

SUPPLEMENTARY MATERIAL

New Secondary Metabolites the Marine-derived Fungus *Talaromyces mangshanicus* BTBU20211089

Kai Zhang ^{1,†}, Xinwan Zhang ^{2,†}, Rui Lin ², Haijin Yang ², Fuhang Song ^{1,*}, Xiuli Xu ^{2,*} and Long Wang ^{3,*}

¹ School of Light Industry, Beijing Technology and Business University, Beijing 100048, China; zhangkai2030302071@st.btbu.edu.cn

² School of Ocean Sciences, China University of Geosciences, Beijing 100083, China; zhangxinwan@cugb.edu.cn (X.Z.); linrui520@126.com (R.L.); yanghaijin52@163.com (H.Y.)

³ Key Laboratory of Mycology, Institute of Microbiology, Chinese Academy of Sciences, Beijing 100101, China

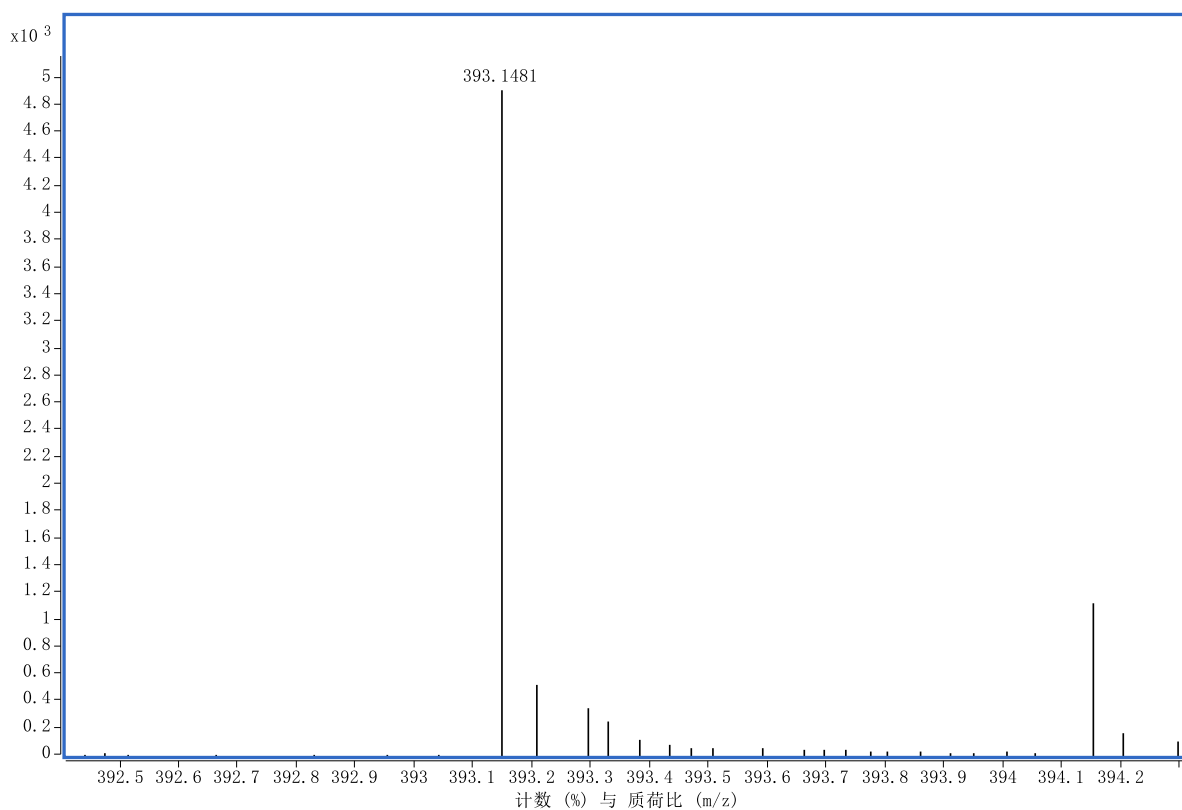
* Correspondence: songfuhang@btbu.edu.cn (F.S.); xuxl@cugb.edu.cn (X.X.); wl_dgk@im.ac.cn (L.W.)

[†] These authors contributed equally to this work.

Table of Contents

Figure S1. HRESIMS spectrum for 1	4
Figure S2. ^1H NMR spectrum (500 MHz, $\text{DMSO-}d_6$) of 1	4
Figure S3. ^{13}C NMR spectrum (125 MHz, $\text{DMSO-}d_6$) of 1	5
Figure S4. HSQC spectrum (500 MHz, $\text{DMSO-}d_6$) of 1	5
Figure S5. ^1H - ^1H COSY spectrum (500 MHz, $\text{DMSO-}d_6$) of 1	6
Figure S6. HMBC spectrum (500 MHz, $\text{DMSO-}d_6$) of 1	6
Figure S7. ROESY spectrum (500 MHz, $\text{DMSO-}d_6$) of 1	7
Figure S8. HRESIMS spectrum for 2	7
Figure S9. ^1H NMR spectrum (500 MHz, $\text{DMSO-}d_6$) of 2	8
Figure S10. ^{13}C NMR spectrum (125 MHz, $\text{DMSO-}d_6$) of 2	8
Figure S11. HSQC spectrum (500 MHz, $\text{DMSO-}d_6$) of 2	9
Figure S12. ^1H - ^1H COSY spectrum (500MHz, $\text{DMSO-}d_6$) of 2	9
Figure S13. HMBC spectrum (500MHz, DMSO) of 2	10
Figure S14. ROESY spectrum (500MHz, DMSO) of 2	10
Figure S15. HRESIMS spectrum for 3	11
Figure S16. ^1H NMR spectrum (500 MHz, $\text{DMSO-}d_6$) of 3	11
Figure S17. ^{13}C NMR spectrum (125 MHz, $\text{DMSO-}d_6$) of 3	12
Figure S18. HSQC spectrum (500 MHz, $\text{DMSO-}d_6$) of 3	12
Figure S19. HMBC spectrum (500 MHz, $\text{DMSO-}d_6$) of 3	13
Figure S20. ROESY spectrum (500 MHz, $\text{DMSO-}d_6$) of 3	13
Figure S21. HRESIMS spectrum for 4	14
Figure S22. ^1H NMR spectrum (500 MHz, $\text{DMSO-}d_6$) of 4	14
Figure S23. ^{13}C NMR spectrum (125 MHz, $\text{DMSO-}d_6$) of 4	15
Figure S24. HSQC spectrum (500 MHz, $\text{DMSO-}d_6$) of 4	15
Figure S25. HMBC spectrum (500 MHz, $\text{DMSO-}d_6$) of 4	16
Figure S26. ROESY spectrum (500 MHz, $\text{DMSO-}d_6$) of 4	16
Figure S27. HRESIMS spectrum for 5	17
Figure S28. ^1H NMR spectrum (500 MHz, $\text{DMSO-}d_6$) of 5	17
Figure S29. ^{13}C NMR spectrum (125 MHz, $\text{DMSO-}d_6$) of 5	18
Figure S30. HSQC spectrum (500 MHz, $\text{DMSO-}d_6$) of 5	18

Figure S31. ^1H - ^1H COSY spectrum (500 MHz, DMSO- d_6) of 5	19
Figure S32. HMBC spectrum (500 MHz, DMSO- d_6) of 5	19
Figure S33. HRESIMS spectrum for 6	20
Figure S34. ^1H NMR spectrum (500 MHz, DMSO- d_6) of 6	20
Figure S35. ^{13}C NMR spectrum (125 MHz, DMSO- d_6) of 6	21
Figure S36. HSQC spectrum (500 MHz, DMSO- d_6) of 6	21
Figure S37. HMBC spectrum (500 MHz, DMSO- d_6) of 6	22
Figure S38. HRESIMS spectrum for 7	22
Figure S39. ^1H NMR spectrum (500 MHz, DMSO- d_6) of 7	23
Figure S40. ^{13}C NMR spectrum (125 MHz, DMSO- d_6) of 7	23
Figure S41. HSQC spectrum (500 MHz, DMSO- d_6) of 7	24
Figure S42. ^1H - ^1H COSY spectrum (500 MHz, DMSO- d_6) of 7	24
Figure S43. HMBC spectrum (500 MHz, DMSO- d_6) of 7	25
Figure S44. ROESY spectrum (500 MHz, DMSO- d_6) of 7	25
Figure S45. Neighbor-joining phylogenetic tree of strain BTBU20211089	26



