

# Synthesis, In silico Pharmacokinetic Analysis and Anticancer Activity Evaluation of Benzothiazole-Triazole Hybrids

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**Table S1.** Anticancer activity i.e. one-dose data for Benzothiazole-triazole hybrids retrieved from NCI database

Cell Line	Mean Growth percent									
	(4a)	(5a)	(5b)	(4b)	(4c)	(4d)	(5c)	(5d)	(5e)	(5f)
<b>Leukemia</b>										
CCRF-CEM	97.53	103.39	97.10	99.95					100.65	99.73
HL-60(TB)	99.41	97.05	97.67	99.01	98.78	99.76	97.39	98.11	100.28	97.57
K-562	100.10	94.76	96.78	98.85	102.94	103.40	100.23	90.24	97.30	99.57
MOLT	100.90	104.00	99.08	100.72	105.60	101.11	100.97	102.35	109.76	109.86
RPMI-8226	94.32	107.09	95.72	104.78	95.34	98.00	98.74	100.33	106.11	114.31
SR	96.21	100.05	91.37	95.19	109.51	105.34	104.25	99.06	99.57	106.74
<b>Non-Small Cell Lung Cancer</b>										
A549/ATCC	106.31	97.15	103.71	98.98	105.08	100.06	100.85	104.02	102.80	99.86
EKVX	94.06	94.13	91.48	104.19	94.86	98.74	102.71	92.51	94.85	101.96
HOP-62	100.98	100.51	101.77	101.37	100.99	100.29	103.65	102.29	113.39	106.66
HOP-92	102.44	105.96	106.90	113.47	107.42	105.93	103.60	101.85	114.81	113.12
NCI-H226	102.77	103.21	103.98	105.19	98.93	102.16	101.68	100.92	101.64	104.48
NCI-H23	96.65	101.29	97.03	100.52	99.88	96.52	101.16	100.12	102.91	108.79
NCI-H460	104.23	106.33	104.28	104.38	101.22	101.67	103.48	102.81	107.71	109.28
NCI-H522	97.92	93.74	92.52	89.39	97.81	90.05	95.33	94.50	96.78	92.19
<b>Colon Cancer</b>										
COLO 205	111.39	111.48	109.30	108.02	110.76	105.84	109.41	107.57	112.53	109.56
HCC-2998	108.72	109.28	102.79	108.56	105.00	115.24	104.66	109.53	106.50	109.79
HCT-116	107.09	97.21	101.04	100.38	96.09	95.89	98.03	96.49	105.67	103.33
HCT-15	102.74	105.01	104.66	105.66	107.13	104.31	105.42	102.21	109.68	108.98
HT29	117.78	99.48	106.33	106.51	103.46	96.05	106.18	106.32	106.76	105.35
KM12	105.95	107.16	107.67	101.87	103.17	104.94	102.68	103.16	111.54	108.08
SW-620	100.31	106.40	98.53	102.55	95.84	95.96	95.20	101.12	107.64	112.89
<b>CNS Cancer</b>										
SF-268	95.83	99.00	98.36	97.94	96.37	96.44	97.04	94.95	101.03	103.18
SF-295	107.57	105.54	103.20	106.30	100.96	104.72	101.50	102.15	105.34	98.93
SF-539	101.91	95.02	95.33	94.83	95.18	92.49	95.59	90.09	99.94	100.28
SNB-19	101.93	96.85	98.84	99.91	100.32	98.00	100.88	96.23	102.55	100.74
SNB-75	85.59	92.38	90.69	95.29	95.26	84.42	83.70	86.06	92.65	98.92
U251	107.42	102.29	101.54	99.56	103.60	97.08	102.75	100.16	105.51	100.73
<b>Melanoma</b>										
LOX IMVI	90.45	95.08	91.49	94.19	93.50	99.99	92.33	93.59	95.86	98.74
MALME-3M	96.29	93.84	89.95	106.80	102.26	101.01	95.16	97.75	104.21	99.13
M14	98.84	94.70	95.59	100.63	95.98	97.53	97.51	93.53	99.62	100.38
MDA-MB-435	103.83	99.70	104.25	103.46	101.01	98.74	98.97	101.01	103.21	104.23
SK-MEL-2	108.33	106.56	101.37	104.40	104.67	106.38	103.82	107.11	105.55	110.57
SK-MEL-28	103.73	106.24	99.94	103.49	101.78	101.52	99.22	97.50	109.71	108.49
SK-MEL-5	99.53	102.47	100.10	102.72	98.47	99.83	99.26	100.11	99.12	102.74
UACC-257	105.90	103.90	108.36	99.26	104.79	102.16	97.53	104.60	110.64	106.40
UACC-62	97.45	97.03	95.98	94.64	96.56	91.66	92.05	95.66	103.16	99.80
<b>Ovarian Cancer</b>										
IGROV1	97.87	97.83	92.80	98.69	98.16	96.46	96.39	99.77	102.43	102.84
OVCAR-3	106.25	100.96	102.85	106.62	105.95	102.98	101.46	106.39	107.34	103.94
OVCAR-4	115.78	107.60	113.41	109.59	107.80	101.51	104.32	110.06	119.05	111.40
OVCAR-5	96.32	100.71	100.30	100.63	97.59	92.94	94.71	94.98	103.00	102.53
OVCAR-8	102.82	99.35	103.93	101.50	100.81	99.00	101.20	99.92	103.34	100.68
NCI/ADR-RES	97.51	99.35	101.07	98.86	102.58	102.72	101.82	102.76	110.88	113.07
SK-OV-3	104.58	104.43	96.62	104.08	102.49	94.52	105.26	104.42	111.76	116.42
<b>Renal Cancer</b>										
786-0	106.47	103.33	102.09	102.05	100.61	103.81	100.98	102.57	105.53	106.21
A498	121.94	118.17	121.98	123.86	113.91	110.84	113.12	110.32	133.78	120.25
ACHN	101.88	104.48	101.69	104.48	103.60	104.51	98.83	98.25	102.54	107.16
CAKI-1	84.79	88.92	86.14	91.11	89.17	86.56	91.02	80.65	90.12	93.18
RXF 393	108.56	112.49	106.62	115.48	114.05	112.92	111.86	111.48	116.86	120.13
SN12C	98.92	96.52	99.43	101.48	95.93	98.28	95.53	96.24	98.60	100.68
TK-10	113.31	105.99	113.01	101.86	110.00	104.12	103.09	105.01	110.63	109.47
UO-31	67.66	72.64	63.90	72.11	70.56	65.42	76.52	60.63	71.10	78.40
<b>Prostate Cancer</b>										
PC-3	93.13	96.33	96.06	95.35	92.90	93.64	92.34	91.54	100.23	99.89
DU-145	111.47	113.10	115.55	109.63	113.64	112.22	113.02	113.34	113.59	115.54
<b>Breast Cancer</b>										
MCF7	96.27	97.85	96.02	97.69	95.19	96.70	96.21	93.41	100.10	99.86
MDA-MB-231/ATCC	98.76	100.32	96.41	103.00	102.57	99.41	102.07	99.48	101.03	105.54
HS 578T	108.55	108.86	104.42	106.06	102.15	100.28	101.96	95.63	114.64	115.46
BT-549	102.49	105.74	104.06	103.83	101.49	95.56	100.00	97.41	106.65	108.30
T-47D	113.29	110.14	104.84	92.51	107.08	102.66	109.76	104.88	112.33	106.17
MDA-MB-468	103.40	101.24	104.47	105.06	103.59	106.14	105.47	105.62	108.10	108.88

