

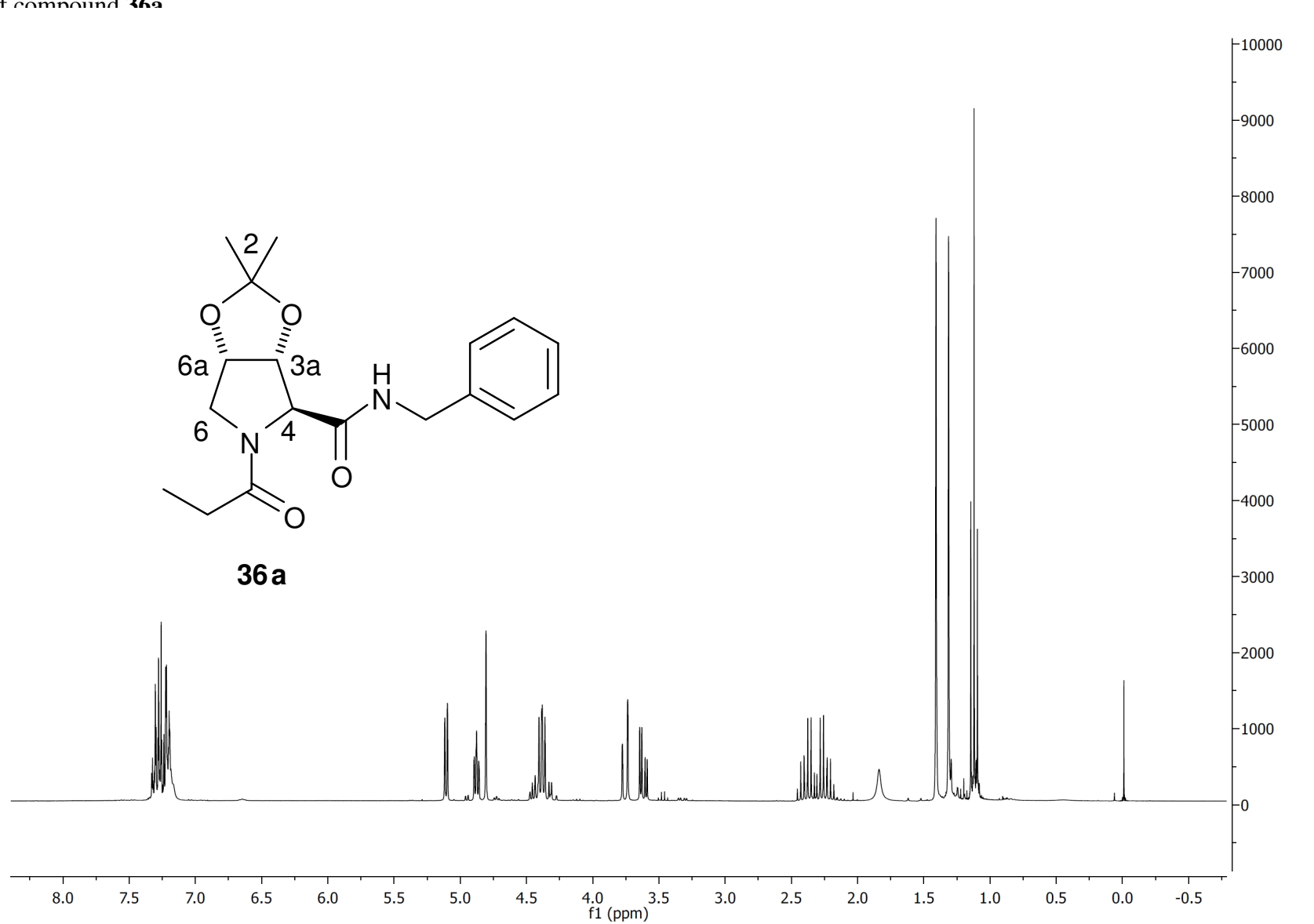
# **Diversity oriented and chemoenzymatic synthesis of densely functionalized pyrrolidines through a highly diastereoselective Ugi multicomponent reaction**

Valentina Cerulli, Luca Banfi, Andrea Basso, Valeria Rocca, Renata Riva

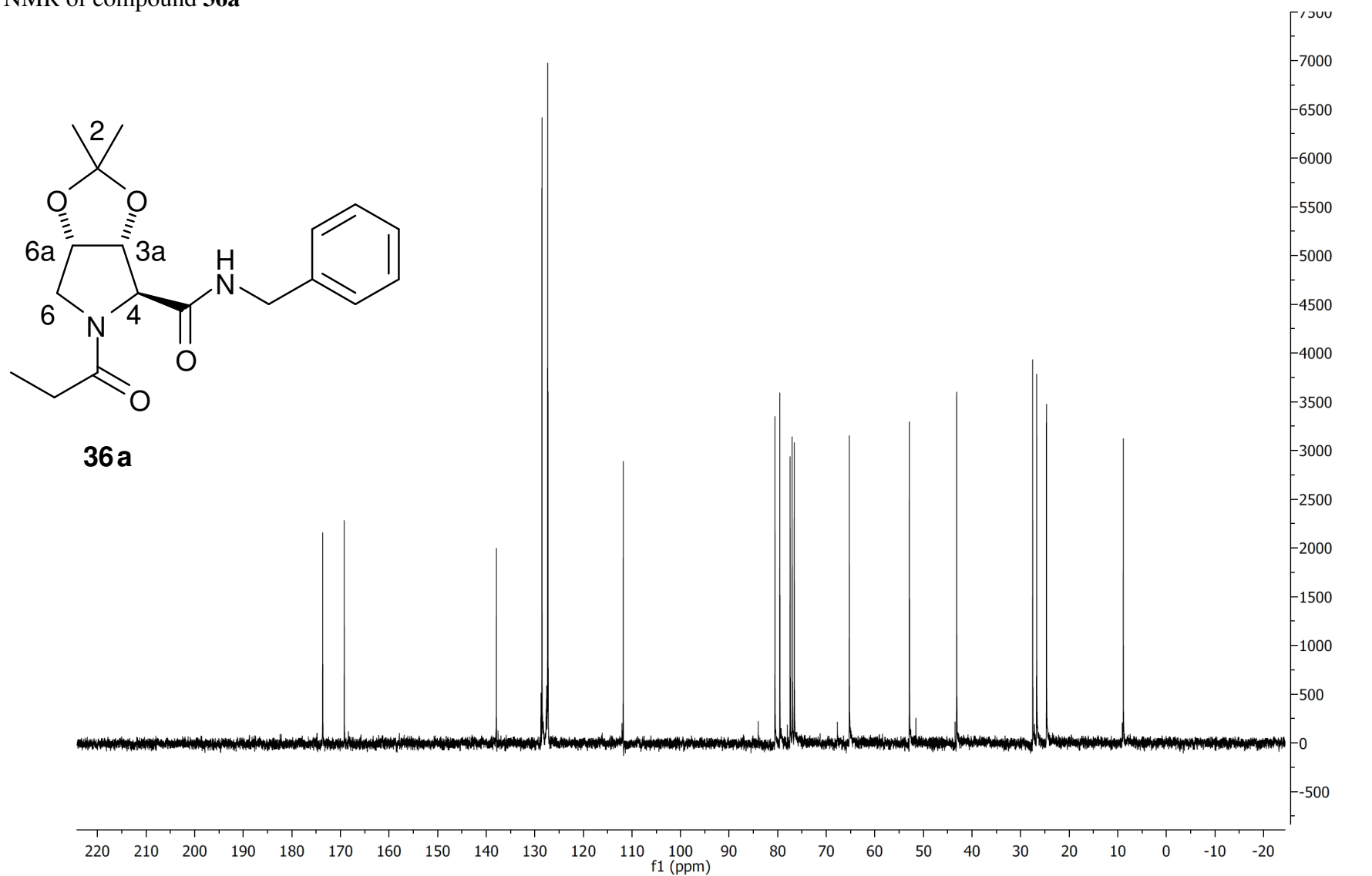
## **Supporting Information**

### **<sup>1</sup>H AND <sup>13</sup>C NMR SPECTRA OF NEW COMPOUNDS (PART II)**

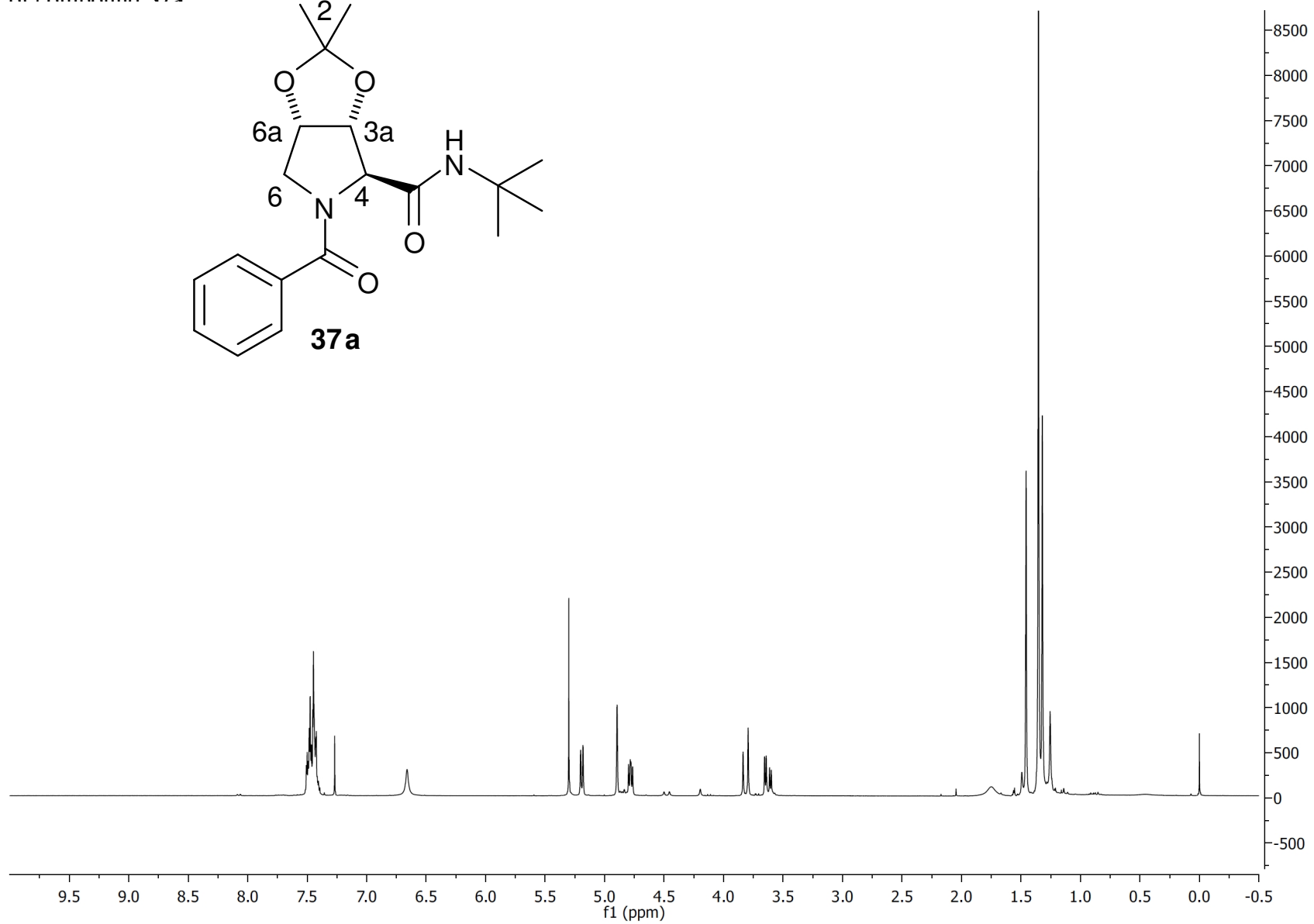
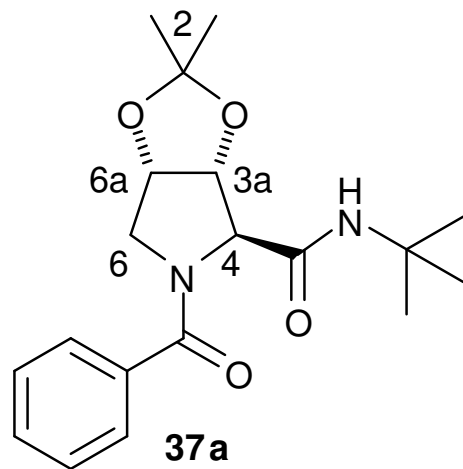
$^1\text{H}$  NMR of compound **36a**



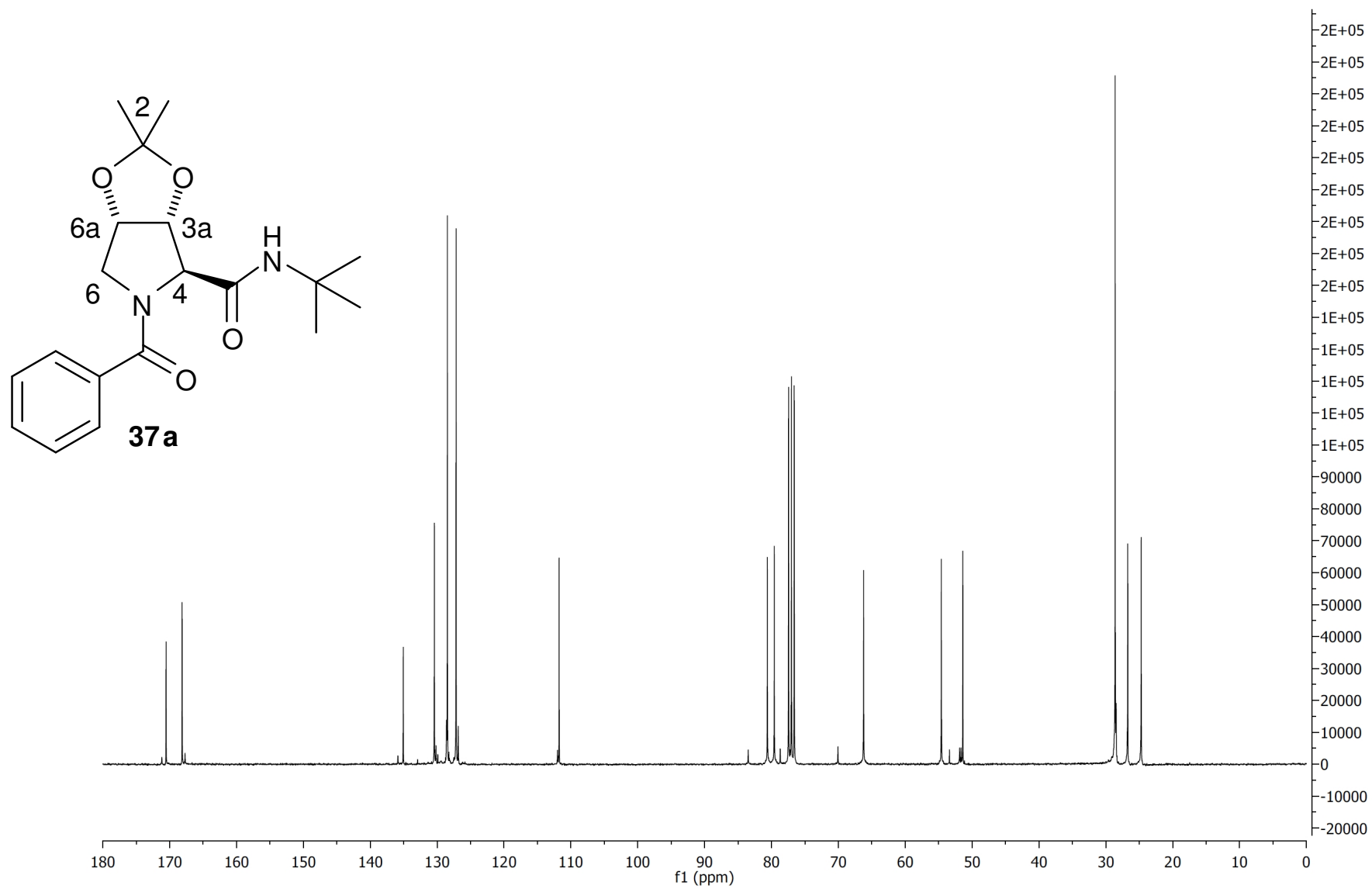
$^{13}\text{C}$  NMR of compound **36a**



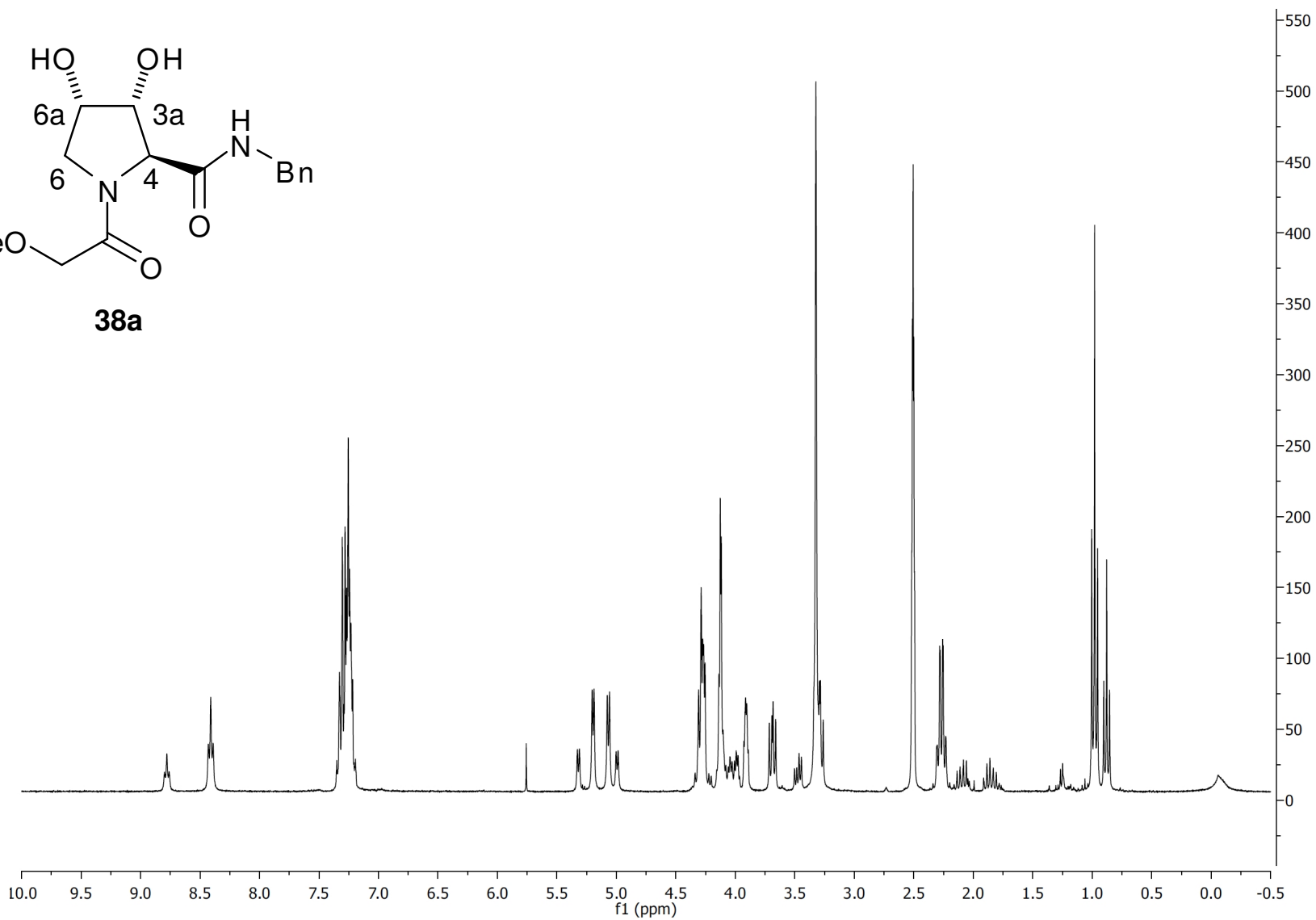
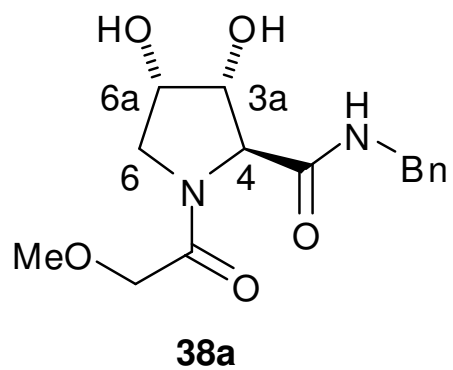
$^1\text{H}$  NMR of compound **37a**



