*Supporting Information for*

# Salinipyrone and pacificanone are biosynthetic byproducts of the rosamicin polyketide synthase

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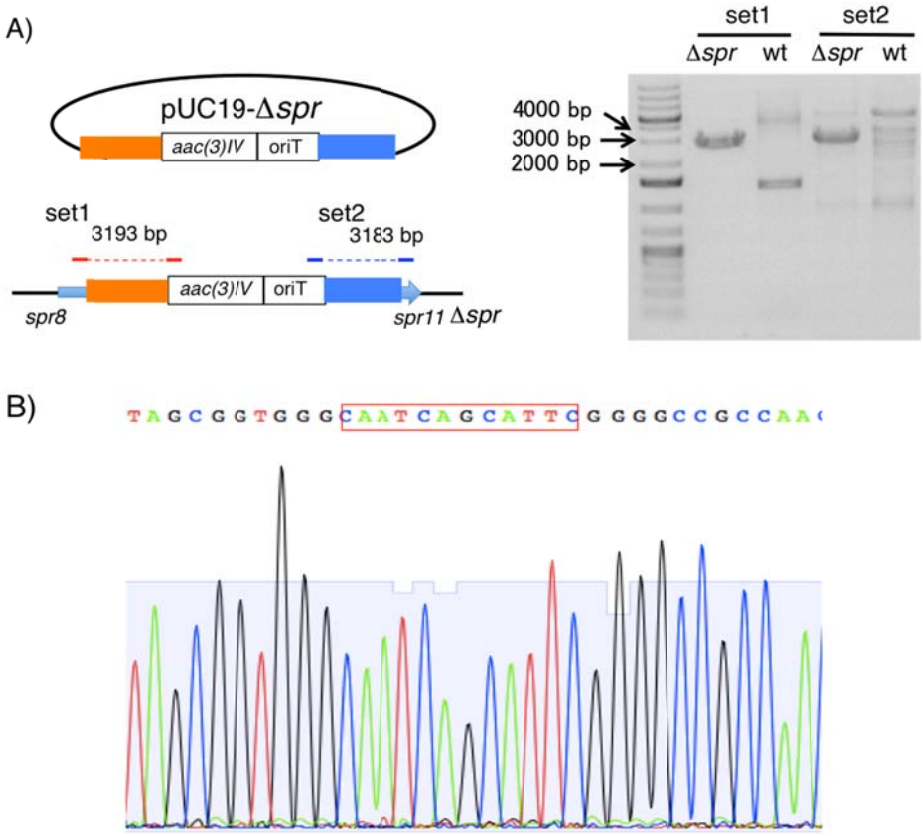


**Figure S1** The evaluation of Δ*spr* and *spr10Y1290F* strains

(A) PCR amplification by using gDNA from *S. pacifica* CNS-237 and Δ*spr* strain. (B) Sequence result of the 595-bp fragment amplified from *spr10Y1290F* strain. The red frame shows the mutated sequence in this study.

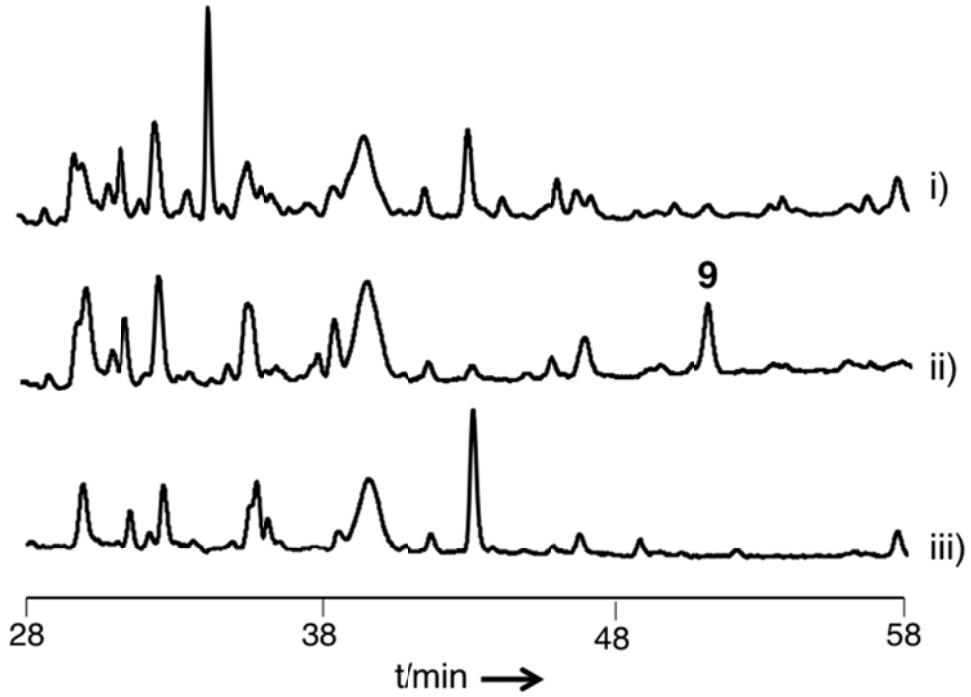


**Figure S2** HPLC analyses of the metabolites from i) CNS-237, ii) *spr10*Y**1**290F, and iii) Δ*spr* cultured in A1FeBC medium. The traces represent chromatograms acquired by detection at 280 nm.

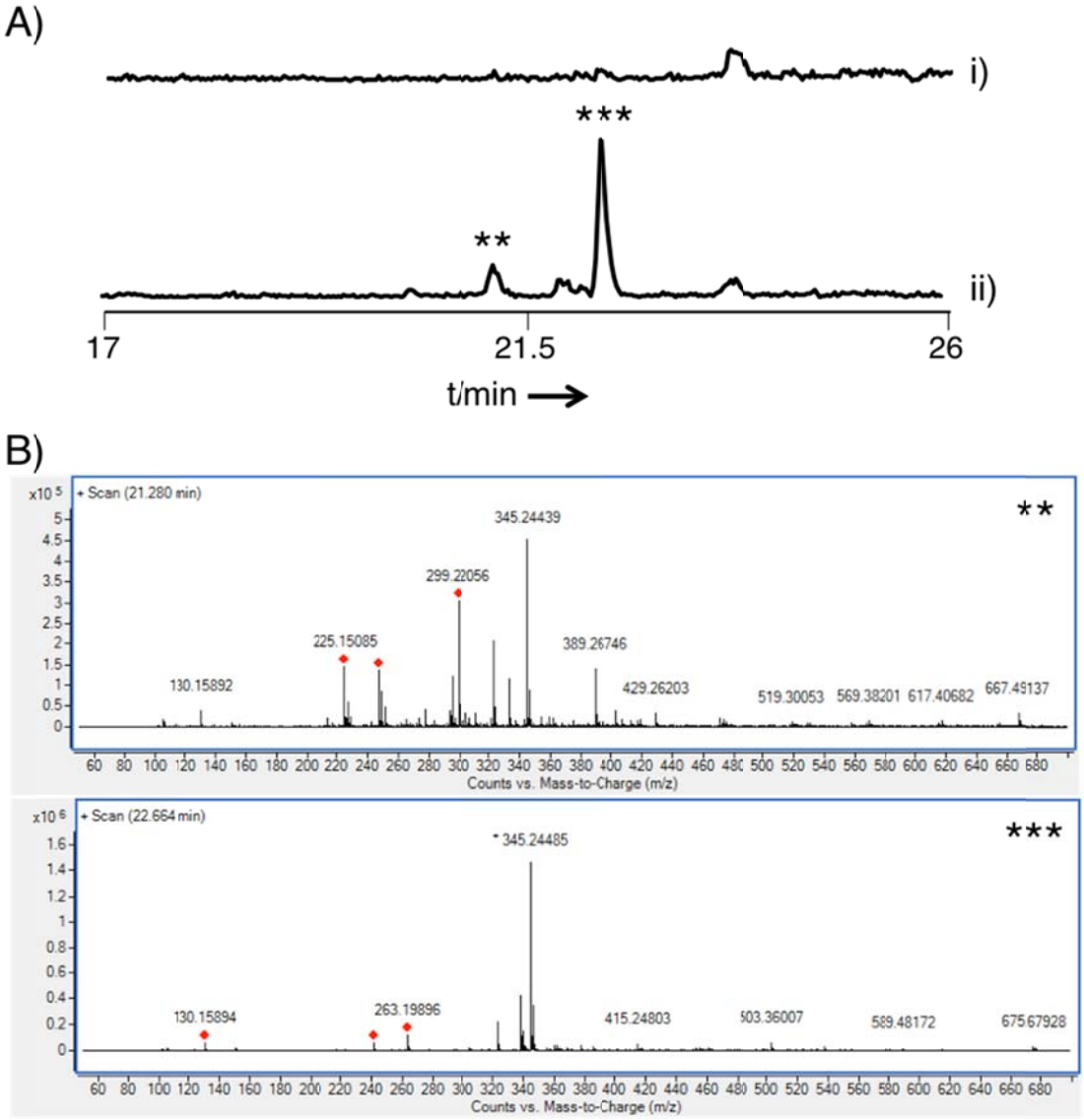


**Figure S3** (A) Extracted chromatograms (345.240 m/z) of the metabolites from i) CNS-237 and ii) *spr10*Y1290F cultured in A1+BFe medium (** and *** indicate the compounds whose MSes are identical to **2**). (B) MS spectra of ** and ***.

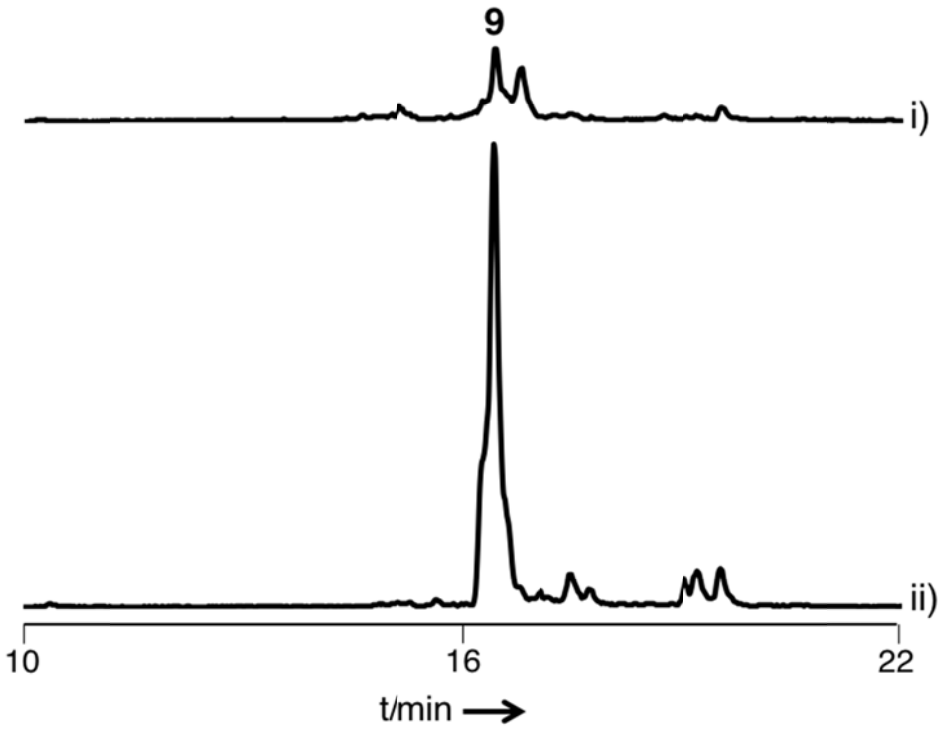


**Figure S4** LC-MS analyses of the metabolites from i) CNS-237 and ii) *spr10*Y1290F cultured in A1+BFe medium. The traces represent extracted chromatograms (431.242 m/z).