Cell Line	Mean Growth percent										
	(5g)	(5h)	(5i)	(5j)	(5k)	(5l)	(5m)	(4e)	(4f)	(4g)	
<b>Leukemia</b>											
CCRF-CEM	94.31	103.21						97.51	98.23	103.27	101.75
HL-60(TB)	99.11	99.74	98.47	100.66	98.02	101.23	99.70	98.34	98.93	99.51	
K-562	104.12	103.93	104.99	105.78	105.56	95.85	96.82	96.48	95.29	98.85	
MOLT-4	108.34	111.87	106.25	110.47	105.91	104.09	103.80	100.95	99.68	98.54	
RPMI-8226	104.54	106.26	100.16	112.34	104.63	96.62	102.50	99.53	93.11	97.25	
SR	101.36	99.99	120.31	109.76	104.29	105.22	103.17	94.89	104.41	111.04	
<b>Non-Small Cell Lung Cancer</b>											
A549/ATCC	105.93	103.95	108.71	98.41	106.72	102.46	102.18	97.48	103.88	101.17	
EKVX	104.27	103.35	102.71	100.77	112.00	91.74	88.53	91.54	95.17	98.33	
HOP-62	105.54	101.43	97.82	102.20	102.03	102.60	101.57	100.96	101.54	98.30	
HOP-92	105.06	118.78	116.47	108.77	114.16	104.21	95.43	105.77	97.29	107.01	
NCI-H226	104.34	105.35	101.81	105.86	109.40	96.98	95.26	100.31	101.15	103.12	
NCI-H23	105.52	105.48	99.85	109.59	105.16	105.61	102.10	99.90	102.60	106.38	
NCI-H460	107.25	105.63	103.16	103.18	104.11	104.74	105.75	107.45	105.82	105.78	
NCI-H522	93.26	89.66	102.21	93.85	94.89	96.39	92.78	96.03	89.87	88.08	
<b>Colon Cancer</b>											
COLO 205	110.95	111.65	108.56	108.64	110.11	109.39	109.65	111.96	110.29	108.49	
HCC-2998	106.55	113.26	107.61	115.63	106.47	107.29	105.71	103.44	102.96	102.81	
HCT-116	104.50	102.54	101.10	100.71	99.84	104.34	98.94	99.37	98.58	105.59	
HCT-15	106.72	104.12	107.45	107.89	108.52	104.12	105.45	106.83	105.48	111.03	
HT29	101.30	103.38	101.18	103.69	107.27	105.56	104.05	103.33	97.46	101.87	
KM12	106.26	103.28	104.51	108.56	106.14	101.87	104.75	104.02	106.66	102.60	
SW-620	104.82	104.87	96.41	99.91	98.28	96.43	102.44	113.32	103.63	107.05	
<b>CNS Cancer</b>											
SF-268	103.31	101.62	101.71	98.82	99.59	101.14	95.71	97.76	99.26	101.76	
SF-295	100.76	104.77	103.94	103.66	102.68	101.40	102.38	103.21	99.72	102.98	
SF-539	104.69	99.44	99.68	99.54	93.86	95.02	95.24	96.16	99.04	91.11	
SNB-19	97.68	101.99	99.23	102.36	100.52	99.31	96.42	97.94	96.77	100.85	
SNB-75	103.14	93.60	103.43	100.70	97.45	94.47	76.55	78.19	99.84	91.98	
U251	100.53	102.07	103.67	97.83	103.10	97.24	107.80	98.86	99.01	98.25	
<b>Melanoma</b>											
LOX IMVI	97.94	93.71	95.65	96.57	96.23	95.99	90.93	96.03	92.68	94.20	
MALME-3M	99.85	101.71	114.08	101.03	93.12	97.63	95.06	88.20	92.67	103.64	
M14	100.73	103.47	99.89	102.00	100.69	98.08	97.11	98.20	98.86	105.43	
MDA-MB-435	108.58	110.06	105.18	105.12	105.95	104.77	101.67	100.23	107.46	106.13	
SK-MEL-2	104.43	102.08	105.35	105.29	107.25	108.78	103.27	107.61	100.06	103.68	
SK-MEL-28	104.05	108.09	101.02	102.99	104.67	103.65	103.85	101.86	98.83	102.58	
SK-MEL-5	101.24	104.06	97.36	99.49	99.06	100.48	96.50	101.60	99.58	101.33	
UACC-257	110.78	106.18	110.09	106.03	106.22	105.05	103.68	100.44	107.95	96.51	
UACC-62	100.27	99.47	100.10	98.08	99.38	99.59	96.85	97.75	96.60	93.07	
<b>Ovarian Cancer</b>											
IGROV1	101.04	96.59	96.77	97.28	96.33	100.17	94.30	98.11	96.16	99.00	
OVCAR-3	110.30	111.48	107.45	107.12	105.20	104.18	104.79	101.09	104.66	106.17	
OVCAR-4	120.33	115.56	113.29	109.05	112.32	113.16	111.58	101.15	116.91	108.48	
OVCAR-5	99.68	103.56	99.69	98.61	101.07	99.88	100.54	102.81	99.71	105.65	
OVCAR-8	103.60	101.27	100.37	100.31	101.49	100.26	103.81	95.96	100.60	96.69	
NCI/ADR-RES	112.36	109.24	107.51	106.55	110.90	105.22	103.52	99.85	102.68	104.22	
SK-OV-3	110.66	101.62	101.87	109.71	111.09	107.57	101.35	88.01	100.29	95.44	
<b>Renal Cancer</b>											
786-0	105.42	102.39	106.44	108.46	104.35	103.82	103.41	101.15	101.28	102.43	
A498	110.32	133.83	112.31	129.30	120.57	125.04	133.11	116.28	116.05	108.64	
ACHN	109.34	102.97	101.68	101.32	101.52	102.80	95.84	100.69	104.62	97.92	
CAKI-1	97.87	89.94	87.41	87.57	87.49	86.79	82.89	91.50	91.13	90.25	
RXF 393	120.16	120.33	116.15	113.61	116.09	118.26	111.59	121.19	110.15	114.54	
SN12C	105.48	101.85	98.28	98.53	100.47	100.05	94.62	97.59	102.37	99.36	
TK-10	109.50	107.37	113.43	102.57	106.34	107.85	112.36	104.28	104.84	97.87	
UO-31	76.30	66.75	67.01	65.95	67.06	70.22	62.14	73.14	70.06	74.23	
<b>Prostate Cancer</b>											
PC-3	98.03	95.55	97.94	96.31	96.70	93.25	93.11	97.59	95.10	97.74	
DU-145	118.63	112.98	118.79	117.27	118.08	115.86	112.86	111.69	113.78	113.66	
<b>Breast Cancer</b>											
MCF7	98.72	101.01	98.13	99.97	100.68	95.53	91.70	91.72	92.68	98.41	
MDA-MB-231/ATCC	102.30	101.55	105.44	98.88	104.61	102.09	94.79	101.18	92.55	97.17	
HS 578T	111.44	104.36	103.38	100.61	104.56	100.71	107.86	112.66	101.90	108.83	
BT-549	104.80	112.45	113.43	103.05	107.26	102.12	102.55	102.40	101.56	103.02	
T-47D	109.58	102.93	102.06	102.41	110.99	101.72	108.12	96.21	101.04	95.84	
MDA-MB-468	105.42	112.96	113.60	109.92	116.25	111.95	102.51	105.42	105.17	105.50	

Cell Line	Mean Growth percent			
	(4h)	(4i)	(4j)	(5n)
Leukemia				
HL-60(TB)	97.87	99.08	97.93	97.71
K-562	102.10	99.53	98.53	90.47
MOLT-4	102.16	105.42	97.99	103.66
RPMI-8226	95.18	91.94	93.08	85.17
SR	114.45	108.71	110.71	95.98
Non-Small Cell Lung Cancer				
A549/ATCC	104.79	98.45	104.05	101.19
EKVX	101.87	84.66	111.43	86.44
HOP-62	95.20	99.37	100.98	95.69
HOP-92	107.23	99.12	102.94	93.26
NCI-H226	97.30	101.06	102.80	102.58
NCI-H23	95.32	101.68	103.71	101.15
NCI-H460	100.80	102.45	102.23	102.78
NCI-H522	97.44	91.71	95.93	94.81
Colon Cancer				
COLO 205	113.25	109.71	111.72	103.98
HCC-2998	101.16	107.87	101.80	105.81
HCT-116	99.51	100.07	103.91	98.23
HCT-15	103.83	109.02	110.83	102.67
HT29	97.04	102.57	110.63	100.18
KM12	105.31	107.15	103.27	100.12
SW-620	95.36	97.67	99.37	98.97
CNS Cancer				
SF-268	97.21	97.14	99.39	97.07
SF-295	99.16	101.19	100.49	99.54
SF-539	95.44	94.01	91.00	85.36
SNB-19	95.37	97.51	95.88	95.16
SNB-75	92.61	88.11	85.40	77.68
U251	102.90	99.05	100.85	95.23
Melanoma				
LOX IMVI	90.63	99.50	94.59	92.63
MALME-3M	99.97	91.50	96.67	88.76
M14	99.63	98.73	100.38	94.48
MDA-MB-435	108.39	102.08	98.33	101.03
SK-MEL-2	104.13	101.40	104.92	105.07
SK-MEL-28	101.16	97.28	100.67	96.25
SK-MEL-5	96.23	98.46	98.03	98.87
UACC-257	103.57	97.50	100.77	102.65
UACC-62	97.89	96.36	97.39	94.90
Ovarian Cancer				
IGROV1	98.35	93.96	92.19	93.89
OVCAR-3	103.29	103.28	101.00	100.93
OVCAR-4	105.43	104.30	102.65	106.84
OVCAR-5	98.74	97.12	97.91	95.07
OVCAR-8	96.69	99.73	102.07	97.78
NCI/ADR-RES	100.25	105.76	105.79	102.59
SK-OV-3	98.41	99.72	99.74	97.89
Renal Cancer				
786-0	104.23	106.42	104.17	100.57
A498	108.24	108.28	112.09	120.55
ACHN	99.70	99.30	97.58	95.73
CAKI-1	88.09	93.08	86.72	77.29
RXF 393	113.63	115.73	115.61	120.59
SN12C	96.38	97.67	98.28	96.31
TK-10	103.94	97.23	104.52	107.55
UO-31	69.14	73.35	67.09	62.89
Prostate Cancer				
PC-3	96.47	98.27	94.20	86.82
DU-145	117.52	109.39	113.51	110.12
Breast Cancer				
MCF7	92.22	94.50	95.18	90.31
MDA-MB-231/ATCC	100.23	100.00	95.29	91.76
HS 578T	98.60	99.89	95.72	97.09
BT-549	103.74	97.64	101.87	97.06
T-47D	103.07	96.21	103.96	94.81
MDA-MB-468	105.42	106.29	109.08	106.26

