



## Supplementary Materials

# Three New Isoflavonoid Glycosides from Mangrove-Derived Actinomycete *Micromonospora aurantiaca* 110B

Rui-Jun Wang <sup>1</sup>, Shao-Yong Zhang <sup>3</sup>, Yang-Hui Ye <sup>1</sup>, Zhen Yu <sup>3</sup>, Huan Qi <sup>3</sup>, Hui Zhang <sup>2,3</sup>, Zheng-Lian Xue <sup>2</sup>, Ji-Dong Wang <sup>2,3,\*</sup> and Min Wu <sup>1,\*</sup>

<sup>1</sup> Ocean College, Zhejiang University, Zhoushan 316021, China; 15034663445@163.com (R.-J.W.); 1593591913@qq.com (Y.-H.Y.)

<sup>2</sup> College of Biochemical Engineering, Anhui Polytechnic University, Wuhu 241000, China; xuezhen0851@sina.com (Z.-L.X.)

<sup>3</sup> Zhejiang Key Laboratory of Antifungal Drugs, Zhejiang Hisun Pharmaceutical Co., Ltd., Taizhou 318000, China; 1zhangshaoyong@163.com (S.-Y.Z.); yuzhen@hisunpharm.com (Z.Y.); qihuan@hisunpharm.com (H.Q.); huizhang@hisunpharm.com (H.Z.)

\* Correspondence: jdwang@hisunpharm.com (J.-D.W.); wumin@zju.edu.cn (M. W.); Tel.: +86-136-3400-5685 (J.-D.W.); +86-136-1651-0066 (M.W.)

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| Best  | ID         | Source          | Formula            | Species      | m/z         | Score      | Diff (ppm)  | Score (M) | Mass (MFG)          |
|-------|------------|-----------------|--------------------|--------------|-------------|------------|-------------|-----------|---------------------|
| -     | MFG        | C21 H20 O7      | (M+H)+             | 385.1286     | 98.97       | -0.95      | 98.97       | 384.1209  |                     |
| <hr/> |            |                 |                    |              |             |            |             |           |                     |
| -     | Species    | m/z             | Score (iso. abduc) | Score (mass) | Score (MFG) | Score (MS) | Score (MFG) | Height    | Ion Formula         |
| -     | (M+H)+     | 385.1286        | 98.08              | 99.24        |             | 98.97      | 98.97       | 99.5      | 801604.1 C21 H21 O7 |
| <hr/> |            |                 |                    |              |             |            |             |           |                     |
|       | Height (C) | Height S        | Height % (Calc)    | Height (%)   | Diff (mDa)  | Height     | Height %    | Height S  | m/z                 |
|       | 787123.6   | 78.3            | 100                | 385.1282     | -0.4        | 801604.1   | 100         | 79.7      | 385.1286            |
|       | 182779.6   | 18.2            | 23.2               | 386.1316     | -0.1        | 173537.8   | 21.6        | 17.3      | 386.1317            |
|       | 31577.2    | 3.1             | 4                  | 387.1341     | -0.6        | 25483.1    | 3.3         | 2.6       | 387.1346            |
|       | 4050       | 0.4             | 0.5                | 388.1367     | -0.6        | 3905.4     | 0.5         | 0.4       | 388.1373            |
| <hr/> |            |                 |                    |              |             |            |             |           |                     |
| Best  | ID         | Source          | Formula            | Species      | m/z         | Score      | Diff (ppm)  | Score (M) | Mass (MFG)          |
| +     | MFG        | C20 H14 N7 O2   | (M+H)+             | 385.1286     | 97.47       | -1.32      | 97.47       | 384.1209  |                     |
| +     | MFG        | C22 H16 N4 O3   | (M+H)+             | 385.1286     | 94.88       | 2.35       | 94.88       | 384.1222  |                     |
| +     | MFG        | C19 H18 N3 O6   | (M+H)+             | 385.1286     | 92          | -4.62      | 92          | 384.1196  |                     |
| +     | MFG        | C14 H20 N6 O5 S | (M+H)+             | 385.1286     | 90.2        | -0.12      | 90.2        | 384.1216  |                     |
| +     | MFG        | C18 H12 N10 O   | (M+H)+             | 385.1286     | 89.39       | -5.01      | 89.39       | 384.1196  |                     |
| +     | MFG        | C15 H16 N10 O S | (M+H)+             | 385.1286     | 88.74       | 3.16       | 88.74       | 384.1229  |                     |

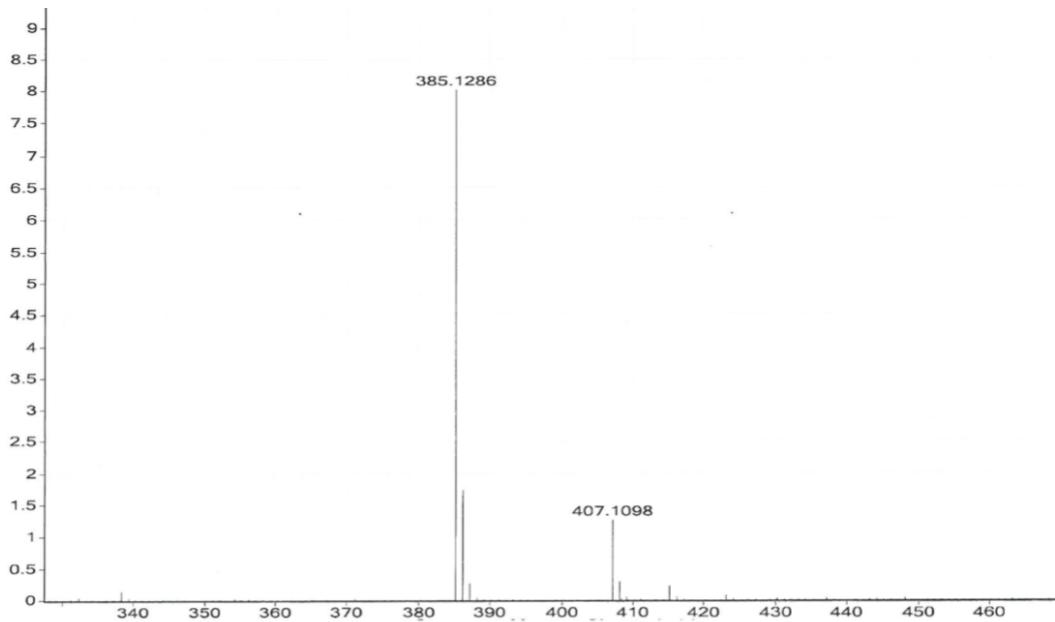
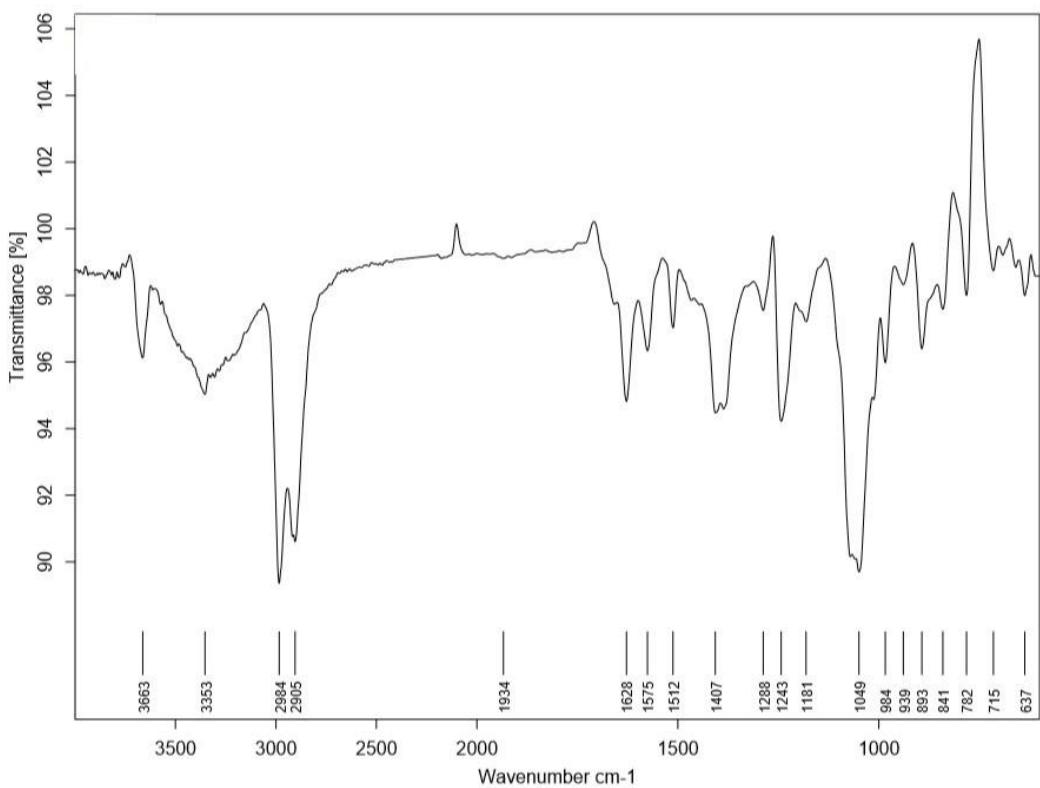
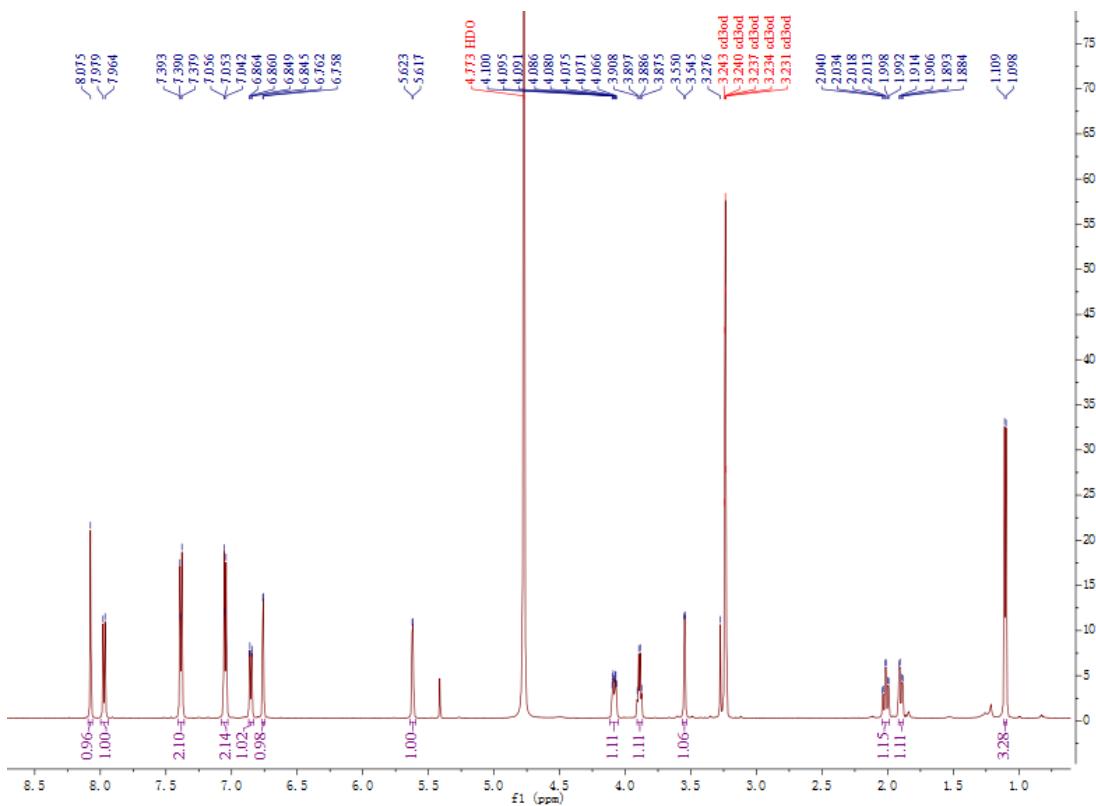


