

# Supplementary Materials for

## Butanolides and Butenolides from a Marine-derived *Streptomyces* sp. Exert Neuroprotective Activity through Activation of the TrkB Neurotrophin Receptor

Paolo Giaccio <sup>1</sup>, Despoina Charou <sup>2,3</sup>, Dafni-Ioanna Diakaki <sup>1</sup>, Anna Chita <sup>2,3</sup>, Achille Gravanis <sup>2,3</sup>, Ioannis Charalampopoulos <sup>2,3</sup>, Vassilios Roussis <sup>1</sup> and Efstathia Ioannou <sup>1,\*</sup>

<sup>1</sup> Section of Pharmacognosy and Chemistry of Natural Products, Department of Pharmacy, National and Kapodistrian University of Athens, Panepistimiopolis Zografou, Athens 15771, Greece; pgiaccio@pharm.uoa.gr (P.G.); dafnid@pharm.uoa.gr (D.-I.D.); roussis@pharm.uoa.gr (V.R.)

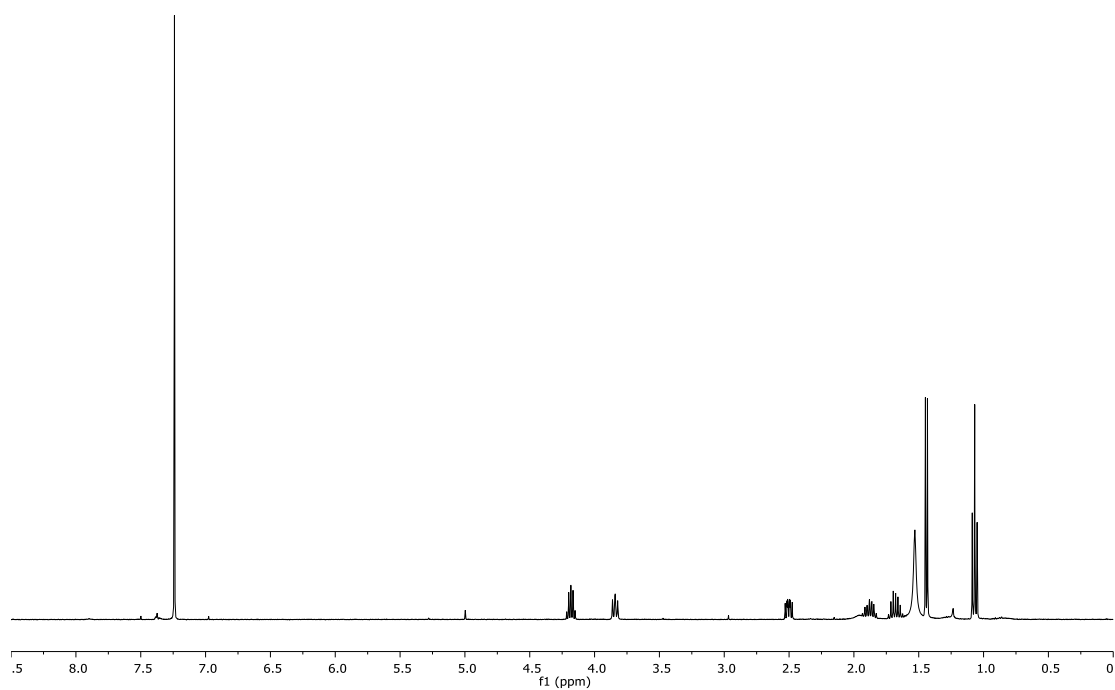
<sup>2</sup> Department of Pharmacology, Medical School, University of Crete, Heraklion 71003, Greece; dcharou@gmail.com (D.C.); anna.chita2@gmail.com (A.C.); gravanis@med.uoc.gr (A.G.); charalampn@uoc.gr (I.C.)

<sup>3</sup> Institute of Molecular Biology & Biotechnology, Foundation for Research & Technology-Hellas (IMBB-FORTH), Heraklion 70013, Greece

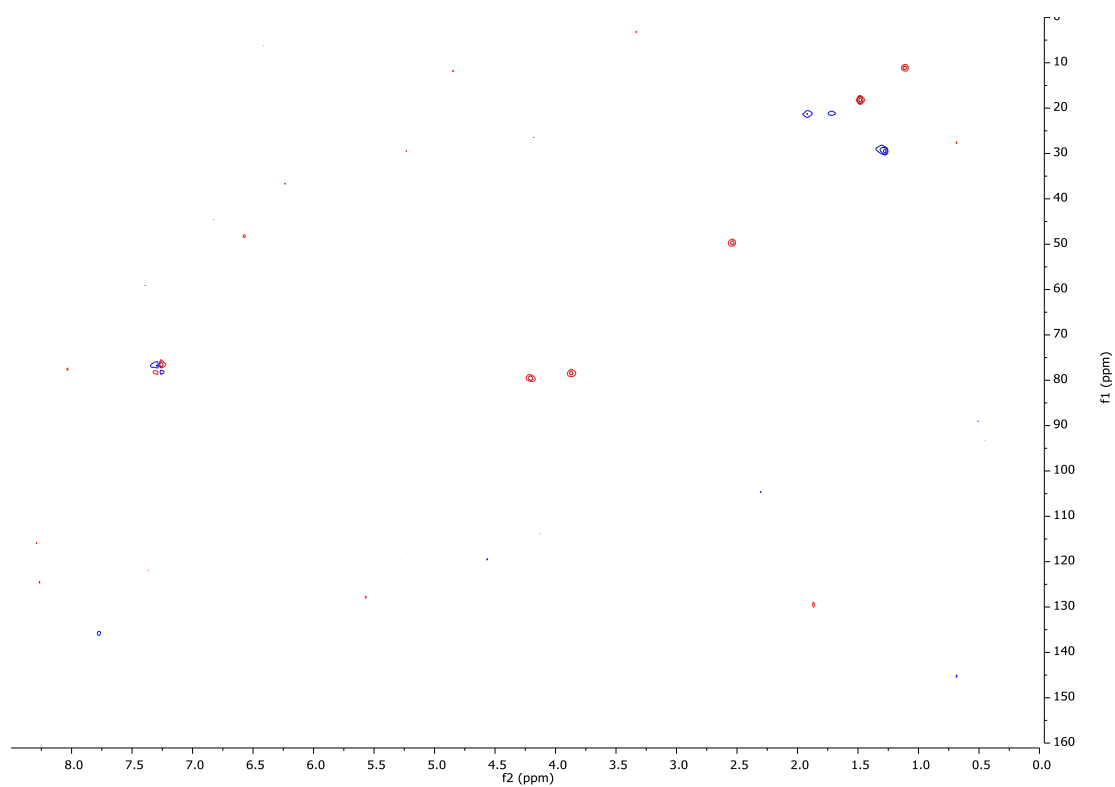
\* Correspondence: eioannou@pharm.uoa.gr; Tel.: +30 210 727 4913

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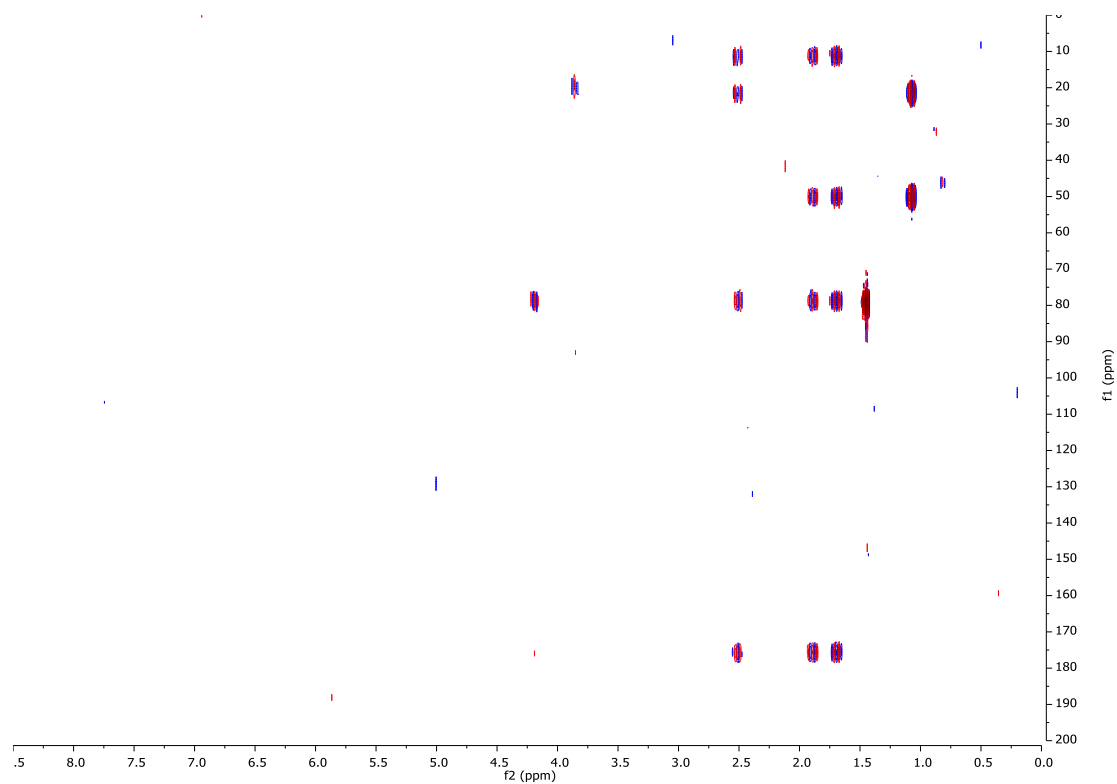
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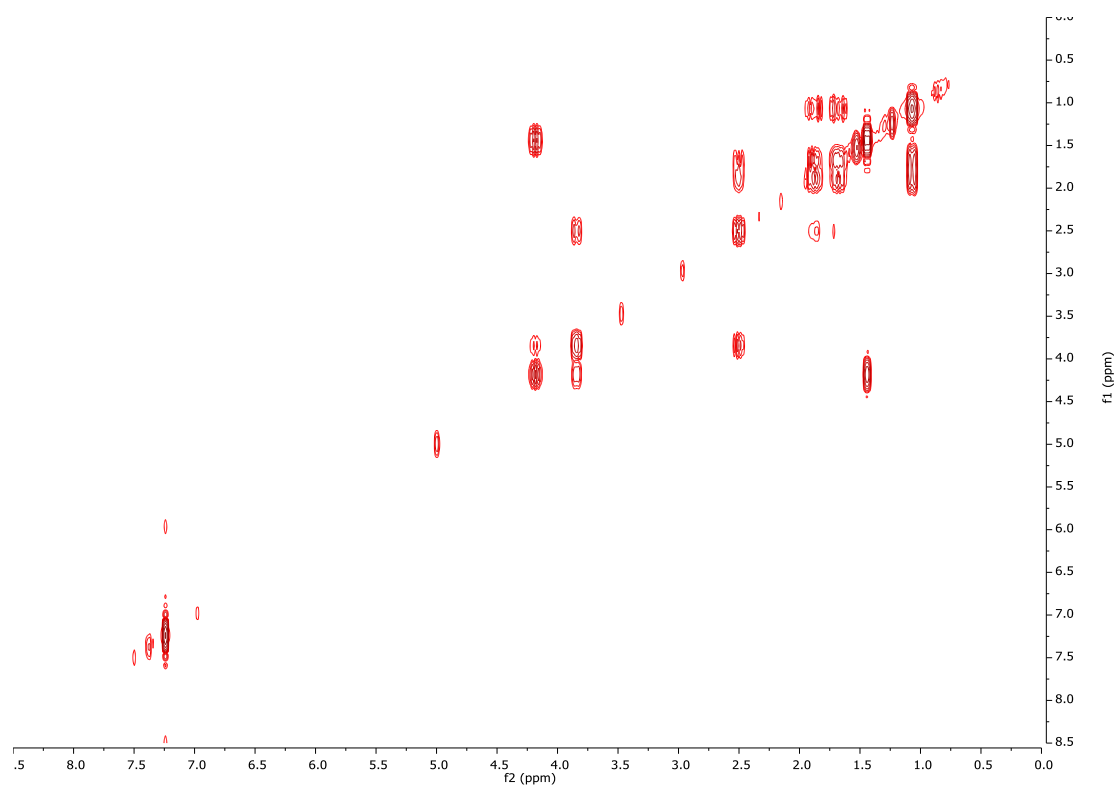
**Figure S1.**  $^1\text{H}$  NMR spectrum ( $\text{CDCl}_3$ ) of compound **1**.