### ***In silico* ADME prediction**

The pharmacokinetics of the compounds under study, ADME predictions were done for the compounds using Qikprop v3.5 (Schrödinger, Inc., New York, NY, 2012).<sup>5</sup> All the compounds prepared by LigPrep were used for the calculation of pharmacokinetic properties by QikProp. The program QikProp, utilizes the method of Jorgensen to compute pharmacokinetic properties and descriptors such as octanol/water partitioning coefficient, aqueous solubility, brain/blood partition coefficient, intestinal wall permeability, plasma protein binding and others.

**TableS2.** Calculation of Lipinski's 'rule of 5' parameters for Benzothiazole-triazole hybrids

S.No (Molecule)	Mol wt	donor HB(<5)	Accept HB (<10)	QP logPo/w (<5)	Rule of five (<4)
(4a)	393.419	0	7.25	2.819	0
(4b)	365.409	1	7.25	3.118	0
(4c)	379.436	1	7.25	3.534	0
(4d)	393.462	1	7.25	3.898	0
(4e)	393.419	0	7.25	2.738	0
(4f)	407.446	0	7.25	3.104	0
(4g)	410.406	0	6.25	3.088	0
(4h)	444.305	1	7.25	3.681	0
(4i)	390.419	0	6.75	2.995	0
(4j)	393.419	0	7.25	2.379	0
(5a)	289.311	1	6.2	1.348	0
(5b)	335.383	1	6.5	2.976	0
(5c)	357.429	2	7.25	2.579	0
(5d)	353.373	1	6.5	3.208	0
(5e)	365.409	1	7.25	3.067	0
(5f)	299.35	1	6.5	2.275	0
(5g)	341.43	1	6.5	3.155	0
(5h)	360.392	0	6	2.576	0
(5i)	349.409	1	6.5	3.279	0
(5j)	301.365	1	6.5	2.421	0
(5k)	315.392	1	6.5	2.76	0
(5l)	329.419	1	6.5	3.094	0
(5m)	343.446	1	6.5	3.022	0
(5n)	377.463	1	6.5	4.0090	0

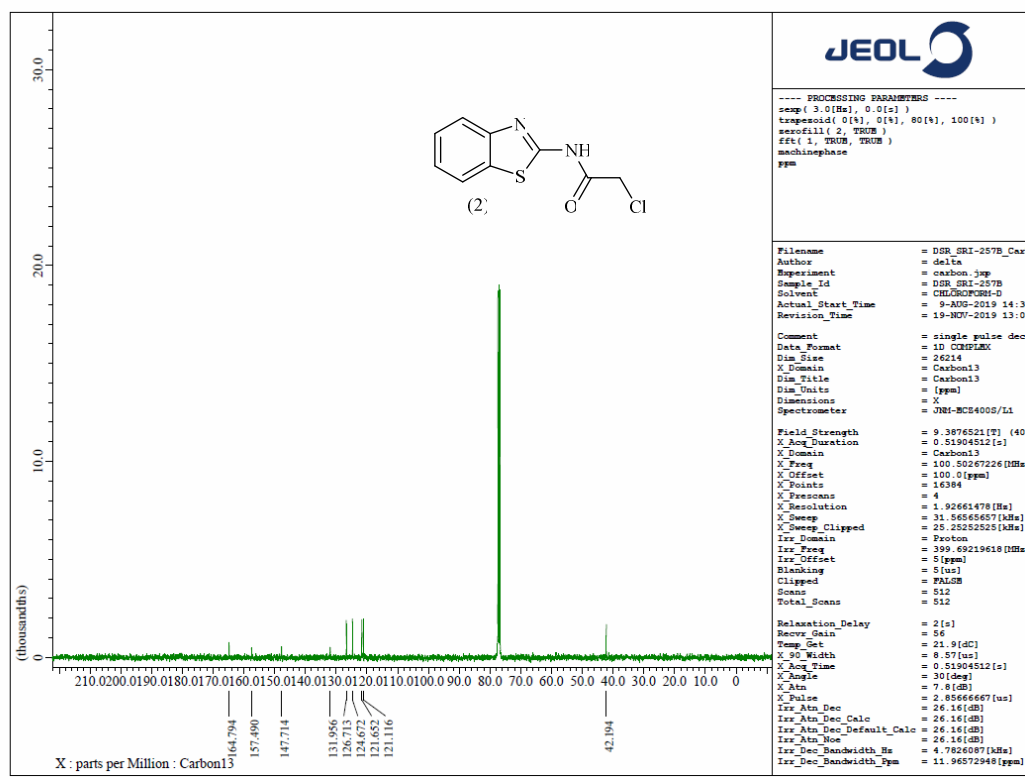
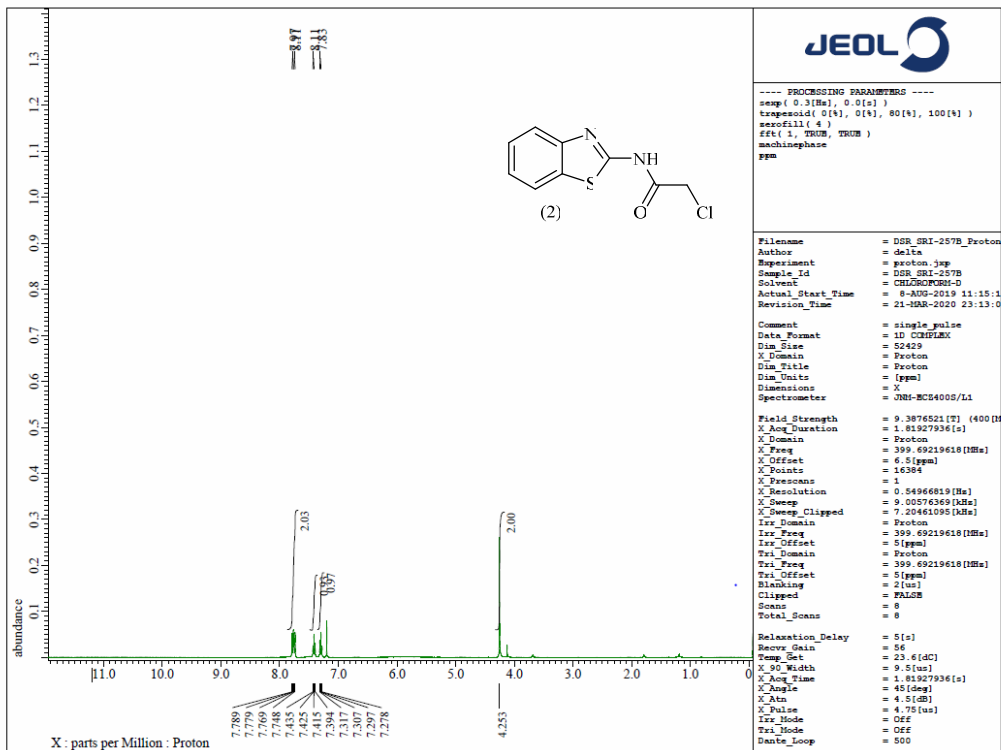
<sup>a</sup> Calculated using Qikprop v3.5.