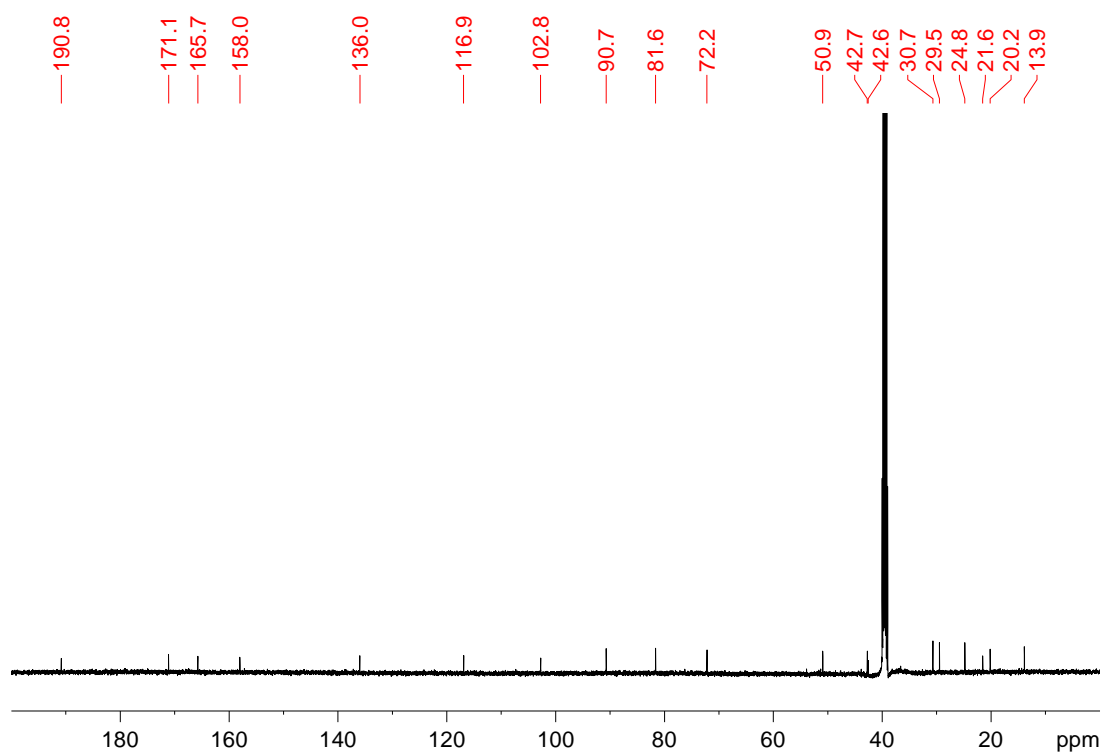


Figure S3. ^{13}C NMR spectrum (125 MHz, $\text{DMSO}-d_6$) of **1**

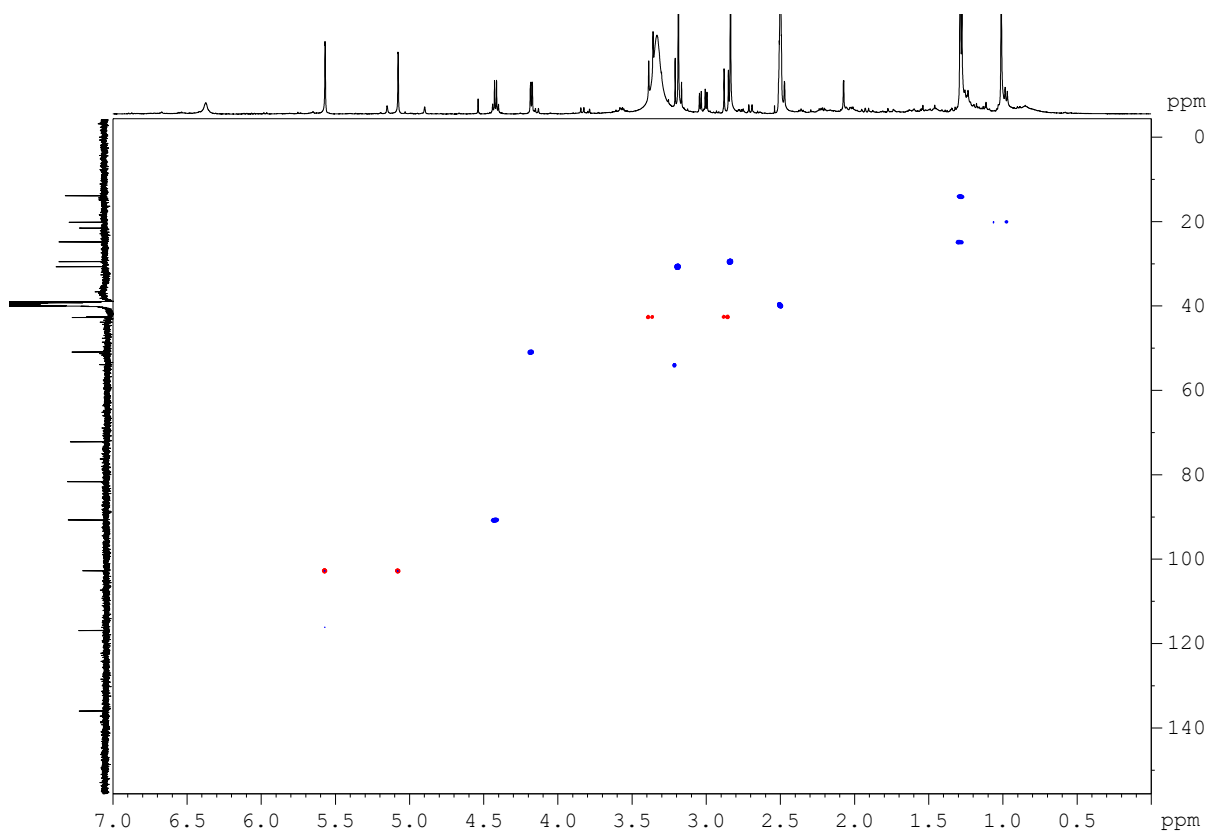


Figure S4. HSQC spectrum (500 MHz, $\text{DMSO}-d_6$) of **1**

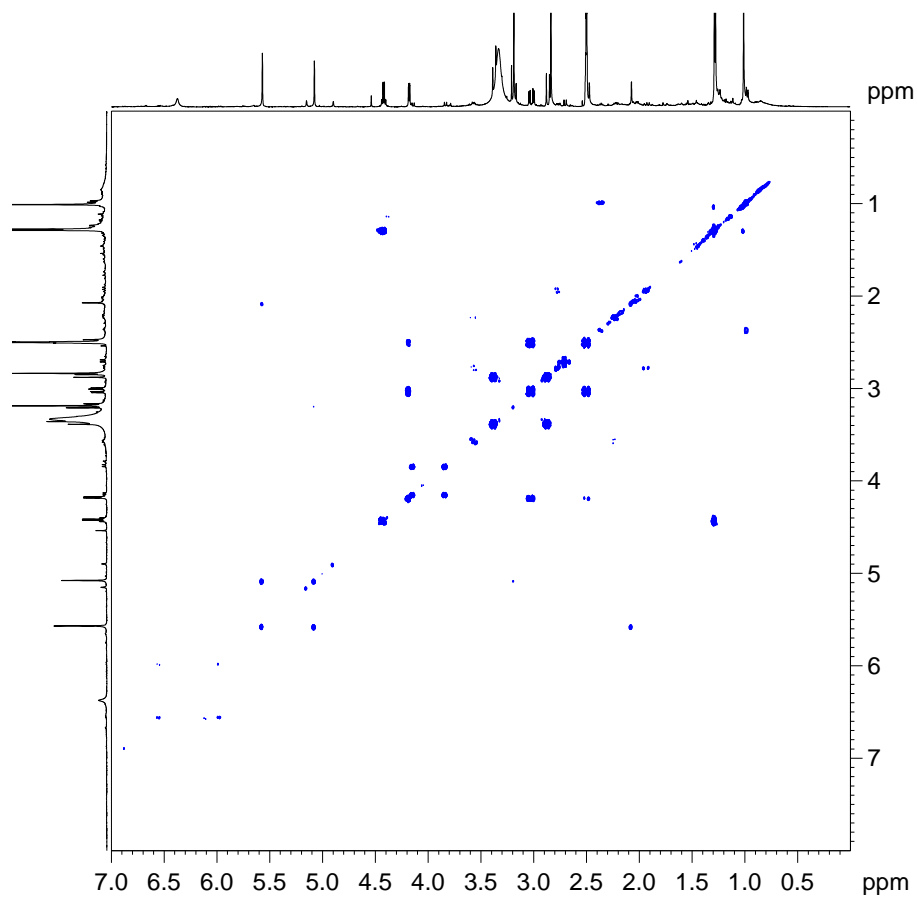


Figure S5. ^1H - ^1H COSY spectrum (500 MHz, $\text{DMSO}-d_6$) of **1**

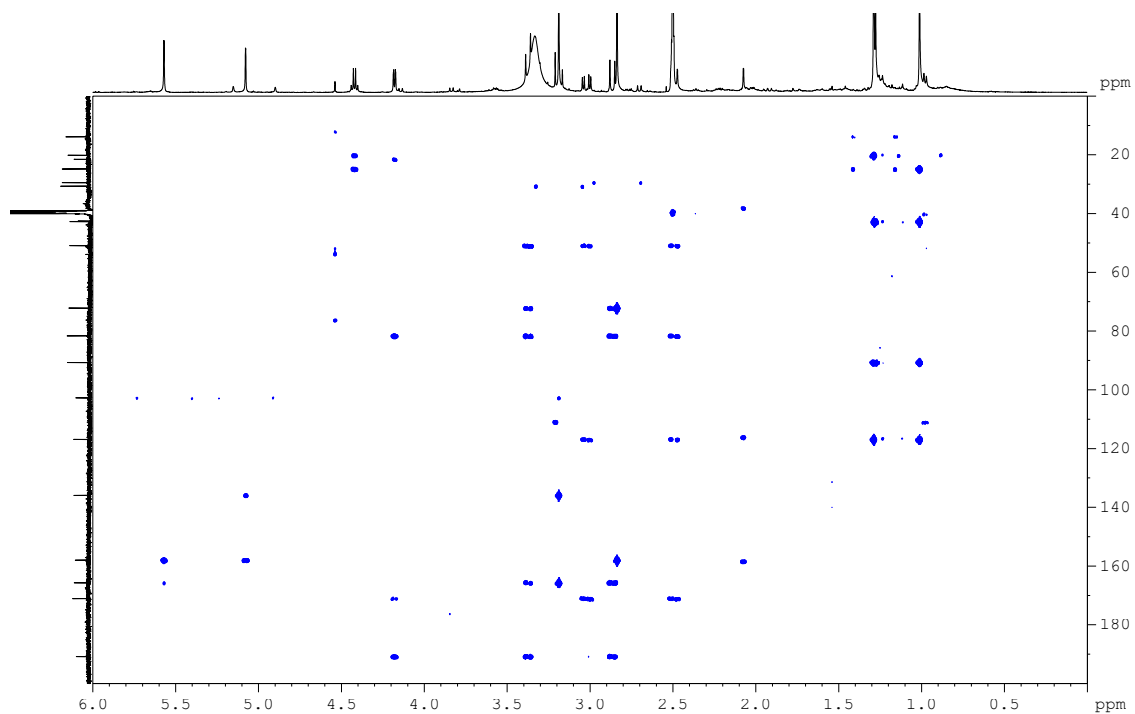


Figure S6. HMBC spectrum (500 MHz, $\text{DMSO}-d_6$) of **1**

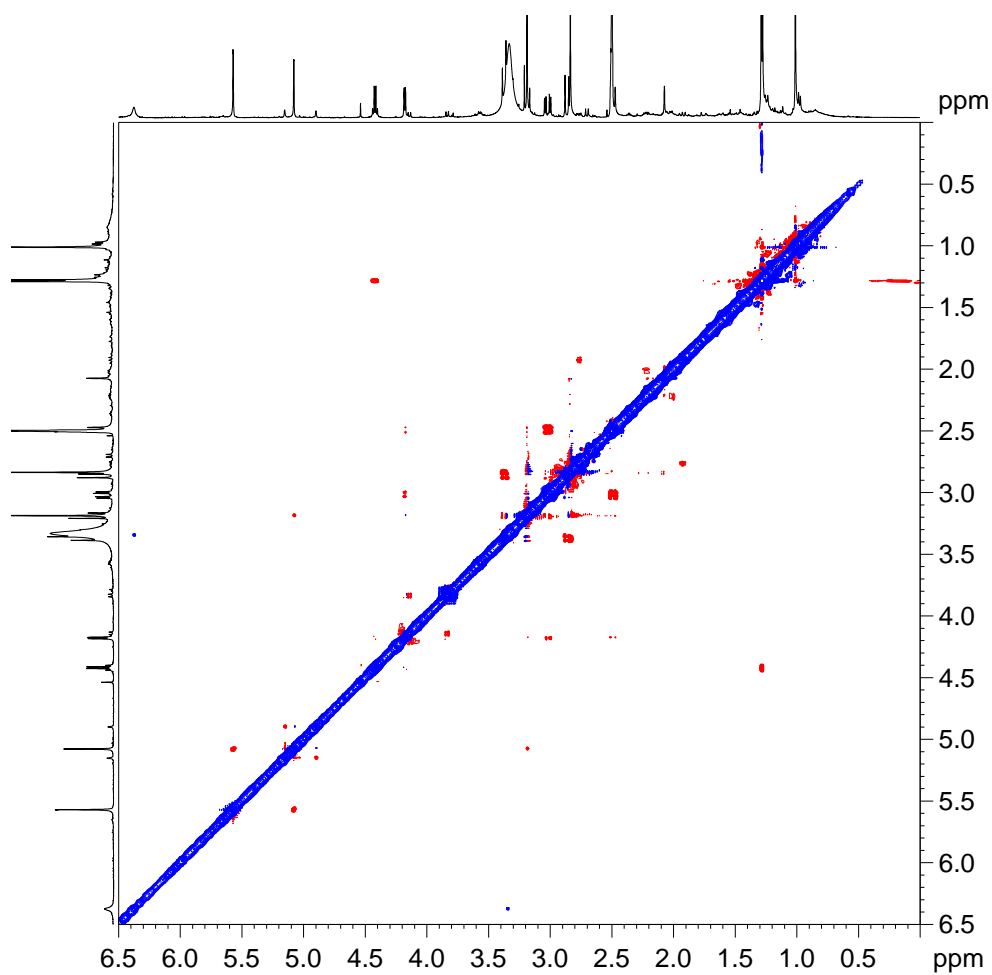


Figure S7. ROESY spectrum (500 MHz, DMSO- d_6) of **1**

