

*Supplementary Materials*

## Synthesis and biological evaluation of phosphatidylcholines with cinnamic and 3-methoxycinnamic acids with potent antiproliferative activity

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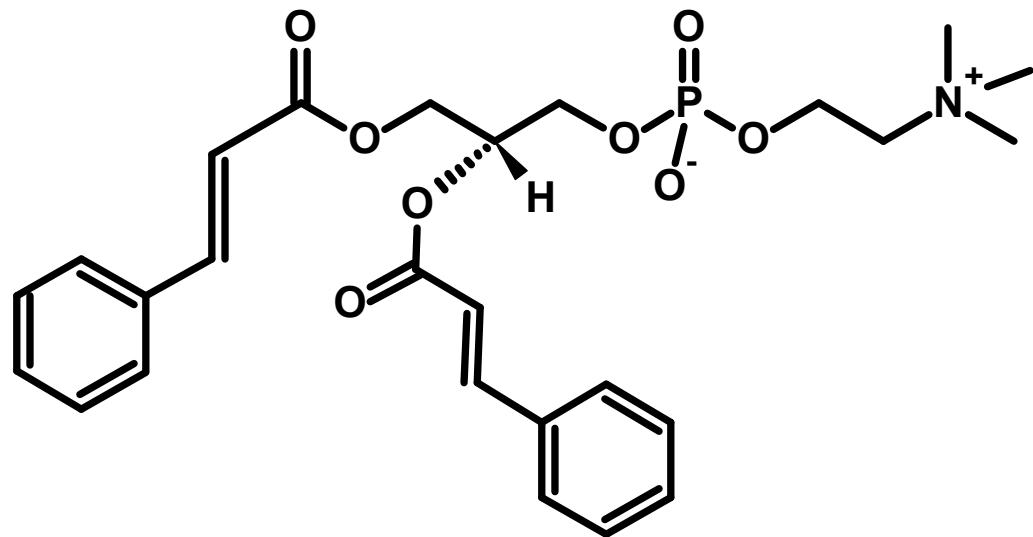
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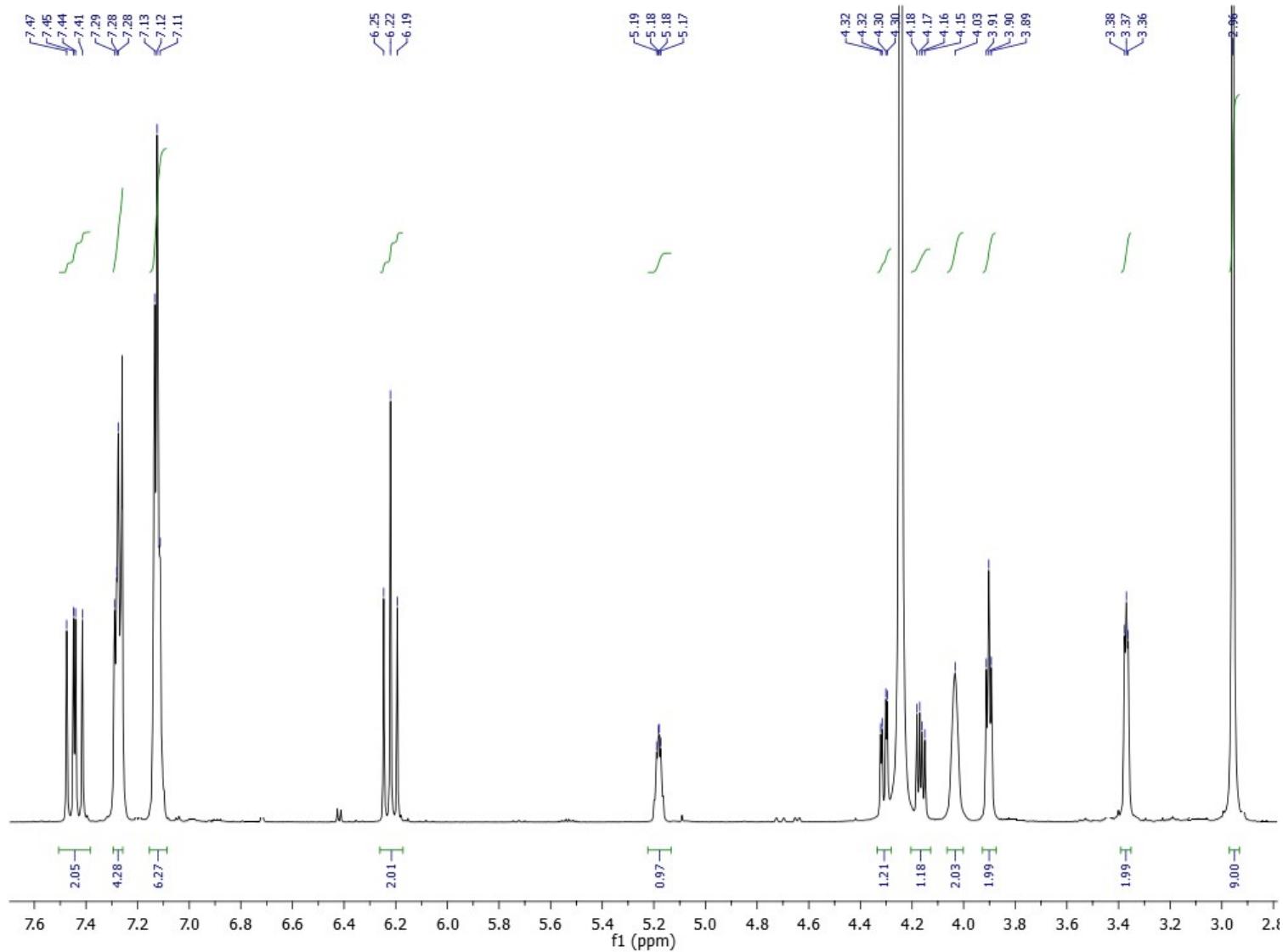
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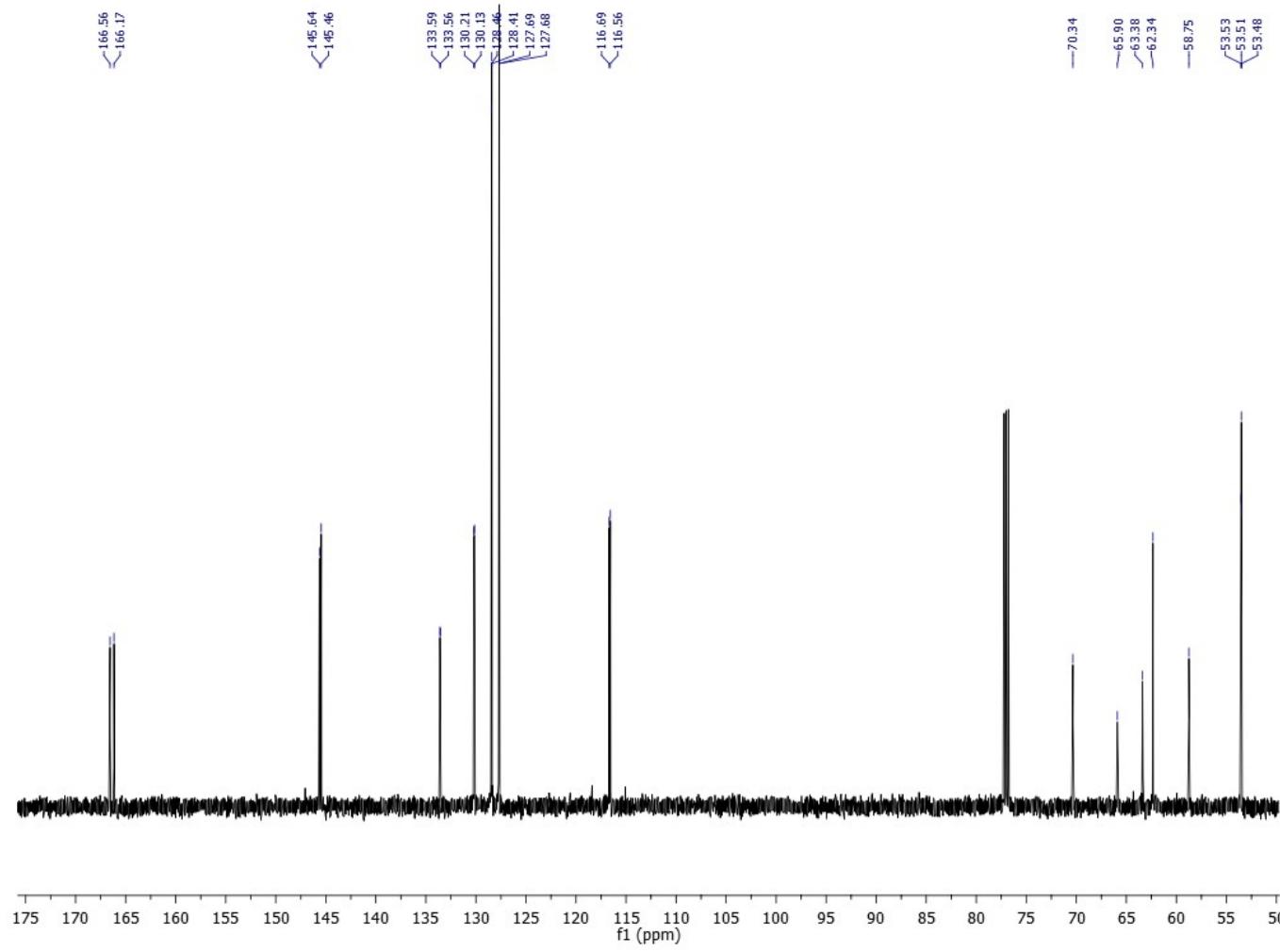


1,2-dicinnamoyl-*sn*-glycero-3-phosphocholine (**3a**)

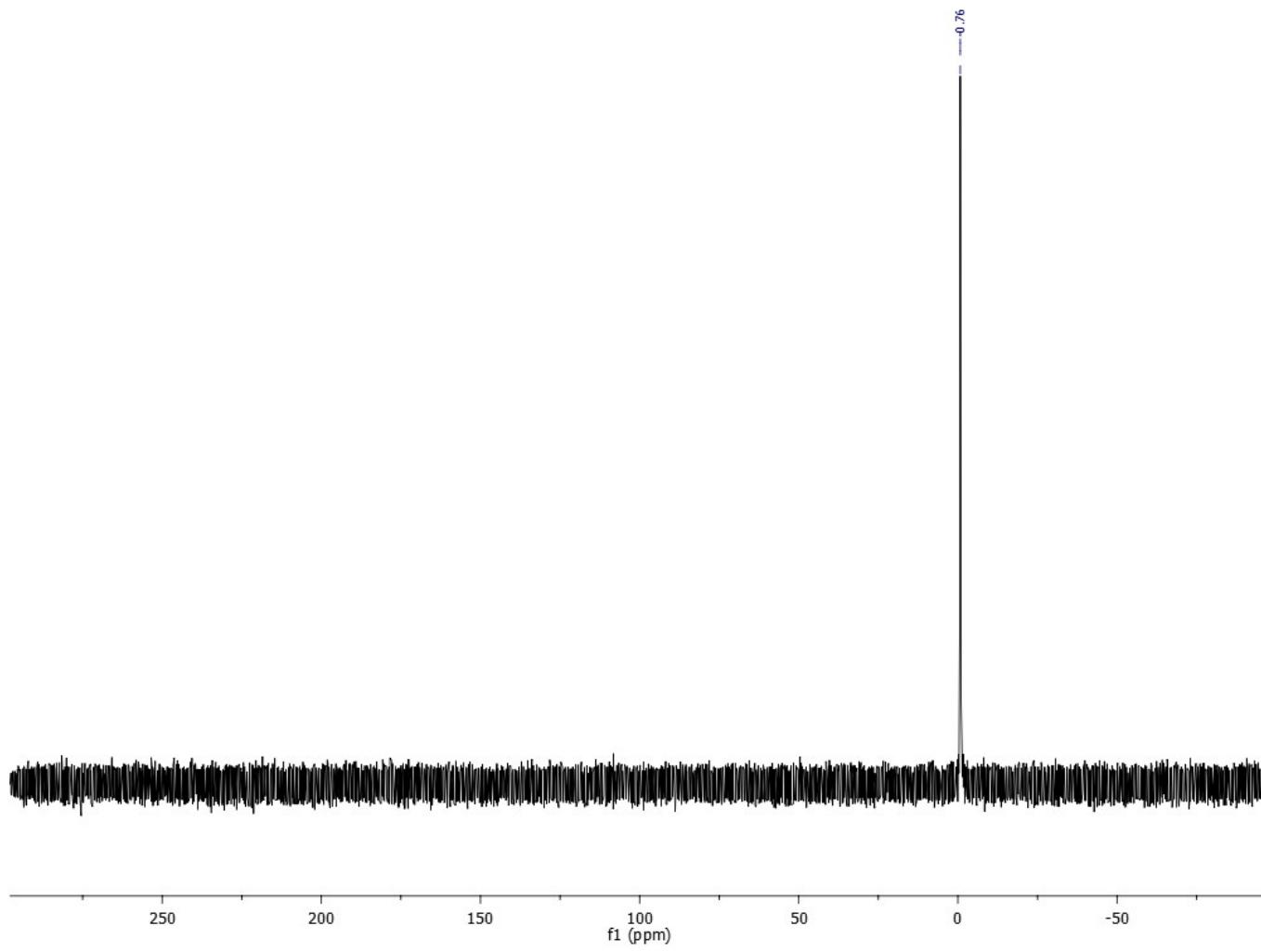
**Figure S1:**  $^1\text{H}$  NMR spectrum of 3a.



**Figure S2:**  $^{13}\text{C}$  NMR spectrum of 3a.



**Figure S3:**  $^{31}\text{P}$  NMR spectrum of 3a.



**Figure S4:**  $^1\text{H}$  –  $^1\text{H}$  COSY spectrum of 3a.

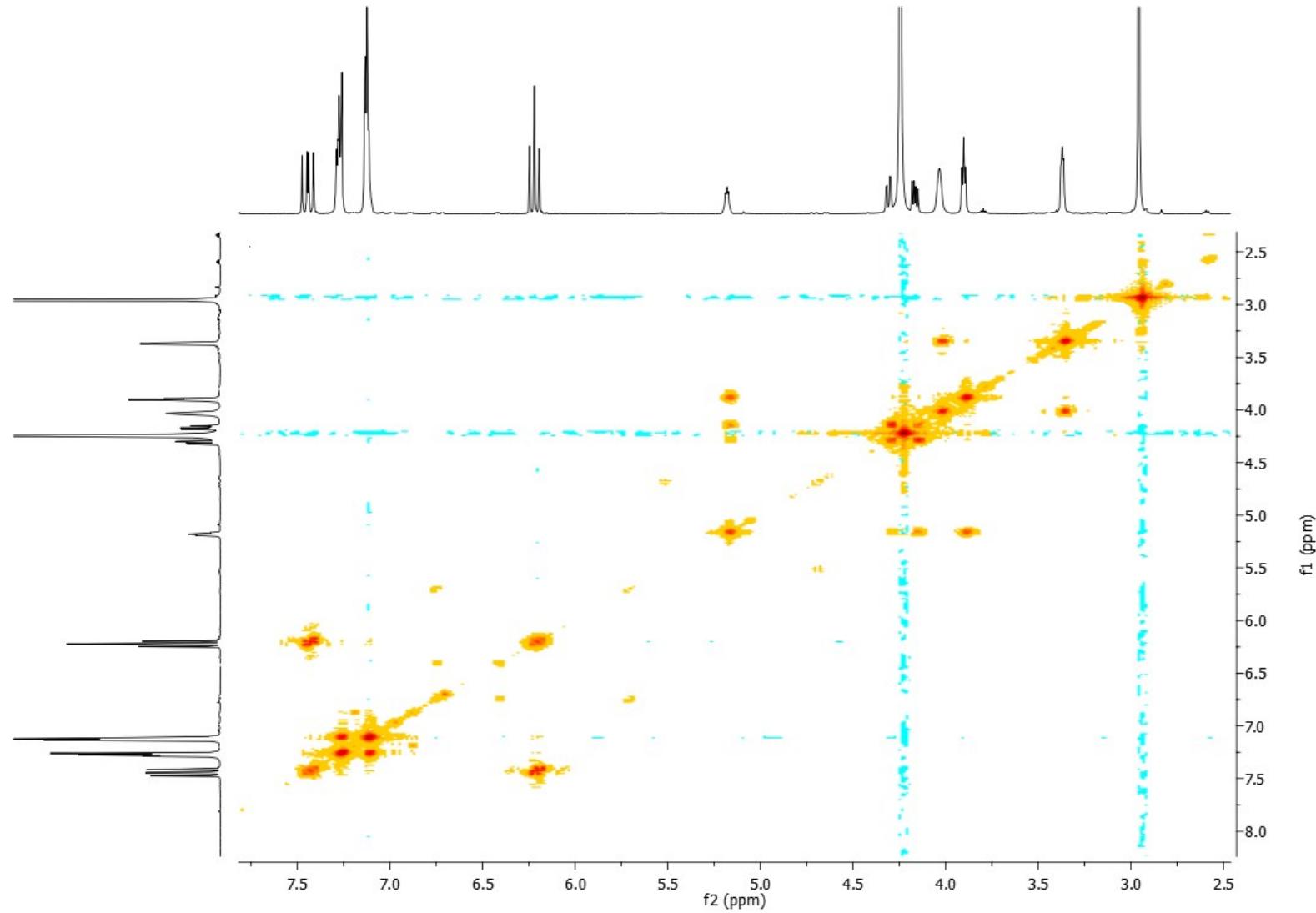
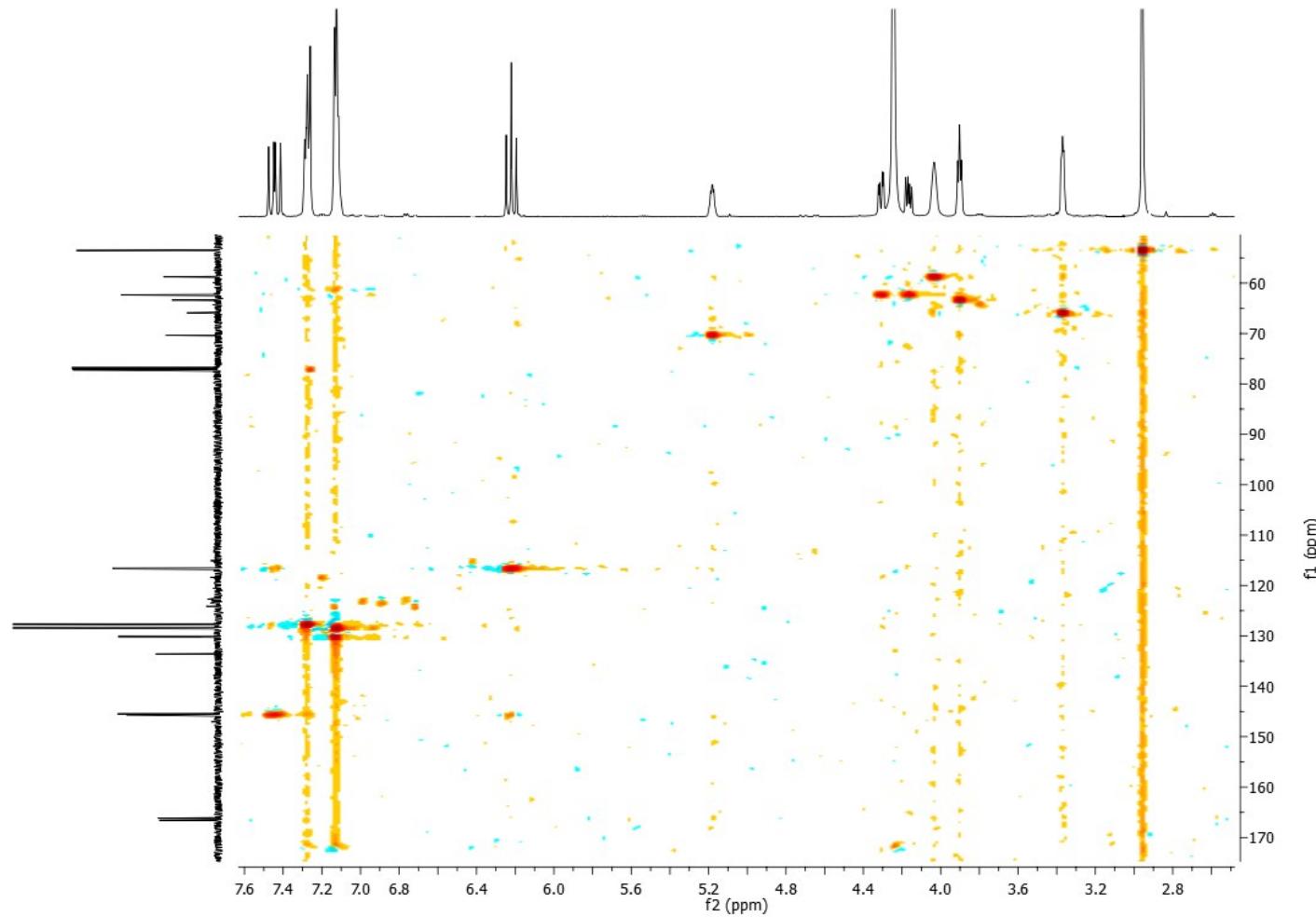
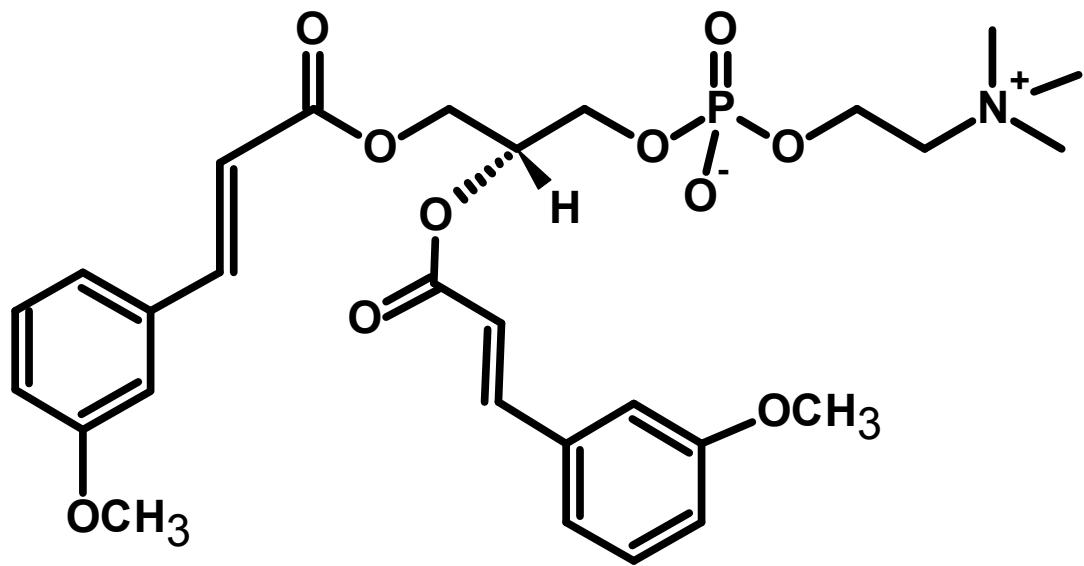