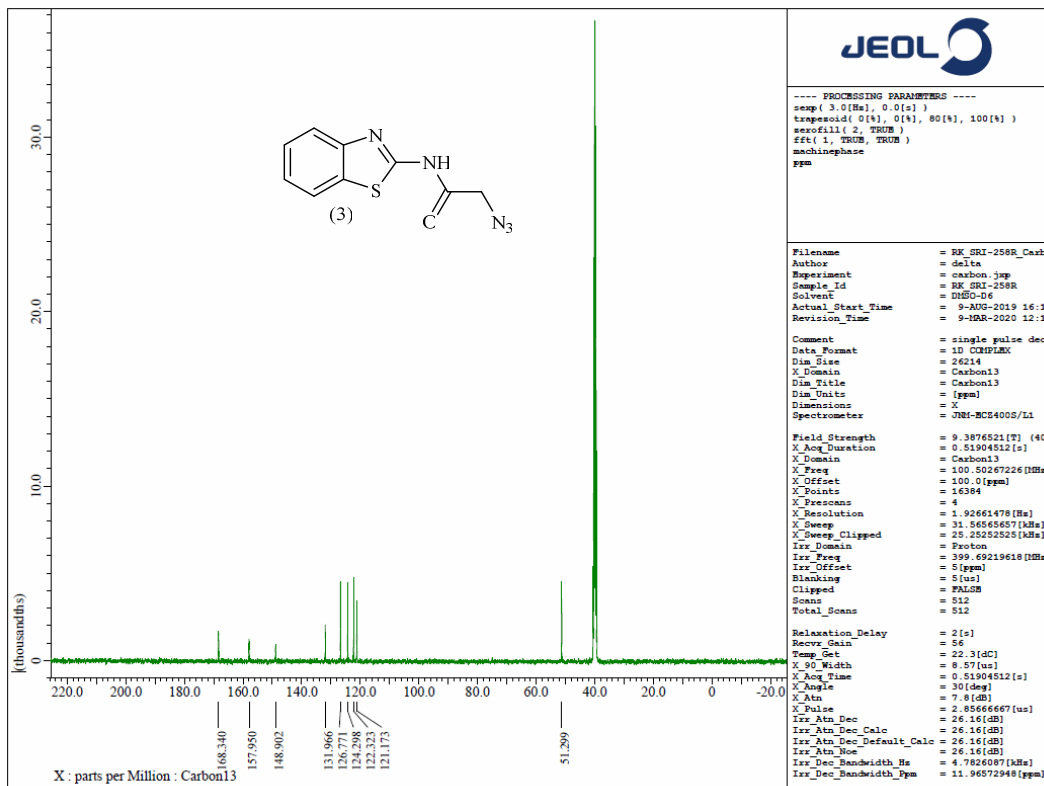
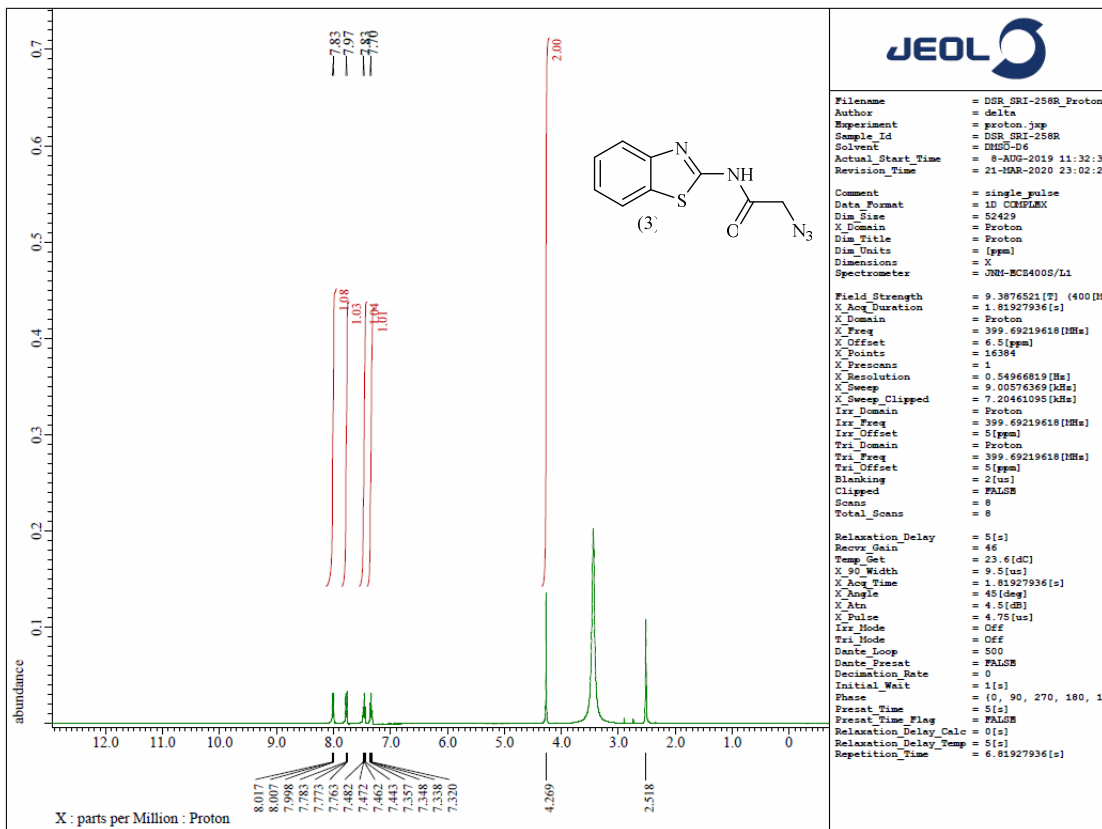
**Table S3.**ADME predictions for Benzothiazole-triazole hybrids

S.No (Molecule)	Percent Human Oral Absorption (>80% - high, <25% poor) <sup>a</sup>	QPPCaco nms <sup>-1</sup> (<25 poor, >500 great) <sup>a</sup>	QPlogBB (-3.0-1.2) <sup>a</sup>	QPPMDCK (<25 poor >500 great) <sup>a</sup>	QPlogKhsa (-1.5 to 1.5) <sup>a</sup>	QPlogHERG (<-5 causes concern) <sup>a</sup>	#rotor (0-15) <sup>a</sup>
(4a)	80.36	115.33	-2.03	83.90	-0.156	-6.754	8
(4b)	93.48	498.26	-1.17	396.68	0.023	-7.066	6
(4c)	100.00	628.38	-1.09	553.86	0.178	-7.03	6
(4d)	100.00	644.312	-1.166	568.357	0.29	-7.118	7
(4e)	82.395	159.323	-1.694	123.119	-0.236	-6.152	8
(4f)	85.26	174.83	-1.85	98.14	-0.043	-6.604	8
(4g)	80.00	89.92	-2.02	66.43	0.052	-6.341	8
(4h)	96.78	498.11	-1.02	1050.36	0.157	-6.986	6
(4i)	83.77	156.63	-1.77	120.95	-0.106	-6.5	8
(4j)	79.702	147.672	-1.56	111.635	-0.349	-5.206	8
(5a)	75.22	180.27	-1.47	100.38	-0.399	-5.143	6
(5b)	95.50	719.50	-0.73	640.72	0.062	-6.672	3
(5c)	88.43	390.52	-1.08	330.57	0.073	-5.723	4
(5d)	96.85	718.39	-0.62	1154.75	0.102	-6.547	3
(5e)	96.08	723.20	-0.82	644.07	0.063	-6.573	4
(5f)	92.43	821.13	-0.63	738.68	-0.15	-5.572	3
(5g)	100.00	807.14	-0.69	724.64	0.219	-5.814	3
(5h)	81.84	167.72	-1.32	130.28	-0.106	-5.344	5
(5i)	100.00	717.60	-0.76	638.91	0.214	-6.584	3
(5j)	92.27	721.27	-0.84	642.11	-0.159	-5.707	5
(5k)	94.29	724.28	-0.93	644.64	-0.06	-5.862	6
(5l)	95.08	622.87	-1.10	547.97	0.055	-6.02	7
(5m)	94.52	612.34	-1.04	440.99	0.052	-4.929	8
(5n)	100.00	734.11	-0.94	654.31	0.436	-6.845	5

