

Supplementary Data

Article

“Ultrasound Assisted Synthesis and *In Silico* Modelling of 1,2,4-triazole Coupled Acetamide Derivatives of 2-(4-isobutylphenyl) propanoic acid as Potential Anticancer Agents”

Sadaf Mahmood¹, Samreen Gul Khan^{1,*}, Azhar Rasul², Jørn Bolstad Christensen³, Mohammed A.S Abourehab^{4,*}

¹ Department of Chemistry, Drug Design and Medicinal Chemistry Laboratory, Faculty of Physical Science, Government College University, Faisalabad-38000, Pakistan

² Department of Zoology, Faculty of Life Sciences, Government College University Faisalabad, 38000 Faisalabad, Pakistan.

³ Department of Chemistry, Faculty of Science, University of Copenhagen, Copenhagen Denmark.

⁴ Department of Pharmaceutics College of Pharmacy, Umm Al-Qura University, Makkah 21955, Saudi Arabia

* Correspondence: samreengul@gcuf.edu (S.G.K.); maabourehab@uqu.edu.sa (M.A.S.A.); Tel.: +92-300-427-0077 (S.G.K.).

Table of Contents:

Figure S1: ^1H NMR spectrum of compound 2 (Full spectrum).....	3
Figure S2: ^1H NMR spectrum of compound 3 (Full spectrum).....	3
Figure S3: ^1H NMR spectrum of compound 4 (Full spectrum).....	4
Figure S4: ^1H NMR spectrum of compound 4 (aromatic region).....	4
Figure S5: ^1H NMR spectrum of compound 4 (aliphatic region)	5
Figure S6: ^{13}C NMR spectrum of compound 2	5
Figure S7: ^{13}C NMR spectrum of compound 3	6
Figure S8: ^{13}C NMR spectrum of compound 4	6
Figure S9: ^1H NMR spectrum of compound 6a (Full)	7
Figure S10: ^1H NMR spectrum of compound 6a (aromatic region).....	7
Figure S11: ^1H NMR spectrum of compound 6a (aliphatic region)	8
Figure S12: ^{13}C NMR spectrum of compound 6a (Full spectrum)	8
Figure S13: ^1H NMR spectrum of compound 6b (Full spectrum)	9
Figure S14: COSY- ^1H NMR spectrum of compound 6b	9
Figure S15: ^{13}C NMR spectrum of compound 6b (Full spectrum)	10
Figure S16: ^1H NMR spectrum of compound 6c (Full spectrum).....	10
Figure S17: ^1H NMR spectrum of compound 6c (aromatic region)	11
Figure S18: COSY- ^1H NMR spectrum of compound 6c	11
Figure S19: ^{13}C NMR spectrum of compound 6c (Full spectrum)	12
Figure S20: ^1H NMR spectrum of compound 6d (Full spectrum)	12
Figure S21: COSY ^1H NMR spectrum of compound 6d	13
Figure S22: ^{13}C NMR spectrum of compound 6d (Full spectrum)	13
Figure S23: ^1H NMR spectrum of compound 6e (Full)	14
Figure S24: COSY ^1H NMR spectrum of compound 6e	14
Figure S25: ^{13}C NMR spectrum of compound 6e (Full spectrum).....	15
Figure S26: ^1H NMR spectrum of compound 6f (Full Spectrum)	15
Figure S27: COSY ^1H NMR spectrum of compound 6f	16
Figure S28: ^{13}C NMR spectrum of compound 6f	16
Figure S29: Mass spectrum of compound 6a	17
Figure S30: Mass spectrum of compound 6b	18
Figure S31: Mass spectrum of compound 6c	19
Figure S32: Mas spectrum of compound 6d	20
Figure S33: Mass spectrum of compound 6e	21
Figure S34: Mass spectrum of compound 6f	22

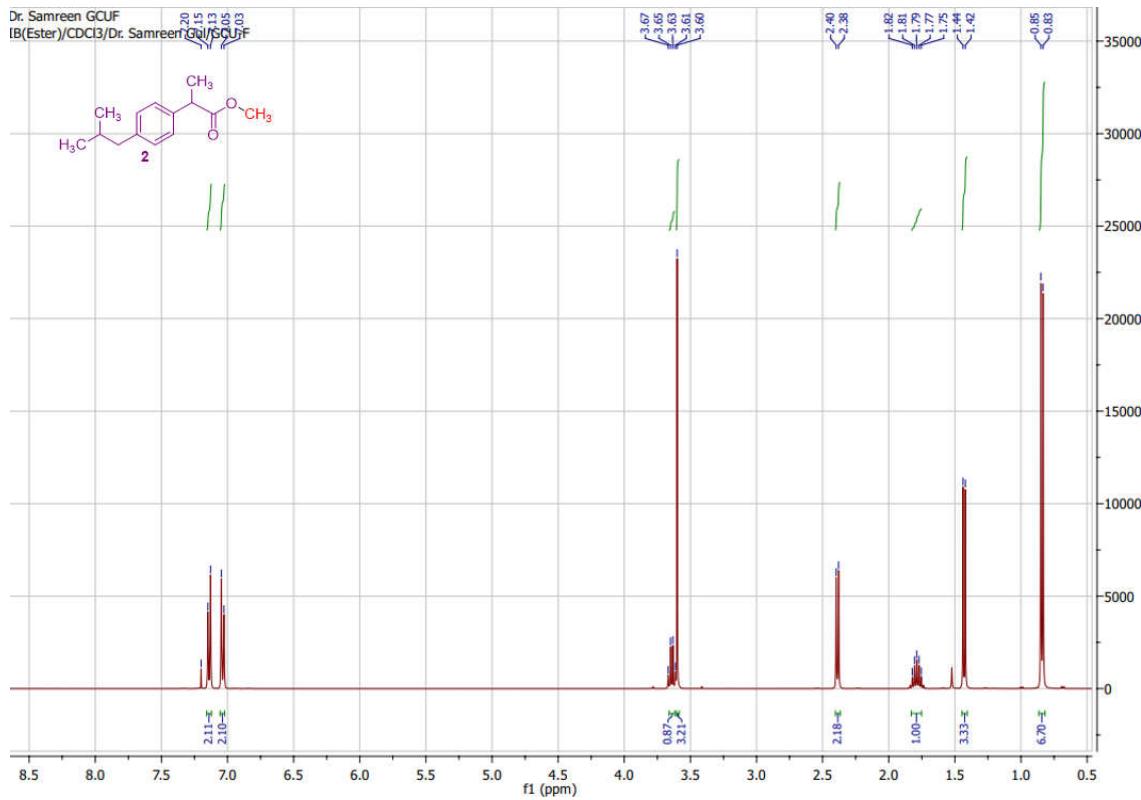


Figure S1: ¹H NMR spectrum of compound 2 (Full)

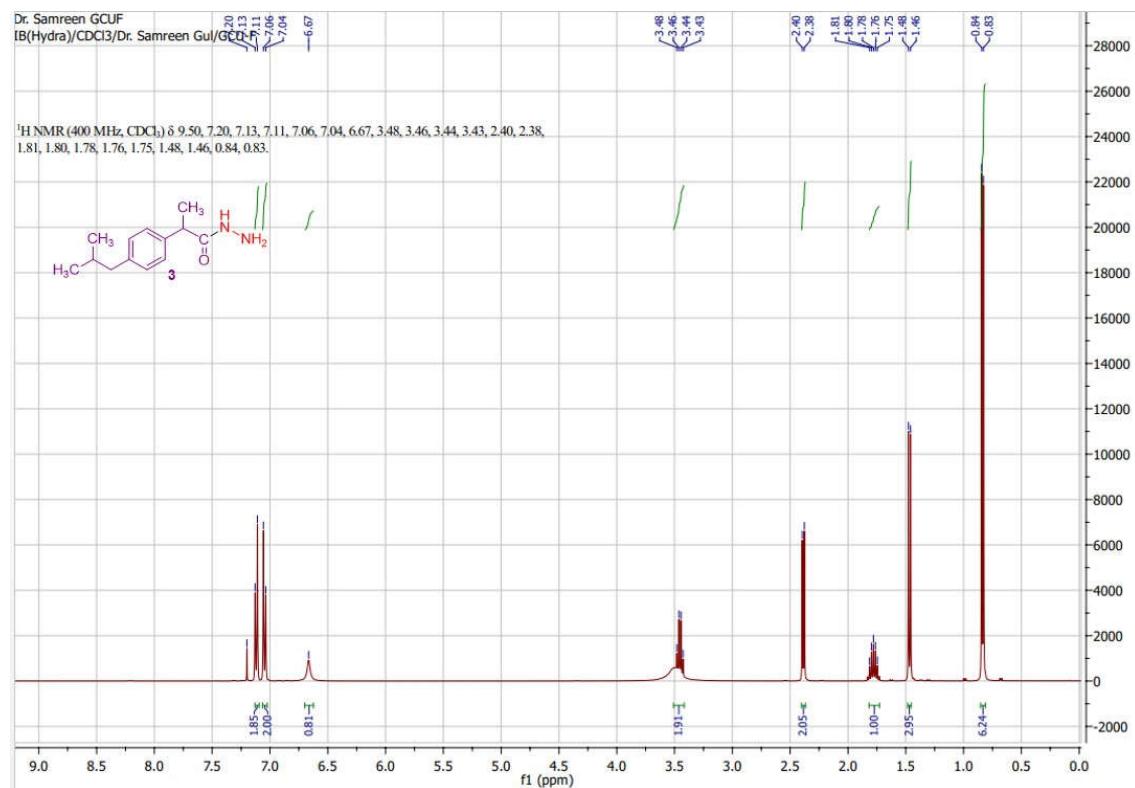


Figure S2: ¹H NMR spectrum of compound 3 (Full)

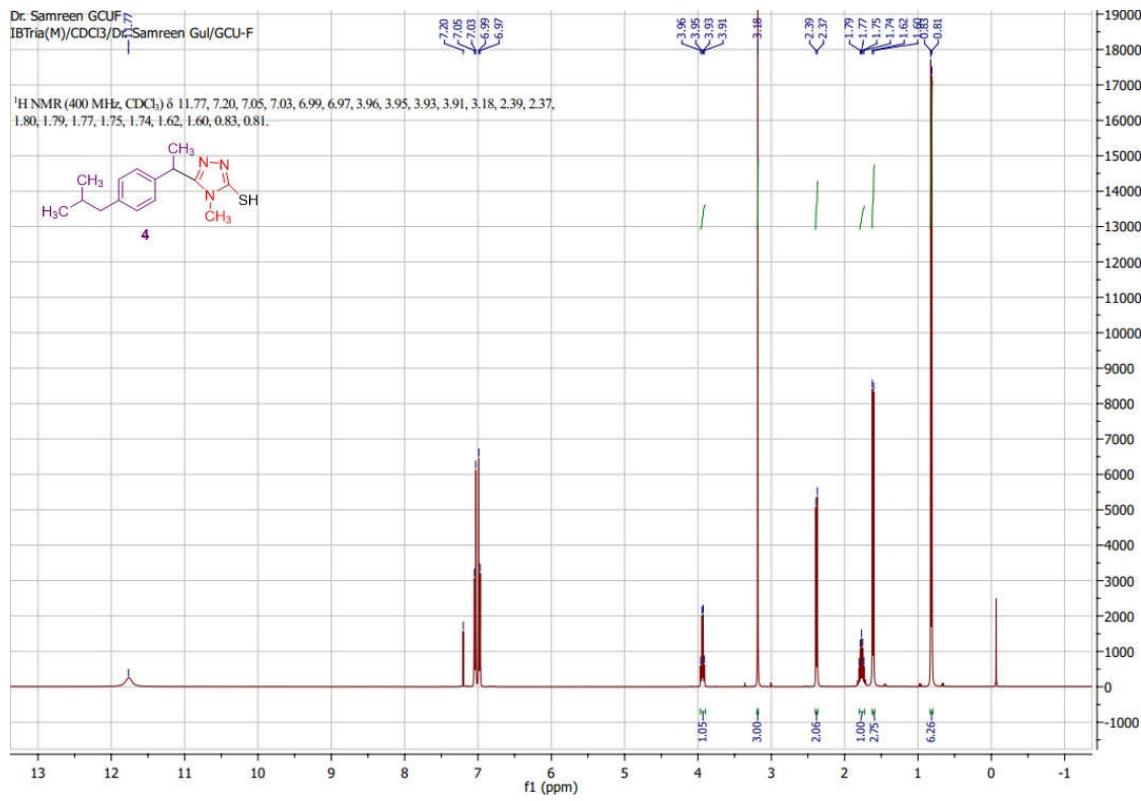


Figure S3: ¹H NMR spectrum of compound 4(Full)

