

Supplementary Information

Recognition of arylmetylidene derivatives of imidazothiazolotriazinones as novel tubulin polymerization inhibitors

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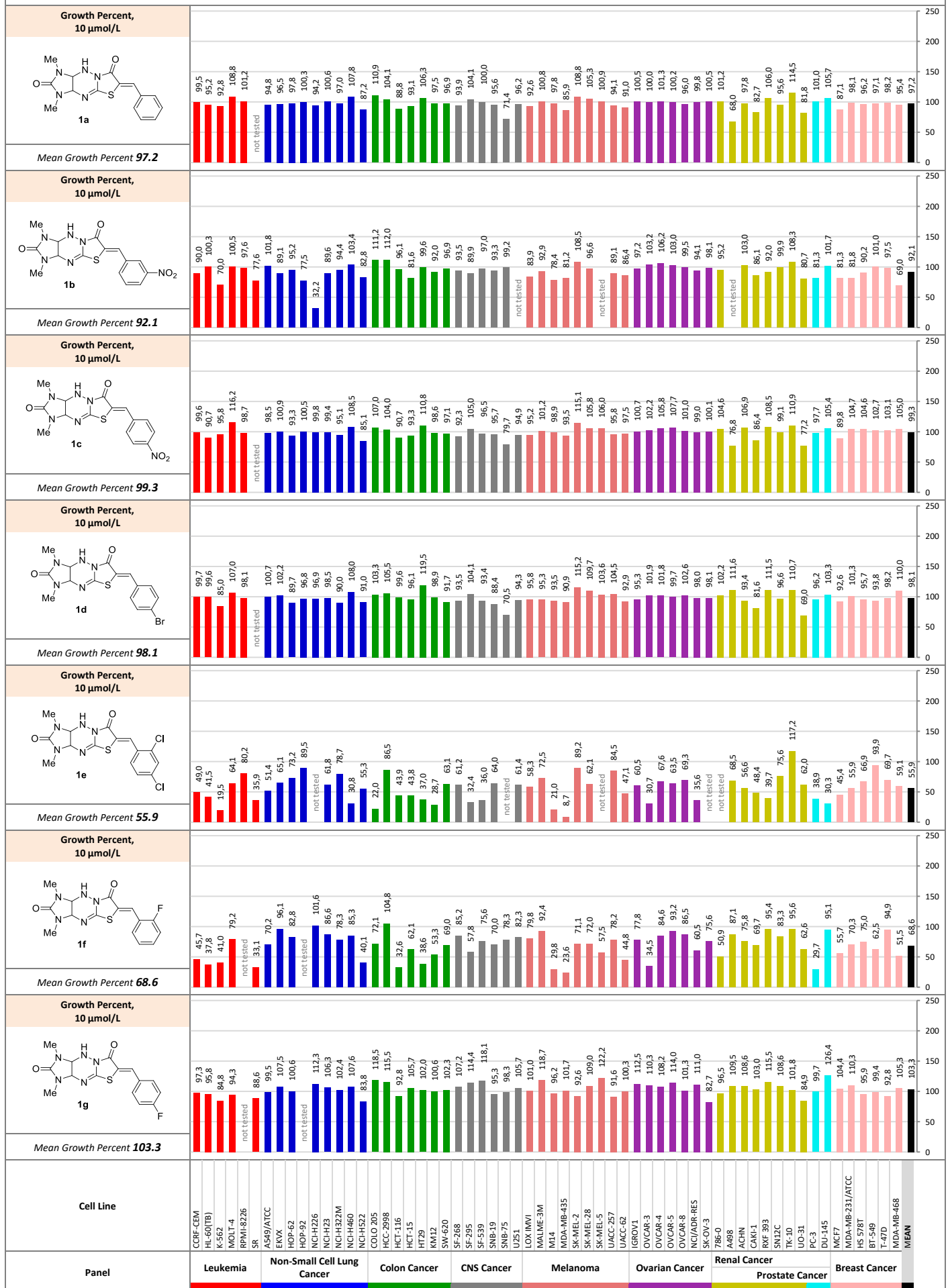
^b Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Moscow 117997, Russian Federation.

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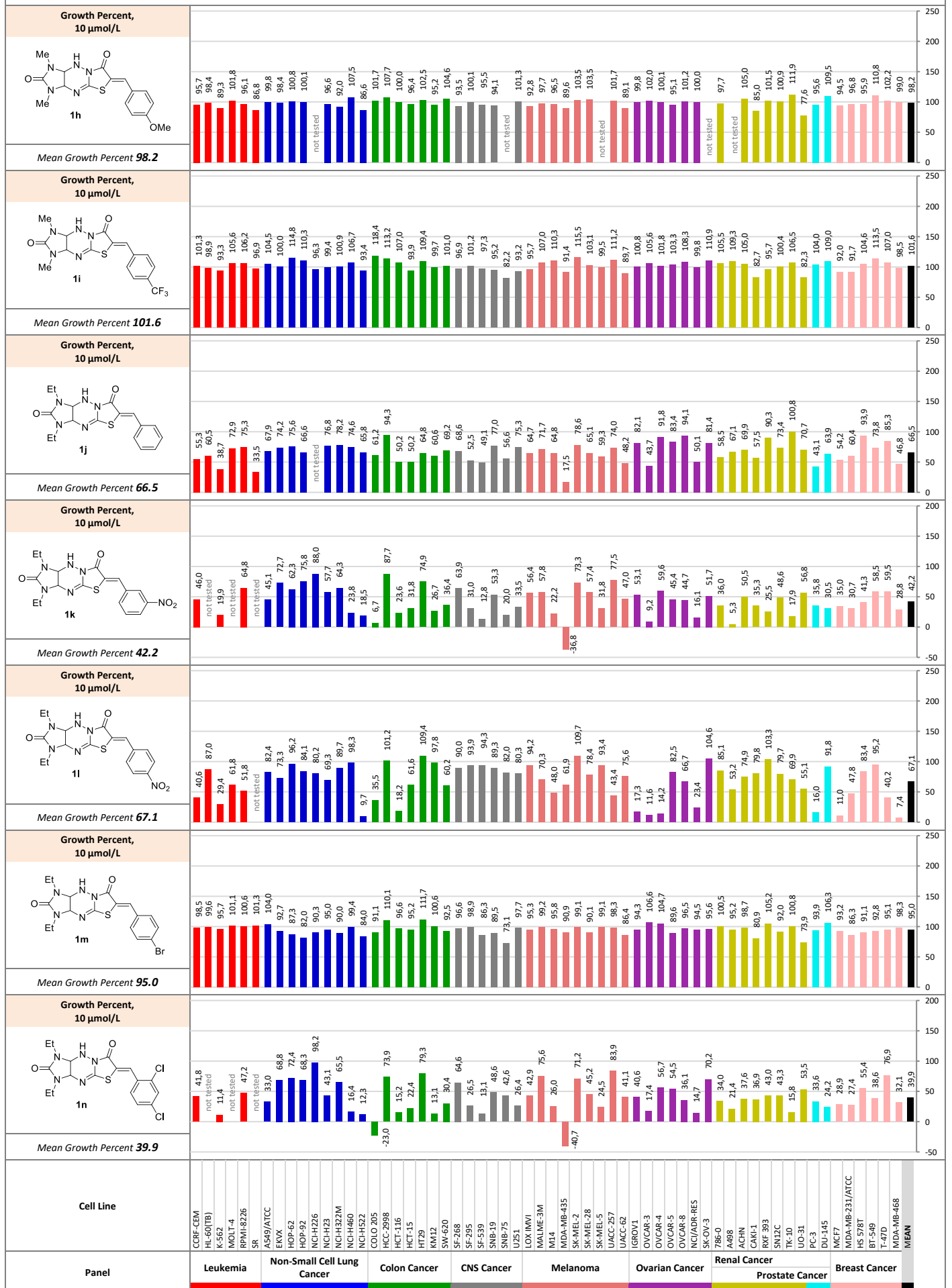
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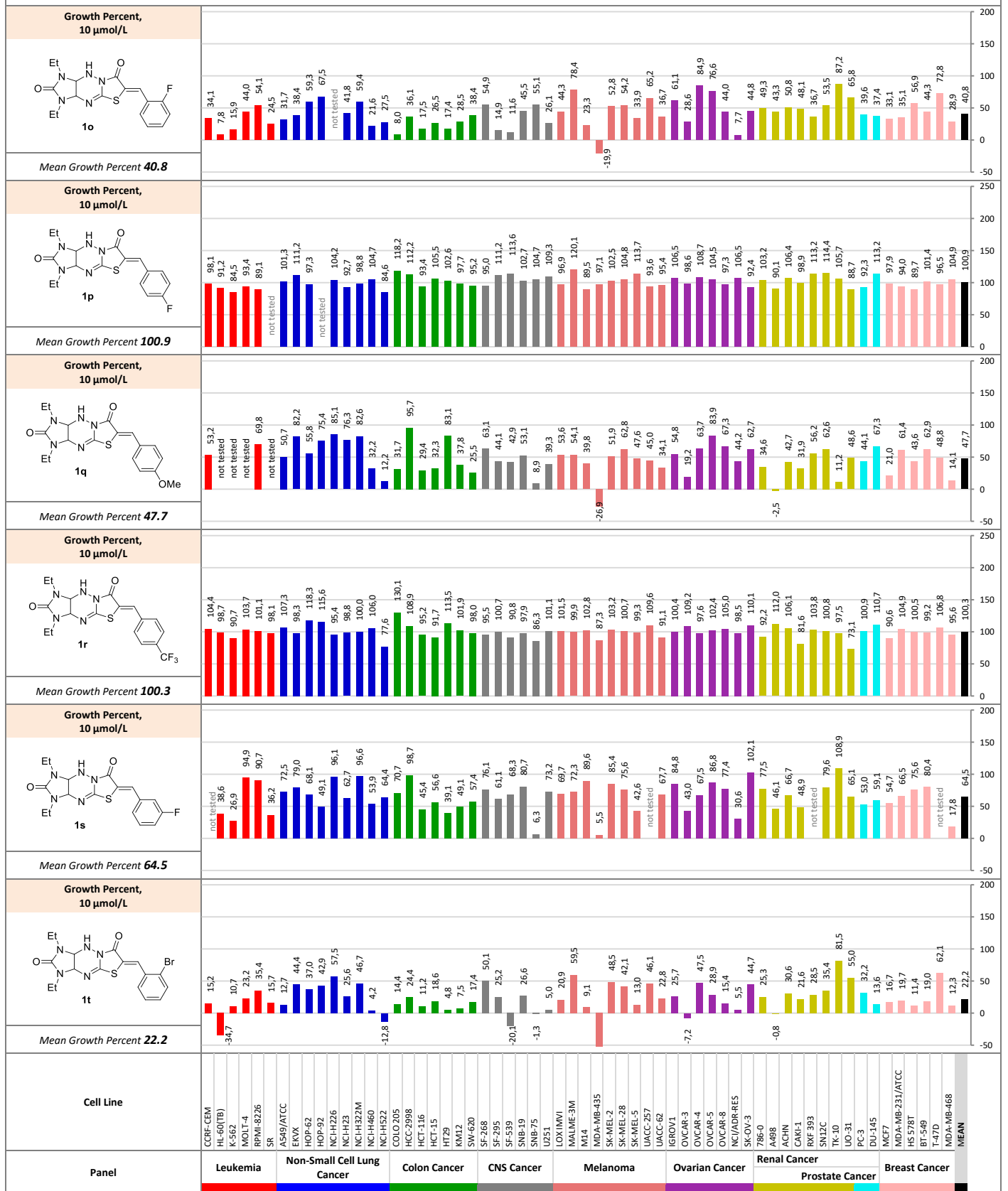
Anticancer Screening Data of 60 Cancer Cell Lines Assay at 10 $\mu\text{mol/L}$ Concentration



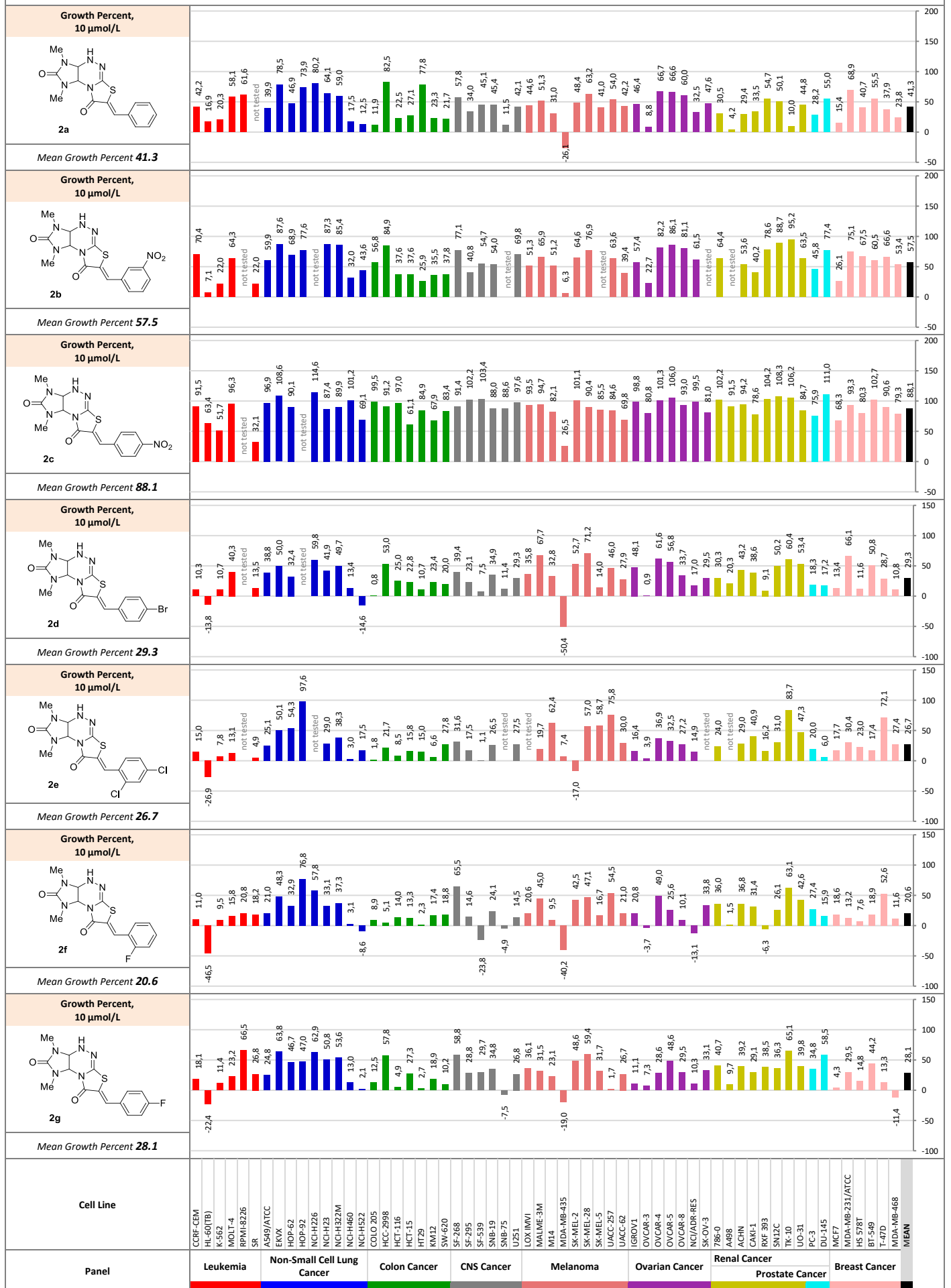
Anticancer Screening Data of 60 Cancer Cell Lines Assay at 10 $\mu\text{mol/L}$ Concentration



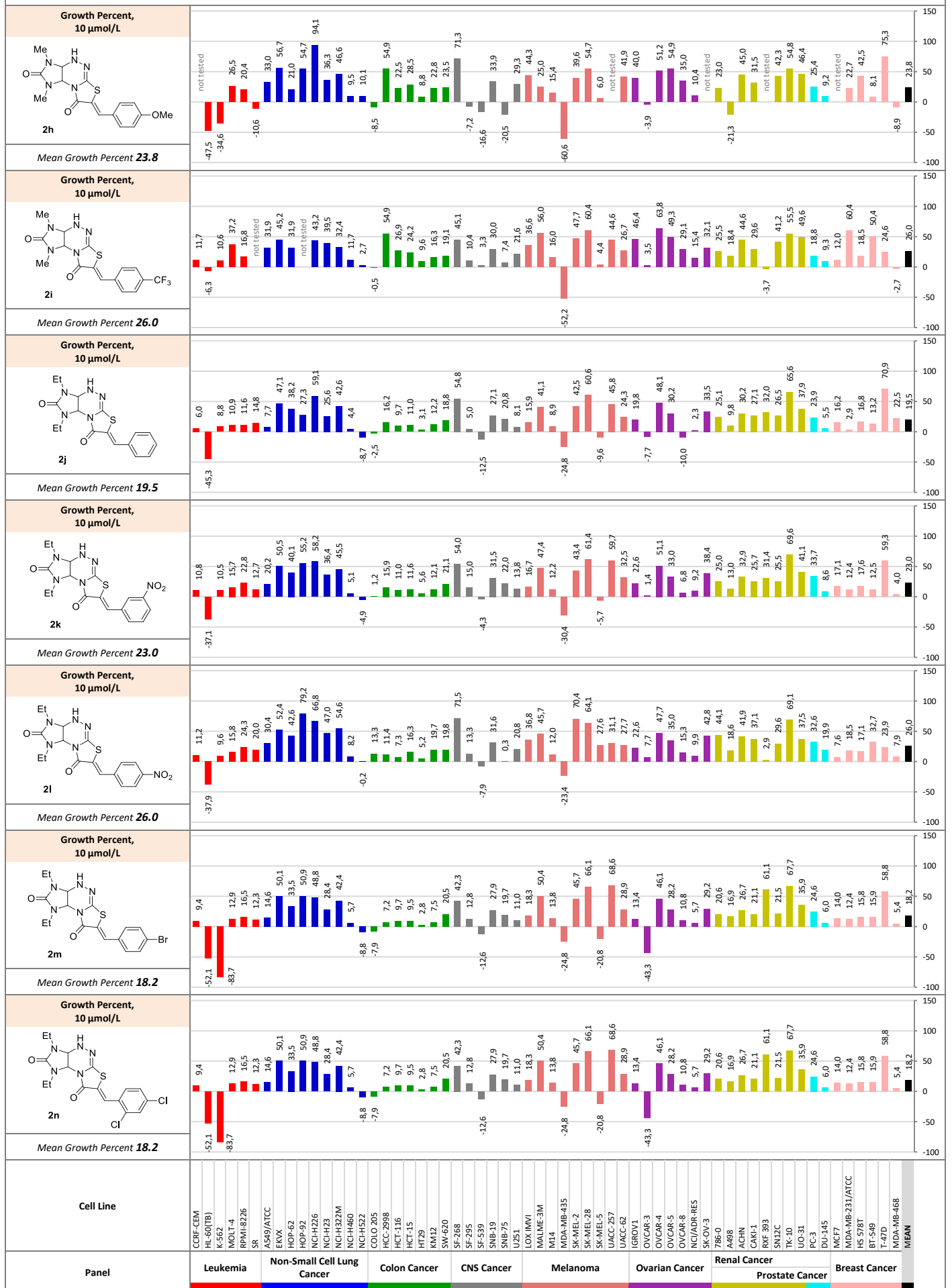
Anticancer Screening Data of 60 Cancer Cell Lines Assay at 10 $\mu\text{mol/L}$ Concentration



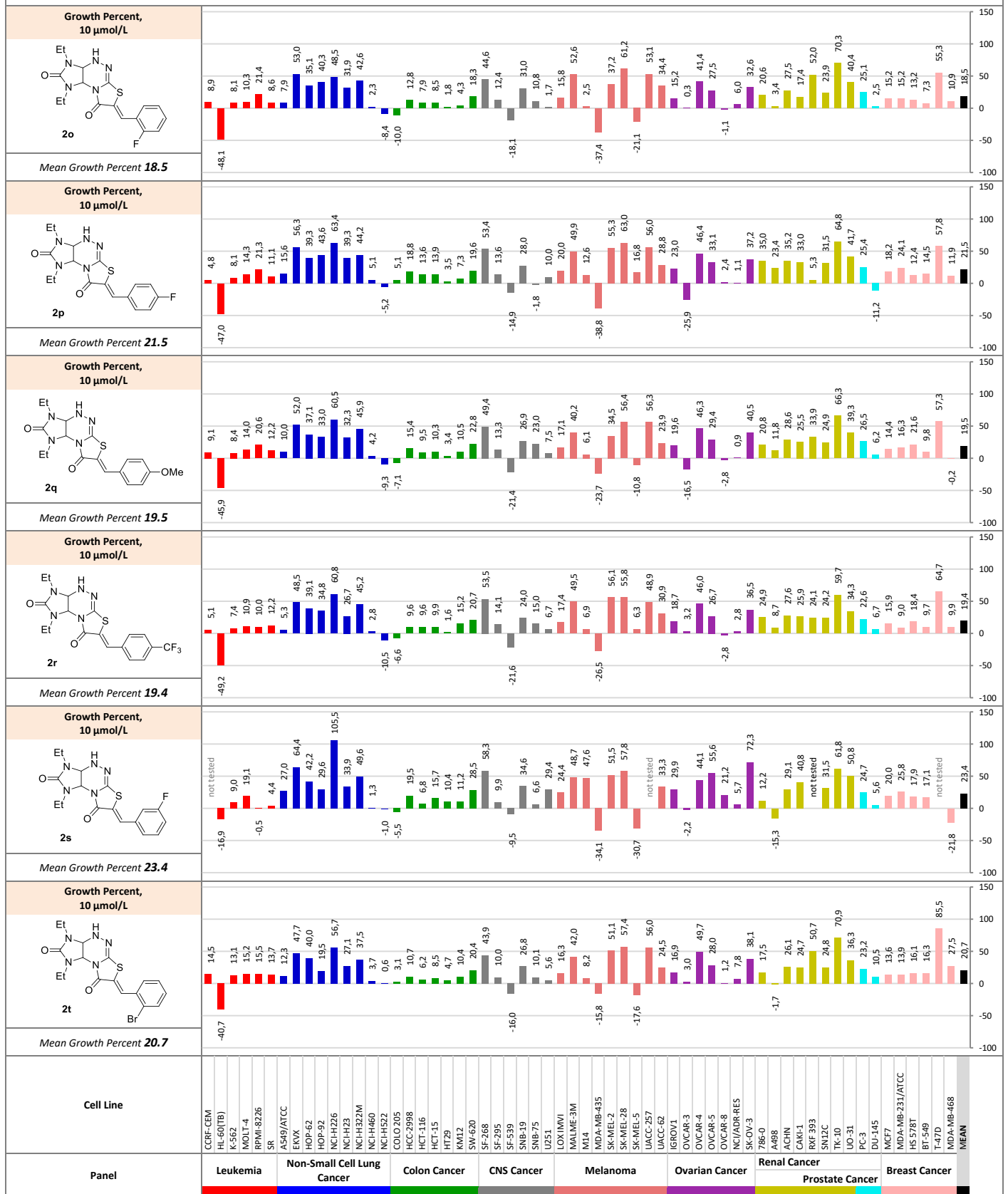
Anticancer Screening Data of 60 Cancer Cell Lines Assay at 10 μmol/L Concentration



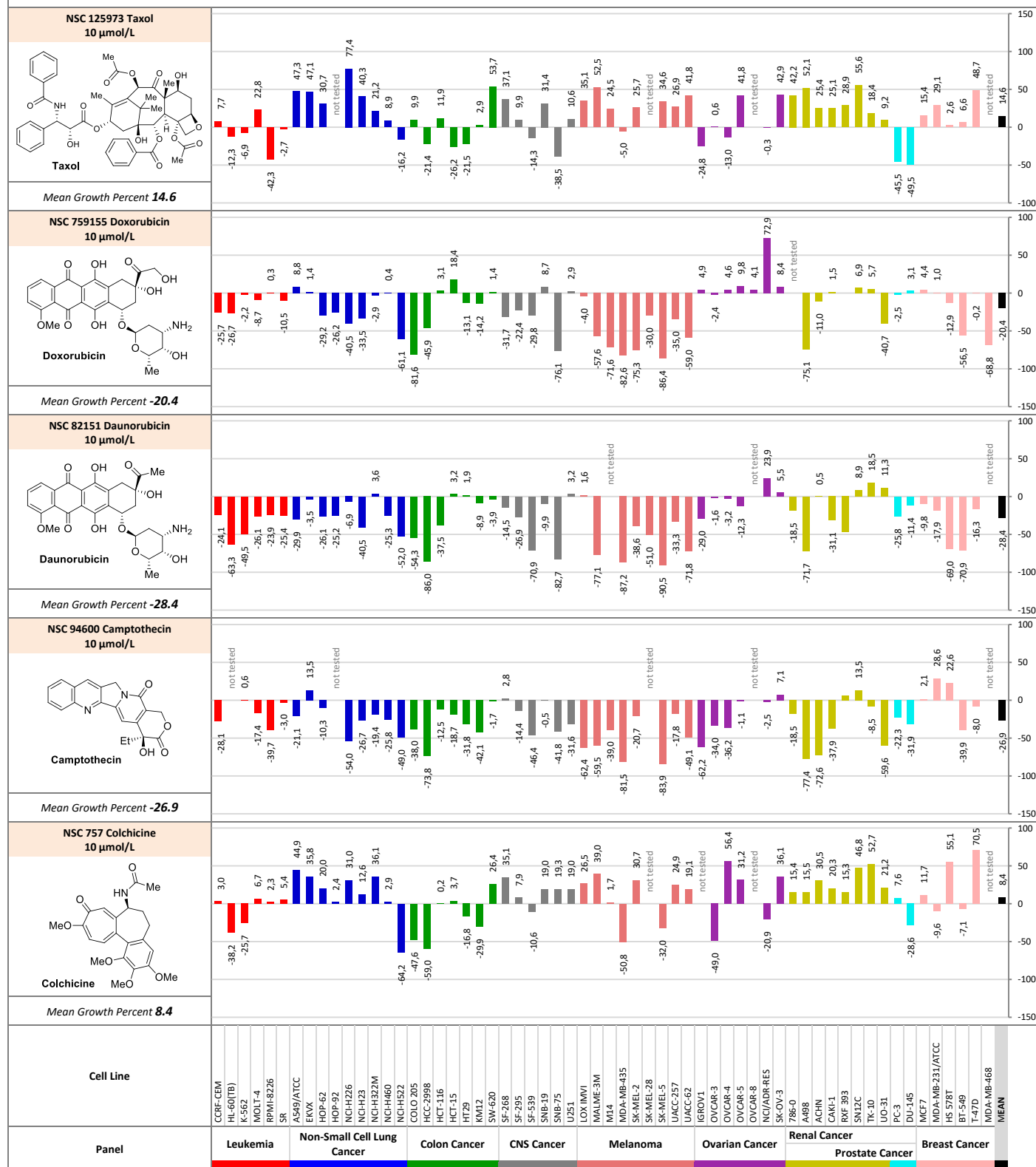
Anticancer Screening Data of 60 Cancer Cell Lines Assay at 10 µmol/L Concentration



Anticancer Screening Data of 60 Cancer Cell Lines Assay at 10 µmol/L Concentration



Antitumor Screening Data of 60 Cancer Cell Lines Assay at 10 $\mu\text{mol/L}$ Concentration



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 809858 / 1

Experiment ID : 1812NS43

Test Type : 08

Report Date : January 09, 2019

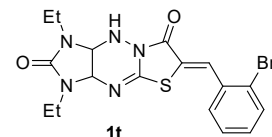
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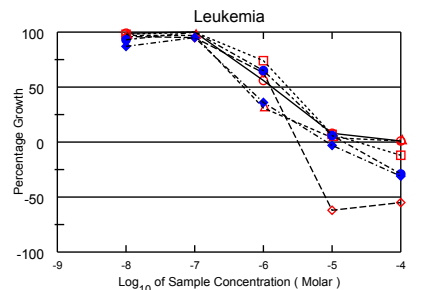
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Stain Reagent : SRB Dual-Pass Related

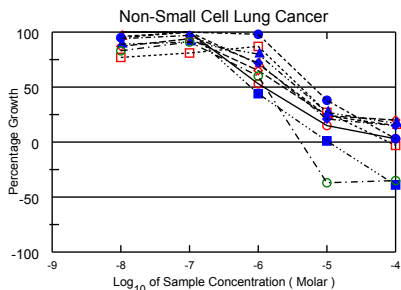
SSPL : 1AMN



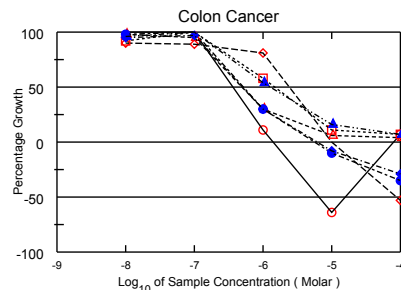
Panel/Cell Line	Time Zero	Ctrl	Log10 Concentration										GI50	TGI	LC50
			Mean Optical Densities					Percent Growth							
			-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0			
Leukemia															
CCRF-CEM	0.328	1.959	1.936	1.972	1.236	0.462	0.352	99	101	56	8	1	1.32E-6	> 1.00E-4	> 1.00E-4
HL-60(TB)	1.047	3.376	3.277	3.267	2.522	0.396	0.467	96	95	63	-62	-55	1.28E-6	3.19E-6	7.99E-6
K-562	0.285	2.399	2.343	2.327	0.943	0.378	0.301	97	97	31	4	1	5.15E-7	> 1.00E-4	> 1.00E-4
MOLT-4	0.625	2.668	2.625	2.706	2.140	0.761	0.553	98	102	74	7	-12	2.28E-6	2.32E-5	> 1.00E-4
RPMI-8226	0.725	2.351	2.234	2.343	1.779	0.831	0.513	93	100	65	6	-29	1.79E-6	1.52E-5	> 1.00E-4
SR	0.400	1.124	1.030	1.089	0.658	0.388	0.276	87	95	36	-3	-31	5.73E-7	8.30E-6	> 1.00E-4
Non-Small Cell Lung Cancer															
A549/ATCC	0.310	1.646	1.772	1.726	1.025	0.511	0.349	109	106	53	15	3	1.23E-6	> 1.00E-4	> 1.00E-4
EKVX	0.678	1.857	1.702	1.785	1.439	0.964	0.911	87	94	65	24	20	2.30E-6	> 1.00E-4	> 1.00E-4
HOP-62	0.665	2.368	2.299	2.363	1.876	1.077	0.917	96	100	71	24	15	2.81E-6	> 1.00E-4	> 1.00E-4
HOP-92	0.960	1.601	1.452	1.478	1.517	1.134	0.934	77	81	87	27	-3	4.14E-6	8.08E-5	> 1.00E-4
NCI-H226	0.875	2.152	2.083	2.155	2.129	1.360	0.909	95	100	98	38	3	6.31E-6	> 1.00E-4	> 1.00E-4
NCI-H23	0.569	1.886	1.808	1.842	1.514	0.849	0.771	94	97	72	21	15	2.70E-6	> 1.00E-4	> 1.00E-4
NCI-H322M	0.808	2.110	1.961	1.988	1.854	1.161	1.034	89	91	80	27	17	3.71E-6	> 1.00E-4	> 1.00E-4
NCI-H460	0.185	1.709	1.732	1.790	0.859	0.198	0.113	102	105	44	1	-39	8.04E-7	1.05E-5	> 1.00E-4
NCI-H522	0.757	2.277	2.019	2.137	1.664	0.478	0.495	83	91	60	-37	-35	1.26E-6	4.15E-6	> 1.00E-4
Colon Cancer															
COLO 205	0.396	1.414	1.458	1.511	0.506	0.143	0.472	104	110	11	-64	7	4.01E-7	.	.
HCC-2998	0.868	2.684	2.502	2.484	2.332	0.868	0.410	90	89	81	.	-53	2.40E-6	1.00E-5	8.84E-5
HCT-116	0.162	1.756	1.717	1.671	0.648	0.254	0.220	98	95	30	6	4	4.97E-7	> 1.00E-4	> 1.00E-4
HCT-15	0.291	1.480	1.388	1.478	0.981	0.418	0.371	92	100	58	11	7	1.48E-6	> 1.00E-4	> 1.00E-4
HT29	0.193	1.484	1.460	1.598	0.581	0.175	0.125	98	109	30	-10	-35	5.58E-7	5.73E-6	> 1.00E-4
KM12	0.396	1.811	1.740	1.764	0.821	0.364	0.280	95	97	30	-8	-29	5.01E-7	6.14E-6	> 1.00E-4
SW-620	0.248	1.790	1.730	1.805	1.079	0.502	0.349	96	101	54	16	7	1.27E-6	> 1.00E-4	> 1.00E-4
CNS Cancer															
SF-268	0.567	1.956	1.869	1.926	1.580	0.794	0.459	94	98	73	16	-19	2.54E-6	2.90E-5	> 1.00E-4
SF-295	1.110	2.841	2.644	2.807	1.817	1.054	1.063	89	98	41	-5	-4	6.91E-7	7.75E-6	> 1.00E-4
SF-539	1.011	2.517	2.383	2.360	1.732	0.505	0.493	91	90	48	-50	-51	8.89E-7	3.08E-6	9.99E-6
SNB-19	0.635	2.133	2.013	2.054	1.870	0.904	0.860	92	95	82	18	15	3.18E-6	> 1.00E-4	> 1.00E-4
SNB-75	1.546	2.412	2.071	2.154	1.960	1.481	1.126	61	70	48	-4	-27	7.96E-7	8.30E-6	> 1.00E-4
U251	0.296	1.575	1.535	1.642	0.791	0.346	0.268	97	105	39	4	-10	6.76E-7	1.94E-5	> 1.00E-4
Melanoma															
LOX IMVI	0.431	2.848	2.711	2.678	2.210	0.733	0.374	94	93	74	12	-13	2.43E-6	3.06E-5	> 1.00E-4
MALME-3M	0.790	1.833	1.640	1.679	1.583	1.284	0.745	82	85	76	47	-6	8.08E-6	7.81E-5	> 1.00E-4
M14	0.457	2.019	1.896	1.995	1.270	0.388	0.671	92	98	52	-15	14	1.07E-6	.	> 1.00E-4
MDA-MB-435	0.587	2.526	2.439	2.490	1.081	0.287	0.685	95	98	25	-51	5	4.59E-7	.	.
SK-MEL-2	0.834	2.018	1.984	2.057	1.989	0.965	0.701	97	103	98	11	-16	3.55E-6	2.56E-5	> 1.00E-4
SK-MEL-28	0.683	2.049	1.982	2.107	1.468	1.175	0.637	95	104	57	36	-7	2.23E-6	6.96E-5	> 1.00E-4
SK-MEL-5	0.792	2.450	2.349	2.472	1.994	0.602	0.110	94	101	73	-24	-86	1.71E-6	5.64E-6	2.62E-5
UACC-257	0.742	1.823	1.840	1.949	1.759	1.334	0.873	102	112	94	55	12	1.29E-5	> 1.00E-4	> 1.00E-4
UACC-62	0.869	2.774	2.712	2.793	2.171	1.138	0.743	97	101	68	14	-14	2.18E-6	3.11E-5	> 1.00E-4
Ovarian Cancer															
IGROV1	0.811	2.520	2.410	2.412	2.212	0.979	0.850	94	94	82	10	2	2.77E-6	> 1.00E-4	> 1.00E-4
OVCAR-3	0.328	1.111	1.115	1.137	0.731	0.256	0.211	100	103	51	-22	-36	1.05E-6	5.02E-6	> 1.00E-4
OVCAR-4	0.653	1.548	1.493	1.535	1.228	0.875	0.728	94	99	64	25	8	2.29E-6	> 1.00E-4	> 1.00E-4
OVCAR-5	0.629	1.422	1.321	1.374	1.166	0.702	0.666	87	94	68	9	5	2.01E-6	> 1.00E-4	> 1.00E-4
OVCAR-8	0.439	1.767	1.842	1.750	1.302	0.406	0.266	106	99	65	-8	-40	1.61E-6	7.85E-6	> 1.00E-4
NCI/ADR-RES	0.650	2.041	1.891	1.947	1.538	0.742	0.626	89	93	64	7	-4	1.74E-6	4.37E-5	> 1.00E-4
SK-OV-3	0.776	1.865	1.861	1.949	1.649	0.697	0.768	100	108	80	-10	-1	2.15E-6	7.70E-6	> 1.00E-4
Renal Cancer															
786-0	0.617	2.502	2.326	2.334	2.157	0.969	0.881	91	91	82	19	14	3.18E-6	> 1.00E-4	> 1.00E-4
A498	1.583	2.148	2.084	2.127	1.851	1.104	0.832	89	96	47	-30	-47	8.86E-7	4.08E-6	> 1.00E-4
ACHN	0.297	1.171	1.131	1.181	0.776	0.440	0.313	95	101	55	16	2	1.33E-6	> 1.00E-4	> 1.00E-4
CAKI-1	1.018	2.682	2.458	2.533	2.026	1.305	0.892	87	91	61	17	-12	1.75E-6	3.82E-5	> 1.00E-4
RXF 393	1.326	1.904	1.757	1.867	1.629	1.194	0.981	75	94	52	-10	-26	1.09E-6	6.91E-6	> 1.00E-4
SN12C	0.728	2.750	2.653	2.716	2.353	1.127	0.548	95	98	80	20	-25	3.17E-6	2.78E-5	> 1.00E-4
TK-10	0.824	2.064	1.937	1.961	2.032	1.426	0.865	90	92	97	49	3	9.34E-6	> 1.00E-4	> 1.00E-4
UO-31	0.924	2.139	1.946	1.948	1.656	1.245	1.075	84	84	60	26	12	2.00E-6	> 1.00E-4	> 1.00E-4
Prostate Cancer															
PC-3	0.455	1.883	1.777	1.816	1.331	0.732	0.685	93	95	61	19	16	1.86E-6	> 1.00E-4	> 1.00E-4
DU-145	0.363	1.511	1.507	1.545	1.057	0.330	0.393	100	103	60	-9	3	1.41E-6	.	> 1.00E-4
Breast Cancer															
MCF7	0.394	1.682	1.638	1.486	1.219	0.497	0.439	97	85	64	8	3	1.78E-6	> 1.00E-4	> 1.00E-4
MDA-MB-231/ATCC	0.745	1.555	1.559	1.602	1.320	0.709	0.658	100	106	71	-5	-12	1.89E-6	8.62E-6	> 1.00E-4
HS 578T	0.921	1.853	1.760	1.803	1.540	0.748	0.926	90	95	66	-19	1	1.56E-6	.	> 1.00E-4
BT-549	1.385	2.664	2.590	2.522	2.572	1.487	1.037	94	89	93	8	-25	3.20E-6	1.74E-5	> 1.00E-4
T-47D	0.652	1.655	1.540	1.494	1.524	1.199	0.827	89	84	87	54	17	1.32E-5	> 1.00E-4	> 1.00E-4
MDA-MB-468	0.819	1.786	1.691	1.691	1.329	0.735	0.502	90	90	53	-10	-39	1.10E-6	6.87E-6	> 1.00E-4



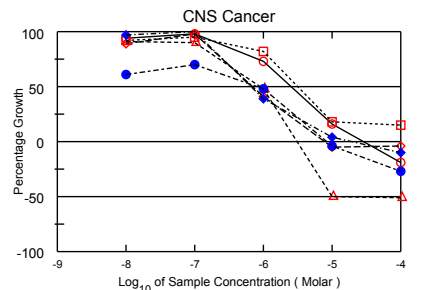
CCRF-CEM —○—
MOLT-4 —□—
HL-60(TB) —◇—
RPMI-8226 —●—
K-562 —△—
SR —◆—



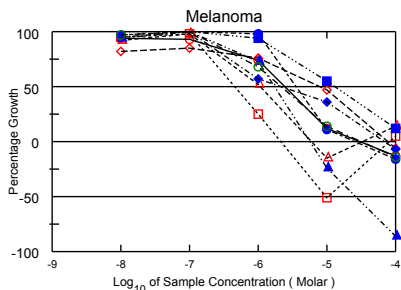
A549/ATCC —○—
HOP-92 —□—
NCI-H322M —△—
EKVX —◇—
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NCI-H460 —◆—
HOP-62 —△—
NCI-H23 —◆—
NCI-H522 —○—



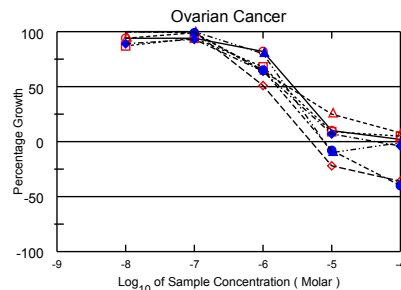
COLO 205 —○—
HCT-15 —□—
SW-620 —△—
HCC-2998 —◇—
HT29 —●—
HCT-116 —△—
KM12 —◆—



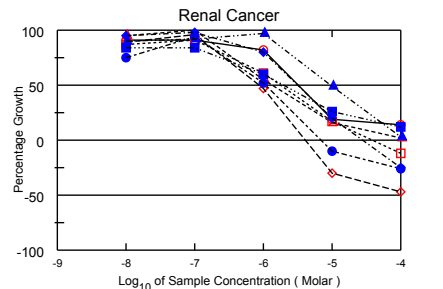
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SF-539 —△—
U251 —◆—



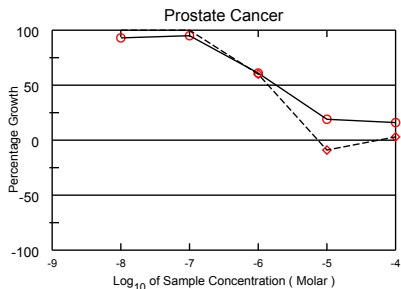
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MDA-MB-435 —□—
SK-MEL-5 —△—
MALME-3M —◇—
SK-MEL-2 —●—
UACC-257 —◆—
M14 —△—
SK-MEL-28 —◆—
UACC-62 —○—



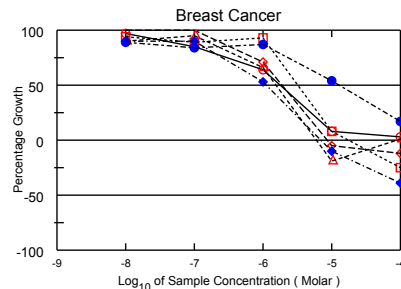
IGROV1 —○—
OVCAR-5 —□—
SK-OV-3 —△—
OVCAR-3 —◇—
OVCAR-8 —●—
NCI/ADR-RES —◆—



786-0 —○—
CAKI-1 —□—
TK-10 —△—
A498 —◇—
RXF 393 —●—
UO-31 —◆—
ACHN —△—
SN12C —◆—



PC-3 —○—
DU-145 —◇—



MCF7 —○—
BT-549 —□—
MDA-MB-231 —◇—
T-47D —●—
HS 578T —△—
MDA-MB-468 —◆—

National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 819777 / 1

Experiment ID : 1912NS94

Test Type : 08

Report Date : January 26, 2020

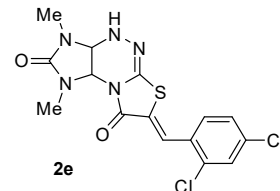
Test Date : December 09, 2019

QNS :

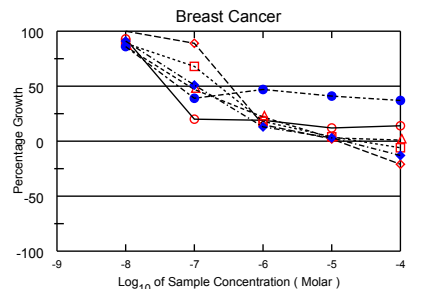
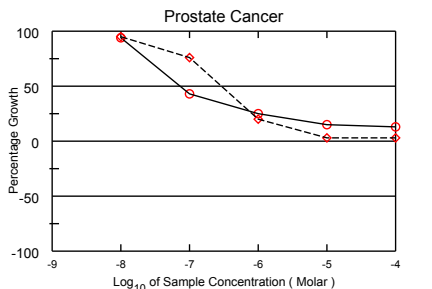
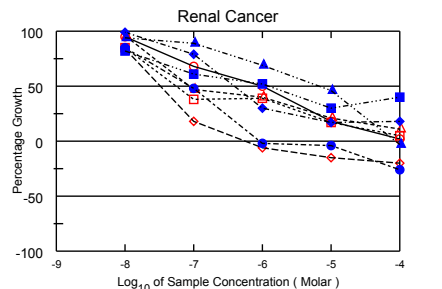
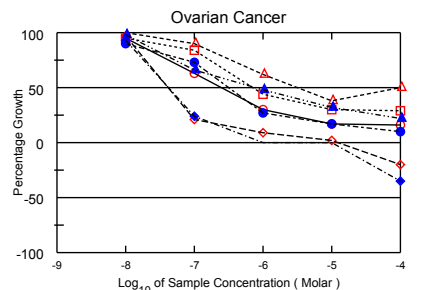
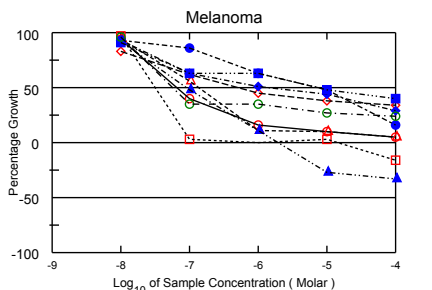
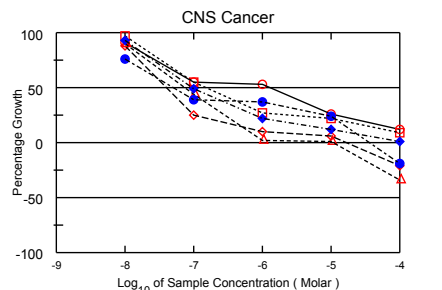
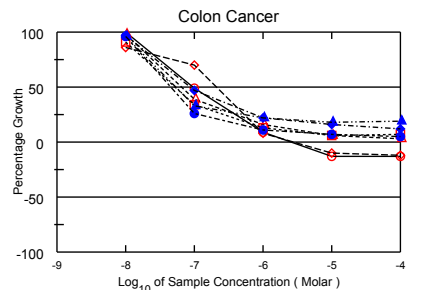
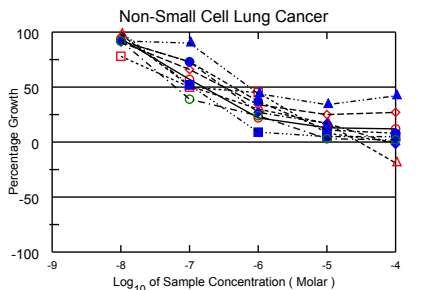
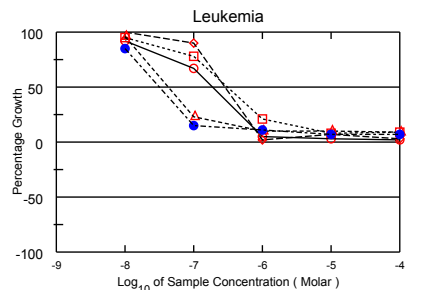
COMI : GOA-59

Stain Reagent : SRB Dual-Pass Related

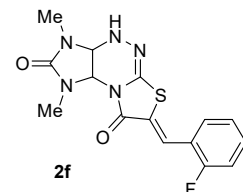
SSPL : 1AMN



	Log10 Concentration															
	Time	Mean Optical Densities						Percent Growth								
Panel/Cell Line	Zero	Ctrl	-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0	GI50	TGI	LC50	
Leukemia																
CCRF-CEM	0.432	2.558	2.397	1.855	0.536	0.504	0.471	92	67	5	3	2	1.87E-7	> 1.00E-4	> 1.00E-4	
HL-60(TB)	1.123	3.449	3.448	3.220	1.166	1.297	1.194	100	90	2	7	3	2.85E-7	> 1.00E-4	> 1.00E-4	
K-562	0.188	1.629	1.573	0.526	0.330	0.330	0.317	96	23	10	10	9	4.31E-8	> 1.00E-4	> 1.00E-4	
MOLT-4	0.541	2.570	2.460	2.115	0.972	0.703	0.721	95	78	21	8	9	3.09E-7	> 1.00E-4	> 1.00E-4	
SR	0.251	1.217	1.068	0.401	0.360	0.314	0.319	85	15	11	7	7	3.17E-8	> 1.00E-4	> 1.00E-4	
Non-Small Cell Lung Cancer																
A549/ATCC	0.437	2.327	2.215	1.517	0.856	0.683	0.669	94	57	22	13	12	1.60E-7	> 1.00E-4	> 1.00E-4	
EKVX	0.661	1.944	1.829	1.514	1.102	0.982	1.005	91	66	34	25	27	3.25E-7	> 1.00E-4	> 1.00E-4	
HOP-62	0.596	1.964	1.943	1.299	1.006	0.834	0.484	98	51	30	17	-19	1.16E-7	3.02E-5	> 1.00E-4	
HOP-92	1.358	2.015	1.870	1.689	1.652	1.408	1.348	78	50	45	8	.	1.13E-7	8.16E-5	> 1.00E-4	
NCI-H226	1.411	3.040	2.917	2.601	2.010	1.590	1.534	92	73	37	11	8	4.32E-7	> 1.00E-4	> 1.00E-4	
NCI-H23	0.558	1.851	1.749	1.506	0.907	0.775	0.546	92	73	27	17	-2	3.18E-7	7.62E-5	> 1.00E-4	
NCI-H322M	0.916	2.340	2.228	2.192	1.546	1.393	1.513	92	90	44	34	42	7.47E-7	> 1.00E-4	> 1.00E-4	
NCI-H460	0.326	2.946	2.948	1.690	0.557	0.447	0.456	100	52	9	5	5	1.11E-7	> 1.00E-4	> 1.00E-4	
NCI-H522	1.295	3.131	2.977	2.019	1.739	1.349	1.328	92	39	24	3	2	6.27E-8	> 1.00E-4	> 1.00E-4	
Colon Cancer																
COLO 205	0.508	2.433	2.468	1.448	0.686	0.441	0.444	102	49	9	-13	-13	9.51E-8	2.58E-6	> 1.00E-4	
HCC-2998	0.734	2.360	2.140	1.878	0.861	0.663	0.649	86	70	8	-10	-12	2.12E-7	2.80E-6	> 1.00E-4	
HCT-116	0.308	2.664	2.627	1.226	0.697	0.450	0.390	98	39	16	6	3	6.52E-8	> 1.00E-4	> 1.00E-4	
HCT-15	0.314	1.805	1.665	0.827	0.513	0.397	0.414	91	34	13	6	7	5.28E-8	> 1.00E-4	> 1.00E-4	
HT29	0.426	2.453	2.376	0.945	0.643	0.576	0.527	96	26	11	7	5	4.51E-8	> 1.00E-4	> 1.00E-4	
KM12	0.765	3.192	3.124	1.898	1.289	1.142	1.067	97	47	22	16	12	8.59E-8	> 1.00E-4	> 1.00E-4	
SW-620	0.351	2.719	2.617	1.125	0.879	0.783	0.793	96	33	22	18	19	5.31E-8	> 1.00E-4	> 1.00E-4	
CNS Cancer																
SF-268	0.855	2.635	2.479	1.838	1.792	1.310	1.061	91	55	53	26	12	1.25E-6	> 1.00E-4	> 1.00E-4	
SF-295	0.680	2.938	2.668	1.249	0.903	0.813	0.536	88	25	10	6	-21	4.03E-8	1.65E-5	> 1.00E-4	
SF-539	0.721	2.752	2.548	1.609	0.769	0.740	0.479	90	44	2	1	-34	7.31E-8	1.06E-5	> 1.00E-4	
SNB-19	0.458	1.723	1.688	1.152	0.798	0.739	0.578	97	55	27	22	9	1.49E-7	> 1.00E-4	> 1.00E-4	
SNB-75	1.401	2.583	2.301	1.866	1.841	1.689	1.136	76	39	37	24	-19	5.13E-8	3.65E-5	> 1.00E-4	
U251	0.520	2.289	2.158	1.384	0.910	0.738	0.545	93	49	22	12	1	9.41E-8	> 1.00E-4	> 1.00E-4	
Melanoma																
LOX IMVI	0.410	2.609	2.478	1.299	0.758	0.629	0.519	94	40	16	10	5	6.63E-8	> 1.00E-4	> 1.00E-4	
MALME-3M	0.681	1.568	1.413	1.228	1.084	1.014	0.986	83	62	45	38	34	5.21E-7	> 1.00E-4	> 1.00E-4	
M14	0.377	1.759	1.670	1.155	0.525	0.516	0.443	94	56	11	10	5	1.37E-7	> 1.00E-4	> 1.00E-4	
MDA-MB-435	0.682	3.088	3.010	0.743	0.685	0.754	0.571	97	3	.	3	-16	3.13E-8	1.43E-5	> 1.00E-4	
SK-MEL-2	1.121	2.133	2.062	1.992	1.757	1.602	1.287	93	86	63	48	16	6.92E-6	> 1.00E-4	> 1.00E-4	
SK-MEL-28	0.579	1.953	1.862	1.452	1.287	1.187	0.983	93	63	51	44	29	1.60E-6	> 1.00E-4	> 1.00E-4	
SK-MEL-5	0.916	3.103	2.932	1.966	1.150	0.668	0.611	92	48	11	-27	-33	9.01E-8	1.92E-6	> 1.00E-4	
UACC-257	1.066	2.585	2.446	2.025	2.026	1.797	1.675	91	63	63	48	40	7.47E-6	> 1.00E-4	> 1.00E-4	
UACC-62	0.921	2.997	2.923	1.647	1.658	1.487	1.419	96	35	35	27	24	5.69E-8	> 1.00E-4	> 1.00E-4	
Ovarian Cancer																
IGROV1	0.523	2.186	2.105	1.576	1.027	0.813	0.789	95	63	30	17	16	2.53E-7	> 1.00E-4	> 1.00E-4	
OVCAR-3	0.372	1.309	1.282	0.565	0.457	0.393	0.297	97	21	9	2	-20	4.12E-8	1.26E-5	> 1.00E-4	
OVCAR-4	0.882	1.668	1.667	1.586	1.372	1.179	1.273	100	90	62	38	50	3.17E-6	> 1.00E-4	> 1.00E-4	
OVCAR-5	0.583	1.461	1.414	1.325	0.970	0.845	0.839	95	84	44	30	29	7.12E-7	> 1.00E-4	> 1.00E-4	
OVCAR-8	0.451	2.195	2.026	1.720	0.923	0.750	0.634	90	73	27	17	10	3.15E-7	> 1.00E-4	> 1.00E-4	
NCI/ADR-RES	0.510	1.711	1.630	0.798	0.506	0.512	0.333	93	24	.	.	-35	4.21E-8	.	> 1.00E-4	
SK-OV-3	0.657	1.721	1.699	1.360	1.165	1.001	0.892	98	66	48	32	22	7.54E-7	> 1.00E-4	> 1.00E-4	
Renal Cancer																
786-O	0.812	2.848	2.741	2.198	1.826	1.187	0.862	95	68	50	18	2	9.77E-7	> 1.00E-4	> 1.00E-4	
A498	1.592	2.202	2.106	1.700	1.504	1.360	1.273	84	18	-6	-15	-20	3.27E-8	5.77E-7	> 1.00E-4	
ACHN	0.410	1.773	1.719	1.045	0.949	0.691	0.558	96	47	40	21	11	8.53E-8	> 1.00E-4	> 1.00E-4	
CAKI-1	0.652	2.147	1.917	1.215	1.234	0.904	0.725	85	38	39	17	5	5.46E-8	> 1.00E-4	> 1.00E-4	
RXF 393	1.262	1.995	1.882	1.611	1.241	1.213	0.938	85	48	-2	-4	-26	8.62E-8	9.25E-7	> 1.00E-4	
SN12C	0.507	2.064	2.049	1.734	0.981	0.772	0.782	99	79	30	17	18	3.94E-7	> 1.00E-4	> 1.00E-4	
TK-10	0.902	1.804	1.750	1.704	1.521	1.315	0.872	94	89	69	46	-3	6.52E-6	8.54E-5	> 1.00E-4	
UO-31	0.736	2.094	1.847	1.565	1.438	1.144	1.278	82	61	52	30	40	1.20E-6	> 1.00E-4	> 1.00E-4	
Prostate Cancer																
PC-3	0.528	2.101	2.011	1.201	0.914	0.762	0.733	94	43	25	15	13	7.23E-8	> 1.00E-4	> 1.00E-4	
DU-145	0.309	1.379	1.322	1.127	0.522	0.344	0.338	95	76	20	3	3	2.94E-7	> 1.00E-4	> 1.00E-4	
Breast Cancer																
MCF7	0.528	2.718	2.575	0.959	0.939	0.785	0.842	93	20	19	12	14	3.88E-8	> 1.00E-4	> 1.00E-4	
MDA-MB-231/ATCC	0.695	1.598	1.603	1.501	0.831	0.709	0.547	100	89	15	2	-21	3.38E-7	1.17E-5	> 1.00E-4	
HS 578T	1.313	2.358	2.211	1.801	1.543	1.348	1.321	86	47	22	3	1	8.24E-8	> 1.00E-4	> 1.00E-4	
BT-549	1.353	2.751	2.602	2.300	1.605	1.412	1.273	89	68	18	4	-6	2.28E-7	2.60E-5	> 1.00E-4	
T-47D	0.800	1.873	1.725	1.214	1.302	1.243	1.194	86	39	47	41	37	5.76E-8	> 1.00E-4	> 1.00E-4	
MDA-MB-468	1.188	2.130	2.045	1.671	1.311	1.213	1.040	91	51	13	3	-13	1.08E-7	1.49E-5	> 1.00E-4	



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results



NSC : D - 809943 / 1

Experiment ID : 1812NS43

Test Type : 08

Report Date : January 09, 2019

Test Date : December 17, 2018

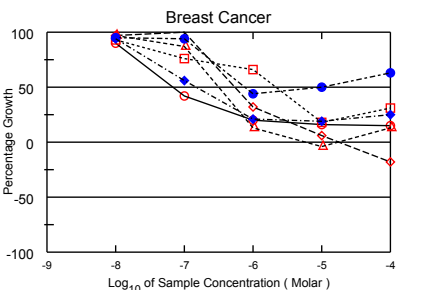
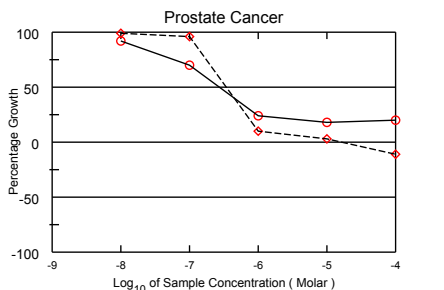
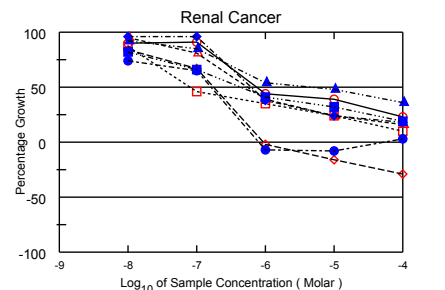
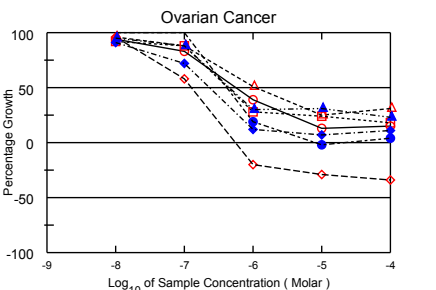
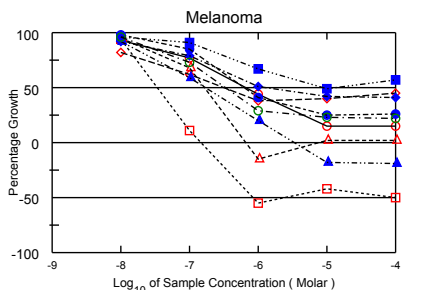
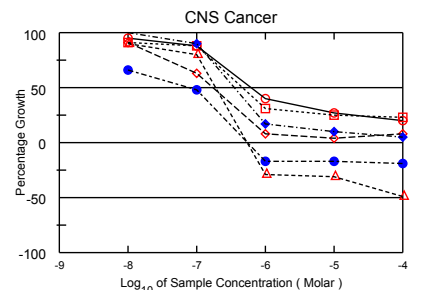
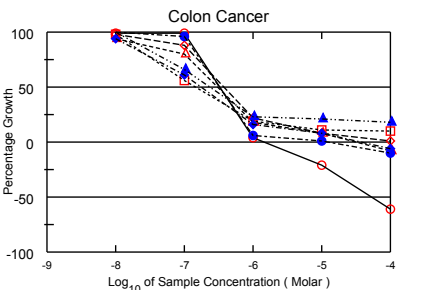
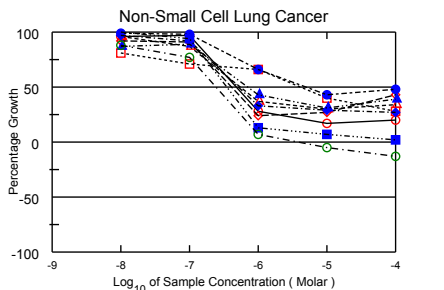
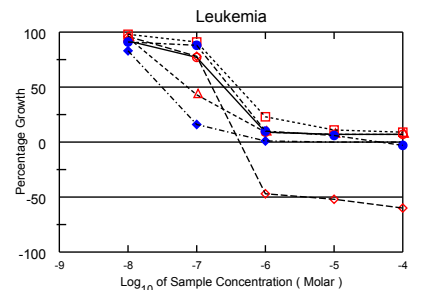
QNS :

COMI : IA363

Stain Reagent : SRB Dual-Pass Related

SSPL : 1AMN

Panel/Cell Line	Time	Log10 Concentration										GI50	TGI	LC50	
		Zero	Ctrl	-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0				-5.0
Leukemia															
CCRF-CEM	0.328	1.881	1.763	1.526	0.472	0.439	0.433	92	77	9	7	7	2.51E-7	> 1.00E-4	> 1.00E-4
HL-60(TB)	1.047	3.374	3.288	2.851	0.552	0.505	0.423	96	78	-47	-52	-60	1.66E-7	4.18E-7	3.98E-6
K-562	0.285	2.446	2.333	1.220	0.472	0.429	0.427	95	43	9	7	7	7.39E-8	> 1.00E-4	> 1.00E-4
MOLT-4	0.625	2.667	2.623	2.486	1.093	0.853	0.804	98	91	23	11	9	4.01E-7	> 1.00E-4	> 1.00E-4
RPMI-8226	0.725	2.293	2.156	2.110	0.882	0.819	0.702	91	88	10	6	-3	3.08E-7	4.46E-5	> 1.00E-4
SR	0.400	1.080	0.966	0.509	0.404	0.399	0.403	83	16	1	.	.	3.12E-8	.	> 1.00E-4
Non-Small Cell Lung Cancer															
A549/ATCC	0.310	1.354	1.310	1.325	0.607	0.490	0.517	96	97	28	17	20	4.86E-7	> 1.00E-4	> 1.00E-4
EKVX	0.678	1.922	1.829	1.809	0.971	1.020	1.209	92	91	24	27	43	4.05E-7	> 1.00E-4	> 1.00E-4
HOP-62	0.665	2.306	2.238	2.101	1.270	1.156	1.220	96	87	37	30	34	5.49E-7	> 1.00E-4	> 1.00E-4
HOP-92	0.960	1.637	1.507	1.443	1.405	1.233	1.151	81	71	66	40	28	4.13E-6	> 1.00E-4	> 1.00E-4
NCI-H226	0.875	2.096	2.078	2.067	1.677	1.402	1.457	99	98	66	43	48	4.95E-6	> 1.00E-4	> 1.00E-4
NCI-H23	0.569	1.970	1.932	1.853	1.038	0.972	0.943	97	92	33	29	27	5.20E-7	> 1.00E-4	> 1.00E-4
NCI-H322M	0.808	2.127	1.958	1.975	1.377	1.221	1.323	87	89	43	31	39	7.06E-7	> 1.00E-4	> 1.00E-4
NCI-H460	0.185	1.807	1.811	1.712	0.395	0.302	0.221	100	94	13	7	2	3.50E-7	> 1.00E-4	> 1.00E-4
NCI-H522	0.757	2.236	2.055	1.902	0.861	0.719	0.658	88	77	7	-5	-13	2.45E-7	3.80E-6	> 1.00E-4
Colon Cancer															
COLO 205	0.396	1.504	1.489	1.497	0.439	0.314	0.154	99	99	4	-21	-61	3.28E-7	1.43E-6	5.31E-5
HCC-2998	0.868	2.670	2.638	2.445	1.262	1.015	0.894	98	88	22	8	1	3.73E-7	> 1.00E-4	> 1.00E-4
HCT-116	0.162	1.884	1.786	1.533	0.473	0.304	0.149	94	80	18	8	-8	3.03E-7	3.21E-5	> 1.00E-4
HCT-15	0.291	1.457	1.434	0.946	0.512	0.419	0.404	98	56	19	11	10	1.46E-7	> 1.00E-4	> 1.00E-4
HT29	0.193	1.434	1.501	1.385	0.263	0.212	0.174	105	96	6	1	-10	3.23E-7	1.34E-5	> 1.00E-4
KM12	0.396	1.864	1.779	1.286	0.629	0.512	0.372	94	61	16	8	-6	1.72E-7	3.63E-5	> 1.00E-4
SW-620	0.248	1.842	1.865	1.303	0.620	0.579	0.540	101	66	23	21	18	2.38E-7	> 1.00E-4	> 1.00E-4
CNS Cancer															
SF-268	0.567	1.991	1.917	1.818	1.134	0.947	0.846	95	88	40	27	20	6.13E-7	> 1.00E-4	> 1.00E-4
SF-295	1.110	2.987	2.812	2.289	1.257	1.184	1.255	91	63	8	4	8	1.71E-7	> 1.00E-4	> 1.00E-4
SF-539	1.011	2.531	2.380	2.229	0.718	0.701	0.515	90	80	-29	-31	-49	1.89E-7	5.42E-7	> 1.00E-4
SNB-19	0.635	2.148	2.012	1.968	1.101	1.010	0.977	91	88	31	25	23	4.62E-7	> 1.00E-4	> 1.00E-4
SNB-75	1.546	2.428	2.132	1.972	1.281	1.280	1.250	66	48	-17	-17	-19	8.07E-8	5.47E-7	> 1.00E-4
U251	0.296	1.320	1.346	1.221	0.467	0.398	0.349	103	90	17	10	5	3.53E-7	> 1.00E-4	> 1.00E-4
Melanoma															
LOX IMVI	0.431	2.840	2.664	2.291	1.502	0.786	0.803	93	77	44	15	15	6.77E-7	> 1.00E-4	> 1.00E-4
MALME-3M	0.790	1.787	1.609	1.412	1.171	1.187	1.238	82	62	38	40	45	3.25E-7	> 1.00E-4	> 1.00E-4
M14	0.457	2.105	2.019	1.583	0.389	0.493	0.486	95	68	-15	2	2	1.66E-7	.	> 1.00E-4
MDA-MB-435	0.587	2.493	2.370	0.805	0.265	0.339	0.292	94	11	-55	-42	-50	3.39E-8	1.49E-7	.
SK-MEL-2	0.834	2.057	2.035	1.869	1.339	1.142	1.151	98	85	41	25	26	6.29E-7	> 1.00E-4	> 1.00E-4
SK-MEL-28	0.683	2.061	1.945	1.770	1.387	1.258	1.246	92	79	51	42	41	1.31E-6	> 1.00E-4	> 1.00E-4
SK-MEL-5	0.792	2.654	2.499	1.896	1.169	0.650	0.644	92	59	20	-18	-19	1.73E-7	3.39E-6	> 1.00E-4
UACC-257	0.742	1.604	1.571	1.526	1.317	1.165	1.233	96	91	67	49	57	.	> 1.00E-4	> 1.00E-4
UACC-62	0.869	2.799	2.729	2.278	1.435	1.312	1.300	96	73	29	23	22	3.36E-7	> 1.00E-4	> 1.00E-4
Ovarian Cancer															
IGROV1	0.811	2.541	2.430	2.244	1.489	1.044	1.066	94	83	39	13	15	5.65E-7	> 1.00E-4	> 1.00E-4
OVCAR-3	0.328	1.101	1.073	0.773	0.263	0.235	0.216	96	58	-20	-29	-34	1.25E-7	5.54E-7	> 1.00E-4
OVCAR-4	0.653	1.552	1.519	1.445	1.110	0.880	0.932	96	88	51	25	31	1.08E-6	> 1.00E-4	> 1.00E-4
OVCAR-5	0.629	1.401	1.338	1.312	0.849	0.814	0.766	92	88	28	24	18	4.38E-7	> 1.00E-4	> 1.00E-4
OVCAR-8	0.439	1.479	1.499	1.521	0.638	0.429	0.479	102	104	19	-2	4	4.32E-7	.	> 1.00E-4
NCI/ADR-RES	0.650	2.082	1.956	1.678	0.820	0.747	0.812	91	72	12	7	11	2.31E-7	> 1.00E-4	> 1.00E-4
SK-OV-3	0.776	1.967	1.907	1.818	1.131	1.147	1.056	95	88	30	31	23	4.46E-7	> 1.00E-4	> 1.00E-4
Renal Cancer															
786-0	0.617	2.483	2.290	2.306	1.432	1.353	1.037	90	91	44	39	23	7.33E-7	> 1.00E-4	> 1.00E-4
A498	1.583	2.299	2.183	2.060	1.548	1.327	1.124	84	67	-2	-16	-29	1.75E-7	9.29E-7	> 1.00E-4
ACHN	0.297	1.181	1.139	1.012	0.641	0.508	0.435	95	81	39	24	16	5.43E-7	> 1.00E-4	> 1.00E-4
CAKI-1	1.018	2.701	2.475	1.799	1.615	1.415	1.185	87	46	35	24	10	8.14E-8	> 1.00E-4	> 1.00E-4
RXF 393	1.326	1.945	1.786	1.729	1.229	1.224	1.347	74	65	-7	-8	3	1.61E-7	.	> 1.00E-4
SN12C	0.728	2.756	2.678	2.672	1.509	1.216	1.100	96	96	38	24	18	6.30E-7	> 1.00E-4	> 1.00E-4
TK-10	0.824	2.096	1.993	1.911	1.512	1.431	1.276	92	85	54	48	36	4.33E-6	> 1.00E-4	> 1.00E-4
UO-31	0.924	2.127	1.907	1.717	1.416	1.308	1.155	82	66	41	32	19	4.34E-7	> 1.00E-4	> 1.00E-4
Prostate Cancer															
PC-3	0.455	1.927	1.805	1.481	0.806	0.725	0.743	92	70	24	18	20	2.69E-7	> 1.00E-4	> 1.00E-4
DU-145	0.363	1.520	1.513	1.478	0.482	0.400	0.324	99	96	10	3	-11	3.45E-7	1.69E-5	> 1.00E-4
Breast Cancer															
MCF7	0.394	1.765	1.628	0.965	0.675	0.618	0.605	90	42	20	16	15	6.71E-8	> 1.00E-4	> 1.00E-4
MDA-MB-231/ATCC	0.745	1.628	1.603	1.630	1.029	0.794	0.614	97	100	32	6	-18	5.46E-7	1.73E-5	> 1.00E-4
HS 578T	0.921	1.972	1.939	1.837	1.060	0.887	1.053	97	87	13	-4	13	3.18E-7	.	> 1.00E-4
BT-549	1.385	2.787	2.683	2.448	2.313	1.644	1.816	93	76	66	18	31	2.18E-6	> 1.00E-4	> 1.00E-4
T-47D	0.652	1.612	1.562	1.558	1.074	1.133	1.255	95	94	44	50	63	.	> 1.00E-4	> 1.00E-4
MDA-MB-468	0.819	1.814	1.751	1.376	1.028	1.013	1.066	94	56	21	19	25	1.48E-7	> 1.00E-4	> 1.00E-4



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 809944 / 1

Experiment ID : 1812NS43

Test Type : 08

Report Date : January 09, 2019

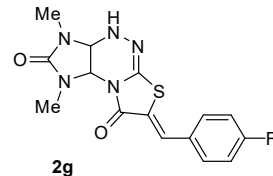
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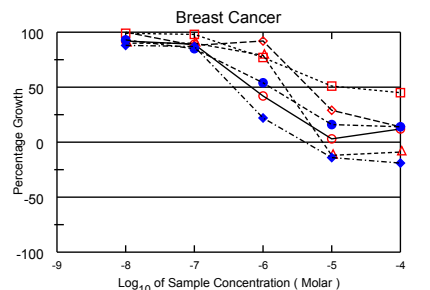
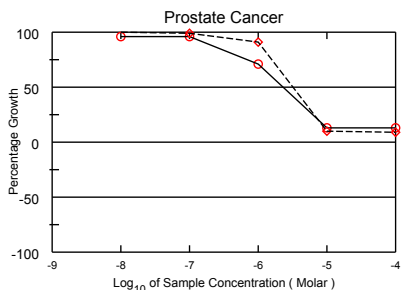
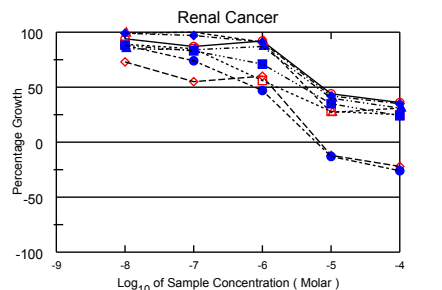
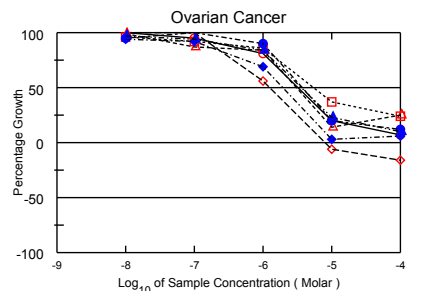
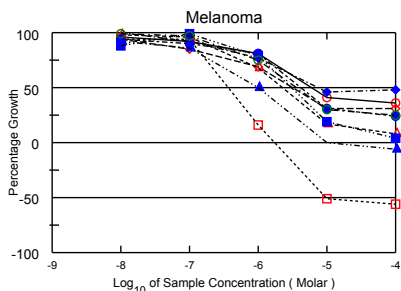
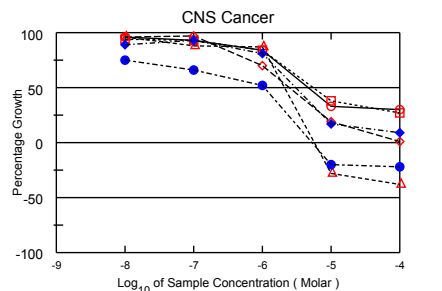
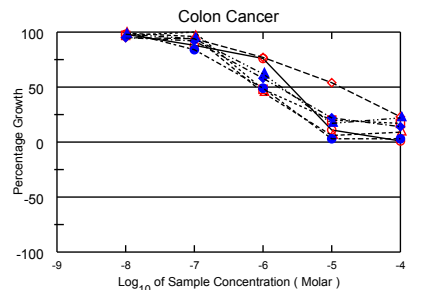
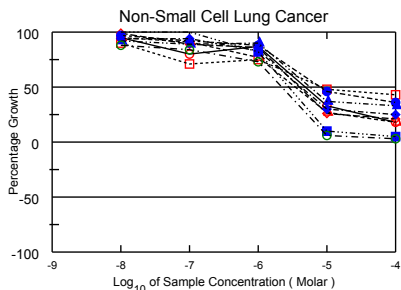
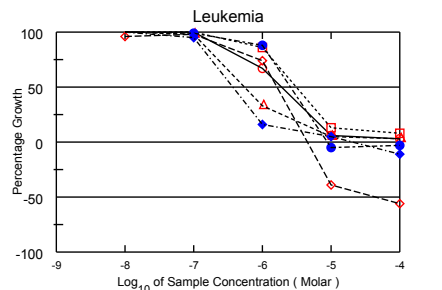
COMI : DV13

Stain Reagent : SRB Dual-Pass Related

SSPL : 1AMN



	Log10 Concentration															
	Time	Mean Optical Densities							Percent Growth							
Panel/Cell Line	Zero	Ctrl	-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0	GI50	TGI	LC50	
Leukemia																
CCRF-CEM	0.328	1.647	1.703	1.729	1.217	0.404	0.373	104	106	67	6	3	1.91E-6	> 1.00E-4	> 1.00E-4	
HL-60(TB)	1.047	3.323	3.231	3.272	2.731	0.641	0.460	96	98	74	-39	-56	1.63E-6	4.53E-6	4.46E-5	
K-562	0.285	2.305	2.364	2.260	0.942	0.376	0.348	103	98	33	5	3	5.40E-7	> 1.00E-4	> 1.00E-4	
MOLT-4	0.625	2.573	2.763	2.604	2.294	0.869	0.776	110	102	86	13	8	3.07E-6	> 1.00E-4	> 1.00E-4	
RPMI-8226	0.725	2.143	2.139	2.134	1.968	0.692	0.701	100	99	88	-5	-3	2.56E-6	8.91E-6	> 1.00E-4	
SR	0.400	1.020	1.040	0.989	0.502	0.430	0.355	103	95	16	5	-11	3.74E-7	2.00E-5	> 1.00E-4	
Non-Small Cell Lung Cancer																
A549/ATCC	0.310	1.501	1.445	1.268	1.347	0.706	0.519	95	80	87	33	18	4.88E-6	> 1.00E-4	> 1.00E-4	
EKVX	0.678	1.874	1.860	1.737	1.711	0.991	0.934	99	89	86	26	21	4.02E-6	> 1.00E-4	> 1.00E-4	
HOP-62	0.665	2.359	2.279	2.207	1.965	1.129	0.973	95	91	77	27	18	3.48E-6	> 1.00E-4	> 1.00E-4	
HOP-92	0.960	1.667	1.594	1.465	1.492	1.300	1.266	90	71	75	48	43	8.49E-6	> 1.00E-4	> 1.00E-4	
NCI-H226	0.875	2.069	2.029	1.968	1.926	1.424	1.306	97	92	88	46	36	8.02E-6	> 1.00E-4	> 1.00E-4	
NCI-H23	0.569	1.837	1.764	1.759	1.627	0.950	0.880	94	94	83	30	25	4.23E-6	> 1.00E-4	> 1.00E-4	
NCI-H322M	0.808	2.104	1.997	1.964	1.974	1.281	1.235	92	89	90	37	33	5.59E-6	> 1.00E-4	> 1.00E-4	
NCI-H460	0.185	1.675	1.743	1.682	1.404	0.335	0.254	105	100	82	10	5	2.77E-6	> 1.00E-4	> 1.00E-4	
NCI-H522	0.757	2.292	2.108	2.049	1.882	0.848	0.807	88	84	73	6	3	2.22E-6	> 1.00E-4	> 1.00E-4	
Colon Cancer																
COLO 205	0.396	1.537	1.514	1.396	1.263	0.520	0.403	98	88	76	11	1	2.51E-6	> 1.00E-4	> 1.00E-4	
HCC-2998	0.868	2.613	2.520	2.512	2.213	1.809	1.274	95	94	77	54	23	1.34E-5	> 1.00E-4	> 1.00E-4	
HCT-116	0.162	1.748	1.725	1.681	0.875	0.254	0.303	99	96	45	6	9	7.95E-7	> 1.00E-4	> 1.00E-4	
HCT-15	0.291	1.401	1.365	1.402	0.824	0.516	0.478	97	100	48	20	17	9.15E-7	> 1.00E-4	> 1.00E-4	
HT29	0.193	1.514	1.508	1.303	0.844	0.235	0.237	100	84	49	3	3	9.51E-7	> 1.00E-4	> 1.00E-4	
KM12	0.396	1.873	1.805	1.750	1.250	0.722	0.597	95	92	58	22	14	1.65E-6	> 1.00E-4	> 1.00E-4	
SW-620	0.248	1.720	1.688	1.638	1.160	0.505	0.575	98	94	62	17	22	1.86E-6	> 1.00E-4	> 1.00E-4	
CNS Cancer																
SF-268	0.567	1.967	1.918	1.869	1.746	1.026	0.992	96	93	84	33	30	4.62E-6	> 1.00E-4	> 1.00E-4	
SF-295	1.110	2.887	2.819	2.838	2.348	1.451	1.121	96	97	70	19	1	2.45E-6	> 1.00E-4	> 1.00E-4	
SF-539	1.011	2.462	2.399	2.283	2.276	0.729	0.631	96	88	87	-28	-38	2.10E-6	5.72E-6	> 1.00E-4	
SNB-19	0.635	2.143	2.057	2.031	1.909	1.212	1.037	94	93	84	38	27	5.57E-6	> 1.00E-4	> 1.00E-4	
SNB-75	1.546	2.472	2.245	2.156	2.024	1.232	1.208	75	66	52	-20	-22	1.05E-6	5.22E-6	> 1.00E-4	
U251	0.296	1.414	1.293	1.331	1.206	0.484	0.392	89	93	81	17	9	3.06E-6	> 1.00E-4	> 1.00E-4	
Melanoma																
LOX IMVI	0.431	2.807	2.713	2.613	2.367	1.407	1.289	96	92	81	41	36	6.01E-6	> 1.00E-4	> 1.00E-4	
MALME-3M	0.790	1.794	1.736	1.644	1.485	1.100	1.104	94	85	69	31	31	3.17E-6	> 1.00E-4	> 1.00E-4	
M14	0.457	2.006	1.972	1.945	1.507	0.720	0.580	98	96	68	17	8	2.24E-6	> 1.00E-4	> 1.00E-4	
MDA-MB-435	0.587	2.557	2.443	2.429	0.893	0.285	0.260	94	94	16	-51	-56	3.61E-7	1.71E-6	9.51E-6	
SK-MEL-2	0.834	2.149	2.071	2.021	1.895	1.240	1.145	94	90	81	31	24	4.13E-6	> 1.00E-4	> 1.00E-4	
SK-MEL-28	0.683	2.047	2.076	1.933	1.728	1.308	1.340	102	92	77	46	48	7.31E-6	> 1.00E-4	> 1.00E-4	
SK-MEL-5	0.792	2.580	2.431	2.325	1.685	0.801	0.748	92	86	50	.	-6	9.95E-7	1.20E-5	> 1.00E-4	
UACC-257	0.742	1.658	1.550	1.647	1.466	0.913	0.775	88	99	79	19	4	3.02E-6	> 1.00E-4	> 1.00E-4	
UACC-62	0.869	2.761	2.747	2.712	2.284	1.444	1.337	99	97	75	30	25	3.61E-6	> 1.00E-4	> 1.00E-4	
Ovarian Cancer																
IGROV1	0.811	2.505	2.504	2.415	2.175	1.154	0.929	100	95	81	20	7	3.21E-6	> 1.00E-4	> 1.00E-4	
OVCAR-3	0.328	1.083	1.099	1.095	0.749	0.310	0.274	102	102	56	-6	-16	1.24E-6	8.09E-6	> 1.00E-4	
OVCAR-4	0.653	1.536	1.532	1.425	1.396	0.773	0.870	99	87	84	14	25	3.04E-6	> 1.00E-4	> 1.00E-4	
OVCAR-5	0.629	1.396	1.368	1.337	1.289	0.913	0.815	96	92	86	37	24	5.44E-6	> 1.00E-4	> 1.00E-4	
OVCAR-8	0.439	1.606	1.547	1.614	1.494	0.678	0.582	95	101	90	20	12	3.78E-6	> 1.00E-4	> 1.00E-4	
NCI/ADR-RES	0.650	2.030	1.941	1.924	1.603	0.688	0.732	94	92	69	3	6	1.94E-6	> 1.00E-4	> 1.00E-4	
SK-OV-3	0.776	1.915	1.885	1.847	1.728	1.037	0.885	97	94	84	23	10	3.57E-6	> 1.00E-4	> 1.00E-4	
Renal Cancer																
786-0	0.617	2.455	2.349	2.212	2.312	1.429	1.277	94	87	92	44	36	7.55E-6	> 1.00E-4	> 1.00E-4	
A498	1.583	2.221	2.047	1.935	1.969	1.388	1.237	73	55	60	-12	-22	1.39E-6	6.77E-6	> 1.00E-4	
ACHN	0.297	1.158	1.151	1.156	1.085	0.529	0.564	99	100	91	27	31	4.39E-6	> 1.00E-4	> 1.00E-4	
CAKI-1	1.018	2.743	2.554	2.489	1.989	1.509	1.448	89	85	56	28	25	1.68E-6	> 1.00E-4	> 1.00E-4	
RXF 393	1.326	1.914	1.844	1.761	1.604	1.148	0.982	88	74	47	-13	-26	7.85E-7	6.00E-6	> 1.00E-4	
SN12C	0.728	2.706	2.691	2.641	2.535	1.565	1.424	99	97	91	42	35	6.97E-6	> 1.00E-4	> 1.00E-4	
TK-10	0.824	2.110	1.914	1.899	1.937	1.337	1.218	85	84	87	40	31	6.06E-6	> 1.00E-4	> 1.00E-4	
UO-31	0.924	2.113	1.966	1.908	1.768	1.346	1.205	88	83	71	35	24	3.90E-6	> 1.00E-4	> 1.00E-4	
Prostate Cancer																
PC-3	0.455	1.946	1.894	1.884	1.518	0.652	0.649	96	96	71	13	13	2.33E-6	> 1.00E-4	> 1.00E-4	
DU-145	0.363	1.468	1.528	1.456	1.367	0.477	0.467	105	99	91	10	9	3.22E-6	> 1.00E-4	> 1.00E-4	
Breast Cancer																
MCF7	0.394	1.695	1.592	1.558	0.938	0.433	0.552	92	89	42	3	12	6.73E-7	> 1.00E-4	> 1.00E-4	
MDA-MB-231/ATCC	0.745	1.656	1.672	1.549	1.584	1.013	0.875	102	88	92	29	14	4.69E-6	> 1.00E-4	> 1.00E-4	
HS 578T	0.921	1.873	1.782	1.774	1.674	0.807	0.837	90	90	79	-12	-9	2.08E-6	7.31E-6	> 1.00E-4	
BT-549	1.385	2.657	2.642	2.626	2.370	2.030	1.955	99	98	77	51	45	1.31E-5	> 1.00E-4	> 1.00E-4	
T-47D	0.652	1.616	1.551	1.474	1.170	0.810	0.788	93	85	54	16	14	1.25E-6	> 1.00E-4	> 1.00E-4	
MDA-MB-468	0.819	1.744	1.636	1.621	1.019	0.706	0.662	88	87	22	-14	-19	3.66E-7	4.07E-6	> 1.00E-4	



