

Design, synthesis, and biological evaluation of new arylamide derivatives possessing sulfonate or sulfamate moieties as steroid sulfatase enzyme inhibitors

Mohammed I. El-Gamal ^{a,b,c,*}, Mohammad H. Semreen ^{b,c}, Paul A. Foster ^{d,*}, and Barry V.L. Potter ^{e,f}

^a Department of Medicinal Chemistry, College of Pharmacy, University of Sharjah, Sharjah 27272, United Arab Emirates.

^b Sharjah Institute for Medical Research, University of Sharjah, Sharjah 27272, United Arab Emirates.

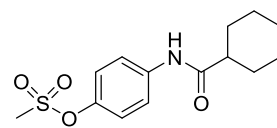
^c Department of Medicinal Chemistry, Faculty of Pharmacy, University of Mansoura, Mansoura 35516, Egypt.

^d Centre for Endocrinology, Diabetes and Metabolism, School of Clinical and Experimental Medicine, University of Birmingham, Birmingham B15 2TT, United Kingdom.

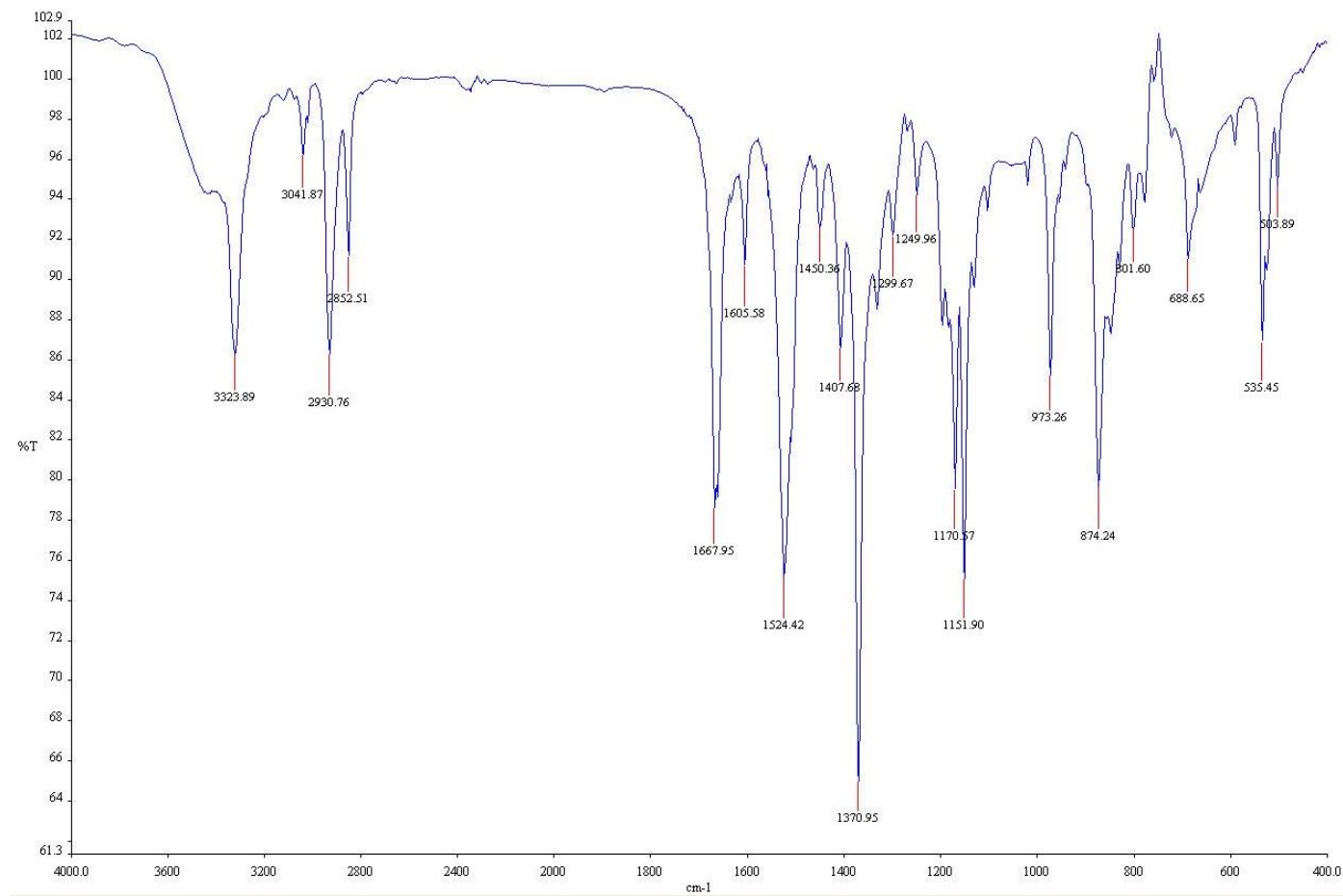
^e Department of Pharmacy and Pharmacology, University of Bath, United Kingdom.

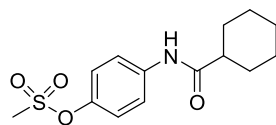
^f Department of Pharmacology, University of Oxford, Oxford, United Kingdom.

* E-mail addresses of the corresponding authors: drmelgamal2002@gmail.com (M.I. El-Gamal) & P.A.Foster@bham.ac.uk (P.A. Foster).

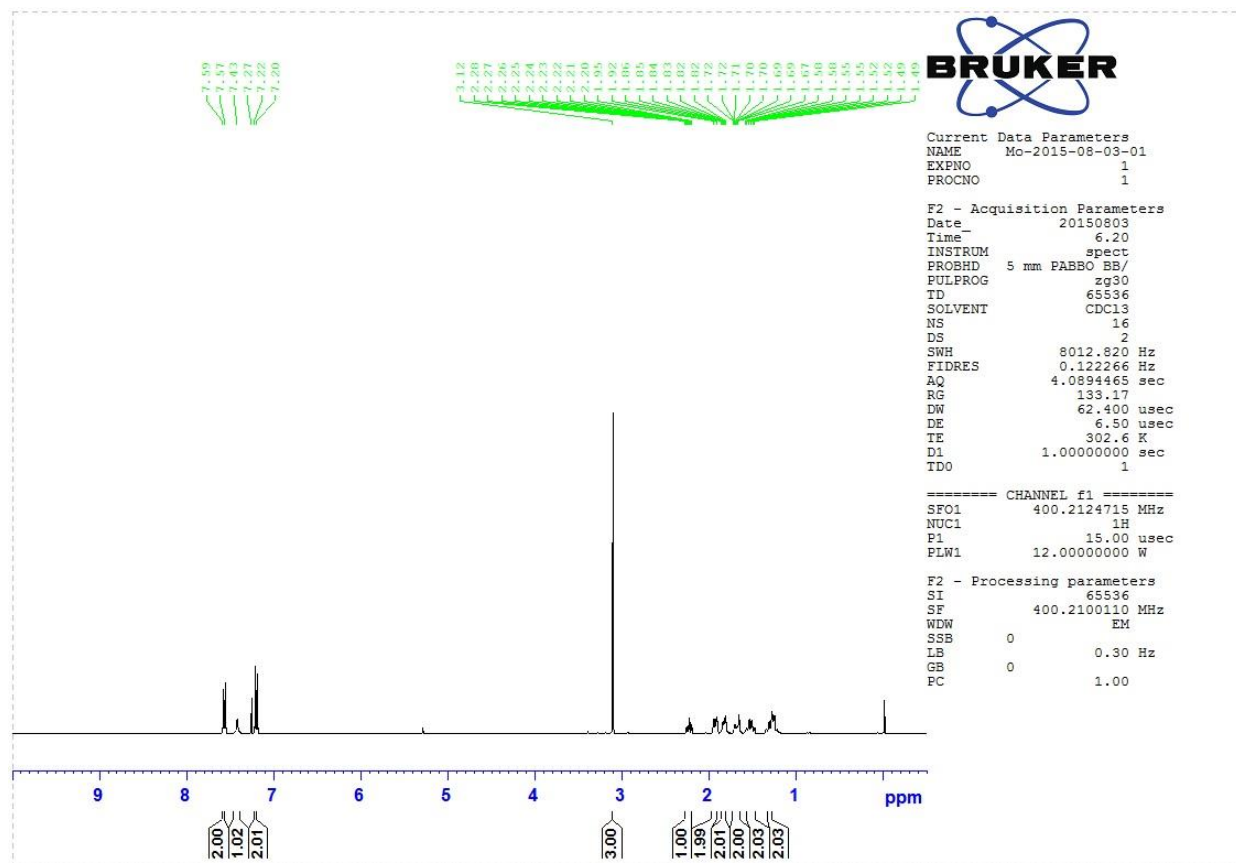


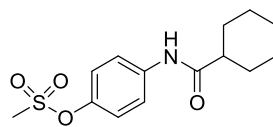
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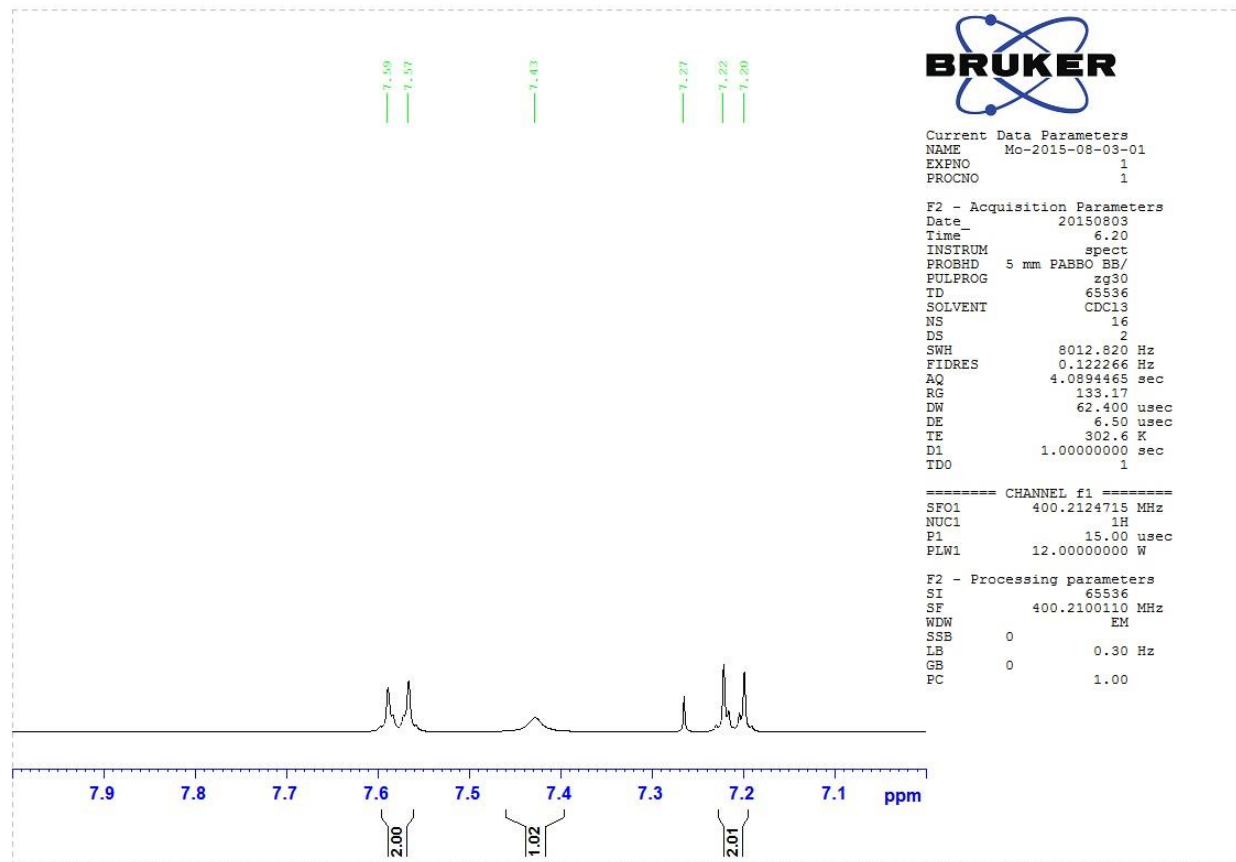


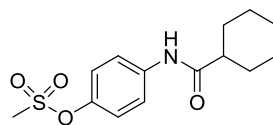
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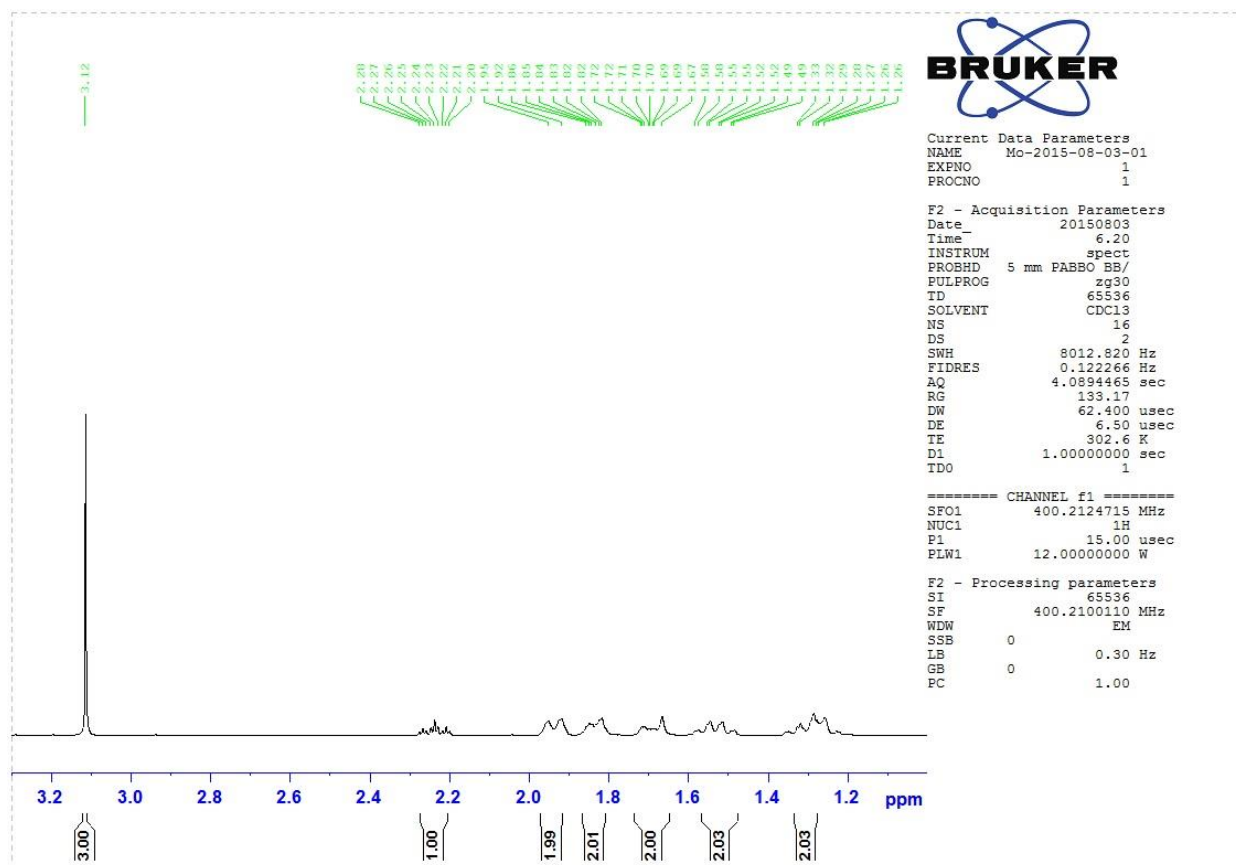


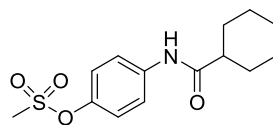
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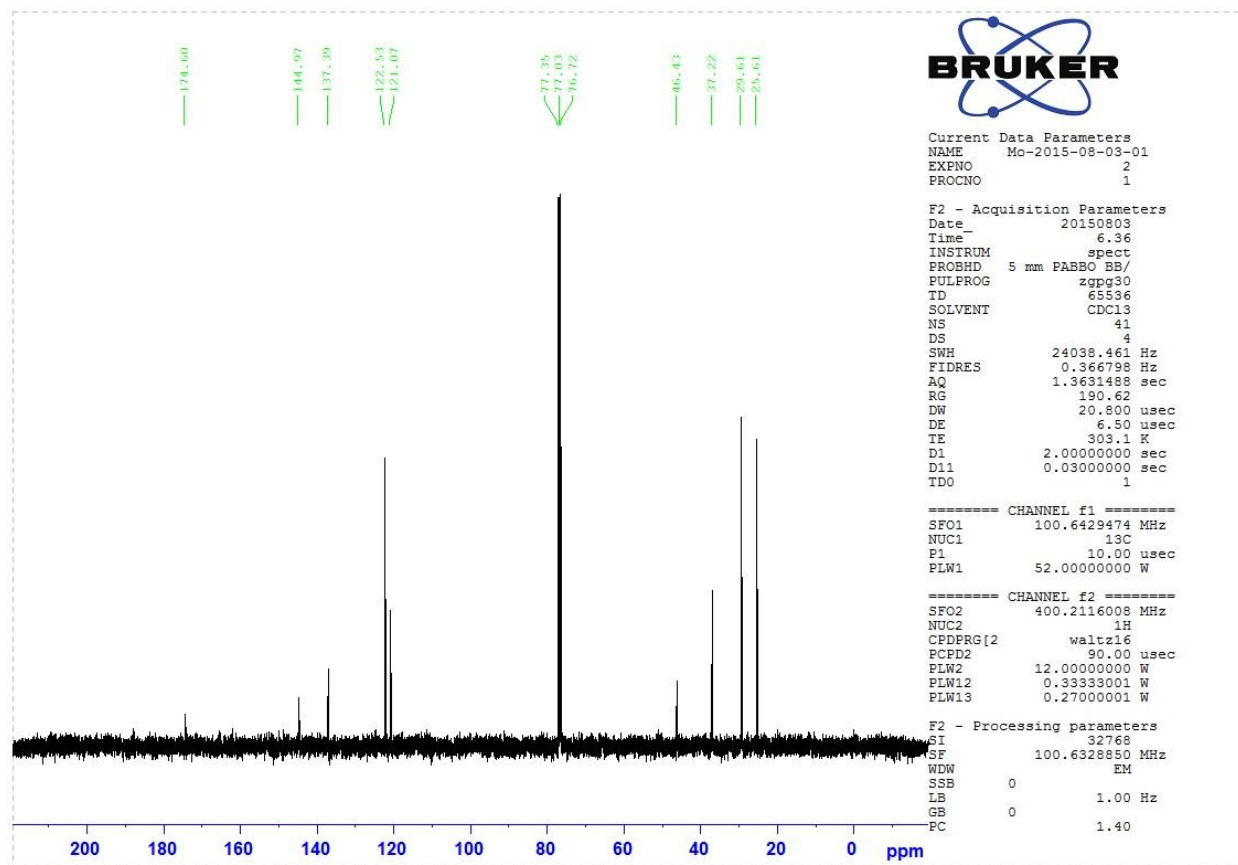


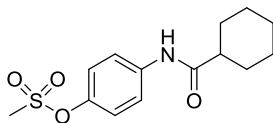
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1a



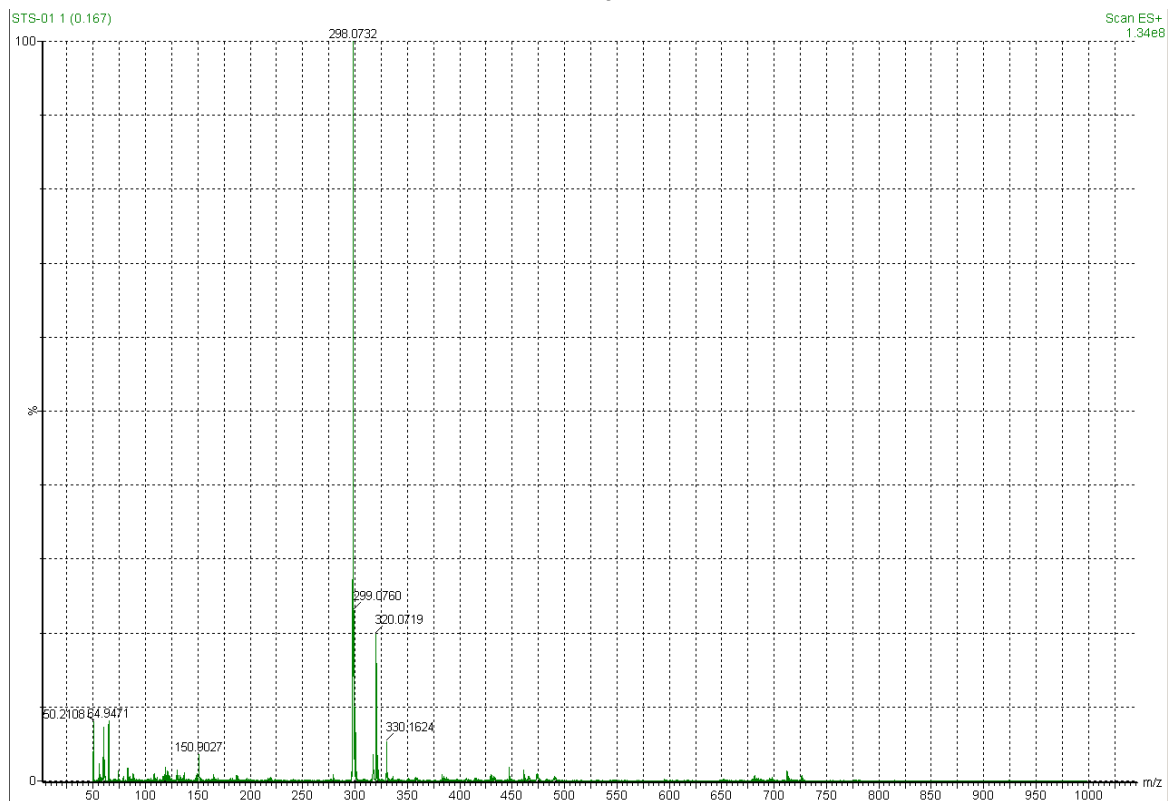


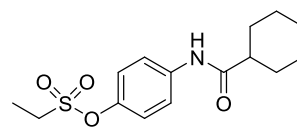
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Chemical Formula: C₁₄H₁₉NO₄S

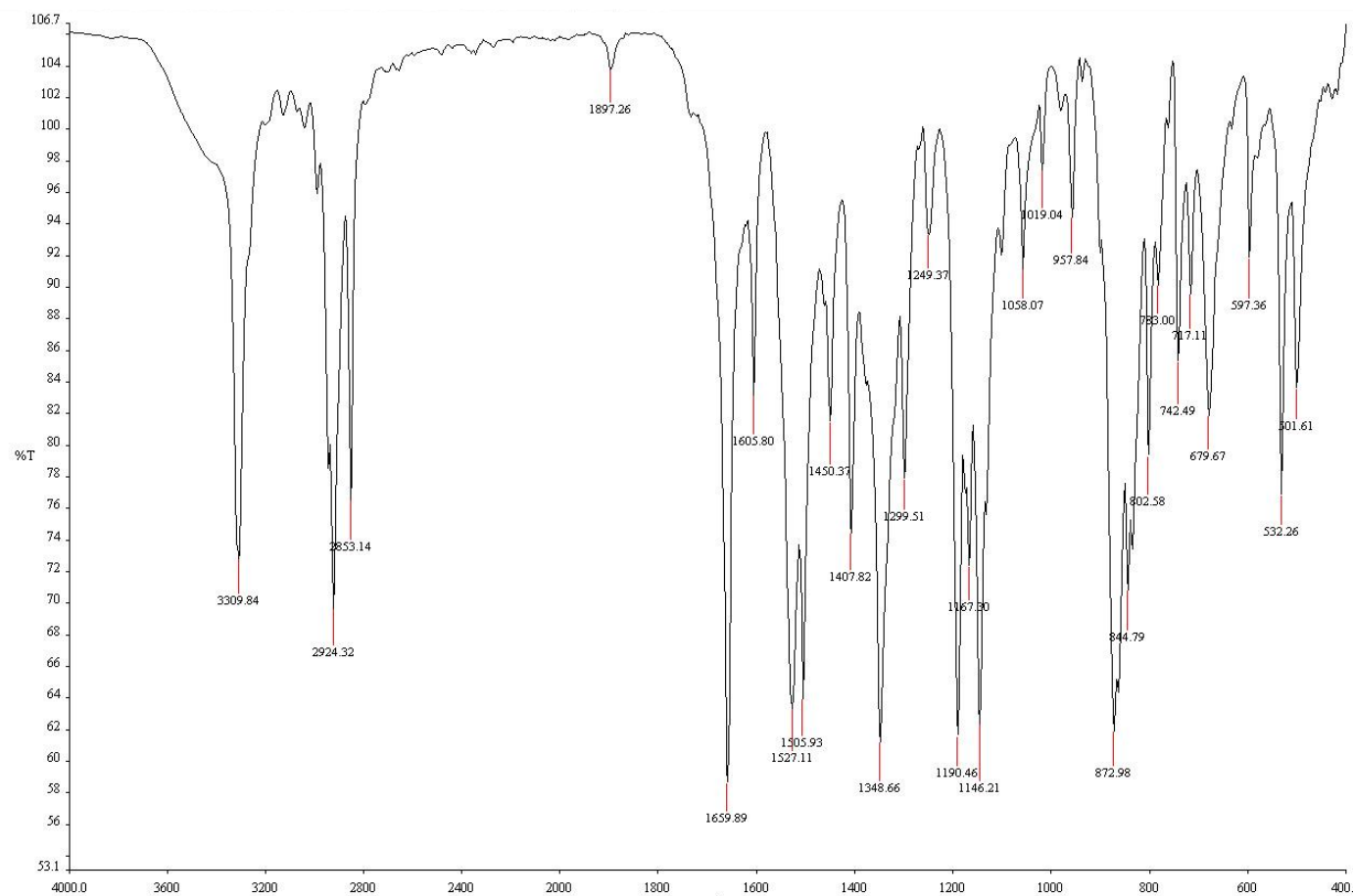
Exact Mass: 297.10

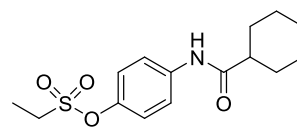
Molecular Weight: 297.37



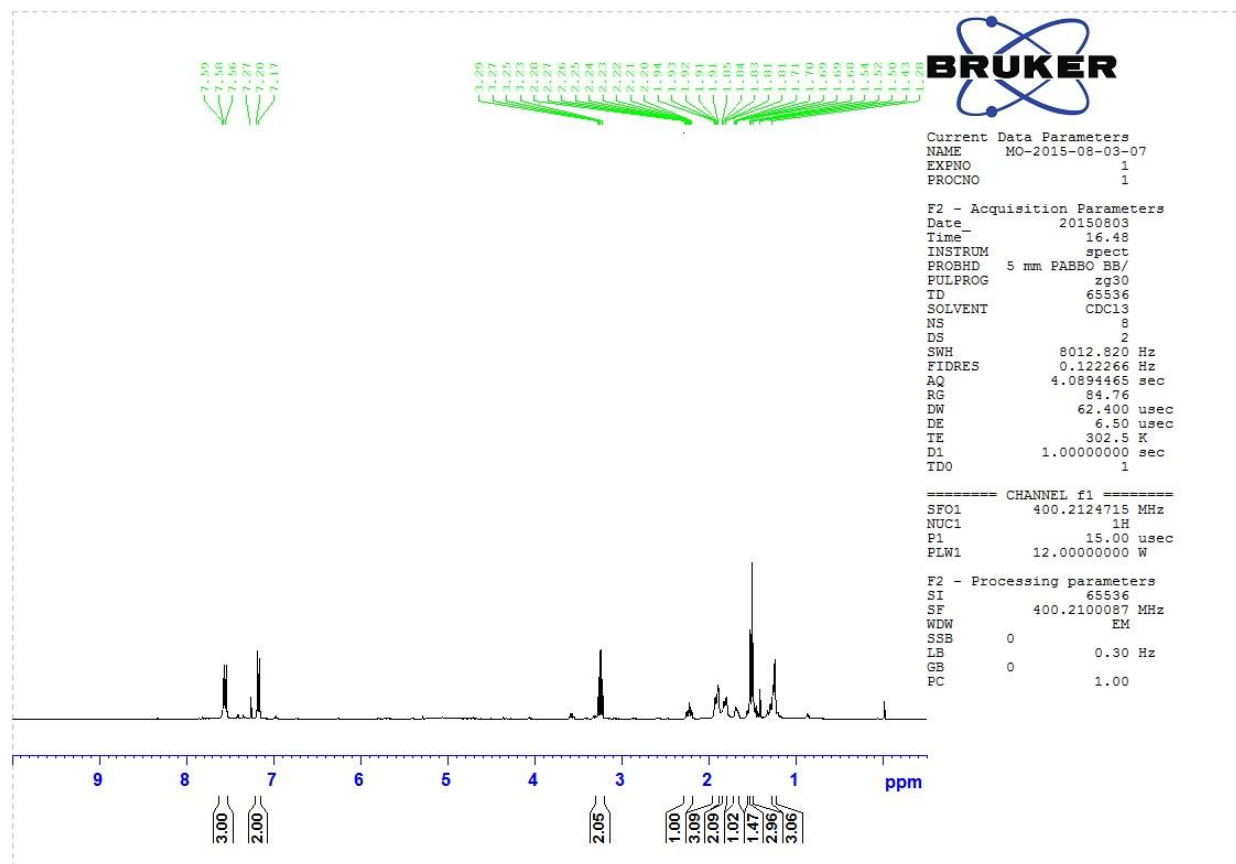


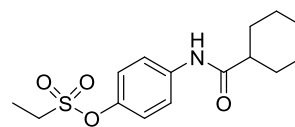
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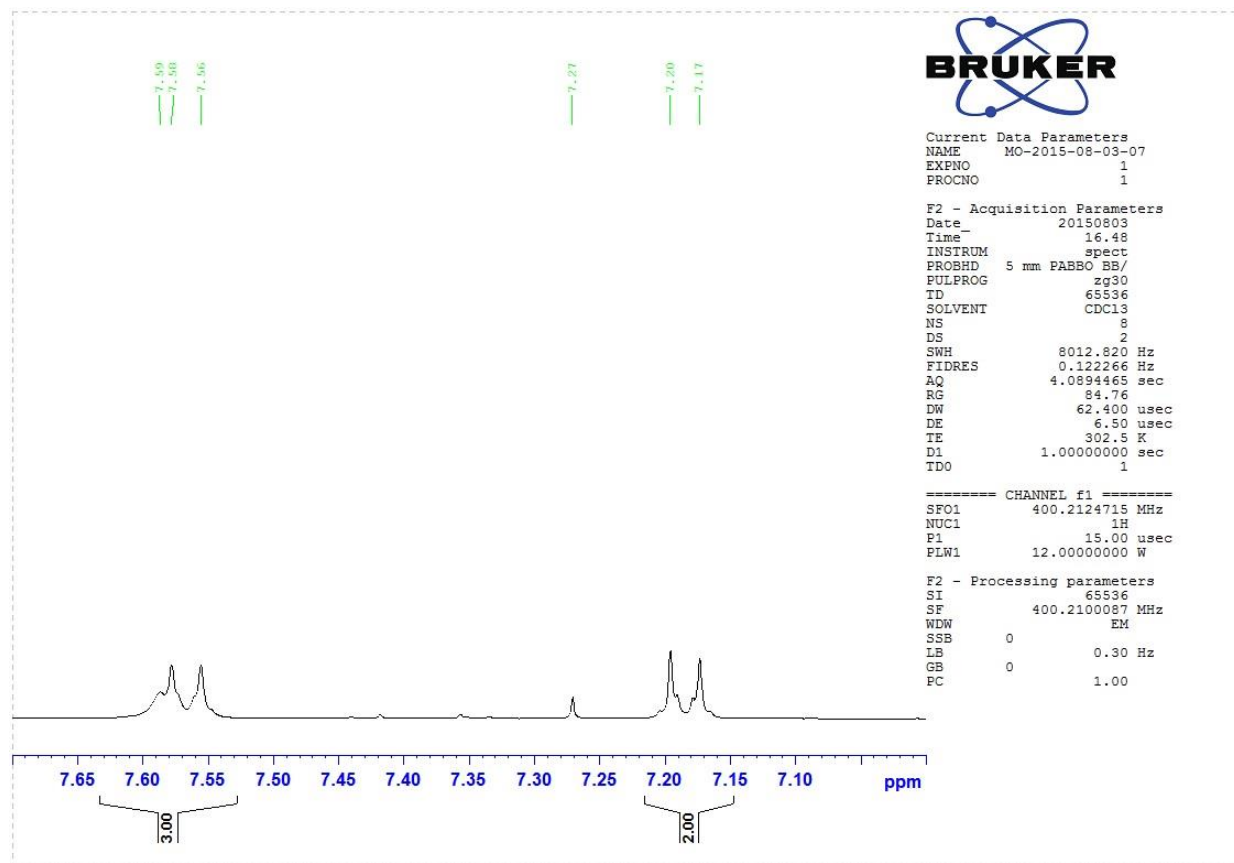