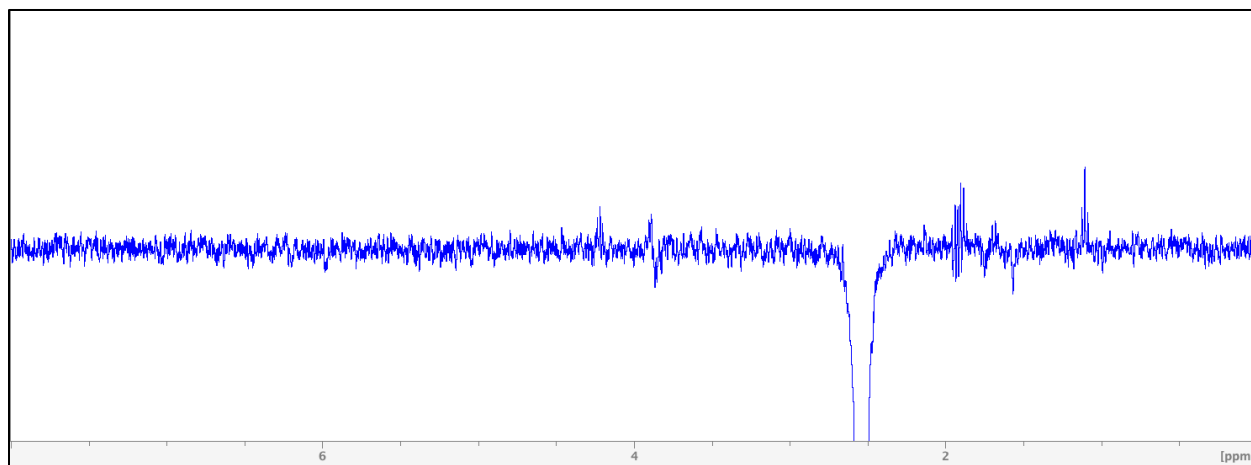
**Figure S2.** HSQC-DEPT spectrum ( $\text{CDCl}_3$ ) of compound **1**.



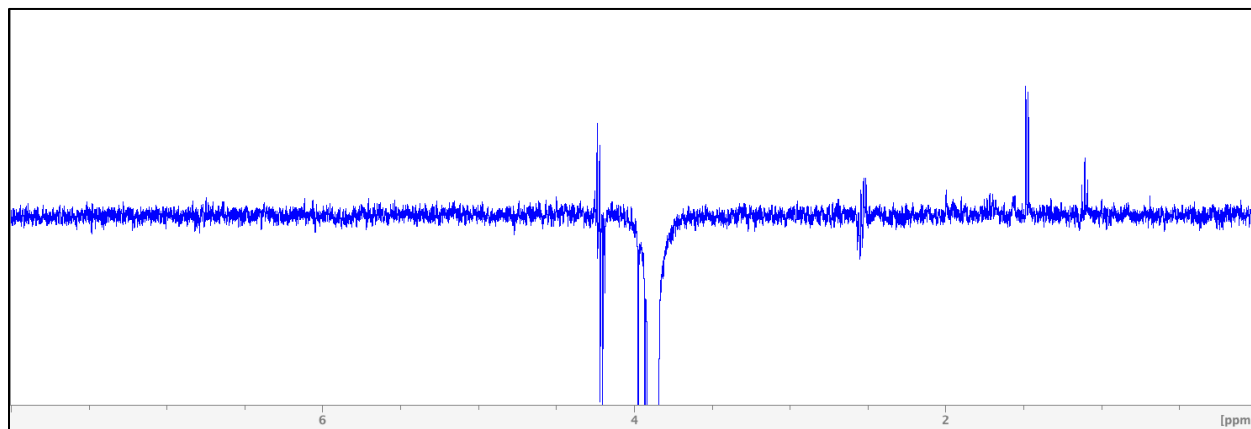
**Figure S3.** HMBC spectrum (CDCl<sub>3</sub>) of compound **1**.



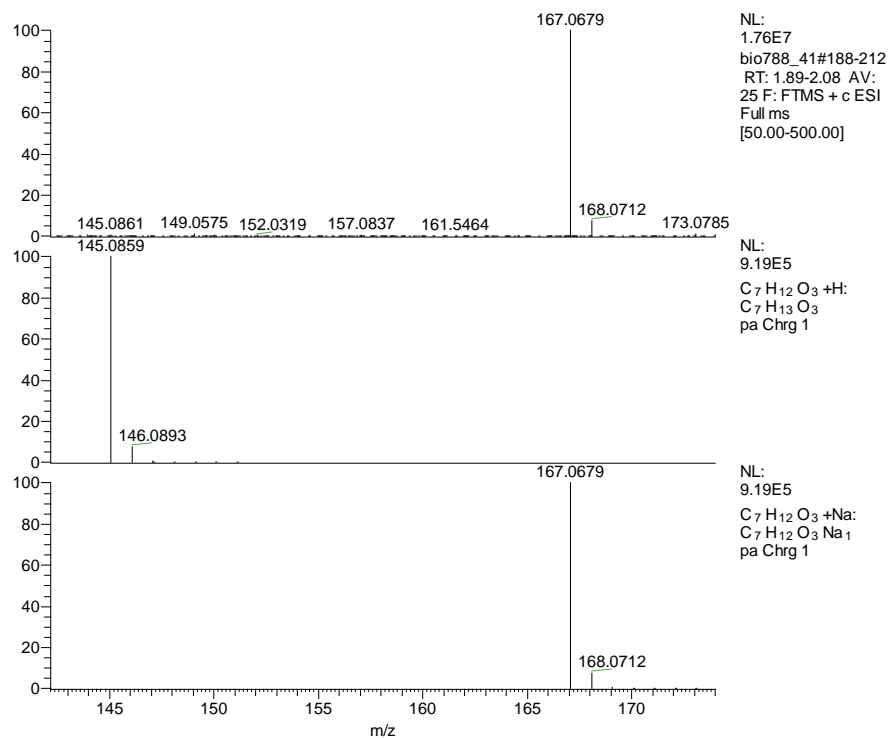
**Figure S4.** COSY spectrum (CDCl<sub>3</sub>) of compound **1**.



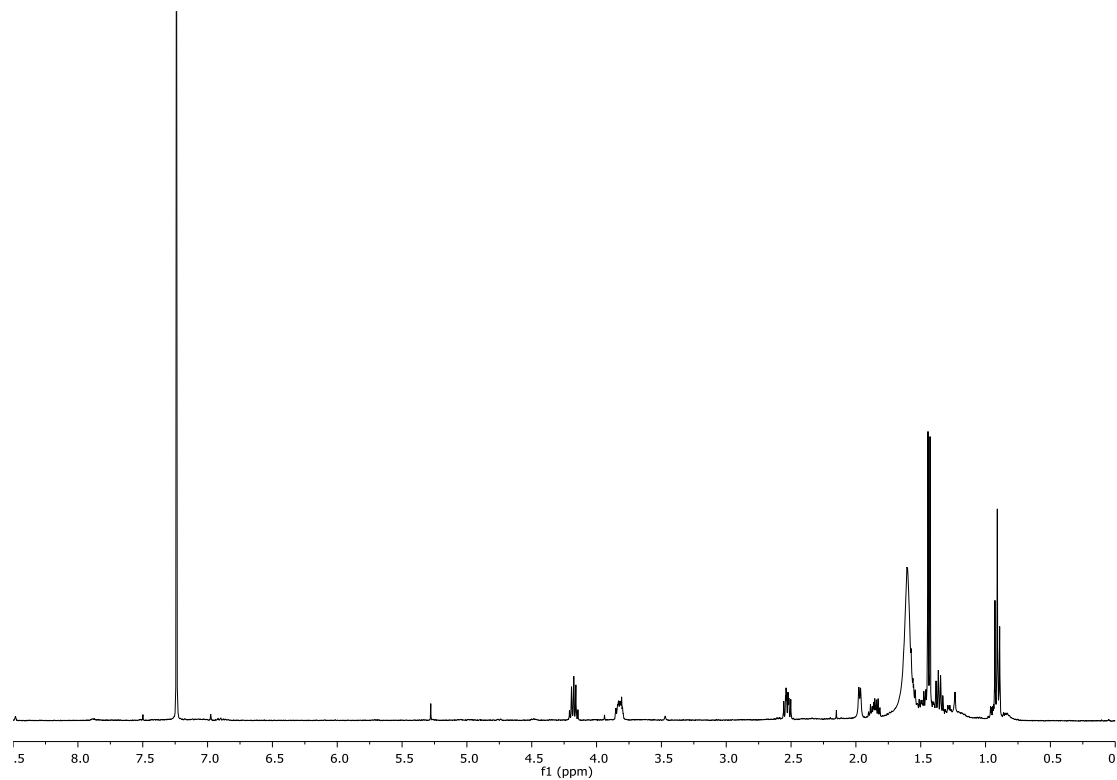
**Figure S5.** 1D NOE difference spectrum (CDCl<sub>3</sub>) of compound **1** upon irradiation of H-2.



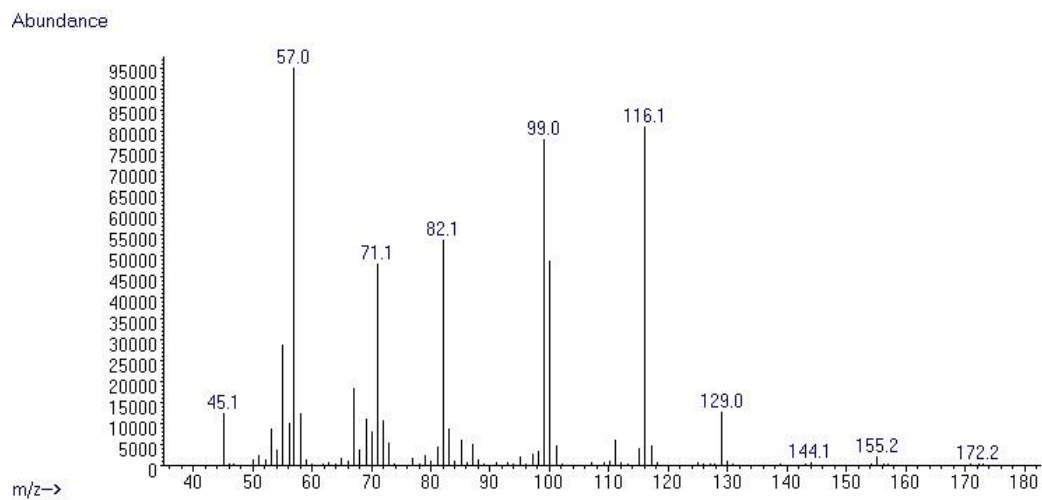
**Figure S6.** 1D NOE difference spectrum (CDCl<sub>3</sub>) of compound **1** upon irradiation of H-3.



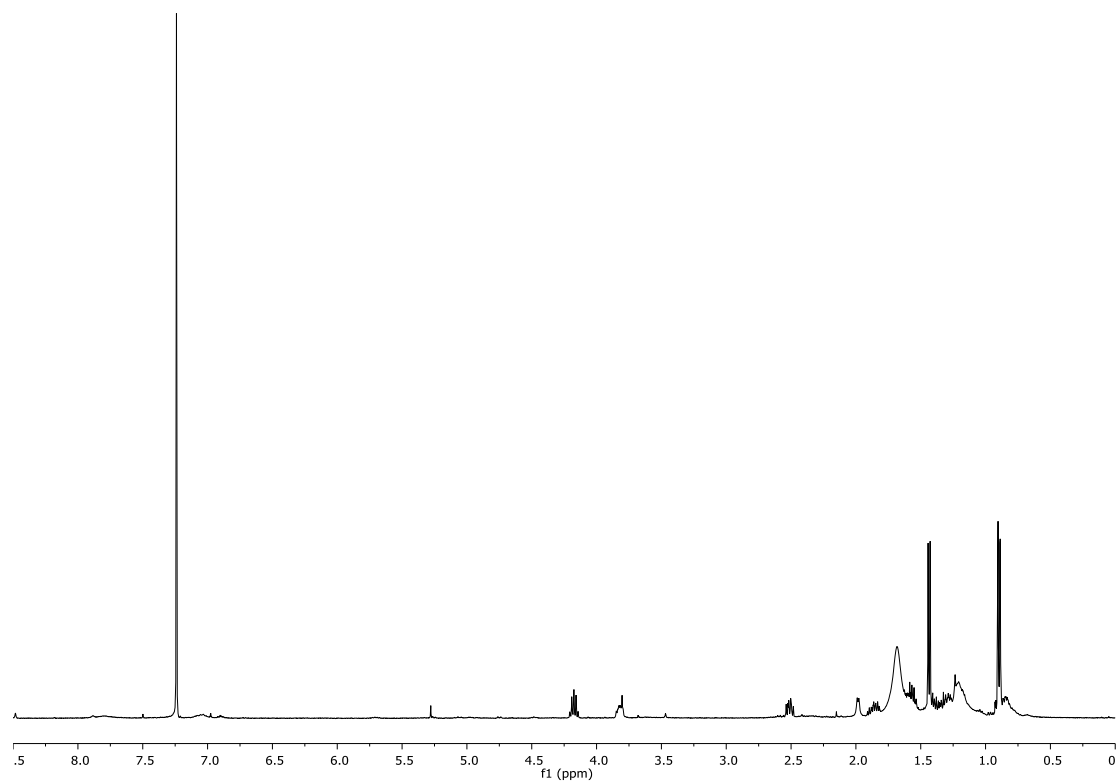
**Figure S7.** HR-ESIMS spectrum of compound **1**.