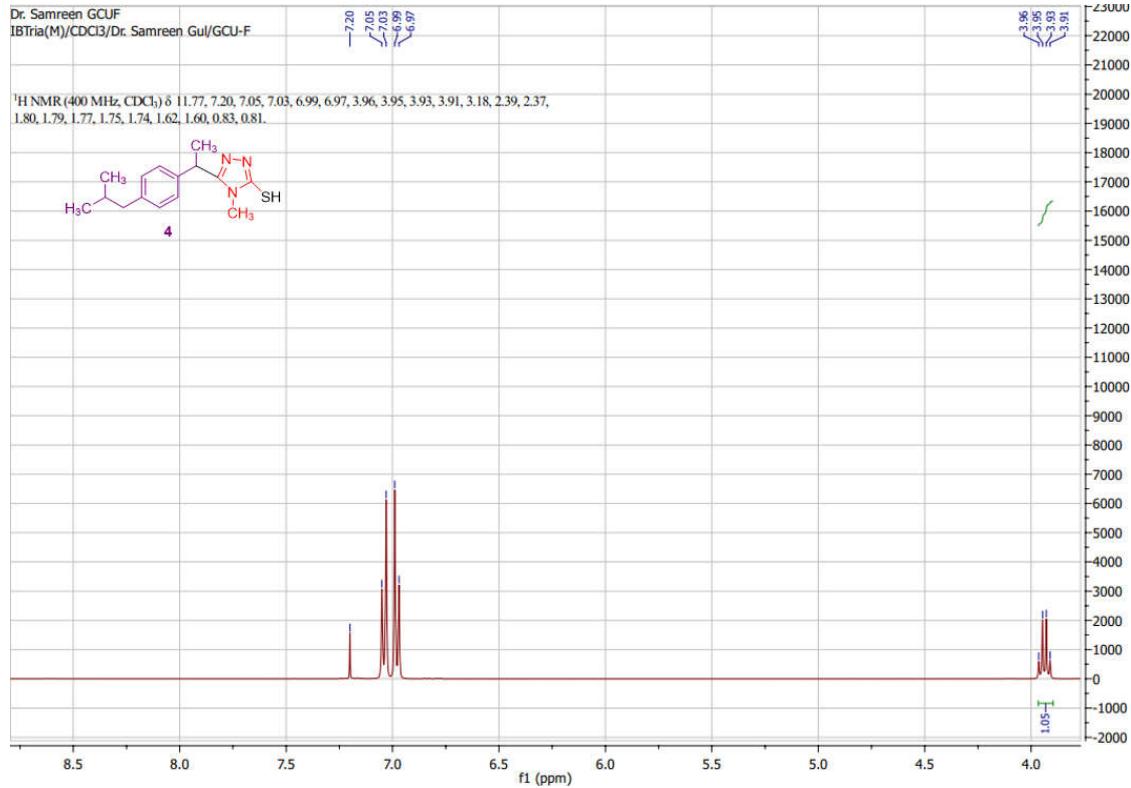


Figure S4. ¹H NMR spectrum of compound 4 (aromatic region)

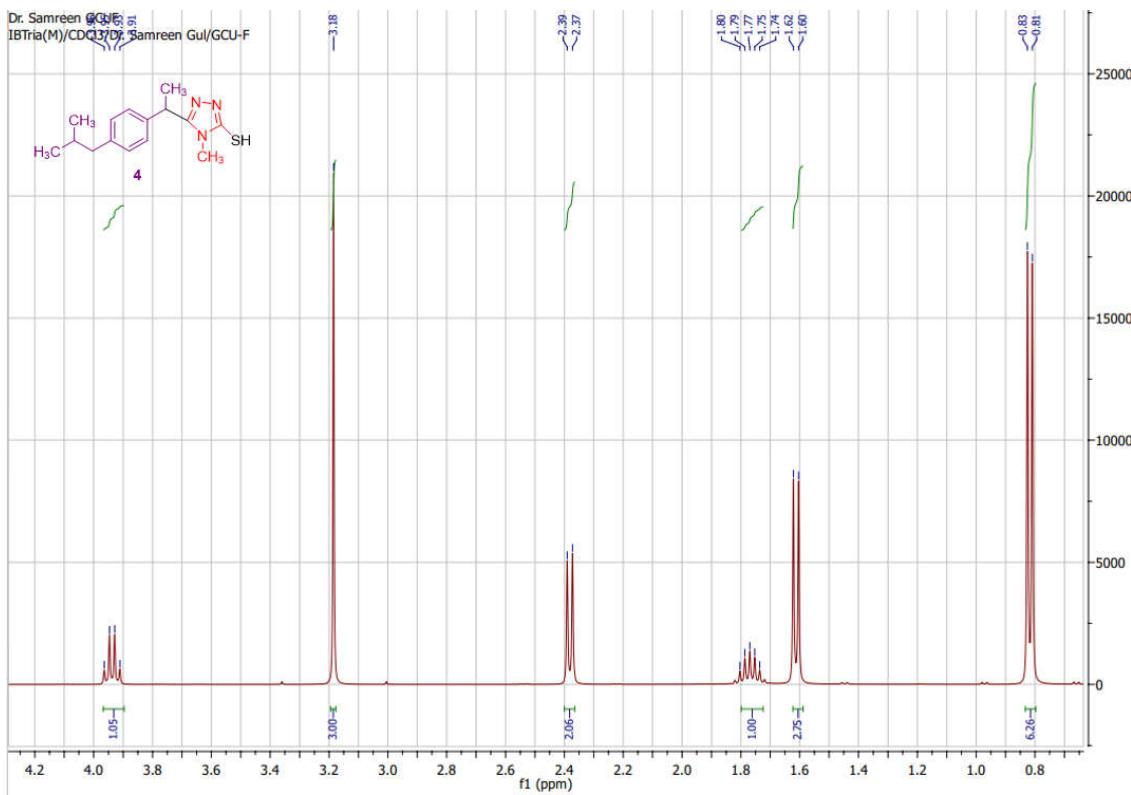


Figure S5. ^1H NMR spectrum of compound **4** (aliphatic region)