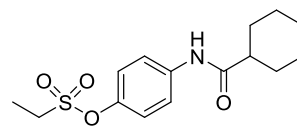
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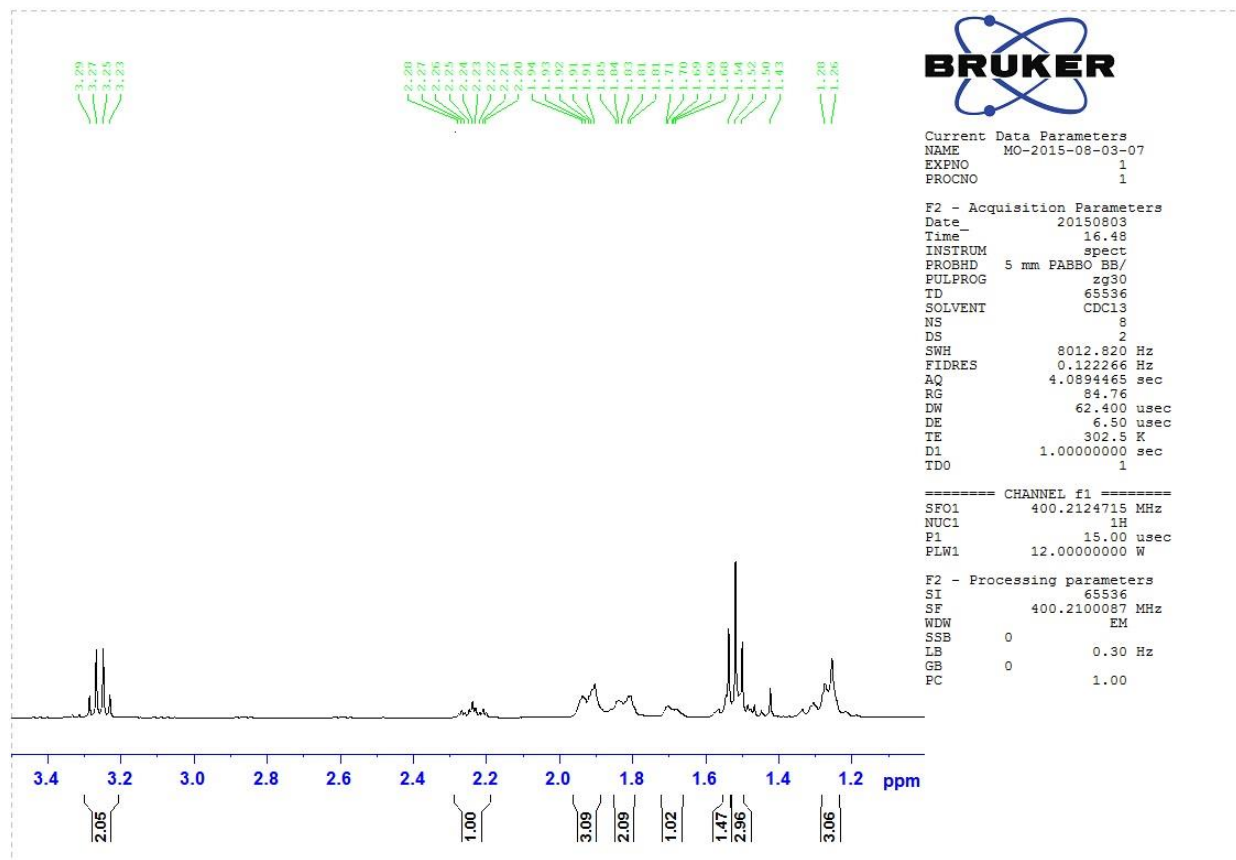


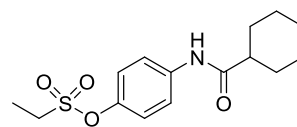
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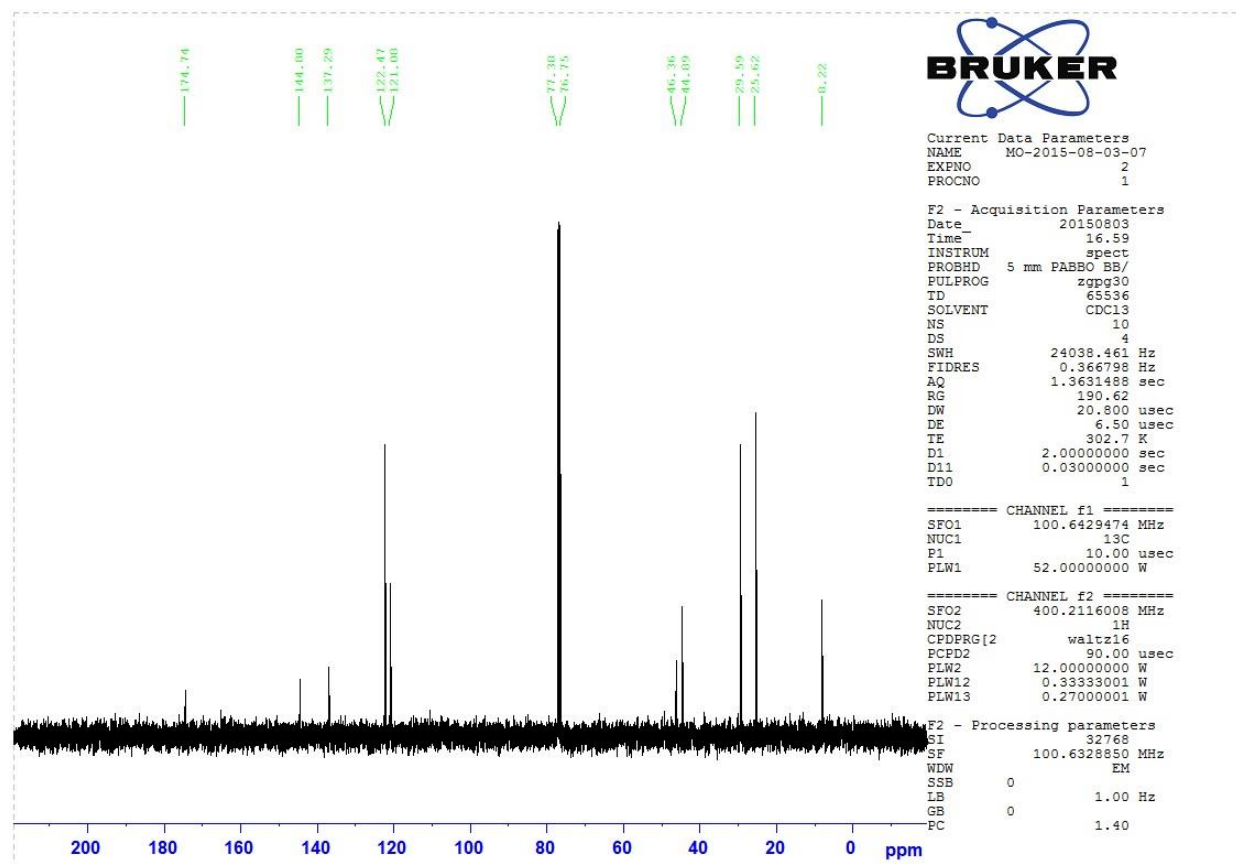


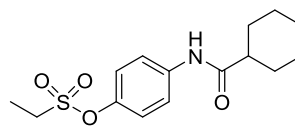
1b





1b



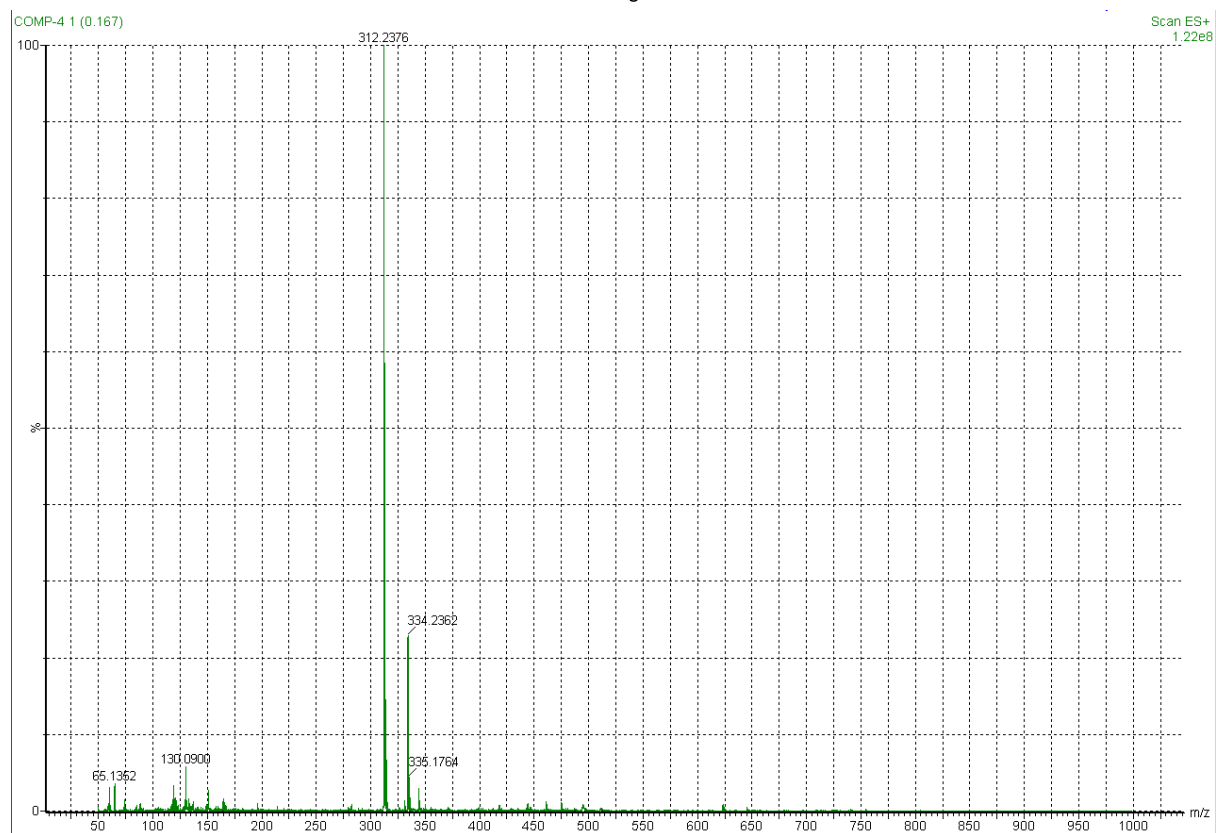


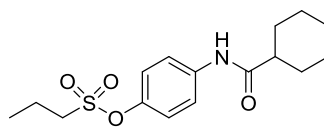
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Chemical Formula: $C_{15}H_{21}NO_4S$

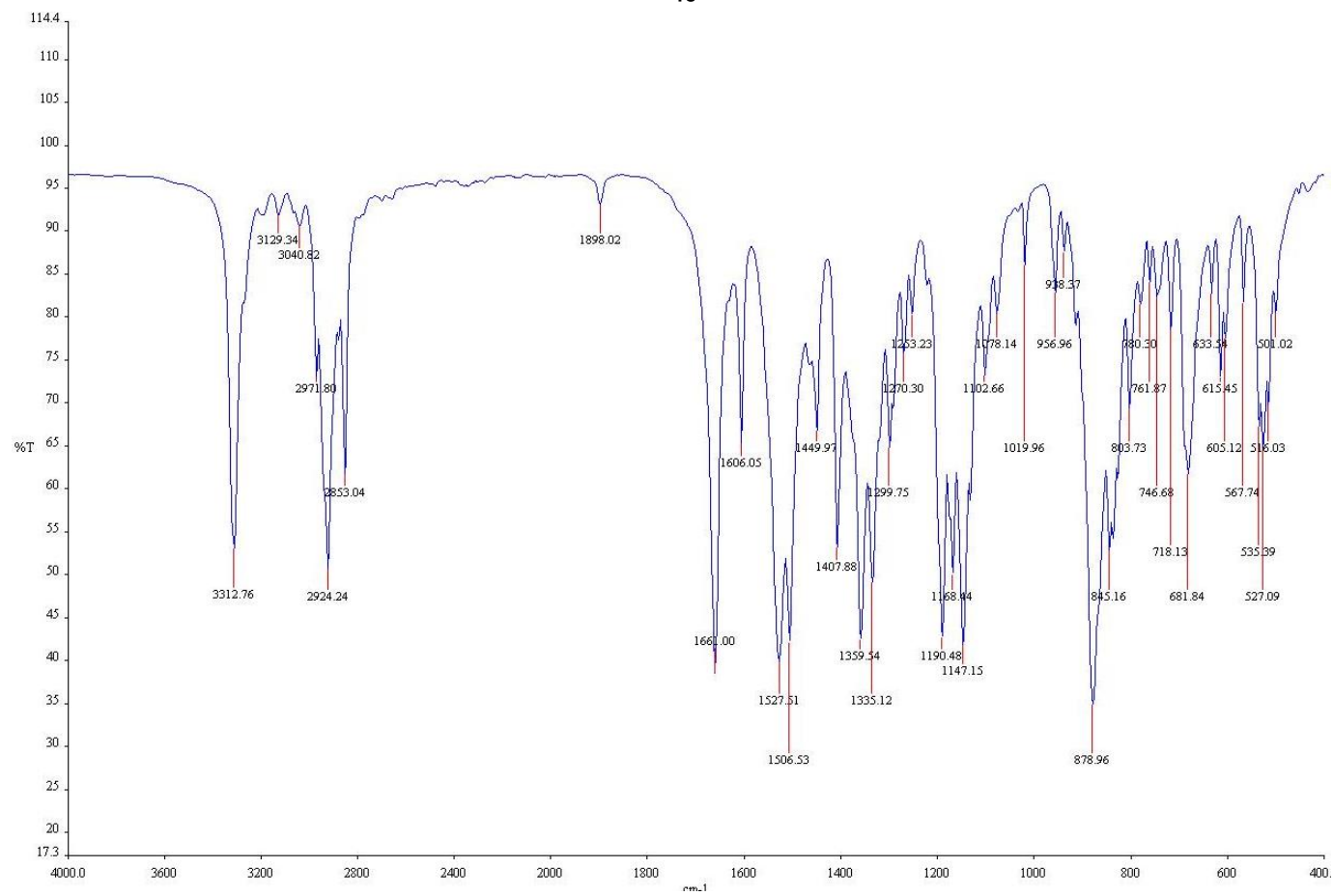
Exact Mass: 311.12

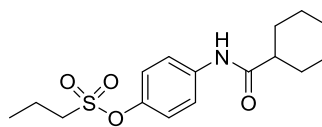
Molecular Weight: 311.40



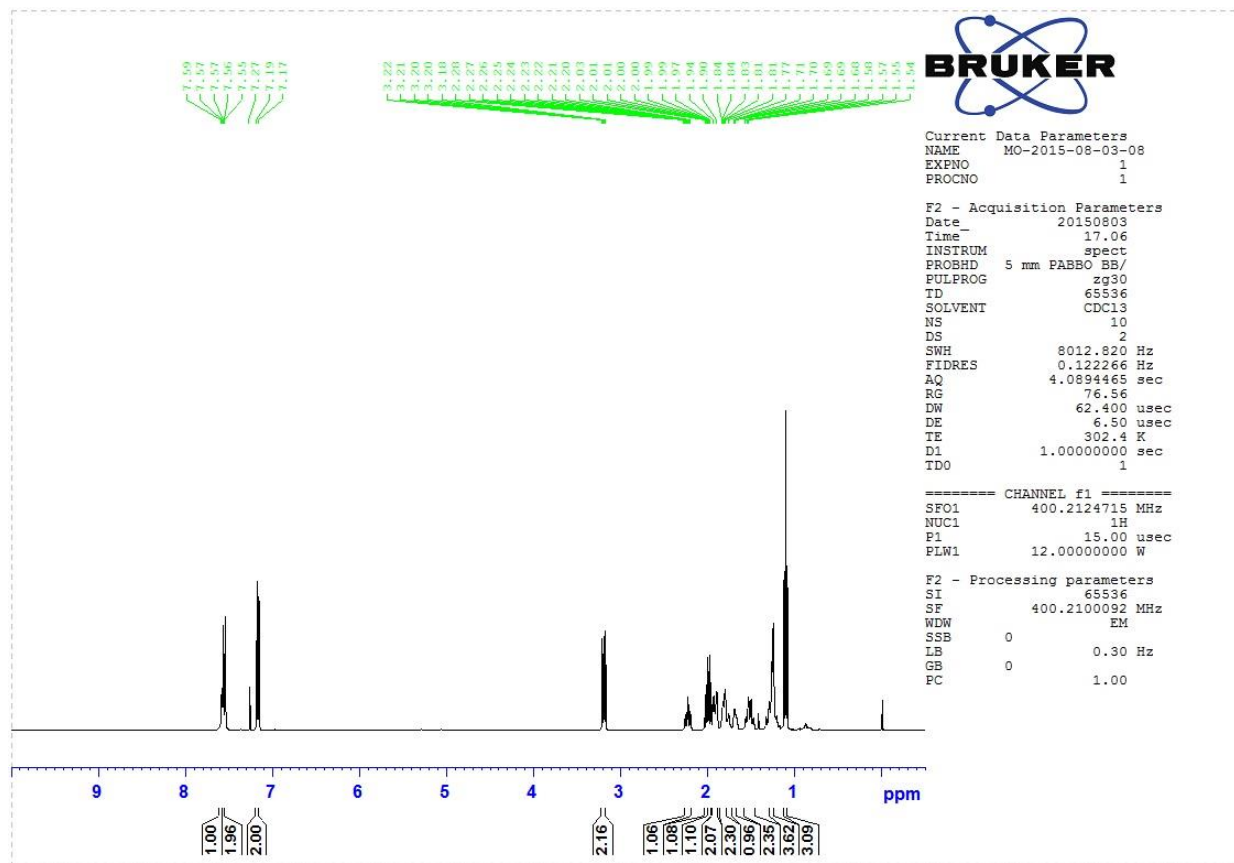


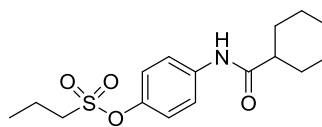
1c



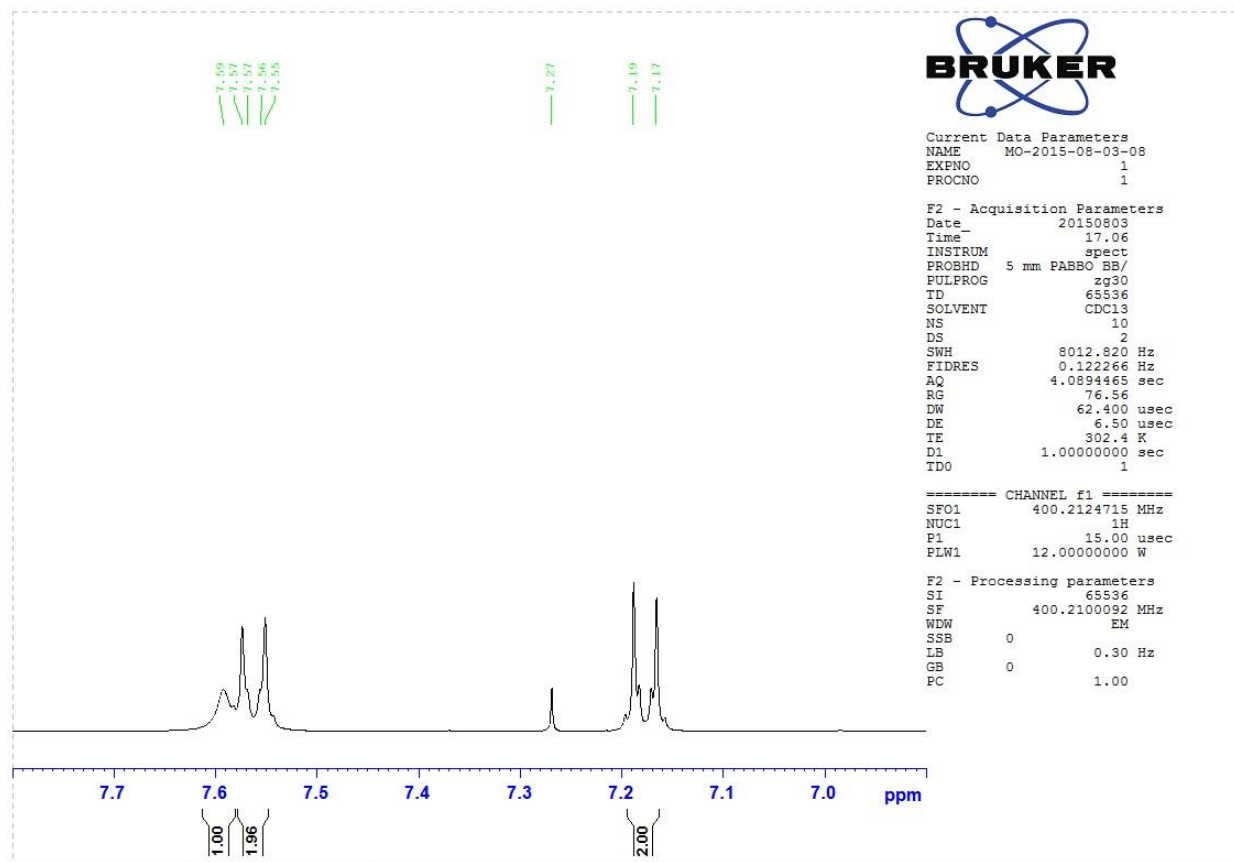


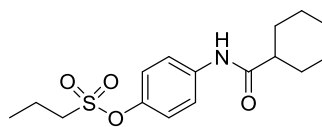
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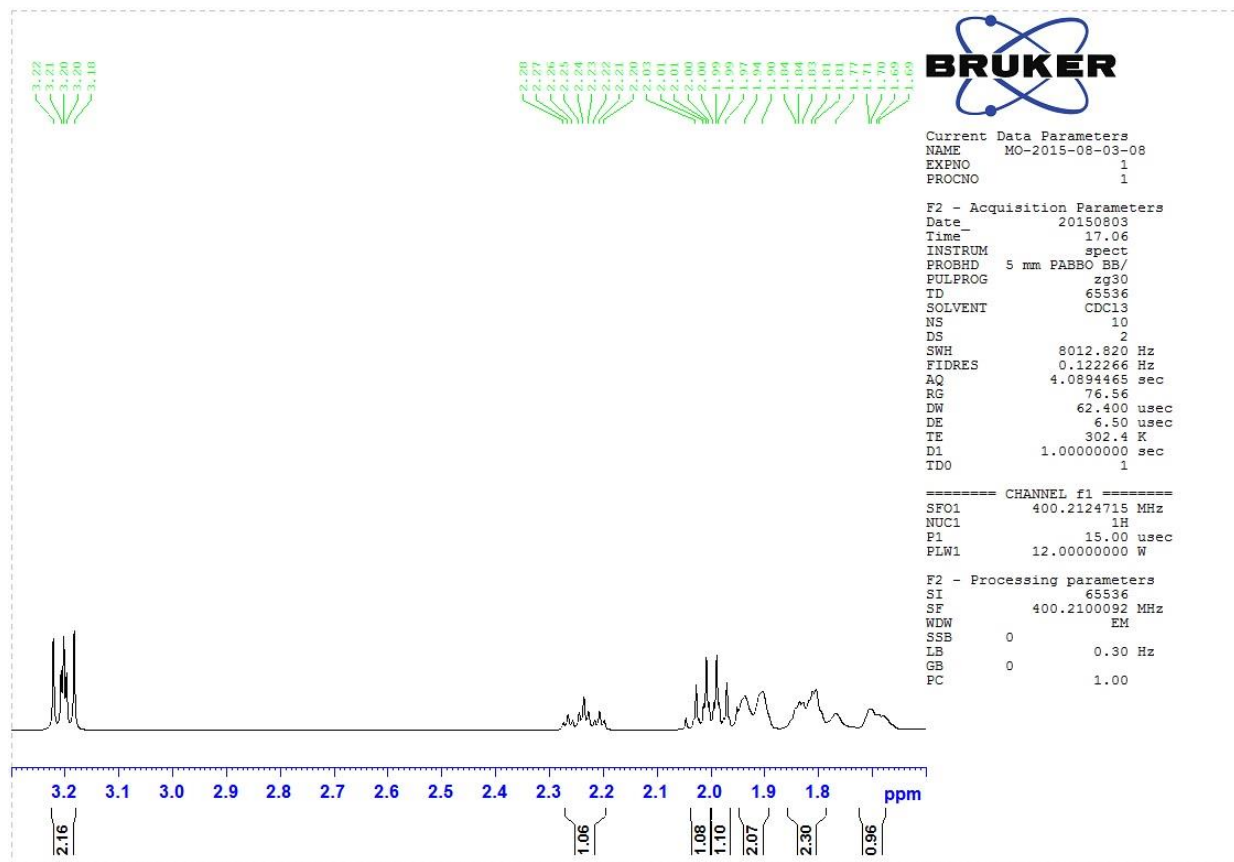


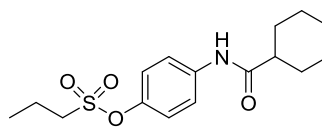
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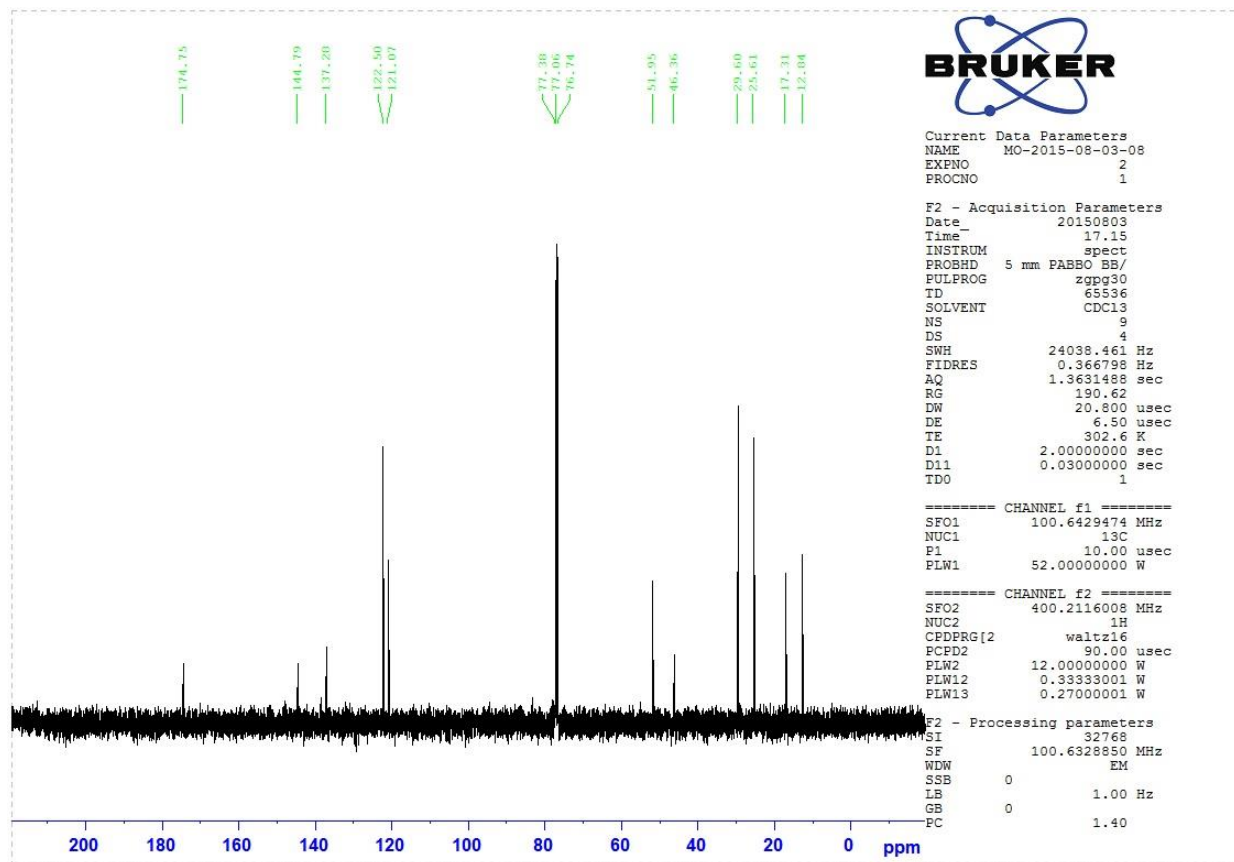


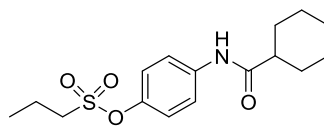
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1c



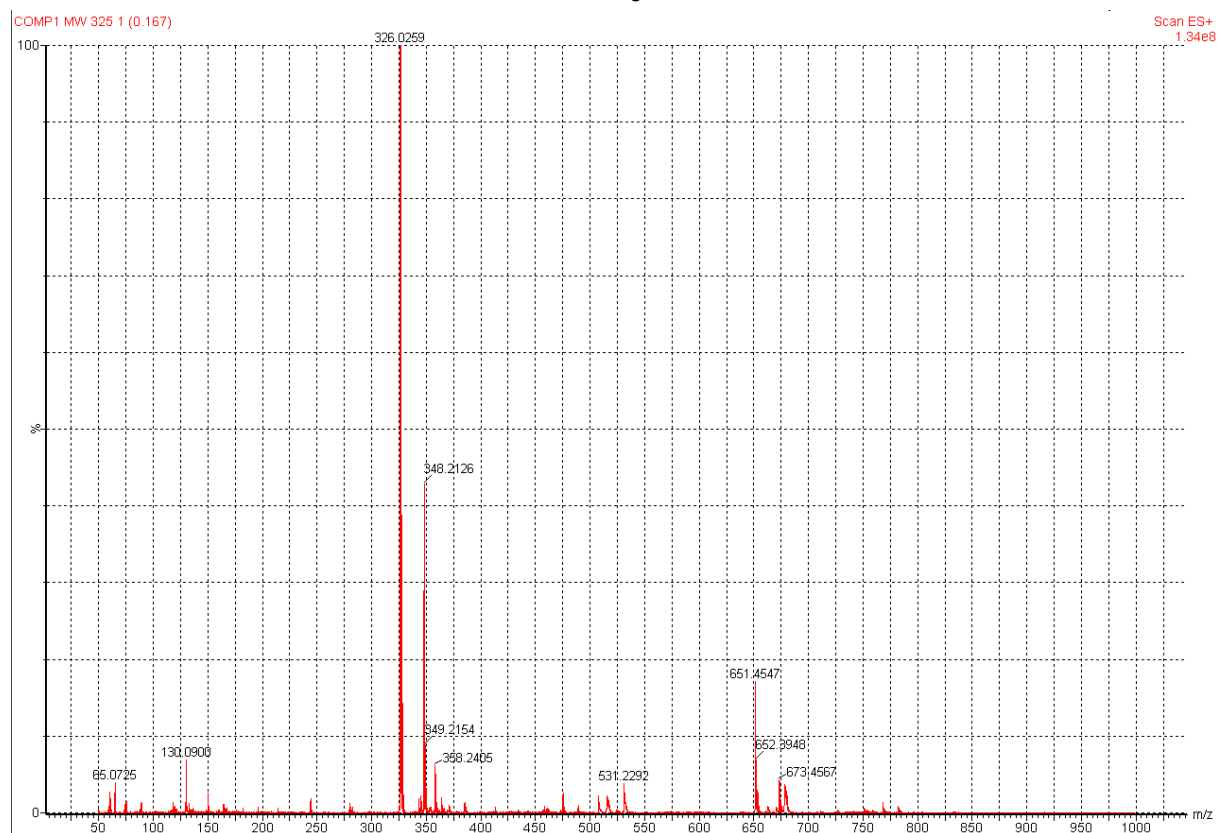


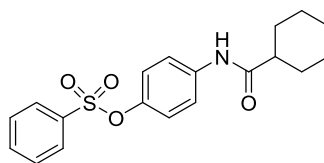
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Chemical Formula: $C_{16}H_{23}NO_4S$