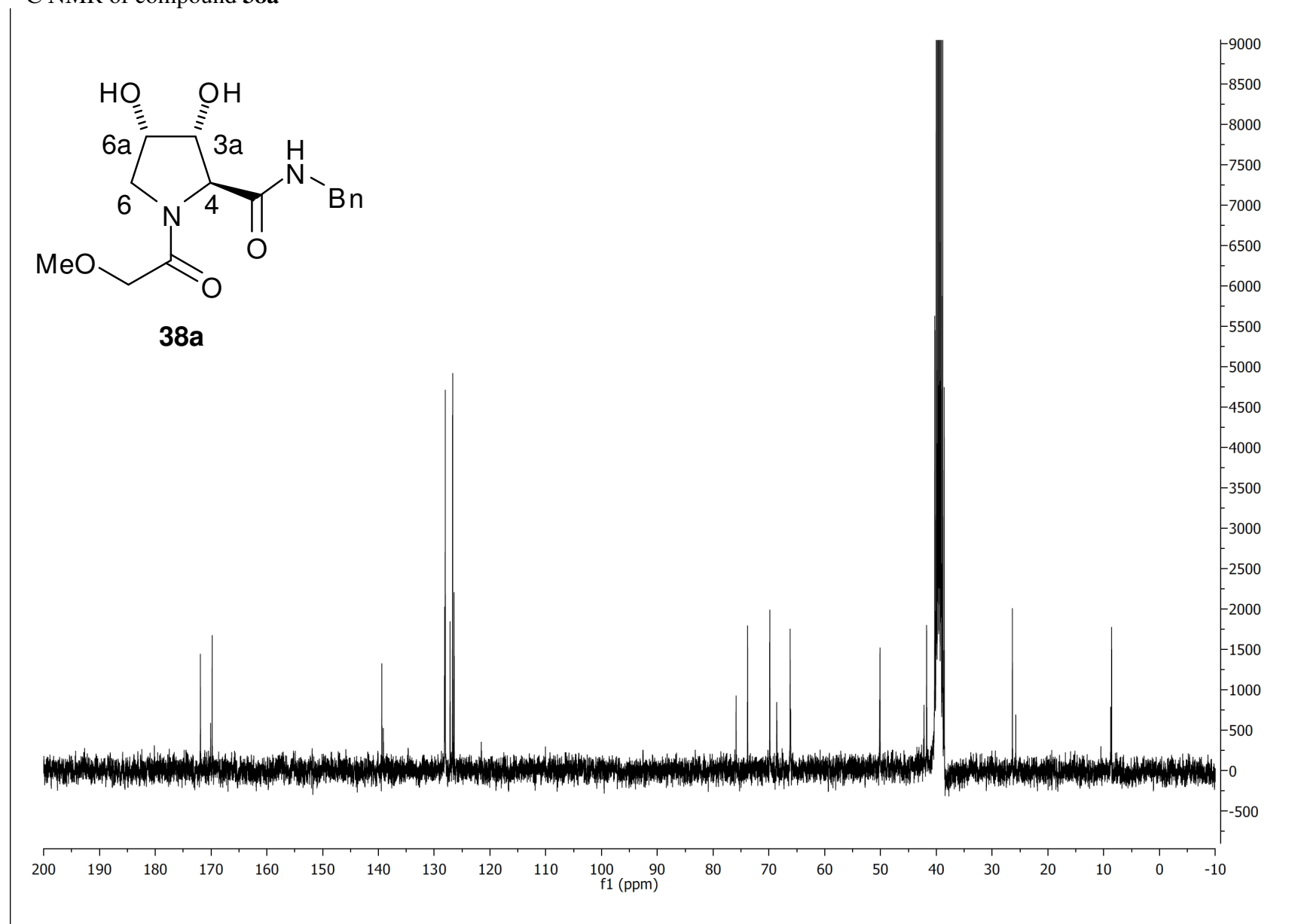
$^{13}\text{C}$  NMR of compound **37a**



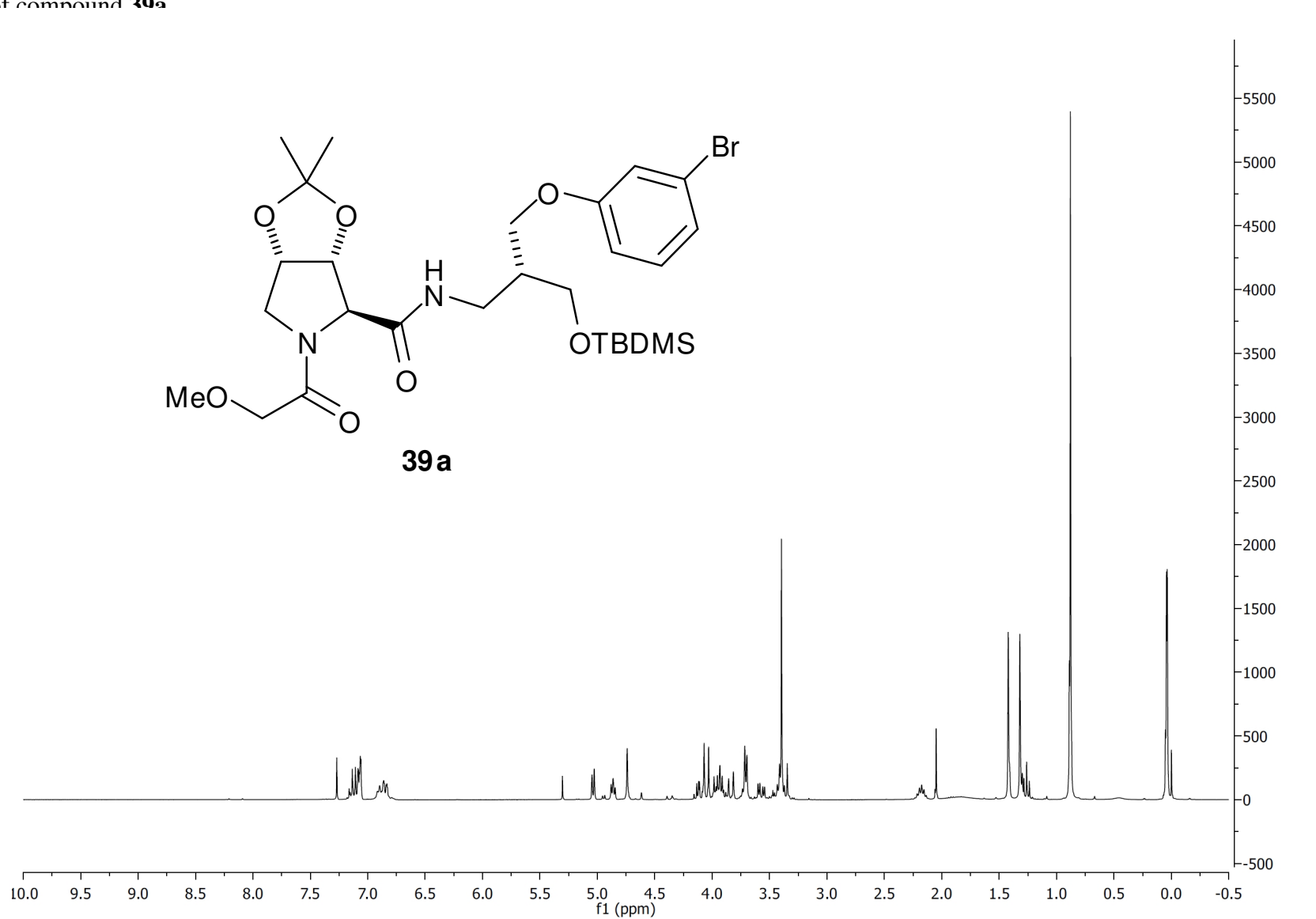
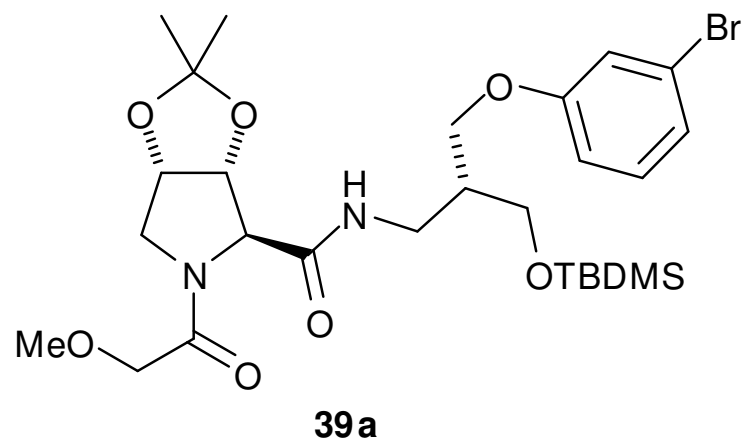
<sup>1</sup>H NMR of compound **38a**



$^{13}\text{C}$  NMR of compound **38a**

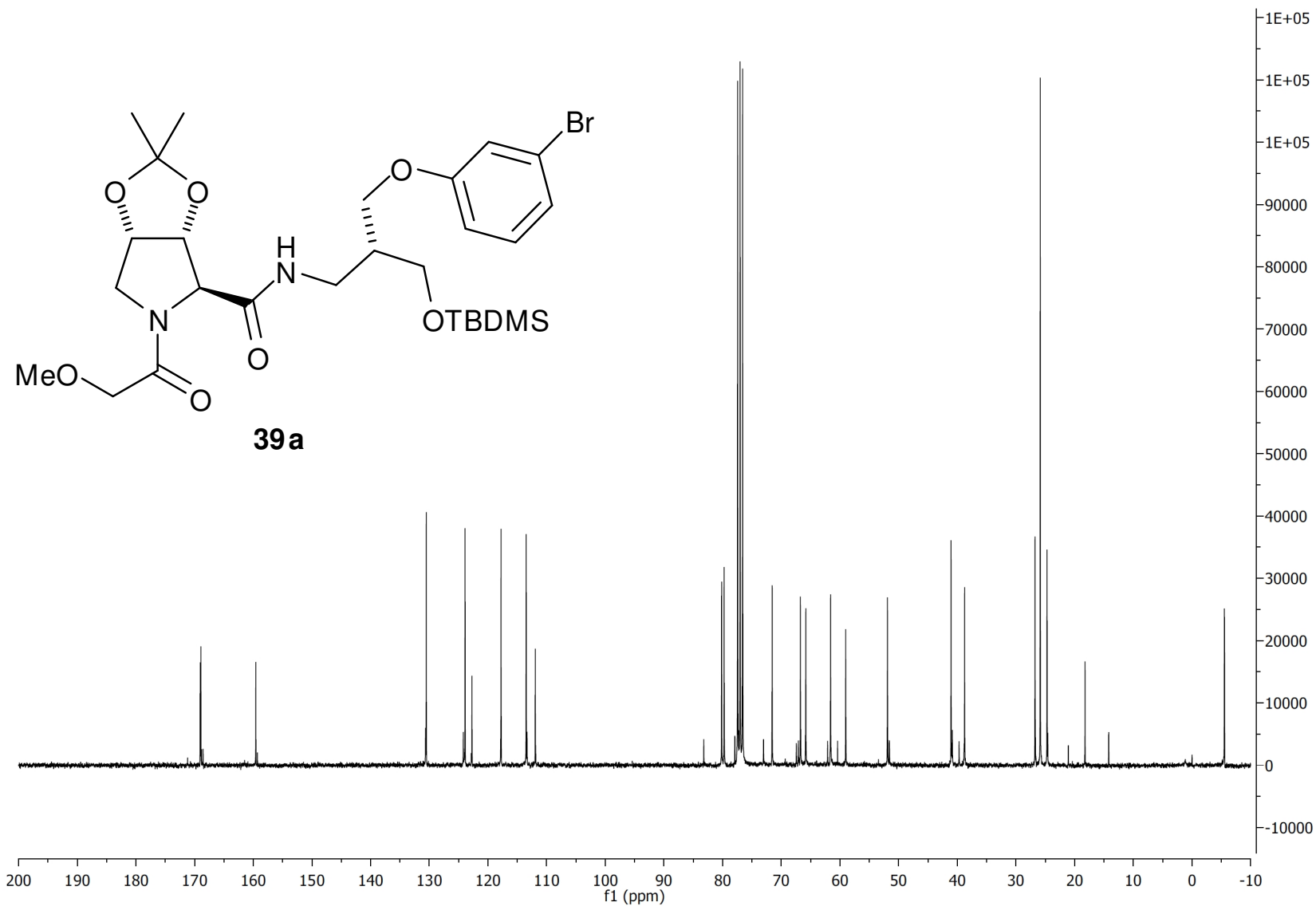


$^1\text{H}$  NMR of compound **39a**

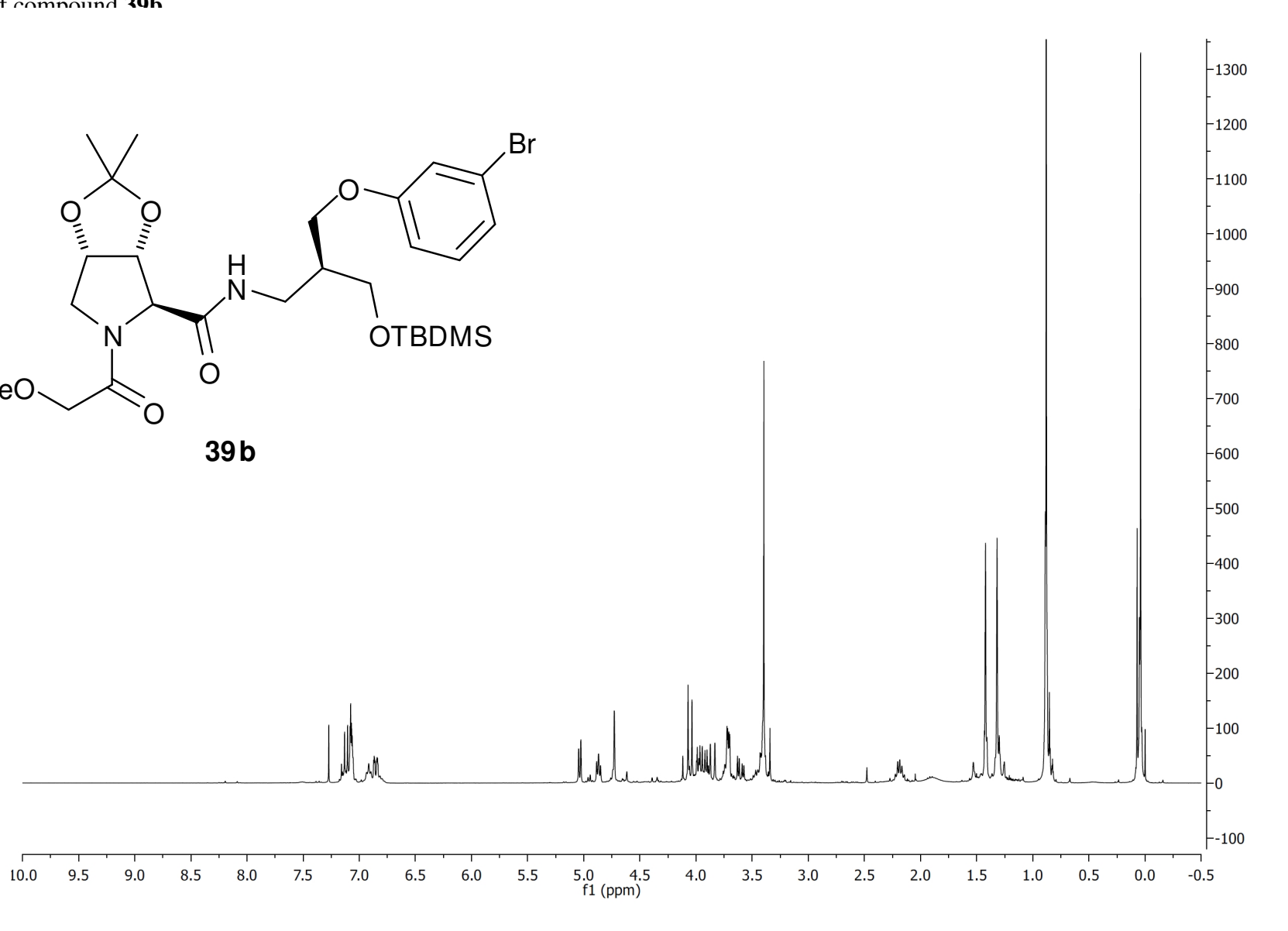
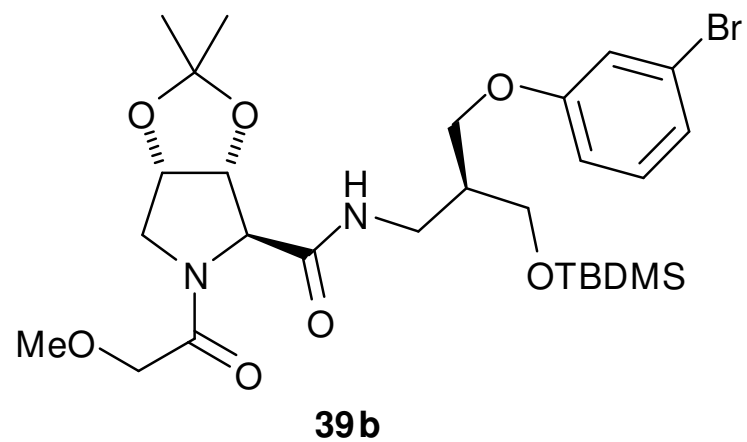