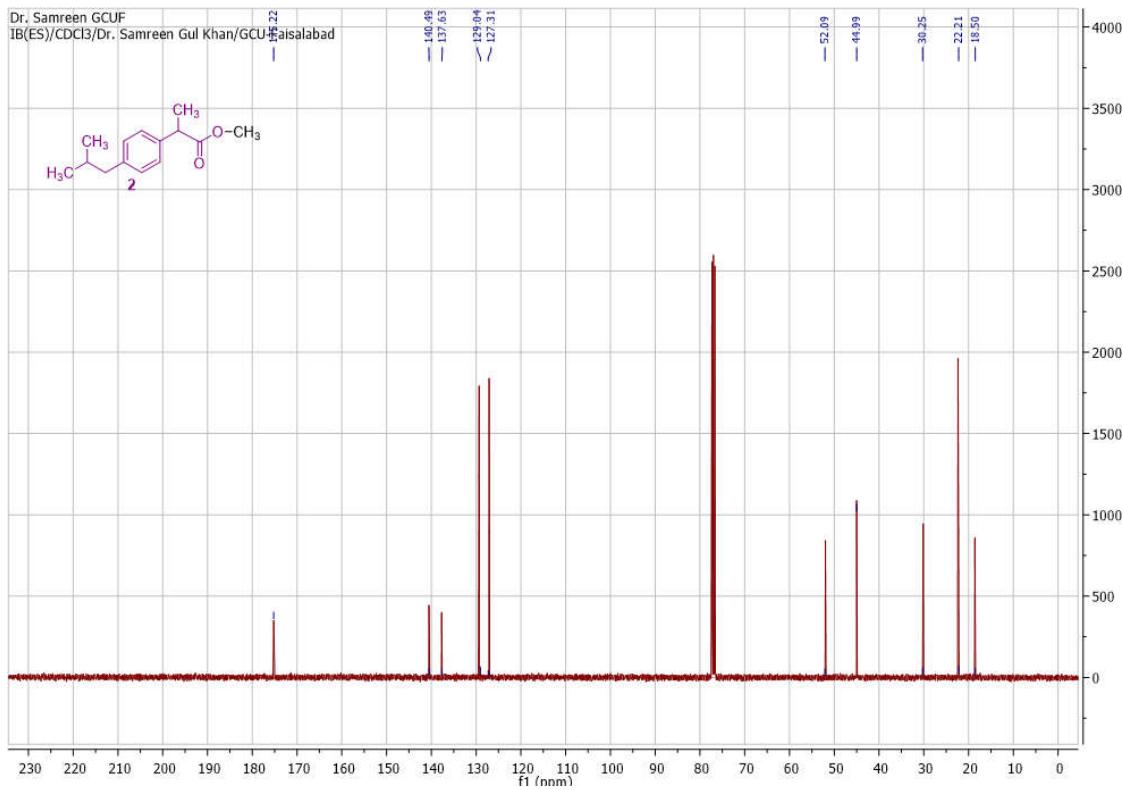


Figure S6. ^{13}C NMR spectrum of compound 2

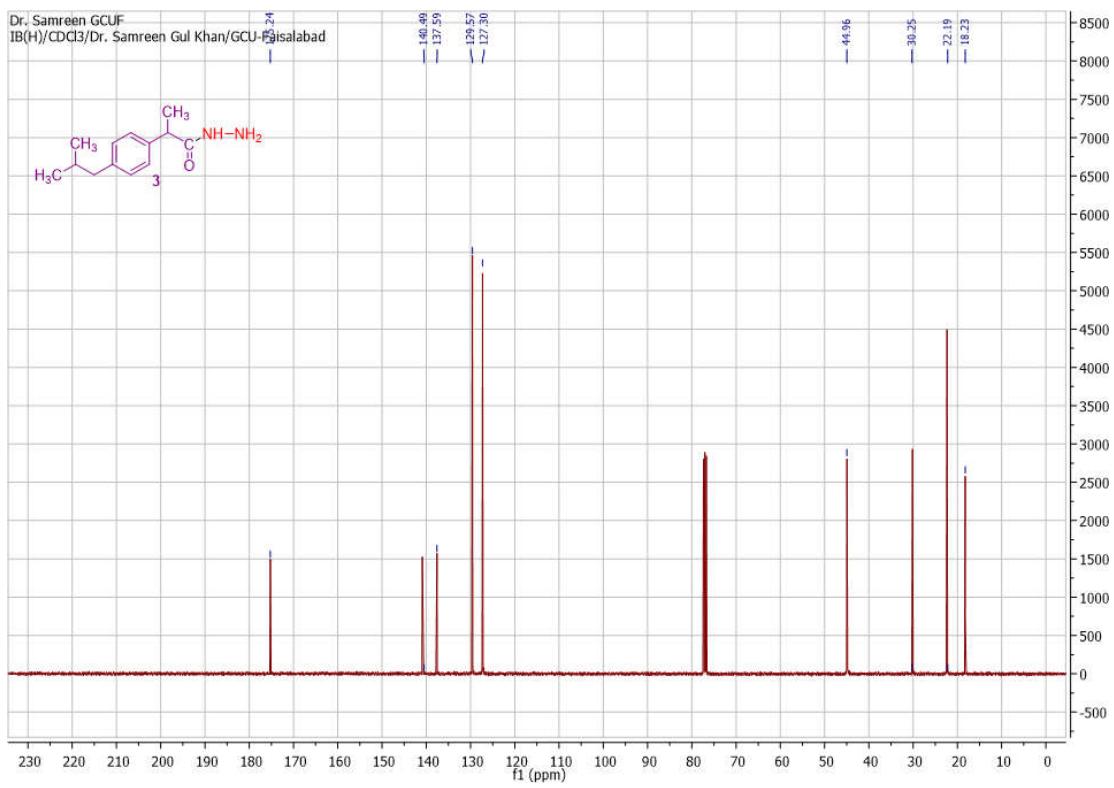


Figure S7. ¹³C NMR spectrum of compound 3

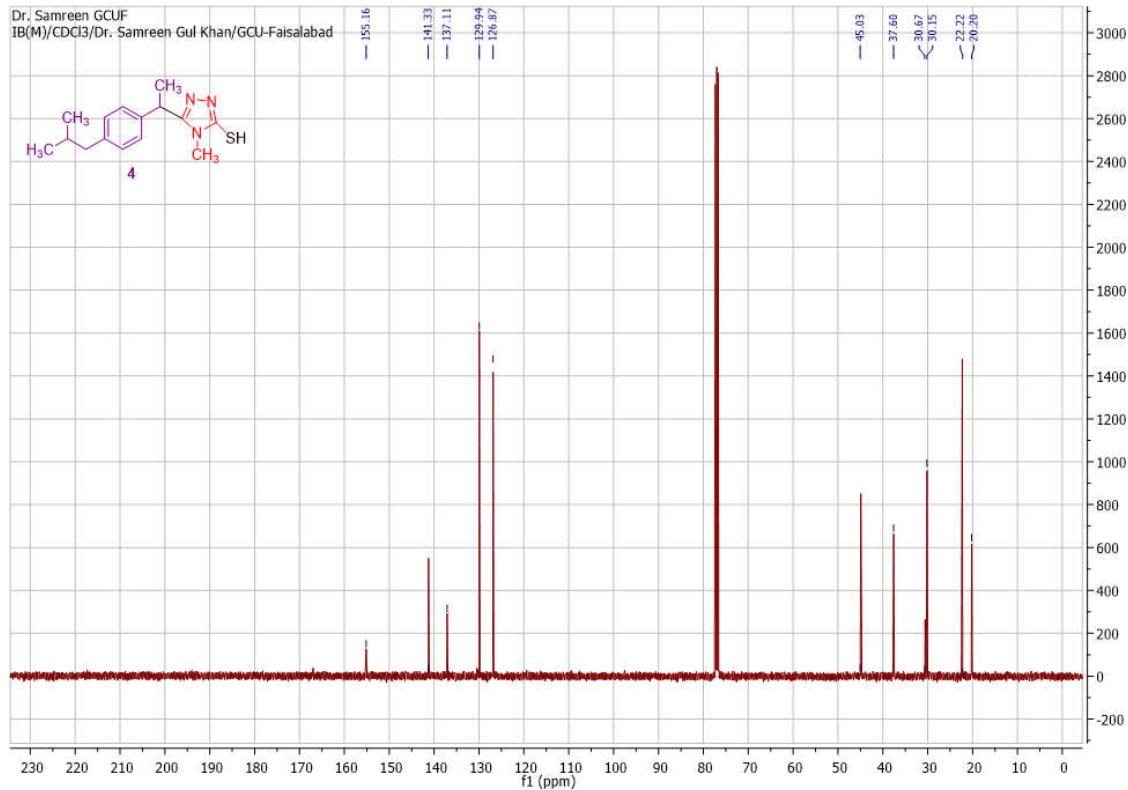


Figure S8. ¹³C NMR spectrum of compound 4

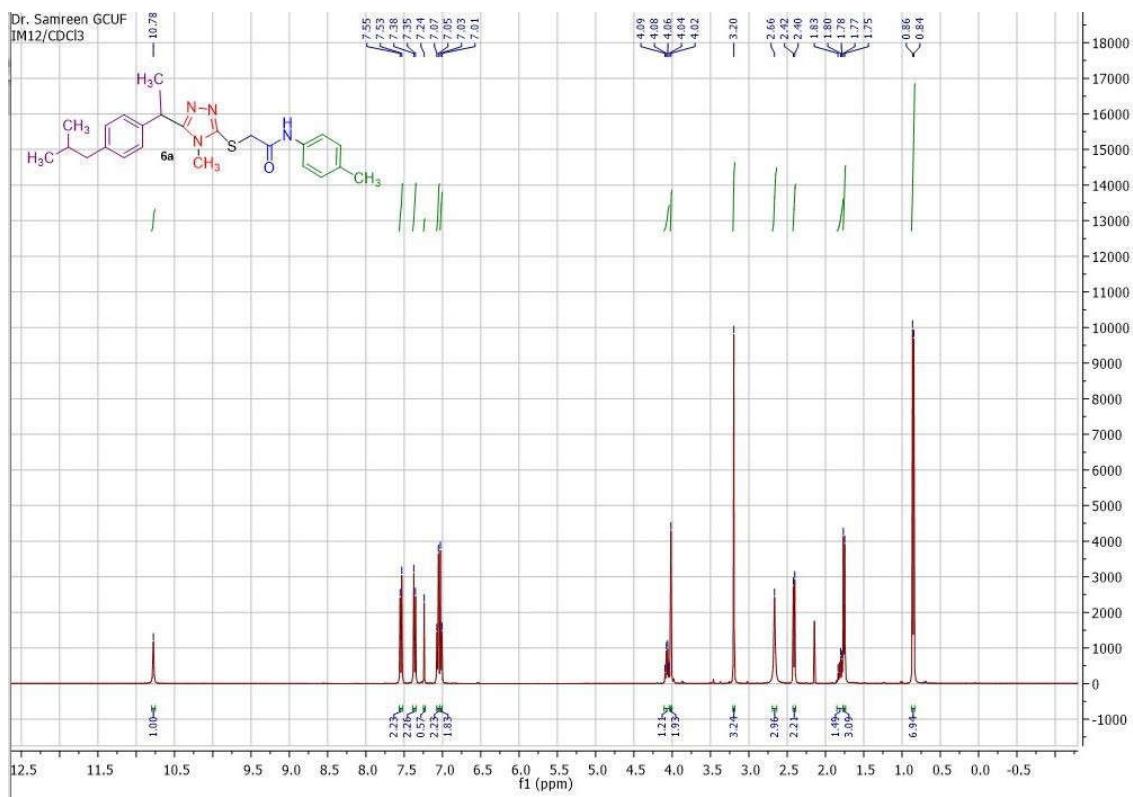


Figure S9: ¹H NMR spectrum of compound 6a (Full)

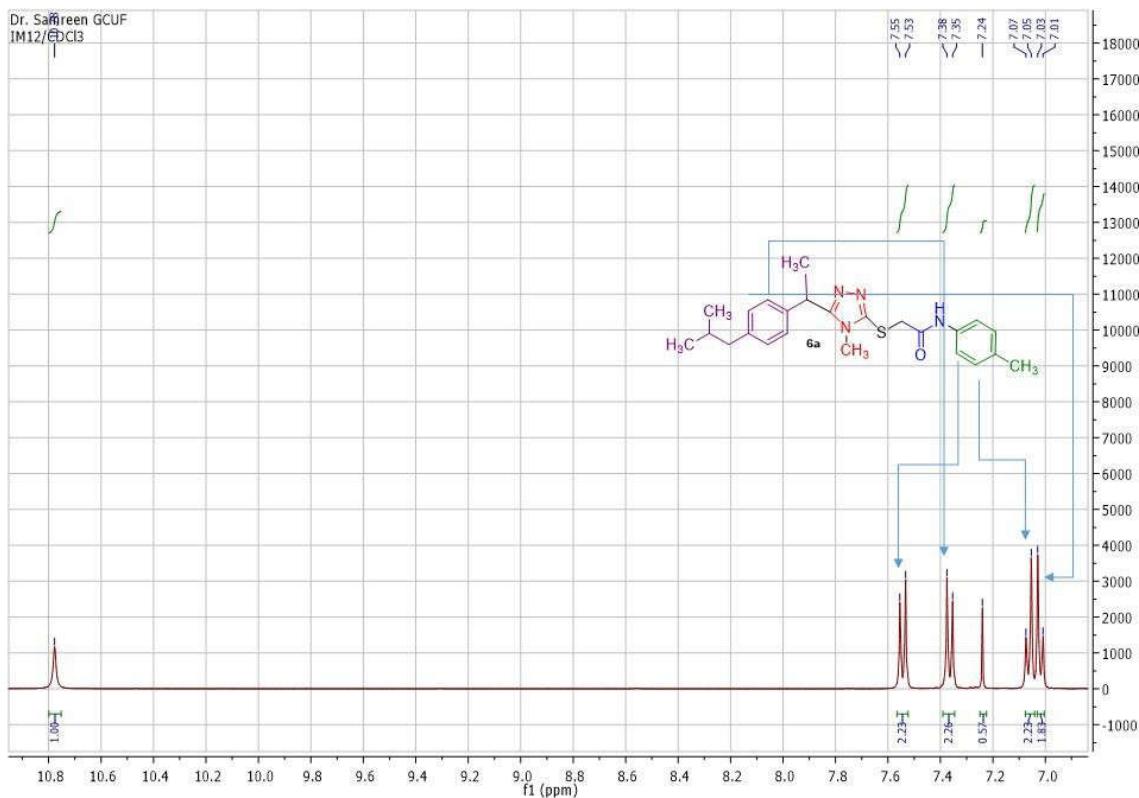


Figure S10. ¹H NMR spectrum of compound 6a (aromatic region)

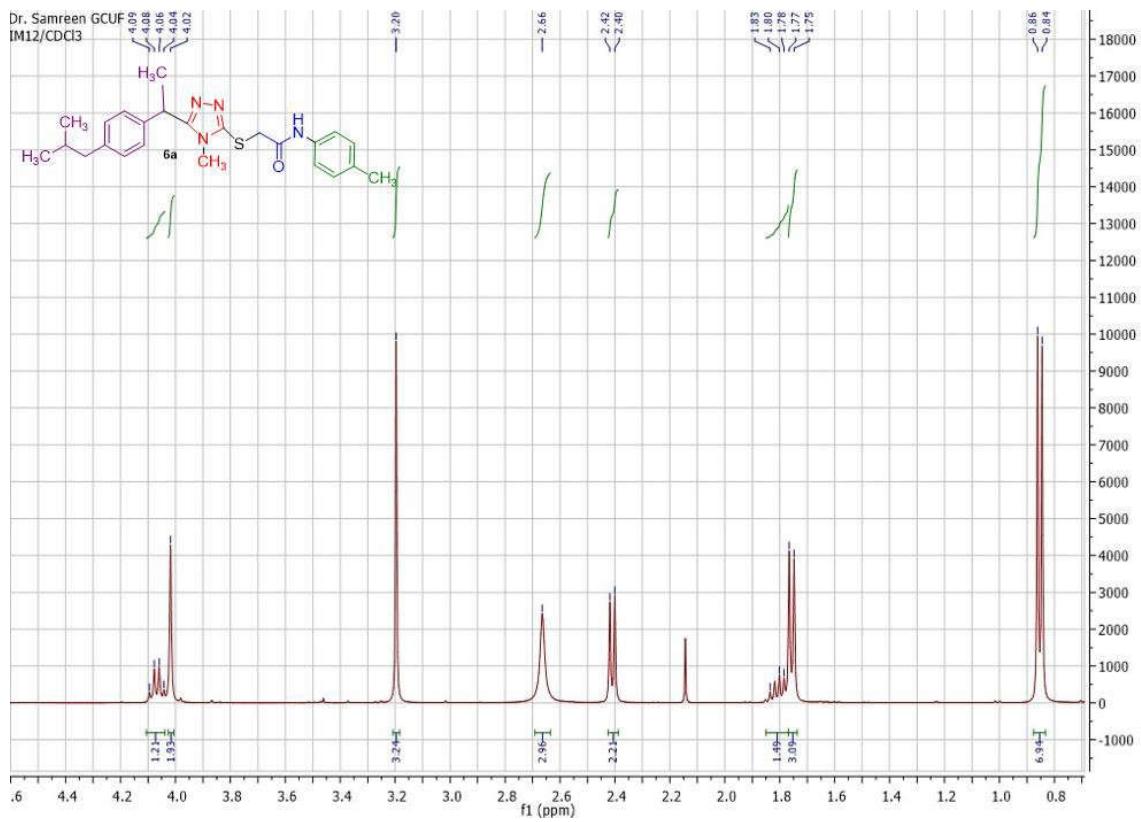


Figure S11. ¹H NMR spectrum of compound 6a (aliphatic region)

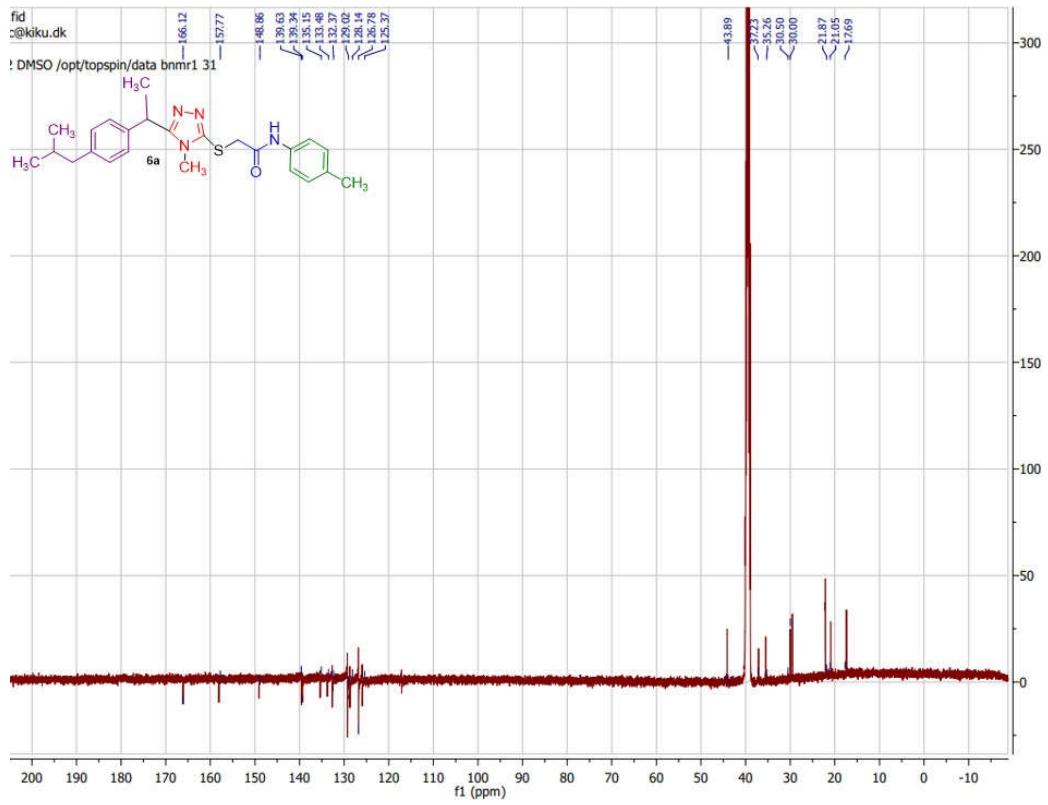


Figure S12. ¹³C NMR spectrum of compound 6a (Full spectrum)

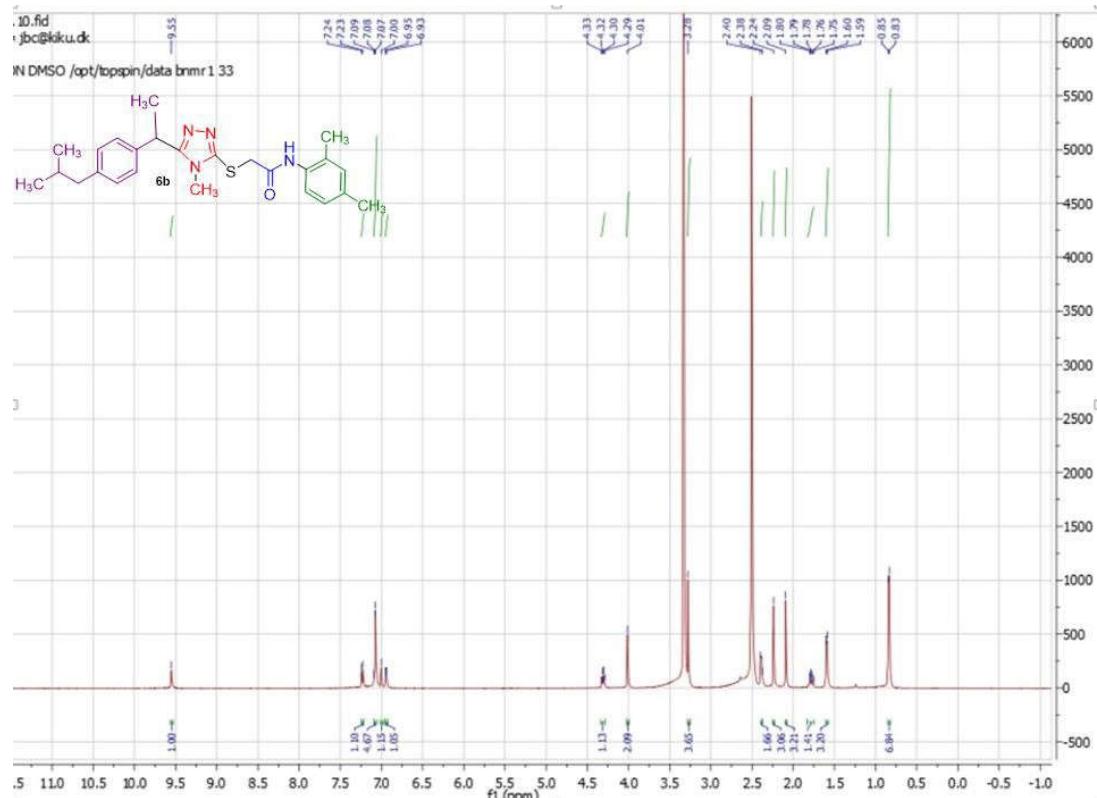


Figure S13. ^1H NMR spectrum of compound **6b** (Full spectrum)