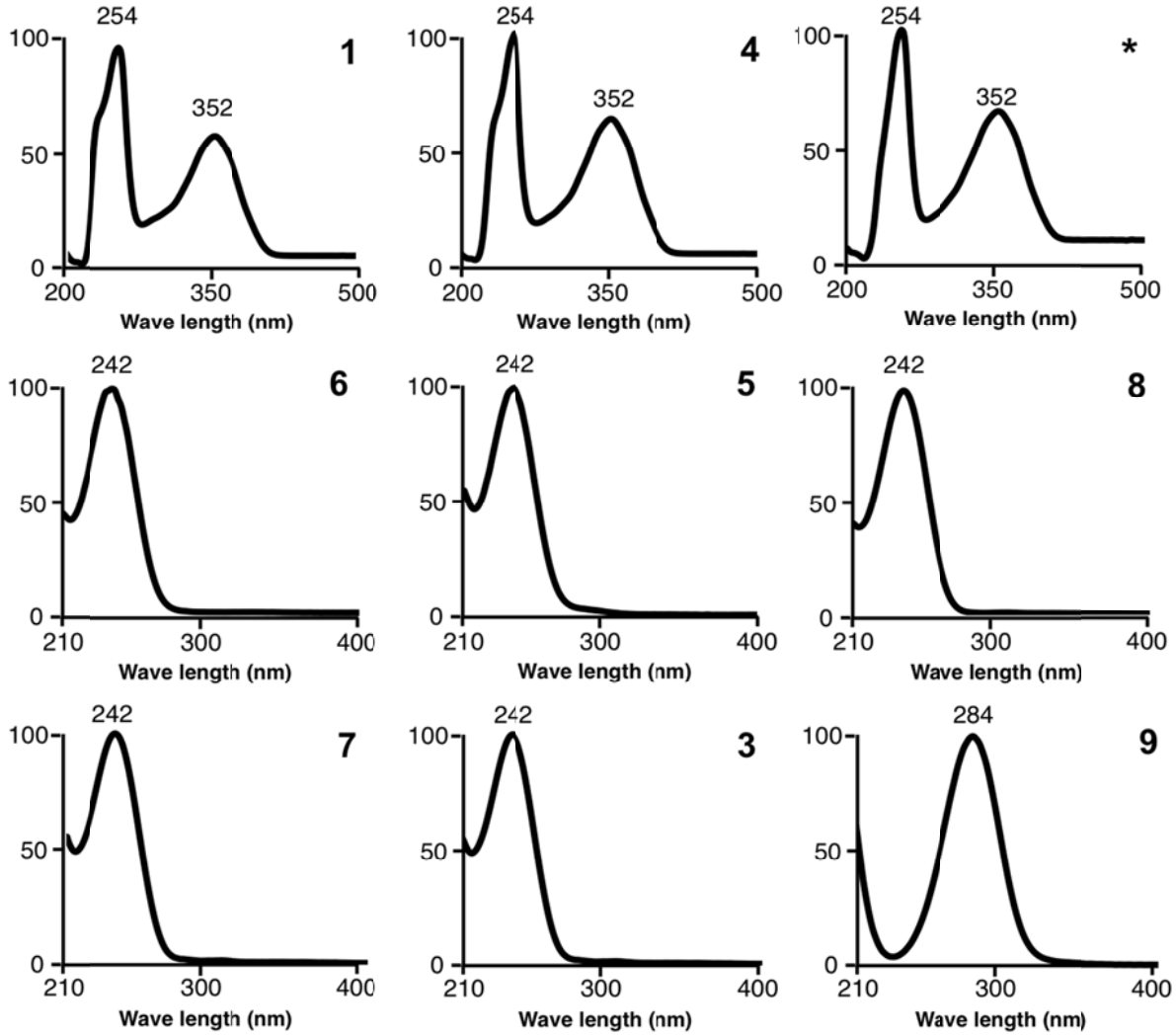


**Figure S5** UV spectra of compound **1**, **3**-**9**, and *.

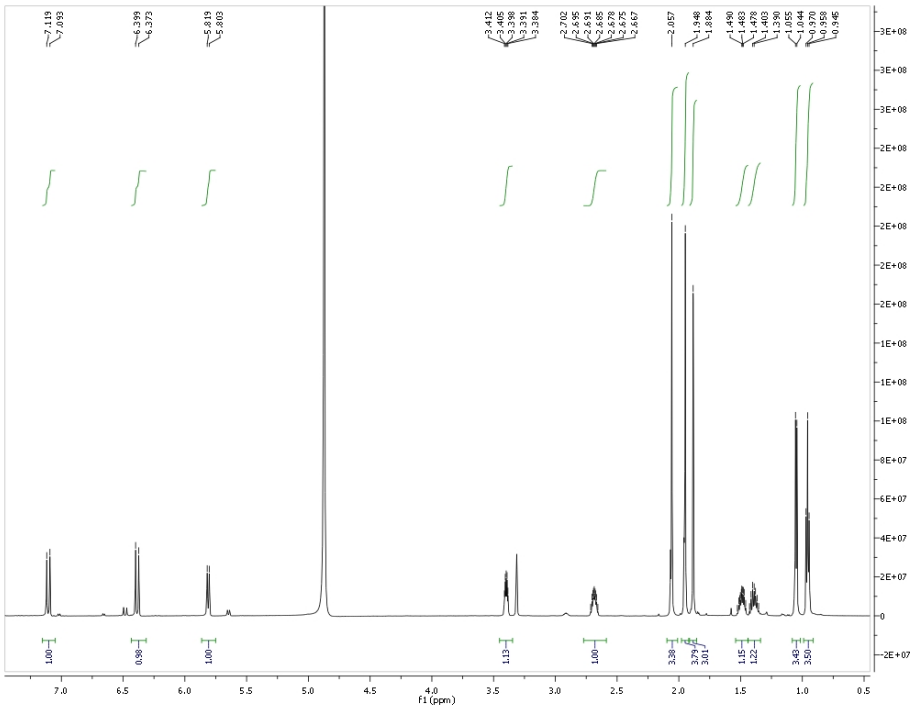

**Figure S6** $^{1}$H NMR spectrum of **1** in $CD_3OD$

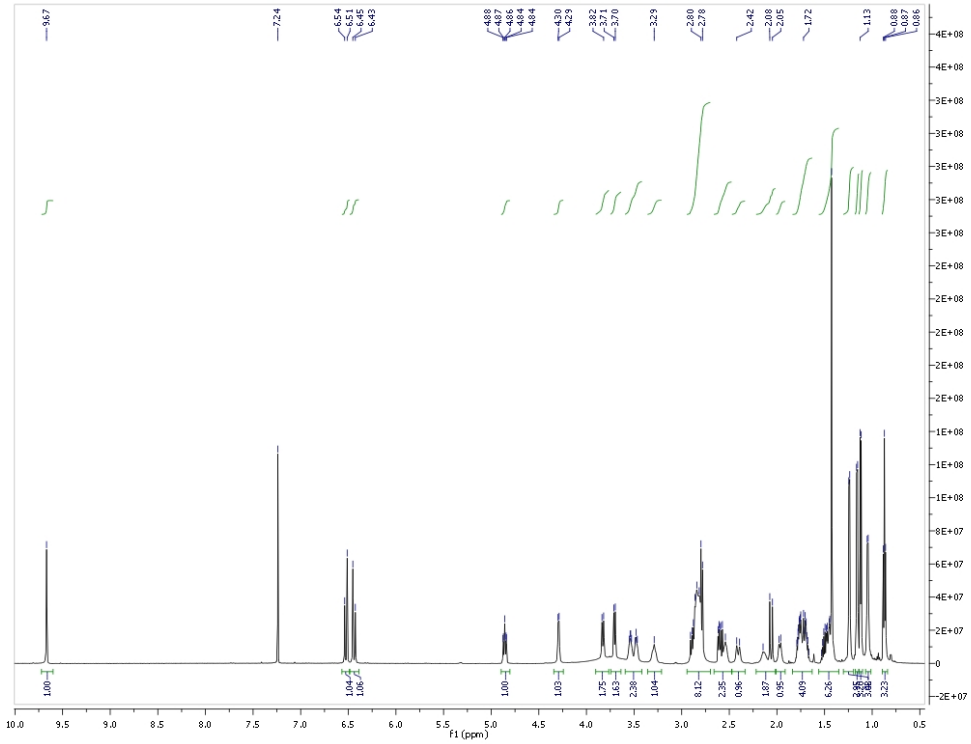

**Figure S7** $^{1}$H NMR spectrum of **3** in $CDCl_3$

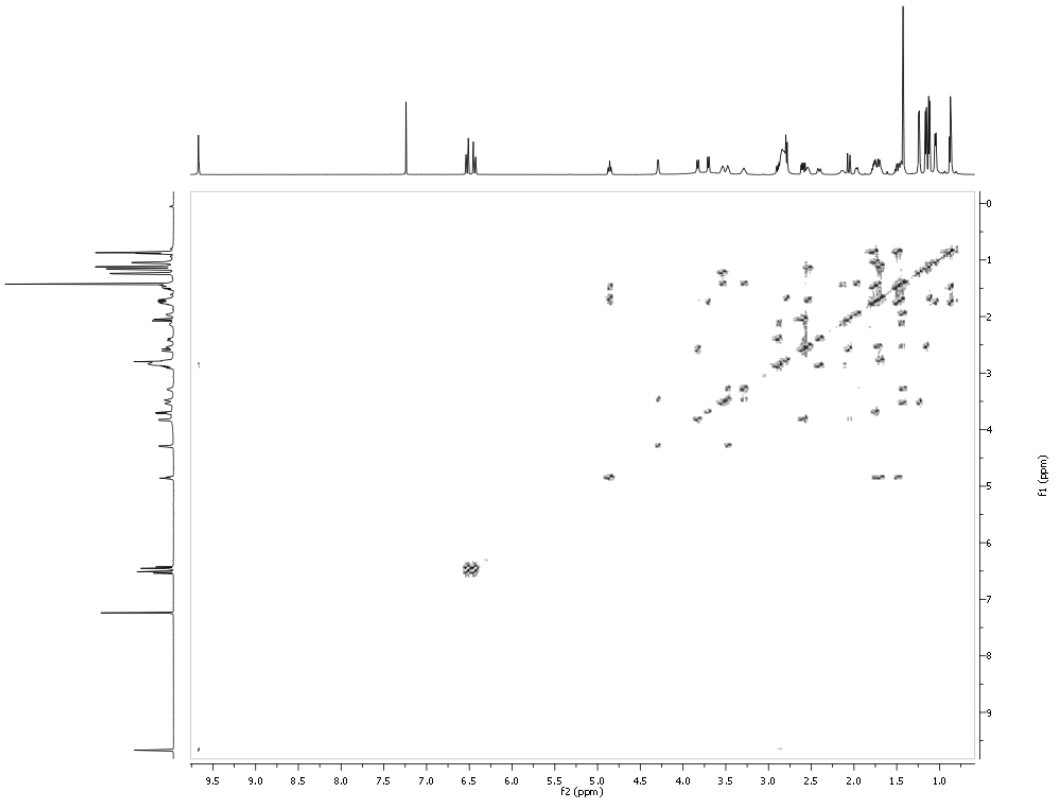


**Figure S8** $^{1}$H-$^{1}$H COSY spectrum of **3** in $CDCl_3$

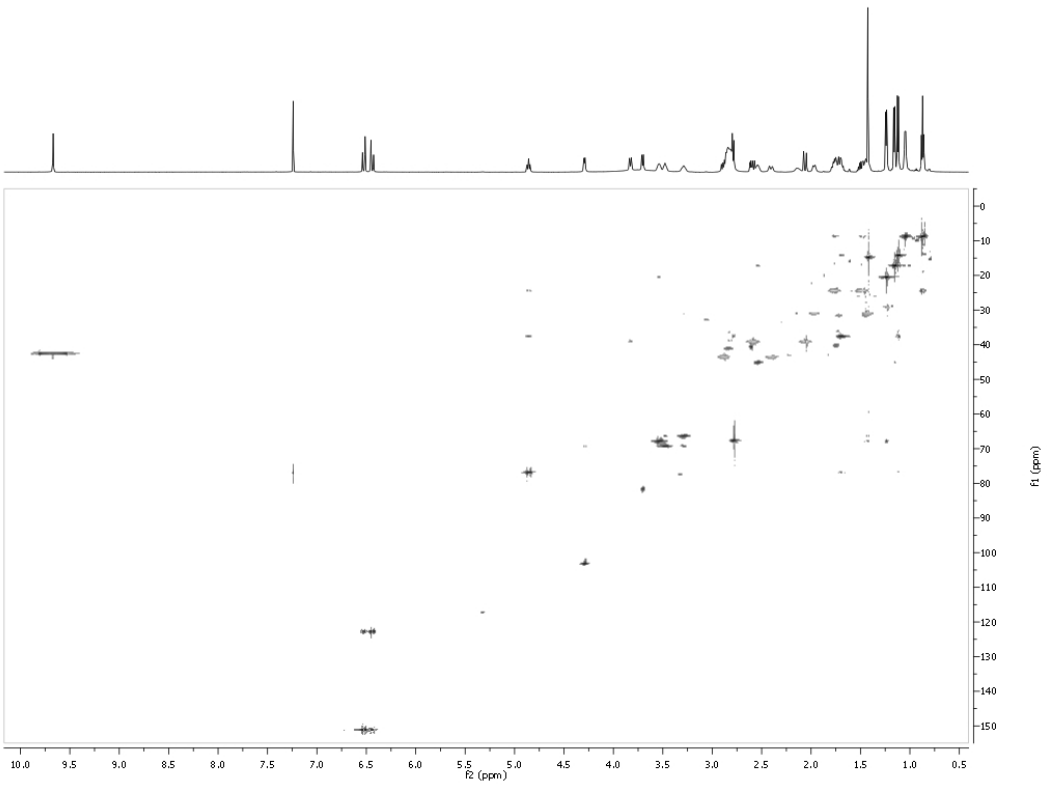


**Figure S9** HSQC spectrum of **3** in $CDCl_3$

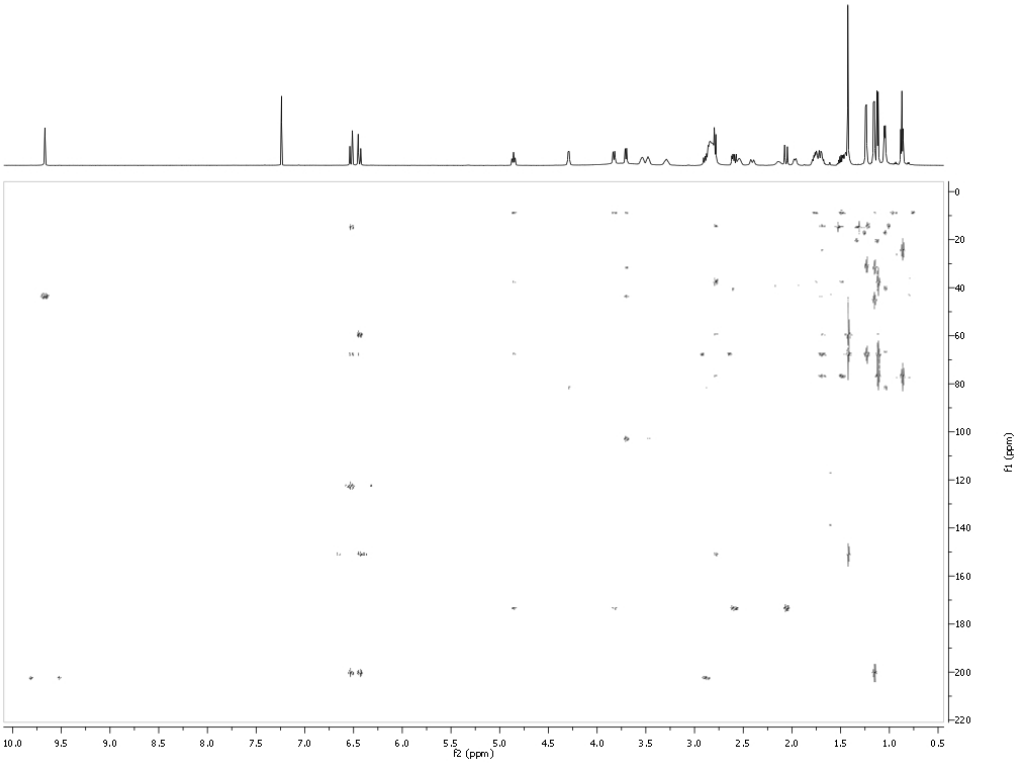


**Figure S10** HMBC spectrum of **3** in $CDCl_3$

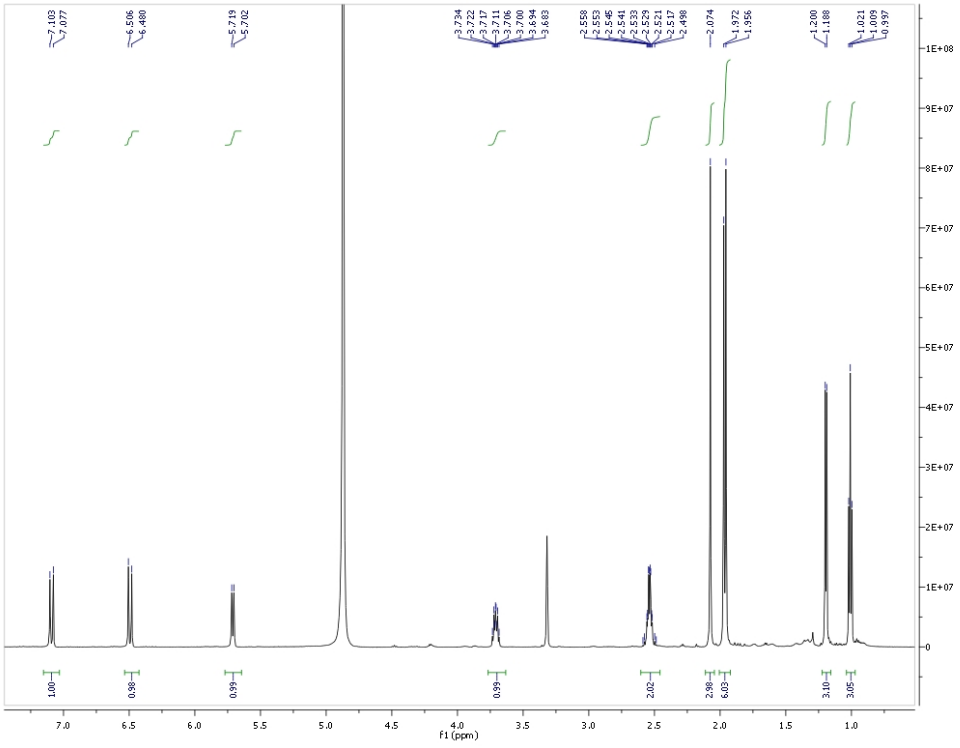


**Figure S11** $^1$H NMR spectrum of **4** in $CD_3OD$

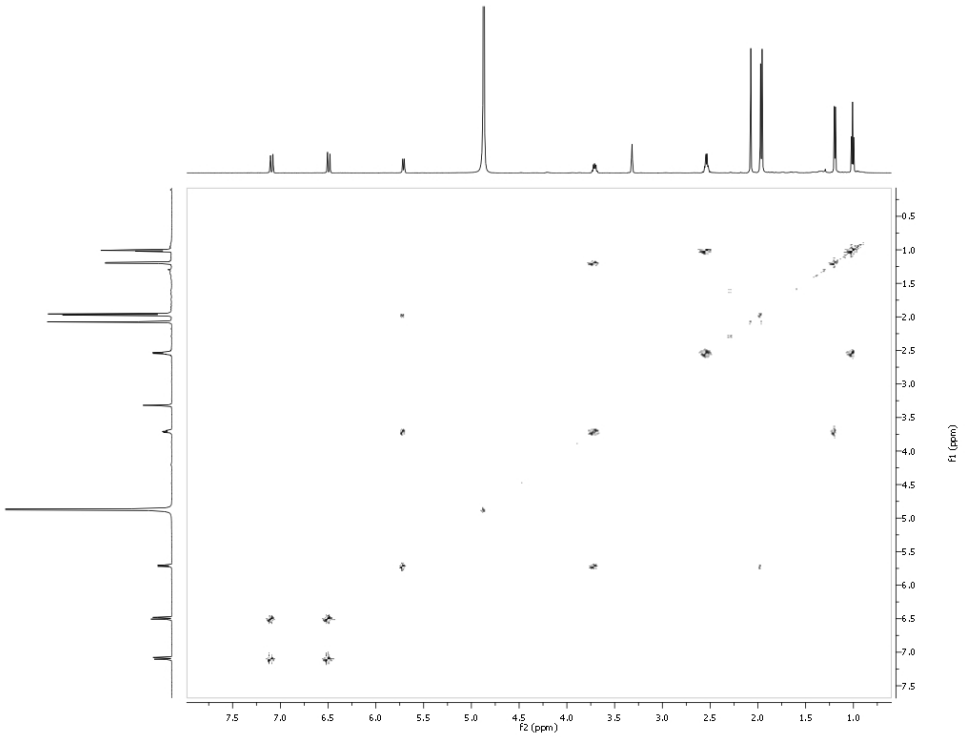


**Figure S12** $^{1}$H-$^{1}$H COSY spectrum of **4** in $CD_3OD$

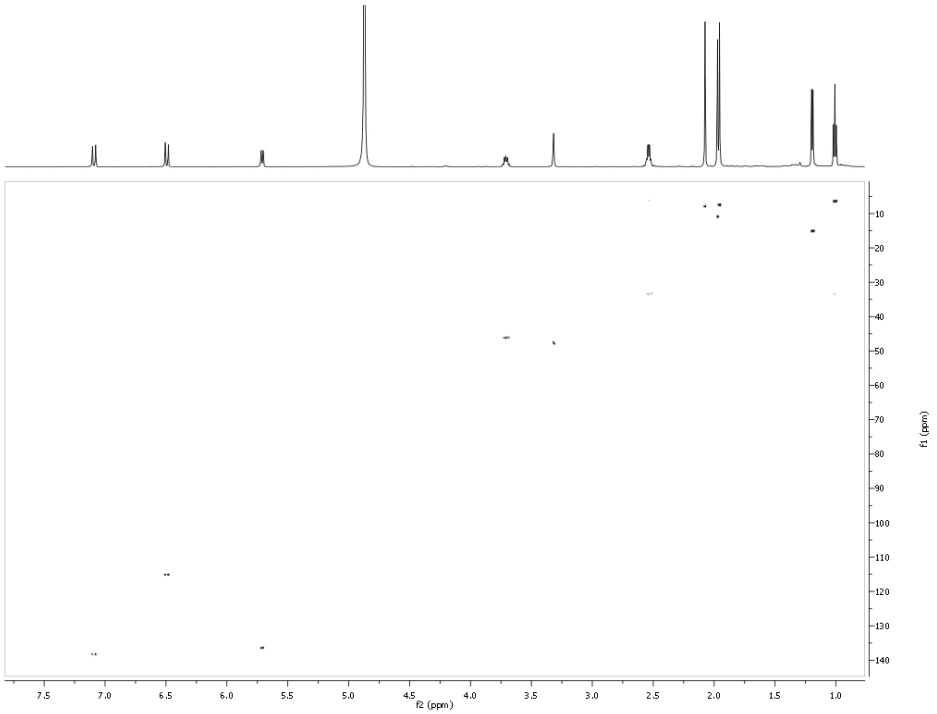


**Figure S13** HSQC spectrum of **4** in $CD_3OD$

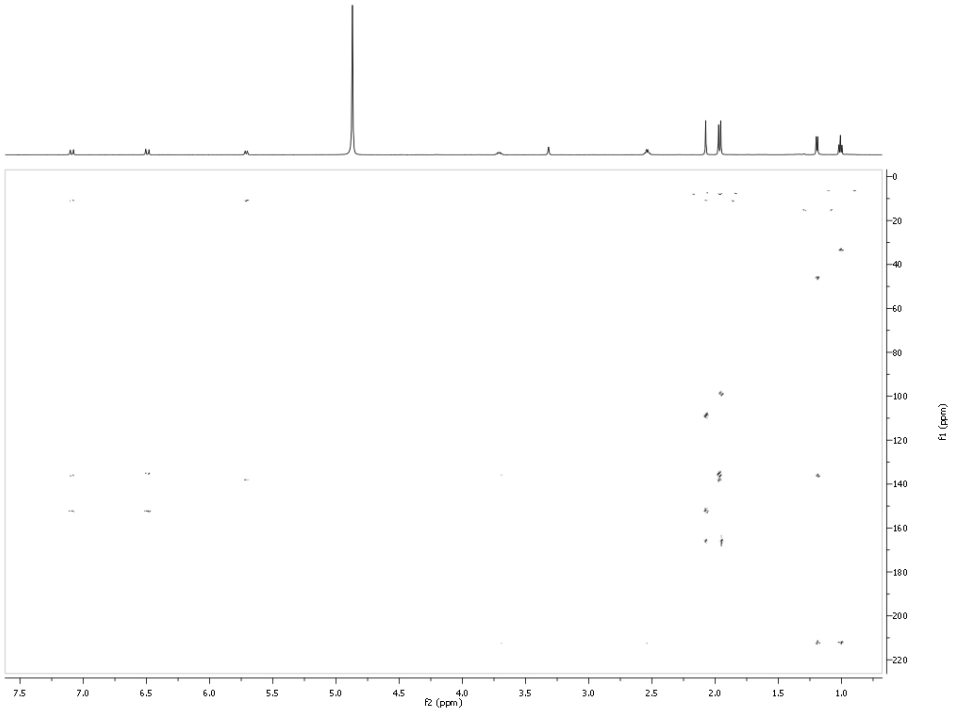


**Figure S14** HMBC spectrum of **4** in $CD_3OD$

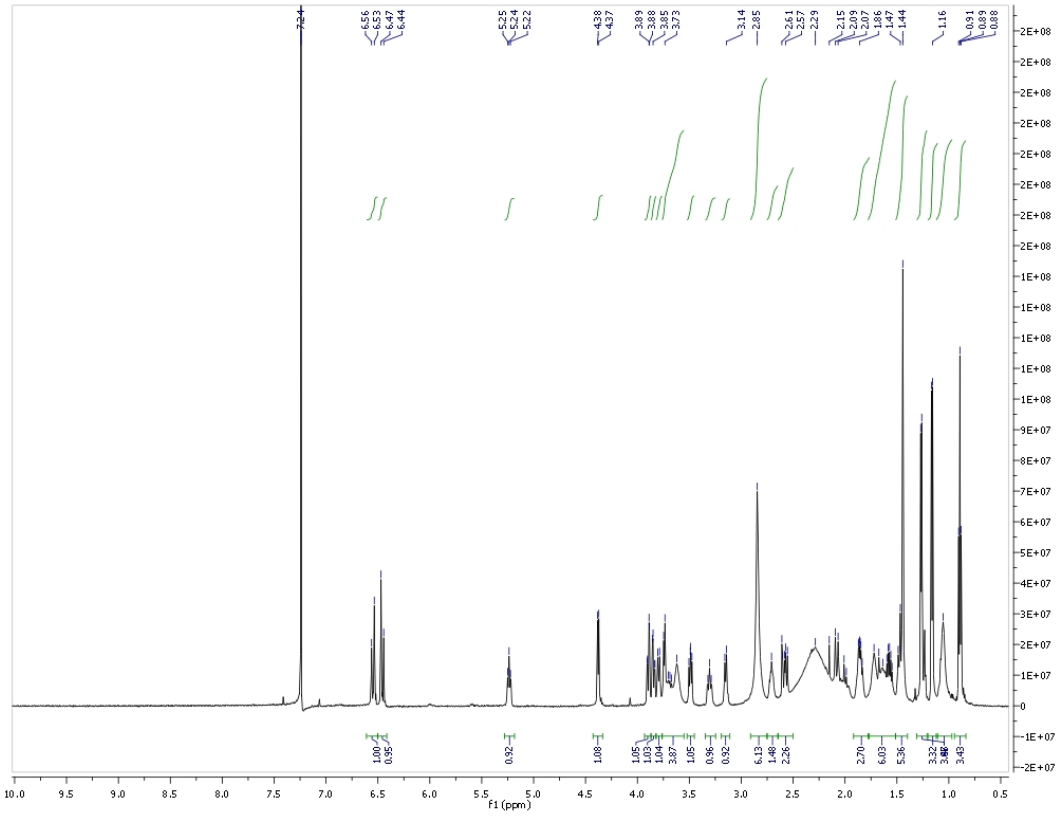


**Figure S15** $^1$H NMR spectrum of **5** in $CDCl_3$

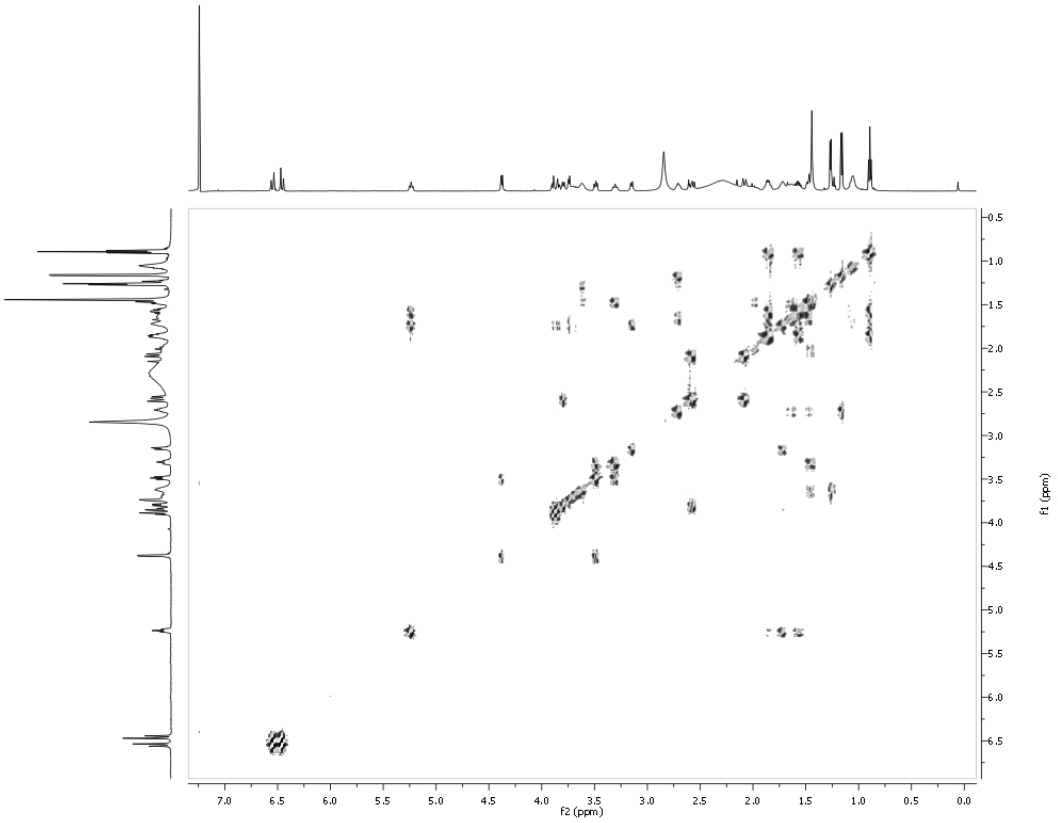


**Figure S16** $^{1}$H-$^{1}$H COSY spectrum of **5** in $CDCl_3$

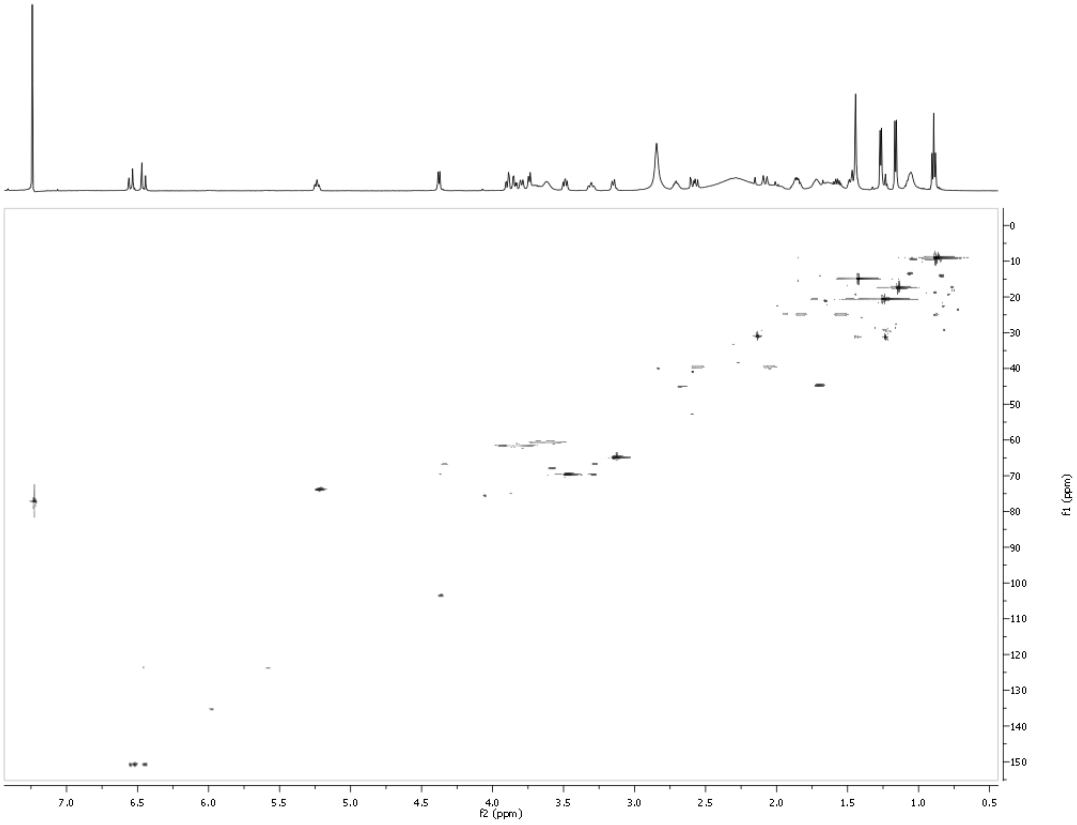


**Figure S17** HSQC spectrum of **5** in $CDCl_3$

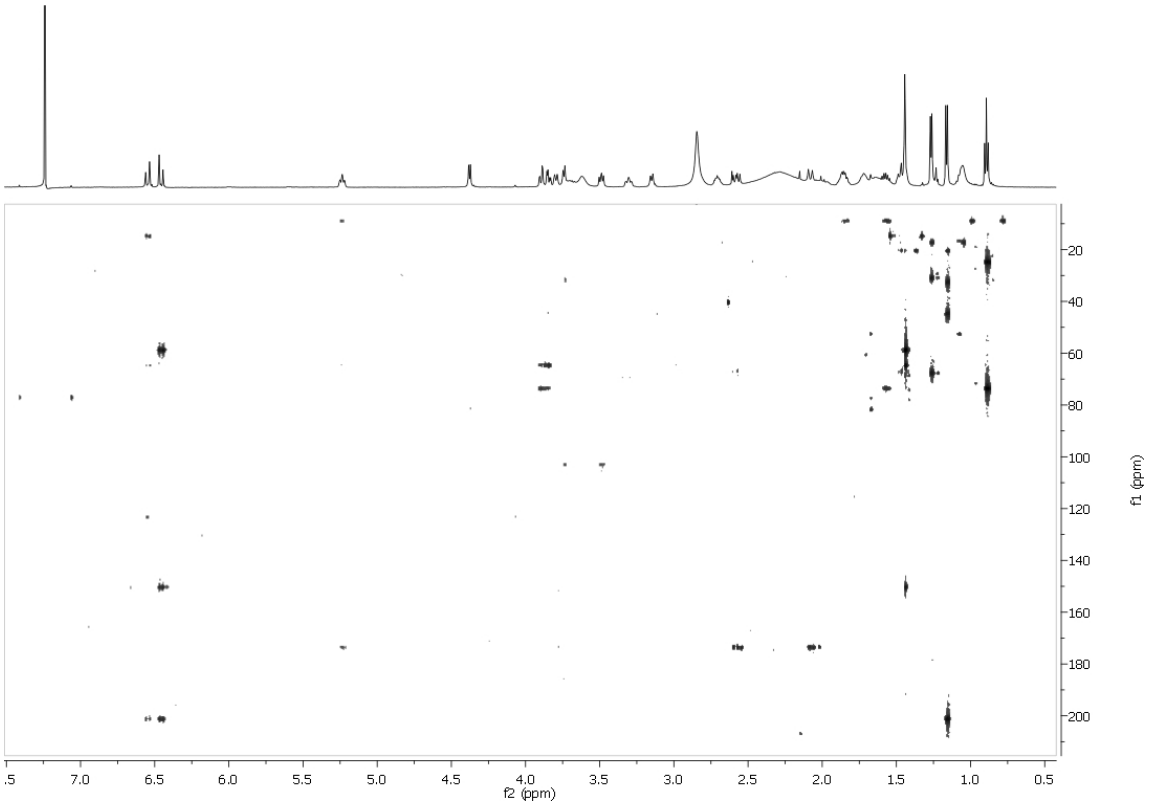