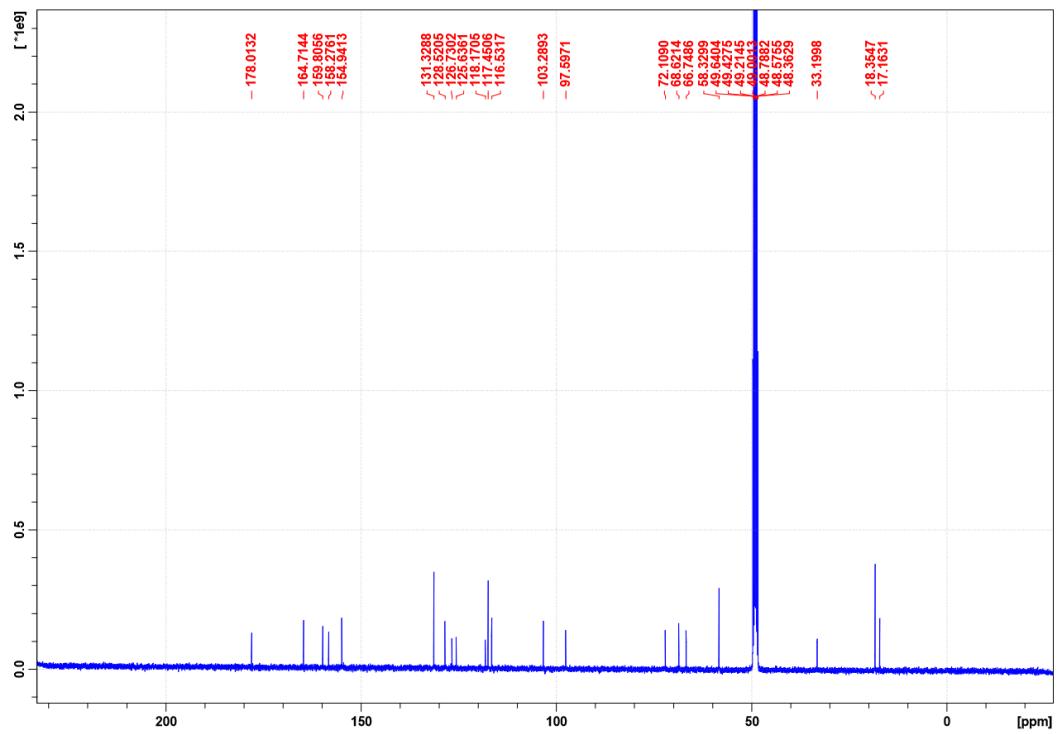
Figure S1. HR-ESIMS data of compound 1



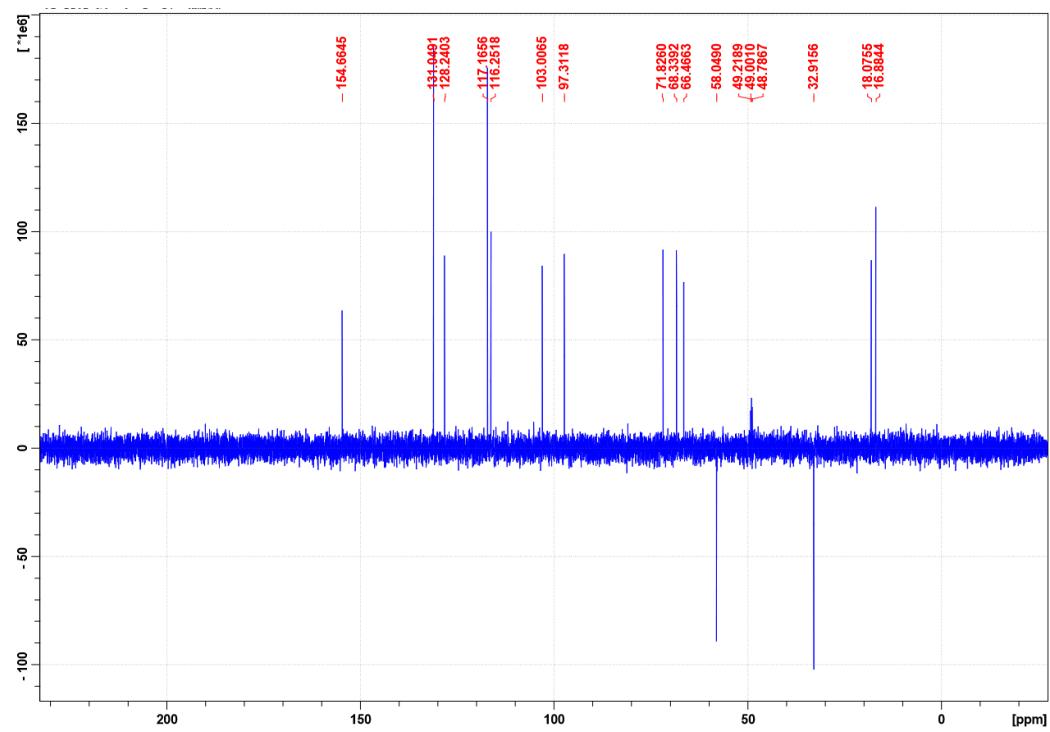
**Figure S2.** The IR spectrum of compound 1



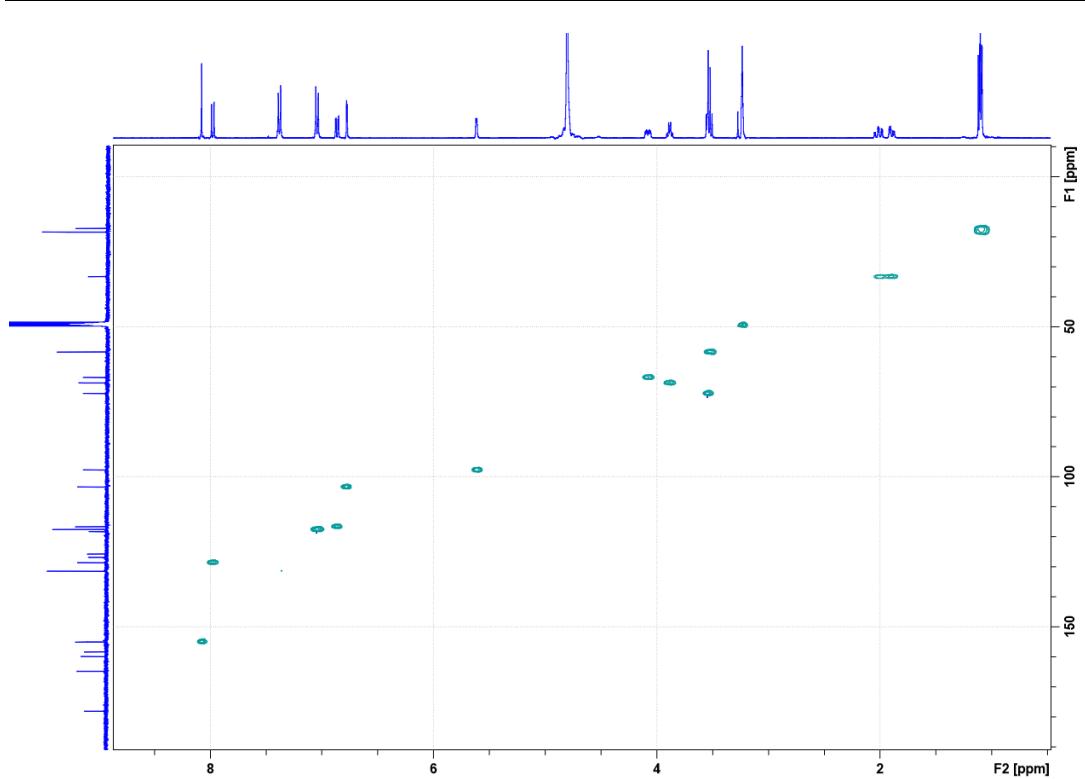
**Figure S3.**  $^1\text{H}$  NMR spectrum of compound **1** in  $\text{CD}_3\text{OD}$  (600 MHz)



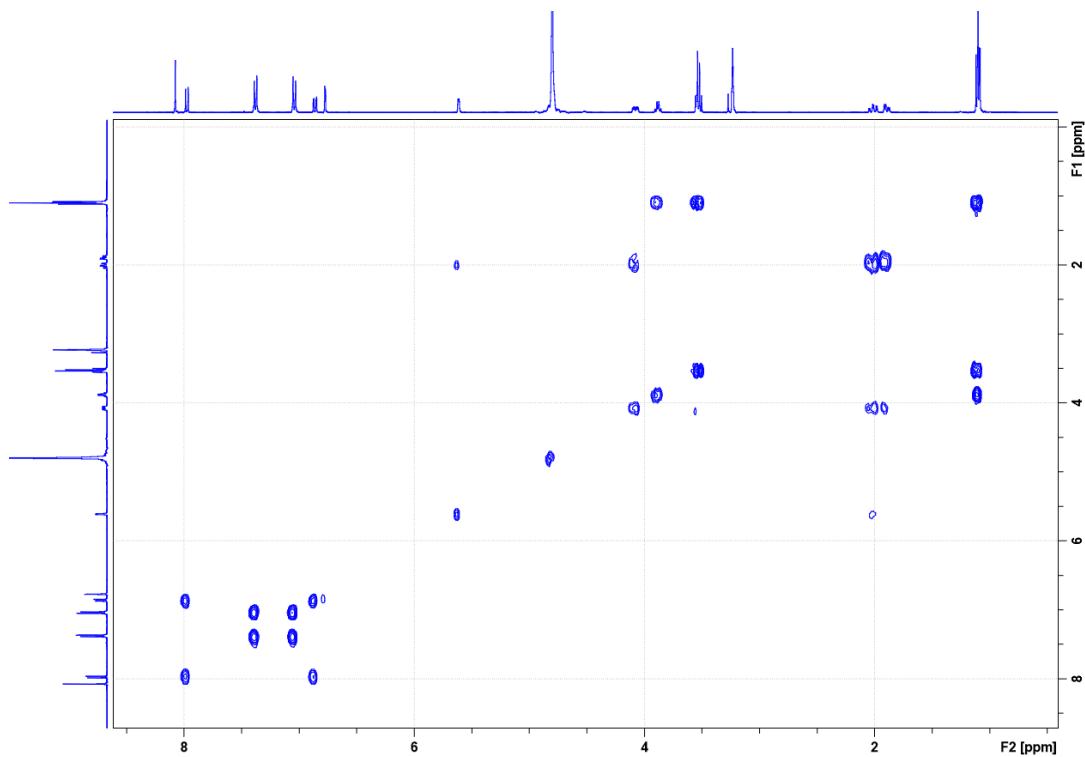
**Figure S4.**  $^{13}\text{C}$  NMR spectrum of compound 1 in  $\text{CD}_3\text{OD}$  (400 MHz)