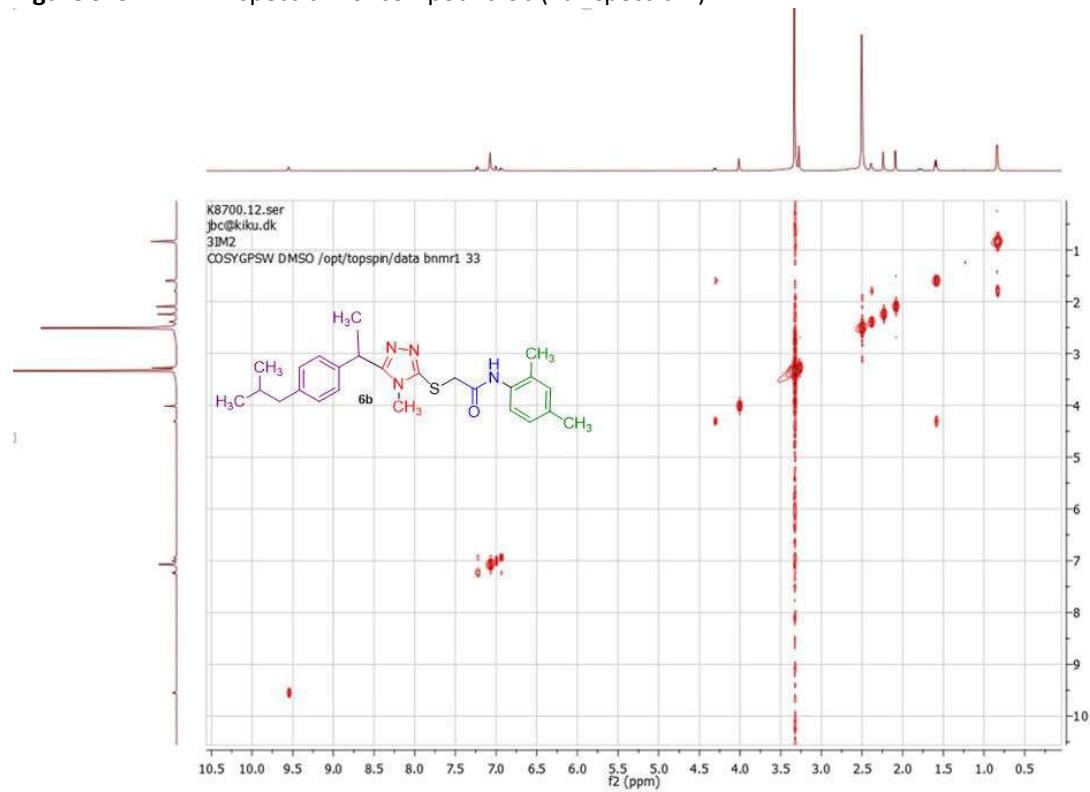


Figure S14. COSY- ^1H NMR spectrum of compound **6b**

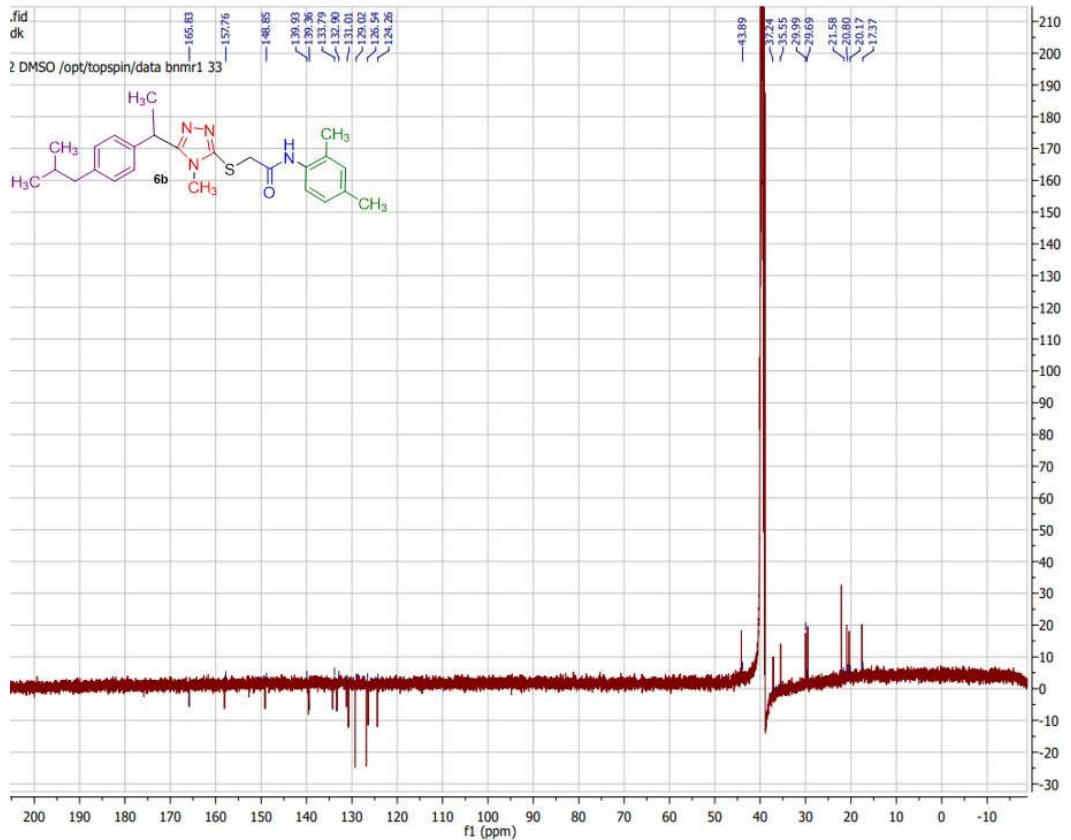


Figure S15. ^{13}C NMR spectrum of compound **6b** (Full spectrum)

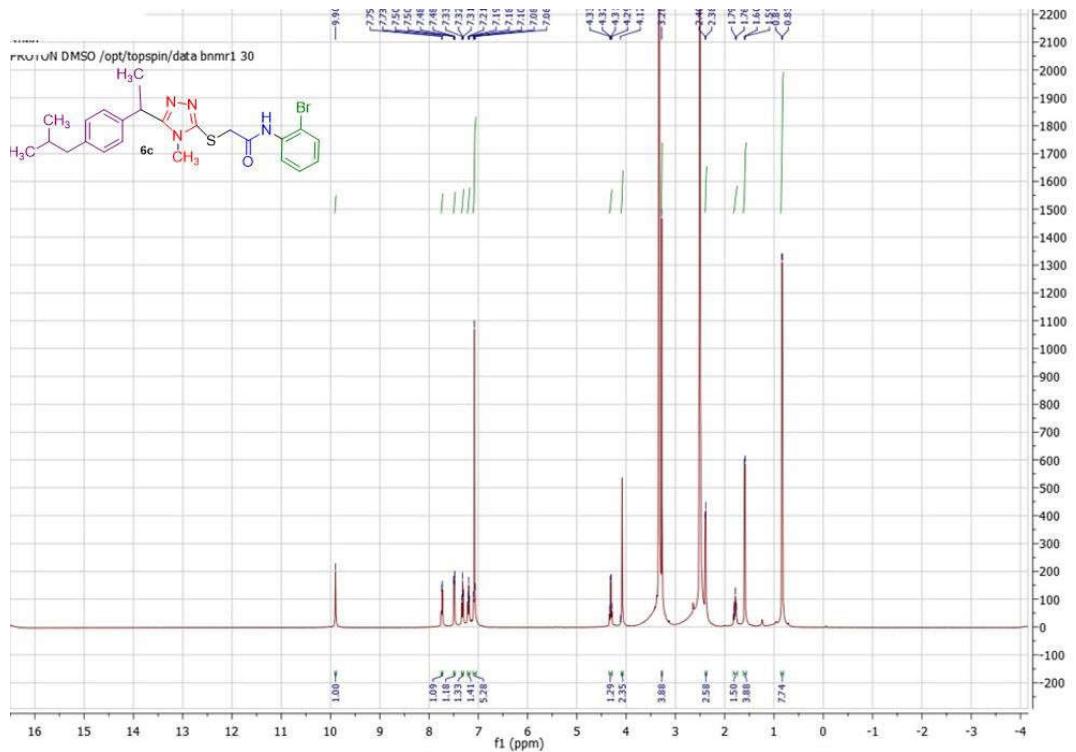


Figure S16. ^1H NMR spectrum of compound **6c** (Full spectrum)

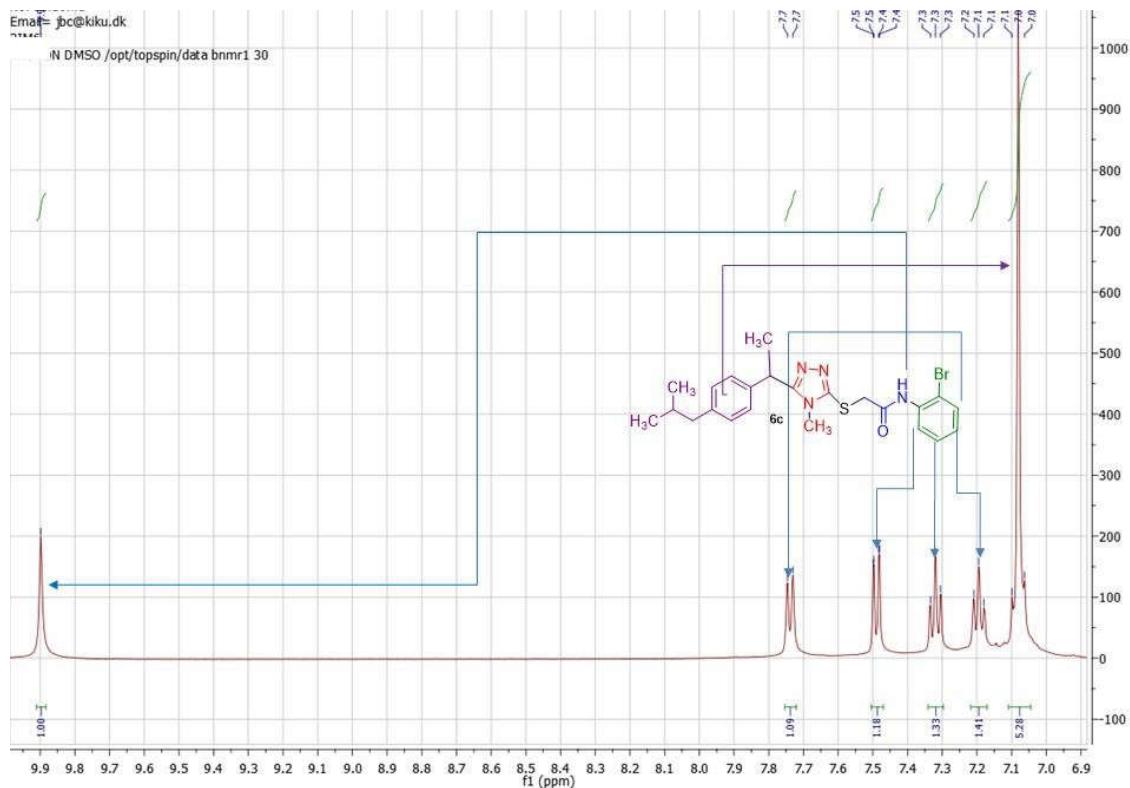


Figure S17. ^1H NMR spectrum of compound **6c** (aromatic region)