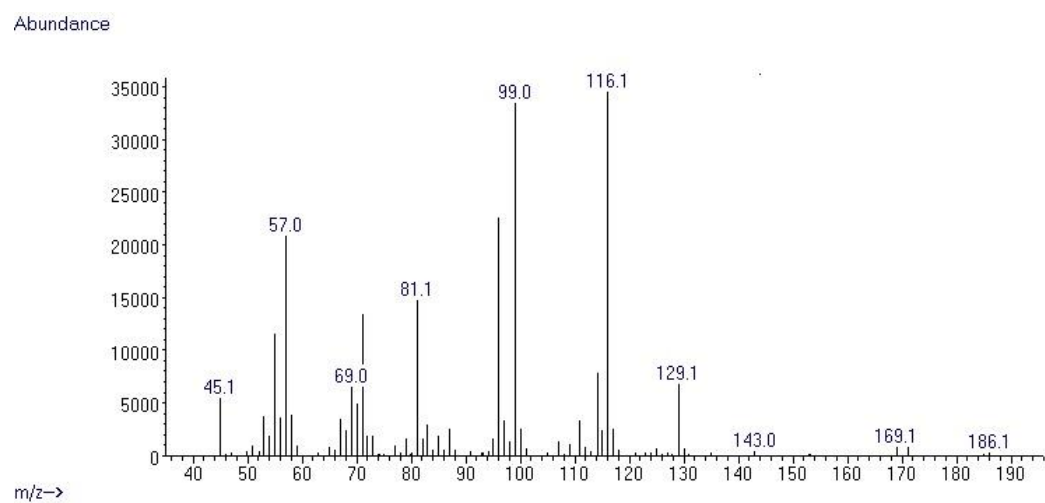
**Figure S8.** <sup>1</sup>H NMR spectrum (CDCl<sub>3</sub>) of compound 2.



**Figure S9.** EIMS spectrum of compound 2.

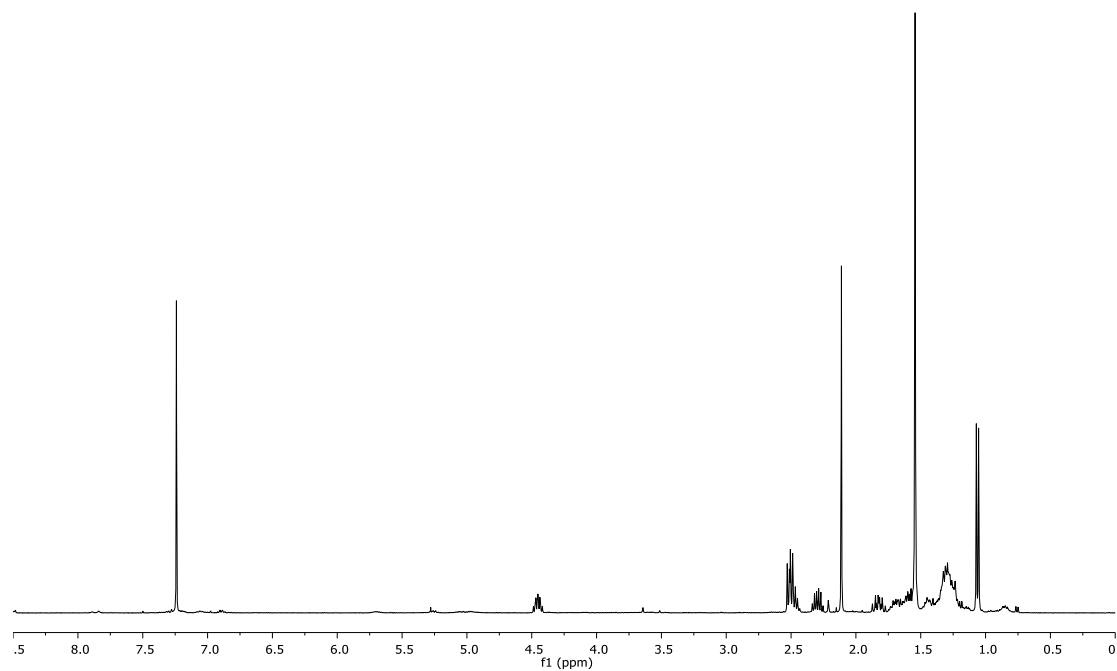


**Figure S10.** <sup>1</sup>H NMR spectrum (CDCl<sub>3</sub>) of compound 3.

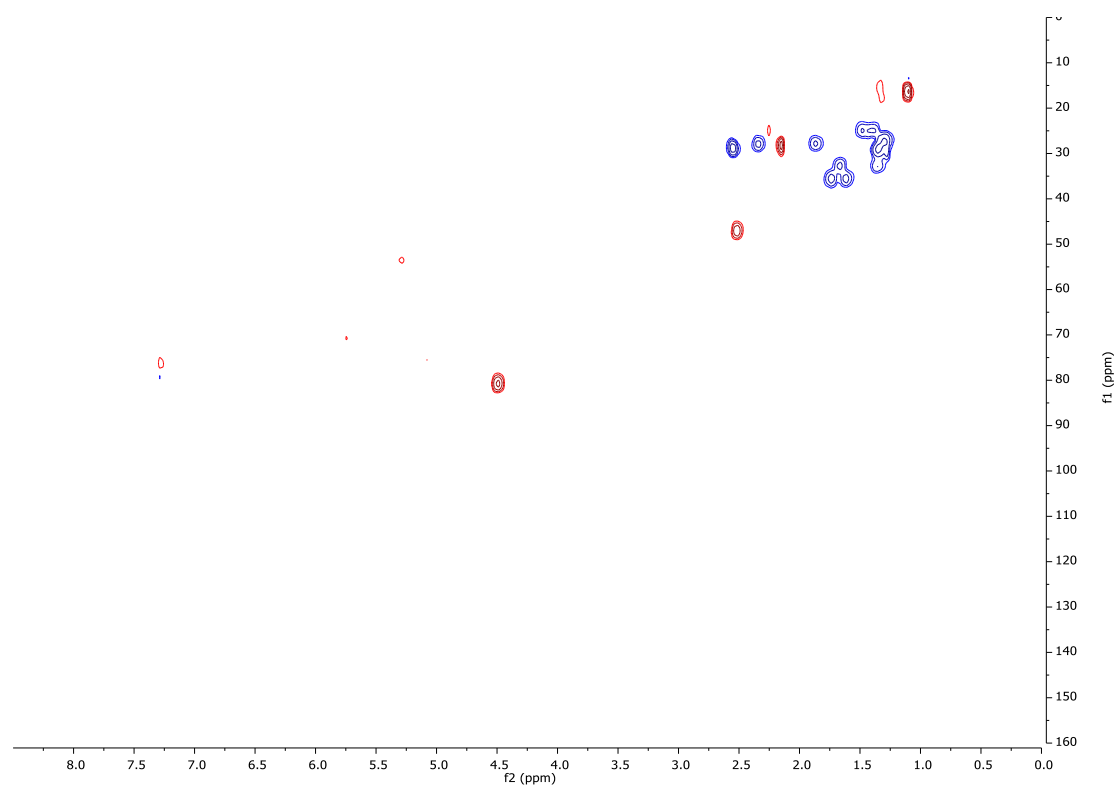


**Figure S11.** EIMS spectrum of compound 3.

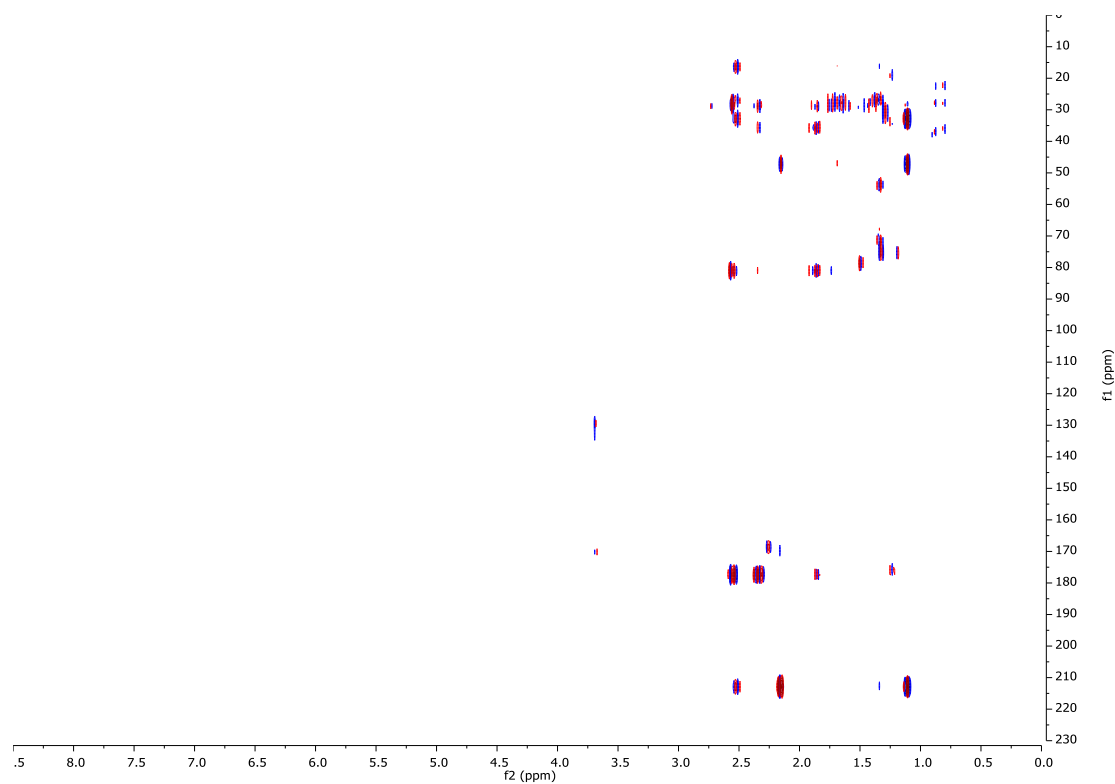




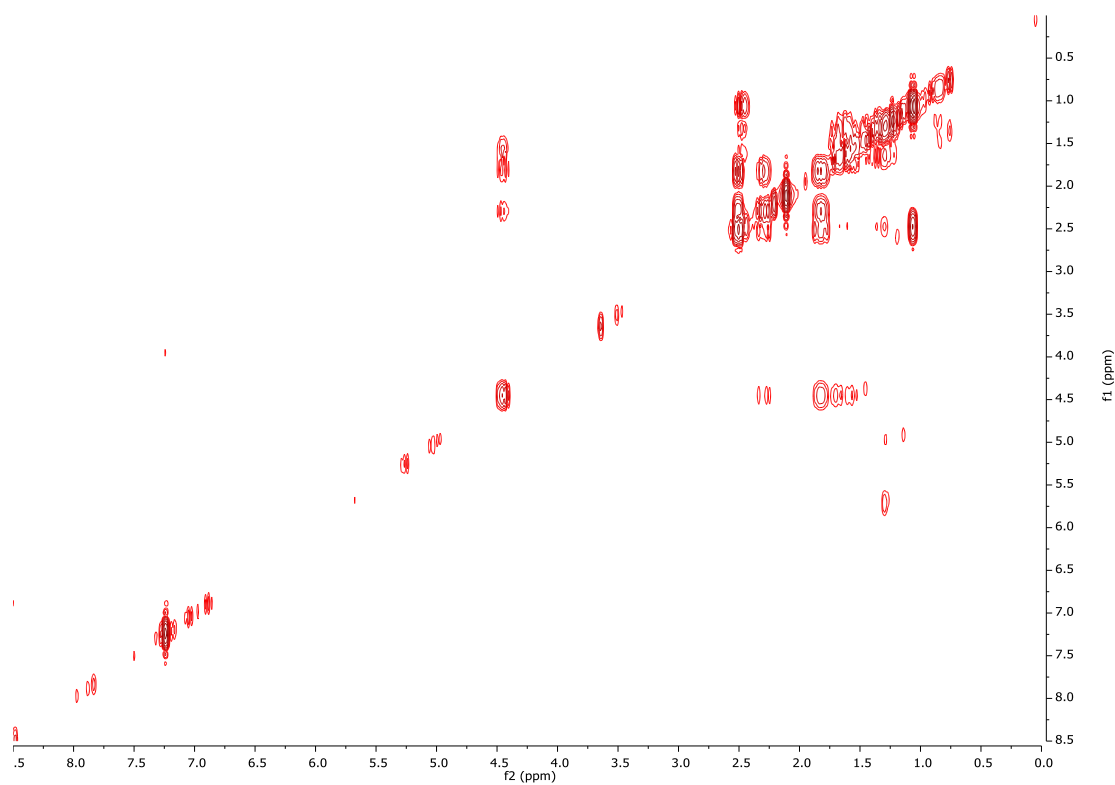
**Figure S12.**  $^1\text{H}$  NMR spectrum ( $\text{CDCl}_3$ ) of compound **4**.



