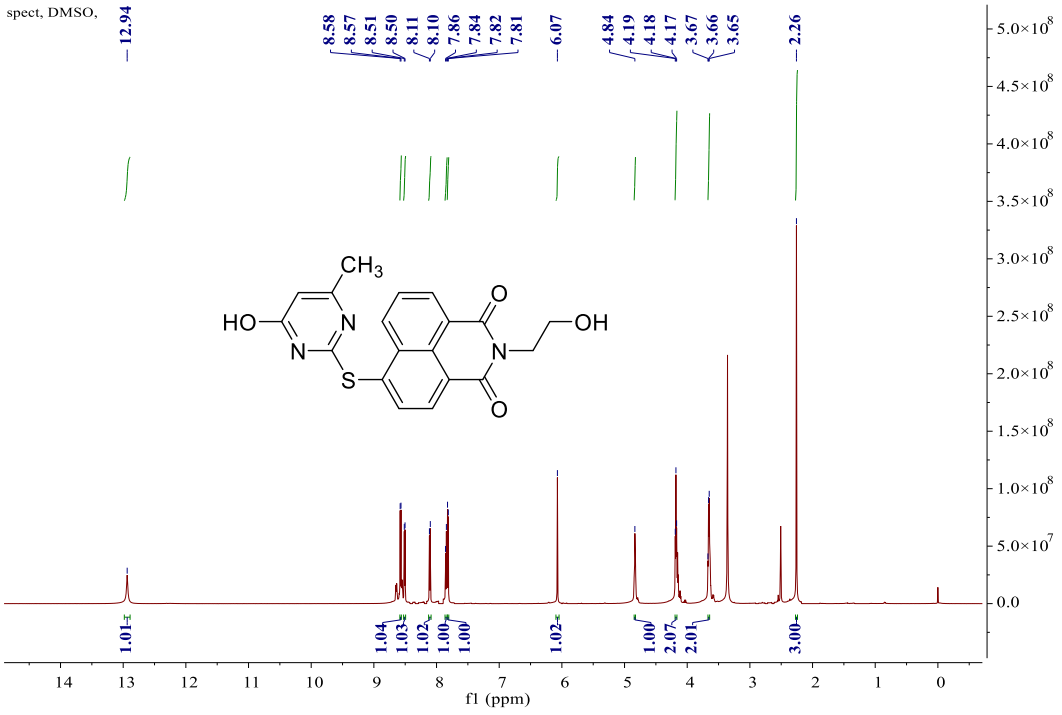
HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	1.867	2945	0.040	BB
2	2.540	948	0.013	BB
3	3.193	7276545	99.472	BV
4	3.747	34736	0.475	TBB
		7315174	100.000	