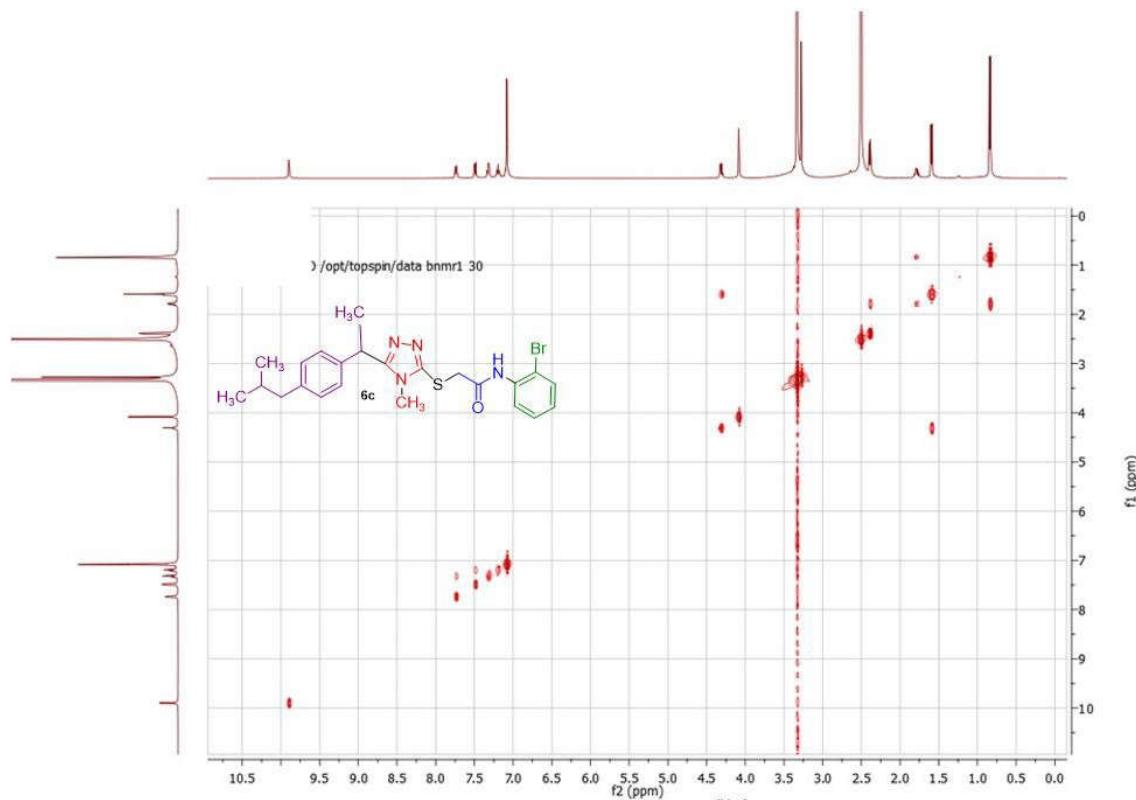


Figure S18. COSY- ^1H NMR spectrum of compound **6c**

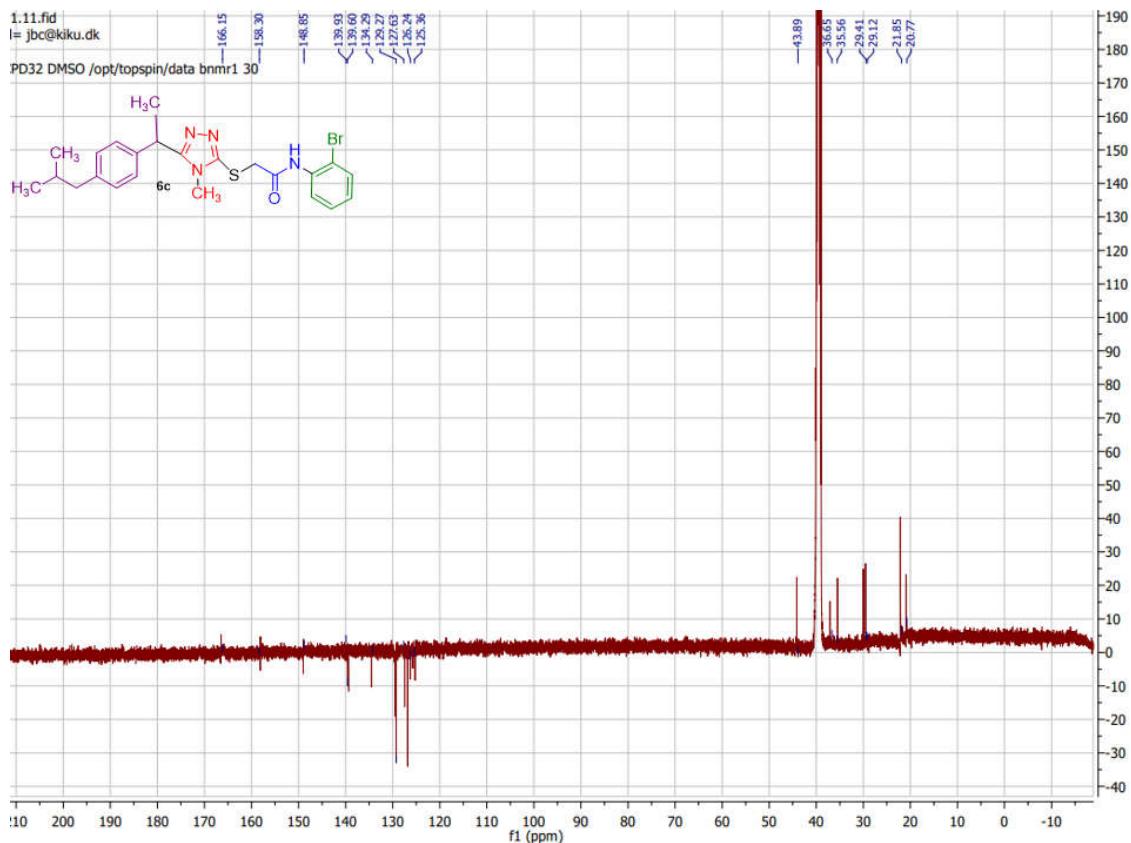


Figure S19. ¹³C NMR spectrum of compound 6c (Full spectrum)

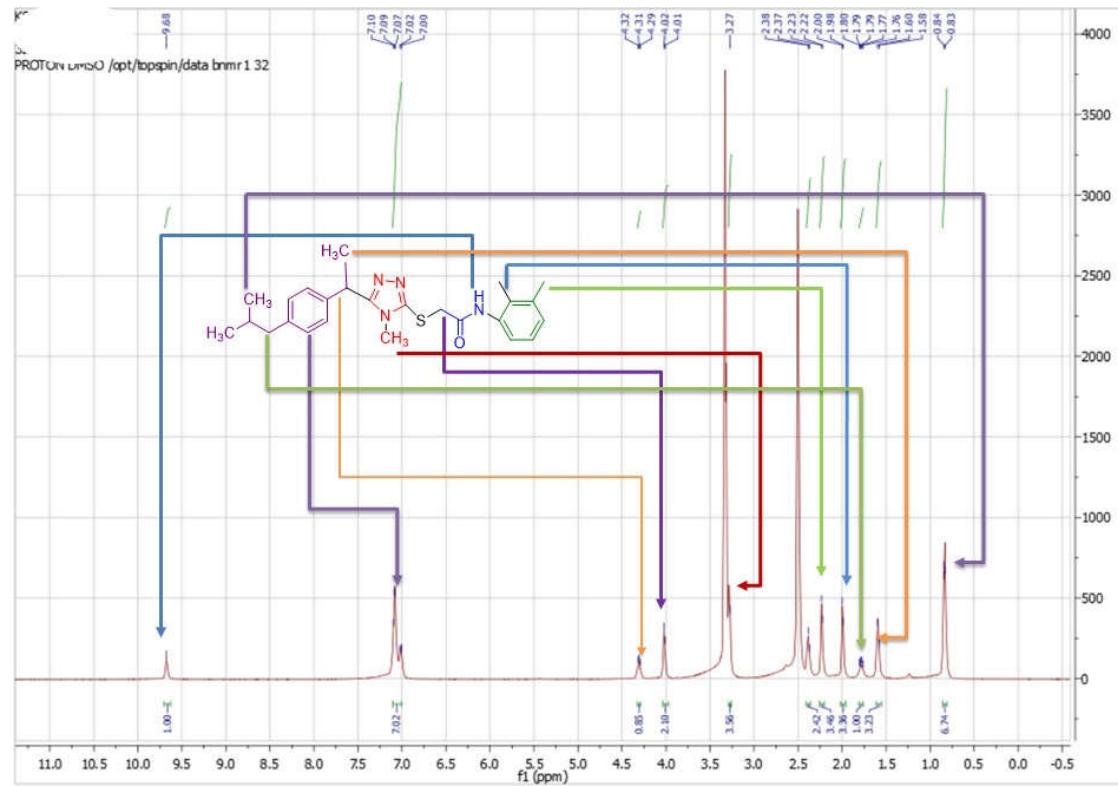


Figure S20. ¹H NMR spectrum of compound 6d (Full spectrum)

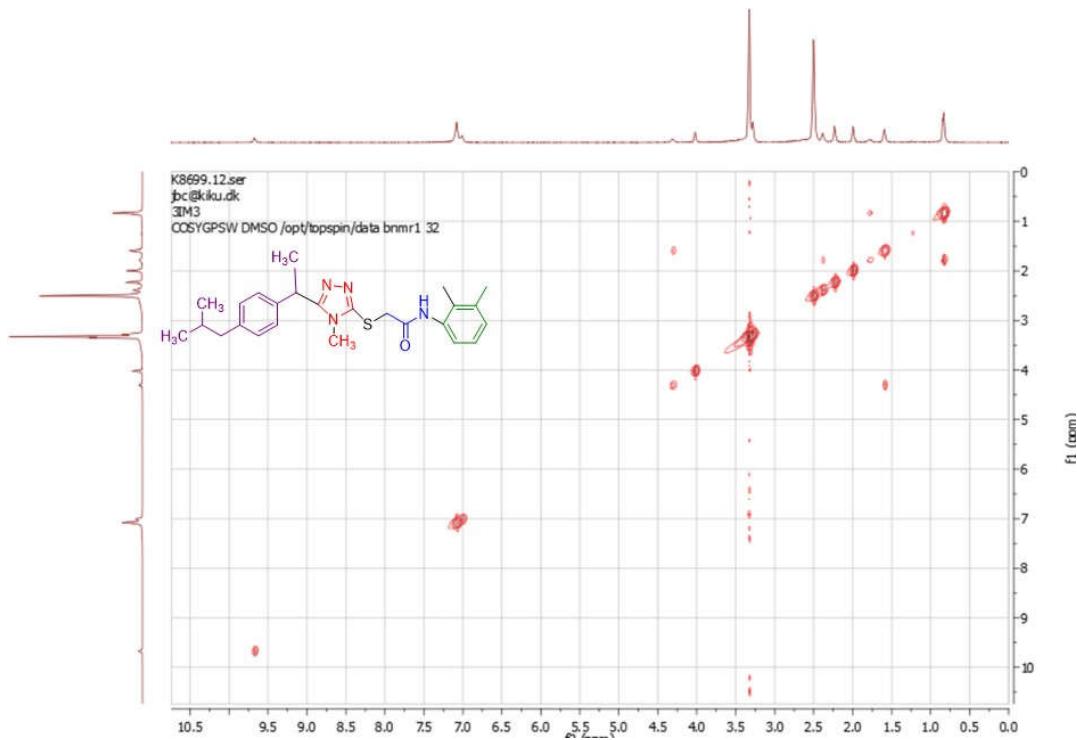


Figure S21. COSY ¹H NMR spectrum of compound 6d

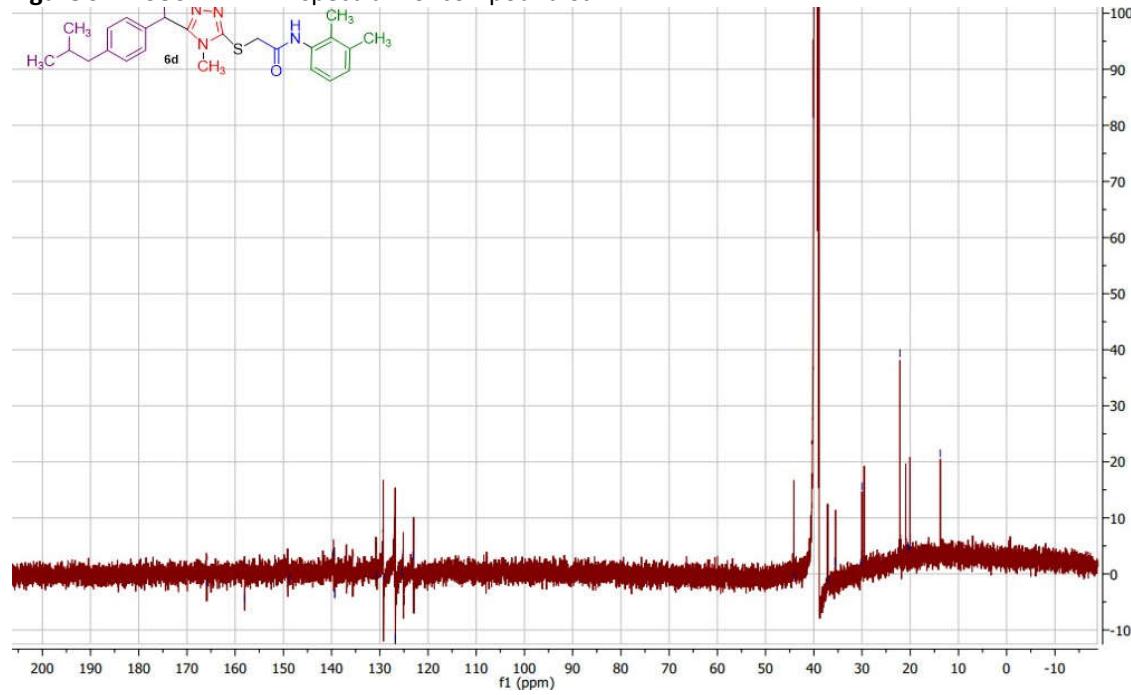


Figure S22. ¹³C NMR spectrum of compound 6d (Full spectrum)