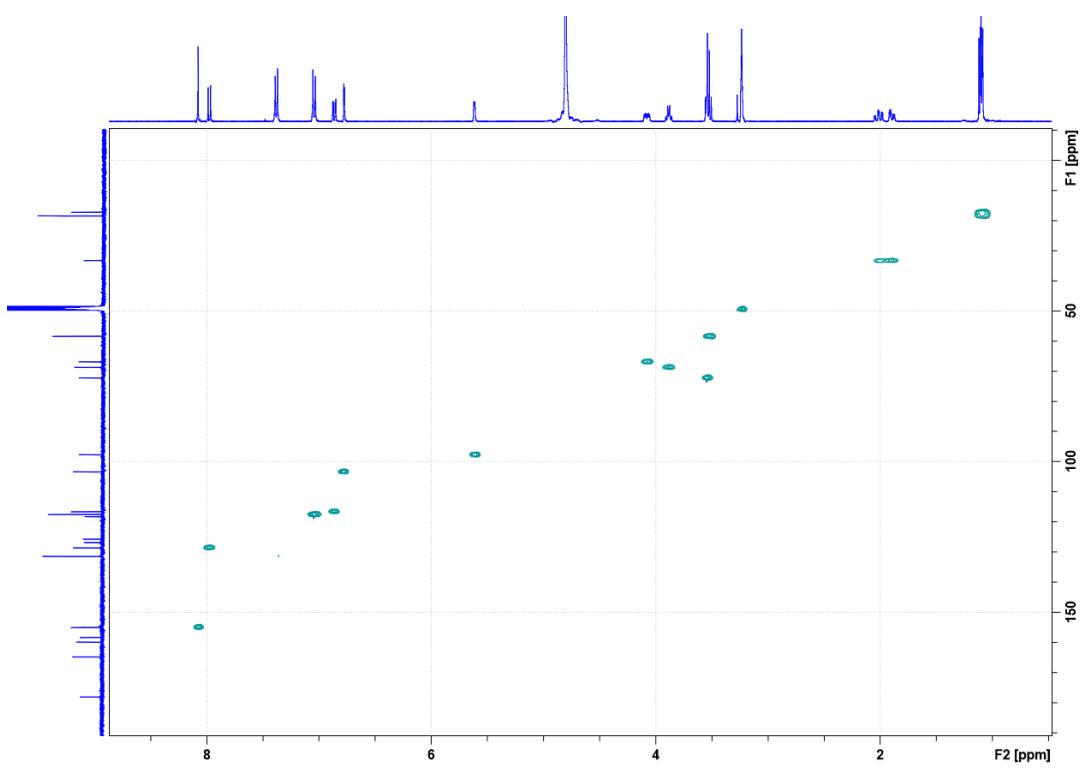
**Figure S5.** The DEPT spectrum of compound 1 in  $\text{CD}_3\text{OD}$  (400 MHz)



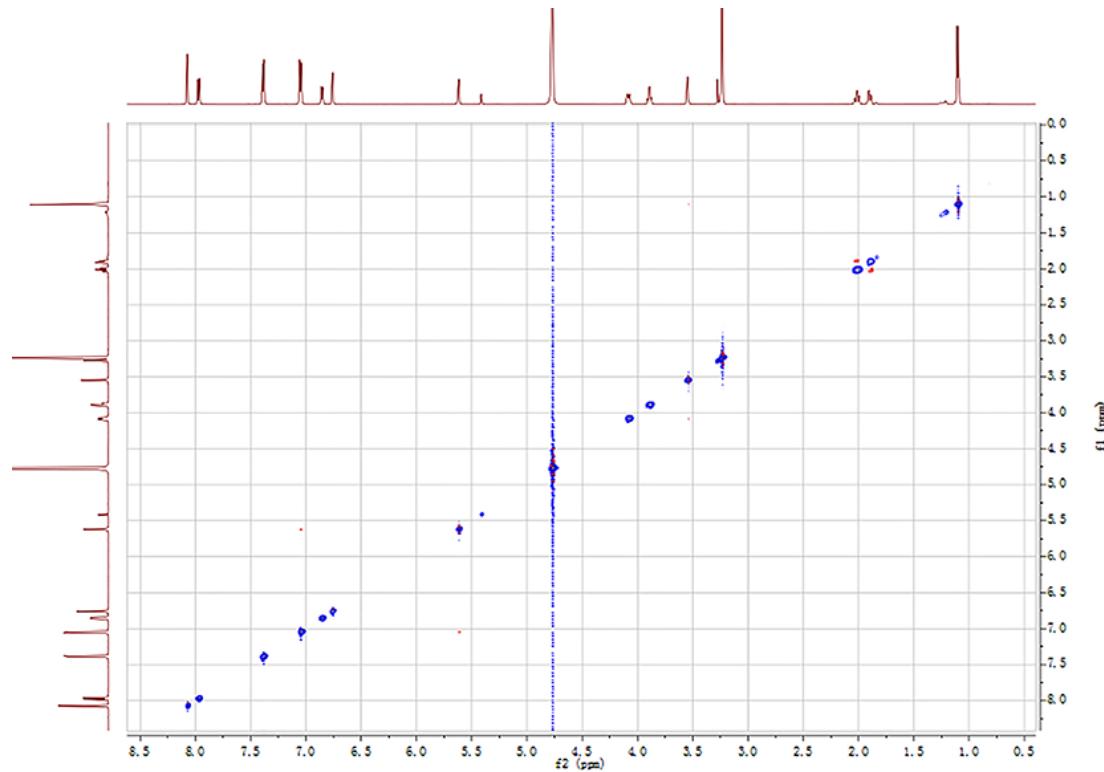
**Figure S6.** The HSQC spectrum of compound **1** in  $\text{CD}_3\text{OD}$  (400 MHz)



**Figure S7.** The  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound **1** in  $\text{CD}_3\text{OD}$  (400 MHz)



**Figure S8.** The HMBC spectrum of compound **1** in  $\text{CD}_3\text{OD}$  (400 MHz)



**Figure S9.** The NOESY spectrum of compound **1** in  $\text{CD}_3\text{OD}$  (600 MHz)

Spectrum Identification Results: + Scan (rt: 0.165 min) Sub (110B-N7.d)

| Best  | Y (%)         | ID Source | Formula         | Species            | m/z             | Y (%)        | Score           | Y (%)       | Diff (ppm)      | Y (%)      | Score (MFG)     | Y (%)       | Mass (MFG)      | Y (%)      |            |       |
|-------|---------------|-----------|-----------------|--------------------|-----------------|--------------|-----------------|-------------|-----------------|------------|-----------------|-------------|-----------------|------------|------------|-------|
| -     | -             | MFG       | C21H20 O7       | (M+H)+             | 385.1287        | 98.45        | -1.27           | 98.45       | -               | 98.45      | -               | 384.1209    | -               | -          |            |       |
| <hr/> |               |           |                 |                    |                 |              |                 |             |                 |            |                 |             |                 |            |            |       |
| -     | Sources       | Y (%)     | m/z             | Score (Rel. abund) | Y (%)           | Score (maps) | Y (%)           | Score (MFG) | Y (%)           | Score (MS) | Y (%)           | Score (MFG) | Y (%)           | Height     | Y (%)      |       |
| -     | (M+H)+        | 385.1287  | 97.71           | 98.64              | -               | 98.45        | 98.45           | 98.98       | 98.98           | 506509.2   | -               | -           | -               | C21H21 O7  | -          |       |
| <hr/> |               |           |                 |                    |                 |              |                 |             |                 |            |                 |             |                 |            |            |       |
| *     | Height (calc) | Y (%)     | Height % (calc) | Y (%)              | Height % (calc) | Y (%)        | Height % (calc) | Y (%)       | Height % (calc) | Y (%)      | Height % (calc) | Y (%)       | Height % (calc) | Y (%)      | Diff (ppm) | Y (%) |
| *     | 497440.6      | 78.3      | 100             | 385.1282           | -0.6            | 506509.2     | 100             | 79.7        | 79.7            | 385.1287   | -               | -1.43       | -               | -          | -          |       |
| *     | 115511.7      | 18.2      | 23.2            | 386.1316           | -0.1            | 108520.3     | 21.4            | 17.1        | 386.1317        | -          | -0.21           | -           | -               | -          |            |       |
| *     | 19855.9       | 3.1       | 4               | 387.1341           | -0.5            | 17854.8      | 3.5             | 2.8         | 387.1346        | -          | -1.34           | -           | -               | -          |            |       |
| *     | 2595.9        | 0.4       | 0.5             | 388.1367           | -4.8            | 2583.3       | 0.5             | 0.4         | 388.1415        | -          | -12.37          | -           | -               | -          |            |       |
| *     | Best          | Y (%)     | ID Source       | Formula            | Species         | m/z          | Y (%)           | Score       | Y (%)           | Diff (ppm) | Y (%)           | Score (MFG) | Y (%)           | Mass (MFG) | Y (%)      |       |
| *     | -             | -         | MFG             | C20 H14 N7 O2      | (M+H)+          | 385.1287     | 96.83           | -1.64       | 96.83           | -          | 96.83           | -           | 384.1209        | -          | -          |       |
| *     | -             | -         | MFG             | C22 H16 N4 O3      | (M+H)+          | 385.1287     | 95.03           | 2.03        | 95.03           | -          | 95.03           | -           | 384.1222        | -          | -          |       |
| *     | -             | -         | MFG             | C19 H18 N3 O6      | (M+H)+          | 385.1287     | 90.91           | -4.94       | 90.91           | -          | 90.91           | -           | 384.1196        | -          | -          |       |
| *     | -             | -         | MFG             | C14 H20 N6 O5 S    | (M+H)+          | 385.1287     | 90.9            | -0.47       | 90.9            | -          | 90.9            | -           | 384.1216        | -          | -          |       |
| *     | -             | -         | MFG             | C15 H16 N10 O S    | (M+H)+          | 385.1287     | 90.18           | 2.81        | 90.18           | -          | 90.18           | -           | 384.1229        | -          | -          |       |
| *     | -             | -         | MFG             | C18 H12 N10 O      | (M+H)+          | 385.1287     | 88.2            | -5.33       | 88.2            | -          | 88.2            | -           | 384.1196        | -          | -          |       |