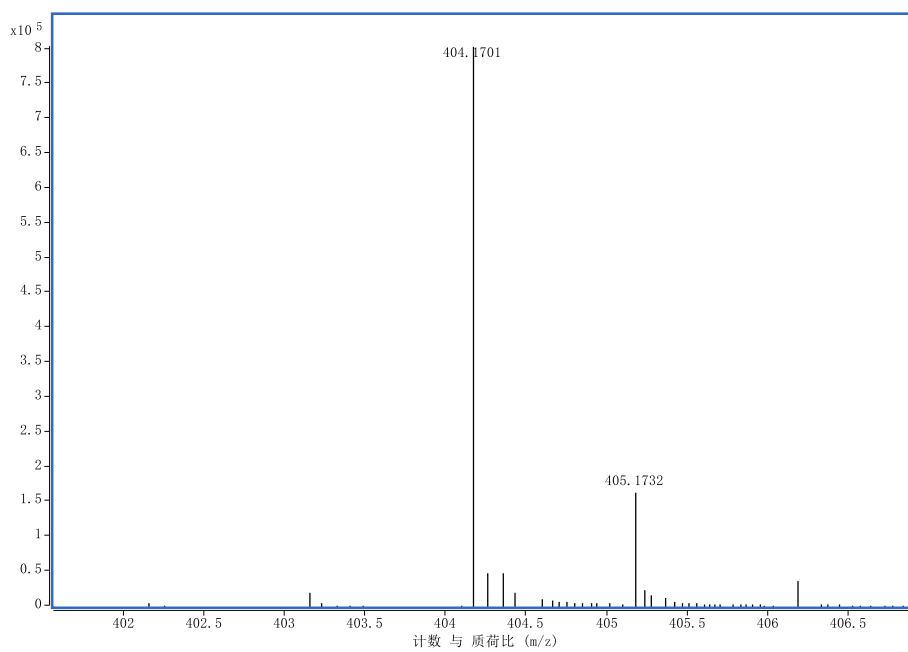


Figure S8. HRESIMS spectrum for **2**

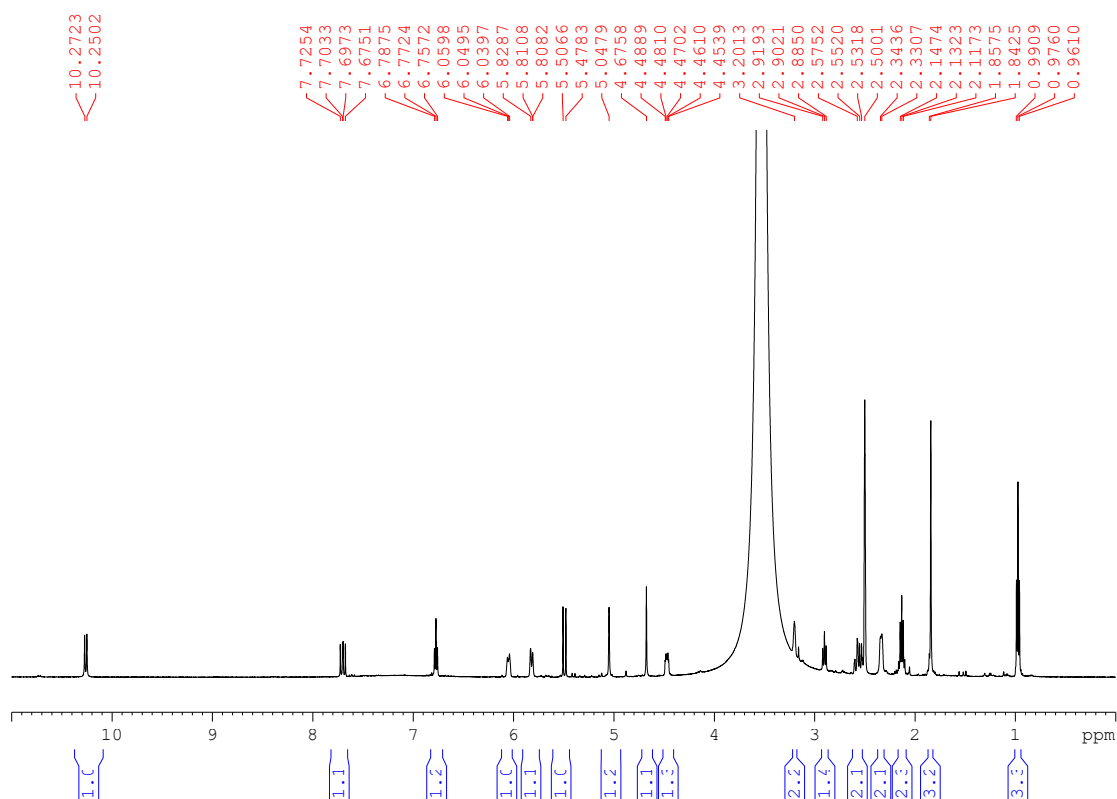


Figure S9. ¹H NMR spectrum (500 MHz, DMSO-*d*₆) of **2**

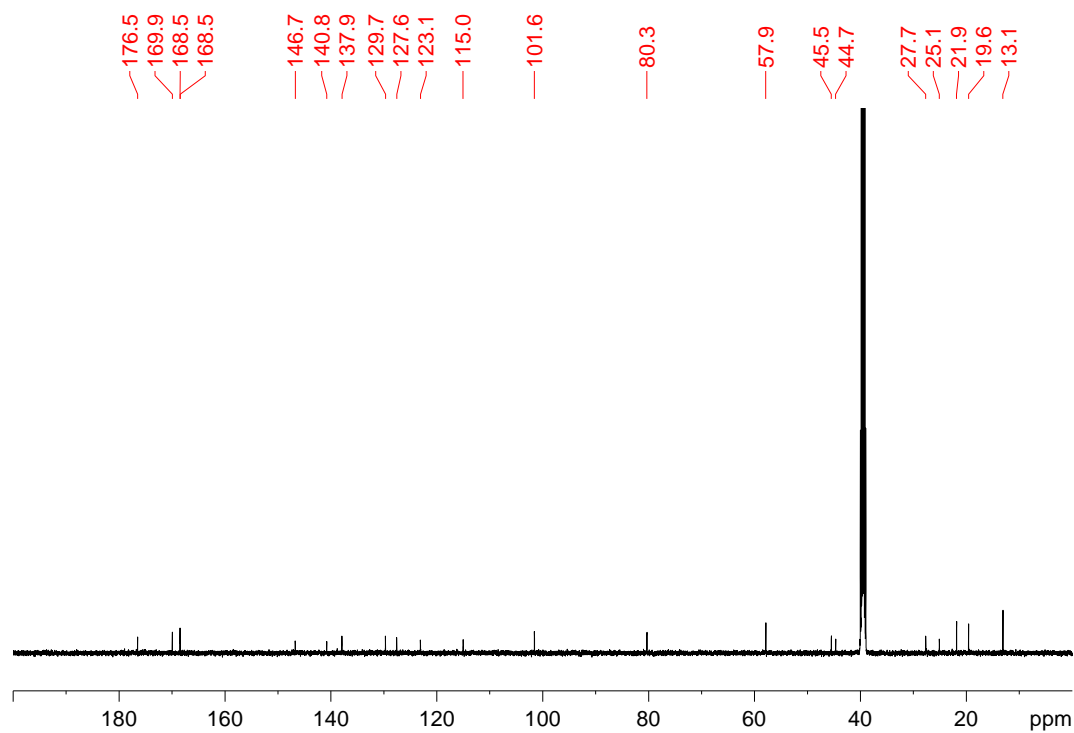


Figure S10. ¹³C NMR spectrum (125 MHz, DMSO-*d*₆) of **2**

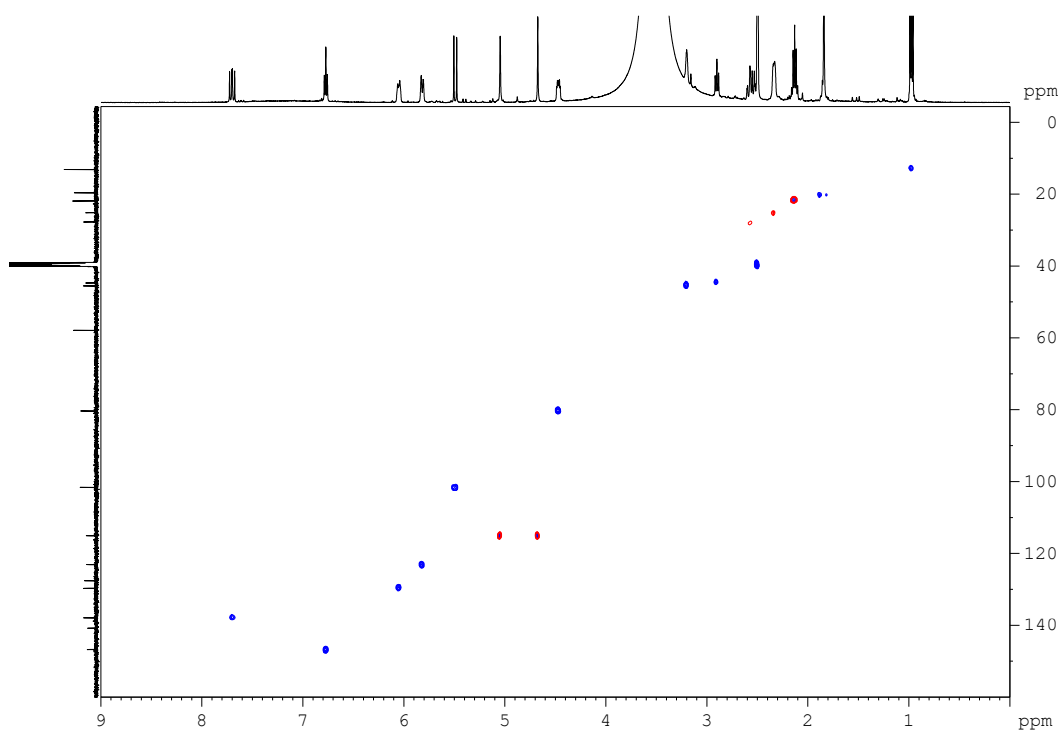


Figure S11. HSQC spectrum (500 MHz, DMSO- d_6) of **2**

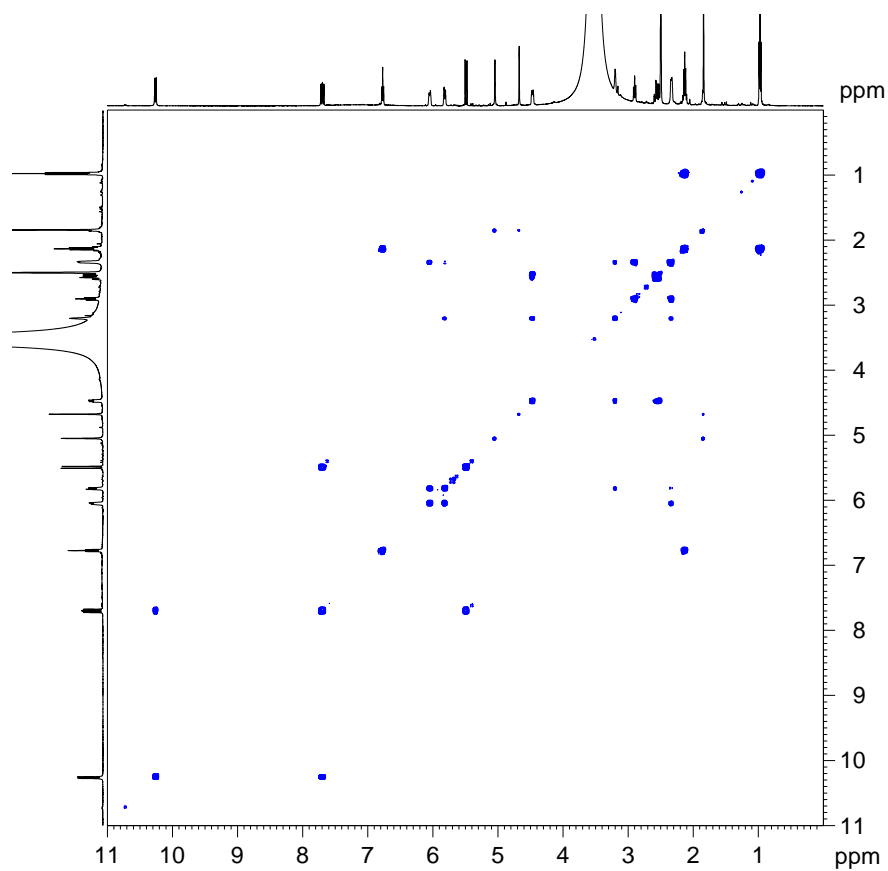


Figure S12. ^1H - ^1H COSY spectrum (500 MHz, DMSO- d_6) of **2**

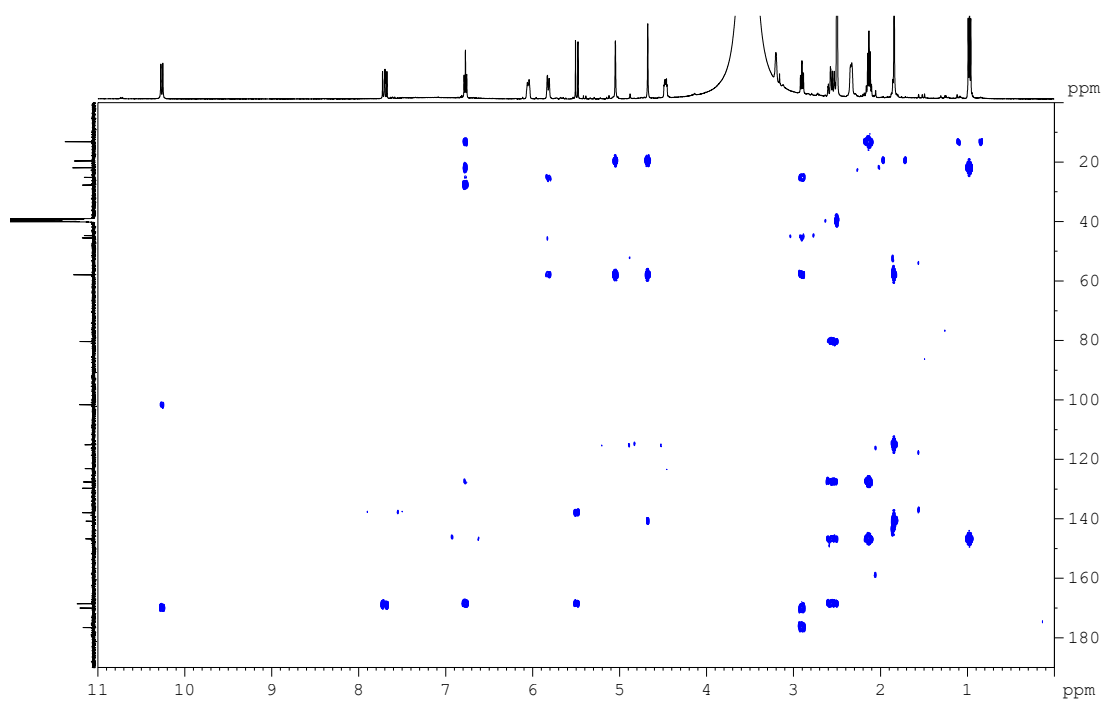


Figure S13. HMBC spectrum (500 MHz, DMSO- d_6) of **2**