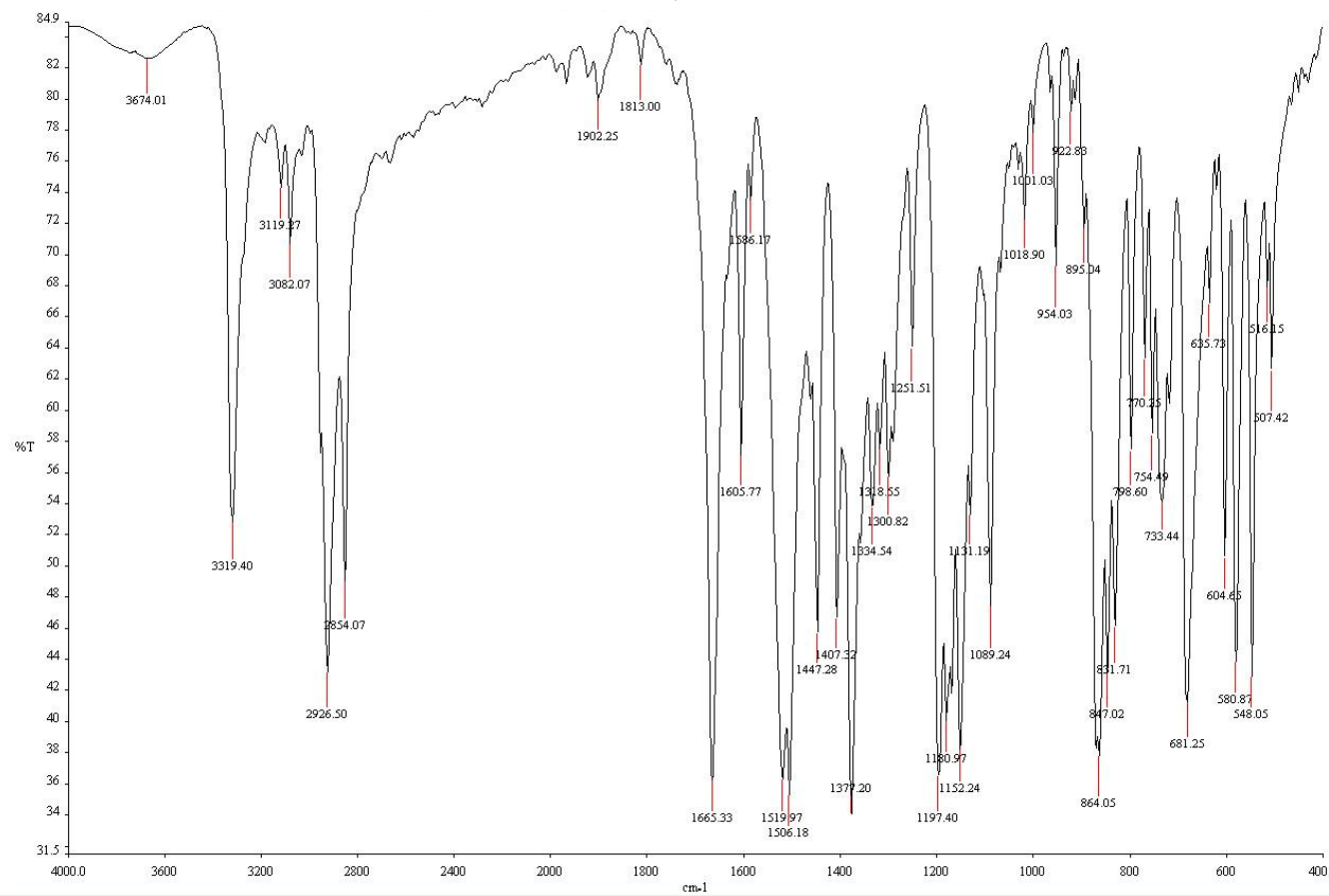
Exact Mass: 325.13

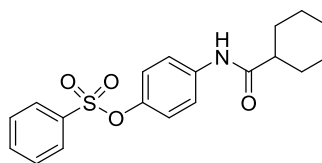
Molecular Weight: 325.42



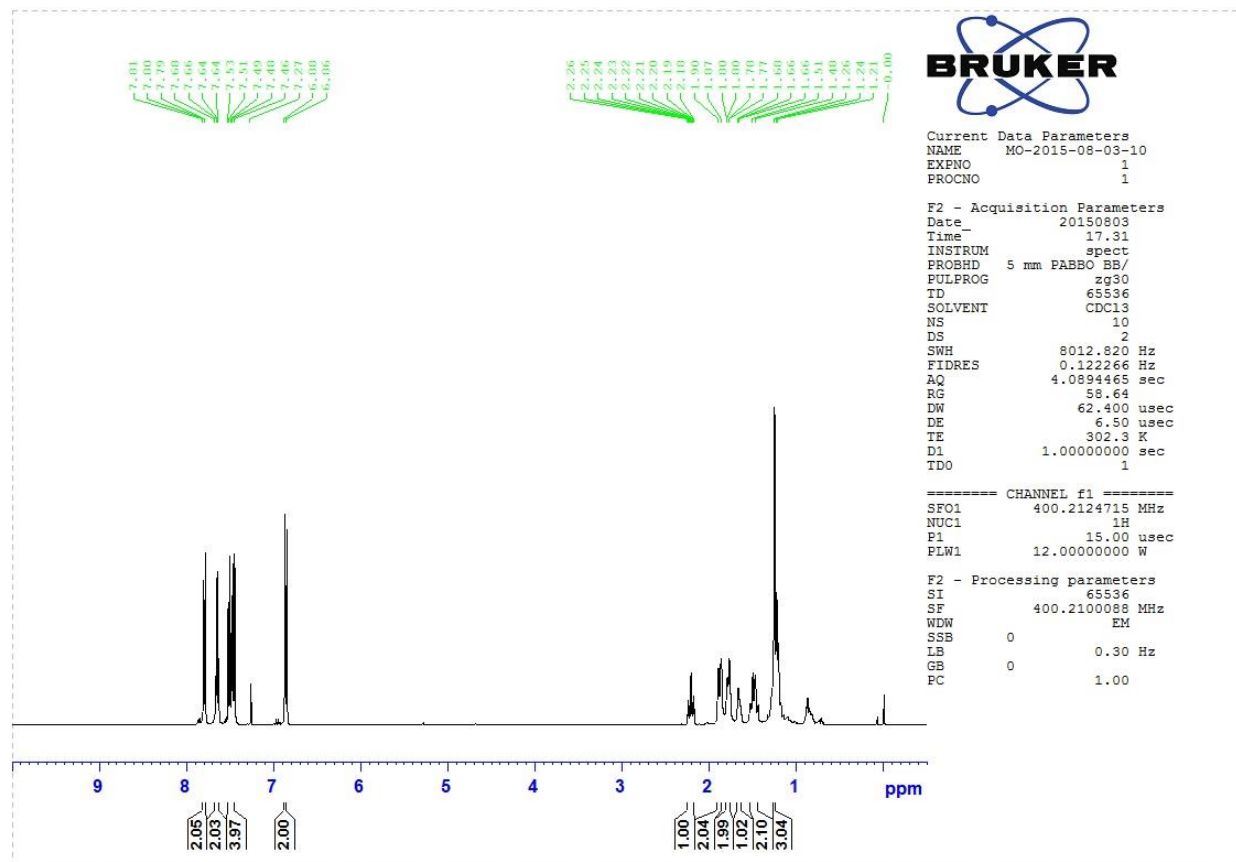


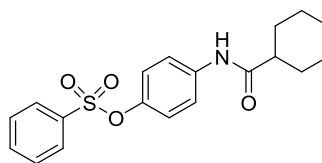
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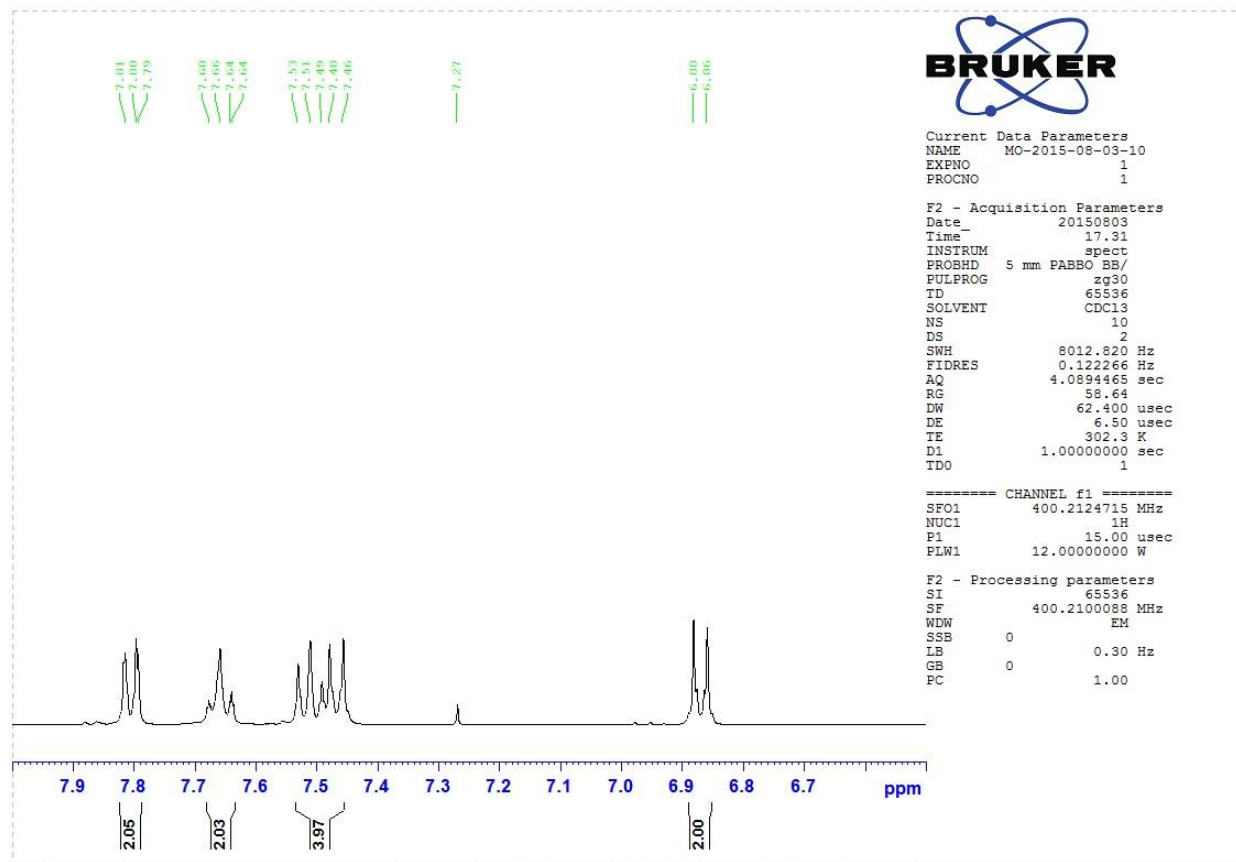


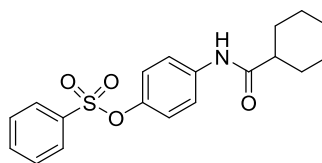
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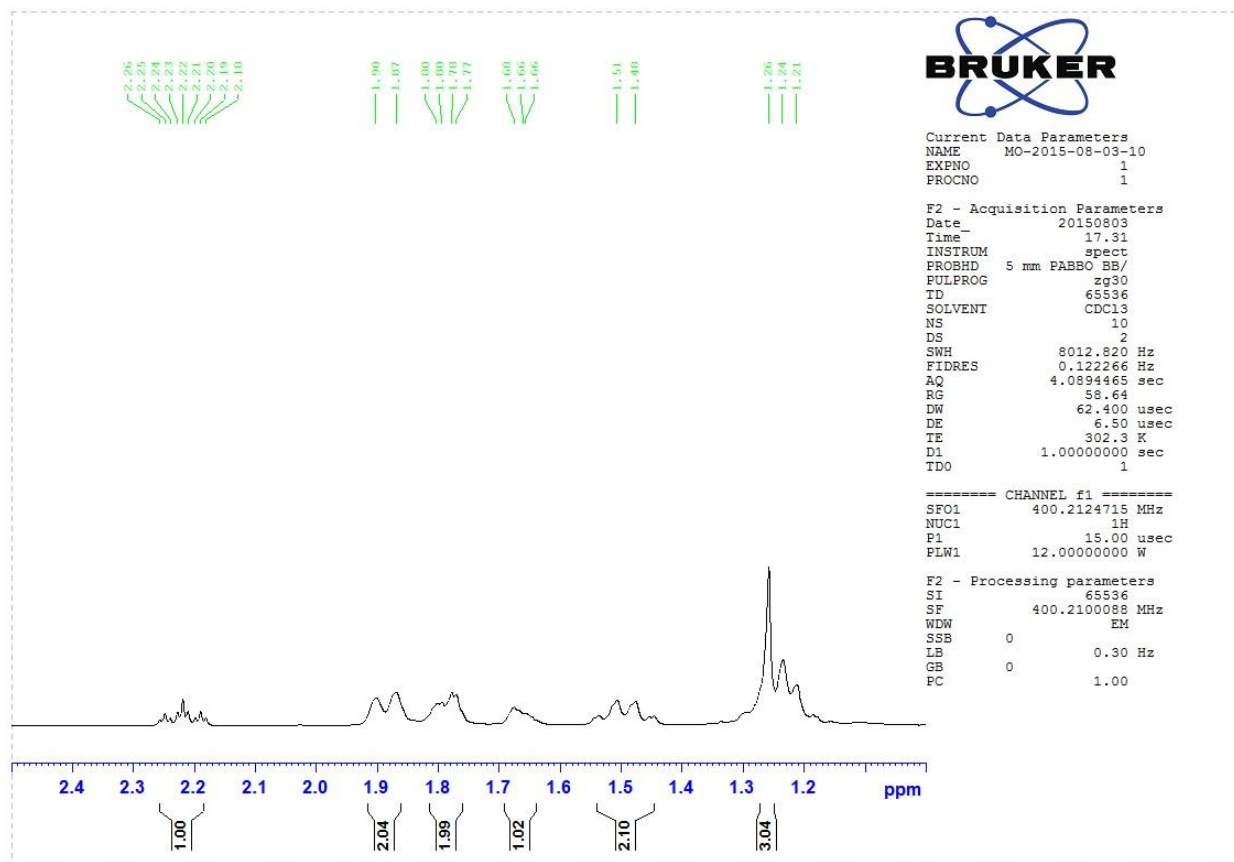


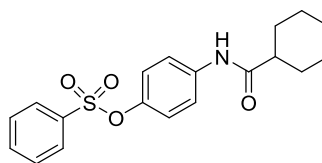
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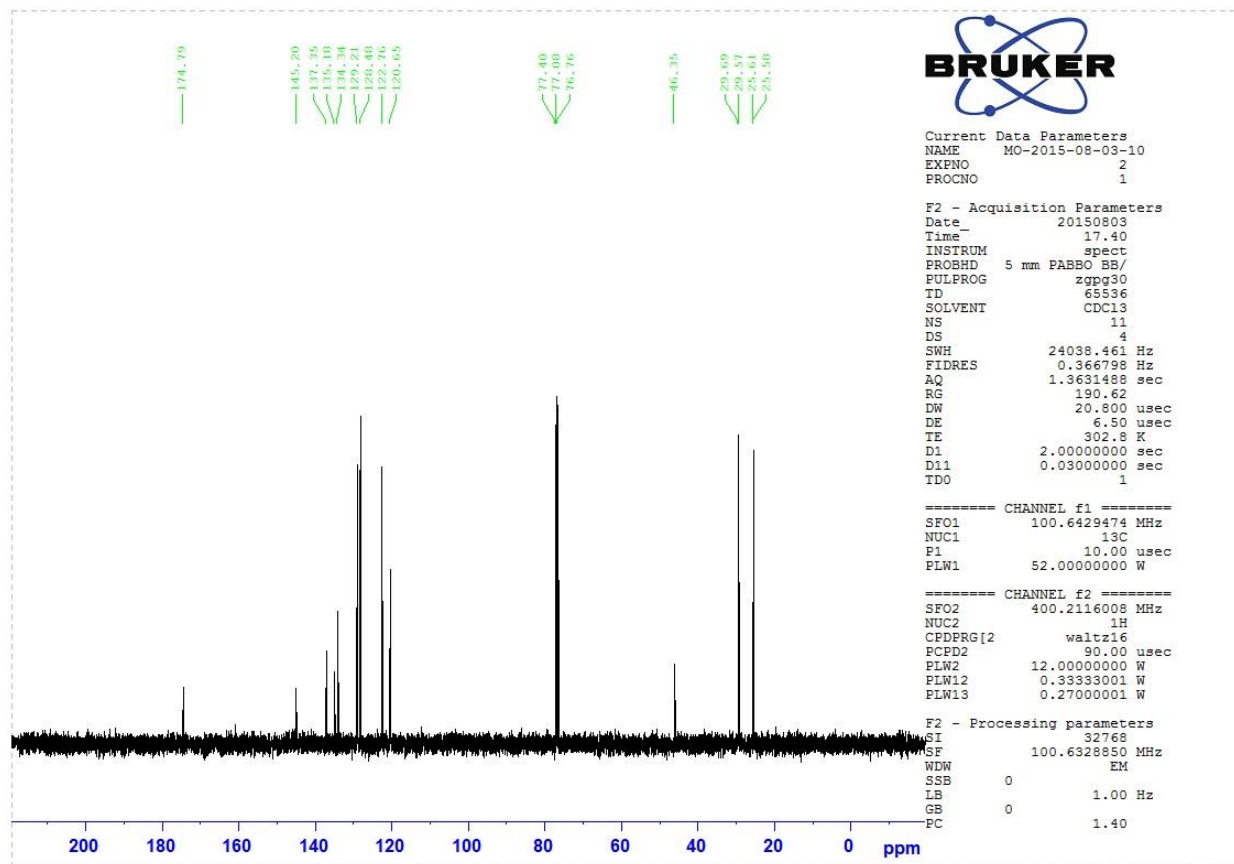


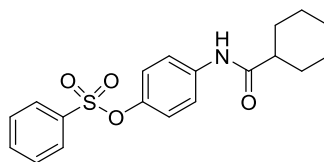
1d





1d



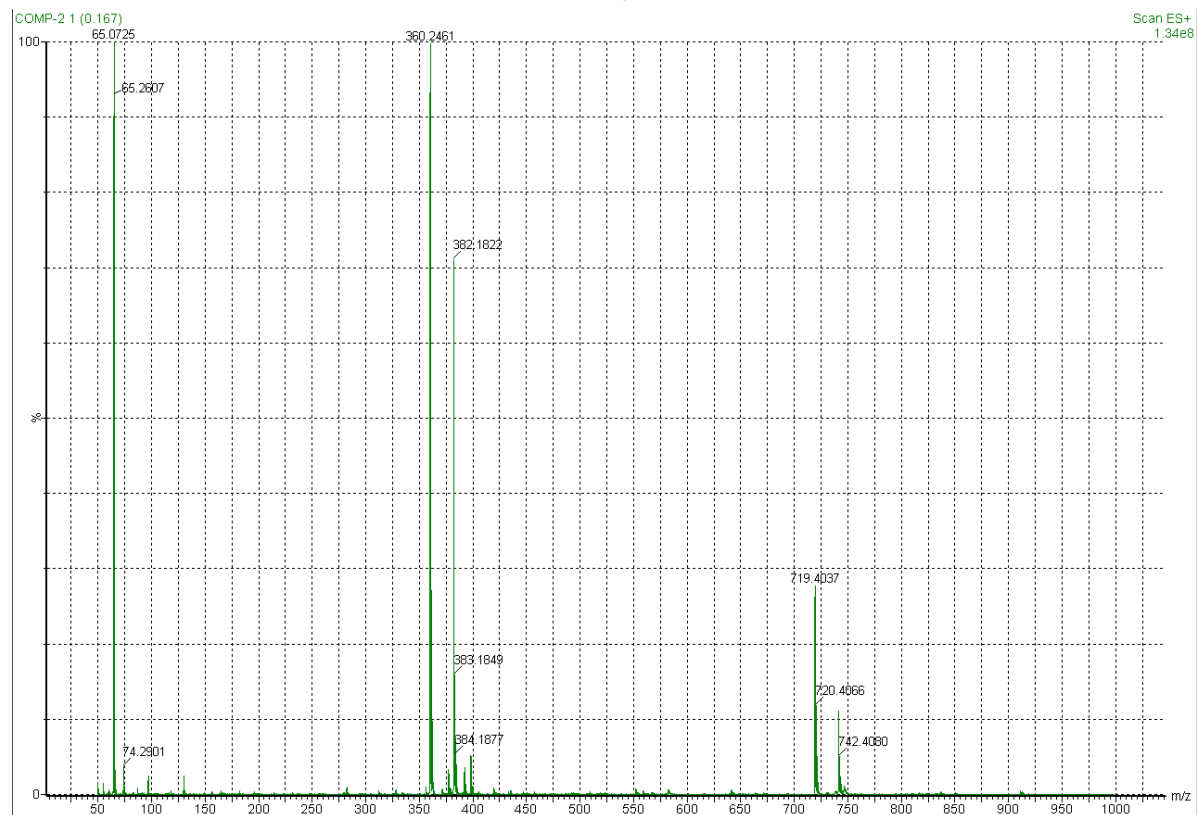


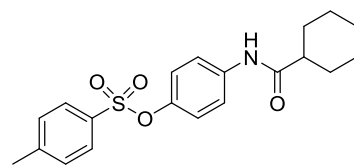
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Chemical Formula: $C_{19}H_{21}NO_4S$

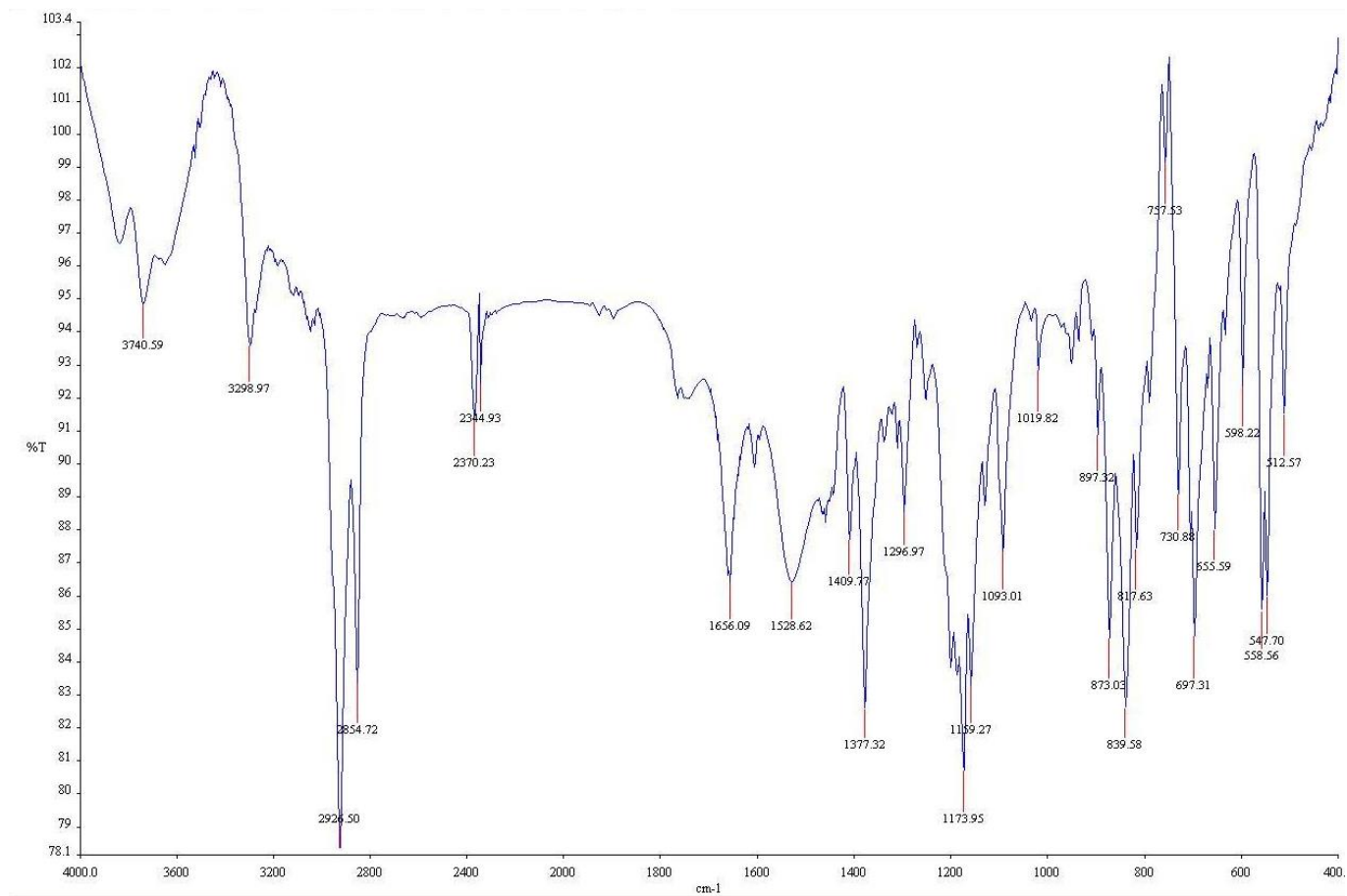
Exact Mass: 359.12

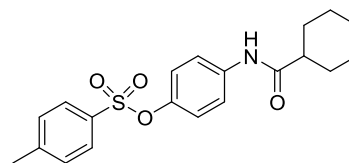
Molecular Weight: 359.44



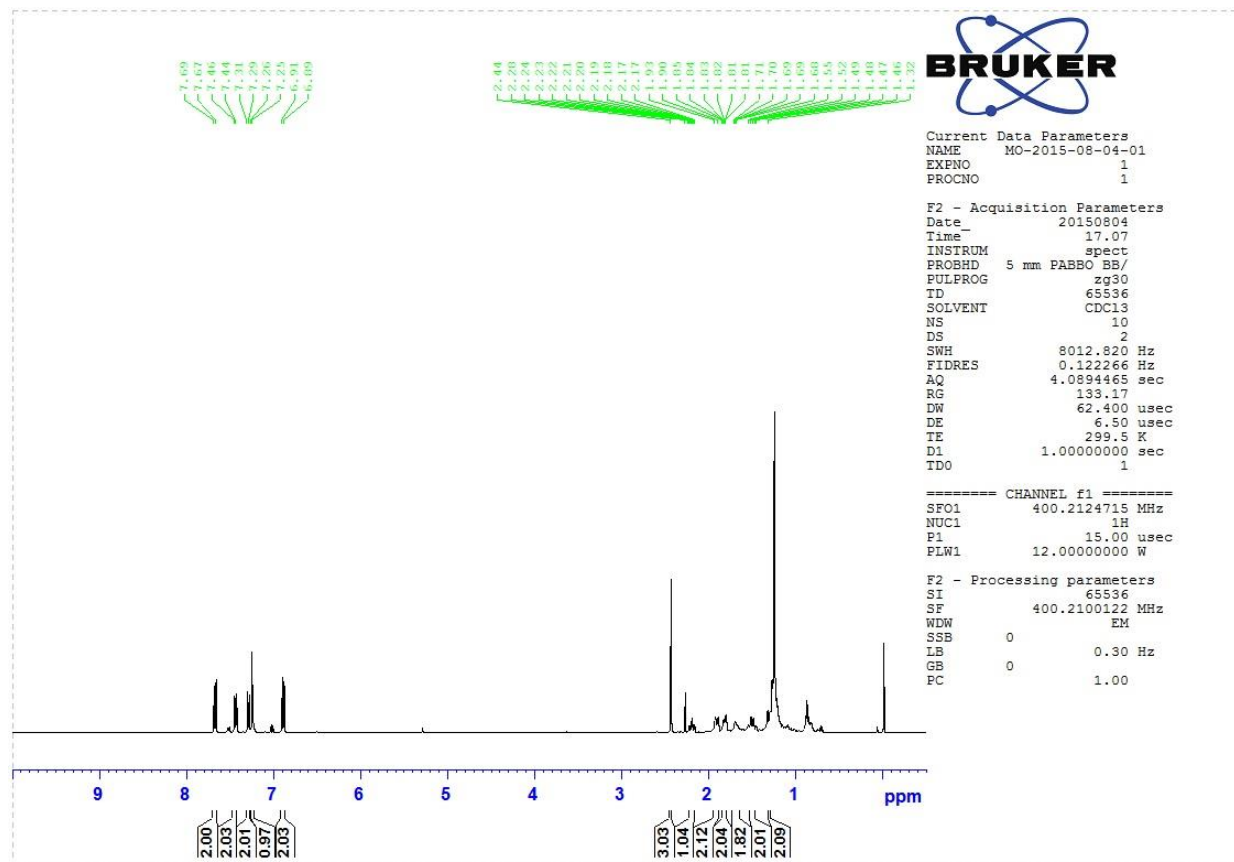


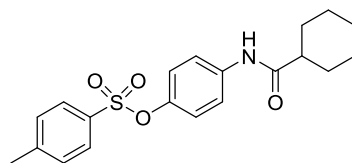
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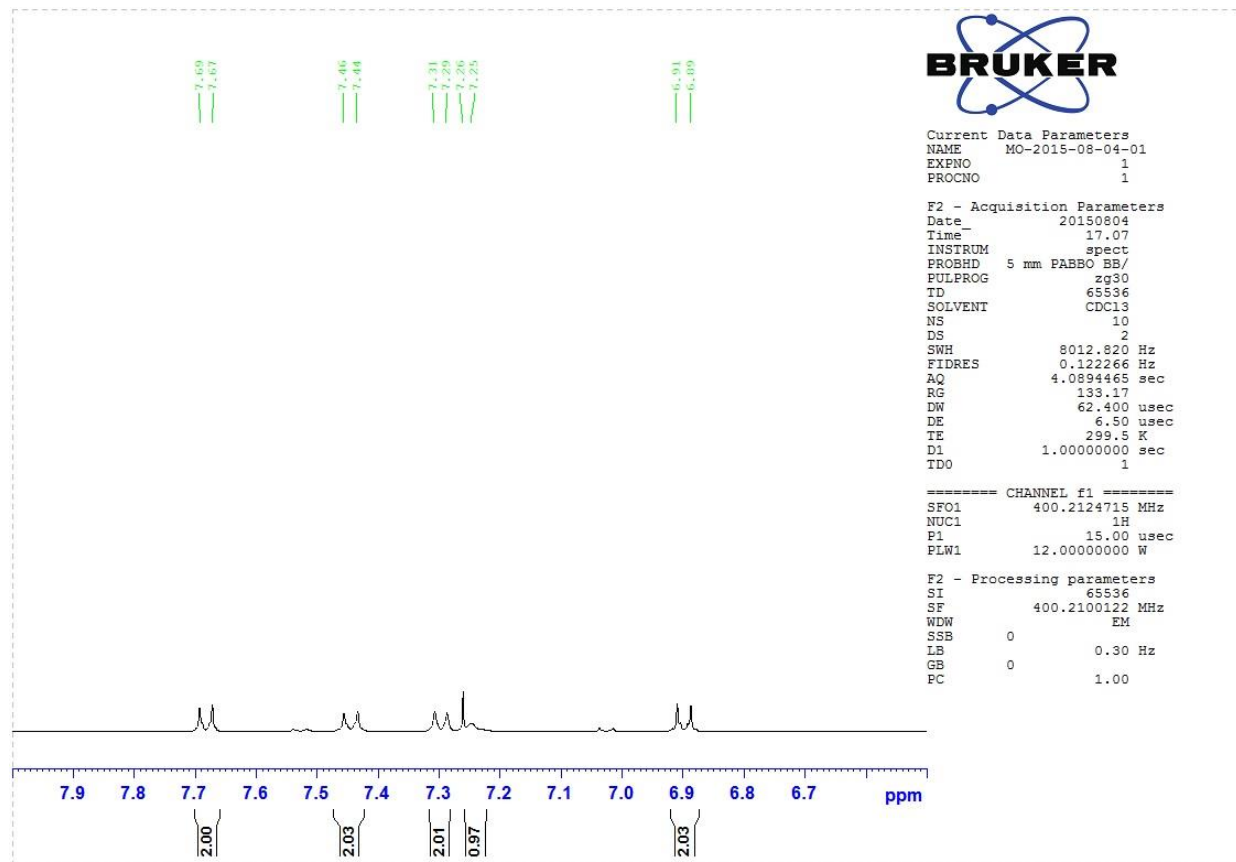