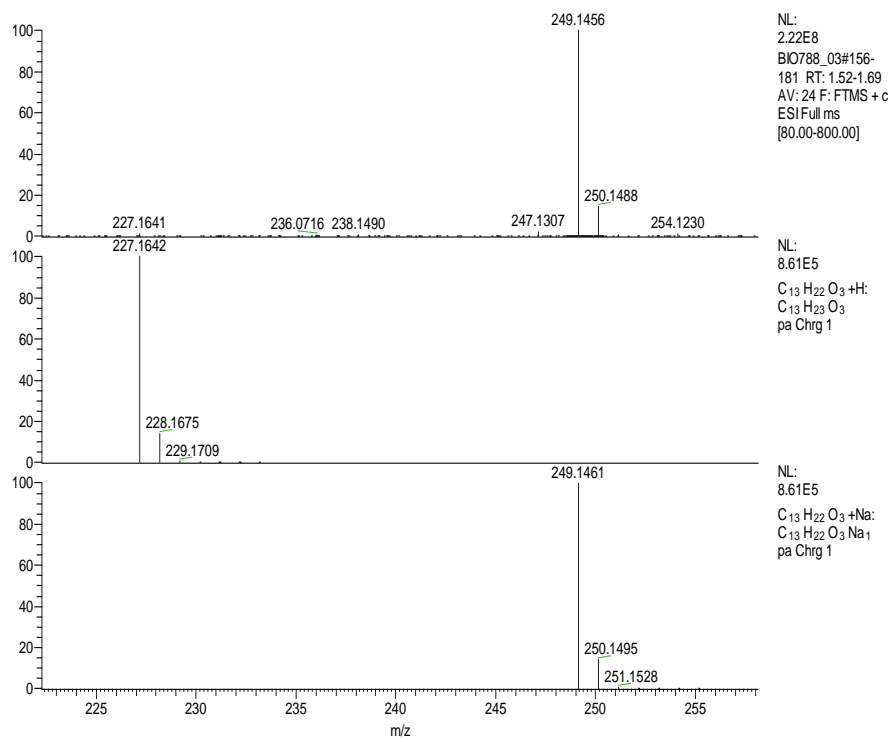
**Figure S13.** HSQC-DEPT spectrum ( $\text{CDCl}_3$ ) of compound **4**.



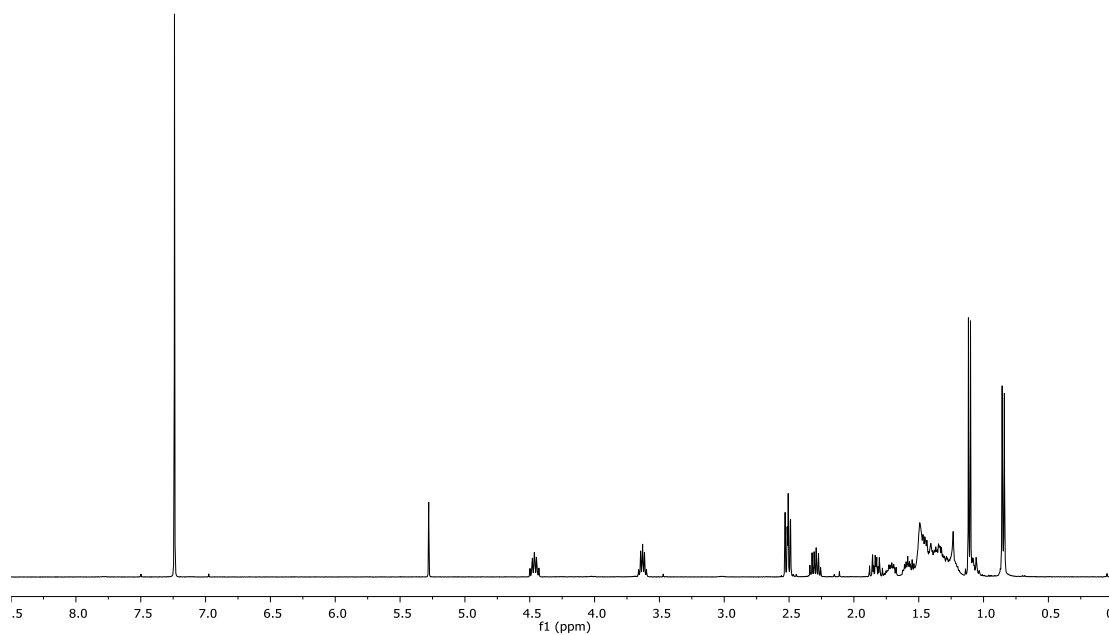
**Figure S14.** HMBC spectrum ( $\text{CDCl}_3$ ) of compound **4**.



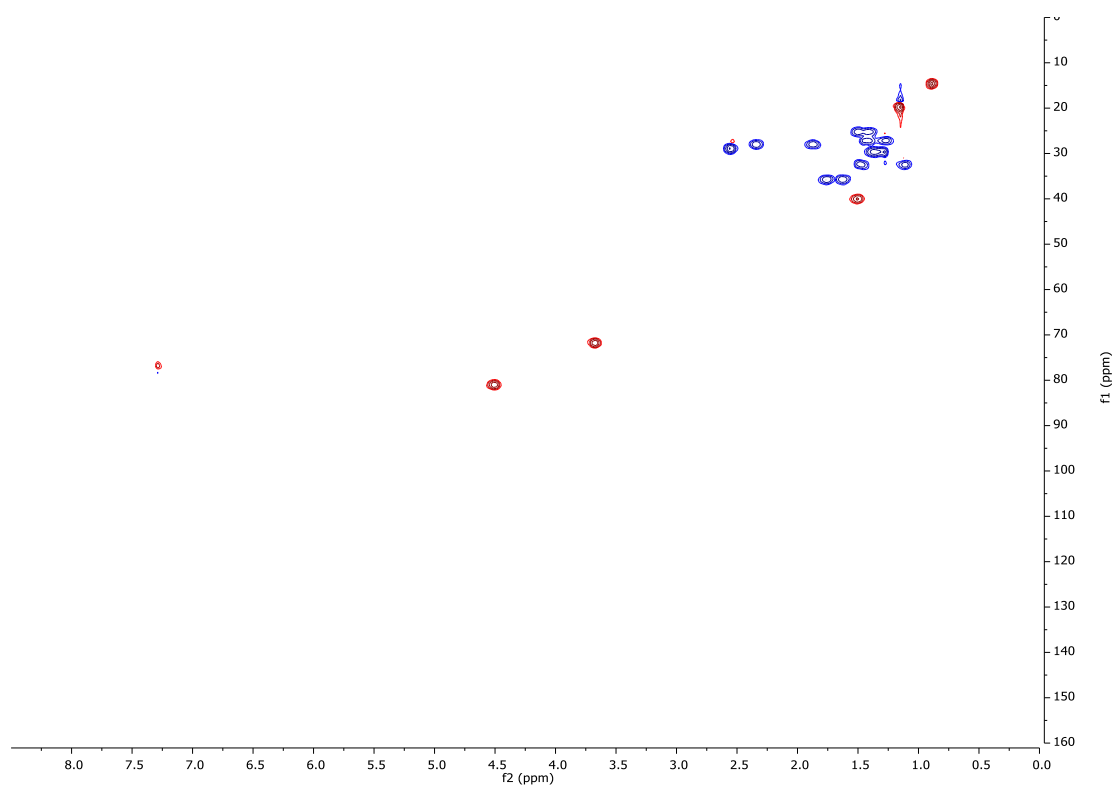
**Figure S15.** COSY spectrum ( $\text{CDCl}_3$ ) of compound **4**.



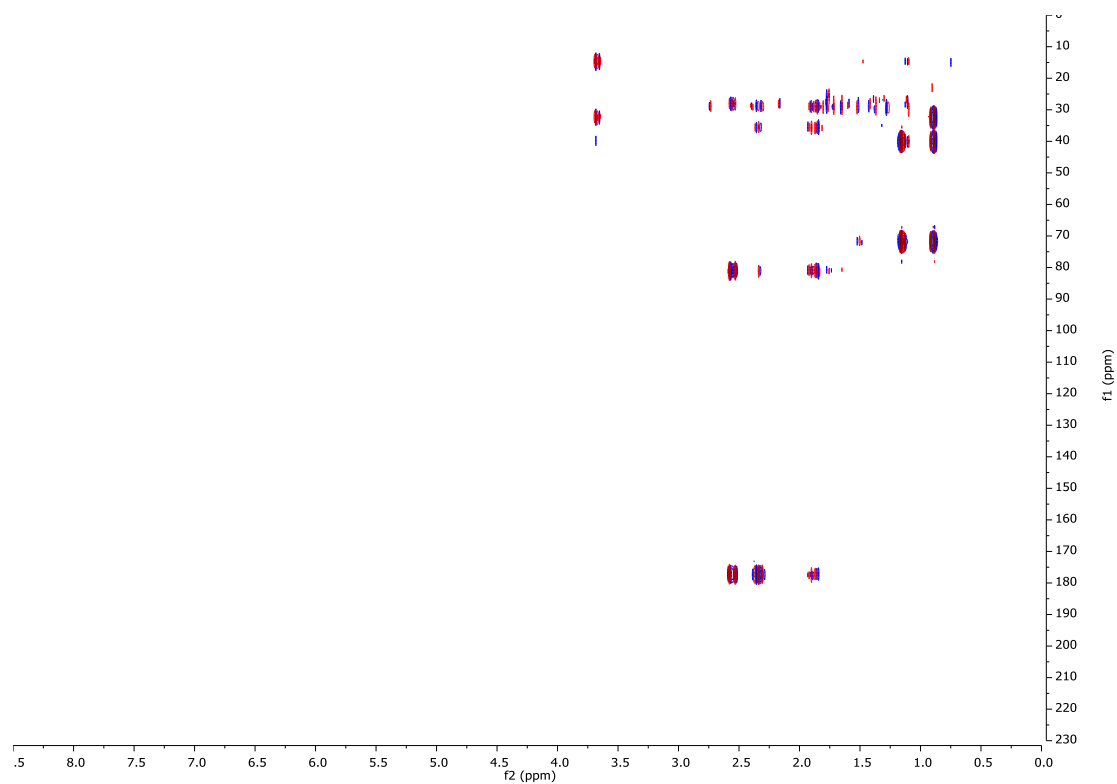
**Figure S16.** HR-ESIMS spectrum of compound 4.