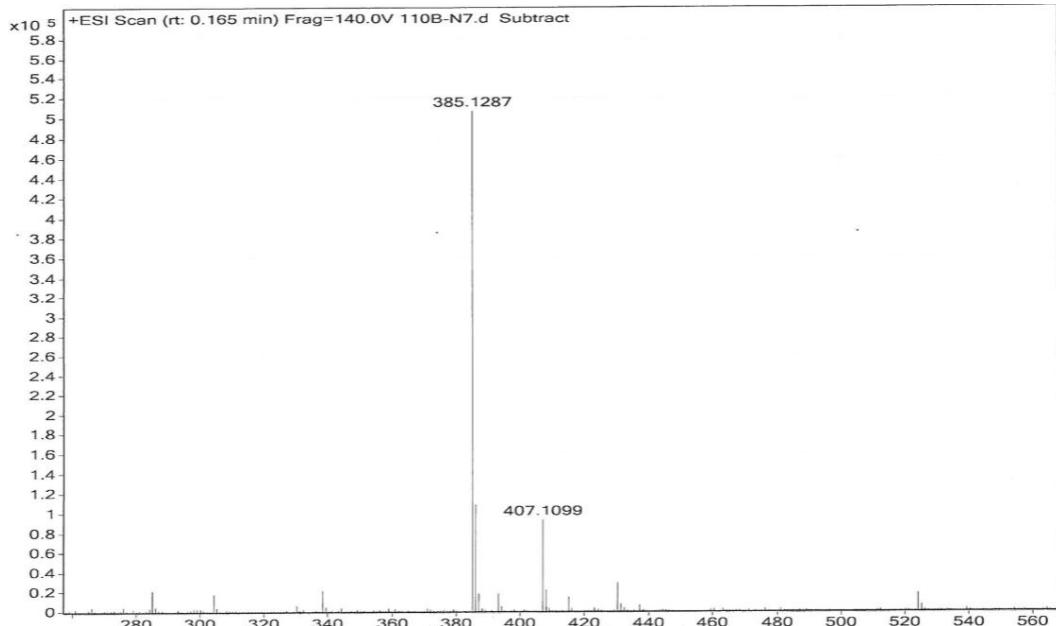
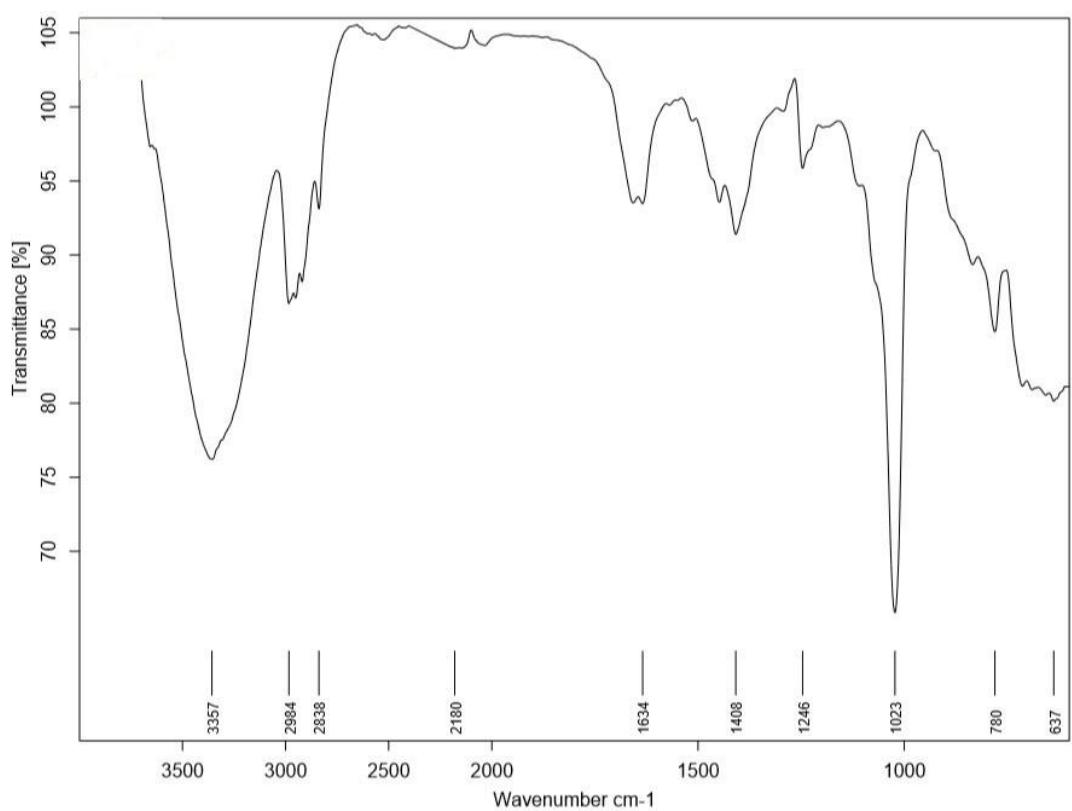
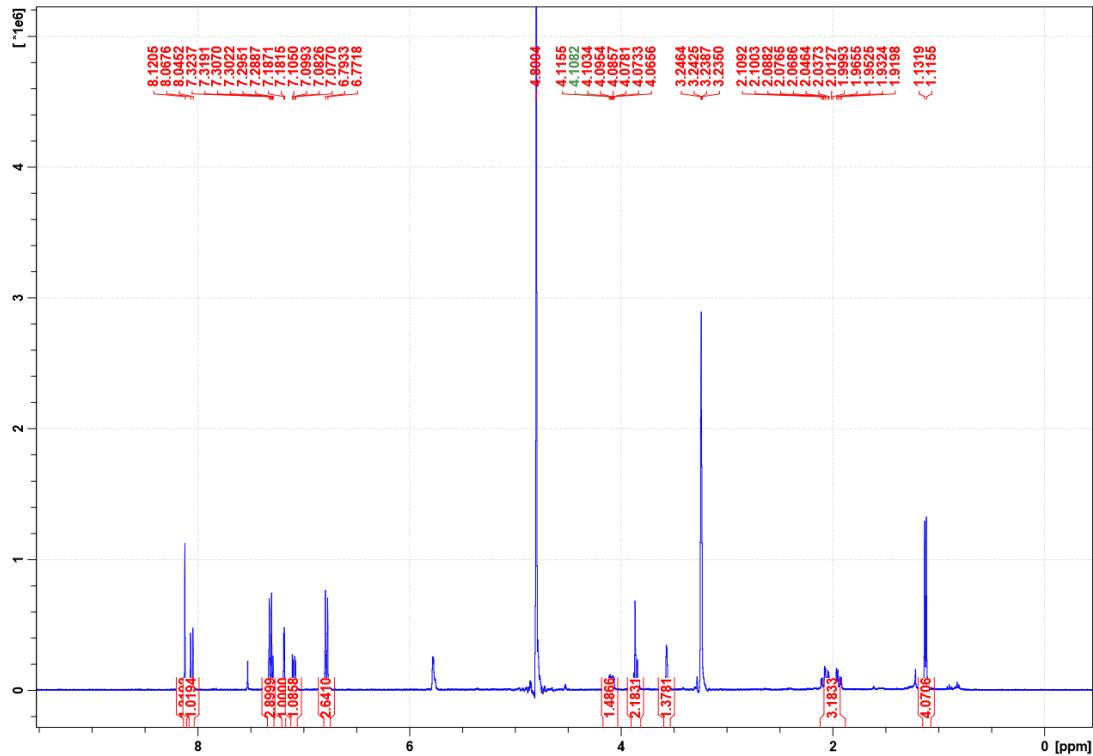


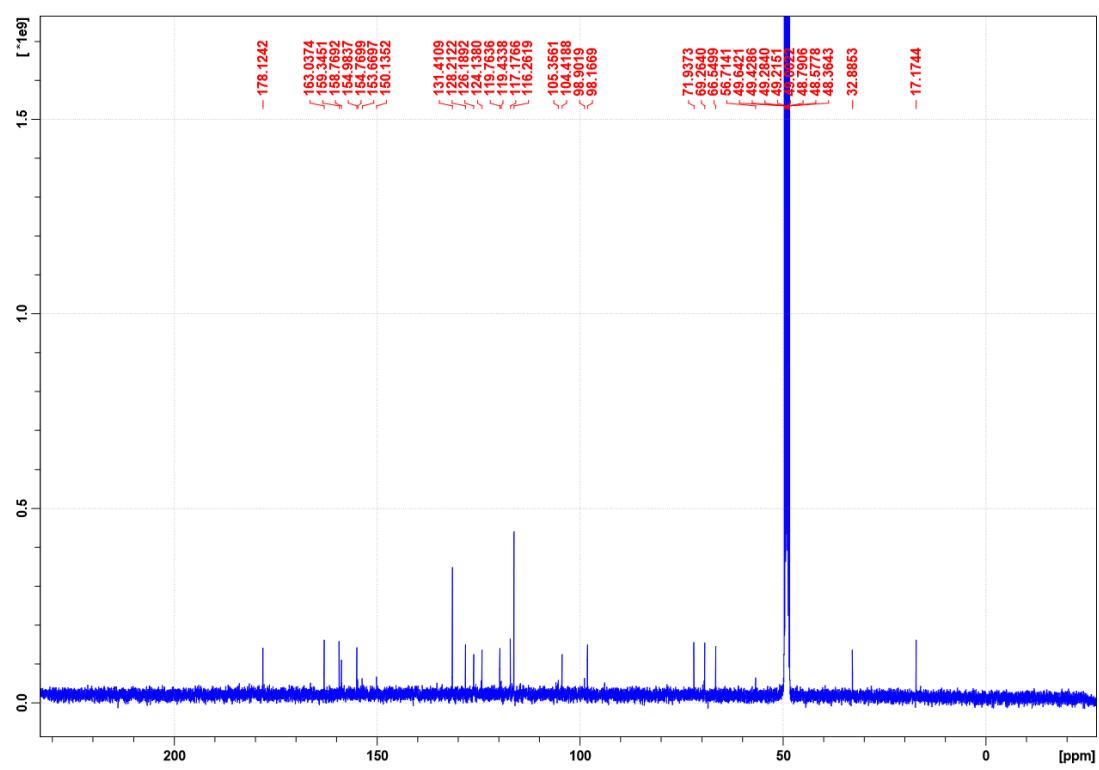
Figure S10. HR-ESIMS data of compound 2



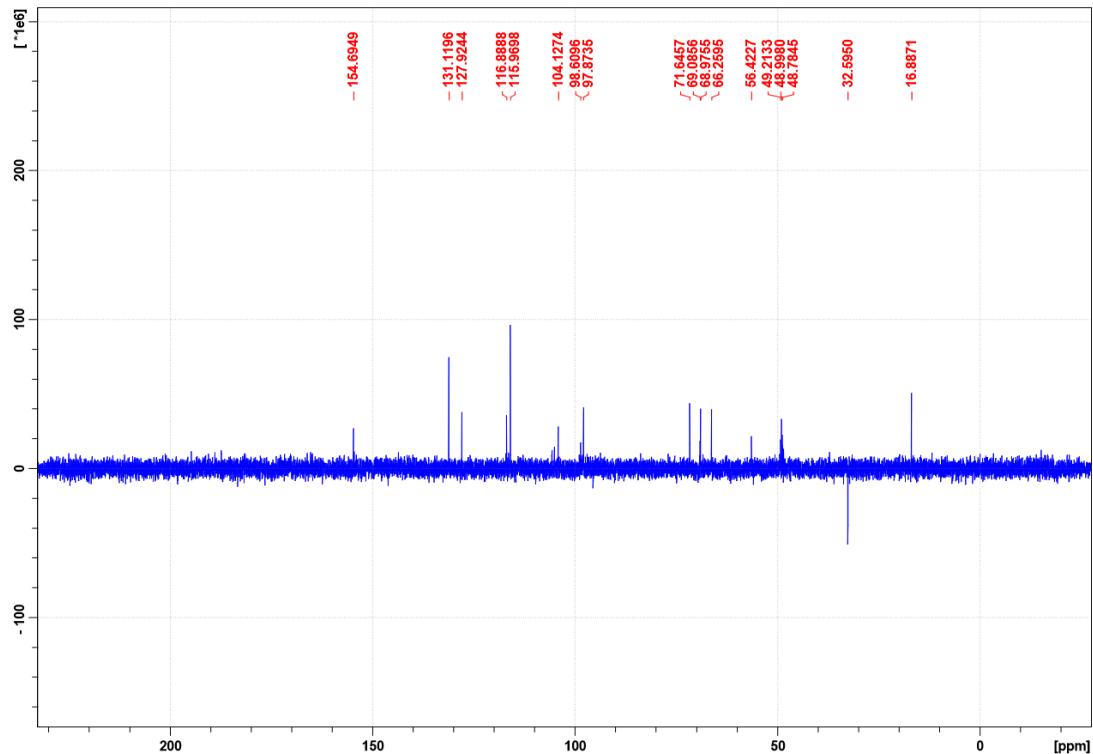
**Figure S11.** The IR spectrum of compound 2