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 818428 / 1

Experiment ID : 1911NS88

Test Type : 08

Report Date : December 26, 2019

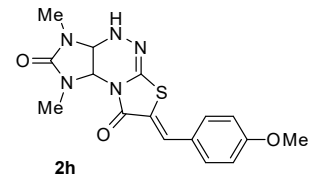
Test Date : November 04, 2019

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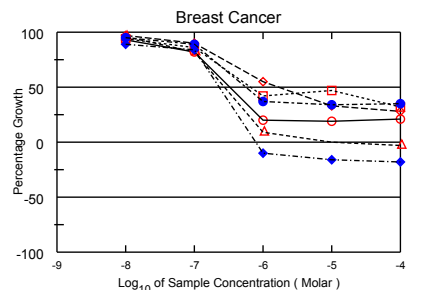
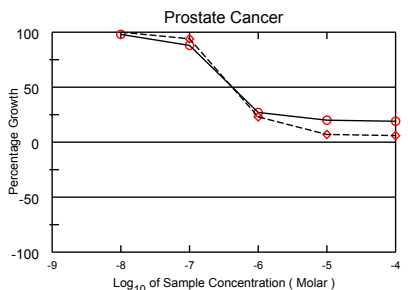
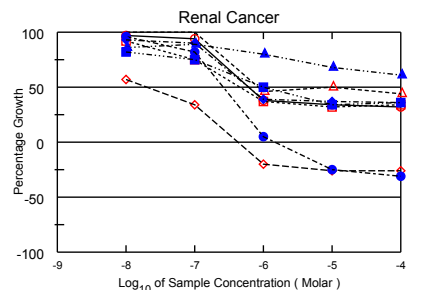
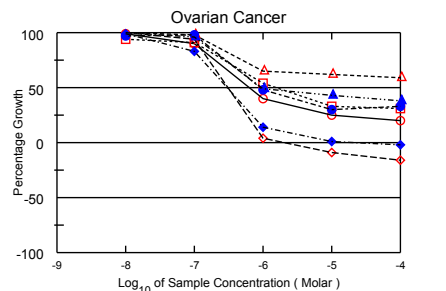
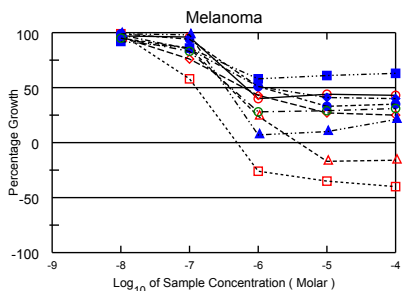
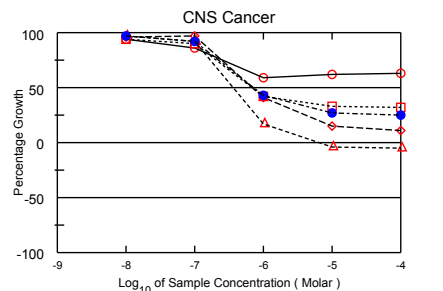
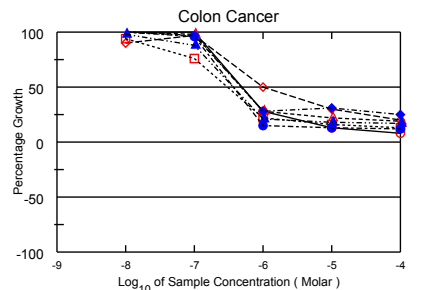
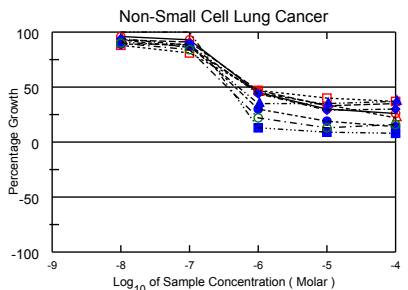
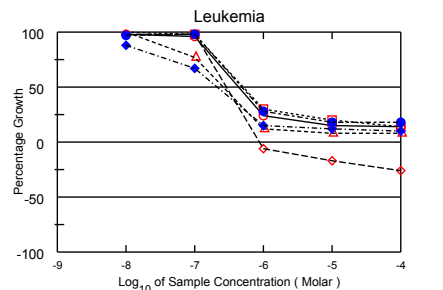
COMI : IA-478

Stain Reagent : SRB Dual-Pass Related

SSPL : 1AMN



Panel/Cell Line	Time Zero	Ctrl	Log10 Concentration										GI50	TGI	LC50
			-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0			
Leukemia															
CCRF-CEM	0.560	2.738	2.699	2.649	1.077	0.884	0.855	98	96	24	15	14	4.33E-7	> 1.00E-4	> 1.00E-4
HL-60(TB)	0.917	3.352	3.315	3.296	0.864	0.758	0.681	98	98	-6	-17	-26	2.89E-7	8.78E-7	> 1.00E-4
K-562	0.194	2.080	2.080	1.646	0.426	0.349	0.342	100	77	12	8	8	2.61E-7	> 1.00E-4	> 1.00E-4
MOLT-4	0.642	2.784	2.817	2.735	1.286	1.066	0.941	102	98	30	20	14	5.07E-7	> 1.00E-4	> 1.00E-4
RPMI-8226	0.911	2.690	2.644	2.655	1.404	1.234	1.238	97	98	28	18	18	4.82E-7	> 1.00E-4	> 1.00E-4
SR	0.388	2.360	2.123	1.709	0.677	0.615	0.580	88	67	15	12	10	2.11E-7	> 1.00E-4	> 1.00E-4
Non-Small Cell Lung Cancer															
A549/ATCC	0.458	2.669	2.570	2.503	1.445	1.120	1.026	96	93	45	30	26	7.73E-7	> 1.00E-4	> 1.00E-4
EKVX	0.823	2.241	2.136	2.108	1.489	1.298	1.324	93	91	47	33	35	8.50E-7	> 1.00E-4	> 1.00E-4
HOP-62	0.655	1.983	1.893	1.795	1.249	1.105	0.946	93	86	45	34	22	7.45E-7	> 1.00E-4	> 1.00E-4
HOP-92	1.228	1.998	1.903	1.852	1.591	1.534	1.516	88	81	47	40	37	8.23E-7	> 1.00E-4	> 1.00E-4
NCI-H226	1.361	2.505	2.382	2.378	1.707	1.574	1.524	89	89	30	19	14	4.61E-7	> 1.00E-4	> 1.00E-4
NCI-H23	0.582	1.717	1.647	1.586	1.077	0.912	0.917	94	88	44	29	30	7.21E-7	> 1.00E-4	> 1.00E-4
NCI-H322M	0.918	2.264	2.139	2.084	1.384	1.384	1.411	91	87	35	35	37	5.06E-7	> 1.00E-4	> 1.00E-4
NCI-H460	0.404	3.180	3.218	3.178	0.777	0.665	0.626	101	100	13	9	8	3.78E-7	> 1.00E-4	> 1.00E-4
NCI-H522	1.037	2.721	2.544	2.453	1.414	1.258	1.308	90	84	22	13	16	3.57E-7	> 1.00E-4	> 1.00E-4
Colon Cancer															
COLO 205	0.437	1.821	1.822	1.817	0.828	0.614	0.542	100	100	28	13	8	4.96E-7	> 1.00E-4	> 1.00E-4
HCC-2998	0.648	1.774	1.666	1.740	1.215	0.981	0.878	90	97	50	30	20	1.04E-6	> 1.00E-4	> 1.00E-4
HCT-116	0.285	2.527	2.528	2.476	0.915	0.773	0.712	100	98	28	22	19	4.85E-7	> 1.00E-4	> 1.00E-4
HCT-15	0.234	1.824	1.737	1.442	0.584	0.491	0.439	94	76	22	16	13	3.03E-7	> 1.00E-4	> 1.00E-4
HT29	0.226	1.828	1.856	1.761	0.463	0.432	0.417	102	96	15	13	12	3.68E-7	> 1.00E-4	> 1.00E-4
KM12	0.874	3.381	3.371	3.307	1.577	1.659	1.498	100	97	28	31	25	4.80E-7	> 1.00E-4	> 1.00E-4
SW-620	0.358	2.555	2.506	2.301	0.818	0.760	0.735	98	88	21	18	17	3.71E-7	> 1.00E-4	> 1.00E-4
CNS Cancer															
SF-268	1.102	2.845	2.737	2.593	2.128	2.179	2.199	94	86	59	62	63	> 1.00E-4	> 1.00E-4	> 1.00E-4
SF-295	1.271	3.269	3.196	3.202	2.088	1.577	1.498	96	97	41	15	11	6.86E-7	> 1.00E-4	> 1.00E-4
SF-539	0.781	2.372	2.330	2.246	1.055	0.751	0.744	97	92	17	-4	-5	3.65E-7	6.53E-6	> 1.00E-4
SNB-19	0.769	2.574	2.468	2.399	1.525	1.368	1.349	94	90	42	33	32	6.80E-7	> 1.00E-4	> 1.00E-4
U251	0.446	2.184	2.125	2.046	1.195	0.920	0.876	97	92	43	27	25	7.22E-7	> 1.00E-4	> 1.00E-4
Melanoma															
LOX IMVI	0.616	2.880	2.813	2.784	1.529	1.615	1.597	97	96	40	44	43	6.68E-7	> 1.00E-4	> 1.00E-4
MALME-3M	0.634	1.268	1.239	1.116	0.908	0.806	0.795	96	76	43	27	25	6.22E-7	> 1.00E-4	> 1.00E-4
M14	0.419	1.836	1.770	1.639	0.762	0.346	0.353	95	86	24	-17	-16	3.83E-7	3.81E-6	> 1.00E-4
MDA-MB-435	0.508	2.580	2.560	1.711	0.376	0.329	0.304	99	58	-26	-35	-40	1.25E-7	4.90E-7	> 1.00E-4
SK-MEL-2	1.085	2.976	2.956	2.871	2.047	1.700	1.738	99	94	51	33	35	1.11E-6	> 1.00E-4	> 1.00E-4
SK-MEL-28	0.703	1.851	1.829	1.677	1.290	1.176	1.161	98	85	51	41	40	1.30E-6	> 1.00E-4	> 1.00E-4
SK-MEL-5	1.246	3.242	3.223	3.194	1.394	1.454	1.672	99	98	7	10	21	3.37E-7	> 1.00E-4	> 1.00E-4
UACC-257	0.795	2.182	2.069	1.987	1.599	1.639	1.672	92	86	58	61	63	> 1.00E-4	> 1.00E-4	> 1.00E-4
UACC-62	0.953	2.810	2.715	2.503	1.475	1.495	1.527	95	83	28	29	31	4.02E-7	> 1.00E-4	> 1.00E-4
Ovarian Cancer															
IGROV1	0.474	2.054	2.037	1.903	1.112	0.872	0.792	99	90	40	25	20	6.42E-7	> 1.00E-4	> 1.00E-4
OVCAR-3	0.561	1.926	1.940	1.841	0.616	0.510	0.469	101	94	4	-9	-16	3.07E-7	2.02E-6	> 1.00E-4
OVCAR-4	1.073	2.148	2.186	2.123	1.769	1.745	1.711	104	98	65	62	59	> 1.00E-4	> 1.00E-4	> 1.00E-4
OVCAR-5	0.576	1.578	1.518	1.486	1.118	0.905	0.885	94	91	54	33	31	1.55E-6	> 1.00E-4	> 1.00E-4
OVCAR-8	0.563	2.747	2.690	2.706	1.616	1.215	1.280	97	98	48	30	33	9.21E-7	> 1.00E-4	> 1.00E-4
NCI/ADR-RES	0.593	2.001	1.982	1.755	0.791	0.601	0.582	99	83	14	1	-2	2.99E-7	1.67E-5	> 1.00E-4
SK-OV-3	0.832	1.828	1.837	1.785	1.322	1.265	1.210	101	96	49	43	38	9.59E-7	> 1.00E-4	> 1.00E-4
Renal Cancer															
786-O	0.741	2.709	2.653	2.597	1.493	1.419	1.375	97	94	38	34	32	6.17E-7	> 1.00E-4	> 1.00E-4
A498	1.676	2.075	1.903	1.813	1.348	1.245	1.234	57	34	-20	-26	-26	2.00E-8	4.33E-7	> 1.00E-4
ACHN	0.544	2.238	2.239	2.248	1.327	1.386	1.290	100	101	46	50	44	8.52E-7	> 1.00E-4	> 1.00E-4
CAKI-1	1.234	3.152	2.998	2.680	1.935	1.851	1.882	92	75	37	32	34	4.50E-7	> 1.00E-4	> 1.00E-4
RXF 393	0.955	1.786	1.750	1.637	0.998	0.714	0.657	96	82	5	-25	-31	2.61E-7	1.47E-6	> 1.00E-4
SN12C	0.566	2.246	2.121	2.071	1.230	1.182	1.171	93	90	39	37	36	6.17E-7	> 1.00E-4	> 1.00E-4
TK-10	1.066	2.044	1.906	1.935	1.851	1.731	1.661	86	89	80	68	61	> 1.00E-4	> 1.00E-4	> 1.00E-4
UO-31	1.009	2.281	2.053	1.961	1.644	1.447	1.467	82	75	50	34	36	9.95E-7	> 1.00E-4	> 1.00E-4
Prostate Cancer															
PC-3	0.532	1.673	1.652	1.536	0.845	0.764	0.746	98	88	27	20	19	4.23E-7	> 1.00E-4	> 1.00E-4
DU-145	0.477	2.095	2.116	1.994	0.852	0.583	0.576	101	94	23	7	6	4.17E-7	> 1.00E-4	> 1.00E-4
Breast Cancer															
MCF7	0.406	2.116	2.005	1.809	0.749	0.734	0.761	93	82	20	19	21	3.29E-7	> 1.00E-4	> 1.00E-4
MDA-MB-231/ATCC	0.812	2.182	2.140	2.039	1.560	1.263	1.192	97	90	55	33	28	1.63E-6	> 1.00E-4	> 1.00E-4
HS 578T	1.691	2.689	2.648	2.506	1.784	1.683	1.648	96	82	9	.	-3	2.74E-7	8.88E-6	> 1.00E-4
BT-549	1.314	2.421	2.349	2.263	1.778	1.834	1.672	94	86	42	47	32	6.53E-7	> 1.00E-4	> 1.00E-4
T-47D	0.831	1.873	1.822	1.760	1.219	1.188	1.201	95	89	37	34	35	5.66E-7	> 1.00E-4	> 1.00E-4
MDA-MB-468	0.946	1.588	1.516	1.487	0.852	0.797	0.778	89	84	-10	-16	-18	2.31E-7	7.83E-7	> 1.00E-4



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 803211 / 1

Experiment ID : 1802NS43

Test Type : 08

Report Date : March 20, 2018

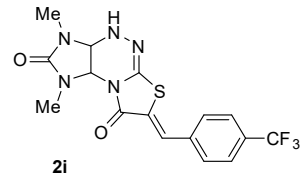
Test Date : February 26, 2018

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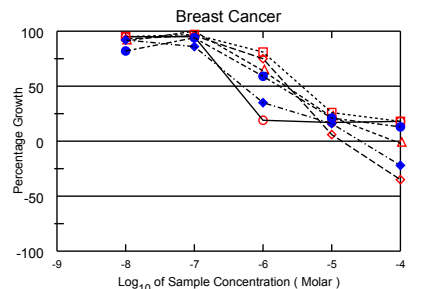
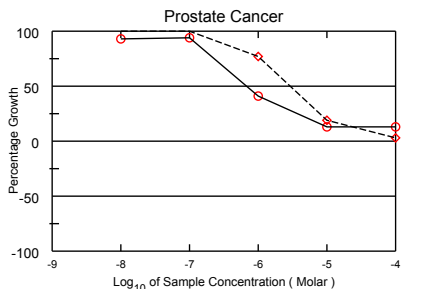
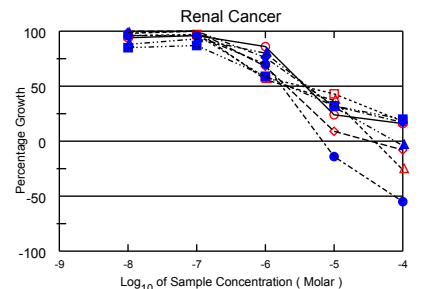
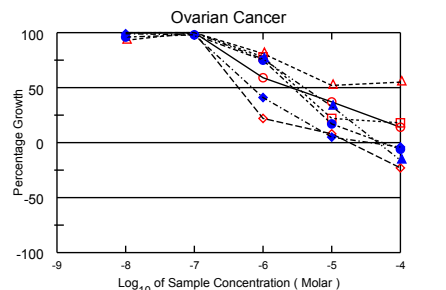
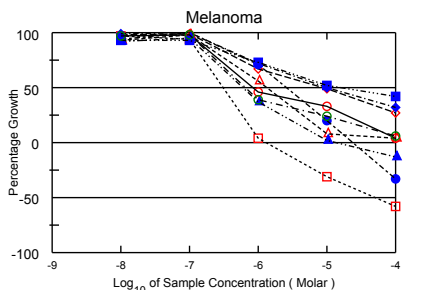
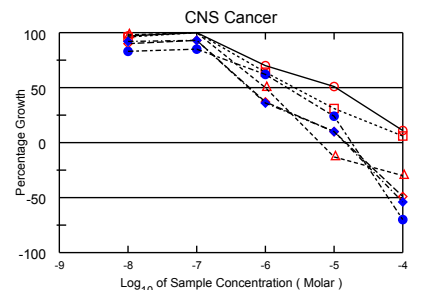
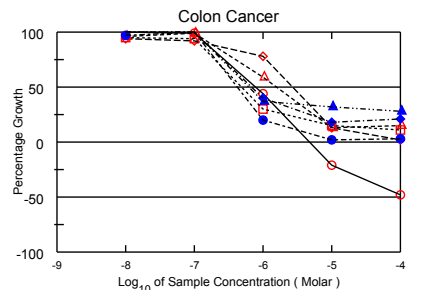
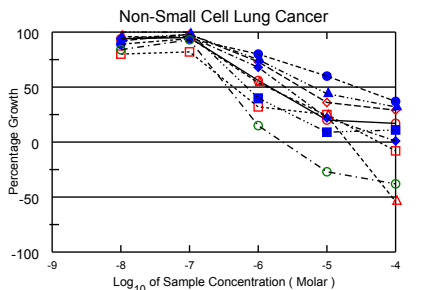
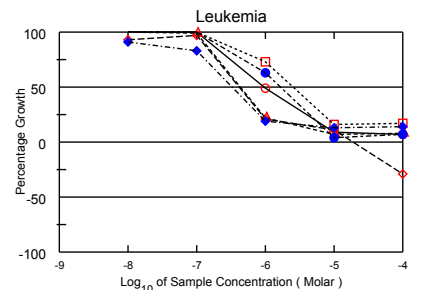
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Stain Reagent : SRB Dual-Pass Related

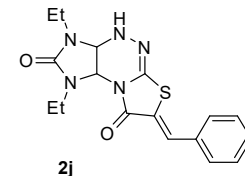
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Panel/Cell Line	Time Zero	Ctrl	Log10 Concentration										GI50	TGI	LC50
			Mean Optical Densities					Percent Growth							
			-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0			
Leukemia															
CCRF-CEM	0.635	3.189	3.198	3.212	1.886	0.869	0.813	100	101	49	9	7	9.55E-7	> 1.00E-4	> 1.00E-4
HL-60(TB)	0.632	2.227	2.115	2.171	0.968	0.805	0.446	93	97	21	11	-29	4.13E-7	1.86E-5	> 1.00E-4
K-562	0.228	2.157	2.167	2.134	0.650	0.369	0.388	100	99	22	7	8	4.31E-7	> 1.00E-4	> 1.00E-4
MOLT-4	0.898	3.131	3.142	3.151	2.537	1.251	1.270	101	101	73	16	17	2.55E-6	> 1.00E-4	> 1.00E-4
RPMI-8226	0.798	2.582	2.586	2.578	1.918	0.865	0.922	100	100	63	4	7	1.65E-6	> 1.00E-4	> 1.00E-4
SR	0.536	2.678	2.489	2.320	0.940	0.816	0.841	91	83	19	13	14	3.29E-7	> 1.00E-4	> 1.00E-4
Non-Small Cell Lung Cancer															
A549/ATCC	0.460	2.469	2.340	2.369	1.580	0.864	0.810	94	95	56	20	17	1.45E-6	> 1.00E-4	> 1.00E-4
EKVX	0.837	2.473	2.337	2.434	2.029	1.426	1.304	92	98	73	36	29	4.17E-6	> 1.00E-4	> 1.00E-4
HOP-62	0.592	2.263	2.197	2.181	1.486	0.988	0.271	96	95	54	24	-54	1.31E-6	2.01E-5	8.81E-5
HOP-92	1.191	1.724	1.619	1.626	1.362	1.327	1.097	80	82	32	25	-8	4.33E-7	5.79E-5	> 1.00E-4
NCI-H226	1.176	2.587	2.433	2.497	2.302	2.018	1.701	89	94	80	60	37	2.70E-5	> 1.00E-4	> 1.00E-4
NCI-H23	0.676	2.202	2.108	2.138	1.716	1.015	0.688	94	96	68	22	1	2.49E-6	> 1.00E-4	> 1.00E-4
NCI-H322M	0.806	1.971	1.898	1.945	1.682	1.317	1.184	94	98	75	44	32	6.36E-6	> 1.00E-4	> 1.00E-4
NCI-H460	0.274	2.633	2.777	2.853	1.215	0.482	0.526	106	109	40	9	11	7.15E-7	> 1.00E-4	> 1.00E-4
NCI-H522	0.767	1.935	1.750	1.859	0.937	0.563	0.479	84	93	15	-27	-38	3.55E-7	2.25E-6	> 1.00E-4
Colon Cancer															
COLO 205	0.400	1.515	1.514	1.510	0.890	0.315	0.208	100	99	44	-21	-48	7.76E-7	4.72E-6	> 1.00E-4
HCC-2998	0.824	2.726	2.617	2.570	2.303	1.068	0.862	94	92	78	13	2	2.68E-6	> 1.00E-4	> 1.00E-4
HCT-116	0.282	2.486	2.408	2.468	1.576	0.561	0.624	96	99	59	13	15	1.55E-6	> 1.00E-4	> 1.00E-4
HCT-15	0.348	2.326	2.221	2.198	0.947	0.636	0.563	95	94	30	15	11	4.88E-7	> 1.00E-4	> 1.00E-4
HT29	0.233	1.595	1.559	1.649	0.507	0.264	0.269	97	104	20	2	3	4.40E-7	> 1.00E-4	> 1.00E-4
KM12	0.491	2.563	2.567	2.643	1.327	0.871	0.922	100	104	40	18	21	7.05E-7	> 1.00E-4	> 1.00E-4
SW-620	0.205	1.519	1.664	1.648	0.688	0.632	0.574	111	110	37	32	28	6.59E-7	> 1.00E-4	> 1.00E-4
CNS Cancer															
SF-268	0.664	2.324	2.281	2.340	1.832	1.505	0.849	97	101	70	51	11	1.04E-5	> 1.00E-4	> 1.00E-4
SF-295	0.875	2.897	2.689	2.746	1.621	1.072	0.447	90	93	37	10	-49	5.81E-7	1.46E-5	> 1.00E-4
SF-539	0.901	2.472	2.447	2.556	1.680	0.787	0.634	98	105	50	-13	-30	9.83E-7	6.26E-6	> 1.00E-4
SNB-19	0.582	1.904	1.845	1.944	1.423	0.992	0.662	96	103	64	31	6	2.62E-6	> 1.00E-4	> 1.00E-4
SNB-75	0.792	1.796	1.626	1.644	1.420	1.034	0.240	83	85	62	24	-70	2.11E-6	1.81E-5	6.16E-5
U251	0.345	1.909	1.781	1.806	0.907	0.503	0.159	92	93	36	10	-54	5.69E-7	1.44E-5	8.64E-5
Melanoma															
LOX IMVI	0.365	2.613	2.546	2.569	1.410	1.114	0.445	97	98	46	33	4	8.54E-7	> 1.00E-4	> 1.00E-4
MALME-3M	0.477	1.227	1.212	1.222	0.981	0.841	0.682	98	99	67	49	27	8.33E-6	> 1.00E-4	> 1.00E-4
M14	0.379	1.781	1.689	1.757	1.171	0.489	0.432	93	98	56	8	4	1.36E-6	> 1.00E-4	> 1.00E-4
MDA-MB-435	0.539	2.657	2.603	2.540	0.633	0.374	0.226	97	94	4	-31	-58	3.12E-7	1.34E-6	5.08E-5
SK-MEL-2	1.013	2.058	1.996	2.065	1.753	1.226	0.680	94	101	71	20	-33	2.59E-6	2.41E-5	> 1.00E-4
SK-MEL-28	0.599	1.635	1.630	1.668	1.343	1.119	0.929	99	103	72	50	32	1.02E-5	> 1.00E-4	> 1.00E-4
SK-MEL-5	0.788	3.113	2.927	2.998	1.644	0.839	0.685	92	95	37	2	-13	5.94E-7	1.39E-5	> 1.00E-4
UACC-257	1.038	2.470	2.365	2.375	2.081	1.777	1.637	93	93	73	52	42	1.45E-5	> 1.00E-4	> 1.00E-4
UACC-62	0.952	3.048	2.984	3.013	1.779	1.460	1.080	97	98	39	24	6	6.62E-7	> 1.00E-4	> 1.00E-4
Ovarian Cancer															
IGROV1	0.563	1.848	1.884	1.933	1.325	1.043	0.749	103	107	59	37	14	2.65E-6	> 1.00E-4	> 1.00E-4
OVCAR-3	0.428	1.500	1.626	1.634	0.667	0.509	0.330	112	113	22	8	-23	4.93E-7	1.77E-5	> 1.00E-4
OVCAR-4	0.707	2.010	1.924	2.048	1.758	1.381	1.418	93	103	81	52	55	> 1.00E-4	> 1.00E-4	> 1.00E-4
OVCAR-5	0.504	1.597	1.661	1.651	1.359	0.749	0.696	106	105	78	22	18	3.20E-6	> 1.00E-4	> 1.00E-4
OVCAR-8	0.465	2.017	1.952	1.993	1.636	0.725	0.439	96	98	75	17	-6	2.71E-6	5.57E-5	> 1.00E-4
NCI/ADR-RES	0.553	2.112	2.089	2.085	1.193	0.632	0.532	99	98	41	5	-4	6.96E-7	3.73E-5	> 1.00E-4
SK-OV-3	0.841	1.954	2.008	2.008	1.684	1.204	0.707	105	105	76	33	-16	3.96E-6	4.69E-5	> 1.00E-4
Renal Cancer															
786-0	0.646	2.610	2.496	2.526	2.343	1.115	0.956	94	96	86	24	16	3.82E-6	> 1.00E-4	> 1.00E-4
A498	1.530	2.707	2.799	2.823	2.326	1.638	1.410	108	110	68	9	-8	2.00E-6	3.46E-5	> 1.00E-4
ACHN	0.374	1.513	1.493	1.547	1.015	0.791	0.277	98	103	56	37	-26	2.08E-6	3.85E-5	> 1.00E-4
CAKI-1	0.621	2.203	2.142	2.160	1.546	1.294	0.910	96	97	58	43	18	3.39E-6	> 1.00E-4	> 1.00E-4
RXF 393	0.973	1.932	1.889	1.897	1.644	0.835	0.435	96	96	70	-14	-55	1.73E-6	6.77E-6	7.41E-5
SN12C	0.490	1.891	1.871	1.904	1.560	0.934	0.730	99	101	76	32	17	3.89E-6	> 1.00E-4	> 1.00E-4
TK-10	0.746	1.626	1.523	1.564	1.446	1.019	0.715	88	93	80	31	-4	4.06E-6	7.59E-5	> 1.00E-4
UO-31	0.468	1.477	1.322	1.344	1.067	0.793	0.672	85	87	59	32	20	2.21E-6	> 1.00E-4	> 1.00E-4
Prostate Cancer															
PC-3	0.537	1.508	1.439	1.446	0.936	0.668	0.663	93	94	41	13	13	6.77E-7	> 1.00E-4	> 1.00E-4
DU-145	0.372	1.733	1.763	1.932	1.422	0.637	0.413	102	115	77	19	3	2.96E-6	> 1.00E-4	> 1.00E-4
Breast Cancer															
MCF7	0.365	2.060	1.980	1.973	0.692	0.650	0.664	95	95	19	17	18	3.92E-7	> 1.00E-4	> 1.00E-4
MDA-MB-231/ATCC	0.523	1.295	1.239	1.261	1.100	0.570	0.338	93	96	75	6	-35	2.29E-6	1.40E-5	> 1.00E-4
HS 578T	0.962	2.113	2.010	2.136	1.696	1.214	0.942	91	102	64	22	-2	2.13E-6	8.19E-5	> 1.00E-4
BT-549	1.001	2.313	2.246	2.272	2.067	1.341	1.235	95	97	81	26	18	3.66E-6	> 1.00E-4	> 1.00E-4
T-47D	0.764	1.726	1.552	1.671	1.330	0.970	0.888	82	94	59	21	13	1.72E-6	> 1.00E-4	> 1.00E-4
MDA-MB-468	0.937	2.171	2.067	2.001	1.369	1.136	0.728	92	86	35	16	-22	5.10E-7	2.62E-5	> 1.00E-4



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results



NSC : D - 809838 / 1

Experiment ID : 1812NS43

Test Type : 08

Report Date : January 09, 2019

Test Date : December 17, 2018

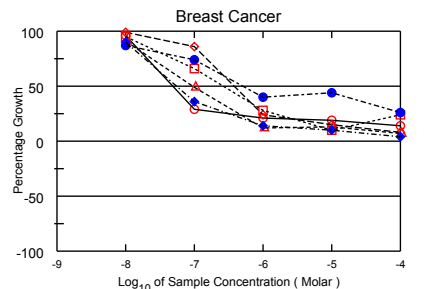
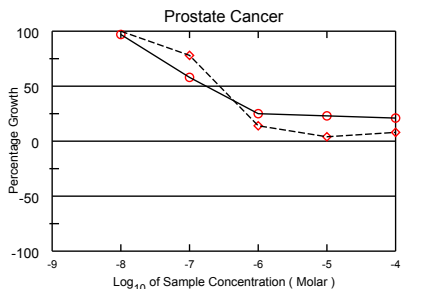
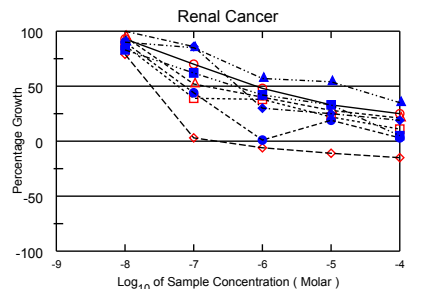
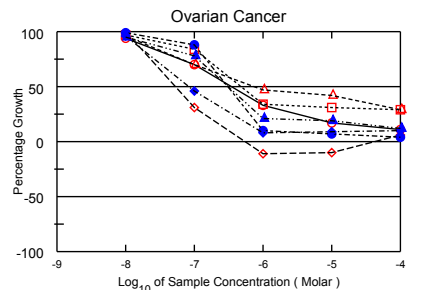
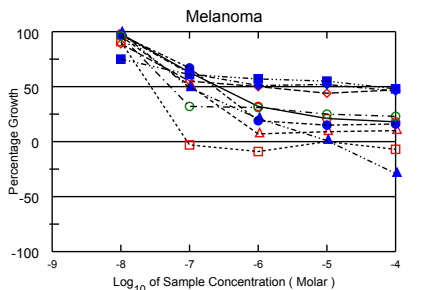
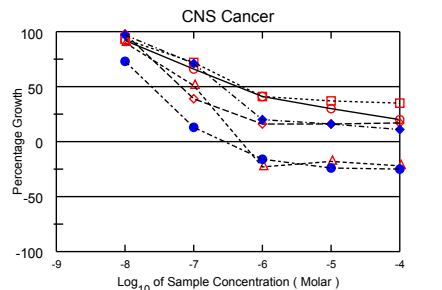
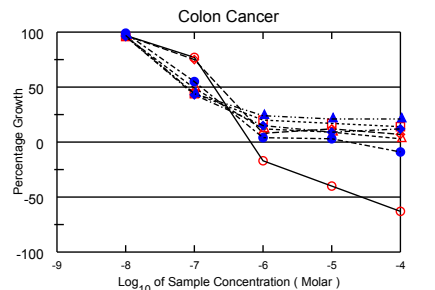
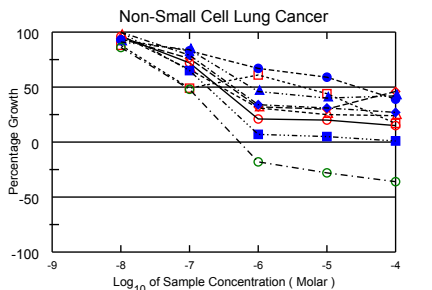
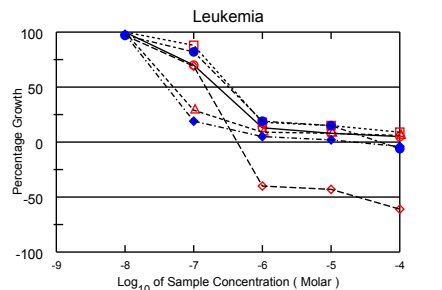
QNS :

COMI : IA-325

Stain Reagent : SRB Dual-Pass Related

SSPL : 1AMN

Panel/Cell Line	Time Zero	Ctrl	Log10 Concentration										GI50	TGI	LC50
			Mean Optical Densities					Percent Growth							
			-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0			
Leukemia															
CCRF-CEM	0.328	1.881	1.914	1.420	0.525	0.448	0.410	102	70	13	8	5	2.25E-7	> 1.00E-4	> 1.00E-4
HL-60(TB)	1.047	3.386	3.324	2.662	0.632	0.601	0.412	97	69	-40	-43	-61	1.50E-7	4.32E-7	2.57E-5
K-562	0.285	2.575	2.572	0.950	0.488	0.463	0.433	100	29	9	8	6	5.06E-8	> 1.00E-4	> 1.00E-4
MOLT-4	0.625	2.627	2.667	2.393	0.991	0.918	0.798	102	88	18	15	9	3.52E-7	> 1.00E-4	> 1.00E-4
RPMI-8226	0.725	2.317	2.266	2.029	1.031	0.961	0.683	97	82	19	15	-6	3.23E-7	5.24E-5	> 1.00E-4
SR	0.400	1.104	1.087	0.536	0.435	0.417	0.385	98	19	5	2	-4	4.05E-8	2.42E-5	> 1.00E-4
Non-Small Cell Lung Cancer															
A549/ATCC	0.310	1.853	1.794	1.423	0.634	0.611	0.543	96	72	21	20	15	2.71E-7	> 1.00E-4	> 1.00E-4
EKVX	0.678	1.847	1.782	1.570	1.048	1.031	1.218	94	76	32	30	46	3.88E-7	> 1.00E-4	> 1.00E-4
HOP-62	0.665	2.138	2.090	1.637	1.125	1.038	1.014	97	66	31	25	24	2.88E-7	> 1.00E-4	> 1.00E-4
HOP-92	0.960	1.581	1.505	1.267	1.336	1.235	1.067	88	49	61	44	17		> 1.00E-4	> 1.00E-4
NCI-H226	0.875	2.119	2.026	1.913	1.707	1.603	1.363	93	83	67	59	39	2.76E-5	> 1.00E-4	> 1.00E-4
NCI-H23	0.569	1.923	1.931	1.639	1.028	0.989	0.934	101	79	34	31	27	4.40E-7	> 1.00E-4	> 1.00E-4
NCI-H322M	0.808	2.069	1.958	1.863	1.393	1.309	1.337	91	84	46	40	42	8.00E-7	> 1.00E-4	> 1.00E-4
NCI-H460	0.185	1.868	1.935	1.273	0.309	0.269	0.205	104	65	7	5	1	1.80E-7	> 1.00E-4	> 1.00E-4
NCI-H522	0.757	2.304	2.090	1.499	0.620	0.544	0.484	86	48	-18	-28	-36	8.84E-8	5.31E-7	> 1.00E-4
Colon Cancer															
COLO 205	0.396	1.259	1.235	1.060	0.328	0.239	0.146	97	77	-17	-40	-63	1.93E-7	6.57E-7	2.74E-5
HCC-2998	0.868	2.692	2.633	2.241	1.008	1.085	1.000	97	75	8	12	7	2.36E-7	> 1.00E-4	> 1.00E-4
HCT-116	0.162	1.740	1.670	0.930	0.354	0.307	0.216	96	49	12	9	3	9.37E-8	> 1.00E-4	> 1.00E-4
HCT-15	0.291	1.561	1.506	0.856	0.546	0.504	0.464	96	44	20	17	14	7.80E-8	> 1.00E-4	> 1.00E-4
HT29	0.193	1.507	1.489	0.915	0.241	0.231	0.177	99	55	4	3	-9	1.25E-7	1.78E-5	> 1.00E-4
KM12	0.396	2.080	2.015	1.115	0.657	0.549	0.595	96	43	15	9	12	7.29E-8	> 1.00E-4	> 1.00E-4
SW-620	0.248	1.919	1.873	0.983	0.647	0.606	0.602	97	44	24	21	21	7.70E-8	> 1.00E-4	> 1.00E-4
CNS Cancer															
SF-268	0.567	2.093	1.972	1.576	1.195	1.023	0.870	92	66	41	30	20	4.42E-7	> 1.00E-4	> 1.00E-4
SF-295	1.110	2.972	2.939	1.844	1.405	1.416	1.424	98	39	16	16	17	6.60E-8	> 1.00E-4	> 1.00E-4
SF-539	1.011	2.536	2.387	1.788	0.775	0.834	0.786	90	51	-23	-18	-22	1.03E-7	4.85E-7	> 1.00E-4
SNB-19	0.635	1.958	1.859	1.583	1.174	1.119	1.095	93	72	41	37	35	5.01E-7	> 1.00E-4	> 1.00E-4
SNB-75	1.546	2.296	2.093	1.646	1.297	1.176	1.163	73	13	-16	-24	-25	2.42E-8	2.83E-7	> 1.00E-4
U251	0.296	1.540	1.500	1.176	0.546	0.497	0.434	97	71	20	16	11	2.57E-7	> 1.00E-4	> 1.00E-4
Melanoma															
LOX IMVI	0.431	2.816	2.760	1.925	1.202	0.931	0.872	98	63	32	21	18	2.61E-7	> 1.00E-4	> 1.00E-4
MALME-3M	0.790	1.731	1.624	1.312	1.263	1.206	1.233	89	55	50	44	47	1.09E-6	> 1.00E-4	> 1.00E-4
M14	0.457	1.969	1.903	1.224	0.562	0.588	0.602	96	51	7	9	10	1.04E-7	> 1.00E-4	> 1.00E-4
MDA-MB-435	0.587	2.486	2.323	0.570	0.536	0.593	0.544	91	-3	-9		-7	2.75E-8		> 1.00E-4
SK-MEL-2	0.834	1.979	1.948	1.599	1.053	1.008	1.021	97	67	19	15	16	2.25E-7	> 1.00E-4	> 1.00E-4
SK-MEL-28	0.683	2.034	1.995	1.525	1.378	1.389	1.310	97	62	51	52	46	2.41E-5	> 1.00E-4	> 1.00E-4
SK-MEL-5	0.792	2.711	2.700	1.729	1.200	0.805	0.560	99	49	21	1	-29	9.47E-8	1.05E-5	> 1.00E-4
UACC-257	0.742	1.972	1.659	1.498	1.444	1.422	1.332	75	61	57	55	48	5.29E-5	> 1.00E-4	> 1.00E-4
UACC-62	0.869	2.674	2.608	1.443	1.431	1.312	1.278	96	32	31	25	23	5.22E-8	> 1.00E-4	> 1.00E-4
Ovarian Cancer															
IGROV1	0.811	2.531	2.427	2.014	1.375	1.100	1.008	94	70	33	17	11	3.44E-7	> 1.00E-4	> 1.00E-4
OVCAR-3	0.328	1.180	1.199	0.590	0.291	0.297	0.380	102	31	-11	-10	6	5.38E-8		> 1.00E-4
OVCAR-4	0.653	1.526	1.495	1.265	1.063	1.019	0.904	96	70	47	42	29	7.37E-7	> 1.00E-4	> 1.00E-4
OVCAR-5	0.629	1.402	1.379	1.277	0.891	0.872	0.852	97	84	34	31	29	4.75E-7	> 1.00E-4	> 1.00E-4
OVCAR-8	0.439	1.837	1.823	1.665	0.574	0.538	0.490	99	88	10	7	4	3.04E-7	> 1.00E-4	> 1.00E-4
NCI/ADR-RES	0.650	2.006	1.946	1.269	0.754	0.777	0.789	96	46	8	9	10	8.18E-8	> 1.00E-4	> 1.00E-4
SK-OV-3	0.776	1.697	1.656	1.499	0.967	0.954	0.884	95	78	21	19	12	3.11E-7	> 1.00E-4	> 1.00E-4
Renal Cancer															
786-0	0.617	2.435	2.301	1.884	1.487	1.222	1.065	93	70	48	33	25	7.96E-7	> 1.00E-4	> 1.00E-4
A498	1.583	2.256	2.114	1.605	1.491	1.406	1.342	79	3	-6	-11	-15	2.41E-8	2.29E-7	> 1.00E-4
ACHN	0.297	1.162	1.121	0.749	0.641	0.539	0.481	95	52	40	28	21	1.51E-7	> 1.00E-4	> 1.00E-4
CAKI-1	1.018	2.646	2.440	1.646	1.631	1.383	1.198	87	39	38	22	11	5.83E-8	> 1.00E-4	> 1.00E-4
RXF 393	1.326	1.956	1.893	1.605	1.335	1.445	1.348	90	44	1	19	3	7.48E-8	> 1.00E-4	> 1.00E-4
SN12C	0.728	2.645	2.660	2.374	1.298	1.216	1.099	101	86	30	25	19	4.35E-7	> 1.00E-4	> 1.00E-4
TK-10	0.824	1.983	1.865	1.807	1.487	1.456	1.229	90	85	57	54	35	1.69E-5	> 1.00E-4	> 1.00E-4
UO-31	0.924	2.032	1.845	1.606	1.390	1.292	0.979	83	62	42	33	5	3.92E-7	> 1.00E-4	> 1.00E-4
Prostate Cancer															
PC-3	0.455	1.838	1.790	1.261	0.807	0.779	0.739	97	58	25	23	21	1.79E-7	> 1.00E-4	> 1.00E-4
DU-145	0.363	1.569	1.567	1.305	0.535	0.407	0.458	100	78	14	4	8	2.75E-7	> 1.00E-4	> 1.00E-4
Breast Cancer															
MCF7	0.394	1.883	1.825	0.828	0.713	0.674	0.609	96	29	21	19	14	4.88E-8	> 1.00E-4	> 1.00E-4
MDA-MB-231/ATCC	0.745	1.626	1.614	1.505	0.959	0.874	0.812	99	86	24	15	8	3.85E-7	> 1.00E-4	> 1.00E-4
HS 578T	0.921	1.919	1.832	1.413	1.045	1.046	0.987	91	49	12	13	7	9.59E-8	> 1.00E-4	> 1.00E-4
BT-549	1.385	2.711	2.641	2.254	1.755	1.518	1.700	95	66	28	10	24	2.59E-7	> 1.00E-4	> 1.00E-4
T-47D	0.652	1.463	1.354	1.255	0.979	1.005	0.860	87	74	40	44	26	5.19E-7	> 1.00E-4	> 1.00E-4
MDA-MB-468	0.819	1.758	1.662	1.154	0.951	0.915	0.860	90	36	14	10	4	5.43E-8	> 1.00E-4	> 1.00E-4



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 809840 / 1

Experiment ID : 1812NS41

Test Type : 08

Report Date : January 09, 2019

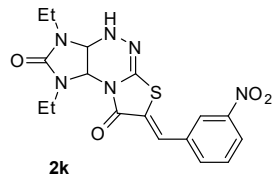
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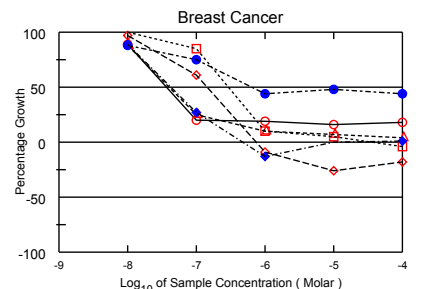
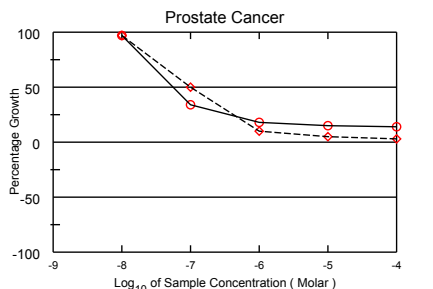
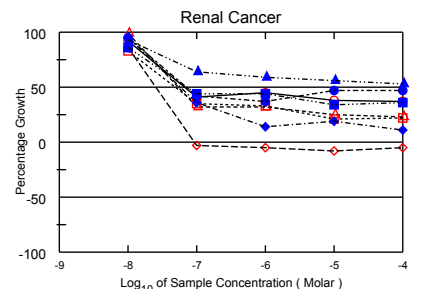
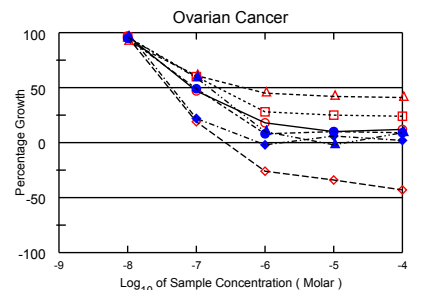
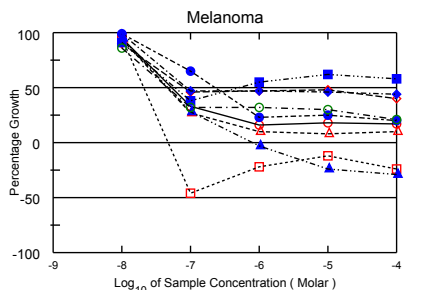
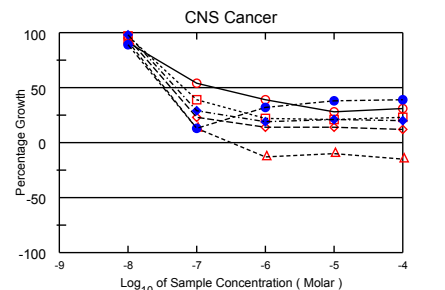
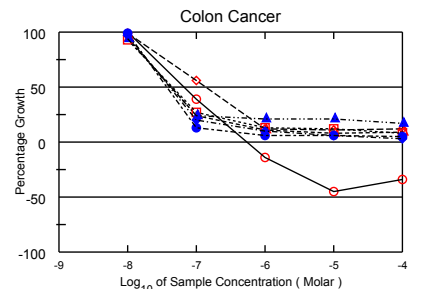
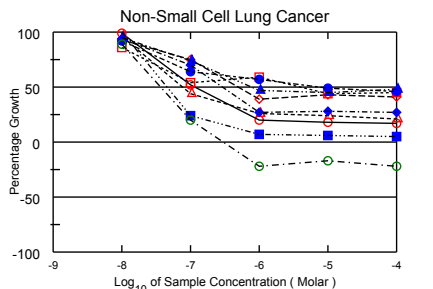
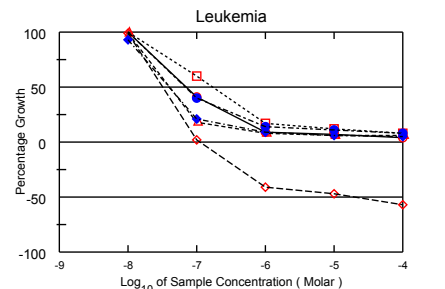
COMI : IA-366

Stain Reagent : SRB Dual-Pass Related

SSPL : 1AMN



Panel/Cell Line	Time Zero	Log10 Concentration												GI50	TGI	LC50
		Ctrl	-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0				
Leukemia																
CCRF-CEM	0.392	2.057	2.082	1.069	0.548	0.510	0.458	101	41	9	7	4	7.01E-8	> 1.00E-4	> 1.00E-4	
HL-60(TB)	1.027	3.443	3.415	1.064	0.605	0.547	0.437	99	2	-41	-47	-57	3.18E-8	1.09E-7	2.00E-5	
K-562	0.242	2.513	2.497	0.656	0.430	0.375	0.376	99	18	8	6	6	4.05E-8	> 1.00E-4	> 1.00E-4	
MOLT-4	0.640	2.755	2.789	1.917	0.998	0.888	0.805	102	60	17	12	8	1.73E-7	> 1.00E-4	> 1.00E-4	
RPMI-8226	0.712	2.340	2.458	1.356	0.937	0.899	0.842	107	40	14	11	8	7.00E-8	> 1.00E-4	> 1.00E-4	
SR	0.350	1.098	1.049	0.508	0.421	0.393	0.384	93	21	9	6	5	3.98E-8	> 1.00E-4	> 1.00E-4	
Non-Small Cell Lung Cancer																
A549/ATCC	0.277	1.787	1.778	1.067	0.584	0.556	0.535	99	52	20	18	17	1.18E-7	> 1.00E-4	> 1.00E-4	
EKVX	0.958	2.562	2.453	2.169	1.582	1.649	1.615	93	75	39	43	41	4.97E-7	> 1.00E-4	> 1.00E-4	
HOP-62	0.499	1.792	1.737	1.066	0.831	0.804	0.768	96	44	26	24	21	7.60E-8	> 1.00E-4	> 1.00E-4	
HOP-92	1.079	1.828	1.721	1.486	1.517	1.412	1.420	86	54	59	44	45	4.05E-6	> 1.00E-4	> 1.00E-4	
NCI-H226	0.874	2.309	2.199	1.793	1.687	1.583	1.538	92	64	57	49	46	8.25E-6	> 1.00E-4	> 1.00E-4	
NCI-H23	0.609	2.042	1.955	1.613	0.989	1.010	0.997	94	70	27	28	27	2.89E-7	> 1.00E-4	> 1.00E-4	
NCI-H322M	0.577	1.590	1.536	1.329	1.057	1.030	1.067	95	74	47	45	48	8.00E-7	> 1.00E-4	> 1.00E-4	
NCI-H460	0.237	2.793	2.816	0.847	0.410	0.395	0.359	101	24	7	6	5	4.58E-8	> 1.00E-4	> 1.00E-4	
NCI-H522	0.367	1.567	1.433	0.607	0.288	0.304	0.287	89	20	-22	-17	-22	3.66E-8	3.03E-7	> 1.00E-4	
Colon Cancer																
COLO 205	0.341	1.163	1.169	0.661	0.292	0.187	0.224	101	39	-14	-45	-34	6.63E-8	5.38E-7	> 1.00E-4	
HCC-2998	0.419	1.465	1.459	1.004	0.540	0.532	0.550	99	56	12	11	12	1.36E-7	> 1.00E-4	> 1.00E-4	
HCT-116	0.145	1.460	1.395	0.454	0.290	0.249	0.259	95	24	11	8	9	4.26E-8	> 1.00E-4	> 1.00E-4	
HCT-15	0.246	1.540	1.454	0.589	0.417	0.397	0.356	93	27	13	12	8	4.45E-8	> 1.00E-4	> 1.00E-4	
HT29	0.107	1.476	1.467	0.283	0.193	0.184	0.172	99	13	6	6	5	3.72E-8	> 1.00E-4	> 1.00E-4	
KM12	0.529	2.686	2.620	0.957	0.755	0.661	0.590	97	20	10	6	3	4.06E-8	> 1.00E-4	> 1.00E-4	
SW-620	0.208	1.916	1.812	0.616	0.565	0.570	0.500	94	24	21	21	17	4.23E-8	> 1.00E-4	> 1.00E-4	
CNS Cancer																
SF-268	0.864	2.730	2.561	1.868	1.596	1.380	1.450	91	54	39	28	31	1.81E-7	> 1.00E-4	> 1.00E-4	
SF-295	0.999	2.978	2.882	1.450	1.284	1.272	1.234	95	23	14	14	12	4.21E-8	> 1.00E-4	> 1.00E-4	
SF-539	0.727	2.119	2.009	0.909	0.636	0.652	0.619	92	13	-13	-10	-15	3.41E-8	3.24E-7	> 1.00E-4	
SNB-19	0.503	1.630	1.597	0.947	0.746	0.742	0.761	97	39	22	21	23	6.55E-8	> 1.00E-4	> 1.00E-4	
SNB-75	1.122	1.838	1.760	1.214	1.348	1.396	1.401	89	13	32	38	39	3.26E-8	> 1.00E-4	> 1.00E-4	
U251	0.297	1.620	1.596	0.685	0.552	0.573	0.560	98	29	19	21	20	5.01E-8	> 1.00E-4	> 1.00E-4	
Melanoma																
LOX IMVI	0.317	2.386	2.280	1.002	0.657	0.685	0.671	95	33	16	18	17	5.32E-8	> 1.00E-4	> 1.00E-4	
MALME-3M	0.614	1.450	1.369	0.999	1.004	1.015	0.947	90	46	47	48	40	8.12E-8	> 1.00E-4	> 1.00E-4	
M14	0.454	1.931	1.845	0.851	0.608	0.567	0.606	94	27	10	8	10	4.53E-8	> 1.00E-4	> 1.00E-4	
MDA-MB-435	0.574	2.665	2.564	0.310	0.448	0.506	0.439	95	-46	-22	-12	-24	2.09E-8	4.72E-8	> 1.00E-4	
SK-MEL-2	0.575	2.021	2.000	1.519	0.904	0.941	0.865	99	65	23	25	20	2.29E-7	> 1.00E-4	> 1.00E-4	
SK-MEL-28	0.596	1.831	1.821	1.171	1.178	1.169	1.146	99	47	47	46	44	8.60E-8	> 1.00E-4	> 1.00E-4	
SK-MEL-5	0.793	3.058	2.936	1.426	0.768	0.607	0.563	95	28	-3	-24	-29	4.67E-8	7.88E-7	> 1.00E-4	
UACC-257	0.821	2.138	2.026	1.322	1.547	1.641	1.584	91	38	55	62	58	.	> 1.00E-4	> 1.00E-4	
UACC-62	1.043	2.982	2.714	1.662	1.655	1.627	1.452	86	32	32	30	21	4.64E-8	> 1.00E-4	> 1.00E-4	
Ovarian Cancer																
IGROV1	0.197	0.781	0.762	0.471	0.301	0.253	0.269	97	47	18	10	12	8.65E-8	> 1.00E-4	> 1.00E-4	
OVCAR-3	0.508	1.747	1.697	0.741	0.375	0.337	0.291	96	19	-26	-34	-43	3.94E-8	2.62E-7	> 1.00E-4	
OVCAR-4	0.706	1.751	1.671	1.347	1.174	1.142	1.135	92	61	45	42	41	4.86E-7	> 1.00E-4	> 1.00E-4	
OVCAR-5	0.443	1.249	1.220	0.930	0.673	0.644	0.640	96	60	28	25	24	2.11E-7	> 1.00E-4	> 1.00E-4	
OVCAR-8	0.411	2.194	2.107	1.284	0.561	0.581	0.579	95	49	8	10	9	9.50E-8	> 1.00E-4	> 1.00E-4	
NCI/ADR-RES	0.567	1.844	1.840	0.849	0.556	0.649	0.594	100	22	-2	6	2	4.36E-8	.	> 1.00E-4	
SK-OV-3	0.674	1.554	1.521	1.196	0.764	0.663	0.752	96	59	10	-2	9	1.55E-7	.	> 1.00E-4	
Renal Cancer																
786-0	0.501	2.190	2.052	1.191	1.256	1.135	1.121	92	41	45	38	37	6.61E-8	> 1.00E-4	> 1.00E-4	
A498	1.381	2.172	2.063	1.334	1.312	1.274	1.316	86	-3	-5	-8	-5	2.54E-8	9.16E-8	> 1.00E-4	
ACHN	0.340	1.343	1.328	0.664	0.659	0.590	0.574	99	32	32	25	23	5.40E-8	> 1.00E-4	> 1.00E-4	
CAKI-1	0.571	2.104	1.845	1.104	1.083	0.889	0.907	83	35	33	21	22	4.84E-8	> 1.00E-4	> 1.00E-4	
RXF 393	0.790	1.355	1.328	1.028	1.000	1.055	1.058	95	42	37	47	47	7.08E-8	> 1.00E-4	> 1.00E-4	
SN12C	0.417	1.523	1.465	0.815	0.575	0.628	0.534	95	36	14	19	11	5.78E-8	> 1.00E-4	> 1.00E-4	
TK-10	0.496	1.717	1.634	1.272	1.217	1.184	1.147	93	64	59	56	53	> 1.00E-4	> 1.00E-4	> 1.00E-4	
UO-31	0.509	1.645	1.486	1.012	1.005	0.890	0.921	86	44	44	34	36	7.29E-8	> 1.00E-4	> 1.00E-4	
Prostate Cancer																
PC-3	0.392	1.663	1.626	0.829	0.627	0.585	0.567	97	34	18	15	14	5.63E-8	> 1.00E-4	> 1.00E-4	
DU-145	0.369	1.791	1.755	1.083	0.518	0.444	0.410	97	50	10	5	3	1.01E-7	> 1.00E-4	> 1.00E-4	
Breast Cancer																
MCF7	0.430	2.168	1.970	0.782	0.762	0.717	0.745	89	20	19	16	18	3.67E-8	> 1.00E-4	> 1.00E-4	
MDA-MB-231/ATCC	0.551	1.225	1.204	0.965	0.501	0.405	0.454	97	61	-9	-26	-18	1.45E-7	7.44E-7	> 1.00E-4	
HS 578T	1.026	2.209	2.061	1.320	1.146	1.106	1.075	88	25	10	7	4	3.97E-8	> 1.00E-4	> 1.00E-4	
BT-549	1.444	2.587	2.684	2.413	1.556	1.501	1.380	109	85	10	5	-4	2.91E-7	3.35E-5	> 1.00E-4	
T-47D	0.587	1.357	1.268	1.164	0.929	0.956	0.927	88	75	44	48	44	6.53E-7	> 1.00E-4	> 1.00E-4	
MDA-MB-468	0.838	1.807	1.697	1.101	0.729	0.835	0.844	89	27	-13	.	1	4.25E-8	.	> 1.00E-4	



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 809839 / 1

Experiment ID : 1812NS41

Test Type : 08

Report Date : January 09, 2019

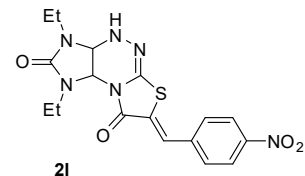
Test Date : December 10, 2018

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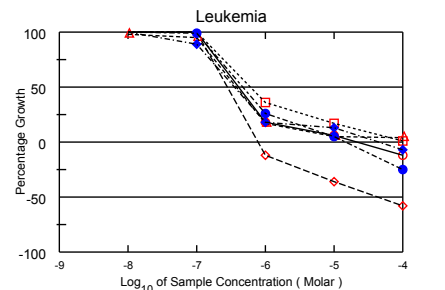
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Stain Reagent : SRB Dual-Pass Related

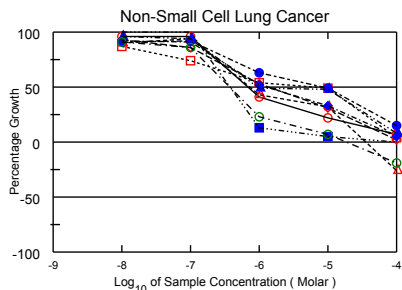
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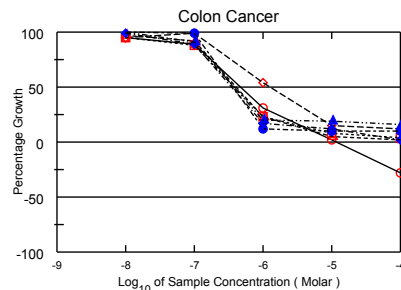
Panel/Cell Line	Time Zero	Ctrl	Log10 Concentration										GI50	TGI	LC50
			Mean Optical Densities					Percent Growth							
			-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0			
Leukemia															
CCRF-CEM	0.392	1.983	2.040	2.012	0.672	0.490	0.345	104	102	18	6	-12	4.12E-7	2.18E-5	> 1.00E-4
HL-60(TB)	1.027	3.441	3.430	3.430	0.907	0.656	0.431	100	100	-12	-36	-58	2.79E-7	7.85E-7	4.29E-5
K-562	0.242	2.611	2.558	2.494	0.634	0.356	0.343	98	95	17	5	4	3.75E-7	> 1.00E-4	> 1.00E-4
MOLT-4	0.640	2.834	2.965	2.939	1.433	1.007	0.653	106	105	36	17	1	6.28E-7	> 1.00E-4	> 1.00E-4
RPMI-8226	0.712	2.302	2.315	2.288	1.125	0.799	0.535	101	99	26	5	-25	4.69E-7	1.51E-5	> 1.00E-4
SR	0.350	1.167	1.176	1.079	0.497	0.454	0.326	101	89	18	13	-7	3.55E-7	4.41E-5	> 1.00E-4
Non-Small Cell Lung Cancer															
A549/ATCC	0.277	1.831	1.769	1.765	0.913	0.626	0.382	96	96	41	22	7	6.83E-7	> 1.00E-4	> 1.00E-4
EKVX	0.958	2.599	2.476	2.370	1.830	1.468	0.990	93	86	53	31	2	1.39E-6	> 1.00E-4	> 1.00E-4
HOP-62	0.499	1.729	1.608	1.655	1.022	0.891	0.371	90	94	43	32	-26	7.16E-7	3.57E-5	> 1.00E-4
HOP-92	1.079	1.798	1.704	1.612	1.467	1.433	1.108	87	74	54	49	4	6.81E-6	> 1.00E-4	> 1.00E-4
NCI-H226	0.874	2.273	2.149	2.166	1.761	1.566	1.079	91	92	63	49	15	9.16E-6	> 1.00E-4	> 1.00E-4
NCI-H23	0.609	2.104	1.990	1.970	1.381	1.100	0.677	92	91	52	33	5	1.22E-6	> 1.00E-4	> 1.00E-4
NCI-H322M	0.577	1.605	1.561	1.543	1.077	1.067	0.657	96	94	49	48	8	9.34E-7	> 1.00E-4	> 1.00E-4
NCI-H460	0.237	2.705	2.790	2.698	0.559	0.360	0.244	103	100	13	5	.	3.75E-7	> 1.00E-4	> 1.00E-4
NCI-H522	0.367	1.601	1.489	1.424	0.654	0.450	0.299	91	86	23	7	-19	3.73E-7	1.84E-5	> 1.00E-4
Colon Cancer															
COLO 205	0.341	1.272	1.222	1.169	0.629	0.362	0.244	95	89	31	2	-28	4.69E-7	1.18E-5	> 1.00E-4
HCC-2998	0.419	1.461	1.405	1.447	0.978	0.573	0.543	95	99	54	15	12	1.24E-6	> 1.00E-4	> 1.00E-4
HCT-116	0.145	1.455	1.421	1.356	0.447	0.210	0.166	97	92	23	5	2	4.09E-7	> 1.00E-4	> 1.00E-4
HCT-15	0.246	1.541	1.479	1.385	0.538	0.356	0.301	95	88	23	8	4	3.80E-7	> 1.00E-4	> 1.00E-4
HT29	0.107	1.427	1.519	1.420	0.268	0.242	0.236	107	99	12	10	10	3.69E-7	> 1.00E-4	> 1.00E-4
KM12	0.529	2.782	2.759	2.541	0.917	0.810	0.565	99	89	17	12	2	3.51E-7	> 1.00E-4	> 1.00E-4
SW-620	0.208	1.805	1.809	1.669	0.525	0.504	0.457	100	91	20	19	16	3.79E-7	> 1.00E-4	> 1.00E-4
CNS Cancer															
SF-268	0.864	2.738	2.645	2.550	1.739	1.706	0.665	95	90	47	45	-23	8.38E-7	4.58E-5	> 1.00E-4
SF-295	0.999	3.055	2.880	2.828	1.411	1.227	0.856	91	89	20	11	-14	3.67E-7	2.73E-5	> 1.00E-4
SF-539	0.727	2.100	2.050	1.935	0.842	0.565	0.379	96	88	8	-22	-48	3.00E-7	1.87E-6	> 1.00E-4
SNB-19	0.503	1.705	1.656	1.623	0.986	0.805	0.481	96	93	40	25	-4	6.53E-7	7.10E-5	> 1.00E-4
SNB-75	1.122	1.691	1.470	1.455	0.968	1.043	0.646	61	59	-14	-7	-42	1.31E-7	6.46E-7	> 1.00E-4
U251	0.297	1.652	1.558	1.511	0.762	0.564	0.311	93	90	34	20	1	5.21E-7	> 1.00E-4	> 1.00E-4
Melanoma															
LOX IMVI	0.317	2.329	2.216	2.194	0.960	0.767	0.477	94	93	32	22	8	5.08E-7	> 1.00E-4	> 1.00E-4
MALME-3M	0.614	1.464	1.392	1.339	0.945	0.924	0.621	91	85	39	36	1	5.77E-7	> 1.00E-4	> 1.00E-4
M14	0.454	2.019	1.955	1.911	0.861	0.539	0.387	96	93	26	5	-15	4.39E-7	1.85E-5	> 1.00E-4
MDA-MB-435	0.574	2.405	2.306	2.019	0.182	0.317	0.291	95	79	-68	-45	-49	1.57E-7	3.44E-7	.
SK-MEL-2	0.575	2.111	2.028	1.987	1.369	1.243	0.805	95	92	52	44	15	1.62E-6	> 1.00E-4	> 1.00E-4
SK-MEL-28	0.596	1.853	1.841	1.732	1.181	1.137	0.806	99	90	47	43	17	8.34E-7	> 1.00E-4	> 1.00E-4
SK-MEL-5	0.793	3.024	2.941	2.800	1.171	0.918	0.432	96	90	17	6	-46	3.52E-7	1.29E-5	> 1.00E-4
UACC-257	0.821	2.216	2.146	2.041	1.472	1.094	0.789	95	87	47	20	-4	8.26E-7	6.79E-5	> 1.00E-4
UACC-62	1.043	2.997	2.829	2.758	1.586	1.574	1.084	91	88	28	27	2	4.26E-7	> 1.00E-4	> 1.00E-4
Ovarian Cancer															
IGROV1	0.197	0.801	0.783	0.756	0.459	0.210	0.085	97	92	43	2	-57	7.32E-7	1.08E-5	7.65E-5
OVCAR-3	0.508	1.827	1.774	1.748	0.453	0.479	0.261	96	94	-11	-6	-49	2.63E-7	7.87E-7	> 1.00E-4
OVCAR-4	0.706	1.502	1.423	1.381	0.983	0.687	0.401	90	85	35	-3	-43	4.96E-7	8.44E-6	> 1.00E-4
OVCAR-5	0.443	1.228	1.199	1.169	0.801	0.574	0.437	96	92	46	17	-1	8.06E-7	8.30E-5	> 1.00E-4
OVCAR-8	0.411	2.251	2.228	2.149	1.339	0.692	0.406	99	94	50	15	-1	1.03E-6	8.30E-5	> 1.00E-4
NCI/ADR-RES	0.567	1.850	1.842	1.775	0.868	0.658	0.478	99	94	23	7	-16	4.21E-7	2.05E-5	> 1.00E-4
SK-OV-3	0.674	1.605	1.601	1.579	1.058	0.923	0.595	100	97	41	27	-12	6.98E-7	4.95E-5	> 1.00E-4
Renal Cancer															
786-0	0.501	2.162	2.049	1.949	1.152	1.284	0.845	93	87	39	47	21	5.95E-7	> 1.00E-4	> 1.00E-4
A498	1.381	1.956	1.772	1.779	1.209	1.079	0.906	68	69	-12	-22	-34	1.72E-7	7.04E-7	> 1.00E-4
ACHN	0.340	1.327	1.288	1.255	0.645	0.612	0.432	96	93	31	28	9	4.90E-7	> 1.00E-4	> 1.00E-4
CAKI-1	0.571	1.858	1.736	1.610	0.888	0.717	0.442	91	81	25	11	-23	3.53E-7	2.16E-5	> 1.00E-4
RXF 393	0.790	1.373	1.405	1.304	1.041	0.999	0.834	106	88	43	36	7	7.02E-7	> 1.00E-4	> 1.00E-4
SN12C	0.417	1.475	1.419	1.389	0.757	0.530	0.390	95	92	32	11	-7	5.02E-7	4.14E-5	> 1.00E-4
TK-10	0.496	1.817	1.683	1.615	1.333	1.199	0.760	90	85	63	53	20	1.25E-5	> 1.00E-4	> 1.00E-4
UO-31	0.509	1.661	1.485	1.503	1.017	0.900	0.637	85	86	44	34	11	7.23E-7	> 1.00E-4	> 1.00E-4
Prostate Cancer															
PC-3	0.392	1.644	1.566	1.518	0.655	0.534	0.378	94	90	21	11	-4	3.79E-7	5.76E-5	> 1.00E-4
DU-145	0.369	1.831	1.795	1.756	0.767	0.546	0.506	98	95	27	12	9	4.61E-7	> 1.00E-4	> 1.00E-4
Breast Cancer															
MCF7	0.430	2.205	1.967	1.877	0.747	0.489	0.439	87	82	18	3	.	3.13E-7	> 1.00E-4	> 1.00E-4
MDA-MB-231/ATCC	0.551	1.259	1.226	1.207	0.995	0.592	0.474	95	93	63	6	-14	1.67E-6	1.95E-5	> 1.00E-4
HS 578T	1.026	2.171	2.082	2.000	1.191	1.075	1.009	92	85	14	4	-2	3.14E-7	5.26E-5	> 1.00E-4
BT-549	1.444	2.610	2.621	2.636	2.179	1.568	1.276	101	102	63	11	-12	1.77E-6	3.00E-5	> 1.00E-4
T-47D	0.587	1.336	1.261	1.199	0.853	0.712	0.651	90	82	35	17	9	4.84E-7	> 1.00E-4	> 1.00E-4
MDA-MB-468	0.838	1.838	1.775	1.678	0.956	0.801	0.614	94	84	12	-4	-27	2.96E-7	5.34E-6	> 1.00E-4



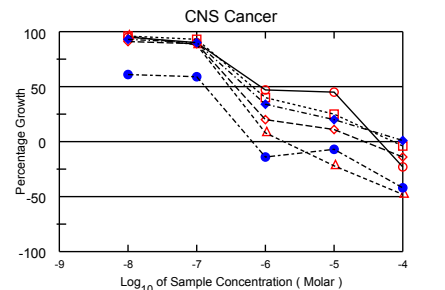
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MOLT-4 —□—
HL-60(TB) —◇—
RPMI-8226 —●—
K-562 —△—
SR —◆—



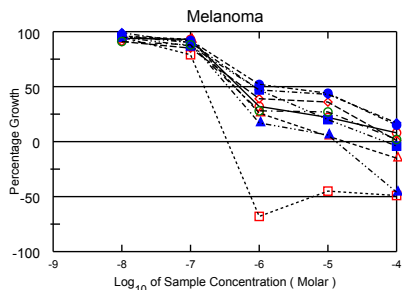
A549/ATCC —○—
HOP-92 —□—
NCI-H322M —△—
EKVX —◇—
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NCI-H460 —◆—
HOP-62 —△—
NCI-H23 —◆—
NCI-H522 —◇—



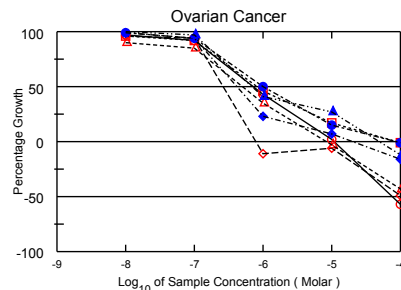
COLO 205 —○—
HCT-15 —□—
SW-620 —△—
HCC-2998 —◇—
HT29 —●—
HCT-116 —△—
KM12 —◆—



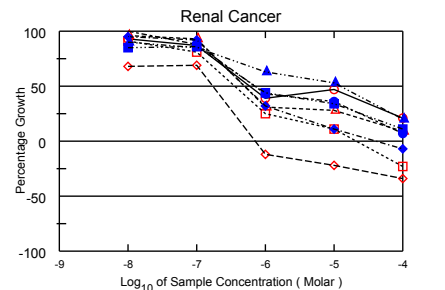
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SNB-19 —□—
SF-295 —◇—
SNB-75 —●—
SF-539 —△—
U251 —◆—



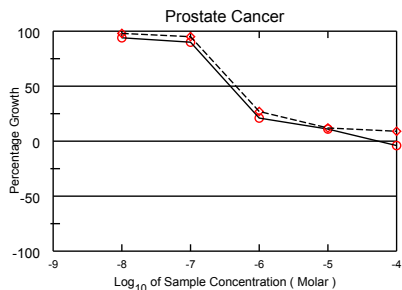
LOX IMVI —○—
MDA-MB-435 —□—
SK-MEL-5 —△—
MALME-3M —◇—
SK-MEL-2 —●—
UACC-257 —◆—
M14 —△—
SK-MEL-28 —◆—
UACC-62 —◇—



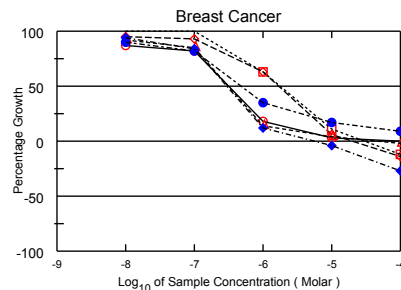
IGROV1 —○—
OVCAR-5 —□—
SK-OV-3 —△—
OVCAR-3 —◇—
OVCAR-8 —●—
NCI/ADR-RES —◆—
OVCAR-4 —△—



786-0 —○—
CAKI-1 —□—
TK-10 —△—
A498 —◇—
RXF 393 —●—
UO-31 —◆—
ACHN —△—
SN12C —◆—



PC-3 —○—
DU-145 —◇—



MCF7 —○—
BT-549 —□—
MDA-MB-231 —◇—
T-47D —●—
HS 578T —△—
MDA-MB-468 —◆—

National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 803205 / 1

Experiment ID : 1803NS45

Test Type : 08

Report Date : March 22, 2018

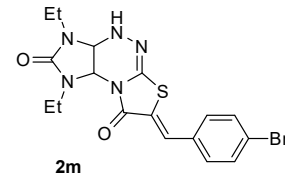
Test Date : March 05, 2018

QNS :

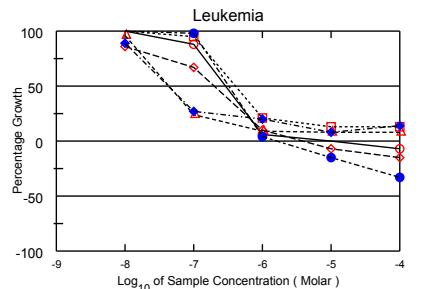
COMI : IA253

Stain Reagent : SRB Dual-Pass Related

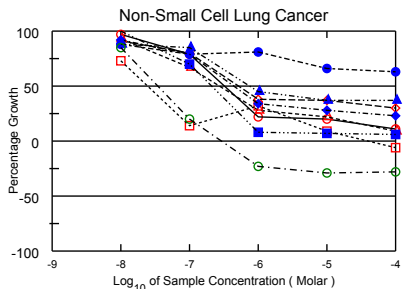
SSPL : 1AMN



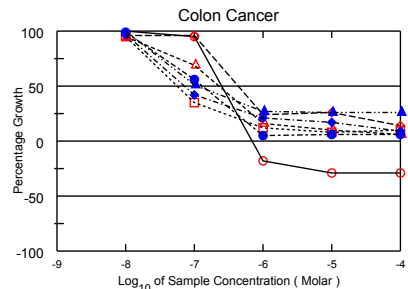
Panel/Cell Line	Time Zero	Log10 Concentration											GI50	TGI	LC50	
		Ctrl	-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0				
Leukemia																
CCRF-CEM	0.434	1.496	1.523	1.368	0.497	0.437	0.405	103	88	6	.	-7	2.90E-7	1.10E-5	> 1.00E-4	
HL-60(TB)	0.583	2.249	2.013	1.700	0.747	0.543	0.496	86	67	10	-7	-15	1.98E-7	3.86E-6	> 1.00E-4	
K-562	0.173	2.078	2.000	0.627	0.353	0.320	0.332	96	24	9	8	8	4.33E-8	> 1.00E-4	> 1.00E-4	
MOLT-4	0.608	2.869	2.865	2.761	1.083	0.912	0.909	100	95	21	13	13	4.06E-7	> 1.00E-4	> 1.00E-4	
RPMI-8226	0.873	2.346	2.339	2.323	0.931	0.745	0.589	100	98	4	-15	-33	3.25E-7	1.62E-6	> 1.00E-4	
SR	0.311	2.008	1.821	0.769	0.655	0.439	0.555	89	27	20	8	14	4.25E-8	> 1.00E-4	> 1.00E-4	
Non-Small Cell Lung Cancer																
A549/ATCC	0.480	2.381	2.321	1.986	0.905	0.856	0.692	97	79	22	20	11	3.27E-7	> 1.00E-4	> 1.00E-4	
EKVX	0.847	2.764	2.584	2.380	1.578	1.565	1.422	91	80	38	37	30	5.20E-7	> 1.00E-4	> 1.00E-4	
HOP-62	0.572	1.913	1.821	1.468	0.947	0.867	0.691	93	67	28	22	9	2.70E-7	> 1.00E-4	> 1.00E-4	
HOP-92	1.165	1.540	1.439	1.217	1.285	1.199	1.098	73	14	32	9	-6	2.45E-8	4.06E-5	> 1.00E-4	
NCI-H226	1.153	2.644	2.463	2.337	2.365	2.142	2.100	88	79	81	66	63	> 1.00E-4	> 1.00E-4	> 1.00E-4	
NCI-H23	0.530	1.904	1.797	1.613	0.994	0.916	0.852	92	79	34	28	23	4.36E-7	> 1.00E-4	> 1.00E-4	
NCI-H322M	0.829	1.999	1.853	1.824	1.352	1.266	1.258	88	85	45	37	37	7.38E-7	> 1.00E-4	> 1.00E-4	
NCI-H460	0.212	2.103	2.180	1.536	0.368	0.344	0.331	104	70	8	7	6	2.11E-7	> 1.00E-4	> 1.00E-4	
NCI-H522	0.707	1.598	1.467	0.886	0.543	0.504	0.511	85	20	-23	-29	-28	3.48E-8	2.91E-7	> 1.00E-4	
Colon Cancer																
COLO 205	0.395	1.518	1.543	1.462	0.323	0.279	0.281	102	95	-18	-29	-29	2.50E-7	6.90E-7	> 1.00E-4	
HCC-2998	1.163	3.266	3.182	3.179	1.676	1.717	1.462	96	96	24	26	14	4.38E-7	> 1.00E-4	> 1.00E-4	
HCT-116	0.268	2.390	2.288	1.724	0.612	0.474	0.401	95	69	16	10	6	2.26E-7	> 1.00E-4	> 1.00E-4	
HCT-15	0.272	2.046	1.958	0.896	0.486	0.413	0.458	95	35	12	8	10	5.65E-8	> 1.00E-4	> 1.00E-4	
HT29	0.254	1.662	1.642	1.049	0.318	0.332	0.334	99	56	5	6	6	1.33E-7	> 1.00E-4	> 1.00E-4	
KM12	0.475	2.624	2.549	1.384	0.936	0.844	0.670	97	42	21	17	9	7.21E-8	> 1.00E-4	> 1.00E-4	
SW-620	0.223	1.625	1.654	0.937	0.600	0.583	0.587	102	51	27	26	26	1.09E-7	> 1.00E-4	> 1.00E-4	
CNS Cancer																
SF-268	0.681	2.207	2.121	1.813	1.434	1.270	1.183	94	74	49	39	33	9.39E-7	> 1.00E-4	> 1.00E-4	
SF-295	0.749	2.869	2.644	1.706	1.147	1.148	0.959	89	45	19	19	10	7.76E-8	> 1.00E-4	> 1.00E-4	
SF-539	0.756	2.322	2.292	1.491	0.839	0.764	0.662	98	47	5	1	-13	8.70E-8	1.09E-5	> 1.00E-4	
SNB-19	0.442	1.757	1.674	1.435	0.916	0.876	0.699	94	75	36	33	20	4.42E-7	> 1.00E-4	> 1.00E-4	
SNB-75	0.836	1.579	1.457	1.182	1.049	1.065	0.969	84	47	29	31	18	8.08E-8	> 1.00E-4	> 1.00E-4	
U251	0.359	1.865	1.824	1.433	0.565	0.533	0.312	97	71	14	12	-13	2.34E-7	2.94E-5	> 1.00E-4	
Melanoma																
LOX IMVI	0.522	3.204	3.093	2.494	1.471	1.238	1.189	96	74	35	27	25	4.14E-7	> 1.00E-4	> 1.00E-4	
MALME-3M	0.663	1.646	1.628	1.456	1.203	1.076	1.059	98	81	55	42	40	2.39E-6	> 1.00E-4	> 1.00E-4	
M14	0.403	1.764	1.830	1.386	0.596	0.595	0.536	105	72	14	14	10	2.41E-7	> 1.00E-4	> 1.00E-4	
MDA-MB-435	0.413	2.039	1.947	0.386	0.306	0.363	0.345	94	-7	-26	-12	-16	2.75E-8	8.59E-8	> 1.00E-4	
SK-MEL-2	0.910	1.932	1.926	1.763	1.230	1.248	1.187	99	83	31	33	27	4.38E-7	> 1.00E-4	> 1.00E-4	
SK-MEL-28	0.737	2.146	2.150	1.672	1.518	1.527	1.342	100	66	55	56	43	2.89E-5	> 1.00E-4	> 1.00E-4	
SK-MEL-5	0.751	3.130	2.995	2.159	0.846	0.481	0.392	94	59	4	-36	-48	1.47E-7	1.26E-6	> 1.00E-4	
UACC-257	1.286	2.767	2.550	2.338	2.003	1.861	1.553	85	71	48	39	18	8.49E-7	> 1.00E-4	> 1.00E-4	
UACC-62	0.529	2.271	2.051	1.025	0.981	1.026	0.814	87	28	26	29	16	4.31E-8	> 1.00E-4	> 1.00E-4	
Ovarian Cancer																
IGROV1	0.660	1.868	1.824	1.364	1.039	0.857	0.638	96	58	31	16	-3	2.02E-7	6.76E-5	> 1.00E-4	
OVCAR-3	0.543	1.769	1.761	1.376	0.670	0.765	0.707	99	68	10	18	13	2.05E-7	> 1.00E-4	> 1.00E-4	
OVCAR-4	0.585	1.479	1.453	1.269	1.095	0.861	0.778	97	76	57	31	22	1.85E-6	> 1.00E-4	> 1.00E-4	
OVCAR-5	0.625	2.022	1.946	1.877	1.094	0.978	0.834	95	90	34	25	15	5.09E-7	> 1.00E-4	> 1.00E-4	
OVCAR-8	0.504	2.221	2.179	2.065	0.912	0.830	0.761	98	91	24	19	15	4.06E-7	> 1.00E-4	> 1.00E-4	
NCI/ADR-RES	0.534	2.165	2.096	1.273	0.663	0.629	0.597	96	45	8	6	4	8.07E-8	> 1.00E-4	> 1.00E-4	
SK-OV-3	1.076	2.184	2.122	2.020	1.498	1.418	1.362	94	85	38	31	26	5.59E-7	> 1.00E-4	> 1.00E-4	
Renal Cancer																
786-0	0.490	2.051	1.897	1.257	0.992	0.849	0.720	90	49	32	23	15	9.51E-8	> 1.00E-4	> 1.00E-4	
A498	1.496	2.555	2.474	1.987	1.569	1.561	1.533	92	46	7	6	3	8.33E-8	> 1.00E-4	> 1.00E-4	
ACHN	0.551	2.375	2.351	1.915	1.345	1.070	0.927	99	75	44	28	21	6.20E-7	> 1.00E-4	> 1.00E-4	
CAKI-1	0.625	2.203	2.011	1.421	1.290	1.133	1.103	88	50	42	32	30	1.13E-7	> 1.00E-4	> 1.00E-4	
RXF 393	0.670	1.534	1.522	1.338	0.855	0.925	0.804	99	77	21	30	16	3.08E-7	> 1.00E-4	> 1.00E-4	
SN12C	0.476	1.964	1.972	1.842	0.963	0.825	0.714	101	92	33	23	16	5.10E-7	> 1.00E-4	> 1.00E-4	
TK-10	0.680	1.512	1.432	1.361	1.057	1.036	0.942	90	82	45	43	31	7.41E-7	> 1.00E-4	> 1.00E-4	
UO-31	0.805	1.967	1.825	1.540	1.394	1.259	1.217	88	63	51	39	35	1.14E-6	> 1.00E-4	> 1.00E-4	
Prostate Cancer																
PC-3	0.578	1.607	1.517	1.204	0.813	0.764	0.772	91	61	23	18	19	1.93E-7	> 1.00E-4	> 1.00E-4	
DU-145	0.349	1.535	1.586	1.454	0.613	0.526	0.520	104	93	22	15	14	4.06E-7	> 1.00E-4	> 1.00E-4	
Breast Cancer																
MCF7	0.611	2.891	2.662	1.313	1.087	0.921	0.871	90	31	21	14	11	4.73E-8	> 1.00E-4	> 1.00E-4	
MDA-MB-231/ATCC	0.518	1.291	1.293	1.232	0.615	0.568	0.508	100	92	12	6	-2	3.39E-7	5.87E-5	> 1.00E-4	
HS 578T	1.047	2.135	2.041	1.683	1.364	1.366	1.312	91	58	29	29	24	1.94E-7	> 1.00E-4	> 1.00E-4	
BT-549	0.932	2.053	1.977	1.713	0.994	0.885	0.819	93	70	5	-5	-12	2.02E-7	3.32E-6	> 1.00E-4	
T-47D	0.726	1.556	1.480	1.495	1.158	1.134	1.083	91	93	52	49	43	5.11E-6	> 1.00E-4	> 1.00E-4	
MDA-MB-468	1.062	2.362	2.221	1.703	0.945	1.009	0.858	89	49	-11	-5	-19	9.61E-8	6.57E-7	> 1.00E-4	