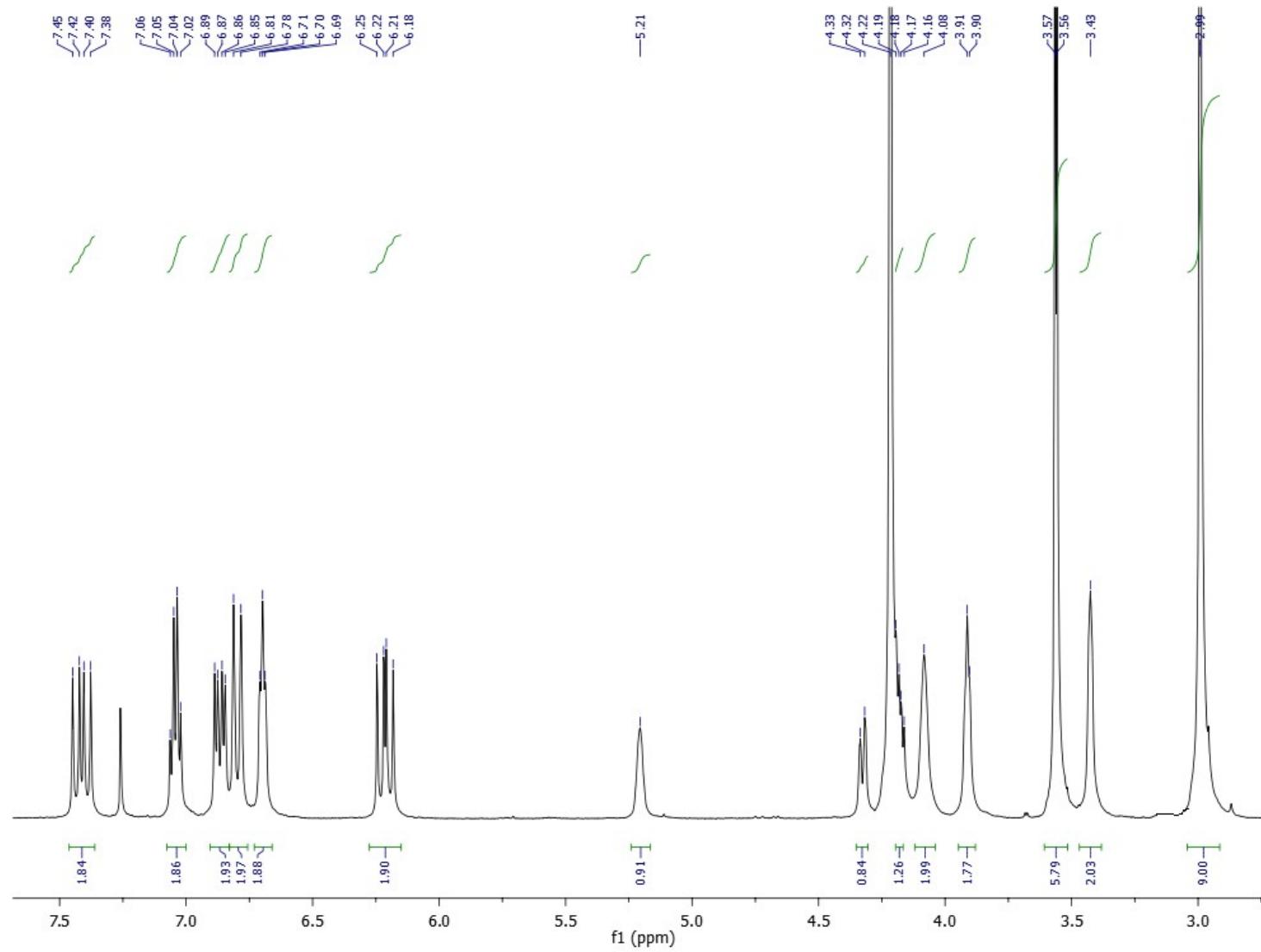
Figure S5: HSQC spectrum of 3a.



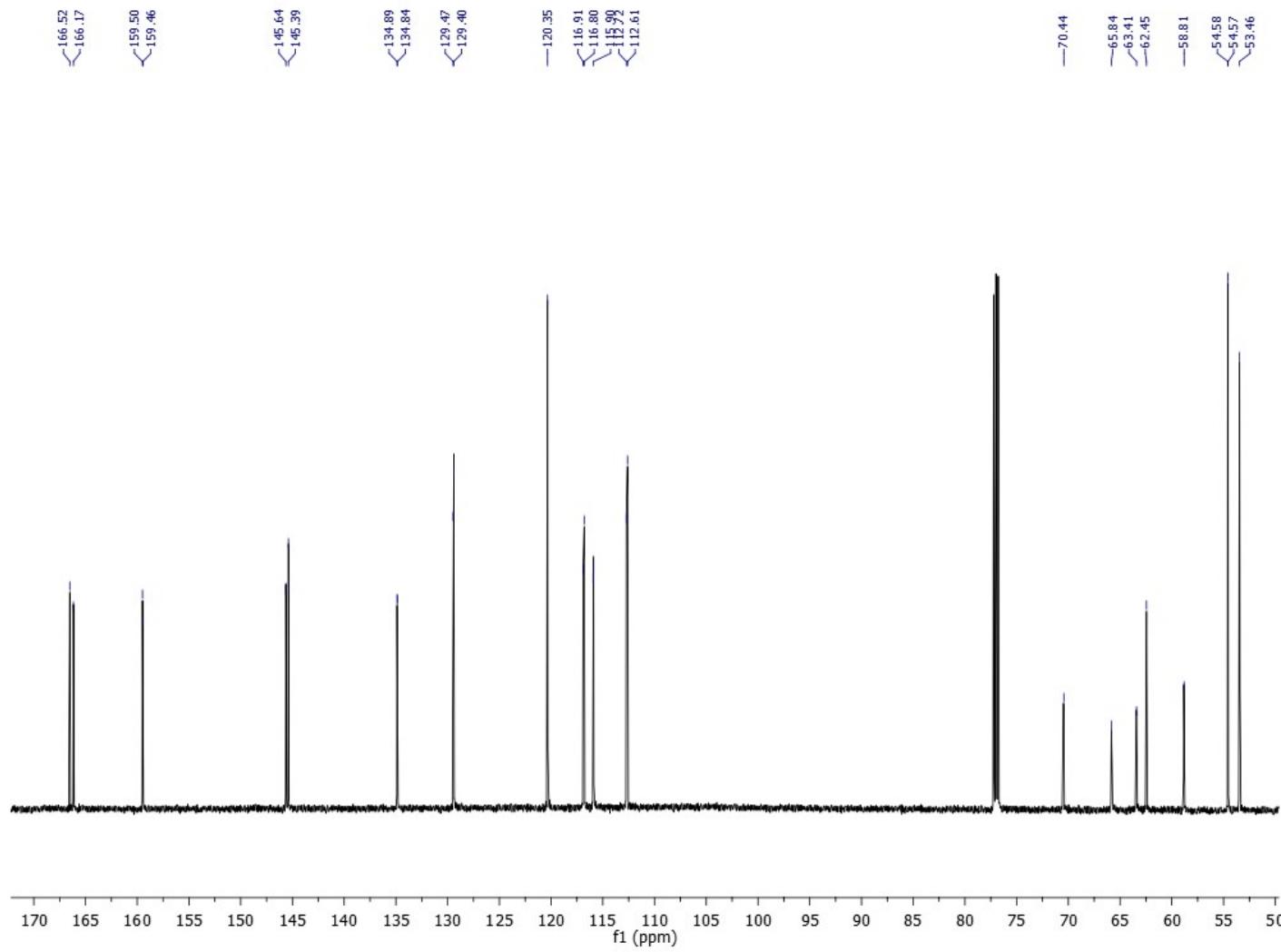


1,2-di(3-methoxycinnamoyl)-*sn*-glycero-3-phosphocholine (**3b**)

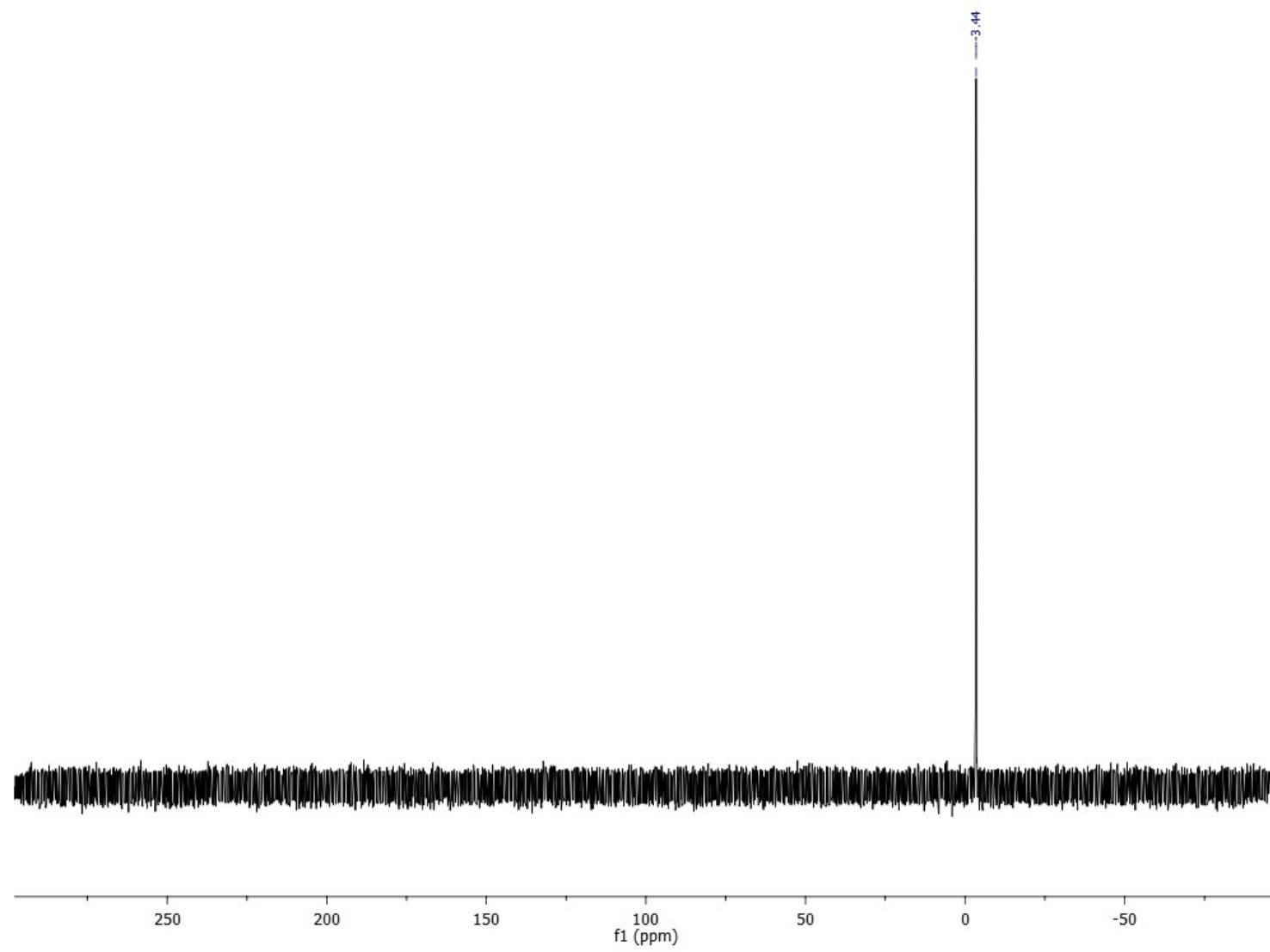
**Figure S6:**  $^1\text{H}$  NMR spectrum of 3b.



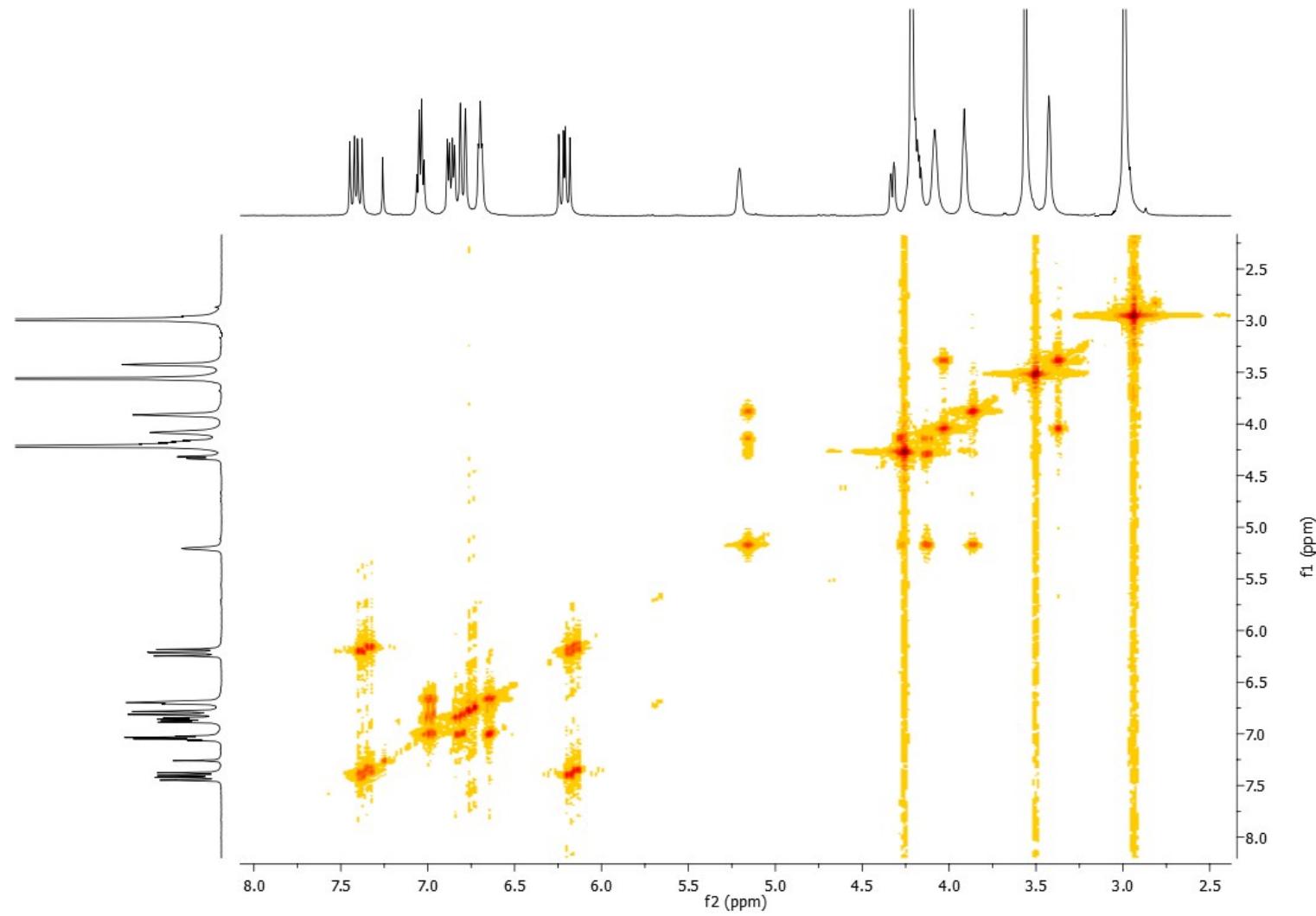
**Figure S7:**  $^{13}\text{C}$  NMR spectrum of **3b**.