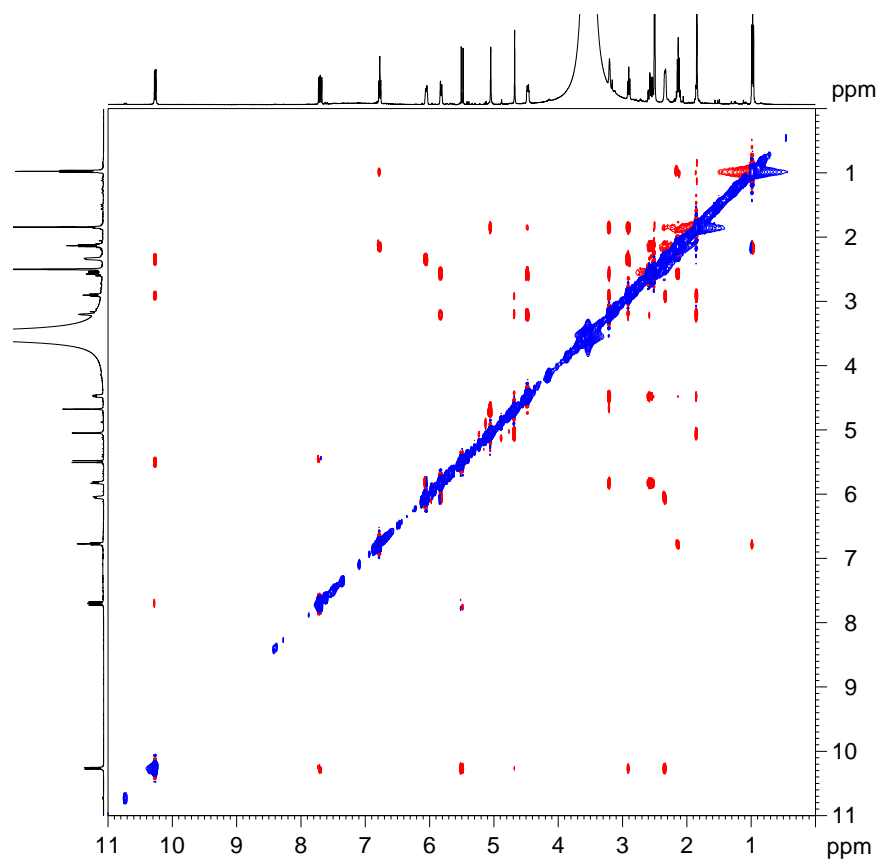


Figure S14. ROESY spectrum (500 MHz, DMSO- d_6) of **2**

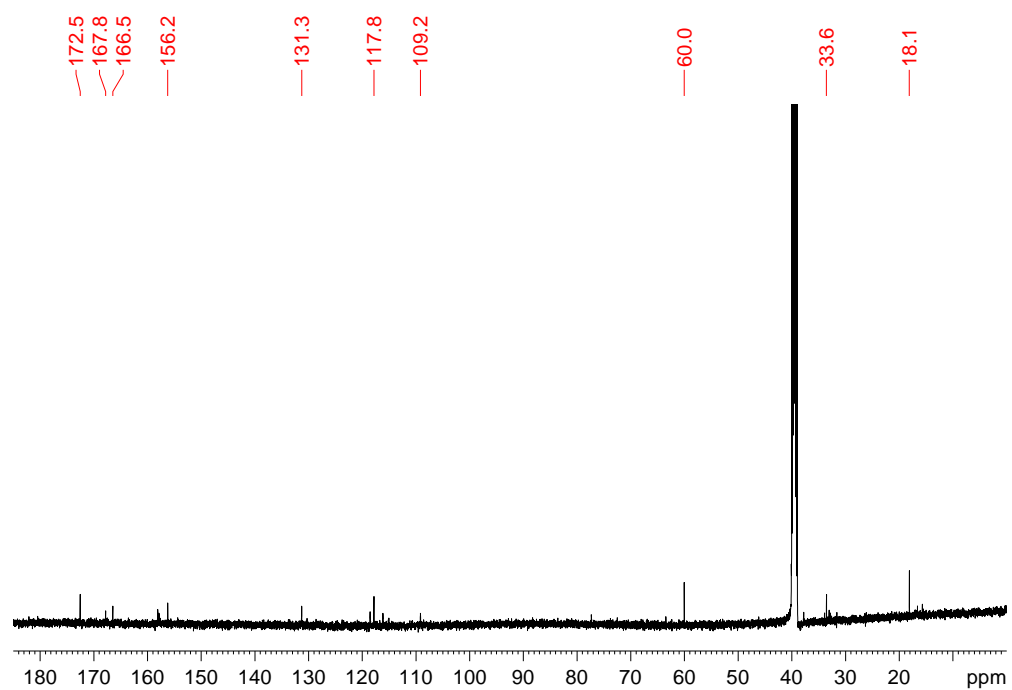


Figure S17. ¹³C NMR spectrum (125 MHz, DMSO-*d*₆) of **3**

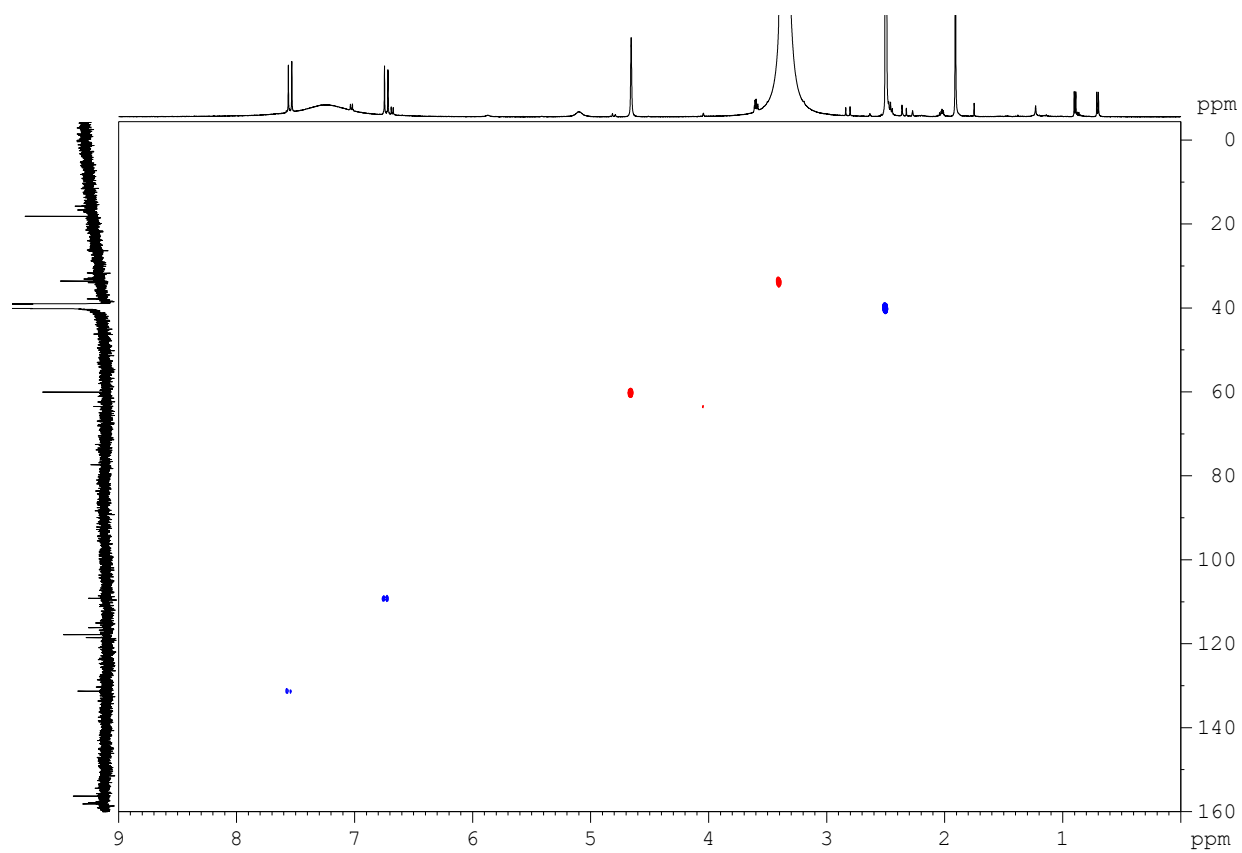


Figure S18. HSQC spectrum (500 MHz, DMSO-*d*₆) of **3**

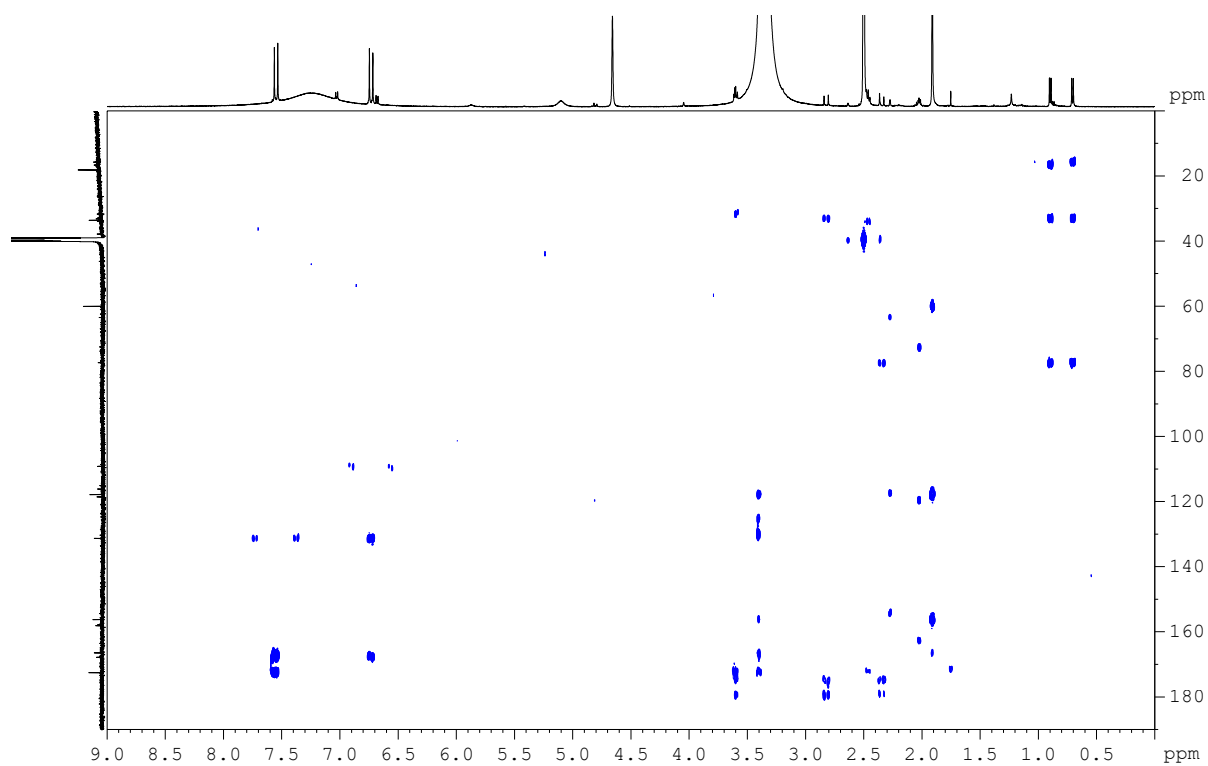


Figure S19. HMBC spectrum (500 MHz, DMSO- d_6) of **3**

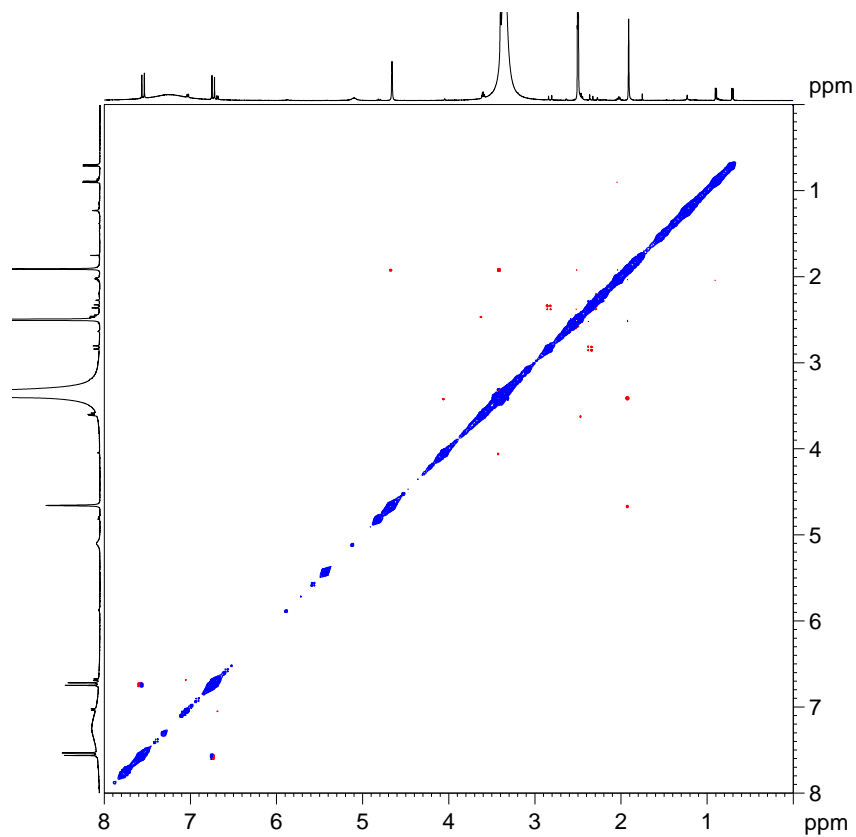
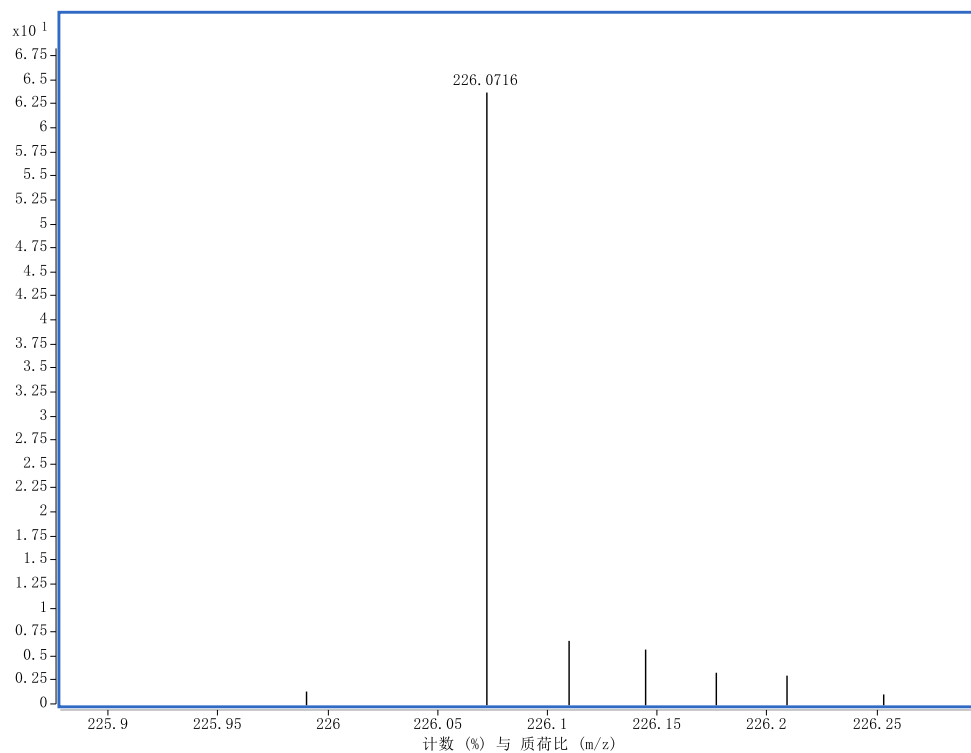
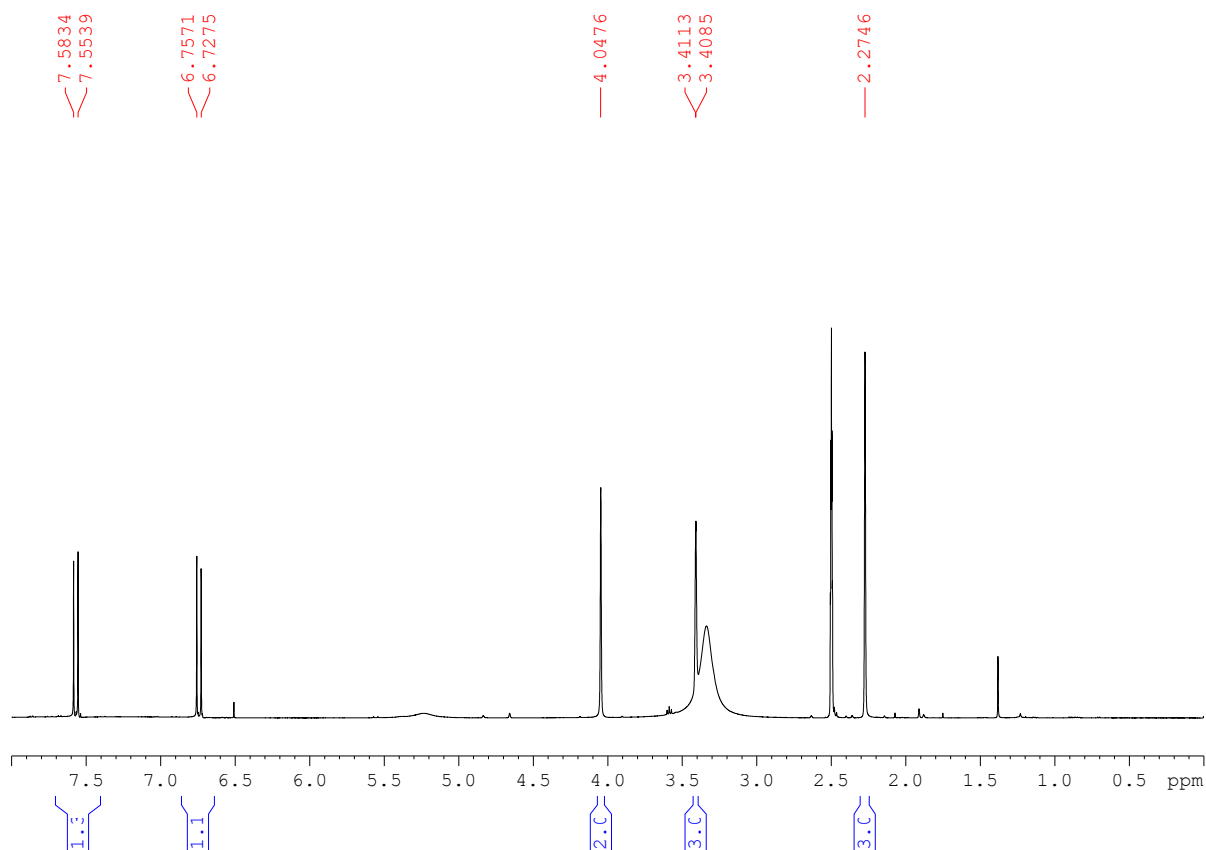