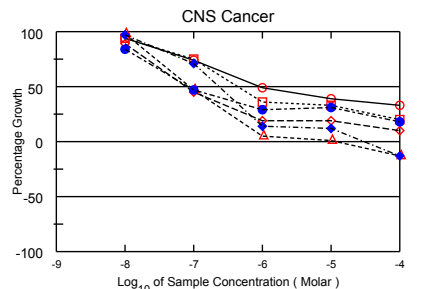
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MOLT-4 —□— RPMI-8226 —●— SR —◆—



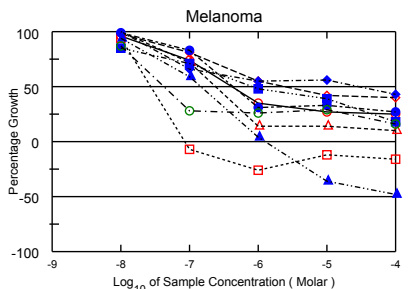
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NCI-H226 —□— NCI-H226 —●— NCI-H23 —◆—
NCI-H322M —▲— NCI-H460 —■— NCI-H522 —○—



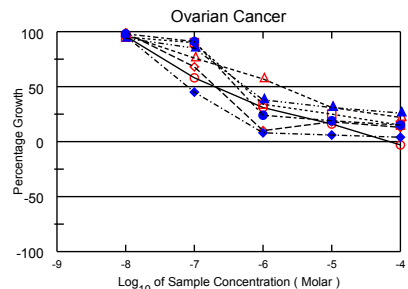
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HCC-2998 —◇— HT29 —●— KM12 —◆—
SW-620 —▲—



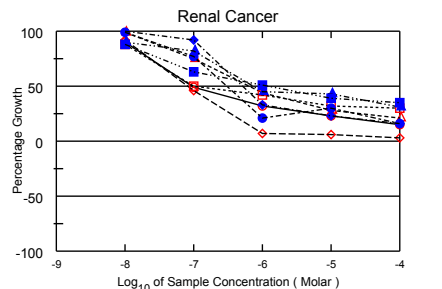
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SNB-19 —□— SNB-75 —●— U251 —◆—



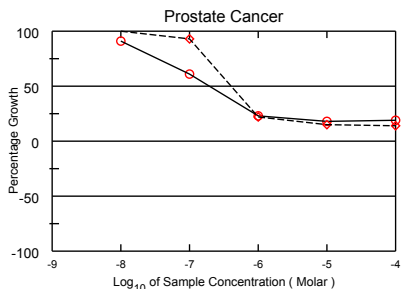
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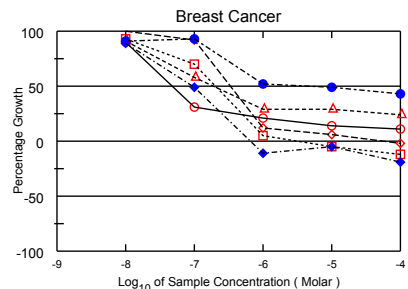
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OVCAR-5 —□— OVCAR-8 —●— NCI/ADR-RES —◆—
SK-OV-3 —▲—



786-0 —○— A498 —◇— ACHN —△—
CAKI-1 —□— RXF 393 —●— SN12C —◆—
TK-10 —▲— UO-31 —■—



PC-3 —○— DU-145 —◇—



MCF7 —○— MDA-MB-231/ —◇— HS 578T —△—
BT-549 —□— T-47D —●— MDA-MB-468 —◆—

National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 809841 / 1

Experiment ID : 1812NS43

Test Type : 08

Report Date : January 09, 2019

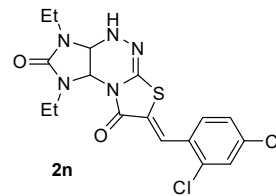
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QNS :

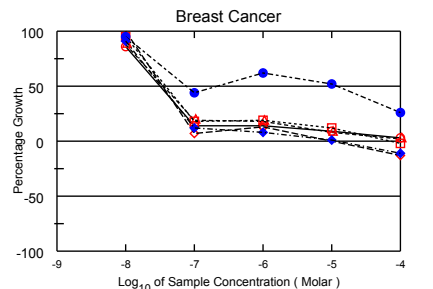
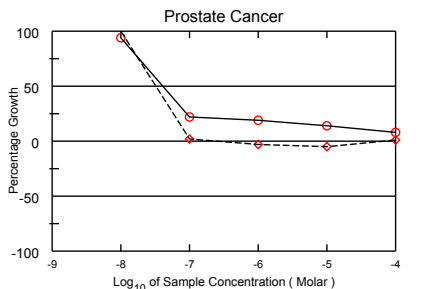
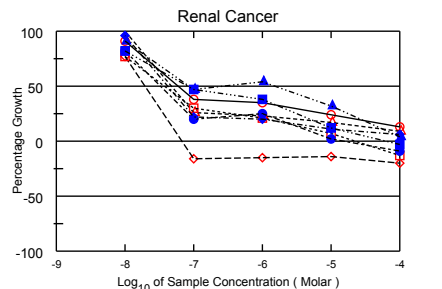
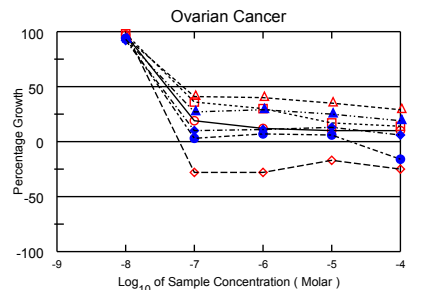
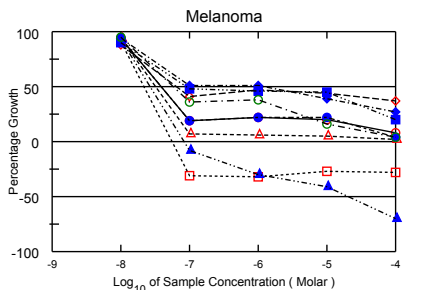
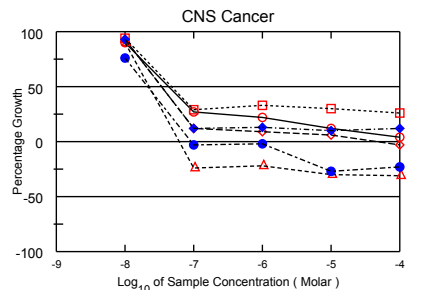
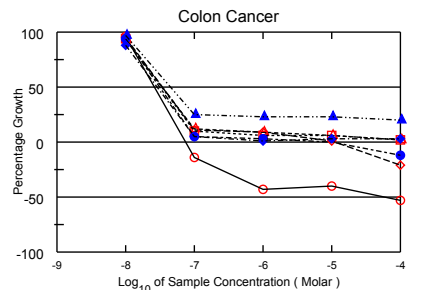
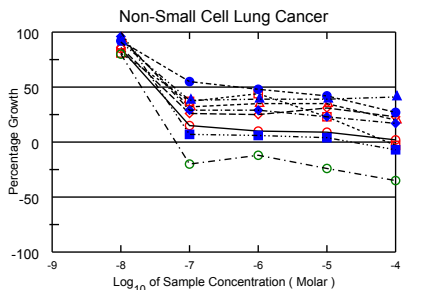
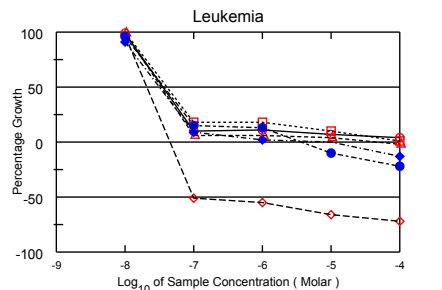
COMI : IA-316

Stain Reagent : SRB Dual-Pass Related

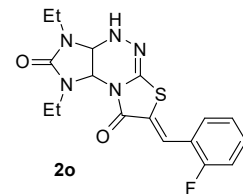
SSPL : 1AMN



Panel/Cell Line	Time Zero	Ctrl	Log10 Concentration										GI50	TGI	LC50
			Mean Optical Densities					Percent Growth							
			-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0			
Leukemia															
CCRF-CEM	0.328	1.881	1.868	0.486	0.495	0.440	0.385	99	10	11	7	4	3.57E-8	> 1.00E-4	> 1.00E-4
HL-60(TB)	1.047	3.374	3.305	0.510	0.474	0.360	0.289	97	-51	-55	-66	-72	2.08E-8	4.51E-8	9.79E-8
K-562	0.285	2.446	2.432	0.410	0.414	0.381	0.279	99	6	6	4	-2	3.37E-8	4.77E-5	> 1.00E-4
MOLT-4	0.625	2.667	2.790	0.993	0.984	0.825	0.655	106	18	18	10	1	4.33E-8	> 1.00E-4	> 1.00E-4
RPMI-8226	0.725	2.293	2.235	0.955	0.927	0.655	0.563	96	15	13	-10	-22	3.69E-8	3.73E-6	> 1.00E-4
SR	0.400	1.080	1.018	0.460	0.416	0.398	0.348	91	9	2	.	-13	3.15E-8	6.17E-6	> 1.00E-4
Non-Small Cell Lung Cancer															
A549/ATCC	0.310	1.354	1.199	0.467	0.410	0.408	0.335	85	15	10	9	2	3.17E-8	> 1.00E-4	> 1.00E-4
EKVX	0.678	1.922	1.751	0.999	0.991	1.060	0.969	86	26	25	31	23	3.97E-8	> 1.00E-4	> 1.00E-4
HOP-62	0.665	2.306	2.205	1.194	1.245	1.247	1.001	94	32	35	35	20	5.15E-8	> 1.00E-4	> 1.00E-4
HOP-92	0.960	1.637	1.509	1.209	1.261	1.117	0.931	81	37	44	23	-3	5.02E-8	7.64E-5	> 1.00E-4
NCI-H226	0.875	2.096	2.000	1.545	1.465	1.383	1.205	92	55	48	42	27	5.44E-7	> 1.00E-4	> 1.00E-4
NCI-H23	0.569	1.970	1.919	0.972	0.977	0.897	0.809	96	29	29	23	17	4.85E-8	> 1.00E-4	> 1.00E-4
NCI-H322M	0.808	2.127	2.003	1.308	1.319	1.325	1.346	91	38	39	39	41	5.90E-8	> 1.00E-4	> 1.00E-4
NCI-H460	0.185	1.807	1.865	0.306	0.281	0.246	0.172	104	7	6	4	-7	3.61E-8	2.18E-5	> 1.00E-4
NCI-H522	0.757	2.236	1.942	0.609	0.666	0.576	0.492	80	-20	-12	-24	-35	2.00E-8	6.36E-8	> 1.00E-4
Colon Cancer															
COLO 205	0.396	1.504	1.462	0.341	0.227	0.239	0.187	96	-14	-43	-40	-53	2.63E-8	7.48E-8	6.12E-5
HCC-2998	0.868	2.670	2.578	1.060	1.028	0.894	0.685	95	11	9	1	-21	3.41E-8	1.16E-5	> 1.00E-4
HCT-116	0.162	1.884	1.772	0.371	0.312	0.261	0.194	93	12	9	6	2	3.42E-8	> 1.00E-4	> 1.00E-4
HCT-15	0.291	1.457	1.388	0.410	0.363	0.364	0.312	94	10	6	6	2	3.35E-8	> 1.00E-4	> 1.00E-4
HT29	0.193	1.434	1.358	0.253	0.231	0.197	0.170	94	5	3	.	-12	3.11E-8	1.05E-5	> 1.00E-4
KM12	0.396	1.864	1.691	0.467	0.412	0.445	0.435	88	5	1	3	3	2.87E-8	> 1.00E-4	> 1.00E-4
SW-620	0.248	1.842	1.796	0.643	0.611	0.622	0.568	97	25	23	23	20	4.48E-8	> 1.00E-4	> 1.00E-4
CNS Cancer															
SF-268	0.567	1.991	1.851	0.947	0.887	0.731	0.617	90	27	22	12	4	4.29E-8	> 1.00E-4	> 1.00E-4
SF-295	1.110	2.987	2.859	1.330	1.288	1.225	1.081	93	12	9	6	-3	3.39E-8	5.02E-5	> 1.00E-4
SF-539	1.011	2.531	2.382	0.766	0.793	0.703	0.697	90	-24	-22	-30	-31	2.25E-8	6.14E-8	> 1.00E-4
SNB-19	0.635	2.148	2.050	1.076	1.131	1.086	1.023	94	29	33	30	26	4.74E-8	> 1.00E-4	> 1.00E-4
SNB-75	1.546	2.428	2.214	1.505	1.520	1.134	1.198	76	-3	-2	-27	-23	2.13E-8	9.24E-8	> 1.00E-4
U251	0.296	1.320	1.253	0.422	0.431	0.402	0.423	93	12	13	10	12	3.43E-8	> 1.00E-4	> 1.00E-4
Melanoma															
LOX IMVI	0.431	2.840	2.691	0.898	0.950	0.906	0.615	94	19	22	20	8	3.88E-8	> 1.00E-4	> 1.00E-4
MALME-3M	0.790	1.787	1.670	1.202	1.260	1.231	1.155	88	41	47	44	37	6.52E-8	> 1.00E-4	> 1.00E-4
M14	0.457	2.105	2.010	0.575	0.556	0.539	0.492	94	7	6	5	2	3.22E-8	> 1.00E-4	> 1.00E-4
MDA-MB-435	0.587	2.493	2.325	0.407	0.399	0.430	0.425	91	-31	-32	-27	-28	2.18E-8	5.59E-8	> 1.00E-4
SK-MEL-2	0.834	2.057	1.984	1.073	1.106	1.109	0.884	94	19	22	22	4	3.90E-8	> 1.00E-4	> 1.00E-4
SK-MEL-28	0.683	2.061	1.977	1.392	1.391	1.222	1.057	94	51	51	39	27	1.29E-6	> 1.00E-4	> 1.00E-4
SK-MEL-5	0.792	2.654	2.530	0.731	0.557	0.469	0.239	93	-8	-30	-41	-70	2.68E-8	8.39E-8	2.07E-5
UACC-257	0.742	1.604	1.519	1.153	1.143	1.130	0.917	90	48	46	45	20	8.78E-8	> 1.00E-4	> 1.00E-4
UACC-62	0.869	2.799	2.701	1.565	1.597	1.180	0.942	95	36	38	16	4	5.80E-8	> 1.00E-4	> 1.00E-4
Ovarian Cancer															
IGROV1	0.811	2.541	2.486	1.133	1.026	0.981	0.982	97	19	12	10	10	3.97E-8	> 1.00E-4	> 1.00E-4
OVCAR-3	0.328	1.101	1.116	0.237	0.238	0.271	0.245	102	-28	-28	-17	-25	2.51E-8	6.11E-8	> 1.00E-4
OVCAR-4	0.653	1.552	1.505	1.026	1.011	0.972	0.914	95	41	40	35	29	6.91E-8	> 1.00E-4	> 1.00E-4
OVCAR-5	0.629	1.401	1.389	0.907	0.863	0.757	0.736	98	36	30	17	14	5.96E-8	> 1.00E-4	> 1.00E-4
OVCAR-8	0.439	1.479	1.417	0.466	0.508	0.500	0.369	94	3	7	6	-16	3.03E-8	1.86E-5	> 1.00E-4
NCI/ADR-RES	0.650	2.082	1.966	0.792	0.815	0.839	0.742	92	10	11	13	6	3.24E-8	> 1.00E-4	> 1.00E-4
SK-OV-3	0.776	1.967	1.878	1.100	1.124	1.076	1.004	93	27	29	25	19	4.48E-8	> 1.00E-4	> 1.00E-4
Renal Cancer															
786-0	0.617	2.483	2.321	1.327	1.279	1.073	0.857	91	38	35	24	13	5.96E-8	> 1.00E-4	> 1.00E-4
A498	1.583	2.299	2.133	1.324	1.347	1.359	1.261	77	-16	-15	-14	-20	1.94E-8	6.67E-8	> 1.00E-4
ACHN	0.297	1.181	1.184	0.526	0.501	0.445	0.373	100	26	23	17	9	4.74E-8	> 1.00E-4	> 1.00E-4
CAKI-1	1.018	2.701	2.314	1.527	1.375	1.143	0.884	77	30	21	7	-13	3.77E-8	2.29E-5	> 1.00E-4
RXF 393	1.326	1.945	1.831	1.451	1.483	1.338	1.204	82	20	25	2	-9	3.27E-8	1.47E-5	> 1.00E-4
SN12C	0.728	2.756	2.677	1.179	1.126	0.953	0.856	96	22	20	11	6	4.20E-8	> 1.00E-4	> 1.00E-4
TK-10	0.824	2.096	1.981	1.422	1.507	1.226	0.870	91	47	54	32	4	.	> 1.00E-4	> 1.00E-4
UO-31	0.924	2.127	1.914	1.486	1.380	1.064	0.894	82	47	38	12	-3	8.10E-8	6.01E-5	> 1.00E-4
Prostate Cancer															
PC-3	0.455	1.927	1.841	0.785	0.734	0.664	0.567	94	22	19	14	8	4.12E-8	> 1.00E-4	> 1.00E-4
DU-145	0.363	1.520	1.524	0.384	0.353	0.346	0.379	100	2	-3	-5	1	3.24E-8	.	> 1.00E-4
Breast Cancer															
MCF7	0.394	1.765	1.567	0.591	0.590	0.523	0.433	86	14	14	9	3	3.15E-8	> 1.00E-4	> 1.00E-4
MDA-MB-231/ATCC	0.745	1.628	1.630	0.806	0.863	0.745	0.649	100	7	13	.	-13	3.45E-8	1.00E-5	> 1.00E-4
HS 578T	0.921	1.972	1.846	1.119	1.115	1.004	0.940	88	19	18	8	2	3.55E-8	> 1.00E-4	> 1.00E-4
BT-549	1.385	2.787	2.713	1.642	1.651	1.547	1.357	95	18	19	12	-2	3.85E-8	7.06E-5	> 1.00E-4
T-47D	0.652	1.612	1.566	1.076	1.246	1.148	0.904	95	44	62	52	26	.	> 1.00E-4	> 1.00E-4
MDA-MB-468	0.819	1.814	1.724	0.936	0.897	0.831	0.727	91	12	8	1	-11	3.29E-8	1.24E-5	> 1.00E-4



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results



NSC : D - 809842 / 1

Experiment ID : 1812NS43

Test Type : 08

Report Date : January 09, 2019

Test Date : December 17, 2018

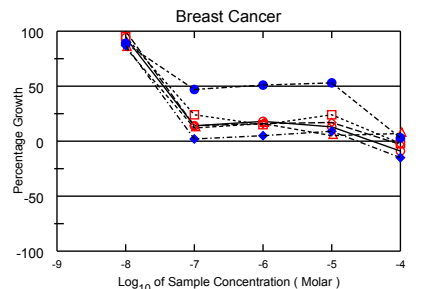
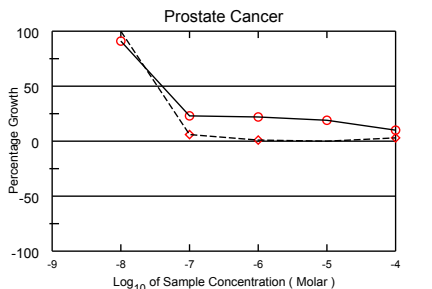
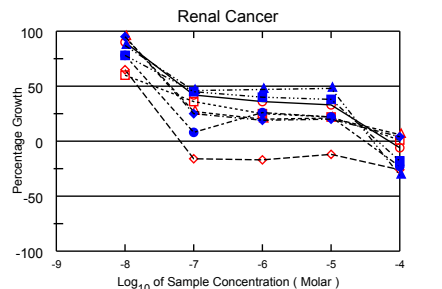
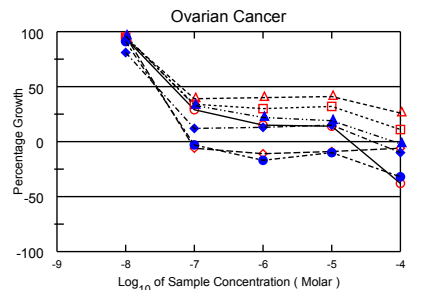
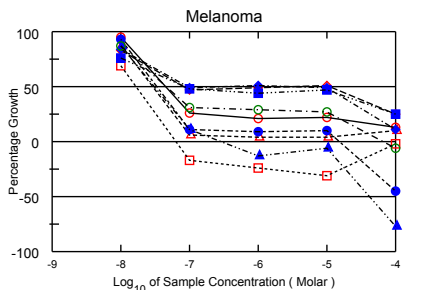
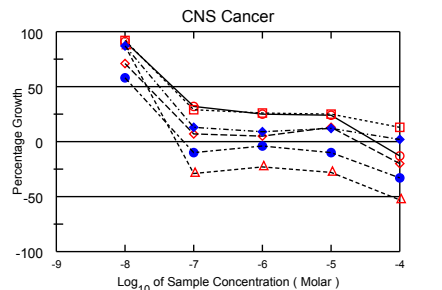
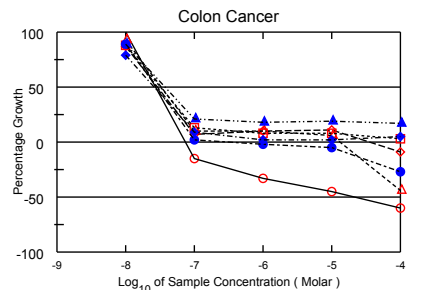
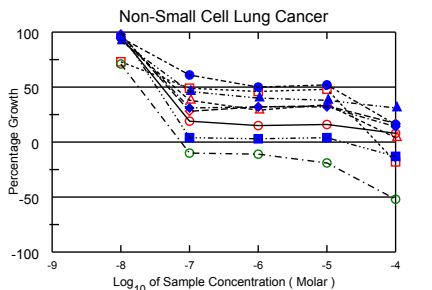
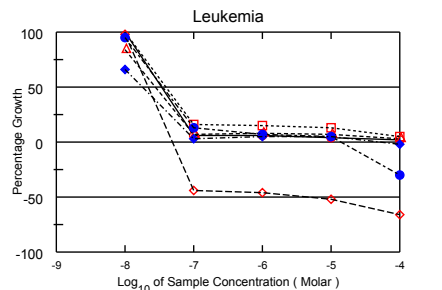
QNS :

COMI : IA-320

Stain Reagent : SRB Dual-Pass Related

SSPL : 1AMN

Panel/Cell Line	Time Zero	Log10 Concentration												GI50	TGI	LC50
		Ctrl	-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0				
Leukemia																
CCRF-CEM	0.328	1.797	1.801	0.423	0.414	0.390	0.361	100	6	6	4	2	3.43E-8	> 1.00E-4	> 1.00E-4	
HL-60(TB)	1.047	3.422	3.365	0.584	0.562	0.500	0.361	98	-44	-46	-52	-66	2.17E-8	4.87E-8	4.15E-6	
K-562	0.285	2.628	2.256	0.449	0.473	0.460	0.365	84	7	8	7	3	2.77E-8	> 1.00E-4	> 1.00E-4	
MOLT-4	0.625	2.872	2.862	0.974	0.956	0.919	0.740	100	16	15	13	5	3.89E-8	> 1.00E-4	> 1.00E-4	
RPMI-8226	0.725	2.303	2.226	0.924	0.834	0.811	0.507	95	13	7	5	-30	3.52E-8	1.42E-5	> 1.00E-4	
SR	0.400	1.255	0.962	0.423	0.445	0.441	0.394	66	3	5	5	-2	1.77E-8	5.58E-5	> 1.00E-4	
Non-Small Cell Lung Cancer																
A549/ATCC	0.310	1.575	1.525	0.550	0.496	0.518	0.410	96	19	15	16	8	3.96E-8	> 1.00E-4	> 1.00E-4	
EKVX	0.678	1.799	1.774	0.993	1.039	1.052	0.870	98	28	32	33	17	4.85E-8	> 1.00E-4	> 1.00E-4	
HOP-62	0.665	2.257	2.141	1.264	1.122	1.200	0.726	93	38	29	34	4	5.95E-8	> 1.00E-4	> 1.00E-4	
HOP-92	0.960	1.664	1.475	1.302	1.282	1.301	0.784	73	49	46	48	-18	8.74E-8	5.31E-5	> 1.00E-4	
NCI-H226	0.875	2.114	2.055	1.627	1.496	1.517	1.069	95	61	50	52	16	1.12E-5	> 1.00E-4	> 1.00E-4	
NCI-H23	0.569	1.895	1.866	0.984	0.997	0.992	0.751	98	31	32	32	14	5.24E-8	> 1.00E-4	> 1.00E-4	
NCI-H322M	0.808	2.092	1.992	1.396	1.319	1.293	1.208	92	46	40	38	31	8.11E-8	> 1.00E-4	> 1.00E-4	
NCI-H460	0.185	1.679	1.796	0.251	0.233	0.240	0.161	108	4	3	4	-13	3.62E-8	1.64E-5	> 1.00E-4	
NCI-H522	0.757	2.214	1.785	0.678	0.672	0.613	0.364	71	-10	-11	-19	-52	1.79E-8	7.43E-8	8.71E-5	
Colon Cancer																
COLO 205	0.396	1.417	1.415	0.336	0.264	0.217	0.160	100	-15	-33	-45	-60	2.71E-8	7.37E-8	2.11E-5	
HCC-2998	0.868	2.729	2.489	0.993	1.045	1.073	0.787	87	7	10	11	-9	2.89E-8	3.46E-5	> 1.00E-4	
HCT-116	0.162	1.790	1.684	0.320	0.321	0.264	0.091	93	10	10	6	-44	3.30E-8	1.33E-5	> 1.00E-4	
HCT-15	0.291	1.413	1.275	0.440	0.382	0.379	0.320	88	13	8	8	3	3.21E-8	> 1.00E-4	> 1.00E-4	
HT29	0.193	1.452	1.308	0.213	0.190	0.184	0.141	89	2	-2	-5	-27	2.78E-8	2.93E-7	> 1.00E-4	
KM12	0.396	1.856	1.549	0.534	0.427	0.428	0.466	79	9	2	2	5	2.61E-8	> 1.00E-4	> 1.00E-4	
SW-620	0.248	1.768	1.607	0.563	0.528	0.530	0.505	89	21	18	19	17	3.75E-8	> 1.00E-4	> 1.00E-4	
CNS Cancer																
SF-268	0.567	1.964	1.845	1.019	0.922	0.908	0.495	91	32	25	24	-13	5.03E-8	4.54E-5	> 1.00E-4	
SF-295	1.110	2.826	2.321	1.225	1.193	1.330	0.893	71	7	5	13	-20	2.10E-8	2.48E-5	> 1.00E-4	
SF-539	1.011	2.520	2.327	0.715	0.782	0.732	0.475	87	-29	-23	-28	-53	2.09E-8	5.61E-8	7.57E-5	
SNB-19	0.635	2.048	1.933	1.040	1.003	0.991	0.823	92	29	26	25	13	4.60E-8	> 1.00E-4	> 1.00E-4	
SNB-75	1.546	2.371	2.029	1.389	1.481	1.393	1.041	58	-10	-4	-10	-33	1.33E-8	7.11E-8	> 1.00E-4	
U251	0.296	1.477	1.328	0.446	0.398	0.433	0.319	87	13	9	12	2	3.17E-8	> 1.00E-4	> 1.00E-4	
Melanoma																
LOX IMVI	0.431	2.792	2.672	1.043	0.917	0.959	0.730	95	26	21	22	13	4.48E-8	> 1.00E-4	> 1.00E-4	
MALME-3M	0.790	1.797	1.624	1.266	1.287	1.302	1.042	83	47	49	51	25	.	> 1.00E-4	> 1.00E-4	
M14	0.457	1.993	1.805	0.547	0.519	0.512	0.615	88	6	4	4	10	2.89E-8	> 1.00E-4	> 1.00E-4	
MDA-MB-435	0.587	2.488	1.901	0.485	0.449	0.407	0.574	69	-17	-24	-31	-2	1.66E-8	6.29E-8	> 1.00E-4	
SK-MEL-2	0.834	1.892	1.817	0.955	0.929	0.940	0.455	93	11	9	10	-45	3.36E-8	1.51E-5	> 1.00E-4	
SK-MEL-28	0.683	2.043	1.822	1.355	1.380	1.346	0.837	84	49	51	49	11	.	> 1.00E-4	> 1.00E-4	
SK-MEL-5	0.792	2.505	2.275	0.977	0.690	0.745	0.183	87	11	-13	-6	-77	3.04E-8	2.85E-7	4.18E-5	
UACC-257	0.742	1.791	1.536	1.248	1.200	1.240	1.006	76	48	44	47	25	8.63E-8	> 1.00E-4	> 1.00E-4	
UACC-62	0.869	2.738	2.490	1.455	1.418	1.376	0.814	87	31	29	27	-6	4.60E-8	6.47E-5	> 1.00E-4	
Ovarian Cancer																
IGROV1	0.811	2.577	2.462	1.315	1.079	1.066	0.501	94	29	15	14	-38	4.67E-8	1.88E-5	> 1.00E-4	
OVCAR-3	0.328	1.131	1.101	0.307	0.294	0.299	0.307	96	-6	-11	-9	-6	2.82E-8	8.66E-8	> 1.00E-4	
OVCAR-4	0.653	1.505	1.455	0.984	0.996	1.000	0.875	94	39	40	41	26	6.28E-8	> 1.00E-4	> 1.00E-4	
OVCAR-5	0.629	1.389	1.354	0.887	0.861	0.873	0.713	95	34	30	32	11	5.49E-8	> 1.00E-4	> 1.00E-4	
OVCAR-8	0.439	1.649	1.535	0.425	0.363	0.393	0.300	91	-3	-17	-10	-32	2.70E-8	9.22E-8	> 1.00E-4	
NCI/ADR-RES	0.650	2.059	1.796	0.812	0.830	0.866	0.586	81	12	13	15	-10	2.81E-8	4.05E-5	> 1.00E-4	
SK-OV-3	0.776	1.893	1.854	1.145	1.026	0.990	0.758	96	33	22	19	-2	5.40E-8	7.75E-5	> 1.00E-4	
Renal Cancer																
786-0	0.617	2.488	2.303	1.401	1.292	1.241	0.577	90	42	36	33	-6	6.79E-8	6.87E-5	> 1.00E-4	
A498	1.583	2.293	2.045	1.335	1.309	1.390	1.178	65	-16	-17	-12	-26	1.54E-8	6.40E-8	> 1.00E-4	
ACHN	0.297	1.149	1.108	0.526	0.464	0.480	0.352	95	27	20	21	6	4.58E-8	> 1.00E-4	> 1.00E-4	
CAKI-1	1.018	2.672	2.015	1.617	1.437	1.382	1.027	60	36	25	22	1	2.68E-8	> 1.00E-4	> 1.00E-4	
RXF 393	1.326	1.933	1.801	1.374	1.483	1.457	1.021	78	8	26	22	-23	2.52E-8	3.05E-5	> 1.00E-4	
SN12C	0.728	2.742	2.634	1.237	1.119	1.122	0.807	95	25	19	20	4	4.40E-8	> 1.00E-4	> 1.00E-4	
TK-10	0.824	1.935	1.794	1.331	1.351	1.354	0.569	87	46	47	48	-31	7.86E-8	4.04E-5	> 1.00E-4	
UO-31	0.924	2.119	1.853	1.459	1.404	1.376	0.762	78	45	40	38	-18	6.92E-8	4.82E-5	> 1.00E-4	
Prostate Cancer																
PC-3	0.455	1.890	1.759	0.791	0.776	0.725	0.602	91	23	22	19	10	4.03E-8	> 1.00E-4	> 1.00E-4	
DU-145	0.363	1.503	1.510	0.431	0.372	0.360	0.393	101	6	1	.	3	3.42E-8	.	> 1.00E-4	
Breast Cancer																
MCF7	0.394	1.622	1.543	0.565	0.620	0.558	0.360	94	14	18	13	-9	3.52E-8	4.05E-5	> 1.00E-4	
MDA-MB-231/ATCC	0.745	1.632	1.656	0.866	0.889	0.893	0.724	103	14	16	17	-3	3.90E-8	7.16E-5	> 1.00E-4	
HS 578T	0.921	1.906	1.756	1.035	1.082	0.968	0.987	85	12	16	5	7	2.98E-8	> 1.00E-4	> 1.00E-4	
BT-549	1.385	2.618	2.551	1.684	1.576	1.682	1.364	95	24	15	24	-2	4.30E-8	8.70E-5	> 1.00E-4	
T-47D	0.652	1.667	1.554	1.125	1.173	1.190	0.687	89	47	51	53	3	.	> 1.00E-4	> 1.00E-4	
MDA-MB-468	0.819	1.716	1.596	0.834	0.863	0.896	0.697	87	2	5	9	-15	2.70E-8	2.31E-5	> 1.00E-4	



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 809843 / 1

Experiment ID : 1812NS43

Test Type : 08

Report Date : January 09, 2019

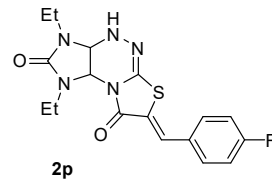
Test Date : December 17, 2018

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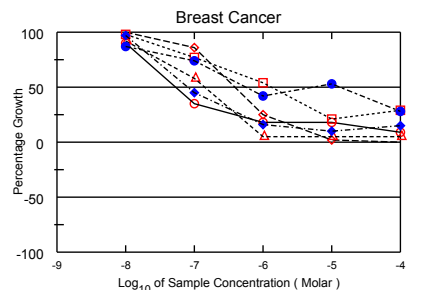
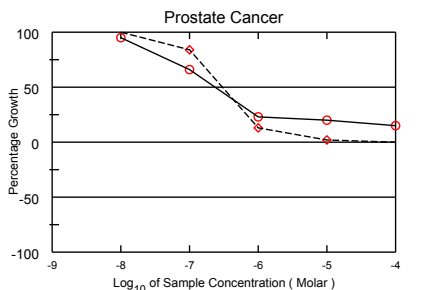
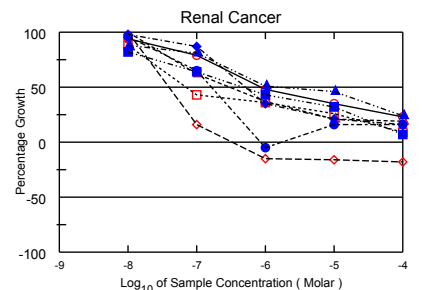
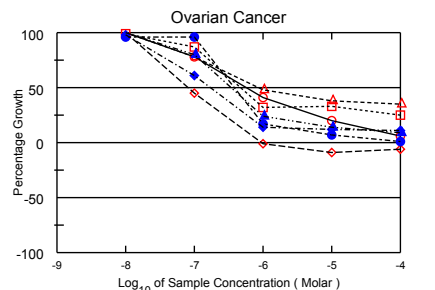
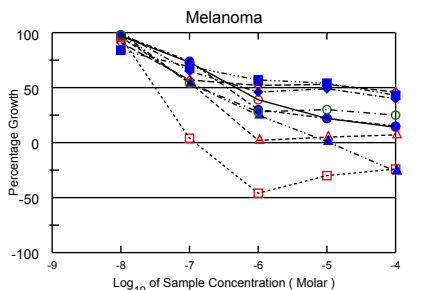
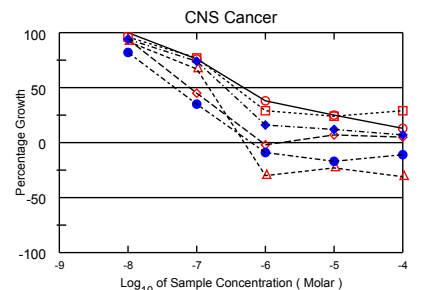
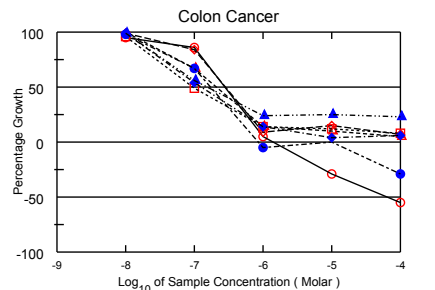
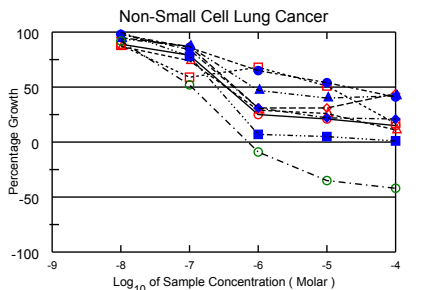
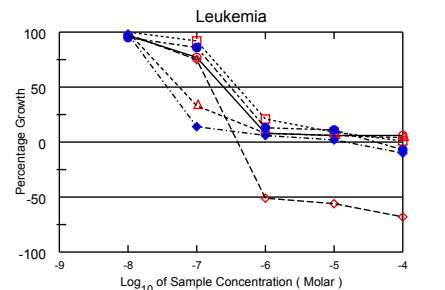
COMI : DV-24

Stain Reagent : SRB Dual-Pass Related

SSPL : 1AMN



Panel/Cell Line	Time Zero	Ctrl	Log10 Concentration										GI50	TGI	LC50	
			Mean Optical Densities					Percent Growth								
			-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0				
Leukemia																
CCRF-CEM	0.328	1.959	1.917	1.578	0.465	0.433	0.420	97	77	8	6	6	2.46E-7	> 1.00E-4	> 1.00E-4	
HL-60(TB)	1.047	3.376	3.333	2.797	0.514	0.465	0.333	98	75	-51	-56	-68	1.58E-7	3.95E-7	9.84E-7	
K-562	0.285	2.399	2.497	0.987	0.450	0.409	0.368	105	33	8	6	4	5.82E-8	> 1.00E-4	> 1.00E-4	
MOLT-4	0.625	2.668	2.672	2.505	1.055	0.802	0.646	100	92	21	9	1	3.91E-7	> 1.00E-4	> 1.00E-4	
RPMI-8226	0.725	2.351	2.275	2.119	0.939	0.899	0.674	95	86	13	11	-7	3.11E-7	3.99E-5	> 1.00E-4	
SR	0.400	1.124	1.109	0.503	0.441	0.413	0.359	98	14	6	2	-10	3.73E-8	1.39E-5	> 1.00E-4	
Non-Small Cell Lung Cancer																
A549/ATCC	0.310	1.646	1.495	1.364	0.646	0.592	0.508	89	79	25	21	15	3.45E-7	> 1.00E-4	> 1.00E-4	
EKVX	0.678	1.857	1.804	1.699	1.044	1.044	1.194	95	87	31	31	44	4.56E-7	> 1.00E-4	> 1.00E-4	
HOP-62	0.665	2.368	2.142	1.923	1.157	1.114	0.847	87	74	29	26	11	3.39E-7	> 1.00E-4	> 1.00E-4	
HOP-92	0.960	1.601	1.525	1.340	1.394	1.285	1.070	88	59	68	51	17	1.05E-5	> 1.00E-4	> 1.00E-4	
NCI-H226	0.875	2.152	2.130	1.974	1.702	1.567	1.393	98	86	65	54	41	2.03E-5	> 1.00E-4	> 1.00E-4	
NCI-H23	0.569	1.886	1.860	1.673	0.979	0.859	0.844	98	84	31	22	21	4.39E-7	> 1.00E-4	> 1.00E-4	
NCI-H322M	0.808	2.110	2.032	1.945	1.421	1.329	1.353	94	87	47	40	42	8.47E-7	> 1.00E-4	> 1.00E-4	
NCI-H460	0.185	1.709	1.787	1.368	0.286	0.255	0.198	105	78	7	5	1	2.45E-7	> 1.00E-4	> 1.00E-4	
NCI-H522	0.757	2.277	2.154	1.551	0.688	0.492	0.440	92	52	-9	-35	-42	1.09E-7	7.09E-7	> 1.00E-4	
Colon Cancer																
COLO 205	0.396	1.414	1.363	1.267	0.450	0.281	0.179	95	86	5	-29	-55	2.77E-7	1.43E-6	6.50E-5	
HCC-2998	0.868	2.684	2.664	2.395	1.040	1.137	0.998	99	84	9	15	7	2.86E-7	> 1.00E-4	> 1.00E-4	
HCT-116	0.162	1.756	1.787	1.233	0.387	0.323	0.235	102	67	14	10	5	2.11E-7	> 1.00E-4	> 1.00E-4	
HCT-15	0.291	1.480	1.431	0.879	0.461	0.432	0.392	96	49	14	12	8	9.74E-8	> 1.00E-4	> 1.00E-4	
HT29	0.193	1.484	1.458	1.052	0.184	0.194	0.137	98	67	-5	.	-29	1.70E-7	.	> 1.00E-4	
KM12	0.396	1.811	1.791	1.153	0.588	0.455	0.488	99	54	14	4	6	1.22E-7	> 1.00E-4	> 1.00E-4	
SW-620	0.248	1.790	1.781	1.114	0.614	0.626	0.602	99	56	24	25	23	1.55E-7	> 1.00E-4	> 1.00E-4	
CNS Cancer																
SF-268	0.567	1.956	1.953	1.622	1.101	0.916	0.741	100	76	38	25	13	4.92E-7	> 1.00E-4	> 1.00E-4	
SF-295	1.110	2.841	2.741	1.882	1.093	1.240	1.189	94	45	-2	7	5	7.77E-8	.	> 1.00E-4	
SF-539	1.011	2.517	2.400	2.020	0.704	0.774	0.698	92	67	-30	-23	-31	1.49E-7	4.88E-7	> 1.00E-4	
SNB-19	0.635	2.133	2.073	1.793	1.069	0.995	1.069	96	77	29	24	29	3.67E-7	> 1.00E-4	> 1.00E-4	
SNB-75	1.546	2.412	2.259	1.845	1.401	1.283	1.374	82	35	-9	-17	-11	4.74E-8	6.11E-7	> 1.00E-4	
U251	0.296	1.575	1.498	1.248	0.501	0.451	0.384	94	74	16	12	7	2.62E-7	> 1.00E-4	> 1.00E-4	
Melanoma																
LOX IMVI	0.431	2.848	2.774	2.195	1.382	0.955	0.781	97	73	39	22	14	4.82E-7	> 1.00E-4	> 1.00E-4	
MALME-3M	0.790	1.833	1.735	1.387	1.331	1.344	1.273	91	57	52	53	46	2.89E-5	> 1.00E-4	> 1.00E-4	
M14	0.457	2.019	1.957	1.322	0.493	0.529	0.573	96	55	2	5	7	1.26E-7	> 1.00E-4	> 1.00E-4	
MDA-MB-435	0.587	2.526	2.451	0.669	0.316	0.413	0.445	96	4	-46	-30	-24	3.17E-8	1.21E-7	> 1.00E-4	
SK-MEL-2	0.834	2.018	1.989	1.711	1.187	1.097	1.006	98	74	30	22	15	3.49E-7	> 1.00E-4	> 1.00E-4	
SK-MEL-28	0.683	2.049	2.046	1.574	1.307	1.352	1.226	100	65	46	49	40	5.99E-7	> 1.00E-4	> 1.00E-4	
SK-MEL-5	0.792	2.450	2.480	1.687	1.215	0.809	0.586	102	54	25	1	-26	1.38E-7	1.09E-5	> 1.00E-4	
UACC-257	0.742	1.823	1.647	1.483	1.360	1.323	1.205	84	69	57	54	43	2.18E-5	> 1.00E-4	> 1.00E-4	
UACC-62	0.869	2.774	2.731	1.893	1.395	1.441	1.350	98	54	28	30	25	1.39E-7	> 1.00E-4	> 1.00E-4	
Ovarian Cancer																
IGROV1	0.811	2.520	2.545	2.141	1.512	1.158	0.912	101	78	41	20	6	5.69E-7	> 1.00E-4	> 1.00E-4	
OVCAR-3	0.328	1.111	1.128	0.681	0.325	0.297	0.309	102	45	-1	-9	-6	8.20E-8	9.48E-7	> 1.00E-4	
OVCAR-4	0.653	1.548	1.544	1.348	1.081	0.995	0.966	100	78	48	38	35	8.44E-7	> 1.00E-4	> 1.00E-4	
OVCAR-5	0.629	1.422	1.411	1.318	0.886	0.891	0.826	99	87	32	33	25	4.76E-7	> 1.00E-4	> 1.00E-4	
OVCAR-8	0.439	1.767	1.714	1.711	0.665	0.534	0.450	96	96	17	7	1	3.81E-7	> 1.00E-4	> 1.00E-4	
NCI/ADR-RES	0.650	2.041	2.009	1.493	0.839	0.820	0.810	98	61	14	12	11	1.68E-7	> 1.00E-4	> 1.00E-4	
SK-OV-3	0.776	1.865	1.868	1.645	1.039	0.928	0.872	100	80	24	14	9	3.43E-7	> 1.00E-4	> 1.00E-4	
Renal Cancer																
786-0	0.617	2.502	2.398	2.100	1.515	1.268	1.046	94	79	48	35	23	8.40E-7	> 1.00E-4	> 1.00E-4	
A498	1.583	2.148	2.146	1.675	1.344	1.330	1.293	100	16	-15	-16	-18	3.94E-8	3.30E-7	> 1.00E-4	
ACHN	0.297	1.171	1.214	0.843	0.617	0.483	0.461	105	62	37	21	19	3.02E-7	> 1.00E-4	> 1.00E-4	
CAKI-1	1.018	2.682	2.481	1.740	1.623	1.447	1.164	88	43	36	26	9	7.11E-8	> 1.00E-4	> 1.00E-4	
RXF 393	1.326	1.904	1.882	1.701	1.254	1.418	1.418	96	65	-5	16	16	1.62E-7	.	> 1.00E-4	
SN12C	0.728	2.750	2.712	2.490	1.427	1.146	1.061	98	87	35	21	16	5.09E-7	> 1.00E-4	> 1.00E-4	
TK-10	0.824	2.064	1.910	1.828	1.452	1.401	1.116	88	81	51	46	24	1.40E-6	> 1.00E-4	> 1.00E-4	
UO-31	0.924	2.139	1.921	1.701	1.449	1.314	1.012	82	64	43	32	7	4.71E-7	> 1.00E-4	> 1.00E-4	
Prostate Cancer																
PC-3	0.455	1.883	1.809	1.401	0.787	0.741	0.673	95	66	23	20	15	2.39E-7	> 1.00E-4	> 1.00E-4	
DU-145	0.363	1.511	1.549	1.331	0.513	0.384	0.369	103	84	13	2	.	3.03E-7	> 1.00E-4	> 1.00E-4	
Breast Cancer																
MCF7	0.394	1.682	1.547	0.845	0.630	0.622	0.512	90	35	18	18	9	5.31E-8	> 1.00E-4	> 1.00E-4	
MDA-MB-231/ATCC	0.745	1.555	1.562	1.445	0.946	0.761	0.742	101	86	25	2	.	3.90E-7	6.43E-5	> 1.00E-4	
HS 578T	0.921	1.853	1.778	1.459	0.966	0.967	0.972	92	58	5	5	5	1.40E-7	> 1.00E-4	> 1.00E-4	
BT-549	1.385	2.664	2.645	2.367	2.075	1.655	1.751	98	77	54	21	29	1.32E-6	> 1.00E-4	> 1.00E-4	
T-47D	0.652	1.655	1.522	1.394	1.069	1.183	0.938	87	74	42	53	28	.	> 1.00E-4	> 1.00E-4	
MDA-MB-468	0.819	1.786	1.761	1.251	0.974	0.912	0.962	97	45	16	10	15	7.93E-8	> 1.00E-4	> 1.00E-4	



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 809844 / 1

Experiment ID : 1812NS43

Test Type : 08

Report Date : January 09, 2019

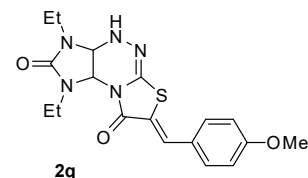
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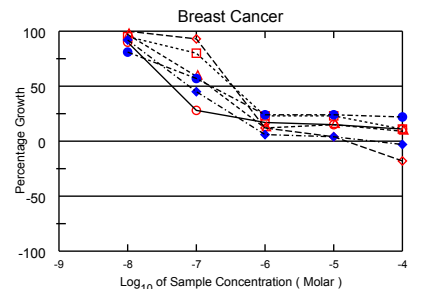
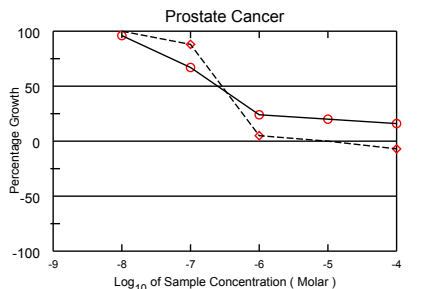
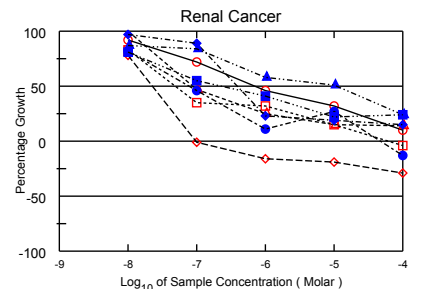
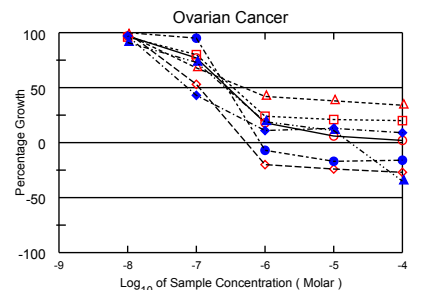
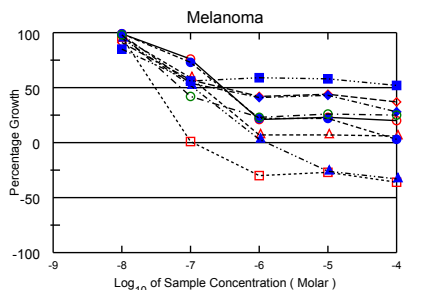
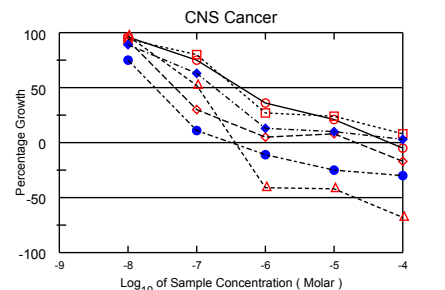
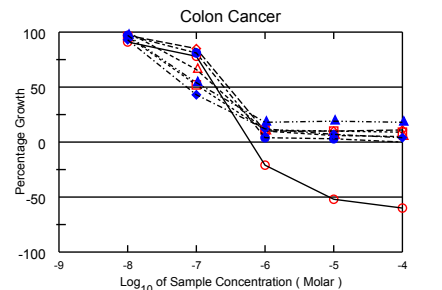
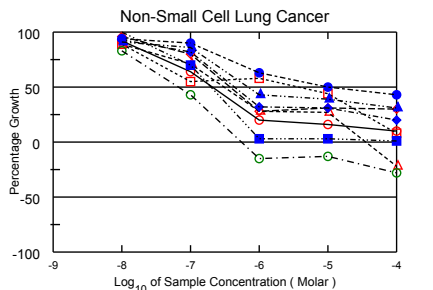
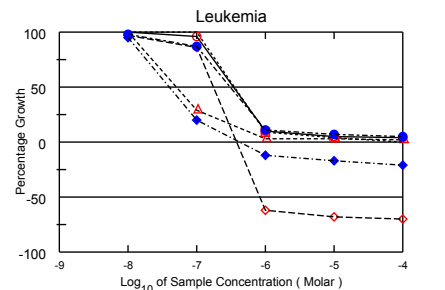
COMI : IA-508

Stain Reagent : SRB Dual-Pass Related

SSPL : 1AMN



Panel/Cell Line	Time	Log10 Concentration											GI50	TGI	LC50	
		Zero	Ctrl	-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0				-4.0
Leukemia																
CCRF-CEM	0.328	1.752	1.881	1.694	0.469	0.405	0.392	109	96	10	5	4	3.42E-7	> 1.00E-4	> 1.00E-4	
HL-60(TB)	1.047	3.368	3.299	3.040	0.402	0.340	0.318	97	86	-62	-68	-70	1.75E-7	3.82E-7	8.34E-7	
K-562	0.285	2.433	2.424	0.906	0.356	0.358	0.330	100	29	3	3	2	5.03E-8	> 1.00E-4	> 1.00E-4	
MOLT-4	0.625	2.476	2.610	2.483	0.792	0.702	0.627	107	100	9	4	.	3.56E-7	> 1.00E-4	> 1.00E-4	
RPMI-8226	0.725	2.215	2.189	2.024	0.896	0.834	0.795	98	87	11	7	5	3.10E-7	> 1.00E-4	> 1.00E-4	
SR	0.400	1.010	0.977	0.522	0.354	0.331	0.317	95	20	-12	-17	-21	3.95E-8	4.28E-7	> 1.00E-4	
Non-Small Cell Lung Cancer																
A549/ATCC	0.310	1.921	1.788	1.347	0.635	0.561	0.465	92	64	20	16	10	2.11E-7	> 1.00E-4	> 1.00E-4	
EKVX	0.678	1.874	1.825	1.633	1.018	1.045	1.041	96	80	28	31	30	3.80E-7	> 1.00E-4	> 1.00E-4	
HOP-62	0.665	1.971	1.821	1.598	1.033	1.012	0.519	89	71	28	27	-22	3.13E-7	3.53E-5	> 1.00E-4	
HOP-92	0.960	1.692	1.613	1.366	1.383	1.284	1.019	89	55	58	44	8	3.74E-6	> 1.00E-4	> 1.00E-4	
NCI-H226	0.875	2.083	2.012	1.957	1.634	1.476	1.397	94	90	63	50	43	9.50E-6	> 1.00E-4	> 1.00E-4	
NCI-H23	0.569	1.947	1.856	1.702	1.004	0.992	0.845	93	82	32	31	20	4.33E-7	> 1.00E-4	> 1.00E-4	
NCI-H322M	0.808	2.041	1.934	1.874	1.334	1.286	1.186	91	86	43	39	31	6.78E-7	> 1.00E-4	> 1.00E-4	
NCI-H460	0.185	1.828	1.890	1.335	0.236	0.231	0.205	104	70	3	3	1	1.99E-7	> 1.00E-4	> 1.00E-4	
NCI-H522	0.757	2.377	2.105	1.455	0.647	0.657	0.542	83	43	-15	-13	-28	6.72E-8	5.59E-7	> 1.00E-4	
Colon Cancer																
COLO 205	0.396	1.248	1.172	1.061	0.314	0.189	0.158	91	78	-21	-52	-60	1.92E-7	6.16E-7	8.39E-6	
HCC-2998	0.868	2.679	2.623	2.416	1.055	1.051	1.060	97	85	10	10	11	2.96E-7	> 1.00E-4	> 1.00E-4	
HCT-116	0.162	1.758	1.772	1.218	0.321	0.265	0.241	101	66	10	6	5	1.94E-7	> 1.00E-4	> 1.00E-4	
HCT-15	0.291	1.562	1.507	0.954	0.428	0.416	0.402	96	52	11	10	9	1.13E-7	> 1.00E-4	> 1.00E-4	
HT29	0.193	1.502	1.465	1.251	0.246	0.227	0.192	97	81	4	3	.	2.52E-7	6.79E-5	> 1.00E-4	
KM12	0.396	2.090	1.975	1.120	0.593	0.520	0.469	93	43	12	7	4	7.18E-8	> 1.00E-4	> 1.00E-4	
SW-620	0.248	1.861	1.805	1.126	0.539	0.550	0.536	97	54	18	19	18	1.32E-7	> 1.00E-4	> 1.00E-4	
CNS Cancer																
SF-268	0.567	2.085	2.022	1.701	1.106	0.882	0.539	96	75	36	21	-5	4.27E-7	6.42E-5	> 1.00E-4	
SF-295	1.110	3.031	2.901	1.686	1.210	1.264	0.925	93	30	5	8	-17	4.82E-8	2.11E-5	> 1.00E-4	
SF-539	1.011	2.322	2.277	1.699	0.593	0.583	0.323	97	52	-41	-42	-68	1.06E-7	3.62E-7	1.98E-5	
SNB-19	0.635	2.071	1.987	1.778	1.017	0.976	0.755	94	80	27	24	8	3.61E-7	> 1.00E-4	> 1.00E-4	
SNB-75	1.546	2.425	2.203	1.640	1.379	1.158	1.076	75	11	-11	-25	-30	2.44E-8	3.14E-7	> 1.00E-4	
U251	0.296	1.624	1.482	1.129	0.463	0.428	0.330	89	63	13	10	3	1.79E-7	> 1.00E-4	> 1.00E-4	
Melanoma																
LOX IMVI	0.431	2.841	2.829	2.263	0.943	0.984	0.920	99	76	21	23	20	2.98E-7	> 1.00E-4	> 1.00E-4	
MALME-3M	0.790	1.760	1.675	1.347	1.198	1.219	1.148	91	57	42	44	37	3.04E-7	> 1.00E-4	> 1.00E-4	
M14	0.457	2.039	1.973	1.386	0.573	0.568	0.545	96	59	7	7	6	1.48E-7	> 1.00E-4	> 1.00E-4	
MDA-MB-435	0.587	2.534	2.449	0.609	0.414	0.430	0.375	96	1	-30	-27	-36	3.04E-8	1.09E-7	> 1.00E-4	
SK-MEL-2	0.834	2.124	2.109	1.779	1.117	1.114	0.877	99	73	22	22	3	2.84E-7	> 1.00E-4	> 1.00E-4	
SK-MEL-28	0.683	1.861	1.836	1.318	1.165	1.188	1.019	98	54	41	43	28	1.99E-7	> 1.00E-4	> 1.00E-4	
SK-MEL-5	0.792	2.702	2.612	1.789	0.848	0.583	0.533	95	52	3	-26	-33	1.11E-7	1.26E-6	> 1.00E-4	
UACC-257	0.742	1.965	1.778	1.426	1.469	1.448	1.381	85	56	59	58	52	> 1.00E-4	> 1.00E-4	> 1.00E-4	
UACC-62	0.869	2.657	2.623	1.621	1.284	1.339	1.322	98	42	23	26	25	7.21E-8	> 1.00E-4	> 1.00E-4	
Ovarian Cancer																
IGROV1	0.811	2.450	2.406	2.072	1.109	0.914	0.840	97	77	18	6	2	2.87E-7	> 1.00E-4	> 1.00E-4	
OVCAR-3	0.328	1.228	1.237	0.806	0.264	0.249	0.238	101	53	-20	-24	-27	1.10E-7	5.39E-7	> 1.00E-4	
OVCAR-4	0.653	1.538	1.524	1.253	1.028	0.987	0.954	98	68	42	38	34	4.99E-7	> 1.00E-4	> 1.00E-4	
OVCAR-5	0.629	1.273	1.249	1.145	0.782	0.762	0.758	96	80	24	21	20	3.43E-7	> 1.00E-4	> 1.00E-4	
OVCAR-8	0.439	1.847	1.858	1.773	0.409	0.365	0.369	101	95	-7	-17	-16	2.76E-7	8.56E-7	> 1.00E-4	
NCI/ADR-RES	0.650	2.030	1.990	1.245	0.807	0.825	0.771	97	43	11	13	9	7.44E-8	> 1.00E-4	> 1.00E-4	
SK-OV-3	0.776	1.722	1.633	1.468	0.955	0.876	0.506	91	73	19	11	-35	2.67E-7	1.71E-5	> 1.00E-4	
Renal Cancer																
786-0	0.617	2.532	2.379	2.003	1.493	1.226	0.806	92	72	46	32	10	6.91E-7	> 1.00E-4	> 1.00E-4	
A498	1.583	2.284	2.133	1.567	1.328	1.275	1.130	78	-1	-16	-19	-29	2.28E-8	9.71E-8	> 1.00E-4	
ACHN	0.297	1.076	1.111	0.662	0.494	0.414	0.408	105	47	25	15	14	8.82E-8	> 1.00E-4	> 1.00E-4	
CAKI-1	1.018	2.593	2.320	1.562	1.519	1.253	0.982	83	35	32	15	-4	4.78E-8	6.43E-5	> 1.00E-4	
RXF 393	1.326	2.011	1.884	1.644	1.398	1.508	1.154	82	46	11	27	-13	7.89E-8	4.70E-5	> 1.00E-4	
SN12C	0.728	2.666	2.608	2.451	1.176	1.089	1.013	97	89	23	19	15	3.90E-7	> 1.00E-4	> 1.00E-4	
TK-10	0.824	2.107	1.946	1.898	1.568	1.484	1.129	87	84	58	51	24	1.12E-5	> 1.00E-4	> 1.00E-4	
UO-31	0.924	2.047	1.829	1.539	1.385	1.170	1.196	81	55	41	22	24	2.22E-7	> 1.00E-4	> 1.00E-4	
Prostate Cancer																
PC-3	0.455	1.966	1.913	1.464	0.820	0.751	0.704	96	67	24	20	16	2.47E-7	> 1.00E-4	> 1.00E-4	
DU-145	0.363	1.603	1.652	1.460	0.426	0.362	0.336	104	88	5	.	-7	2.89E-7	8.88E-6	> 1.00E-4	
Breast Cancer																
MCF7	0.394	1.955	1.794	0.825	0.667	0.621	0.565	90	28	17	15	11	4.35E-8	> 1.00E-4	> 1.00E-4	
MDA-MB-231/ATCC	0.745	1.458	1.464	1.406	0.829	0.774	0.611	101	93	12	4	-18	3.36E-7	1.52E-5	> 1.00E-4	
HS 578T	0.921	1.940	1.905	1.519	1.044	1.072	1.017	97	59	12	15	9	1.53E-7	> 1.00E-4	> 1.00E-4	
BT-549	1.385	2.748	2.676	2.475	1.703	1.700	1.541	95	80	23	23	11	3.38E-7	> 1.00E-4	> 1.00E-4	
T-47D	0.652	1.376	1.239	1.064	0.828	0.826	0.815	81	57	24	24	22	1.63E-7	> 1.00E-4	> 1.00E-4	
MDA-MB-468	0.819	1.817	1.739	1.267	0.875	0.855	0.797	92	45	6	4	-3	7.79E-8	3.70E-5	> 1.00E-4	



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results

NSC : D - 809837 / 1

Experiment ID : 1812NS43

Test Type : 08

Report Date : January 09, 2019

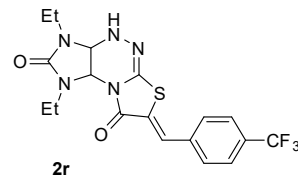
Test Date : December 17, 2018

QNS :

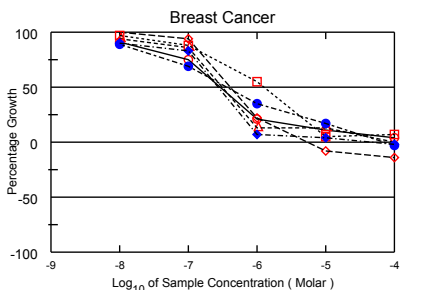
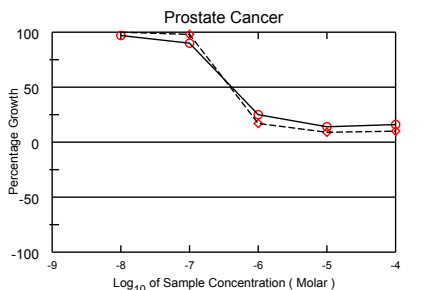
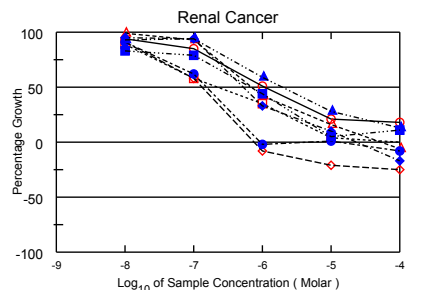
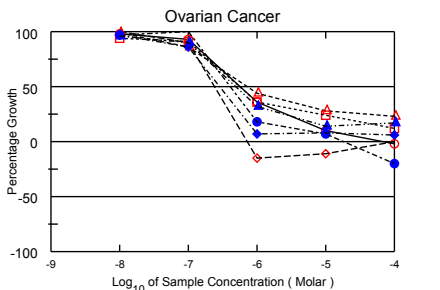
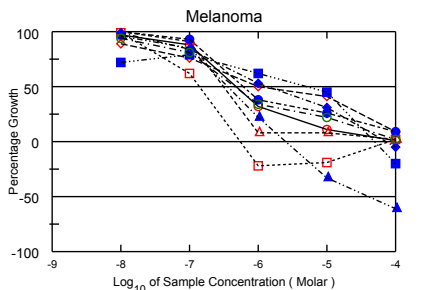
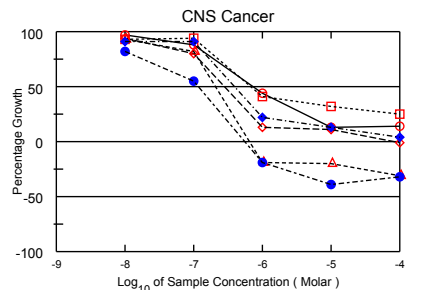
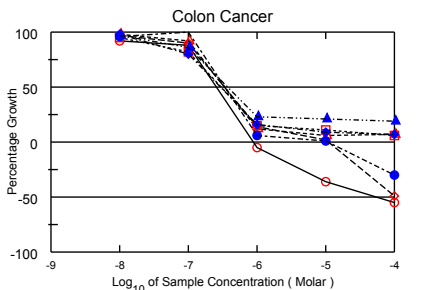
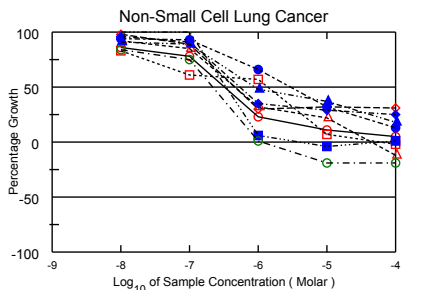
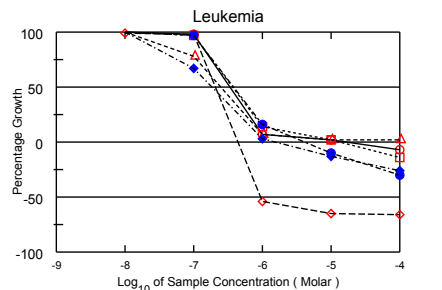
COMI : DV-63

Stain Reagent : SRB Dual-Pass Related

SSPL : 1AMN



	Log10 Concentration															
	Time	Mean Optical Densities							Percent Growth							
Panel/Cell Line	Zero	Ctrl	-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0	GI50	TGI	LC50	
Leukemia																
CCRF-CEM	0.328	1.713	1.738	1.684	0.424	0.363	0.305	102	98	7	2	-7	3.36E-7	1.81E-5	> 1.00E-4	
HL-60(TB)	1.047	3.379	3.349	3.335	0.480	0.371	0.352	99	98	-54	-65	-66	2.07E-7	4.41E-7	9.38E-7	
K-562	0.285	2.467	2.614	1.976	0.429	0.327	0.326	107	78	7	2	2	2.44E-7	> 1.00E-4	> 1.00E-4	
MOLT-4	0.625	2.533	2.585	2.481	0.900	0.668	0.540	103	97	14	2	-14	3.72E-7	1.38E-5	> 1.00E-4	
RPMI-8226	0.725	2.223	2.226	2.185	0.968	0.650	0.511	100	97	16	-10	-30	3.84E-7	4.06E-6	> 1.00E-4	
SR	0.400	1.060	1.064	0.846	0.417	0.348	0.298	100	67	3	-13	-26	1.86E-7	1.46E-6	> 1.00E-4	
Non-Small Cell Lung Cancer																
A549/ATCC	0.310	1.895	1.678	1.549	0.670	0.491	0.394	86	78	23	11	5	3.22E-7	> 1.00E-4	> 1.00E-4	
EKVX	0.678	1.815	1.798	1.691	1.024	1.043	1.035	98	89	30	32	31	4.64E-7	> 1.00E-4	> 1.00E-4	
HOP-62	0.665	2.092	1.978	1.878	1.123	0.972	0.584	92	85	32	22	-12	4.58E-7	4.34E-5	> 1.00E-4	
HOP-92	0.960	1.593	1.487	1.344	1.322	1.005	0.939	83	61	57	7	-2	1.39E-6	5.82E-5	> 1.00E-4	
NCI-H226	0.875	2.156	2.076	2.062	1.723	1.291	1.039	94	93	66	32	13	3.01E-6	> 1.00E-4	> 1.00E-4	
NCI-H23	0.569	1.941	1.883	1.816	1.045	0.973	0.911	96	91	35	29	25	5.34E-7	> 1.00E-4	> 1.00E-4	
NCI-H322M	0.808	1.987	1.883	1.860	1.377	1.250	1.024	91	89	48	37	18	9.07E-7	> 1.00E-4	> 1.00E-4	
NCI-H460	0.185	1.841	1.854	1.874	0.279	0.177	0.197	101	102	6	-4	1	3.46E-7	.	> 1.00E-4	
NCI-H522	0.757	2.334	2.080	1.937	0.767	0.612	0.611	84	75	1	-19	-19	2.16E-7	1.08E-6	> 1.00E-4	
Colon Cancer																
COLO 205	0.396	1.306	1.236	1.195	0.377	0.255	0.180	92	88	-5	-36	-55	2.56E-7	8.88E-7	5.73E-5	
HCC-2998	0.868	2.730	2.680	2.538	1.136	0.907	0.441	97	90	14	2	-49	3.36E-7	1.10E-5	> 1.00E-4	
HCT-116	0.162	1.789	1.763	1.661	0.359	0.262	0.271	98	92	12	6	7	3.36E-7	> 1.00E-4	> 1.00E-4	
HCT-15	0.291	1.610	1.541	1.369	0.492	0.441	0.369	95	82	15	11	6	3.00E-7	> 1.00E-4	> 1.00E-4	
HT29	0.193	1.503	1.457	1.512	0.276	0.213	0.135	96	101	6	1	-30	3.44E-7	1.11E-5	> 1.00E-4	
KM12	0.396	2.085	2.044	1.741	0.670	0.551	0.512	98	80	16	9	7	2.93E-7	> 1.00E-4	> 1.00E-4	
SW-620	0.248	1.882	1.838	1.658	0.632	0.584	0.553	97	86	23	21	19	3.78E-7	> 1.00E-4	> 1.00E-4	
CNS Cancer																
SF-268	0.567	2.112	2.066	1.931	1.247	0.771	0.790	97	88	44	13	14	7.31E-7	> 1.00E-4	> 1.00E-4	
SF-295	1.110	3.067	2.946	2.686	1.370	1.334	1.096	94	80	13	11	-1	2.84E-7	7.96E-5	> 1.00E-4	
SF-539	1.011	2.480	2.384	2.222	0.814	0.807	0.693	93	82	-19	-20	-31	2.08E-7	6.44E-7	> 1.00E-4	
SNB-19	0.635	2.048	1.950	1.965	1.216	1.089	0.991	93	94	41	32	25	6.80E-7	> 1.00E-4	> 1.00E-4	
SNB-75	1.546	2.305	2.167	1.963	1.259	0.940	1.054	82	55	-19	-39	-32	1.17E-7	5.59E-7	> 1.00E-4	
U251	0.296	1.629	1.506	1.507	0.591	0.476	0.346	91	91	22	13	4	3.93E-7	> 1.00E-4	> 1.00E-4	
Melanoma																
LOX IMVI	0.431	2.863	2.784	2.579	1.211	0.694	0.462	97	88	32	11	1	4.80E-7	> 1.00E-4	> 1.00E-4	
MALME-3M	0.790	1.680	1.582	1.467	1.236	1.159	0.868	89	76	50	41	9	1.01E-6	> 1.00E-4	> 1.00E-4	
M14	0.457	2.010	2.014	1.875	0.576	0.579	0.485	100	91	8	8	2	3.12E-7	> 1.00E-4	> 1.00E-4	
MDA-MB-435	0.587	2.522	2.512	1.791	0.456	0.474	0.628	99	62	-22	-19	2	1.40E-7	.	> 1.00E-4	
SK-MEL-2	0.834	2.026	2.024	1.947	1.285	1.140	0.939	100	93	38	26	9	6.03E-7	> 1.00E-4	> 1.00E-4	
SK-MEL-28	0.683	1.966	1.959	1.765	1.366	1.080	0.649	99	84	53	31	-5	1.39E-6	7.27E-5	> 1.00E-4	
SK-MEL-5	0.792	2.770	2.698	2.469	1.234	0.531	0.307	96	85	22	-33	-61	3.61E-7	2.53E-6	4.00E-5	
UACC-257	0.742	2.006	1.654	1.735	1.529	1.312	0.596	72	79	62	45	-20	5.17E-6	4.96E-5	> 1.00E-4	
UACC-62	0.869	2.737	2.627	2.384	1.501	1.285	0.910	94	81	34	22	2	4.55E-7	> 1.00E-4	> 1.00E-4	
Ovarian Cancer																
IGROV1	0.811	2.459	2.418	2.345	1.409	0.983	0.798	98	93	36	10	-2	5.74E-7	7.28E-5	> 1.00E-4	
OVCAR-3	0.328	1.220	1.250	1.133	0.280	0.291	0.331	103	90	-15	-11	.	2.42E-7	.	> 1.00E-4	
OVCAR-4	0.653	1.516	1.506	1.398	1.029	0.896	0.849	99	86	44	28	23	7.07E-7	> 1.00E-4	> 1.00E-4	
OVCAR-5	0.629	1.358	1.313	1.292	0.894	0.806	0.716	94	91	36	24	12	5.62E-7	> 1.00E-4	> 1.00E-4	
OVCAR-8	0.439	1.873	1.825	1.867	0.699	0.536	0.353	97	100	18	7	-20	4.06E-7	1.80E-5	> 1.00E-4	
NCI/ADR-RES	0.650	2.043	2.003	1.850	0.754	0.761	0.733	97	86	7	8	6	2.88E-7	> 1.00E-4	> 1.00E-4	
SK-OV-3	0.776	1.772	1.728	1.668	1.099	0.911	0.948	96	90	32	14	17	4.92E-7	> 1.00E-4	> 1.00E-4	
Renal Cancer																
786-0	0.617	2.491	2.385	2.213	1.581	1.012	0.951	94	85	51	21	18	1.11E-6	> 1.00E-4	> 1.00E-4	
A498	1.583	2.316	2.246	2.009	1.451	1.251	1.181	91	58	-8	-21	-25	1.33E-7	7.48E-7	> 1.00E-4	
ACHN	0.297	1.137	1.126	1.080	0.648	0.432	0.280	99	93	42	16	-6	6.91E-7	5.46E-5	> 1.00E-4	
CAKI-1	1.018	2.608	2.434	1.940	1.582	1.083	1.010	89	58	35	4	.	2.26E-7	6.90E-5	> 1.00E-4	
RXF 393	1.326	2.009	1.948	1.752	1.300	1.335	1.214	91	62	-2	1	-8	1.56E-7	.	> 1.00E-4	
SN12C	0.728	2.679	2.578	2.569	1.381	0.917	0.602	95	94	33	10	-17	5.35E-7	2.28E-5	> 1.00E-4	
TK-10	0.824	2.081	1.996	2.004	1.569	1.180	0.991	93	94	59	28	13	1.99E-6	> 1.00E-4	> 1.00E-4	
UO-31	0.924	2.011	1.824	1.779	1.407	0.976	1.042	83	79	44	5	11	6.85E-7	> 1.00E-4	> 1.00E-4	
Prostate Cancer																
PC-3	0.455	1.798	1.752	1.668	0.789	0.641	0.664	97	90	25	14	16	4.13E-7	> 1.00E-4	> 1.00E-4	
DU-145	0.363	1.604	1.673	1.585	0.576	0.469	0.490	106	98	17	9	10	3.94E-7	> 1.00E-4	> 1.00E-4	
Breast Cancer																
MCF7	0.394	2.058	1.901	1.643	0.740	0.580	0.464	91	75	21	11	4	2.89E-7	> 1.00E-4	> 1.00E-4	
MDA-MB-231/ATCC	0.745	1.539	1.546	1.495	0.923	0.686	0.641	101	94	22	-8	-14	4.14E-7	5.48E-6	> 1.00E-4	
HS 578T	0.921	1.986	1.927	1.840	1.055	1.063	0.926	94	86	13	13	.	3.10E-7	> 1.00E-4	> 1.00E-4	
BT-549	1.385	2.707	2.669	2.548	2.117	1.445	1.472	97	88	55	5	7	1.27E-6	> 1.00E-4	> 1.00E-4	
T-47D	0.652	1.456	1.367	1.211	0.930	0.788	0.633	89	69	35	17	-3	3.61E-7	7.13E-5	> 1.00E-4	
MDA-MB-468	0.819	1.798	1.703	1.634	0.883	0.855	0.803	90	83	7	4	-2	2.71E-7	4.43E-5	> 1.00E-4	



National Cancer Institute Developmental Therapeutics Program

In-Vitro Testing Results

NSC : D - 818427 / 1

Experiment ID : 1911NS88

Test Type : 08

Report Date : December 26, 2019

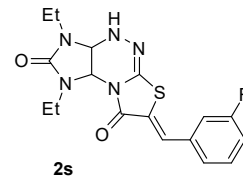
Test Date : November 04, 2019

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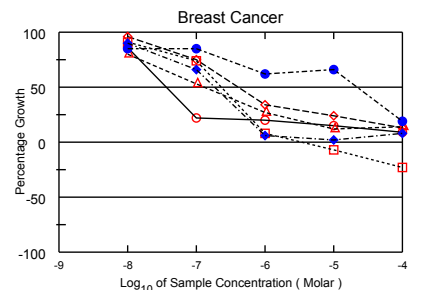
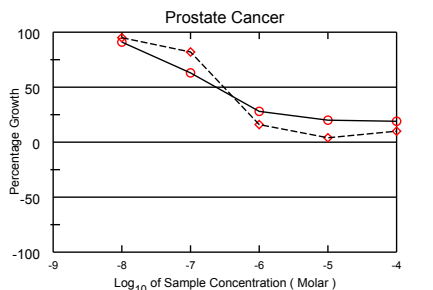
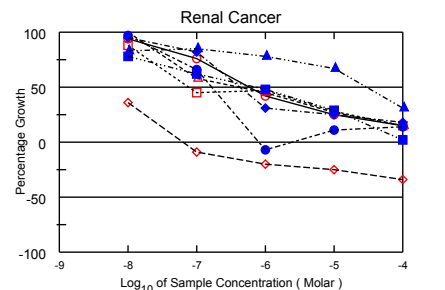
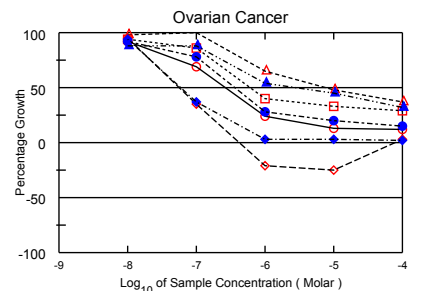
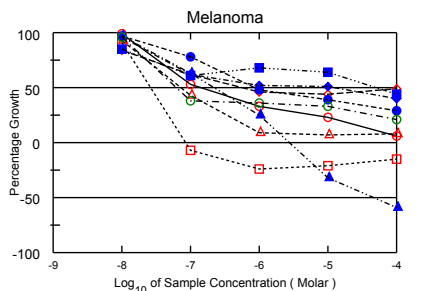
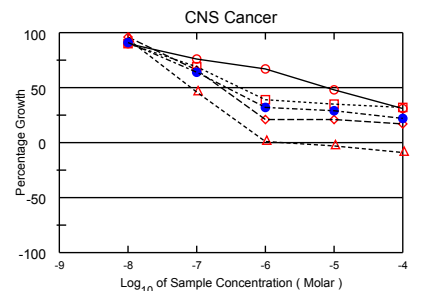
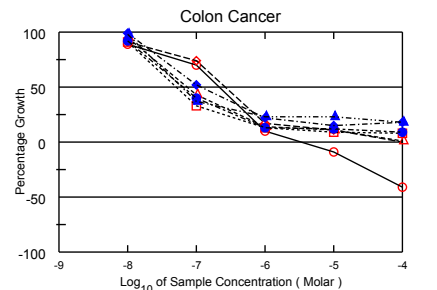
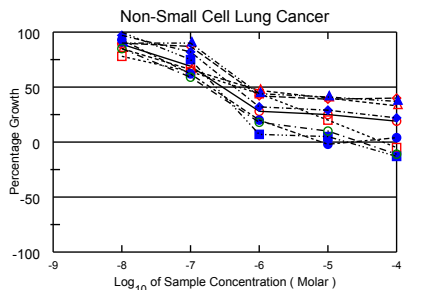
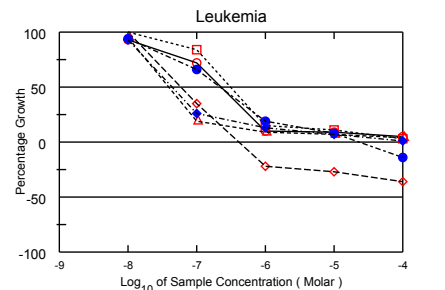
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Stain Reagent : SRB Dual-Pass Related