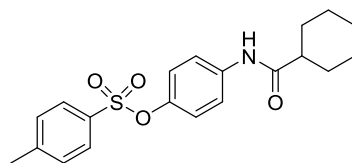
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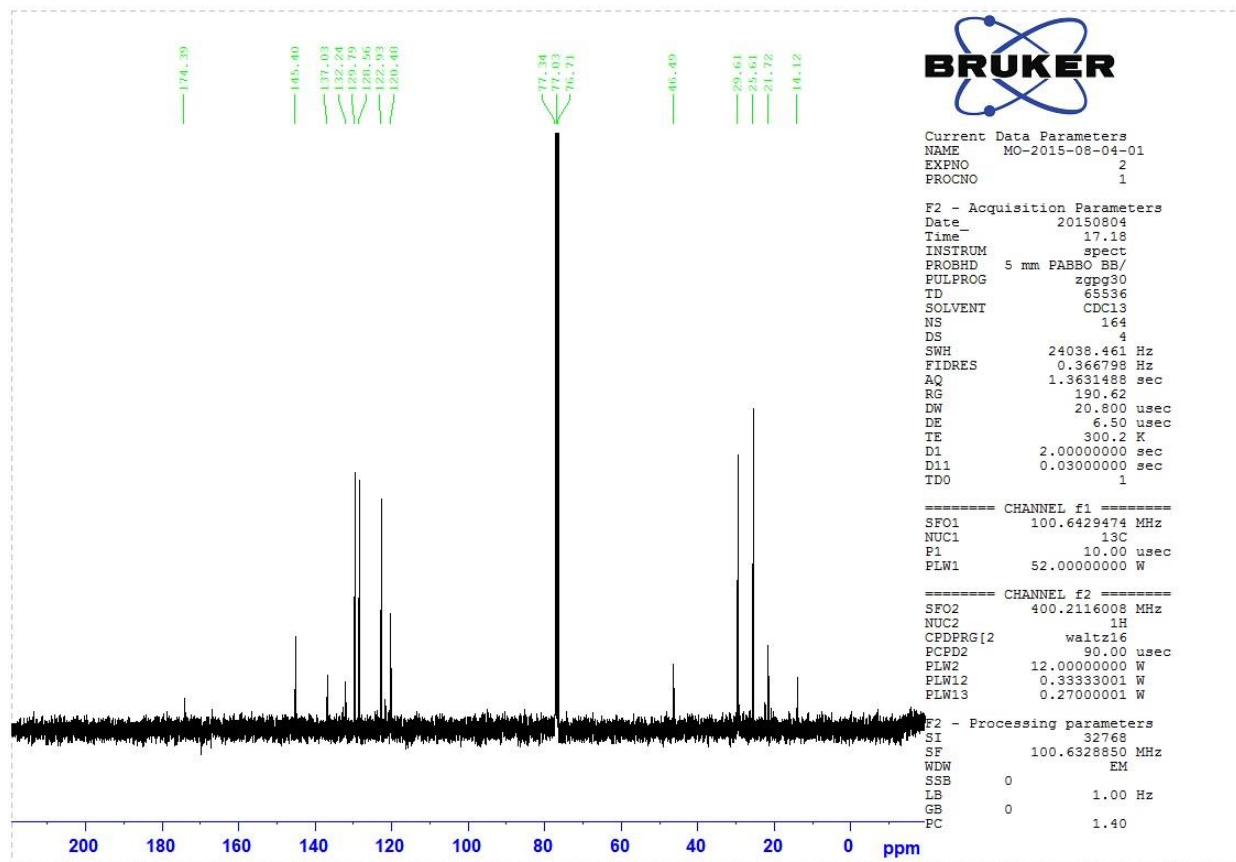


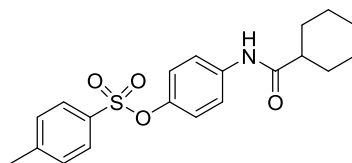
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1e



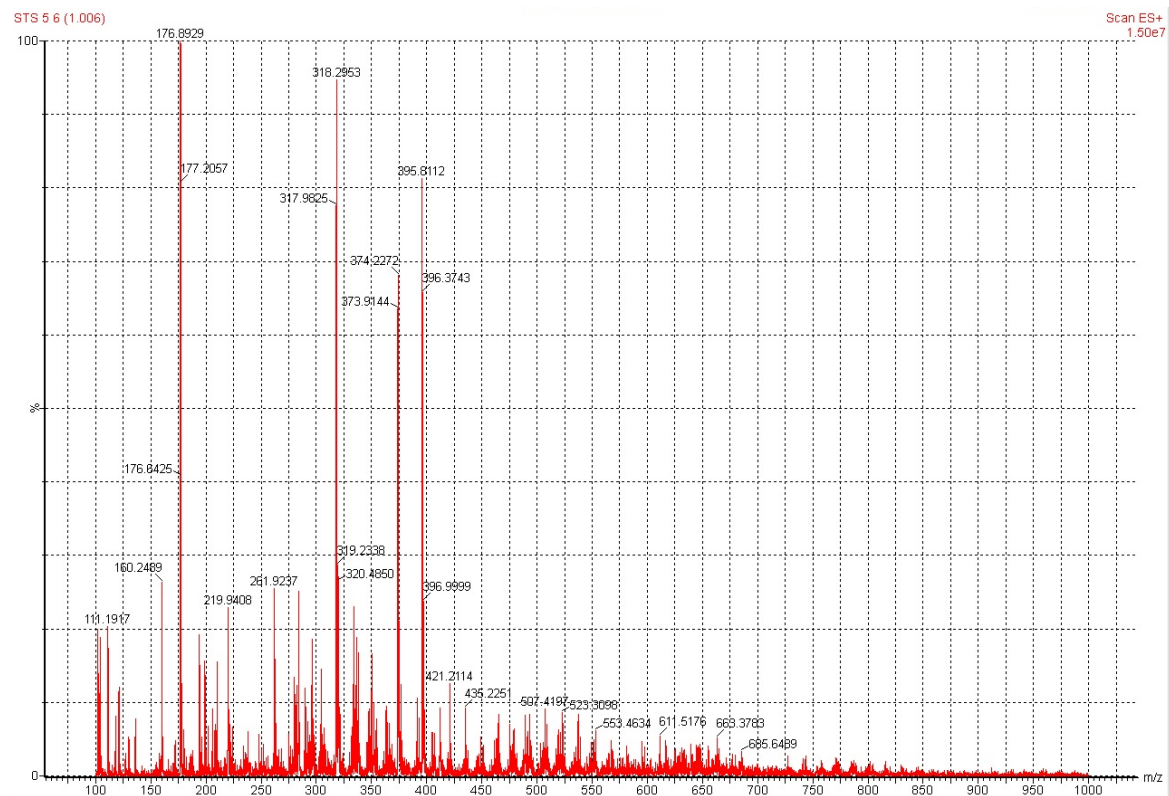


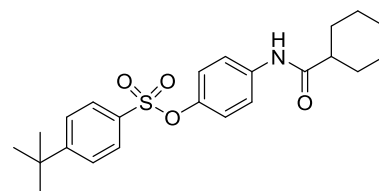
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Chemical Formula: $C_{20}H_{23}NO_4S$

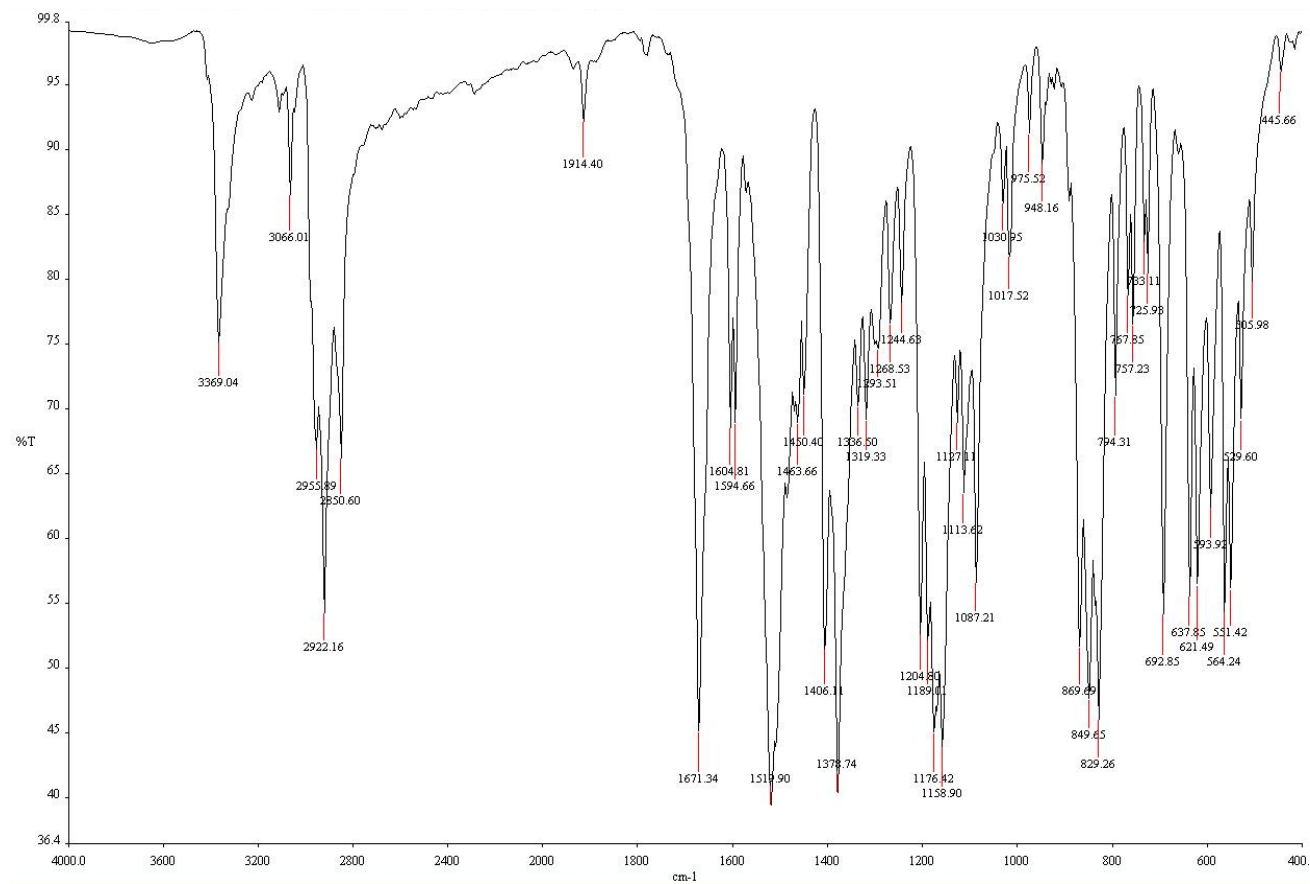
Exact Mass: 373.13

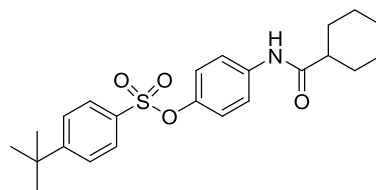
Molecular Weight: 373.47



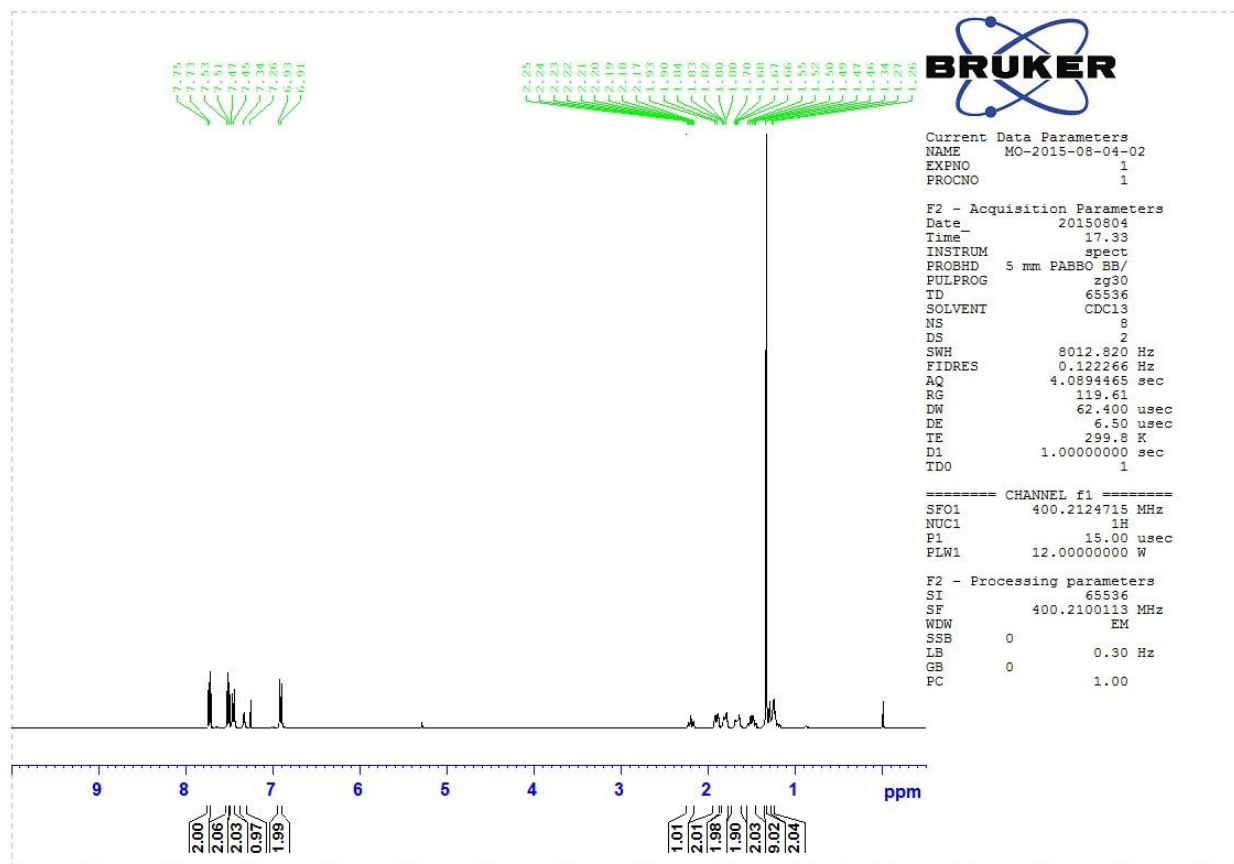


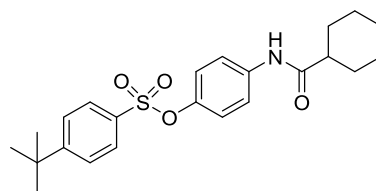
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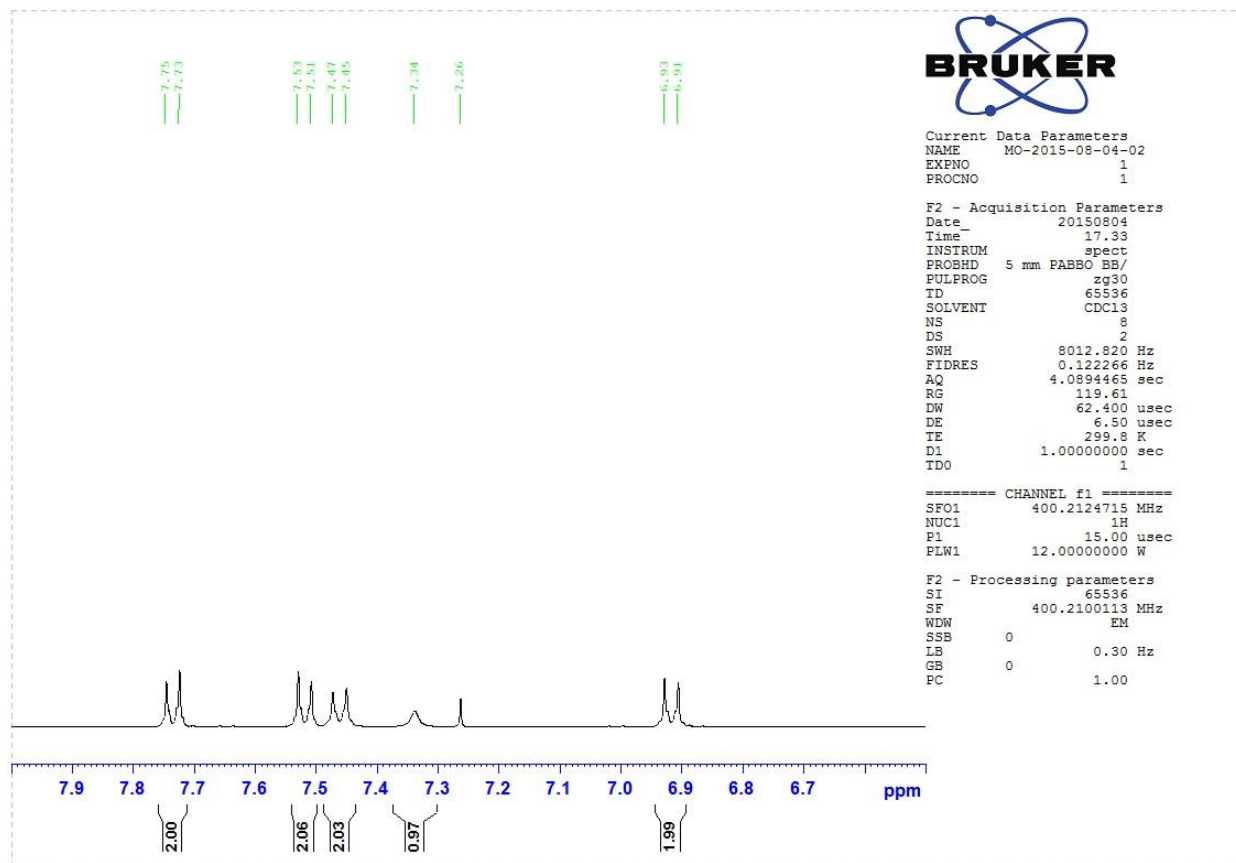


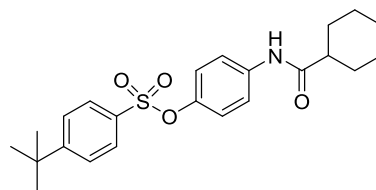
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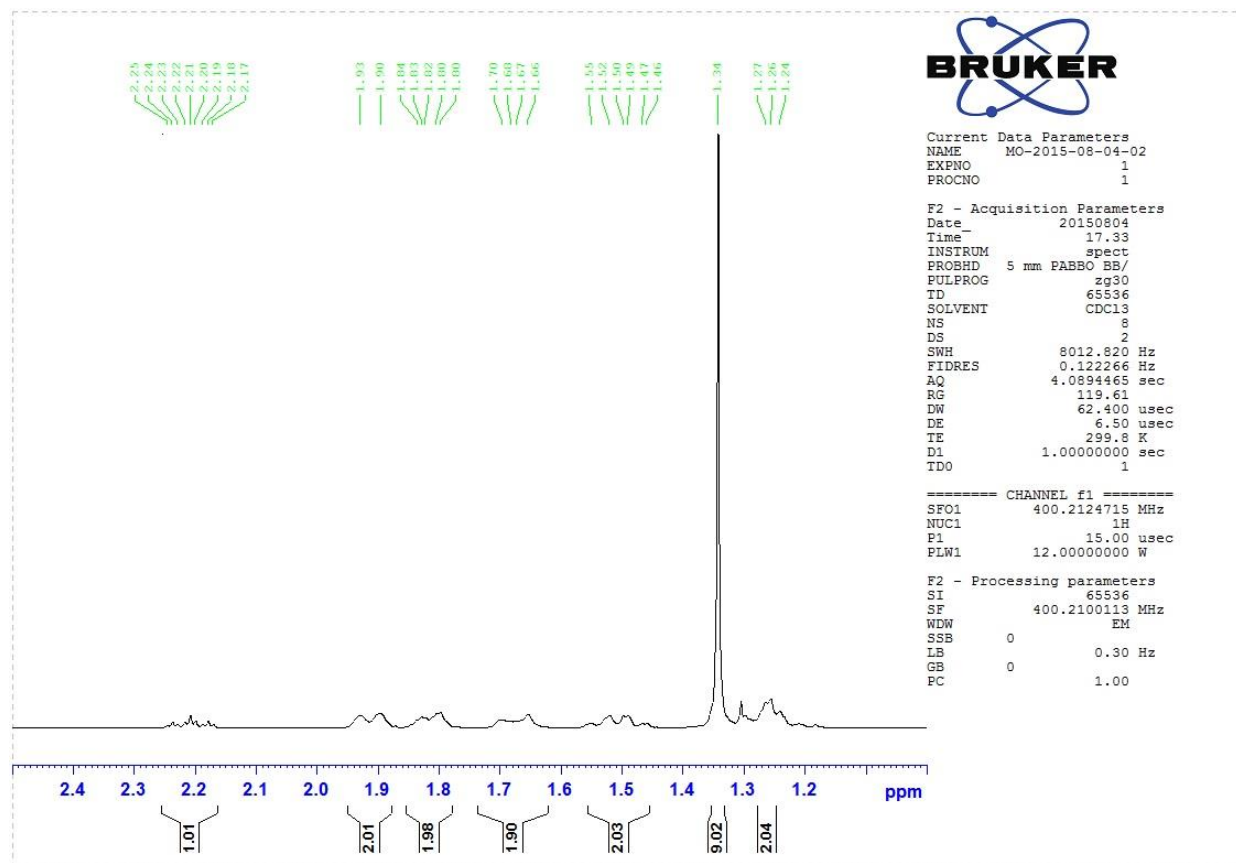


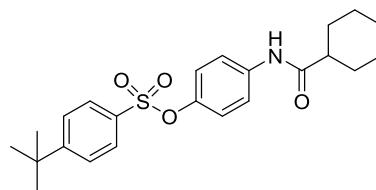
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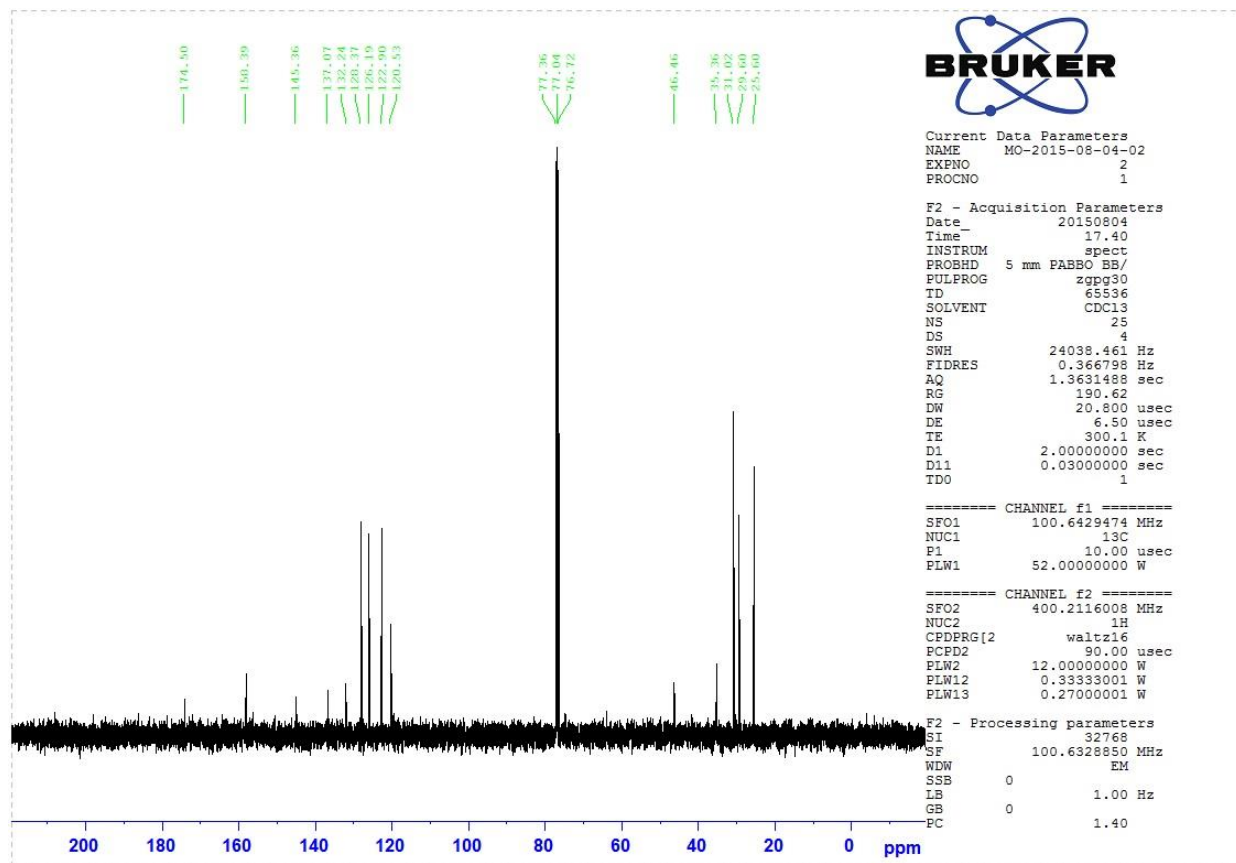


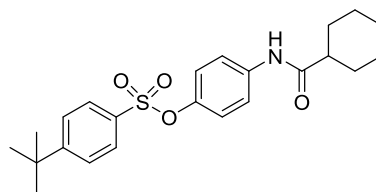
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1f



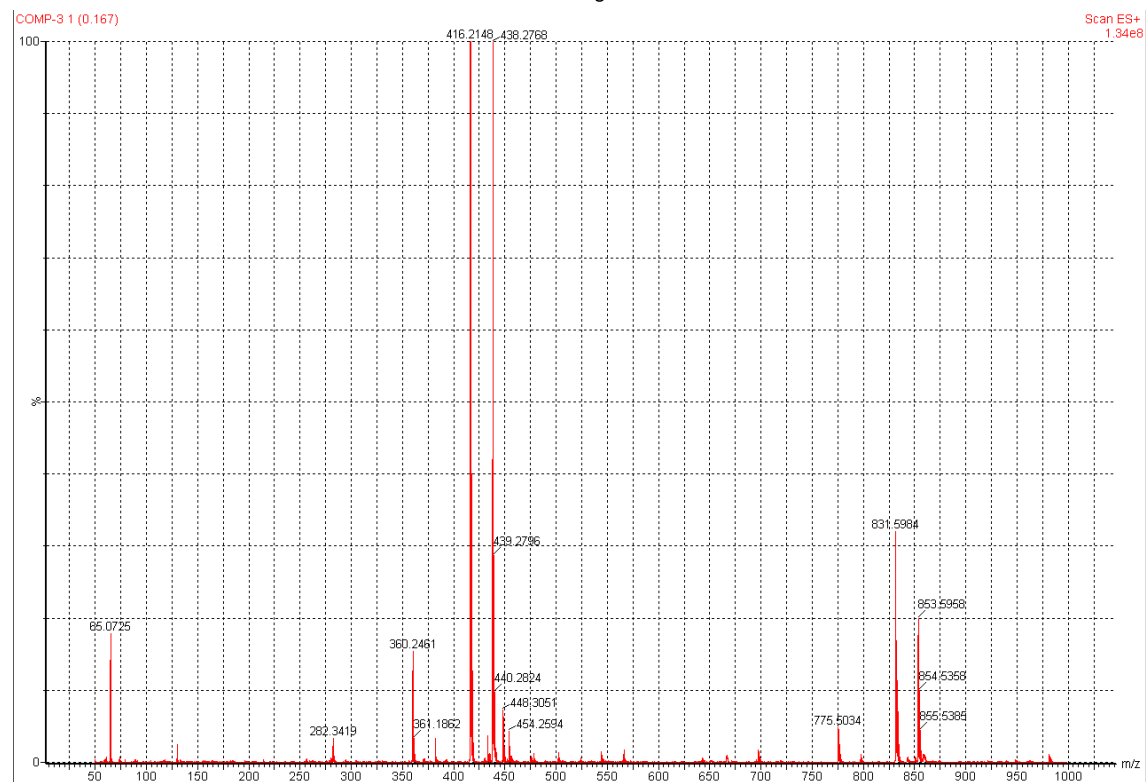


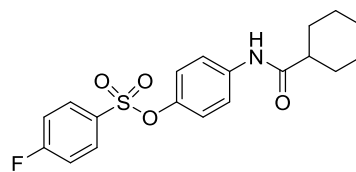
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Chemical Formula: $C_{23}H_{29}NO_4S$

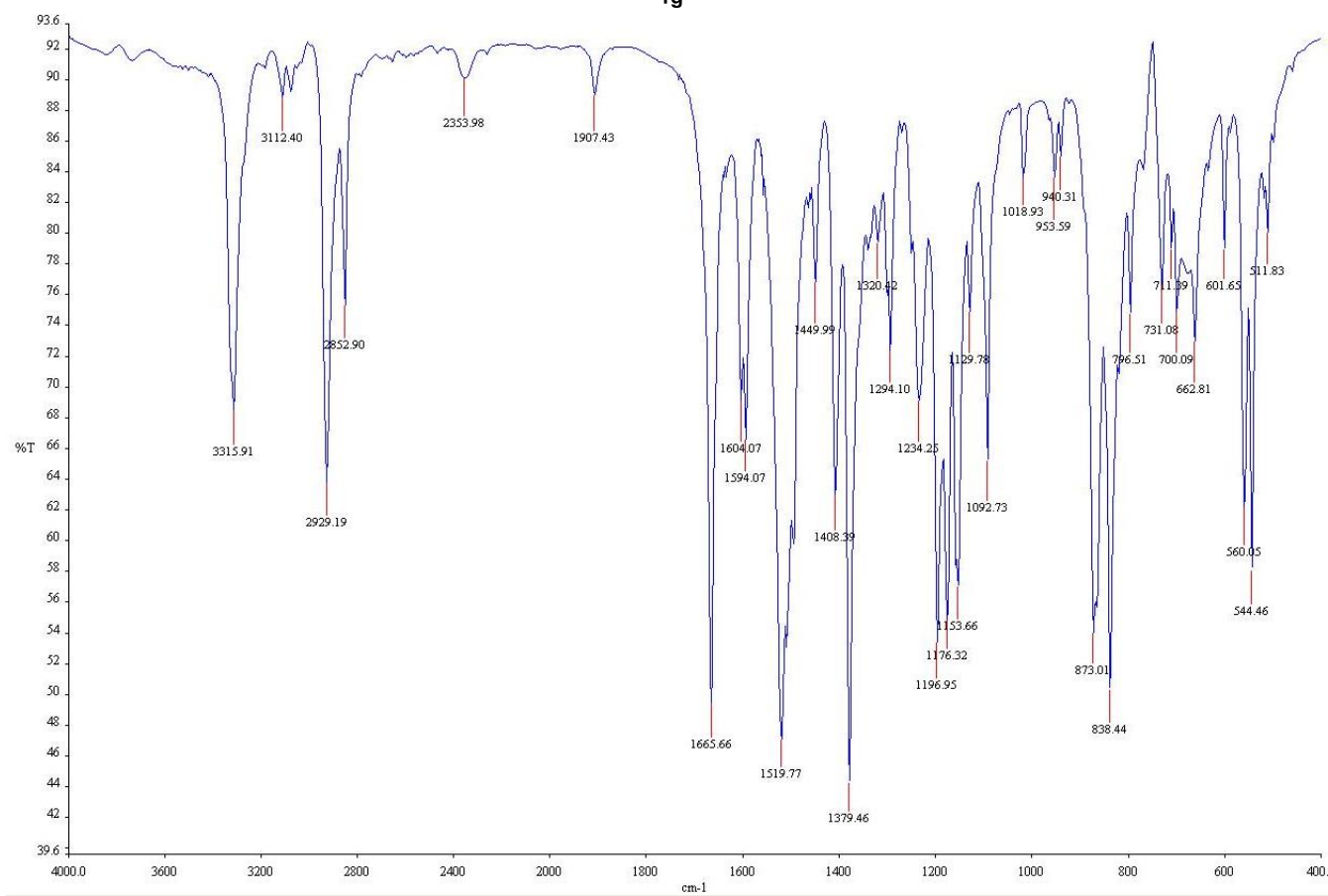
Exact Mass: 415.18

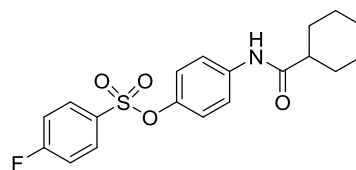
Molecular Weight: 415.55



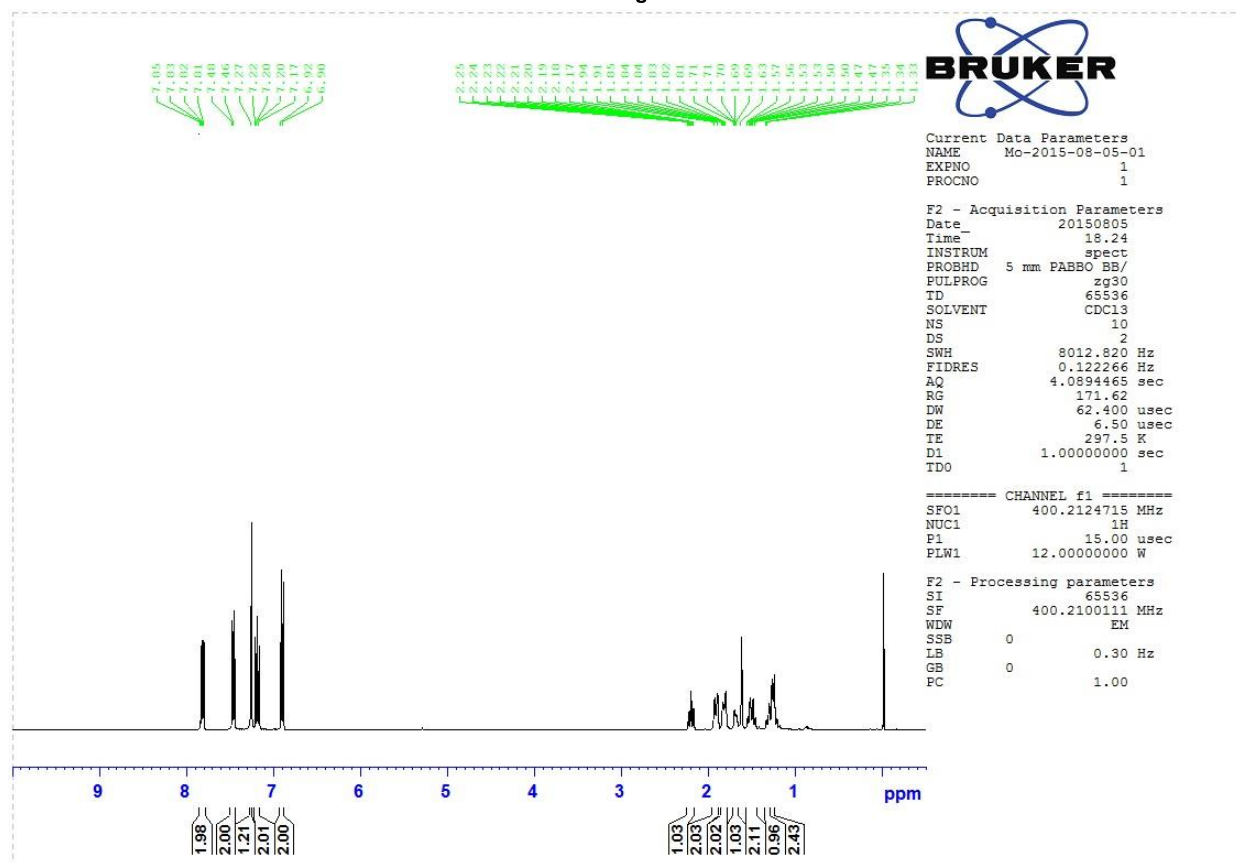


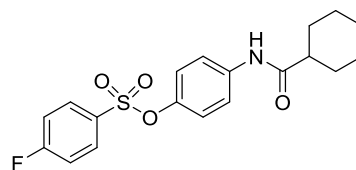
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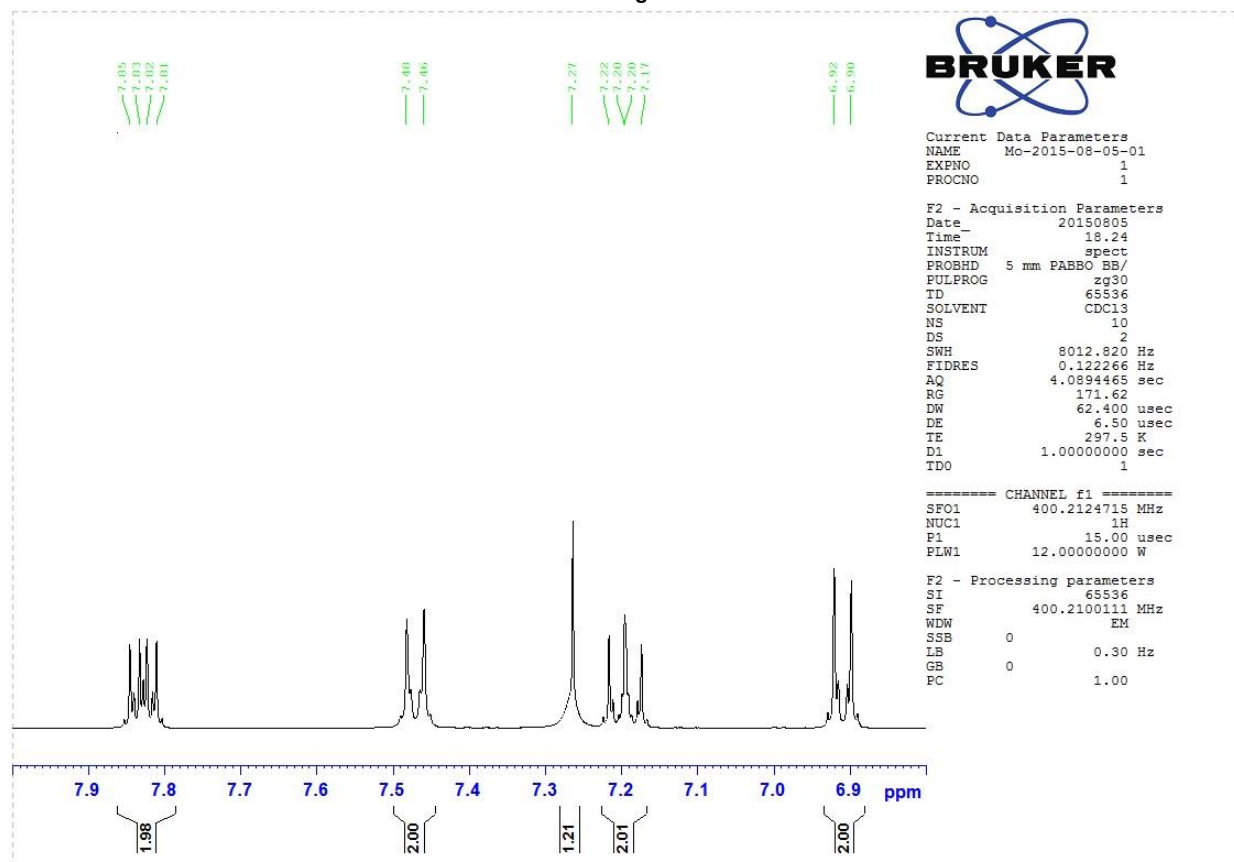