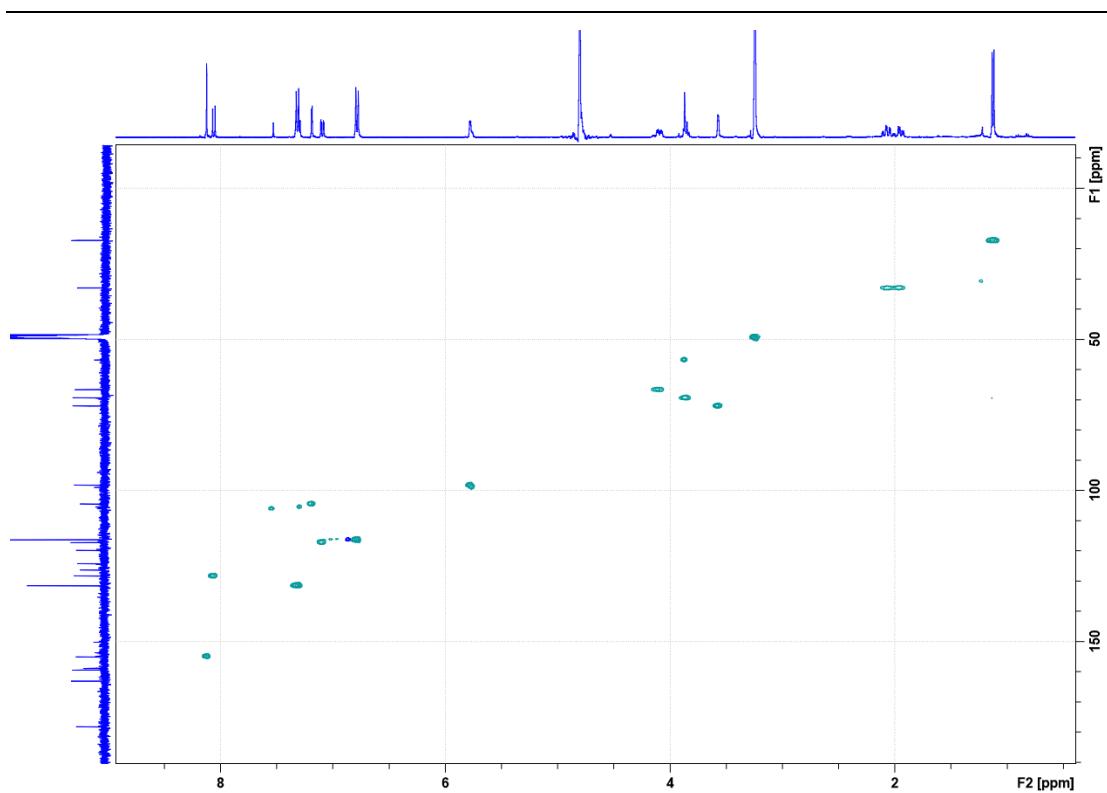
**Figure S12.** The <sup>1</sup>H NMR spectrum of compound 2 in CD<sub>3</sub>OD (400 MHz)



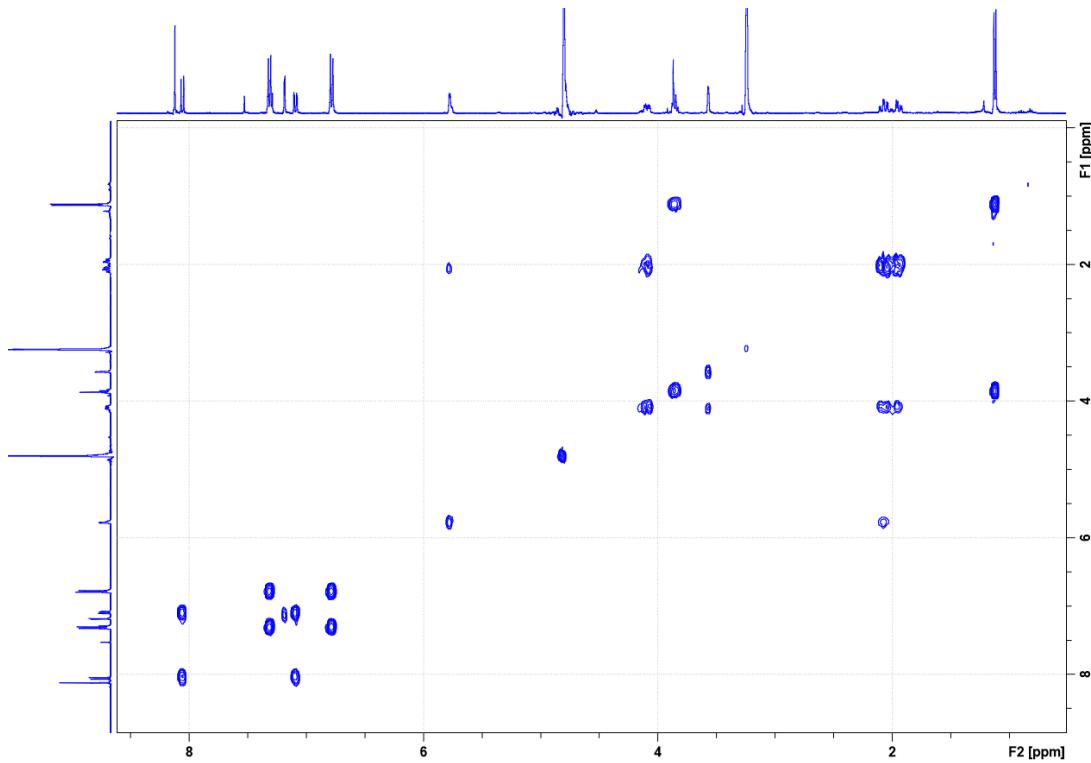
**Figure S13.** The  $^{13}\text{C}$  NMR spectrum of compound 2 in  $\text{CD}_3\text{OD}$  (400 MHz)



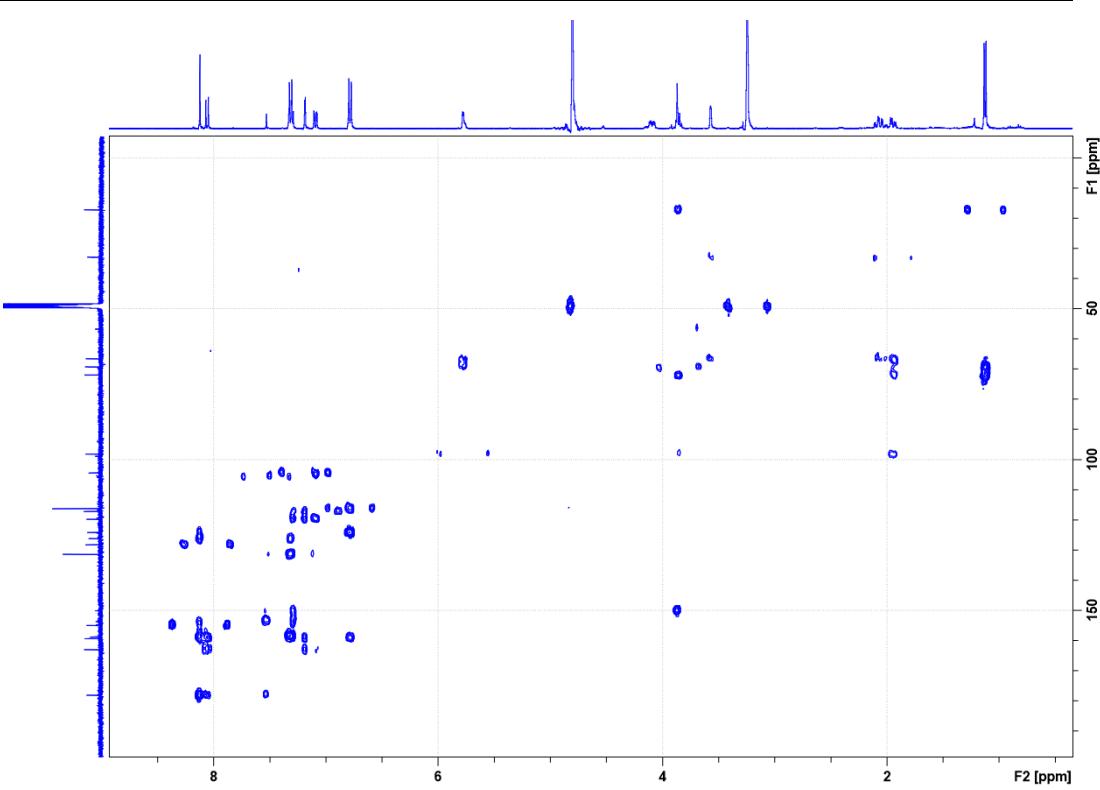
**Figure S14.** The DEPT spectrum of compound 2 in  $\text{CD}_3\text{OD}$  (400 MHz)



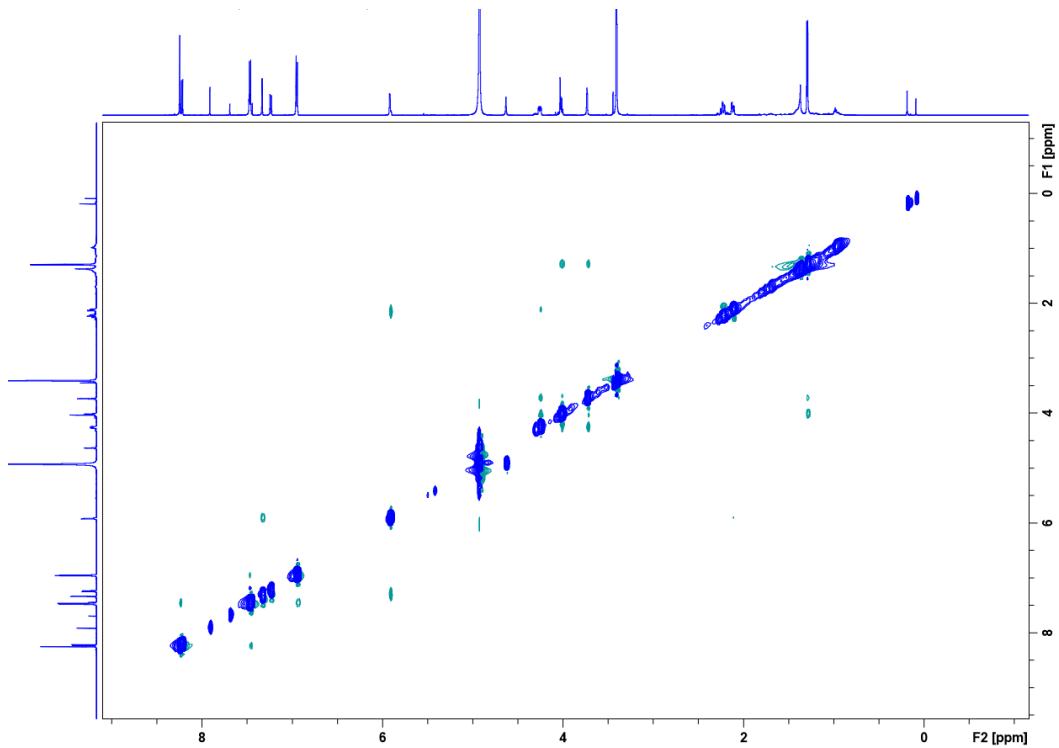
**Figure S15.** The HSQC spectrum of compound **2** in CD<sub>3</sub>OD (400 MHz)