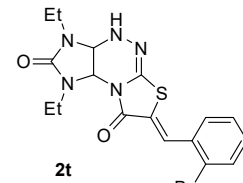
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Panel/Cell Line	Time Zero	Ctrl	Log10 Concentration										GI50	TGI	LC50
			-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0			
Leukemia															
CCRF-CEM	0.560	2.738	2.591	2.118	0.769	0.753	0.660	93	72	10	9	5	2.23E-7	> 1.00E-4	> 1.00E-4
HL-60(TB)	0.917	3.352	3.344	1.763	0.718	0.666	0.587	100	35	-22	-27	-36	5.82E-8	4.12E-7	> 1.00E-4
K-562	0.194	2.080	1.991	0.561	0.355	0.324	0.275	95	19	9	7	4	3.96E-8	> 1.00E-4	> 1.00E-4
MOLT-4	0.642	2.784	2.862	2.438	0.971	0.873	0.699	104	84	15	11	3	3.12E-7	> 1.00E-4	> 1.00E-4
RPMI-8226	0.911	2.690	2.579	2.079	1.244	1.055	0.783	94	66	19	8	-14	2.15E-7	2.31E-5	> 1.00E-4
SR	0.388	2.360	2.218	0.896	0.637	0.520	0.406	93	26	13	7	1	4.35E-8	> 1.00E-4	> 1.00E-4
Non-Small Cell Lung Cancer															
A549/ATCC	0.458	2.669	2.432	1.975	1.084	1.011	0.873	89	69	28	25	19	2.89E-7	> 1.00E-4	> 1.00E-4
EKVX	0.823	2.241	2.103	2.061	1.417	1.375	1.396	90	87	42	39	40	6.62E-7	> 1.00E-4	> 1.00E-4
HOP-62	0.655	1.983	1.788	1.526	1.282	1.180	1.094	85	66	47	40	33	7.06E-7	> 1.00E-4	> 1.00E-4
HOP-92	1.228	1.998	1.828	1.723	1.568	1.385	1.167	78	64	44	20	-5	5.10E-7	6.36E-5	> 1.00E-4
NCI-H226	1.361	2.505	2.421	2.065	1.590	1.331	1.403	93	62	20	-2	4	1.90E-7	.	> 1.00E-4
NCI-H23	0.582	1.717	1.679	1.514	0.948	0.911	0.832	97	82	32	29	22	4.41E-7	> 1.00E-4	> 1.00E-4
NCI-H322M	0.918	2.264	2.131	2.133	1.504	1.469	1.421	90	90	44	41	37	7.28E-7	> 1.00E-4	> 1.00E-4
NCI-H460	0.404	3.180	3.182	2.494	0.597	0.531	0.353	100	75	7	5	-13	2.34E-7	1.84E-5	> 1.00E-4
NCI-H522	1.037	2.721	2.461	2.029	1.335	1.203	0.922	85	59	18	10	-11	1.65E-7	2.96E-5	> 1.00E-4
Colon Cancer															
COLO 205	0.437	1.821	1.674	1.409	0.576	0.399	0.257	89	70	10	-9	-41	2.17E-7	3.44E-6	> 1.00E-4
HCC-2998	0.648	1.774	1.672	1.481	0.844	0.771	0.649	91	74	17	11	.	2.65E-7	> 1.00E-4	> 1.00E-4
HCT-116	0.285	2.527	2.420	1.249	0.589	0.522	0.303	95	43	14	11	1	7.34E-8	> 1.00E-4	> 1.00E-4
HCT-15	0.234	1.824	1.681	0.753	0.443	0.374	0.358	91	33	13	9	8	5.04E-8	> 1.00E-4	> 1.00E-4
HT29	0.226	1.828	1.697	0.863	0.431	0.412	0.364	92	40	13	12	9	6.35E-8	> 1.00E-4	> 1.00E-4
KM12	0.874	3.381	3.358	2.170	1.418	1.239	1.318	99	52	22	15	18	1.14E-7	> 1.00E-4	> 1.00E-4
SW-620	0.358	2.555	2.501	1.180	0.858	0.865	0.764	98	37	23	23	18	6.18E-8	> 1.00E-4	> 1.00E-4
CNS Cancer															
SF-268	1.102	2.845	2.674	2.434	2.274	1.943	1.634	90	76	67	48	31	8.06E-6	> 1.00E-4	> 1.00E-4
SF-295	1.271	3.269	3.185	2.581	1.694	1.690	1.620	96	66	21	21	17	2.24E-7	> 1.00E-4	> 1.00E-4
SF-539	0.781	2.372	2.276	1.510	0.792	0.761	0.710	94	46	1	-3	-9	8.18E-8	1.63E-6	> 1.00E-4
SNB-19	0.769	2.574	2.397	2.014	1.471	1.400	1.343	90	69	39	35	32	4.26E-7	> 1.00E-4	> 1.00E-4
U251	0.446	2.184	2.020	1.559	1.009	0.952	0.820	91	64	32	29	22	2.77E-7	> 1.00E-4	> 1.00E-4
Melanoma															
LOX IMVI	0.616	2.880	2.862	1.826	1.362	1.140	0.762	99	53	33	23	6	1.47E-7	> 1.00E-4	> 1.00E-4
MALME-3M	0.634	1.268	1.164	1.026	0.929	0.916	0.945	84	62	46	44	49	5.91E-7	> 1.00E-4	> 1.00E-4
M14	0.419	1.836	1.736	1.034	0.545	0.518	0.533	93	43	9	7	8	7.35E-8	> 1.00E-4	> 1.00E-4
MDA-MB-435	0.508	2.580	2.385	0.472	0.385	0.402	0.433	91	-7	-24	-21	-15	2.60E-8	8.46E-8	> 1.00E-4
SK-MEL-2	1.085	2.976	2.925	2.560	1.987	1.832	1.643	97	78	48	39	29	8.40E-7	> 1.00E-4	> 1.00E-4
SK-MEL-28	0.703	1.851	1.801	1.414	1.297	1.285	1.165	96	62	52	51	40	1.15E-5	> 1.00E-4	> 1.00E-4
SK-MEL-5	1.246	3.242	3.186	2.498	1.747	0.850	0.516	97	63	25	-32	-59	2.18E-7	2.76E-6	4.78E-5
UACC-257	0.795	2.182	1.976	1.647	1.732	1.678	1.403	85	61	68	64	44	4.88E-5	> 1.00E-4	> 1.00E-4
UACC-62	0.953	2.810	2.734	1.665	1.616	1.573	1.351	96	38	36	33	21	6.27E-8	> 1.00E-4	> 1.00E-4
Ovarian Cancer															
IGROV1	0.474	2.054	1.932	1.557	0.856	0.687	0.661	92	69	24	13	12	2.61E-7	> 1.00E-4	> 1.00E-4
OVCAR-3	0.561	1.926	1.863	1.033	0.445	0.422	0.606	95	35	-21	-25	3	5.57E-8	.	> 1.00E-4
OVCAR-4	1.073	2.148	2.124	2.143	1.768	1.589	1.475	98	100	65	48	37	7.55E-6	> 1.00E-4	> 1.00E-4
OVCAR-5	0.576	1.578	1.518	1.439	0.982	0.910	0.864	94	86	40	33	29	6.18E-7	> 1.00E-4	> 1.00E-4
OVCAR-8	0.563	2.747	2.581	2.268	1.165	1.010	0.884	92	78	28	20	15	3.59E-7	> 1.00E-4	> 1.00E-4
NCI/ADR-RES	0.593	2.001	1.917	1.113	0.636	0.633	0.619	94	37	3	3	2	5.90E-8	> 1.00E-4	> 1.00E-4
SK-OV-3	0.832	1.828	1.712	1.713	1.374	1.283	1.149	88	88	54	45	32	3.04E-6	> 1.00E-4	> 1.00E-4
Renal Cancer															
786-O	0.741	2.709	2.583	2.233	1.569	1.224	1.044	94	76	42	25	15	5.82E-7	> 1.00E-4	> 1.00E-4
A498	1.676	2.075	1.820	1.525	1.336	1.250	1.114	36	-9	-20	-25	-34	< 1.00E-8	6.30E-8	> 1.00E-4
ACHN	0.544	2.238	2.242	1.532	1.302	1.008	0.794	100	58	45	27	15	4.09E-7	> 1.00E-4	> 1.00E-4
CAKI-1	1.234	3.152	2.914	2.099	2.128	1.766	1.526	88	45	47	28	15	7.66E-8	> 1.00E-4	> 1.00E-4
RXF 393	0.955	1.786	1.760	1.504	0.887	1.045	1.069	97	66	-7	11	14	1.66E-7	.	> 1.00E-4
SN12C	0.566	2.246	2.155	1.951	1.094	0.978	0.869	95	82	31	25	18	4.33E-7	> 1.00E-4	> 1.00E-4
TK-10	1.066	2.044	1.878	1.899	1.826	1.721	1.366	83	85	78	67	31	2.94E-5	> 1.00E-4	> 1.00E-4
UO-31	1.009	2.281	2.000	1.798	1.623	1.381	1.031	78	62	48	29	2	7.46E-7	> 1.00E-4	> 1.00E-4
Prostate Cancer															
PC-3	0.532	1.673	1.567	1.254	0.848	0.763	0.751	91	63	28	20	19	2.36E-7	> 1.00E-4	> 1.00E-4
DU-145	0.477	2.095	2.009	1.805	0.730	0.548	0.632	95	82	16	4	10	3.04E-7	> 1.00E-4	> 1.00E-4
Breast Cancer															
MCF7	0.406	2.116	1.882	0.785	0.745	0.671	0.560	86	22	20	15	9	3.68E-8	> 1.00E-4	> 1.00E-4
MDA-MB-231/ATCC	0.812	2.182	2.128	1.834	1.275	1.139	0.994	96	75	34	24	13	4.01E-7	> 1.00E-4	> 1.00E-4
HS 578T	1.691	2.689	2.492	2.221	1.957	1.814	1.828	80	53	27	12	14	1.30E-7	> 1.00E-4	> 1.00E-4
BT-549	1.314	2.421	2.318	2.138	1.402	1.216	1.006	91	74	8	-7	-23	2.33E-7	3.28E-6	> 1.00E-4
T-47D	0.831	1.873	1.719	1.721	1.474	1.516	1.029	85	85	62	66	19	2.17E-5	> 1.00E-4	> 1.00E-4
MDA-MB-468	0.946	1.588	1.522	1.368	0.984	0.957	0.997	90	66	6	2	8	1.83E-7	> 1.00E-4	> 1.00E-4



National Cancer Institute Developmental Therapeutics Program In-Vitro Testing Results



NSC : D - 809870 / 1

Experiment ID : 1901NS49

Test Type : 08

Report Date : January 28, 2019

Test Date : January 07, 2019

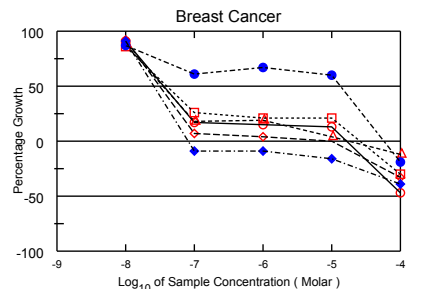
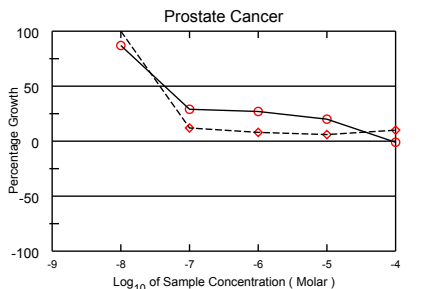
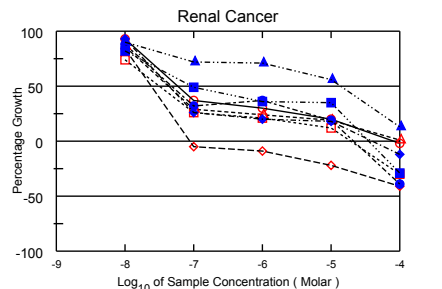
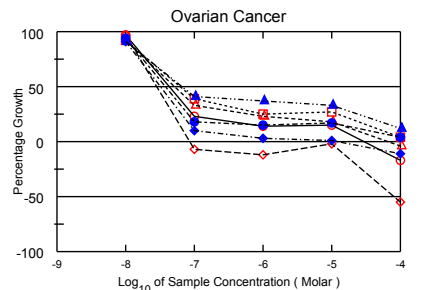
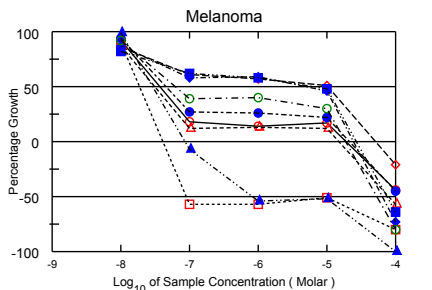
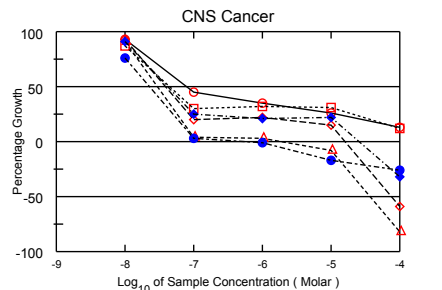
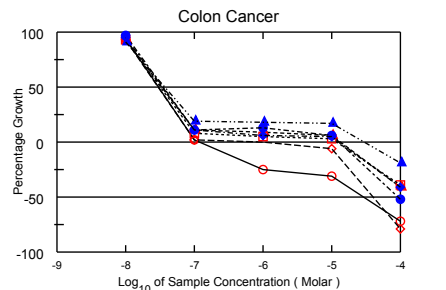
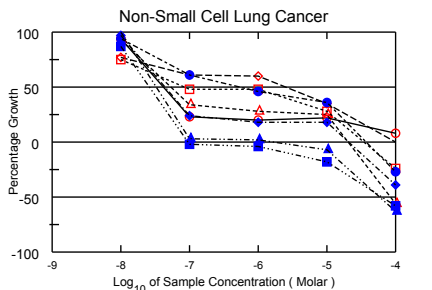
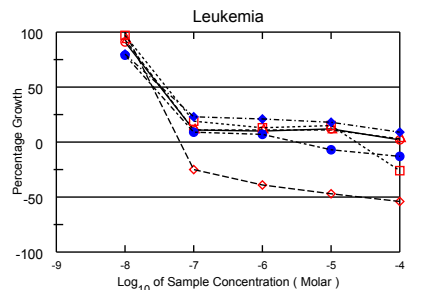
QNS :

COMI : IA617

Stain Reagent : SRB Dual-Pass Related

SSPL : 1AMN

	Log10 Concentration															
	Time	Mean Optical Densities							Percent Growth							
Panel/Cell Line	Zero	Ctrl	-8.0	-7.0	-6.0	-5.0	-4.0	-8.0	-7.0	-6.0	-5.0	-4.0	GI50	TGI	LC50	
Leukemia																
CCRF-CEM	0.444	2.673	2.481	0.700	0.676	0.712	0.483	91	11	10	12	2	3.30E-8	> 1.00E-4	> 1.00E-4	
HL-60(TB)	1.381	3.339	3.366	1.035	0.845	0.727	0.639	101	-25	-39	-47	-54	2.55E-8	6.34E-8	2.58E-5	
K-562	0.228	2.351	2.204	0.460	0.459	0.454	0.296	93	11	11	11	3	3.35E-8	> 1.00E-4	> 1.00E-4	
MOLT-4	0.414	2.146	2.091	0.739	0.646	0.677	0.306	97	19	13	15	-26	3.98E-8	2.33E-5	> 1.00E-4	
RPMI-8226	0.620	1.992	1.700	0.743	0.716	0.576	0.542	79	9	7	-7	-13	2.58E-8	3.13E-6	> 1.00E-4	
SR	0.192	0.689	0.592	0.308	0.297	0.281	0.237	80	23	21	18	9	3.42E-8	> 1.00E-4	> 1.00E-4	
Non-Small Cell Lung Cancer																
A549/ATCC	0.360	2.299	2.182	0.799	0.749	0.777	0.507	94	23	20	22	8	4.13E-8	> 1.00E-4	> 1.00E-4	
EKVX	1.002	1.879	1.681	1.540	1.526	1.305	1.003	77	61	60	35	.	2.44E-6	> 1.00E-4	> 1.00E-4	
HOP-62	0.516	2.126	2.008	1.056	0.971	0.918	0.229	93	34	28	25	-56	5.26E-8	2.04E-5	8.52E-5	
HOP-92	1.350	2.091	1.909	1.706	1.703	1.556	1.031	75	48	48	28	-24	8.47E-8	3.47E-5	> 1.00E-4	
NCI-H226	1.196	2.896	2.799	2.230	1.981	1.817	0.869	94	61	46	36	-27	5.45E-7	3.73E-5	> 1.00E-4	
NCI-H23	0.672	2.416	2.356	1.094	0.986	0.992	0.410	97	24	18	18	-39	4.40E-8	2.09E-5	> 1.00E-4	
NCI-H460	0.338	3.118	3.119	0.429	0.385	0.316	0.124	100	3	2	-7	-63	3.29E-8	1.59E-6	5.82E-5	
NCI-H522	1.100	2.906	2.672	1.083	1.056	0.898	0.461	87	-2	-4	-18	-58	2.62E-8	9.61E-8	6.24E-5	
Colon Cancer																
COLO 205	0.502	2.327	2.212	0.539	0.374	0.345	0.140	94	2	-25	-31	-72	3.00E-8	1.18E-7	2.87E-5	
HCC-2998	0.842	2.949	2.795	0.886	0.846	0.789	0.174	93	2	.	-6	-79	2.96E-8	1.06E-6	3.96E-5	
HCT-116	0.251	2.629	2.472	0.522	0.469	0.383	0.149	93	11	9	6	-41	3.38E-8	1.32E-5	> 1.00E-4	
HCT-15	0.334	1.950	1.831	0.471	0.419	0.389	0.203	93	8	5	3	-39	3.21E-8	1.20E-5	> 1.00E-4	
HT29	0.320	2.249	2.183	0.538	0.578	0.442	0.155	97	11	13	6	-52	3.52E-8	1.29E-5	9.40E-5	
KM12	0.516	2.827	2.704	0.771	0.654	0.629	0.306	95	11	6	5	-41	3.42E-8	1.28E-5	> 1.00E-4	
SW-620	0.281	1.717	1.589	0.554	0.545	0.526	0.227	91	19	18	17	-19	3.72E-8	2.93E-5	> 1.00E-4	
CNS Cancer																
SF-268	0.687	2.022	1.923	1.292	1.160	1.033	0.860	93	45	35	26	13	7.96E-8	> 1.00E-4	> 1.00E-4	
SF-295	1.317	3.298	3.151	1.721	1.760	1.620	0.539	93	20	22	15	-59	3.89E-8	1.61E-5	7.55E-5	
SF-539	0.617	2.284	2.141	0.682	0.667	0.570	0.112	91	4	3	-8	-82	2.97E-8	1.92E-6	3.72E-5	
SNB-19	0.538	2.183	1.977	1.033	1.067	1.047	0.735	87	30	32	31	12	4.50E-8	> 1.00E-4	> 1.00E-4	
SNB-75	0.781	1.352	1.218	0.797	0.773	0.645	0.577	76	3	-1	-17	-26	2.29E-8	5.17E-7	> 1.00E-4	
U251	0.426	2.212	2.046	0.864	0.808	0.815	0.290	91	25	21	22	-32	4.12E-8	2.54E-5	> 1.00E-4	
Melanoma																
LOX IMVI	0.405	2.952	2.751	0.867	0.763	0.827	0.227	92	18	14	17	-44	3.71E-8	1.88E-5	> 1.00E-4	
MALME-3M	0.645	1.377	1.278	1.090	1.062	1.018	0.508	86	61	57	51	-21	1.03E-5	5.08E-5	> 1.00E-4	
M14	0.499	2.210	1.988	0.708	0.725	0.705	0.217	87	12	13	12	-57	3.12E-8	1.50E-5	8.01E-5	
MDA-MB-435	0.524	2.473	2.273	0.227	0.226	0.255	0.105	90	-57	-57	-51	-80	1.87E-8	4.10E-8	8.99E-8	
SK-MEL-2	1.162	2.791	2.686	1.599	1.585	1.515	0.634	94	27	26	22	-45	4.49E-8	2.10E-5	> 1.00E-4	
SK-MEL-28	1.019	2.932	2.685	2.121	2.156	1.899	0.280	87	58	59	46	-73	5.04E-6	2.44E-5	6.46E-5	
SK-MEL-5	1.441	3.346	3.327	1.346	0.660	0.685	-0.001	99	-7	-54	-52	-100	2.91E-8	8.66E-8	8.16E-7	
UACC-257	0.875	2.443	2.158	1.843	1.782	1.635	0.314	82	62	58	48	-64	6.85E-6	2.69E-5	7.49E-5	
UACC-62	0.793	2.969	2.790	1.643	1.671	1.445	0.158	92	39	40	30	-80	6.20E-8	1.87E-5	5.32E-5	
Ovarian Cancer																
IGROV1	0.444	2.001	1.953	0.805	0.657	0.677	0.370	97	23	14	15	-17	4.33E-8	2.96E-5	> 1.00E-4	
OVCAR-3	0.511	1.873	1.829	0.478	0.451	0.503	0.231	97	-7	-12	-2	-55	2.83E-8	8.64E-8	8.10E-5	
OVCAR-4	0.559	1.598	1.511	0.900	0.798	0.747	0.539	92	33	23	18	-4	5.10E-8	6.84E-5	> 1.00E-4	
OVCAR-5	0.498	1.566	1.486	0.912	0.766	0.786	0.545	92	39	25	27	4	6.17E-8	> 1.00E-4	> 1.00E-4	
OVCAR-8	0.405	2.358	2.240	0.766	0.703	0.741	0.490	94	18	15	17	4	3.82E-8	> 1.00E-4	> 1.00E-4	
NCI/ADR-RES	0.582	1.971	1.849	0.716	0.629	0.595	0.516	91	10	3	1	-11	3.20E-8	1.18E-5	> 1.00E-4	
SK-OV-3	1.014	2.307	2.193	1.547	1.492	1.437	1.163	91	41	37	33	12	6.67E-8	> 1.00E-4	> 1.00E-4	
Renal Cancer																
786-O	0.715	2.761	2.619	1.463	1.339	1.120	0.698	93	37	30	20	-2	5.78E-8	7.76E-5	> 1.00E-4	
A498	1.390	2.220	2.092	1.317	1.262	1.084	0.822	84	-5	-9	-22	-41	2.42E-8	8.74E-8	> 1.00E-4	
ACHN	0.339	1.762	1.568	0.758	0.684	0.608	0.358	86	29	24	19	1	4.36E-8	> 1.00E-4	> 1.00E-4	
CAKI-1	0.641	2.240	1.824	1.058	0.976	0.836	0.449	74	26	21	12	-30	3.17E-8	1.94E-5	> 1.00E-4	
RXF 393	0.945	1.756	1.659	1.207	1.249	1.099	0.581	88	32	37	19	-39	4.81E-8	2.14E-5	> 1.00E-4	
SN12C	0.803	3.082	2.914	1.399	1.267	1.214	0.703	93	26	20	18	-12	4.38E-8	3.90E-5	> 1.00E-4	
TK-10	0.937	2.438	2.294	2.023	1.997	1.778	1.132	90	72	71	56	13	1.38E-5	> 1.00E-4	> 1.00E-4	
UO-31	0.865	2.267	2.018	1.554	1.374	1.355	0.614	82	49	36	35	-29	9.40E-8	3.52E-5	> 1.00E-4	
Prostate Cancer																
PC-3	0.635	2.614	2.362	1.214	1.162	1.039	0.627	87	29	27	20	-1	4.39E-8	8.75E-5	> 1.00E-4	
DU-145	0.502	1.954	1.956	0.679	0.613	0.588	0.641	100	12	8	6	10	3.72E-8	> 1.00E-4	> 1.00E-4	
Breast Cancer																
MCF7	0.610	2.599	2.414	0.951	0.902	0.874	0.323	91	17	15	13	-47	3.57E-8	1.66E-5	> 1.00E-4	
MDA-MB-231/ATCC	0.492	1.276	1.215	0.546	0.525	0.490	0.332	92	7	4	.	-33	3.12E-8	8.14E-6	> 1.00E-4	
HS 578T	0.992	1.983	1.862	1.168	1.185	1.030	0.876	88	18	19	4	-12	3.46E-8	1.77E-5	> 1.00E-4	
BT-549	1.005	2.043	1.900	1.275	1.225	1.224	0.707	86	26	21	21	-30	3.99E-8	2.60E-5	> 1.00E-4	
T-47D	0.921	2.395	2.201	1.818	1.903	1.811	0.748	87	61	67	60	-19	1.35E-5	5.79E-5	> 1.00E-4	
MDA-MB-468	0.867	2.023	1.918	0.785	0.788	0.727	0.526	91	-9	-9	-16	-39	2.56E-8	8.05E-8	> 1.00E-4	



Experimental section

Chemistry

General Methods: All solvents and reagents were obtained from commercial and used without further purifications. Melting points were determined in open glass capillaries on a Gallenkamp (Sanyo) melting point apparatus. IR spectra were recorded on a Bruker ALPHA instrument in KBr pellets. High resolution mass spectra (HRMS) were measured on a Bruker micrOTOF II instrument using electrospray ionization (ESI). The measurements were done in a positive ion mode (interface capillary voltage — 4500 V) or in a negative ion mode (3200 V); mass range from m/z 50 to m/z 3000 Da; external or internal calibration was done with Electrospray Calibrant Solution (Fluka). A syringe injection was used for solutions in acetonitrile or methanol (flow rate 3 $\mu\text{L}/\text{min}$). Nitrogen was applied as a dry gas; interface temperature was set at 180 °C. ^1H NMR, ^{13}C NMR and ^{19}F NMR spectra were recorded on a Bruker AM300 (300 MHz), Bruker DRX500 (500 MHz) and Bruker AV600 (600 MHz) spectrometers using $\text{DMSO}-d_6$ as solvent. Chemical shifts (δ) are given in ppm from TMS and CCl_3F as internal standards.

(Z)-6-Benzylidene-1,3-dimethyl-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1a). Yield: 684 mg (52%); light yellow powder; mp 226–228°C. IR (KBr): ν 3200 (NH), 3074, 3054 (ArH), 2955, 2928 (Alk), 1719, 1673, 1630, 1609 (C=C, C=O, C=N) cm^{-1} . ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 2.60 (s, 3H, NCH_3), 2.78 (s, 3H, NCH_3), 4.77 (dd, J = 5.8, 1.9 Hz, 1H, 9a-H), 4.90 (d, J = 5.9 Hz, 1H, 3a-H), 6.93 (d, J = 1.7 Hz, 1H, NH), 7.43–7.61 (m, 5H, Ph), 7.78 (s, 1H, =CH). ^{13}C NMR (75 MHz, $\text{DMSO}-d_6$): δ 26.93, 27.83 (2 NCH_3), 65.61, 66.24 (C-3a, C-9a), 118.75 (C-6), 129.32, 129.83 (Ph-2,3,5,6), 130.12, 130.79 (=CH, Ph-4), 133.28 (Ph-1), 148.40 (4a-C=N), 158.75 (2-C=O), 160.98 (7-C=O). HRMS: m/z [$\text{M} + \text{H}$] $^+$ for $\text{C}_{15}\text{H}_{15}\text{N}_5\text{O}_2\text{S}$: 330.1019; found: 330.1027.

(Z)-1,3-Dimethyl-6-(3-nitrobenzylidene)-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1b). Yield: 1092 mg (73%); white powder; mp 273–274°C. IR (KBr): ν 3433, 3178 (NH), 3084 (ArH), 2969, 2927, 2880 (Alk), 1722, 1699, 1645, 1611 (C=C, C=O, C=N), 1530, 1352 (NO_2) cm^{-1} . ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 2.64 (s, 3H, NCH_3), 2.80 (s, 3H, NCH_3), 4.77 (dd, J = 5.9, 2.6 Hz, 1H, 9a-H), 4.92 (d, J = 5.9 Hz, 1H, 3a-H), 6.88 (d, J = 2.4 Hz, 1H, NH), 7.80 (t, J = 8.0 Hz, 1H, Ar-5), 7.90 (s, 1H, =CH), 8.00 (dd, J = 8.2, 1.8 Hz, 1H, Ar-6), 8.25 (dt, J = 8.3, 1.3 Hz, 1H, Ar-4), 8.40 (d, J = 1.7 Hz, 1H, Ar-2). ^{13}C NMR (125 MHz, $\text{DMSO}-d_6$): δ 26.95, 27.87 (2 NCH_3), 65.76, 66.24 (C-3a, C-9a), 121.94 (C-6), 124.18, 124.21 (Ar-2,4), 128.54 (=CH), 130.90 (Ar-5), 135.02, 135.35 (Ar-1,6), 147.87, 148.29 (4a-C=N, Ar-3), 158.73 (2-C=O), 160.59 (7-C=O). HRMS: m/z [$\text{M} + \text{H}$] $^+$ for $\text{C}_{15}\text{H}_{14}\text{N}_6\text{O}_4\text{S}$: 375.0870; found: 375.0875.

(Z)-1,3-Dimethyl-6-(4-nitrobenzylidene)-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1c). Yield: 987 mg (66%); yellow powder; mp 262°C. IR (KBr): ν 3437, 3189 (NH), 3082, 3043 (ArH), 2964, 2922, 2887 (Alk), 1727, 1684, 1646, 1612 (C=C, C=O, C=N), 1509, 1338 (NO_2) cm^{-1} . ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 2.61 (s, 3H, NCH_3), 2.78 (s, 3H, NCH_3), 4.78 (dd, J = 5.9, 2.3 Hz, 1H, 9a-H), 4.92 (d, J = 5.8 Hz, 1H, 3a-H), 6.97 (d, J = 2.2 Hz, 1H, NH), 7.86 (d, J = 8.8 Hz, 2H, Ar-2,6), 7.90 (s, 1H, =CH), 8.33 (d, J = 8.7 Hz, 2H, Ar-3,5). ^{13}C NMR (75 MHz, $\text{DMSO}-d_6$): δ 26.79, 27.63 (2 NCH_3), 65.77, 66.16 (C-3a, C-9a), 123.41 (C-6), 124.07 (Ar-3,5), 128.09 (=CH), 130.53 (Ar-2,6), 139.54 (Ar-1), 147.23, 147.29 (4a-C=N, Ar-4), 158.50 (2-C=O), 160.30 (7-C=O). HRMS: m/z [$\text{M} + \text{H}$] $^+$ for $\text{C}_{15}\text{H}_{14}\text{N}_6\text{O}_4\text{S}$: 375.0870; found: 375.0867.

(Z)-6-(4-Bromobenzylidene)-1,3-dimethyl-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1d). Yield: 734 mg (45%); light brown solid; mp 257–259°C. IR (KBr): ν 3457, 3400, 3201 (NH), 3054 (ArH), 2946 (Alk), 1715, 1700, 1636, 1614 (C=C, C=O, C=N) cm^{-1} . ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 2.61 (s, 3H, NCH_3), 2.79 (s, 3H, NCH_3), 4.78 (dd, J = 5.9, 2.2 Hz, 1H, 9a-H), 4.92 (d, J = 5.9

Hz, 1H, 3a-H), 6.94 (d, J = 2.1 Hz, 1H, NH), 7.56 (d, J = 8.4 Hz, 2H, Ar-3,5), 7.74 (d, J = 8.4 Hz, 2H, Ar-2,6), 7.78 (s, 1H, =CH). ^{13}C NMR (75 MHz, DMSO- d_6): δ 26.88, 27.77 (2NCH₃), 65.62, 66.17 (C-3a, C-9a), 119.65 (C-6), 123.46 (Ar-4), 129.50 (=CH), 131.56, 132.23 (Ar-2,3,5,6), 132.47 (Ar-1), 148.12 (4a-C=N), 158.66 (2-C=O), 160.79 (7-C=O). HRMS: m/z [M + H]⁺ for C₁₅H₁₄BrN₅O₂S: 410.0104; found: 410.0100.

(Z)-6-(2,4-Dichlorobenzylidene)-1,3-dimethyl-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1e). Yield: 1035 mg (65%); beige powder; mp 225–227°C. IR (KBr): ν 3435, 3224, 3204 (NH), 3078, 3036 (ArH), 2949, 2937 (Alk), 1720, 1698, 1638, 1608 (C=C, C=O, C=N) cm⁻¹. ^1H NMR (300 MHz, DMSO- d_6): δ 2.60 (s, 3H, NCH₃), 2.77 (s, 3H, NCH₃), 4.77 (dd, J = 6.0, 2.4 Hz, 1H, 9a-H), 4.91 (d, J = 5.9 Hz, 1H, 3a-H), 6.94 (d, J = 2.1 Hz, 1H, NH), 7.61 (s, 2H, Ar-5,6), 7.82–7.83 (m, 2H, =CH, Ar-3). ^{13}C NMR (75 MHz, DMSO- d_6): δ 26.83, 27.73 (2NCH₃), 65.63, 66.11 (C-3a, C-9a), 123.19 (C-6), 124.67, 128.17, 129.78, 129.85, 130.17 (=CH, Ar-1,3,5,6), 134.96, 135.06 (Ar-2,4), 147.76 (4a-C=N), 158.57 (2-C=O), 160.29 (7-C=O). HRMS: m/z [M + H]⁺ for C₁₅H₁₃Cl₂N₅O₂S: 398.0240; found: 398.0248.

(Z)-6-(2-Fluorobenzylidene)-1,3-dimethyl-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1f). Yield: 985 mg (71%); light beige powder; mp 224–226°C. IR (KBr): ν 3457, 3430, 3199 (NH), 3082, 3052, 3026 (ArH), 2963, 2920, 2876 (Alk), 1734, 1692, 1643, 1613 (C=C, C=O, C=N) cm⁻¹. ^1H NMR (300 MHz, DMSO- d_6): δ 2.60 (s, 3H, NCH₃), 2.77 (s, 3H, NCH₃), 4.77 (dd, J = 5.8, 2.0 Hz, 1H, 9a-H), 4.90 (d, J = 5.9 Hz, 1H, 3a-H), 6.94 (d, J = 2.2 Hz, 1H, NH), 7.35–7.42 (m, 2H, ArH), 3.50–7.60 (m, 2H, ArH), 7.79 (s, 1H, =CH). ^{13}C NMR (75 MHz, DMSO- d_6): δ 26.92, 27.81 (2NCH₃), 65.64, 66.20 (C-3a, C-9a), 116.14 (d, J = 21.5 Hz, Ar-3), 121.13 (d, J = 12.1 Hz, Ar-1), 121.62 (d, J = 1.3 Hz, C-6), 121.75 (d, J = 6.4 Hz, Ar-6), 125.35 (d, J = 3.4 Hz, Ar-5), 128.77 (d, J = 1.7 Hz, =CH), 132.36 (d, J = 8.7 Hz, Ar-4), 148.06 (4a-C=N), 158.73 (2-C=O), 160.31 (d, J = 251.5 Hz, Ar-2); 160.64 (7-C=O). ^{19}F NMR (282 MHz, DMSO- d_6): δ -115.13 (F). HRMS: m/z [M + Na]⁺ for C₁₅H₁₄FN₅O₂S: 370.0744; found: 370.0745.

(Z)-6-(4-Fluorobenzylidene)-1,3-dimethyl-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1g). Yield: 999 mg (72%); light beige powder; mp 249–251°C. IR (KBr): ν 3418, 3185 (NH), 3048 (ArH), 2959, 2927, 2901, 2878 (Alk), 1716, 1697, 1635, 1614, 1601 (C=C, C=O, C=N) cm⁻¹. ^1H NMR (500 MHz, DMSO- d_6): δ 2.60 (s, 3H, NCH₃), 2.77 (s, 3H, NCH₃), 4.76 (dd, J = 5.8, 2.0 Hz, 1H, 9a-H), 4.89 (d, J = 5.9 Hz, 1H, 3a-H), 6.93 (d, J = 2.2 Hz, 1H, NH), 7.36–7.39 (m, 2H, ArH), 7.65–7.68 (m, 2H, ArH), 7.80 (s, 1H, =CH). ^{13}C NMR (75 MHz, DMSO- d_6): δ 26.86, 27.75 (2NCH₃), 65.61, 66.20 (C-3a, C-9a), 116.37 (d, J = 21.9 Hz, Ar-3,5), 118.46 (C-6), 129.65 (=CH), 129.91 (d, J = 3.1 Hz, Ar-1), 132.14 (d, J = 8.6 Hz, Ar-2,6), 148.23 (4a-C=N), 158.66 (2-C=O), 162.58 (d, J = 249.9 Hz, Ar-4); 160.85 (7-C=O). ^{19}F NMR (282 MHz, DMSO- d_6): δ -110.09 (F). HRMS: m/z [M + H]⁺ for C₁₅H₁₄FN₅O₂S: 348.0925; found: 348.0912.

(Z)-6-(4-Methoxybenzylidene)-1,3-dimethyl-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1h). Yield: 775 mg (54%); light yellow powder; mp 227–229°C. IR (KBr): ν 3408, 3261 (NH), 3072, 3029, 3001 (ArH), 2955, 2915 (Alk), 1728, 1713, 1630, 1598 (C=C, C=O, C=N) cm⁻¹. ^1H NMR (300 MHz, DMSO- d_6): δ 2.60 (s, 3H, NCH₃), 2.77 (s, 3H, NCH₃), 3.82 (s, 3H, OCH₃), 4.75 (d, J = 5.9 Hz, 1H, 9a-H), 4.88 (d, J = 5.8 Hz, 1H, 3a-H), 6.91 (br s, 1H, NH), 7.09 (d, J = 8.6 Hz, 2H, Ar-3,5), 7.56 (d, J = 8.6 Hz, 2H, Ar-2,6), 7.74 (s, 1H, =CH). ^{13}C NMR (75 MHz, DMSO- d_6): δ 26.89, 27.78 (2NCH₃), 55.44 (OCH₃), 65.58, 66.25 (C-3a, C-9a), 114.85 (Ar-3,5), 115.45 (C-6), 125.76 (Ar-1), 130.75 (=CH), 131.80 (Ar-2,6), 148.61 (4a-C=N), 158.72 (2-C=O), 160.68, 161.17 (7-C=O, Ar-4). HRMS: m/z [M + H]⁺ for C₁₆H₁₇N₅O₃S: 360.1125; found: 360.1133.

(Z)-1,3-Dimethyl-6-[4-(trifluoromethyl)benzylidene]-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1i). Yield 553 mg (35%); light beige solid; mp: 188–190 °C. IR (KBr): ν

3201 (NH), 2935 (Alk), 1719, 1698, 1639, 1611 (C=C, C=N, C=O) cm^{-1} . ^1H NMR (300 MHz, DMSO- d_6): δ 2.60 (s, 3H, NCH₃), 2.78 (s, 3H, NCH₃), 4.78 (dd, J = 5.8, 2.0 Hz, 1H, 9a-H), 4.91 (d, J = 5.8 Hz, 1H, 3a-H), 6.95 (d, J = 1.9 Hz, 1H, NH), 7.80–7.89 (m, 5H, Ar, =CH). ^{13}C NMR (75 MHz, DMSO- d_6): δ 26.90, 27.80 (2NCH₃), 65.71, 66.22 (C-3a, C-9a), 121.91 (C-6), 123.84 (q, J = 272.4 Hz, CF₃), 126.04 (q, J = 3.6 Hz, Ar-2-6), 128.94 (Ar-1), 130.28 (=CH), 137.26 (Ar-4), 148.01 (4a-C=N), 158.71 (2-C=O), 160.65 (7-C=O). ^{19}F NMR (470 MHz, DMSO- d_6): δ -61.83 (F). HRMS: (ESI): m/z [M + Na]⁺ calcd for C₁₆H₁₄F₃N₅O₂S: 420.0713; found: 420.0717.

(Z)-6-Benzylidene-1,3-diethyl-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1j). Yield: 1114 mg (78%); light yellow powder; mp 246–248°C. IR (KBr): ν 3248 (NH), 3052, 3016 (ArH), 2971, 2933, 2873 (Alk), 1725, 1699, 1639, 1612 (C=C, C=O, C=N) cm^{-1} . ^1H NMR (300 MHz, DMSO- d_6): δ 0.97 (t, J = 6.7 Hz, 3H, CH₃), 1.14 (t, J = 6.7 Hz, 3H, CH₃), 3.07–3.18 (m, 3H, NCH₂), 3.29–3.41 (m, 1H, NCH₂), 4.89 (d, J = 5.9 Hz, 1H, 9a-H), 4.96 (d, J = 5.6 Hz, 1H, 3a-H), 6.89 (s, 1H, NH), 7.44–7.61 (m, 5H, Ph), 7.79 (s, 1H, =CH). ^{13}C NMR (75 MHz, DMSO- d_6): δ 12.70, 13.28 (2CH₃), 34.41, 35.07 (2NCH₂), 63.63, 64.57 (C-3a, C-9a), 118.74 (C-6), 129.09, 129.62 (Ph-2,3,5,6), 129.86, 130.59 (=CH, Ph-4), 133.18 (Ph-1), 148.22 (4a-C=N), 157.62 (2-C=O), 160.77 (7-C=O). HRMS: m/z for C₁₇H₁₉N₅O₂S: 358.1332; found: [M + H]⁺ 358.1328.

(Z)-1,3-Diethyl-6-(3-nitrobenzylidene)-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1k). Yield: 933 mg (58%); white powder; mp 278–280°C. IR (KBr): ν 3437, 3177 (NH), 3023 (ArH), 2974, 2989, 2937, 2875 (Alk), 1727, 1672, 1644, 1644, 1613 (C=C, C=O, C=N), 1531, 1353 (NO₂) cm^{-1} . ^1H NMR (300 MHz, DMSO- d_6): δ 0.97 (t, J = 7.1 Hz, 3H, CH₃), 1.15 (t, J = 7.2 Hz, 3H, CH₃), 3.08–3.19 (m, 3H, NCH₂), 3.32–3.39 (m, 1H, NCH₂), 4.91 (dd, J = 6.0, 2.2 Hz, 1H, 9a-H), 4.98 (d, J = 5.9 Hz, 1H, 3a-H), 6.93 (d, J = 2.1 Hz, 1H, NH), 7.81 (t, J = 7.9, 1H, Ar-5), 7.94 (s, 1H, =CH), 8.02 (dd, J = 8.1, J = 1.5, 1H, Ar-6), 8.27 (dd, J = 8.1, J = 1.6, 1H, Ar-4), 8.44 (t, J = 1.7, 1H, Ar-2). ^{13}C NMR (75 MHz, DMSO- d_6): δ 12.84, 13.43 (2CH₃), 34.49, 35.18 (2NCH₂), 63.74, 64.54 (C-3a, C-9a), 121.87 (C-6), 124.12 (Ar-2,4), 128.50 (=CH), 130.81 (Ar-5), 134.94, 135.29 (Ar-1,6), 147.79, 148.22 (4a-C=N, Ar-3), 157.73 (2-C=O), 160.52 (7-C=O). HRMS: m/z for C₁₇H₁₈N₆O₄S: 403.1183; found: [M + H]⁺ 403.1171.

(Z)-1,3-Diethyl-6-(4-nitrobenzylidene)-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1l). Yield: 1431 mg (89%); light yellow powder; mp 247–249°C. IR (KBr): ν 3512, 3443, 3392, 3244, 3211 (NH), 2974, 2935, 2876 (Alk), 1727, 1697, 1645, 1611 (C=C, C=O, C=N), 1515, 1341 (NO₂) cm^{-1} . ^1H NMR (300 MHz, DMSO- d_6): δ 0.97 (t, J = 7.1 Hz, 3H, CH₃), 1.15 (t, J = 7.2 Hz, 3H, CH₃), 3.08–3.19 (m, 3H, NCH₂), 3.32–3.39 (m, 1H, NCH₂), 4.91 (dd, J = 6.0, 2.0 Hz, 1H, 9a-H), 4.99 (d, J = 6.0 Hz, 1H, 3a-H), 6.93 (d, J = 2.0 Hz, 1H, NH), 7.85–7.90 (m, 3H, =CH, Ar-2,6), 8.33 (d, J = 8.7 Hz, 2H, Ar-3,5). ^{13}C NMR (75 MHz, DMSO- d_6): δ 12.77, 13.38 (2CH₃), 34.45, 35.12 (2NCH₂), 63.73, 64.49 (C-3a, C-9a), 123.31 (C-6), 124.17 (Ar-3,5), 128.22 (=CH), 130.66 (Ar-2,6), 139.53 (Ar-1), 147.20, 147.75 (4a-C=N, Ar-4), 157.63 (2-C=O), 160.42 (7-C=O). HRMS: m/z for C₁₇H₁₈N₆O₄S: 403.1183; found: [M + H]⁺ 403.1181.

(Z)-6-(4-Bromobenzylidene)-1,3-diethyl-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1m). Yield: 1011 mg (58%); beige powder; mp 258–260°C. IR (KBr): ν 3435, 3243 (NH), 3078, 3067 (ArH), 2977, 2964, 2933 (Alk), 1725, 1701, 1642, 1609 (C=C, C=O, C=N) cm^{-1} . ^1H NMR (300 MHz, DMSO- d_6): δ 0.96 (t, J = 7.0 Hz, 3H, CH₃), 1.14 (t, J = 7.1 Hz, 3H, CH₃), 3.08–3.16 (m, 3H, NCH₂), 3.30–3.38 (m, 1H, NCH₂), 4.89 (dd, J = 6.0, 2.2 Hz, 1H, 9a-H), 4.96 (d, J = 5.9 Hz, 1H, 3a-H), 6.88 (d, J = 2.0 Hz, 1H, NH), 7.54 (d, J = 8.5, 2H, Ar-3,5), 7.71–7.76 (m, 3H, =CH, Ar-2,6). ^{13}C NMR (75 MHz, DMSO- d_6): δ 12.79, 13.38 (2CH₃), 34.42, 35.11 (2NCH₂), 63.62, 64.53 (C-3a, C-9a), 119.62 (C-6), 123.42 (Ar-4), 129.47, 131.51, 132.18, 132.43

(=CH, Ar-1-3,5,6), 148.07 (4a-C=N), 157.66 (2-C=O), 160.73 (7-C=O). HRMS: m/z for $C_{17}H_{18}BrN_5O_2S$: 438.0417; found: $[M + H]^+$ 438.0417.

(Z)-6-(2,4-Dichlorobenzylidene)-1,3-diethyl-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1n). Yield: 903 mg (53%); light beige solid; mp 226–228°C. IR (KBr): ν 3436, 3186 (NH), 3018, 2974, 2932 (Alk), 1730, 1669, 1647 (C=C, C=O, C=N) cm^{-1} . 1H NMR (300 MHz, DMSO- d_6): δ 0.97 (t, J = 6.3 Hz, 3H, CH₃), 1.14 (t, J = 6.6 Hz, 3H, CH₃), 3.06–3.18 (m, 3H, NCH₂), 3.29–3.38 (m, 1H, NCH₂), 4.90 (d, J = 5.6 Hz, 1H, 9a-H), 4.97 (d, J = 5.4 Hz, 1H, 3a-H), 6.91 (s, 1H, NH), 7.57–7.64 (m, 2H, Ar-5,6), 7.83 (s, 2H, =CH, Ar-3). ^{13}C NMR (75 MHz, DMSO- d_6): δ 12.67, 13.34 (2CH₃), 34.41, 35.07 (2NCH₂), 63.64, 64.39 (C-3a, C-9a), 123.15 (C-6), 124.67, 128.13, 129.75, 129.85, 130.13 (=CH, Ar-1,3,5,6), 134.95, 135.04 (Ar-2,4), 147.74 (4a-C=N), 157.59 (2-C=O), 160.27 (7-C=O). HRMS: m/z for $C_{17}H_{17}Cl_2N_5O_2S$: 426.0553; found: $[M + H]^+$ 426.0548.

(Z)-1,3-Diethyl-6-(2-fluorobenzylidene)-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1o). Yield: 1170 mg (78%); light yellow powder; mp 203–204°C. IR (KBr): ν 3437, 3249 (NH), 3065, 3025 (ArH), 2968, 2931 (Alk), 1732, 1699, 1640, 1612 (C=C, C=O, C=N) cm^{-1} . 1H NMR (300 MHz, DMSO- d_6): δ 0.97 (t, J = 7.1 Hz, 3H, CH₃), 1.14 (t, J = 7.2 Hz, 3H, CH₃), 3.06–3.18 (m, 3H, NCH₂), 3.29–3.39 (m, 1H, NCH₂), 4.90 (dd, J = 6.0, 2.0 Hz, 1H, 9a-H), 4.97 (d, J = 6.0 Hz, 1H, 3a-H), 6.91 (d, J = 2.0 Hz, 1H, NH), 7.35–7.41 (m, 2H, ArH), 7.61–7.1 (m, 2H, ArH), 7.78 (s, 1H, =CH). ^{13}C NMR (50 MHz, DMSO- d_6): δ 12.81, 13.44 (2CH₃), 34.48, 35.17 (2NCH₂), 63.65, 64.55 (C-3a, C-9a), 116.15 (d, J = 21.4 Hz, Ar-3), 121.14 (d, J = 12.0 Hz, Ar-1), 121.69 (C-6), 121.81 (d, J = 6.8 Hz, Ar-6), 125.33 (d, J = 3.5 Hz, Ar-5), 128.80 (d, J = 1.7 Hz, =CH), 132.34 (d, J = 8.9 Hz, Ar-4), 148.02 (4a-C=N), 157.45 (2-C=O), 160.31 (d, J = 251.5 Hz, Ar-2), 160.62 (7-C=O). ^{19}F NMR (282 MHz, DMSO- d_6): δ -115.08 (F). HRMS: m/z for $C_{17}H_{18}FN_5O_2S$: 376.1238; found: $[M + H]^+$ 376.1250.

(Z)-1,3-Diethyl-6-(4-fluorobenzylidene)-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1p). Yield: 1215 mg (81%); light yellow powder; mp 266–268°C. IR (KBr): ν 3435, 3250 (NH), 3074, 3014 (ArH), 2976, 2935, 2874 (Alk), 1722, 1698, 1637, 1597 (C=C, C=O, C=N) cm^{-1} . 1H NMR (300 MHz, DMSO- d_6): δ 0.96 (t, J = 7.0 Hz, 3H, CH₃), 1.14 (t, J = 7.2 Hz, 3H, CH₃), 3.06–3.18 (m, 3H, NCH₂), 3.29–3.41 (m, 1H, NCH₂), 4.89 (dd, J = 5.8, 2.0 Hz, 1H, 9a-H), 4.96 (d, J = 5.9 Hz, 1H, 3a-H), 6.90 (d, J = 2.0 Hz, 1H, NH), 7.34–7.41 (m, 2H, ArH), 7.64–7.69 (m, 2H, ArH), 7.80 (s, 1H, =CH). ^{13}C NMR (125 MHz, DMSO- d_6): δ 12.89, 13.46 (2CH₃), 34.49, 35.21 (2NCH₂), 63.65, 64.63 (C-3a, C-9a), 116.45 (d, J = 21.9 Hz, Ar-3,5), 118.50 (d, J = 2.1 Hz, C-6), 129.76 (=CH), 129.97 (d, J = 2.9 Hz, Ar-1), 132.25 (d, J = 8.7 Hz, Ar-2,6), 148.32 (4a-C=N), 157.80 (2-C=O), 160.96 (7-C=O), 162.67 (d, J = 250.2 Hz, Ar-4). ^{19}F NMR (282 MHz, DMSO- d_6): δ -110.07 (F). HRMS: m/z for $C_{17}H_{18}FN_5O_2S$: 376.1227; found: $[M + H]^+$ 376.1238.

(Z)-1,3-Diethyl-6-(4-methoxybenzylidene)-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1q). Yield: 1130 mg (73%); beige powder; mp 256–258°C. IR (KBr): ν 3400, 3227 (NH), 3012 (ArH), 2968, 2934 (Alk), 1719, 1698, 1637, 1595 (C=C, C=O, C=N) cm^{-1} . 1H NMR (300 MHz, DMSO- d_6): δ 0.96 (t, J = 7.0 Hz, 3H, CH₃), 1.14 (t, J = 7.1 Hz, 3H, CH₃), 3.08–3.18 (m, 3H, NCH₂), 3.29–3.39 (m, 1H, NCH₂), 4.88 (dd, J = 5.9, 2.0 Hz, 1H, 9a-H), 4.94 (d, J = 5.9 Hz, 1H, 3a-H), 6.87 (d, J = 1.9 Hz, 1H, NH), 7.09 (d, 2H, J = 8.7 Hz, Ar-3,5), 7.56 (d, 2H, J = 8.7 Hz, Ar-2,6), 7.74 (s, 1H, =CH). ^{13}C NMR (75 MHz, DMSO- d_6): δ 12.81, 13.35 (2CH₃), 34.37, 35.10 (2NCH₂), 55.38 (OCH₃), 63.53, 64.59 (C-3a, C-9a), 114.79 (Ar-3,5), 115.45 (C-6), 125.72 (Ar-1), 130.67 (=CH), 131.74 (Ar-2,6), 148.51 (4a-C=N), 157.72 (2-C=O), 160.64, 161.12 (7-C=O, Ar-4). HRMS: m/z for $C_{18}H_{21}N_5O_3S$: 388.1438; found: $[M + H]^+$ 388.1449.

(Z)-1,3-Diethyl-6-[4-(trifluoromethyl)benzylidene]-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1r). Yield 933 mg (55%); beige solid; mp: 250–252 °C. IR (KBr): ν 3418, 3185 (NH), 3048 (ArH), 2959, 2927, 2901, 2878 (Alk), 1716, 1697, 1635, 1614, 1601 (C=C, C=N, C=O) cm^{-1} . ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 0.96 (t, J = 7.1 Hz, 3H, CH_3), 1.14 (t, J = 7.2 Hz, 3H, CH_3), 3.09–3.18 (m, 1H, NCH_2), 3.30–3.41 (m, 3H, NCH_2), 4.78 (dd, J = 5.8, 1.6 Hz, 1H, 9a-H), 4.91 (d, J = 6.0 Hz, 1H, 3a-H), 6.92 (s, 1H, NH), 7.80–7.89 (m, 5H, =CH, Ar). ^{13}C NMR (125 MHz, $\text{DMSO}-d_6$): δ 12.87, 13.46 (2CH_3), 34.50, 35.21 (2CH_2), 63.68, 64.57 (C-3a, C-9a), 121.89 (C-6), 123.91 (q, J = 272.4 Hz, CF_3), 126.05 (q, J = 3.7 Hz, Ar-3,5), 129.04 (Ar-1), 129.59 (q, J = 32.1 Hz, Ar-2,6), 130.35 (=CH), 137.25 (Ar-4), 148.07 (4a-C=N), 157.81 (2-C=O), 160.71 (7-C=O). ^{19}F NMR (470 MHz, $\text{DMSO}-d_6$): δ -61.74 (F). HRMS (ESI): m/z [M + Na] $^+$ calcd for $\text{C}_{18}\text{H}_{18}\text{F}_3\text{N}_5\text{O}_2\text{S}$: 448.1026; found: 448.1019.

(Z)-1,3-Diethyl-6-(3-fluorobenzylidene)-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1s). Yield 855 mg (57%); orange solid; mp: 211–213 °C. IR (KBr): ν 3423, 3388, 3234 (NH), 3072, 3024 (ArH), 2978, 2969, 2937, 2874 (Alk), 1725, 1698, 1646, 1607, 1581 (C=C, C=N, C=O). ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 0.96 (t, 3H, J = 7.1 Hz, CH_3), 1.14 (t, J = 7.2 Hz, 3H, CH_3), 3.06–3.18 (m, 3H, NCH_2), 3.31–3.36 (m, 1H, NCH_2), 4.90 (dd, J = 6.1, 1.9 Hz, 1H, 9a-H), 4.97 (d, J = 6.0 Hz, 1H, 3a-H), 6.90 (d, J = 1.6 Hz, 1H, NH), 7.31 (t, J = 8.5 Hz, 1H, Ar), 7.42–7.61 (m, 3H, Ar), 7.79 (s, 1H, =CH). ^{13}C NMR (75 MHz, $\text{DMSO}-d_6$): δ 12.85, 13.43 (2CH_3), 34.48, 35.18 (2CH_2), 63.65, 64.58 (C-3a, C-9a), 116.49 (d, J = 22.5 Hz, Ar), 116.86 (d, J = 21.2 Hz, Ar), 120.52 (C-6), 125.40 (d, J = 2.5 Hz, Ar-6), 129.46 (d, J = 2.4 Hz, =CH), 131.34 (d, J = 8.5 Hz, Ar-5), 135.63 (d, J = 8.2 Hz, Ar-1), 148.12 (4a-C=N), 157.78 (2-C=O), 160.75 (7-C=O), 162.29 (d, J = 245.0 Hz, C-F). HRMS (ESI): m/z [M + H] $^+$ calcd for $\text{C}_{17}\text{H}_{18}\text{FN}_5\text{O}_2\text{S}$: 376.1238; found: 376.1227.

(Z)-6-(2-Bromobenzylidene)-1,3-diethyl-3,3a,9,9a-tetrahydroimidazo[4,5-e]thiazolo[3,2-b][1,2,4]triazine-2,7(1H,6H)-dione (1t). Yield 1.133 g (65%); light beige solid; mp: 182–183 °C. IR (KBr): ν 3198 (NH), 3006 (ArH), 2977, 2937 (Alk), 1726, 1664, 1638, 1605 (C=C, C=N, C=O). ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 0.99 (t, J = 7.1 Hz, 3H, CH_3), 1.16 (t, J = 7.2 Hz, 3H, CH_3), 3.08–3.16 (m, 3H, NCH_2), 3.33–3.43 (m, 1H, NCH_2), 4.92 (dd, J = 6.0, 2.3 Hz, 1H, 9a-H), 4.98 (d, J = 6.0 Hz, 1H, 3a-H), 6.90 (d, J = 1.8 Hz, 1H, NH), 7.40 (t, J = 7.6 Hz, 1H, Ar-4), 7.54–7.64 (m, 2H, Ar-5,6), 7.82 (d, J = 8.1 Hz, 1H, Ar-3), 7.88 (s, 1H, =CH). ^{13}C NMR (125 MHz, $\text{DMSO}-d_6$): δ 12.81, 13.49 (2CH_3), 34.50, 35.18 (2CH_2), 63.63, 64.47 (C-3a, C-9a), 122.59, 125.04, 128.59, 128.71, 129.00, 131.73, 132.95, 133.59 (=CH, Ar, C-6), 148.13 (4a-C=N), 157.76 (2-C=O), 160.51 (7-C=O). HRMS (ESI): m/z [M + H] $^+$ calcd for $\text{C}_{17}\text{H}_{18}\text{BrN}_5\text{O}_2\text{S}$: 436.0437, 438.0417; found: 436.0431, 438.0417.

-(Z)-7-Benzylidene-1,3-dimethyl-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-c][1,2,4]triazine-2,8(3H,7H)-dione (2a). Yield: 285 mg (87%); yellow powder; mp 268–270 °C. IR (KBr): ν 3436, 3309 (NH), 3078, 3027 (ArH), 2996, 2946, 2919 (Alk), 1710, 1690, 1652, 1609 (C=C, C=O, C=N) cm^{-1} . ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 2.64 (s, 3H, NCH_3), 2.88 (s, 3H, NCH_3), 4.80 (dd, J = 5.6, 1.8 Hz, 1H, 3a-H), 5.66 (d, J = 5.6 Hz, 1H, 9a-H), 7.44–7.46 (m, 1H, Ph), 7.50–7.58 (m, 4H, Ph), 7.68 (s, 1H, =CH). 7.88 (d, J = 1.7 Hz, 1H, NH). ^{13}C NMR (75 MHz, $\text{DMSO}-d_6$): δ 27.77, 31.15 (2NCH_3), 64.23, 66.14 (C-3a, C-9a), 120.90 (C-7), 128.44 (=CH), 129.17, 129.53 (Ph-2,3,5,6), 129.61 (Ph-4), 133.41, 134.74 (5a-C=N, Ph-1), 158.95 (2-C=O), 164.62 (8-C=O). HRMS: m/z for $\text{C}_{15}\text{H}_{15}\text{N}_5\text{O}_2\text{S}$: 330.1019; found: [M + H] $^+$ 330.1016.

(Z)-1,3-Dimethyl-7-(3-nitrobenzylidene)-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-c][1,2,4]triazine-2,8(3H,7H)-dione (2b). Yield: 340 mg (91%); bright yellow powder; mp 262–264 °C. IR (KBr): ν 3469, 3414, 3325 (NH), 3085, 3061 (ArH), 2982, 2928 (Alk), 1725, 1711, 1692, 1649 (C=C, C=O, C=N), 1529, 1356 (NO_2) cm^{-1} . ^1H NMR (300 MHz, $\text{DMSO}-d_6$): δ 2.64 (s, 3H, NCH_3), 2.89 (s, 3H, NCH_3), 4.82 (d, J = 5.2 Hz, 1H, 3a-H), 5.68 (d, J = 5.8 Hz, 1H, 9a-H), 7.78–7.83 (m, 2H, =CH, Ar-5), 7.97–8.00 (m, 2H, NH, Ar-6), 8.25 (d, J = 7.8 Hz,

1H, Ar-4), 8.40 (s, 1H, Ar-2). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 27.81, 31.21 (2NCH₃), 64.21, 66.25 (C-3a, C-9a), 123.62, 123.70 (Ar-2,4), 124.04 (C-7), 125.93 (=CH), 130.68 (Ar-5), 133.94 (5a-C=N), 135.04, 135.10 (Ar-1,6), 148.17 (Ar-3), 158.91 (2-C=O), 164.14 (8-C=O). HRMS: *m/z* for C₁₅H₁₄N₆O₄S: 375.0870; found: [M + H]⁺ 375.0865.

(Z)-1,3-Dimethyl-7-(4-nitrobenzylidene)-1,3a,4,9a-tetrahydroimidazo[4,5-*e*]thiazolo[2,3-*c*][1,2,4]triazine-2,8(3H,7H)-dione (2c). Yield: 359 mg (96%); bright orange powder; mp 262–264 °C. IR (KBr): ν 3436, 3293 (NH), 3069, 3043 (ArH), 2994, 2922 (Alk), 1728, 1709, 1651, 1607 (C=C, C=O, C=N), 1518, 1341 (NO₂) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 2.64 (s, 3H, NCH₃), 2.89 (s, 3H, NCH₃), 4.82 (d, *J* = 5.1 Hz, 1H, 3a-H), 5.69 (d, *J* = 6.0 Hz, 1H, 9a-H), 7.78–7.84 (m, 3H, =CH, Ar-2,6), 8.00 (s, 1H, NH), 8.33 (d, *J* = 8.6 Hz, 2H, Ar-3,5). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 27.80, 31.18 (2NCH₃), 64.16, 66.24 (C-3a, C-9a), 124.16 (Ar-3,5), 125.64 (C-7, =CH), 130.37 (Ar-2,6), 133.90 (5a-C=N), 139.77 (Ar-1), 146.80 (Ar-4), 158.87 (2-C=O), 160.08 (8-C=O). HRMS: *m/z* for C₁₅H₁₄N₆O₄S: 375.0870; found: [M + H]⁺ 375.0868.

(Z)-7-(4-Bromobenzylidene)-1,3-dimethyl-1,3a,4,9a-tetrahydroimidazo[4,5-*e*]thiazolo[2,3-*c*][1,2,4]triazine-2,8(3H,7H)-dione (2d). Yield: 396 mg (97%); bright yellow powder; mp 280–281 °C. IR (KBr): ν 3429, 3265 (NH), 3046, 3025, 3000 (ArH), 2972, 2937 (Alk), 1743, 1722, 1645 (C=C, C=O, C=N) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 2.64 (s, 3H, NCH₃), 2.87 (s, 3H, NCH₃), 4.79 (d, *J* = 6.2 Hz, 1H, 3a-H), 5.66 (d, *J* = 6.1 Hz, 1H, 9a-H), 7.51 (d, *J* = 8.4 Hz, 2H, Ar-3,5), 7.65 (s, 1H, =CH), 7.72 (d, *J* = 8.3 Hz, 2H, Ar-2,6), 7.90 (s, 1H, NH). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 27.84, 31.22 (2NCH₃), 64.26, 66.21 (C-3a, C-9a), 121.86, 122.99 (C-7, Ar-4), 127.19 (=CH), 131.36, 132.19 (Ar-2,3,5,6), 132.67 (Ar-1), 134.56 (5a-C=N), 158.98 (2-C=O), 164.52 (8-C=O). HRMS: *m/z* for C₁₅H₁₄BrN₅O₂S: 410.0104; found: [M + H]⁺ 410.0090.

(Z)-7-(2,4-Dichlorobenzylidene)-1,3-dimethyl-1,3a,4,9a-tetrahydroimidazo[4,5-*e*]thiazolo[2,3-*c*][1,2,4]triazine-2,8(3H,7H)-dione (2e). Yield: 326 mg (82%); bright yellow powder; mp 244–246 °C. IR (KBr): ν 3436, 3306 (NH), 3076, 3029 (ArH), 2974, 2915, 2879 (Alk), 1708, 1648 (C=C, C=O, C=N) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 2.63 (s, 3H, NCH₃), 2.89 (s, 3H, NCH₃), 4.81 (dd, *J* = 6.1, 1.8 Hz, 1H, 3a-H), 5.67 (d, *J* = 6.0 Hz, 1H, 9a-H), 7.54–7.62 (m, 2H, Ar-5,6), 7.75 (s, 1H, =CH), 7.81 (d, 1H, *J* = 1.8 Hz, Ar-3), 7.97 (s, 1H, NH). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 27.85, 31.29 (2NCH₃), 64.22, 66.32 (C-3a, C-9a), 122.00, 125.27, 128.24, 129.56, 129.82, 130.33 (=CH, C-7, Ar-1,3,5,6), 133.95 (5a-C=N), 134.62, 134.90 (Ar-2,4), 158.97 (2-C=O), 164.10 (8-C=O). HRMS: *m/z* for C₁₅H₁₃Cl₂N₅O₂S: 398.0240; found: [M + H]⁺ 398.0239.

(Z)-7-(2-Fluorobenzylidene)-1,3-dimethyl-1,3a,4,9a-tetrahydroimidazo[4,5-*e*]thiazolo[2,3-*c*][1,2,4]triazine-2,8(3H,7H)-dione (2f). Yield: 333 mg (96%); bright yellow solid; mp 251–253 °C. IR (KBr): ν 3435, 3299 (NH), 3070, 3038 (ArH), 2978, 2928, 2884 (Alk), 1709, 1693, 1649, 1607 (C=C, C=O, C=N) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 2.64 (s, 3H, NCH₃), 2.89 (s, 3H, NCH₃), 4.81 (dd, *J* = 6.0, 2.1 Hz, 1H, 3a-H), 5.67 (d, *J* = 6.1 Hz, 1H, 9a-H), 7.33–7.42 (m, 2H, ArH), 7.48–7.57 (m, 2H, ArH), 7.69 (s, 1H, =CH), 7.92 (d, *J* = 2.0 Hz, 1H, NH). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 27.83, 31.22 (2NCH₃), 64.21, 66.25 (C-3a, C-9a), 116.03 (d, *J* = 21.5 Hz, Ar-3), 119.09 (d, *J* = 6.7 Hz, Ar-6), 121.37 (d, *J* = 11.8 Hz, Ar-1), 123.70 (d, *J* = 1.8 Hz, C-7), 125.29 (d, *J* = 3.5 Hz, Ar-5), 128.40 (d, *J* = 1.8 Hz, =CH), 131.83 (d, *J* = 8.7 Hz, Ar-4), 134.27 (5a-C=N), 158.95 (2-C=O), 160.22 (d, *J* = 251.3 Hz, Ar-2), 164.30 (8-C=O). ¹⁹F NMR (282 MHz, DMSO-*d*₆): δ -115.70 (F). HRMS: *m/z* for C₁₅H₁₄FN₅O₂S: 348.0925; found: [M + H]⁺ 348.0921.

(Z)-7-(4-Fluorobenzylidene)-1,3-dimethyl-1,3a,4,9a-tetrahydroimidazo[4,5-*e*]thiazolo[2,3-*c*][1,2,4]triazine-2,8(3H,7H)-dione (2g). Yield: 326 mg (94%); bright yellow powder; mp 274–276 °C. IR (KBr): ν 3306 (NH), 3055, 3045 (ArH), 2996, 2963, 2904, 2875 (Alk), 1710, 1654 (C=C, C=O, C=N) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 2.64 (s, 3H, NCH₃), 2.88 (s, 3H, NCH₃), 4.82 (dd, *J* = 6.0, 2.1 Hz, 1H, 3a-H), 5.69

(d, J = 6.0 Hz, 1H, 9a-H), 7.36-7.39 (m, 2H, ArH), 7.63-7.66 (m, 2H, ArH), 7.70 (s, 1H, =CH), 7.89 (s, 1H, NH). ^{13}C NMR (125 MHz, DMSO- d_6): δ 27.91, 31.26 (2NCH₃), 64.21, 66.25 (C-3a, C-9a), 116.43 (d, J = 21.9 Hz, Ar-3,5), 120.68 (d, J = 2.2 Hz, =CH), 127.46 (C-7), 130.18 (d, J = 2.9 Hz, Ar-1), 132.01 (d, J = 8.6 Hz, Ar-2,6), 134.72 (5a-C=N), 159.05 (2-C=O), 162.41 (d, J = 249.7 Hz, Ar-4), 164.68 (8-C=O). ^{19}F NMR (282 MHz, DMSO- d_6): δ -110.61 (F). HRMS: m/z for C₁₅H₁₄FN₅O₂S: 348.0925; found: $[M + H]^+$ 348.0927.

(Z)-7-(4-Methoxybenzylidene)-1,3-dimethyl-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-

c][1,2,4]triazine-2,8(3H,7H)-dione (2h). Yield: 341 mg (95%); yellow powder; mp 267–269°C. IR (KBr): ν 3437, 3410, 3279 (NH), 3072, 3042 (ArH), 2969, 2928 (Alk), 1737, 1712, 1643, 1598 (C=C, C=O, C=N) cm⁻¹. ^1H NMR (300 MHz, DMSO- d_6): δ 2.64 (s, 3H, NCH₃), 2.87 (s, 3H, NCH₃), 3.82 (s, 3H, OCH₃), 4.78 (dd, J = 6.0, 1.4 Hz, 1H, 3a-H), 5.65 (d, J = 6.0 Hz, 1H, 9a-H), 7.10 (d, J = 8.6 Hz, 2H, Ar-3,5), 7.53 (d, J = 8.6 Hz, 2H, Ar-2,6), 7.65 (s, 1H, =CH), 7.83 (s, 1H, NH). ^{13}C NMR (75 MHz, DMSO- d_6): δ 27.82, 31.17 (2NCH₃), 55.43 (OCH₃), 64.30, 66.14 (C-3a, C-9a), 114.85 (Ar-3,5), 117.73 (C-7), 125.98 (Ar-1), 128.62 (=CH), 131.55 (Ar-2,6), 135.16 (5a-C=N), 159.02, 160.41 (2-C=O, Ar-4), 164.93 (8-C=O). HRMS: m/z for C₁₆H₁₇N₅O₃S: 360.1125; found: $[M + H]^+$ 360.1119.

(Z)-1,3-Dimethyl-7-[4-(trifluoromethyl)benzylidene]-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-

c][1,2,4]triazine-2,8(3H,7H)-dione (2i). Yield 336 mg (85%); yellow solid; mp: 256–258 °C. IR (KBr): ν 3202 (NH), 3145 (ArH), 2967, 2931, 2885 (Alk), 1717, 1705, 1650, 1617, 1601 (C=C, C=N, C=O) cm⁻¹. ^1H NMR (300 MHz, DMSO- d_6): δ 2.64 (s, 3H, NCH₃), 2.89 (s, 3H, NCH₃), 4.82 (d, J = 5.6 Hz, 1H, 3a-H), 5.68 (d, J = 5.7 Hz, 1H, 9a-H), 7.75-7.79 (m, 3H, Ar), 7.86-7.89 (m, 2H, =CH, Ar), 7.96 (s, 1H, NH). ^{13}C NMR (75 MHz, DMSO- d_6): δ 27.83, 31.20 (2NCH₃), 64.71, 66.25 (C-3a, C-9a), 124.09 (C-7), 123.89 (q, J = 272.3 Hz, CF₃), 126.05 (q, J = 3.6 Hz, Ar-3,5), 126.45 (Ar-1), 128.97 (q, J = 32.0 Hz, Ar-2,6), 130.00 (=CH), 134.20 (5a-C=N), 137.40 (Ar-4), 158.94 (2-C=O), 164.30 (7-C=O). ^{19}F NMR (282 MHz, DMSO- d_6): δ -62.11 (F). HRMS (ESI): m/z $[M + Na]^+$ calcd for C₁₆H₁₄F₃N₅O₂S: 420.0713; found: 420.0704.

(Z)-7-Benzylidene-1,3-diethyl-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-c][1,2,4]triazine-

2,8(3H,7H)-dione (2j). Yield: 336 mg (94%); yellow powder; mp 184–186°C. IR (KBr): ν 3421, 3393, 3282 (NH), 3080, 3058, 3047, 3027 (ArH), 2975, 2956, 2936 (Alk), 1725, 1703, 1643, 1604, 1596 (C=C, C=O, C=N) cm⁻¹. ^1H NMR (300 MHz, DMSO- d_6): δ 1.03 (t, J = 6.9 Hz, 3H, CH₃), 1.10 (t, J = 6.9 Hz, 3H, CH₃), 3.01-3.13 (m, 1H, NCH₂), 3.15-3.33 (m, 2H, NCH₂), 3.41-3.53 (m, 1H, NCH₂), 4.86 (d, J = 5.7 Hz, 1H, 3a-H), 5.73 (d, J = 5.7 Hz, 1H, 9a-H), 7.44 (t, J = 6.7 Hz, 1H, Ph-4), 7.50-7.59 (m, 4H, Ph-2,3,5,6), 7.70 (s, 1H, =CH), 7.82 (s, 1H, NH). ^{13}C NMR (75 MHz, DMSO- d_6): δ 12.74, 13.01 (2CH₃), 34.79, 37.66 (2NCH₂), 61.70, 63.88 (C-3a, C-9a), 120.87 (C-7), 128.55 (=CH), 129.25, 129.63 (Ph-2,3,5,6), 129.71 (Ph-4), 133.43 (Ph-1), 134.48 (5a-C=N), 157.91 (2-C=O), 164.70 (8-C=O). HRMS: m/z for C₁₇H₁₉N₅O₂S: 358.1332; found: $[M + H]^+$ 358.1328.

(Z)-1,3-Diethyl-7-(3-nitrobenzylidene)-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-c][1,2,4]triazine-

2,8(3H,7H)-dione (2k). Yield: 330 mg (82%); bright yellow powder; mp 212–214°C. IR (KBr): ν 3434, 3400, 3281 (NH), 3087, 3017 (ArH), 2975, 2934 (Alk), 1727, 1706, 1642 (C=C, C=O, C=N), 1537, 1353 (NO₂) cm⁻¹. ^1H NMR (300 MHz, DMSO- d_6): δ 1.03 (t, J = 7.1 Hz, 3H, CH₃), 1.10 (t, J = 7.0 Hz, 3H, CH₃), 3.01-3.12 (m, 1H, NCH₂), 3.15-3.31 (m, 2H, NCH₂), 3.42-3.54 (m, 1H, NCH₂), 4.88 (dd, J = 5.9, 1.9 Hz, 1H, 3a-H), 5.75 (d, J = 5.9 Hz, 1H, 9a-H), 7.81 (t, J = 8.1, 1H, Ar-5), 7.85 (s, 1H, =CH), 7.93 (d, J = 1.8 Hz, 1H, NH), 7.99 (d, J = 8.0, 1H, Ar-6), 8.25 (dd, J = 8.0, J = 1.4, 1H, Ar-4), 8.41 (s, 1H, Ar-2). ^{13}C NMR (75 MHz, DMSO- d_6): δ 12.69, 12.99 (2CH₃), 34.81, 37.71 (2NCH₂), 61.79, 64.00 (C-3a, C-9a), 123.68, 123.76 (Ar-2,4), 124.01 (C-7), 126.08 (=CH), 130.74 (Ar-5), 133.71 (5a-C=N), 135.08 (Ar-1,6), 148.21 (Ar-3), 157.84 (2-C=O), 164.18 (8-C=O). HRMS: m/z for C₁₇H₁₈N₆O₄S: 403.1183; found: $[M + H]^+$ 403.1178.

(Z)-1,3-Diethyl-7-(4-nitrobenzylidene)-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-c][1,2,4]triazine-2,8(3H,7H)-dione (2l). Yield: 394 mg (98%); bright golden orange solid; mp 205–207°C. IR (KBr): ν 3436, 3401, 3309 (NH), 3106, 3076 (ArH), 2972, 2933, 2899 (Alk), 1703, 1649, 1605 (C=C, C=O, C=N), 1514, 1339 (NO₂) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 1.03 (t, *J* = 6.9 Hz, 3H, CH₃), 1.10 (t, *J* = 7.0 Hz, 3H, CH₃), 3.03–3.12 (m, 1H, NCH₂), 3.15–3.33 (m, 2H, NCH₂), 3.42–3.54 (m, 1H, NCH₂), 4.88 (d, *J* = 5.8 Hz, 1H, 3a-H), 5.74 (d, *J* = 5.9 Hz, 1H, 9a-H), 7.80–7.84 (m, 3H, =CH, Ar-2,6), 7.97 (s, 1H, NH), 8.34 (d, *J* = 8.7 Hz, 2H, Ar-3,5). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 2.70, 12.98 (2CH₃), 34.84, 37.73 (2NCH₂), 61.76, 63.98 (C-3a, C-9a), 124.18 (Ar-3,5), 125.58, 125.77 (C-7, =CH), 130.42 (Ar-2,6), 133.75 (5a-C=N), 139.74 (Ar-1), 146.80 (Ar-4), 157.88 (2-C=O), 164.16 (8-C=O). HRMS: *m/z* for C₁₇H₁₈N₆O₄S: 425.0985; found: [M + Na]⁺ 425.1002.

(Z)-7-(4-Bromobenzylidene)-1,3-diethyl-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-c][1,2,4]triazine-2,8(3H,7H)-dione (2m). Yield: 388 mg (89%); bright yellow powder; mp 236–238°C. IR (KBr): ν 3450, 3414, 3290 (NH), 3074, 3058, 3013 (ArH), 2988, 2976, 2962, 2942 (Alk), 1711, 1690, 1644 (C=C, C=O, C=N) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 1.03 (t, *J* = 7.0 Hz, 3H, CH₃), 1.09 (t, *J* = 6.9 Hz, 3H, CH₃), 3.02–3.09 (m, 1H, NCH₂), 3.15–3.33 (m, 2H, NCH₂), 3.43–3.50 (m, 1H, NCH₂), 4.86 (d, *J* = 5.7 Hz, 1H, 3a-H), 5.72 (d, *J* = 5.5 Hz, 1H, 9a-H), 7.51 (d, *J* = 7.9, 2H, Ar-3,5), 7.67–7.73 (m, 3H, =CH, Ar-2,6), 7.87 (s, 1H, NH). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 12.71, 12.99 (2CH₃), 34.80, 37.68 (2NCH₂), 61.77, 63.89 (C-3a, C-9a), 121.77, 122.98 (C-7, Ar-4), 127.21 (=CH), 131.29, 132.10 (Ar-2,3,5,6), 132.59 (Ar-1), 134.24 (5a-C=N), 157.86 (2-C=O), 164.50 (8-C=O). HRMS: *m/z* for C₁₇H₁₈BrN₅O₂S: 438.0417; found: [M + H]⁺ 438.0409.

(Z)-7-(2,4-Dichlorobenzylidene)-1,3-diethyl-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-c][1,2,4]triazine-2,8(3H,7H)-dione (2n). Yield: 429 mg (96%); bright yellow powder; mp 180–182°C. IR (KBr): ν 3414, 3285 (NH), 3059, 3033 (ArH), 2972, 2942 (Alk), 1715, 1690, 1645 (C=C, C=O, C=N) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 1.02 (t, *J* = 7.1 Hz, 3H, CH₃), 1.10 (t, *J* = 7.0 Hz, 3H, CH₃), 3.00–3.09 (m, 1H, NCH₂), 3.12–3.32 (m, 2H, NCH₂), 3.42–3.51 (m, 1H, NCH₂), 4.87 (dd, *J* = 6.0, 2.0 Hz, 1H, 3a-H), 5.73 (d, *J* = 5.9 Hz, 1H, 9a-H), 7.55–7.63 (m, 2H, Ar-5,6), 7.77 (s, 1H, =CH), 7.81 (s, 1H, Ar-3), 7.92 (d, *J* = 1.9 Hz, 1H, NH). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 12.70, 12.96 (2CH₃), 34.81, 37.72 (2NCH₂), 61.77, 64.00 (C-3a, C-9a), 122.06, 125.18, 128.20, 129.54, 129.80, 130.28 (=CH, C-7, Ar-1,3,5,6), 133.70 (5a-C=N), 134.62, 134.91 (Ar-2,4), 157.85 (2-C=O), 164.12 (8-C=O). HRMS: *m/z* for C₁₇H₁₇Cl₂N₅O₂S: 426.0553; found: [M + H]⁺ 426.0554.

(Z)-1,3-Diethyl-7-(2-fluorobenzylidene)-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-c][1,2,4]triazine-2,8(3H,7H)-dione (2o). Yield: 345 mg (92%); bright yellow powder; mp 141–143°C. IR (KBr): ν 3436, 3401, 3275 (NH), 3071, 3037 (ArH), 2976, 2933 (Alk), 1732, 1705, 1647, 1605 (C=C, C=O, C=N) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 1.02 (t, *J* = 7.1 Hz, 3H, CH₃), 1.09 (t, *J* = 7.0 Hz, 3H, CH₃), 3.0–3.12 (m, 3H, NCH₂), 3.41–3.53 (m, 1H, NCH₂), 4.87 (dd, *J* = 5.9, 1.9 Hz, 1H, 3a-H), 5.73 (d, *J* = 5.9 Hz, 1H, 9a-H), 7.34–7.42 (m, 2H, ArH), 7.49–7.57 (m, 2H, ArH), 7.70 (s, 1H, =CH), 7.92 (d, *J* = 1.8 Hz, 1H, NH). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 12.72, 12.99 (2CH₃), 34.81, 37.70 (2NCH₂), 61.75, 63.96 (C-3a, C-9a), 116.04 (d, *J* = 21.4 Hz, Ar-3), 119.15 (d, *J* = 5.9 Hz, Ar-6), 121.40 (d, *J* = 11.4 Hz, Ar-1), 123.65 (C-7), 125.31 (d, *J* = 3.5 Hz, Ar-5), 128.41 (=CH), 131.88 (d, *J* = 8.2 Hz, Ar-4), 134.01 (5a-C=N), 157.89 (2-C=O), 160.23 (d, *J* = 251.5 Hz, Ar-2), 164.34 (8-C=O). ¹⁹F NMR (282 MHz, DMSO-*d*₆): δ -115.62 (F). HRMS: *m/z* for C₁₇H₁₈FN₅O₂S: 398.1057; found: [M + Na]⁺ 398.1047.