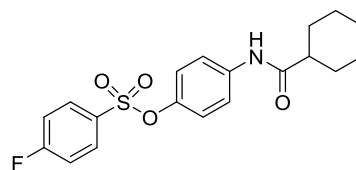
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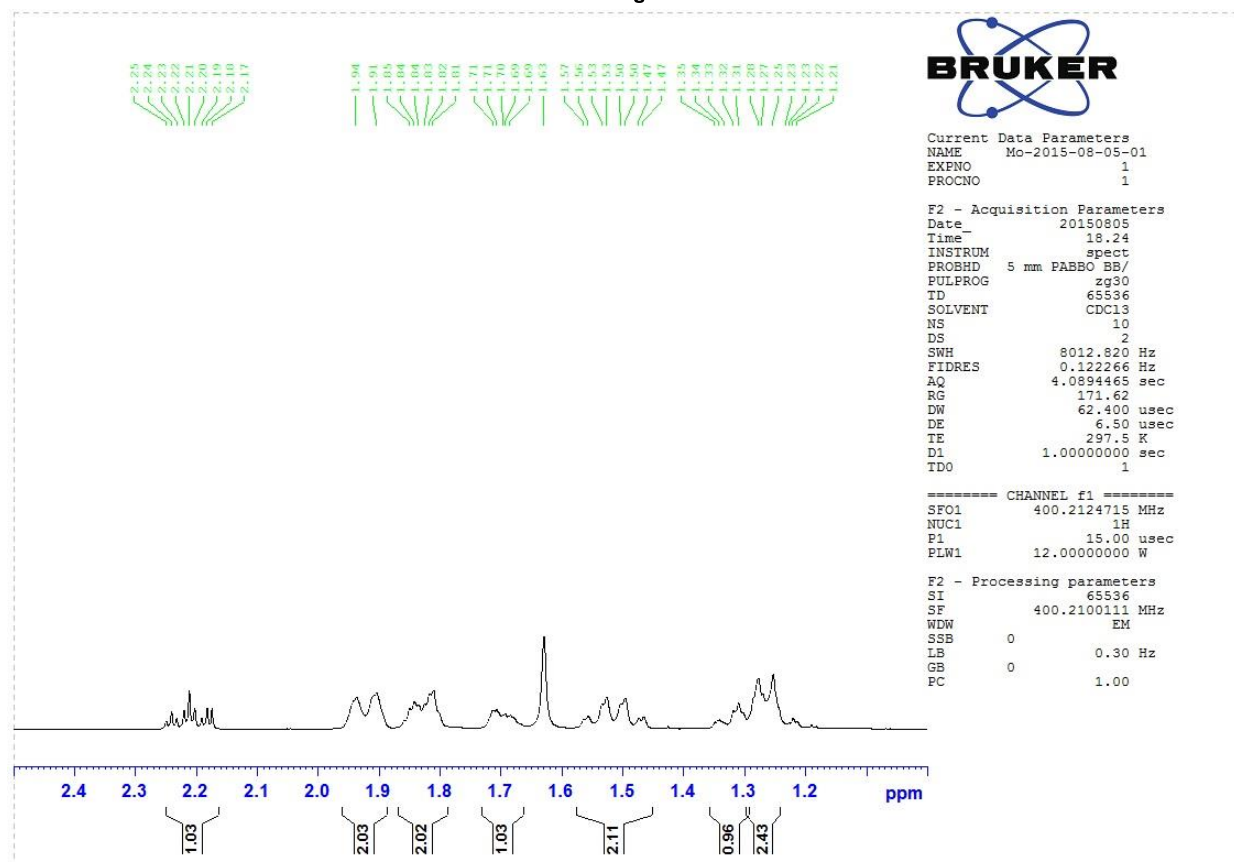


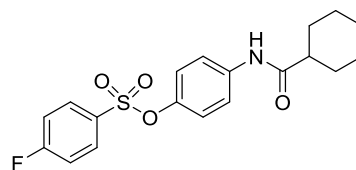
1g



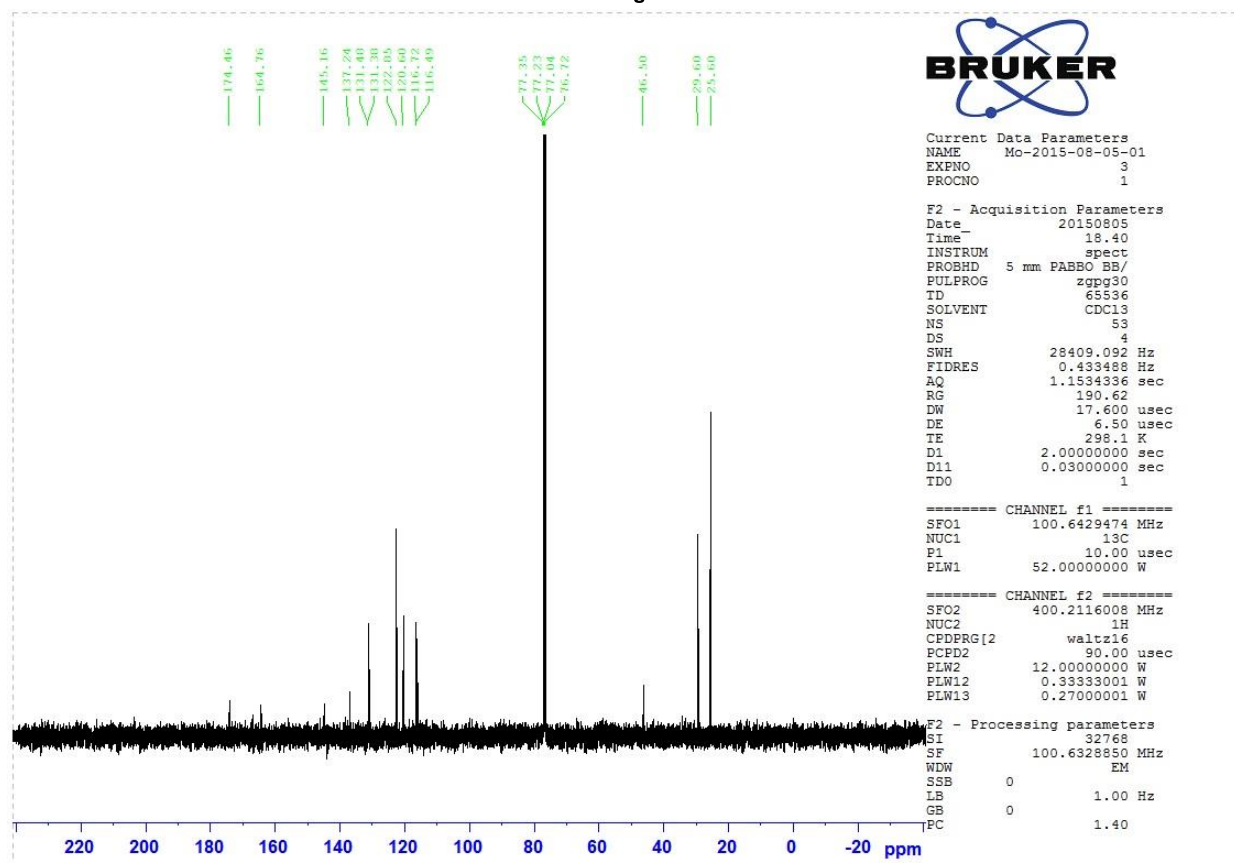


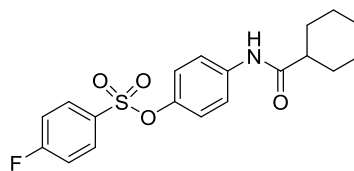
1g





1g



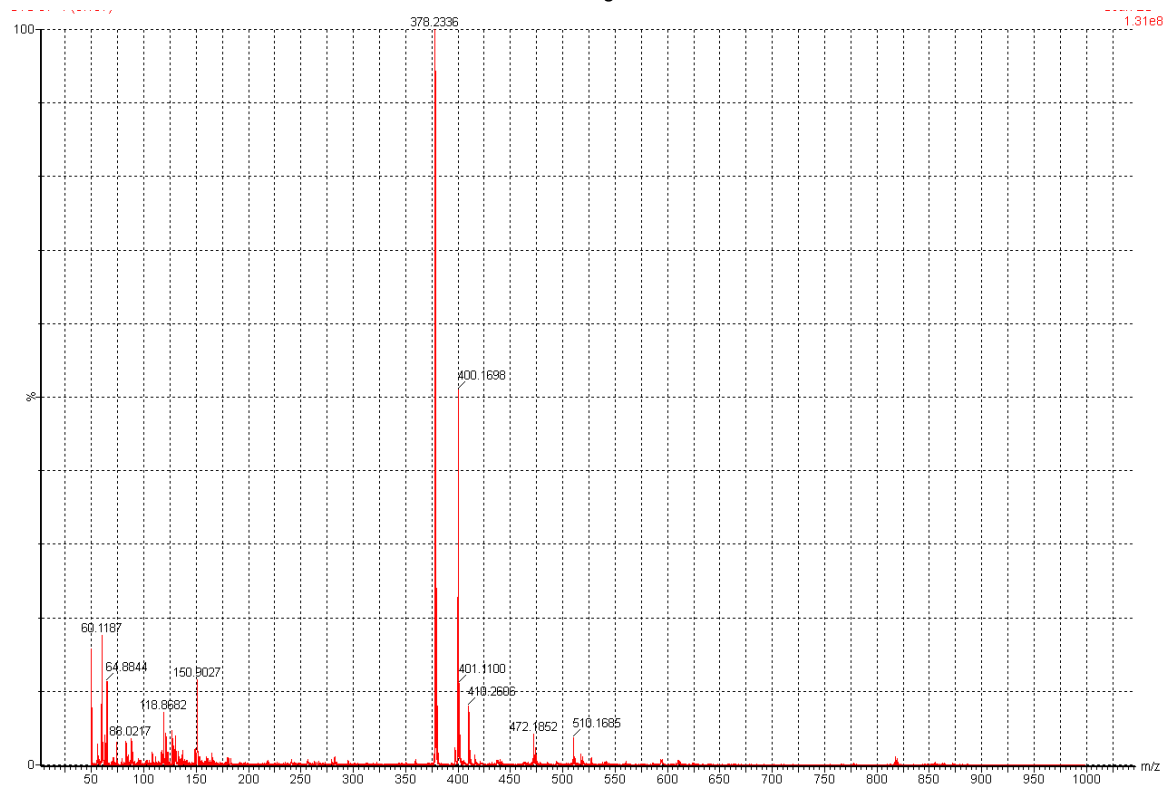


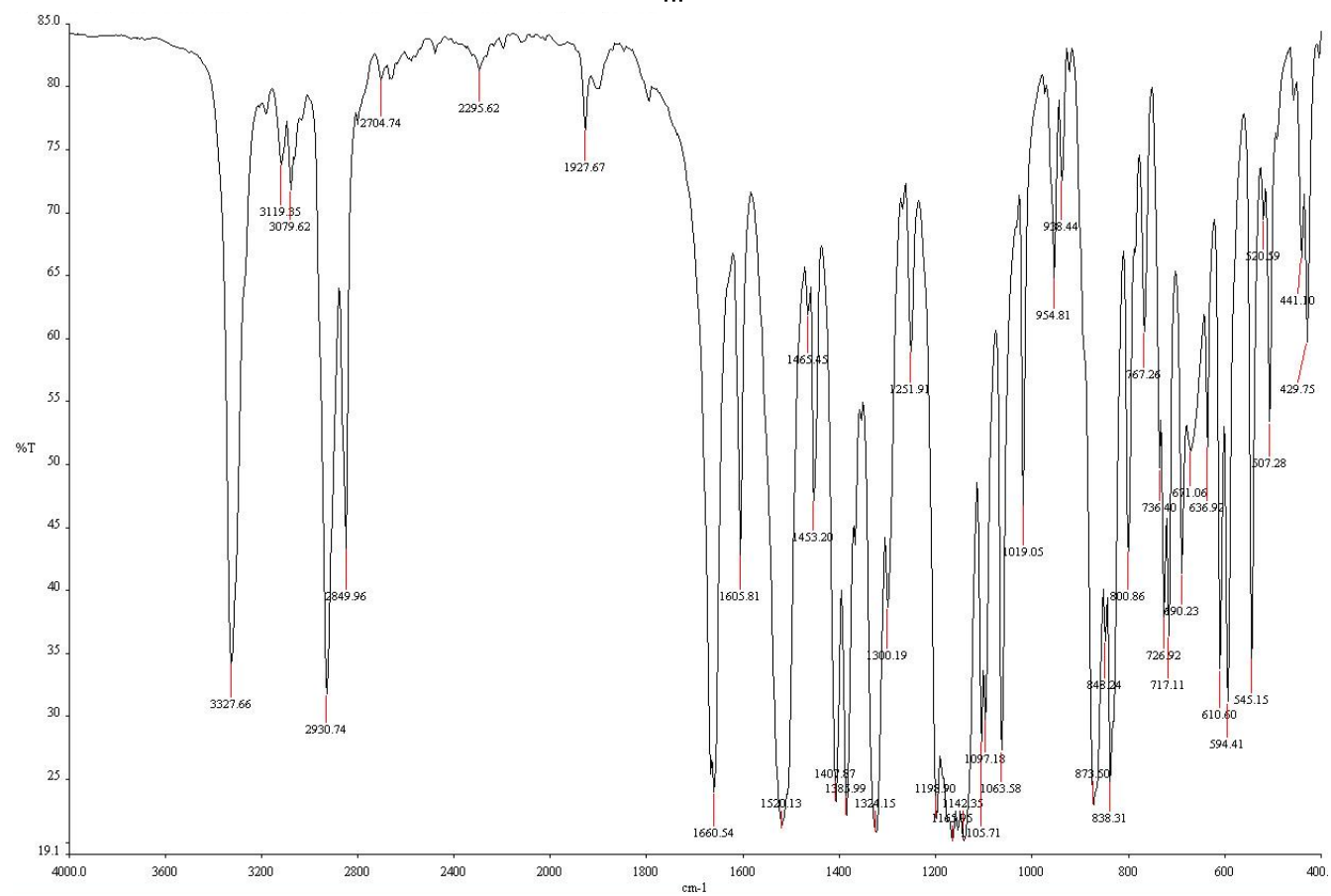
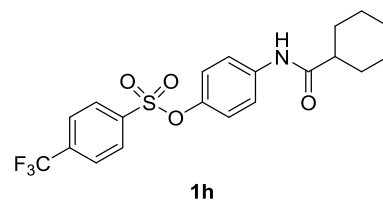
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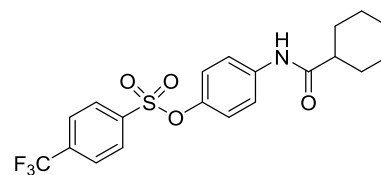
Chemical Formula: $C_{19}H_{20}FNO_4S$

Exact Mass: 377.11

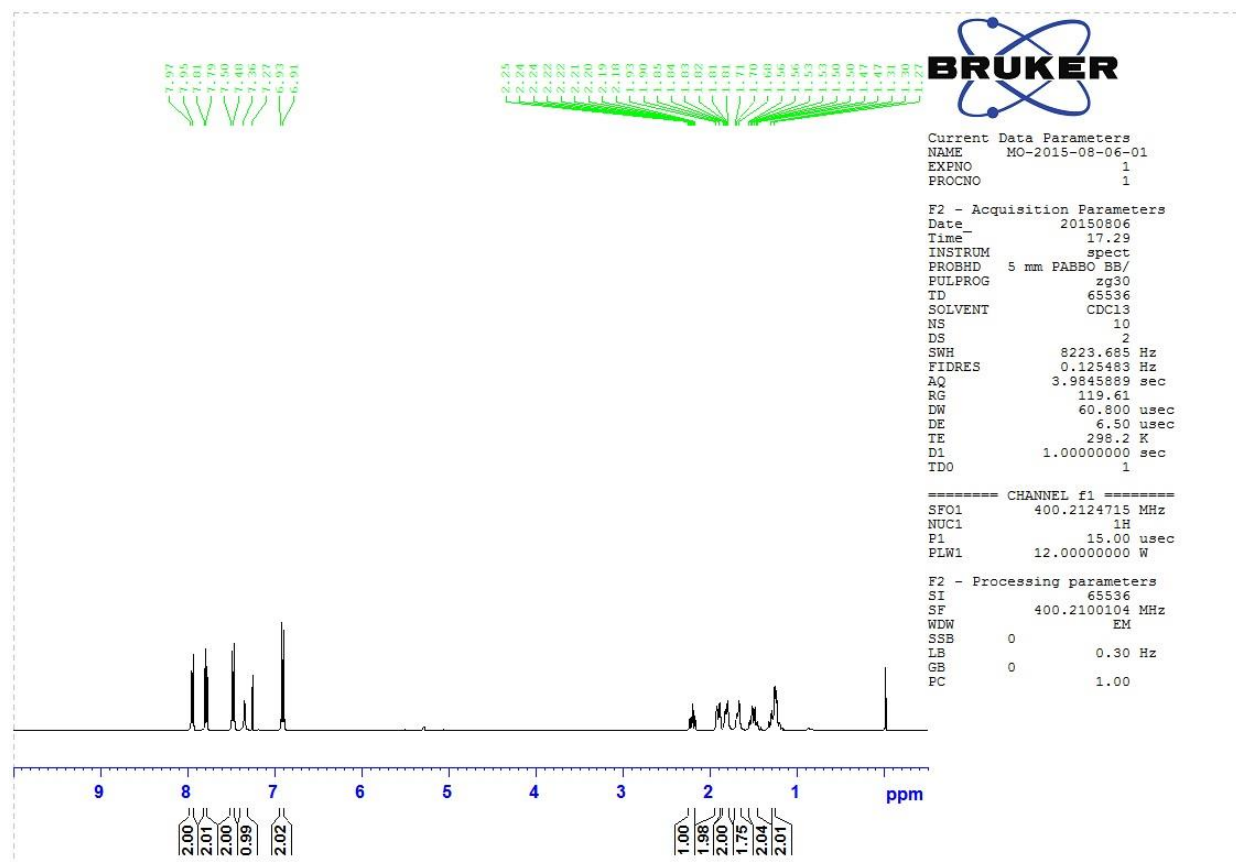
Molecular Weight: 377.43

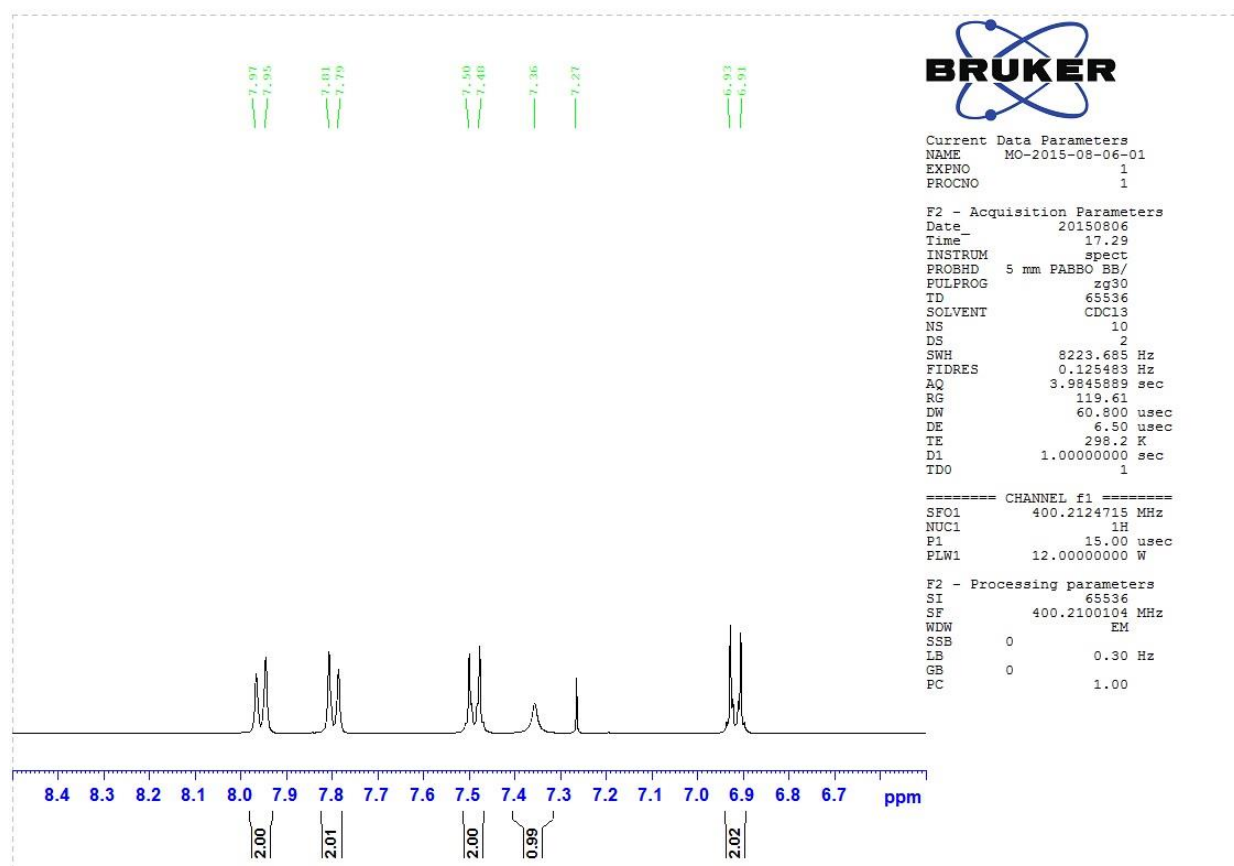
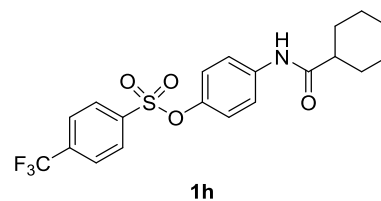


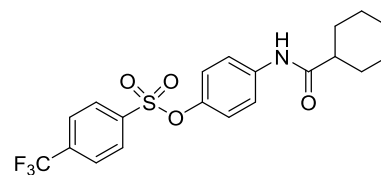




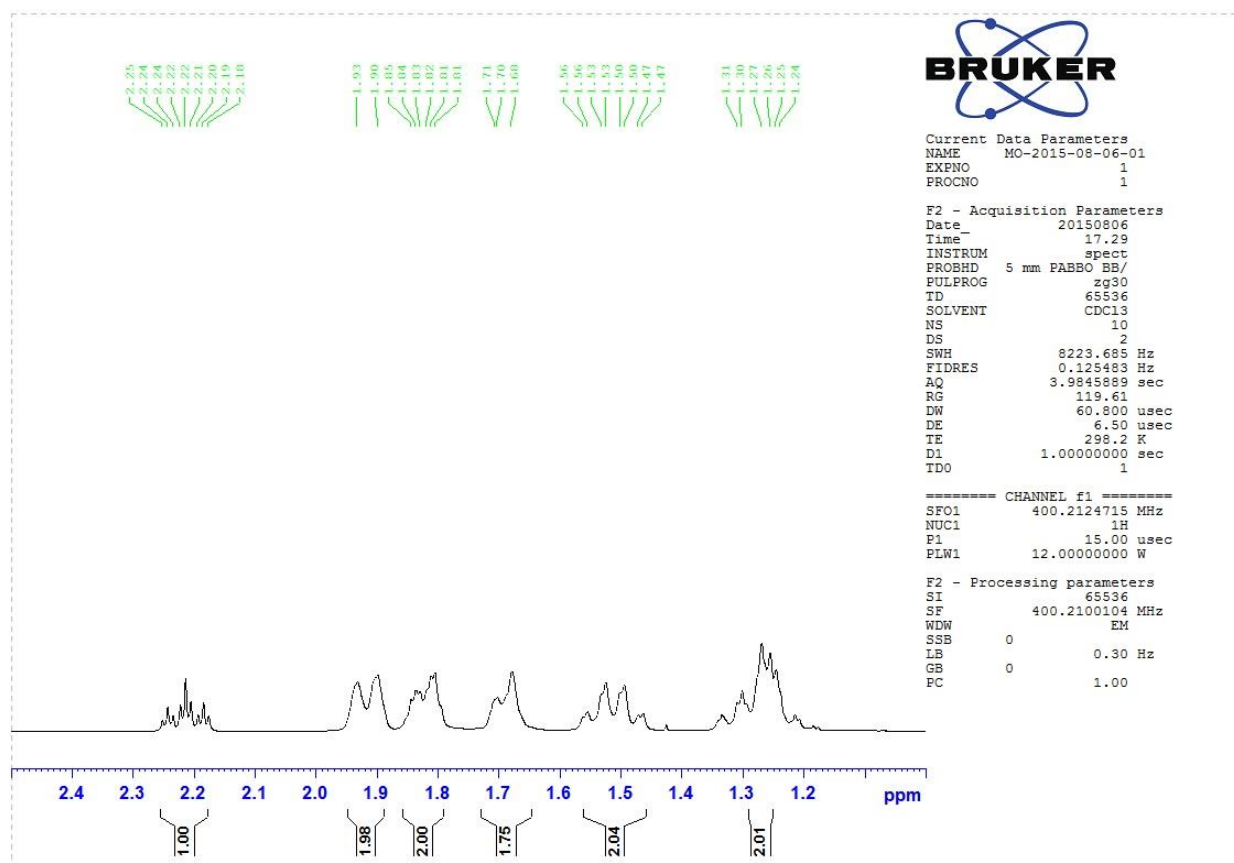
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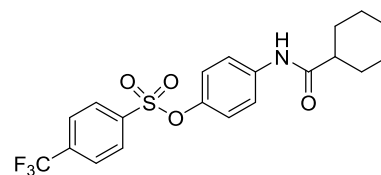