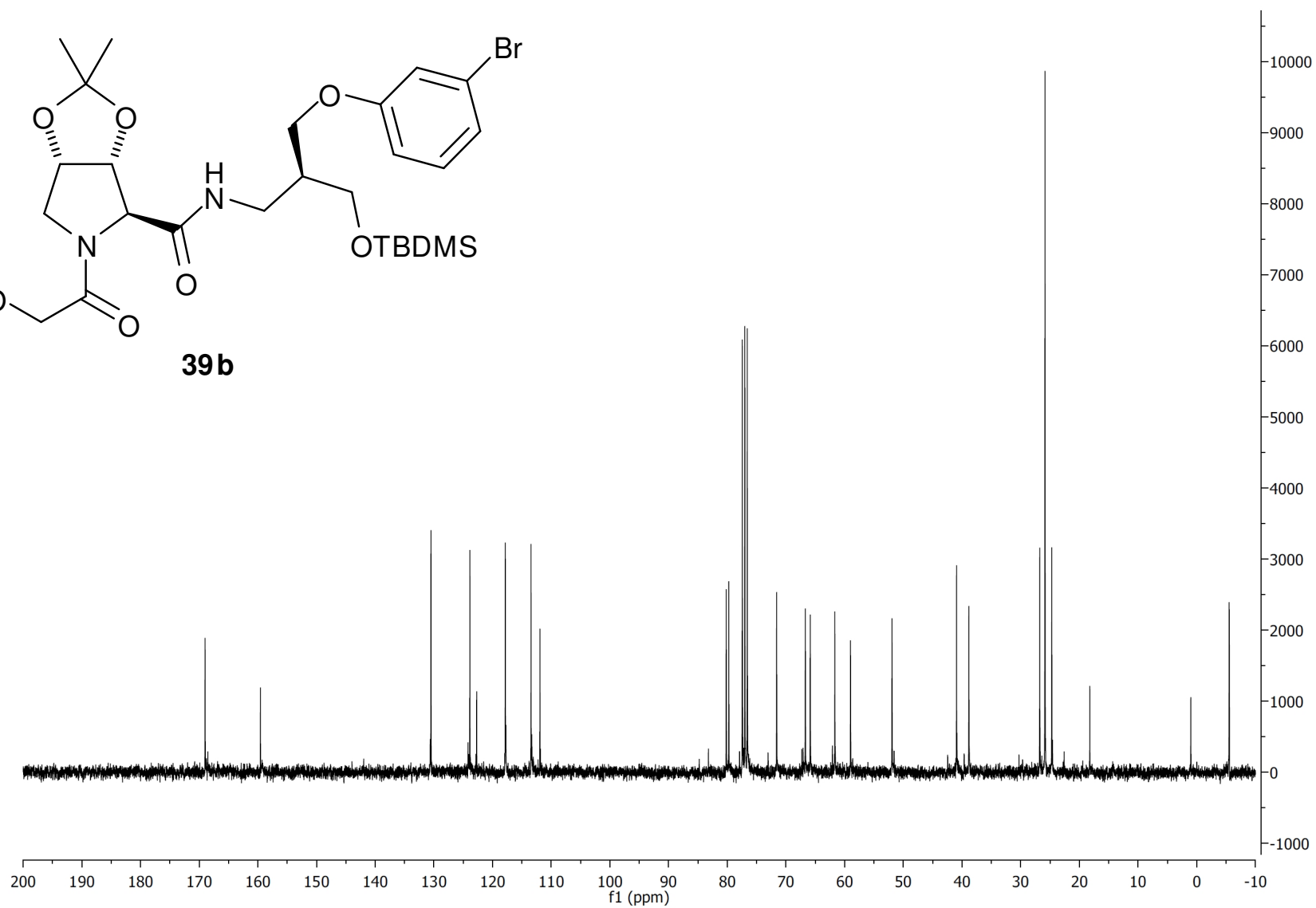
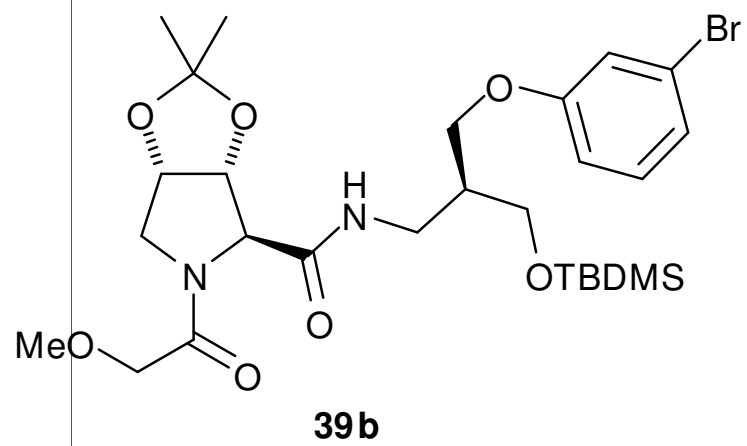
$^{13}\text{C}$  NMR of compound **39a**



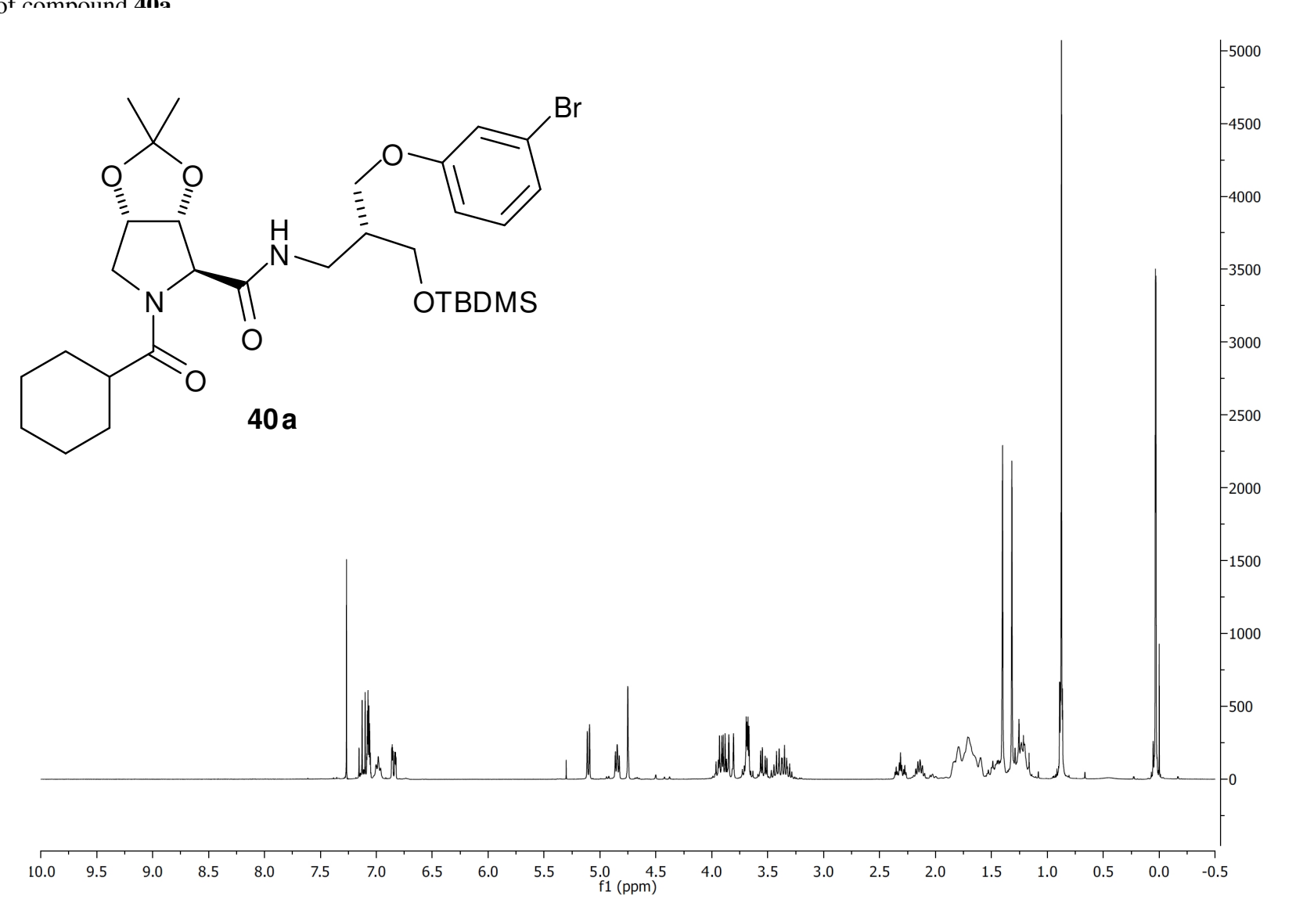
<sup>1</sup>H NMR of compound **39b**



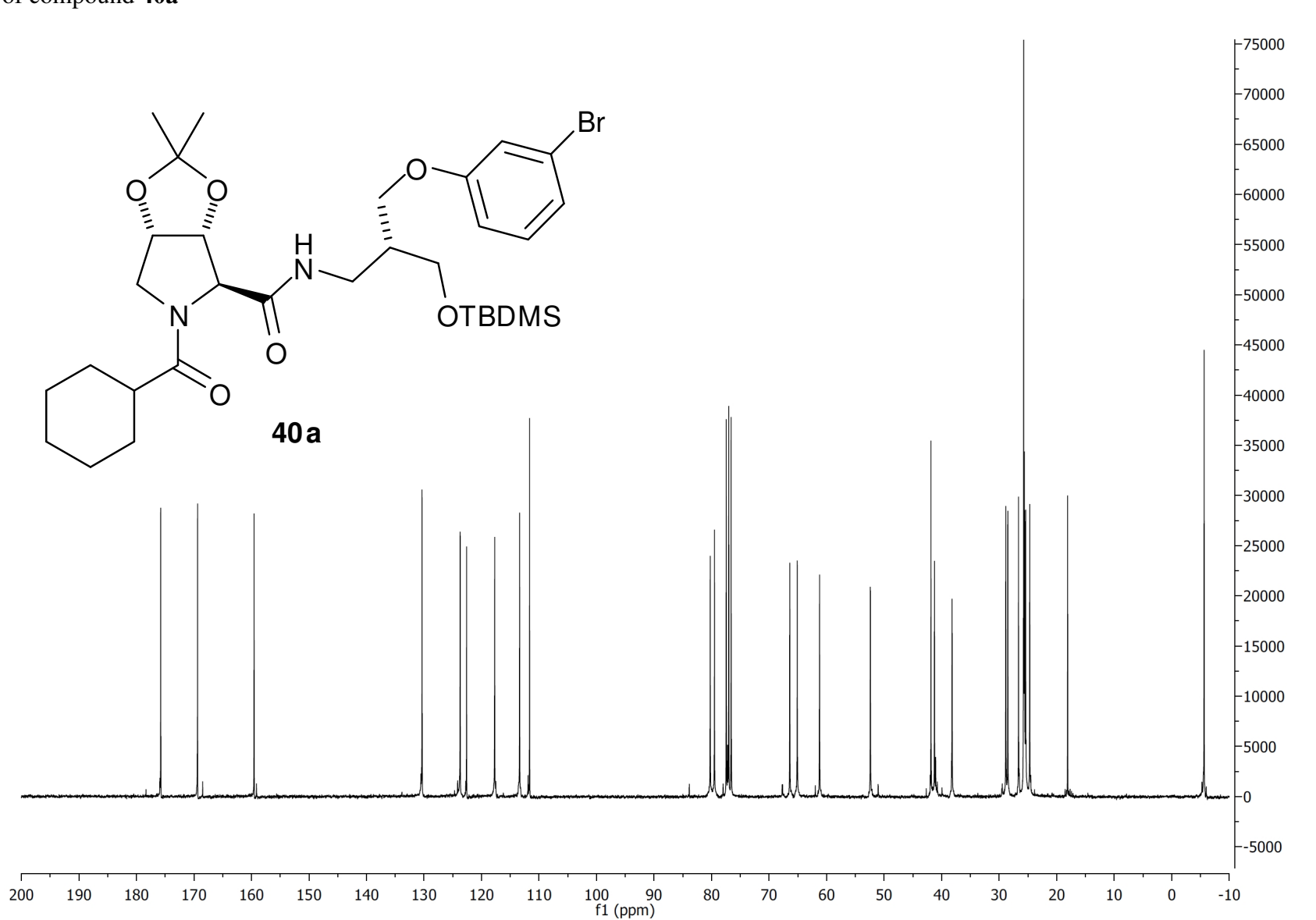
$^{13}\text{C}$  NMR of compound **39b**



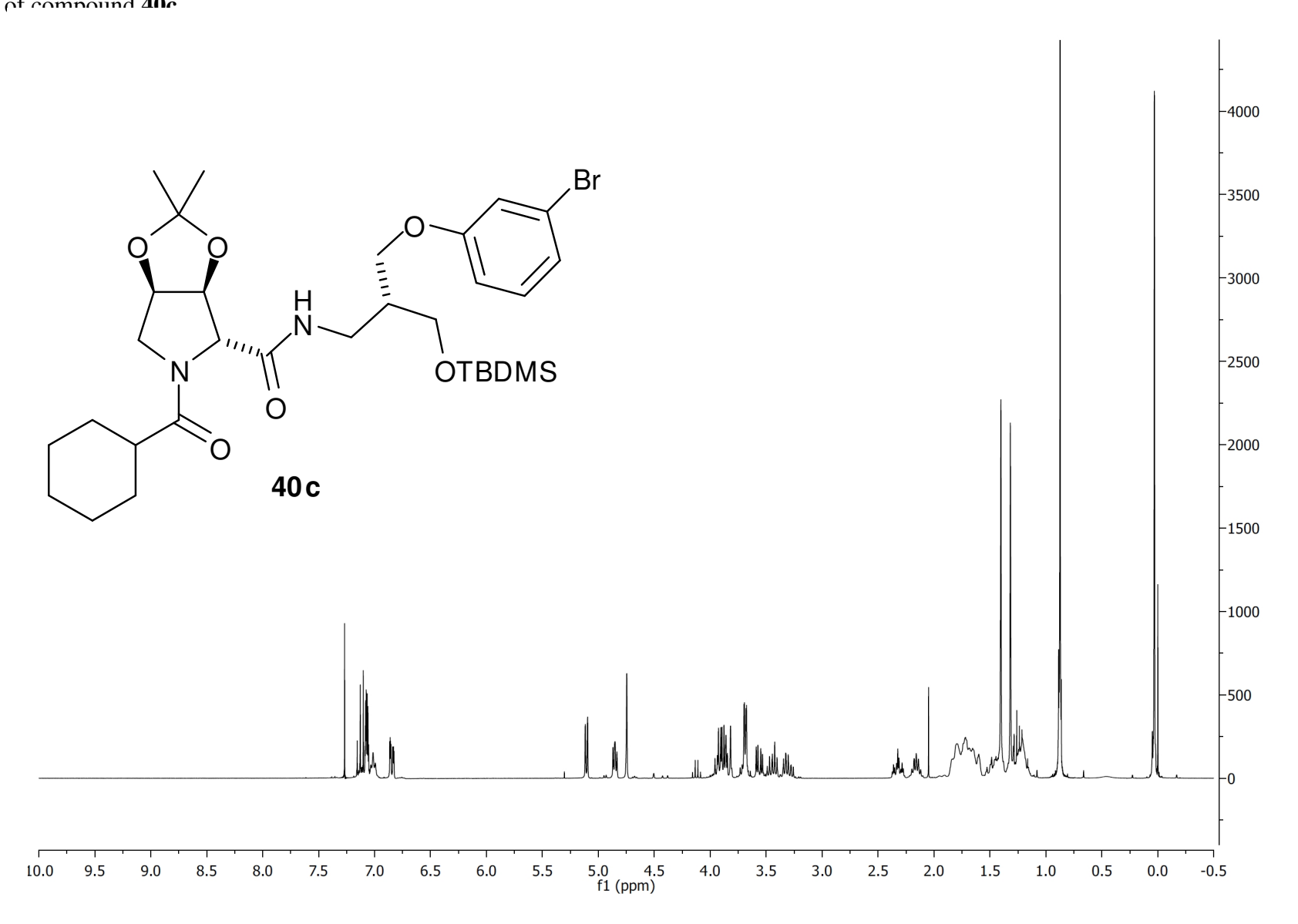
$^1\text{H}$  NMR of compound **40a**



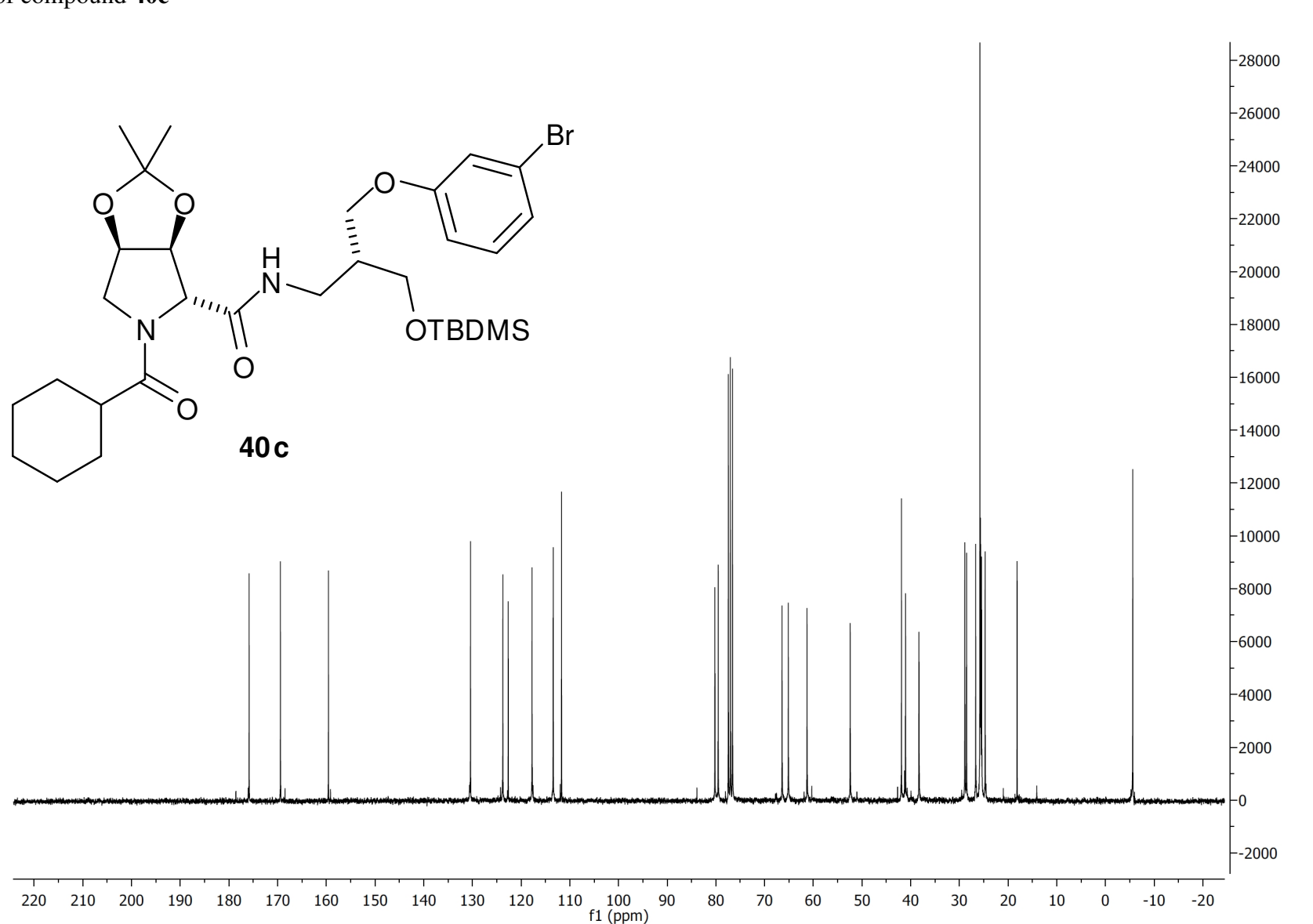
$^{13}\text{C}$  NMR of compound **40a**