(Z)-1,3-Diethyl-7-(4-fluorobenzylidene)-1,3a,4,9a-tetrahydroimidazo[4,5-e]thiazolo[2,3-c][1,2,4]triazine-2,8(3H,7H)-dione (2p). Yield: 360 mg (96%); bright yellow powder; mp 154–156°C. IR (KBr): ν 3294 (NH), 3143, 3064 (ArH), 2983, 2936, 2876 (Alk), 1707, 1642, 1598 (C=C, C=N, C=O) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 1.03 (t, *J* = 7.0 Hz, 3H, CH₃), 1.09 (t, *J* = 7.0 Hz, 3H, CH₃), 3.0–3.12 (m, 3H, NCH₂), 3.41–3.53 (m, 1H, NCH₂), 4.86 (d, *J* = 5.7 Hz, 1H, 3a-H), 5.67 (d, *J* = 5.9 Hz, 1H, 9a-H), 7.34–7.40 (m, 2H, ArH), 7.61–7.66 (m, 2H, ArH),

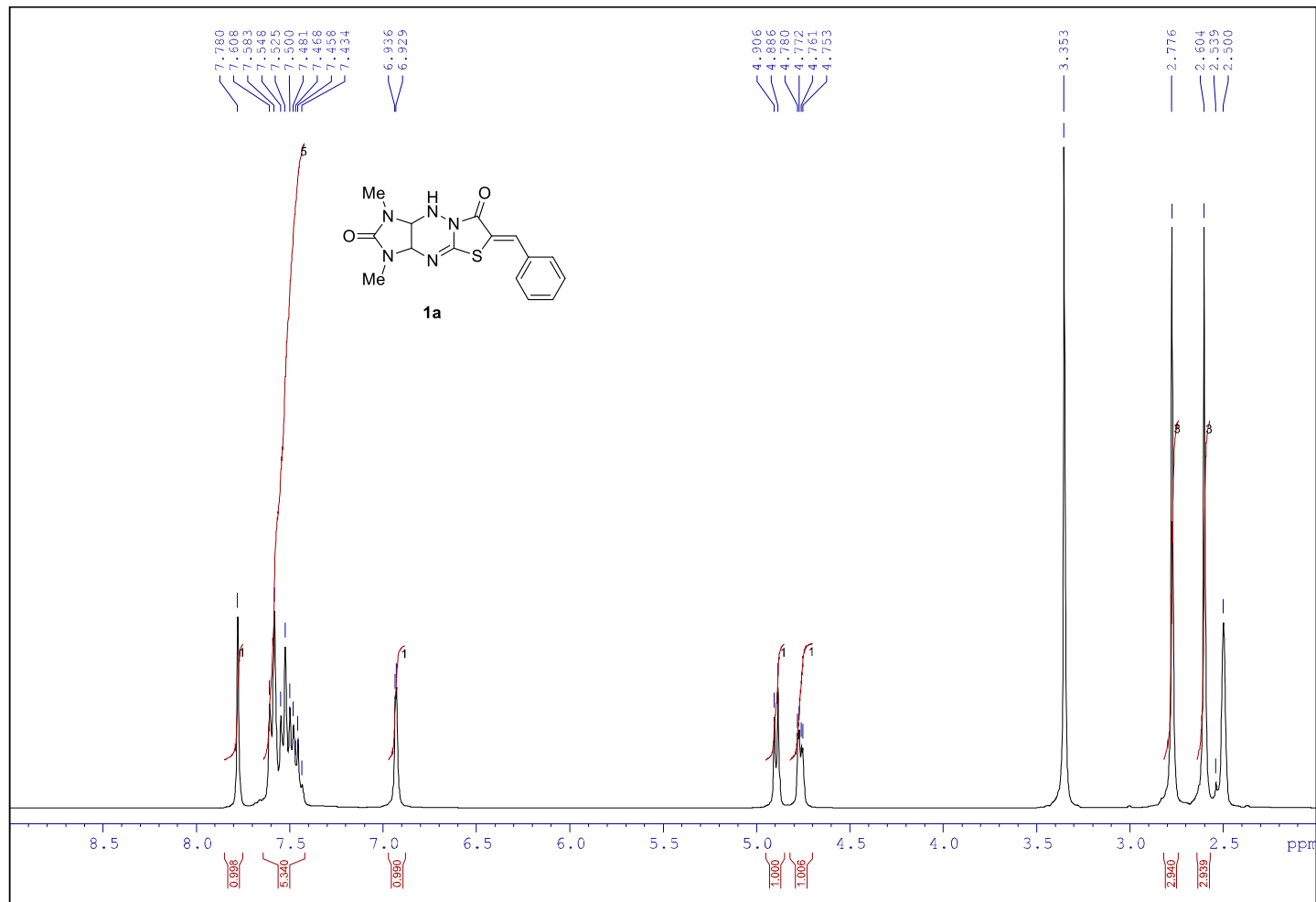
7.71 (s, 1H, =CH), 7.84 (s, 1H, NH). ¹³C NMR (125 MHz, DMSO-*d*₆): δ 12.76, 13.05 (2CH₃), 34.88, 37.75 (2NCH₂), 61.86, 63.96 (C-3a, C-9a), 116.34 (d, *J* = 21.9 Hz, Ar-3, Ar-5), 120.67 (=CH), 127.53 (C-7), 130.16 (Ar-1), 131.95 (d, *J* = 8.4 Hz, Ar-2, Ar-6), 134.45 (5a-C=N), 157.96 (2-C=O), 162.42 (d, *J* = 250.0 Hz, Ar-4), 164.69 (8-C=O). ¹⁹F NMR (282 MHz, DMSO-*d*₆): δ -110.57 (F). HRMS: *m/z* for C₁₇H₁₈FN₅O₂S: 398.1057; found: [M + Na]⁺ 398.1046.

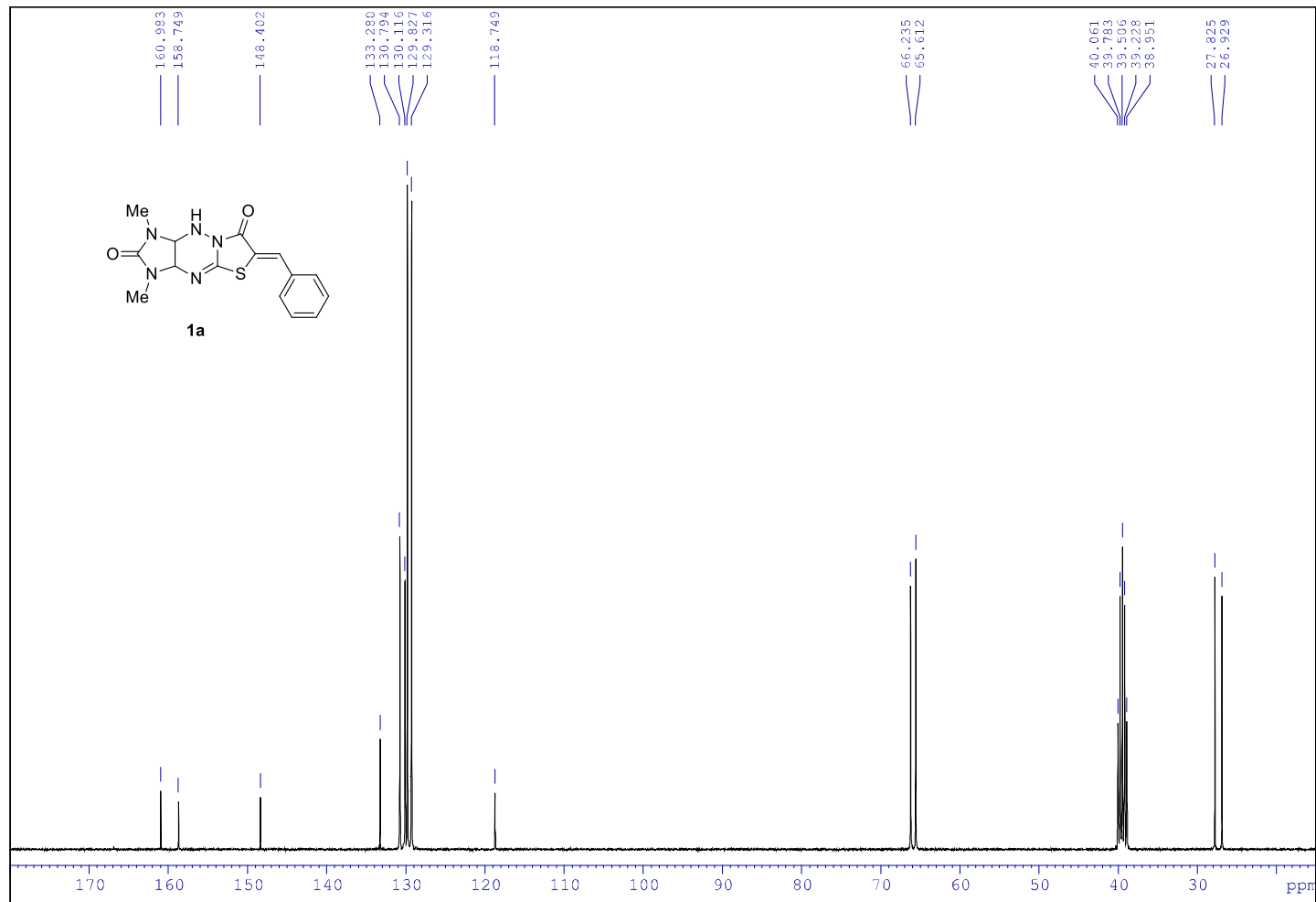
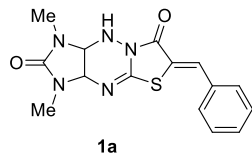
(Z)-1,3-Diethyl-7-(4-methoxybenzylidene)-1,3a,4,9a-tetrahydroimidazo[4,5-*e*]thiazolo[2,3-*c*][1,2,4]triazine-2,8(3*H*,7*H*)-dione (2q). Yield: 364 mg (94%); bright yellow powder; mp 200–202 °C. IR (KBr): ν 3433, 3285 (NH), 3061 (ArH), 2978, 2964, 2936 (Alk), 1724, 1700, 1646 (C=C, C=O, C=N) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 1.00–1.11 (m, 6H, 2CH₃), 3.02–3.09 (m, 1H, NCH₂), 3.12–3.32 (m, 2H, NCH₂), 3.40–3.50 (m, 1H, NCH₂), 4.84 (dd, *J* = 5.9, 2.0 Hz, 1H, 3a-H), 5.71 (d, *J* = 5.9 Hz, 1H, 9a-H), 7.10 (d, 2H, *J* = 8.8 Hz, Ar-3,5), 7.53 (d, 2H, *J* = 8.8 Hz, Ar-2,6), 7.67 (s, 1H, =CH), 7.78 (d, *J* = 1.9 Hz, 1H, NH). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 12.71, 13.00 (2CH₃), 34.76, 37.61 (2NCH₂), 55.39 (OCH₃), 61.72, 63.83 (C-3a, C-9a), 114.81 (Ar-3,5), 117.66 (C-7), 125.95 (Ar-1), 128.65 (=CH), 131.53 (Ar-2,6), 134.82 (5a-C=N), 157.90 (2-C=O), 160.39 (Ar-4), 164.92 (8-C=O). HRMS: *m/z* for C₁₈H₂₁N₅O₃S: 388.1438; found: [M + H]⁺ 388.1431.

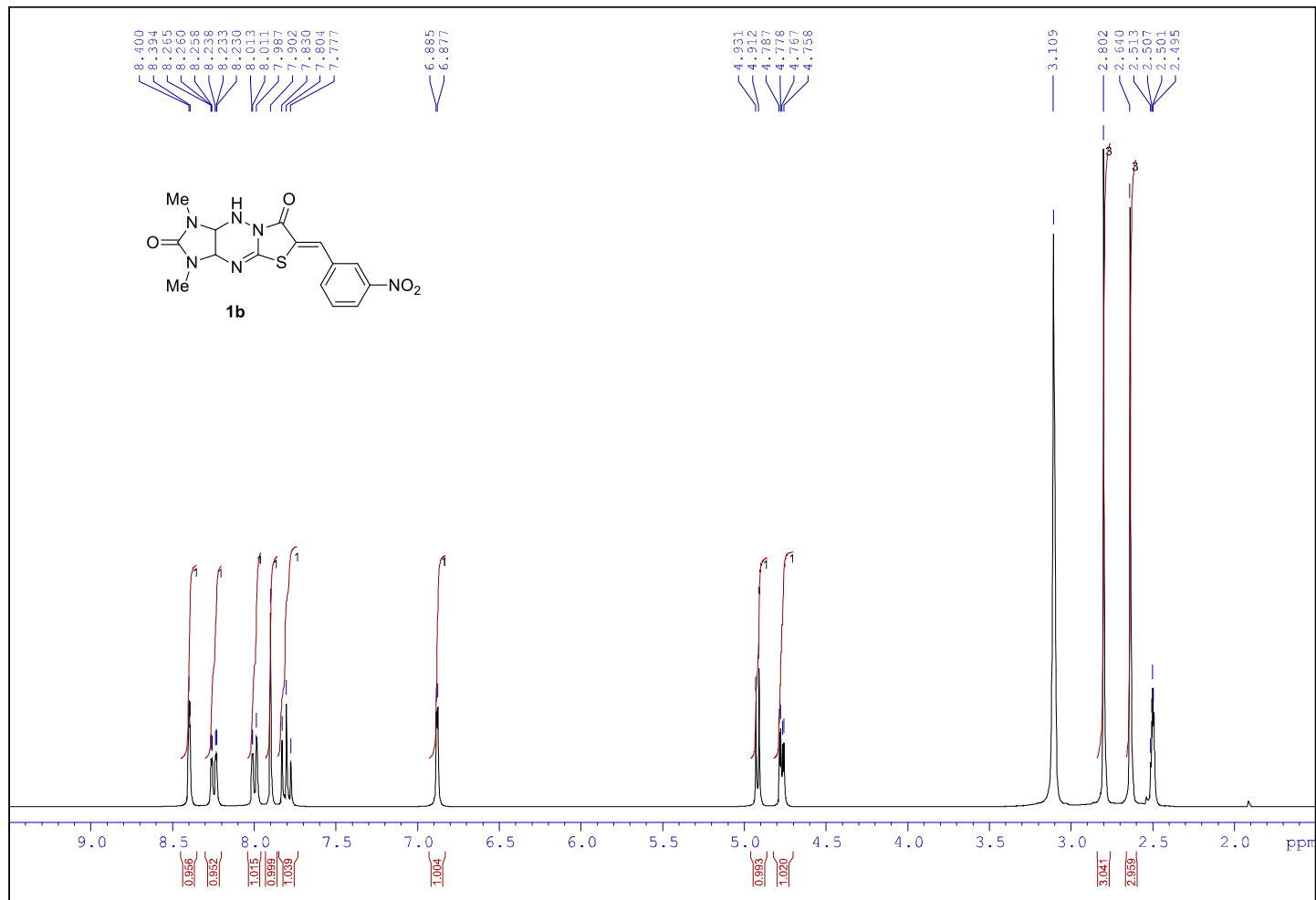
(Z)-1,3-Diethyl-7-[4-(trifluoromethyl)benzylidene]-1,3a,4,9a-tetrahydroimidazo[4,5-*e*]thiazolo[2,3-*c*][1,2,4]triazine-2,8(3*H*,7*H*)-dione (2r). Yield 389 mg (92%); yellow solid; mp: 165–167 °C. IR (KBr): ν 3435, 3289 (NH), 3145, 3066 (ArH), 2979, 2938, 2878 (Alk), 1703, 1644, 1615, 1607 (C=C, C=N, C=O) cm⁻¹. ¹H NMR (300 MHz, DMSO-*d*₆): δ 1.05 (t, *J* = 7.2 Hz, 3H, CH₃), 1.12 (t, *J* = 6.9 Hz, 3H, CH₃), 3.05–3.14 (m, 1H, NCH₂), 3.18–3.35 (m, 2H, NCH₂), 3.44–3.53 (m, 1H, NCH₂), 4.89 (d, *J* = 5.9 Hz, 1H, 3a-H), 5.75 (d, *J* = 5.9 Hz, 1H, 9a-H), 7.78–7.81 (m, 3H, Ar, =CH), 7.87–7.92 (m, 3H, Ar, NH). ¹³C NMR (125 MHz, DMSO-*d*₆): δ 13.90, 14.19 (2CH₃), 36.03, 38.92 (2CH₂), 63.01, 65.71 (C-3a, C-9a), 125.27 (C-7), 125.09 (q, *J* = 271.9 Hz, CF₃), 127.17 (Ar-3,5), 127.78 (Ar-1), 130.21 (q, *J* = 31.9 Hz, Ar-2,6), 131.25 (=CH), 135.16 (5a-C=N), 138.61 (Ar-4), 159.09 (2-C=O), 165.54 (7-C=O). ¹⁹F NMR (470 MHz, DMSO-*d*₆): δ -61.34 (F). HRMS (ESI): *m/z* [M + Na]⁺ calcd for C₁₈H₁₈F₃N₅O₂S: 448.1026; found: 448.1018.

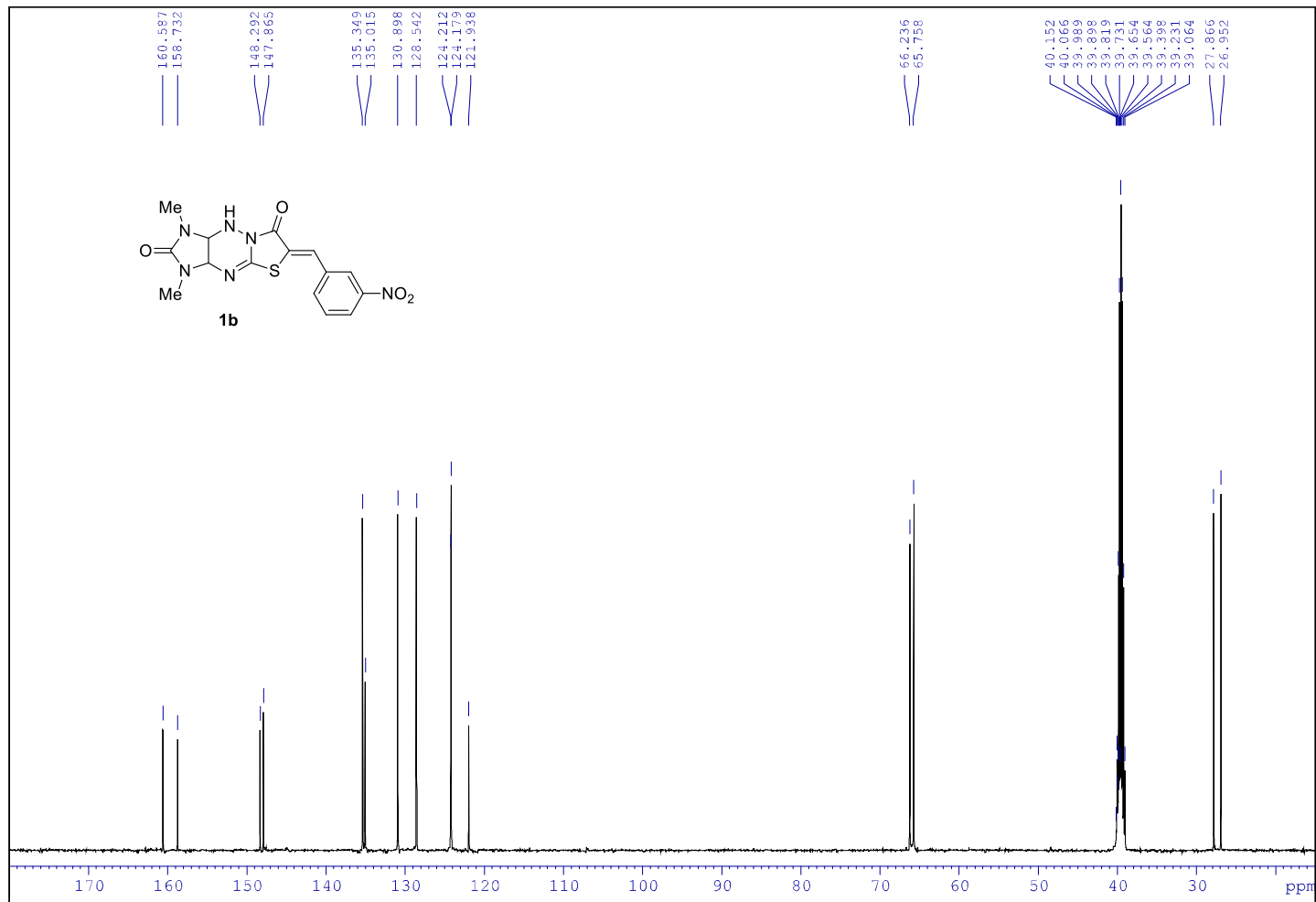
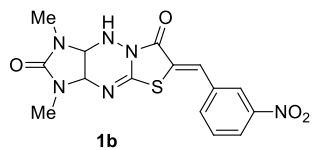
(Z)-1,3-Diethyl-7-(3-fluorobenzylidene)-1,3a,4,9a-tetrahydroimidazo[4,5-*e*]thiazolo[2,3-*c*][1,2,4]triazine-2,8(3*H*,7*H*)-dione (2s). Yield 354 mg (94%); bright yellow solid; mp: 181–183 °C. IR (KBr): ν 3436, 3395, 3283 (NH), 3124, 3093 (ArH), 2975, 2935, 2876 (Alk), 1728, 1704, 1645, 1601 (C=C, C=N, C=O). ¹H NMR (300 MHz, DMSO-*d*₆): δ 1.00–1.11 (m, 6H, 2CH₃), 3.02–3.32 (m, 3H, NCH₂), 3.38–3.50 (m, 1H, NCH₂), 4.87 (dd, *J* = 5.9, 2.0 Hz, 1H, 3a-H), 5.73 (d, *J* = 6.0 Hz, 1H, 9a-H), 7.30 (t, *J* = 8.5 Hz, 1H, Ar), 7.39–7.43 (m, 2H, Ar), 7.54–7.62 (m, 1H, Ar), 7.70 (s, 1H, =CH), 7.88 (s, 1H, NH). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 12.76, 13.05 (2NCH₃), 34.86, 37.75 (2NCH₂), 61.81, 63.99 (C-3a, C-9a), 116.27 (d, *J* = 21.1 Hz, Ar), 116.50 (d, *J* = 22.3 Hz, Ar), 122.68 (C-7), 125.24 (d, *J* = 2.5 Hz, Ar-6), 127.20 (d, *J* = 2.4 Hz, =CH), 131.31 (d, *J* = 8.5 Hz, Ar-5), 134.23 (5a-C=N), 135.87 (d, *J* = 8.1 Hz, Ar-1), 157.97 (2-C=O), 162.23 (d, *J* = 244.7 Hz, C-F), 164.50 (8-C=O). HRMS (ESI): *m/z* [M + Na]⁺ calcd for C₁₇H₁₈FN₅O₂S: 398.1057; found: 398.1058.

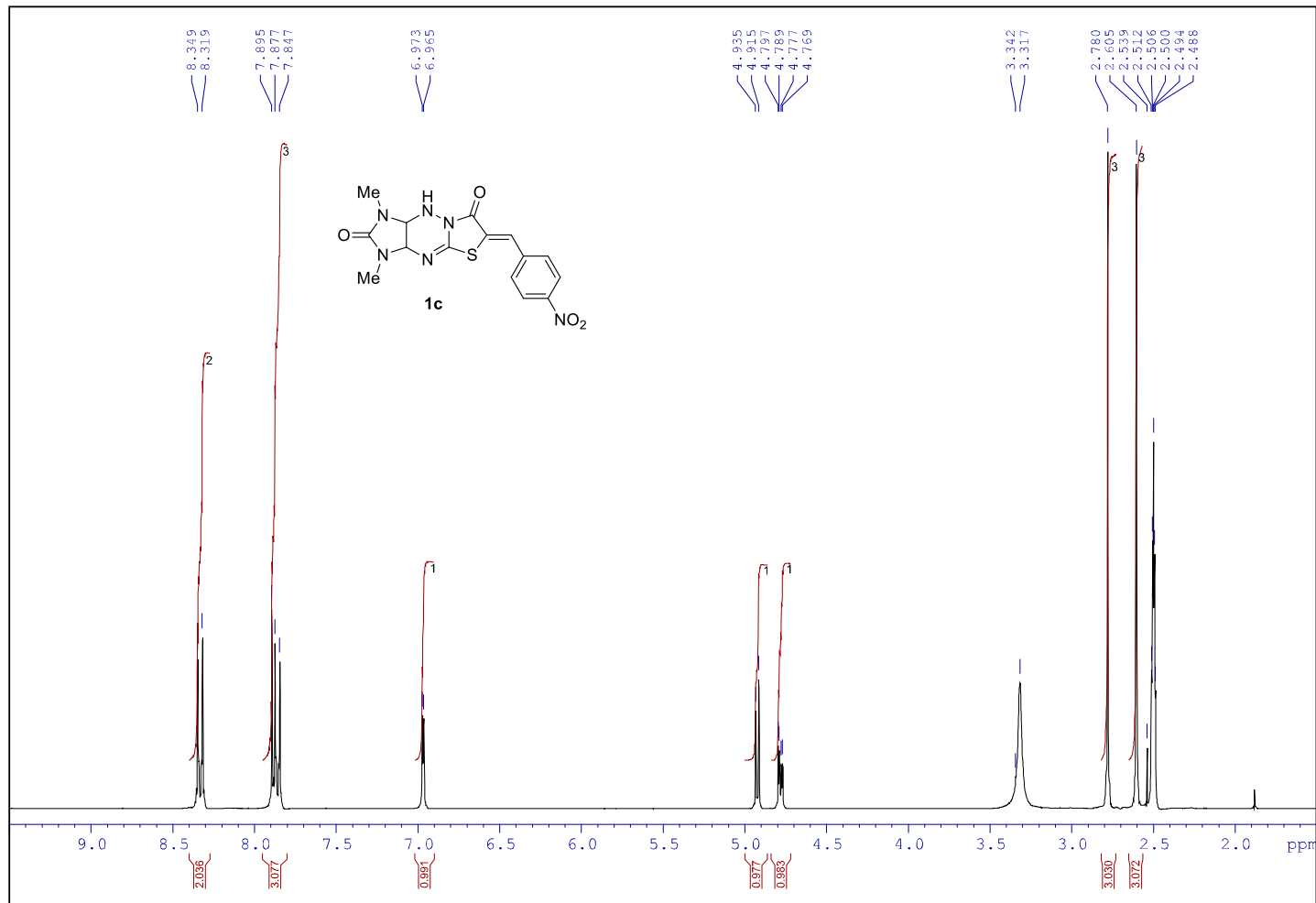
(Z)-7-(2-Bromobenzylidene)-1,3-diethyl-1,3a,4,9a-tetrahydroimidazo[4,5-*e*]thiazolo[2,3-*c*][1,2,4]triazine-2,8(3*H*,7*H*)-dione (2t). Yield 376 g (86%); orange solid; mp: 182–184 °C. IR (KBr): ν 3283 (NH), 3061, 3026 (ArH), 2970, 2935 (Alk), 1706, 1692, 1642, 1607 (C=C, C=N, C=O). ¹H NMR (300 MHz, DMSO-*d*₆): δ 1.04 (t, *J* = 7.0 Hz, 3H, CH₃), 1.12 (t, *J* = 7.0 Hz, 3H, CH₃), 3.04–3.11 (m, 1H, NCH₂), 3.19–3.32 (m, 2H, NCH₂), 3.46–3.53 (m, 1H, NCH₂), 4.88 (d, *J* = 5.8 Hz, 1H, 3a-H), 5.74 (d, *J* = 5.8 Hz, 1H, 9a-H), 7.36–7.42 (m, 1H, Ar-4), 7.57–7.59 (m, 2H, Ar-5,6), 7.80–7.83 (m, 2H, =CH, Ar-3), 7.91 (s, 1H, NH). ¹³C NMR (75 MHz, DMSO-*d*₆): δ 12.66, 12.91 (2CH₃), 34.77, 37.69 (2CH₂), 61.74, 63.94 (C-3a, C-9a), 124.50, 124.95, 126.08, 128.44, 128.52, 131.19, 132.93, 133.47, 133.86 (=CH, 5a-C=N, Ar, C-7), 157.83 (2-C=O), 164.14 (8-C=O). HRMS (ESI): *m/z* [M + H]⁺ calcd for C₁₇H₁₈BrN₅O₂S: 436.0437, 438.0417; found: 436.0428, 438.0410.

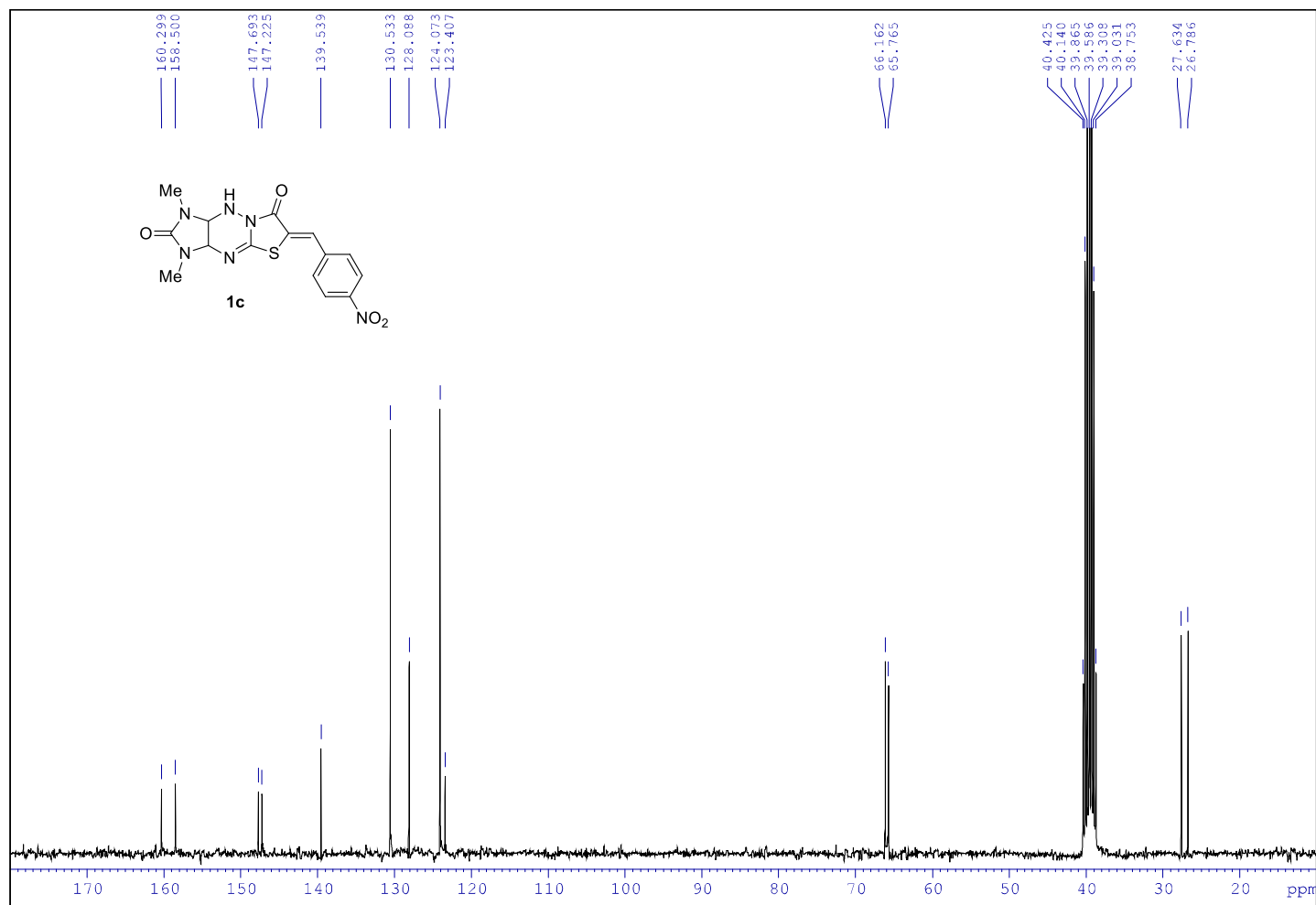
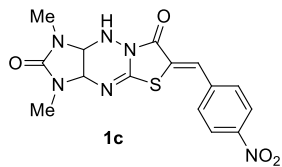


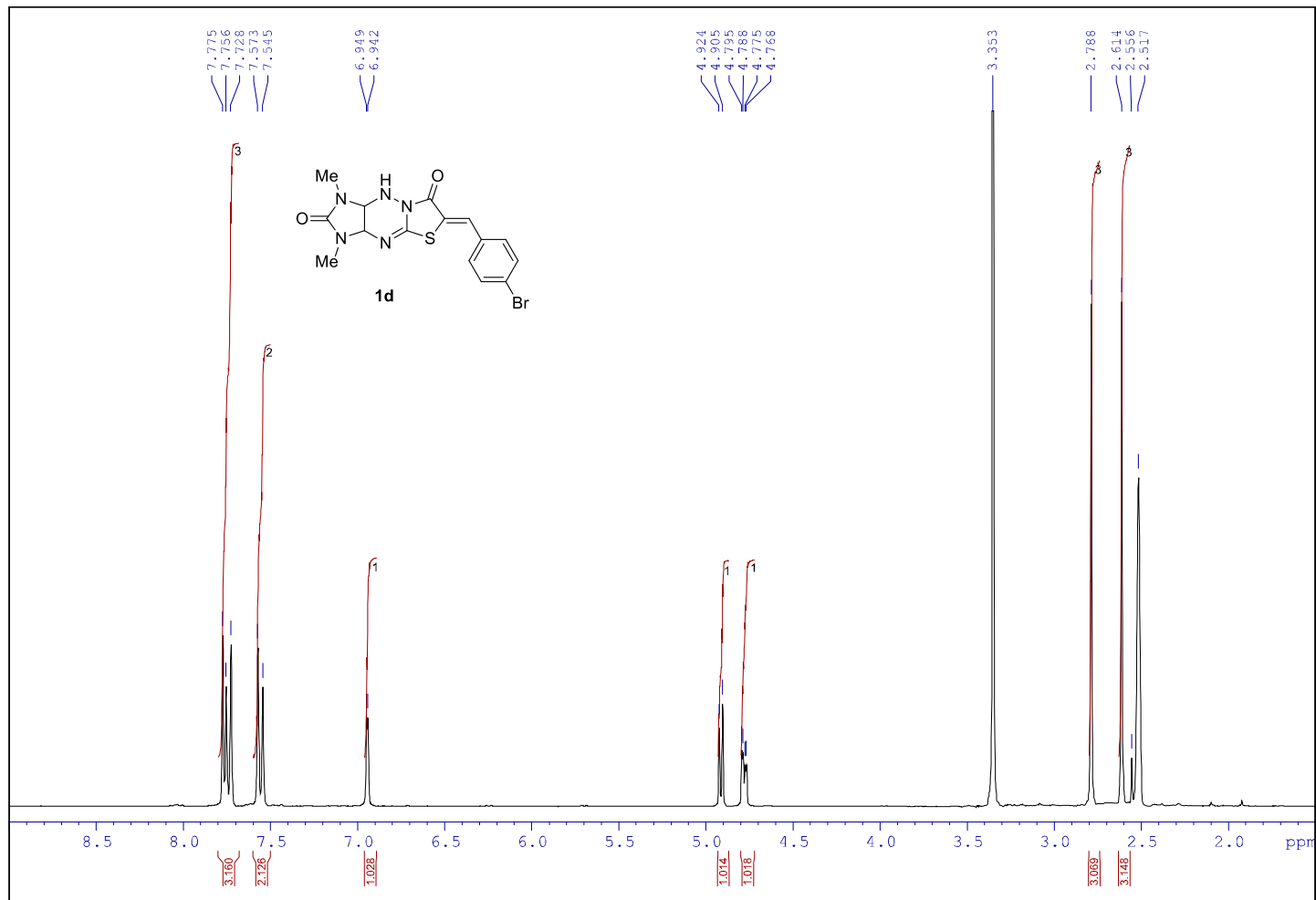


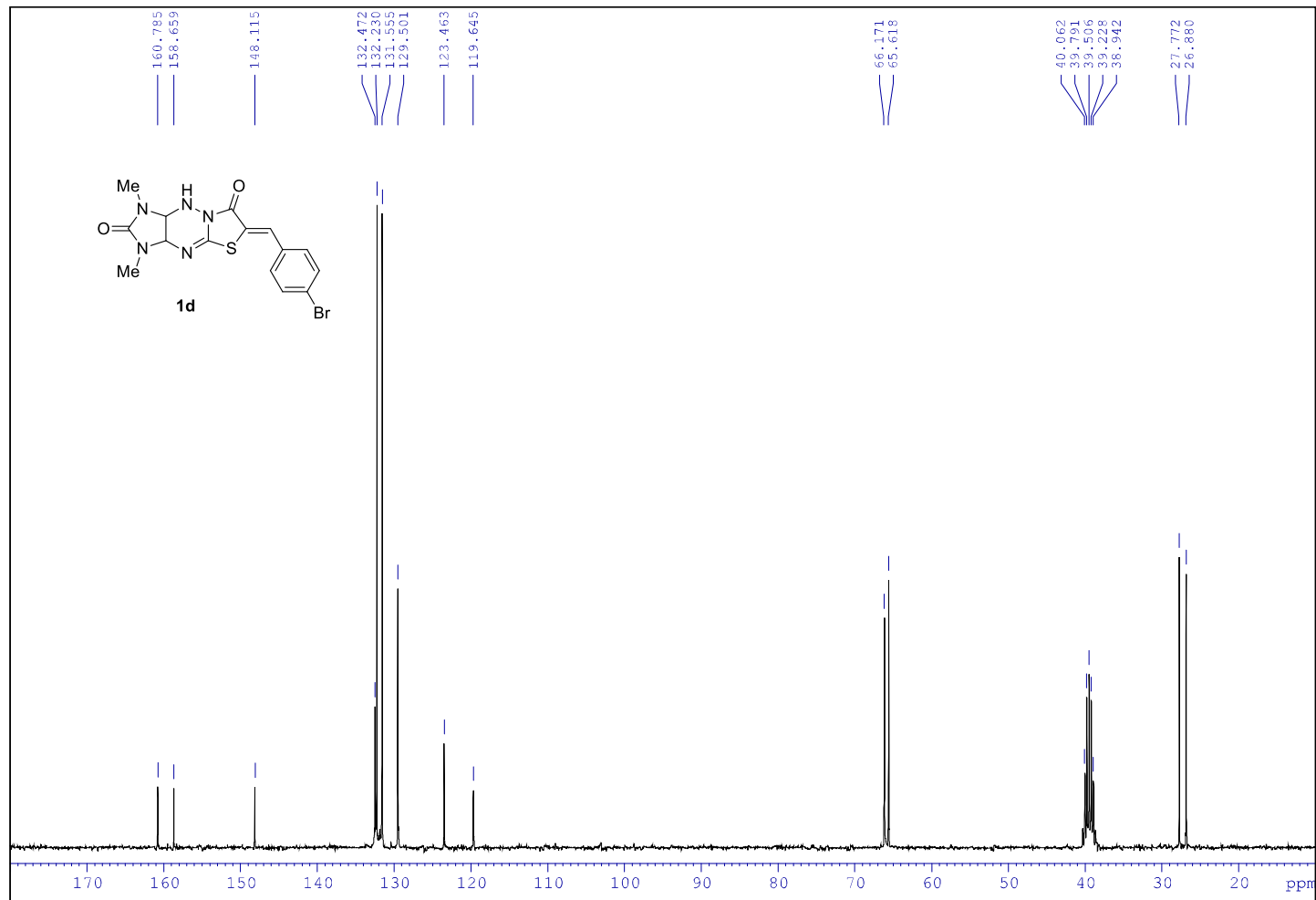
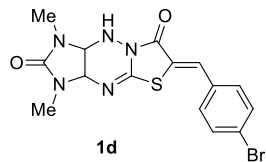


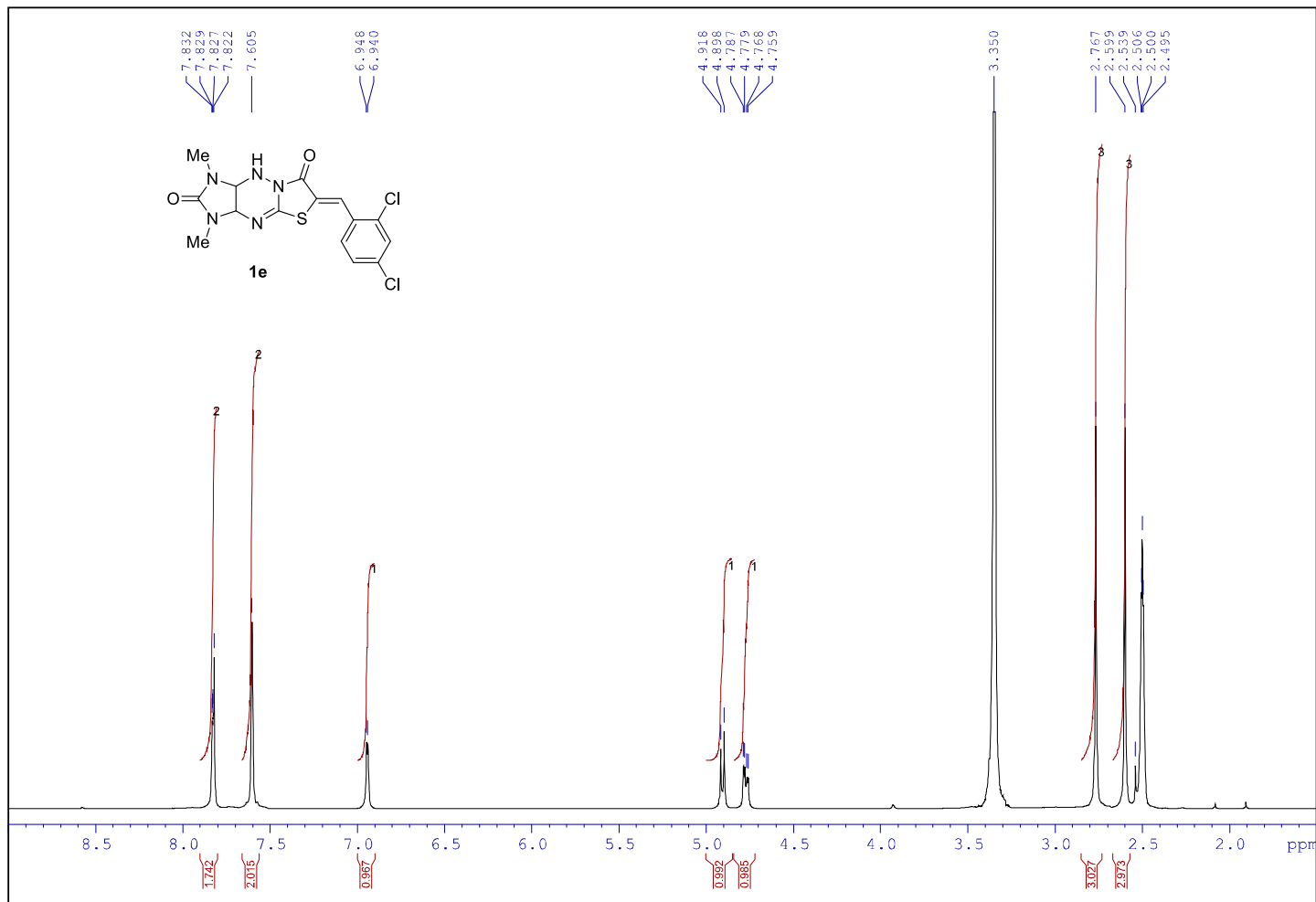


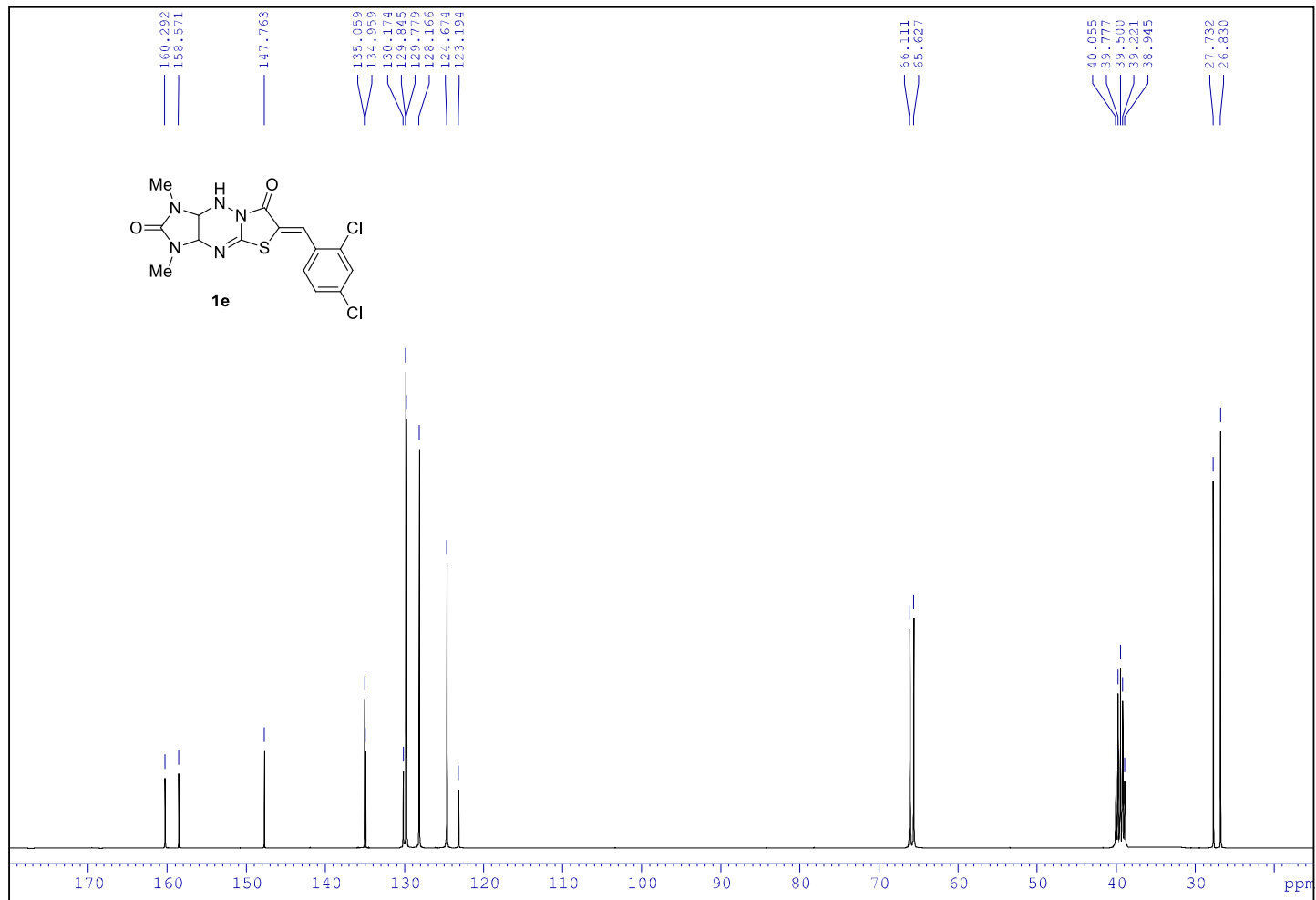
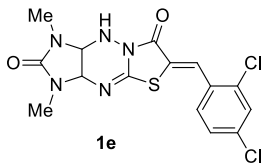


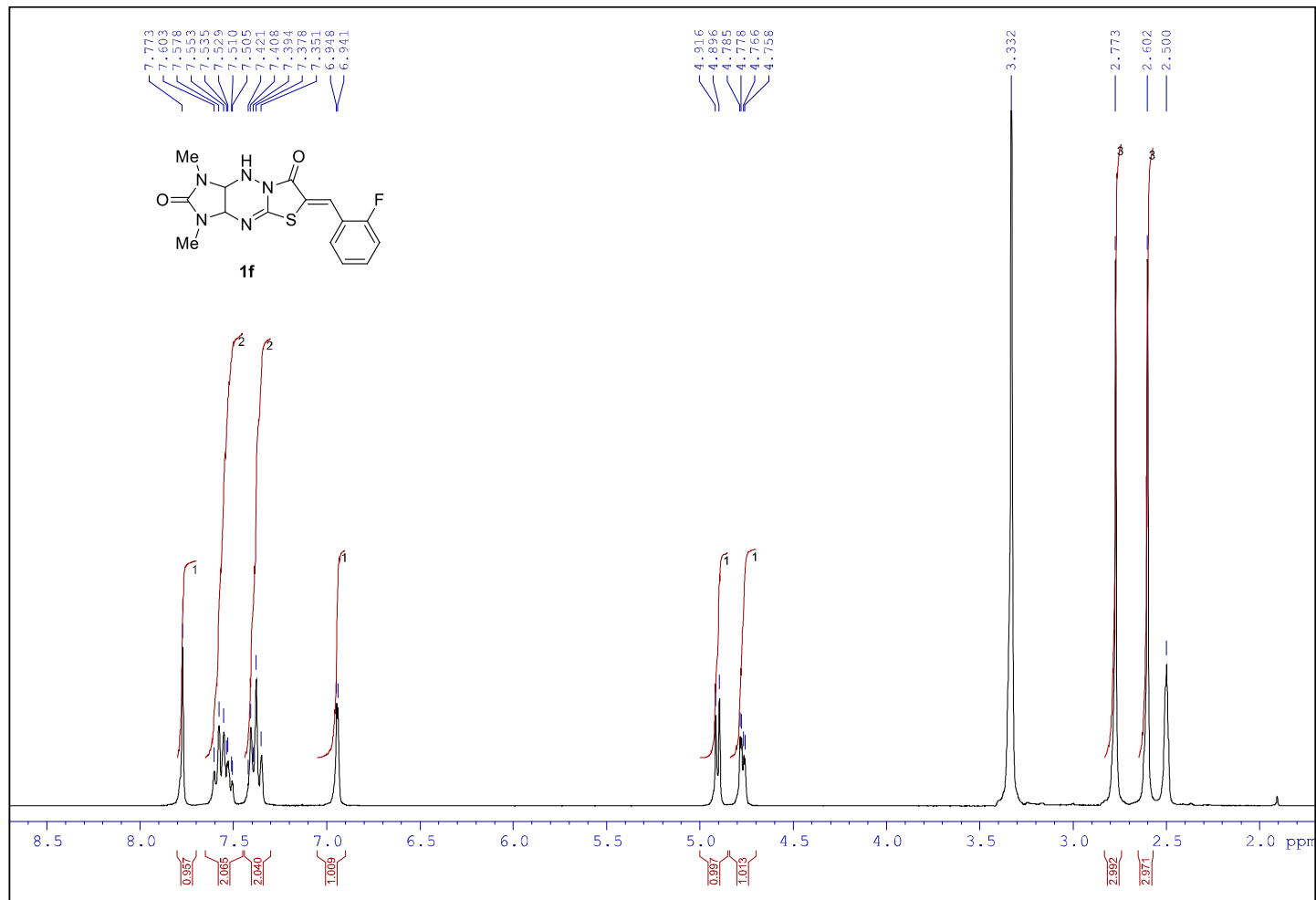


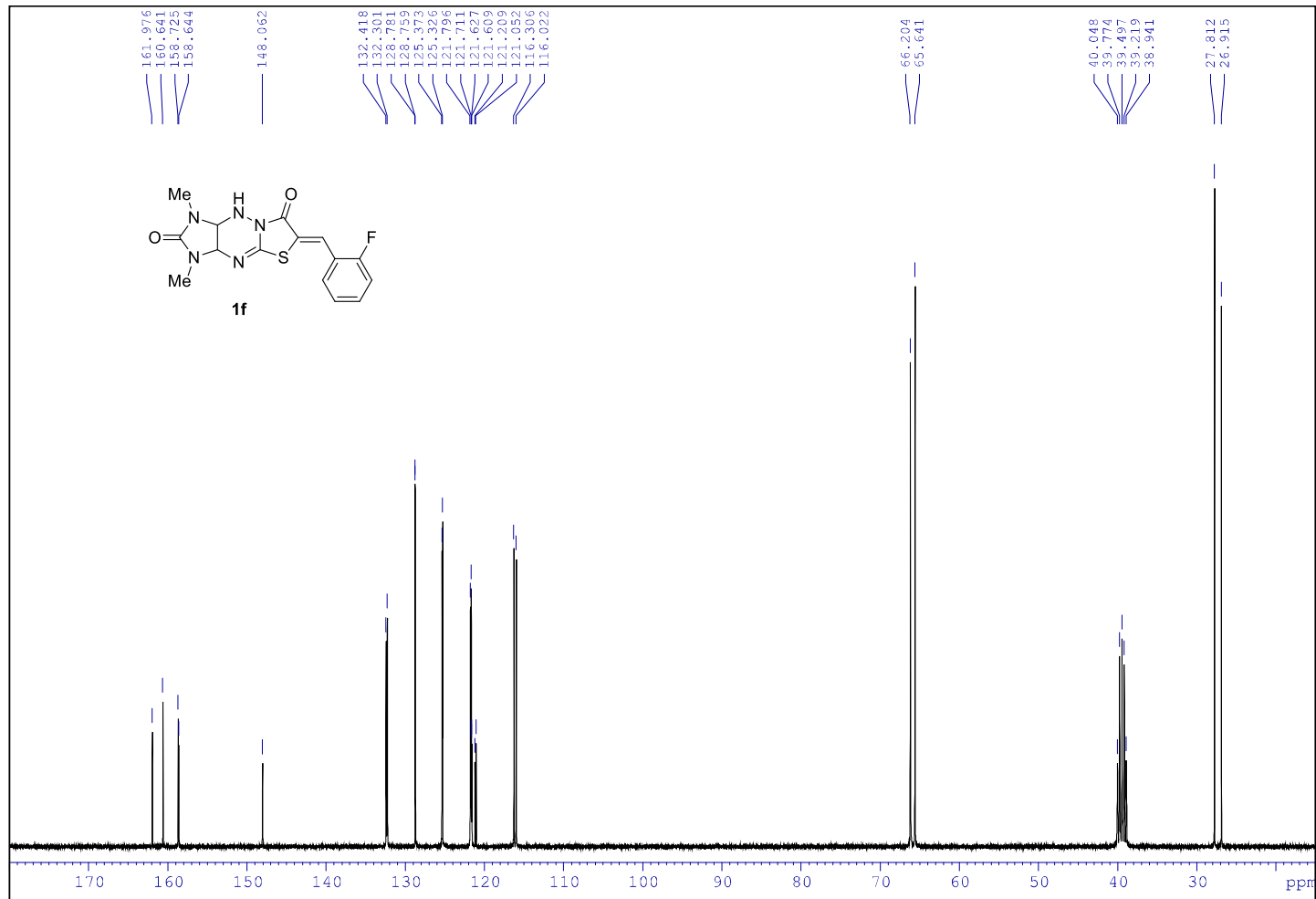
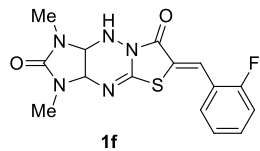


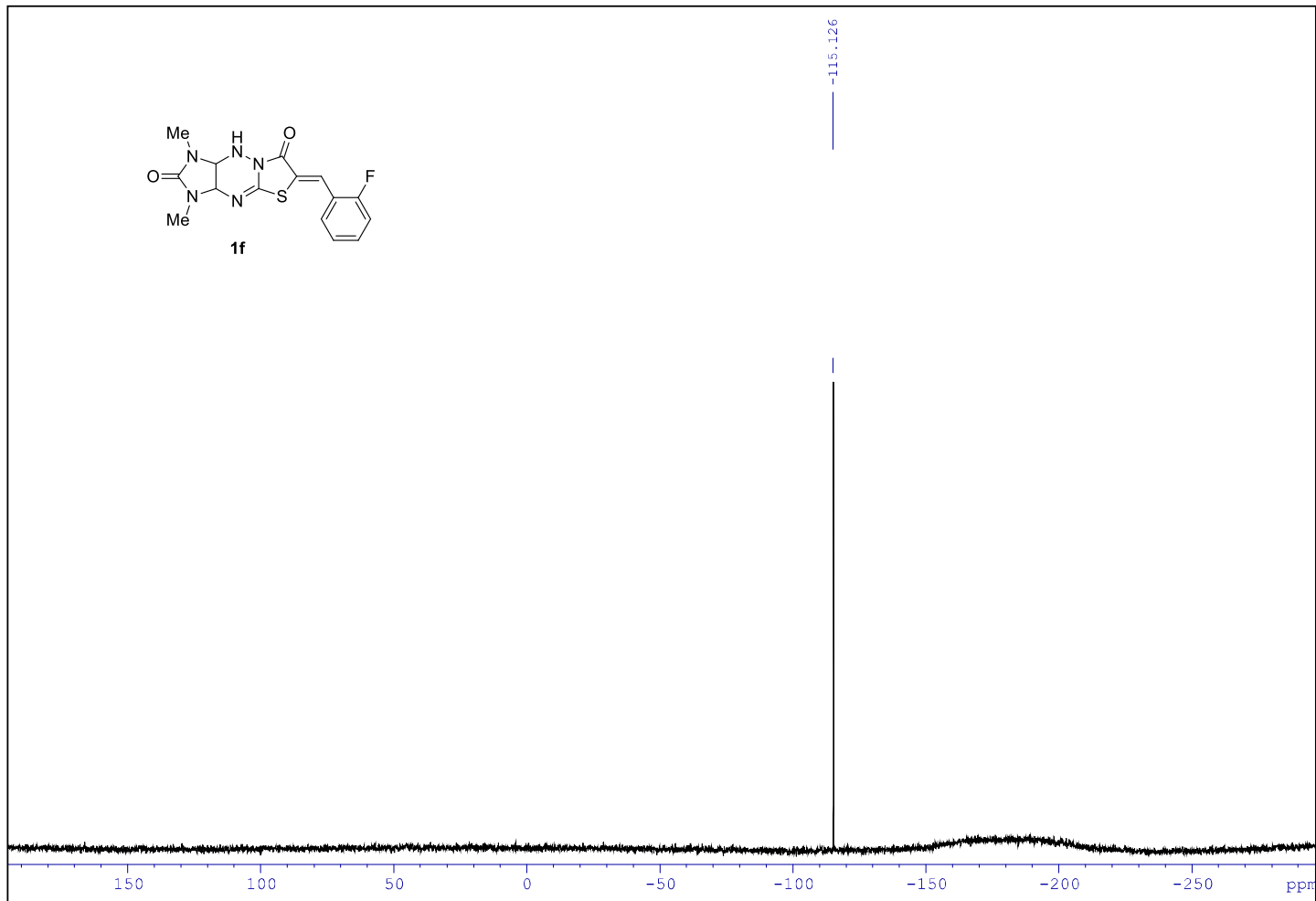
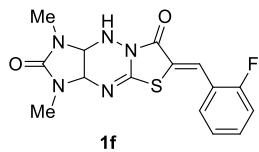


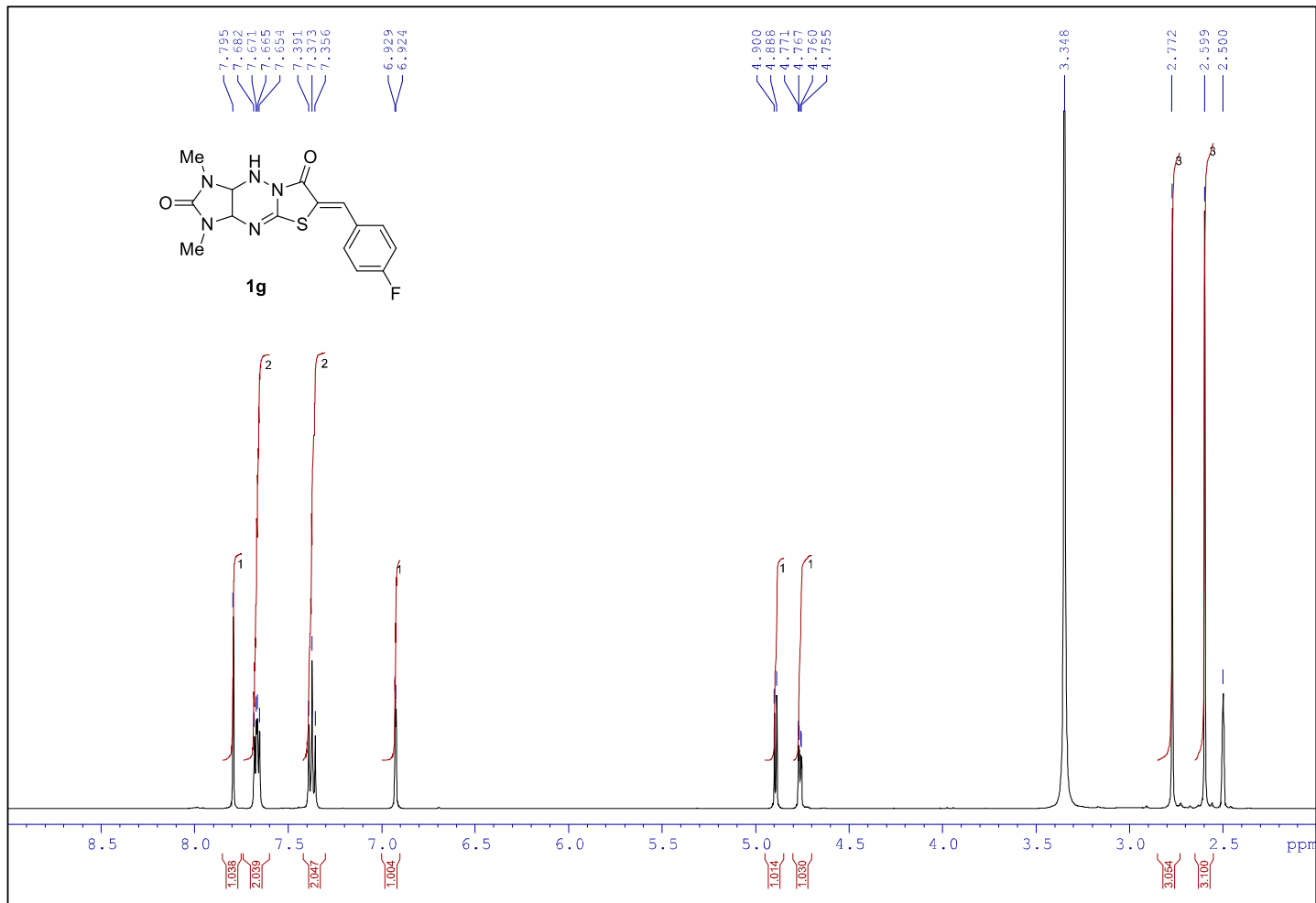


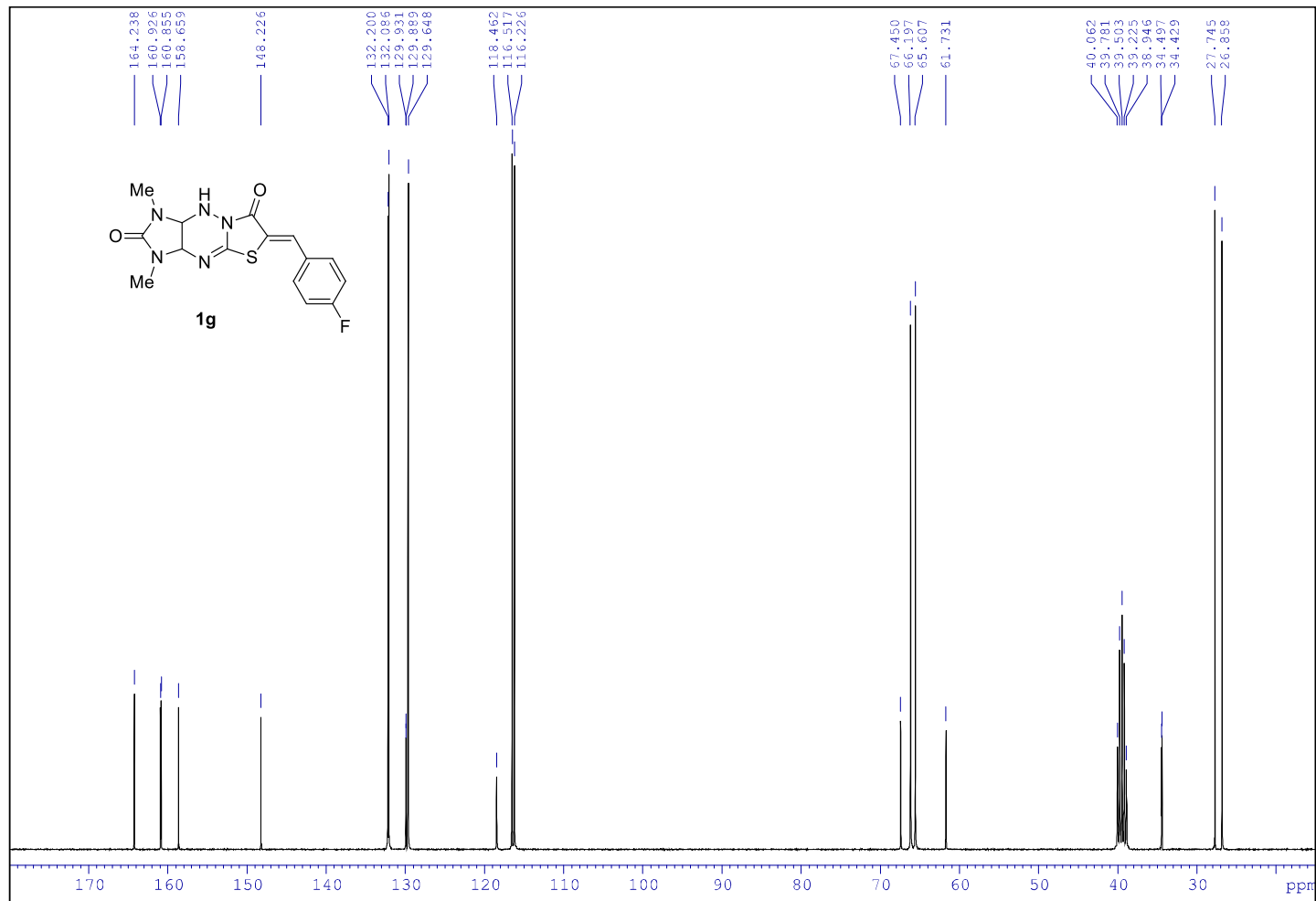


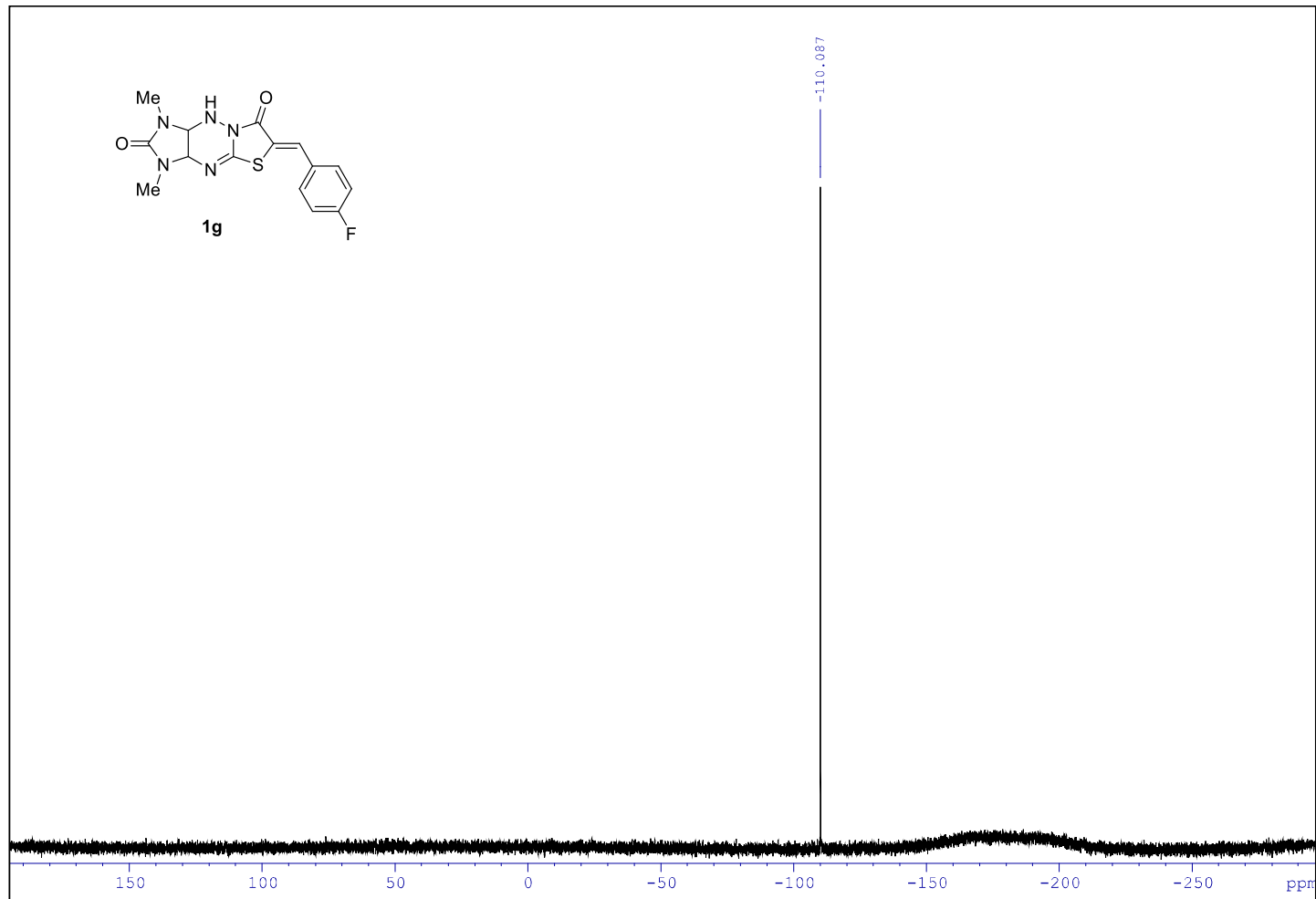
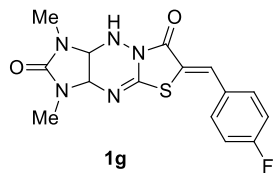