**Figure S18** HMBC spectrum of **5** in $CDCl_3$

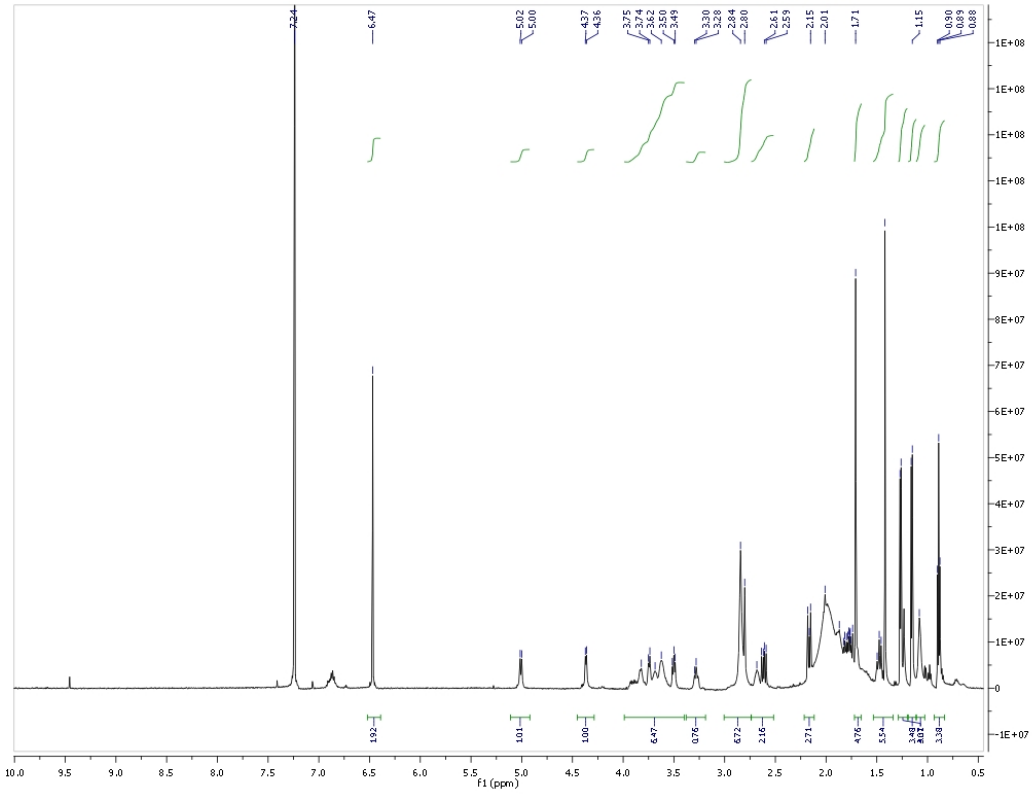


**Figure S19** $^1$H NMR spectrum of **6** in $CDCl_3$

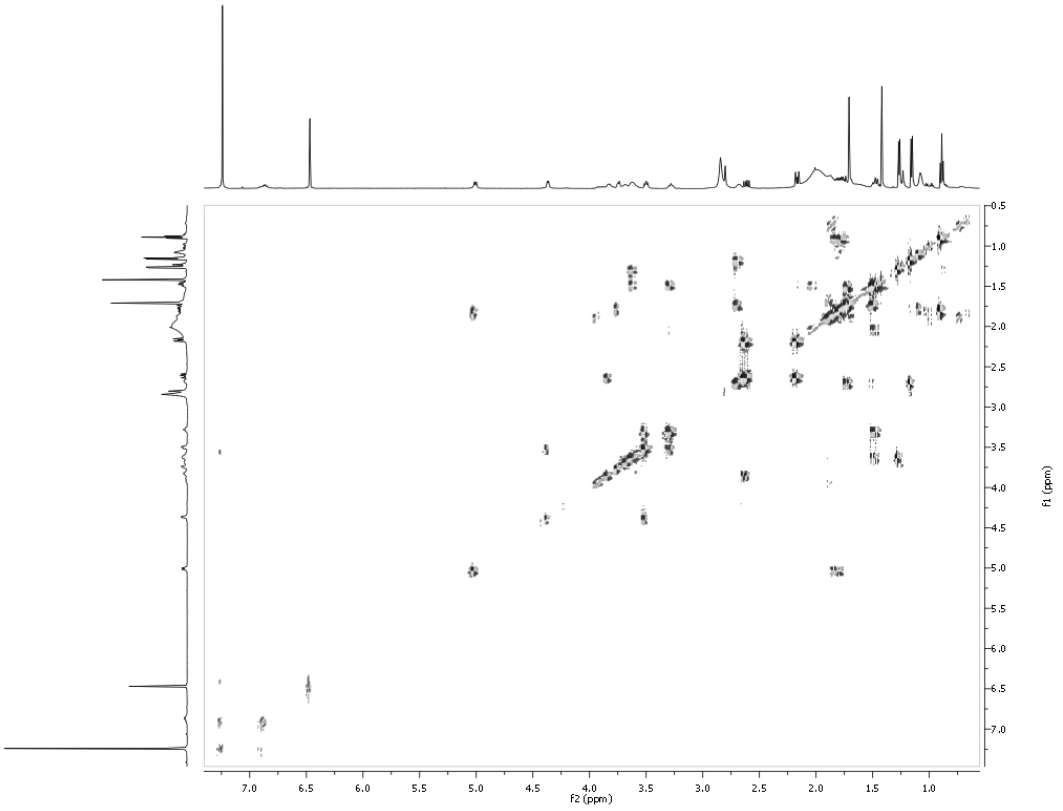


**Figure S20** $^{1}$H-$^{1}$H COSY spectrum of **6** in $CDCl_3$

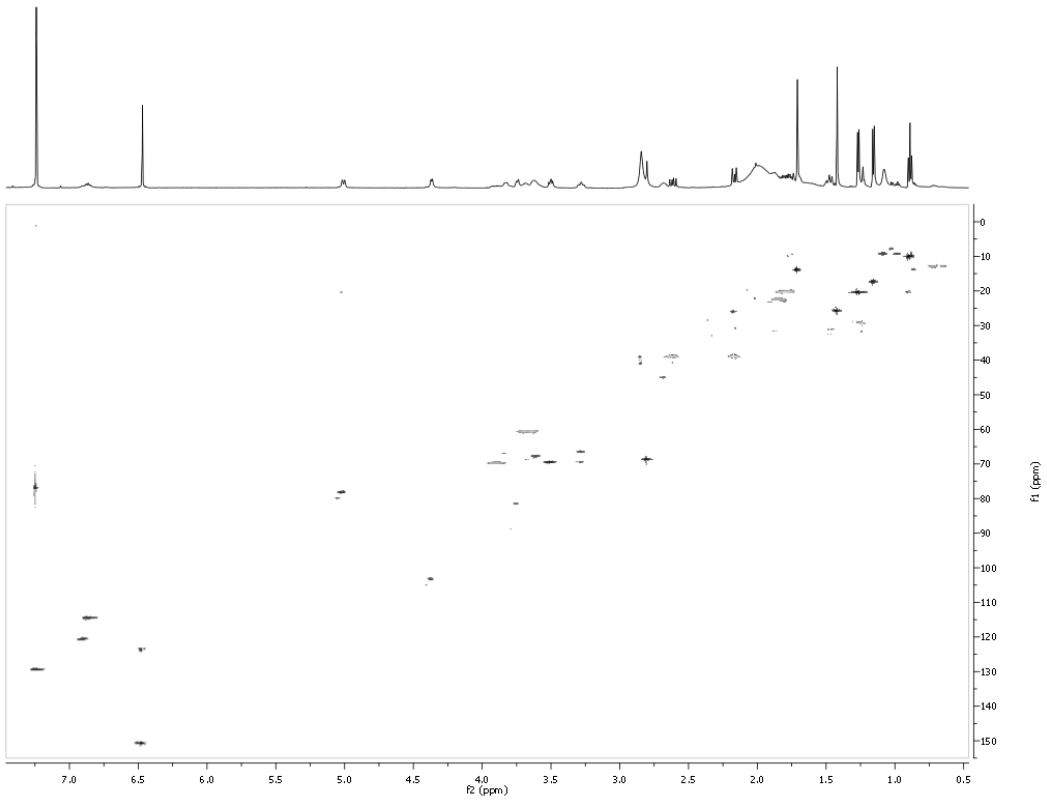


**Figure S21** HSQC spectrum of **6** in $CDCl_3$

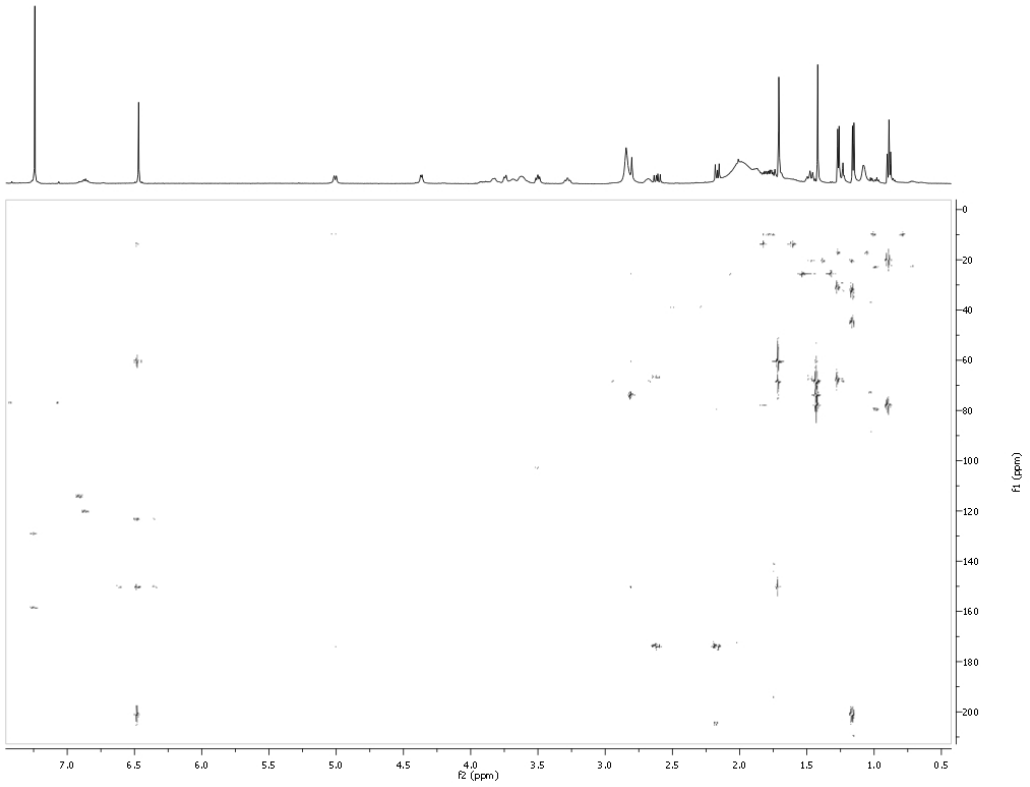


**Figure S22** HMBC spectrum of **6** in $CDCl_3$

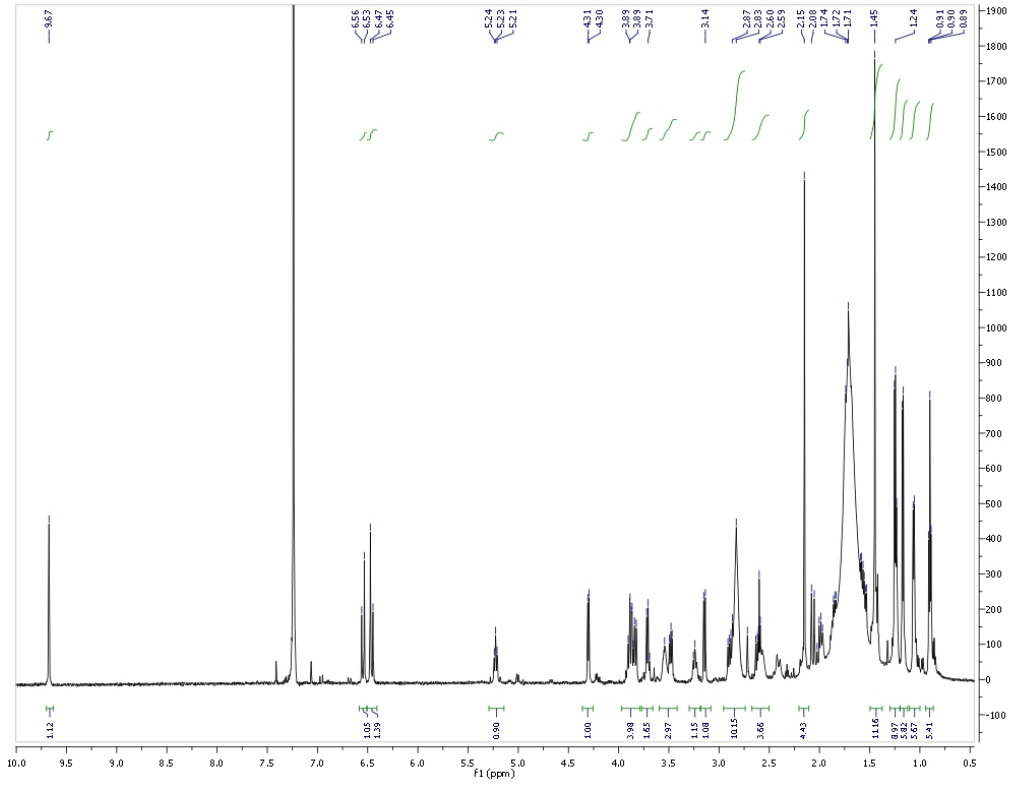


**Figure S23** $^1$H NMR spectrum of **7** in $CDCl_3$

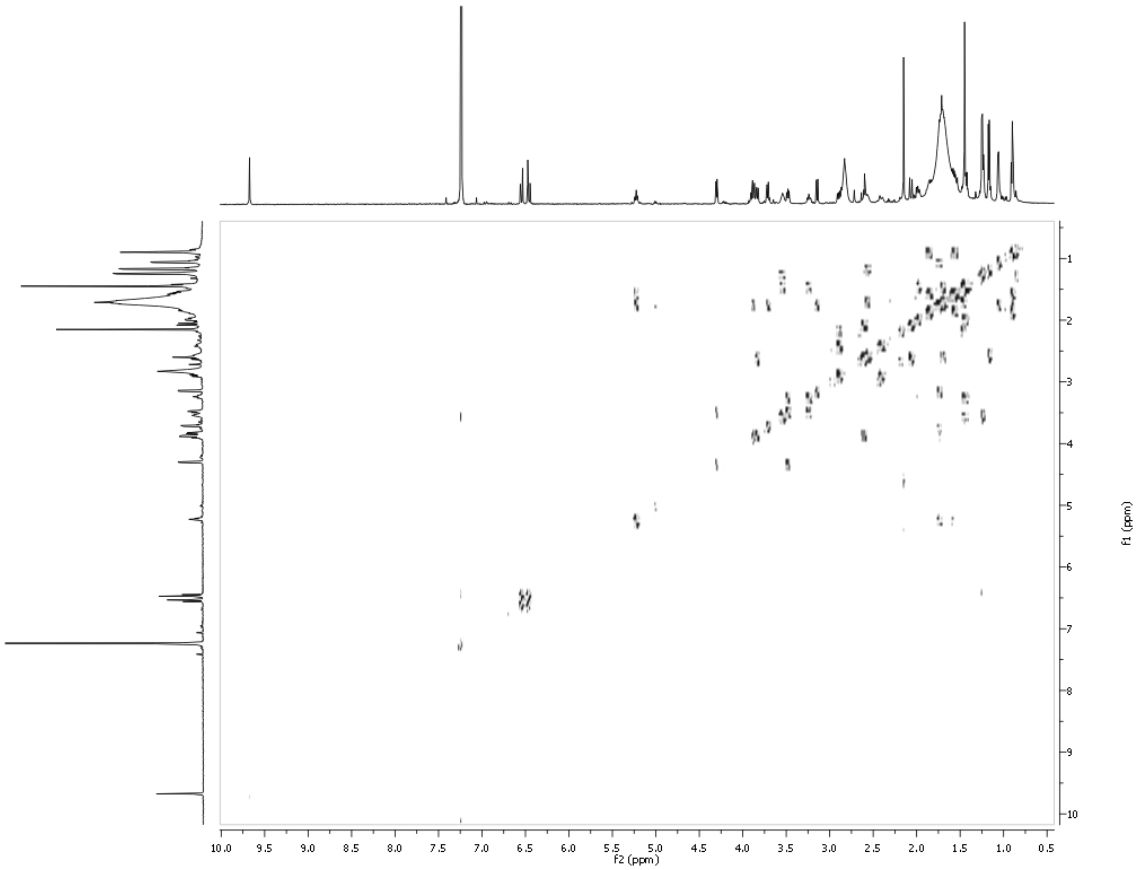


**Figure S24** $^{1}$H-$^{1}$H COSY spectrum of **7** in $CDCl_3$

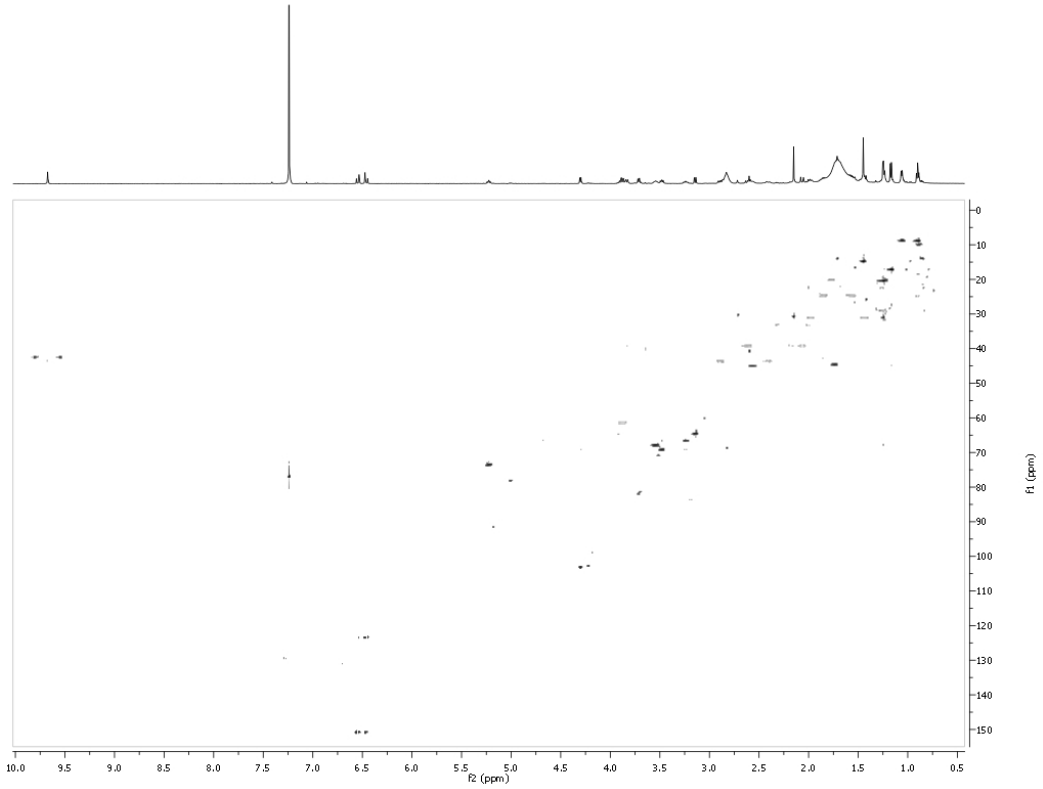


**Figure S25** HSQC spectrum of **7** in $CDCl_3$

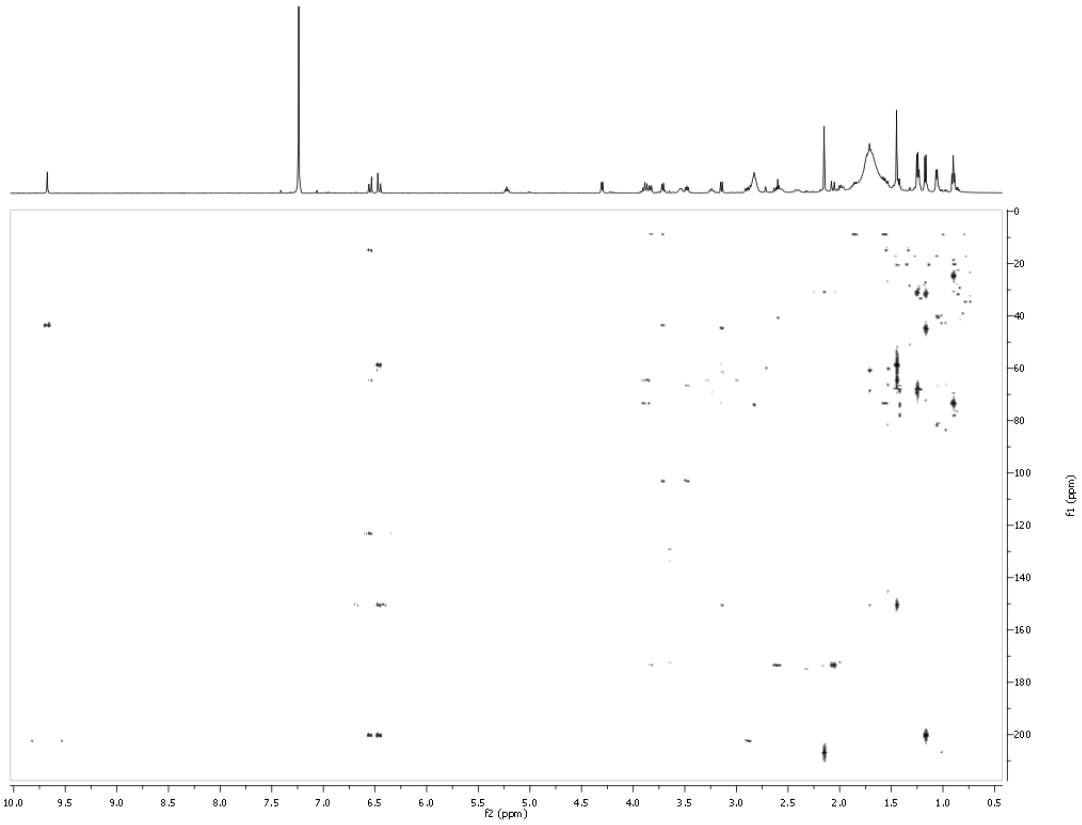


**Figure S26** HMBC spectrum of **7** in $CDCl_3$

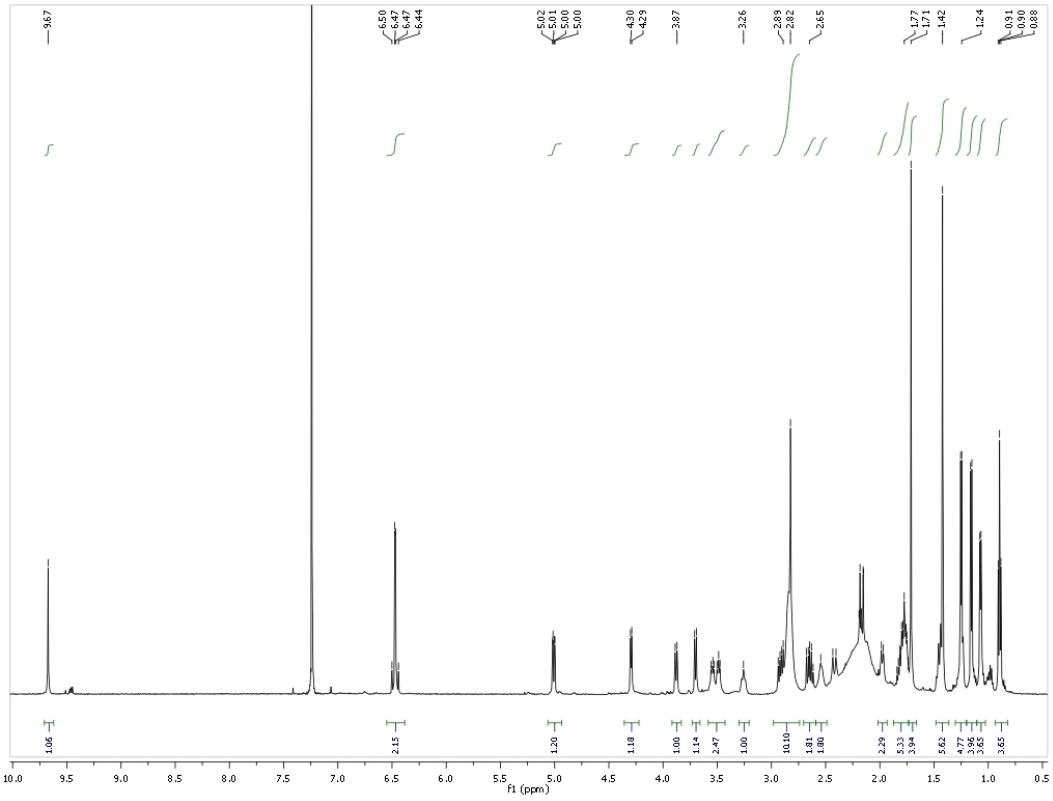


**Figure S27** $^1$H NMR spectrum of **8** in $CDCl_3$

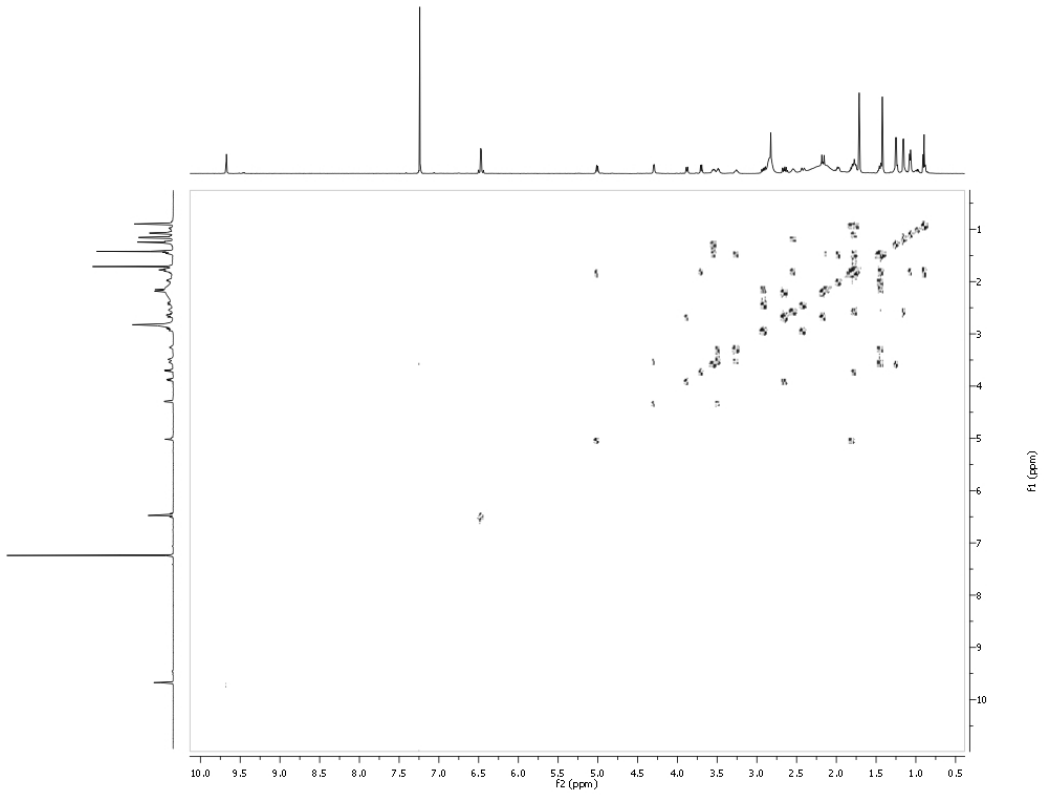


**Figure S28** $^{1}$H-$^{1}$H COSY spectrum of **8** in $CDCl_3$

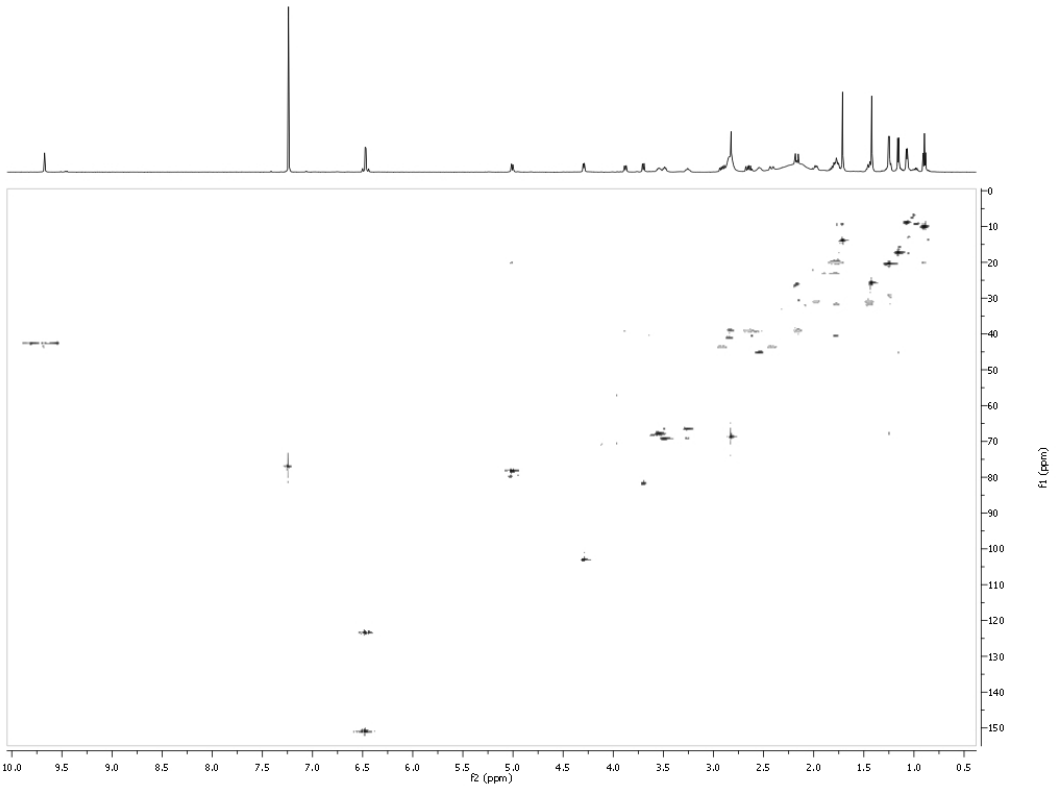


**Figure S29** HSQC spectrum of **8** in $CDCl_3$

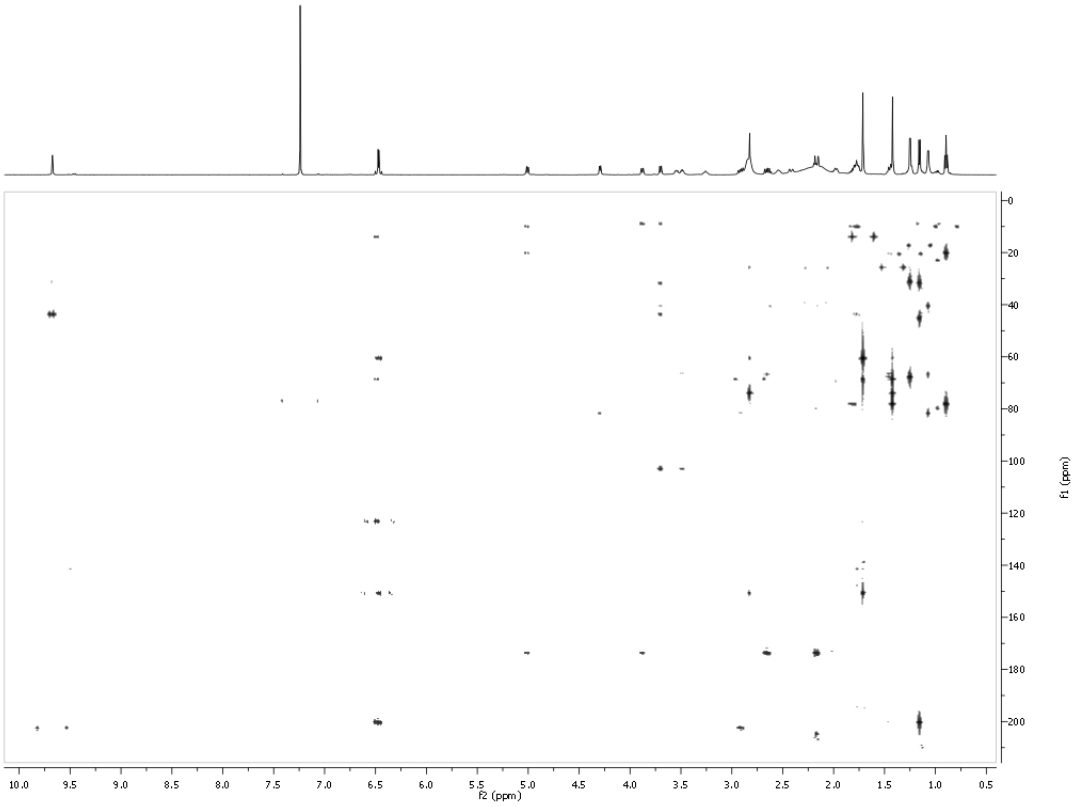


**Figure S30** HMBC spectrum of **8** in $CDCl_3$

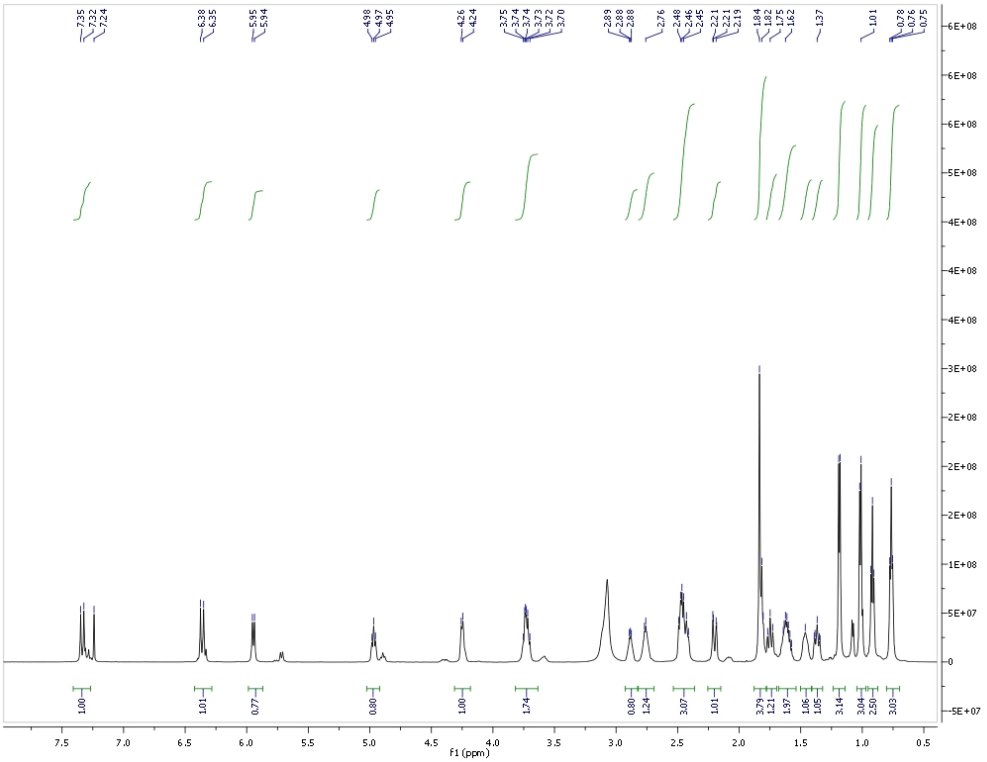


**Figure S31** $^1$H NMR spectrum of **9** in $CDCl_3$

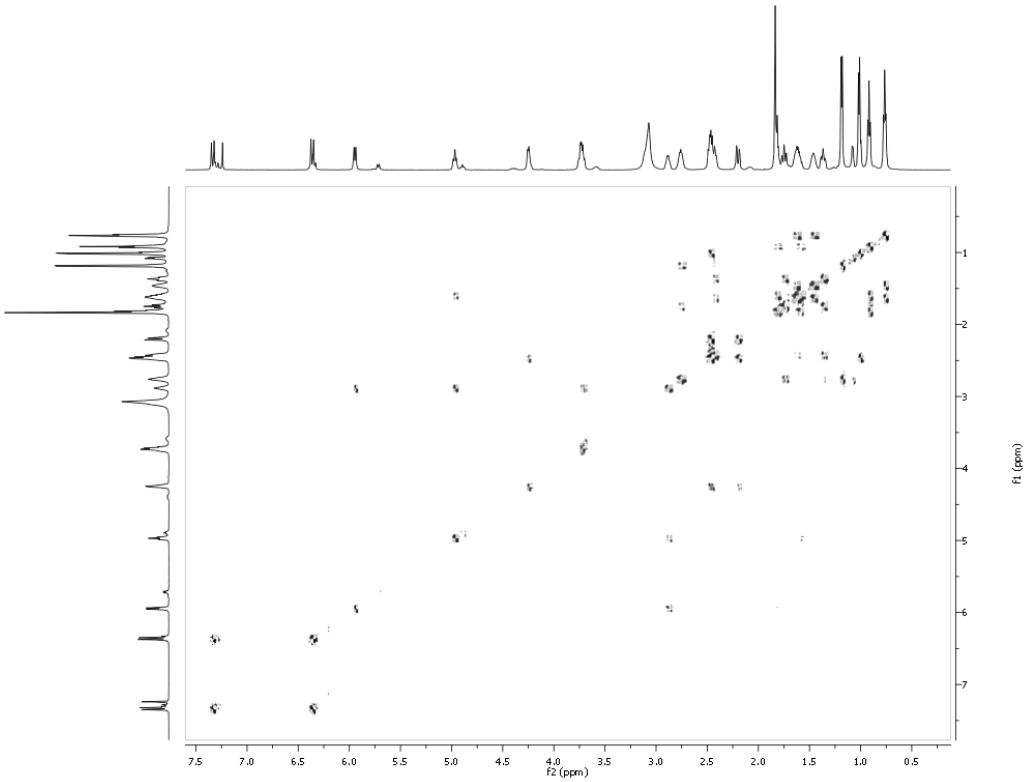