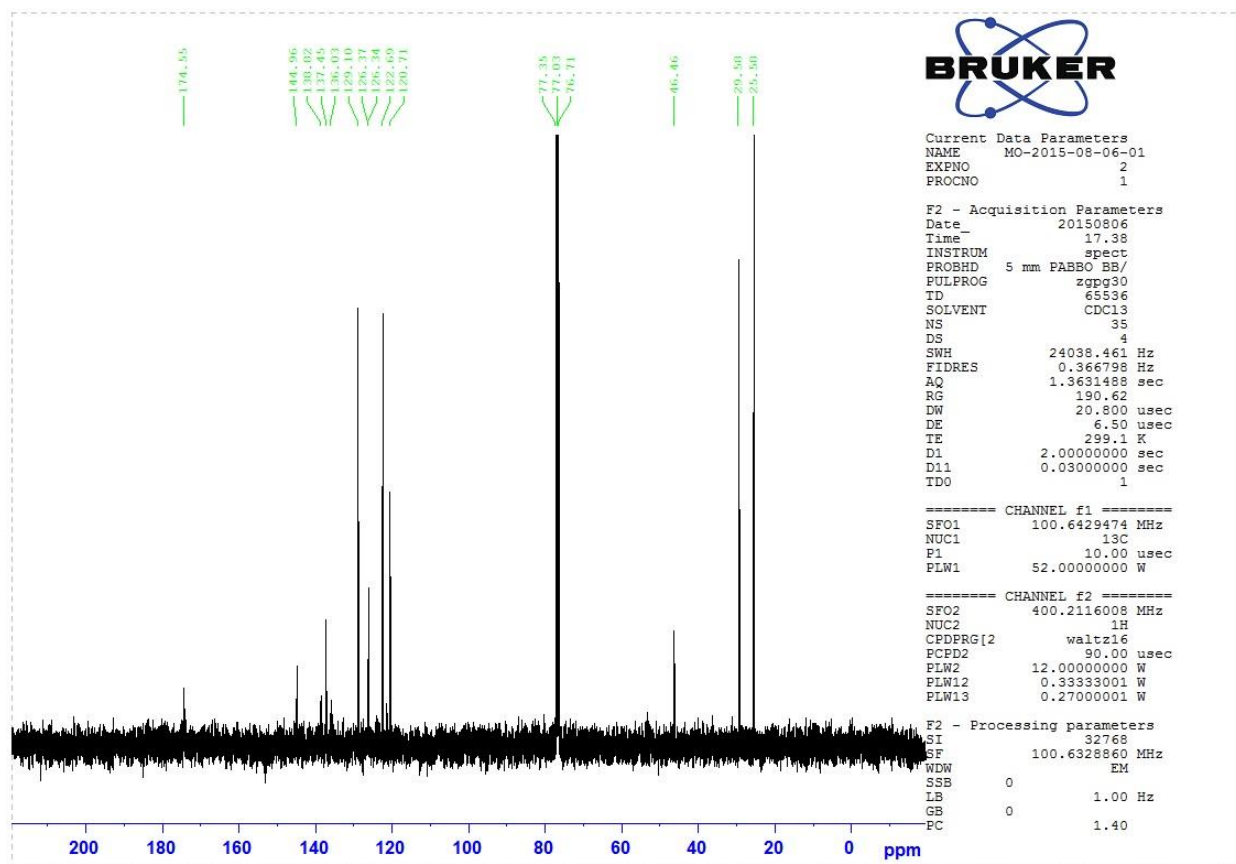


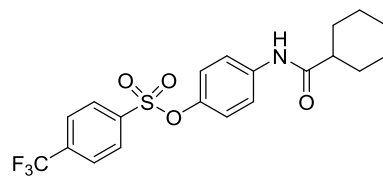
1h





1h



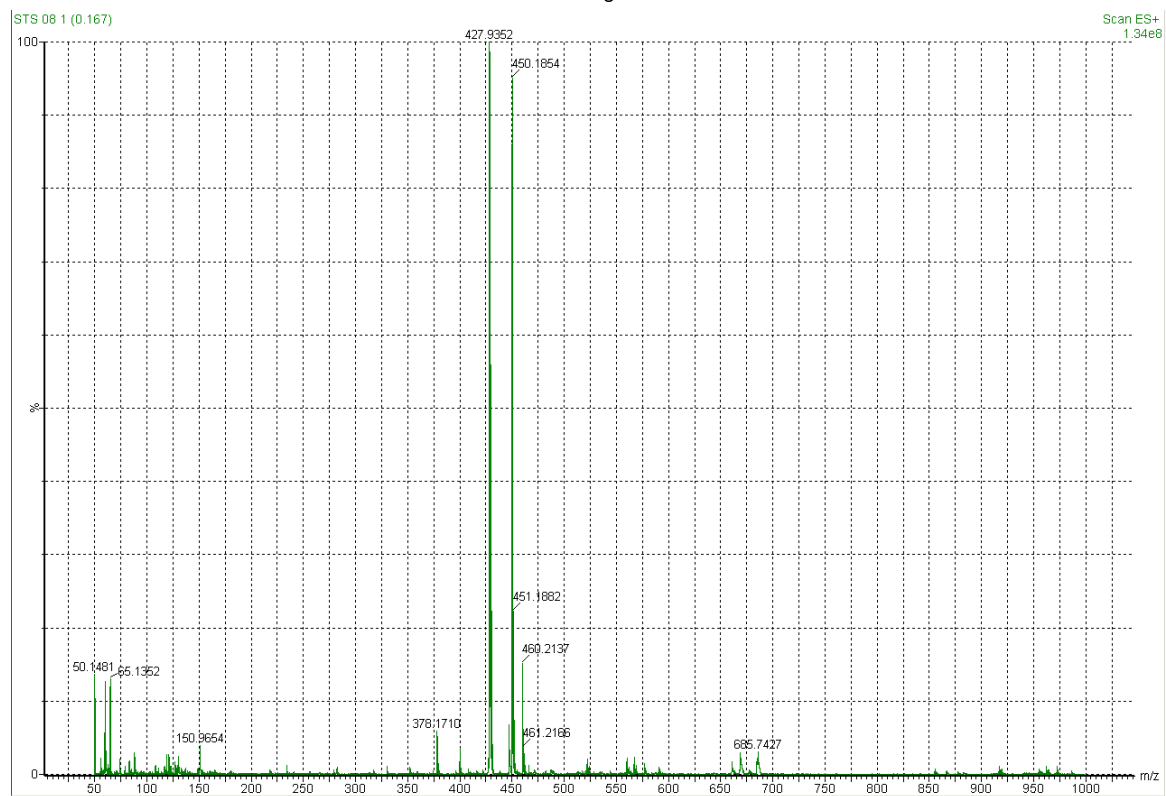


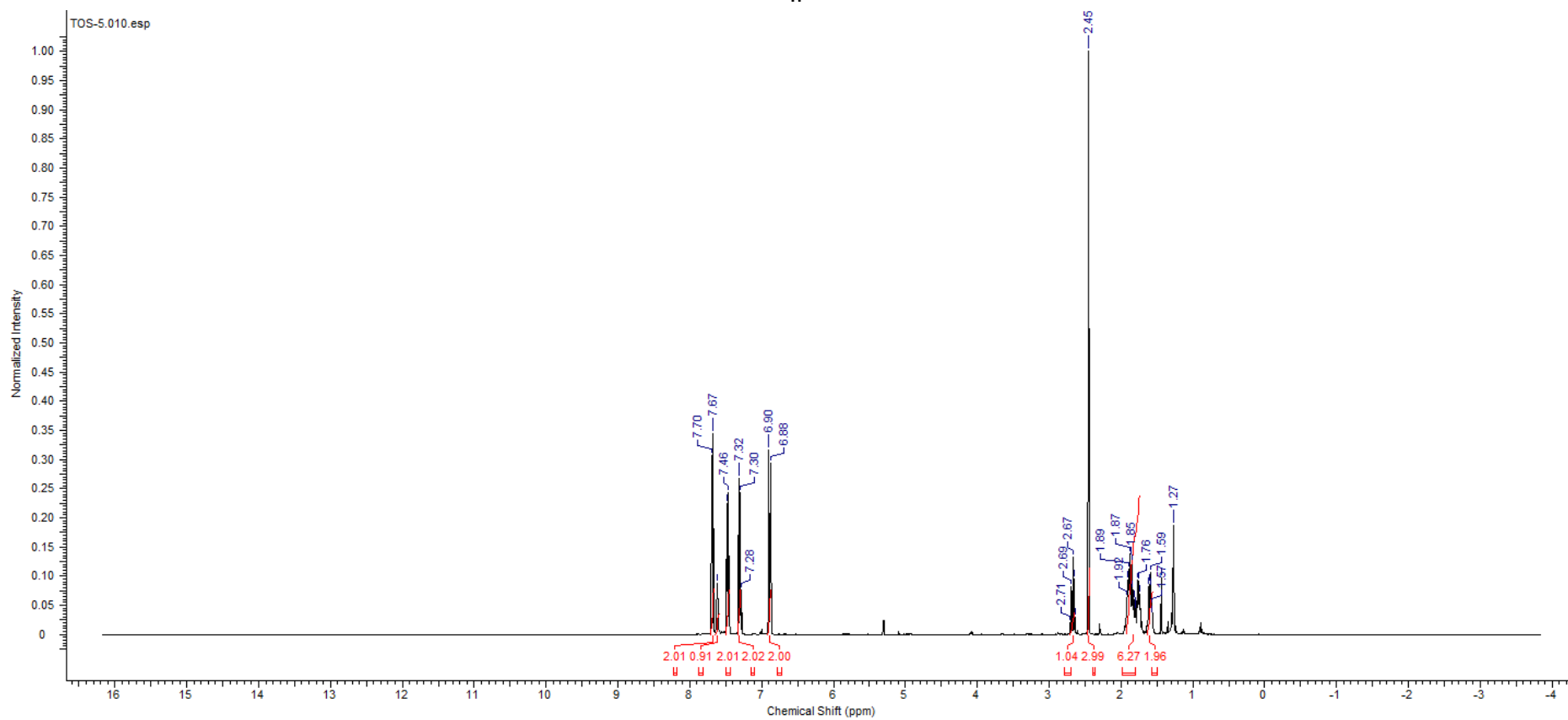
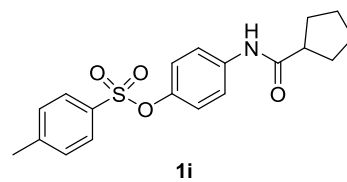
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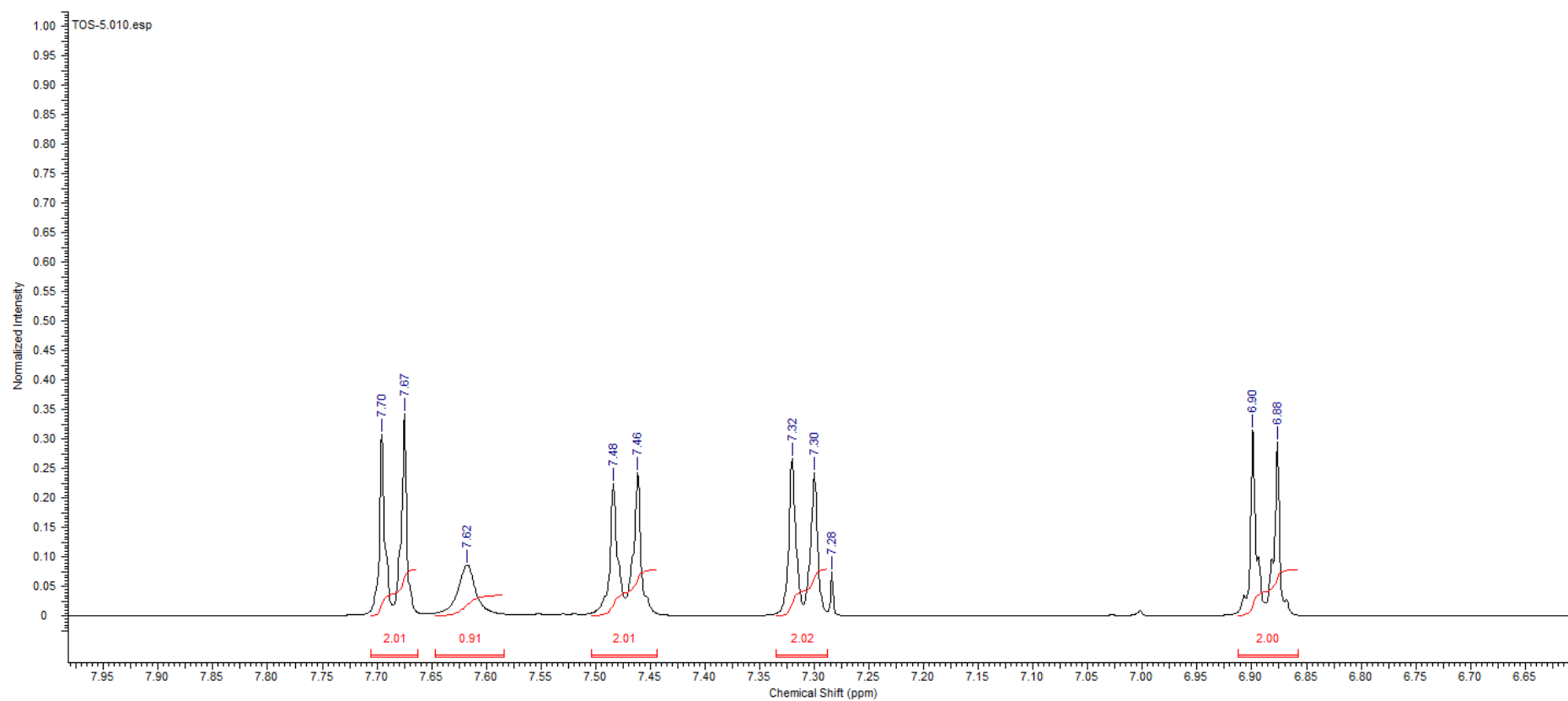
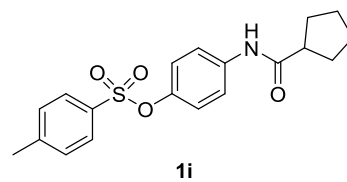
Chemical Formula: $C_{20}H_{20}F_3NO_4S$

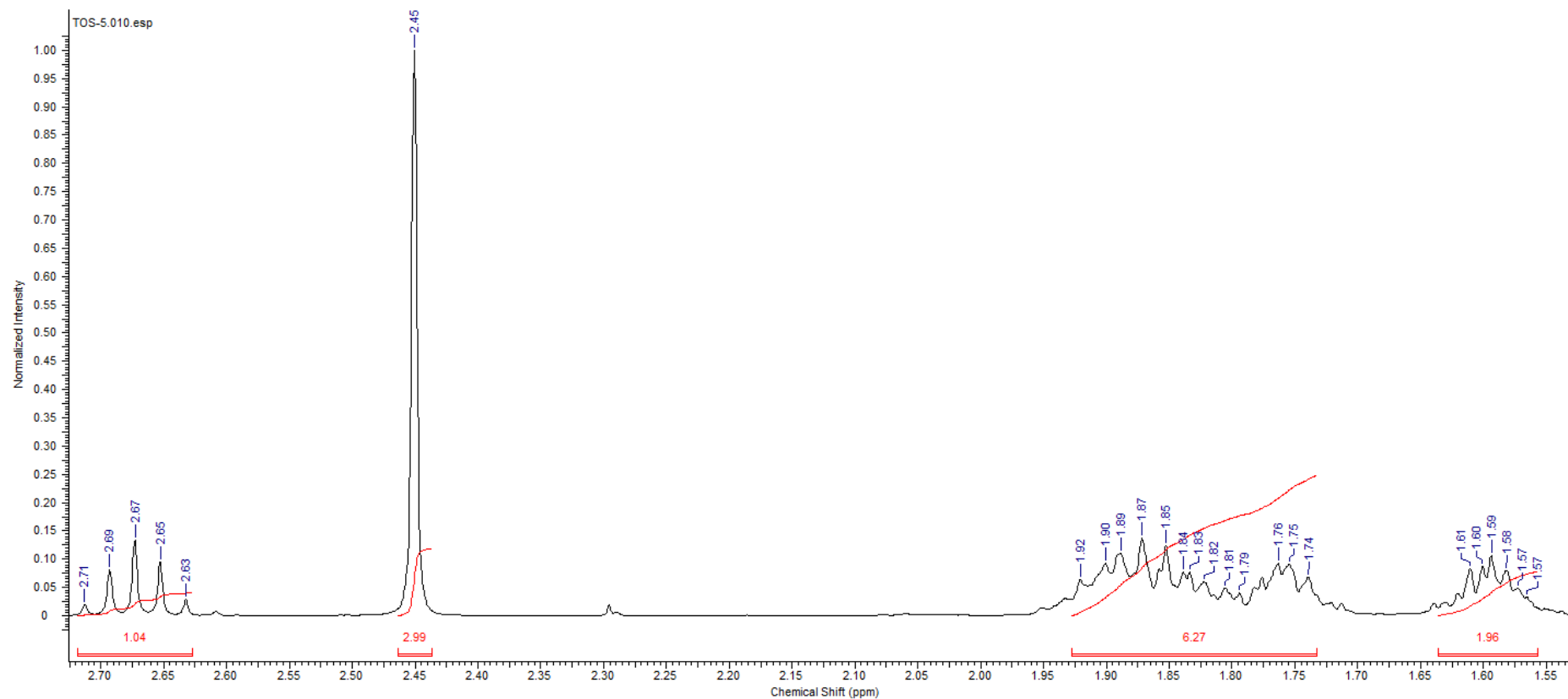
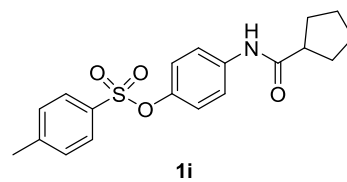
Exact Mass: 427.11

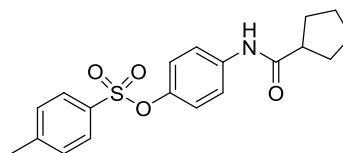
Molecular Weight: 427.44









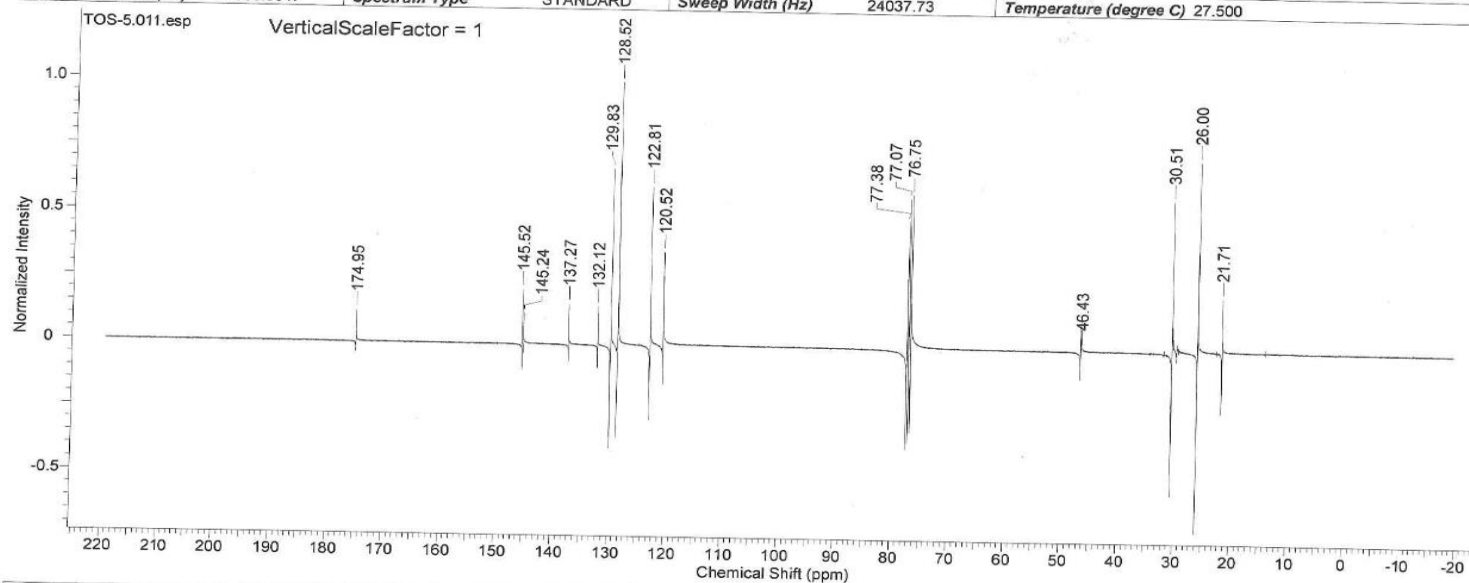


1i

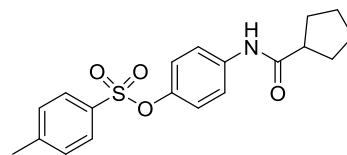
This report was created by ACD/NMR Processor Academic Edition. For more information go to www.acdlabs.com/nmrproc/

1/20/2016 11:21:07 AM

Acquisition Time (sec)	1.3631	Comment	C13CPD CDC13 (C:\Bruker\TOPSPIN) nmr 14	Date	16 Jan 2016 03:10:56
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Original Points Count	32768	Owner	ImadAbuYousef	Points Count	32768
Receiver Gain	203.00	SW(cyclical) (Hz)	24038.46	Pulse Sequence	zgpg30
Spectrum Offset (Hz)	10060.8047	Solvent	CHLOROFORM-d	Sweep Width (Hz)	24037.73
		Spectrum Type	STANDARD	Temperature (degree C)	27.500



No.	(ppm)	(Hz)	Height	No.	(ppm)	(Hz)	Height	No.	(ppm)	(Hz)	Height	No.	(ppm)	(Hz)	Height
1	21.71	2183.8	0.2085	5	76.75	7721.7	0.5894	9	122.81	12356.6	0.6041	13	137.27	13811.3	0.1532
2	26.00	2615.9	0.7285	6	77.07	7754.0	0.5738	10	128.52	12930.3	1.0000	14	145.24	14613.1	0.1151
3	30.51	3070.0	0.5774	7	77.38	7785.6	0.4912	11	129.83	13062.3	0.6697	15	145.52	14641.0	0.2067
4	46.43	4671.4	0.0141	8	120.52	12125.5	0.3565	12	132.12	13292.7	0.1443	16	174.95	17601.8	0.1180

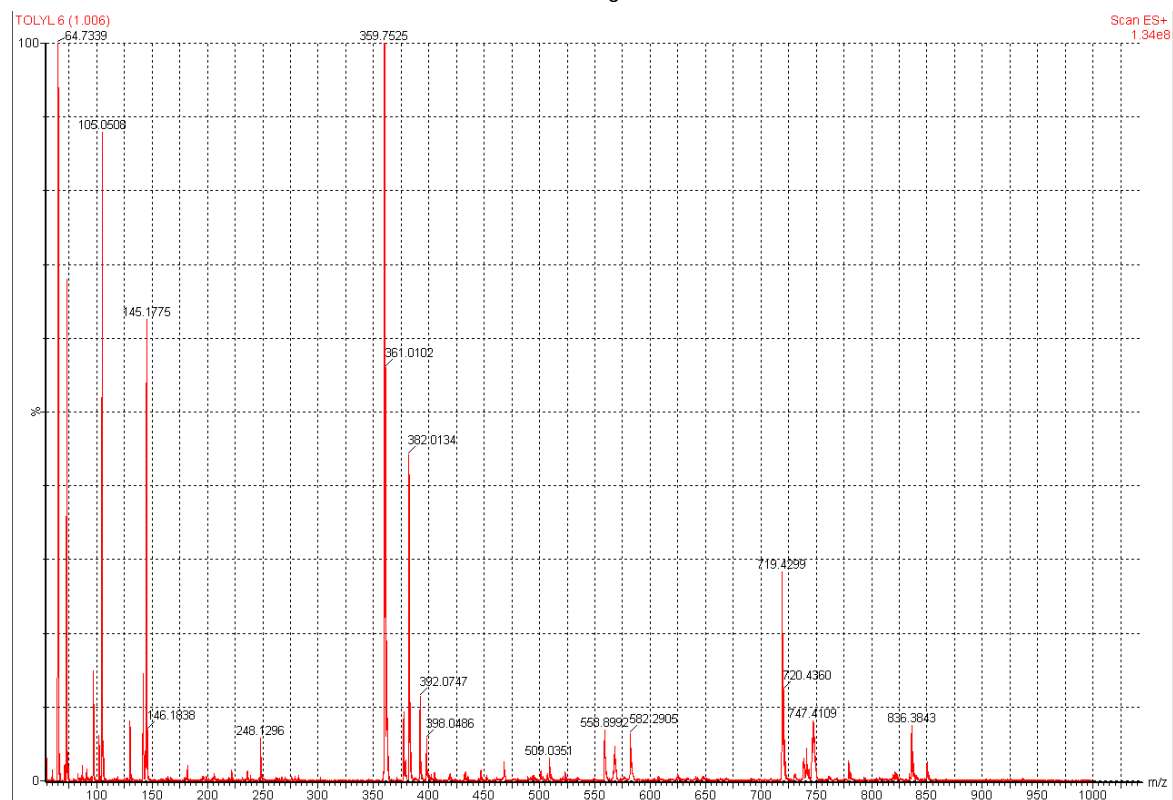


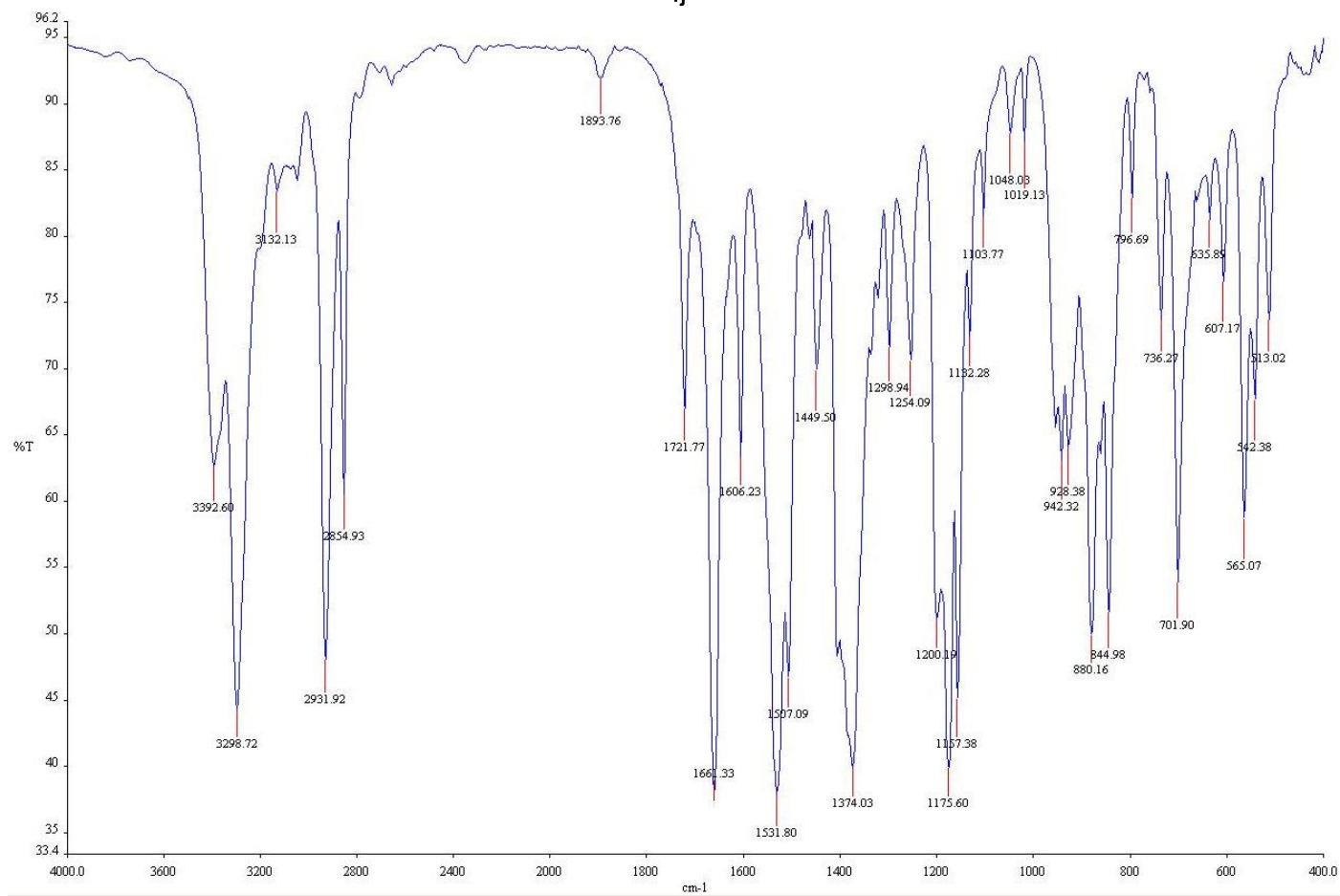
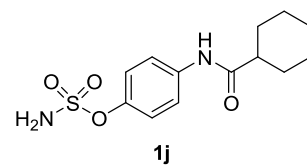
1i

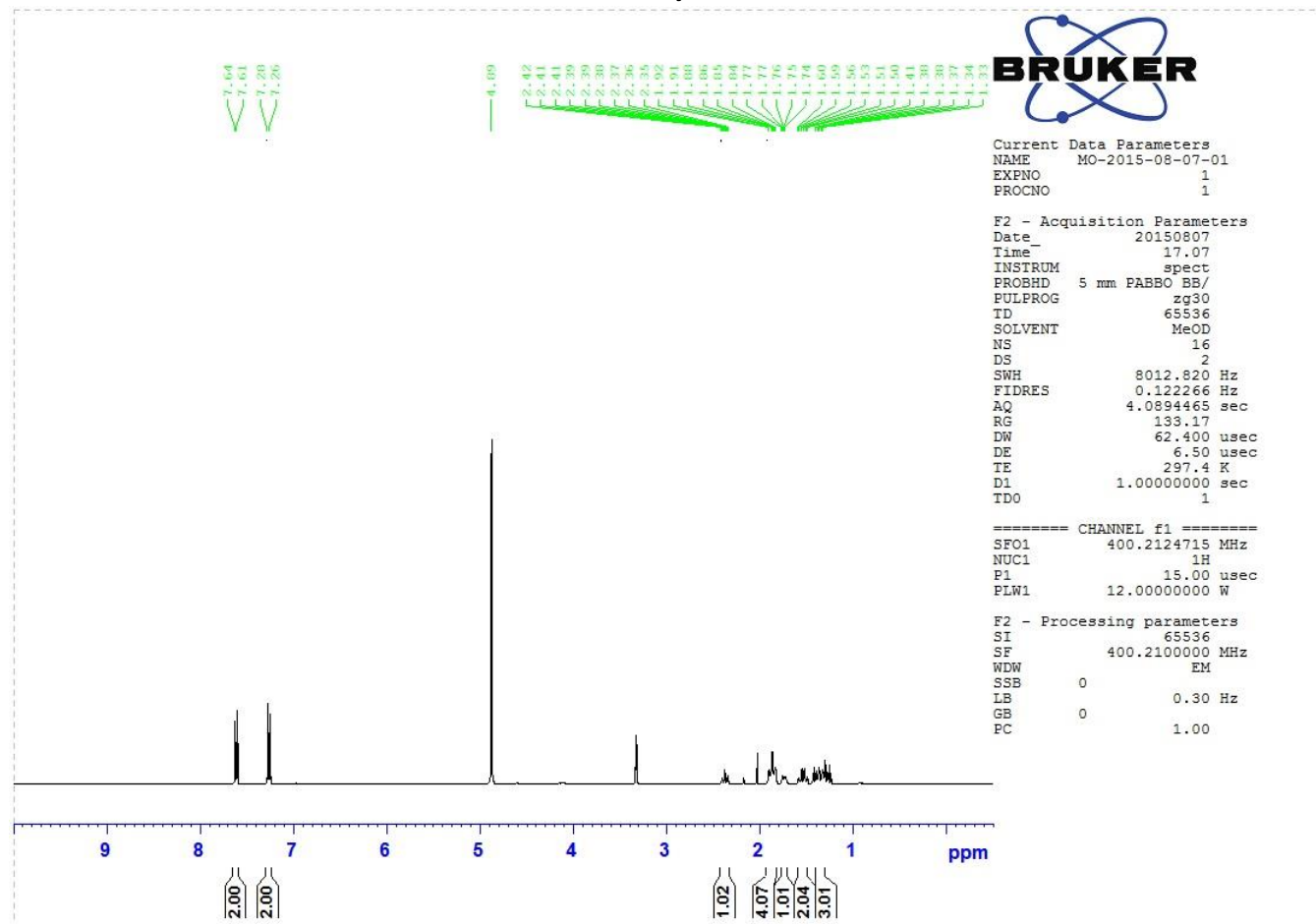
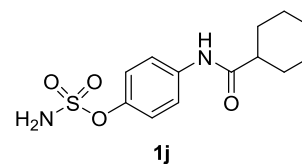
Chemical Formula: C₁₉H₂₁NO₄S

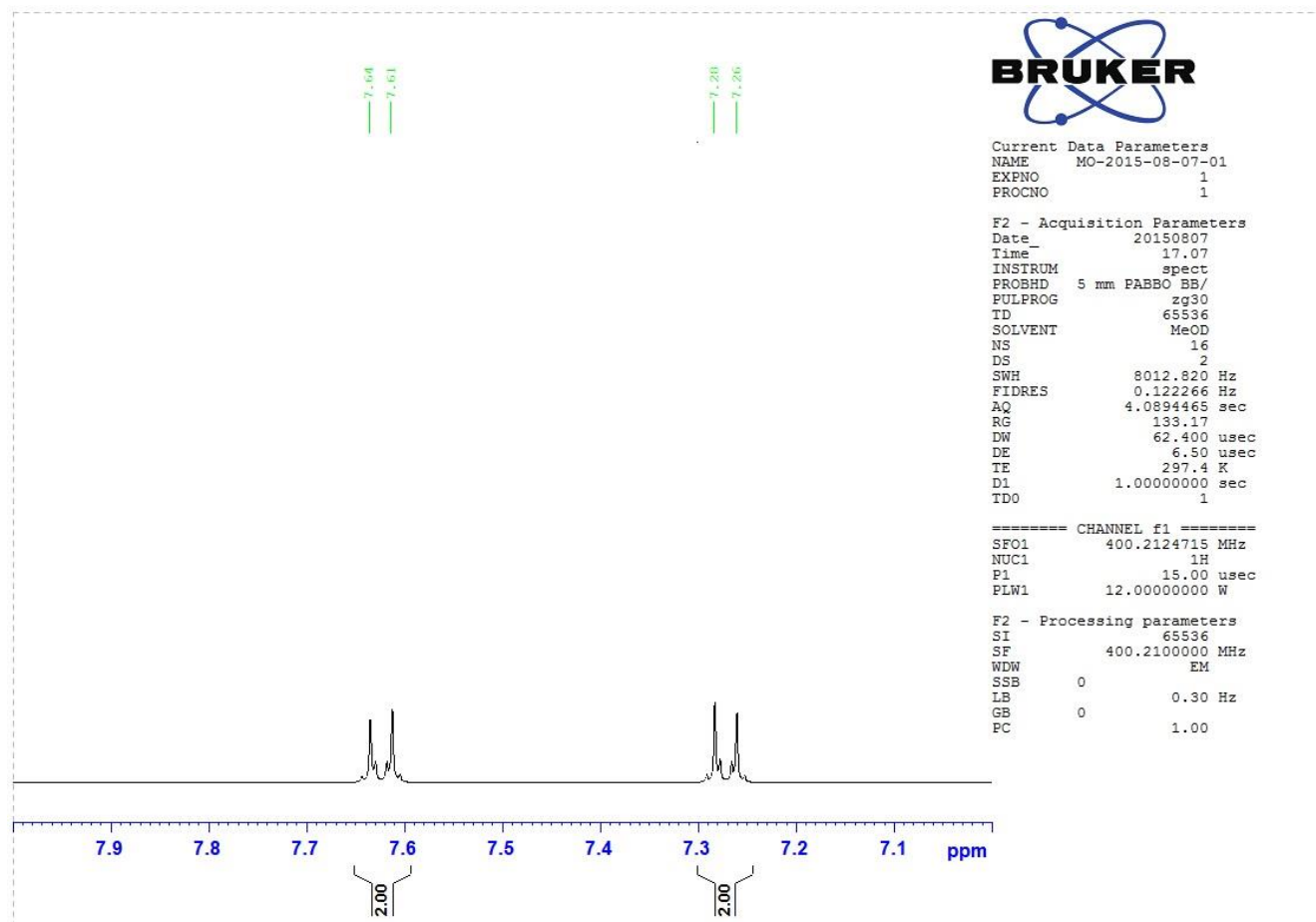
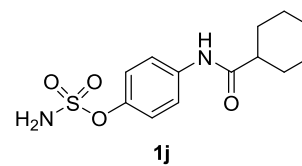
Exact Mass: 359.12