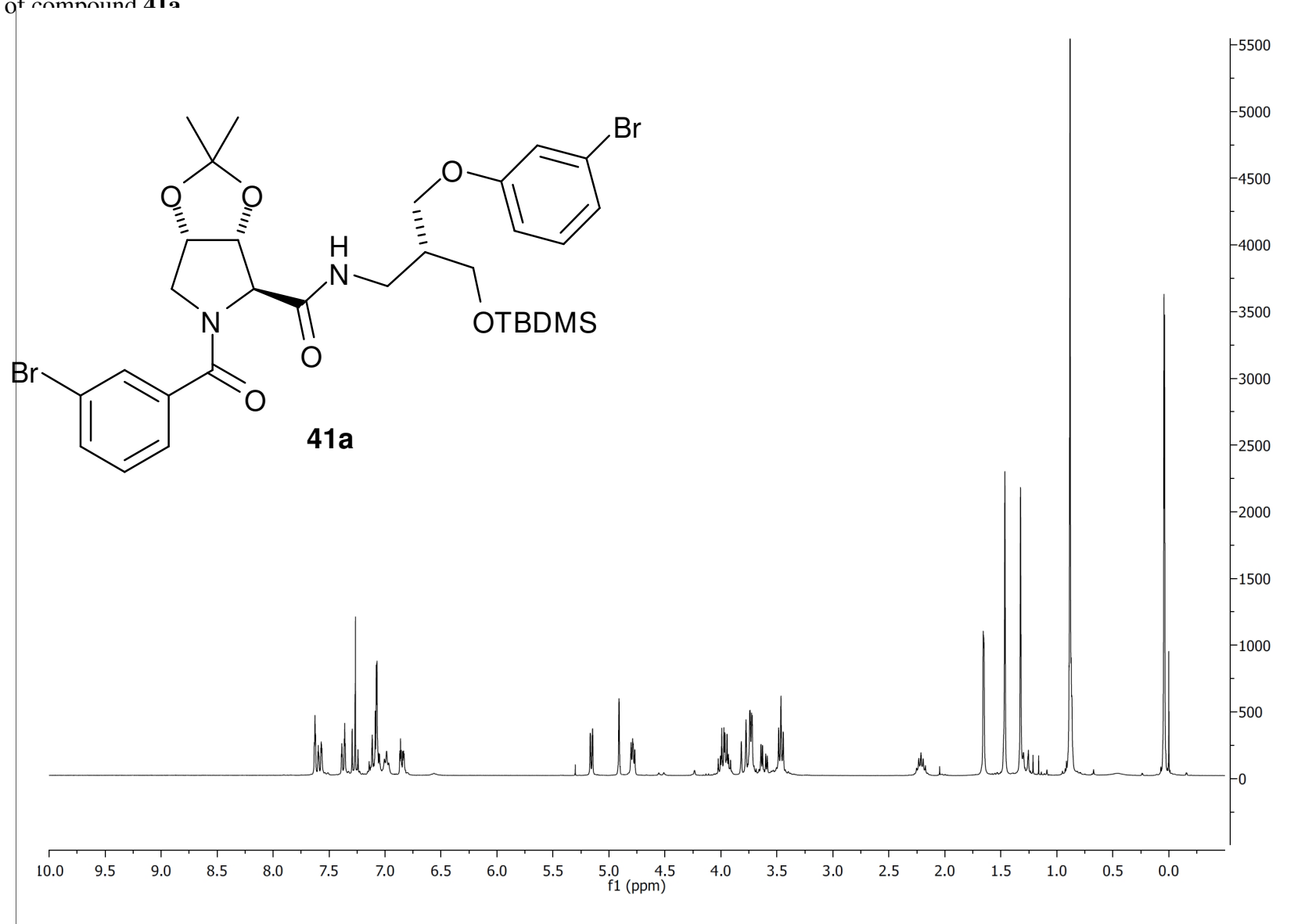
$^1\text{H}$  NMR of compound **40c**



$^{13}\text{C}$  NMR of compound **40c**

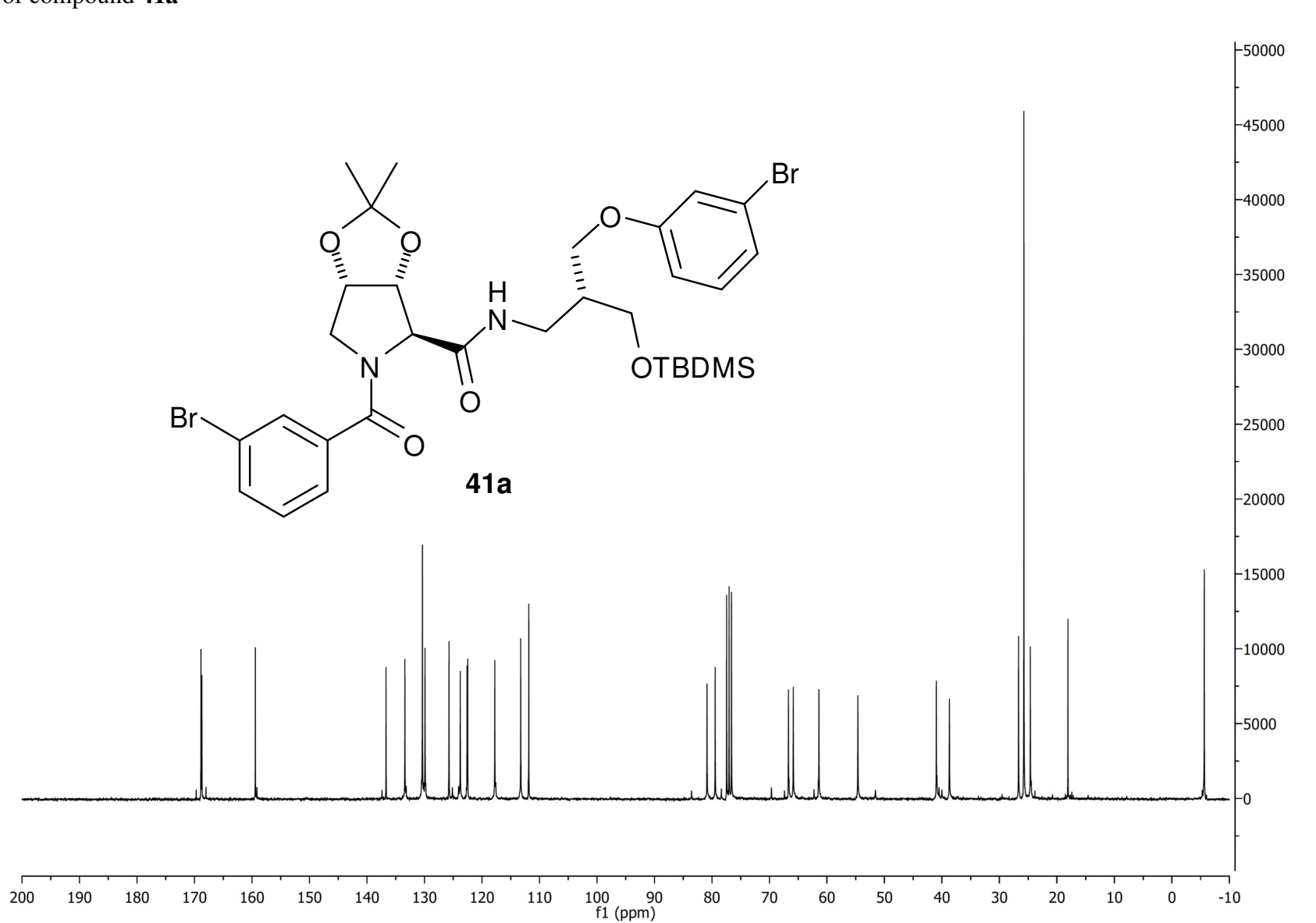


<sup>1</sup>H NMR of compound **41a**



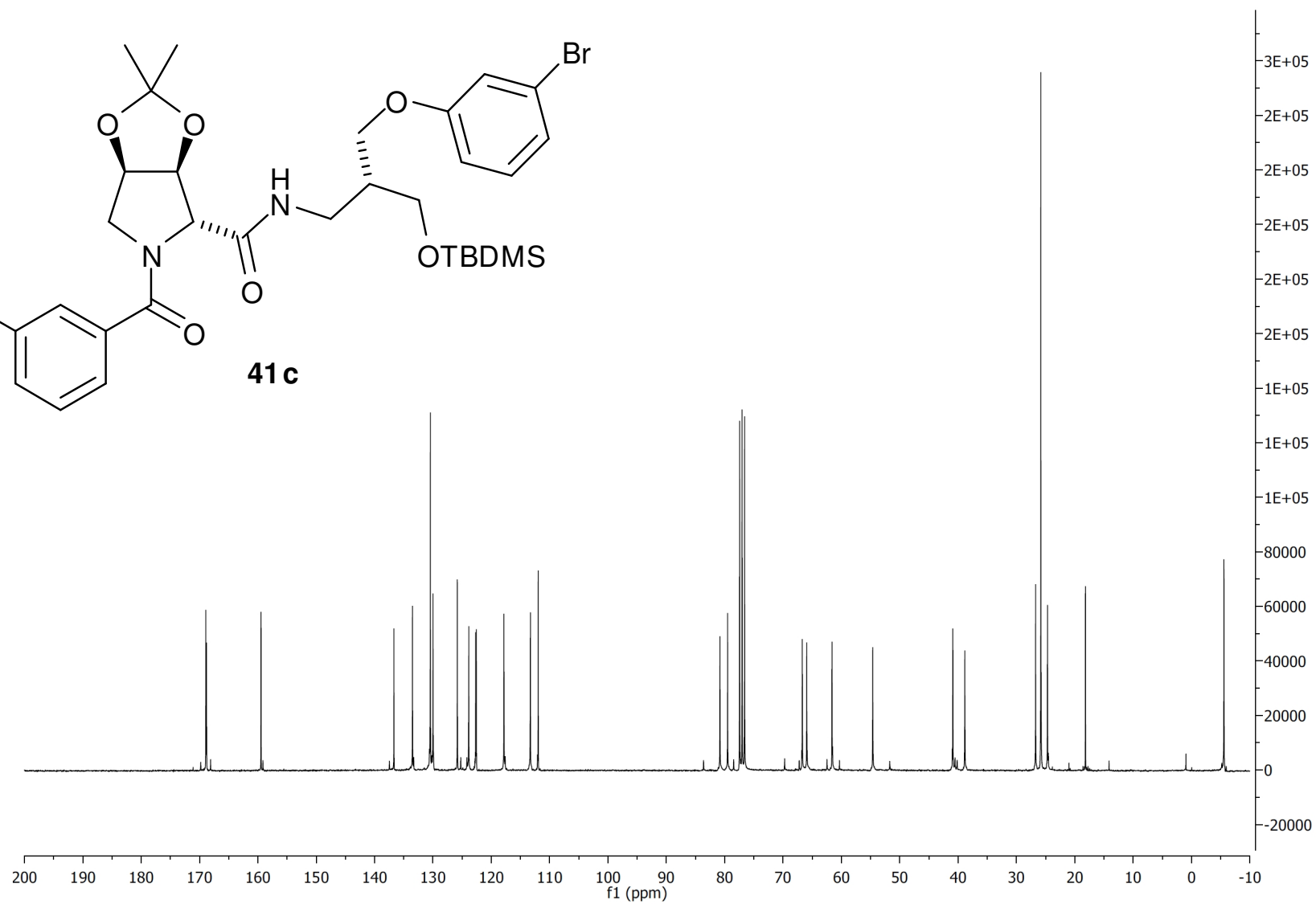
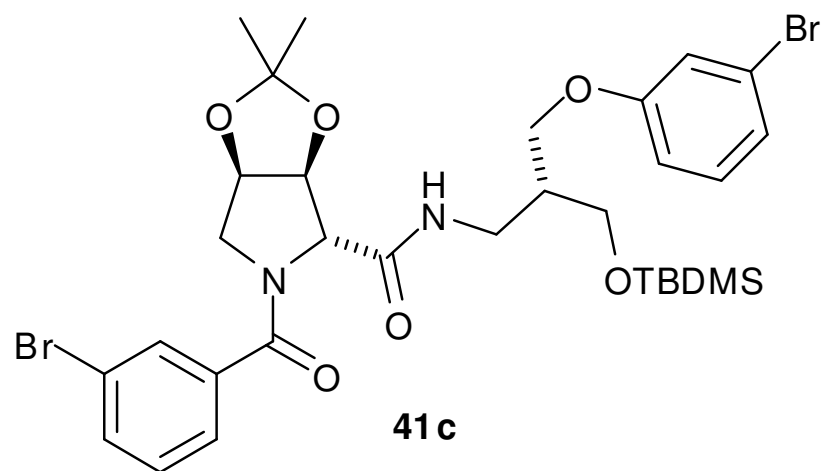


$^{13}\text{C}$  NMR of compound **41a**

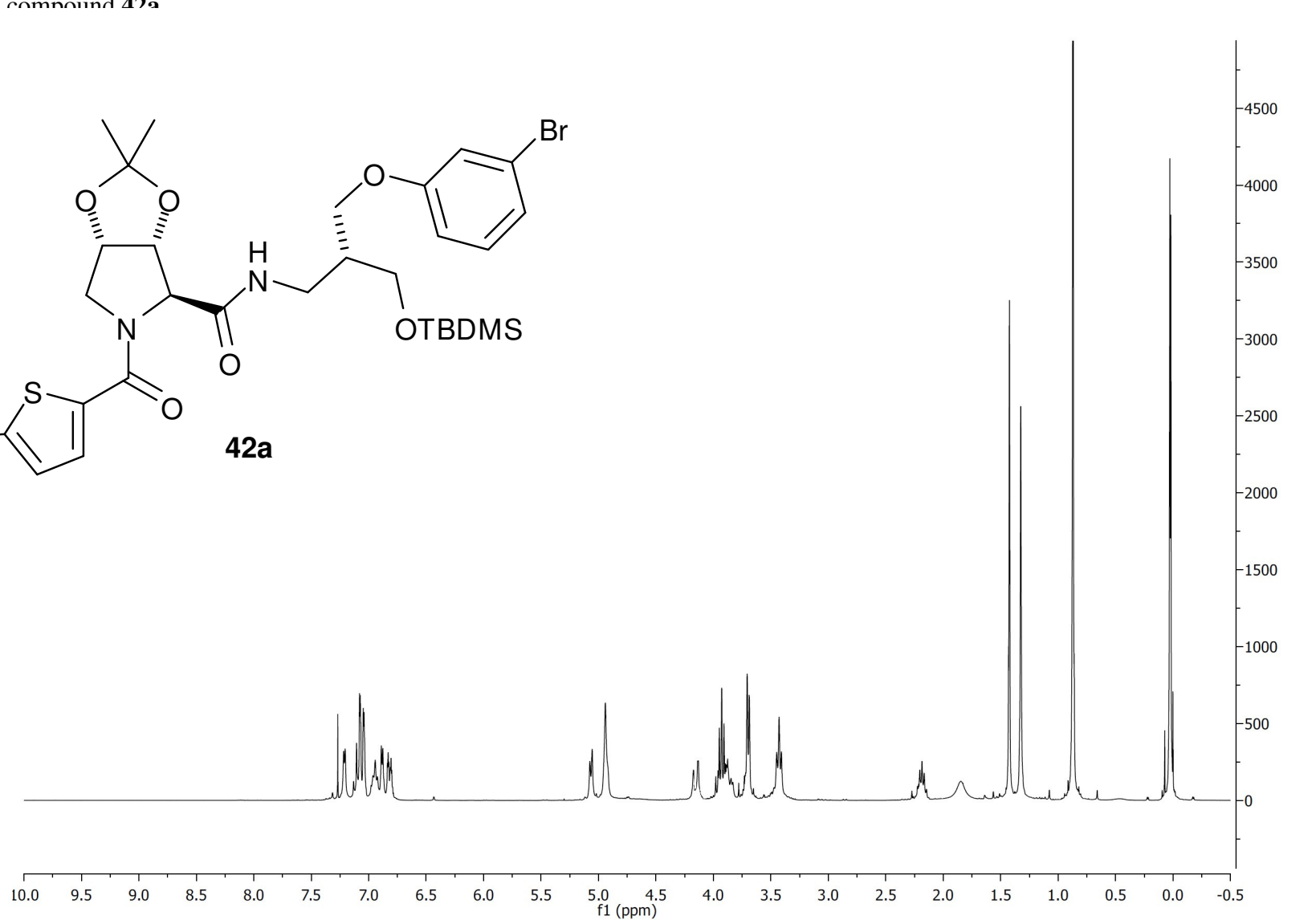
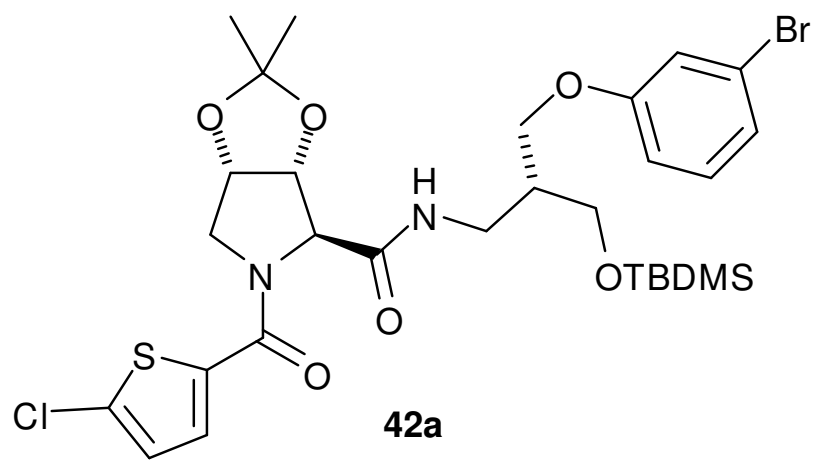