**Figure S32** $^{1}$H-$^{1}$H COSY spectrum of **9** in $CDCl_3$

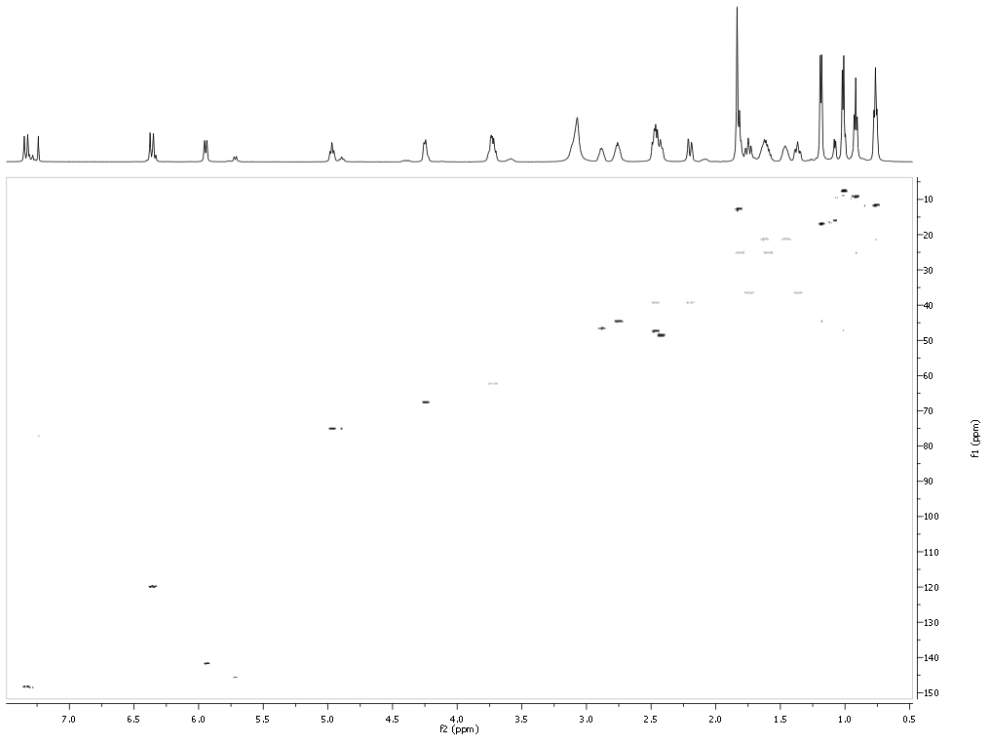


**Figure S33** HSQC spectrum of **9** in $CDCl_3$

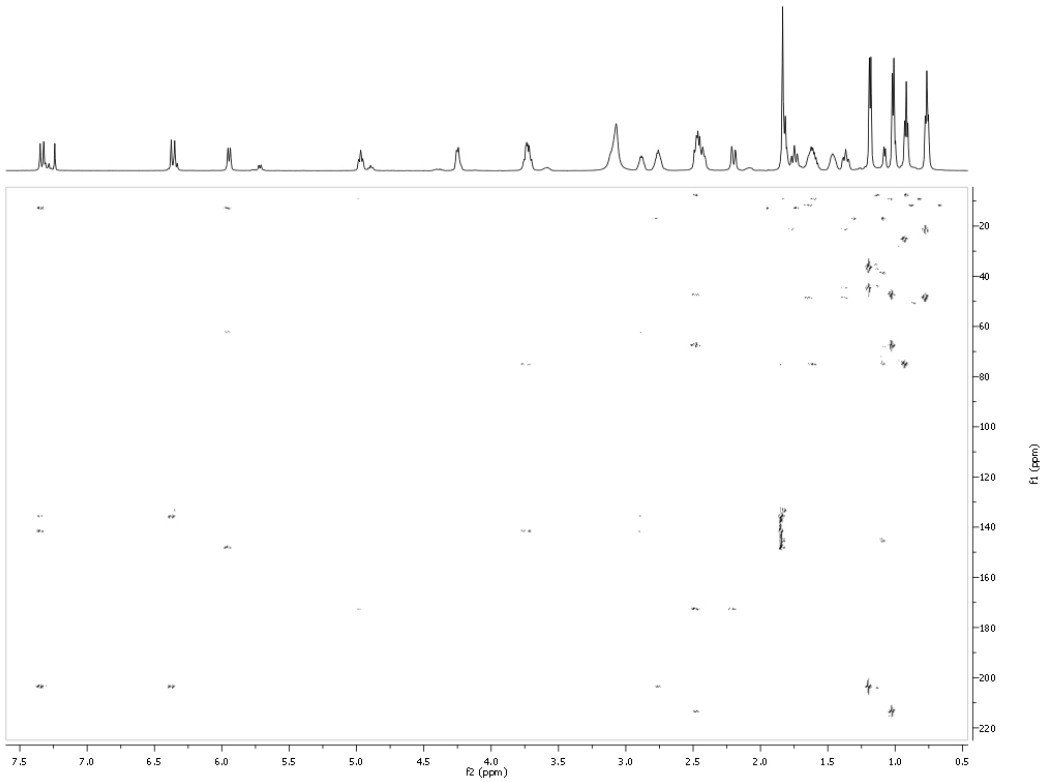


**Figure S34** HMBC spectrum of **9** in $CDCl_3$

```
SprKR6      1 GTVLVTGGTGALGTHIARRLAA-DGAAHLVLTSRRGADTPGAADLVEELRALGAE-VTVA
TylKR1      1 GTVLITGGMGAIGRRLARRLAA-EGAERLVLTSRRGPEAPGAAELAEELRGHGCE-VVHA
AveKR1      1 GTTLITGGTGALATHLTHHLTTHQPTQHLLLTSRTGPHTPHAQHLTTQLQQKGIH-LTIT
AveKR7      1 GSVLVTGGTGVLGAAVARHLAGVCGVRDLLLVSRRGPDAPGAEGLRAELAALGAE-VRIV
RapKR10     1 GTVLITGGSGVLAGIAARHLVAERGVRHLLLLSRSAPDEA----LISELAELGAAVVDTA

SprKR6     59 ACDVADRAAVADLLDGLPVTDPLTAVFHTAGVAHSVPVTETGLPDVAEVFAGKVAGARNL
TylKR1     59 ACDVAERDALAALVTAY----PPNAVFHTAGILDDAVIDTLSPESFETVRGAKVCGAELL
AveKR1     60 TCDTSNPDQLQQLLNTIPPQHPLTTVIHTAGILDDATLTNLTPTQLNNVLRAKAHSAHLL
AveKR7     60 ACDVGERRREVVRLLEGVPAGCPLTGVVHAAGVLDDATIASLTPERLGTVFAAKVDAALLL
RapKR10    57 VCDVSDRAGLARVLAGVSPDHPLTAVIHTAGVLDDGVVESLTARRLDTVLRPKADGAWNL

SprKR6    119 DELTRG-YDLDAFVLYSSNAGVWGSGGQSAYGAANAALDALAERRRAEGLTATSIAWGLW
TylKR1    115 HQLTADIKGLDAFVLFSSVTGTWGNAGQGAYAAANAALDALAERRRAAGLPATSVAWGLW
AveKR1    120 HQLTQH-TPLTAFVLYSSAAATFGAPGQANYAAANAYLDALAHHRHTHHLPATSIAWGTW
AveKR7    120 DELTRG-MELSAFVLFSSAAGILGSAGQGNYAAANAALDALAYRRRAAGLPGVSLAWGLW
RapKR10   117 HELTRD-IDLAAFVMYSSAAGVLGSAGQGNYAVANAFVDALAEQRRAEGLPALALAWGLW