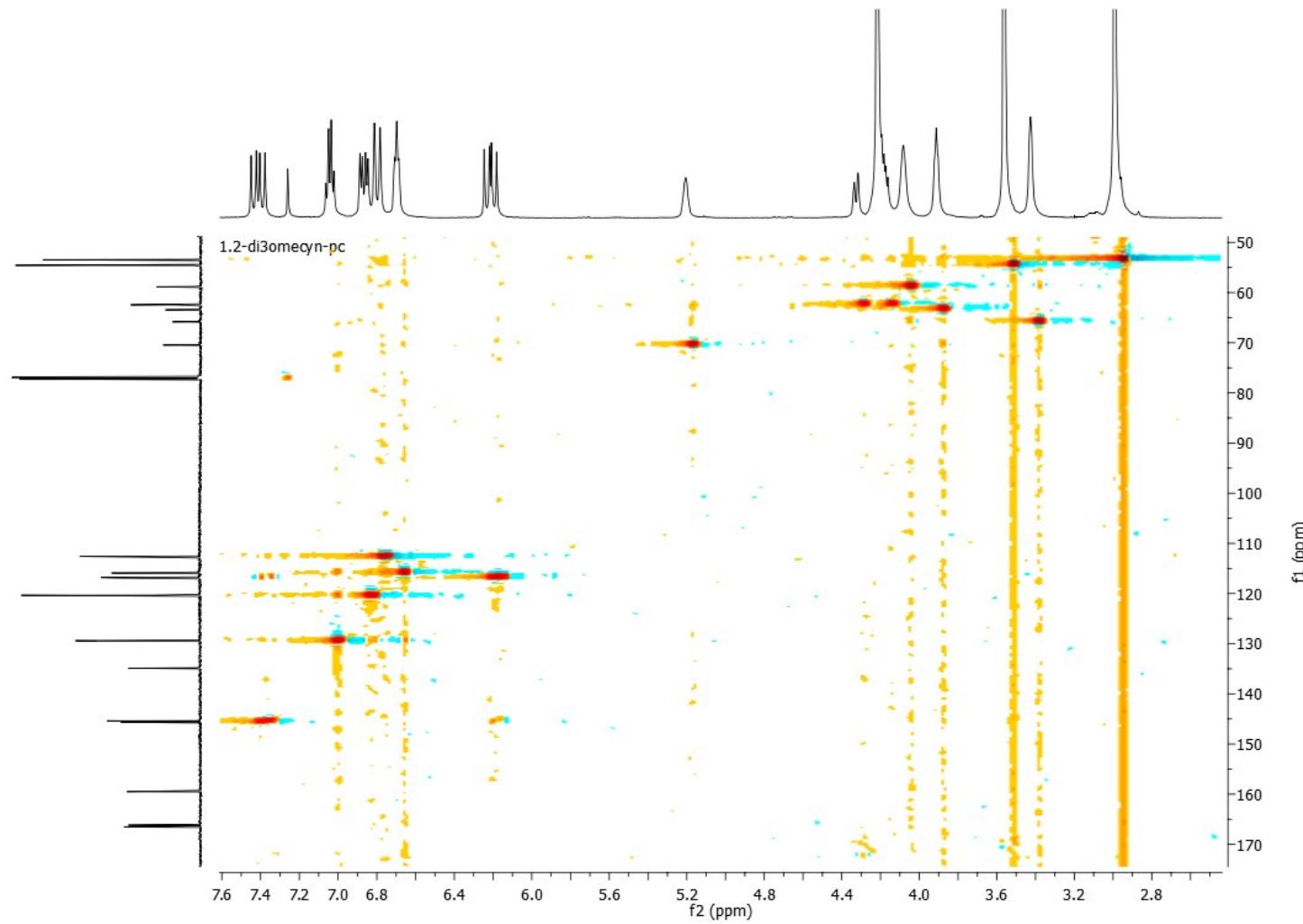
**Figure S8:**  $^{31}\text{P}$  NMR spectrum of 3b.

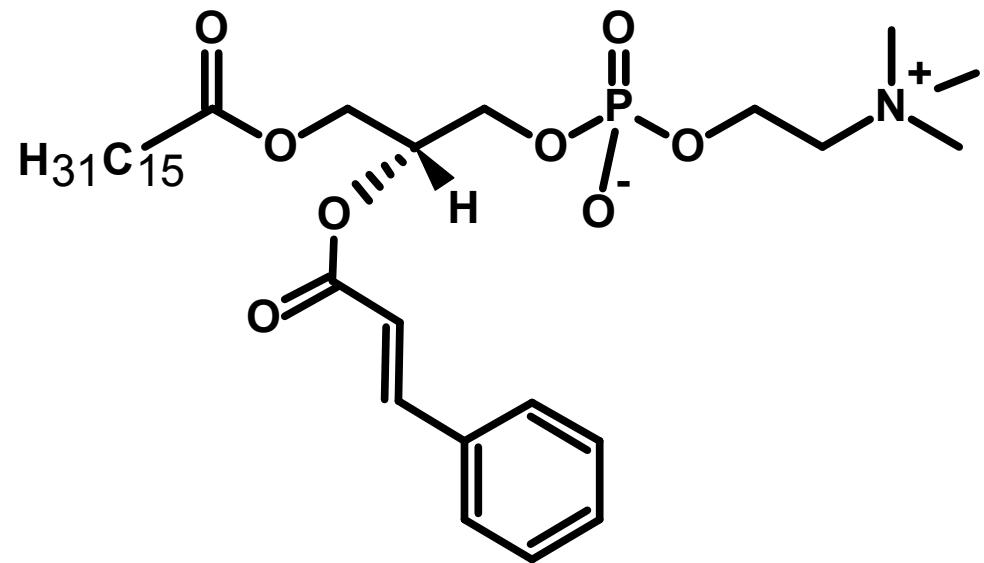


**Figure S9:**  $^1\text{H}$  –  $^1\text{H}$  COSY spectrum of 3b.



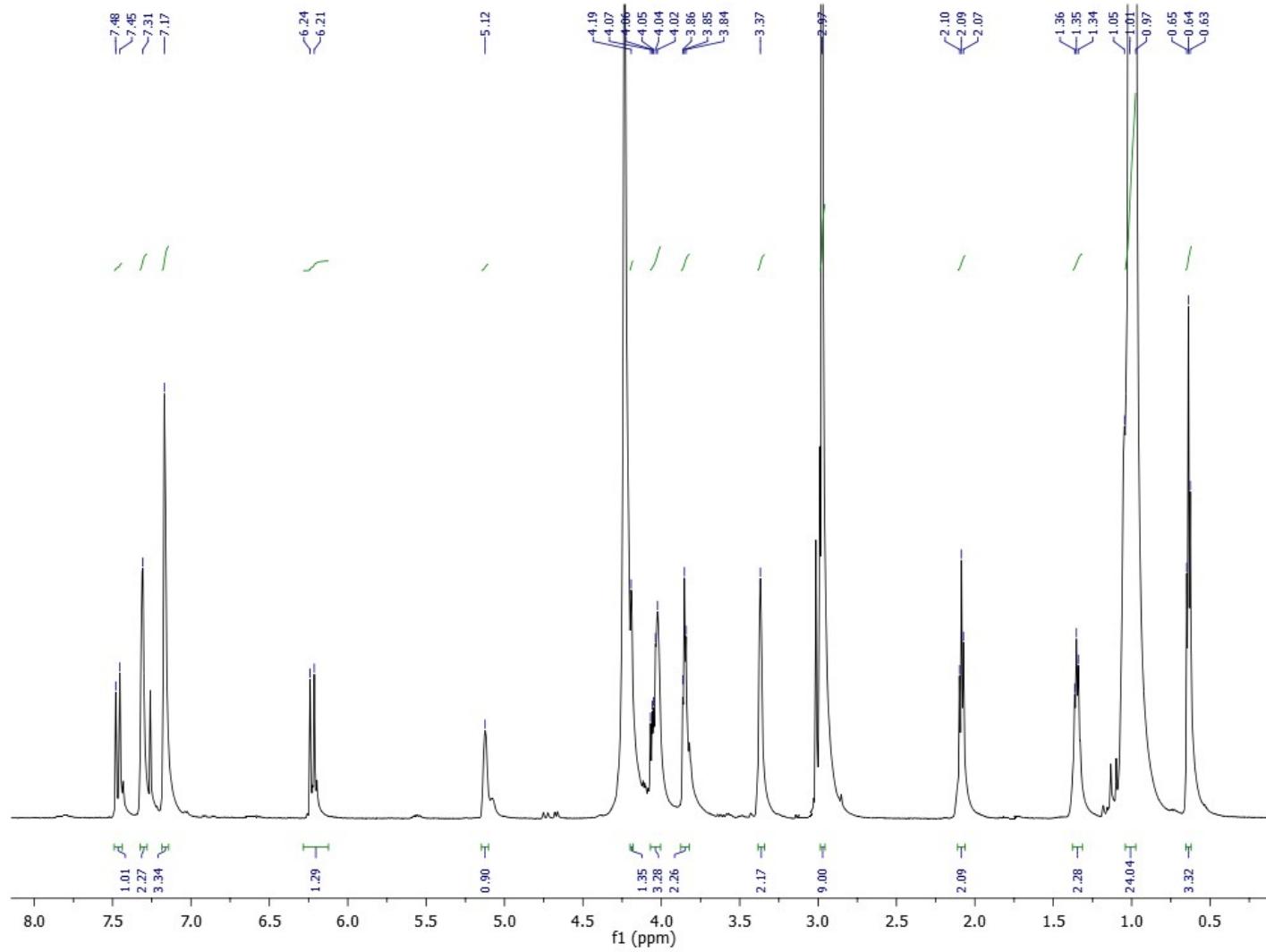
**Figure S10:** HSQC spectrum of 3b.



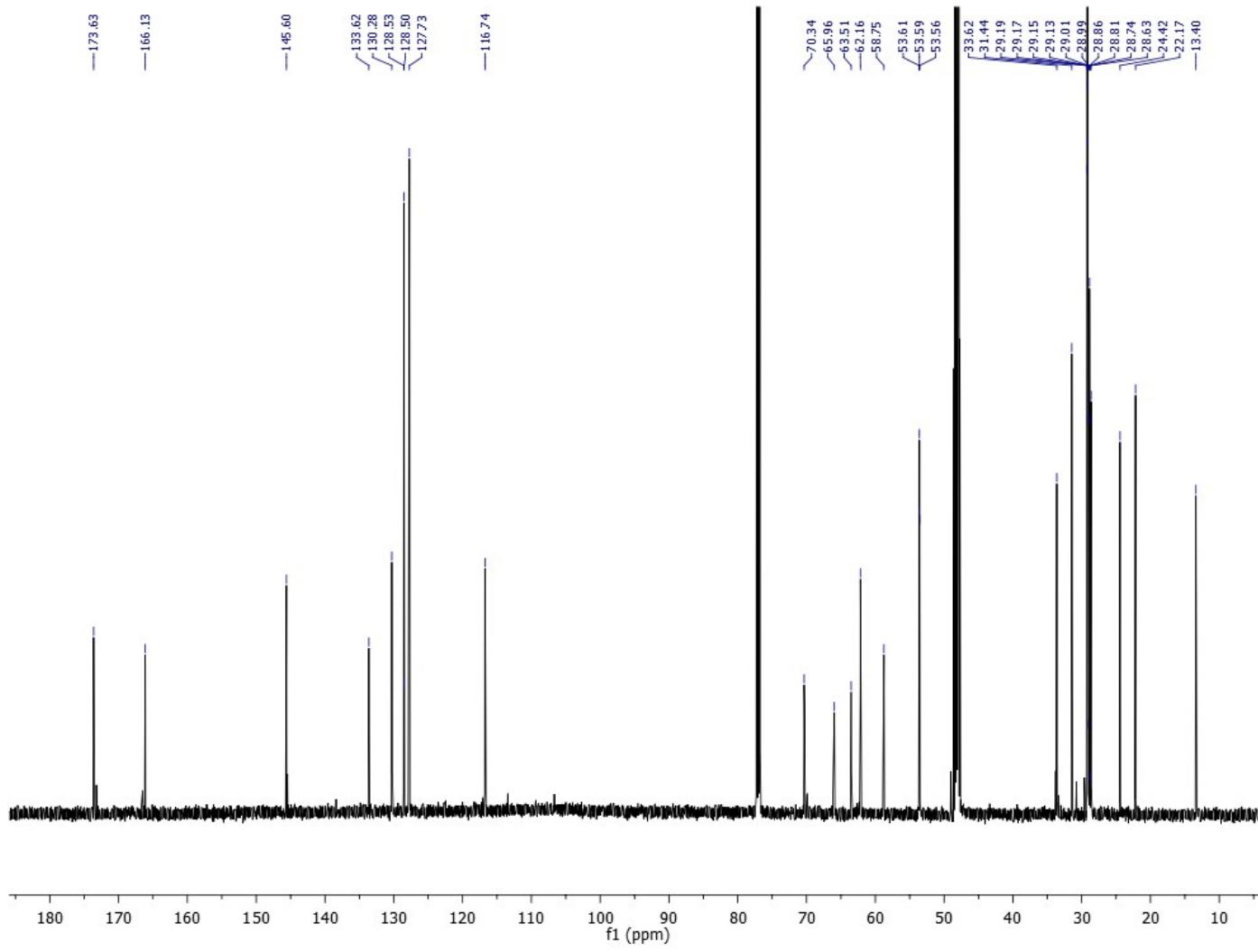


1-palmitoyl-2-cinnamoyl-*sn*-glycero-3-phosphocholine (**5a**)

**Figure S11:**  $^1\text{H}$  NMR spectrum of 5a.



**Figure S12:**  $^{13}\text{C}$  NMR spectrum of 5a.



**Figure S13:**  $^{31}\text{P}$  NMR spectrum of 5a.

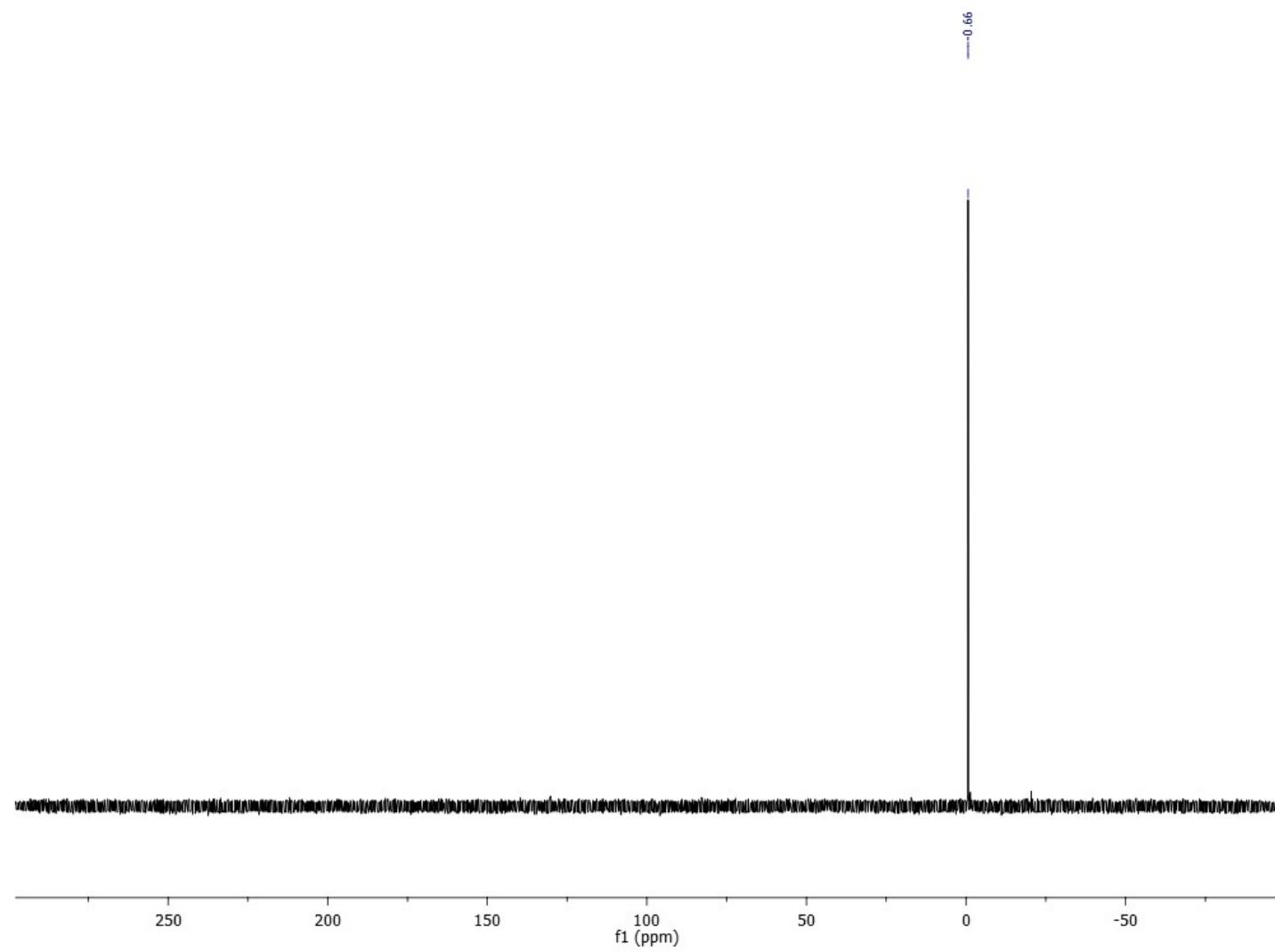


Figure S14:  $^1\text{H}$  –  $^1\text{H}$  COSY spectrum of 5a.