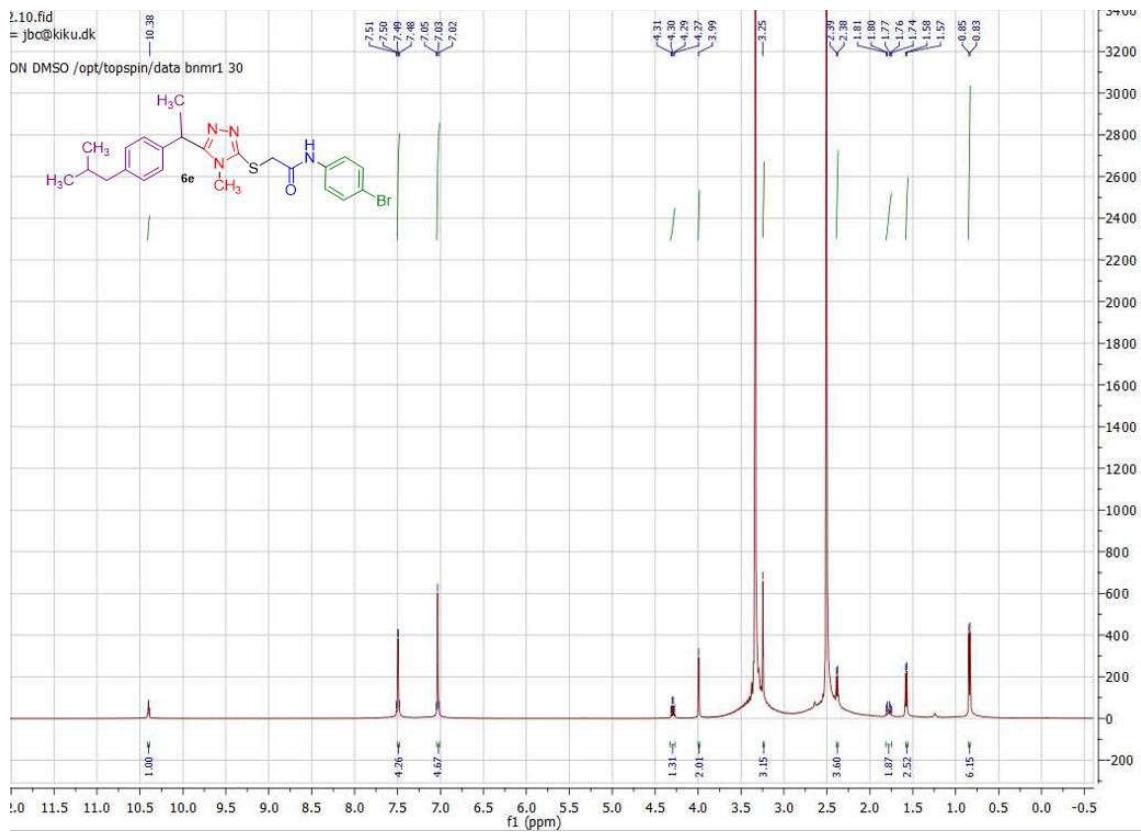


Figure S23. ¹H NMR spectrum of compound 6e (Full)

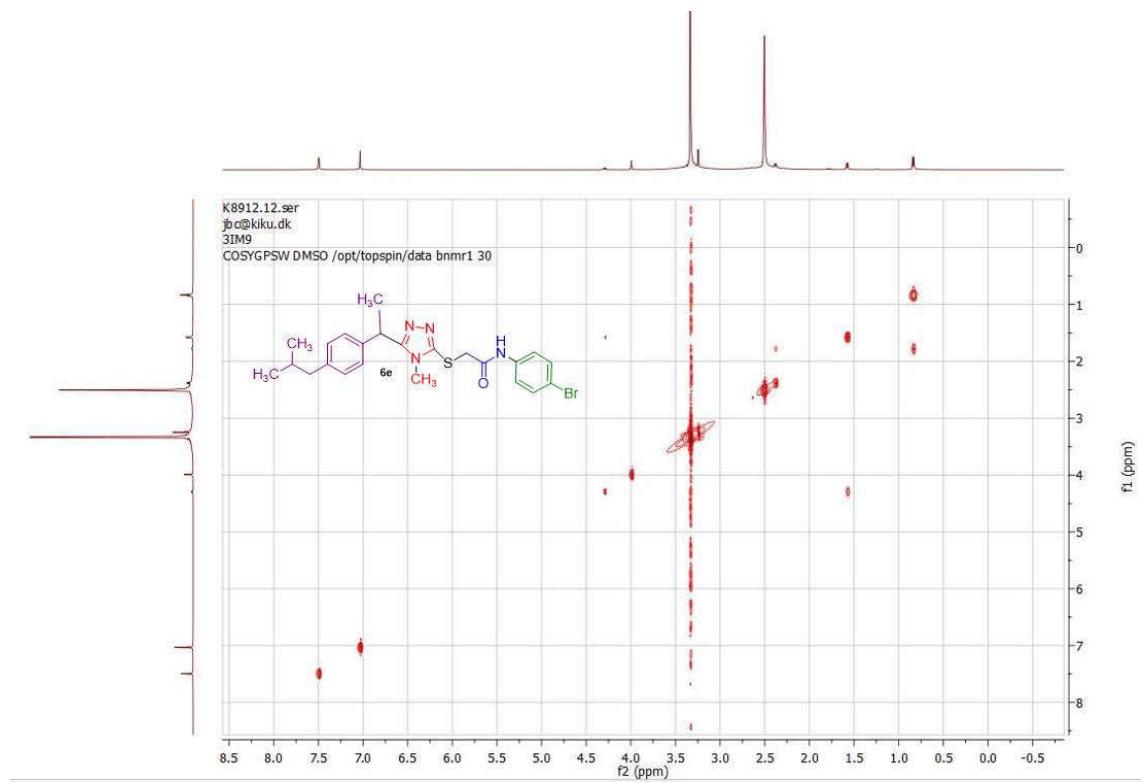


Figure S24. COSY ¹H NMR spectrum of compound 6e

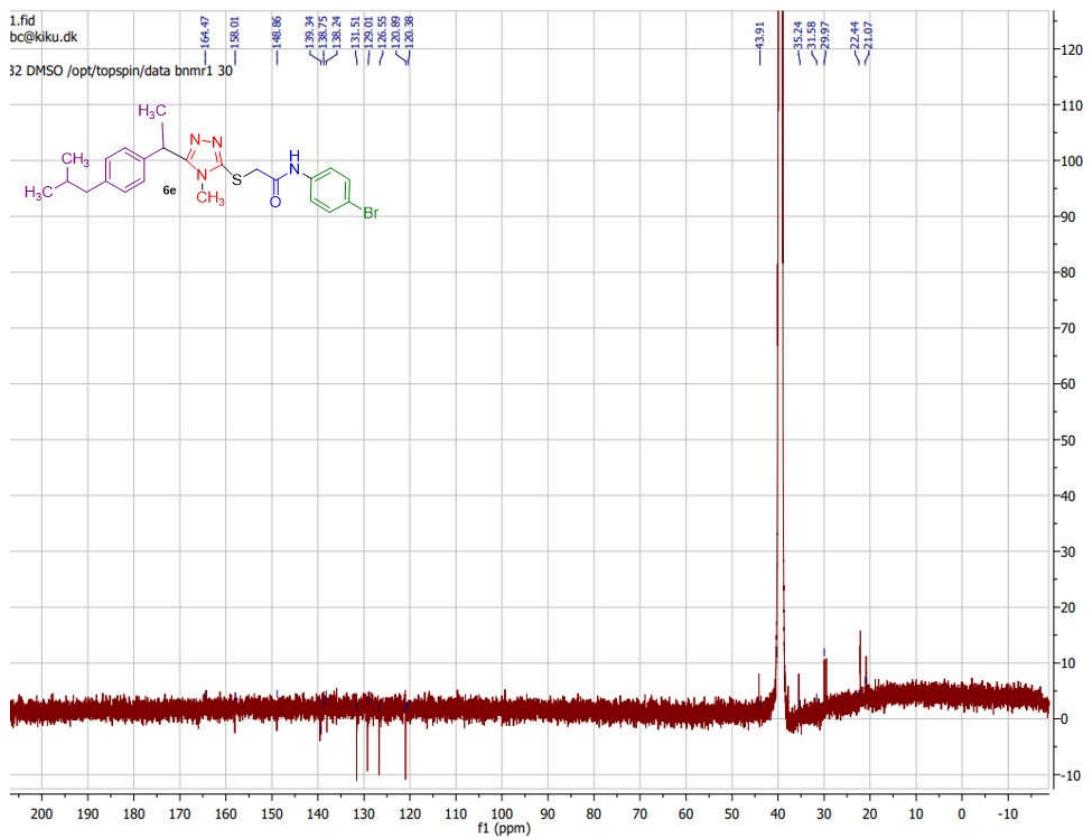


Figure S25. ^{13}C NMR spectrum of compound 6e (Full spectrum)

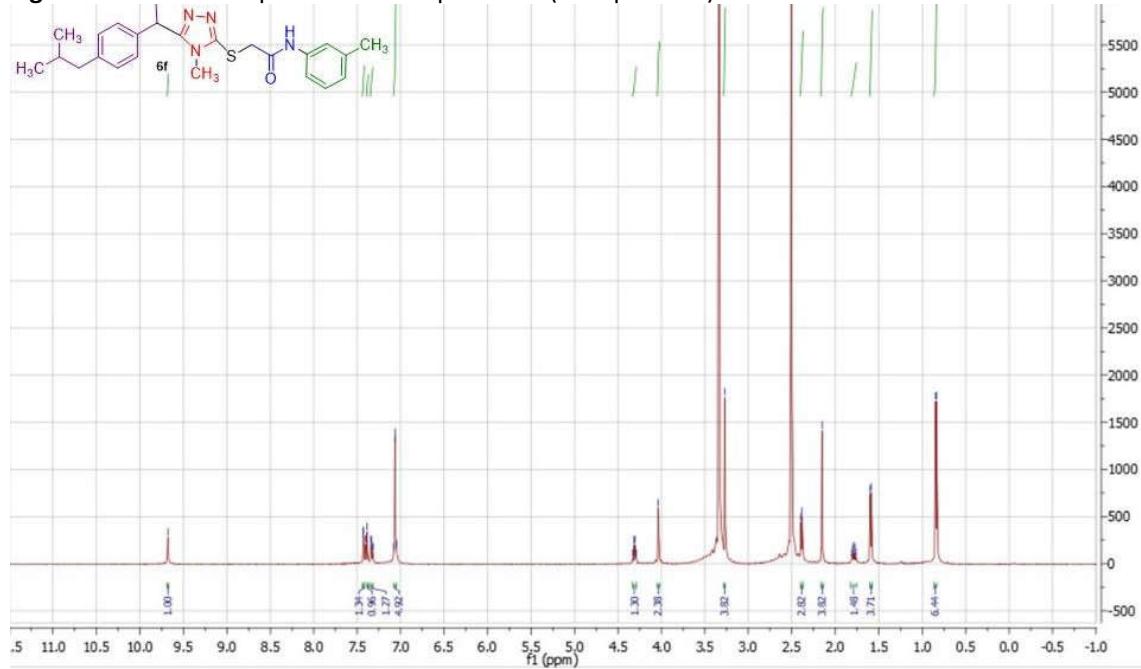


Figure S26. ^1H NMR spectrum of compound 6f (Full Spectrum)