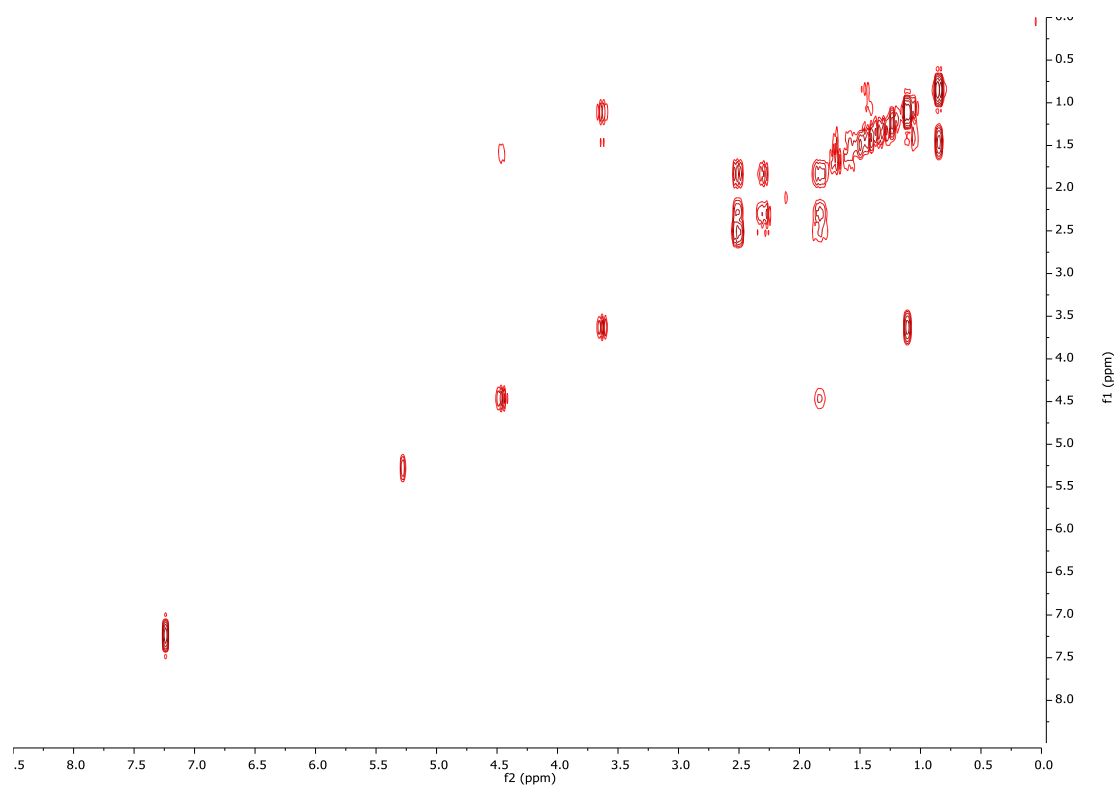
**Figure S17.**  $^1\text{H}$  NMR spectrum ( $\text{CDCl}_3$ ) of compound **5**.



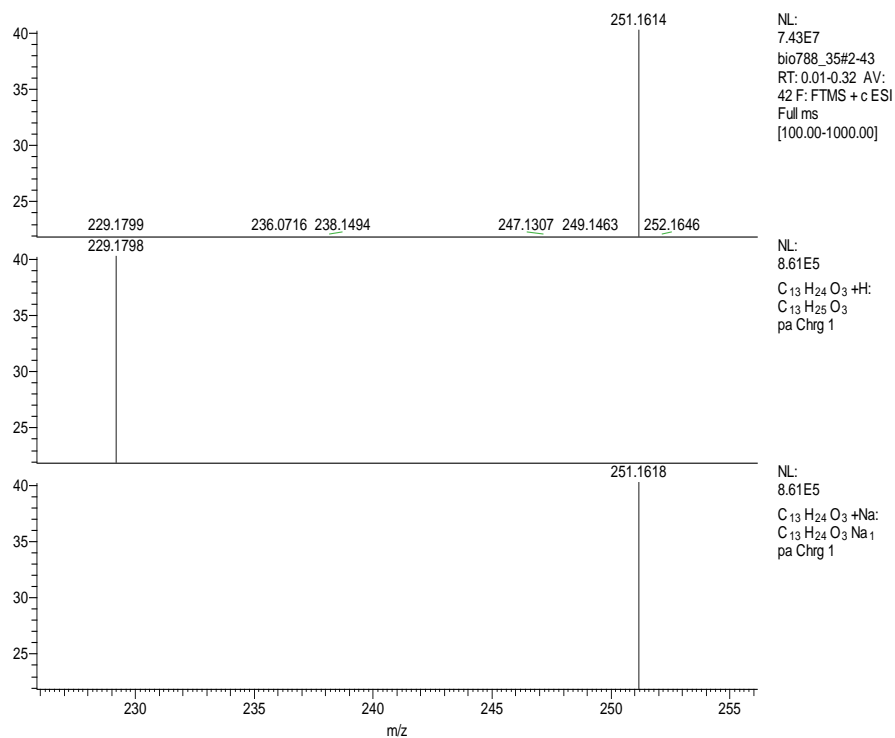
**Figure S18.** HSQC-DEPT spectrum ( $\text{CDCl}_3$ ) of compound **5**.



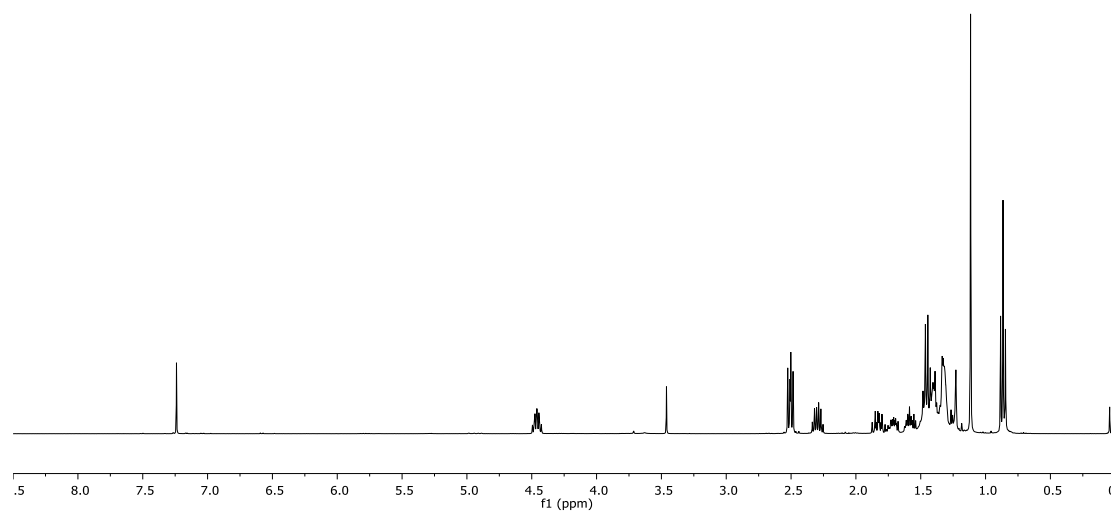
**Figure S19.** HMBC spectrum (CDCl<sub>3</sub>) of compound 5.



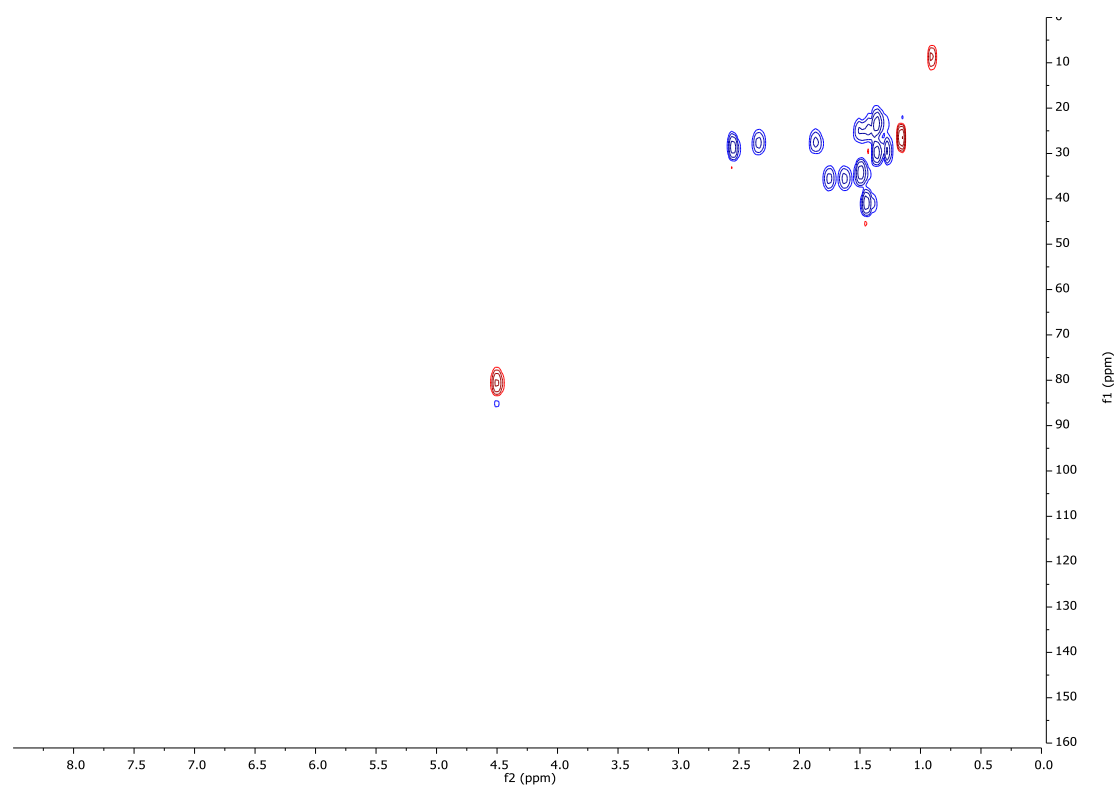
**Figure S20.** COSY spectrum (CDCl<sub>3</sub>) of compound 5.



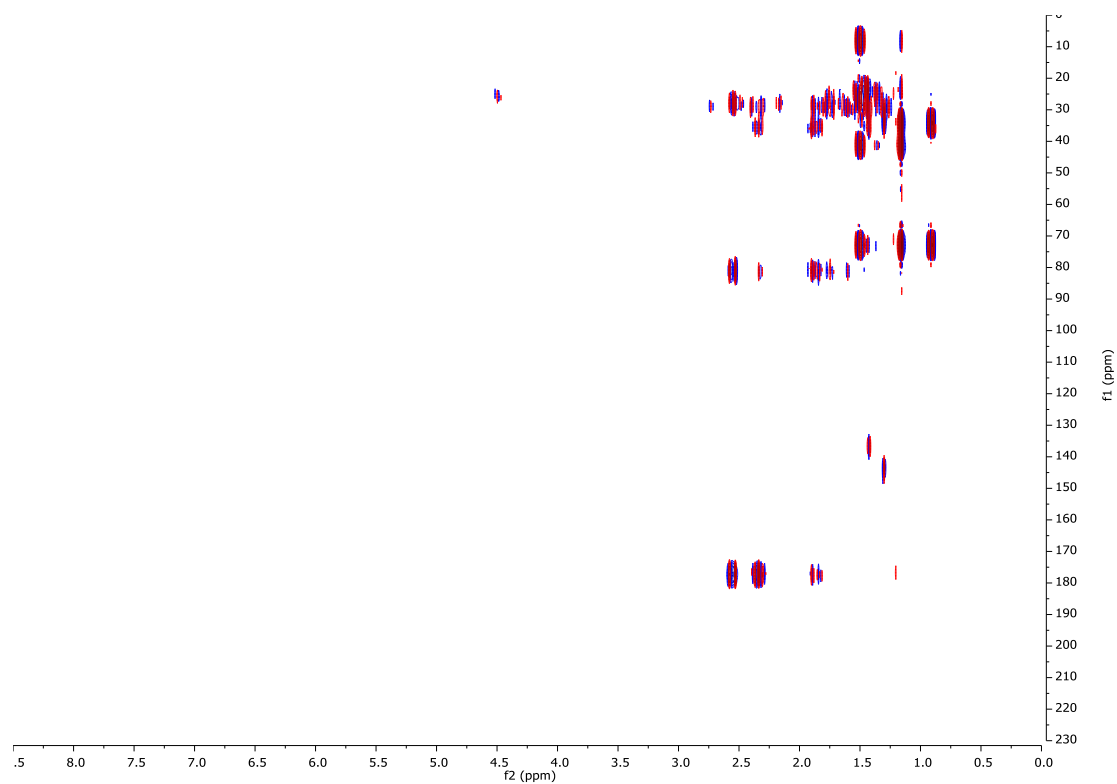
**Figure S21.** HR-ESIMS spectrum of compound **5**.