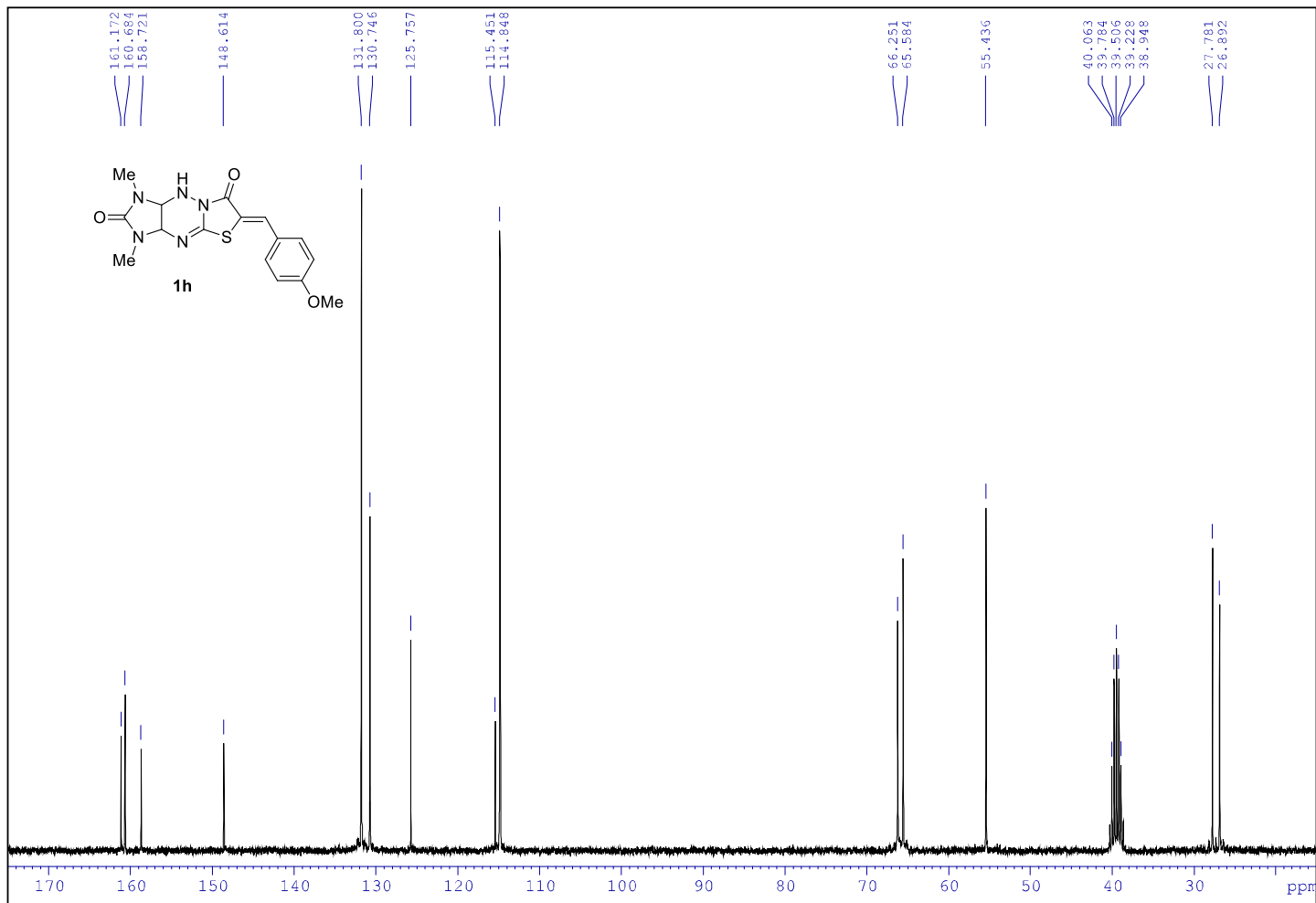




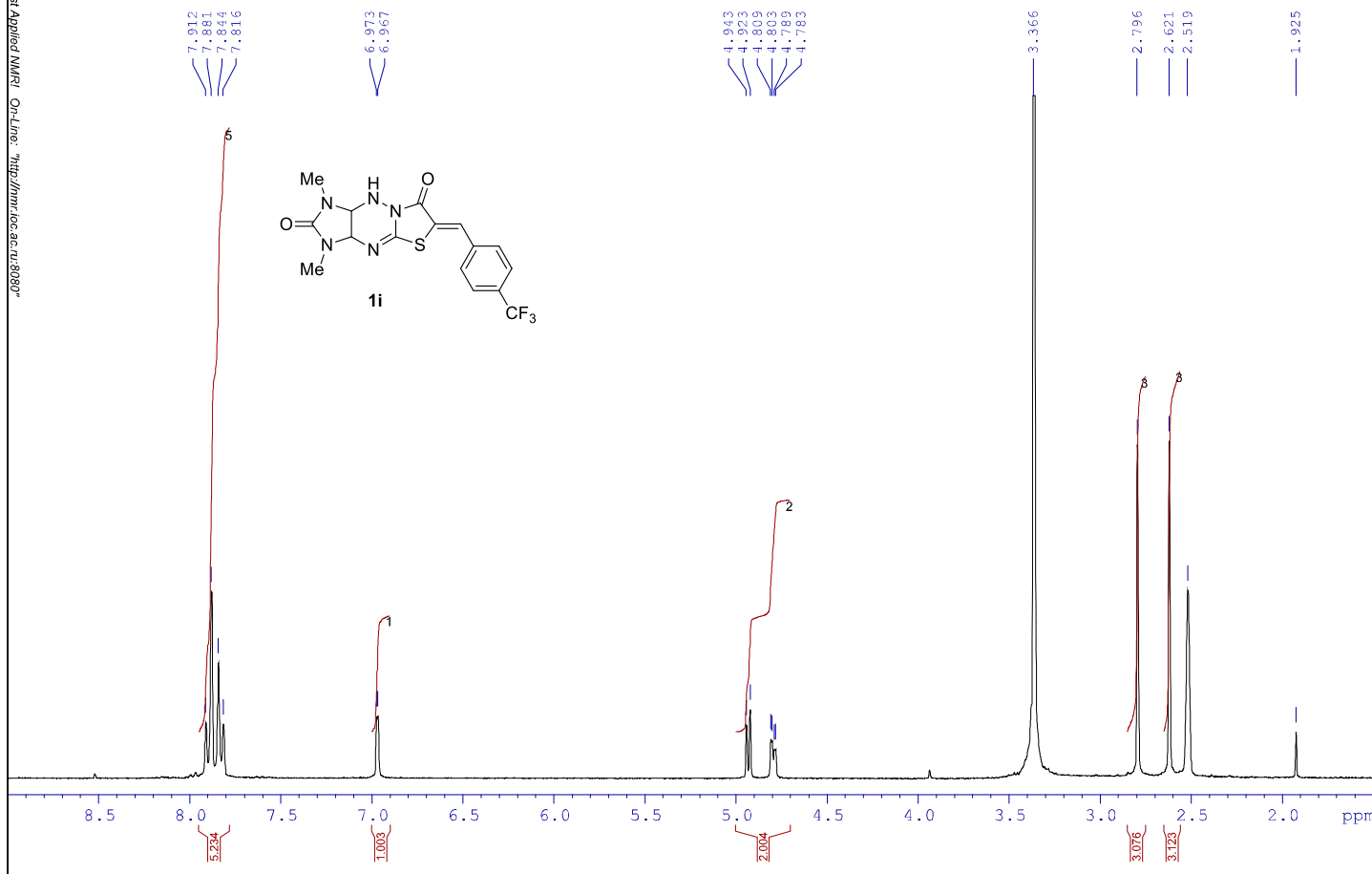




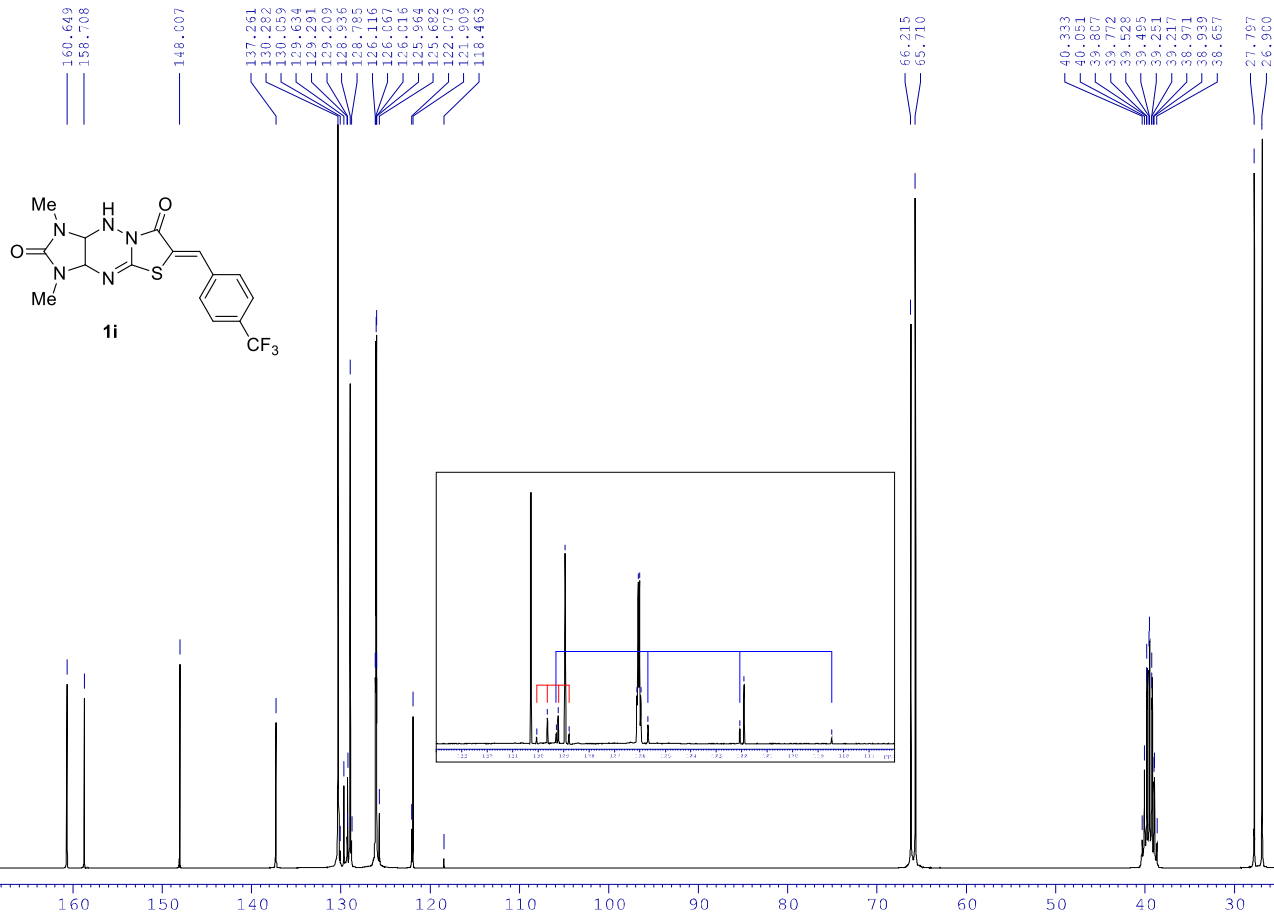




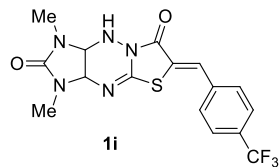
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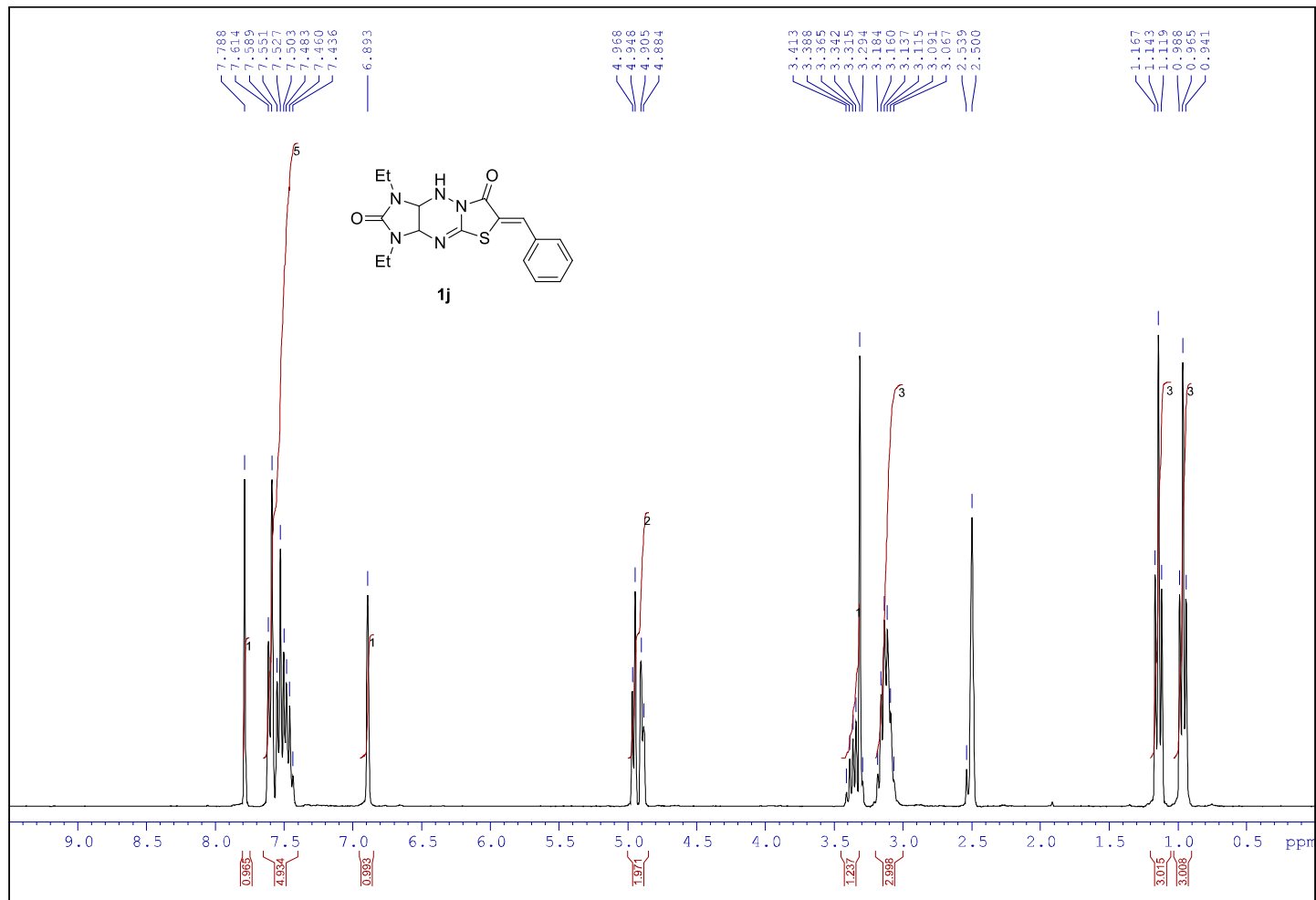
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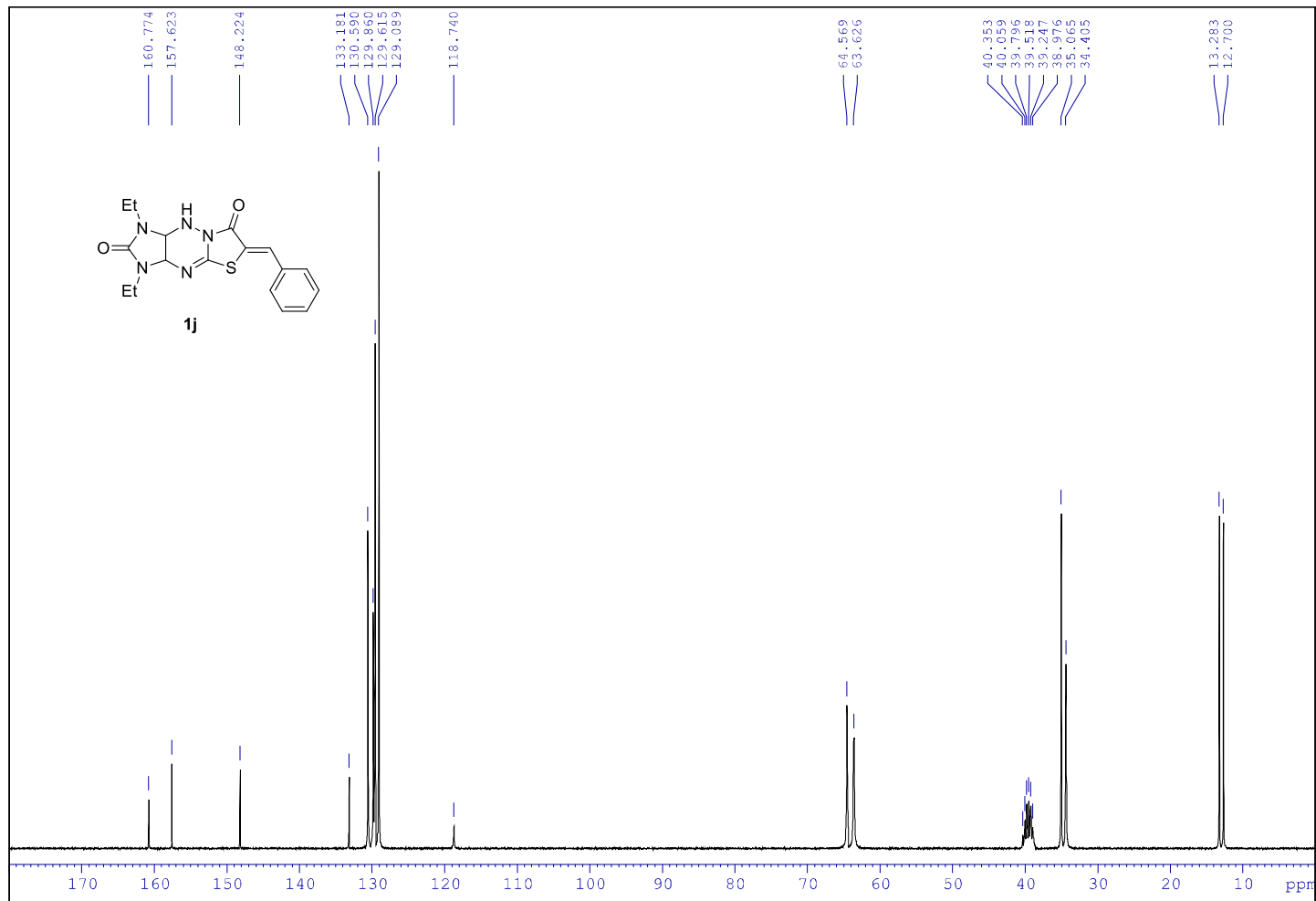
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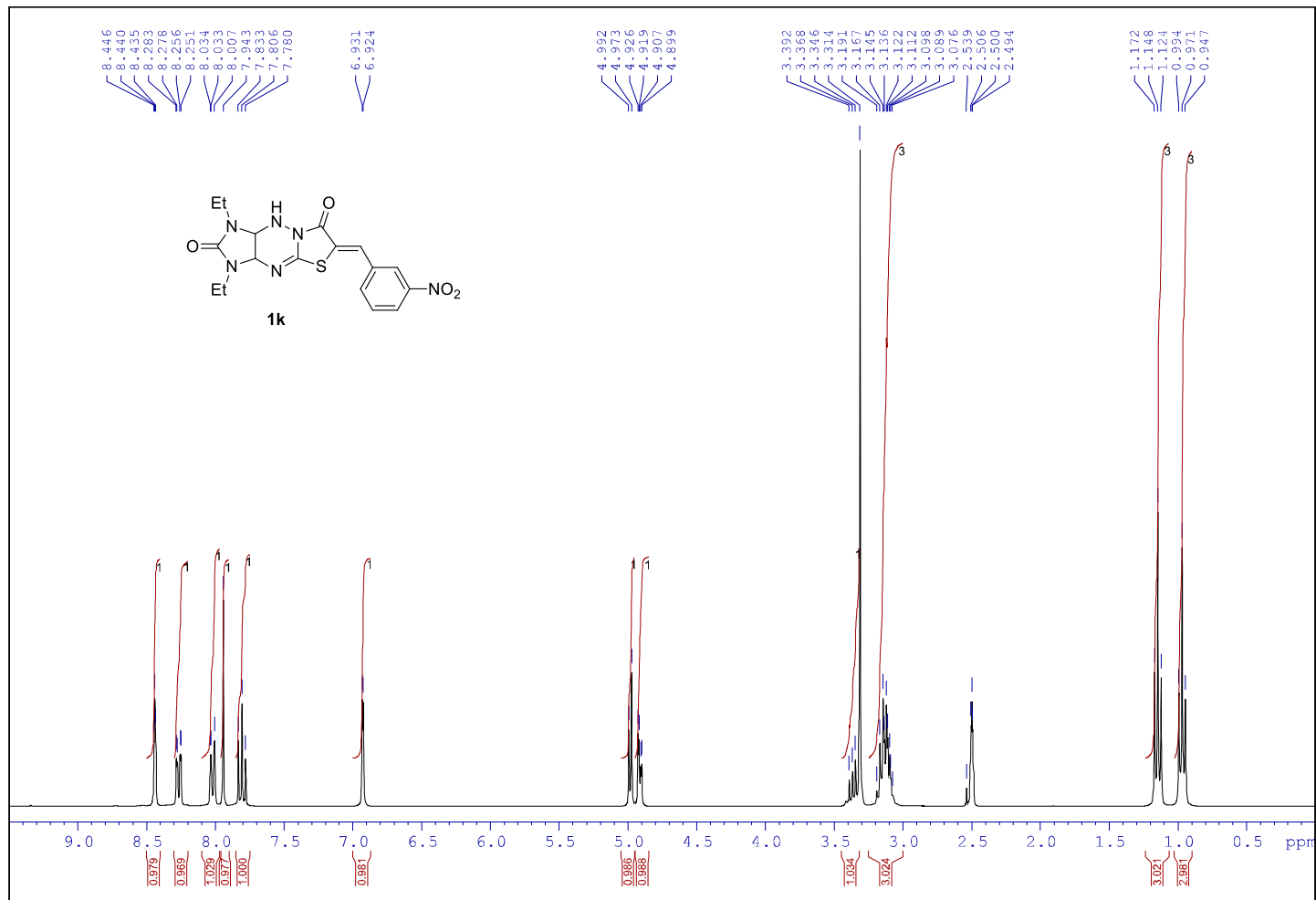
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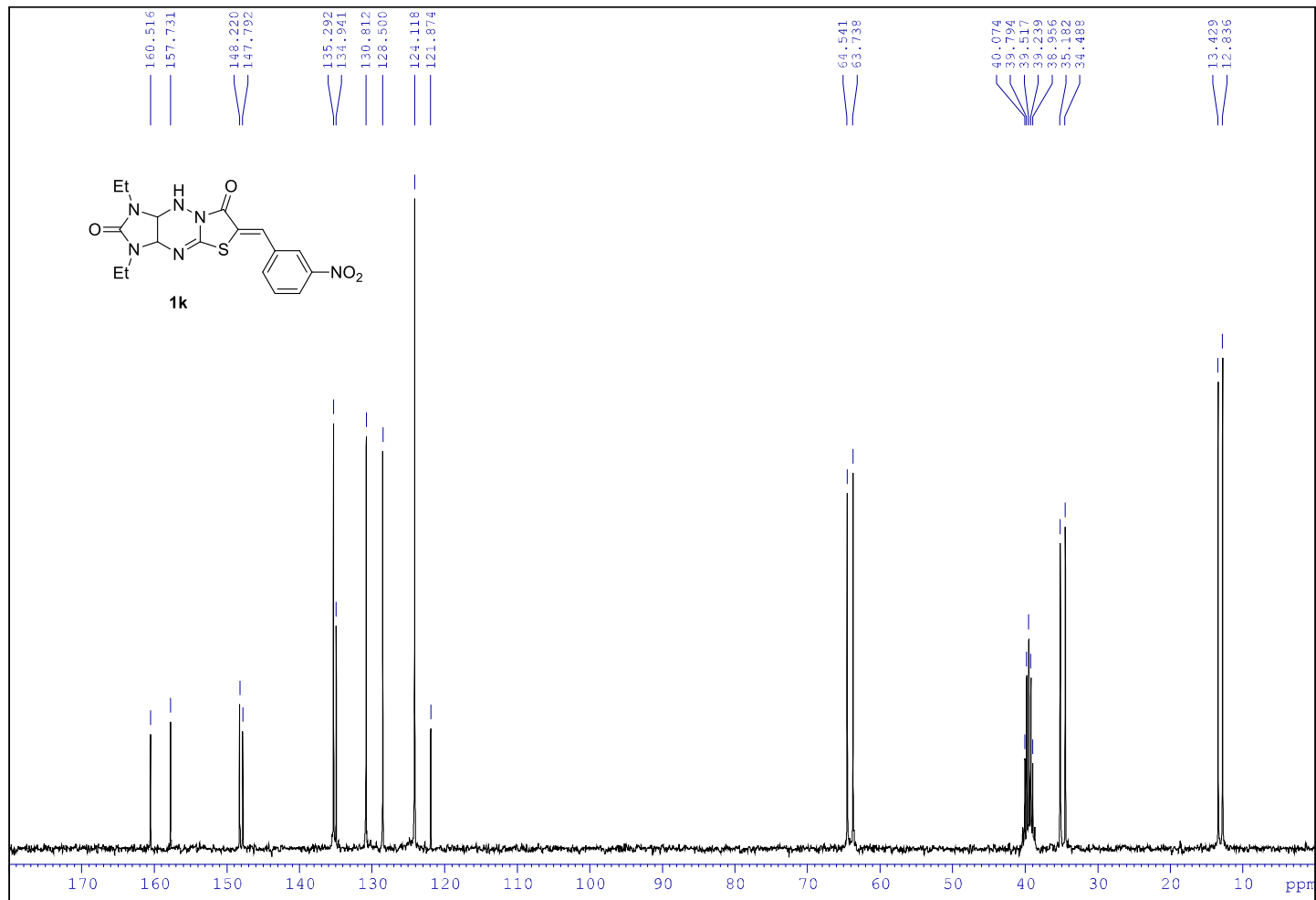
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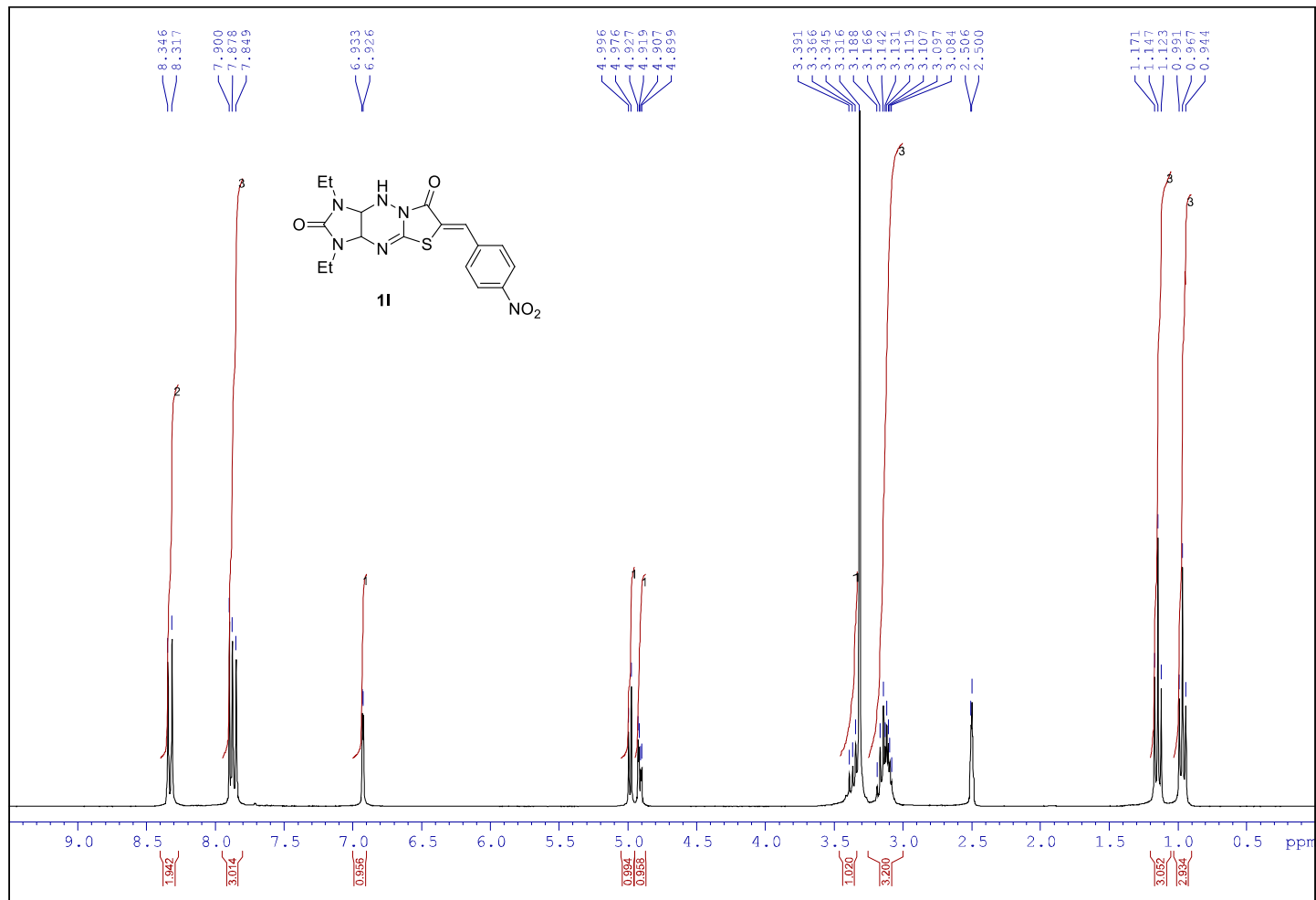
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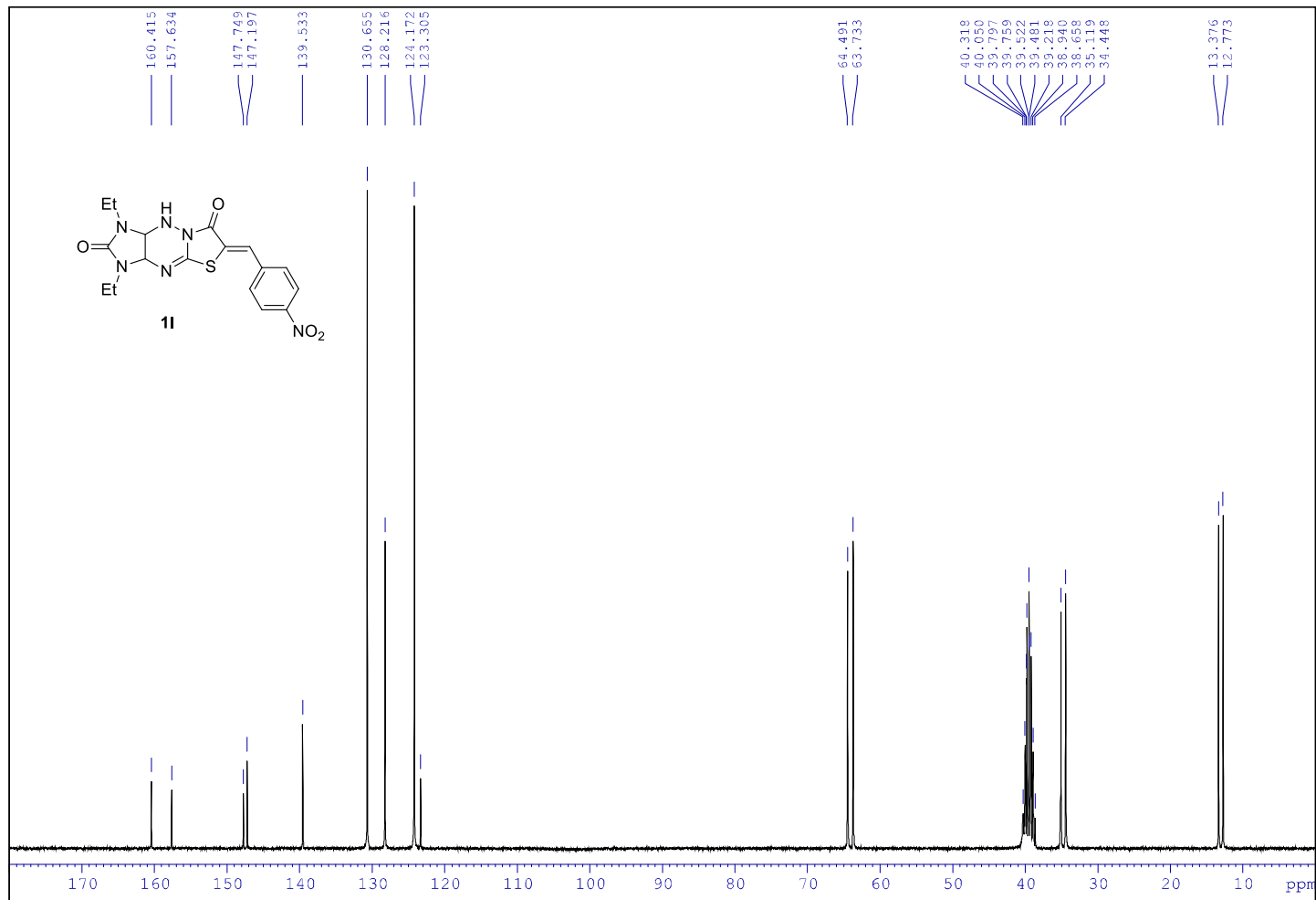


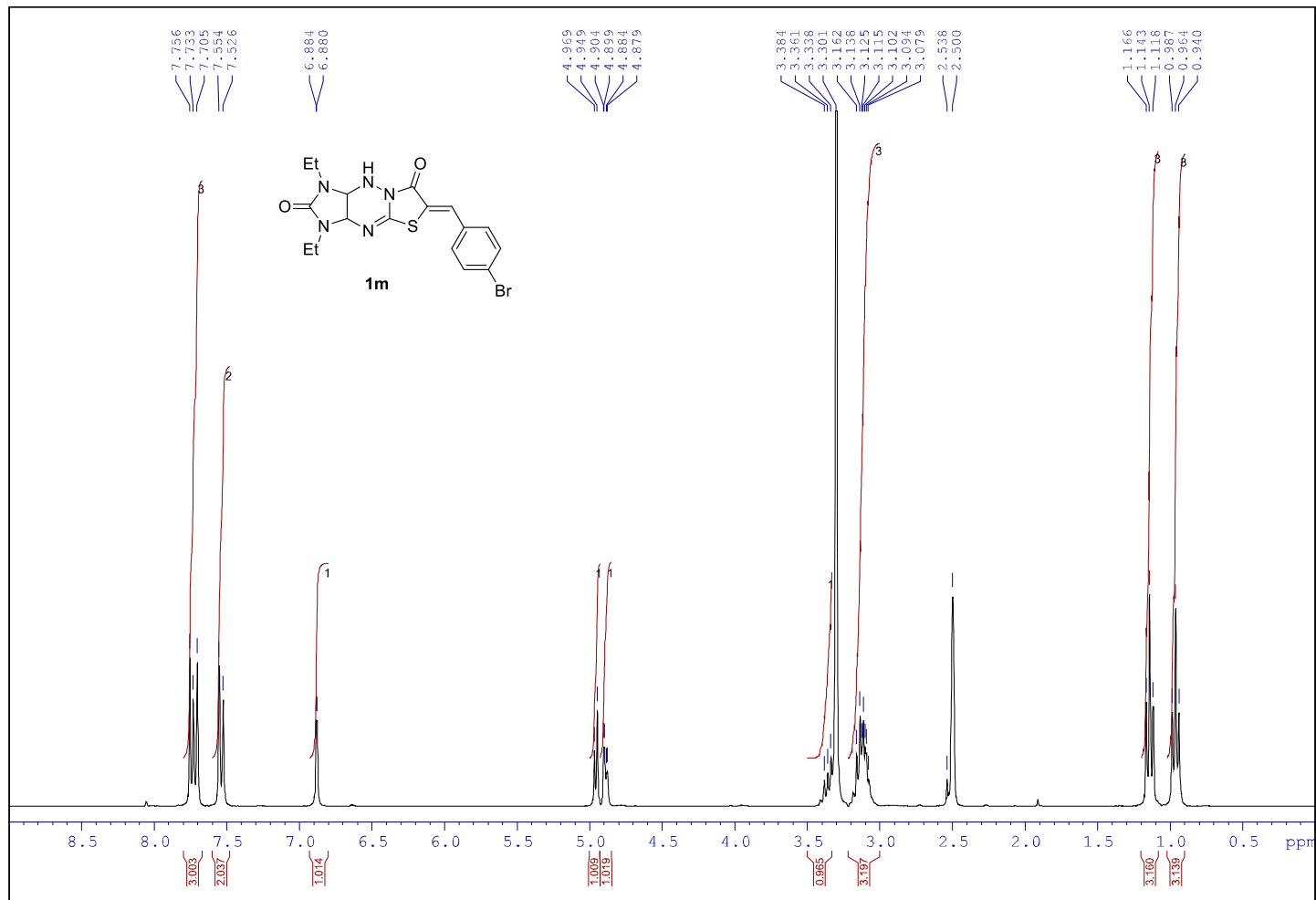


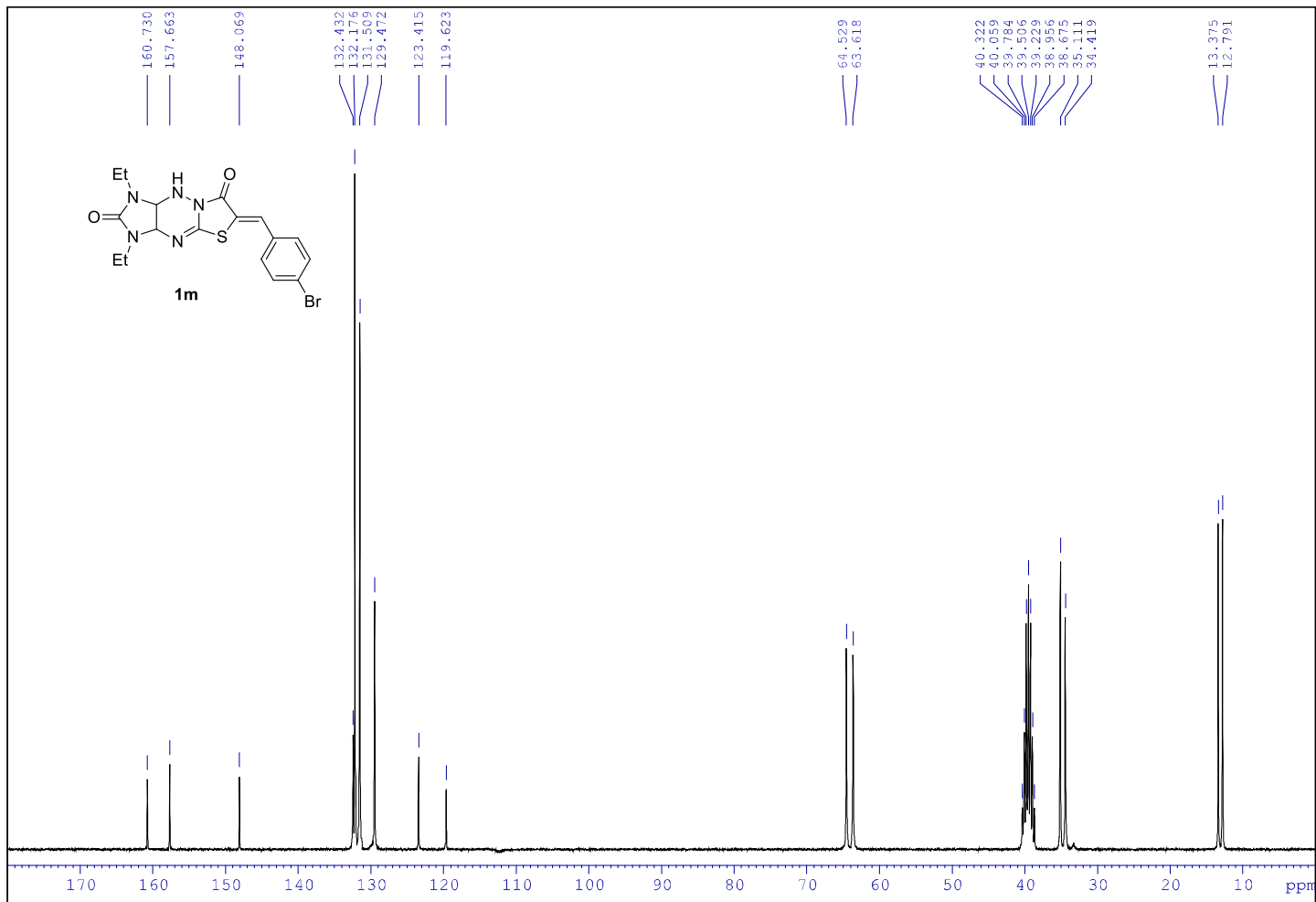


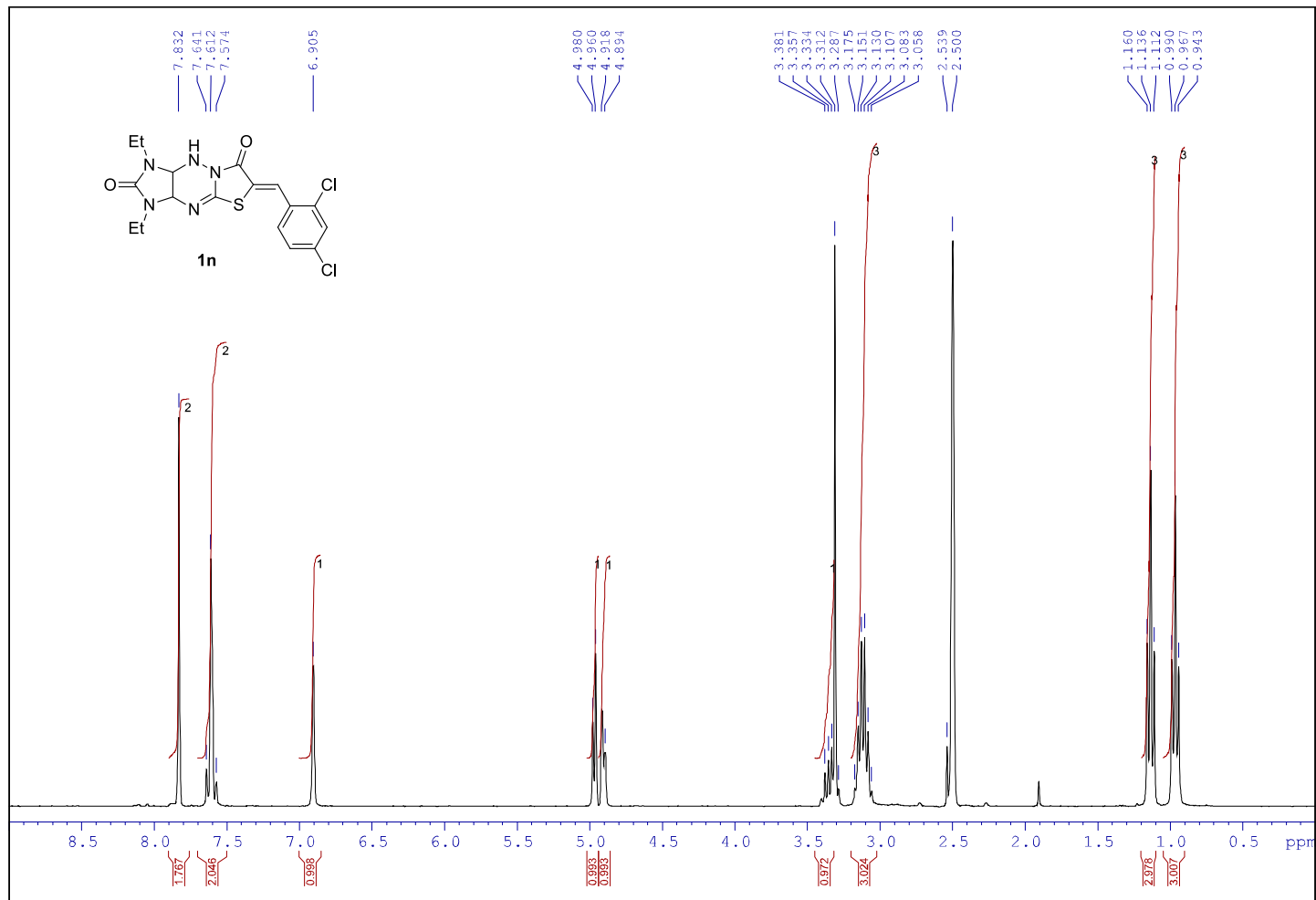


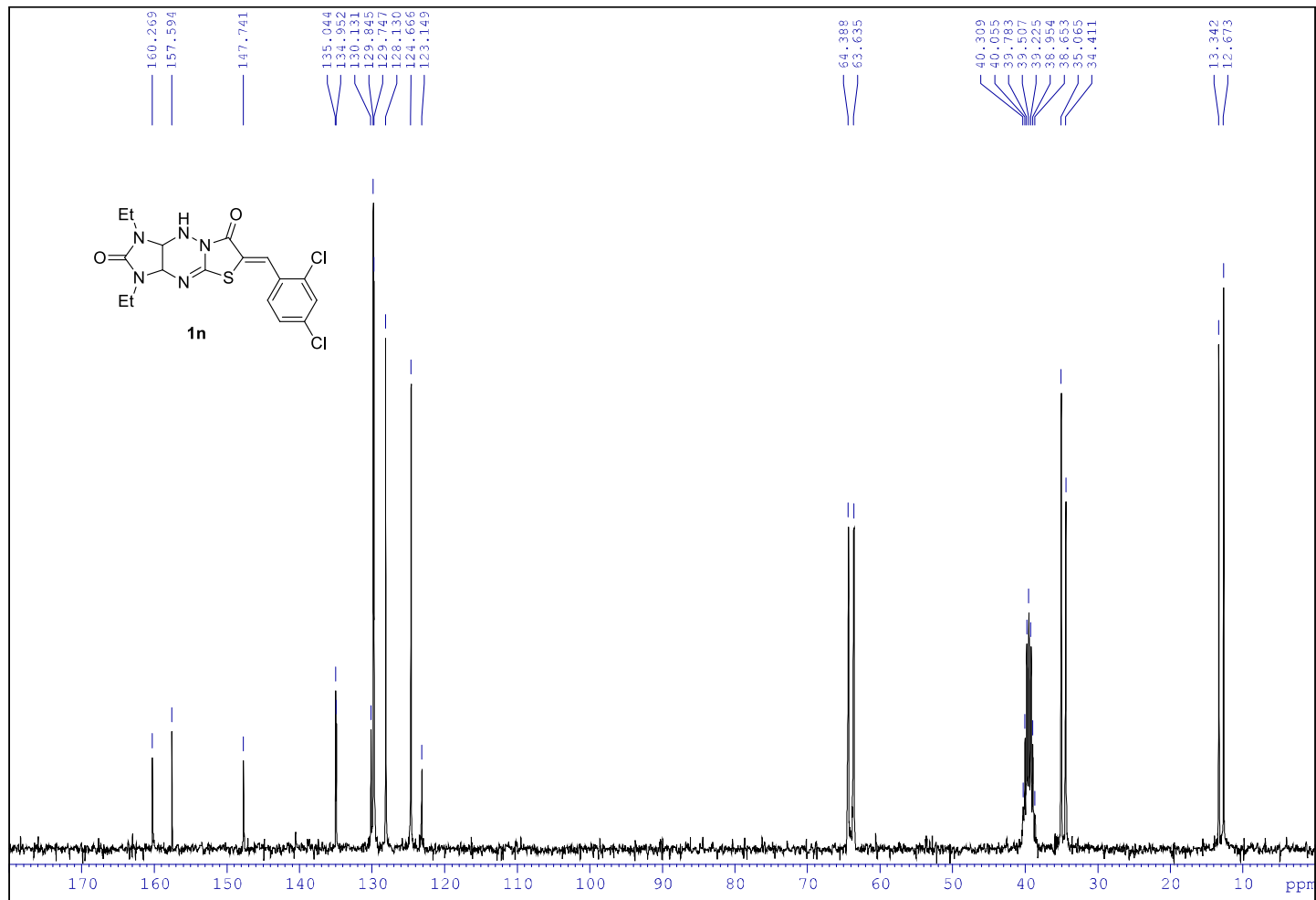


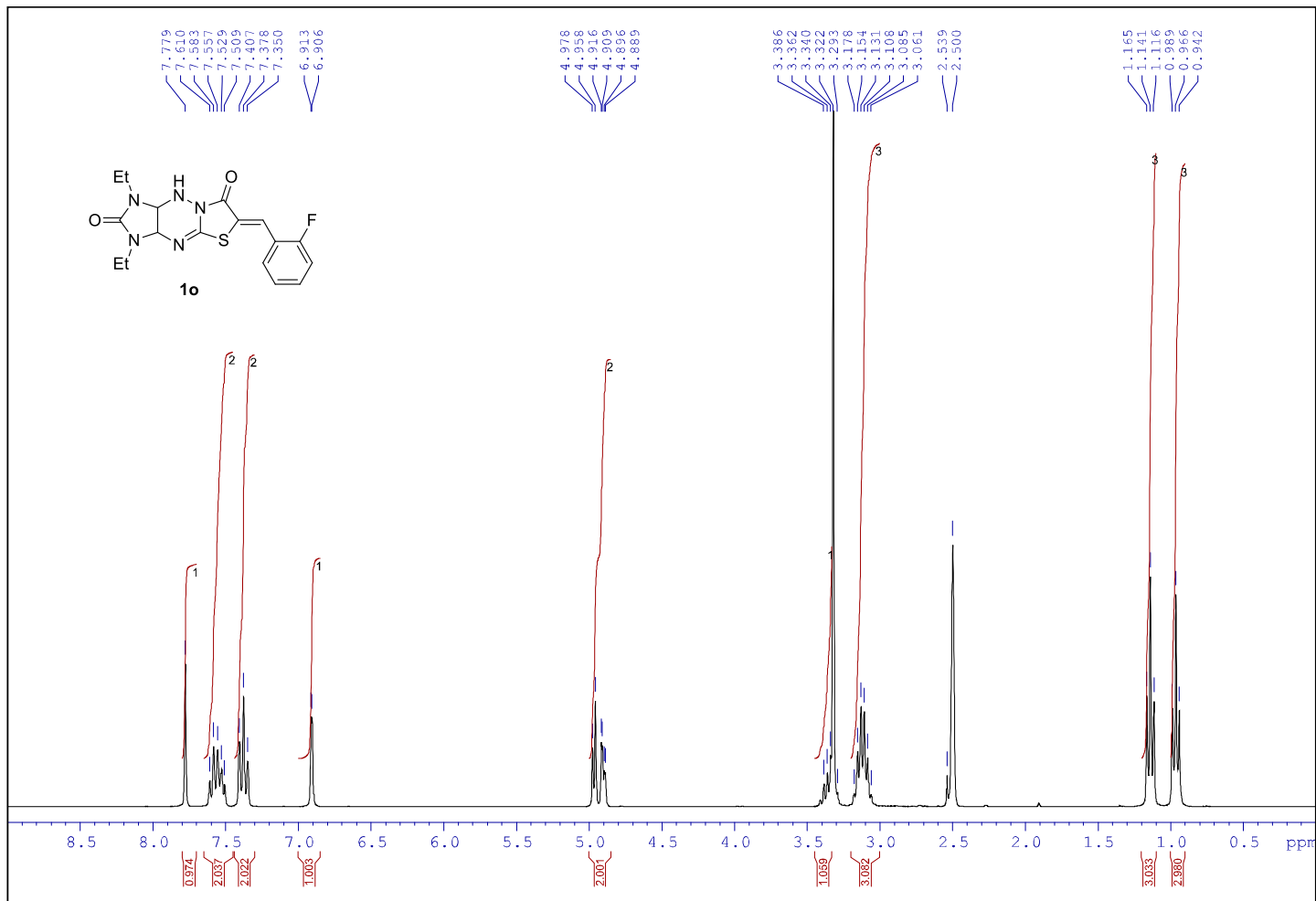


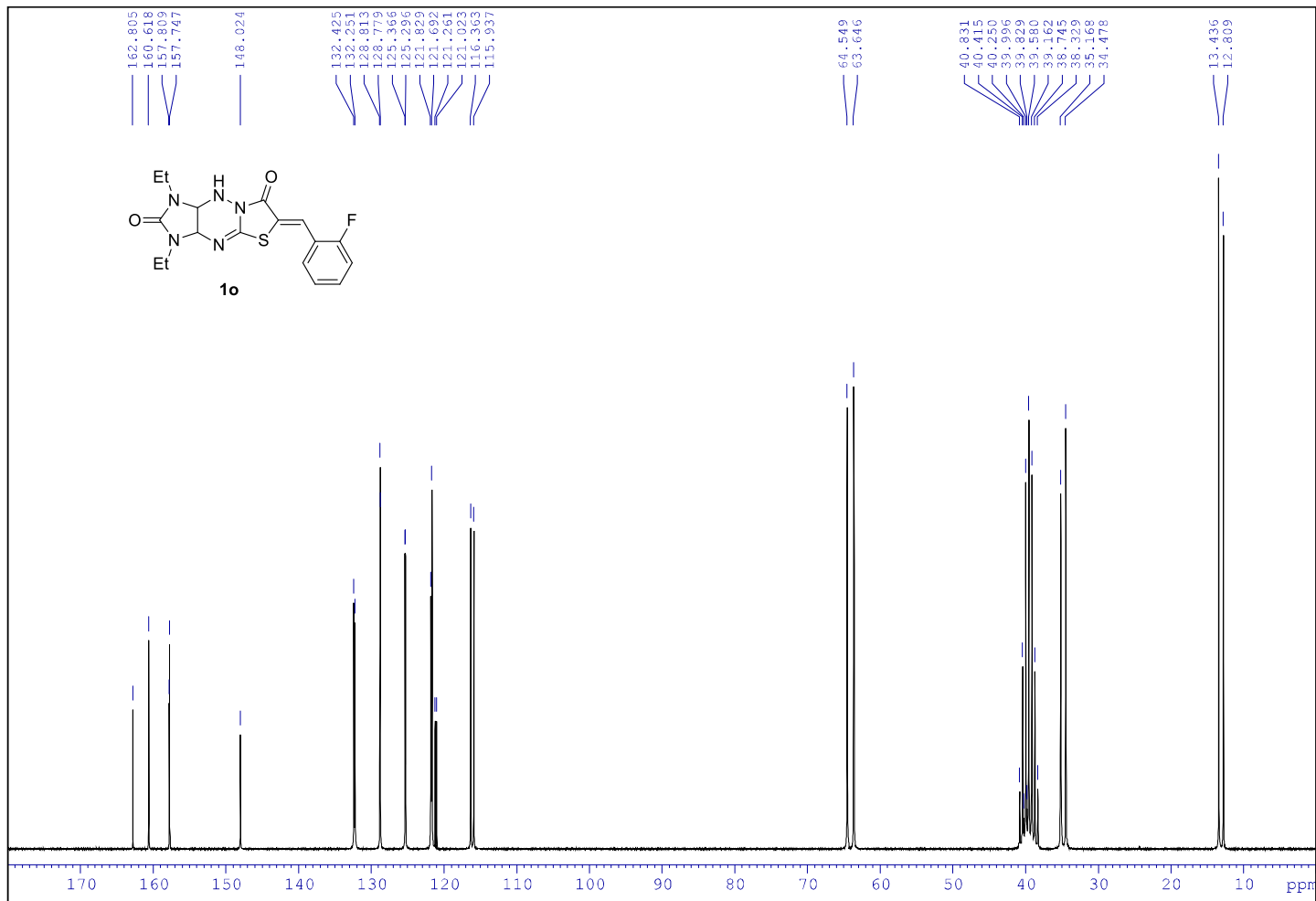


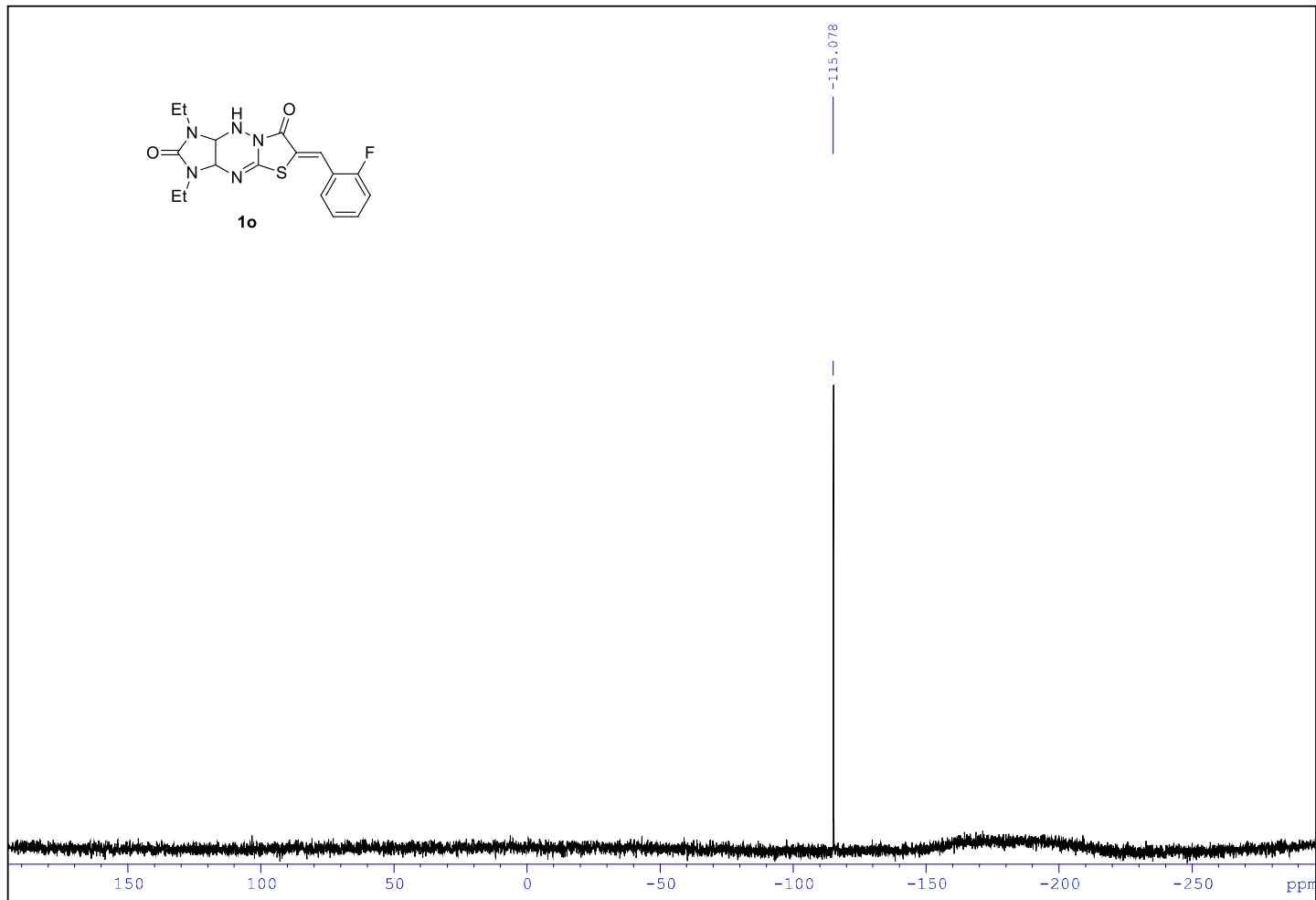
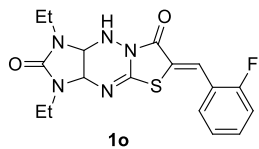


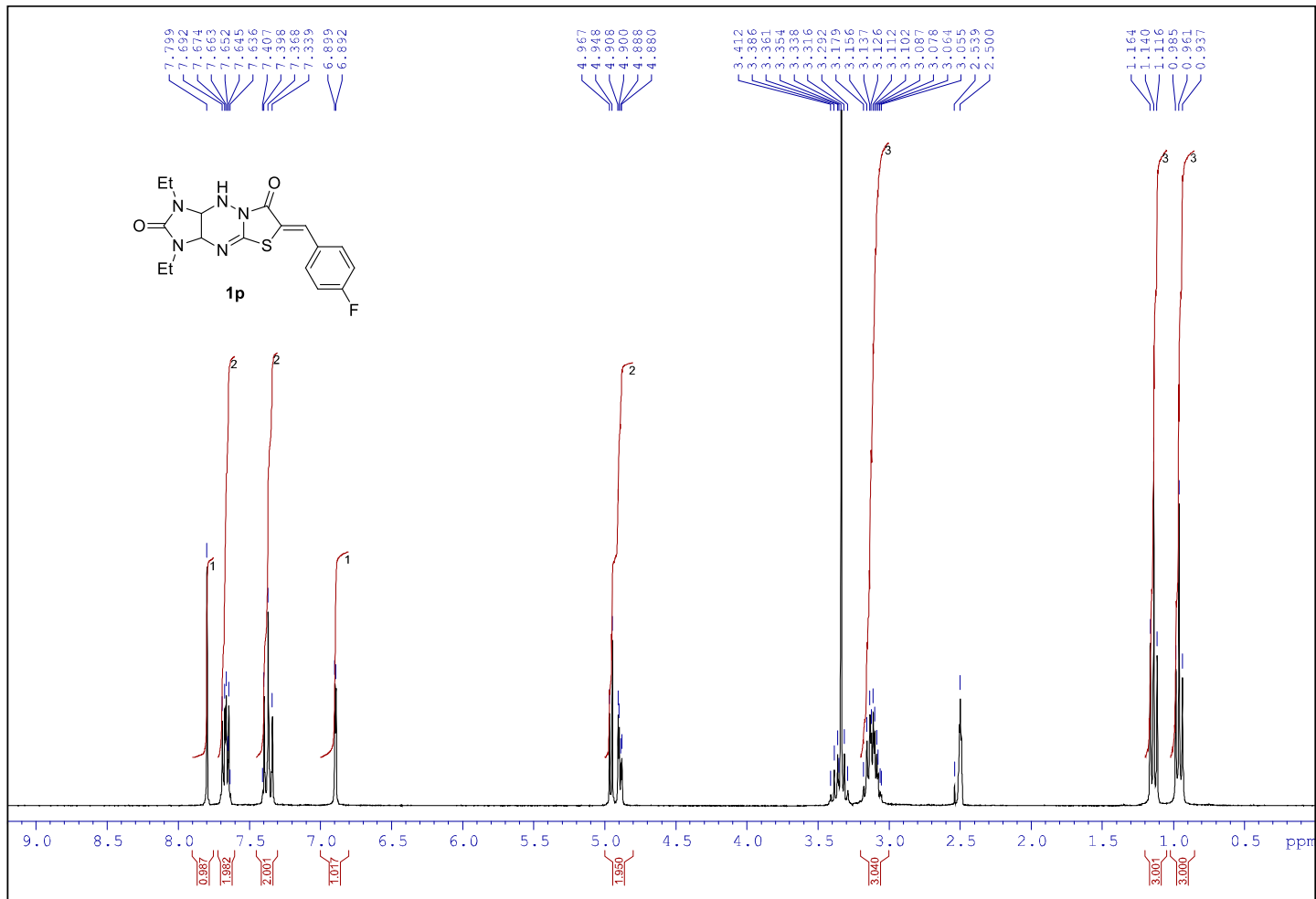
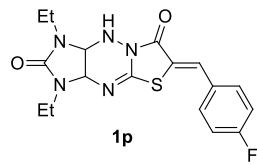


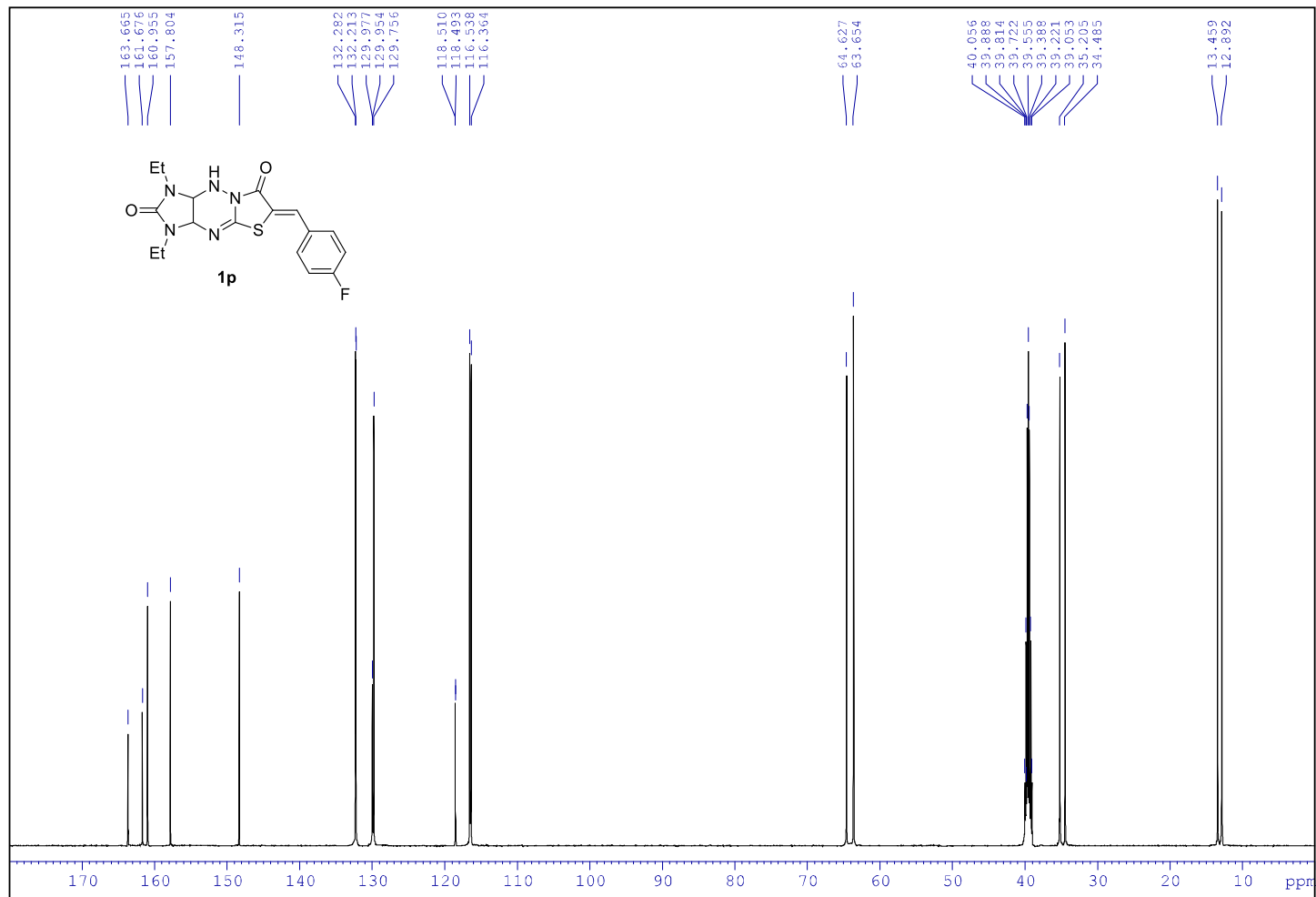


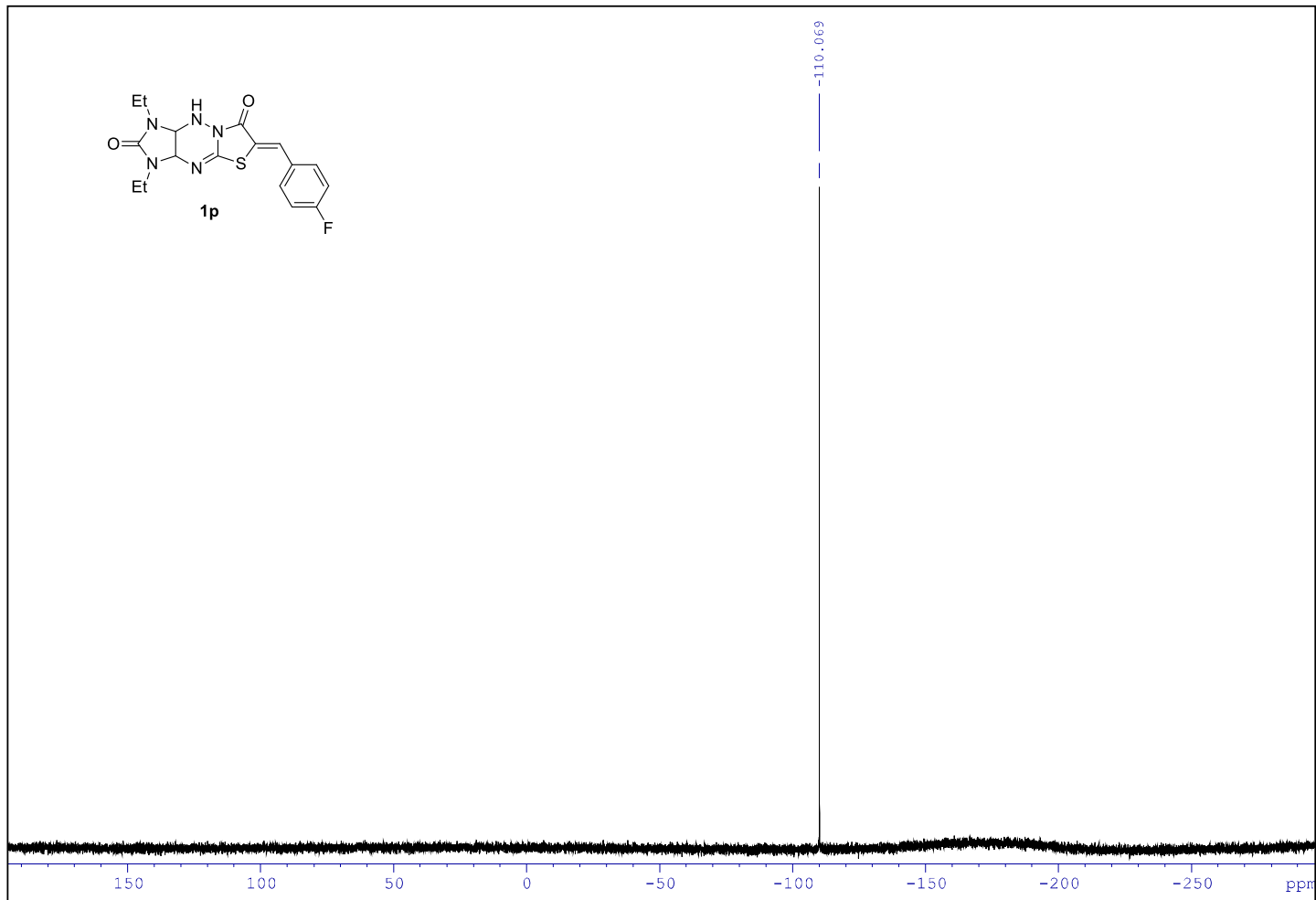
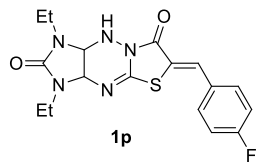


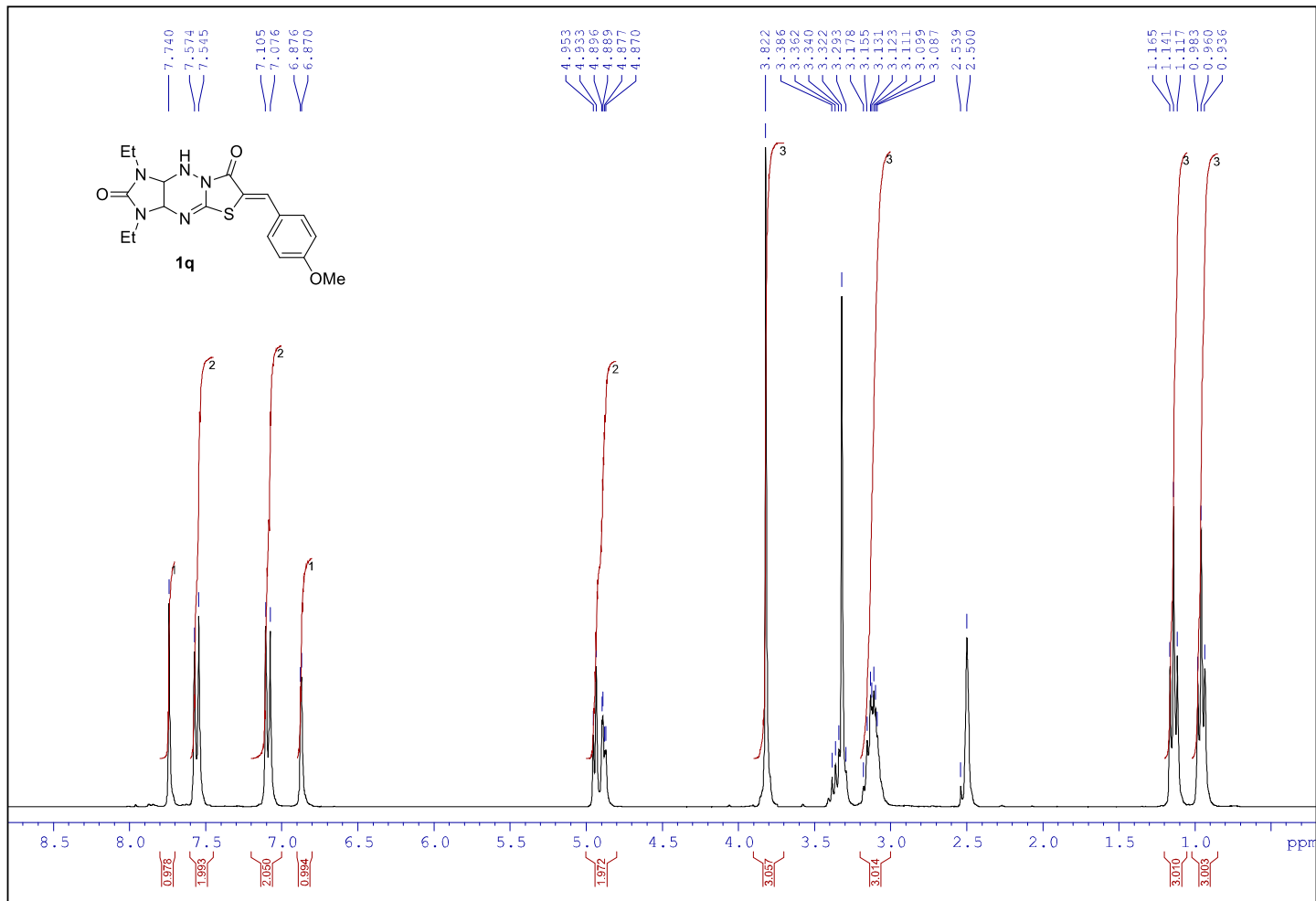


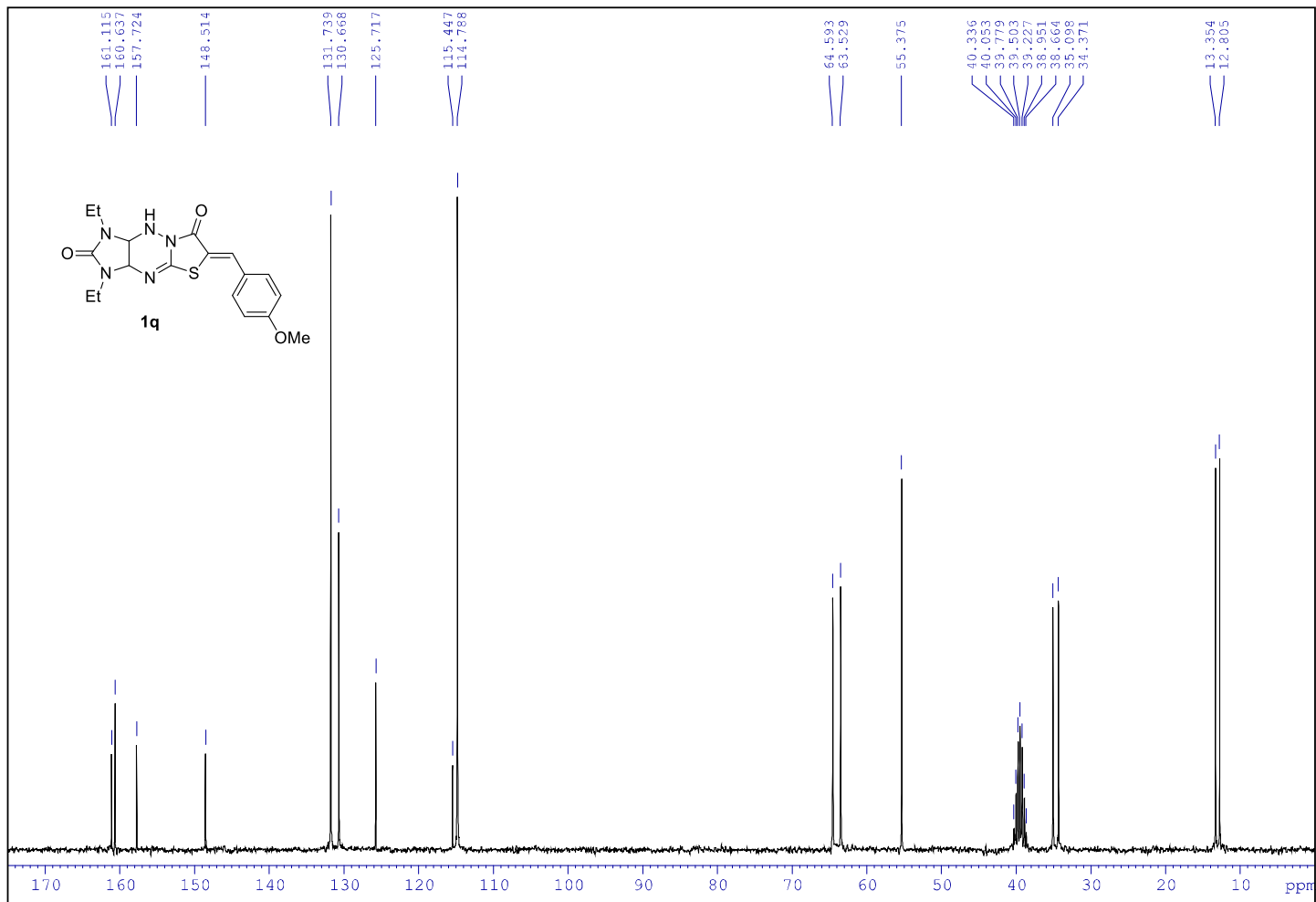




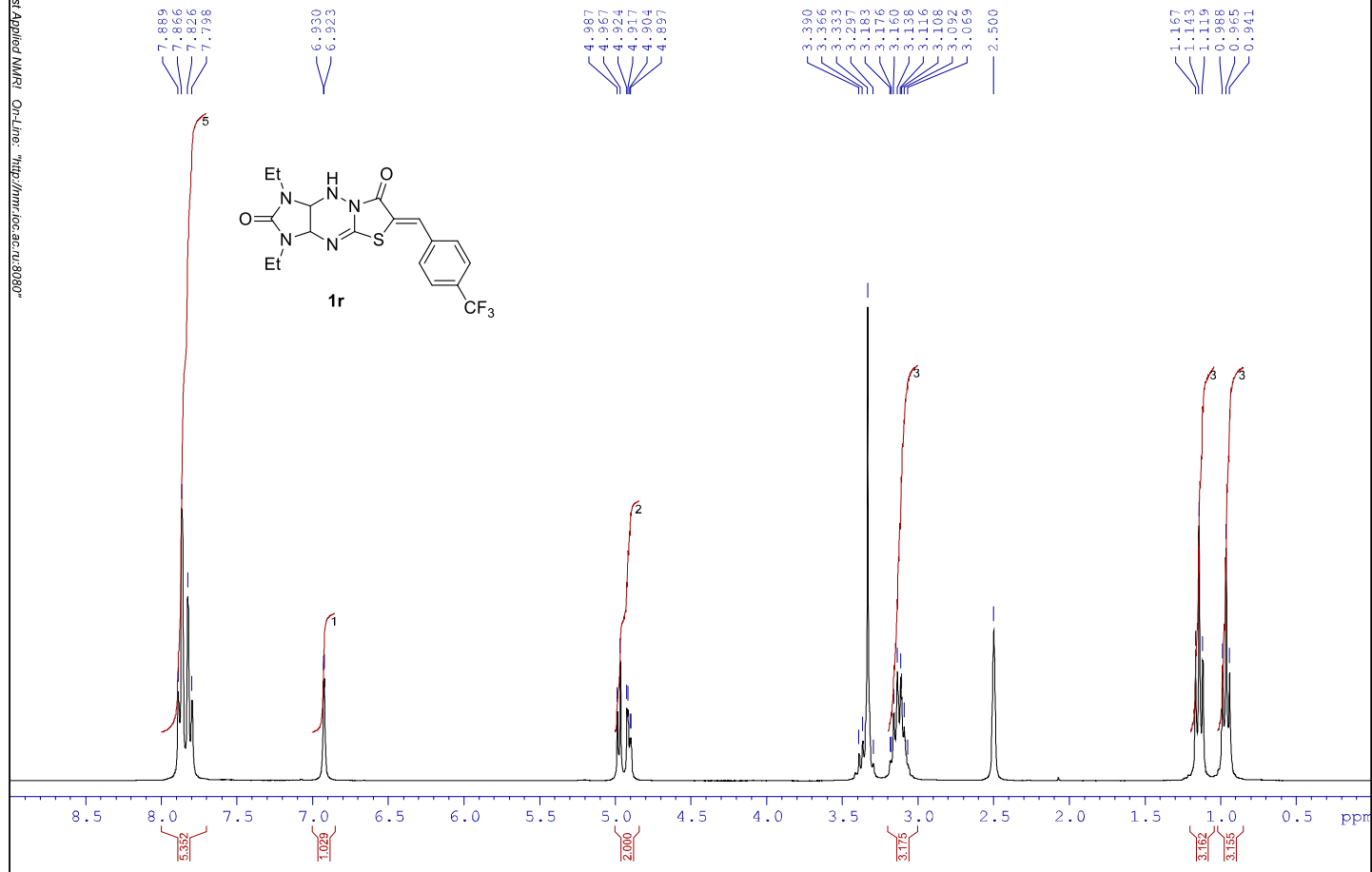




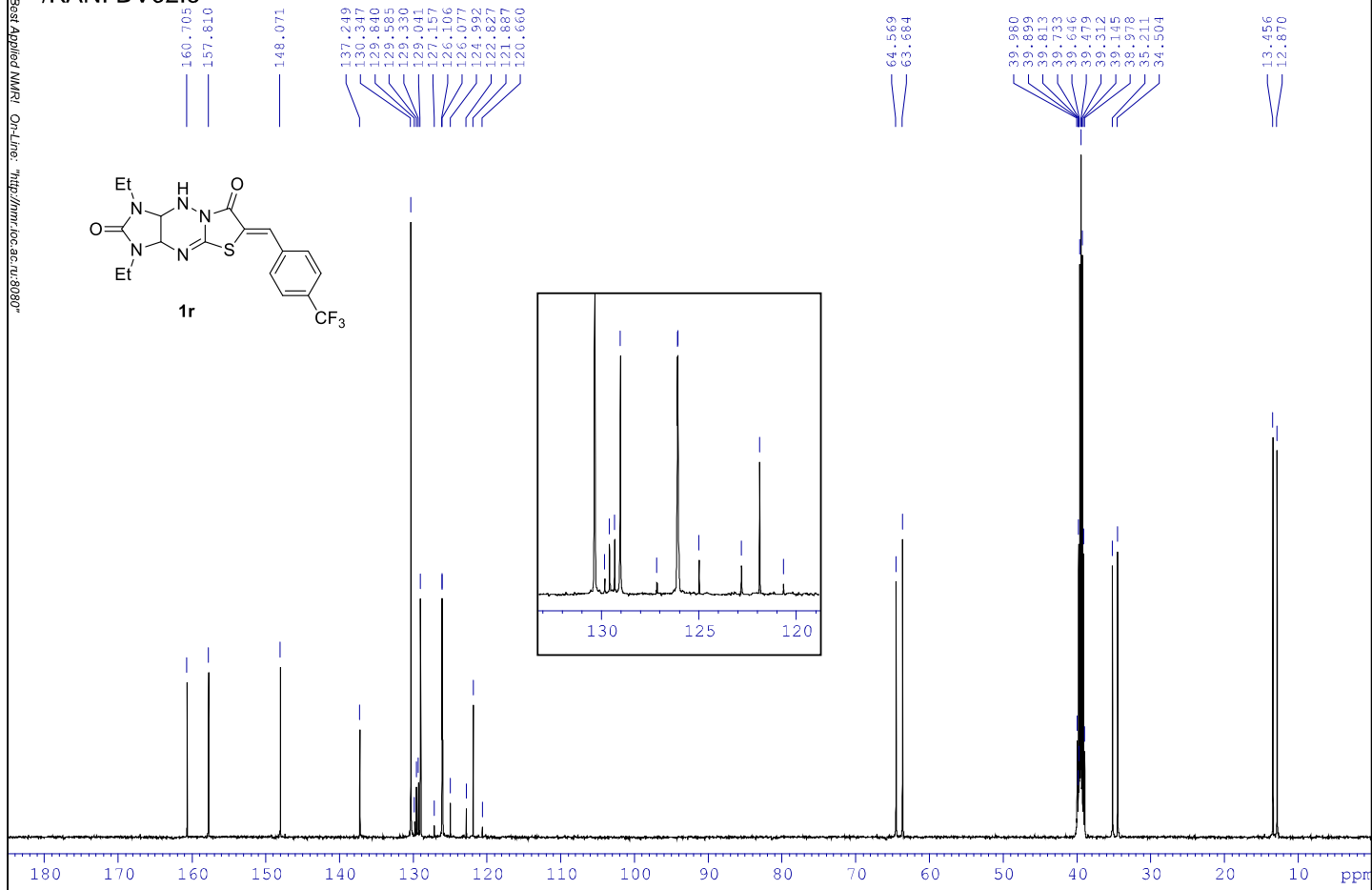
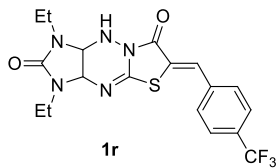




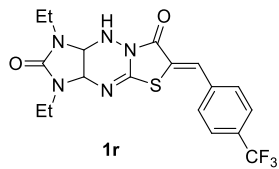
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/KANI DV62.5



/KANI DV62.5



-61.739

50

0

-50

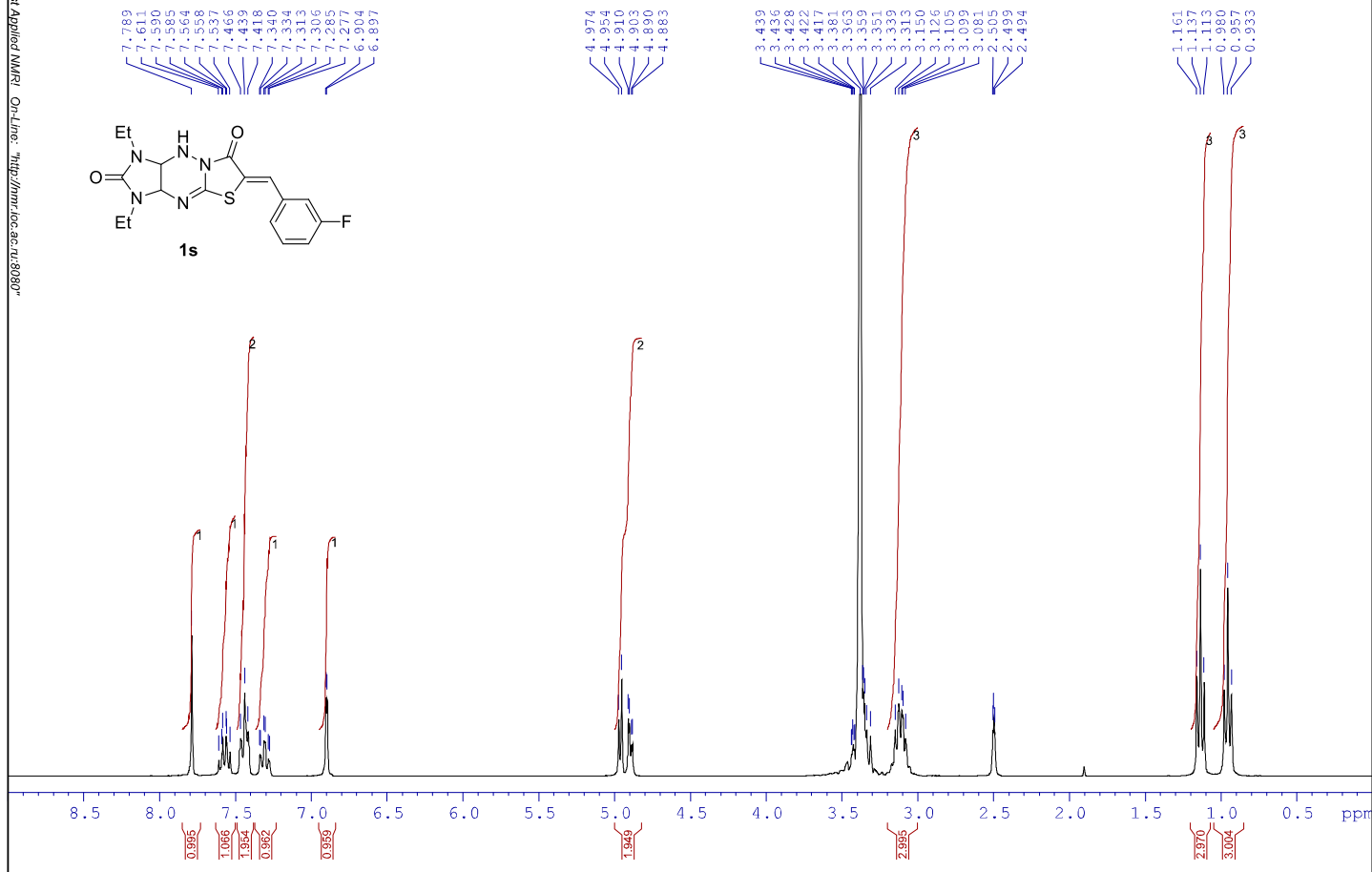
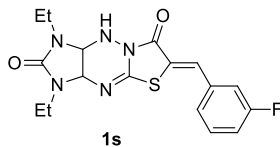
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-150

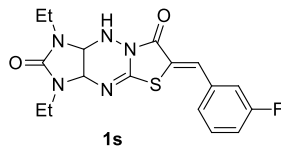
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ppm

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/KANI DV173.1

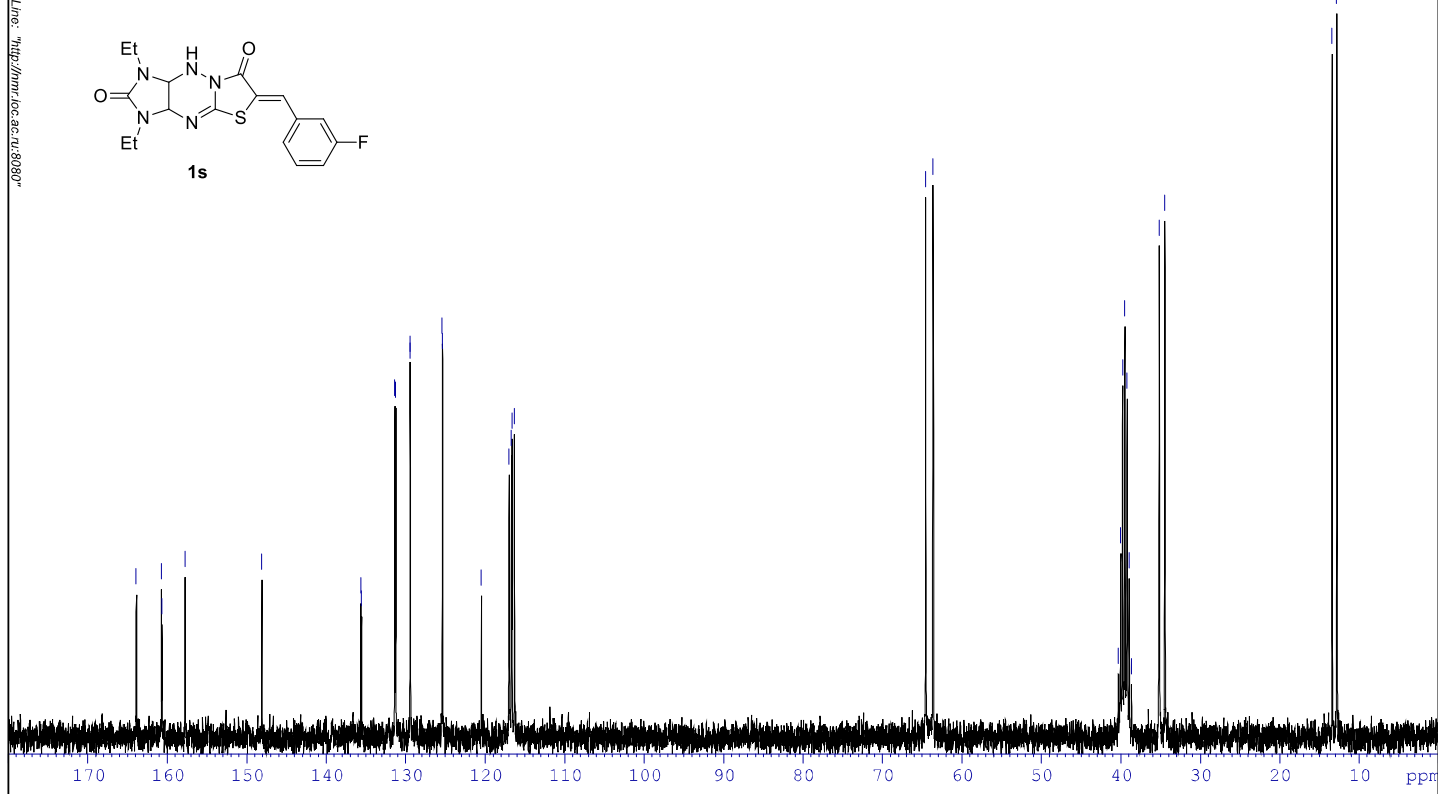


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160.746
160.664
157.775
148.124
135.684
135.975
131.393
131.280
129.472
129.440
125.416
125.383
120.521
117.000
116.718
116.640
116.342

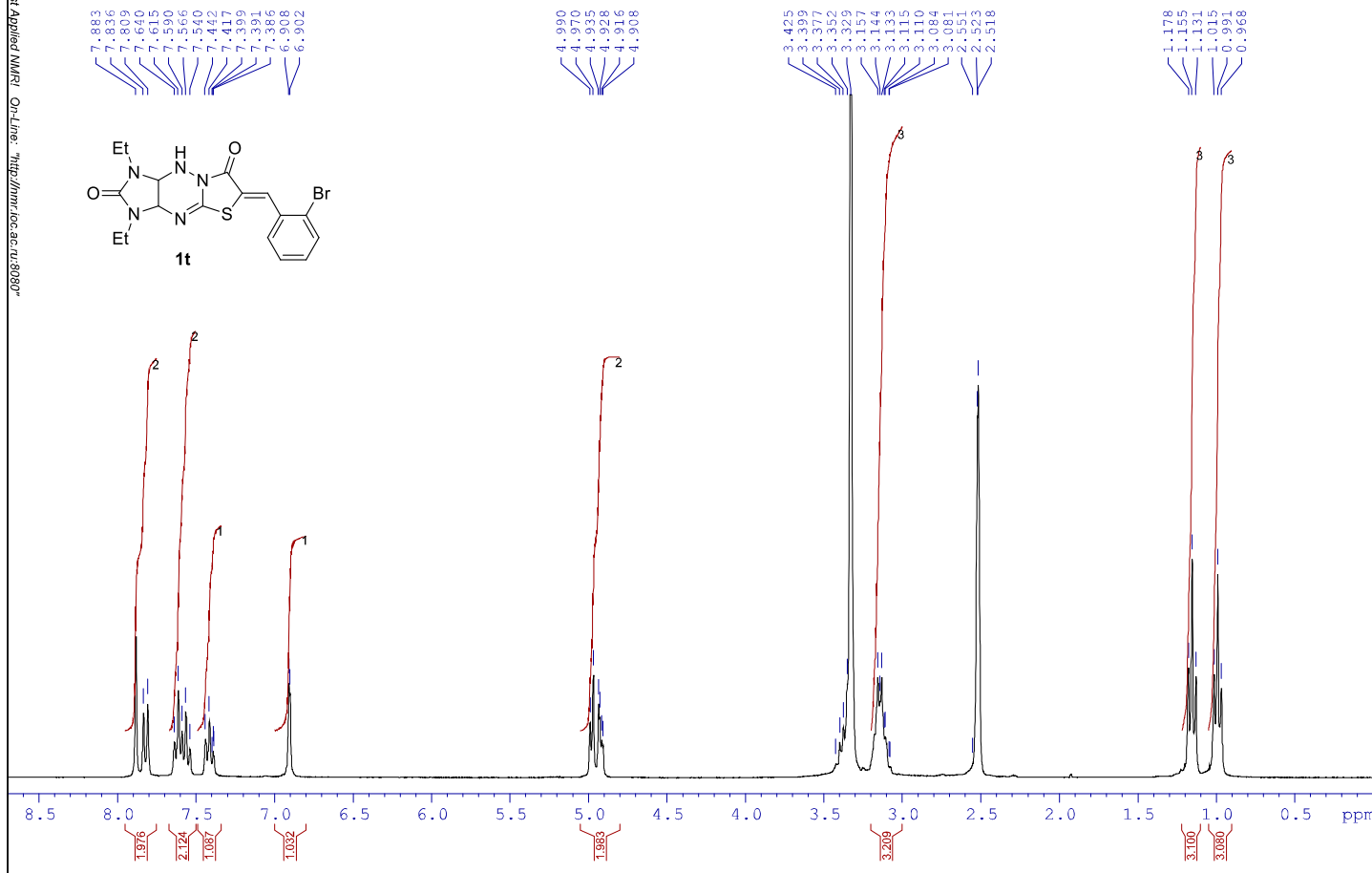
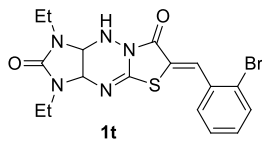
64.581
63.553