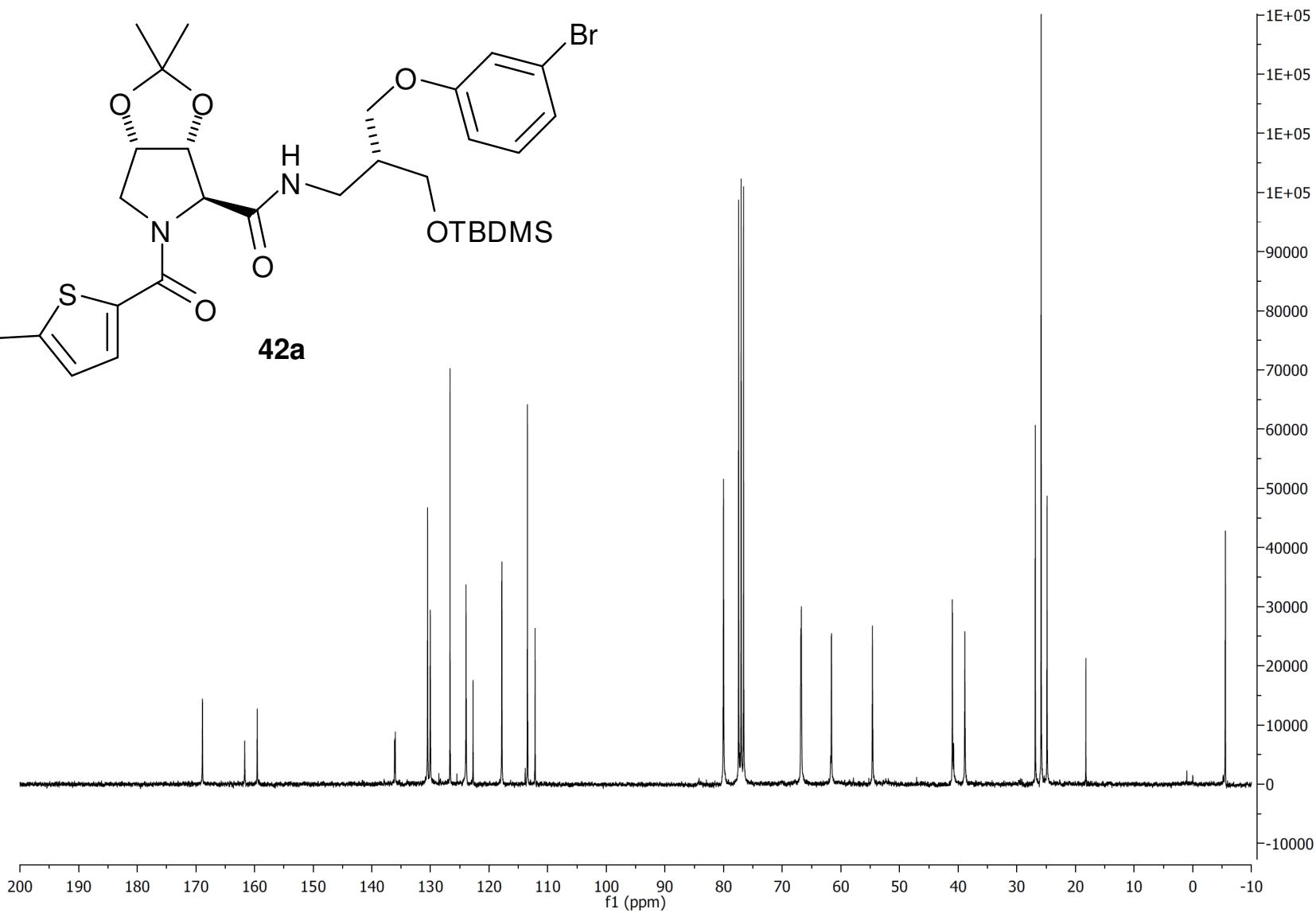
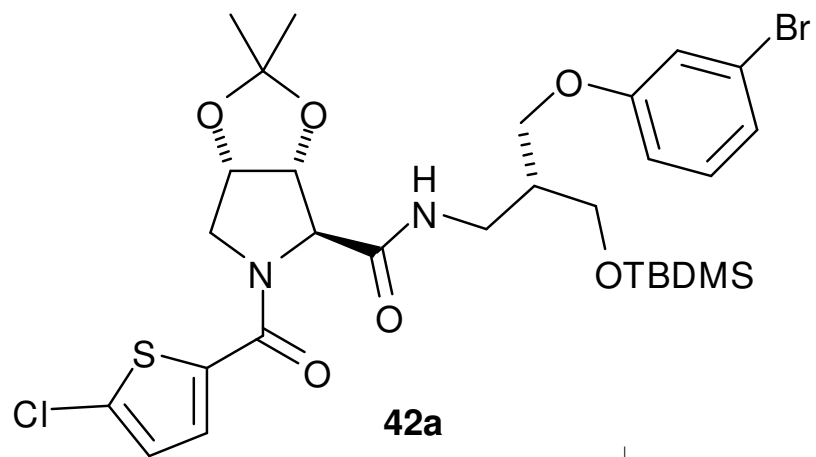
$^{13}\text{C}$  NMR of compound **41c**



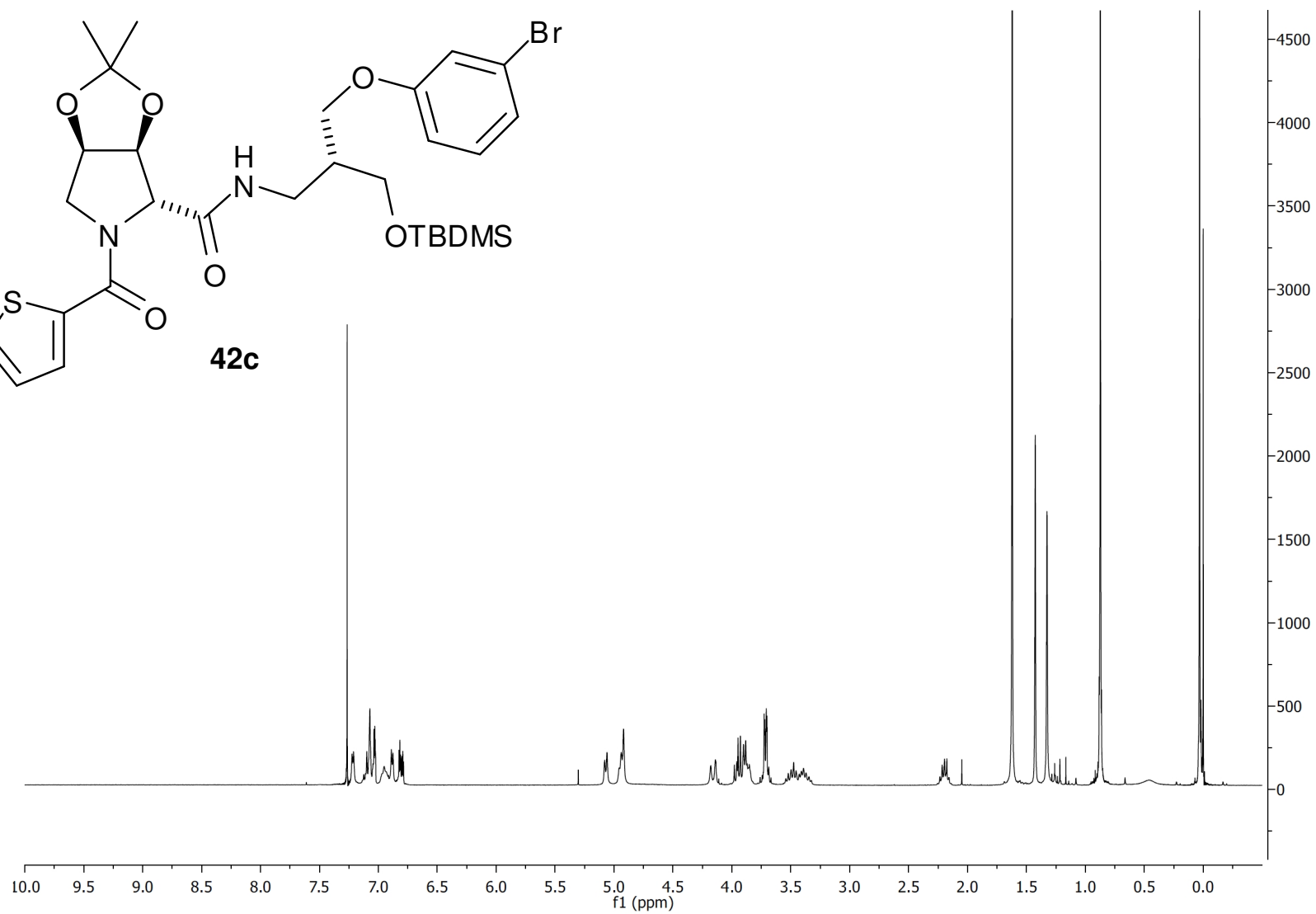
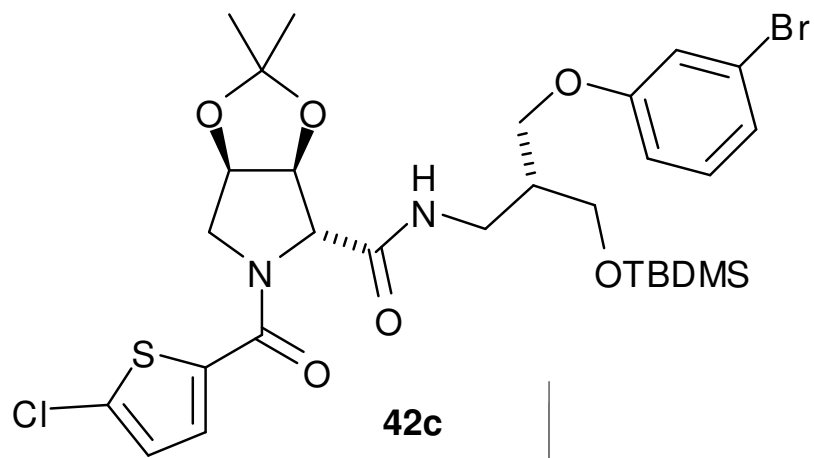
$^1\text{H}$  NMR of compound **42a**



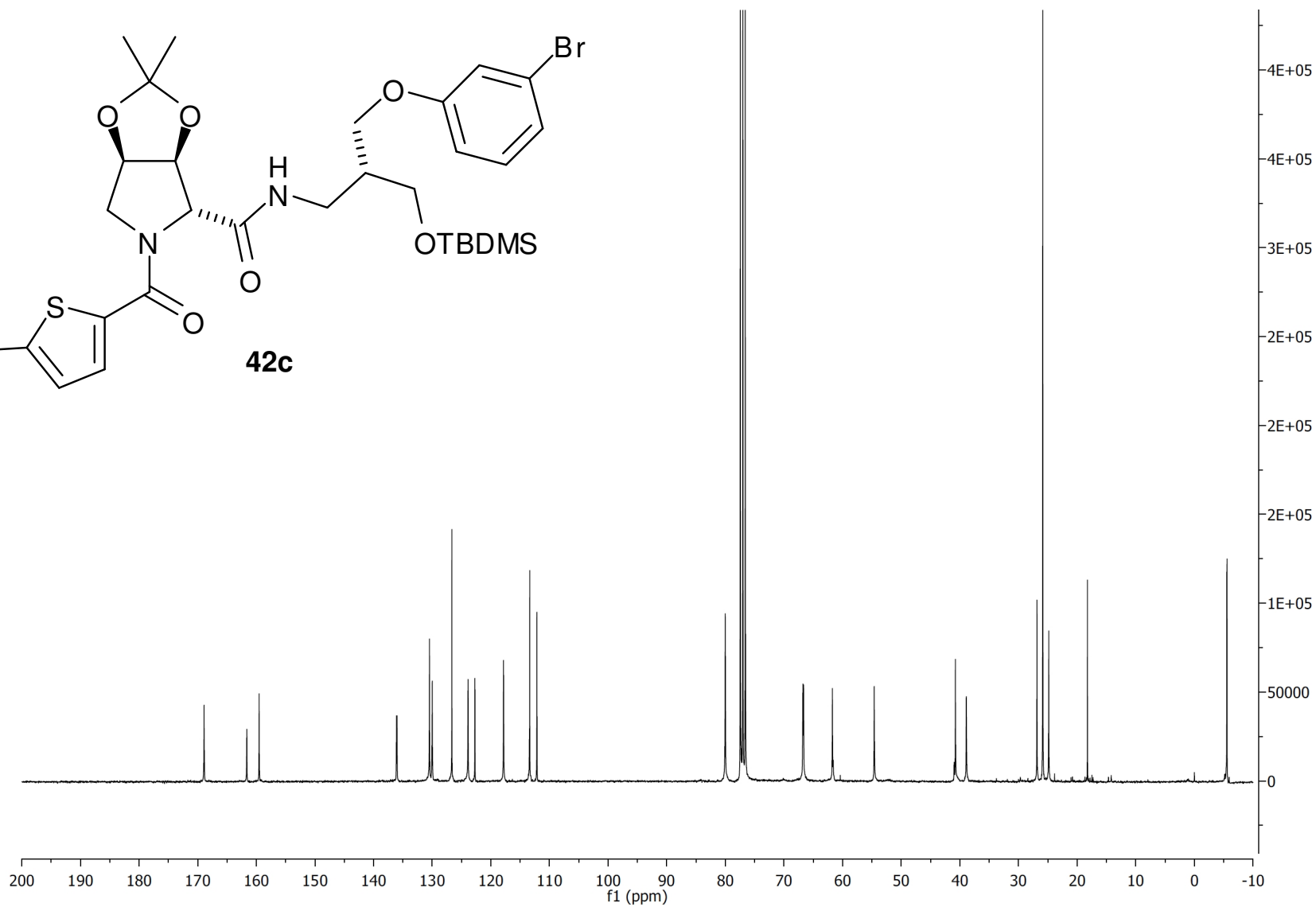
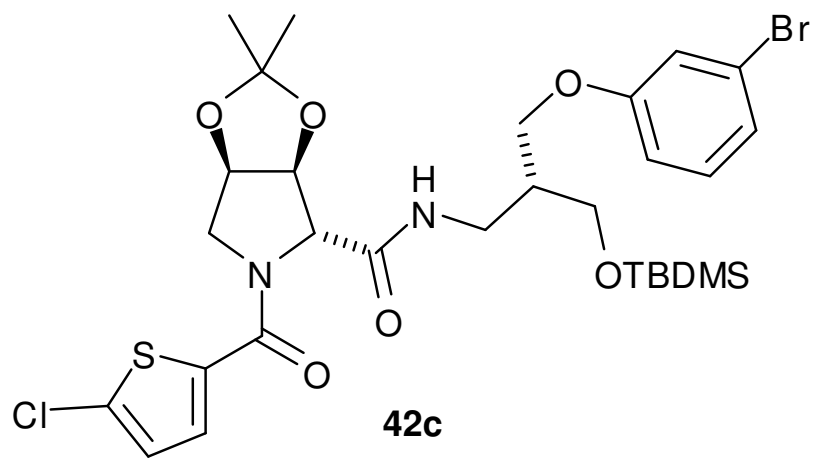
$^{13}\text{C}$  NMR of compound **42a**