**Figure S16.** The  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound **2** in  $\text{CD}_3\text{OD}$  (400 MHz)



**Figure S17.** The HMBC spectrum of compound **2** in  $\text{CD}_3\text{OD}$  (400 MHz)



**Figure S18.** The NOESY spectrum of compound **2** in  $\text{CD}_3\text{OD}$  (600 MHz)

Spectrum Identification Results: + Scan (rt: 0.163-0.180 min) Sub (110B-N2.d)

| Best | ID         | Source           | Formula           | $m/z$         | Species     | $m/z$         | Score      | $\Delta$      | Diff (ppm)  | Score (M)    | Mass (MFG)  |
|------|------------|------------------|-------------------|---------------|-------------|---------------|------------|---------------|-------------|--------------|-------------|
| -    | MFG        | C27 H30 O10      | (M+H)+            | 515.1912      |             | 515.1912      | 99.66      | 0.14          | 99.66       | 99.66        | 514.1839    |
| -    | Species    | $m/z$            | Score (iso. abd.) | $m/z$         | Score (max) | $m/z$         | Score (MS) | $\Delta$      | Score (MFG) | Score (iso.) | Height      |
| -    | (M+H)+     | 515.1912         | 99.68             | 515.1912      | 99.98       | 515.1912      | 99.66      | 99.66         | 98.98       | 441638.1     | C27 H31 O10 |
| -    | Height (C) | $\times 10^4$    | Height (S)        | $\times 10^4$ | Height (%)  | $\times 10^4$ | Height (%) | $\times 10^4$ | Height (%)  | Height (%)   | Height (%)  |
| -    | 437973.4   | 72.7             | 100               | 515.1912      | 10          | 441638.1      | 100        | 73.4          | 515.1912    | -0.09        |             |
| -    | 131129     | 21.8             | 29.9              | 516.1946      | 0.4         | 129263.9      | 29.3       | 21.5          | 516.1941    | 0.85         |             |
| -    | 27938.2    | 4.6              | 6.4               | 517.1972      | 0.6         | 26185         | 5.9        | 4.3           | 517.1965    | 1.17         |             |
| -    | 4448.1     | 0.7              | 1                 | 518.1998      | -2.1        | 4485.5        | 1          | 0.7           | 518.202     | -4.1         |             |
| -    | 589        | 0.1              | 0.1               | 519.2024      | 3.6         | 505.2         | 0.1        | 0.1           | 519.1988    | 6.92         |             |
| Best | ID         | Source           | Formula           | $m/z$         | Species     | $m/z$         | Score      | $\Delta$      | Diff (ppm)  | Score (M)    | Mass (MFG)  |
| *    | MFG        | C26 H24 N7 O5    | (M+H)+            | 515.1912      |             | 515.1912      | 99.29      | -0.15         | 99.29       | 99.29        | 514.1839    |
| *    | MFG        | C25 H18 N14      | (M+H)+            | 515.1912      |             | 515.1912      | 97.4       | -0.44         | 97.4        | 97.4         | 514.1839    |
| *    | MFG        | C25 H28 N3 O9    | (M+H)+            | 515.1912      |             | 515.1912      | 96.46      | -2.6          | 96.46       | 96.46        | 514.1826    |
| *    | MFG        | C24 H22 N10 O4   | (M+H)+            | 515.1912      |             | 515.1912      | 95.29      | -2.9          | 95.29       | 95.29        | 514.1825    |
| *    | MFG        | C28 H26 N4 O6    | (M+H)+            | 515.1912      |             | 515.1912      | 95.12      | 2.6           | 95.12       | 95.12        | 514.1852    |
| *    | MFG        | C27 H20 N11 O    | (M+H)+            | 515.1912      |             | 515.1912      | 94.11      | 2.32          | 94.11       | 94.11        | 514.1852    |
| *    | MFG        | C19 H24 N13 O3 S | (M+H)+            | 515.1912      |             | 515.1912      | 92.47      | 0.28          | 92.47       | 92.47        | 514.1846    |
| *    | MFG        | C20 H30 N6 O8 S  | (M+H)+            | 515.1912      |             | 515.1912      | 90.66      | 0.63          | 90.66       | 90.66        | 514.1846    |
| *    | MFG        | C21 H26 N10 O4 S | (M+H)+            | 515.1912      |             | 515.1912      | 88.92      | 3.07          | 88.92       | 88.92        | 514.1859    |
| *    | MFG        | C34 H28 N 02 S   | (M+H)+            | 515.1912      |             | 515.1912      | 88.51      | 0.03          | 88.51       | 88.51        | 514.1841    |

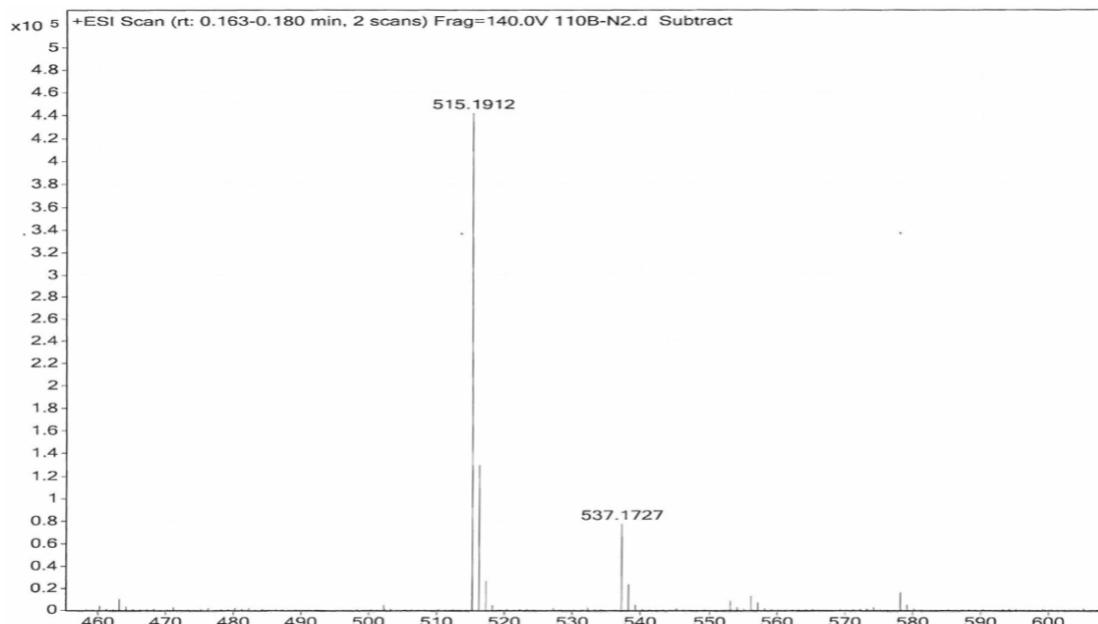
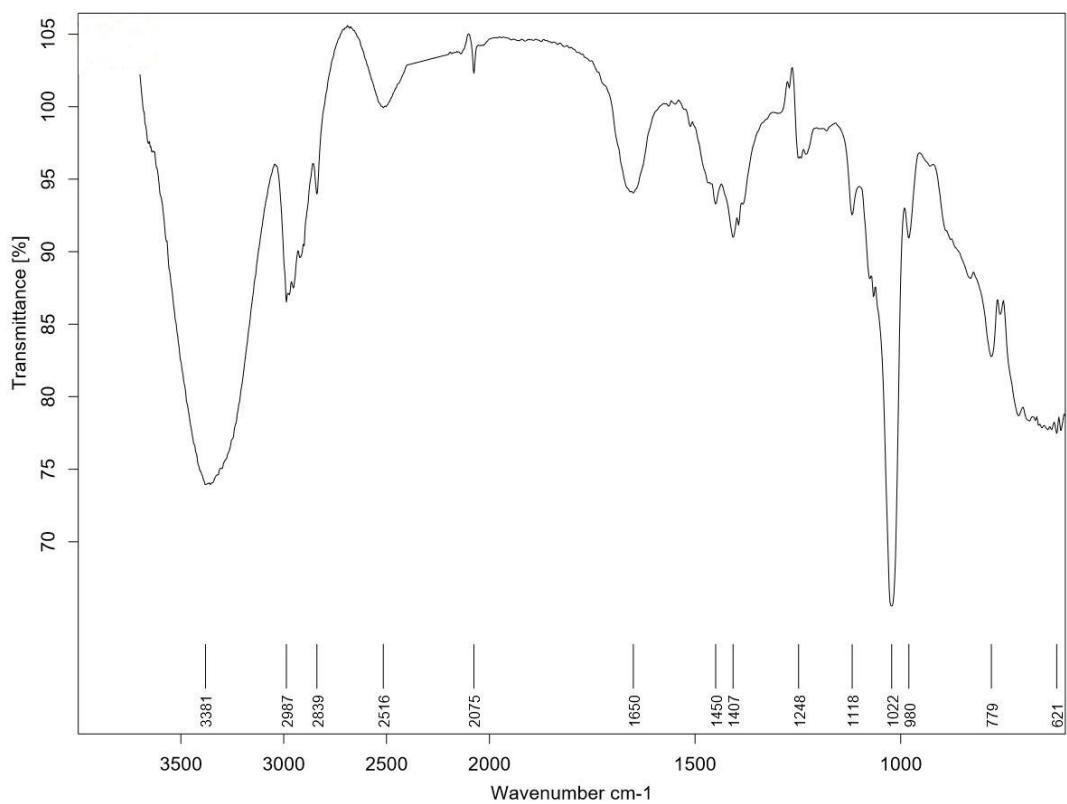
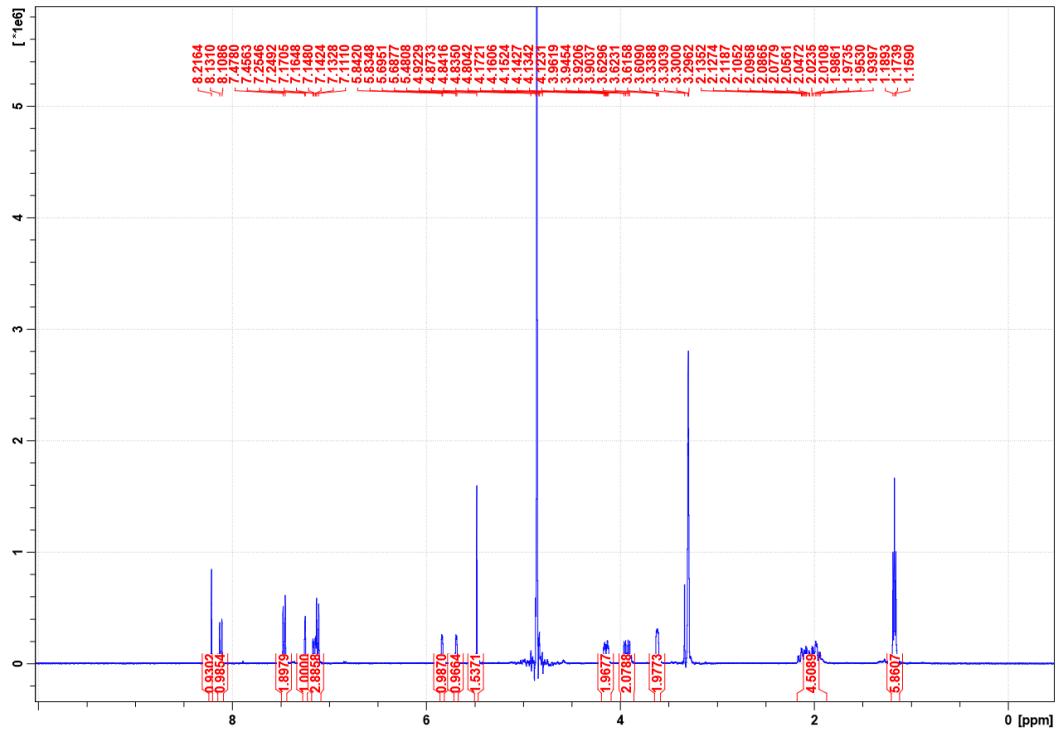