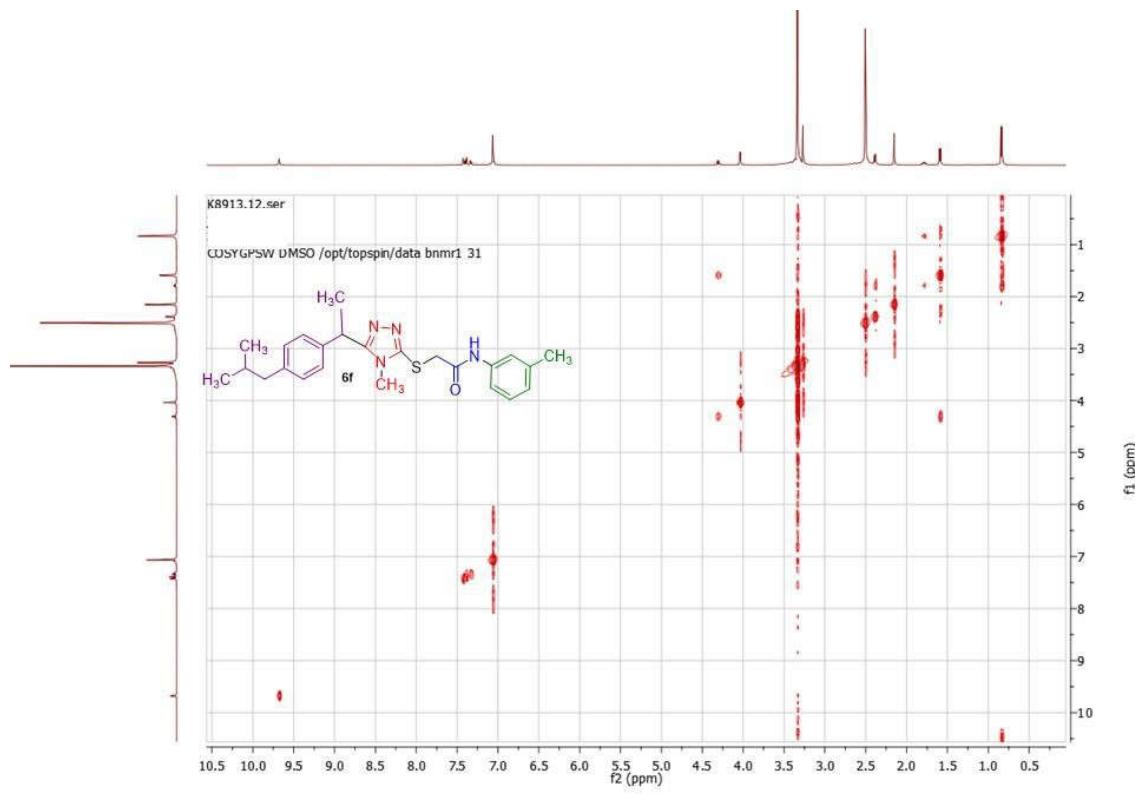


Figure S27. COSY ¹H NMR spectrum of compound 6f

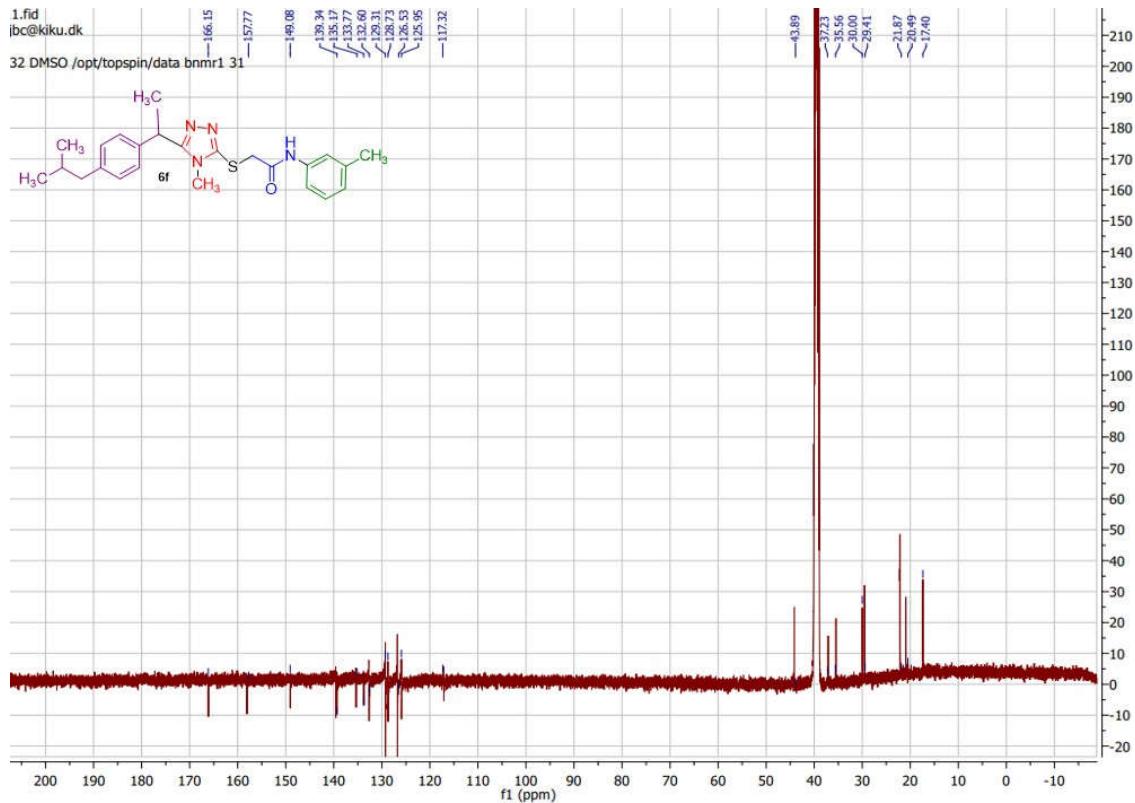


Figure S28. ¹³C NMR spectrum of compound 6f

Generic Display Report

Analysis Info

Analysis Name S:\Micro\ro\analyser-rutine\acq21198_0_H1_000001.d
Method 10800
Sample Name IM11
Comment

Acquisition Date 7/6/2022 7:10:30 AM

Operator
Instrument solariX XR

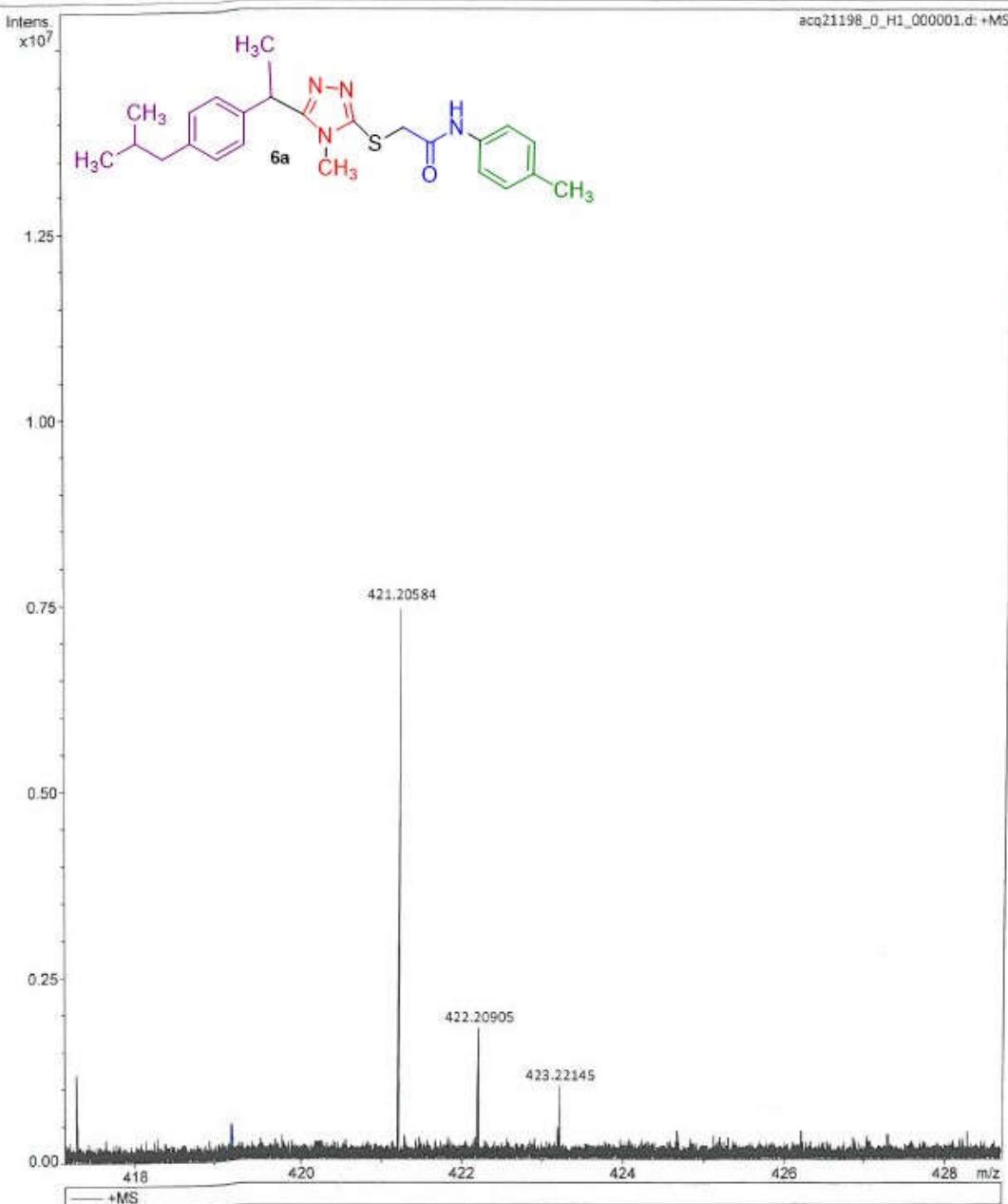


Figure S29. Mass Spectrum of compound 6a

Generic Display Report

Analysis Info

Analysis Name S:\fticr0\rod\analyser-rutine\acq21172_0_C1_000001.d
Method ESI Pos 200-1200 4M Tuned mz 702_86 Calibrated
Sample Name 27-6-2022
Comment

Acquisition Date 7/4/2022 8:31:12 AM

Operator
Instrument solariX XR

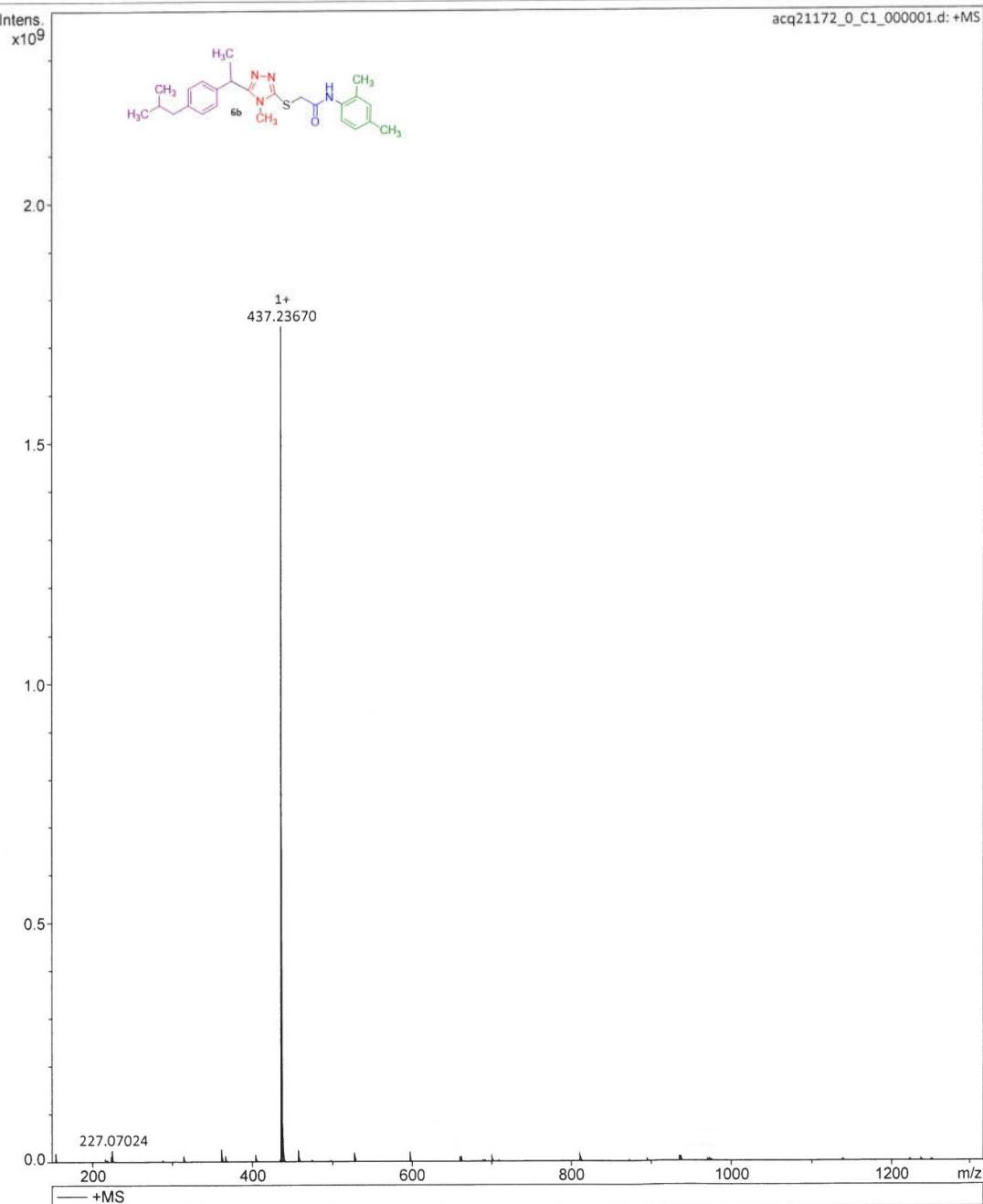


Figure S30. Mass Spectrum of compound 6b

Generic Display Report

Analysis Info

Analysis Name S:\fticr0\rod\analyser-rutine\acq21201_0_K1_000001.d
Method 10800
Sample Name IM
Comment

Acquisition Date 7/6/2022

Operator
Instrument solariX XR

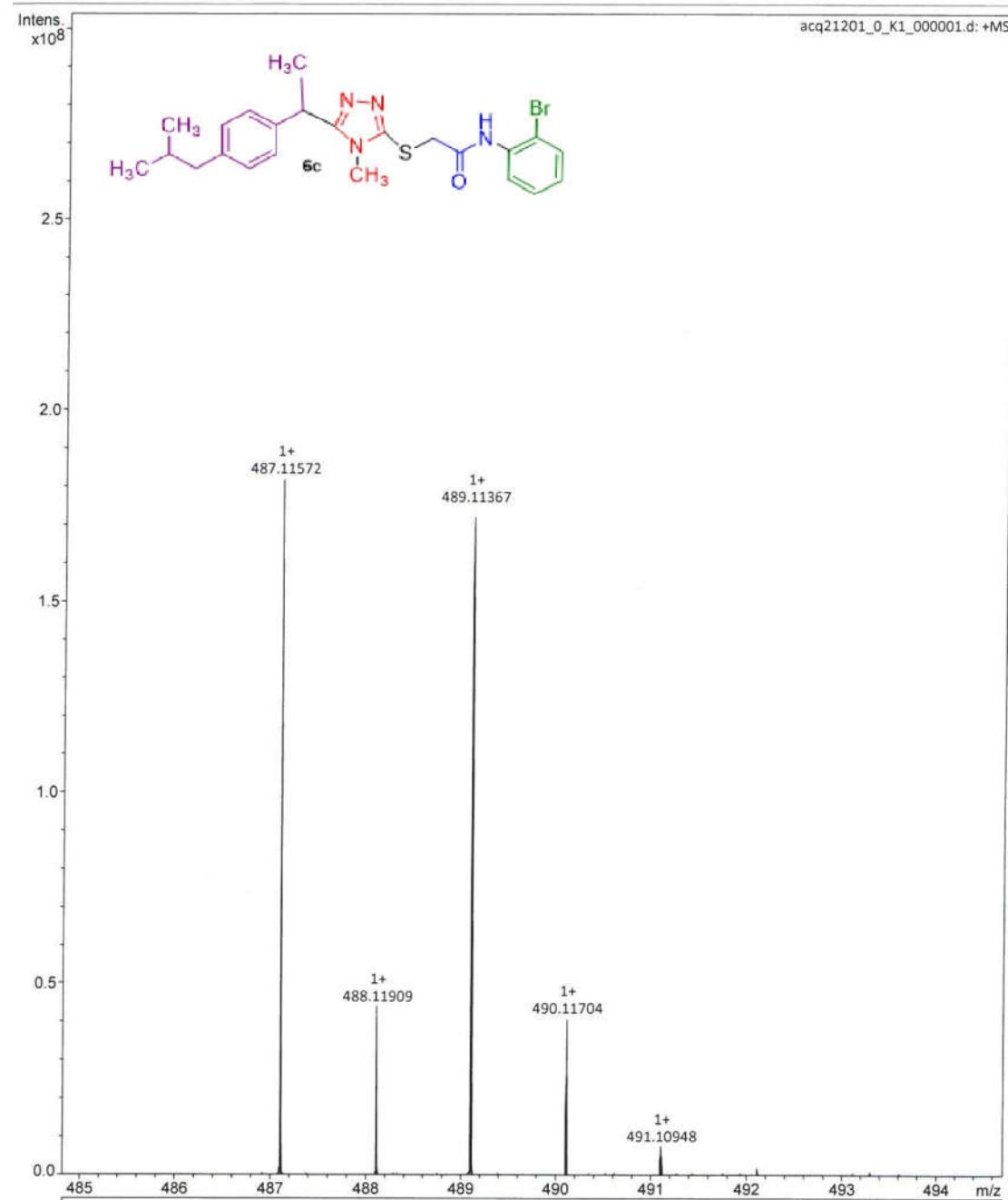


Figure S31. Mass Spectrum of compound **6c**

Generic Display Report

Analysis Info

Analysis Name S:\fticr0\rod\analyser-rutine\acq21173_0_D1_000001.d
Method ESI Pos 200-1200 4M Tuned mz 702_86 Calibrated
Sample Name 27-6-2022 IM3
Comment