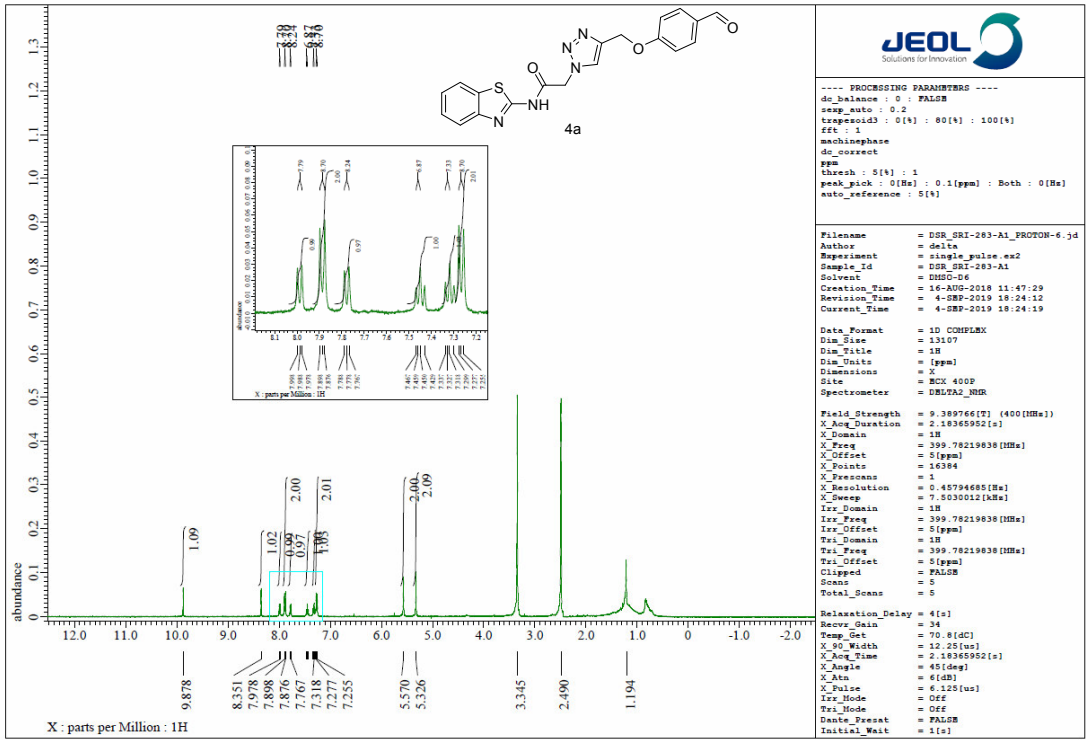
<sup>a</sup> Calculated using Qikprop v3.5. The ranges/recommended values, shown in parenthesis, were calculated from 95% of known drugs

S4.Spectras <sup>1</sup>H and <sup>13</sup>C:









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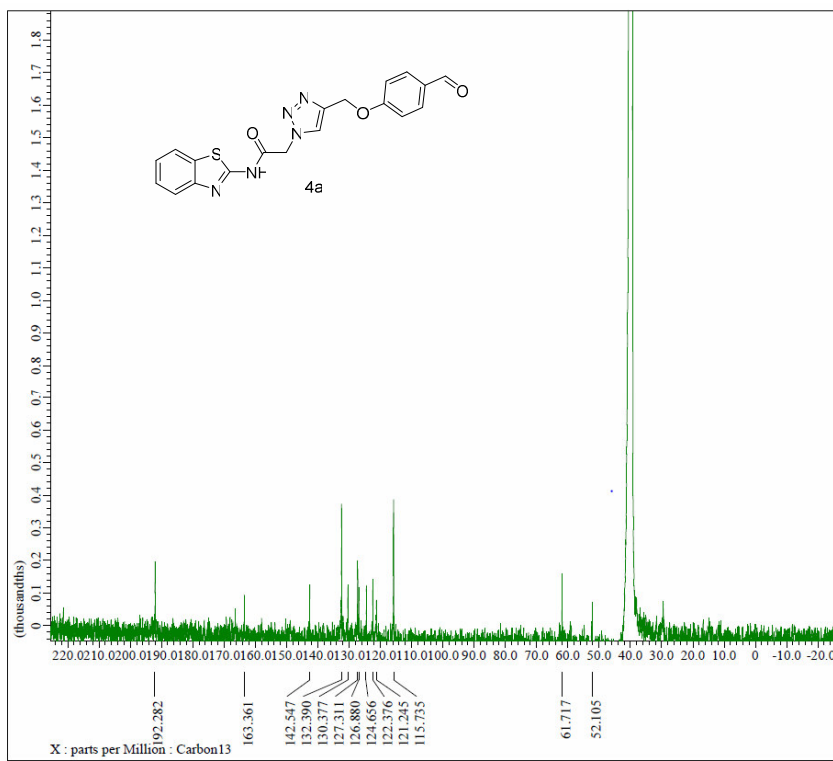
---- PROCESSING PARAMETERS ----  
 de\_balance : 0 : FALSE  
 seqp\_auto : 0.2  
 trapsgid : 0[4] : 80[4] : 100[4]  
 fft : 1  
 machinephase  
 dc\_correct  
 ppm  
 thresh : 5[4] : 1  
 peak\_pick : 0[Hz] : 0.1[ppm] : Both : 0[Hz]  
 auto\_reference : 5[4]

Filename = DSR\_SRI-283-A1\_PROTON-6.jd  
 Author = delta  
 Experiment = single\_pulse\_ex2  
 Sample\_Id = DSR\_SRI-283-A1  
 Solvent = DMSO-d6  
 Creation\_Time = 16-NOV-2018 11:47:29  
 Revision\_Time = 4-SMP-2019 18:24:12  
 Current\_Time = 4-SMP-2019 18:24:19

Date\_Format = 10\_COMPLEX  
 Dim\_Size = 13107  
 Dim\_Title = 18  
 Dim\_Units = [ppm]  
 Dimensions = X  
 Site = REX 400P  
 Spectrometer = DELTA2\_NMR

Field\_Strength = 9.389766[7] (400[MHz])  
 X\_Acq\_Duration = 2.1836592[s]  
 X\_Domain = 18  
 X\_Freq = 399.78219838 [MHz]  
 X\_Offset = 5[ppm]  
 X\_Points = 16384  
 X\_Prescans = 1  
 X\_Resolution = 0.45794688[Hz]  
 X\_Sweep = 7.5030012[kHz]  
 Irr\_Domain = 18  
 Irr\_Freq = 399.78219838 [MHz]  
 Irr\_Offset = 5[ppm]  
 Tsi\_Domain = 18  
 Tsi\_Freq = 399.78219838 [MHz]  
 Tsi\_Offset = 5[ppm]  
 Clipped = FALSE  
 Scans = 5  
 Total\_Scans = 5

Relaxation\_Delay = 4[s]  
 Recv\_Gain = 18  
 Temp\_Get = 70.8[dc]  
 X\_90\_Width = 12.25[us]  
 X\_Acq\_Time = 2.1836592[s]  
 X\_Angle = 45[deg]  
 X\_Atn = 6[db]  
 X\_Pulse = 6.125[us]  
 Irr\_Mode = OFF  
 Tsi\_Mode = OFF  
 Data\_Preset = FALSB  
 Initial\_Wait = 1[s]