```

**Figure S35** Alignment of SprKR6 (KR in the module 7) with known ketoreductase domains. The red frame shows the catalytic tyrosine residue.

**Table S1** Gene organization of *spr* cluster


| Gene | Size (a.a.) | Predicted function | Closest homologue (% Protein identity) | Accession Number |
|---|---|---|---|---|
| **Spr1** | 210 | α/β hydrolase | - | H303DRAFT_03279 |
| **Spr2** | 211 | Thioesterase | | H303DRAFT_03280 |
| **Spr3** | 550 | ABC transporter | | H303DRAFT_03281 |
| **Spr4** | 372 | Aminotransferase DesV | | H303DRAFT_03282 |
| **Spr5** | 405 | P-450 RosC | | H303DRAFT_03283 |
| **Spr6** | 403 | P-450 RosD | | H303DRAFT_03284 |
| **Spr7** | 4428 | PKS (KSq-AT-ACP-KS-AT-KR-ACP-KS-AT-DH-KR-ACP) | *Micromonospora carbonacea* (74) | AX697987 |
| **Spr8** | 1889 | PKS (KS-AT-DH-KR-ACP) | *Micromonospora carbonacea* (74) | AX697989 |
| **Spr9** | 3719 | PKS (KS-AT-KR-ACP-KS-AT-DH-ER-KR-ACP) | *Micromonospora carbonacea* (77) | AX697991 |
| **Spr10** | 1574 | PKS (KS-AT-KR-ACP) | *Micromonospora carbonacea* (80) | AX697993 |
| **Spr11** | 1796 | PKS (KS-AT-KR-ACP-TE) | *Micromonospora carbonacea* (77) | AX697995 |
| **Spr12** | 423 | P-450 DesVIII | | H303DRAFT_04085 |
| **Spr13** | 440 | Glycosyltransferase DesVII | | H303DRAFT_04084 |
| **Spr14** | 238 | Methyltransferase DesVI | | H303DRAFT_04083 |