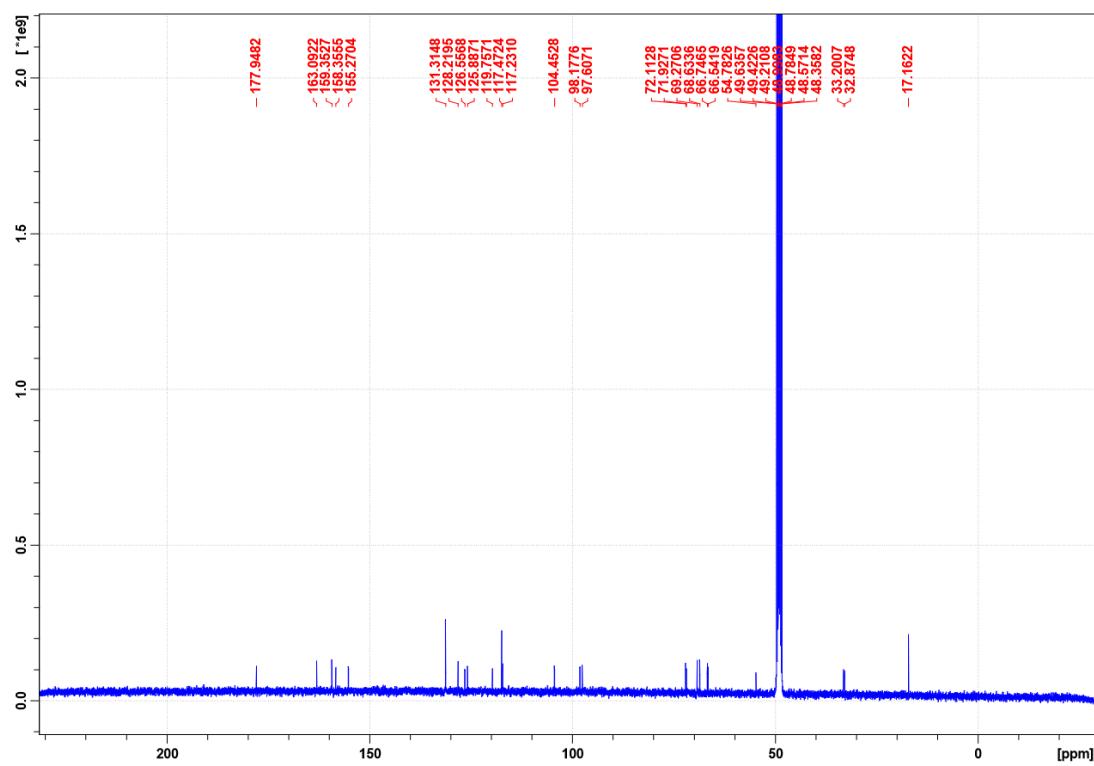
Figure S19. HR-ESIMS data of compound 3



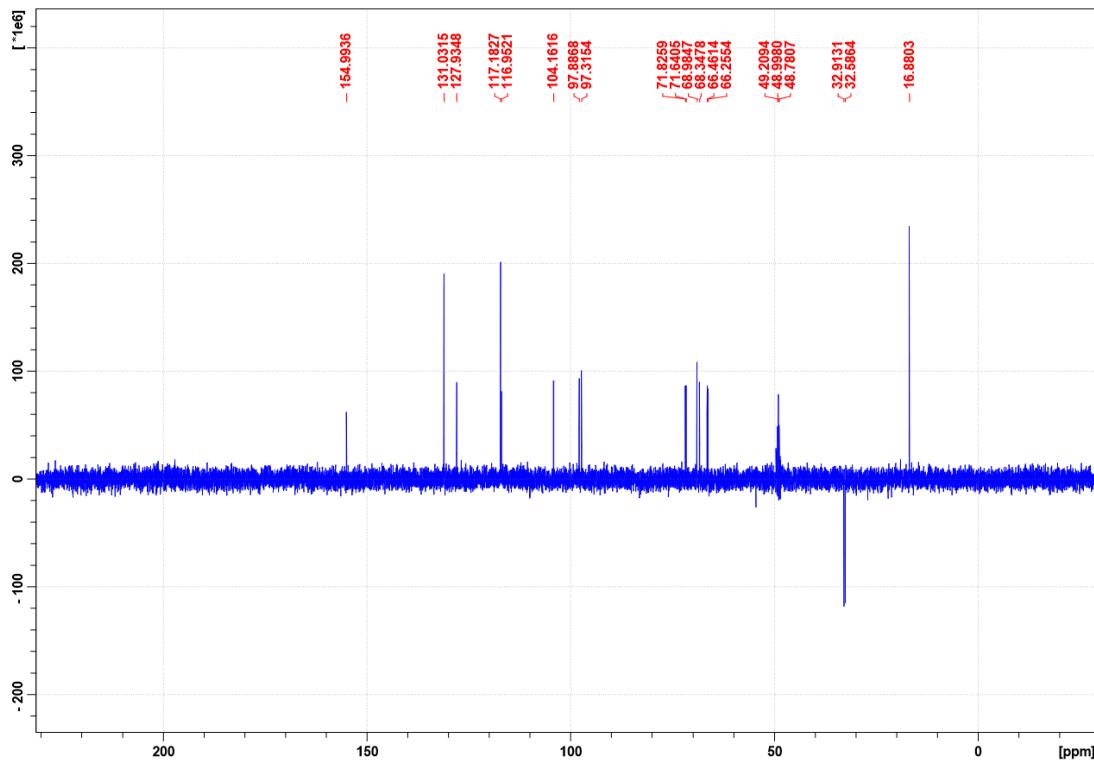
**Figure S20.** The IR spectrum of compound 3



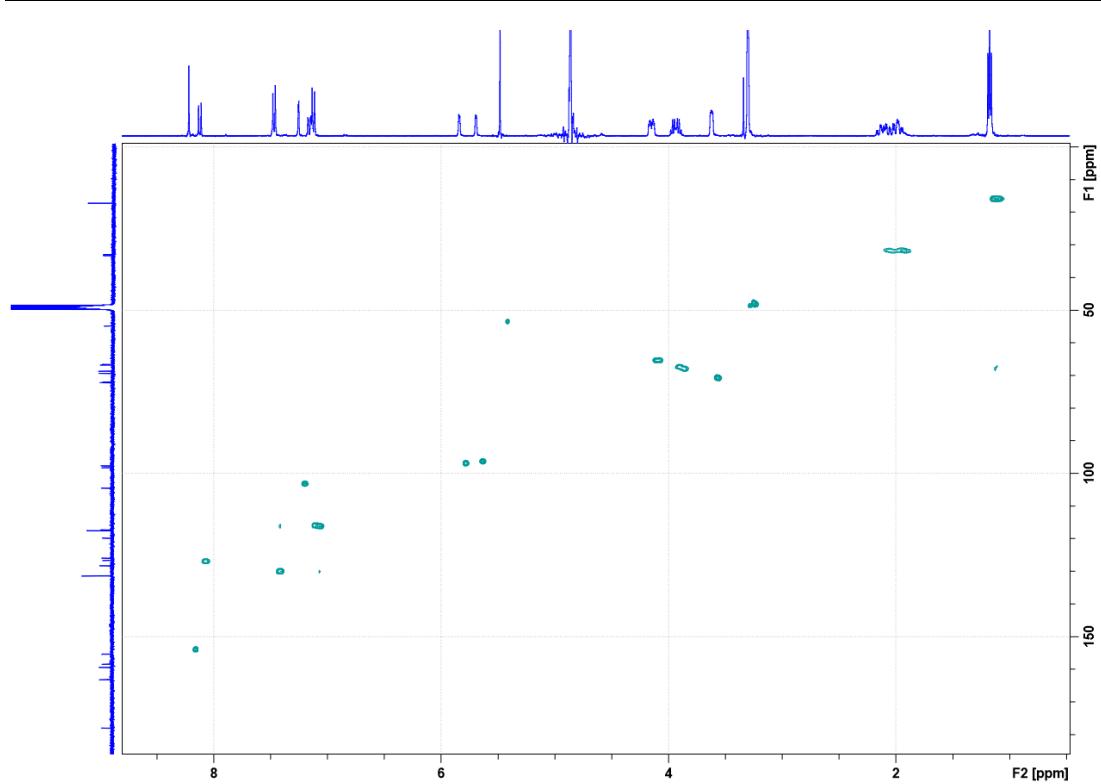
**Figure S21.**  $^1\text{H}$  NMR spectrum of compound 3 in  $\text{CD}_3\text{OD}$  (400 MHz)



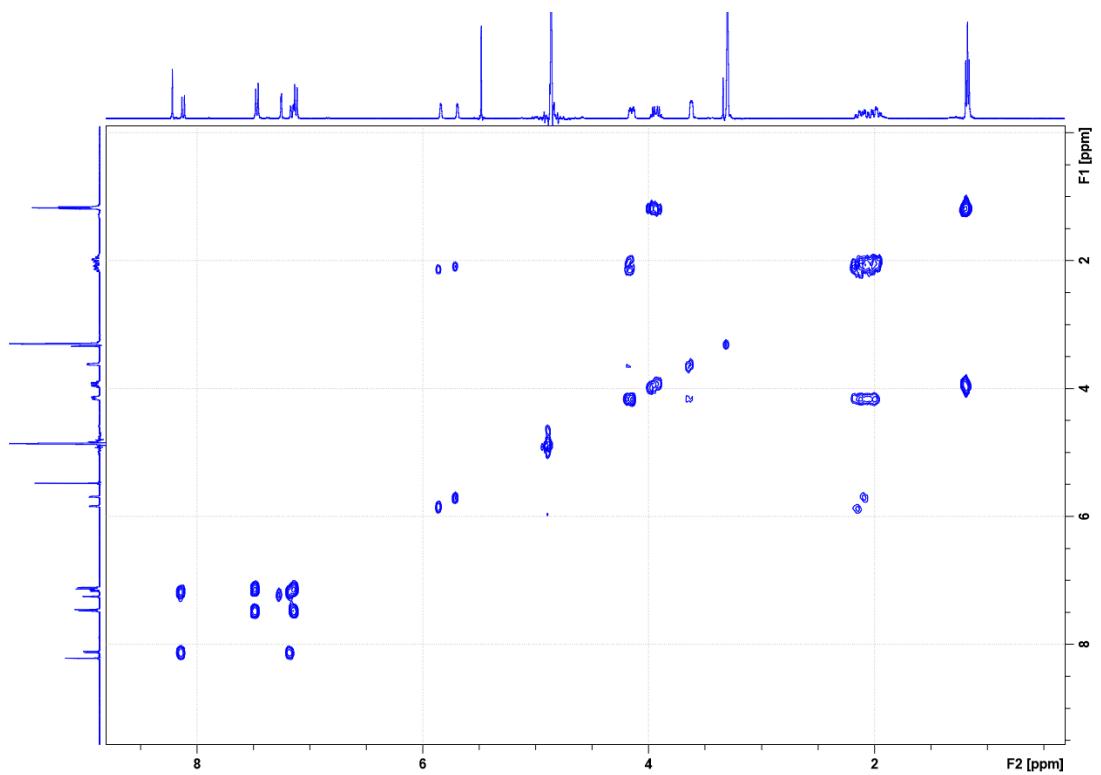
**Figure S22.**  $^{13}\text{C}$  NMR spectrum of compound 3 in  $\text{CD}_3\text{OD}$  (400 MHz)