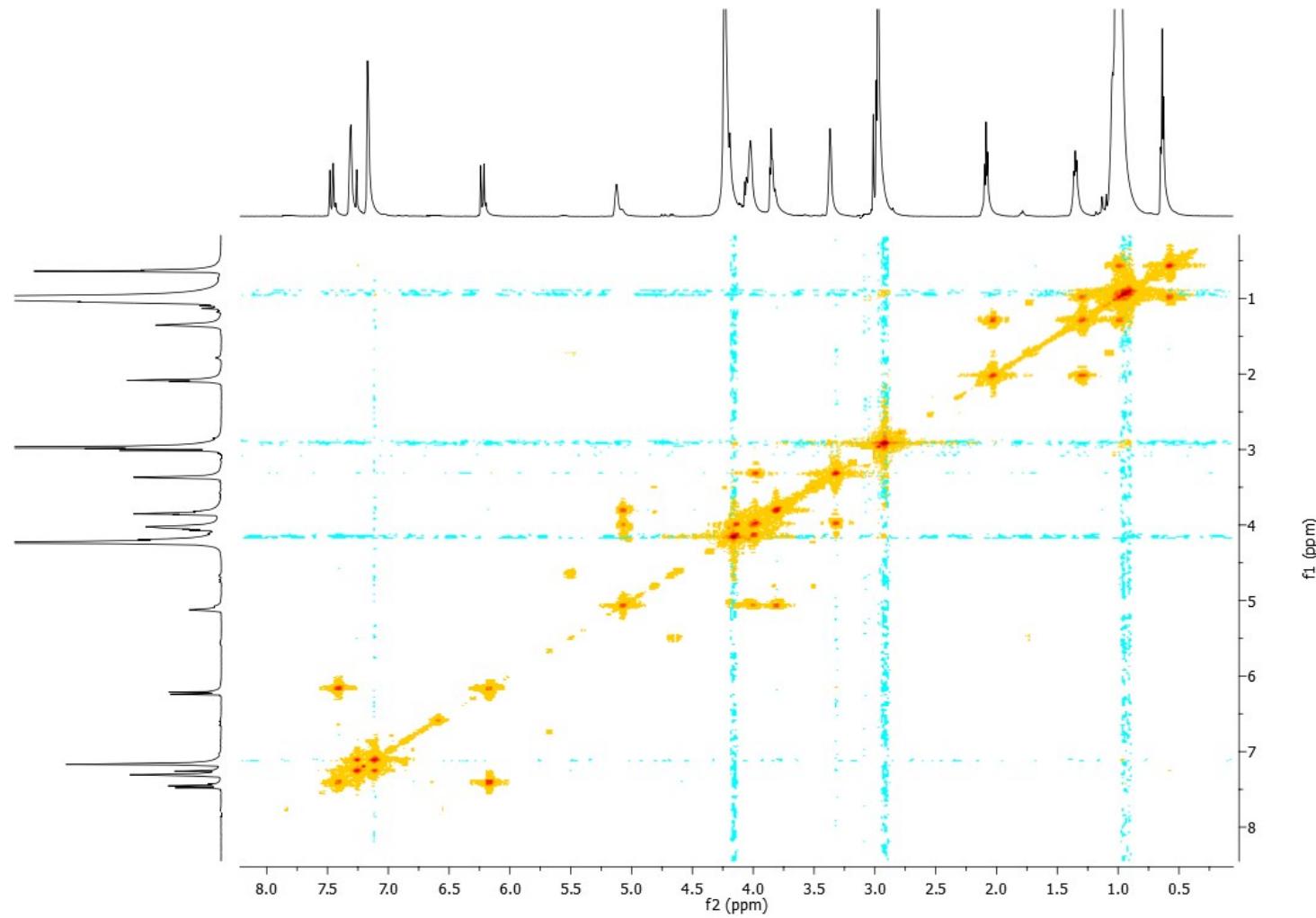
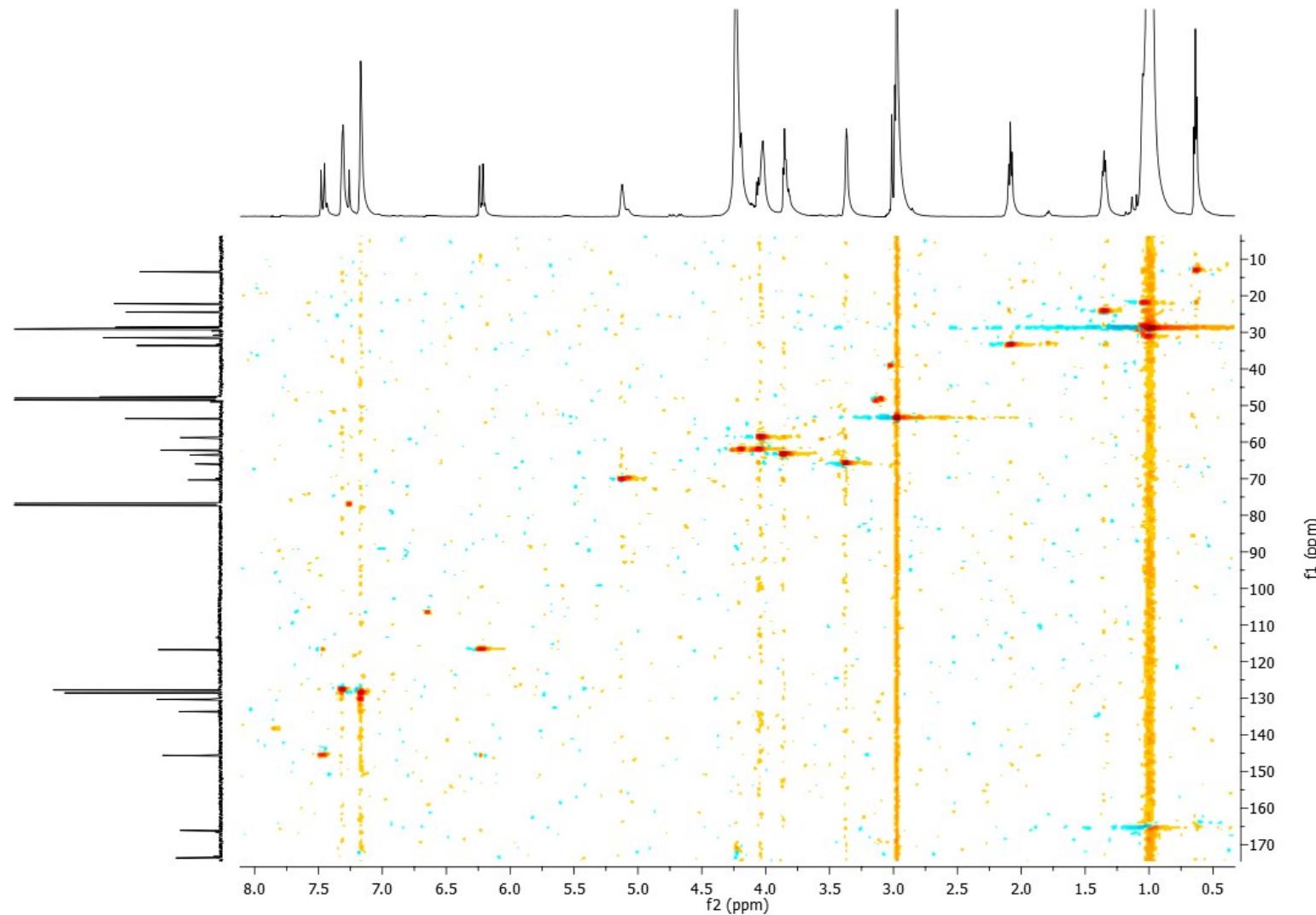
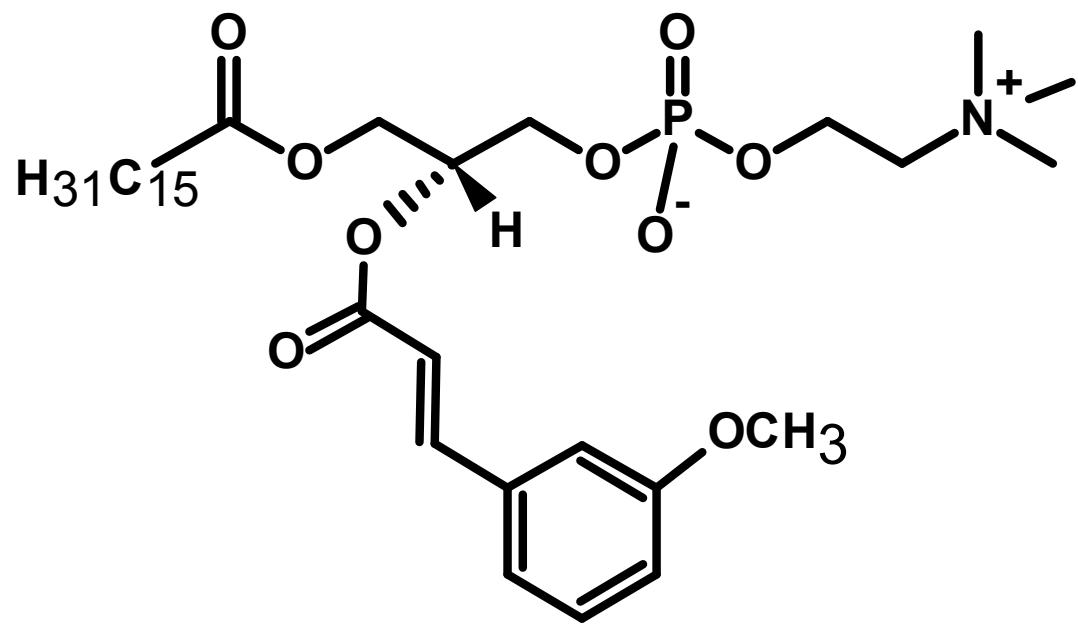


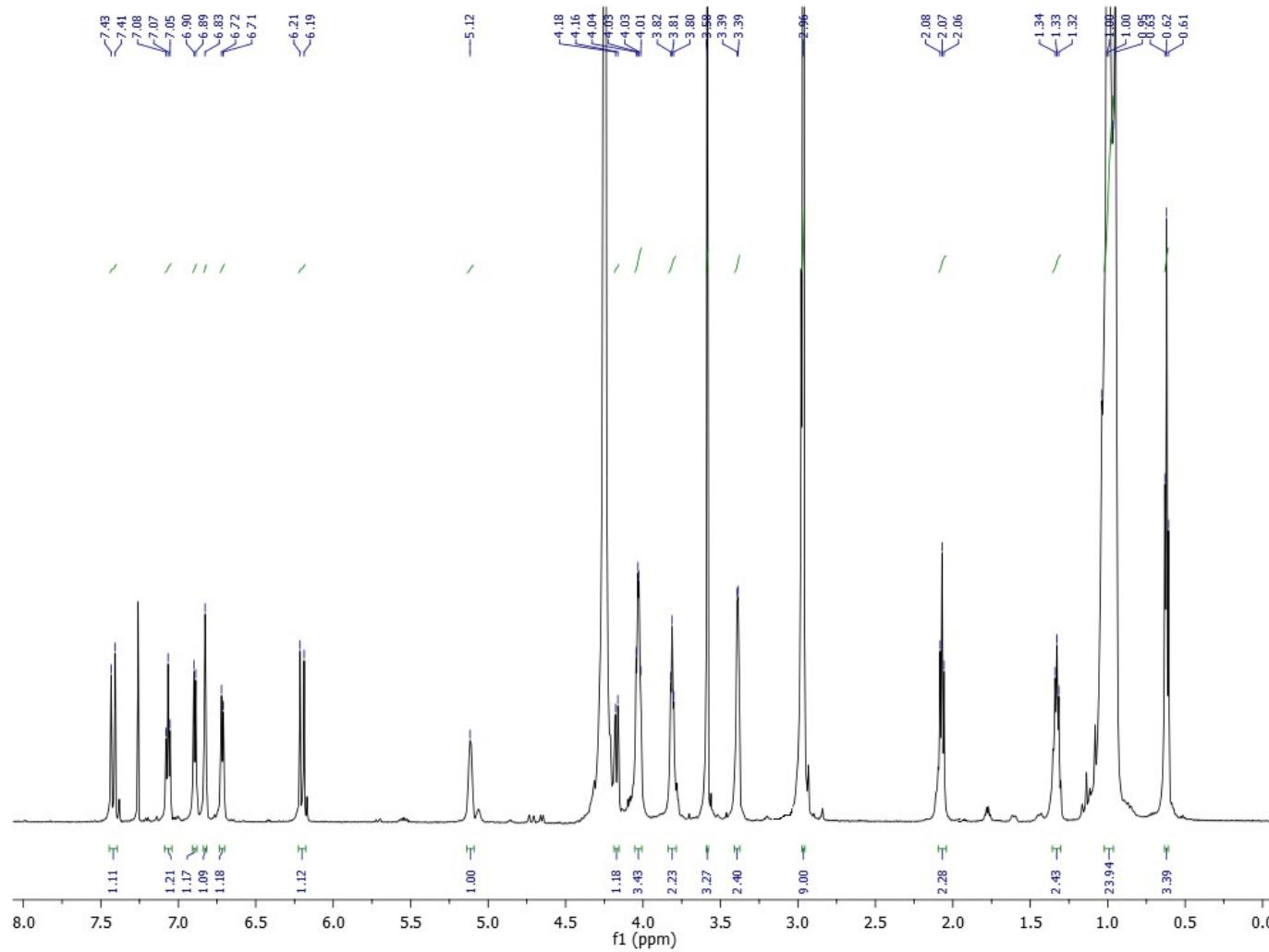
Figure S15: HSQC spectrum of 5a.



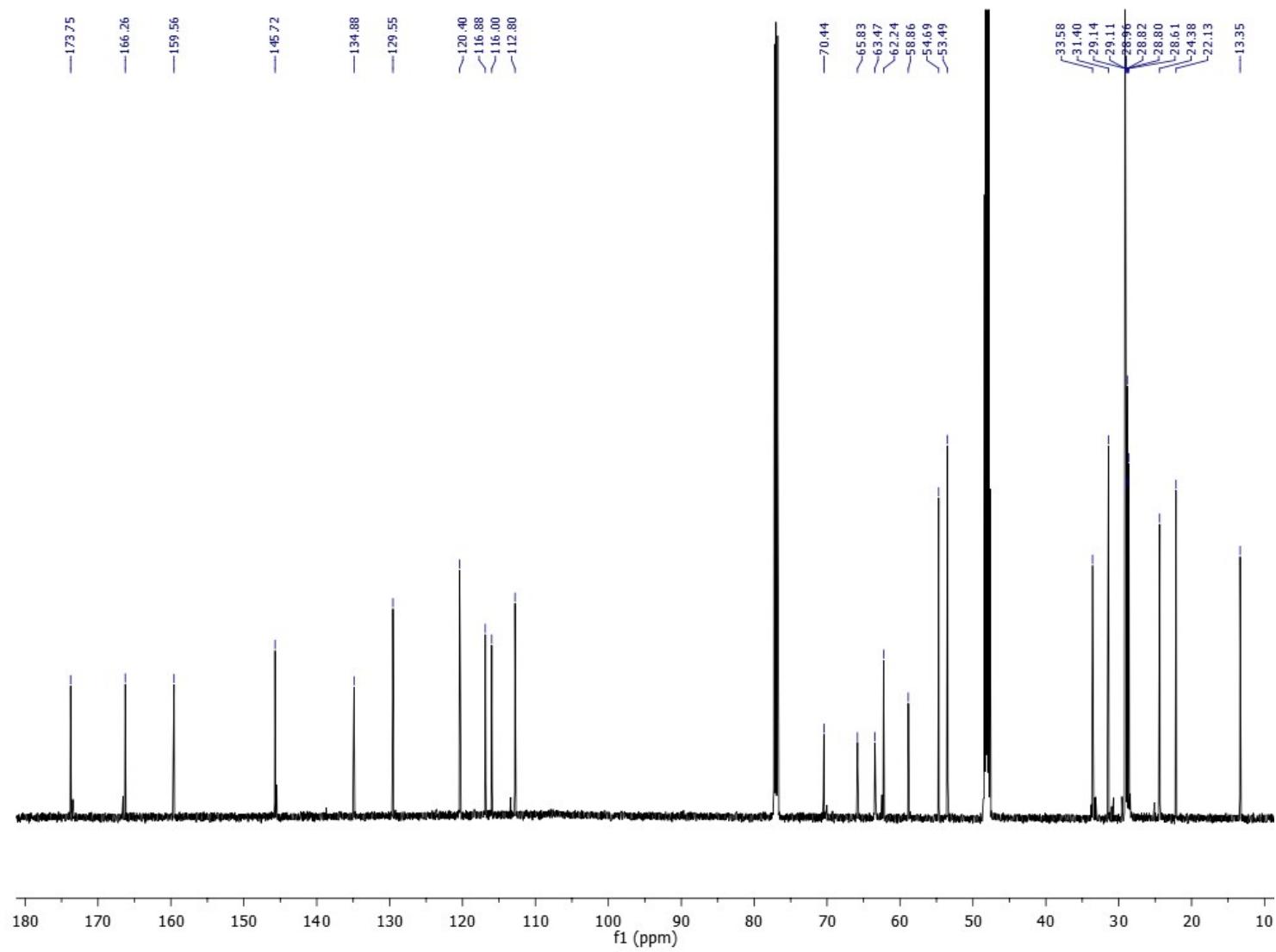


1-palmitoyl-2-(3-methoxycinnamoyl)-*sn*-glycero-3-phosphocholine (**5b**)

**Figure S16:**  $^1\text{H}$  NMR spectrum of 5b.



**Figure S17:**  $^{13}\text{C}$  NMR spectrum of 5b.



**Figure S18:**  $^{31}\text{P}$  NMR spectrum of 5b.

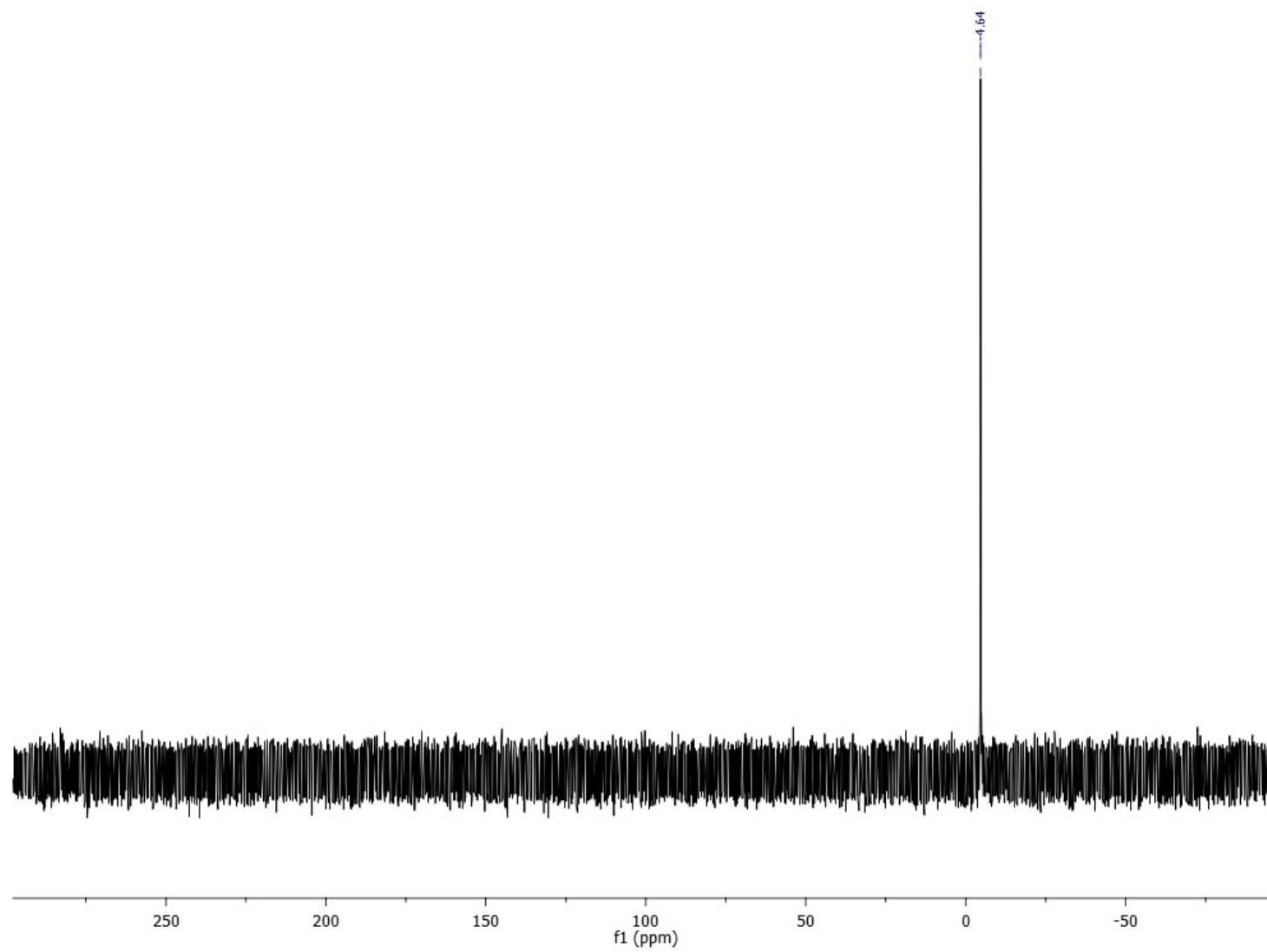
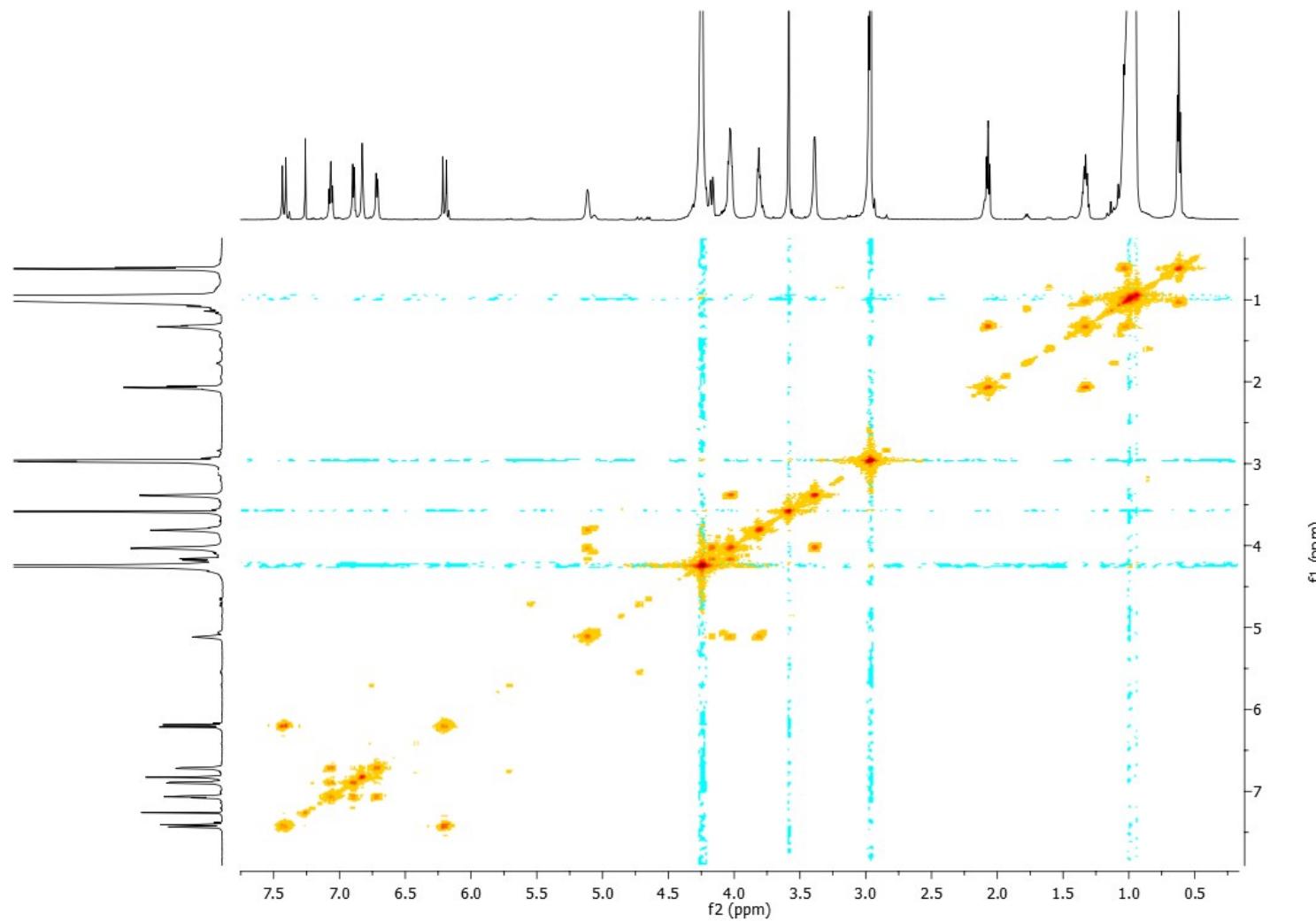
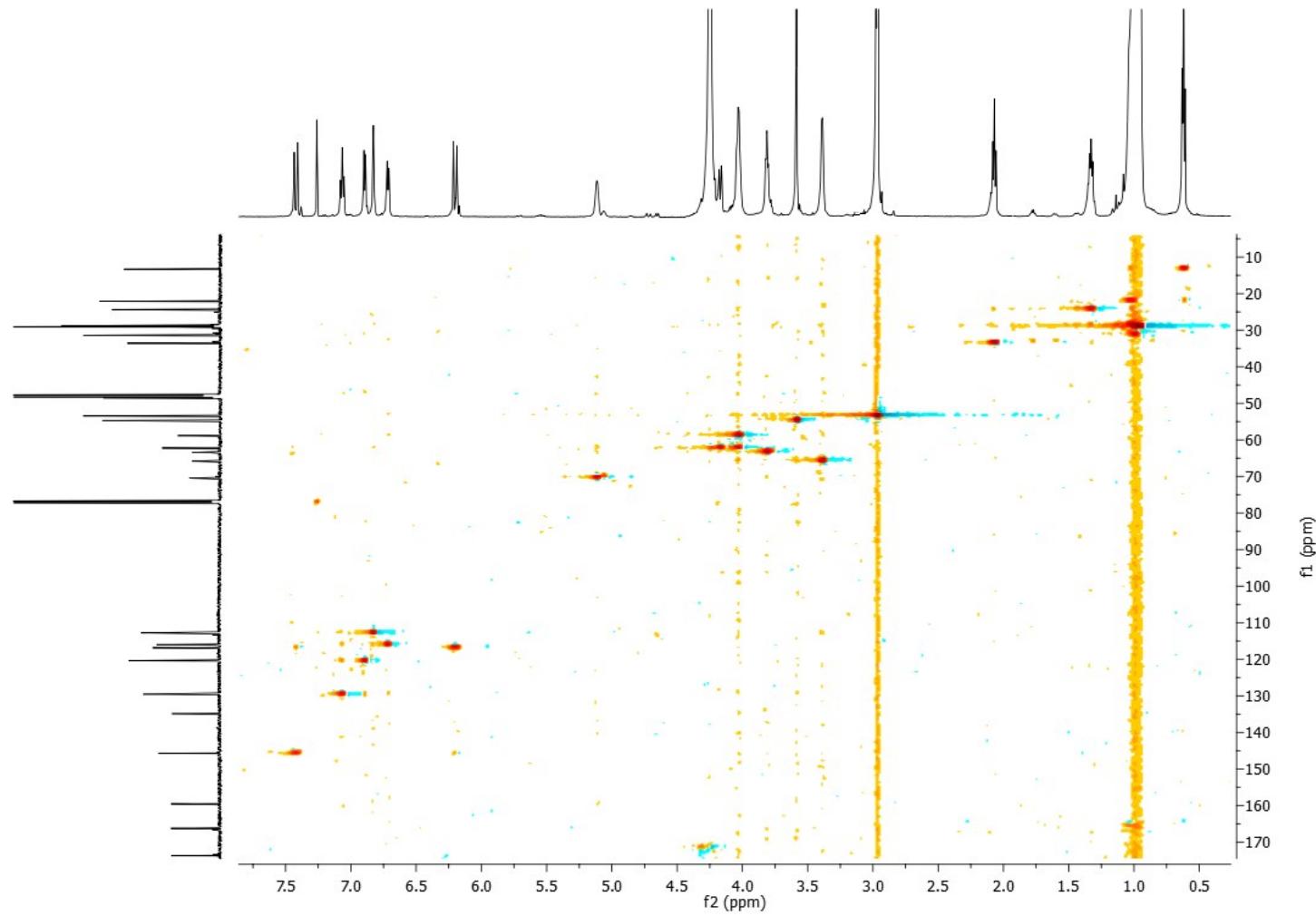
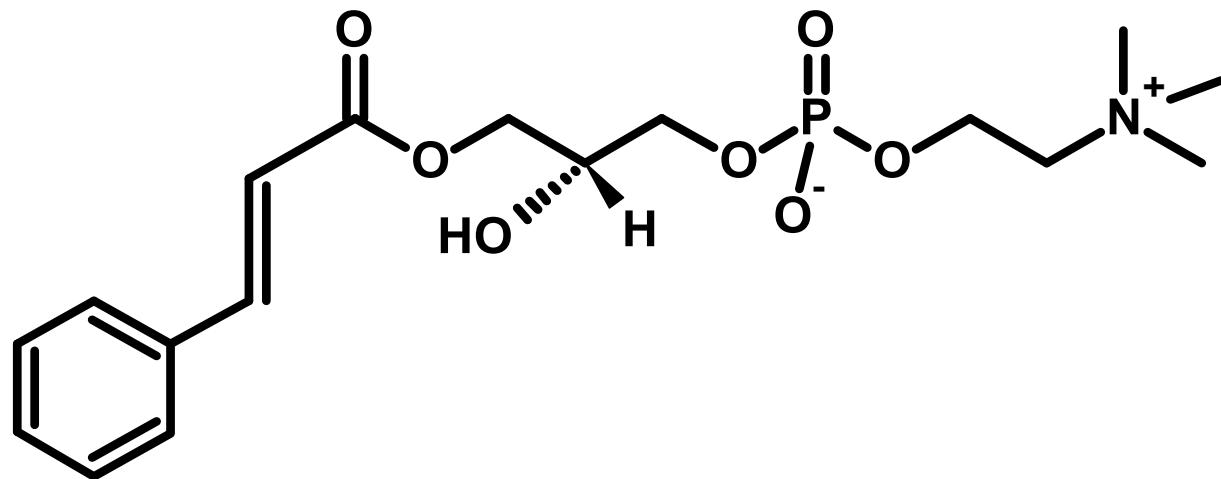