Figure S20. ROESY spectrum (500 MHz, DMSO- d_6) of **3**

**Figure S21.** HRESIMS spectrum for **4****Figure S22.** ¹H NMR spectrum (500 MHz, DMSO-*d*₆) of **4**

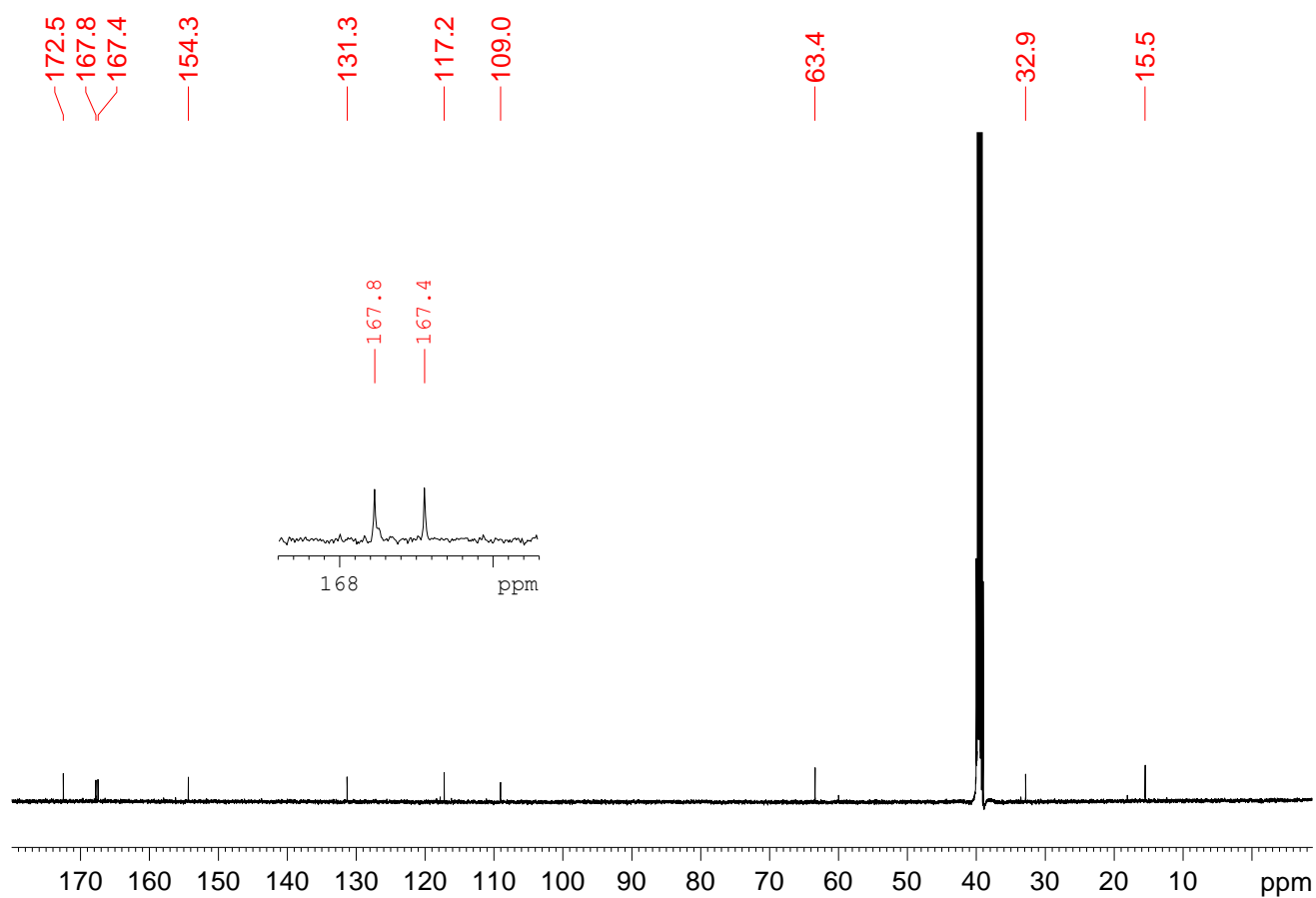


Figure S23. ¹³C NMR spectrum (125 MHz, DMSO-*d*₆) of **4**

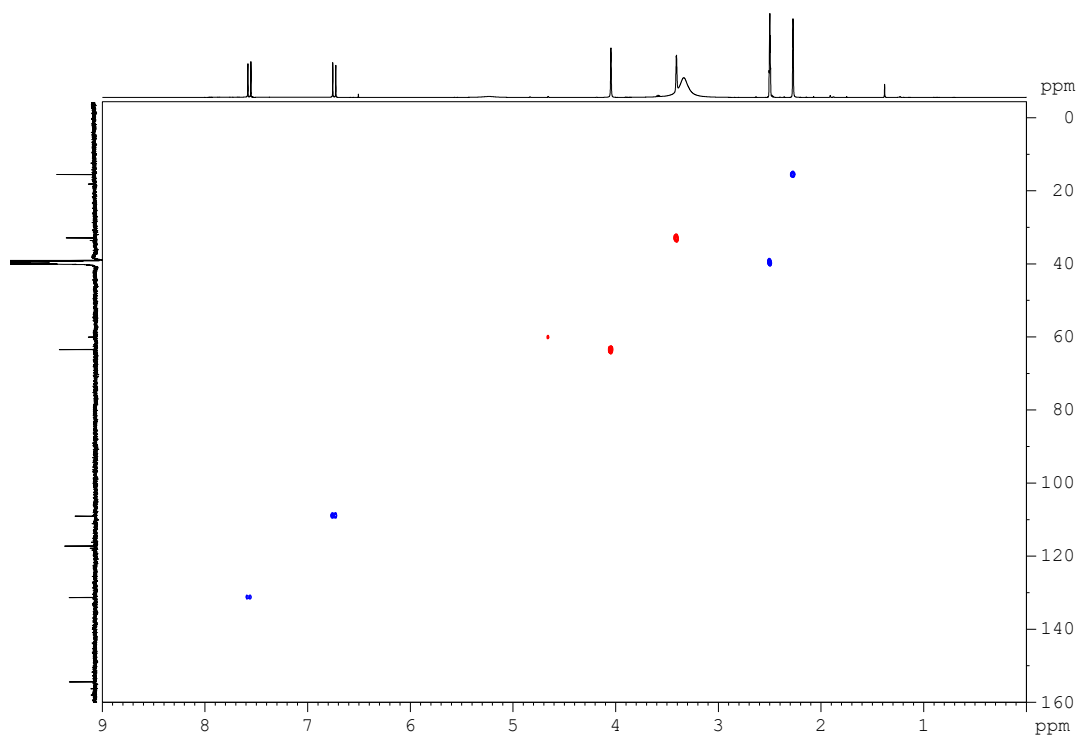


Figure S24. HSQC spectrum (500 MHz, DMSO-*d*₆) of **4**

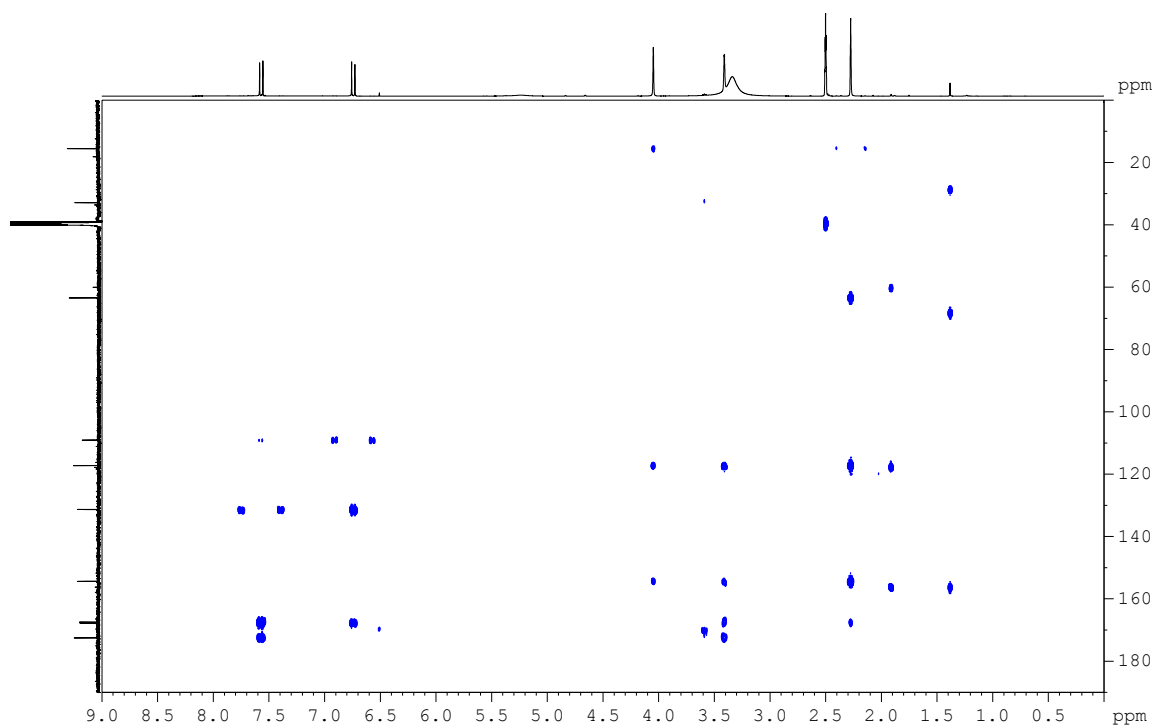


Figure S25. HMBC spectrum (500 MHz, DMSO-₆) of **4**

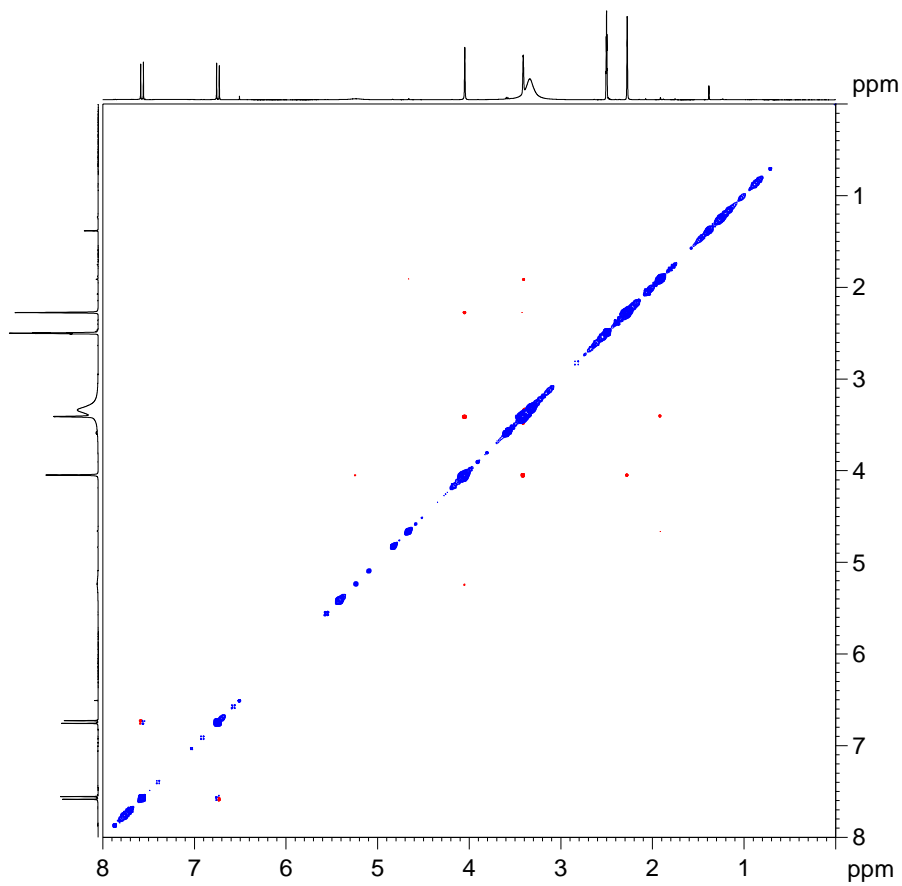


Figure S26. ROESY spectrum (500 MHz, DMSO-₆) of **4**

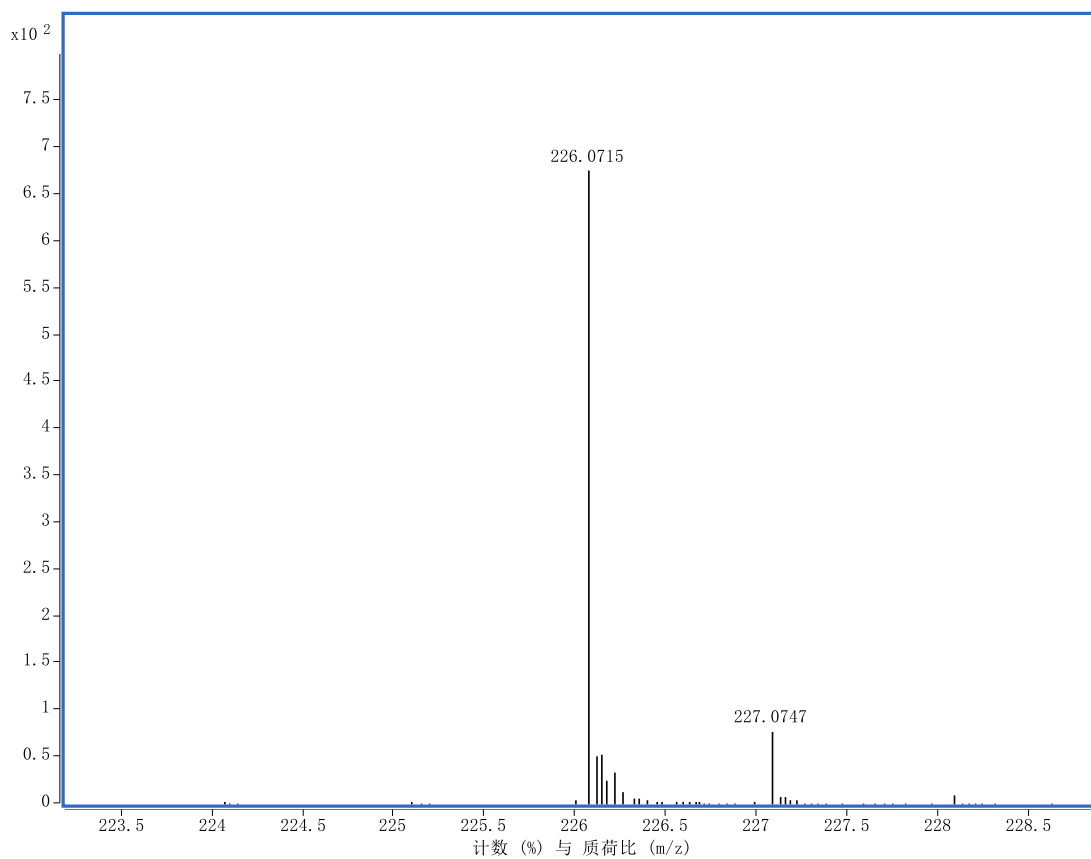


Figure S27. HRESIMS spectrum for **5**