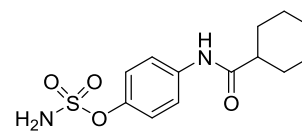
Molecular Weight: 359.44



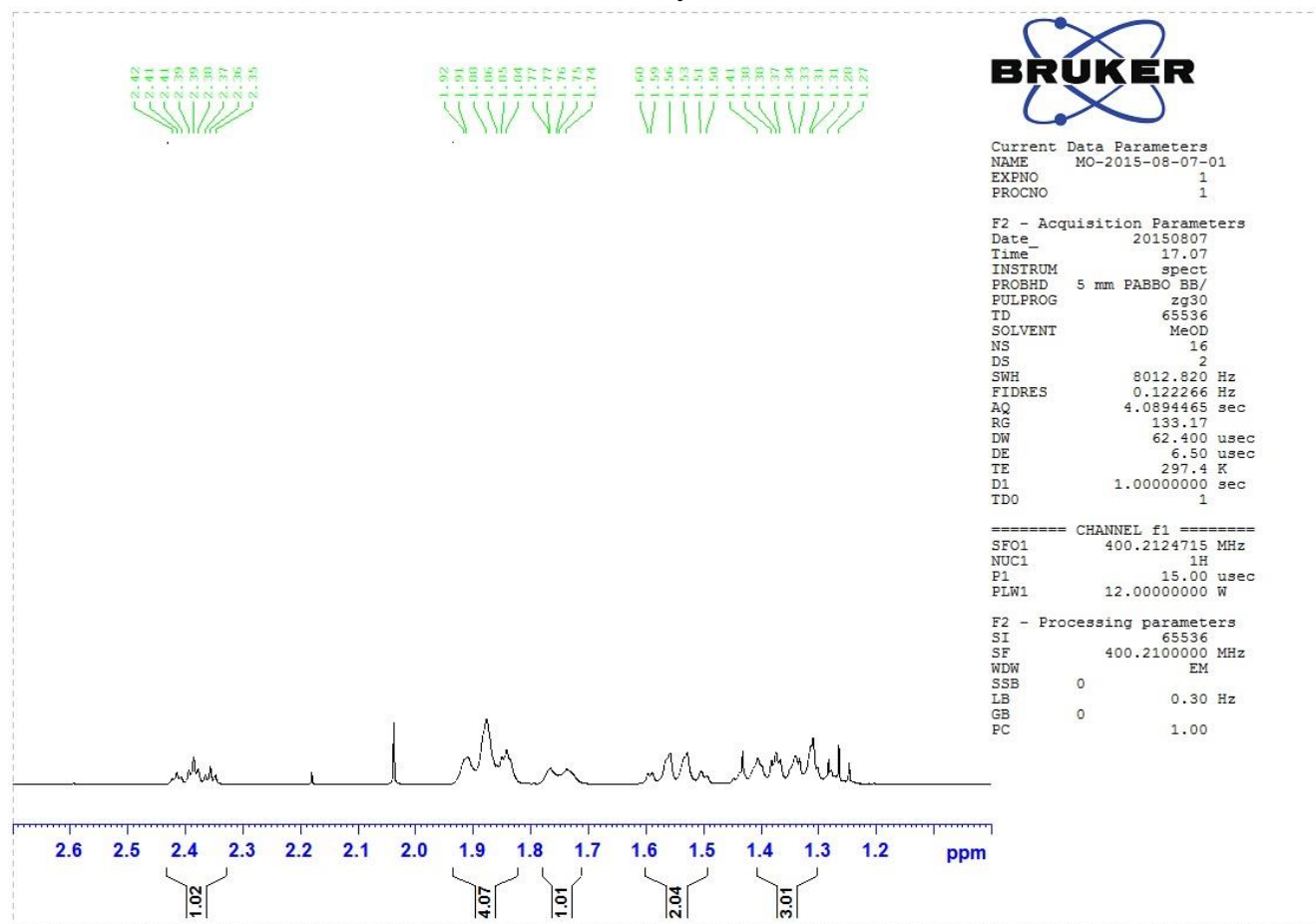


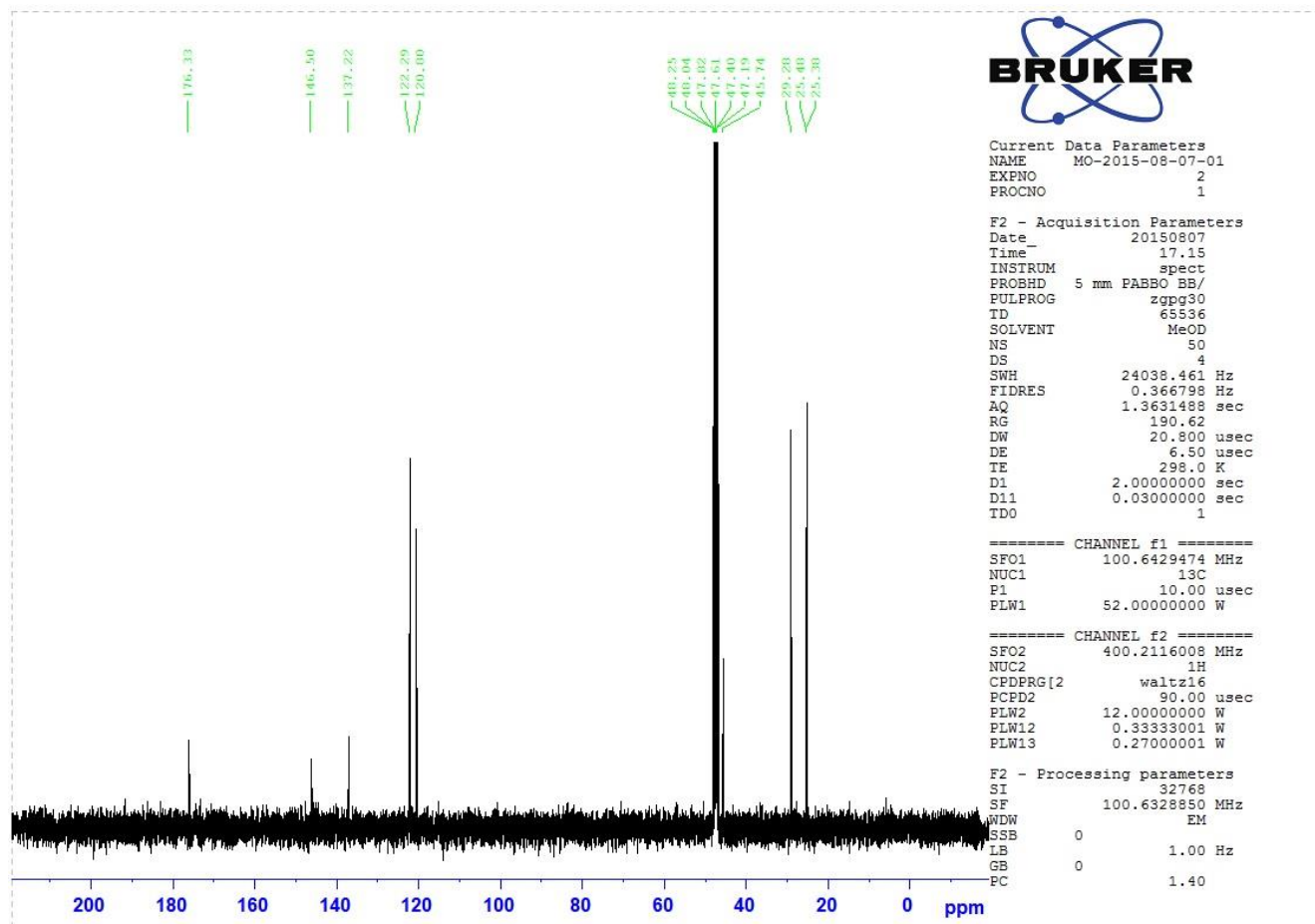
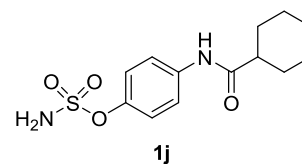


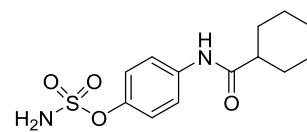




1j





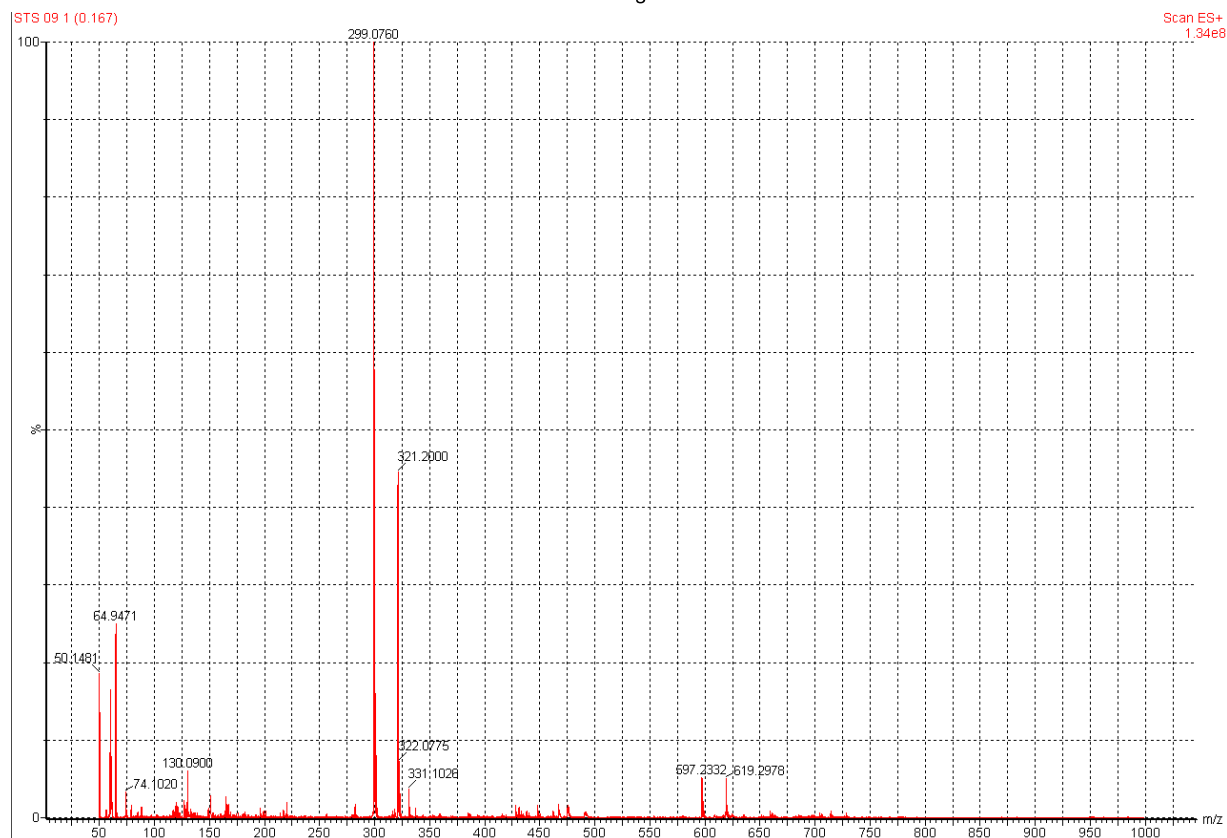


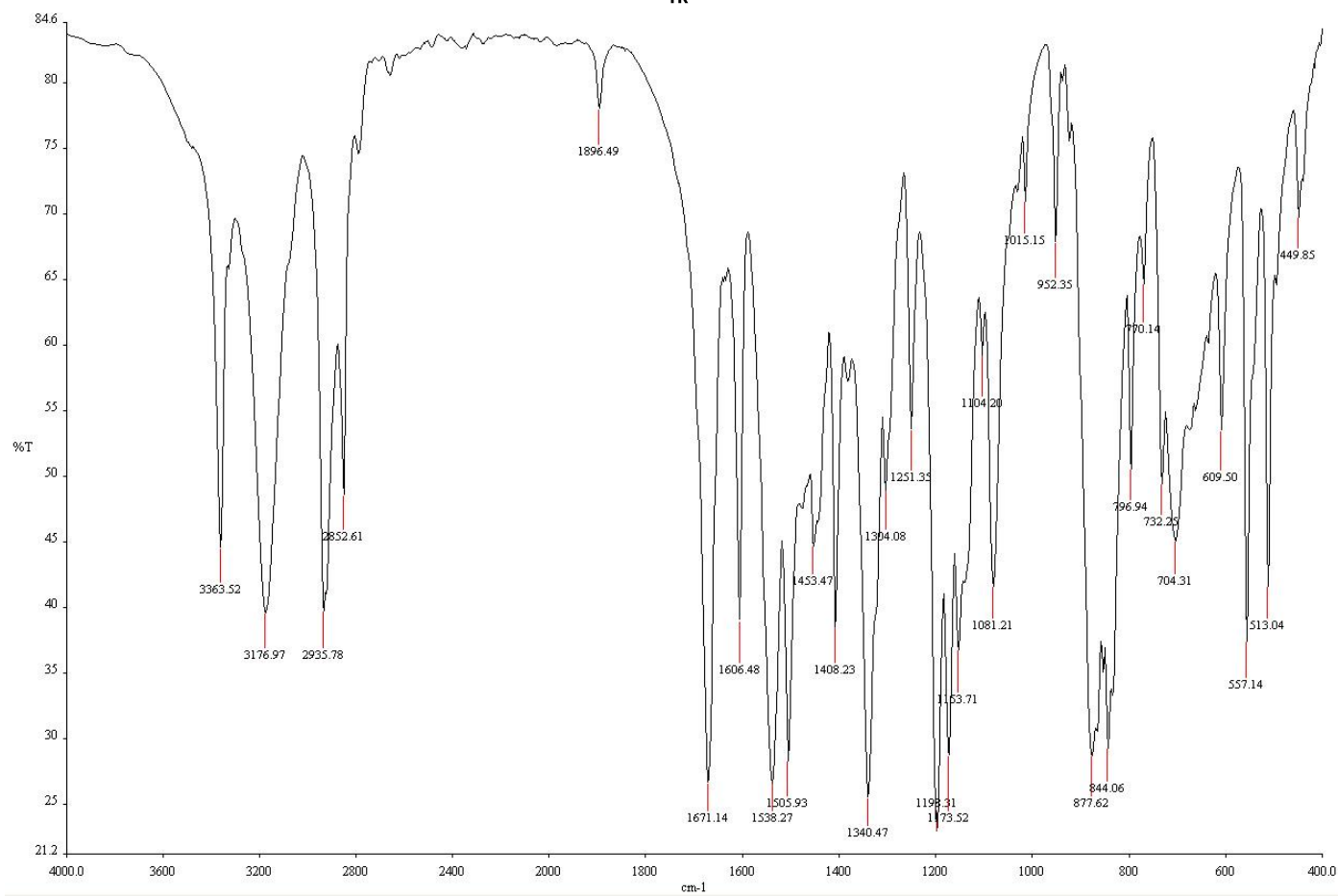
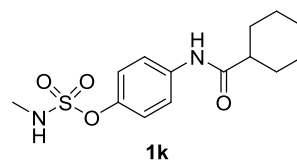
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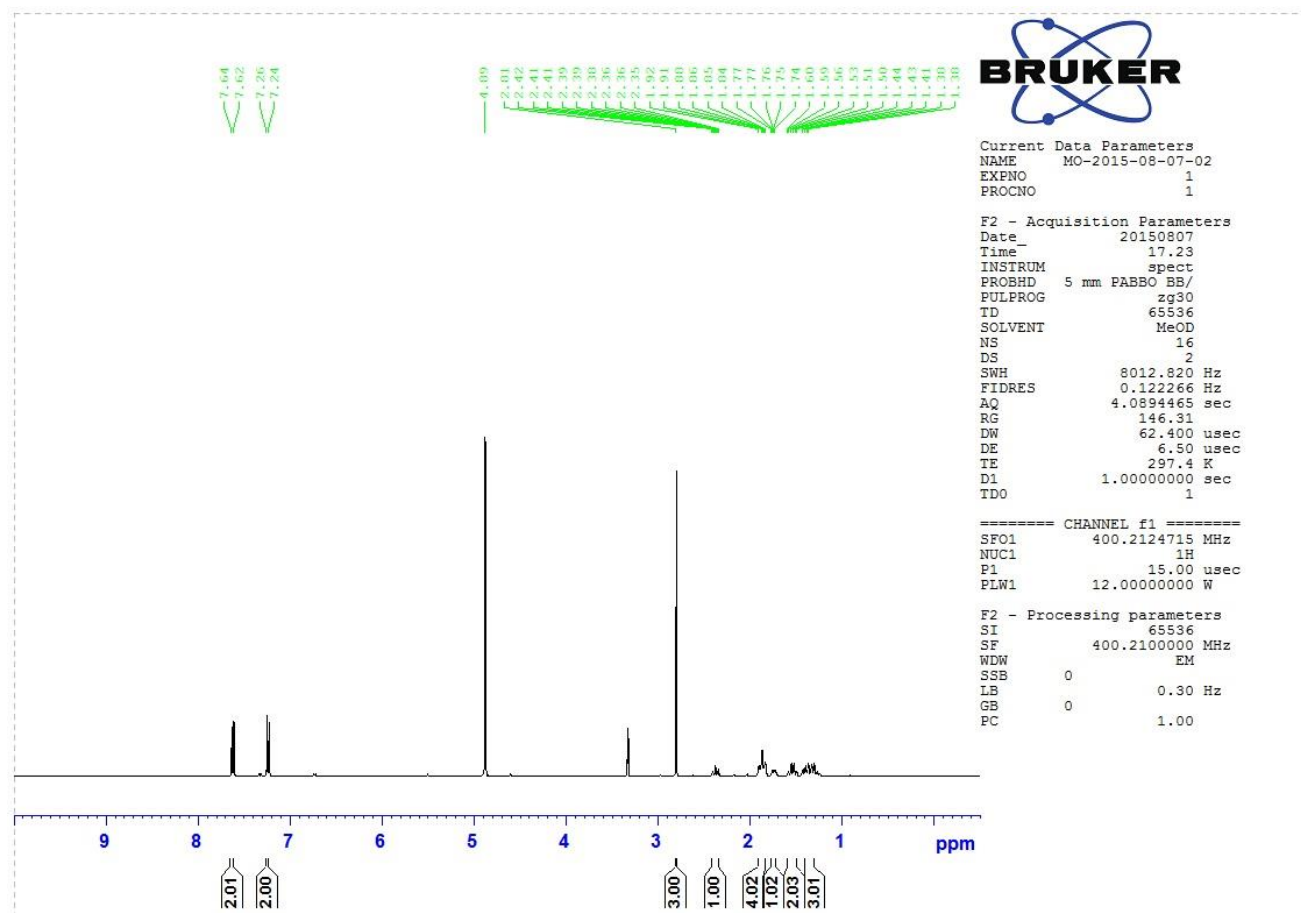
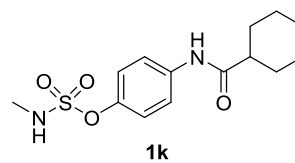
Chemical Formula: $C_{13}H_{18}N_2O_4S$

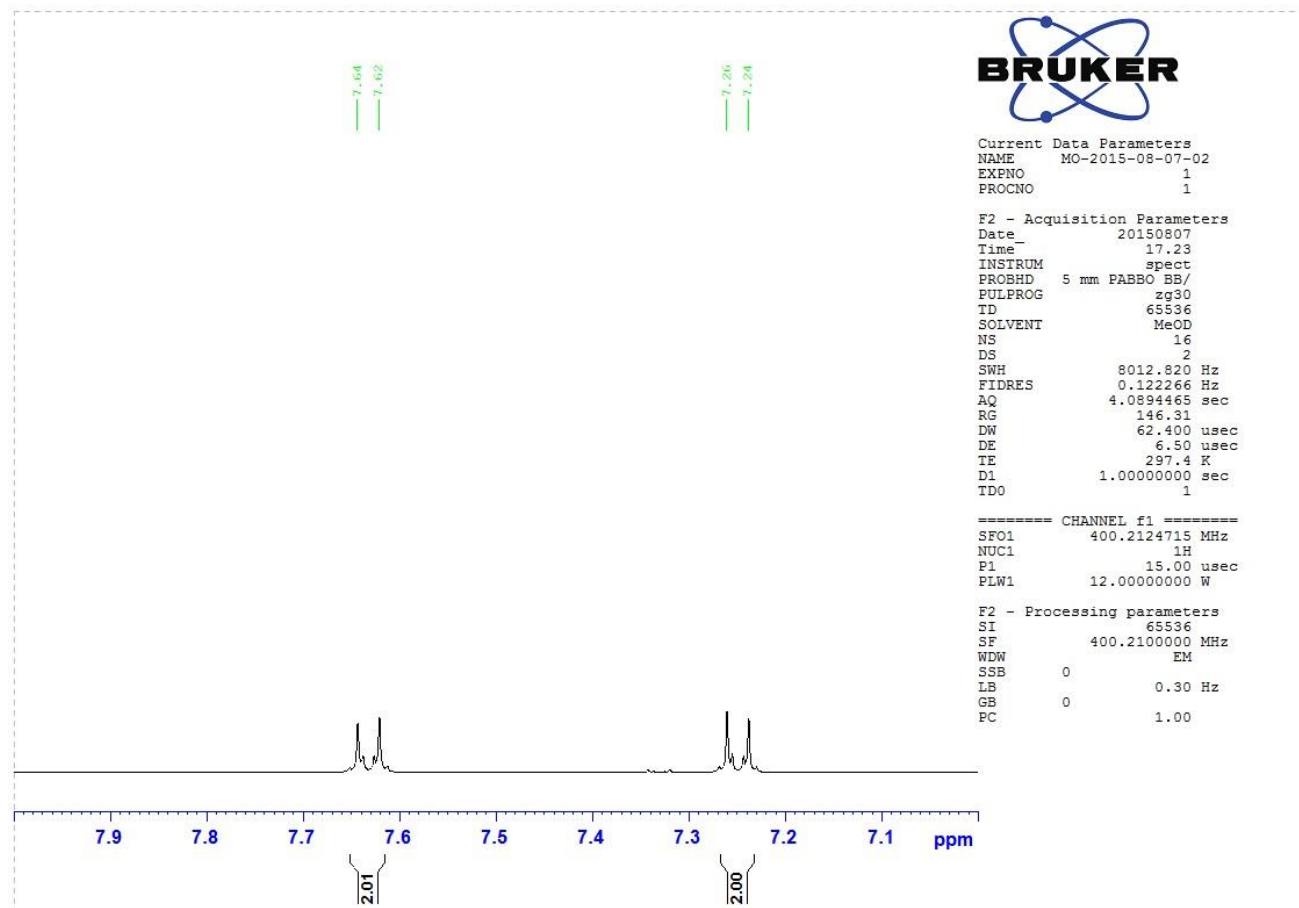
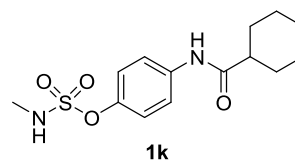
Exact Mass: 298.10

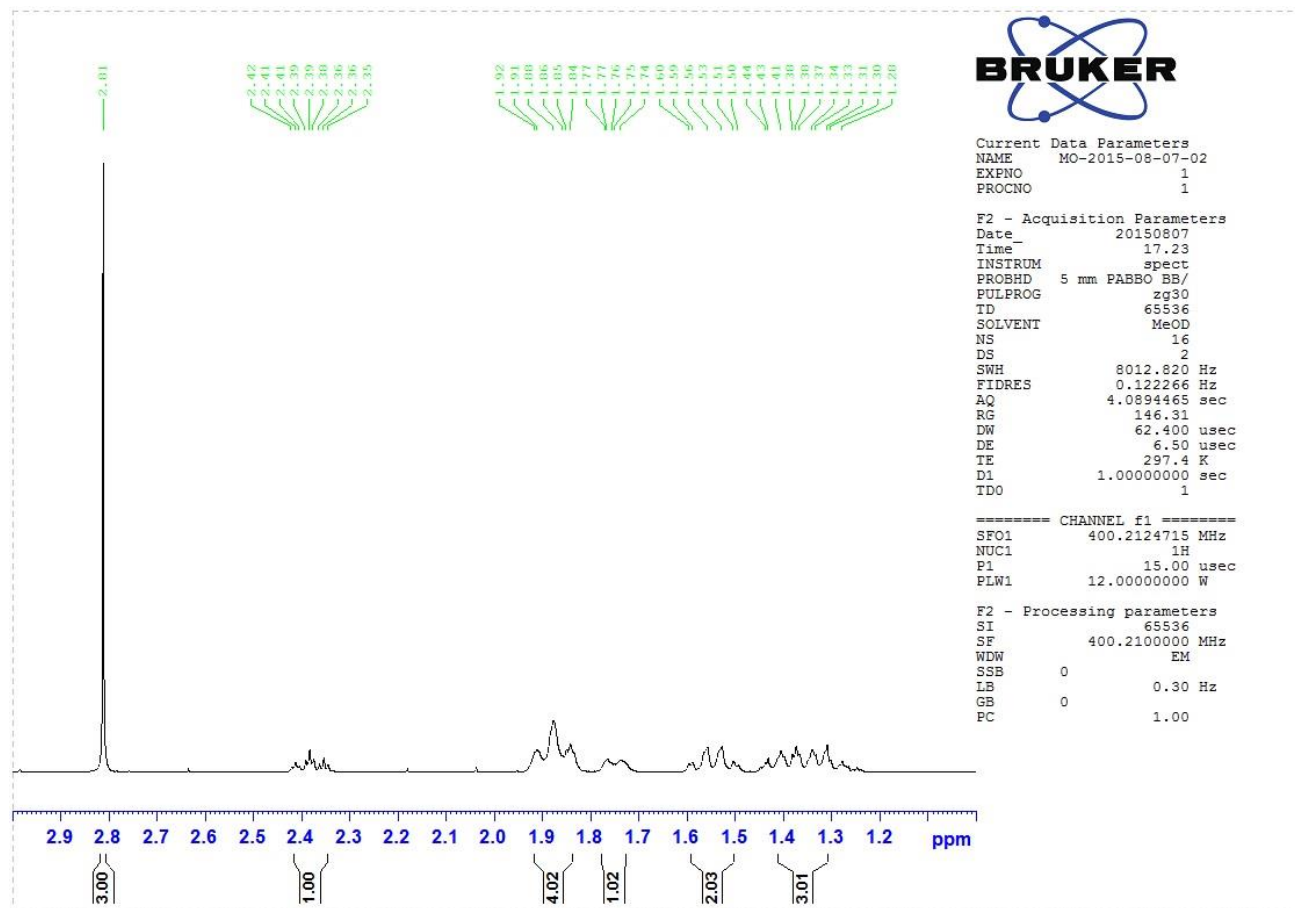
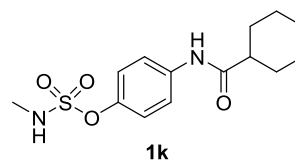
Molecular Weight: 298.36

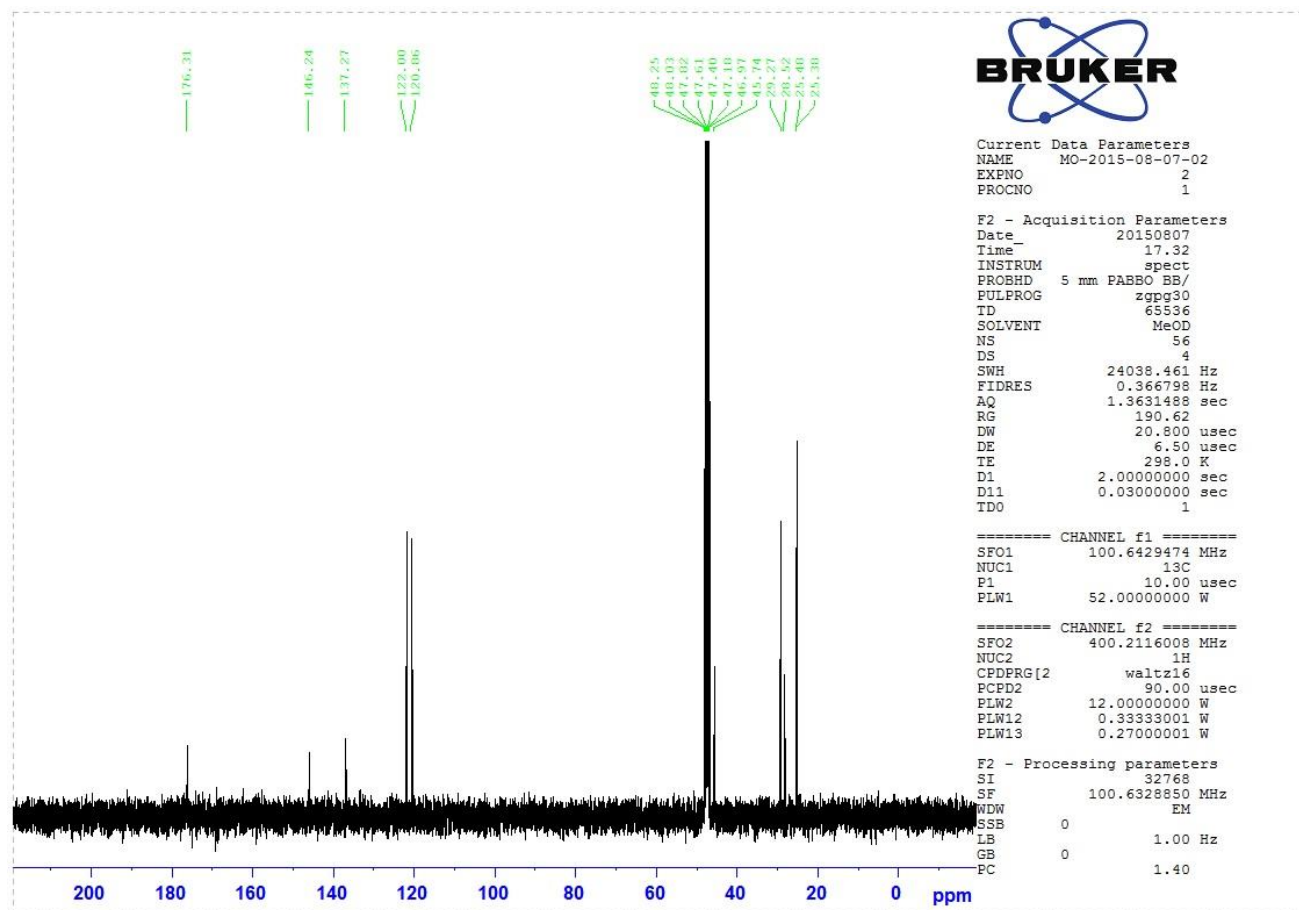
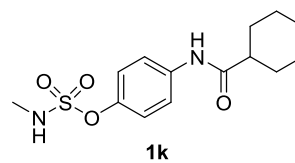