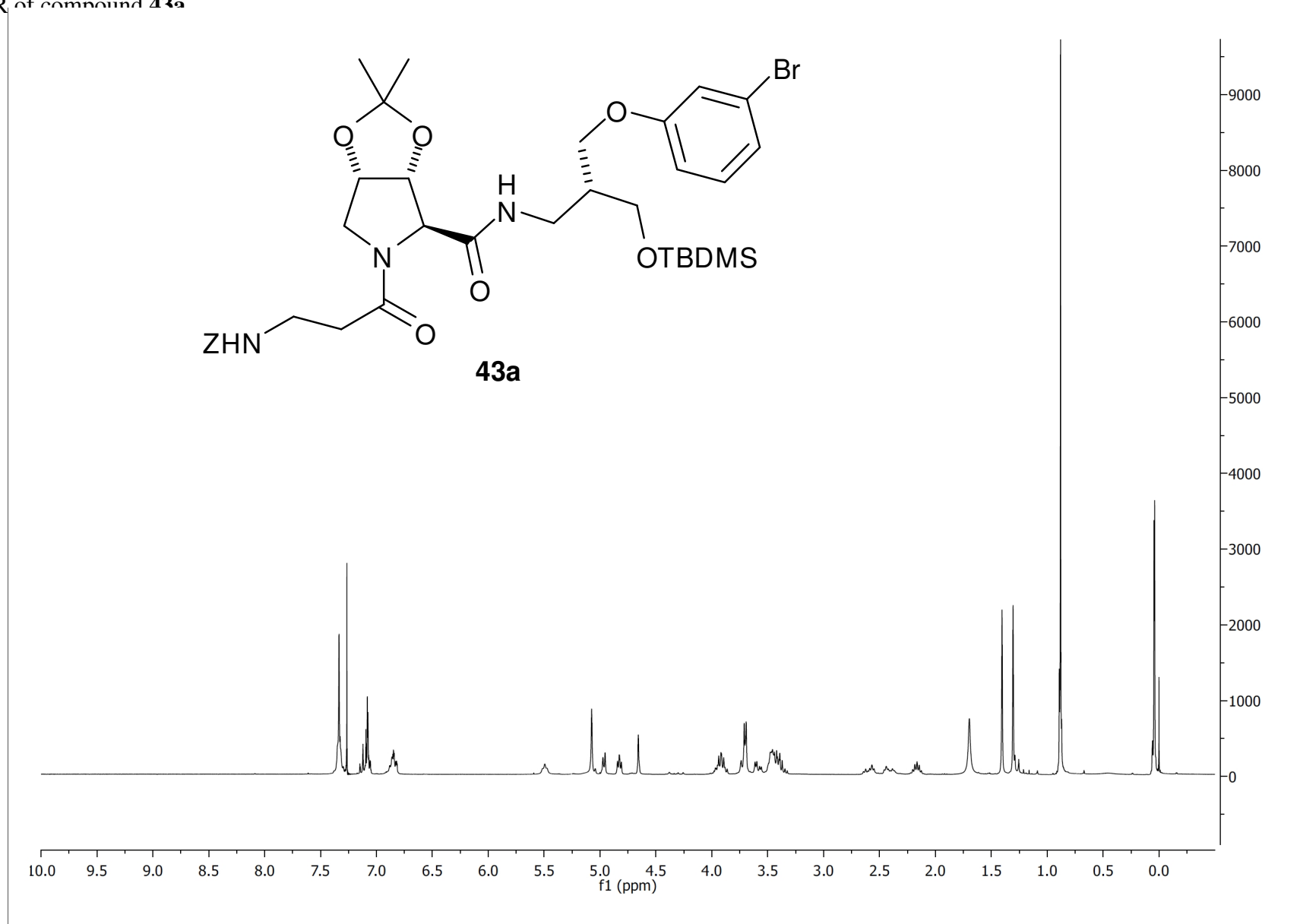
<sup>1</sup>H NMR of compound **42c**



$^{13}\text{C}$  NMR of compound **42c**

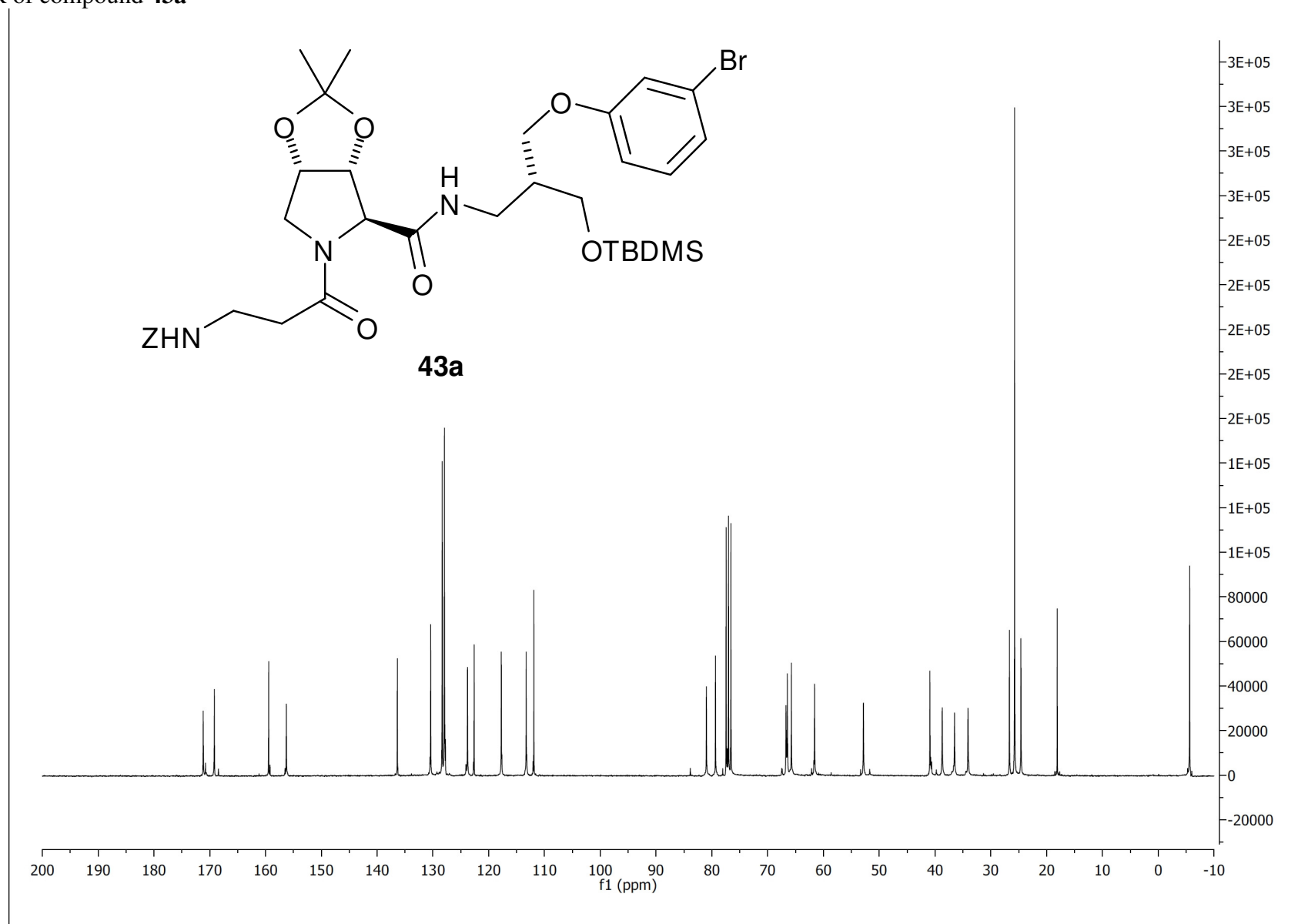


<sup>1</sup>H NMR of compound **43a**

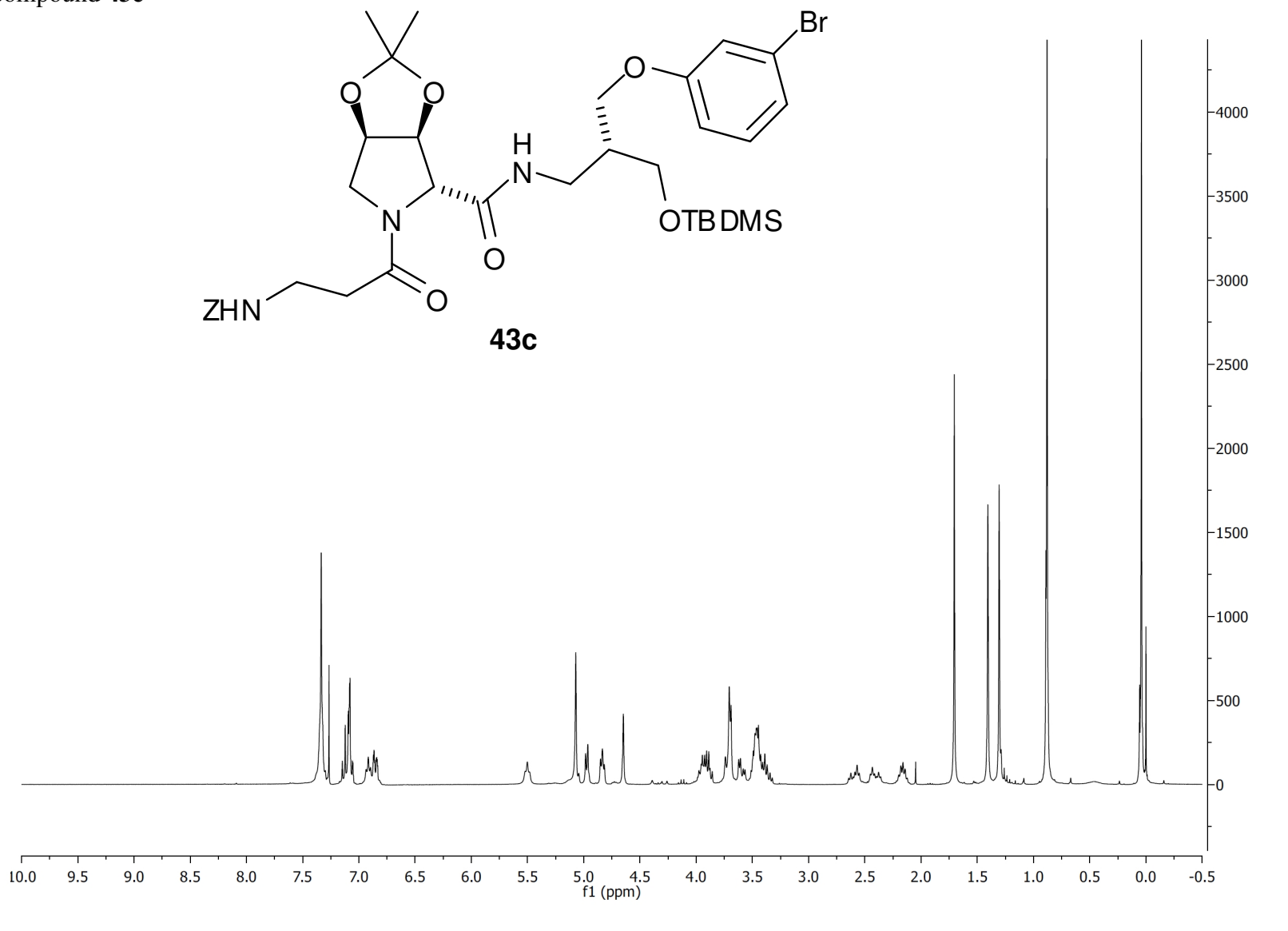
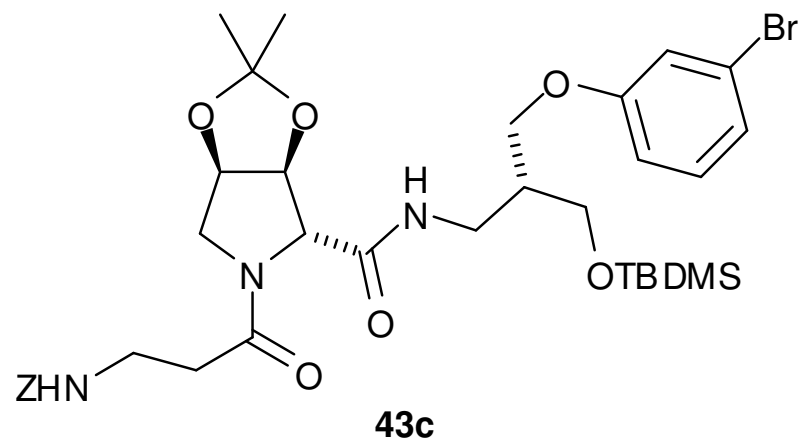




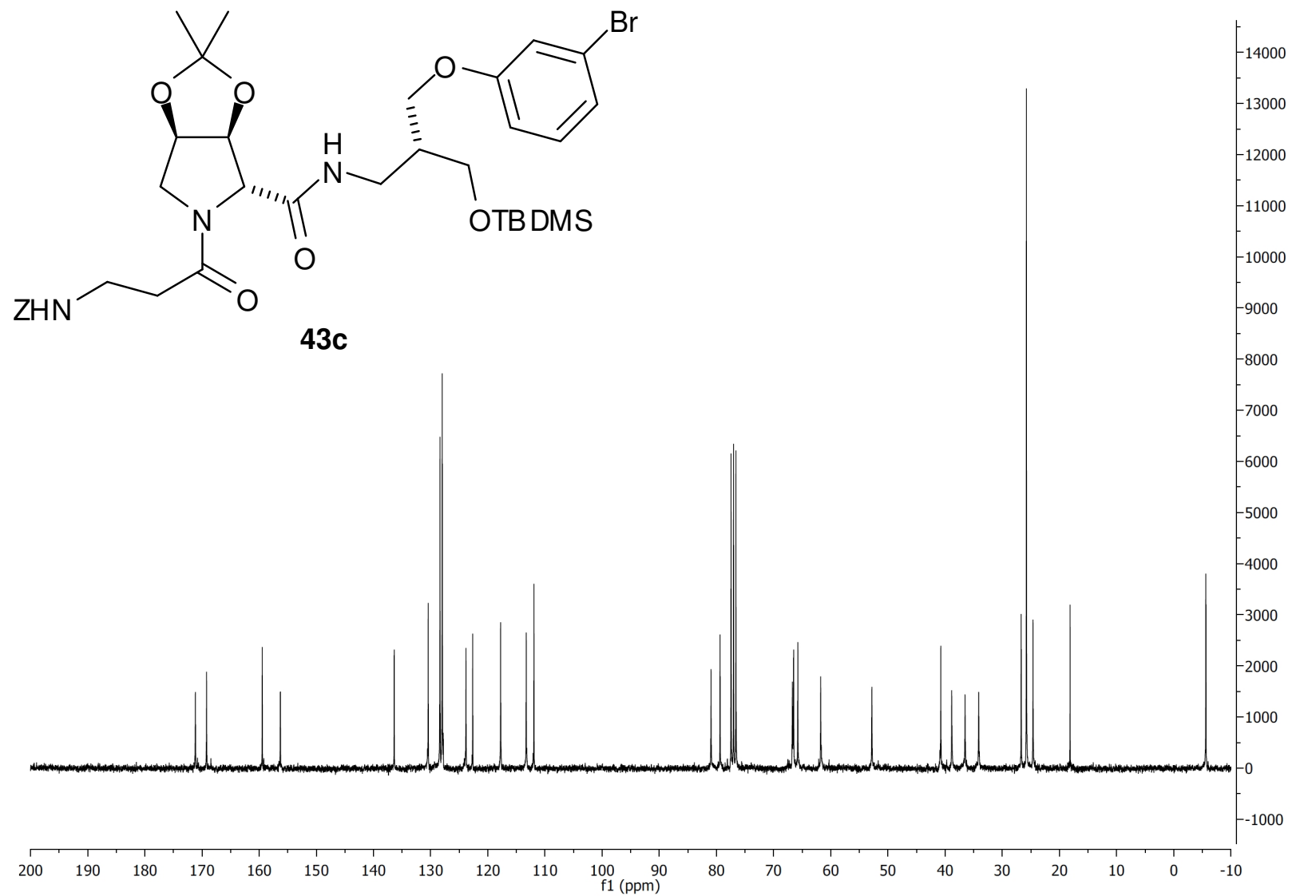
$^{13}\text{C}$  NMR of compound **43a**