| **Spr15** | 67 | Hypothetical protein | | H303DRAFT_04082 |
| **Spr16** | 671 | Transcriptional regulator | | H303DRAFT_04081 |
| **Spr17** | 404 | Transposase | | H303DRAFT_04080 |
| **Spr18** | 482 | GTP binding | | H303DRAFT_04079 |
| **Spr19** | 381 | Aminotransferase DesII | | H303DRAFT_04078 |

| | | | |
|---|---|---|---|
| **Spr20** | 480 | Fe-S oxidoreductase DesI | H303DRAFT_04077 |
| **Spr21** | 277 | Dimethyladenosine transferase | H303DRAFT_04076 |
| **Spr22** | 329 | Dehydratase Des IV | H303DRAFT_04075 |
| **Spr23** | 294 | Pyrophosphorylase DesIII | H303DRAFT_04074 |

**Table S2** $^{1}$H-NMR data for **1** in $CD_3OD$ ($\delta$ in ppm, $J$ in Hz)[a]

| No. | $\delta_H$ |
|---|---|
| 6 | 6.37 (d, 1H, $J$ = 15.6) |
| 7 | 7.09 (d, 1H, $J$ = 15.6) |
| 9 | 5.81 (d, 1H, $J$ = 9.6) |
| 10 | 2.69 (m, 1H) |
| 11 | 3.40 (ddd, 1H, $J$ = 4.2, 4.2, 8.4) |
| 12 | 1.39 (m, 1H), 1.49 (m, 1H) |
| 13 | 0.96 (t, 3H, $J$ = 7.2) |
| 14 | 1.95 (s, 3H) |
| 15 | 2.06 (s, 3H) |
| 16 | 1.88 (s, 3H) |
| 17 | 1.05 (d, 3H, $J$ = 8.4) |

[a] **1** was identified as salinipyrone A by comparing its $^{1}$H chemical shift values and optical rotation values with the data reported in Oh, D.; Gontang, E. A.; Kauffman, C. A.; Jensen, P. R.; Fenical, W. *J. Nat. Prod*. **2008**, *71*, 570.

**Table S3** $^{1}$H- and $^{13}$C-NMR data for **3** in $CDCl_3$ ($\delta$ in ppm, $J$ in Hz)[a]

| No. | $\delta_H$ | $\delta_C$ | No. | $\delta_H$ | $\delta_C$ |