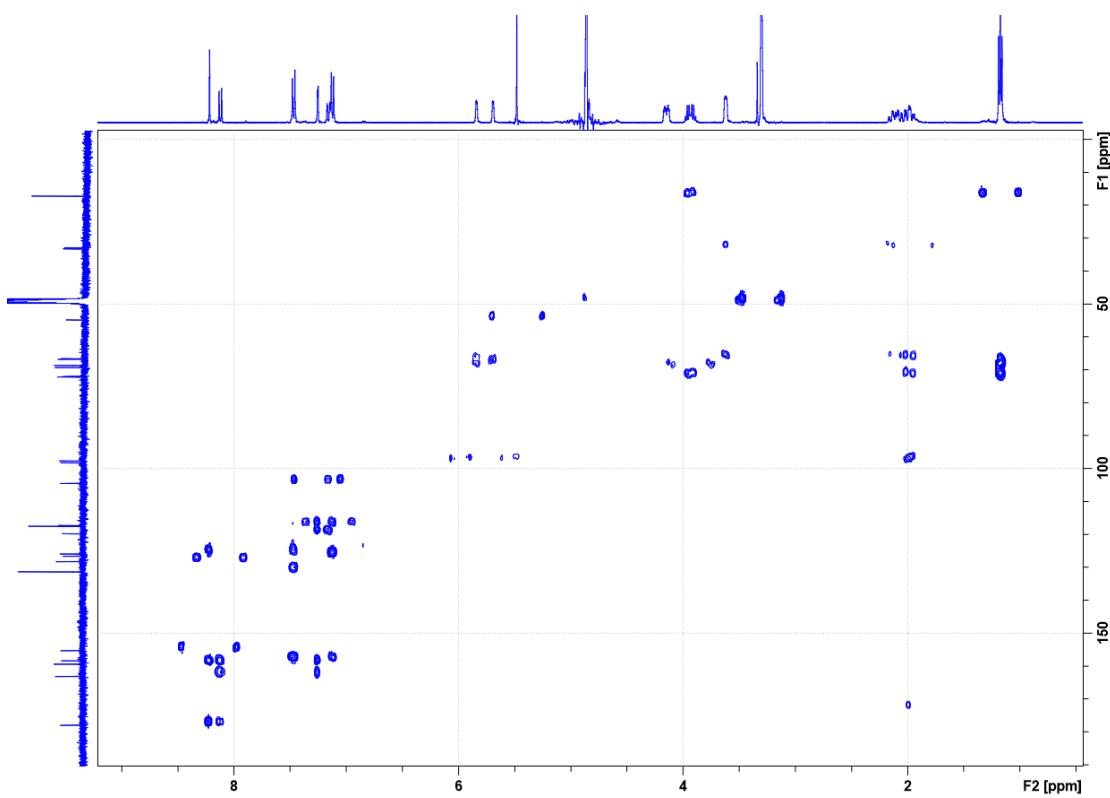
**Figure S23.** The DEPT spectrum of compound 3 in  $\text{CD}_3\text{OD}$  (400 MHz)



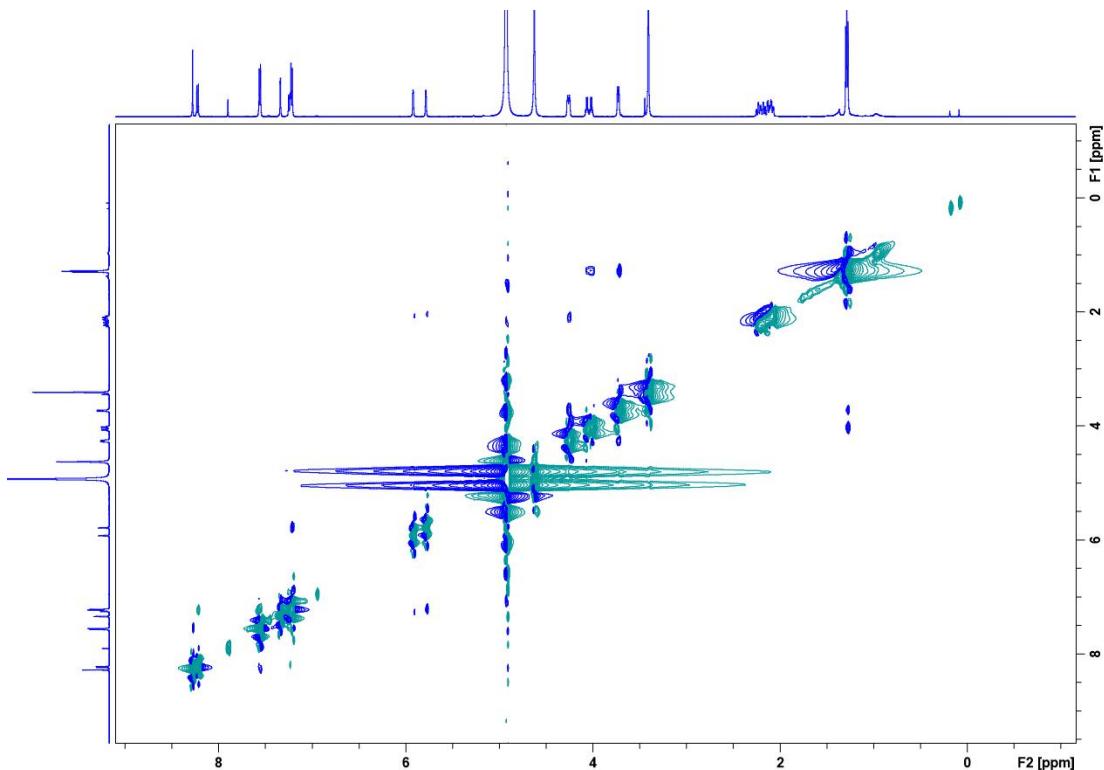
**Figure S24.** The HSQC spectrum of compound 3 in  $\text{CD}_3\text{OD}$  (400 MHz)



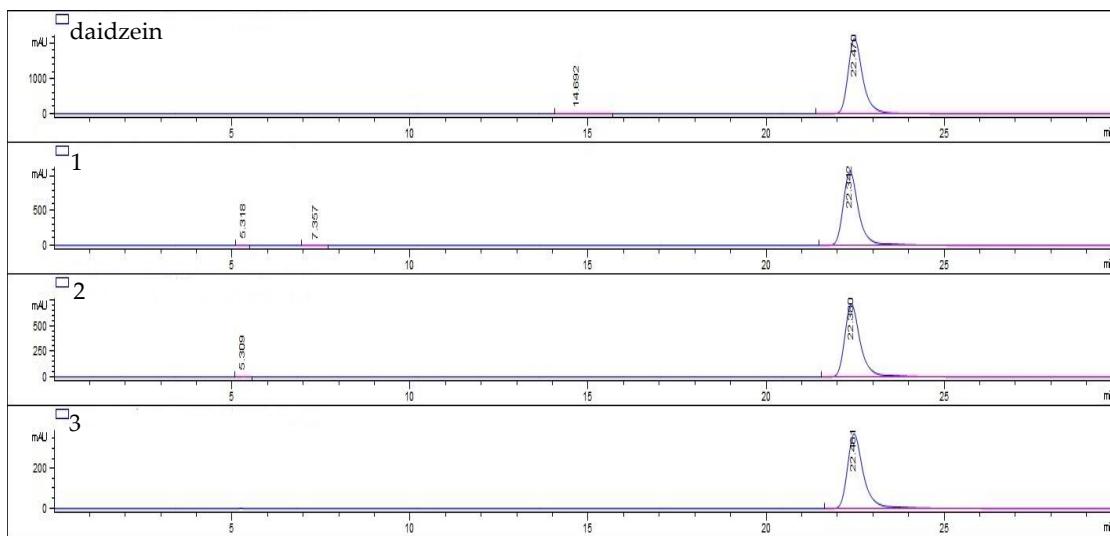
**Figure S25.** The  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of compound 3 in  $\text{CD}_3\text{OD}$  (400 MHz)



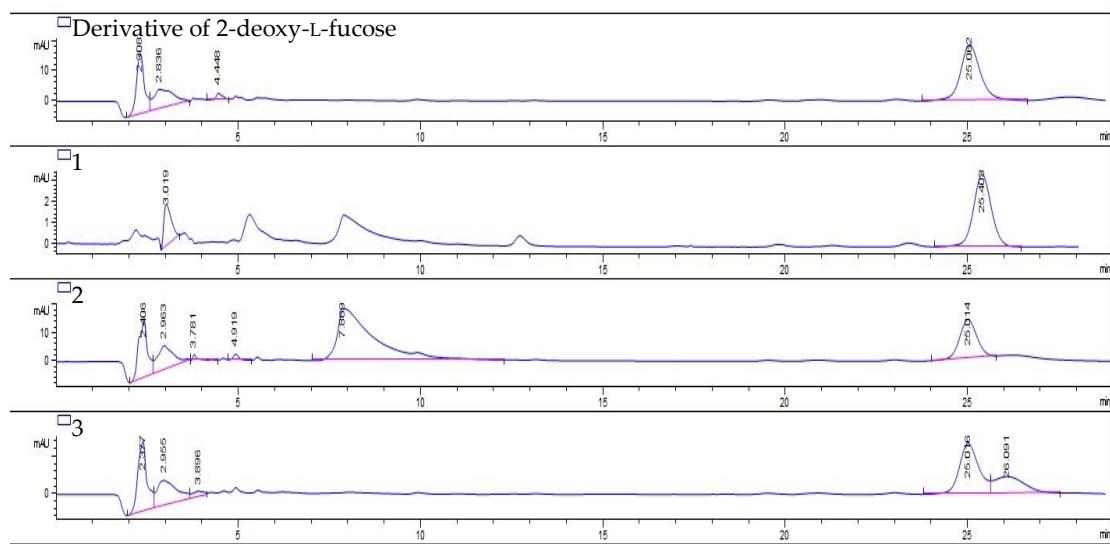
**Figure S26.** The HMBC spectrum of compound 3 in  $\text{CD}_3\text{OD}$  (400 MHz)



**Figure S27.** The NOESY spectrum of compound 3 in  $\text{CD}_3\text{OD}$  (600 MHz)



**Figure S28.** The retention time of daidzein and the aglycone moieties of compounds **1-3**



**Figure S29.** The retention time of the *O*-tolylthiocarbamate derivatives of 2-deoxy-L-fucose and the liberated sugars of compounds **1-3**