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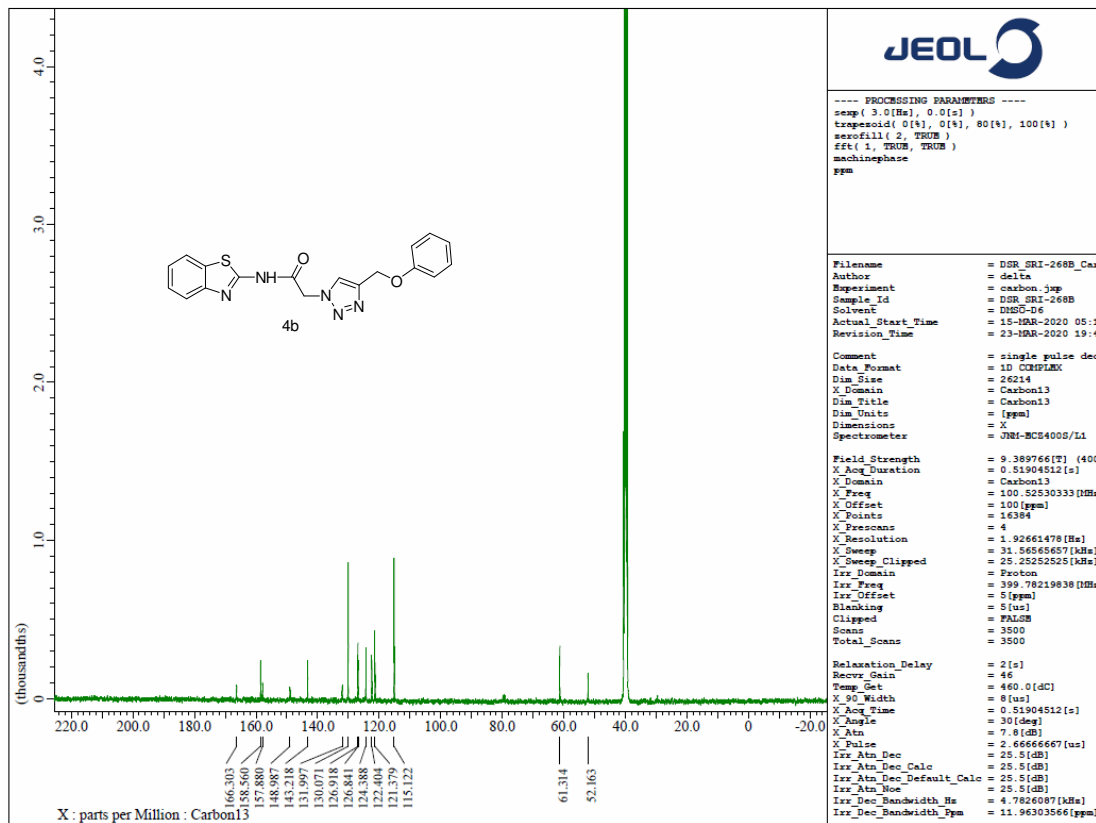
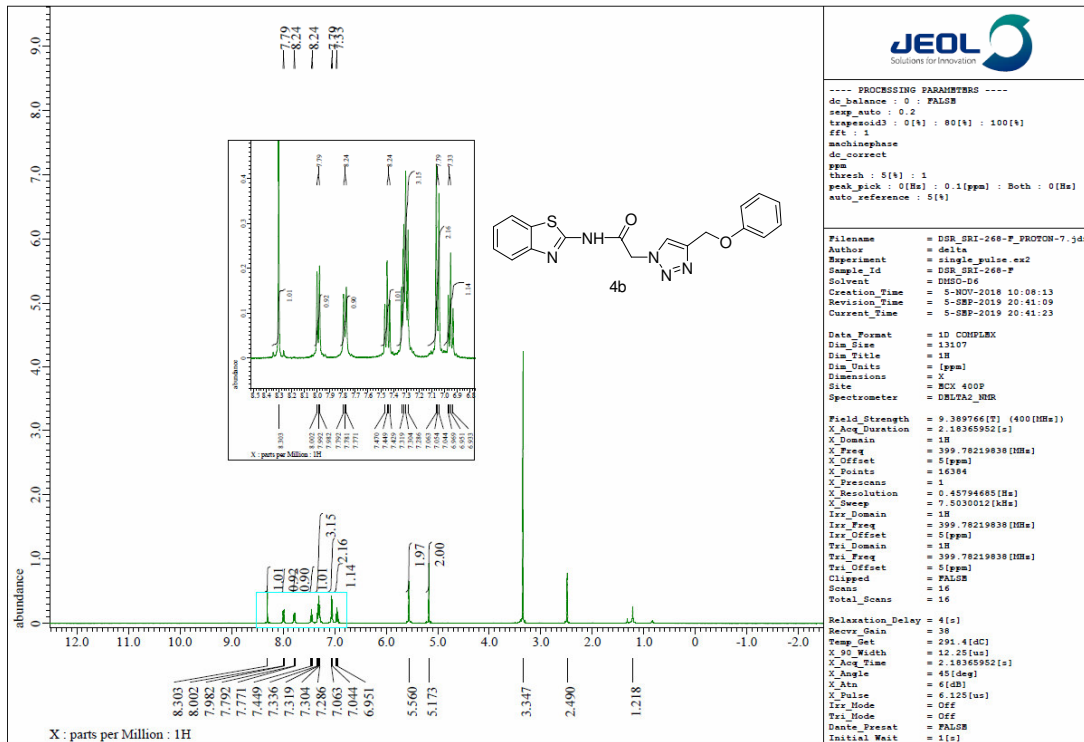
---- PROCESSING PARAMETERS ----  
 seqp( 3.0[Hz], 0.0[s] )  
 trapsgid( 0[4], 0[4], 80[4], 100[4] )  
 zerofill( 2 )  
 fft( 1, TRUE, TRUE )  
 machinephase  
 ppm

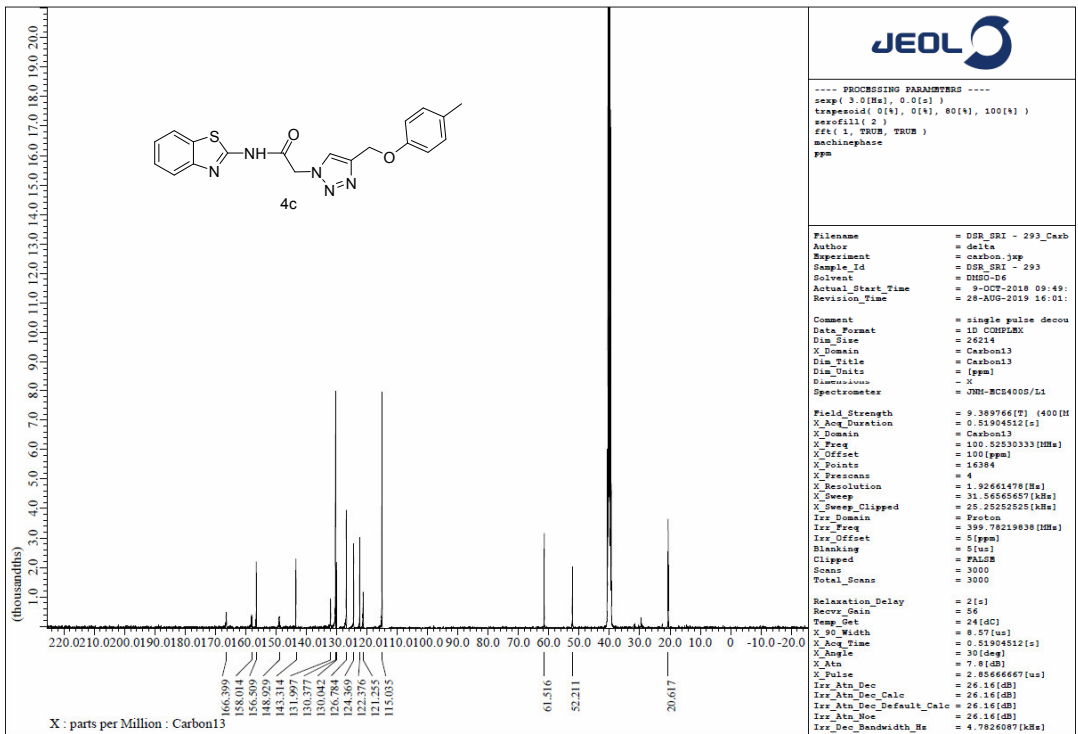
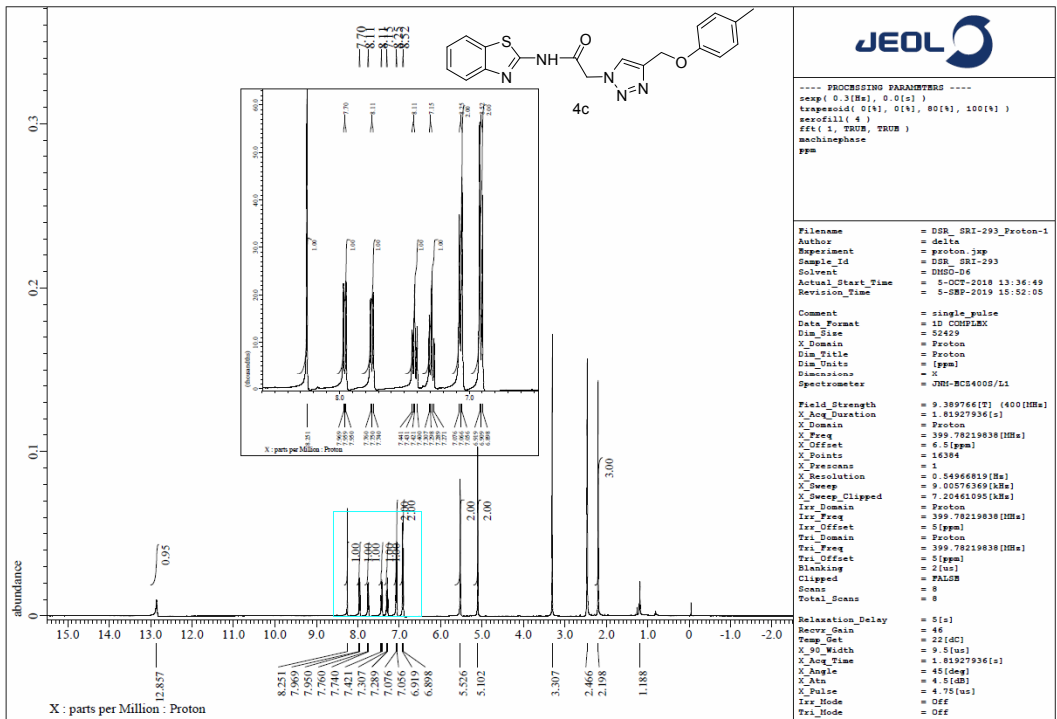
Filename = DSR\_SRI - 283 B1\_C  
 Author = delta  
 Experiment = carbon\_3cp  
 Sample\_Id = DSR\_SRI - 283 B1  
 Solvent = DMSO-d6  
 Creation\_Time = 9-NOV-2018 23:51:  
 Revision\_Time = 4-SMP-2019 18:25:  
 Current\_Time = 4-SMP-2019 18:26:

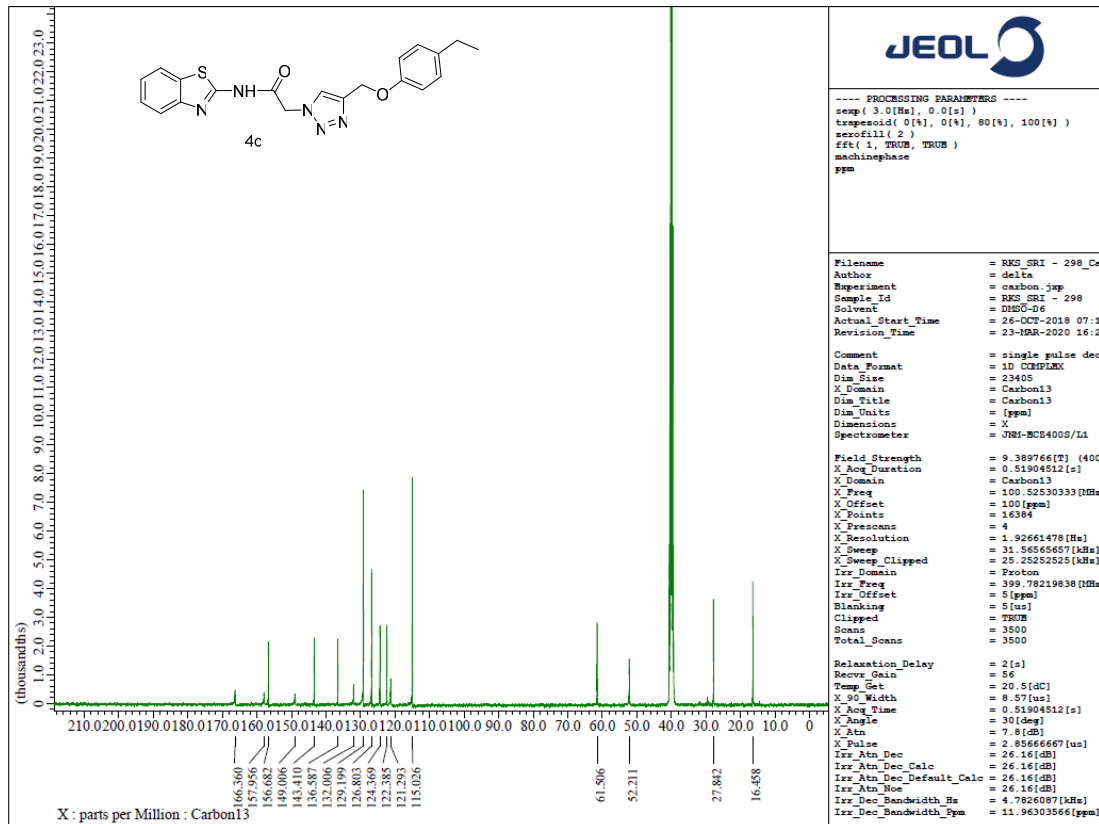
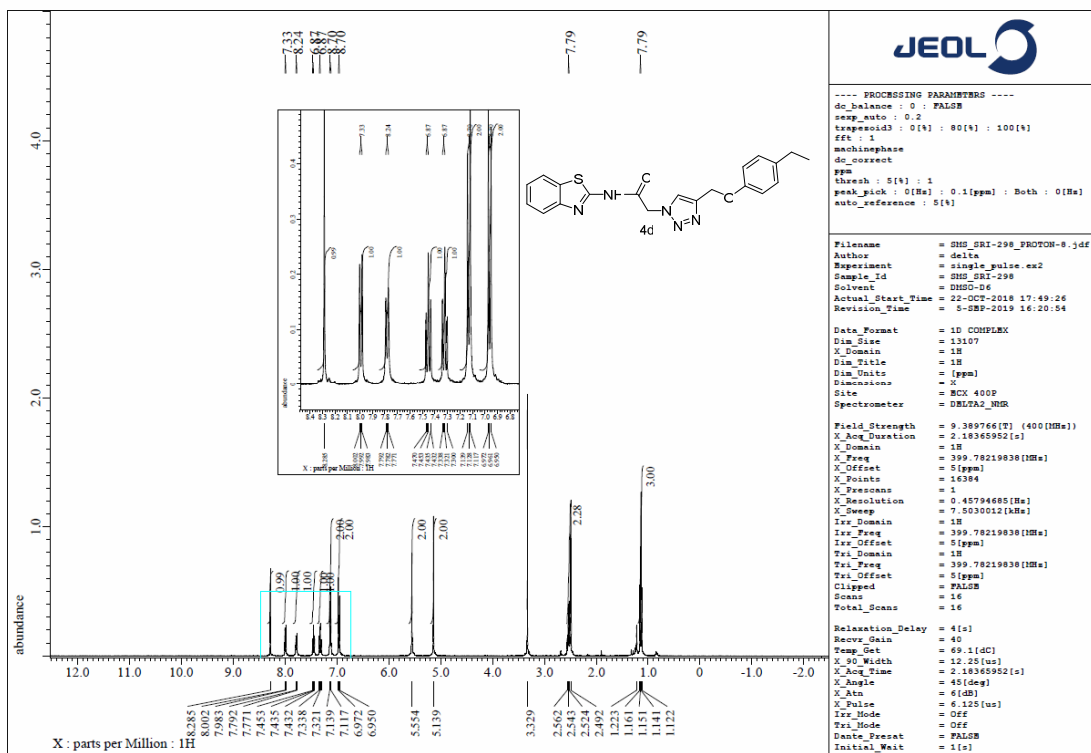
Comment = single\_pulse\_decou  
 Date\_Format = 10\_COMPLEX  
 Dim\_Size = 26214  
 Dim\_Title = Carbon13  
 Dim\_Units = [ppm]  
 Dimensions = X  
 Spectrometer = JNM-RC6400S/L1

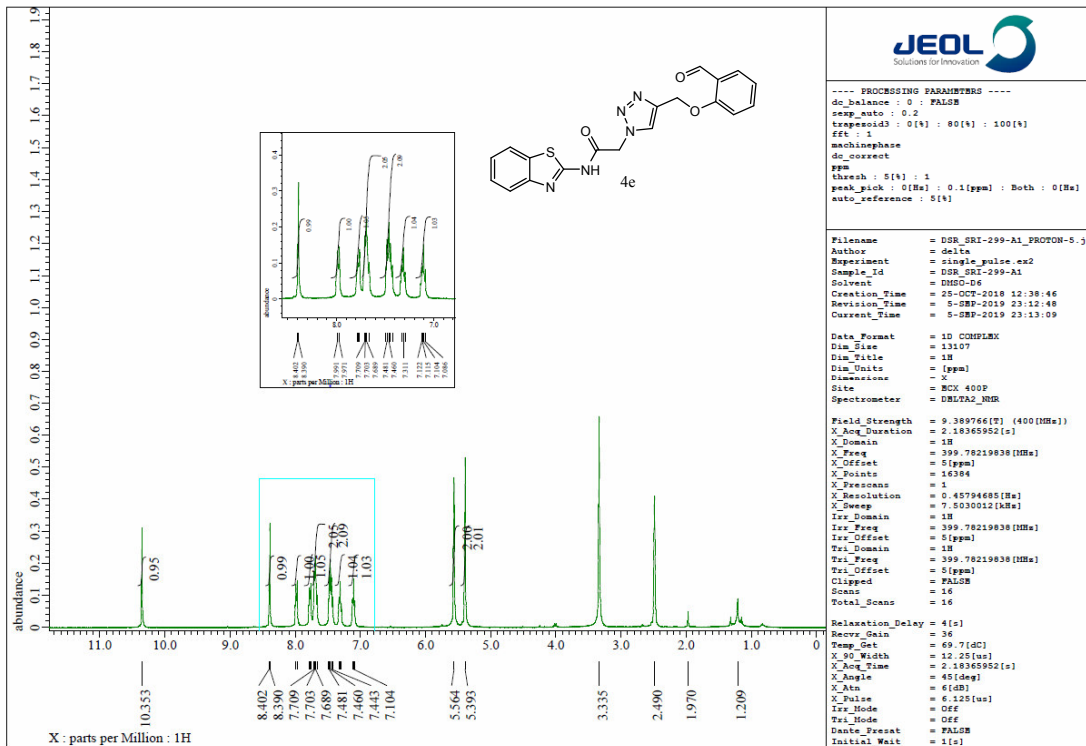
Field\_Strength = 9.389766[7] (400[MHz])  
 X\_Acq\_Duration = 0.51904512[s]  
 X\_Domain = Carbon13  
 X\_Freq = 100.52530333 [MHz]  
 X\_Offset = 100[ppm]  
 X\_Points = 16384  
 X\_Prescans = 4  
 X\_Resolution = 1.92661478[Hz]  
 X\_Sweep = 31.5656567[kHz]  
 X\_Sweep\_Clipped = 25.25252525 [kHz]  
 Irr\_Domain = Proton  
 Irr\_Freq = 399.78219838 [MHz]  
 Irr\_Offset = 5[ppm]  
 Blanking = 5[us]  
 Clipped = FALSE  
 Decimation\_Reg = x: 198 ( 197 ), g: 39  
 Scans = 5000  
 Total\_Scans = 5000