Figure S19:  $^1\text{H}$  –  $^1\text{H}$  COSY spectrum of 5b.



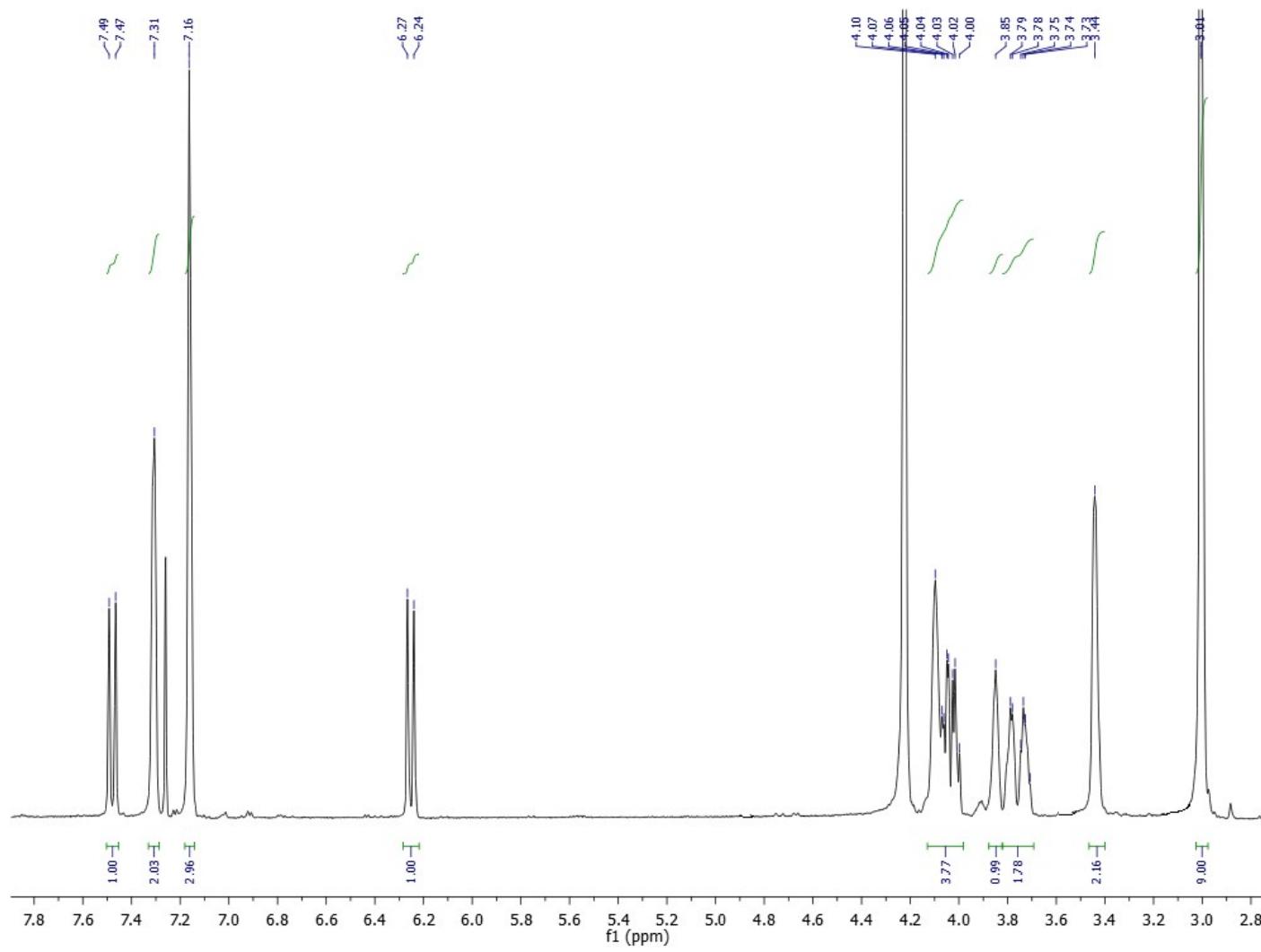
**Figure S20:** HSQC spectrum of **5b**.



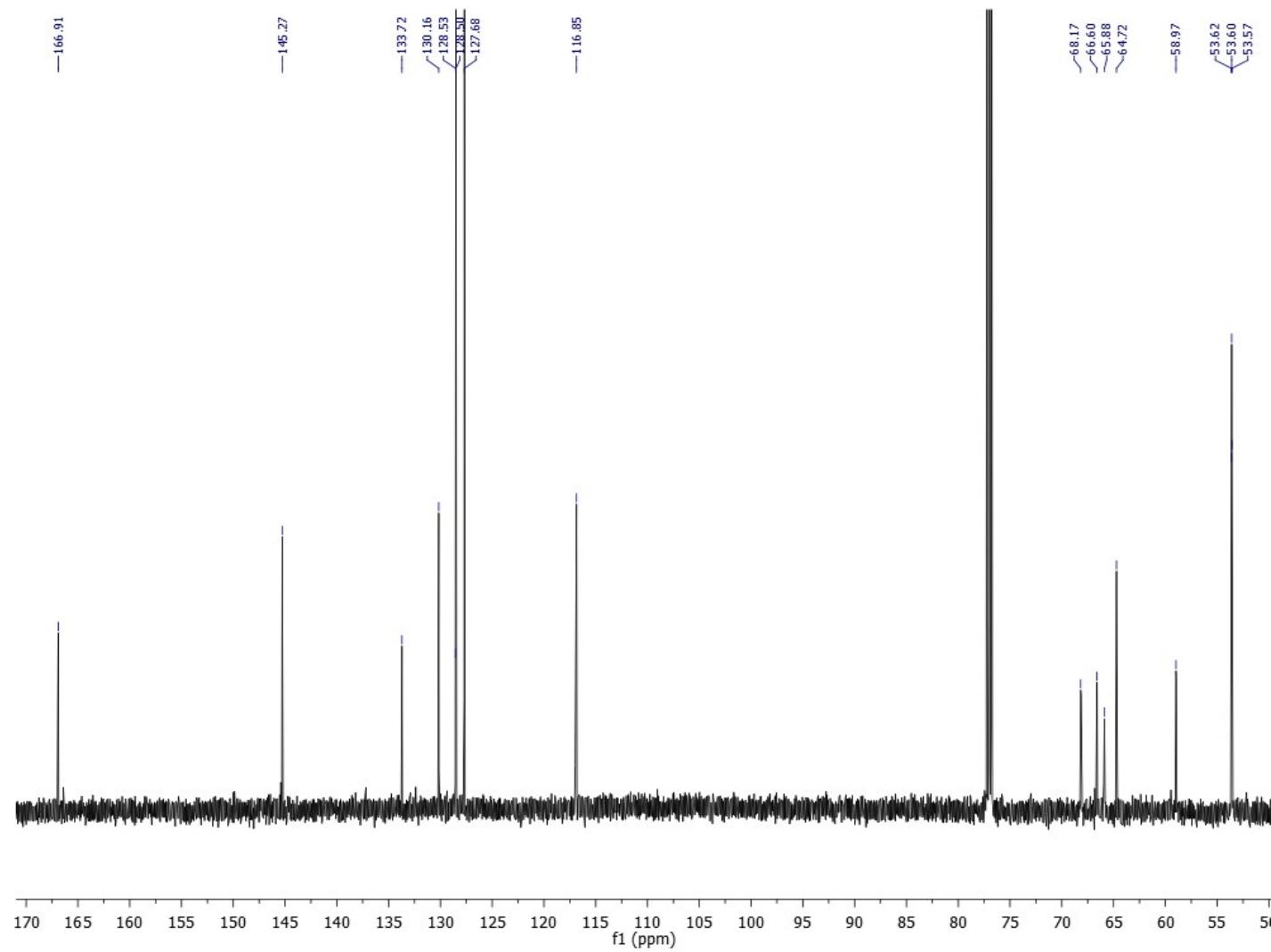


1-cinnamoyl-2-hydroxy-*sn*-glycero-3-phosphocholine (**9a**)

Figure S21:  $^1\text{H}$  NMR spectrum of 9a.



**Figure S22:**  $^{13}\text{C}$  NMR spectrum of **9a**.



**Figure S23:**  $^{31}\text{P}$  NMR spectrum of 9a.

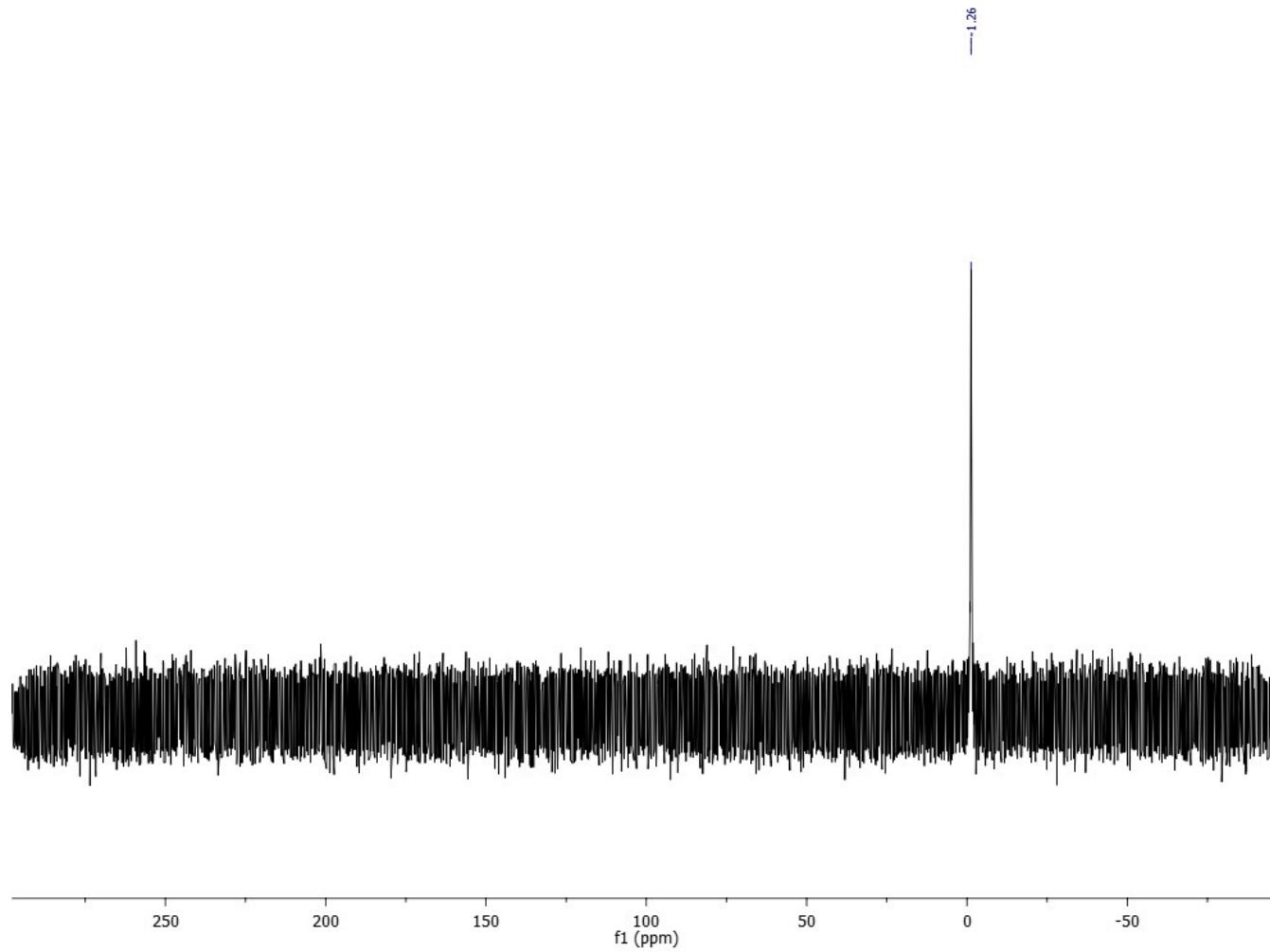


Figure S24:  $^1\text{H}$  –  $^1\text{H}$  COSY spectrum of 9a.