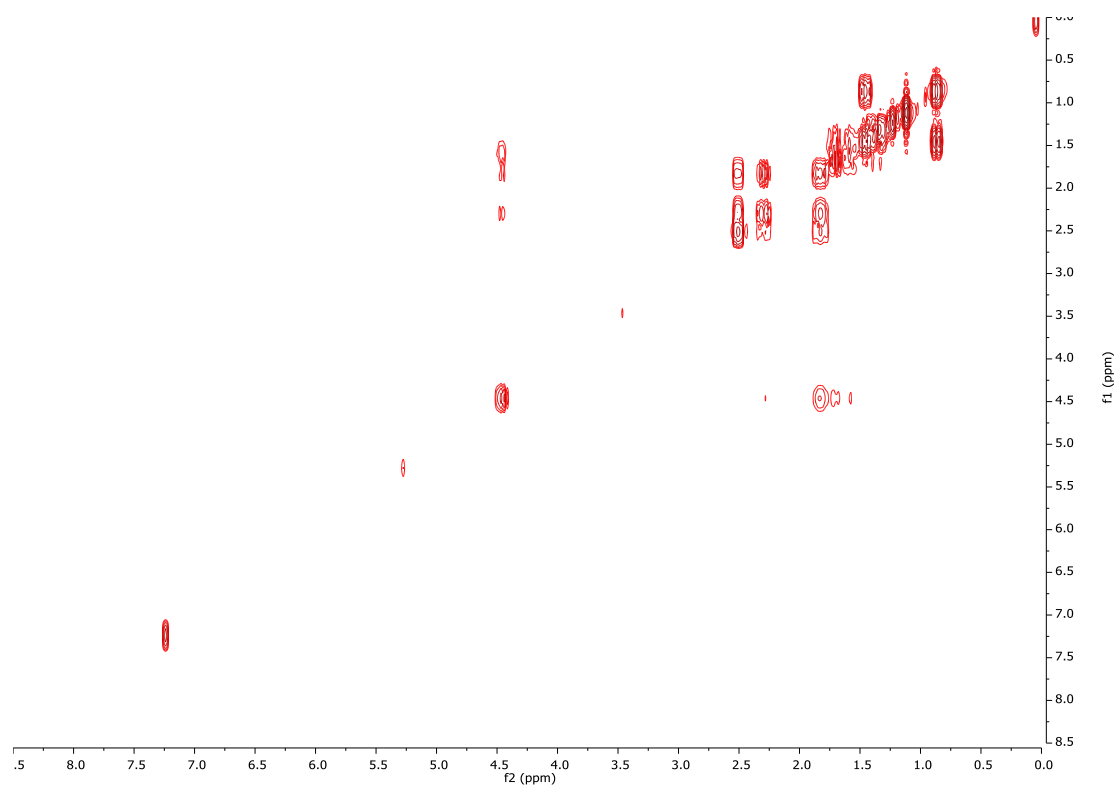
**Figure S22.**  $^1\text{H}$  NMR spectrum ( $\text{CDCl}_3$ ) of compound **6**.



**Figure S23.** HSQC-DEPT spectrum ( $\text{CDCl}_3$ ) of compound **6**.



**Figure S24.** HMBC spectrum (CDCl<sub>3</sub>) of compound 6.



**Figure S25.** COSY spectrum (CDCl<sub>3</sub>) of compound 6.



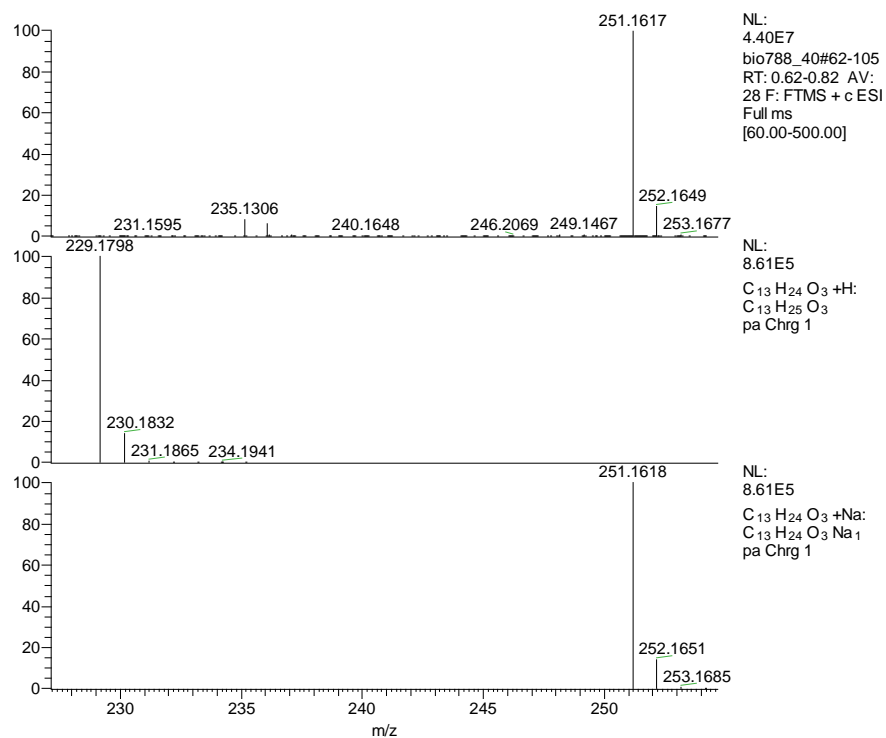
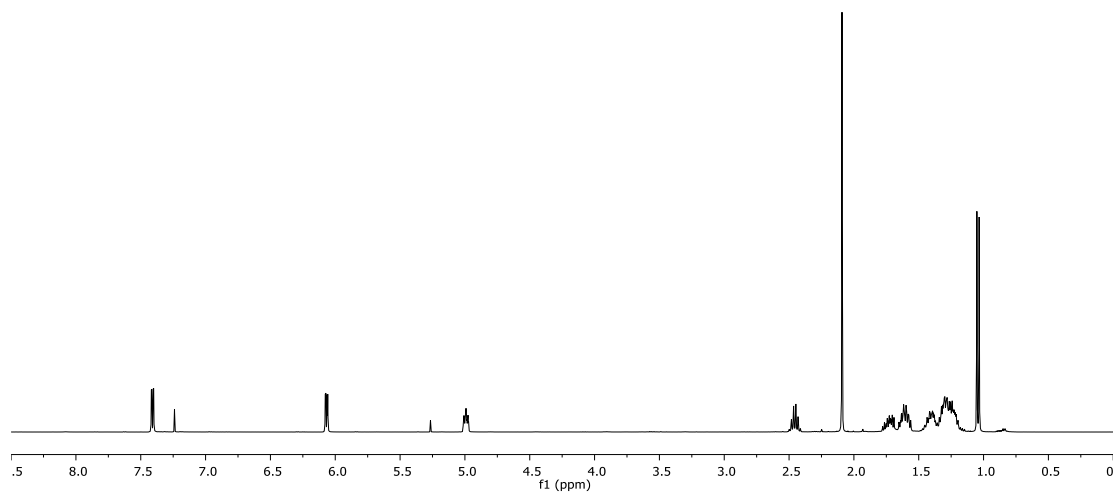
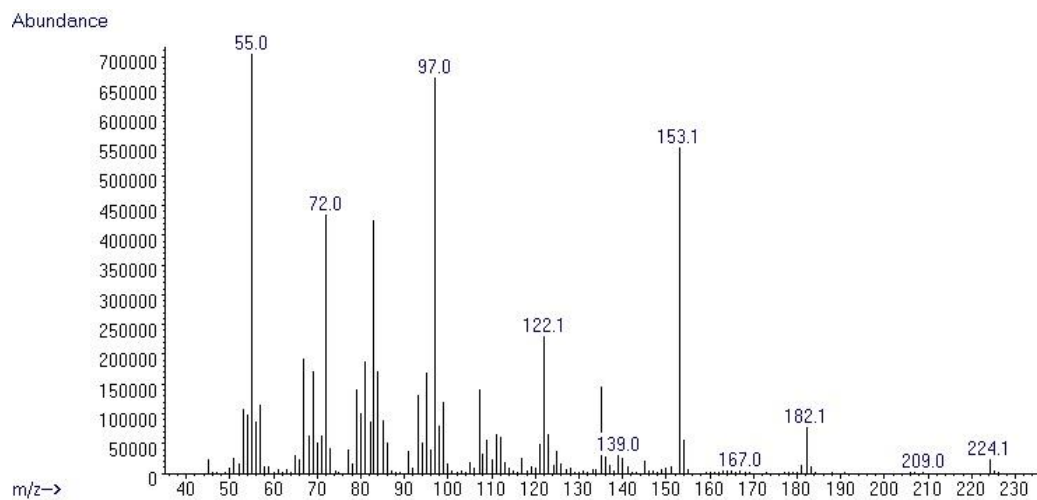


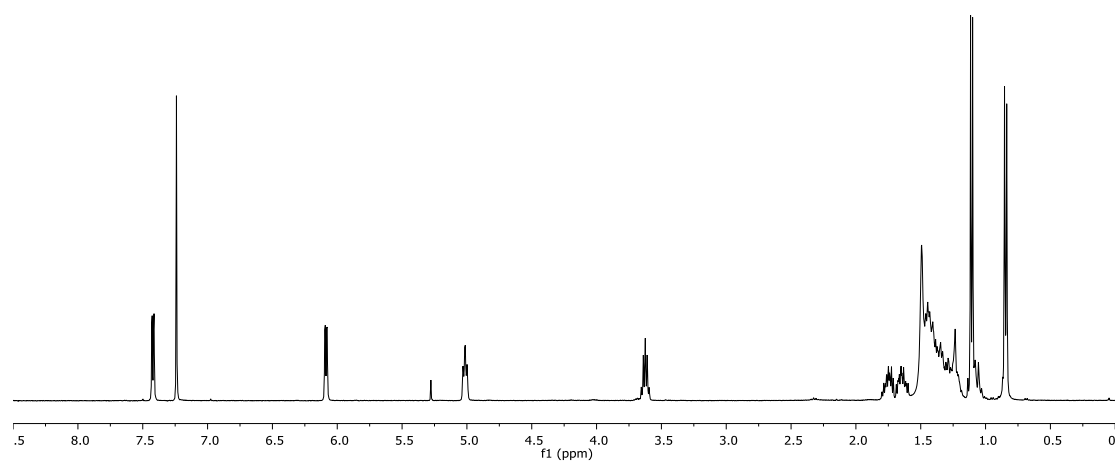
Figure S26. HR-ESIMS spectrum of compound 6.



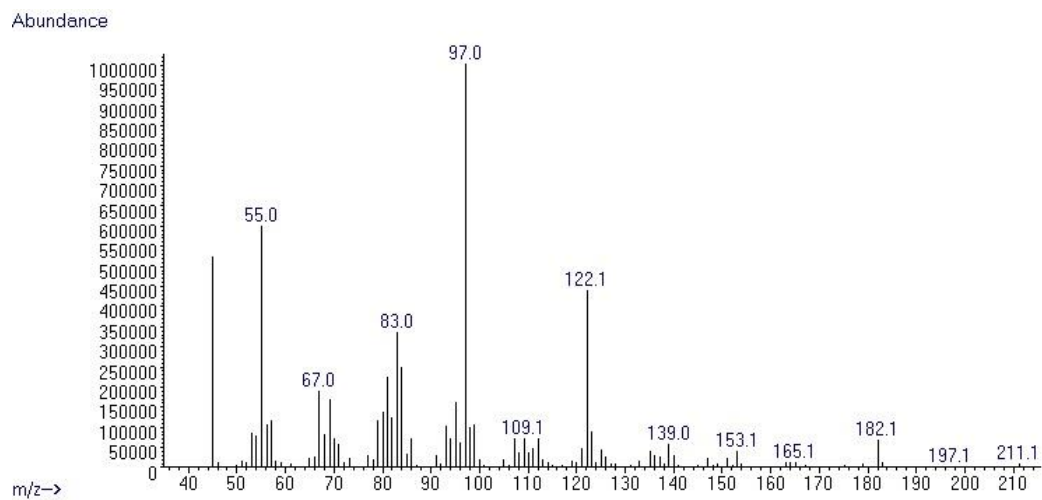
**Figure S27.**  $^1\text{H}$  NMR spectrum ( $\text{CDCl}_3$ ) of compound 7.