|---|---|---|---|---|---|
| 1 | - | 173.5 | 16 | 1.05 (d, 3H, $J$ = 6.0) | 8.9 |
| 2 | 2.08 (d, 1H, $J$ = 16.8), 2.60 (m, 1H) | 39.3 | 17 | 2.41 (1H, m), 2.82 (1H, m) | 43.7 |
| 3 | 3.84 (br d, $J$ = 10.8, 1H) | 66.8 | 18 | 9.67 (1H, s) | 202.6 |
| 4 | 1.75 (m, 1H) | 40.3 | 19 | 1.16 (d, 3H, $J$ = 6.6) | 17.3 |
| 5 | 3.70 (br d, $J$ = 9.0, 1H) | 81.6 | 20 | 1.43 (s, 3H) | 14.8 |
| 6 | 1.97 (br d, $J$ = 11.4, 1H) | 31.0 | 21 | 1.12 (d, 3H, $J$ = 6.6) | 14.5 |
| 7 | 1.45 (m, 2H) | 31.1 | 22 | 1.50 (m, 1H), 1.75 (m, 1H) | 24.4 |
| 8 | 2.54 (m, 1H) | 45.2 | 23 | 0.87 (t, 3H, $J$ = 7.2) | 8.9 |
| 9 | - | 200.7 | 1' | 4.29 (d, 1H, $J$ = 6.6) | 103.1 |
| 10 | 6.44 (d, 1H, $J$ = 15.6) | 122.9 | 2' | 3.48 (m, 1H) | 69.1 |
| 11 | 6.53 (d, 1H, $J$ = 15.6) | 151.1 | 3' | 3.29 (m, 1H) | 66.2 |
| 12 | - | 59.7 | 4' | 1.42 (m, 2H) | 30.8 |
| 13 | 2.79 (m, 1H) | 67.5 | 5' | 3.53 (m, 1H) | 67.9 |
| 14 | 1.67 (m, 1H) | 37.5 | 6' | 1.24 (d, 3H, $J$ = 6.6) | 20.5 |
| 15 | 4.86 (m, 1H) | 76.9 | 7', 8' | 2.83 (s, 6H) | 41.0 |

[a] **3** was identified as rosamicin A by comparing its $^{1}$H and $^{13}$C chemical shift values and optical rotation values with the data reported in Nakajima, S., Kojiri, K., Morishima, H., and Okanishi, M. *J. Antibiot*. **1990**, *43*, 1006; and US patent 4,161,523, 1979.