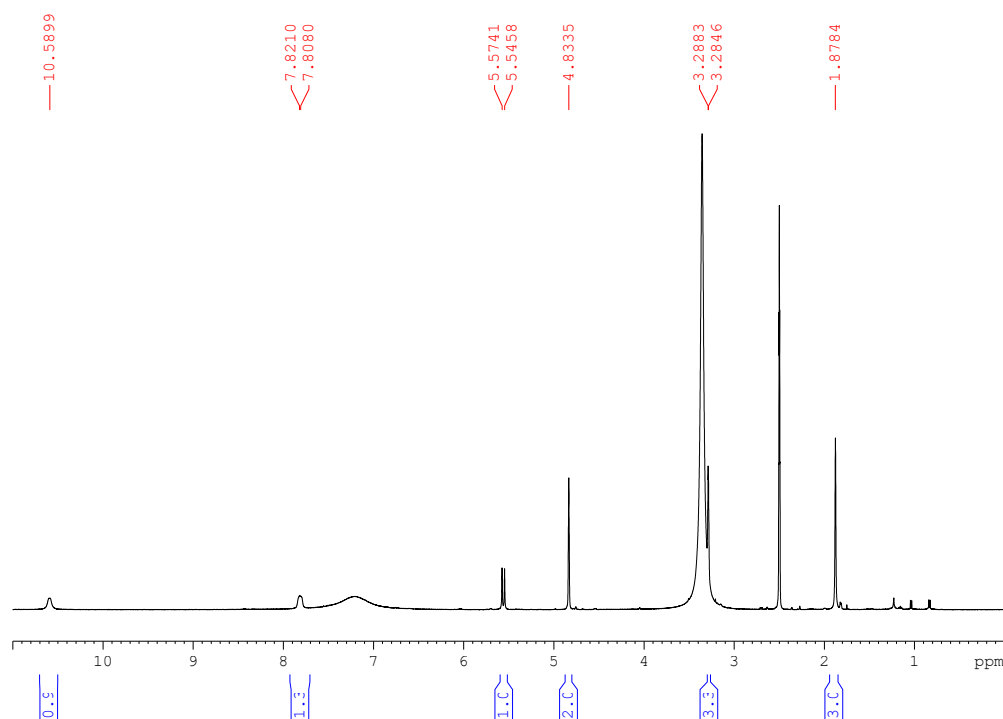


Figure S28. ¹H NMR spectrum (500 MHz, DMSO-*d*₆) of **5**

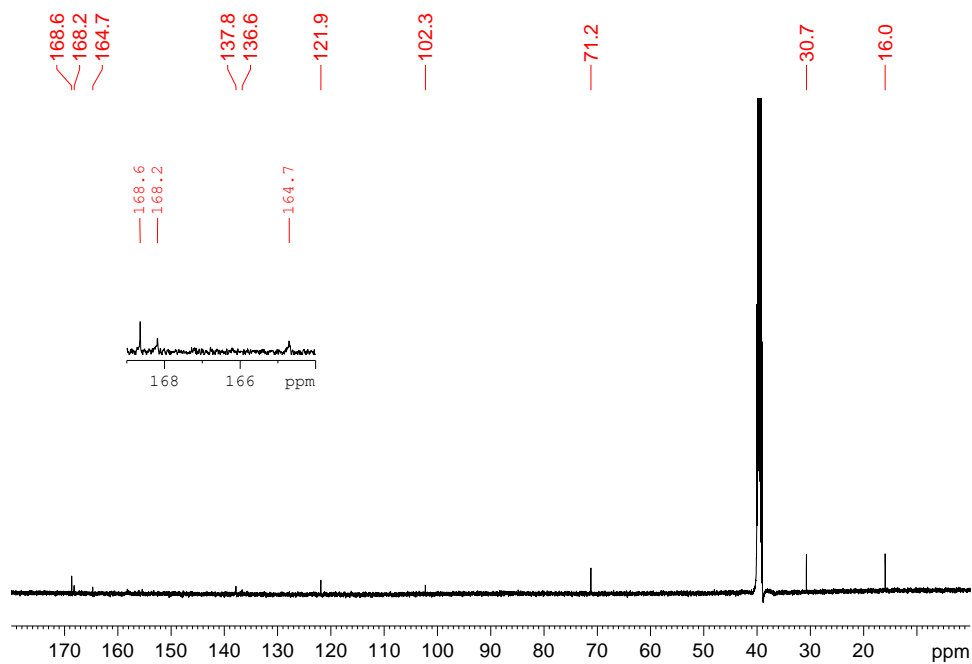


Figure S29. ¹³C NMR spectrum (125 MHz, DMSO-*d*₆) of **5**

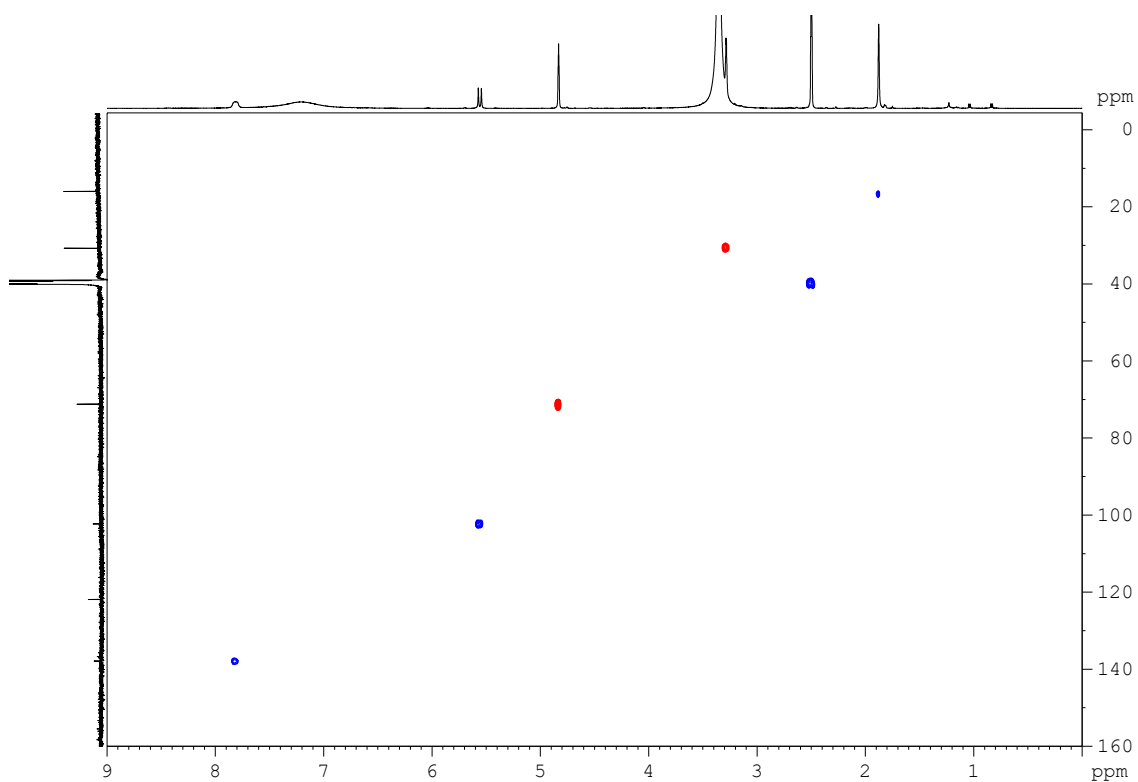


Figure S30. HSQC spectrum (500 MHz, DMSO-*d*₆) of **5**

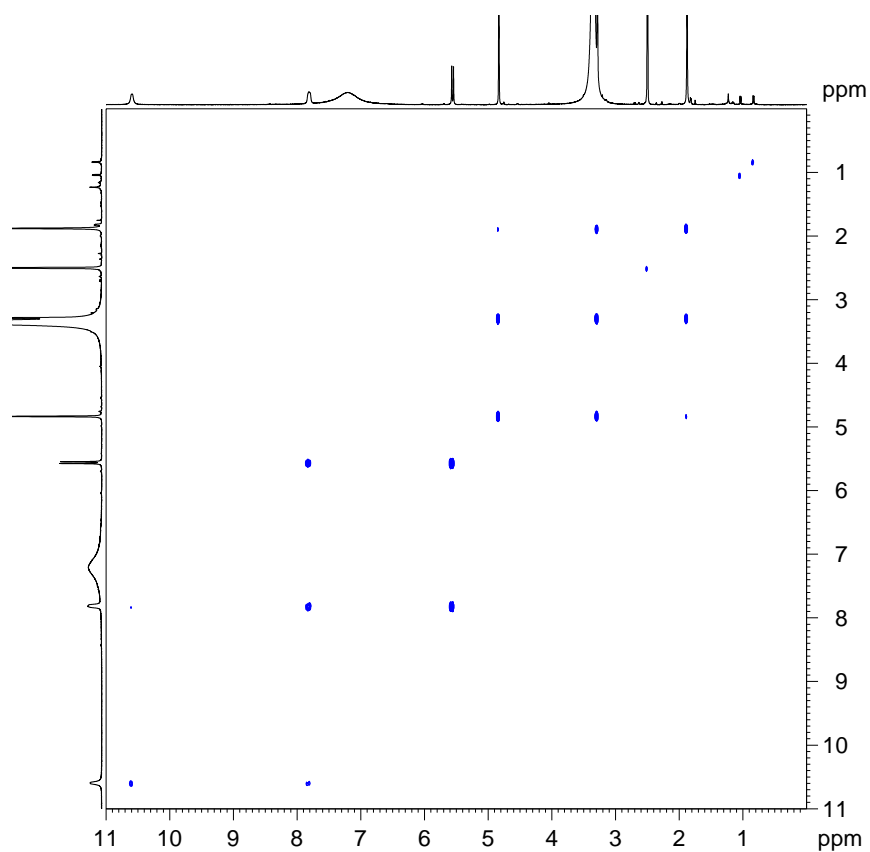


Figure S31. ^1H - ^1H COSY spectrum (500 MHz, $\text{DMSO-}d_6$) of **5**

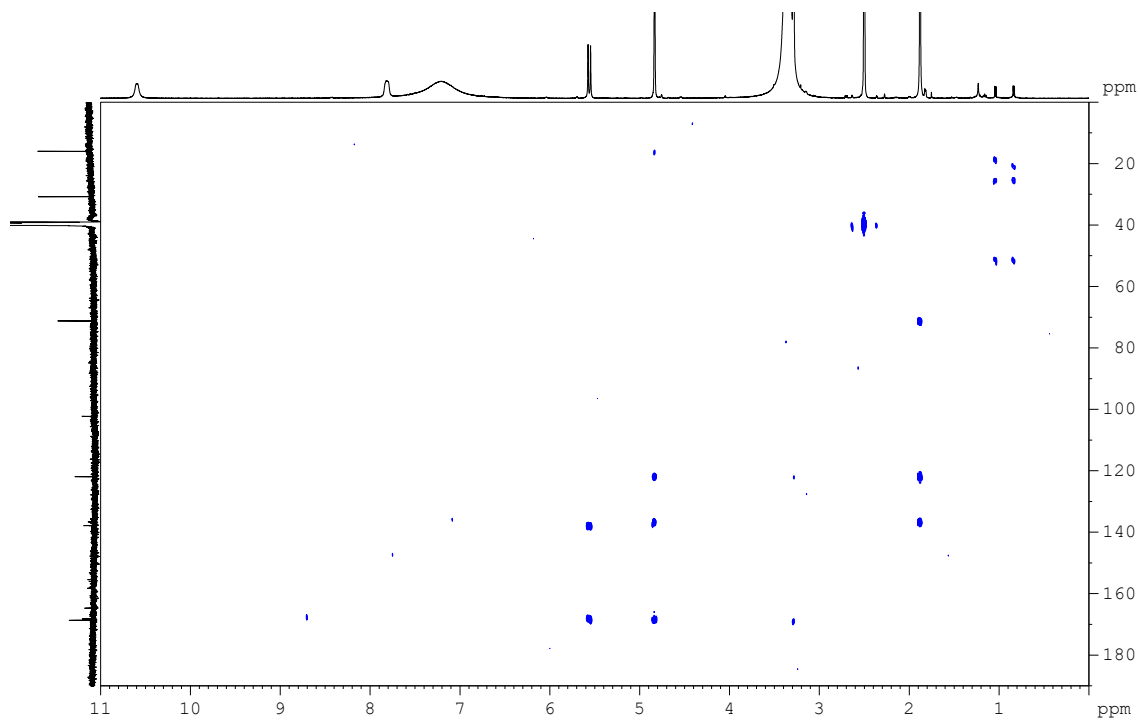


Figure S32. HMBC spectrum (500 MHz, $\text{DMSO-}d_6$) of **5**

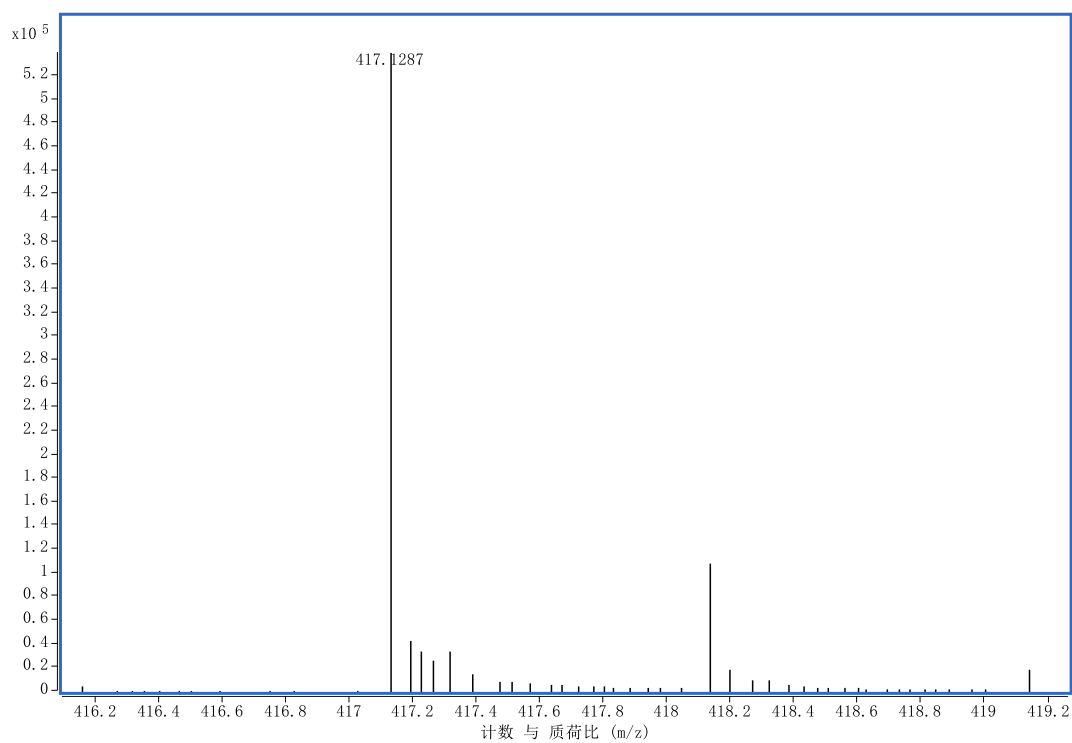
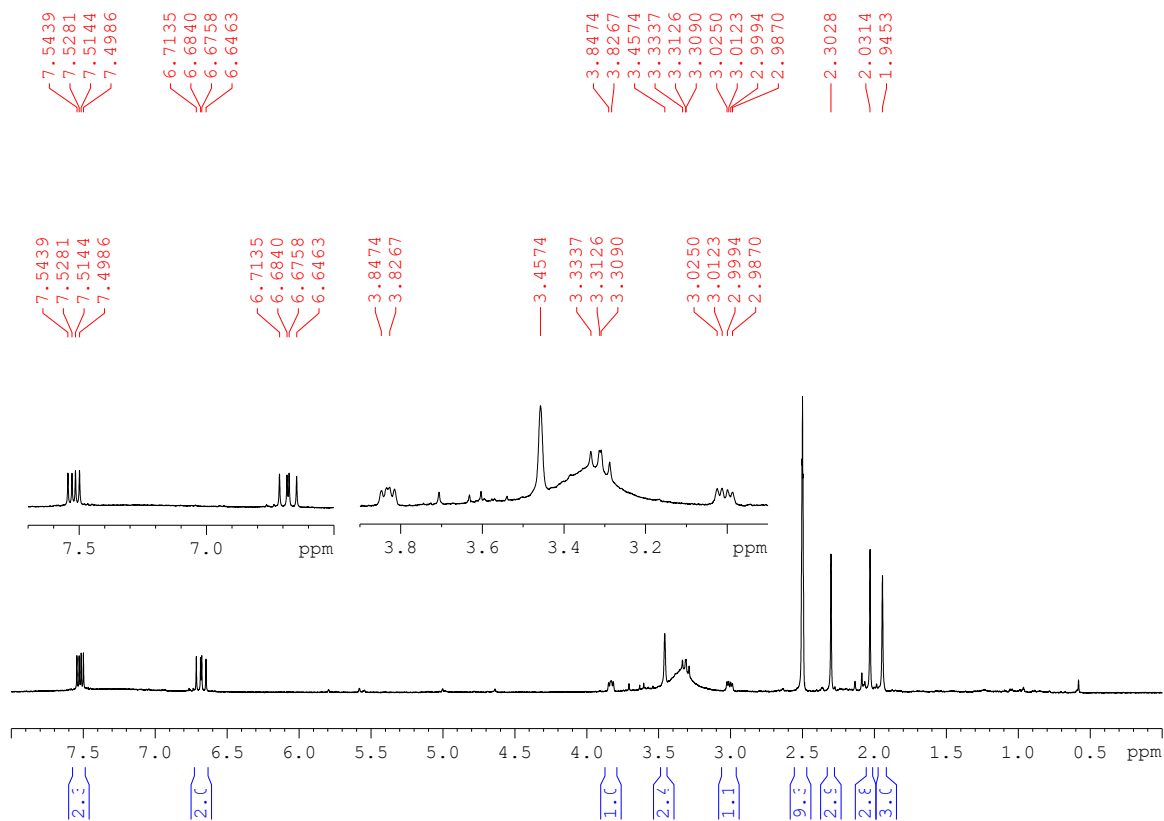