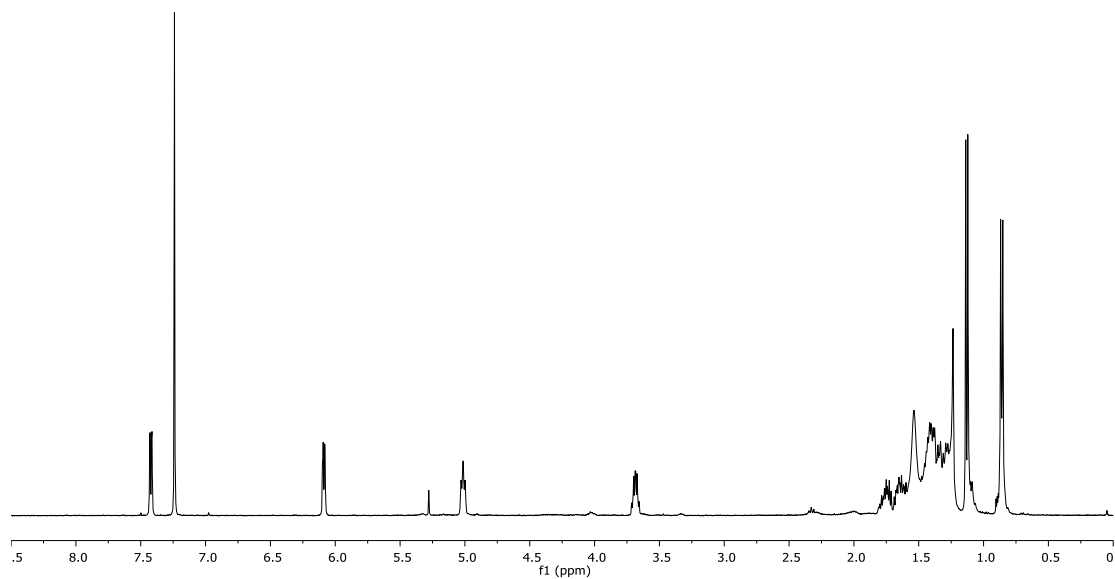
**Figure S28.** EIMS spectrum of compound 7.



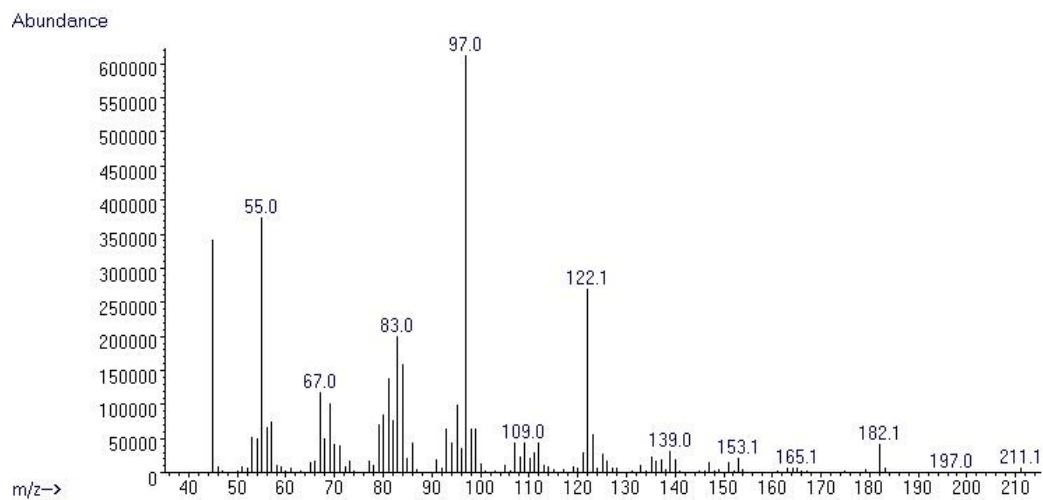
**Figure S29.** <sup>1</sup>H NMR spectrum (CDCl<sub>3</sub>) of compound 8.



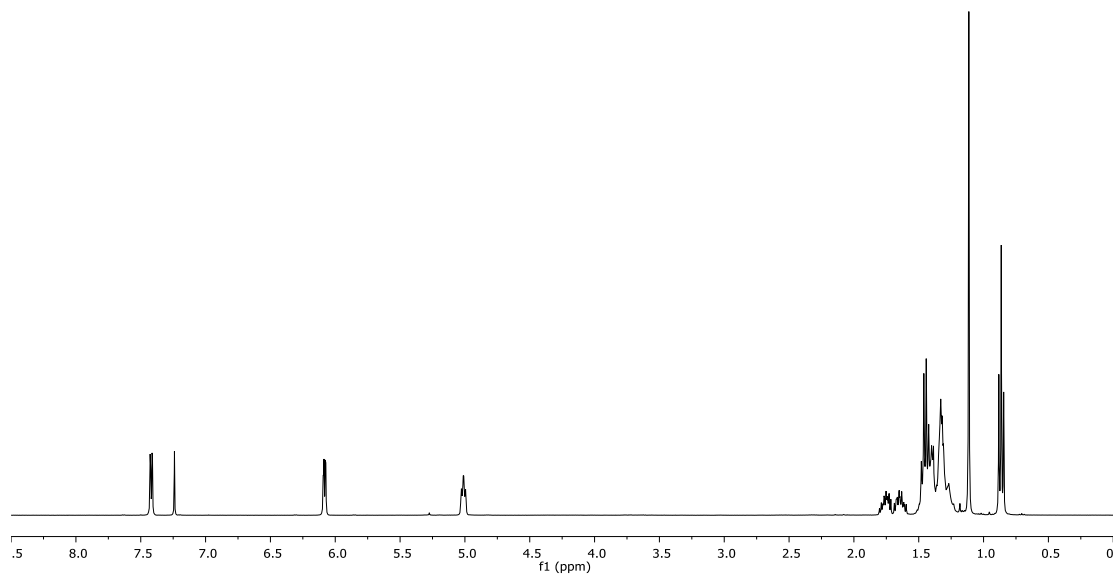
**Figure S30.** EIMS spectrum of compound 8.



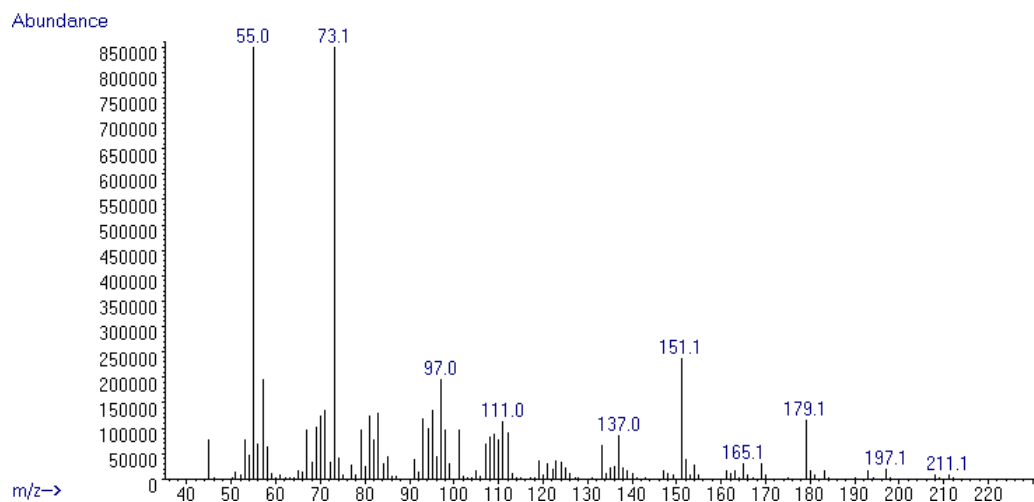
**Figure S31.**  $^1\text{H}$  NMR spectrum ( $\text{CDCl}_3$ ) of compound **9**.



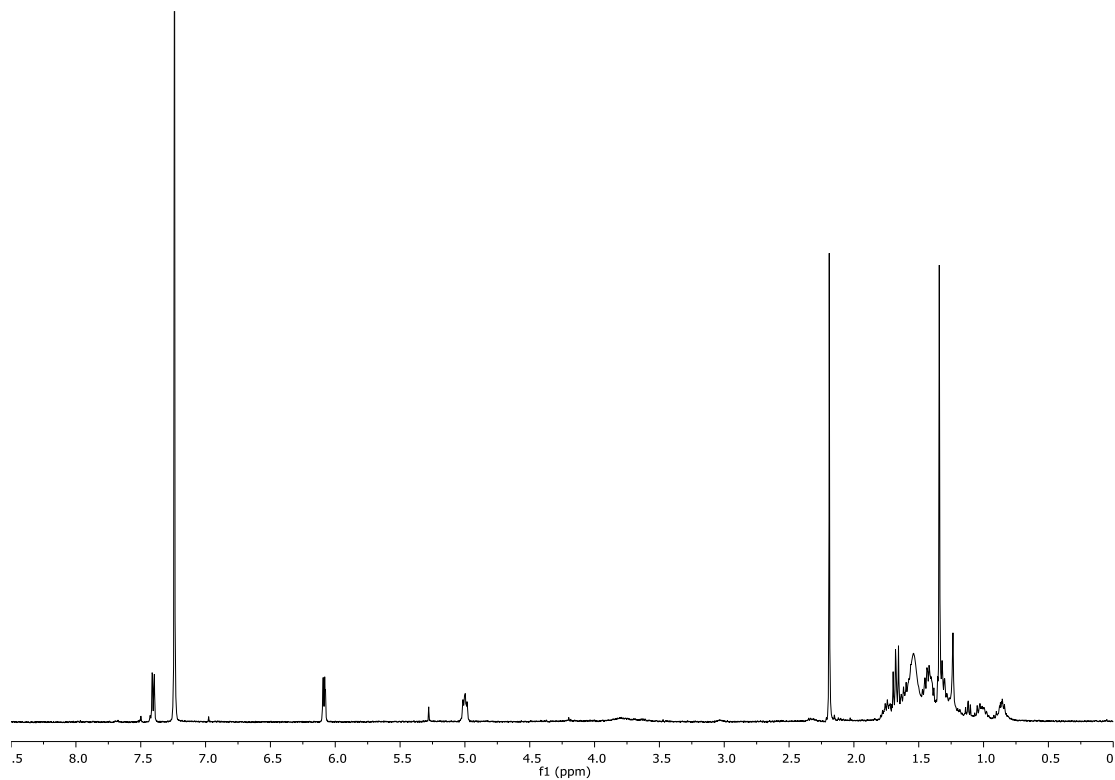
**Figure S32.** EIMS spectrum of compound **9**.



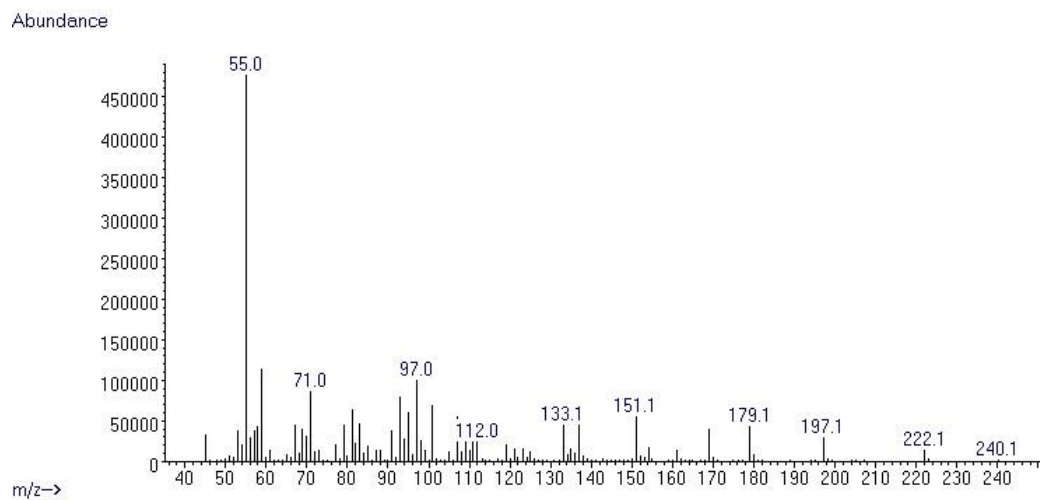
**Figure S33.** <sup>1</sup>H NMR spectrum (CDCl<sub>3</sub>) of compound 10.