**Table S4** $^{1}$H- and $^{13}$C-NMR data for **4** in $CD_3OD$ ($\delta$ in ppm, $J$ in Hz)

| No. | $\delta_H$ | $\delta_C$ |
|---|---|---|
| 1 | - | 166.2 |
| 2 | - | 98.8 |
| 3 | - | 166.0 |
| 4 | - | 108.7 |
| 5 | - | 152.3 |
| 6 | 6.49 (d, 1H, $J$ = 15.6) | 115.2 |
| 7 | 7.09 (d, 1H, $J$ = 15.6) | 138.3 |
| 8 | - | 135.3 |
| 9 | 5.71 (d, 1H, $J$ = 10.2) | 136.4 |
| 10 | 3.71 (m, 1H) | 46.2 |
| 11 | - | 212.2 |
| 12 | 2.54 (m, 2H) | 33.6 |
| 13 | 1.01 (t, 3H, $J$ = 7.2) | 6.5 |
| 14 | 1.96 (s, 3H) | 7.6 |
| 15 | 2.07 (s, 3H) | 8.0 |
| 16 | 1.97 (s, 3H) | 11.1 |
| 17 | 1.18 (d, 3H, $J$ = 7.2) | 15.2 |

**Table S5** $^{1}$H- and $^{13}$C-NMR data for **5** in $CDCl_3$ ($\delta$ in ppm, $J$ in Hz)

| No. | $\delta_H$ | $\delta_C$ | No. | $\delta_H$ | $\delta_C$ |
|---|---|---|---|---|---|
| 1 | - | 174 | 16 | 1.05 (br s, 3H) | 9.3 |
| 2 | 2.60 (m, 2H) | 39.5 | 17 | 1.45 (m, 2H) | 31.1 |
| 3 | 3.79 (m, 1H) | 67.0 | 18 | 3.61 (m, 1H), 3.70 (m, 1H) | 60.7 |
| 4 | 1.72 (m, 1H) | 44.7 | 19 | 1.16 (d, 3H, $J$ = 6.6) | 17.4 |
| 5 | 3.74 (m, 1H) | 81.4 | 20 | 1.44 (s, 3H) | 15.0 |
| 6 | 1.44 (m, 1H) | 31.1 | 21 | 3.89 (dd, 1H, $J$ = 3.0, 10.8), 3.84 (m, 1H) | 61.5 |
| 7 | 1.63 (m, 2H) | 28.9 | 22 | 1.60 (m, 1H), 1.88 (m, 1H) | 24.9 |
| 8 | 2.71 (m, 1H) | 45.0 | 23 | 0.89 (t, 3H, $J$ = 7.2) | 9.2 |
| 9 | - | 201.3 | 1' | 4.38 (d, 1H, $J$ = 7.2) | 103.3 |
| 10 | 6.46 (d, 1H, $J$ = 15.6) | 123.6 | 2' | 3.49 (m, 1H) | 69.5 |
| 11 | 6.55 (d, 1H, $J$ = 15.6) | 150.6 | 3' | 3.32 (m, 1H) | 66.5 |
| 12 | - | 59.2 | 4' | 1.45 (m, 1H), 1.99 (m, 1H) | 31.2 |
| 13 | 3.15 (d, 1H, $J$ = 9.6) | 64.8 | 5' | 3.62 (m, 1H) | 68.0 |
| 14 | 1.75 (m, 1H) | 20.6 | 6' | 1.27 (d, 3H, $J$ = 6.0) | 20.6 |
| 15 | 5.23 (m, 1H) | 73.8 | 7', 8' | 2.84 (s, 6H) | 39.8 |

**Table S6** $^{1}$H- and $^{13}$C-NMR data for **6** in $CDCl_3$ ($\delta$ in ppm, $J$ in Hz)

| No. | $\delta_H$ | $\delta_C$ | No. | $\delta_H$ | $\delta_C$ |
|---|---|---|---|---|---|
| 1 | - | 174.2 | 16 | 1.08 (br s, 3H) | 9.4 |
| 2 | 2.61 (m, 2H) | 39.2 | 17 | 1.48 (m, 2H) | 31.3 |
| 3 | 3.83 (m, 1H) | 67.1 | 18 | 3.62 (m, 1H), 3.69 (m, 1H) | 60.8 |
| 4 | 1.75 (m, 1H) | 40.5 | 19 | 1.16 (d, 3H, $J$ = 6.6) | 17.5 |
| 5 | 3.74 (m, 1H) | 81.6 | 20 | 1.71 (s, 3H) | 14.2 |
| 6 | 1.47 (m, 1H) | 32.8 | 21 | 1.42 (s, 3H) | 25.9 |
| 7 | 1.71 (m, 2H) | 32.8 | 22 | 1.82 (m, 2H) | 20.5 |
| 8 | 2.68 (m, 1H) | 45.2 | 23 | 0.89 (t, 3H, $J$ = 7.2) | 10.3 |
| 9 | - | 201.1 | 1' | 4.37 (d, 1H, $J$ = 6.6) | 103.3 |
| 10 | 6.47 (brs, 1H) | 123.7 | 2' | 3.50 (dd, 1H, $J$ = 7.8, 9.6) | 69.6 |
| 11 | 6.47 (brs, 1H) | 150.6 | 3' | 3.28 (m, 1H) | 66.7 |
| 12 | - | 60.9 | 4' | 1.46 (m, 1H), 2.03 (m, 1H) | 31.4 |
| 13 | 2.80 (s, 1H) | 68.8 | 5' | 3.60 (m, 1H) | 68.0 |
| 14 | - | 74.3 | 6' | 1.27 (d, 3H, $J$ = 6.0) | 20.7 |
| 15 | 5.01 (m, 1H) | 78.3 | 7', 8' | 2.85 (s, 6H) | 39.8 |

**Table S7** $^{1}$H- and $^{13}$C-NMR data for **7** in $CDCl_3$ ($\delta$ in ppm, $J$ in Hz)

| No. | $\delta_H$ | $\delta_C$ | No. | $\delta_H$ | $\delta_C$ |
|---|---|---|---|---|---|
| 1 | - | 173.2 | 16 | 1.06 (d, 3H, $J$ = 7.2) | 9.1 |
| 2 | 2.64 (m, 2H) | 39.5 | 17 | 2.32 (m, 1H), 2.91 (m, 1H) | 43.9 |
| 3 | 3.84 (m, 1H) | 61.5 | 18 | 9.67 (s, 1H) | 202.7 |
| 4 | 1.74 (m, 1H) | 44.8 | 19 | 1.17 (d, 3H, $J$ = 7.2) | 17.4 |
| 5 | 3.71 (m, 1H) | 81.9 | 20 | 1.45 (s, 3H) | 15.0 |
| 6 | 1.46 (m, 1H) | 31.3 | 21 | 3.89 (m, 1H), 3.90 (dd, 1H, $J$ = 3.0, 10.8) | 61.6 |
| 7 | 1.69 (m, 2H) | 31.8 | 22 | 1.56 (m, 1H), 1.84 (m, 1H) | 24.9 |
| 8 | 2.56 (m, 1H) | 45.2 | 23 | 0.90 (t, 3H, $J$ = 7.2) | 9.1 |
| 9 | - | 200.7 | 1' | 4.30 (d, 1H, $J$ = 7.2) | 103.6 |
| 10 | 6.46 (d, 1H, $J$ = 15.6) | 123.5 | 2' | 3.48 (m, 1H) | 69.3 |
| 11 | 6.55 (d, 1H, $J$ = 15.6) | 151.8 | 3' | 3.24 (m, 1H) | 66.8 |
| 12 | - | 59.0 | 4' | 1.43 (m, 1H), 1.99 (m, 1H) | 31.3 |
| 13 | 3.14 (m, 1H) | 64.8 | 5' | 3.54 (m, 1H) | 68.0 |
| 14 | 1.75 (m, 1H) | 20.3 | 6' | 1.25 (d, 3H, $J$ = 5.4) | 20.7 |
| 15 | 5.24 (m, 1H) | 73.7 | 7', 8' | 2.83 (s, 6H) | 39.0 |

**Table S8** $^{1}$H- and $^{13}$C-NMR data for **8** in $CDCl_3$ ($\delta$ in ppm, $J$ in Hz)

| No. | $\delta_H$ | $\delta_C$ | No. | $\delta_H$ | $\delta_C$ |
|---|---|---|---|---|---|
| 1 | - | 173.9 | 16 | 1.07 (d, 3H, $J$ = 6.6) | 9.2 |
| 2 | 2.64 (d, 2H, $J$ = 10.2) | 39.4 | 17 | 2.45 (m, 1H), 2.91 (m, 1H) | 43.8 |
| 3 | 3.88 (m, 1H) | 67.0 | 18 | 9.67 (s, 1H) | 202.7 |
| 4 | 1.77 (m, 1H) | 40.6 | 19 | 1.16 (d, 3H, $J$ = 7.2) | 17.5 |
| 5 | 3.70 (m, 1H) | 81.8 | 20 | 1.71 (s, 3H) | 14.1 |
| 6 | 1.45 (m, 1H) | 31.4 | 21 | 1.42 (s, 3H) | 25.9 |
| 7 | 1.78 (m, 2H) | 31.9 | 22 | 1.82 (m, 2H) | 20.7 |
| 8 | 2.63 (m, 1H) | 45.4 | 23 | 0.90 (t, 3H, $J$ = 7.2) | 10.2 |
| 9 | - | 200.5 | 1' | 4.29 (d, 1H, $J$ = 7.2) | 103.3 |
| 10 | 6.49 (d, 1H, $J$ = 15.6) | 123.4 | 2' | 3.49 (m, 1H) | 69.3 |
| 11 | 6.51 (d, 1H, $J$ = 15.6) | 151.0 | 3' | 3.26 (m, 1H) | 66.6 |
| 12 | - | 61.0 | 4' | 1.46 (m, 1H), 2.01 (m, 1H) | 31.2 |
| 13 | 2.91 (s, 1H) | 68.7 | 5' | 3.54 (m, 1H) | 67.9 |
| 14 | - | 74.3 | 6' | 1.25 (d, 3H, $J$ = 6.0) | 20.7 |
| 15 | 5.01 (dd, 1H, $J$ = 2.4, 10.8) | 78.3 | 7', 8' | 2.83 (s, 6H) | 39.3 |

**Table S9** $^{1}$H- and $^{13}$C-NMR data for **9** in $CDCl_3$ ($\delta$ in ppm, $J$ in Hz)

| No. | $\delta_H$ | $\delta_C$ | No. | $\delta_H$ | $\delta_C$ |
|---|---|---|---|---|---|
| 1 | - | 172.8 | 16 | 1.02 (d, 3H, $J$ = 6.6) | 7.8 |
| 2 | 2.20 (dd, 1H, $J$ = 3.0, 15.9), 2.47 (m, 1H) | 39.4 | 17 | 1.46 (m, 1H), 1.62 (m, 1H) | 21.5 |
| 3 | 4.25 (m, 1H) | 67.7 | 18 | 0.77 (t, 3H, $J$ = 6.6) | 11.8 |
| 4 | 2.45 (m, 1H) | 47.5 | 19 | 1.19 (d, 3H, $J$ = 6.6) | 17.1 |
| 5 | - | 213.5 | 20 | 1.84 (s, 3H) | 12.9 |
| 6 | 2.42 (m, 1H) | 48.7 | 21 | 3.71 (m, 1H), 3.74 (m, 1H) | 62.4 |
| 7 | 1.37 (m, 1H), 1.75 (m, 1H) | 36.6 | 22 | 1.61 (m, 1H), 1.82 (m, 1H) | 25.2 |
| 8 | 2.76 (m, 1H) | 44.8 | 23 | 0.92 (t, 3H, $J$ = 7.2) | 9.3 |
| 9 | - | 203.5 | | | |
| 10 | 6.36 (d, 1H, $J$ = 15.6) | 119.8 | | | |
| 11 | 7.34 (d, 1H, $J$ = 15.6) | 148.3 | | | |
| 12 | - | 135.8 | | | |
| 13 | 5.95 (d, 1H, $J$ = 10.2) | 141.7 | | | |
| 14 | 2.89 (m, 1H) | 46.7 | | | |
| 15 | 4.97 (m, 1H) | 75.1 | | | |

**Table S10** Minimum inhibitory concentration (MIC) values (μg/mL) of **5-8** and erythromycin against a panel of medically-important human bacterial pathogens

[a] Testing performed in RPMI with 5% LB, [b]Testing performed in CA-MHB media with 5% lysed horse blood

| | **5** | **6** | **7** | **8** | **erythromycin** |
|---|---|---|---|---|---|
| ***Acinetobacter baumannii* ATCC17978**[a] | 50 | 100 | 50 | 50 | 1.56 |
| **Uropathogenic *Escherichia coli* CFT073**[a] | 50 | 50 | 100 | 50 | 6.25 |
| ***Pseudomonas aeruginosa* PA01**[a] | 50 | 100 | 100 | 25 | 6.25 |
| ***Streptococcus pyogenes* 5448**[b] | 50 | >100 | 100 | 6.125 | 0.39 |
| ***Streptococcus pyogenes* NZ131**[b] | 50 | >100 | 50 | 6.125 | 0.19 |
| ***Staphylococcus aureus* USA300**[b] | 12.5 | 25 | 6.25 | 1.56 | 1.56 |