Figure S33. HRESIMS spectrum for 6

Figure S34. ^1H NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of 6

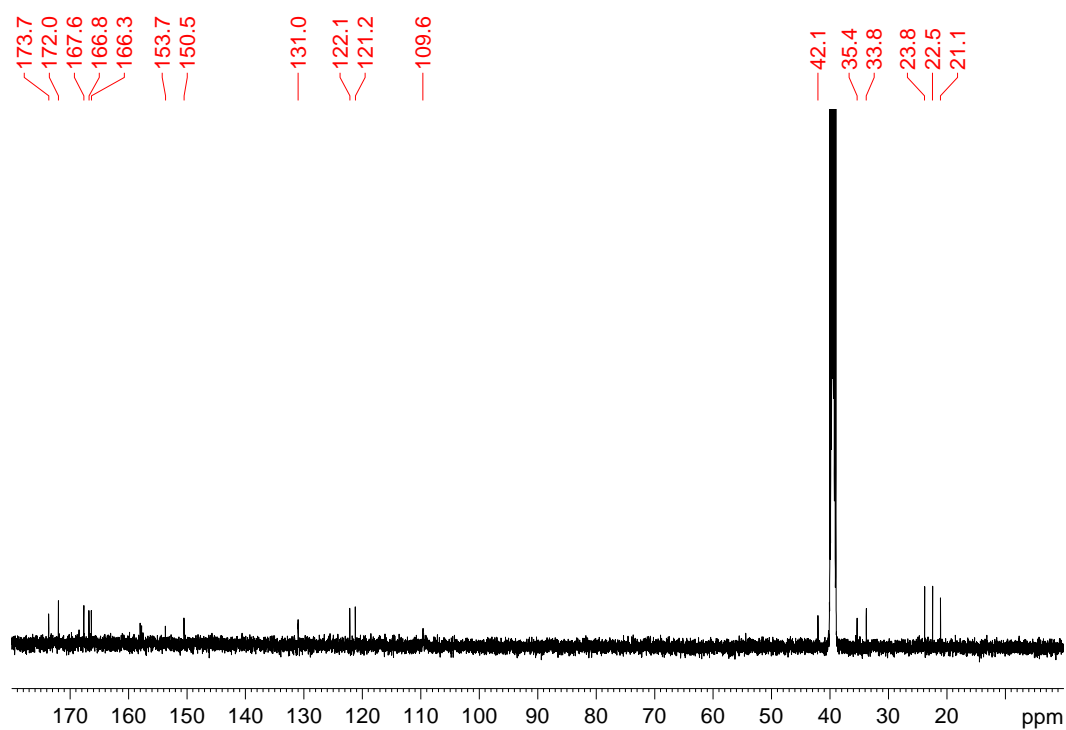


Figure S35. ¹³C NMR spectrum (125 MHz, DMSO-*d*₆) of **6**

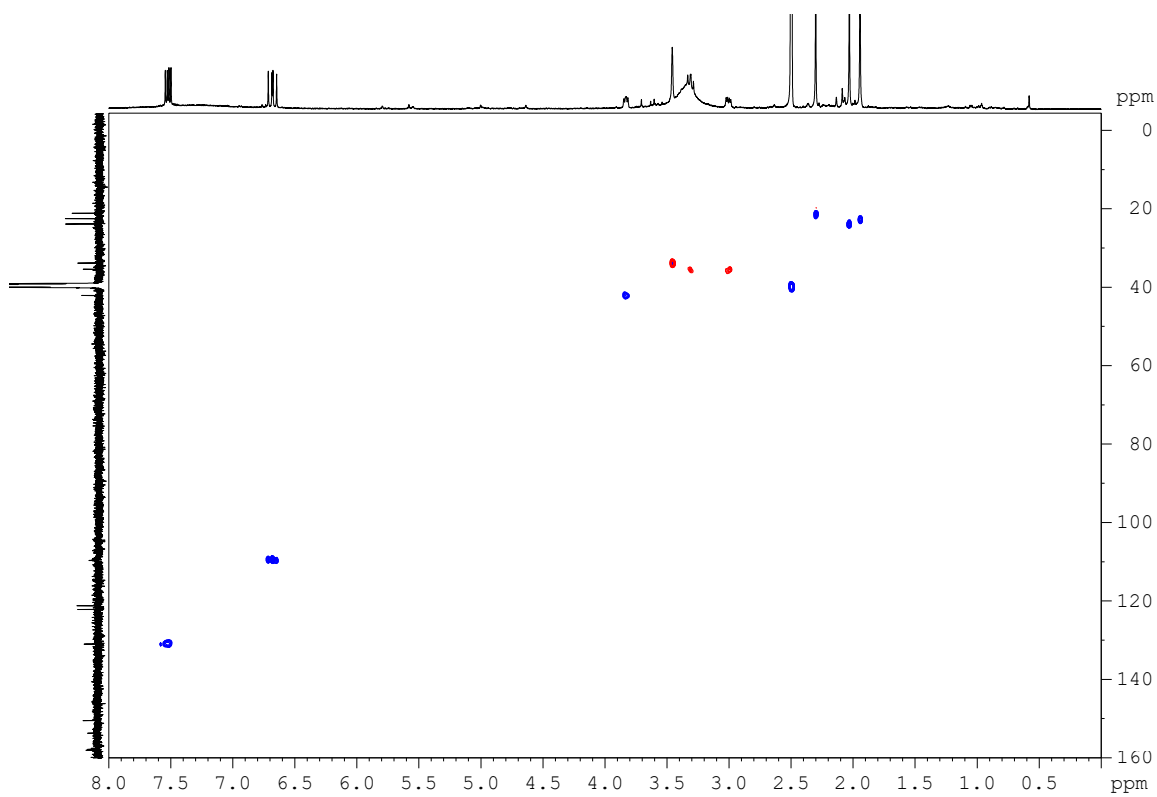


Figure S36. HSQC spectrum (500 MHz, DMSO-*d*₆) of **6**

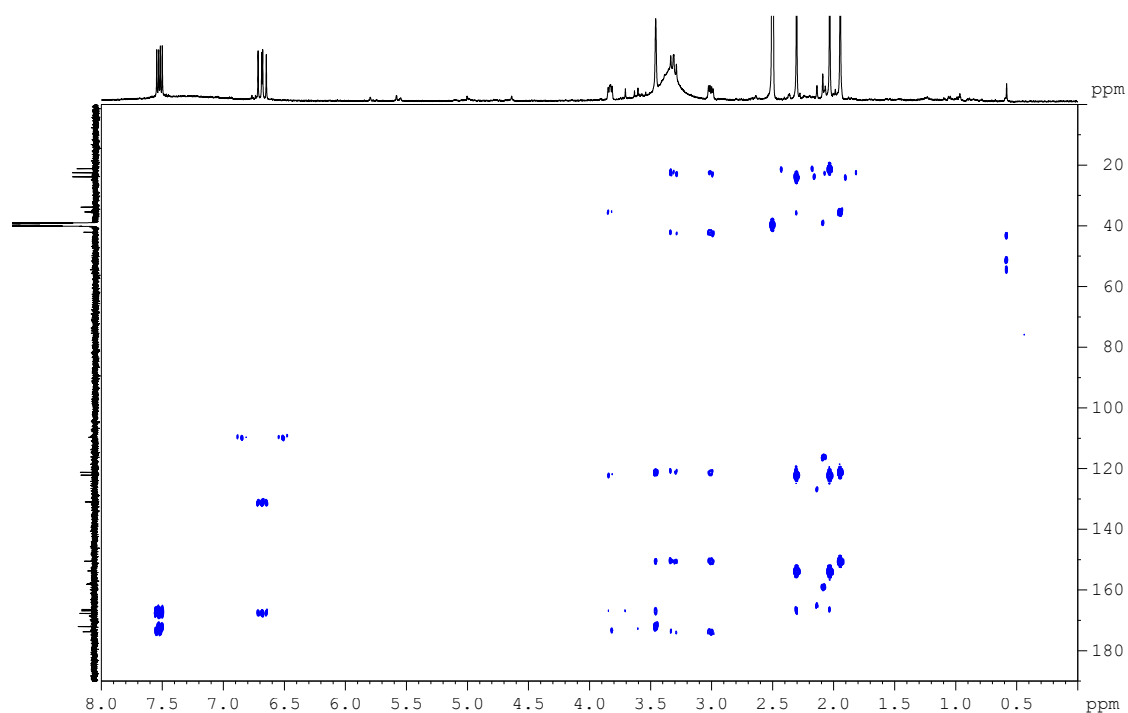


Figure S37. HMBC spectrum (500 MHz, DMSO- d_6) of **6**

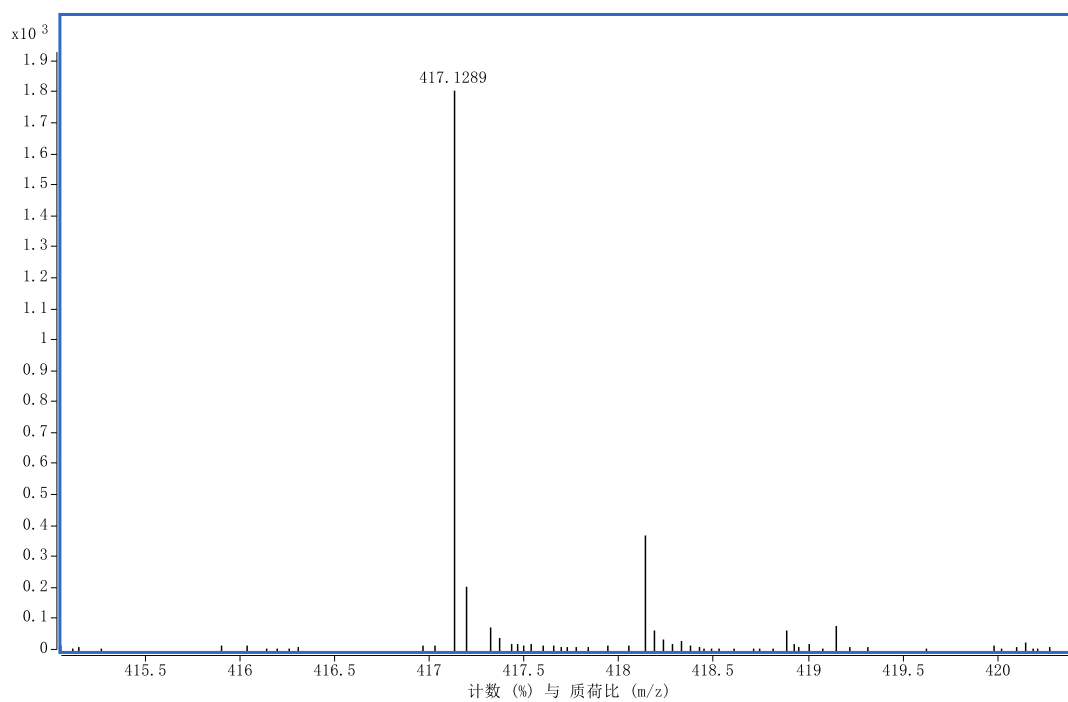


Figure S38. HRESIMS spectrum for **7**

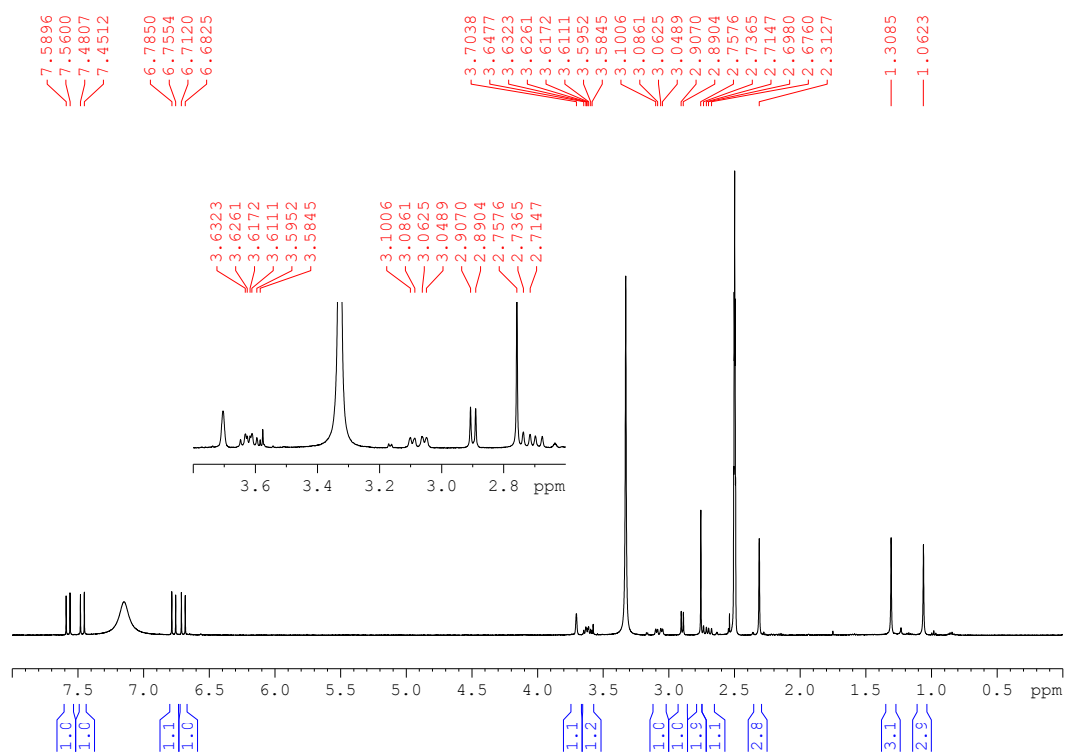


Figure S39. ^1H NMR spectrum (500 MHz, $\text{DMSO-}d_6$) of **7**

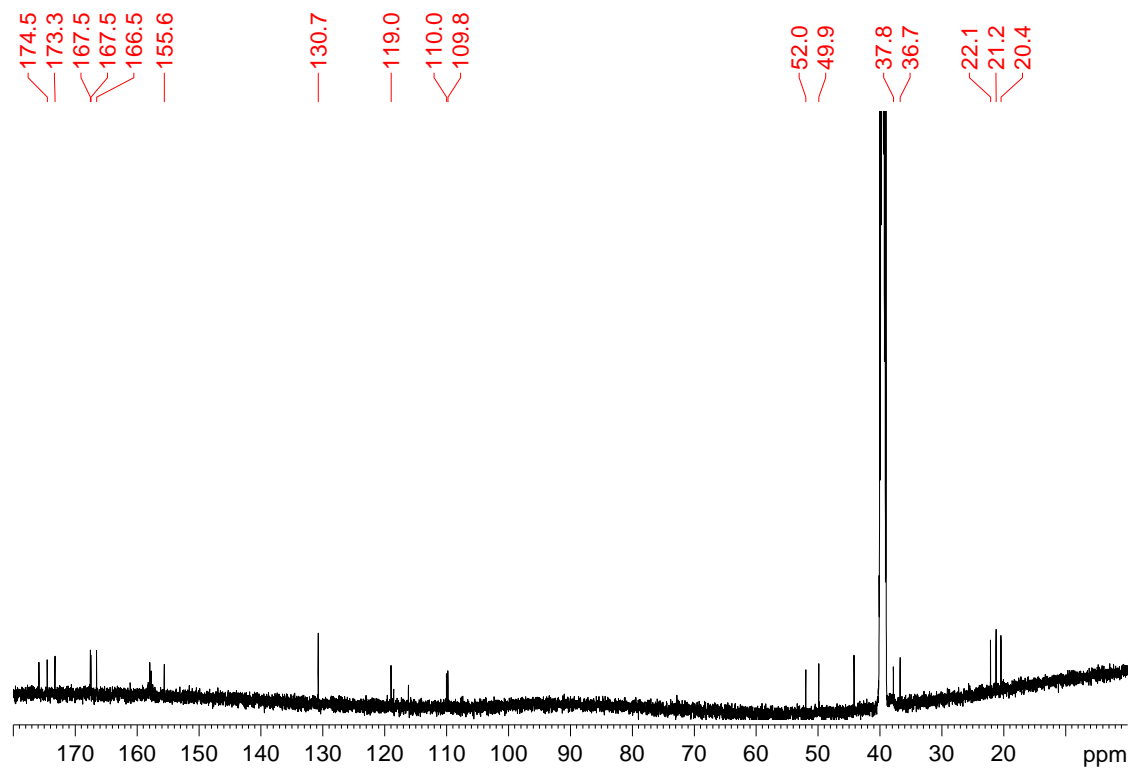


Figure S40. ^{13}C NMR spectrum (125 MHz, $\text{DMSO-}d_6$) of **7**

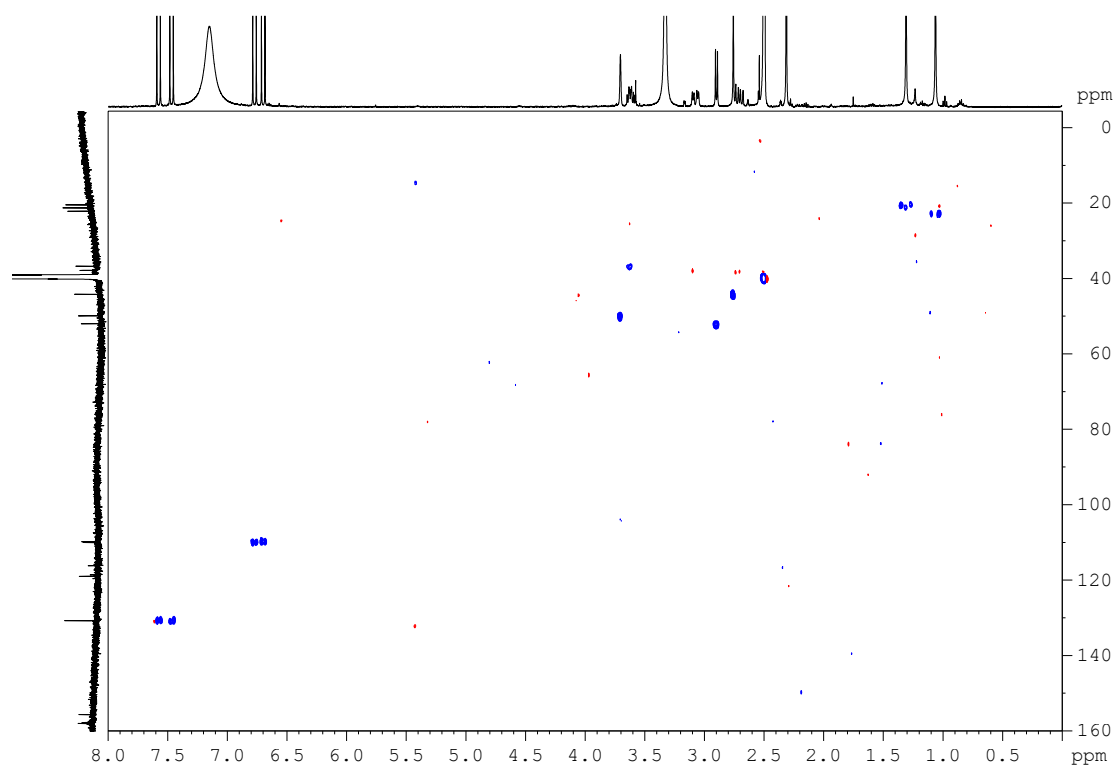


Figure S41. HSQC spectrum (500 MHz, DMSO-*d*₆) of **7**