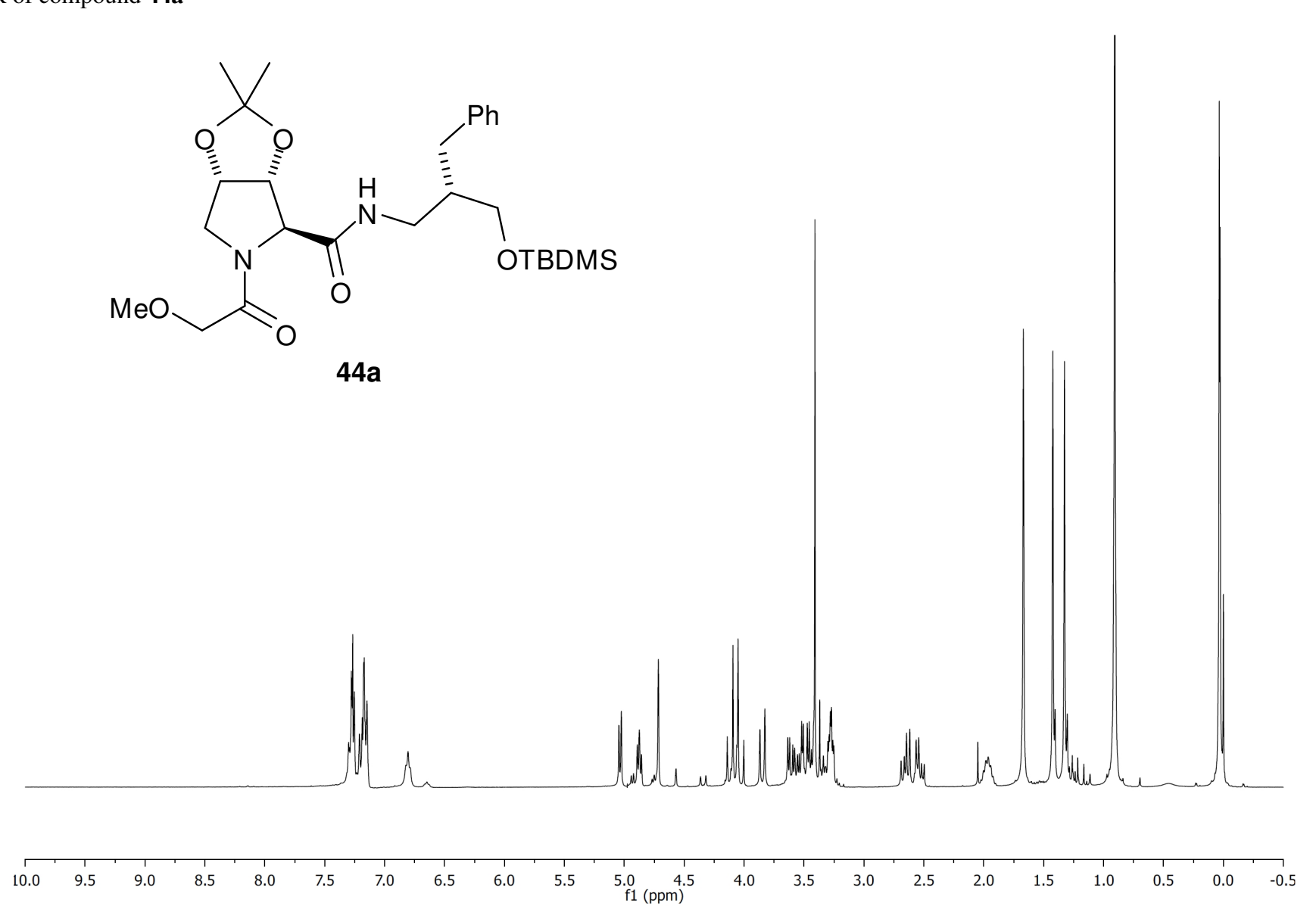
<sup>1</sup>H NMR of compound **43c**



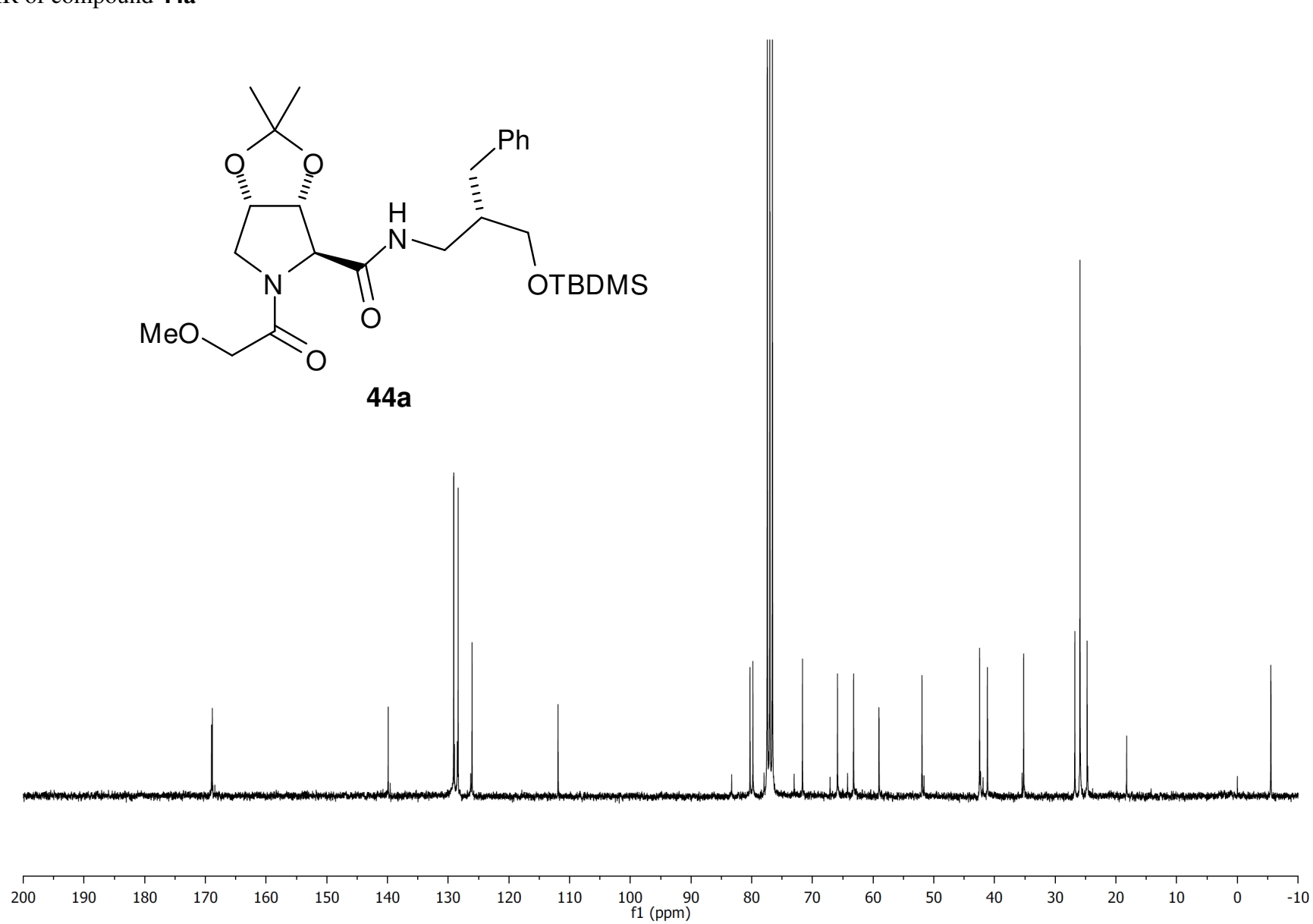
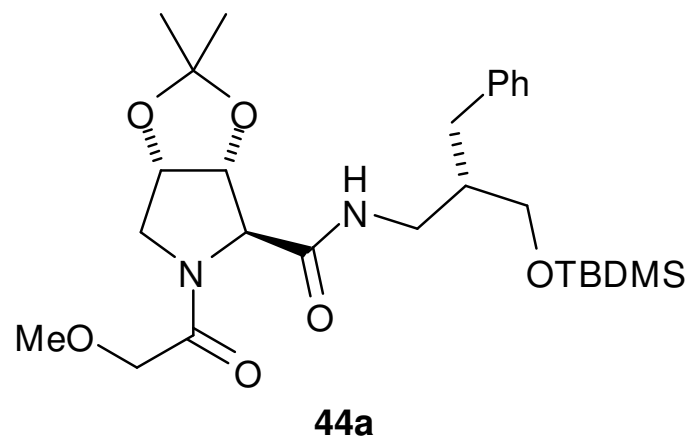
$^{13}\text{C}$  NMR of compound **43c**



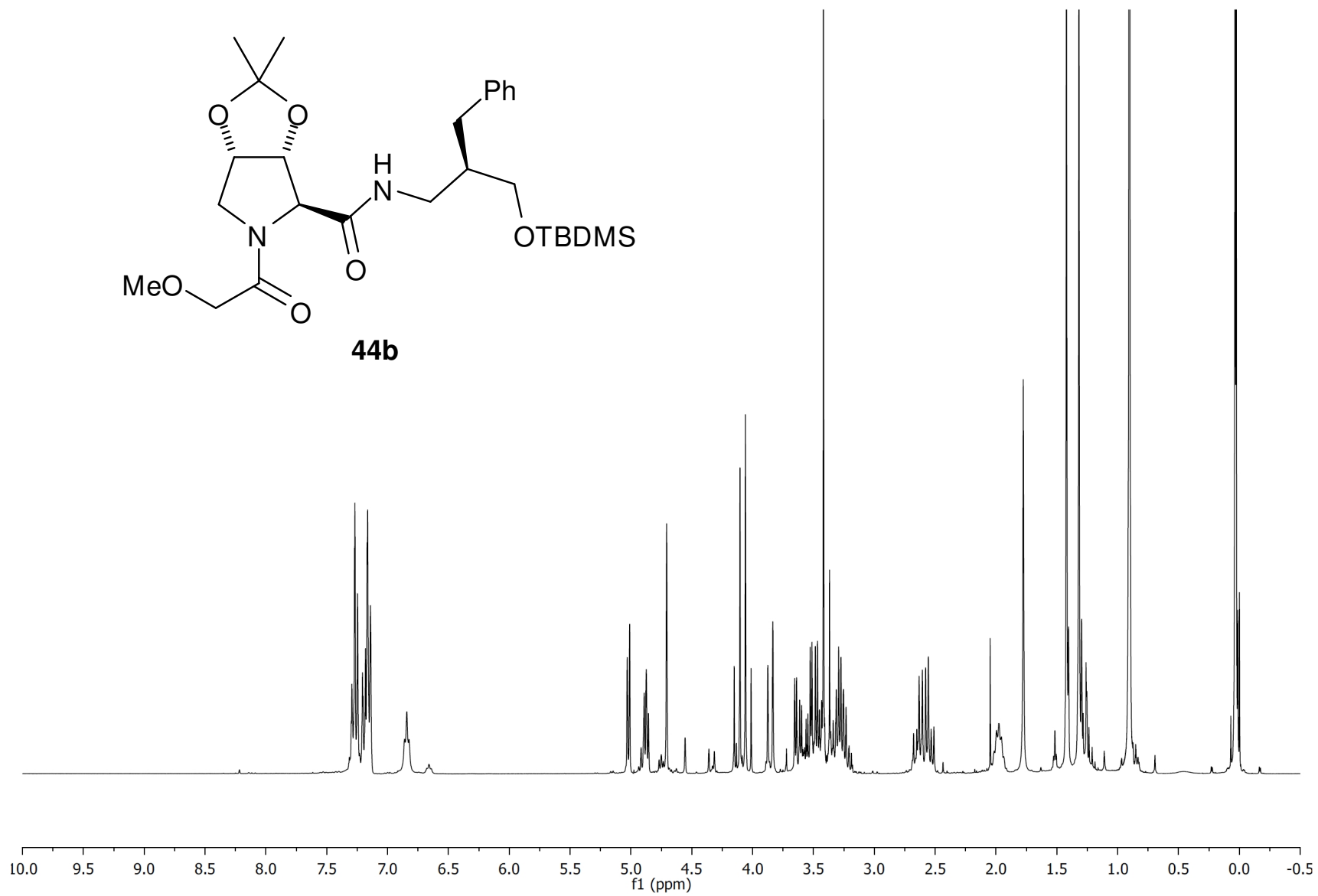
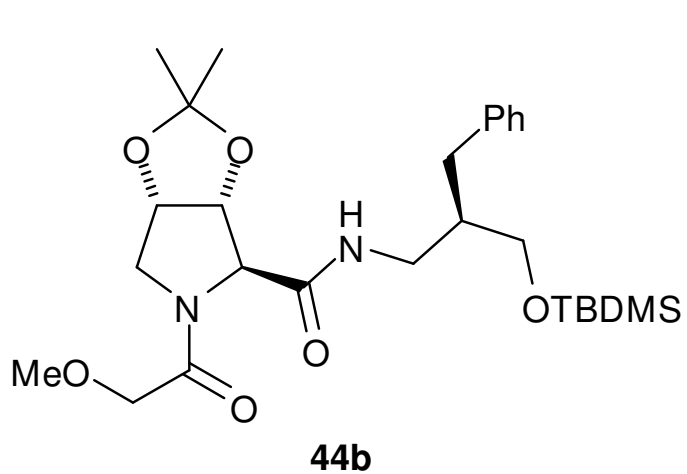
<sup>1</sup>H NMR of compound **44a**



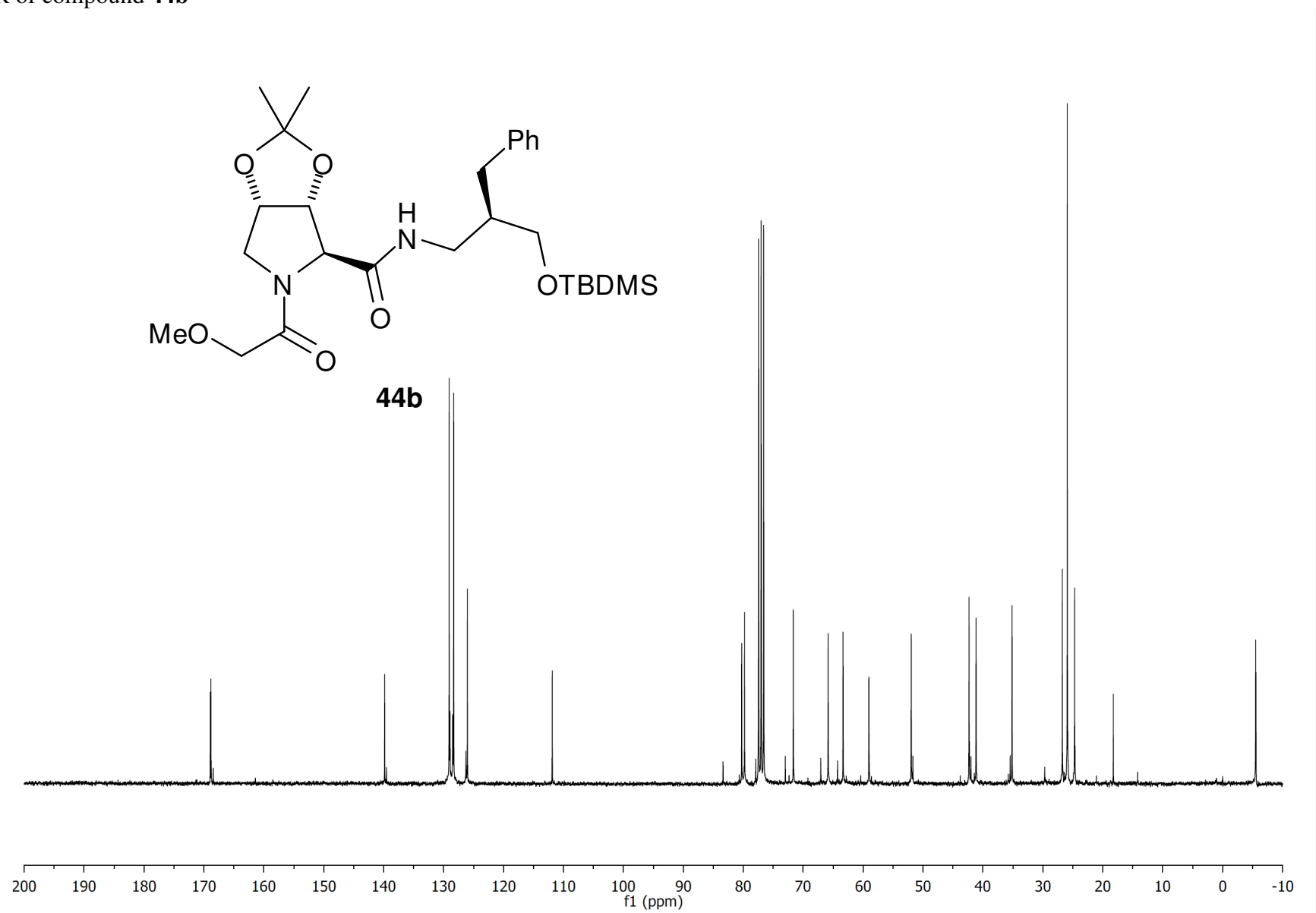
$^{13}\text{C}$  NMR of compound **44a**



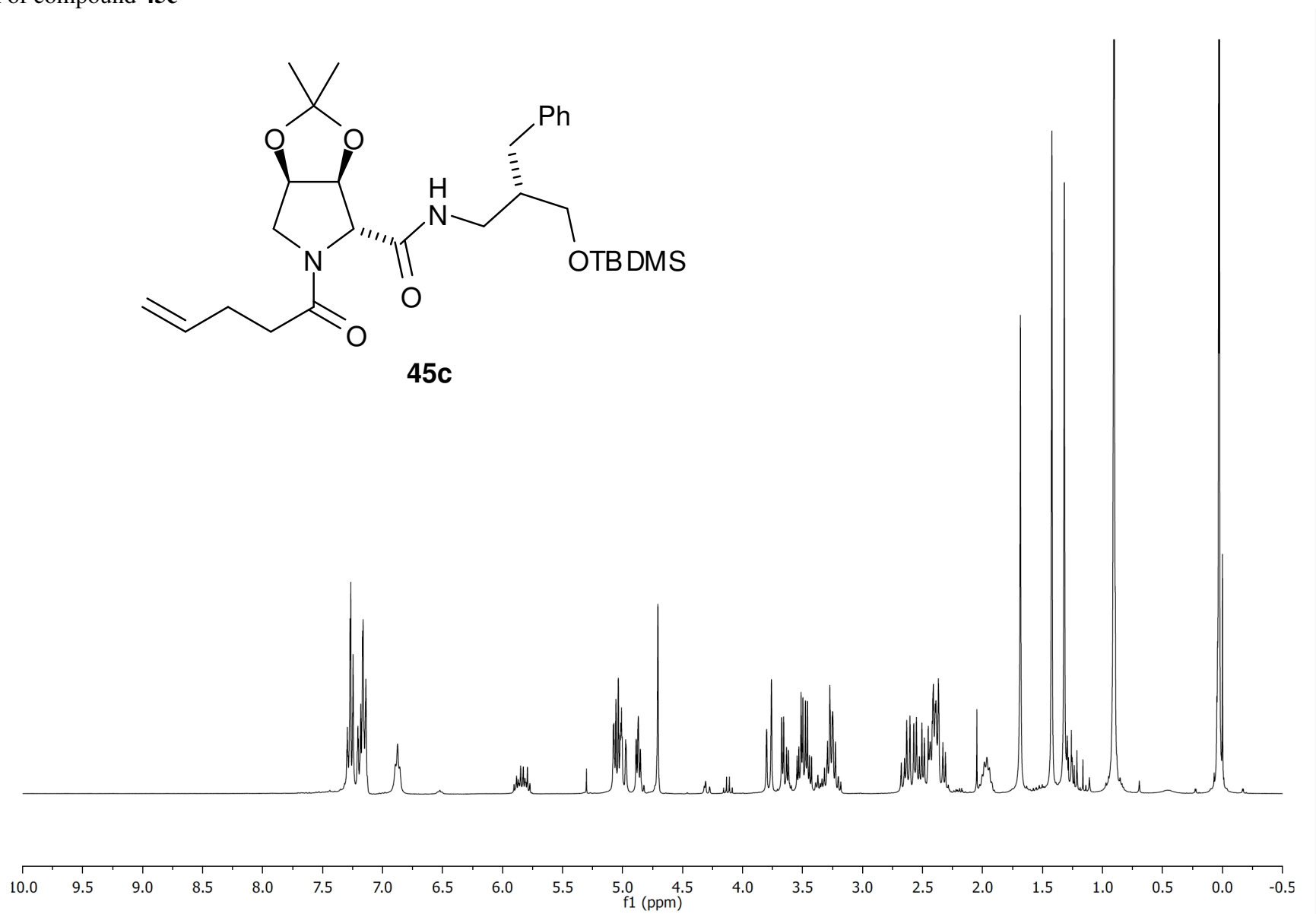
<sup>1</sup>H NMR of compound **44b**



$^{13}\text{C}$  NMR of compound **44b**

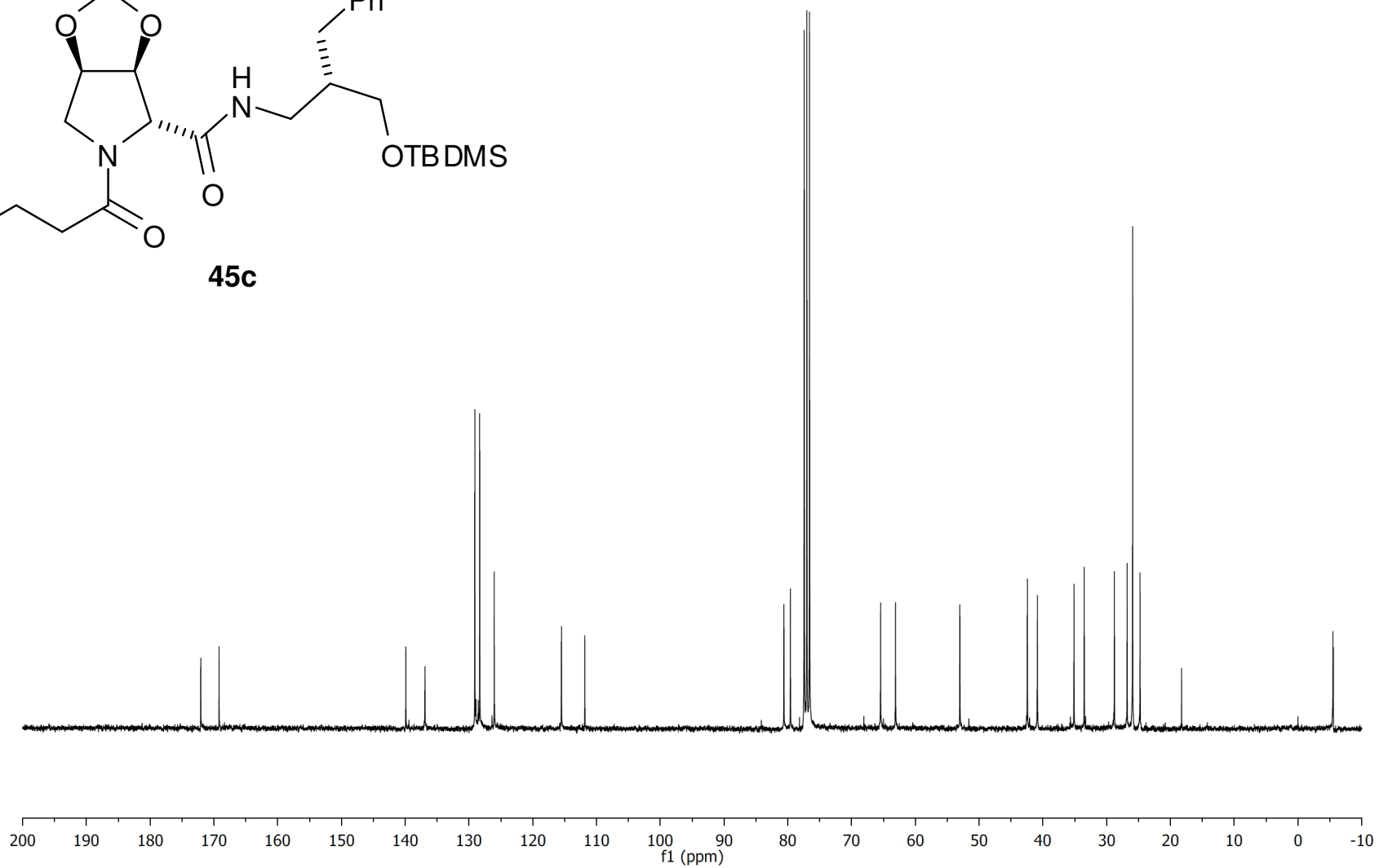
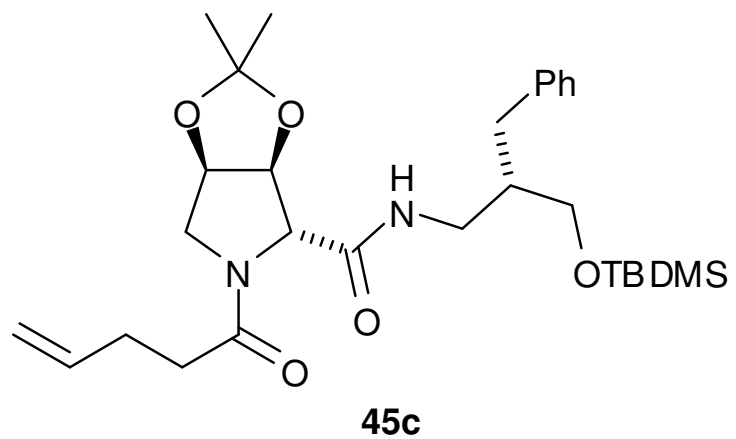