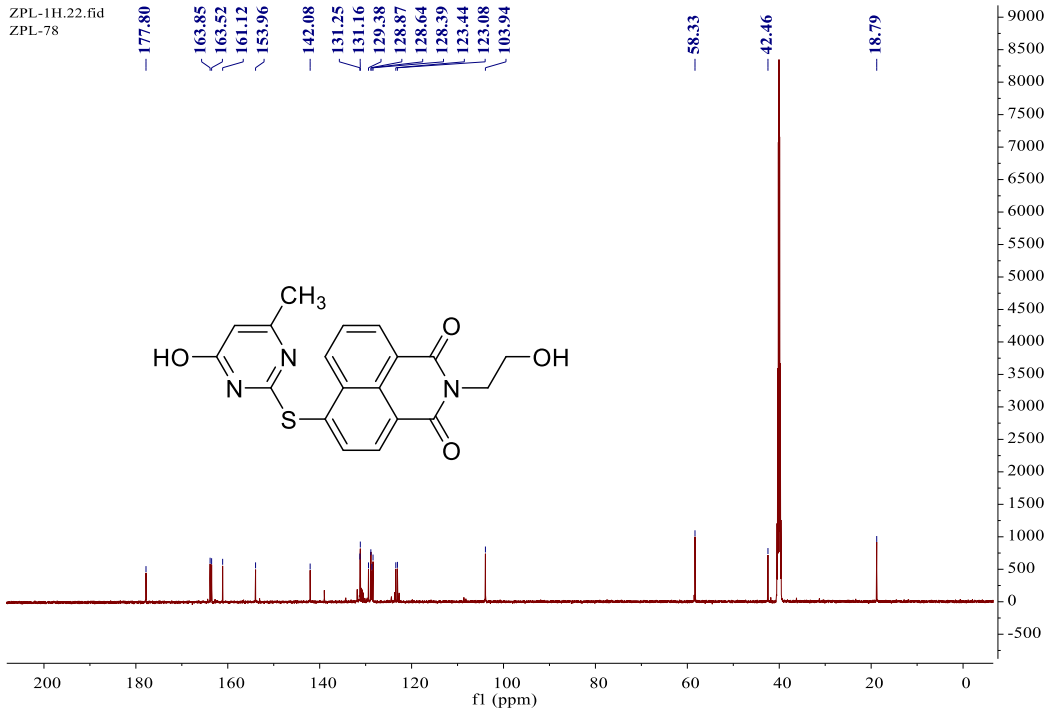


1.17 Spectra of compound **8d**.

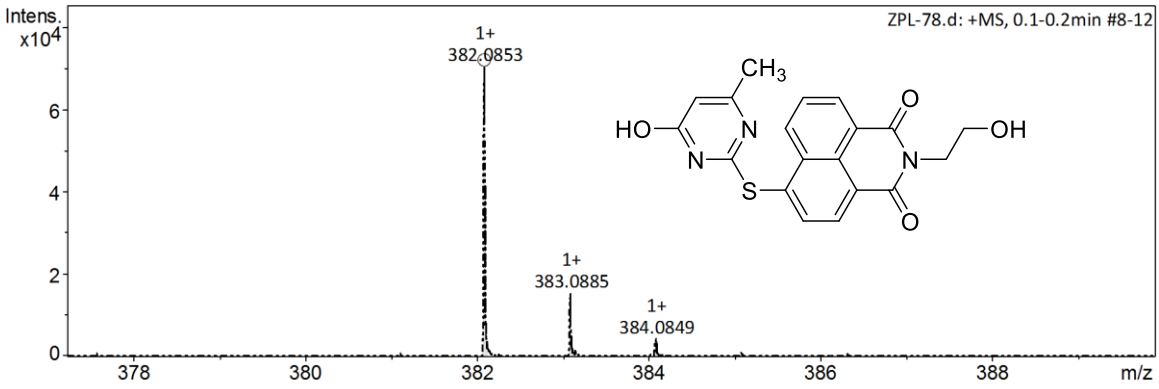
^{1}H NMR spectrum



^{13}C NMR spectrum

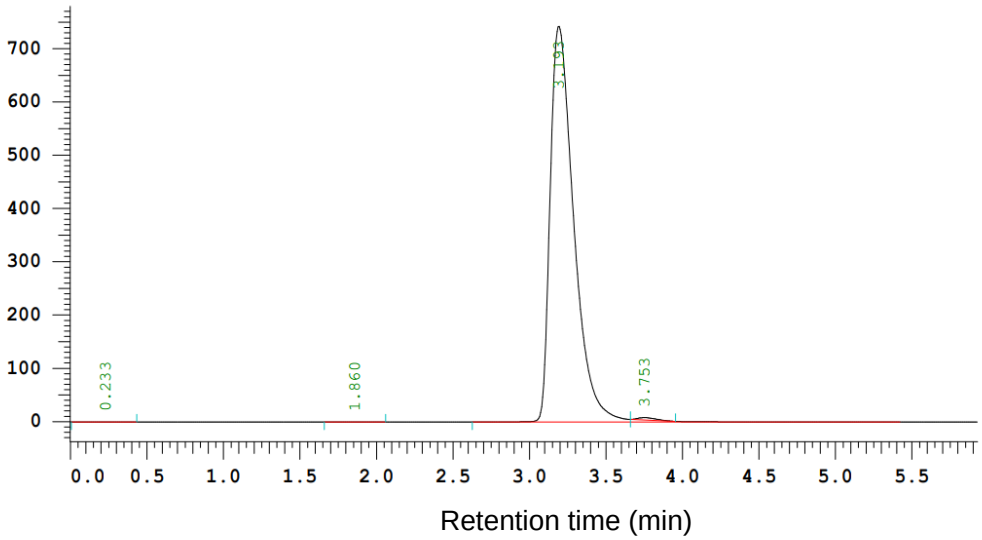


HRMS spectrum



HPLC spectrum

No.	RT	Area (%)	Concentration (%)	BC
1	0. 233	1983	0. 025	BB
2	1. 860	1732	0. 022	BB
3	3. 193	7995820	99. 473	BV
4	3. 753	38670	0. 481	TBB
		8038205	100. 000	


700
600
500
400
300
200
100
0
0.233
1.860
3.753
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
Retention time (min)