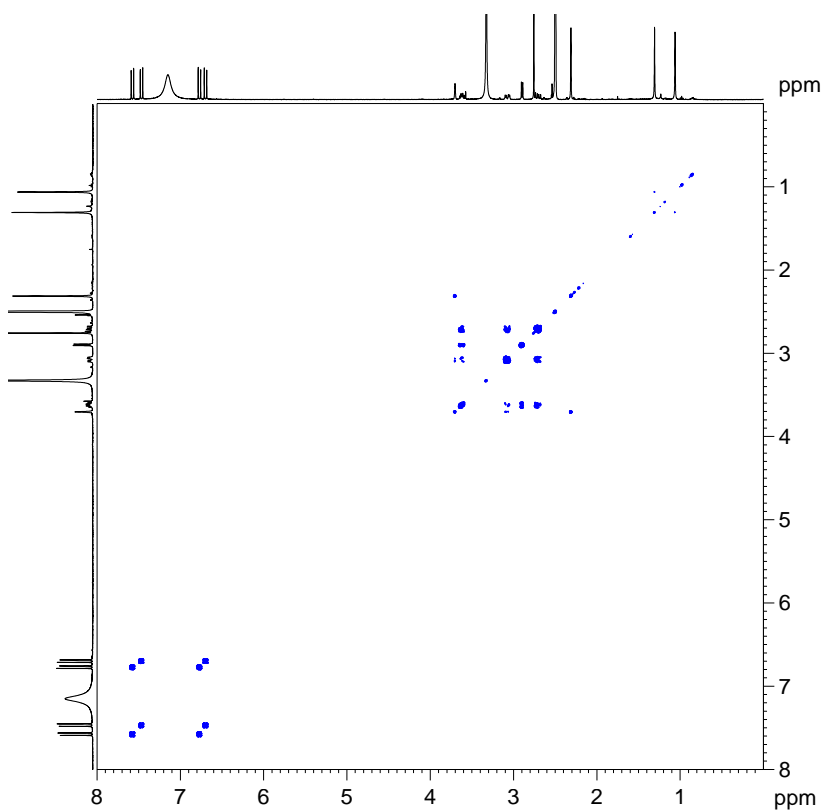


Figure S42. ¹H-¹H COSY spectrum (500 MHz, DMSO-*d*₆) of **12**

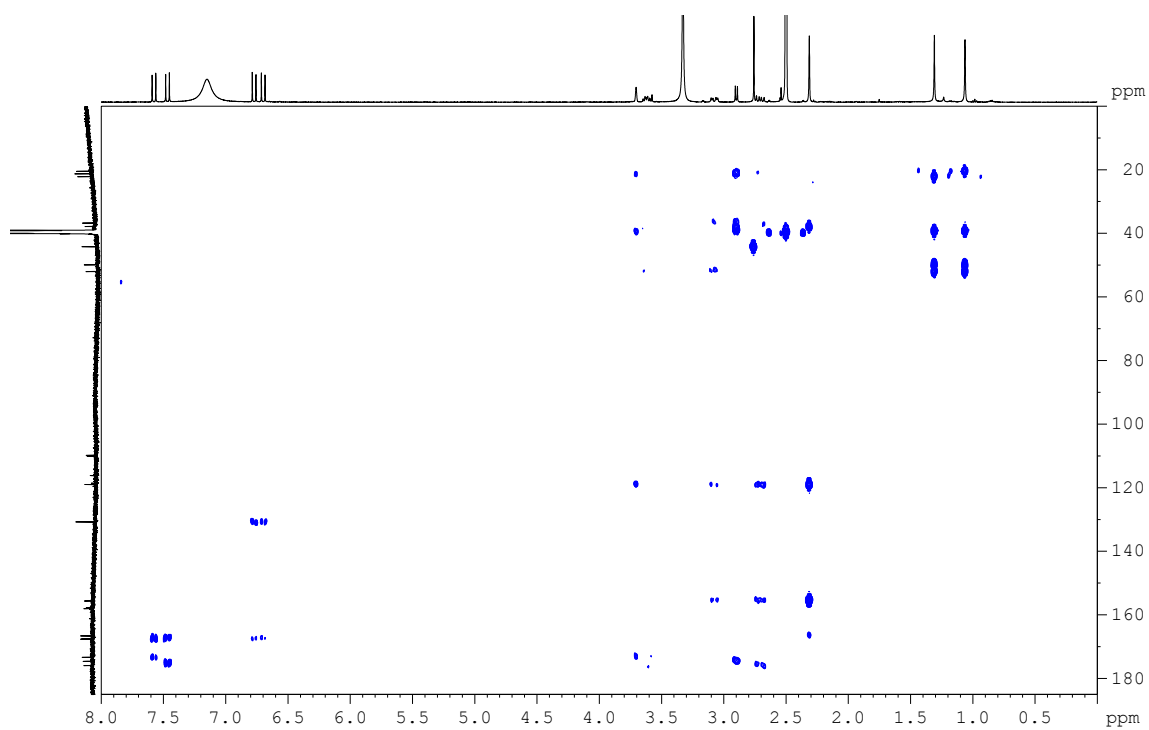


Figure S43. HMBC spectrum (500 MHz, DMSO- d_6) of **7**

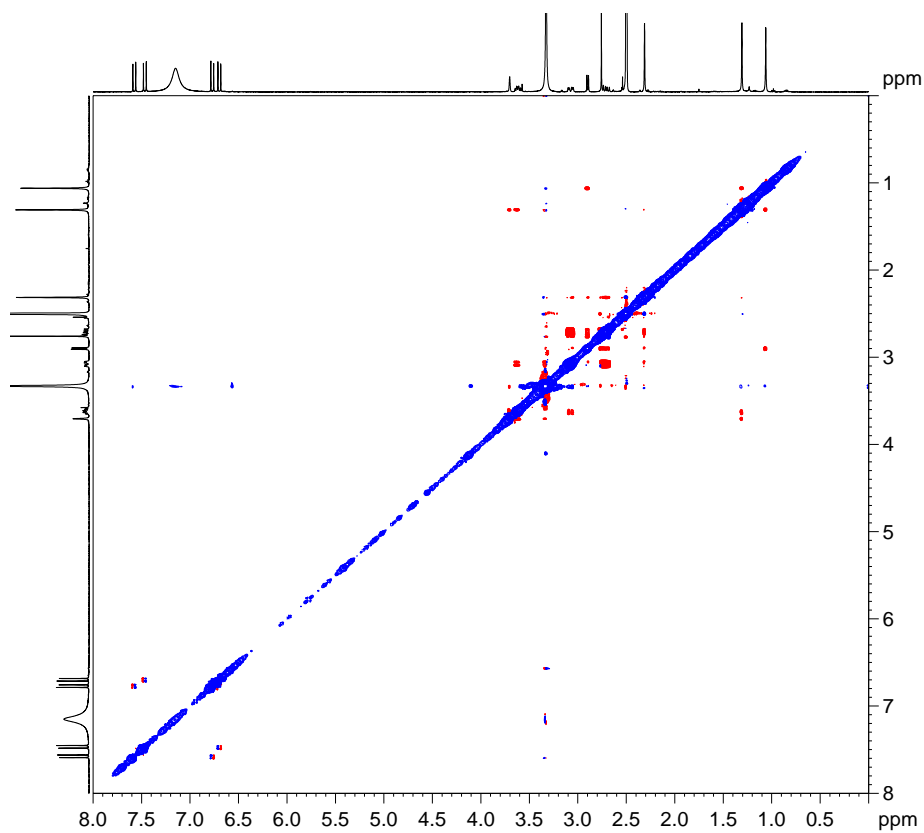


Figure S44. ROESY spectrum (500 MHz, DMSO- d_6) of **7**

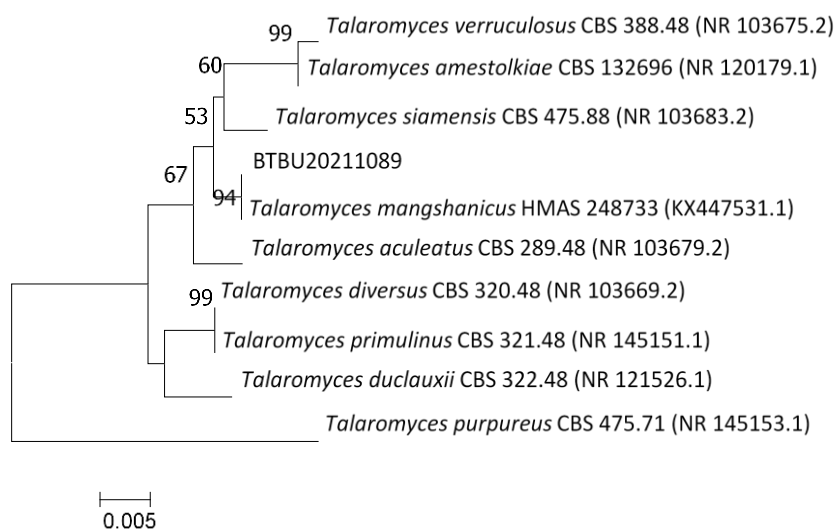


Figure S45. Neighbor-joining phylogenetic tree of BTBU20211089 and its most related type strains based on internal transcribed spacer region (ITS) from NCBI ITS database. Numbers at nodes indicate levels of bootstrap support (%) based on a neighbor joining analysis of 1,000 resampled datasets; only values >50 % are given. NCBI accession numbers are given in parentheses. Bar 0.005 nucleotide substitutions per site.