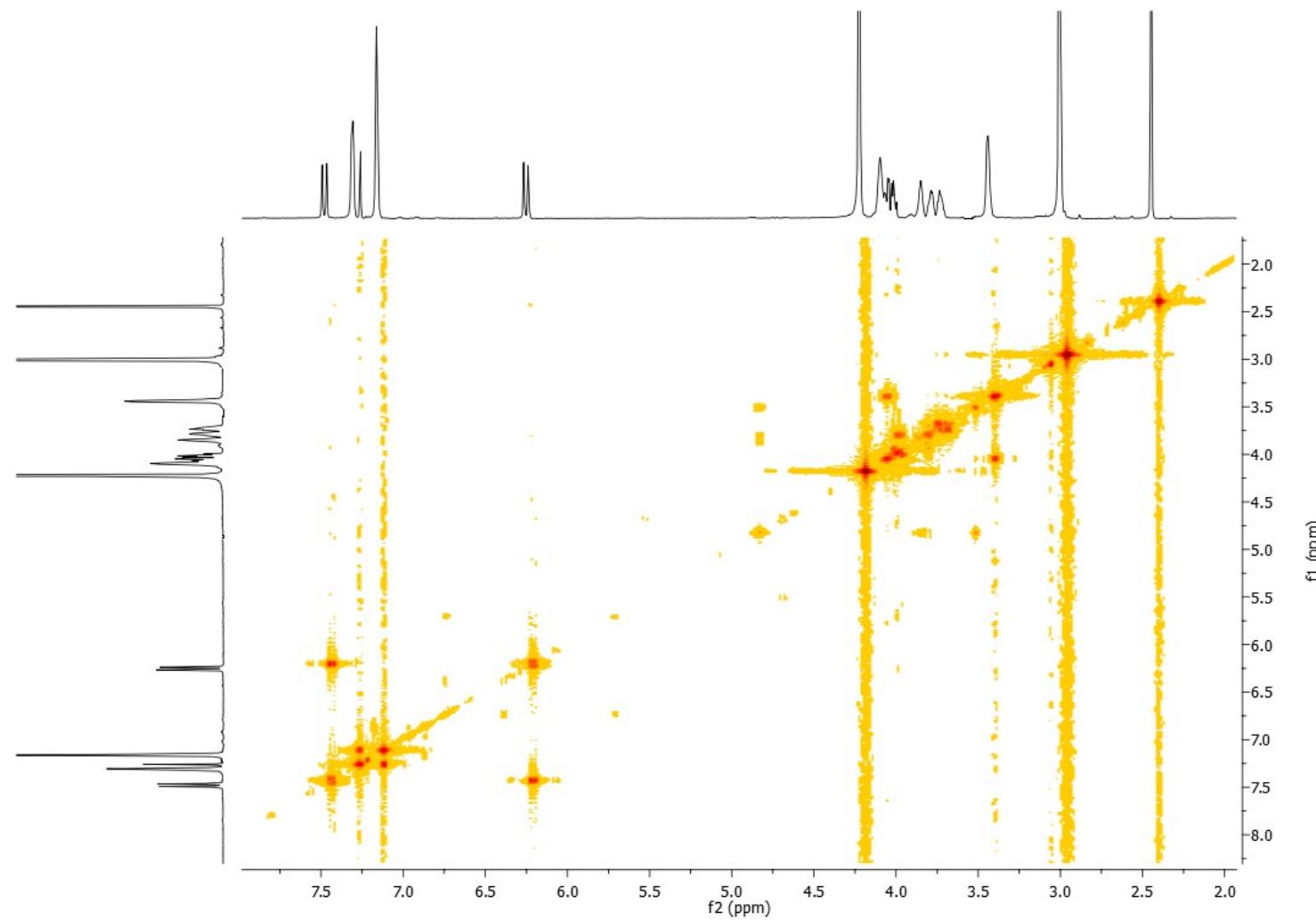
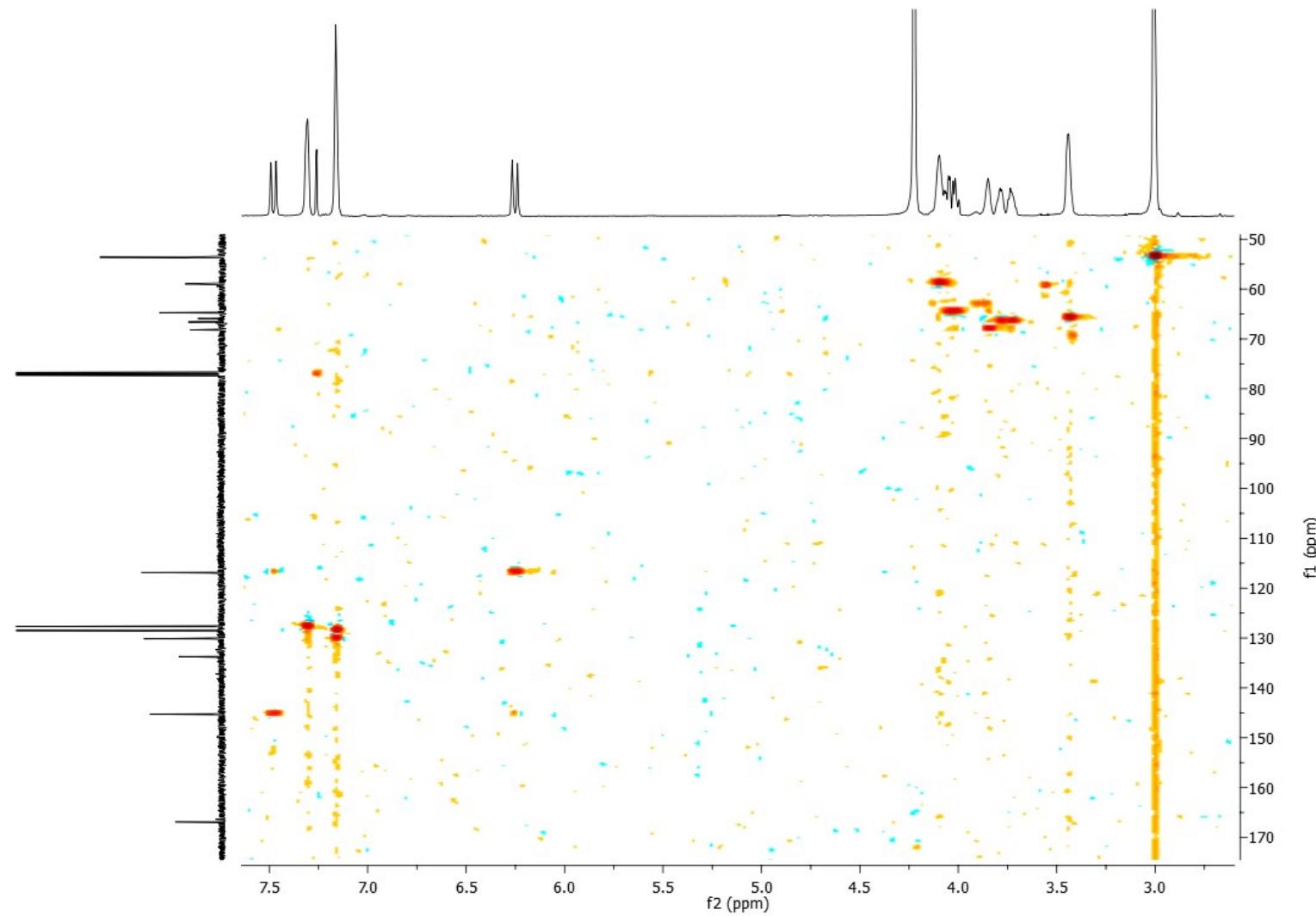
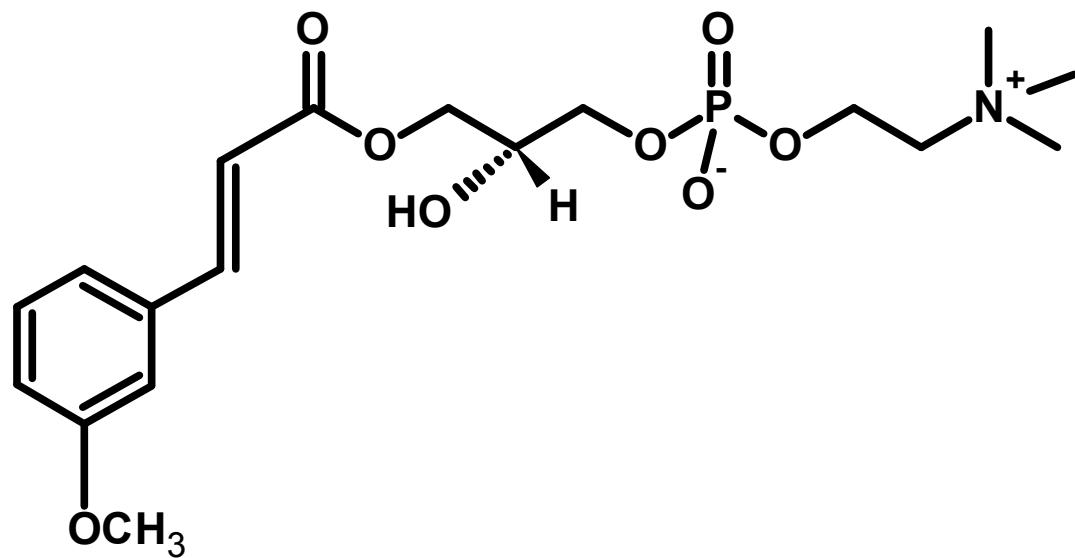


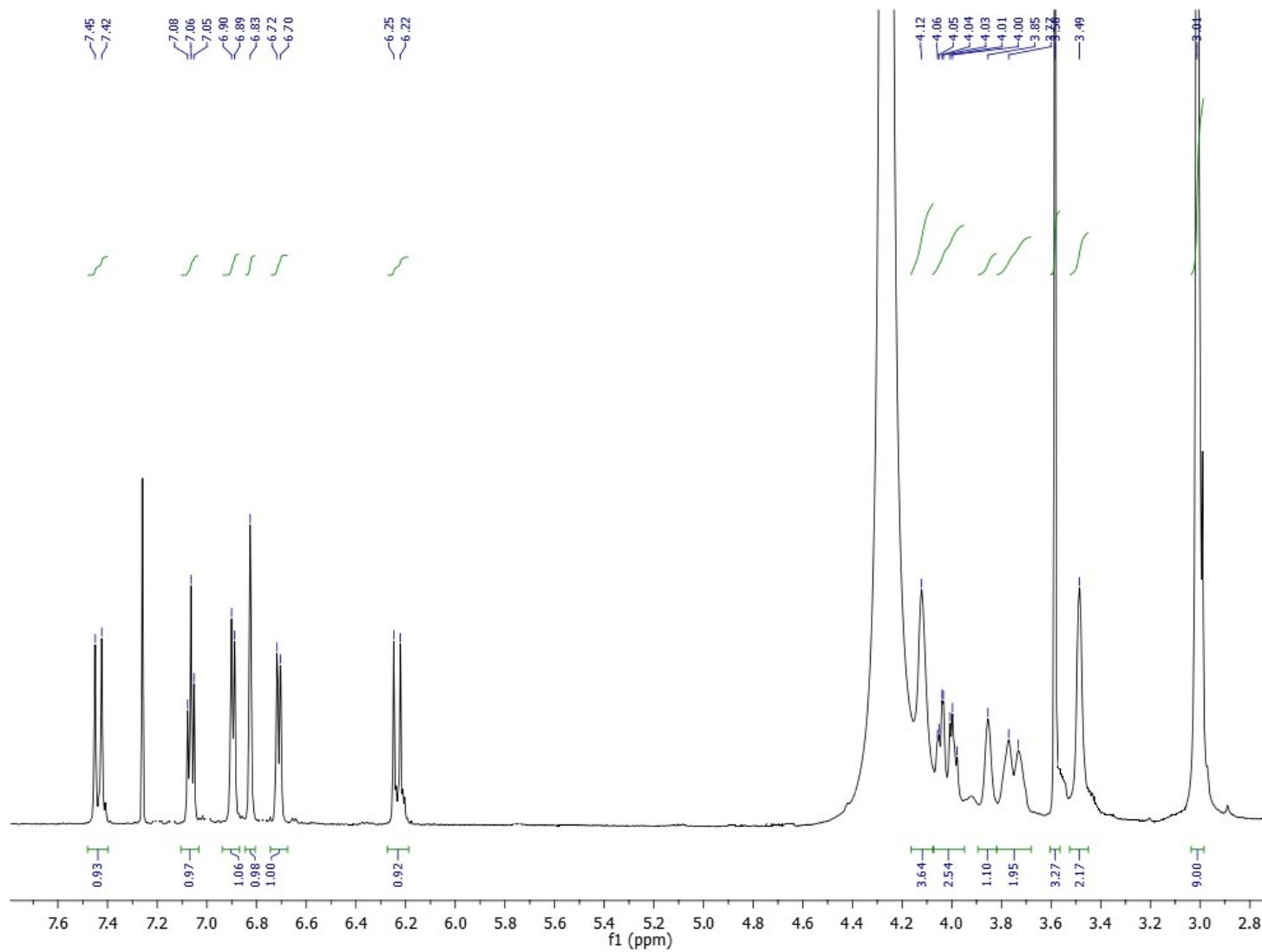
Figure S25: HSQC spectrum of 9a.



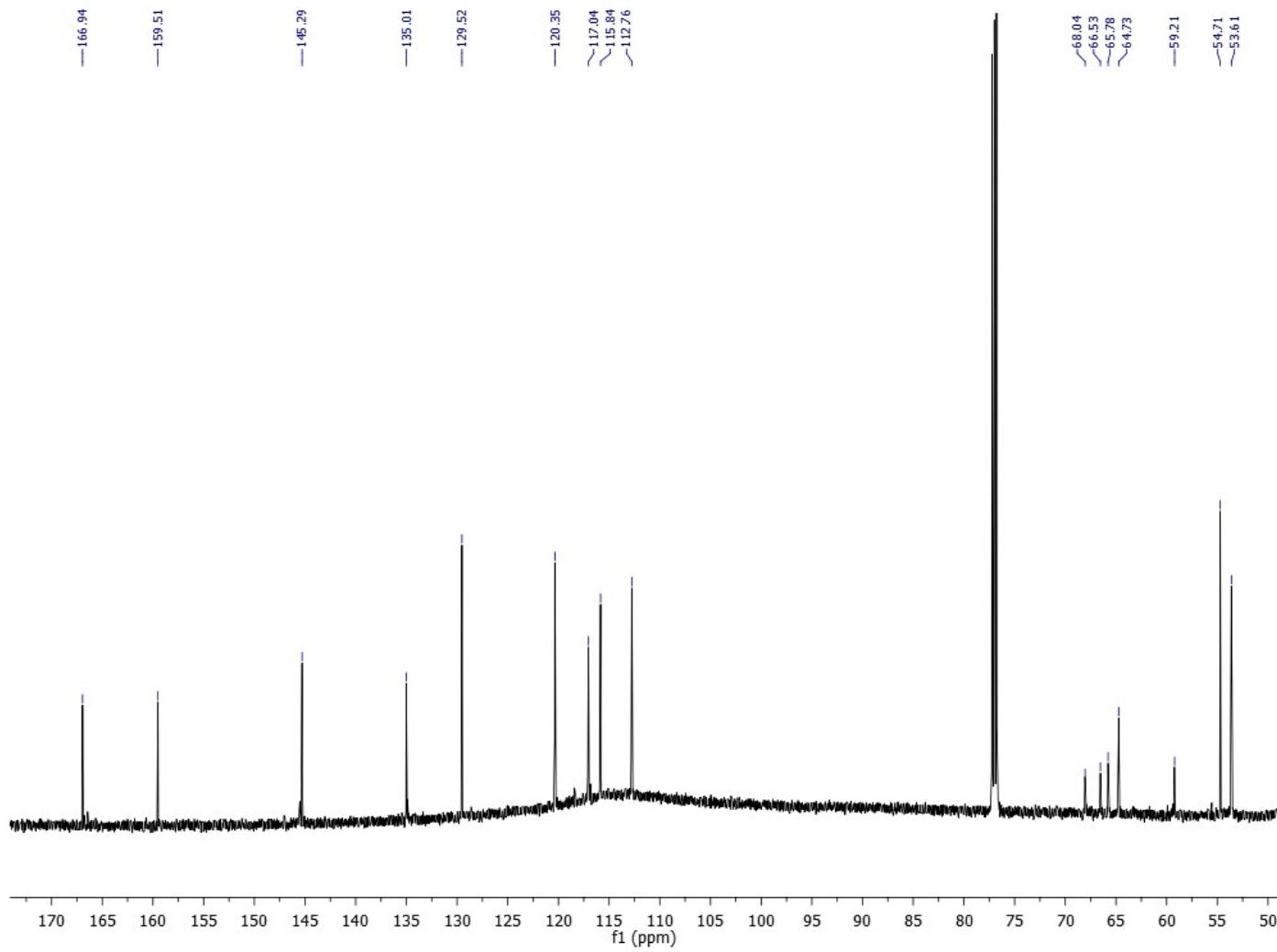


1-(3-methoxycinnamoyl)-2-hydroxy-*sn*-glycero-3-phosphocholine (**9b**)

**Figure S26:**  $^1\text{H}$  NMR spectrum of 9b.



**Figure S27:**  $^{13}\text{C}$  NMR spectrum of **9b**.



**Figure S28:**  $^{31}\text{P}$  NMR spectrum of 9b.



Figure S29:  $^1\text{H}$  –  $^1\text{H}$  COSY spectrum of 9b.

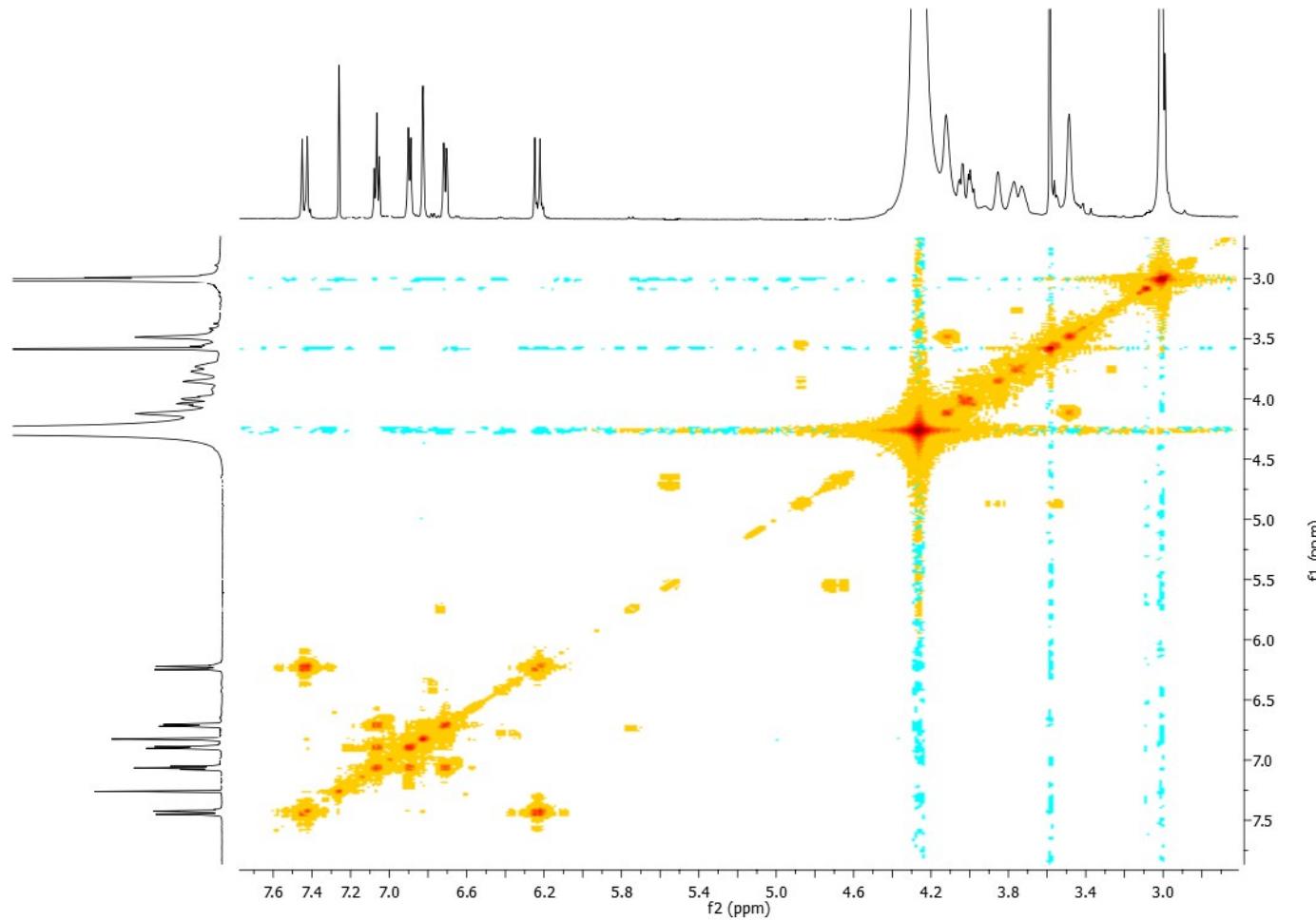
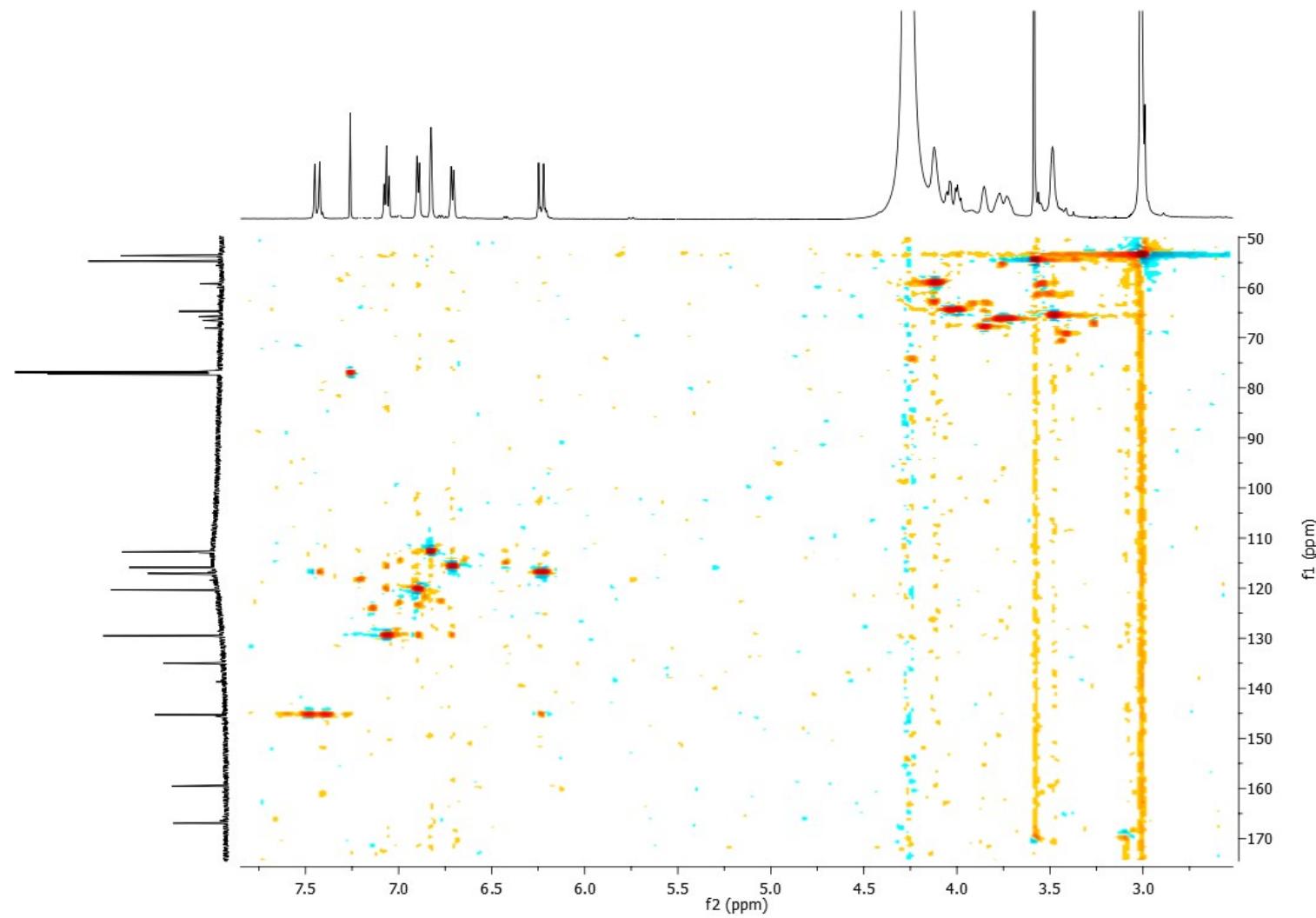
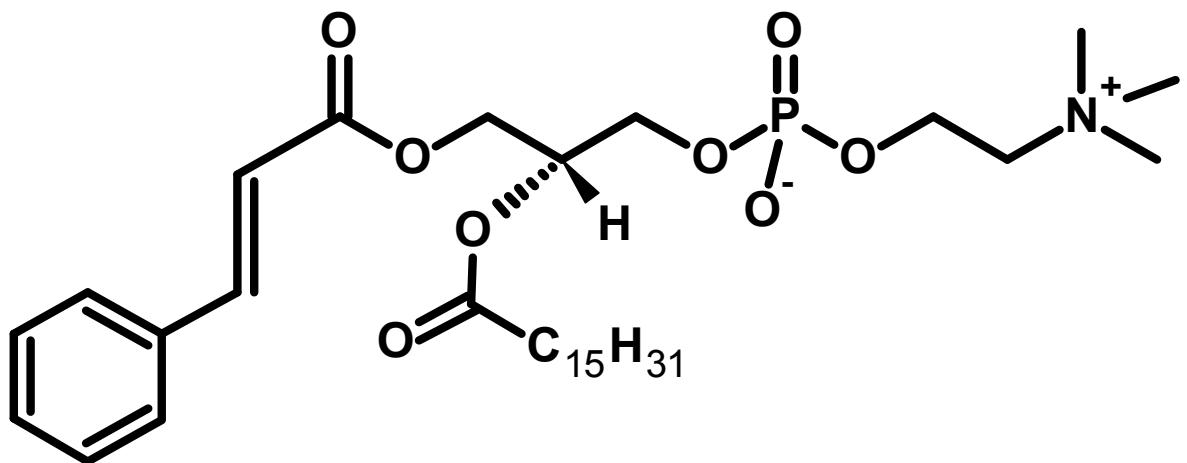