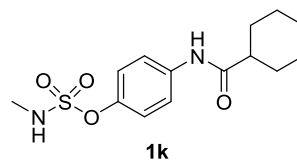








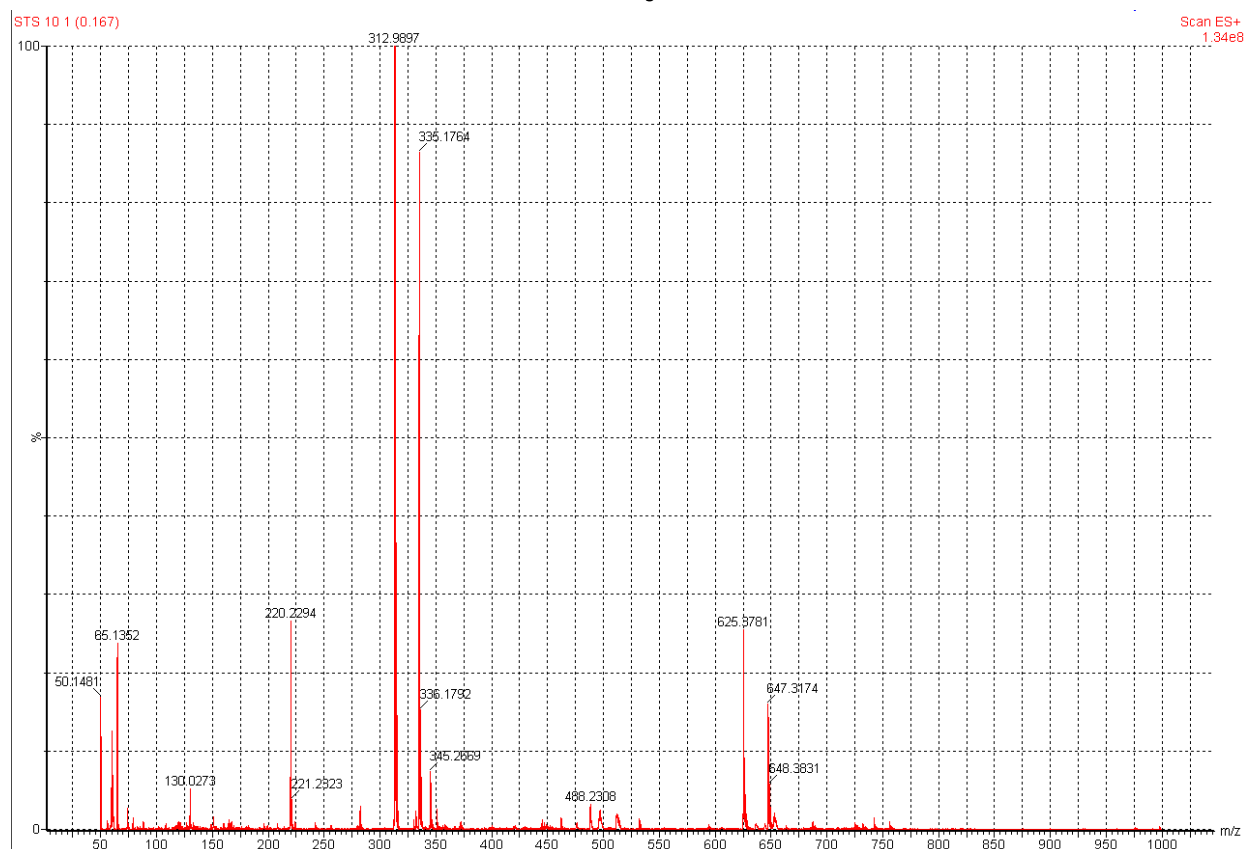


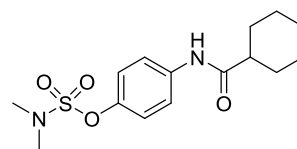


Chemical Formula: C₁₄H₂₀N₂O₄S

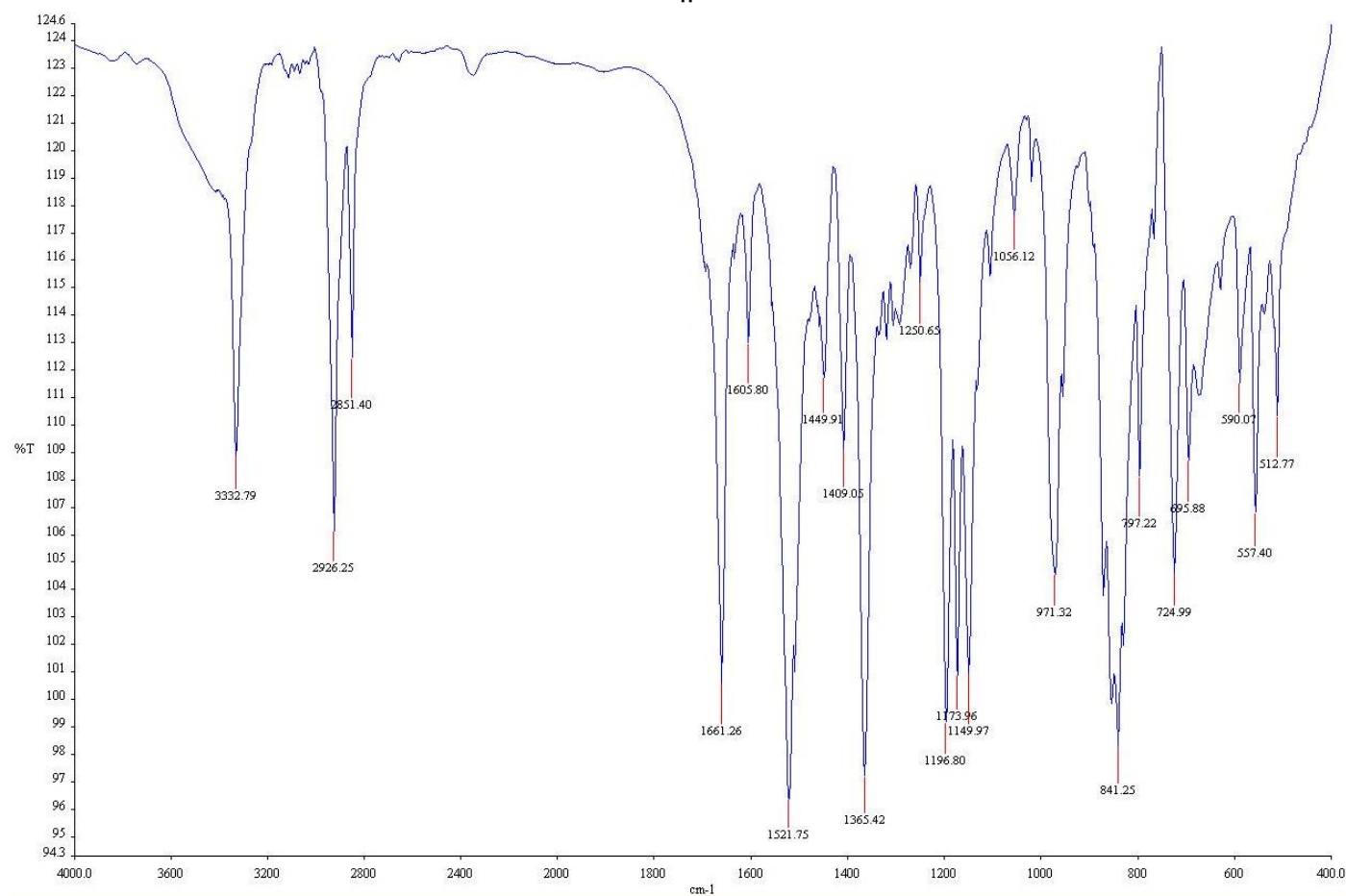
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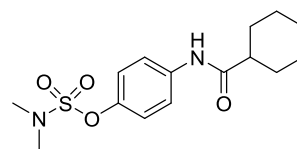
Molecular Weight: 312.38



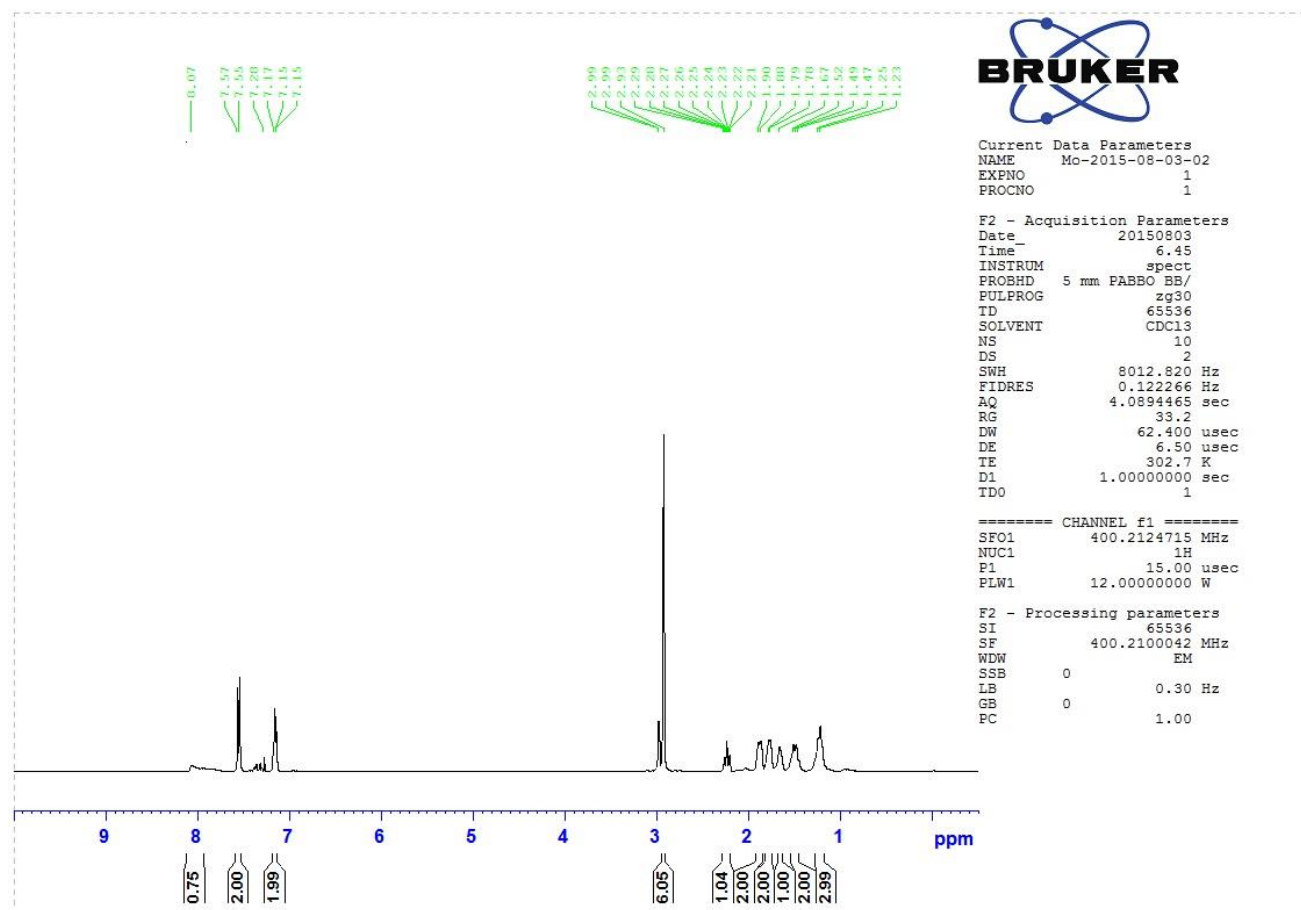


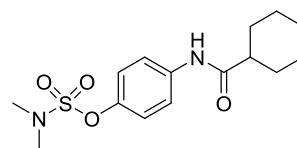
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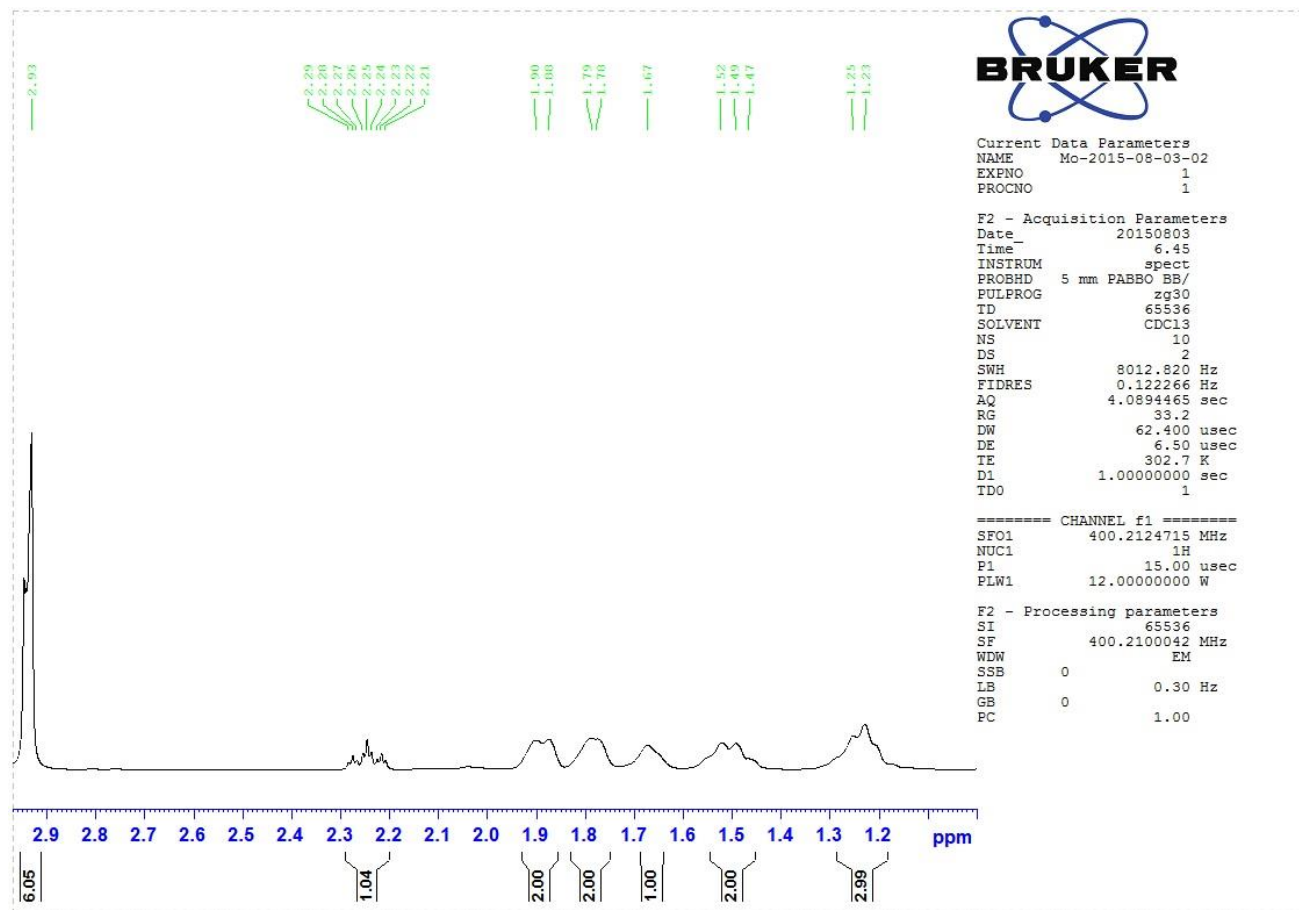


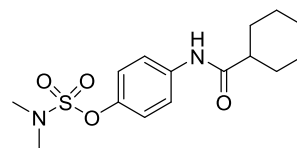
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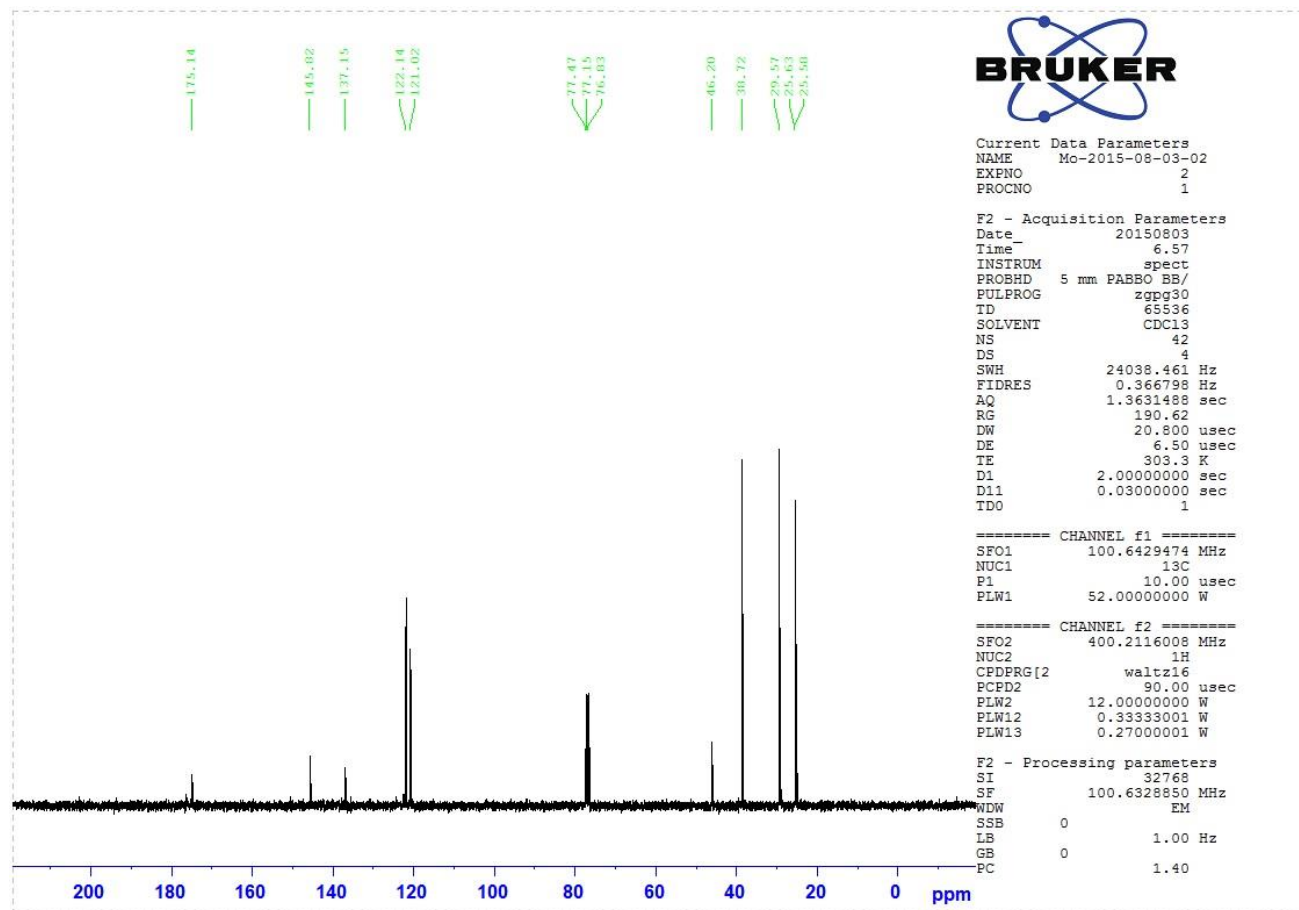


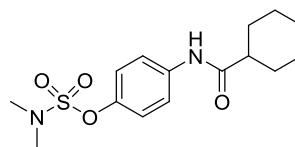
11





11



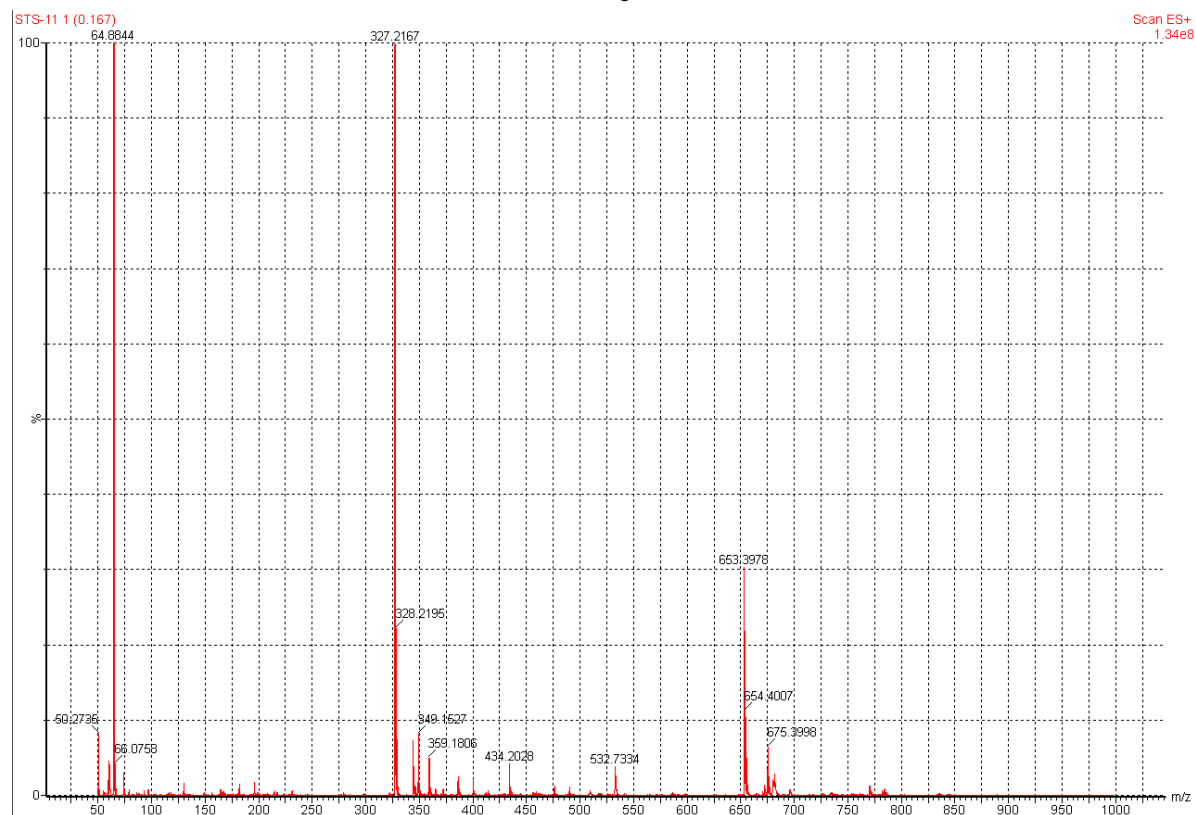


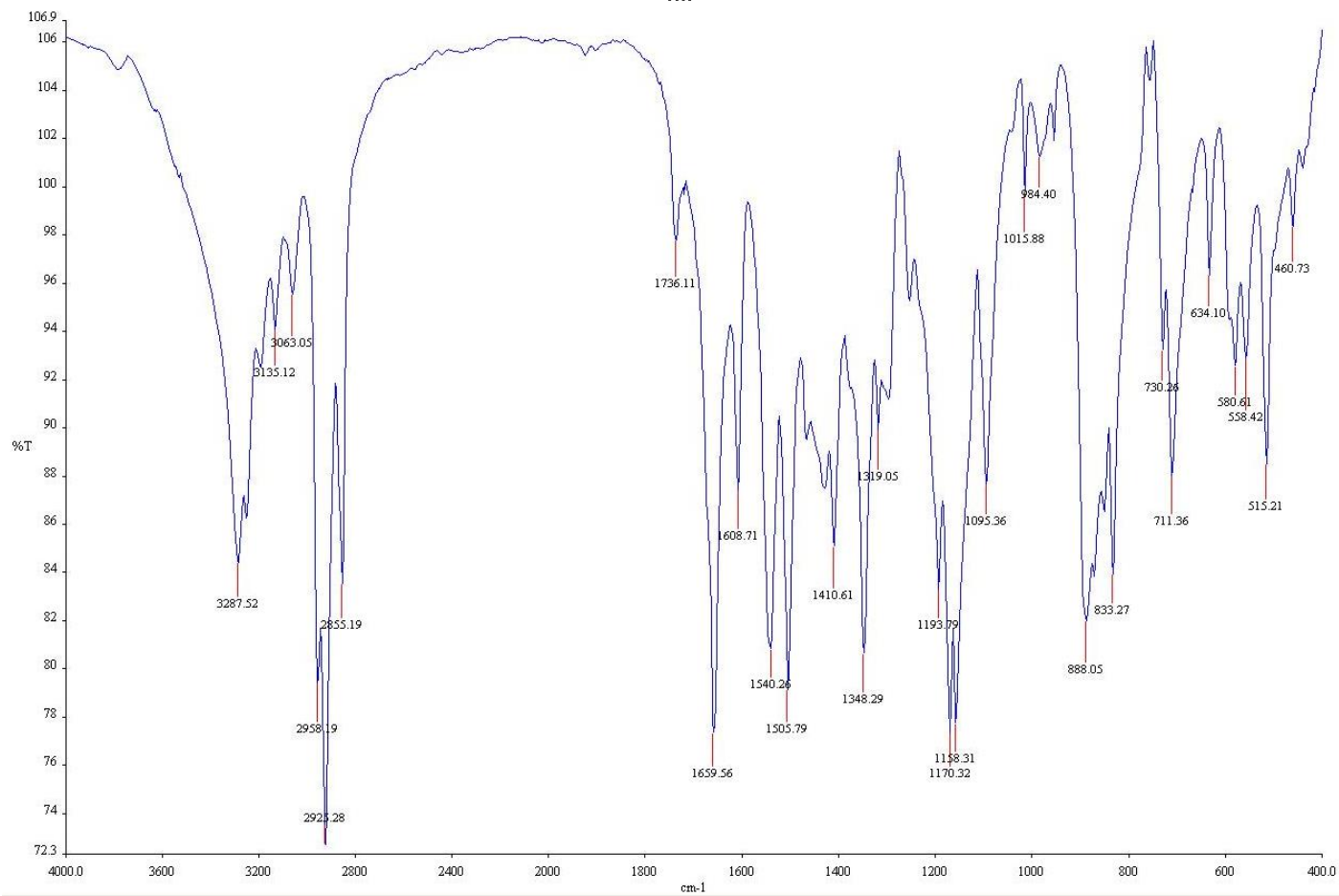
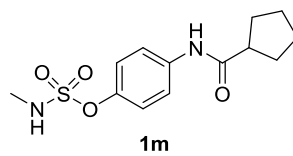
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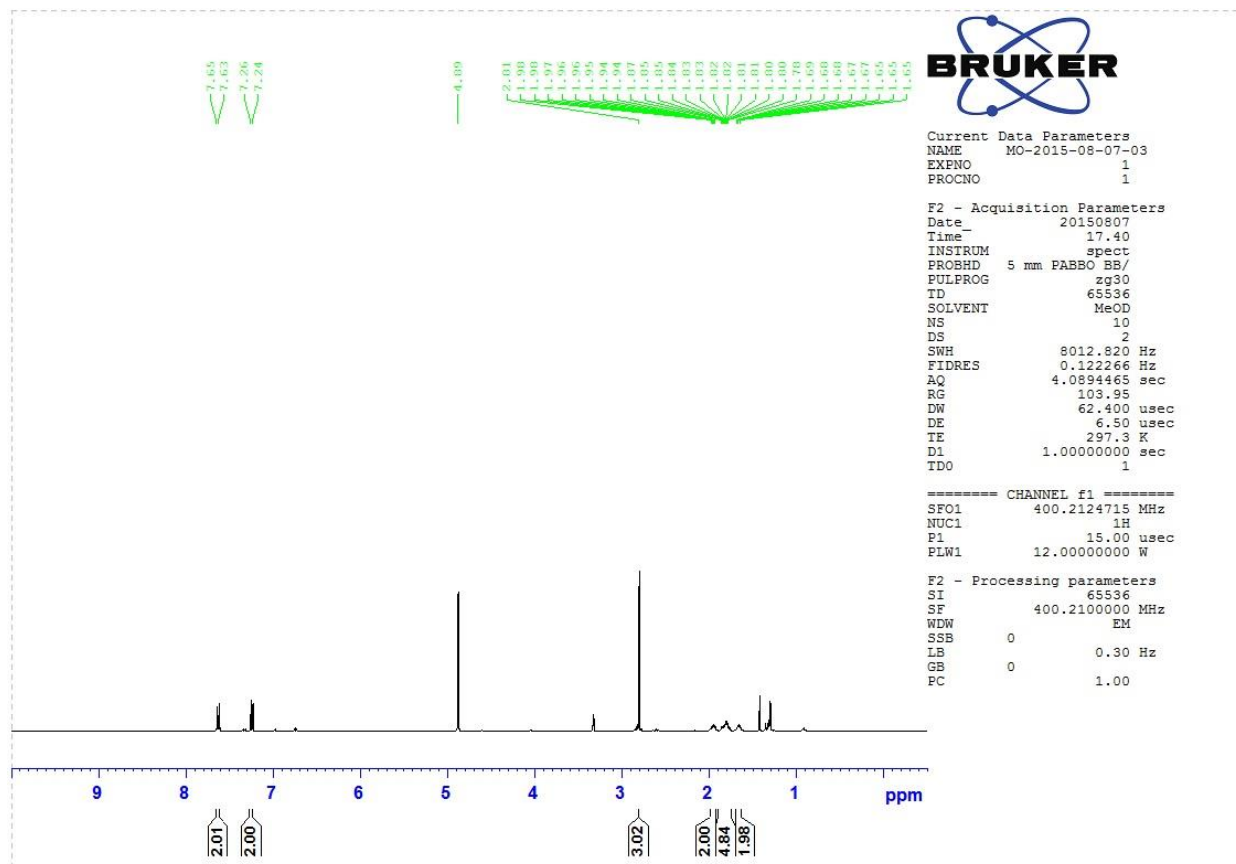
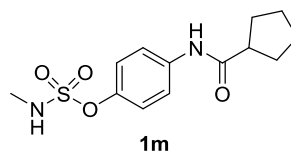
Chemical Formula: $C_{15}H_{22}N_2O_4S$

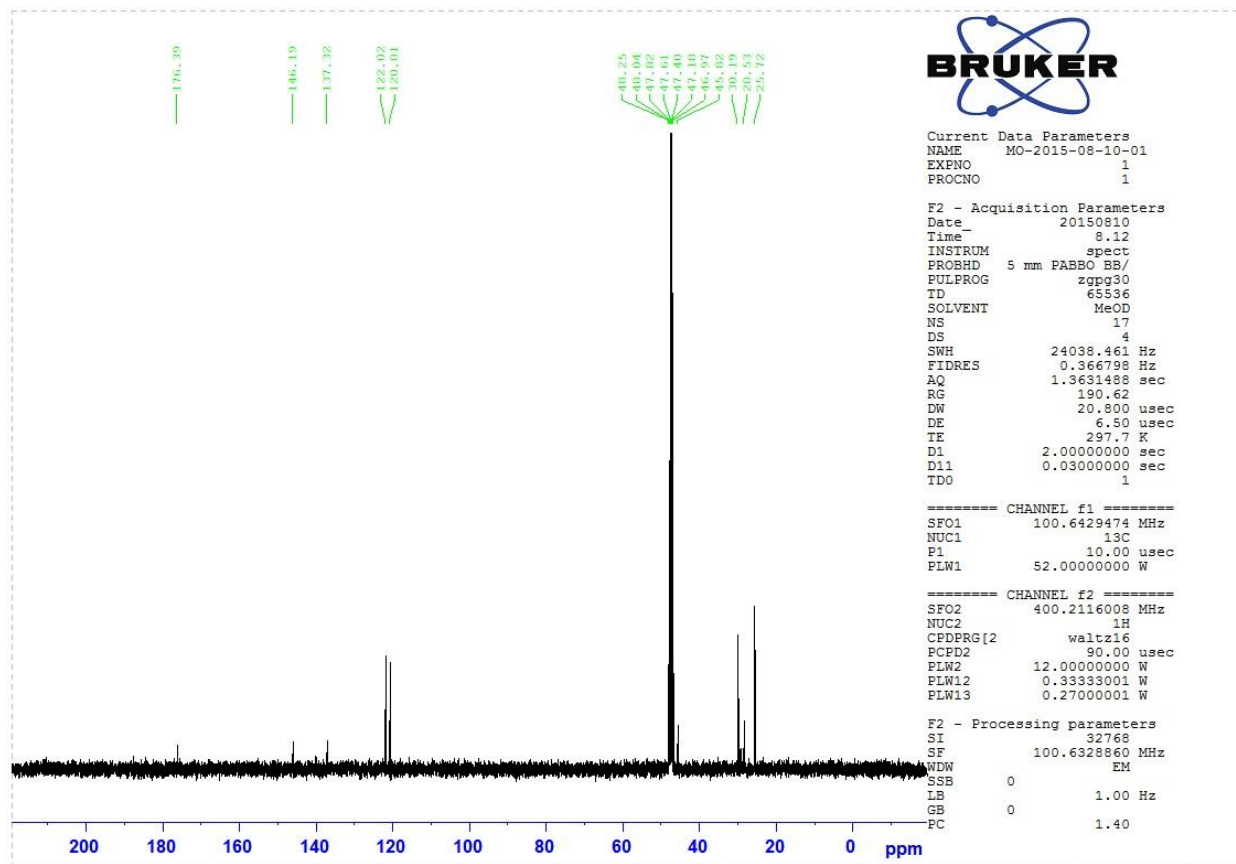
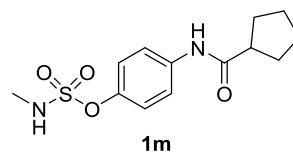
Exact Mass: 326.13

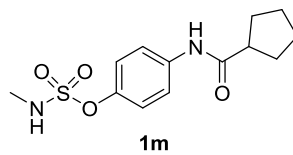
Molecular Weight: 326.41











Chemical Formula: C₁₃H₁₈N₂O₄S

Exact Mass: 298.10

Molecular Weight: 298.36