Relaxation\_Delay = 2[s]  
 Recv\_Gain = 56  
 Temp\_Get = 20.9[dc]  
 X\_90\_Width = 8.57[us]  
 X\_Acq\_Time = 0.51904512[s]  
 X\_Angle = 30[deg]  
 X\_Atn = 7.8[db]  
 X\_Pulse = 2.8566667[us]  
 Irr\_Atn\_Dec = 26.16[db]  
 Irr\_Atn\_Dec\_Calc = 26.16[db]  
 Irr\_Atn\_Dec\_Default\_Calc = 26.16[db]  
 Irr\_Atn\_Hoc = 26.16[db]









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---- PROCESSING PARAMETERS ----

```

do_balance : 0 : FALSE
sweep_auto : 0.2
timestep3D : 0 [%] : 80 [%] : 100 [%]
fft : 1
machinephase
dc_correct
ppm
thresh : 5 [%] : 1
peak_pick : 0 [%] : 0.1 [ppm] : Both : 0 [%]
auto_reference : 5 [%]

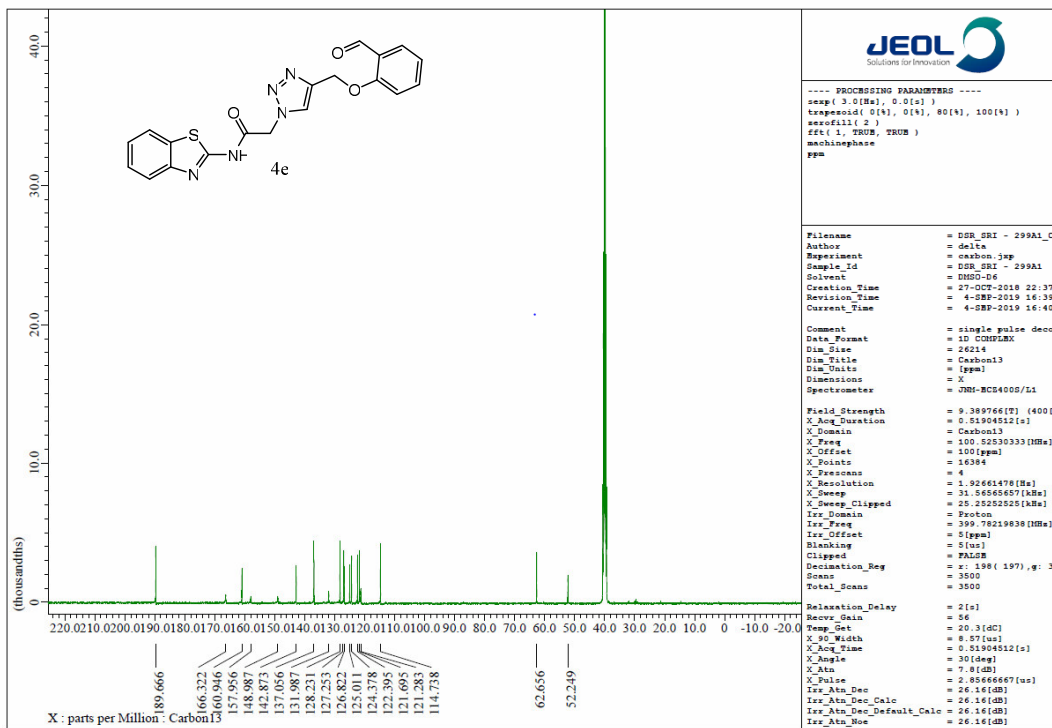
```

Filename = DSR\_SRI-299-A1\_PROTON-5\_3d  
 Author = delta  
 Experiment = single\_pulse.ex2  
 Sample\_Id = DSR\_SRI-299-A1  
 Solvent = DMSO-D6  
 Creation\_Time = 25-OCT-2018 12:38:46  
 Revision\_Time = 5-SEP-2019 23:12:48  
 Current\_Time = 5-SEP-2019 23:13:09

Data\_Format = ID COMPLEX  
 Data\_Size = 13107  
 Data\_Title = 1H  
 Data\_Units = [ppm]  
 Dimensions = X  
 Site = MCX 400P  
 Spectrometer = DELTA2\_MXR

Field\_Strength = 9.389766 [T] (400 [MHz])  
 X\_Acq\_Duration = 2.38365952 [s]  
 X\_Domain = 1H  
 X\_Freq = 399.78219838 [MHz]  
 X\_Offset = 5 [ppm]  
 X\_Points = 16384  
 X\_Prescans = 1  
 X\_Resolution = 0.45794685 [Hz]  
 X\_Sweep = 7.5033002 [kHz]  
 Irv\_Domain = 1H  
 Irv\_Freq = 399.78219838 [MHz]  
 Irv\_Offset = 5 [ppm]  
 Tri\_Domain = 1H  
 Tri\_Freq = 399.78219838 [MHz]  
 Tri\_Offset = 5 [ppm]  
 Clipped = FALSE  
 Scans = 16  
 Total\_Scans = 16

Relaxation\_Delay = 4 [s]  
 Recv\_Gain = 36  
 Temp\_Get = 69.7 [dC]  
 X\_90\_Width = 12.25 [us]  
 X\_Acq\_Time = 2.38365952 [s]  
 X\_Angle = 45 [deg]  
 X\_Attn = 6 [dB]  
 X\_Pulse = 4.125 [us]  
 Irv\_Mode = Off  
 Tri\_Mode = Off  
 Date\_Preset = PALSB  
 Initial\_Wait = 1 [s]



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---- PROCESSING PARAMETERS ----

```

sweep( 3.0 [Hz], 0.0 [s] )
timestep3D( 0 [%], 0 [%], 80 [%], 100 [%] )
seff( 1, 2 )
fft( 1, TRUE, TRUE )
machinephase
ppm

```

Filename = DSR\_SRI - 299A1\_Ca  
 Author = delta  
 Experiment = carbon\_3cp  
 Sample\_Id = DSR\_SRI - 299A1  
 Solvent = DMSO-D6  
 Creation\_Time = 27-OCT-2018 22:37:  
 Revision\_Time = 4-SEP-2019 16:39:  
 Current\_Time = 4-SEP-2019 16:40:

Comment = single pulse decou  
 Data\_Format = ID COMPLEX  
 Data\_Size = 26214  
 Data\_Title = Carbon13  
 Data\_Units = [ppm]  
 Dimensions = X  
 Spectrometer = JNM-ECX400S/L1

Field\_Strength = 9.389766 [T] (400 [MHz])  
 X\_Acq\_Duration = 0.51904512 [s]  
 X\_Domain = Carbon13  
 X\_Freq = 100.52530333 [MHz]  
 X\_Offset = 100 [ppm]  
 X\_Points = 16384  
 X\_Prescans = 4  
 X\_Resolution = 1.92661478 [Hz]  
 X\_Sweep = 31.56566457 [kHz]  
 X\_Sweep\_Clipped = 25.25252525 [kHz]  
 Irv\_Domain = Proton  
 Irv\_Freq = 399.78219838 [MHz]  
 Irv\_Offset = 5 [ppm]  
 Blanking = 5 [us]  
 Clipped = FALSE  
 Decimation\_Reg = r: 198 ( 197 ), s: 39  
 Scans = 3500  
 Total\_Scans = 3500

Relaxation\_Delay = 2 [s]  
 Recv\_Gain = 56  
 Temp\_Get = 20.3 [dC]  
 X\_90\_Width = 8.97 [us]  
 X\_Acq\_Time = 0.51904512 [s]  
 X\_Angle = 30 [deg]  
 X\_Attn = 7 [dB]  
 X\_Pulse = 2.85666647 [us]  
 Irv\_Attn\_Dec = 26.16 [dB]  
 Irv\_Attn\_Dec\_Calc = 26.16 [dB]  
 Irv\_Attn\_Dec\_Default\_Calc = 26.16 [dB]  
 Irv\_Attn\_Hoe = 26.16 [dB]