40.343
40.059
39.782
39.505
39.227
38.948
38.663
35.183
34.479

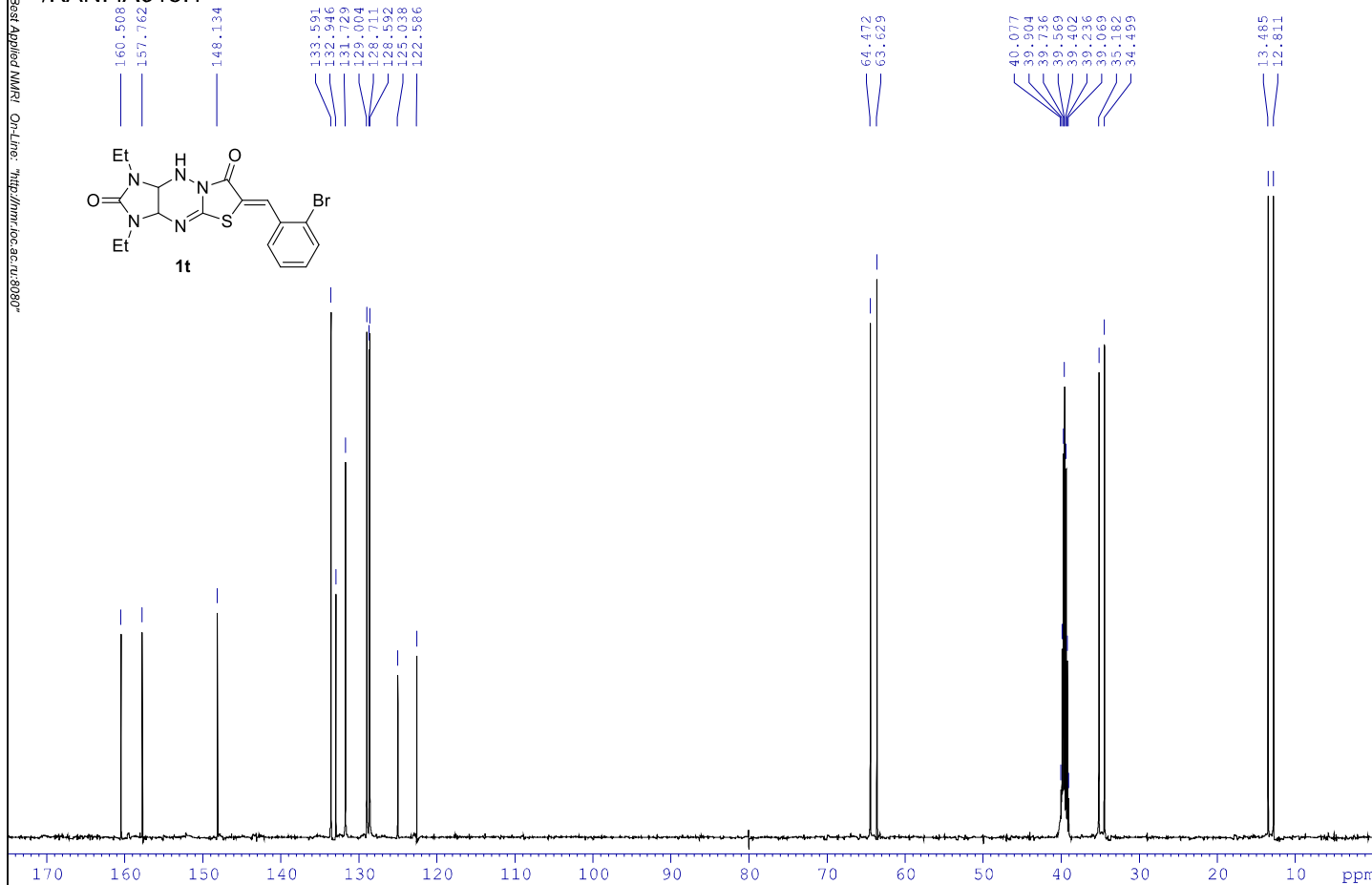
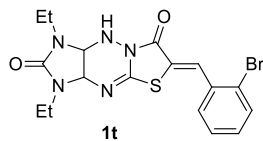
13.425
12.851

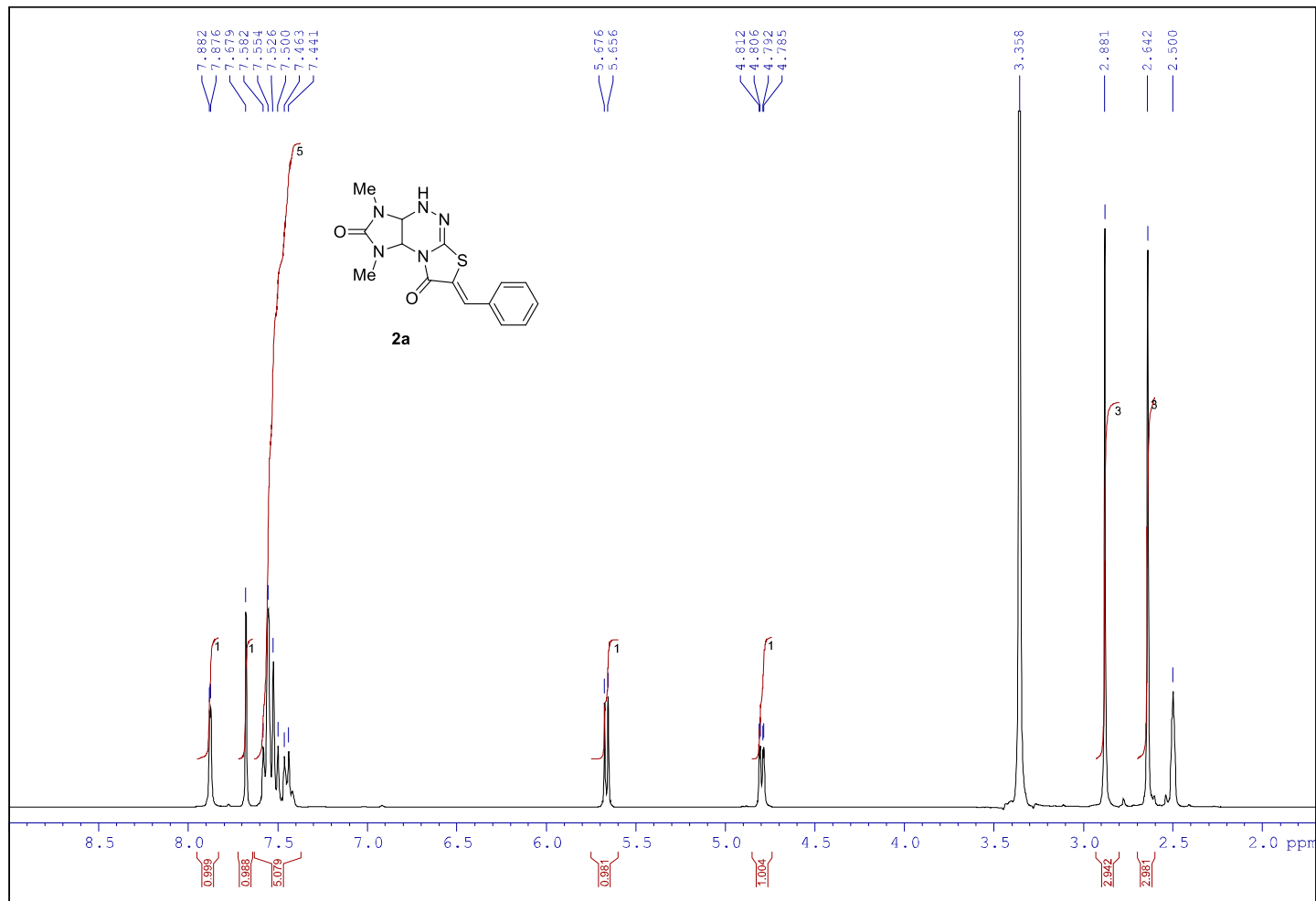


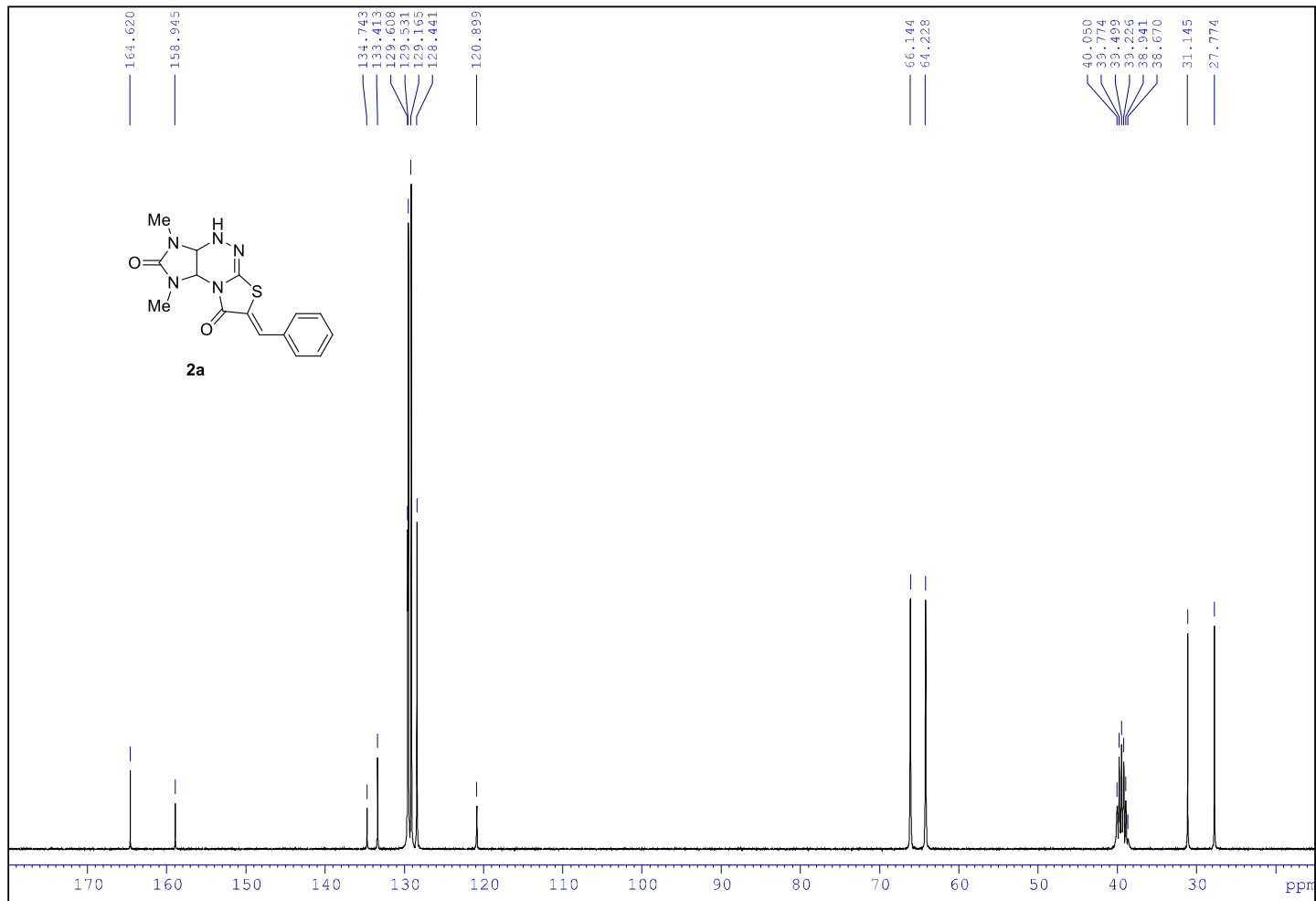
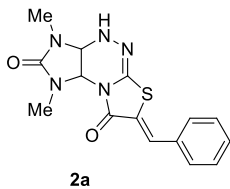
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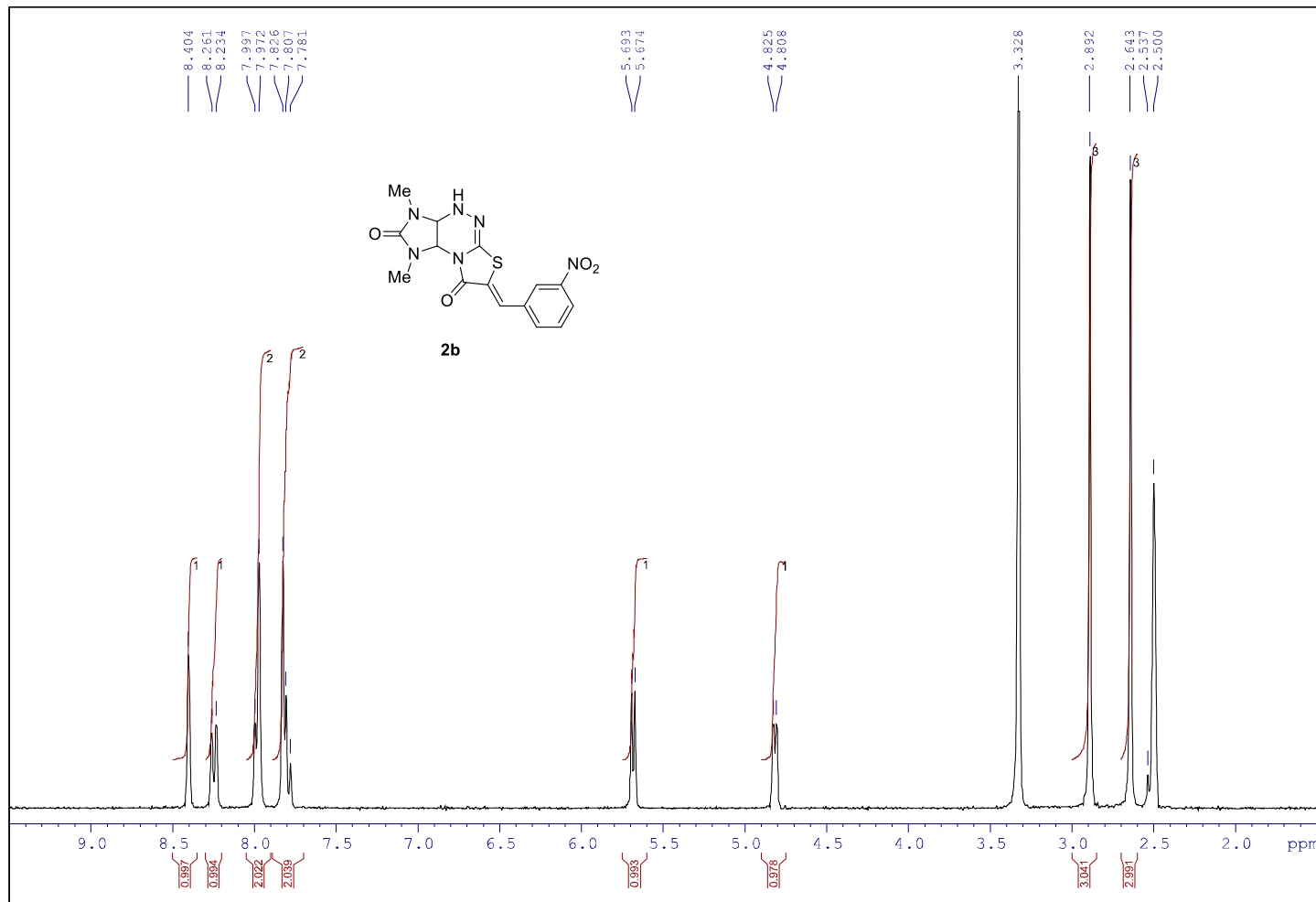


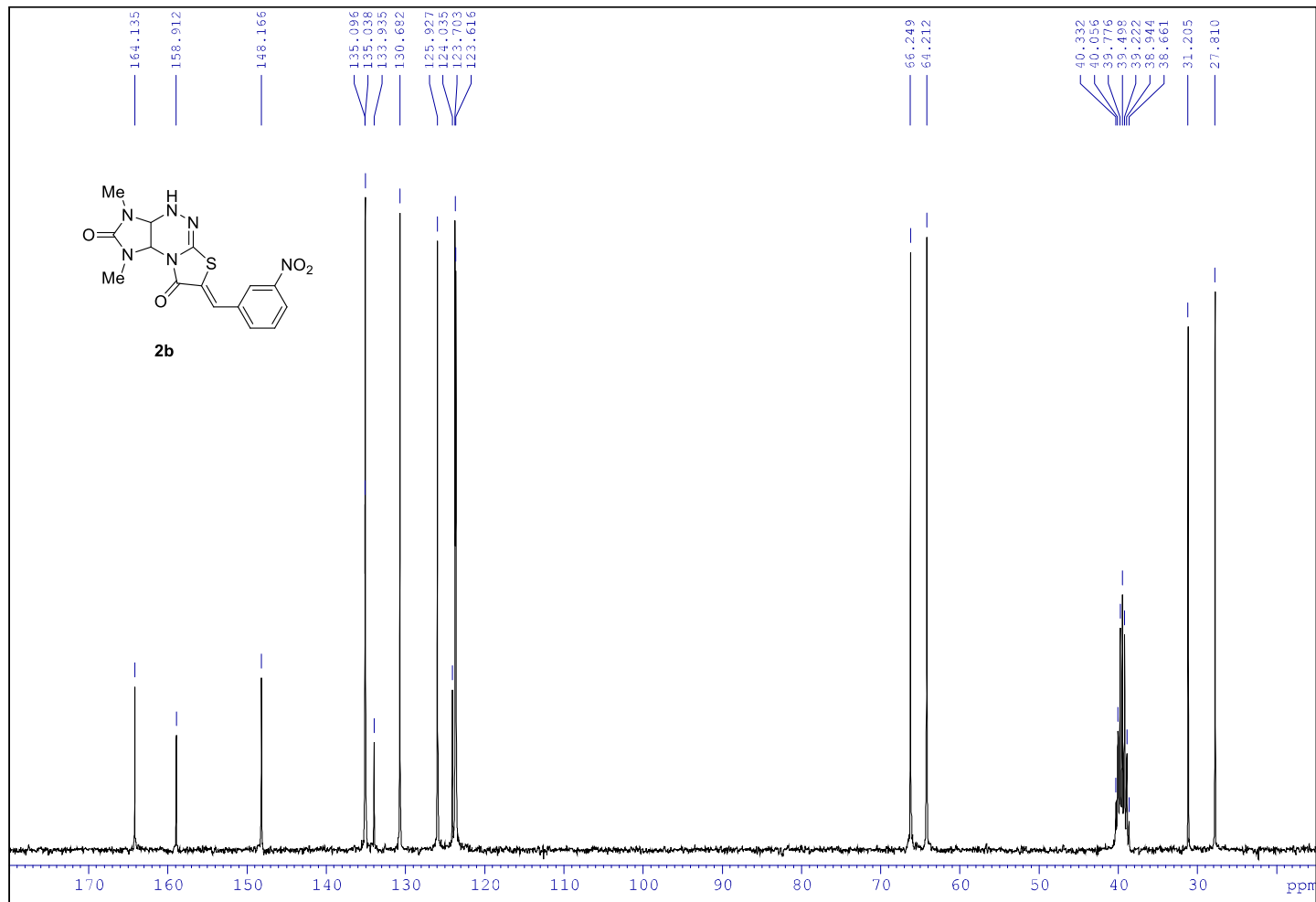
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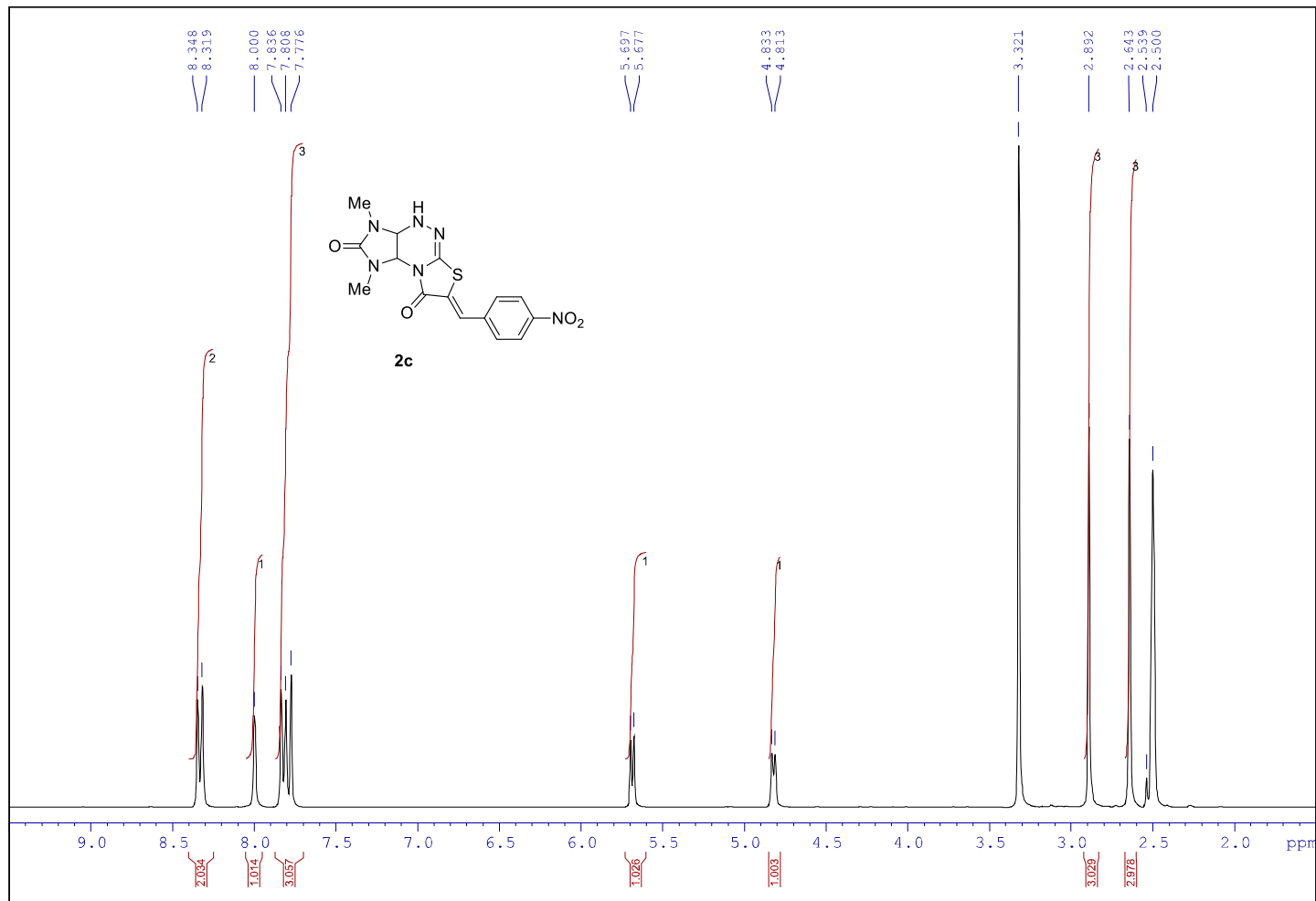


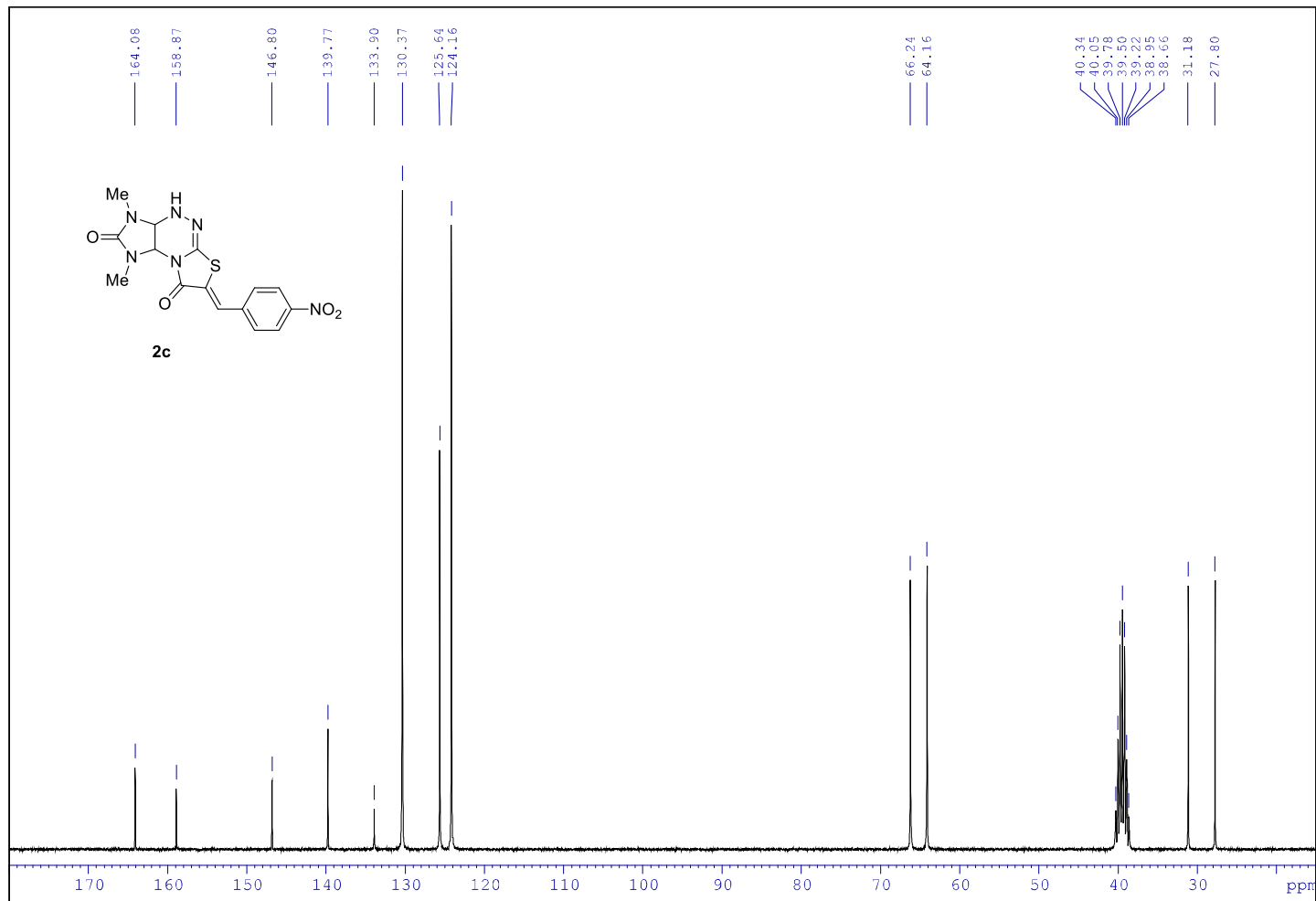


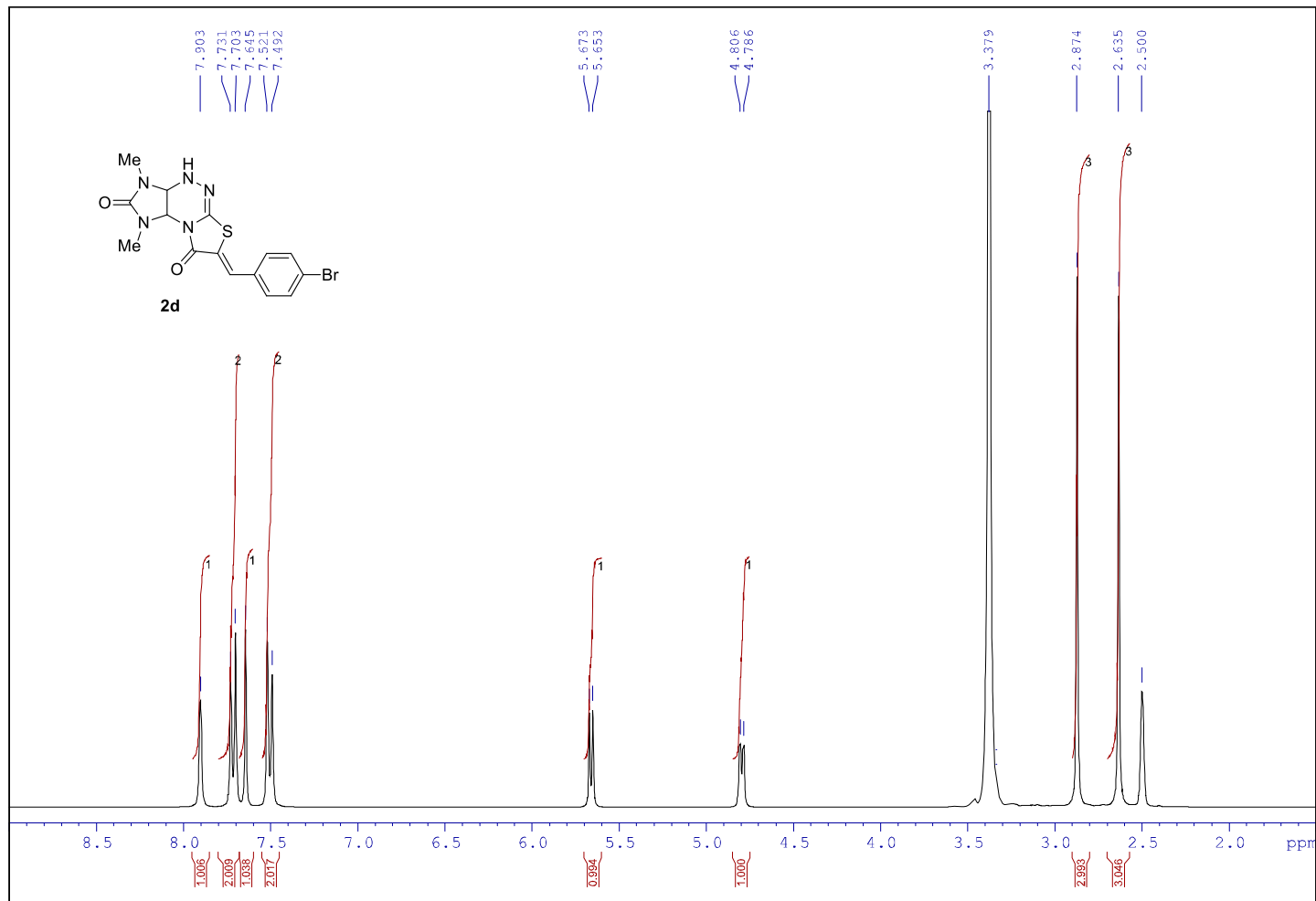
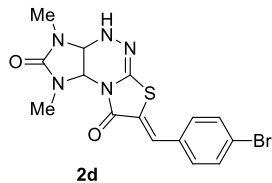


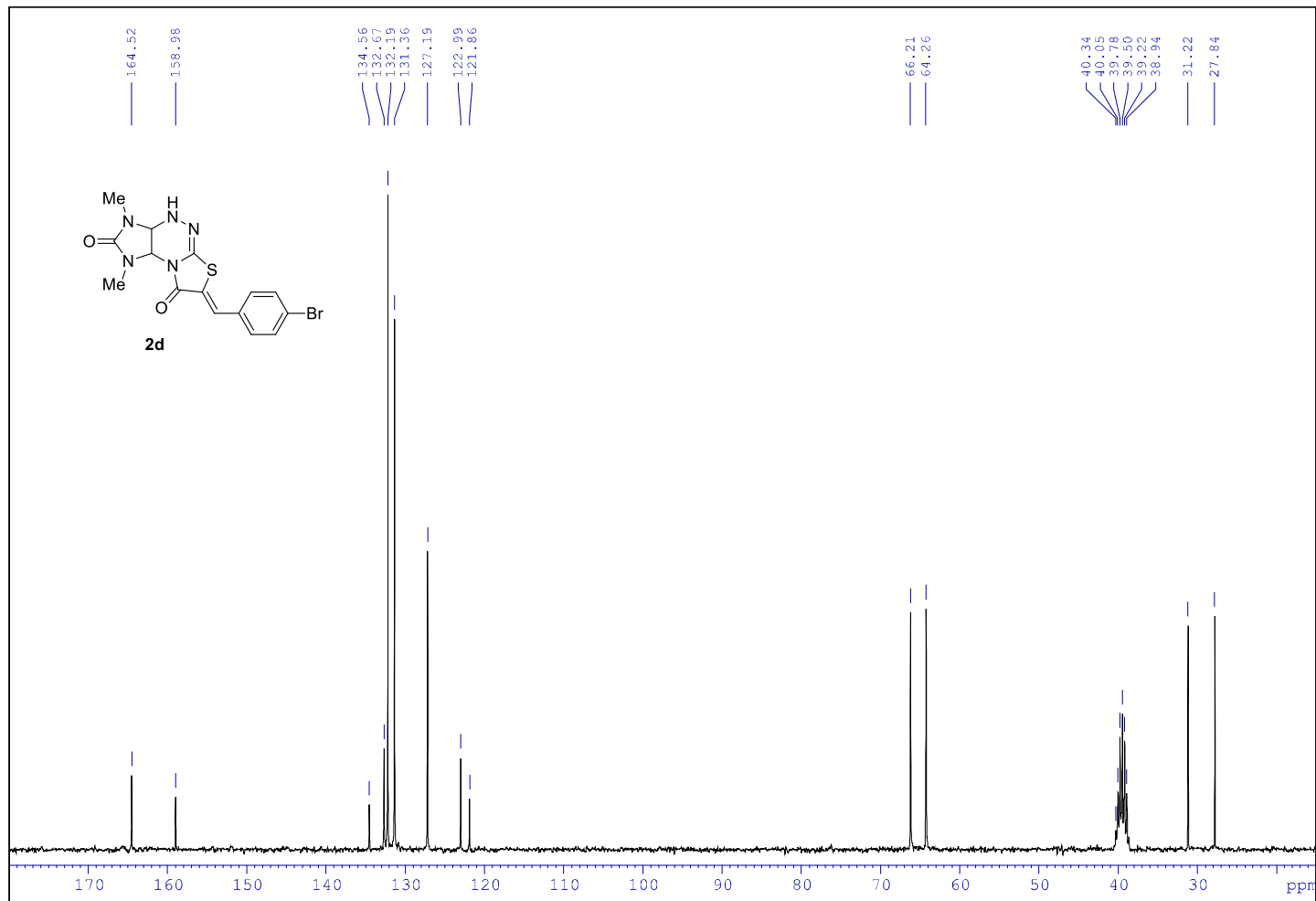


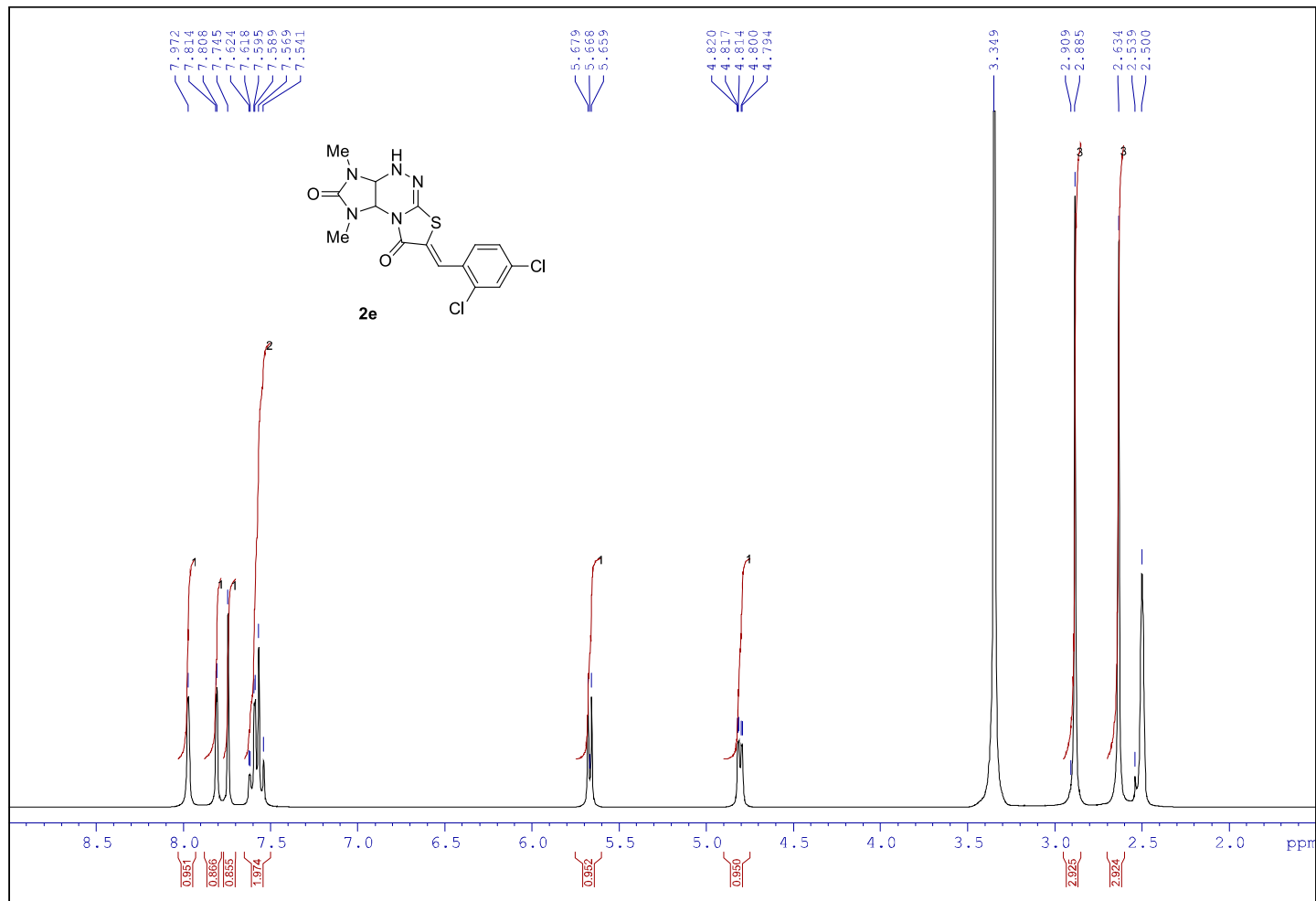


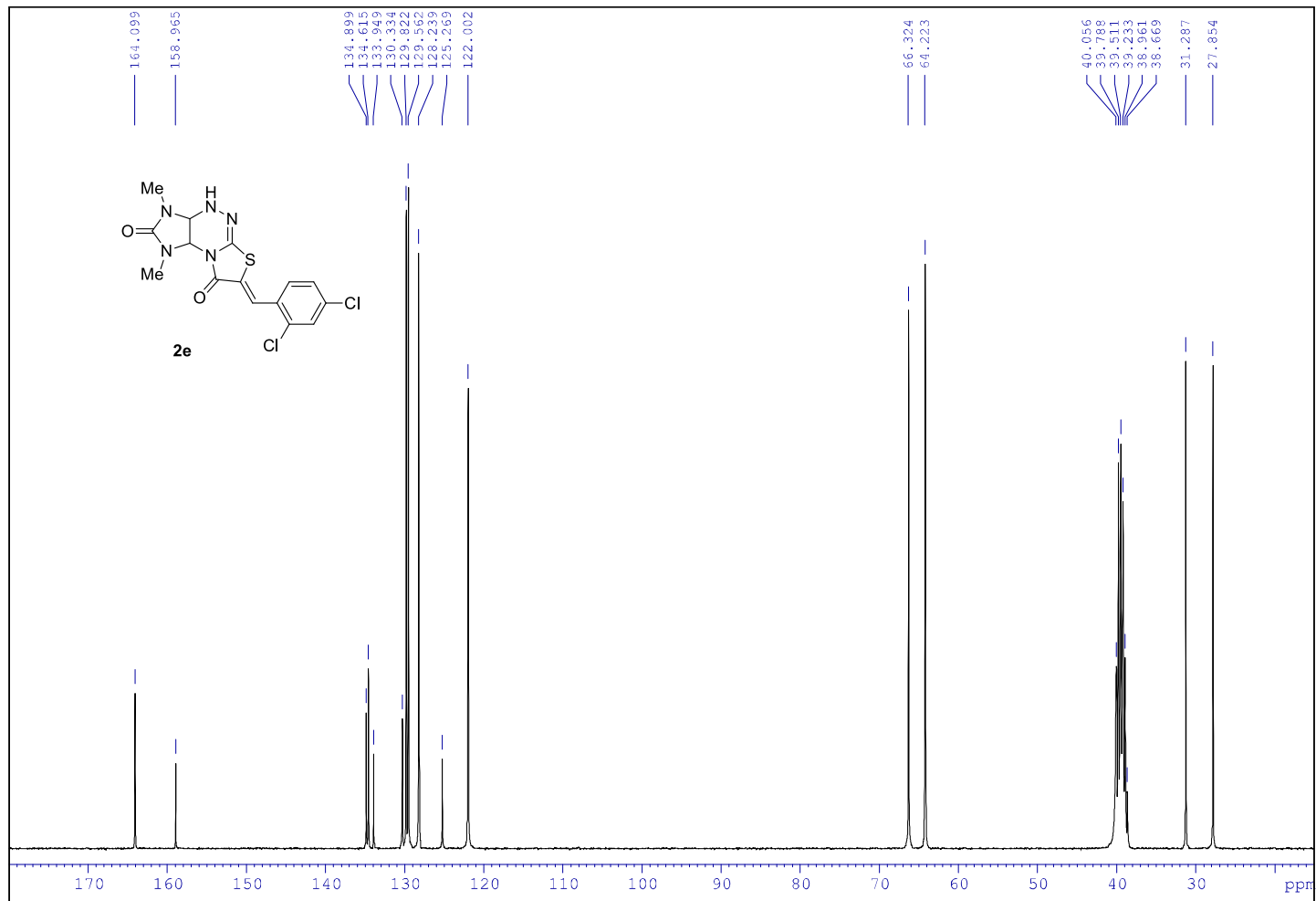


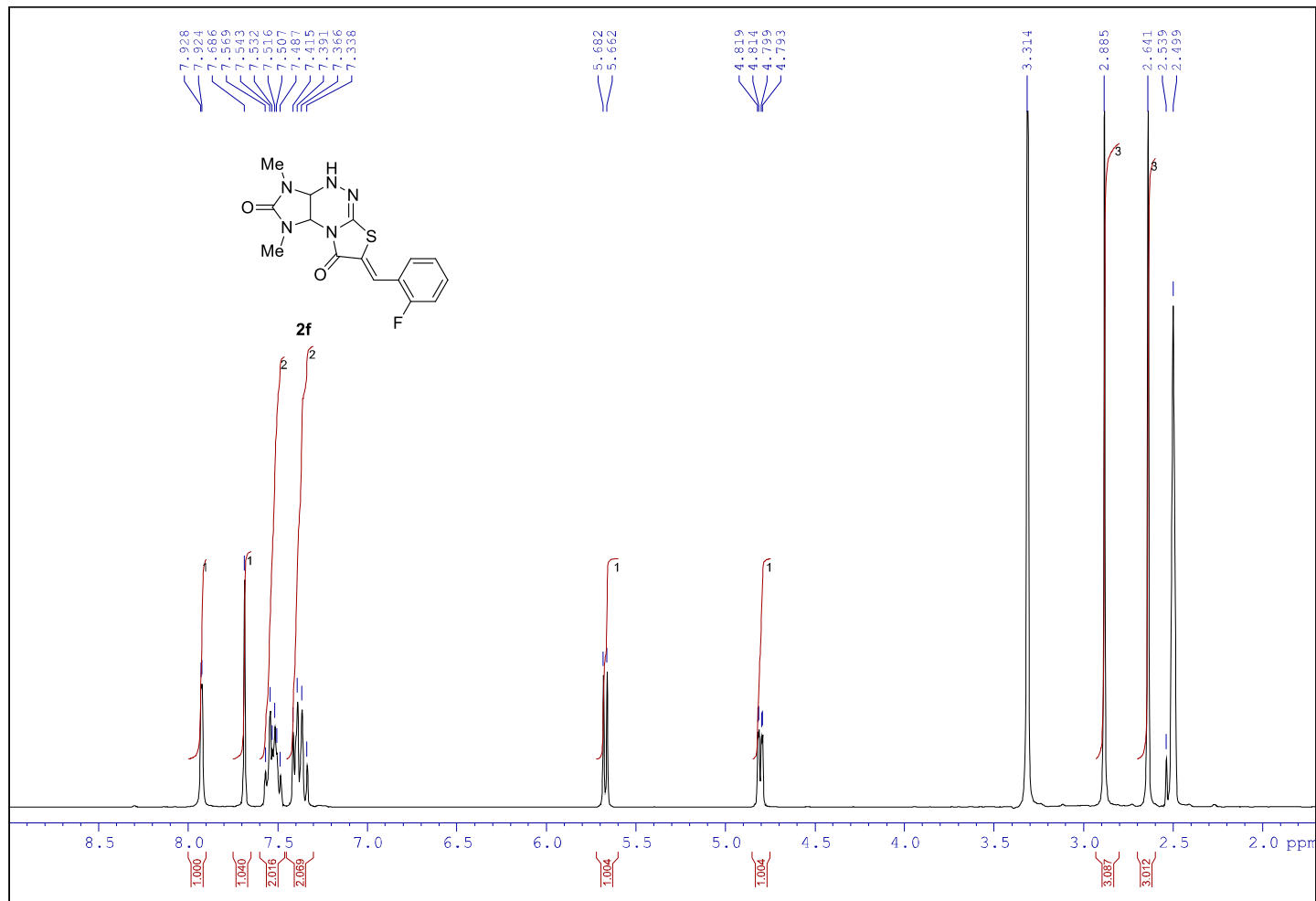


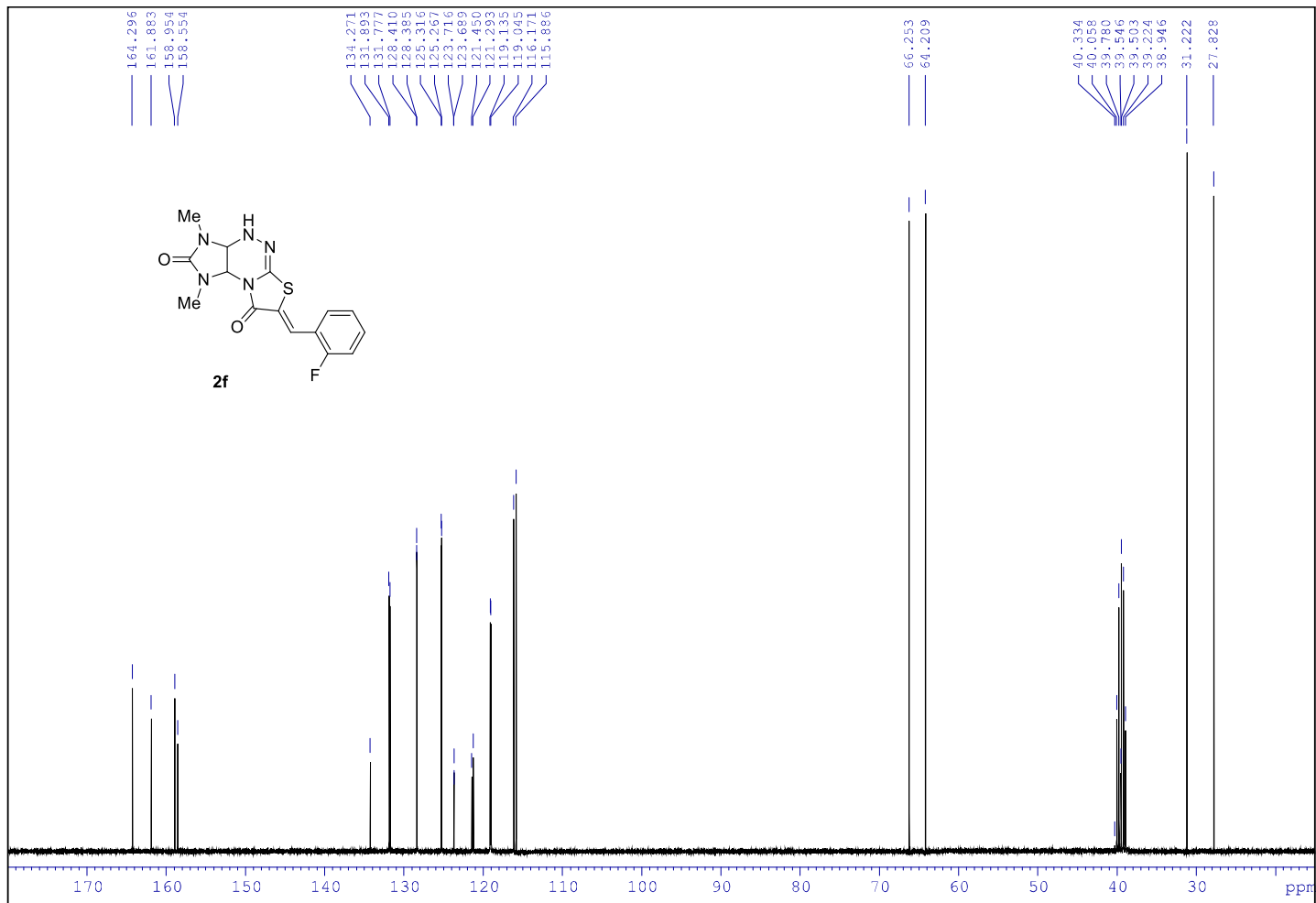


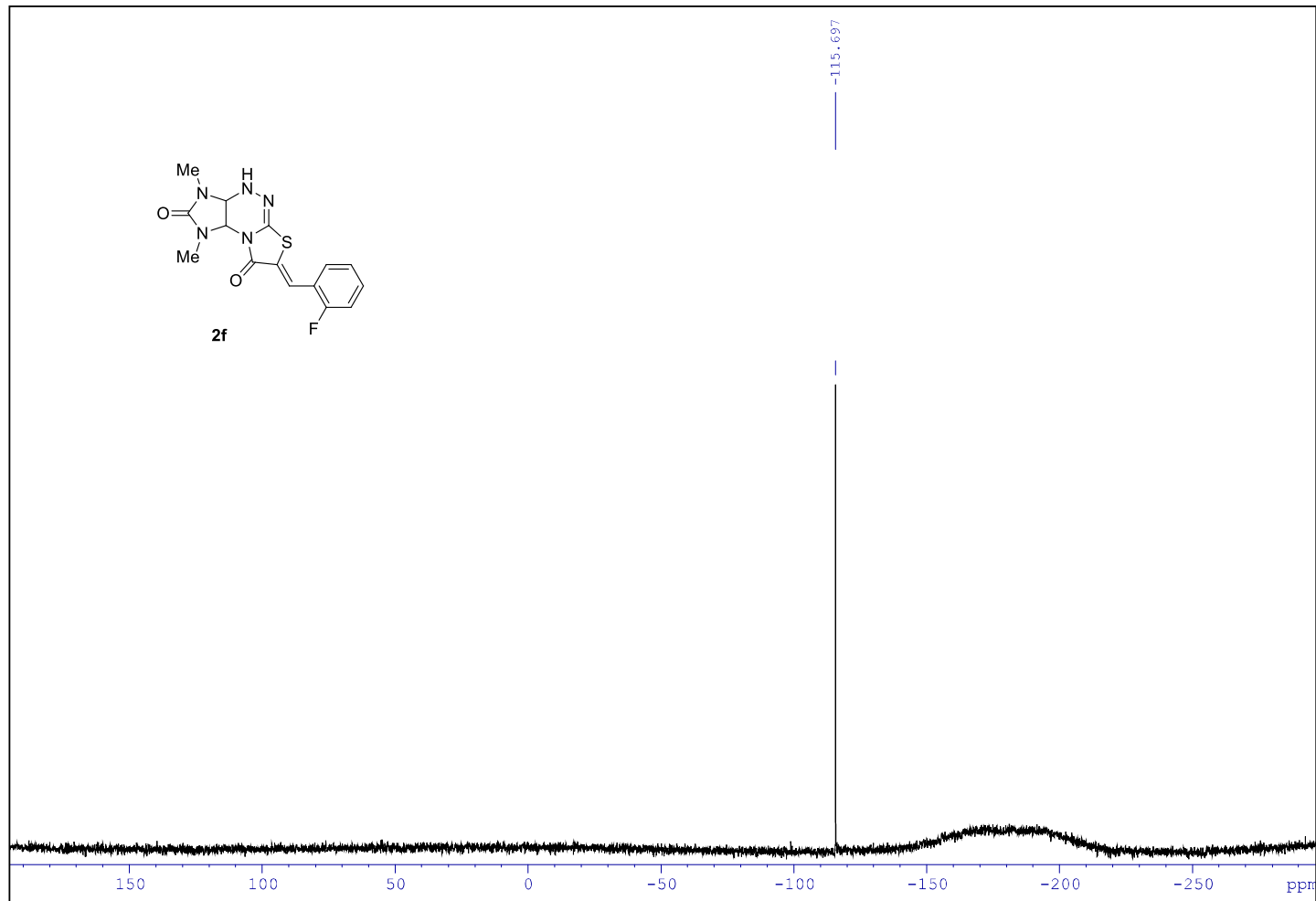
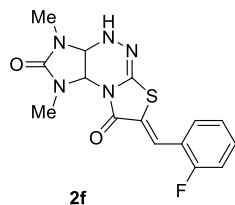


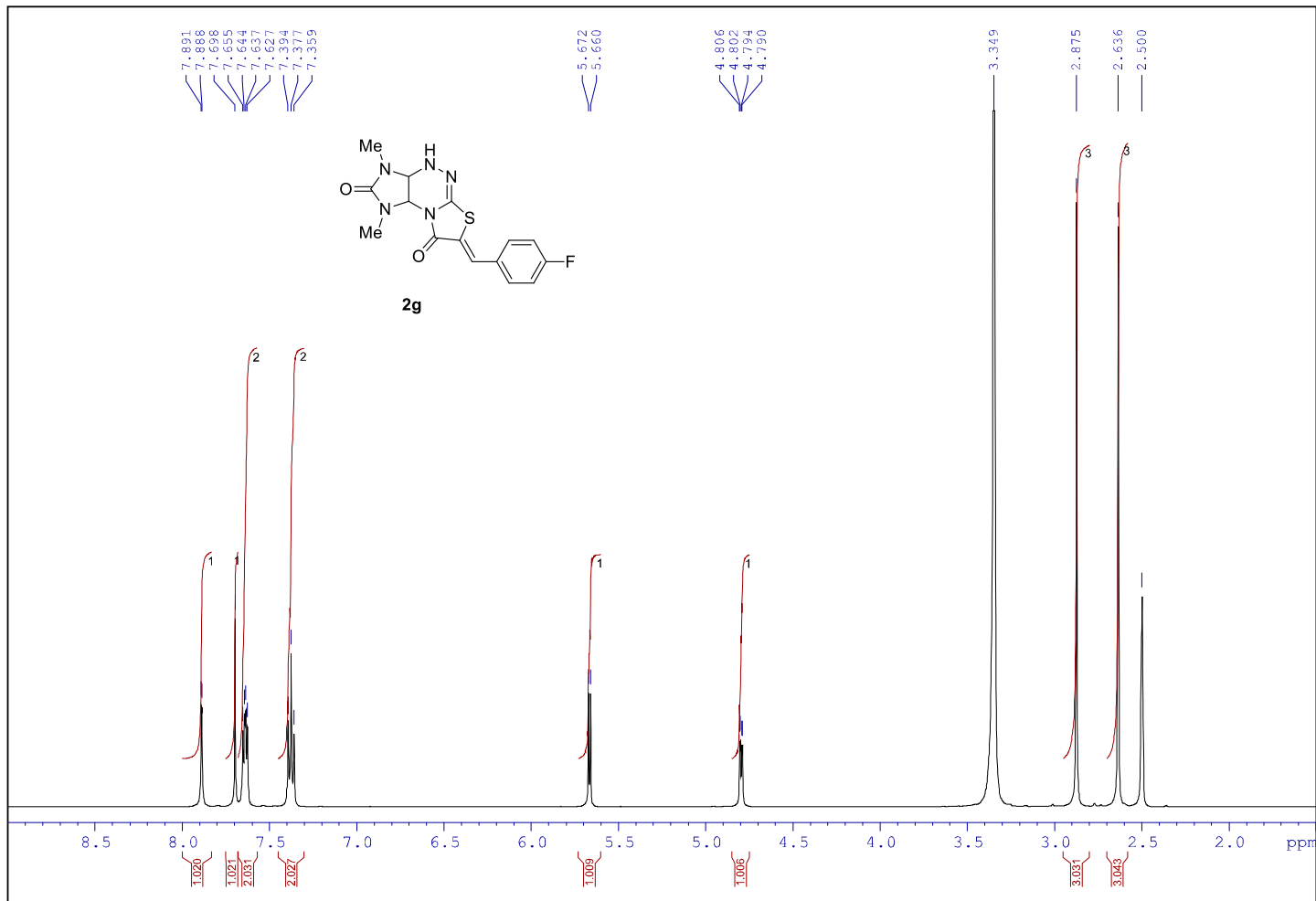


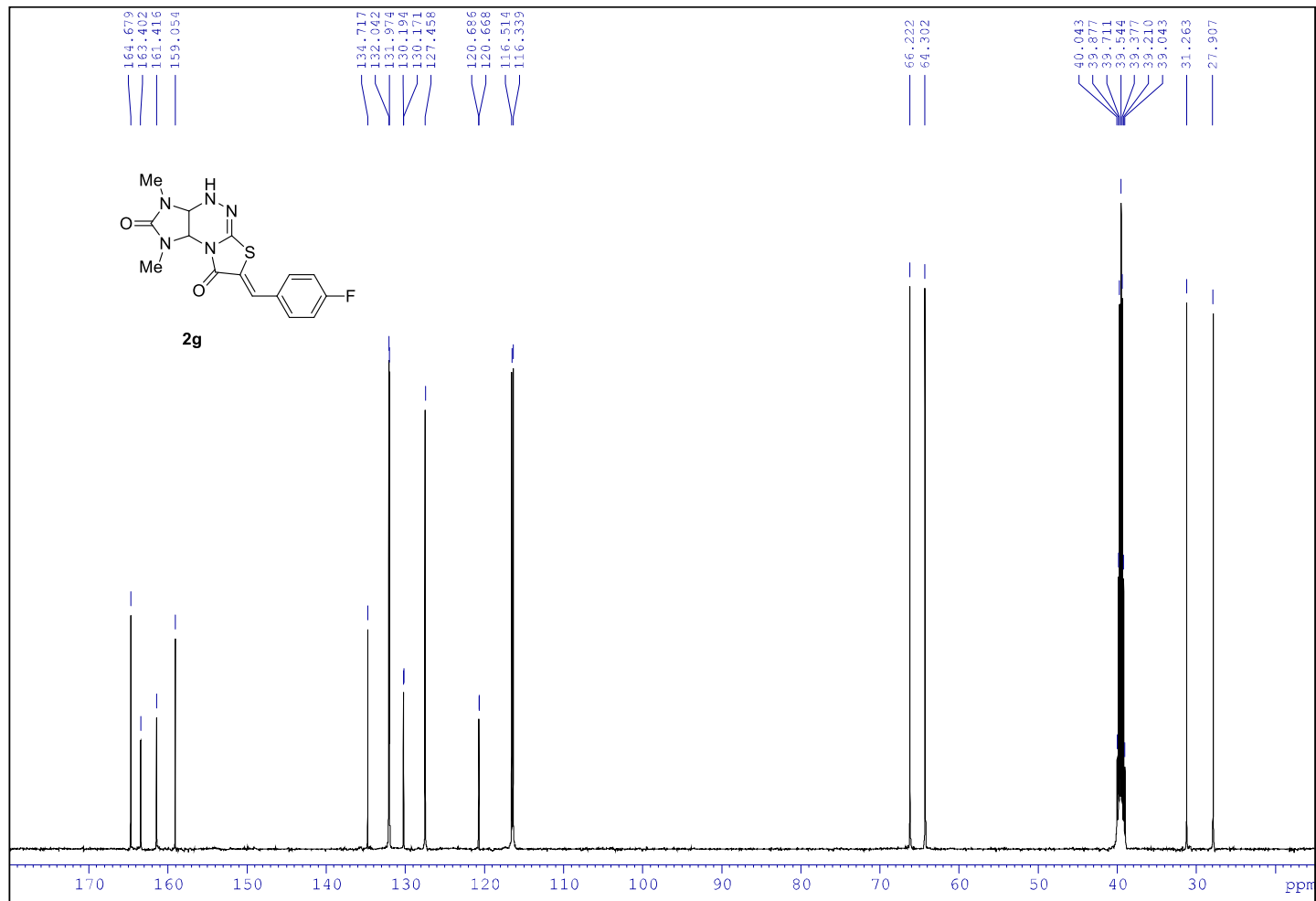


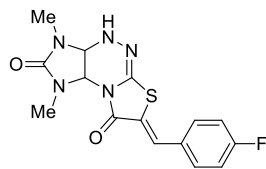




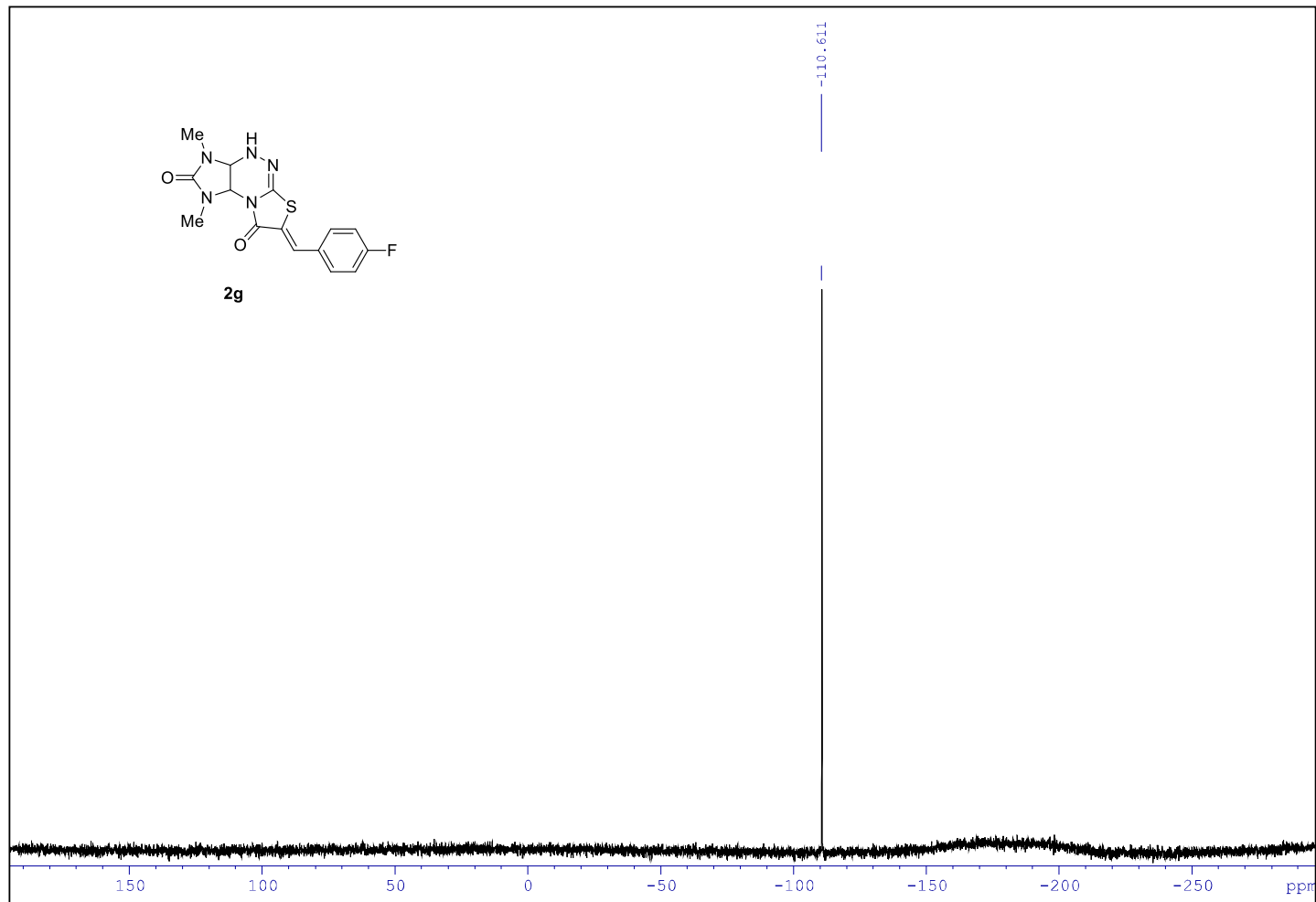


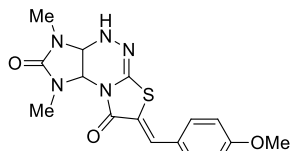




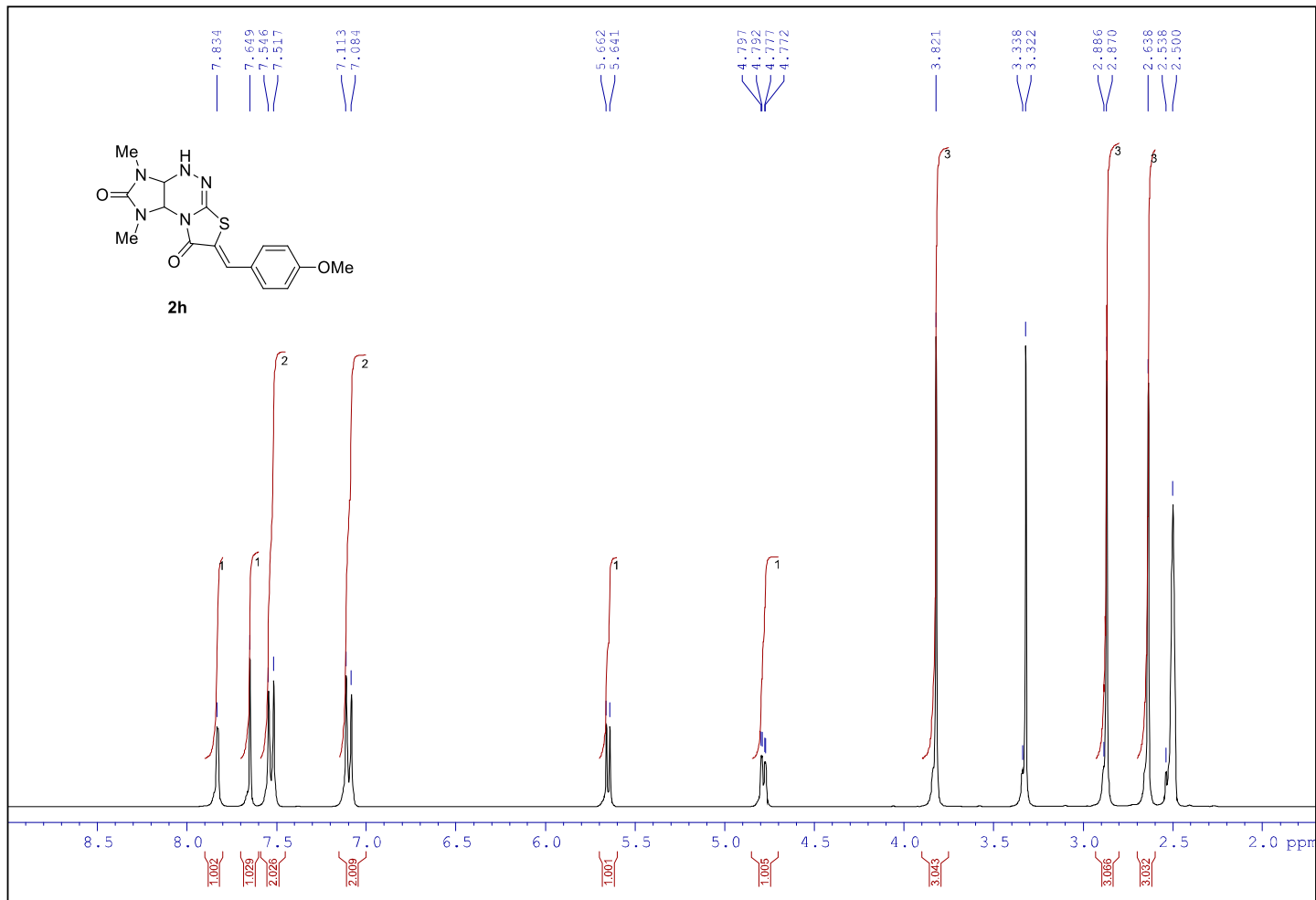


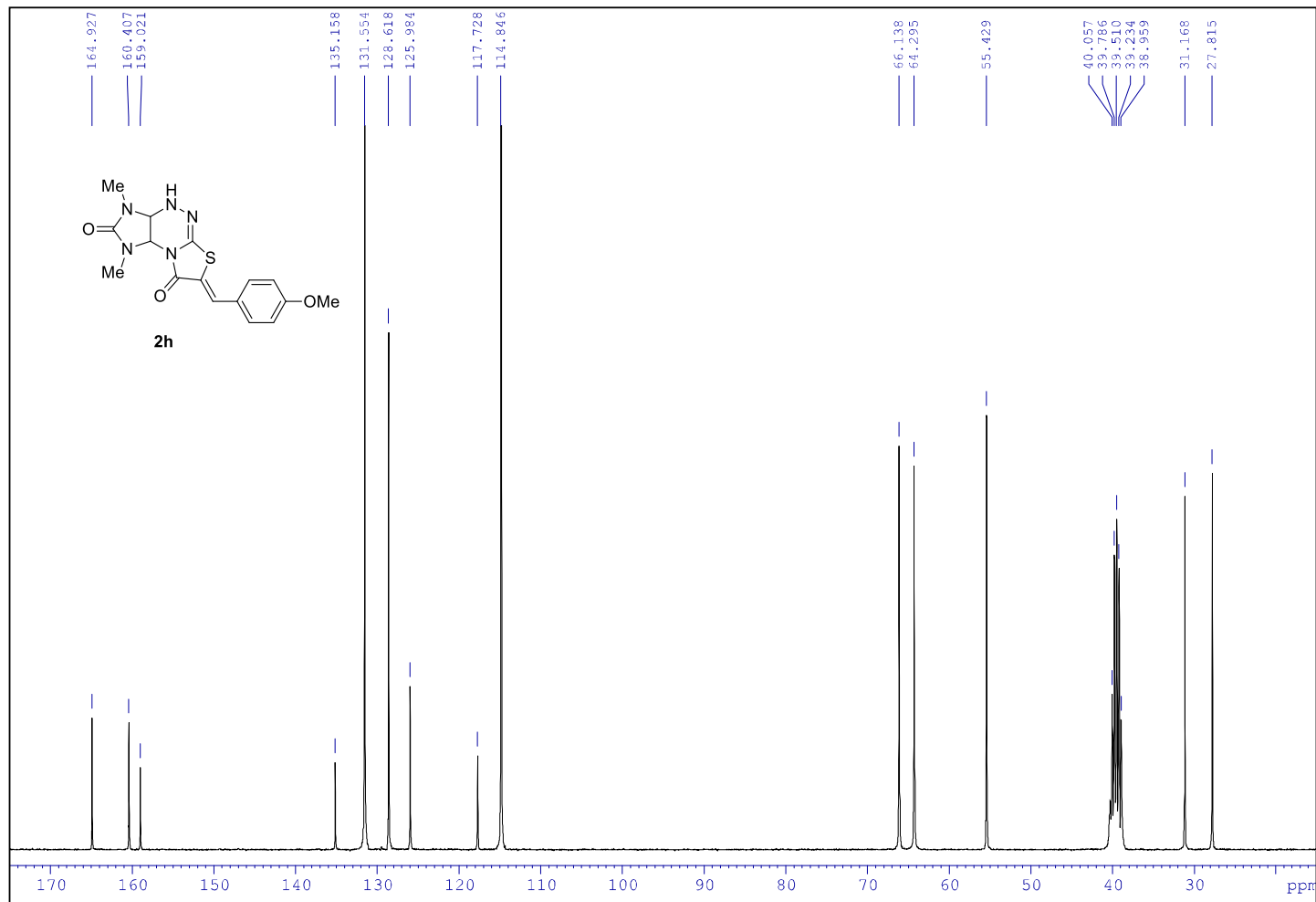
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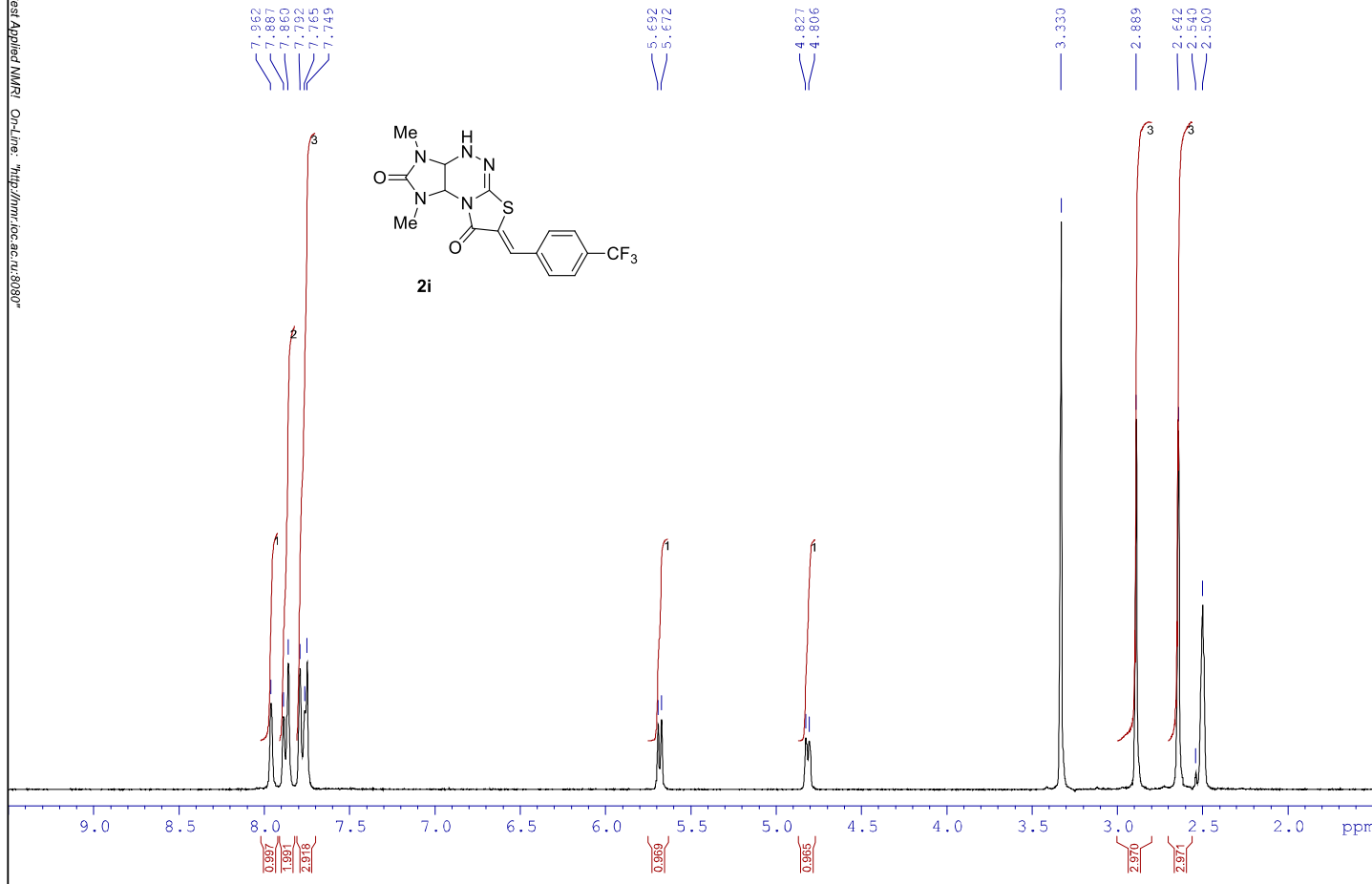


2h

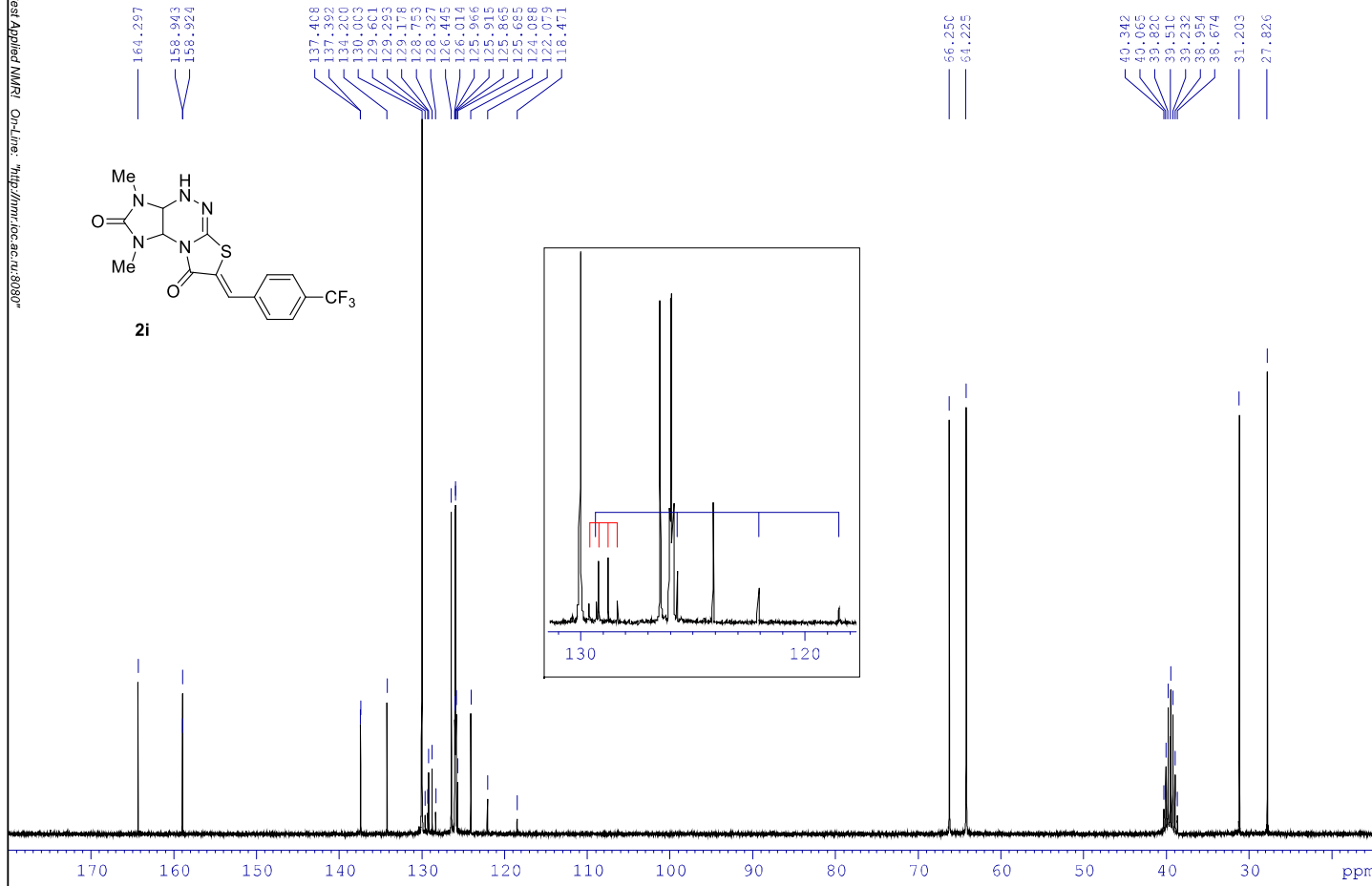
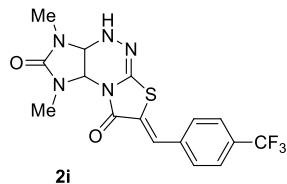




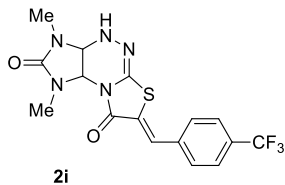
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/KANI IA540.1



/KANI IA540.1



-62.108

150

100

50

0

-50

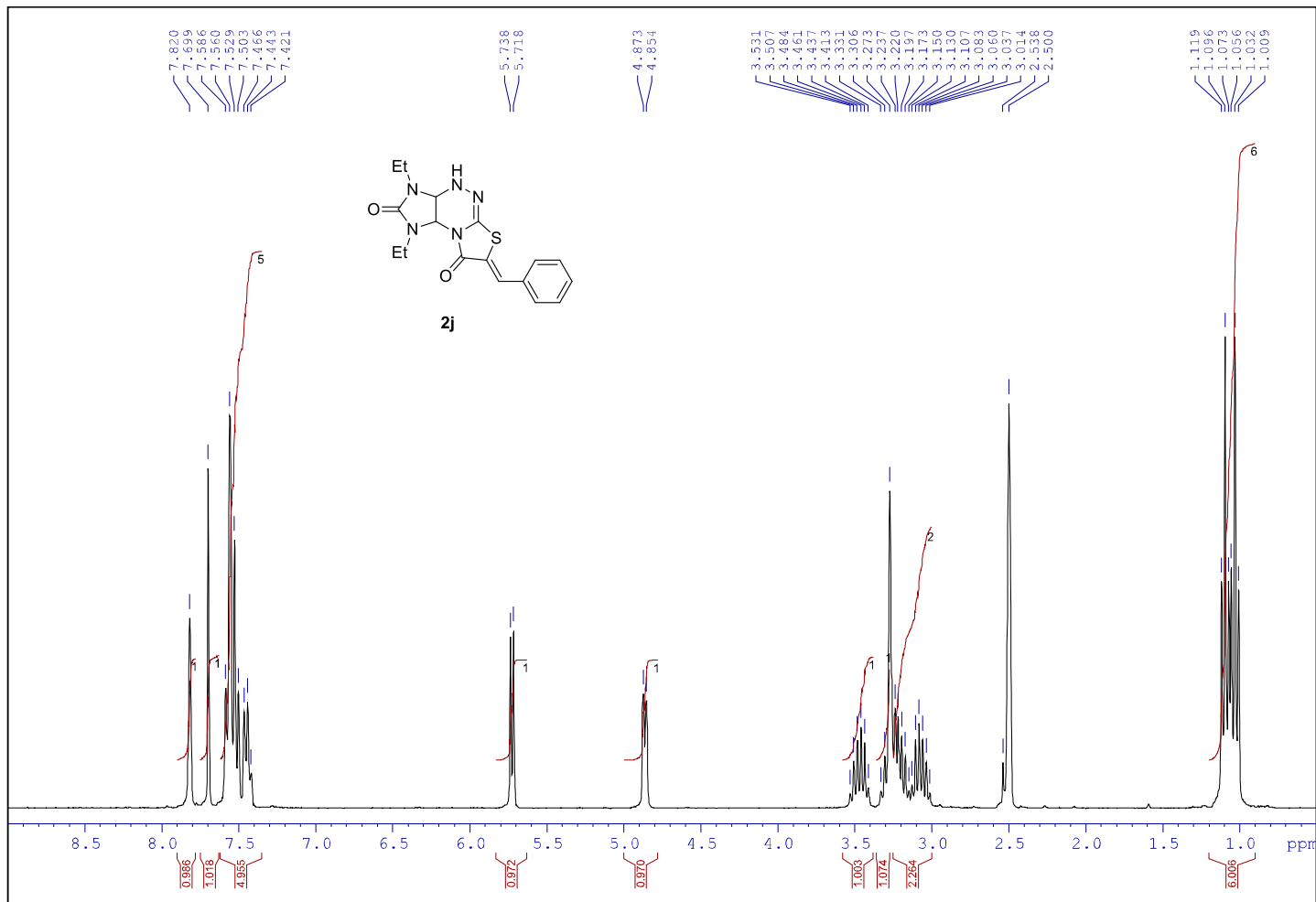
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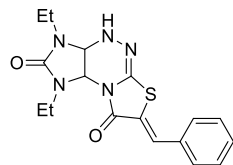
-150