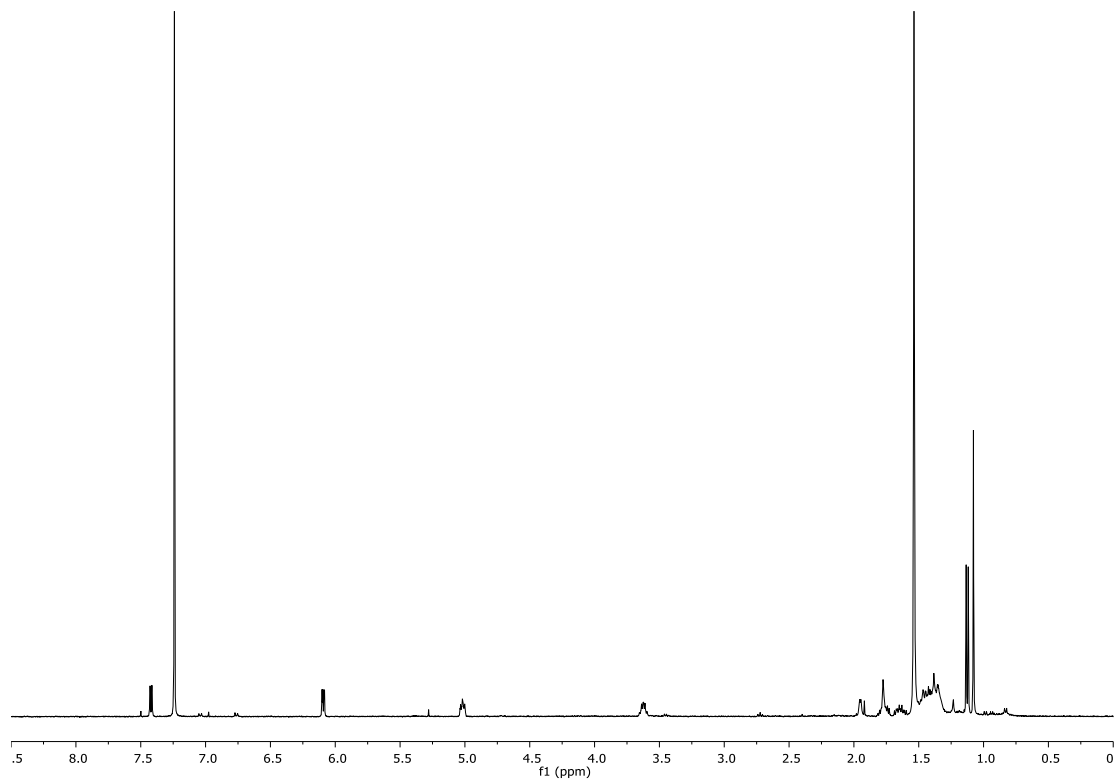
**Figure S34.** EIMS spectrum of compound 10.



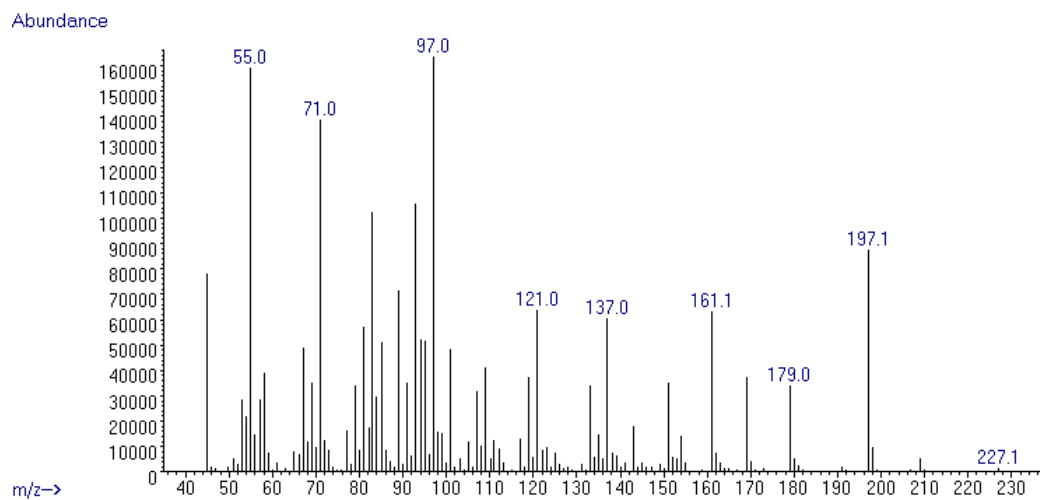
**Figure S35.**  $^1\text{H}$  NMR spectrum ( $\text{CDCl}_3$ ) of compound 11.



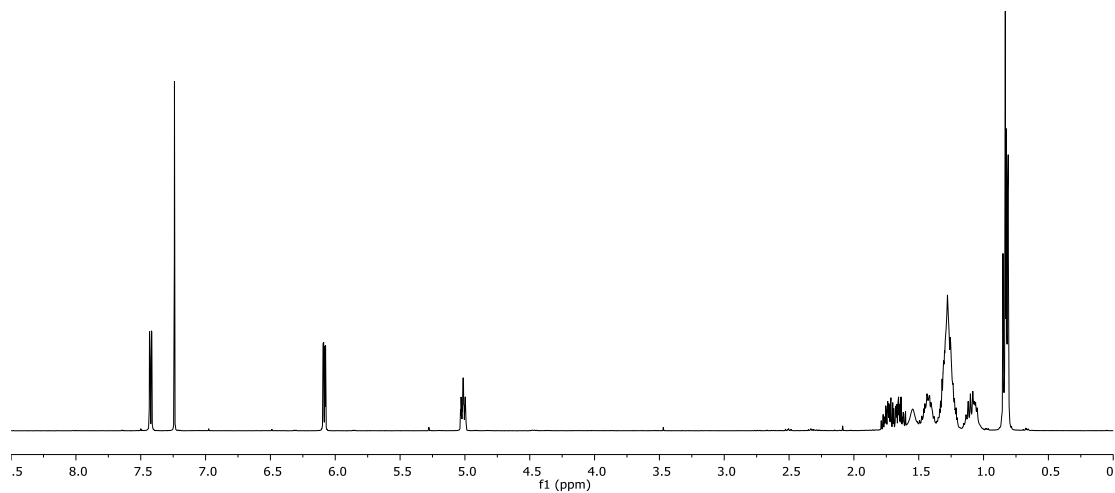
**Figure S36.** EIMS spectrum of compound 11.



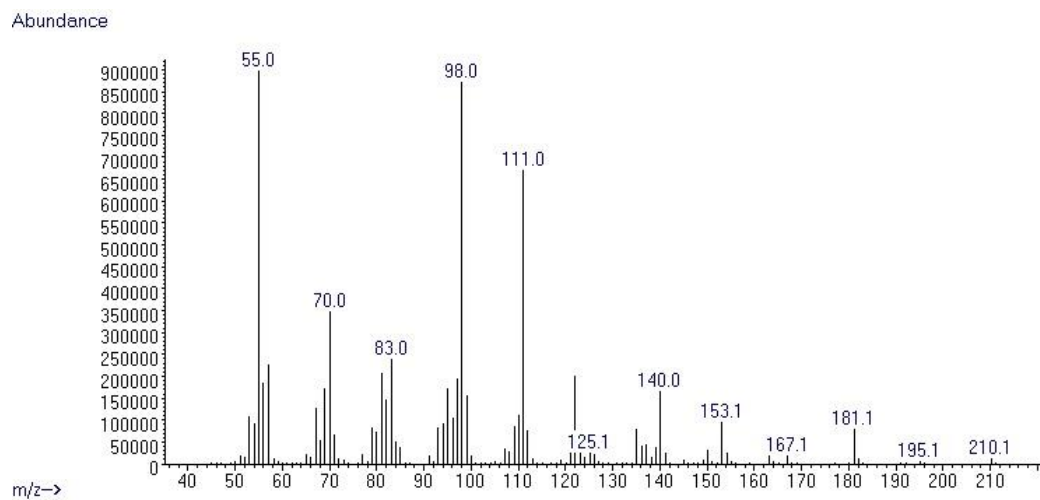
**Figure S37.**  $^1\text{H}$  NMR spectrum ( $\text{CDCl}_3$ ) of compound 12.



**Figure S38.** EIMS spectrum of compound 12.

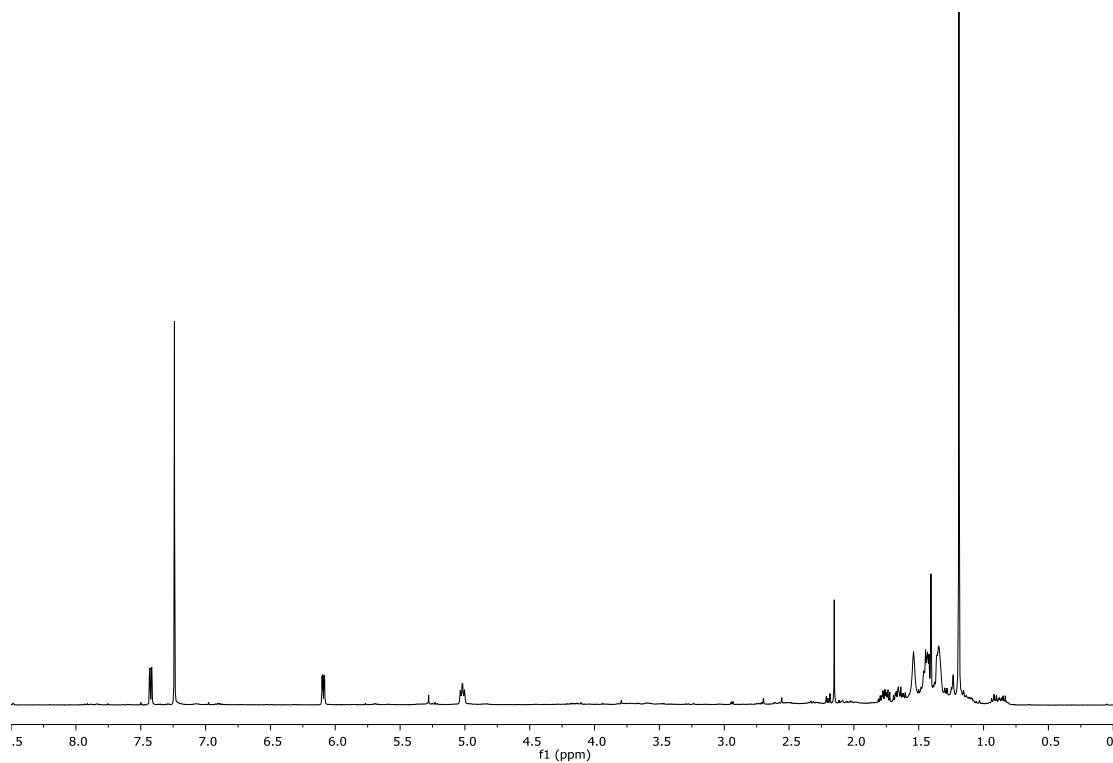


**Figure S39.** <sup>1</sup>H NMR spectrum (CDCl<sub>3</sub>) of compound 13.

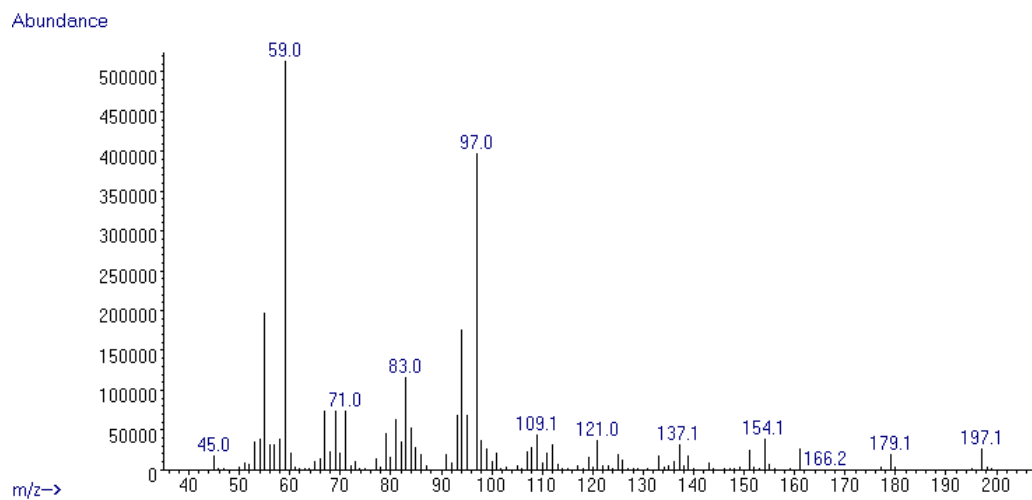


**Figure S40.** EIMS spectrum of compound 13.





**Figure S41.** <sup>1</sup>H NMR spectrum (CDCl<sub>3</sub>) of compound **14**.



**Figure S42.** EIMS spectrum of compound **14**.