Acquisition Date 7/4/2022 8:32:12 AM

Operator
Instrument solariX XR

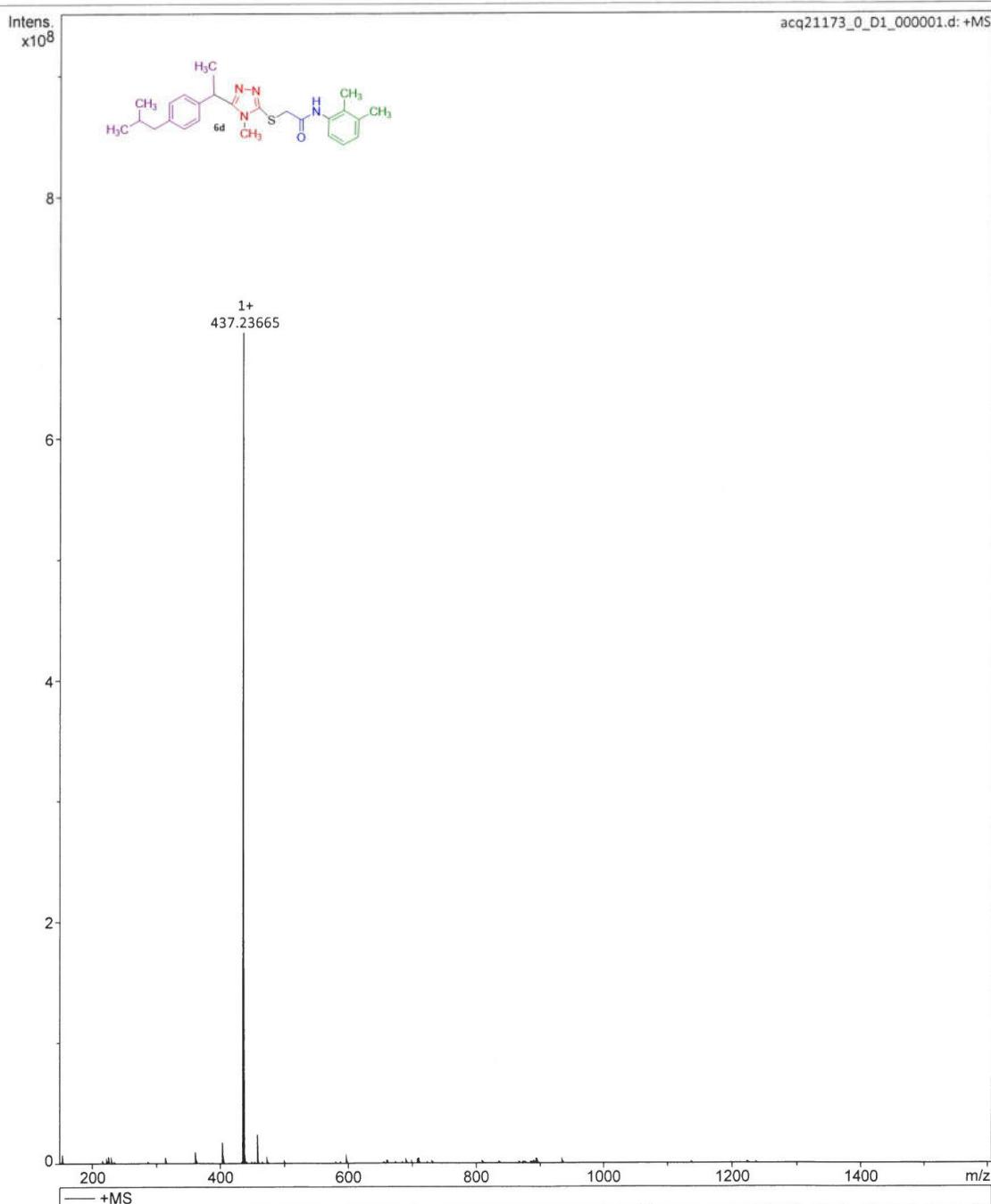


Figure S32. Mass Spectrum of compound 6d

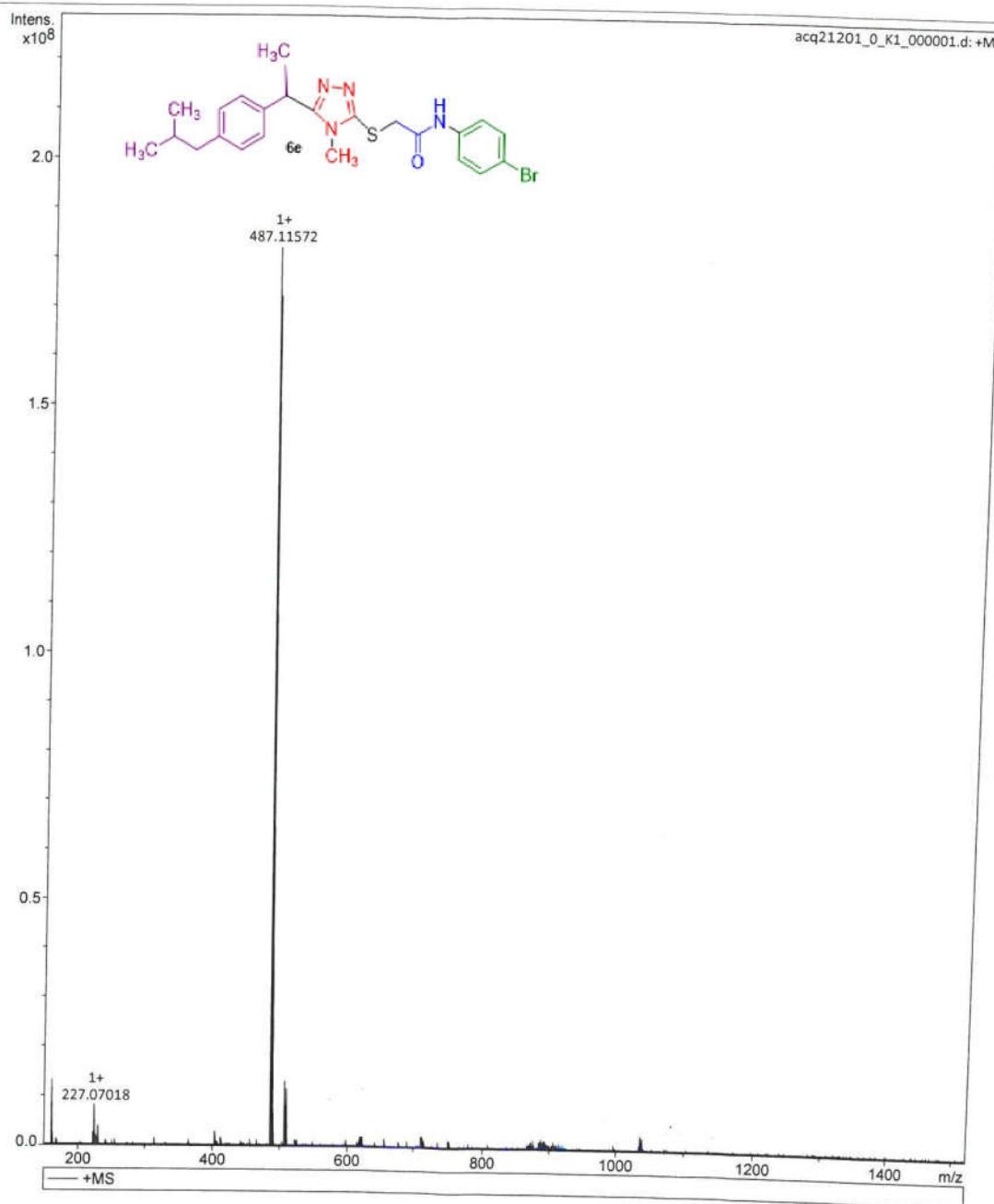
Generic Display Report

Analysis Info

Analysis Name S:\fticr0\rod\analyser-rutine\acq21201_O_K1_000001.d
Method 10800
Sample Name IME
Comment

Acquisition Date 7/6/2022

Operator
Instrument solariX XR



rucker Compass DataAnalysis 5.0

printed: 7/6/2022 7:14:47 AM

by: demo

Figure S33. Mass Spectrum of compound 6e

Generic Display Report

Analysis Info

Analysis Name S:\fticr0\rod\analyser-rutine\acq21202_0_L1_000001.d
Method 10800
Sample Name IM10
Comment

Acquisition Date 7/6/2022 7:11:11 AM

Operator
Instrument solariX XR

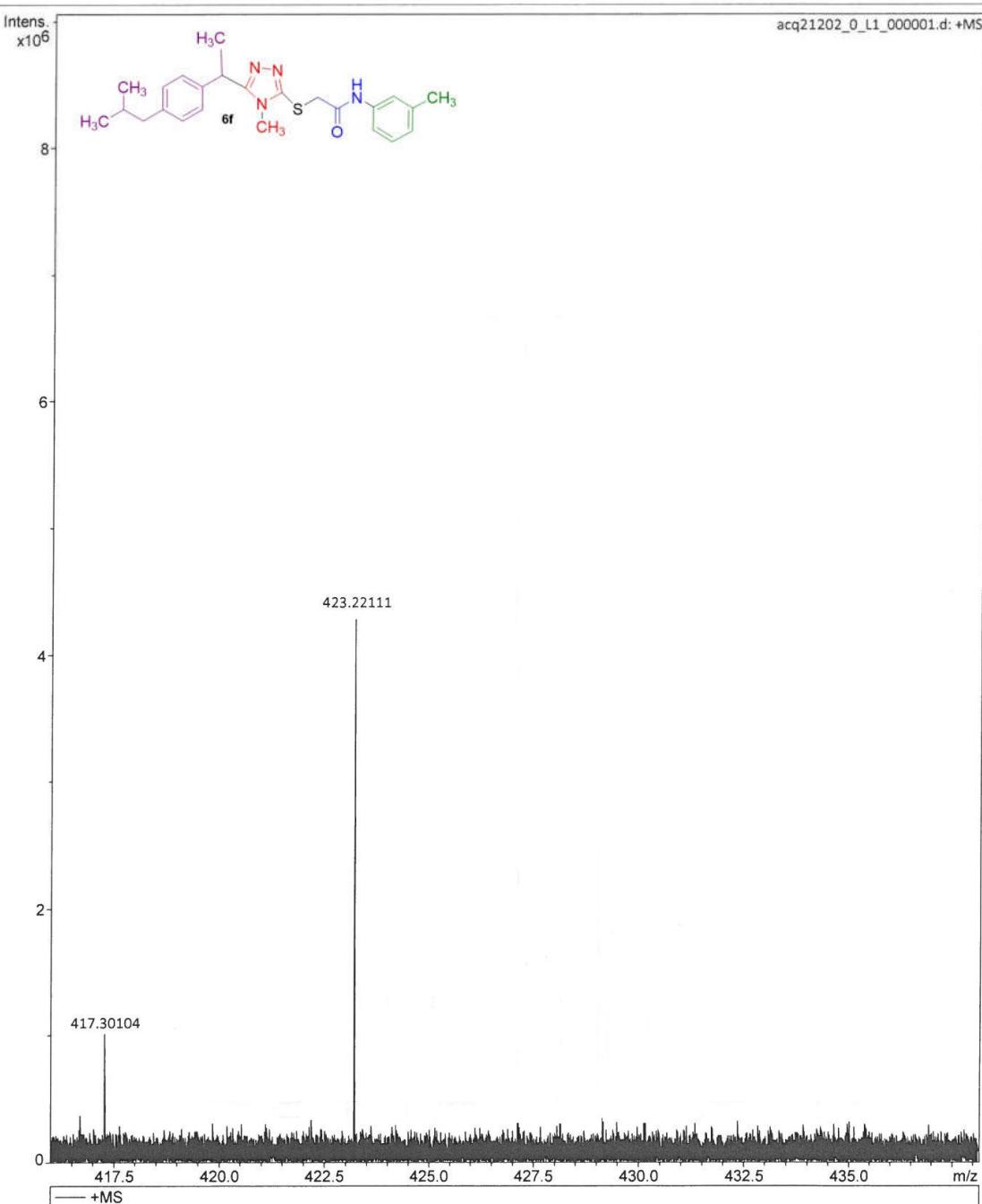


Figure S34. Mass Spectrum of compound **6f**