-200

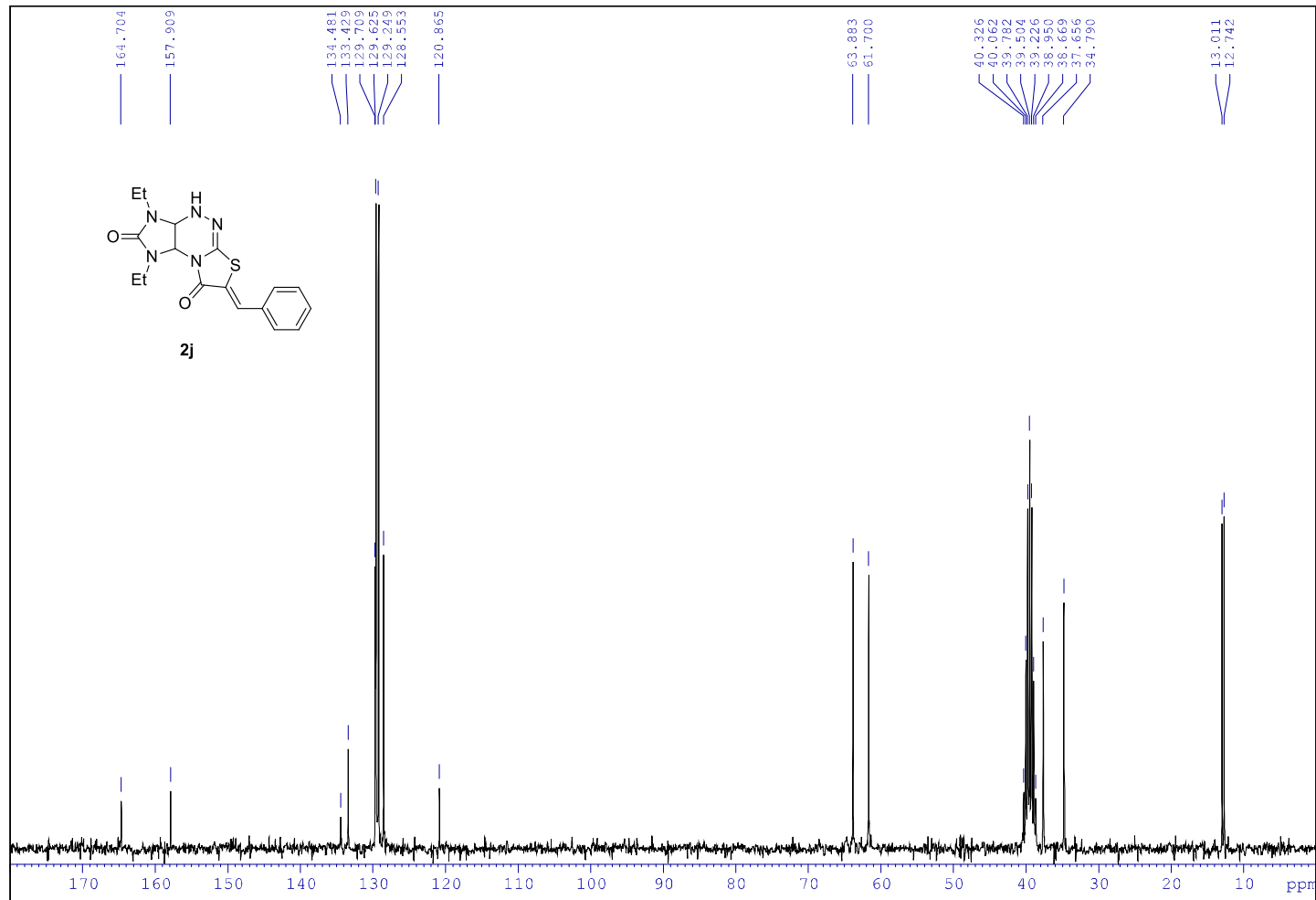
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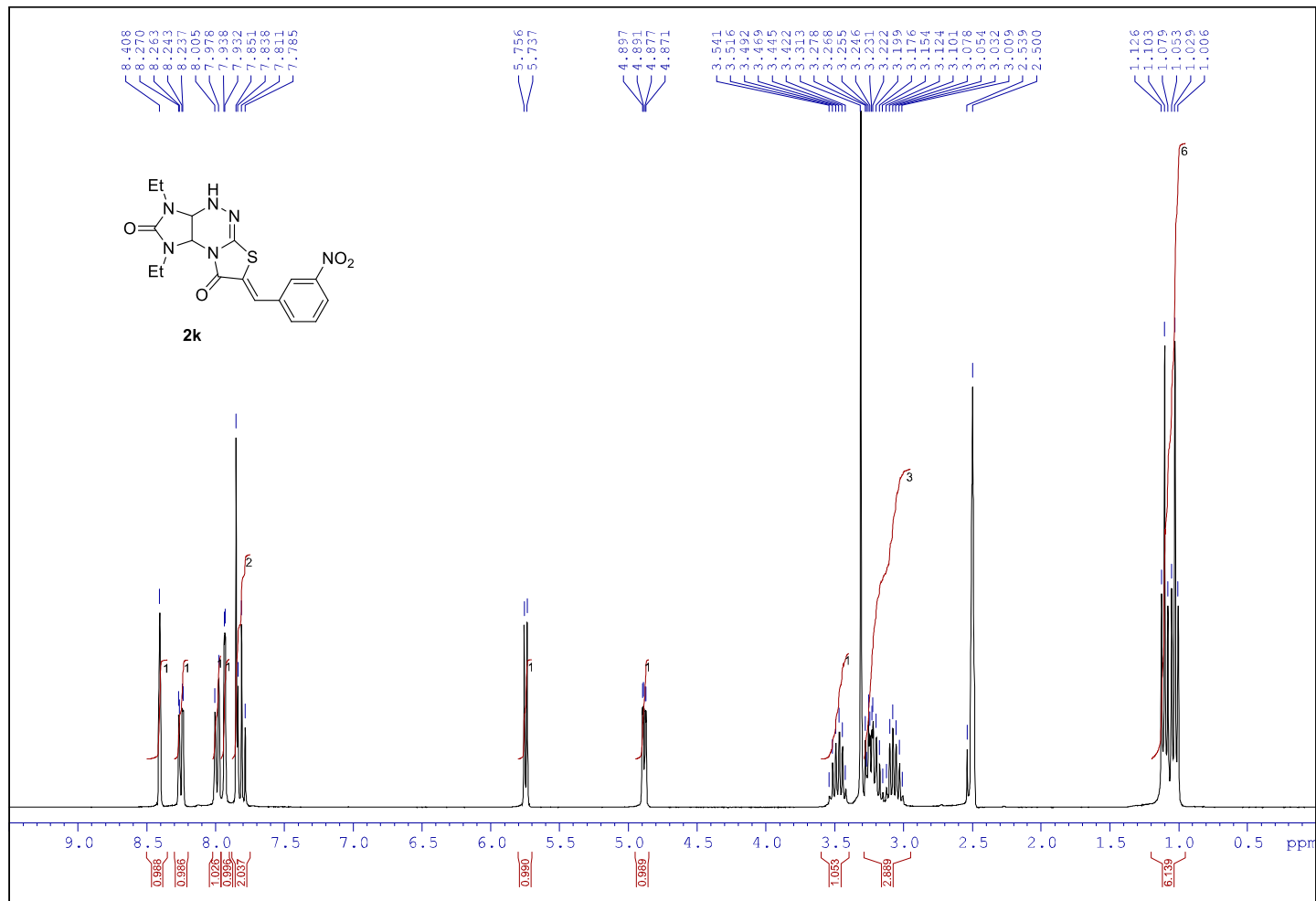
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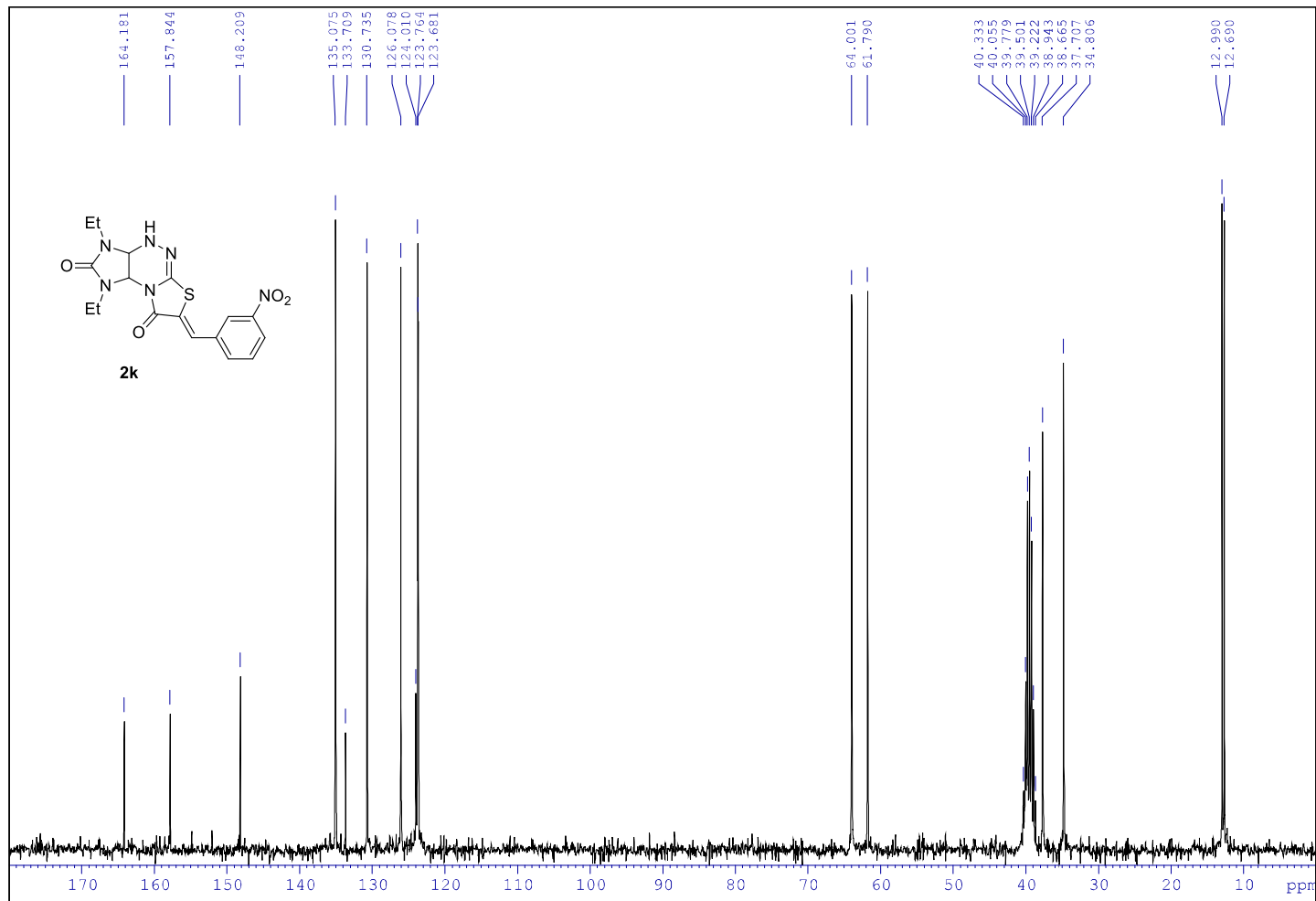


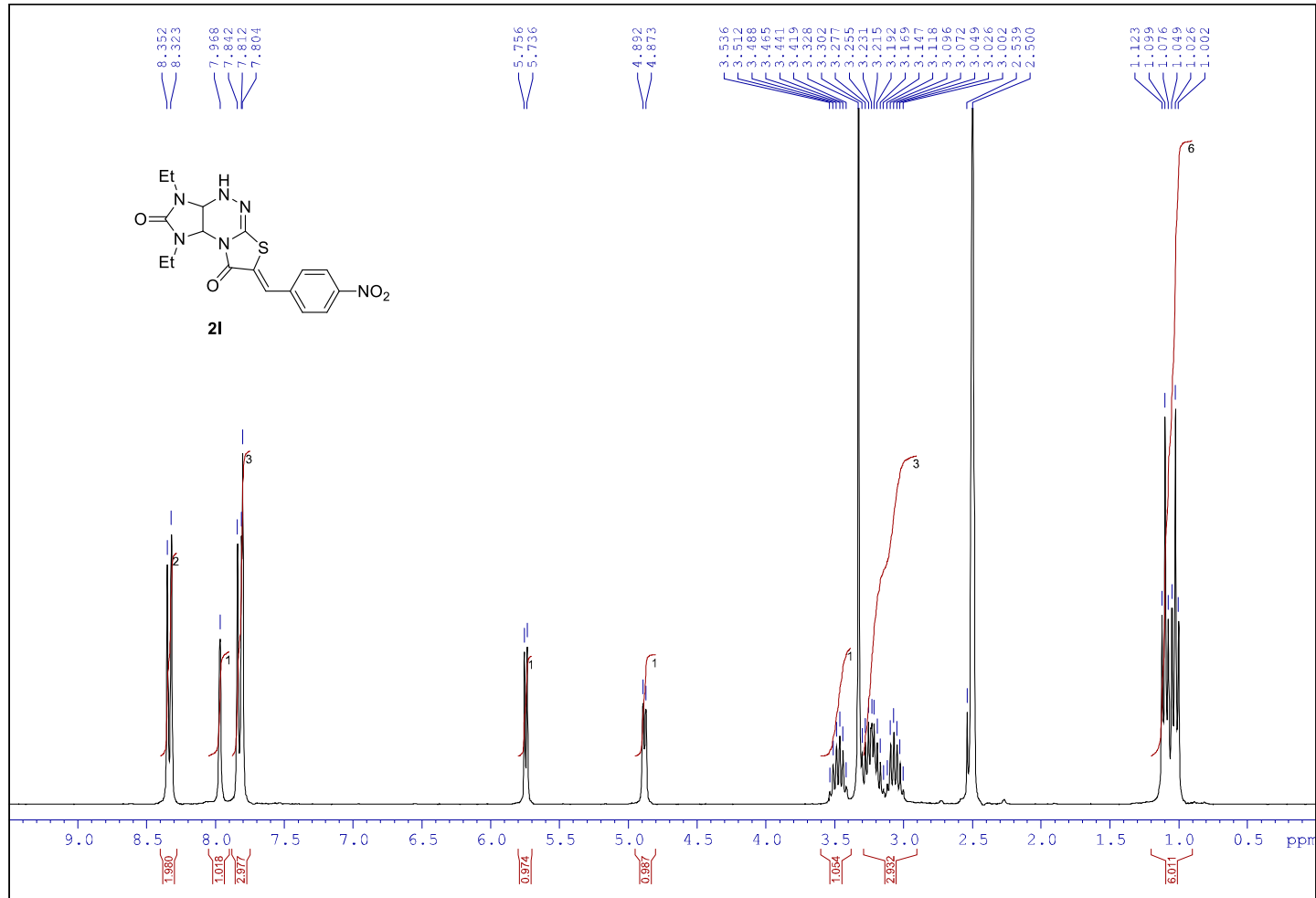
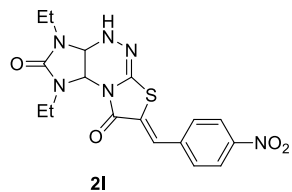


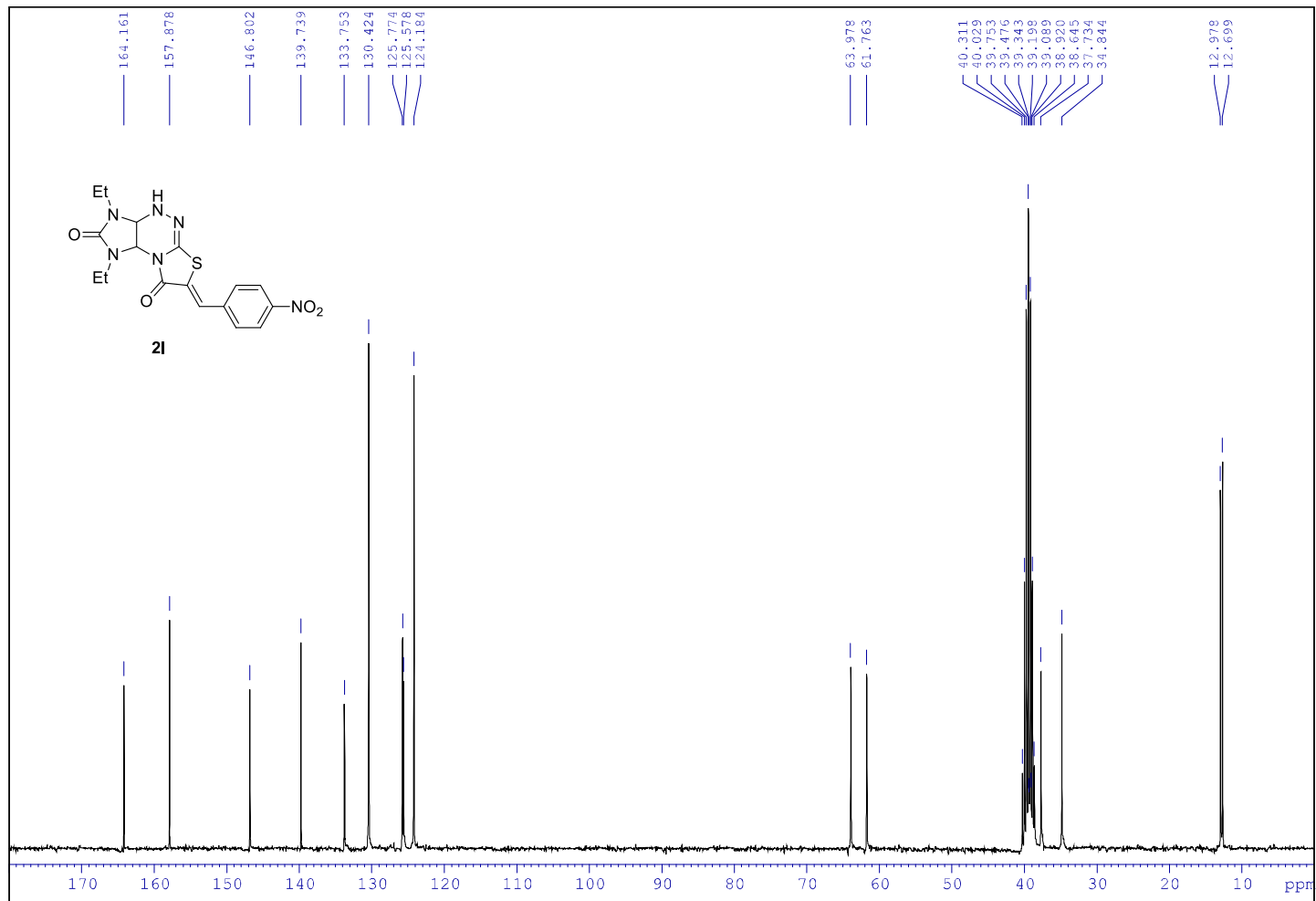
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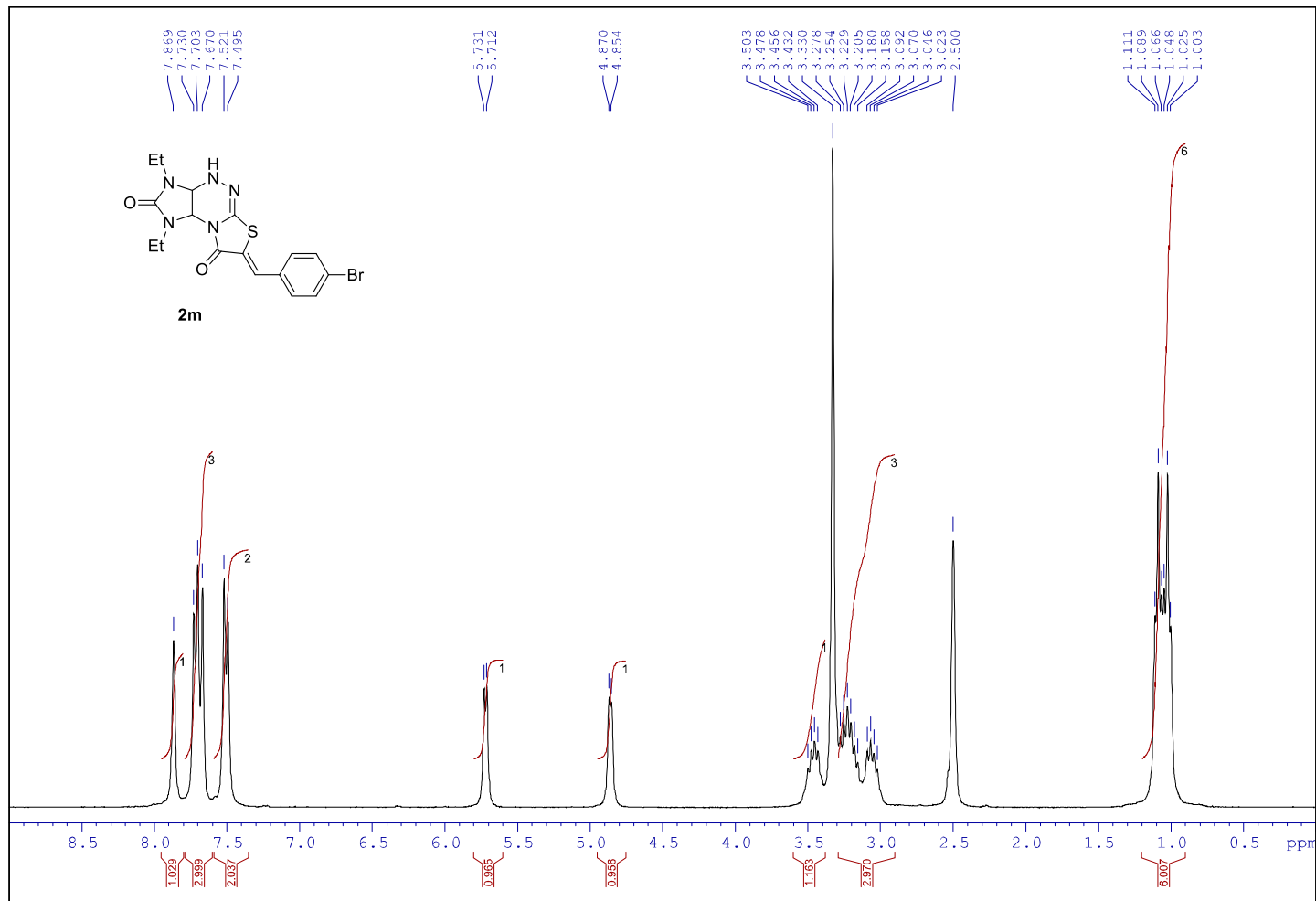
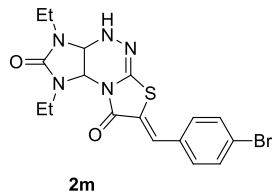


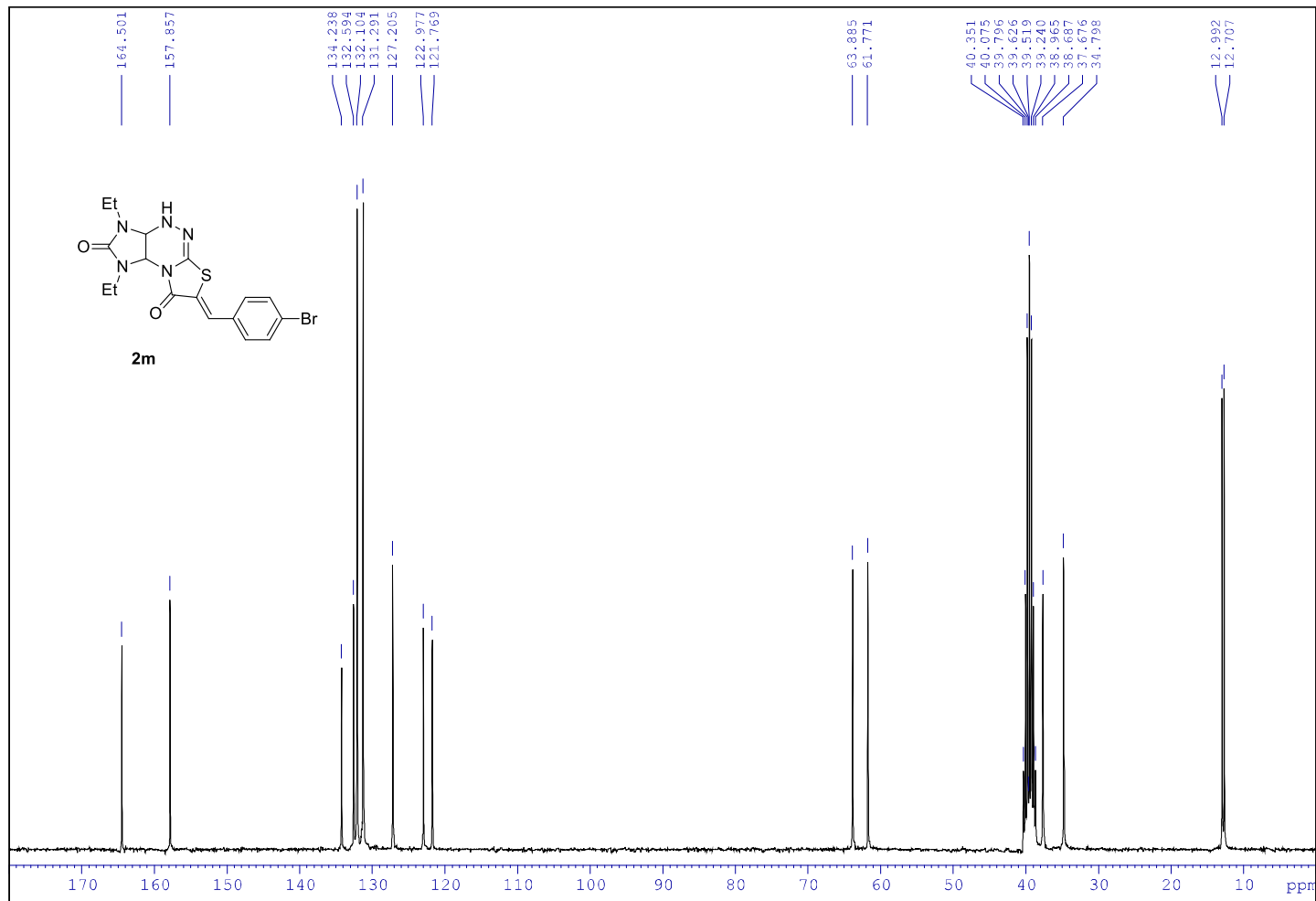


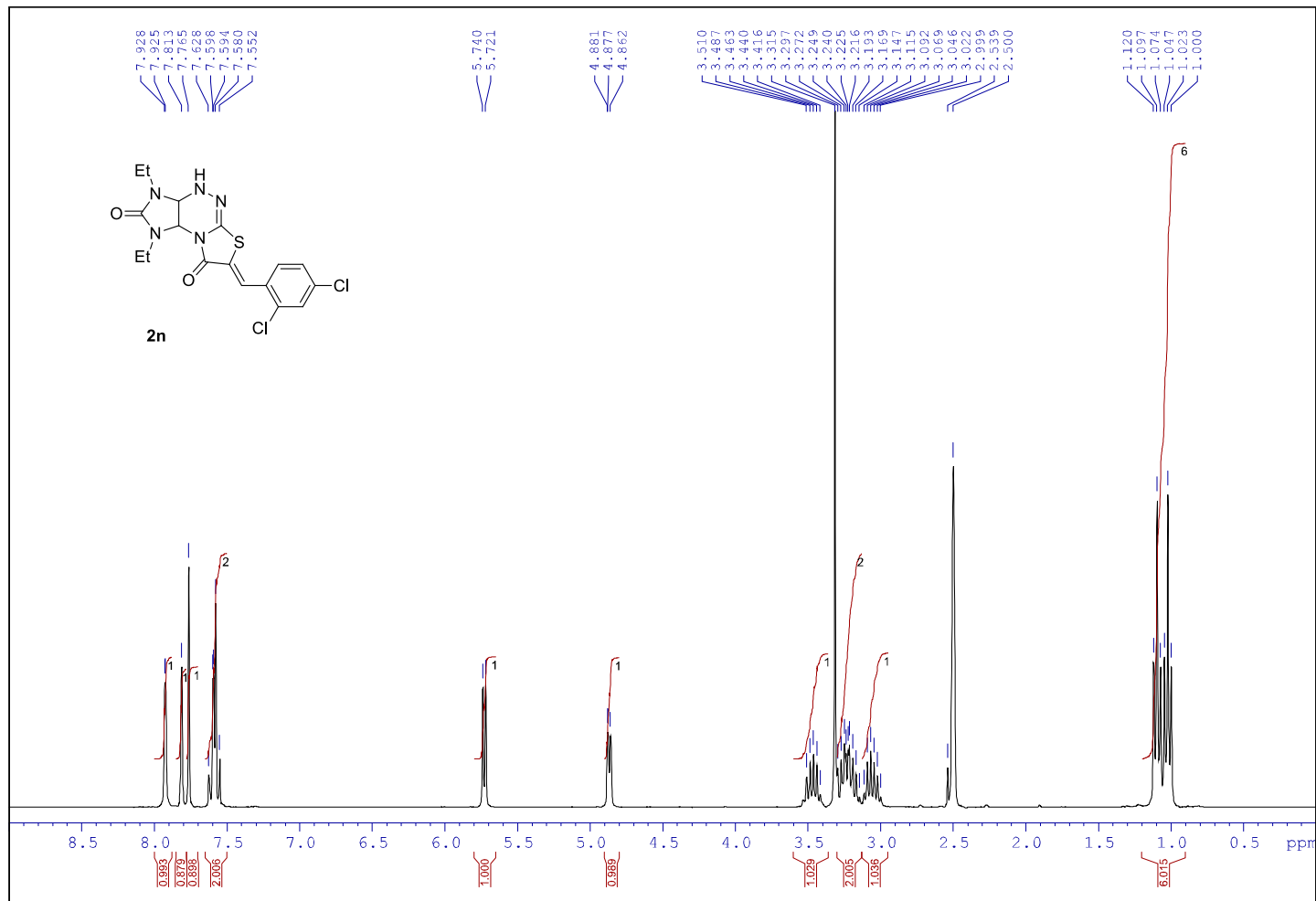


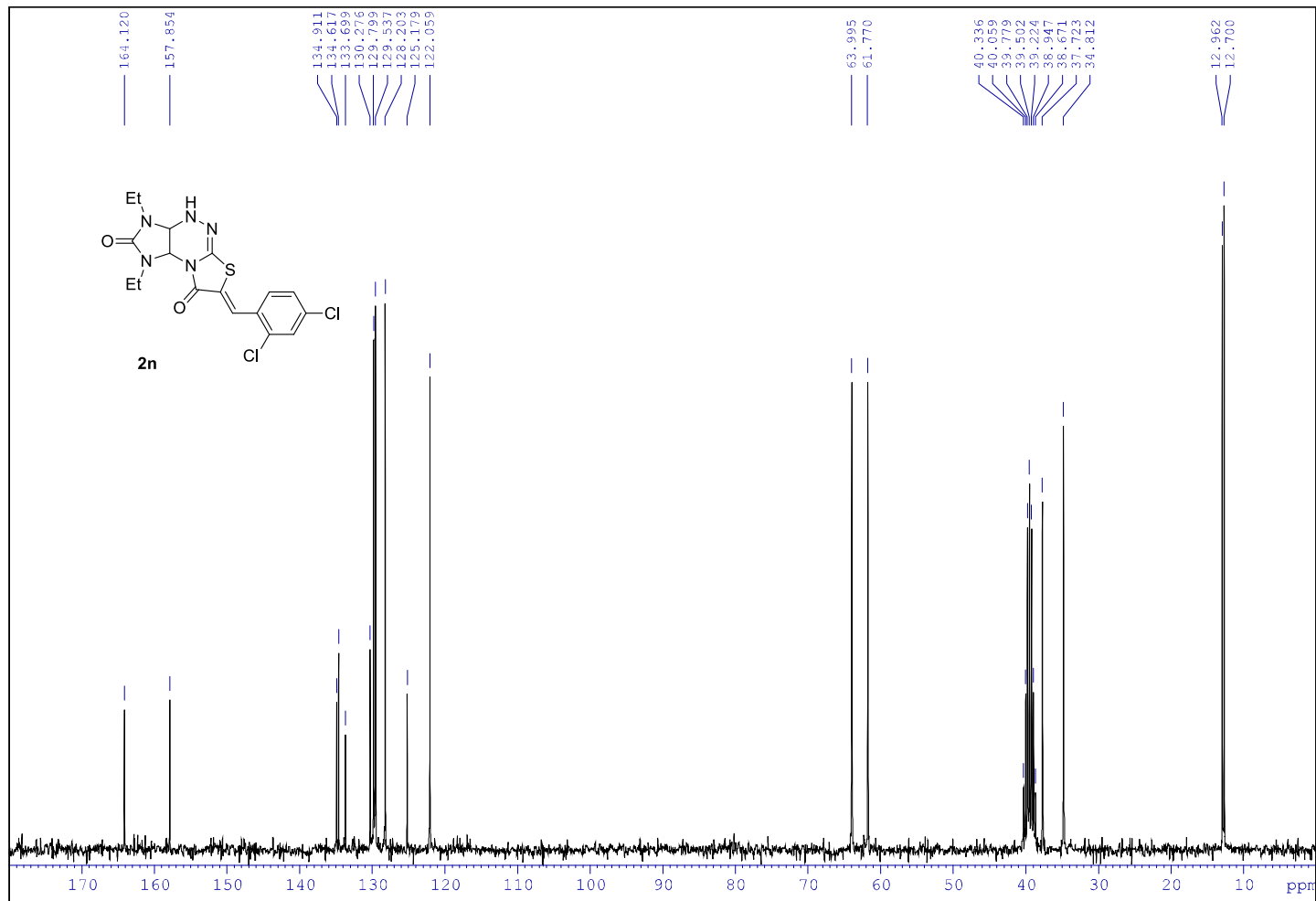


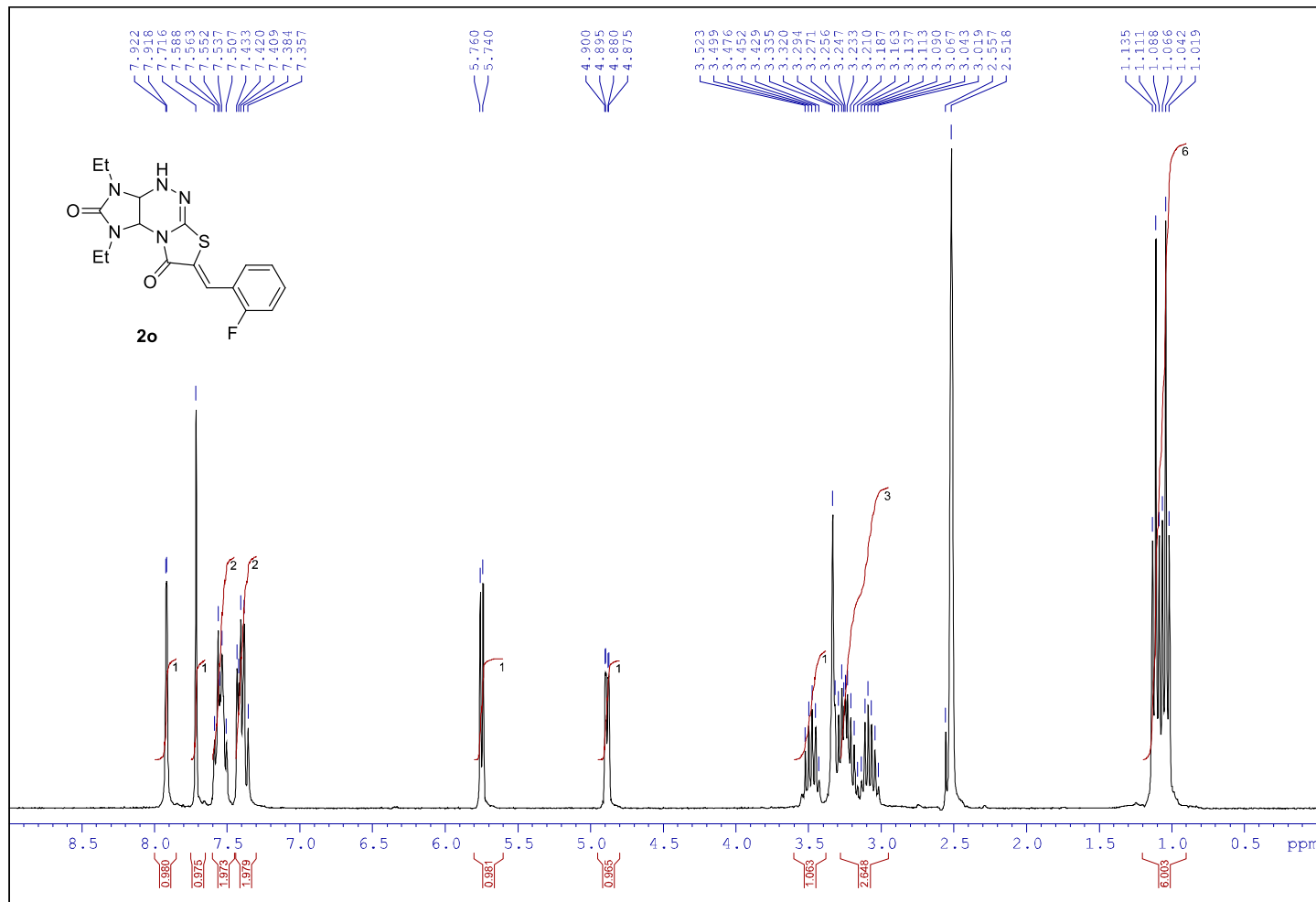


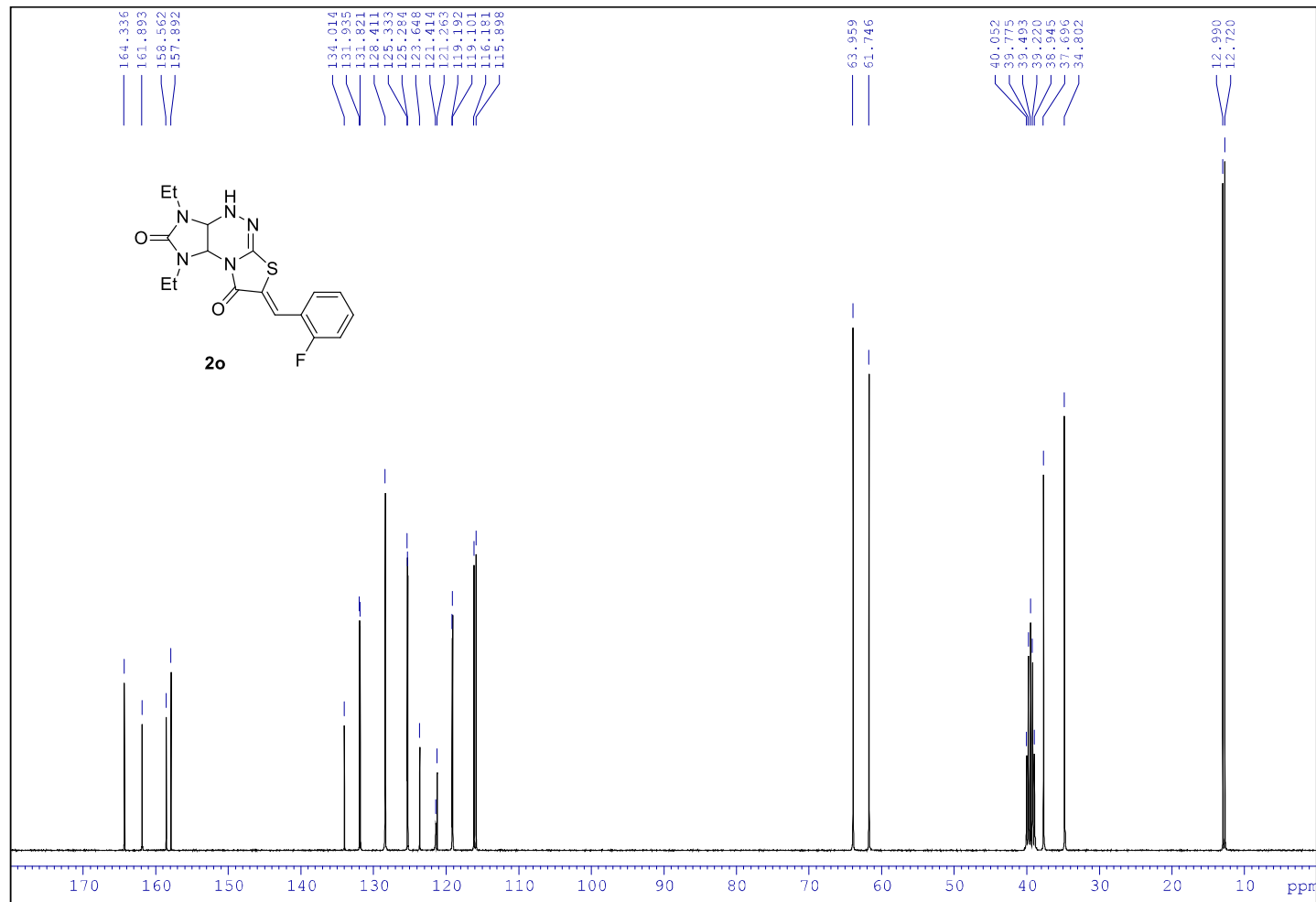
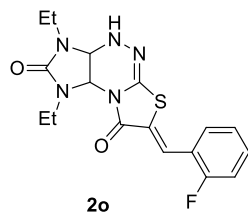


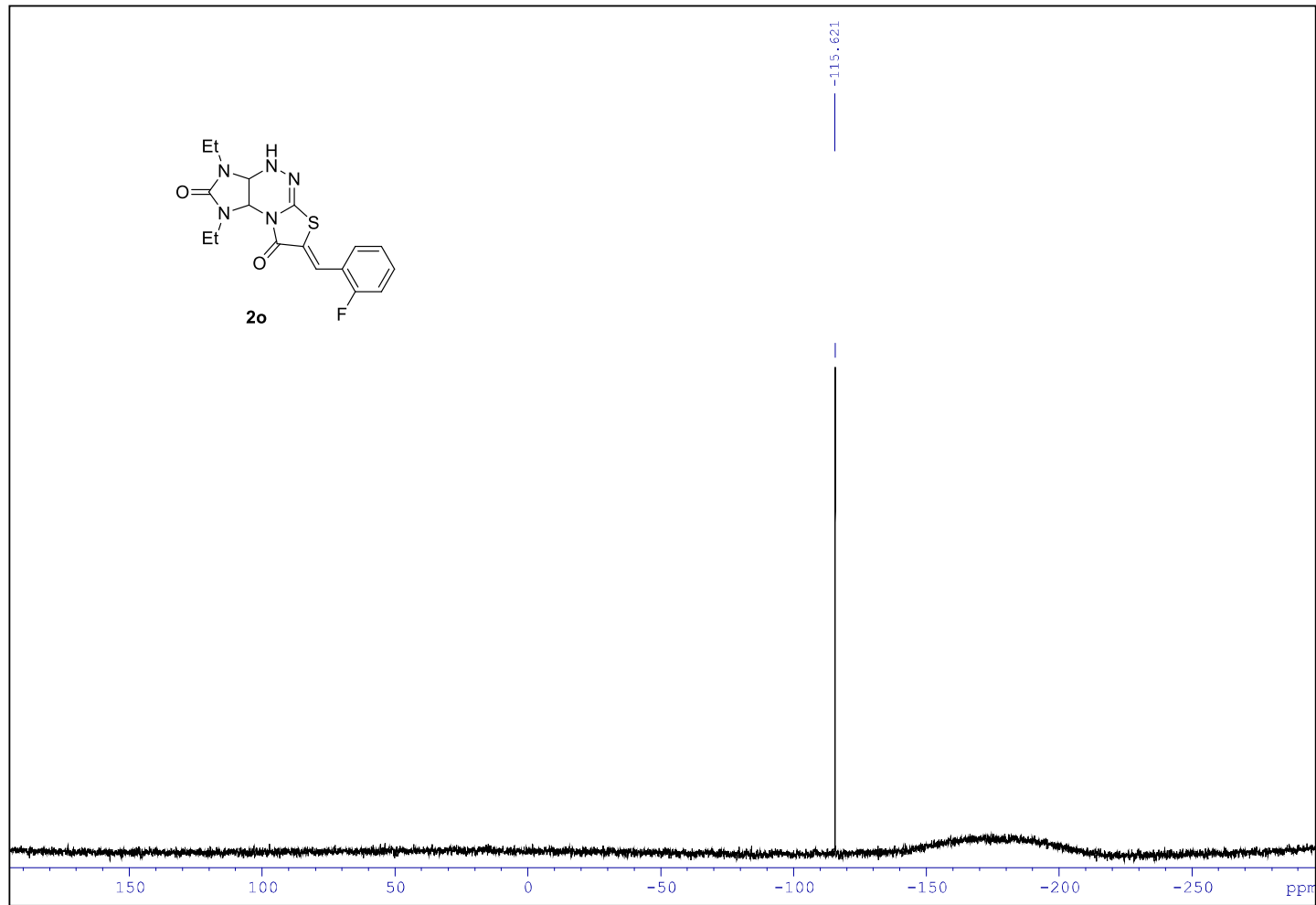
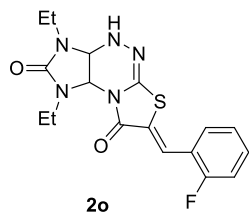


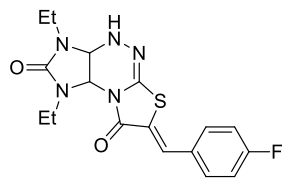




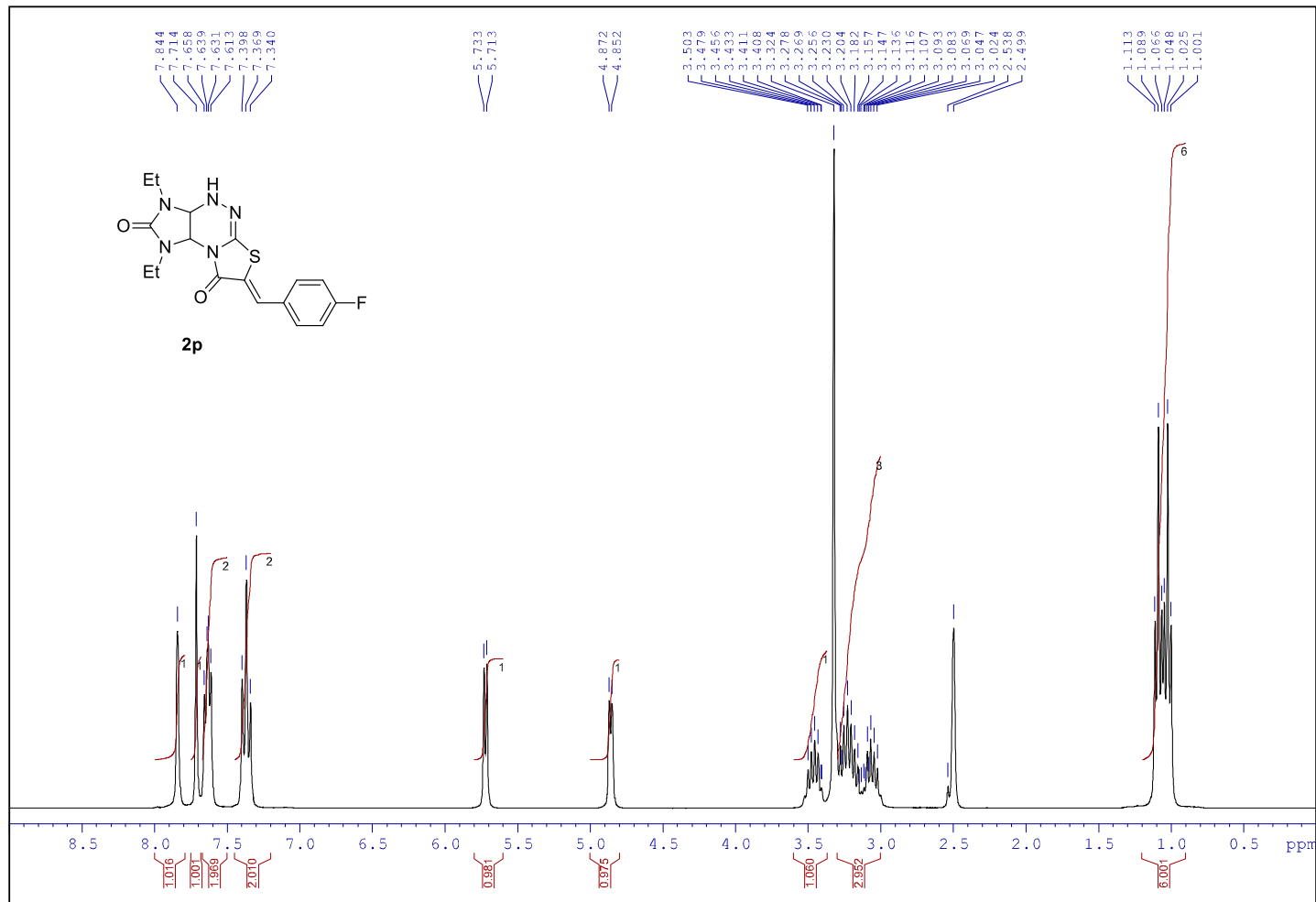


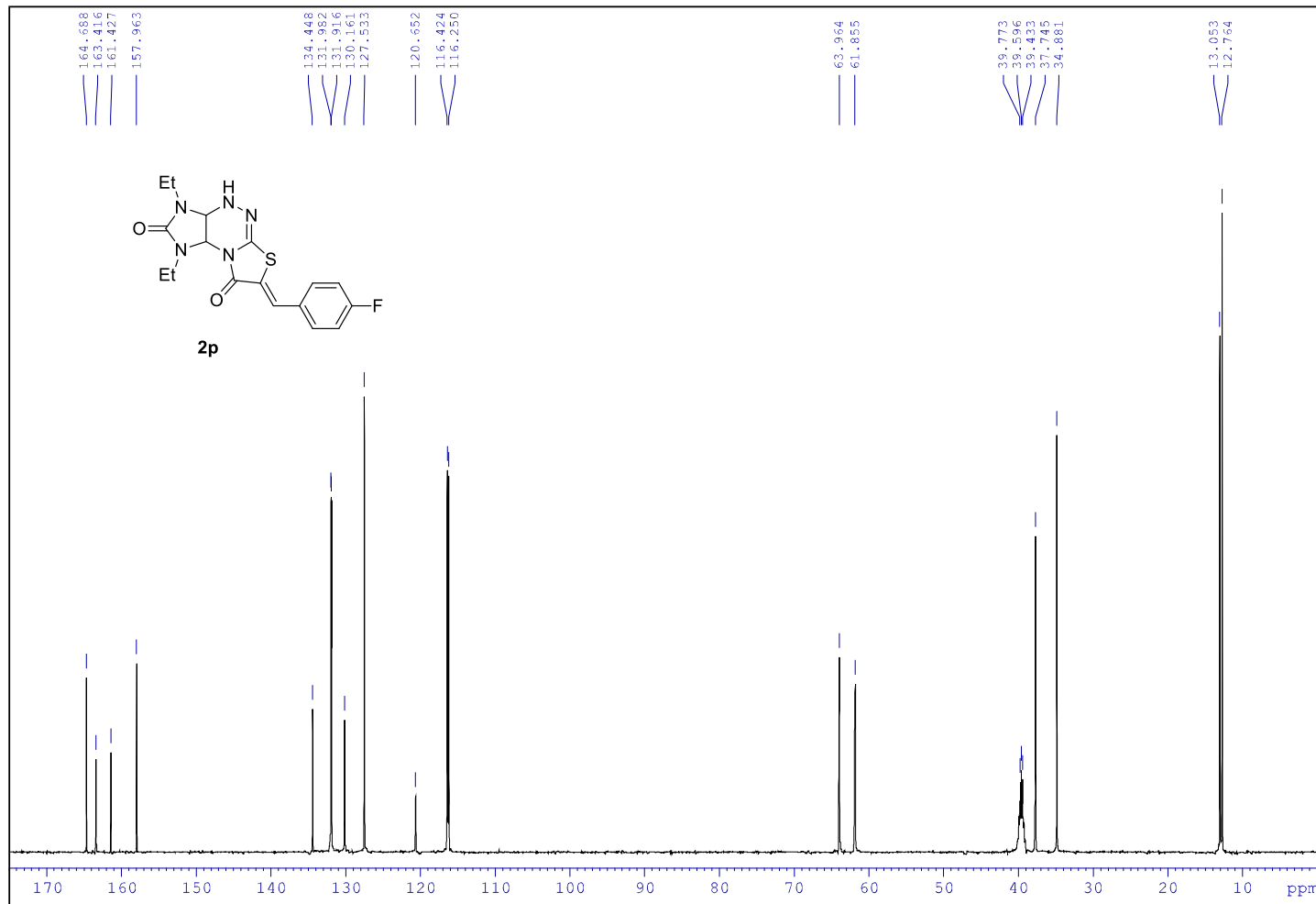


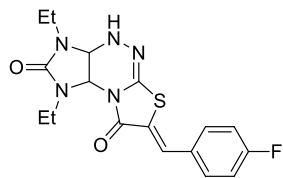




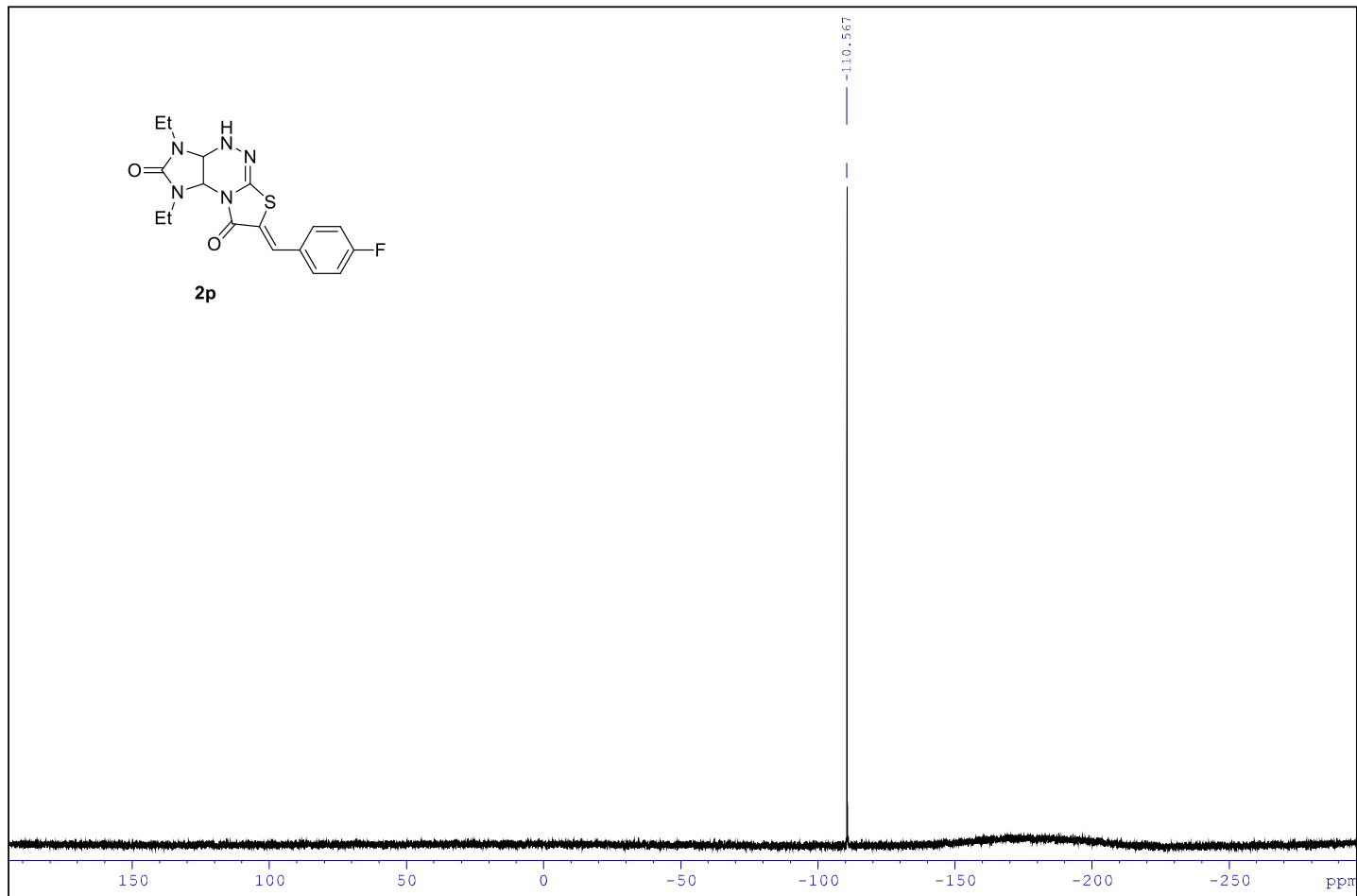
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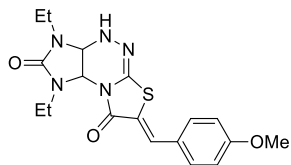




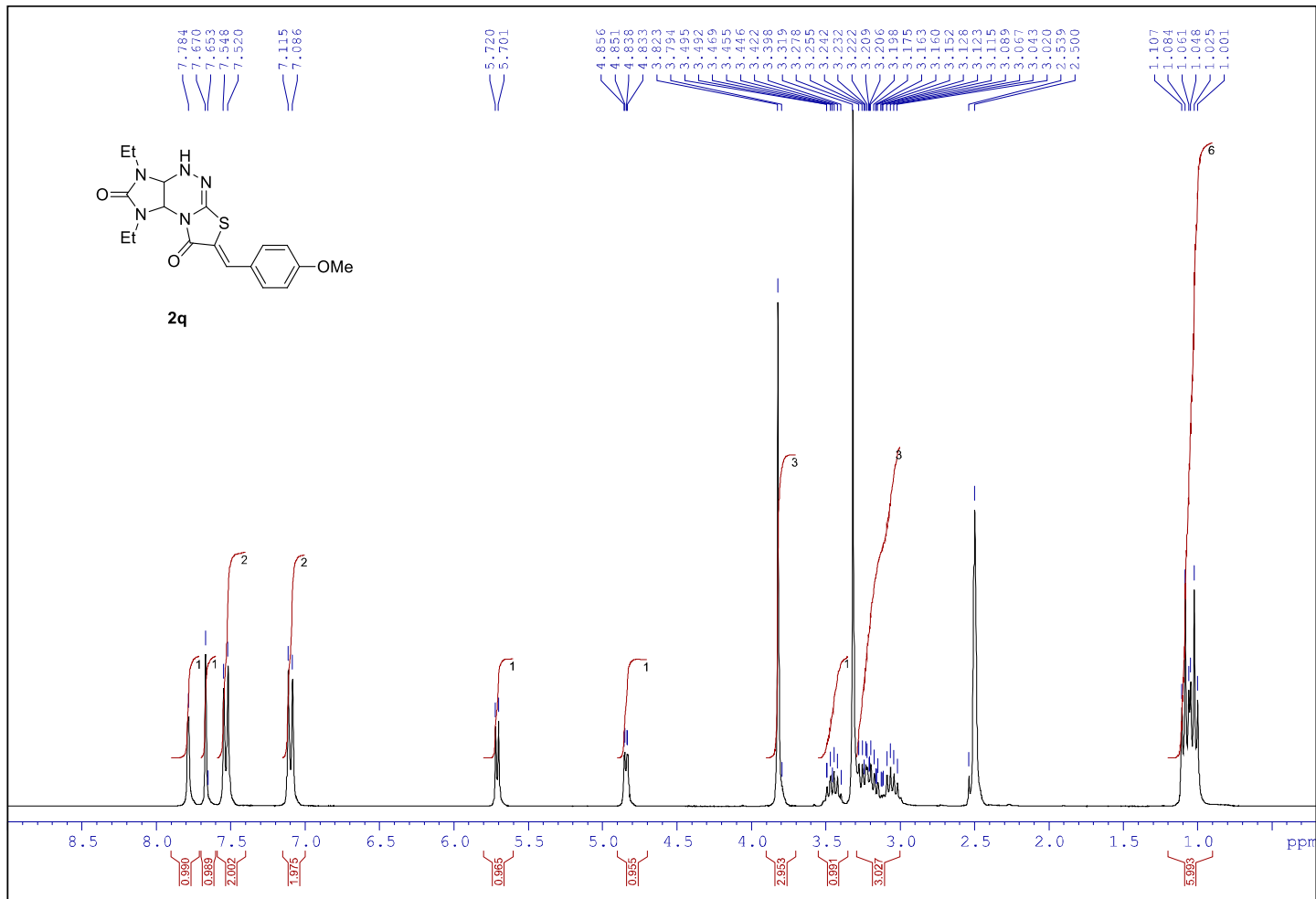


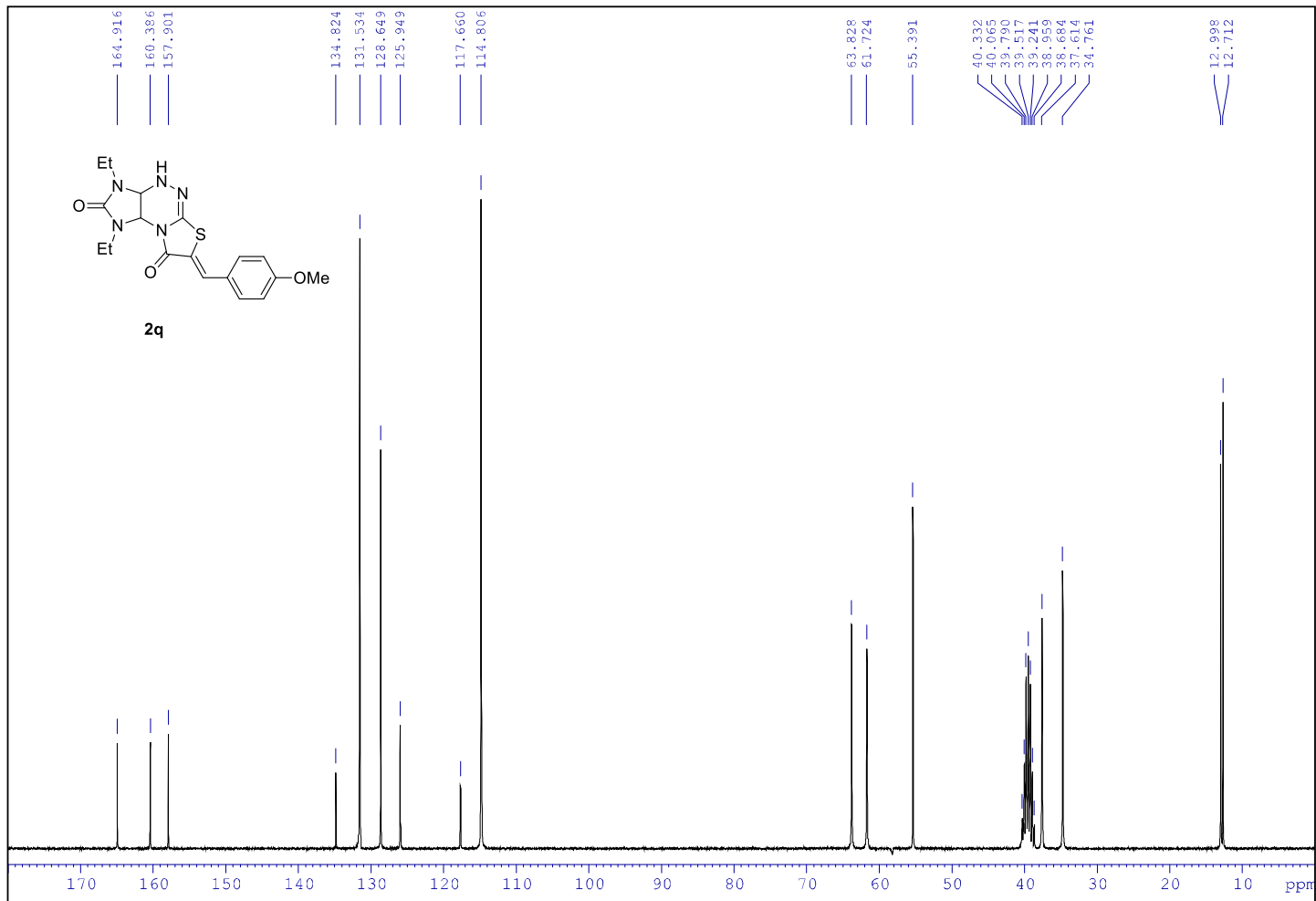
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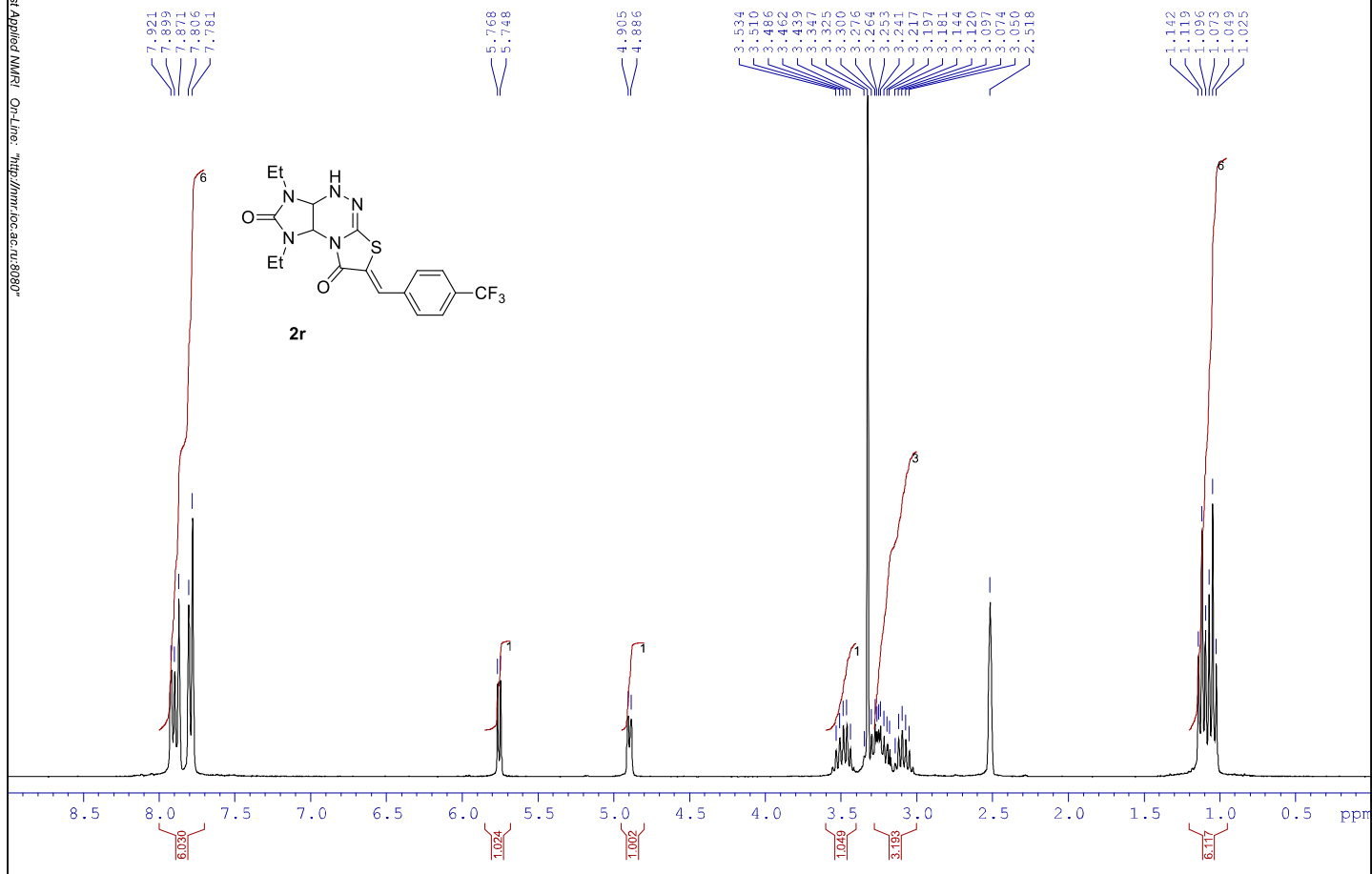


2q

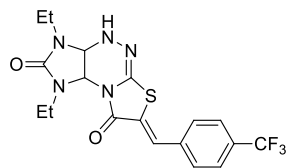




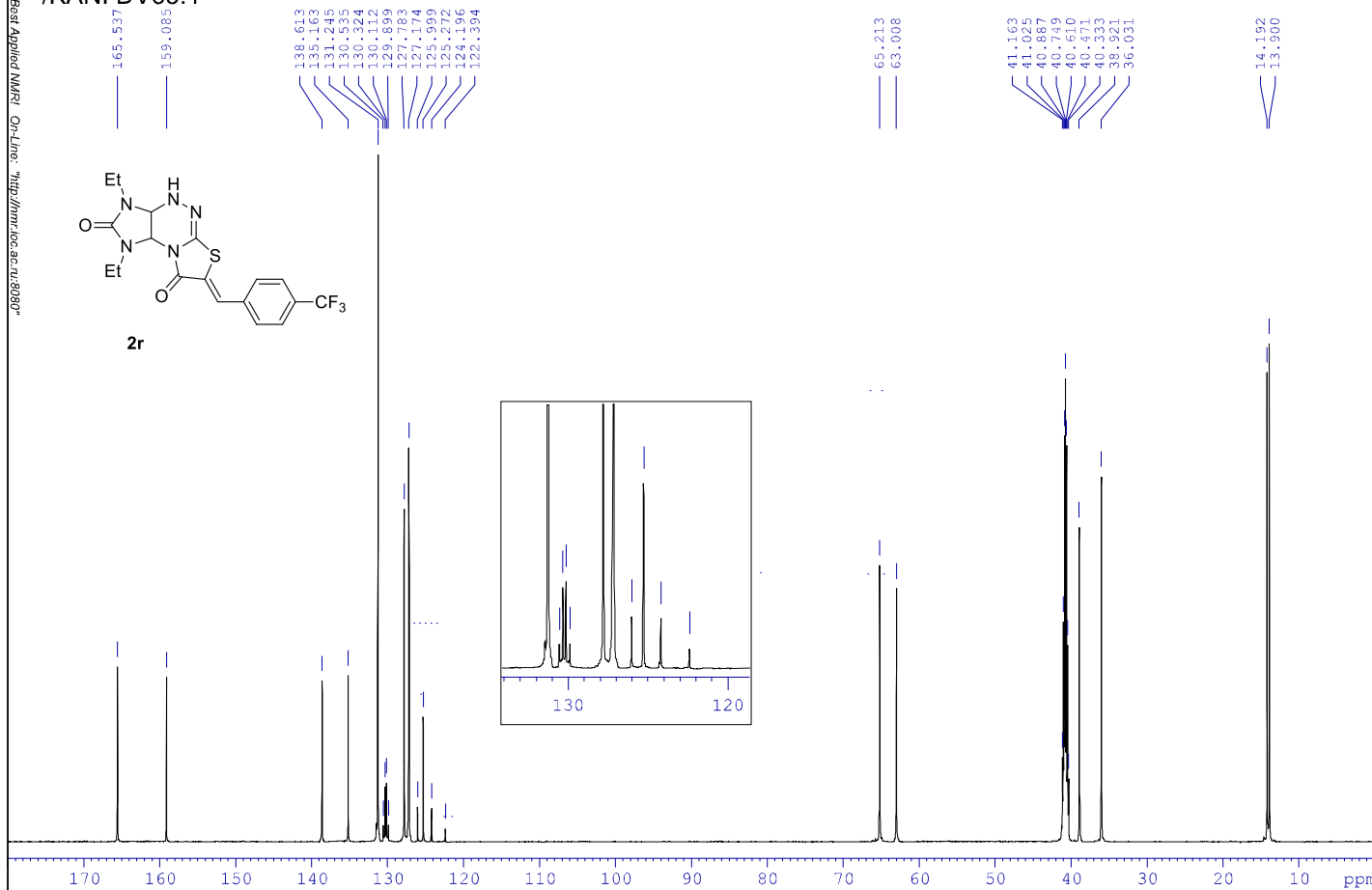
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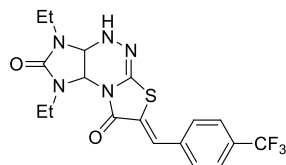
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2r

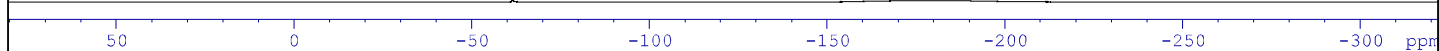


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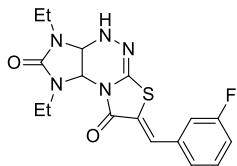


2r

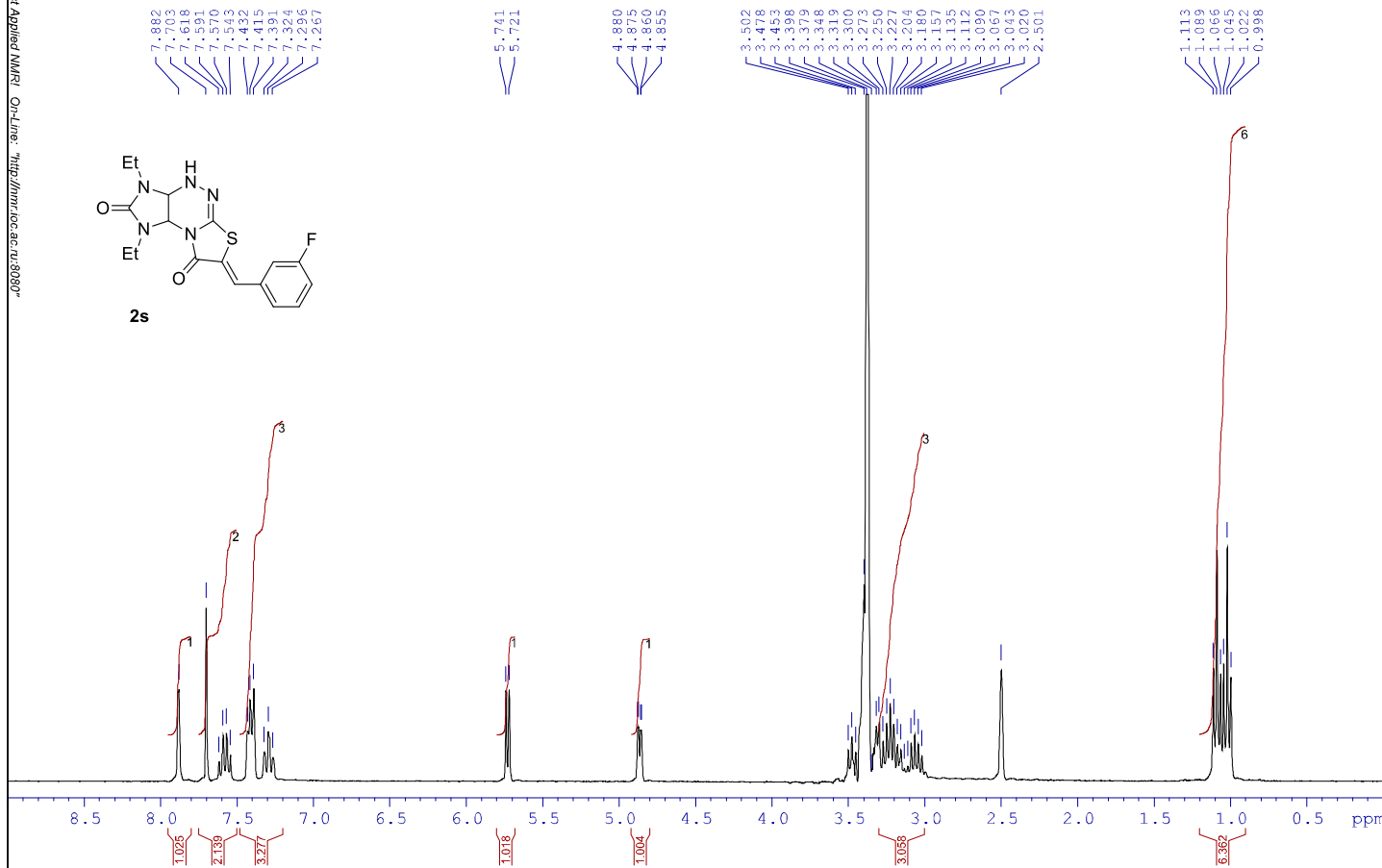
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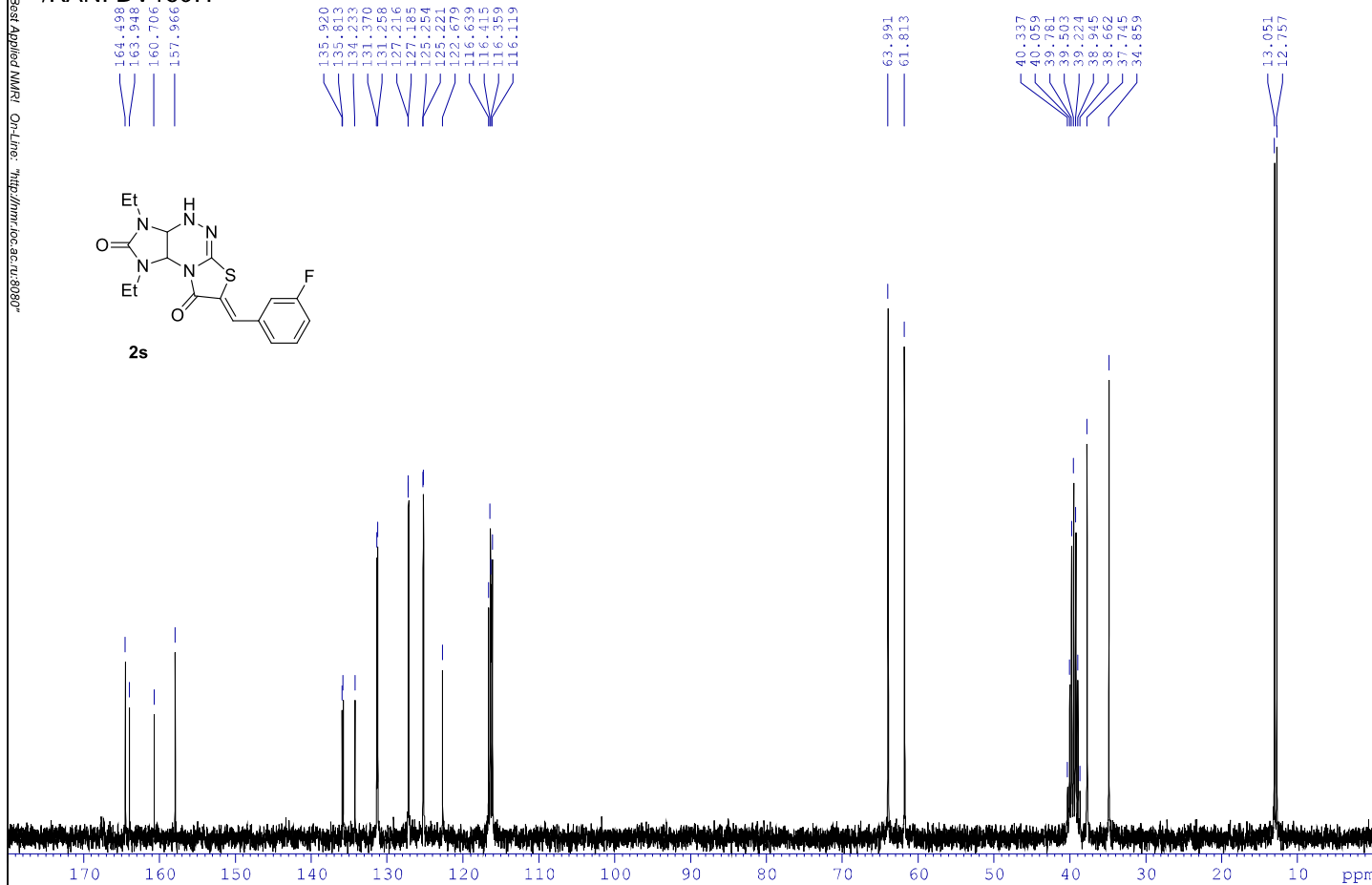
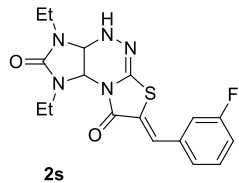
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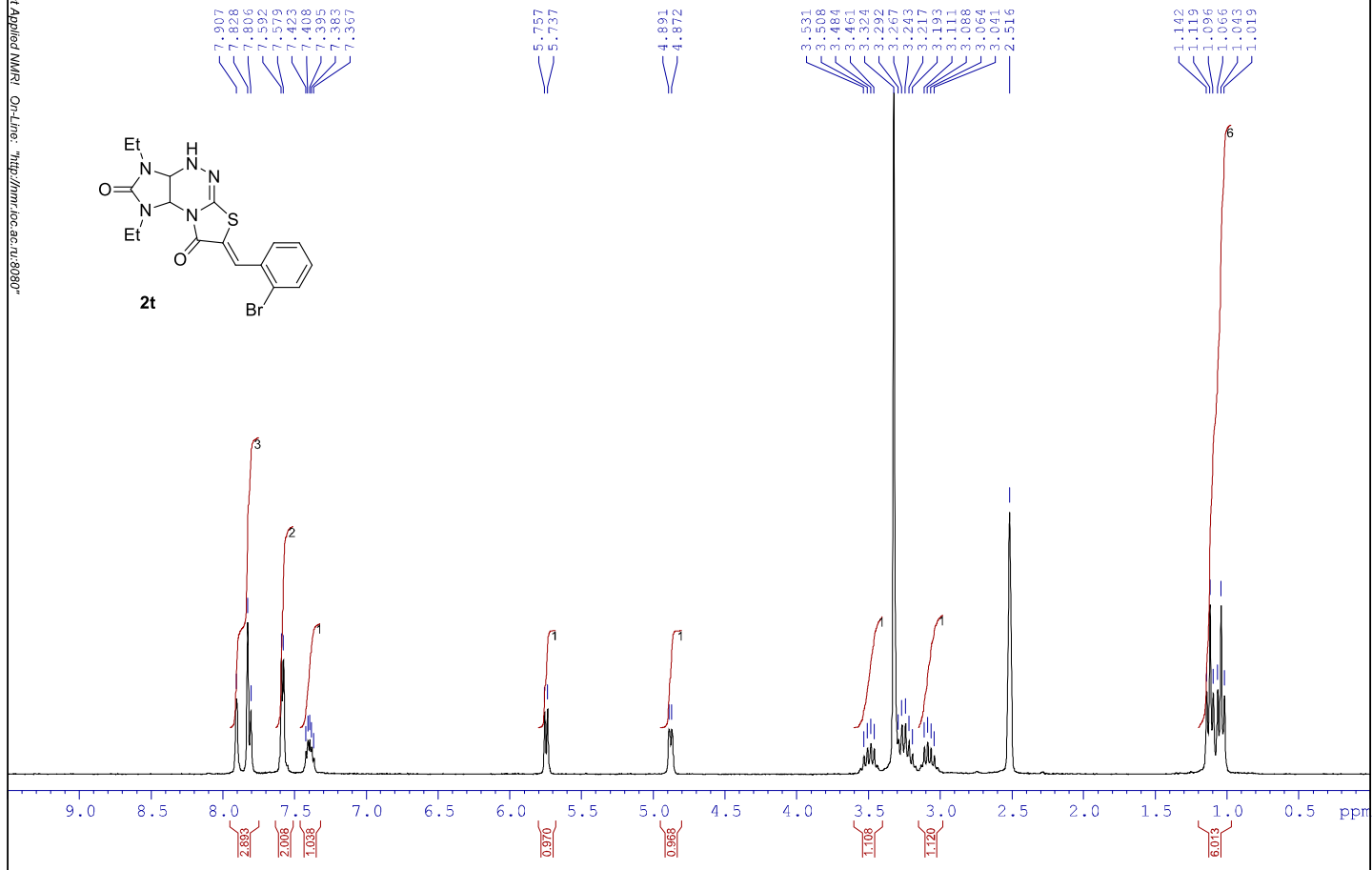
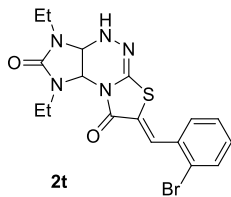
2s



/KANI DV189.1



/KANI IA617.1



/KANI IA617.1