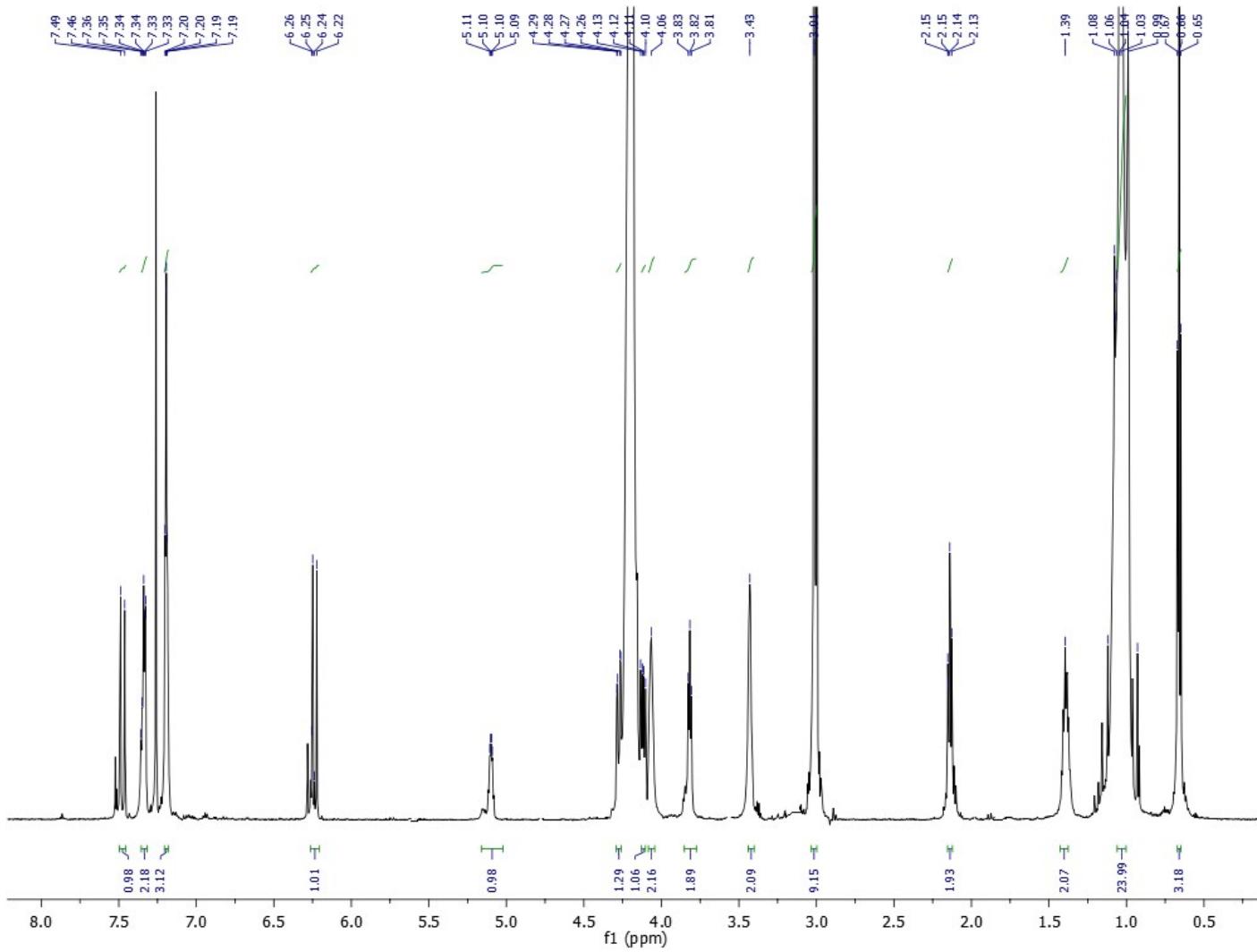
Figure S30: HSQC spectrum of 9b.



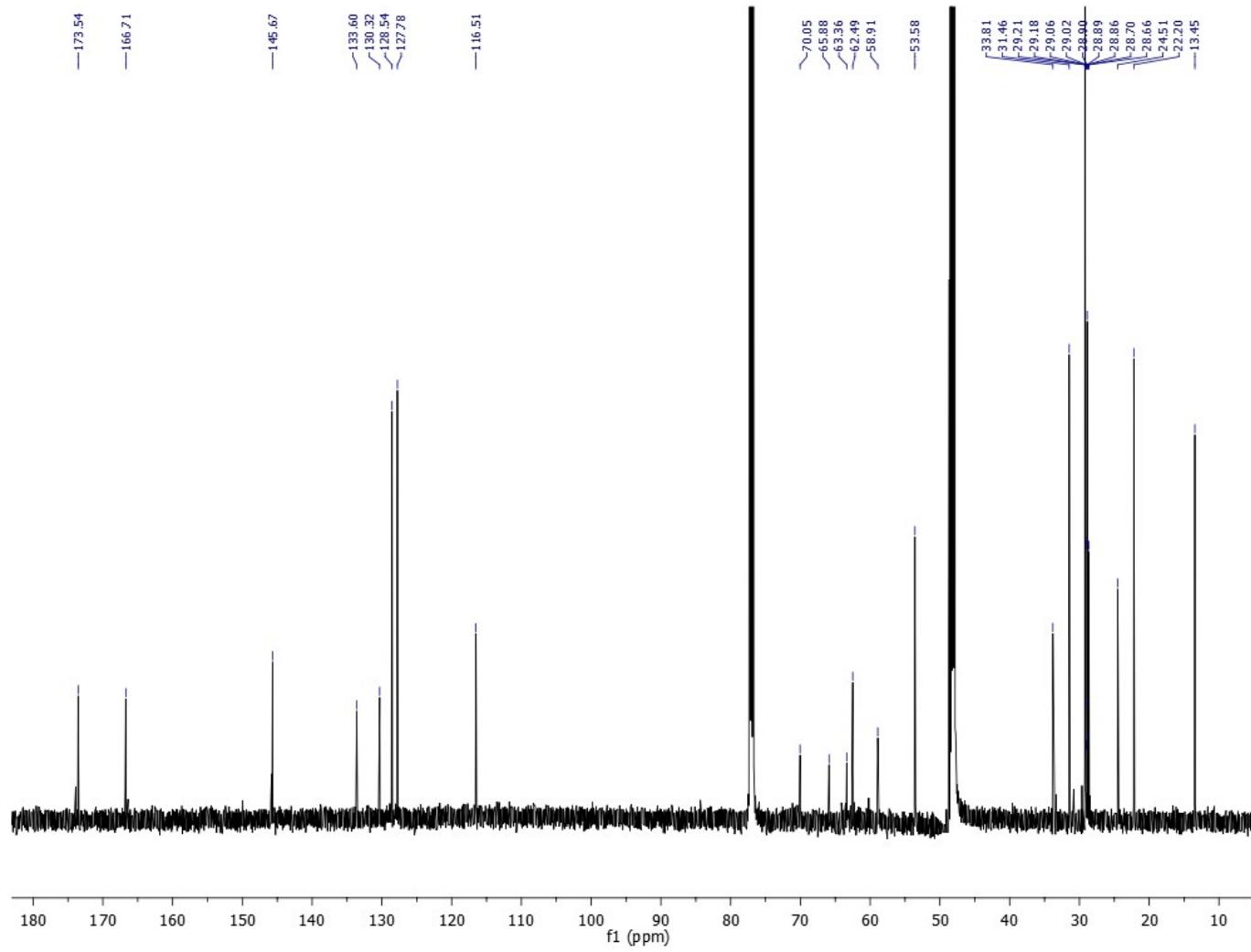


1-cinnamoyl-2-palmitoyl-*sn*-glycero-3-phosphocholine (**10a**)

**Figure S31:**  $^1\text{H}$  NMR spectrum of 10a.



**Figure S32:**  $^{13}\text{C}$  NMR spectrum of 10a.



**Figure S33:**  $^{31}\text{P}$  NMR spectrum of 10a.

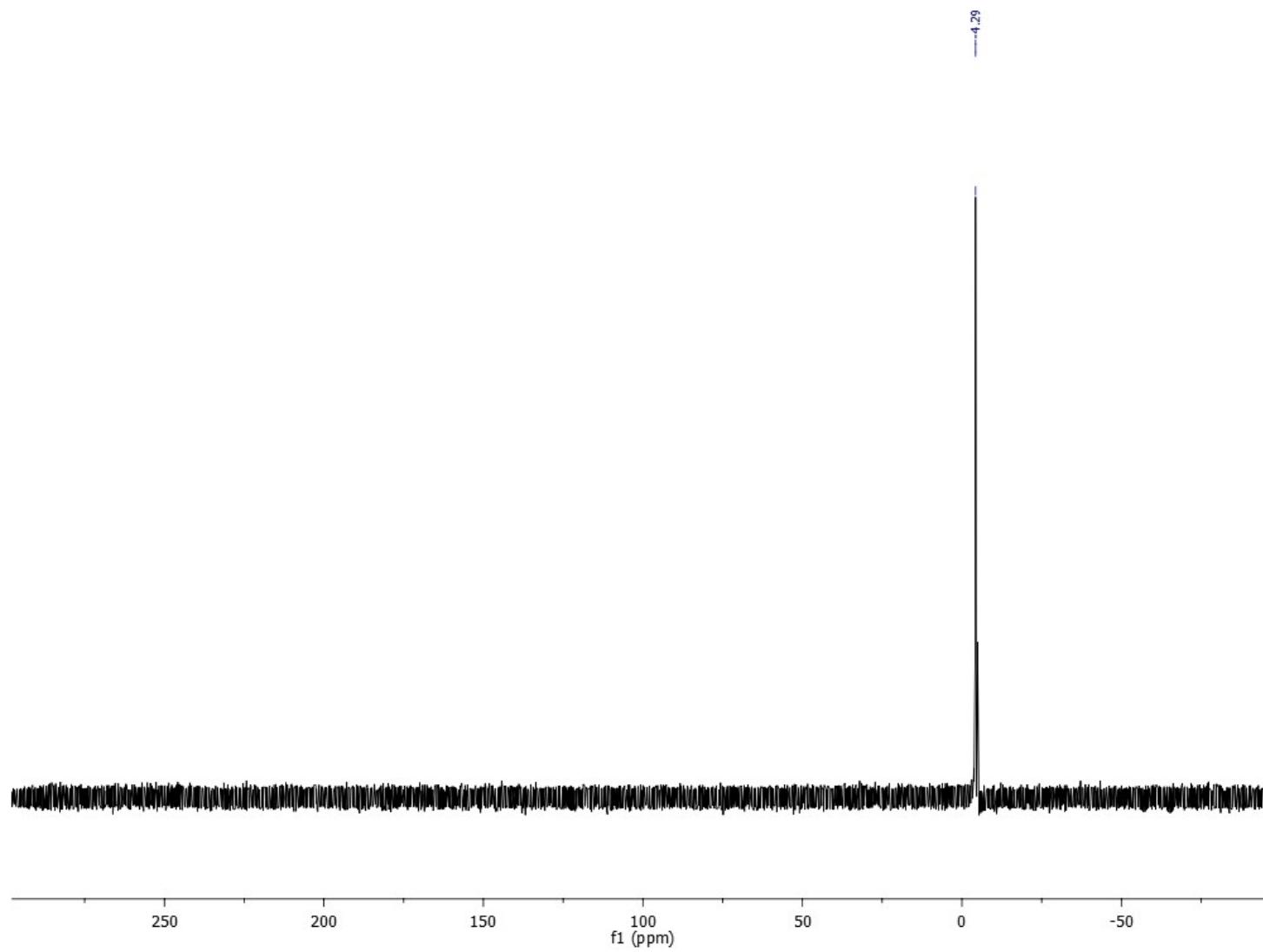


Figure S34:  $^1\text{H}$  –  $^1\text{H}$  COSY spectrum of 10a.

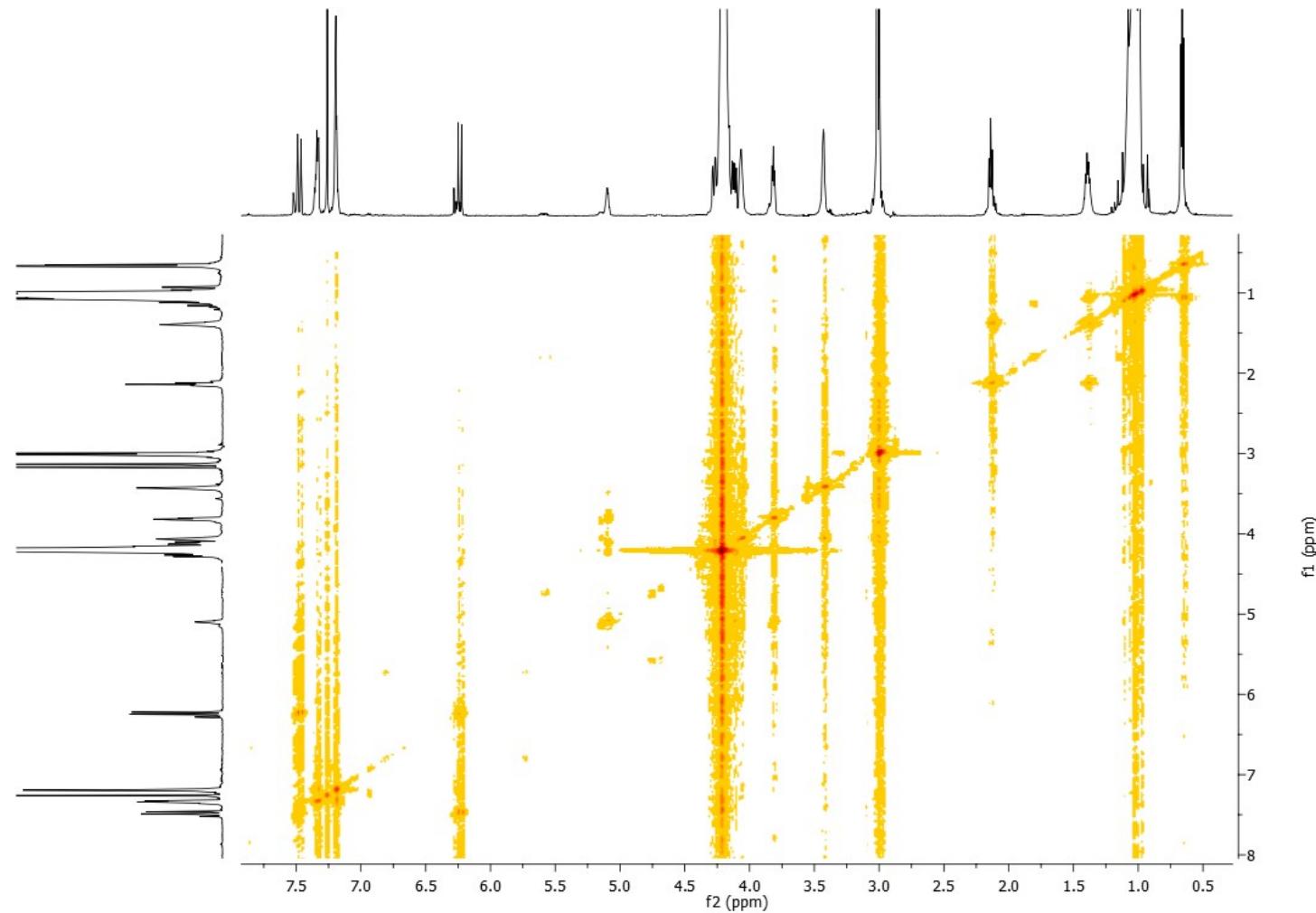
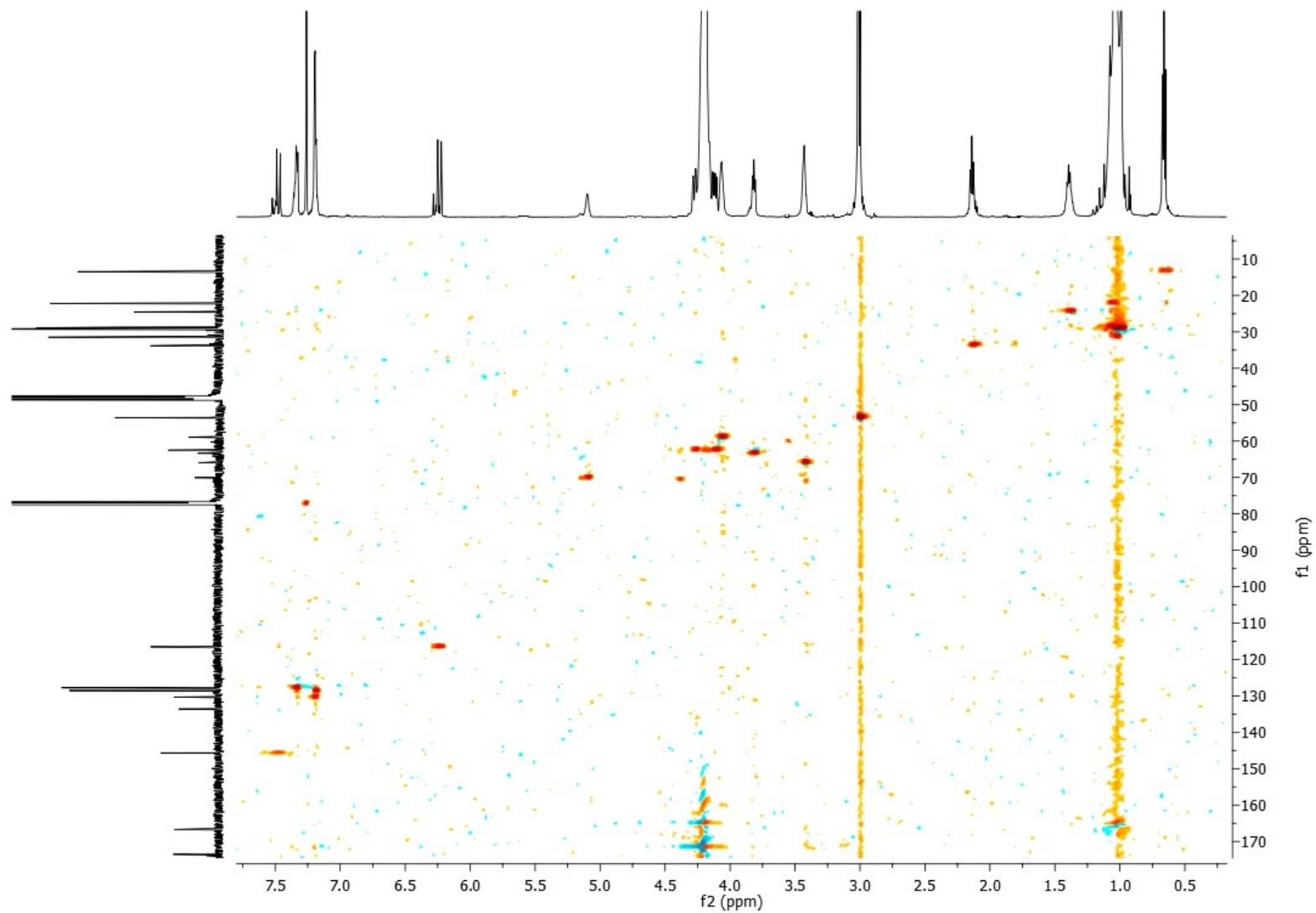
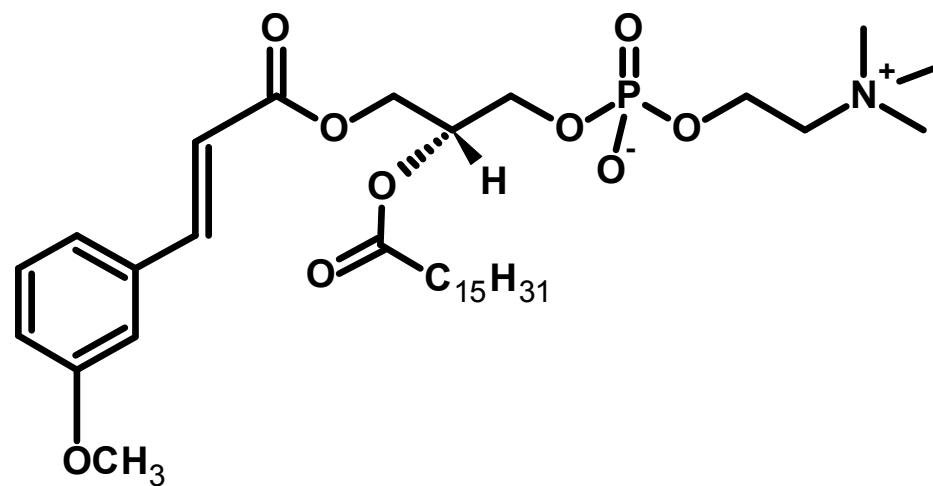


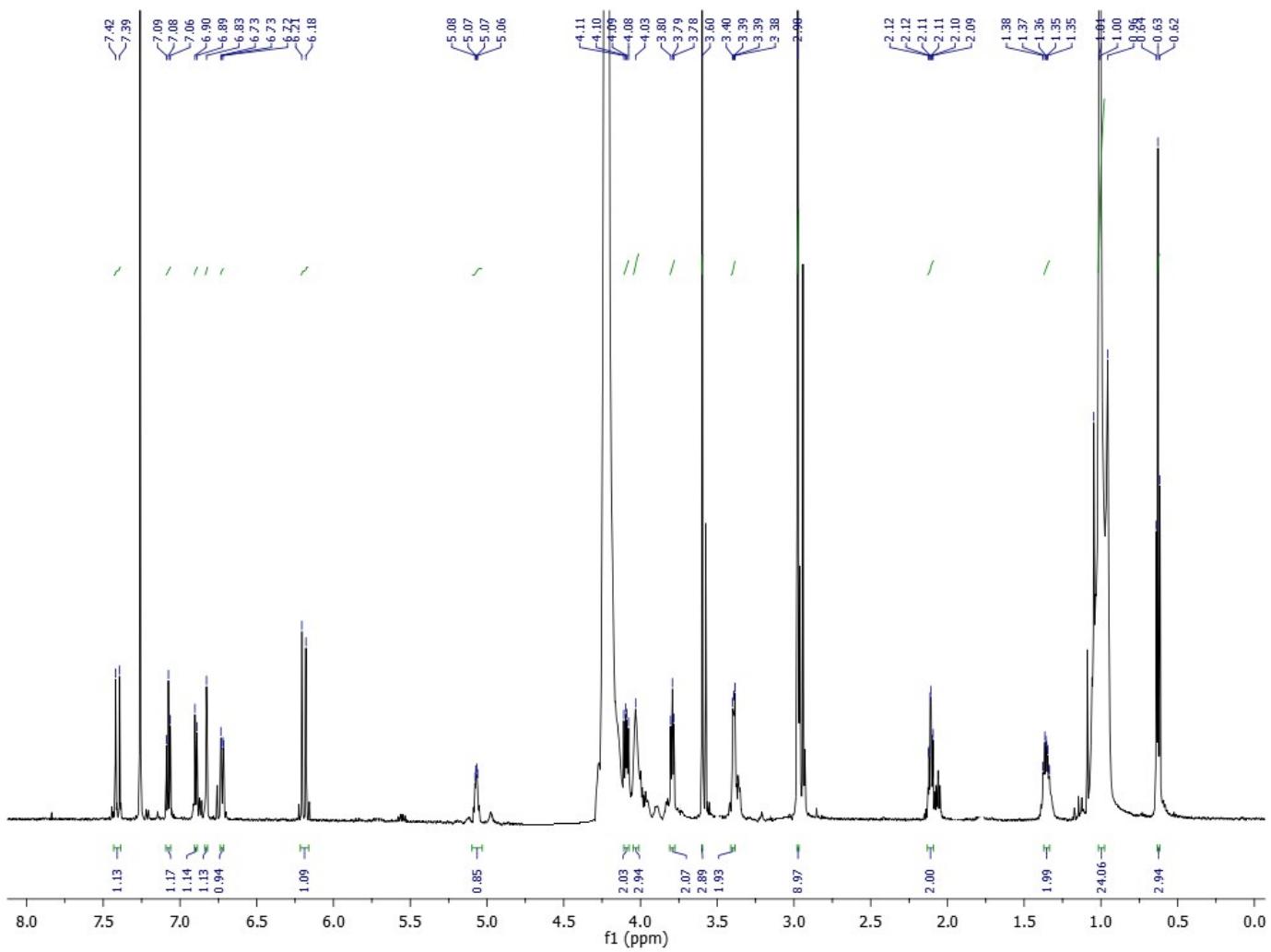
Figure S35: HSQC spectrum of 10a.



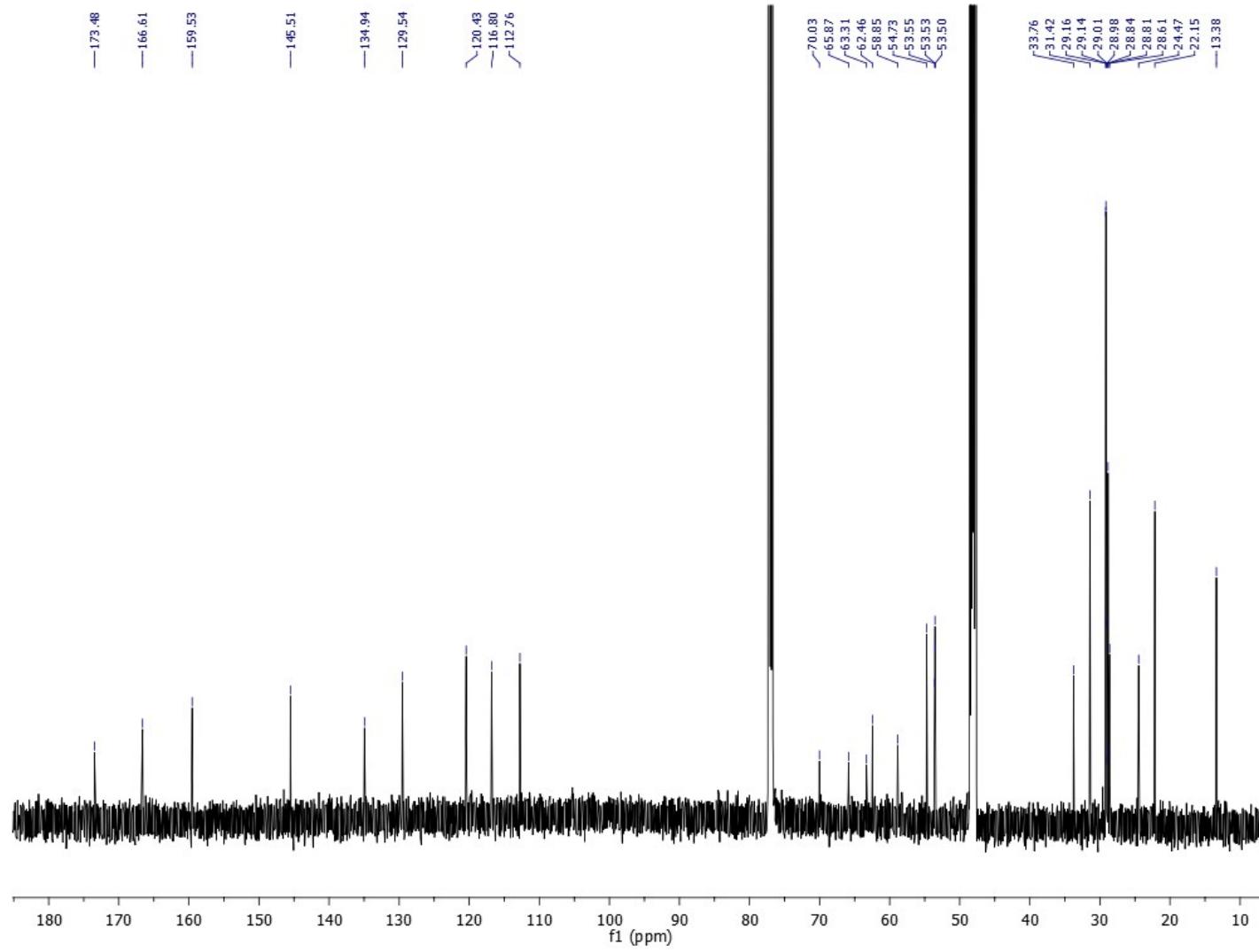


1-(3-methoxycinnamoyl)-2-palmitoyl-*sn*-glycero-3-phosphocholine (**10b**)

Figure S36: <sup>1</sup>H NMR spectrum of **10b**.



**Figure S37:**  $^{13}\text{C}$  NMR spectrum of 10b.



**Figure S38:**  $^{31}\text{P}$  NMR spectrum of **10b**.

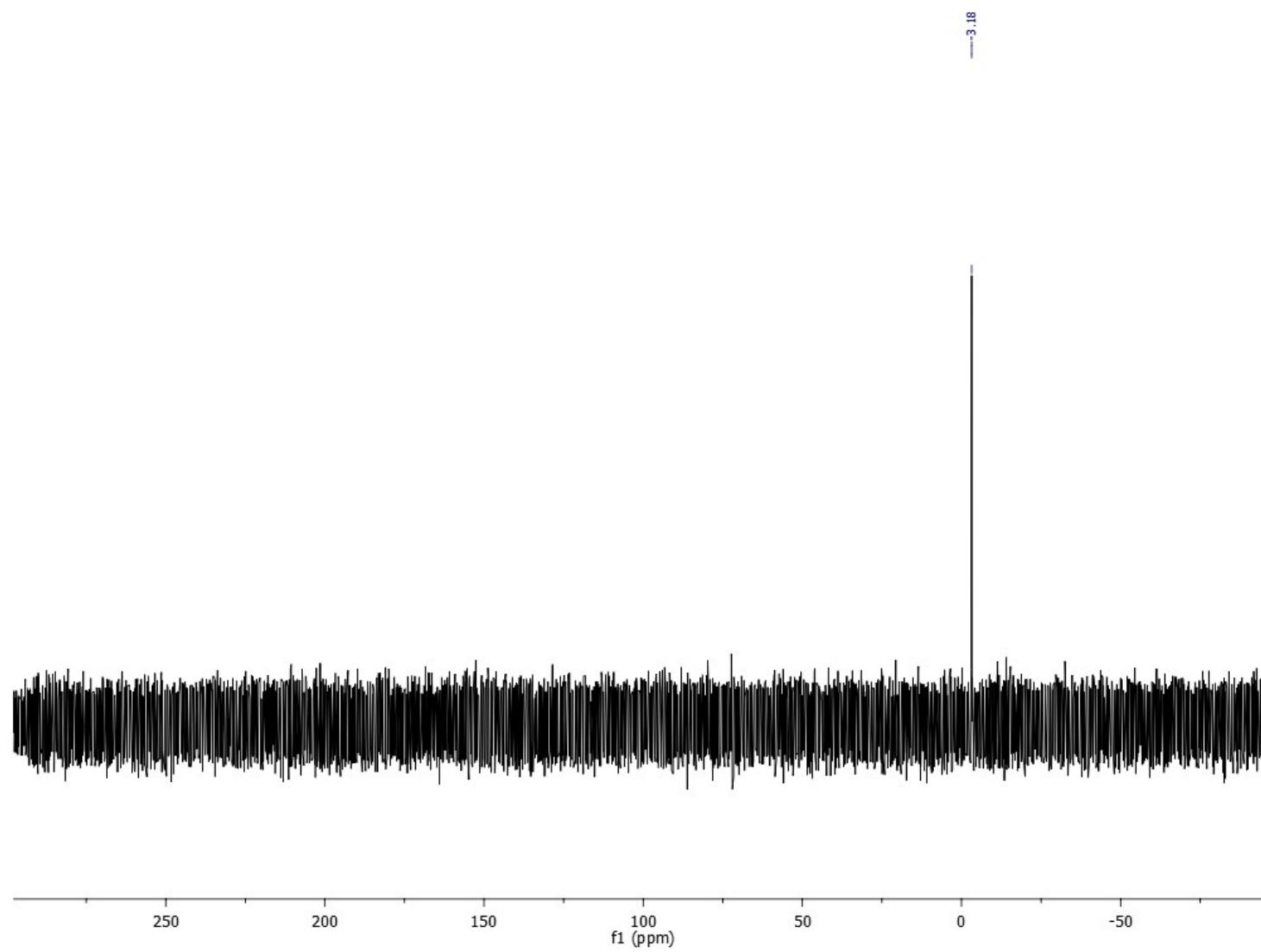
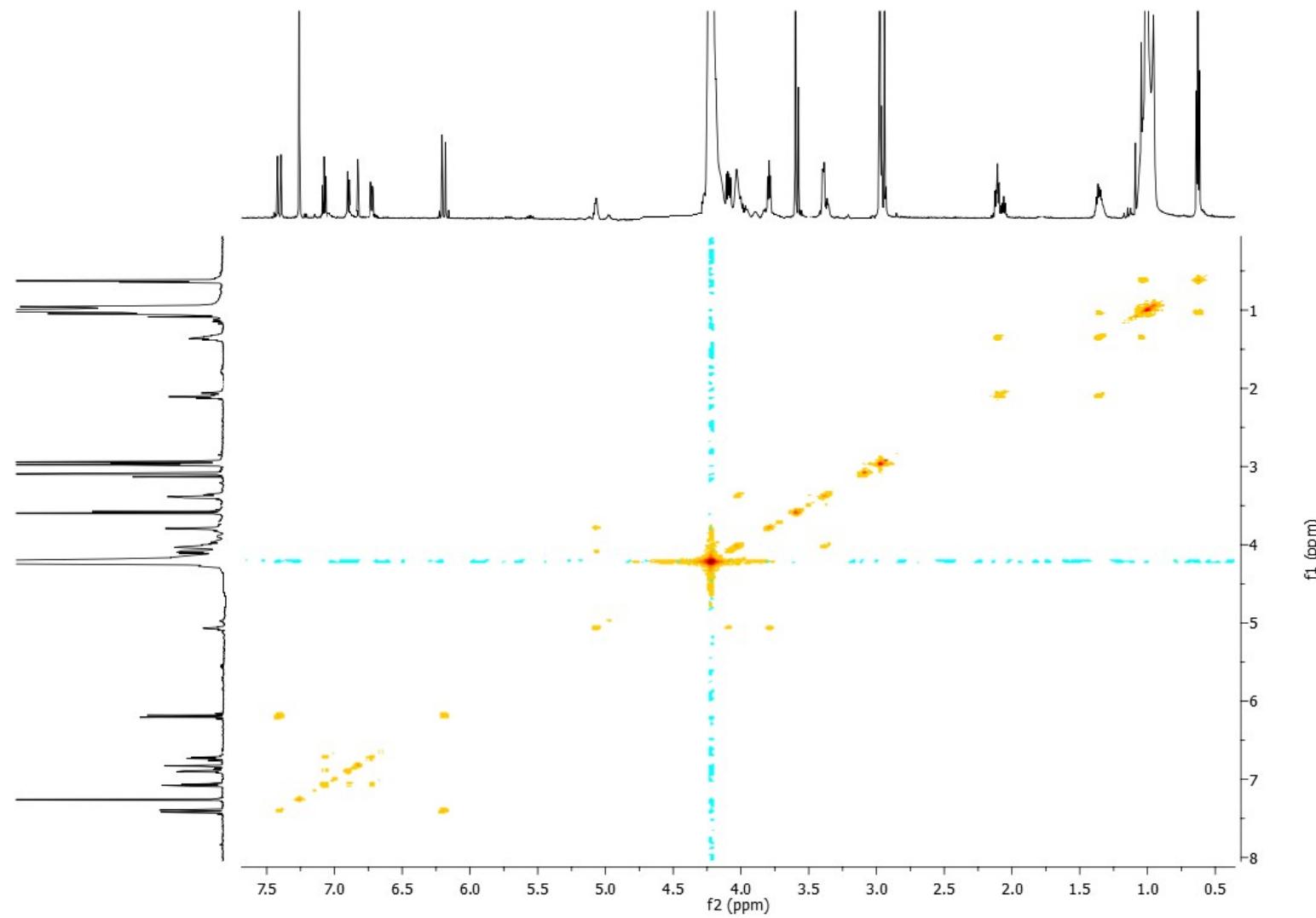


Figure S39:  $^1\text{H}$  –  $^1\text{H}$  COSY spectrum of 10b.



**Figure S40:** HSQC spectrum of 10b.