<sup>1</sup>H NMR of compound **45c**

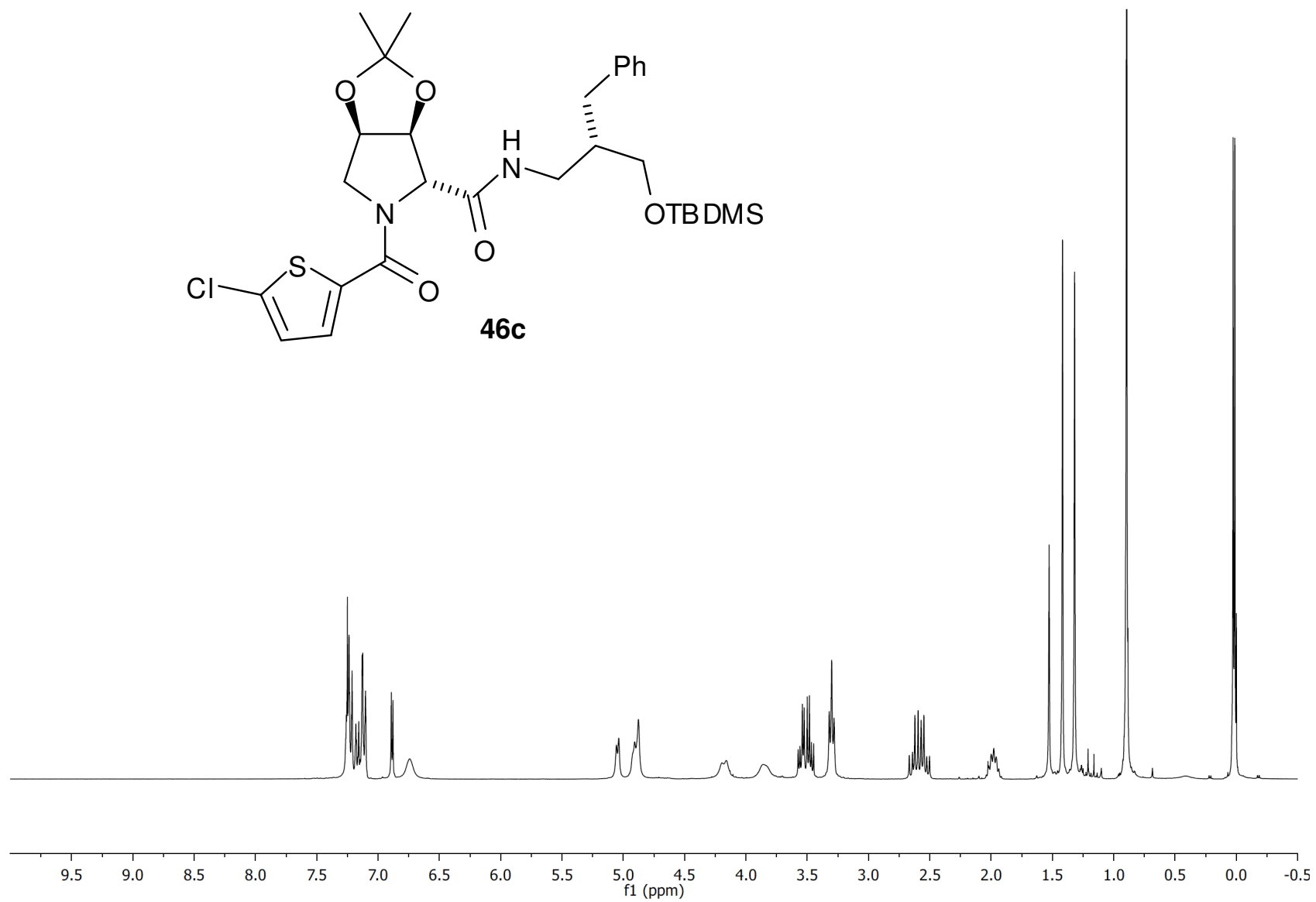
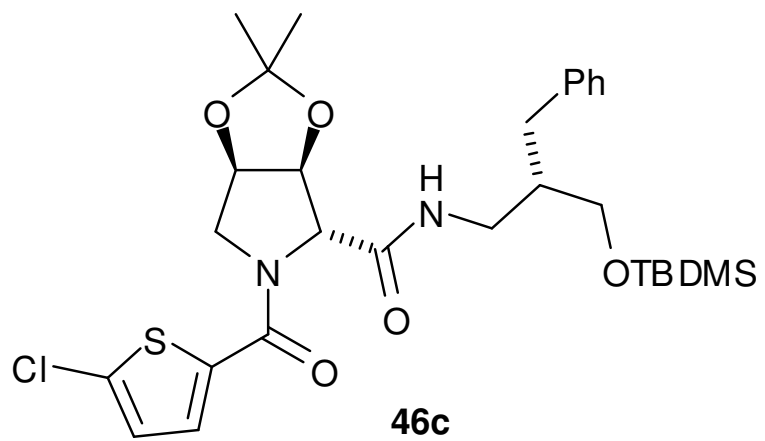




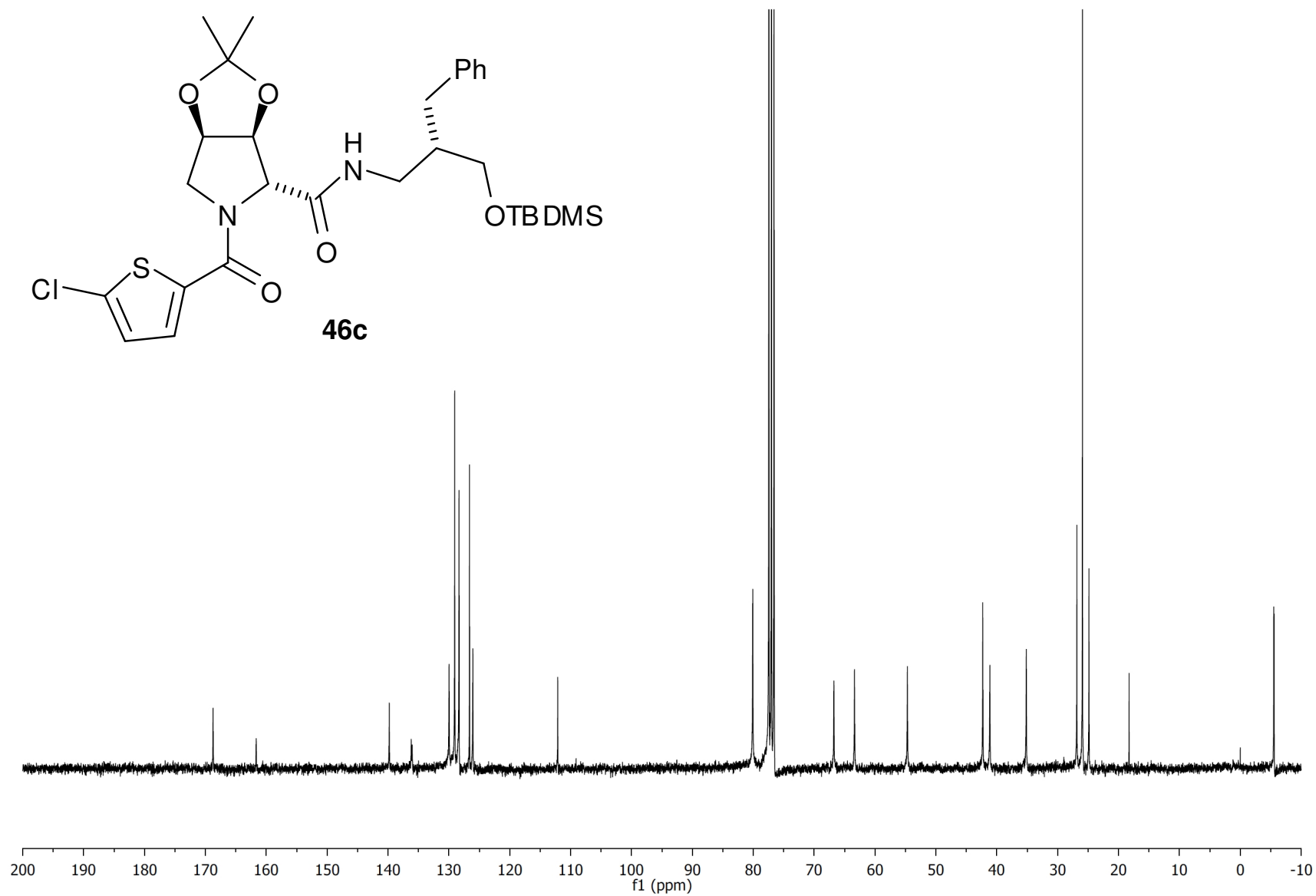
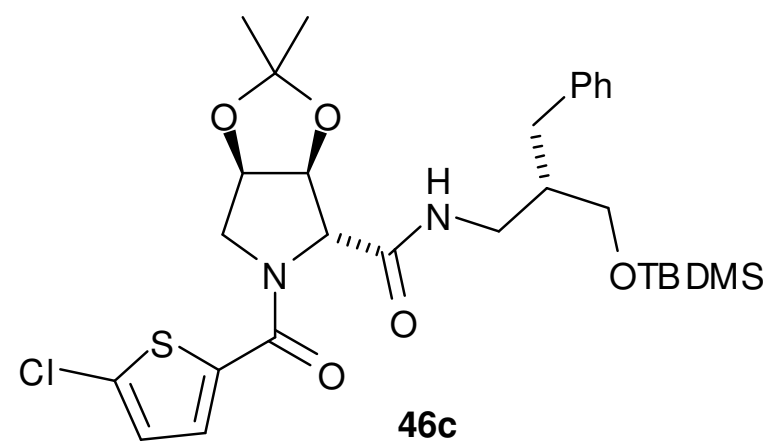
$^{13}\text{C}$  NMR of compound **45c**



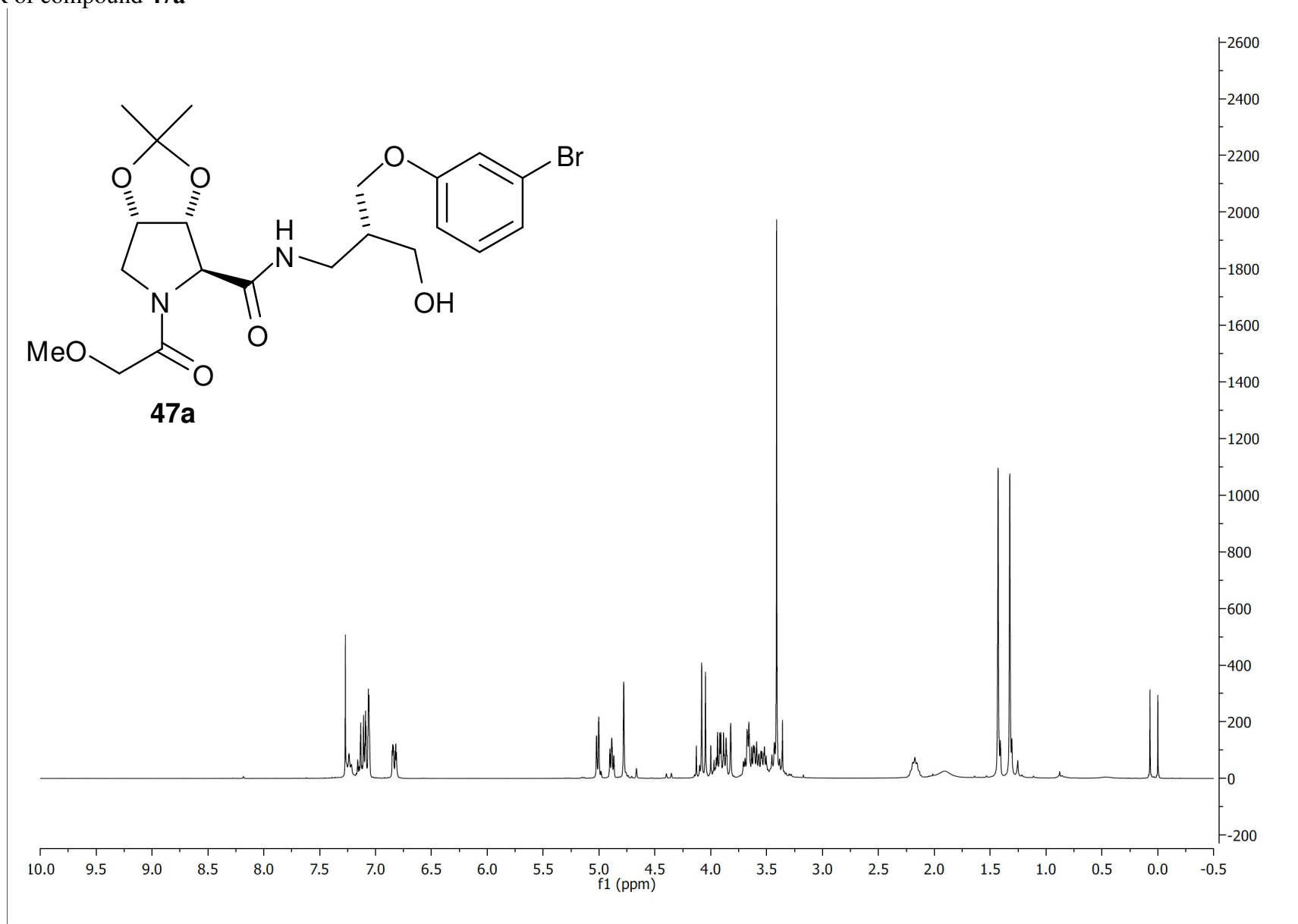
<sup>1</sup>H NMR of compound **46c**



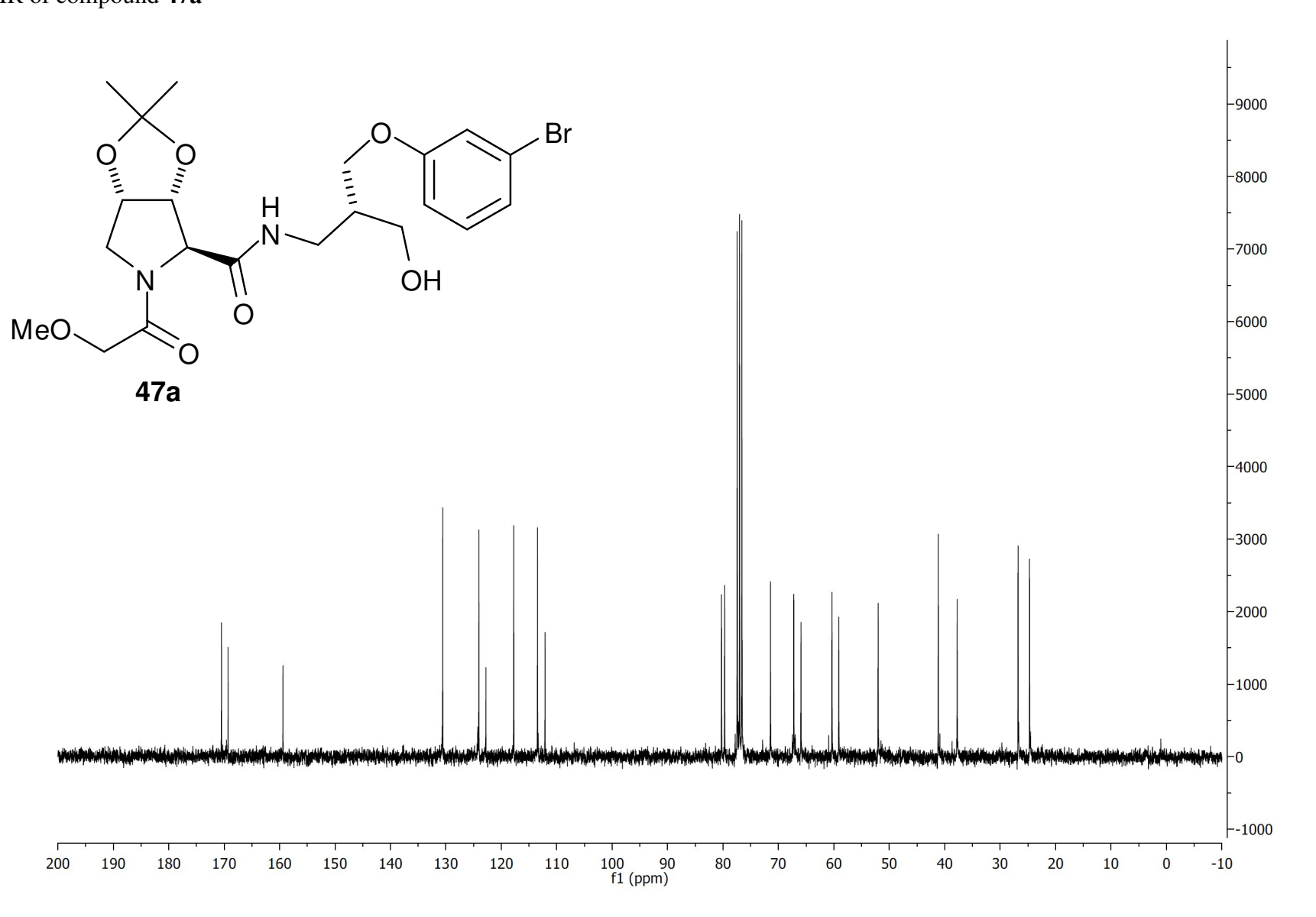
$^{13}\text{C}$  NMR of compound **46c**



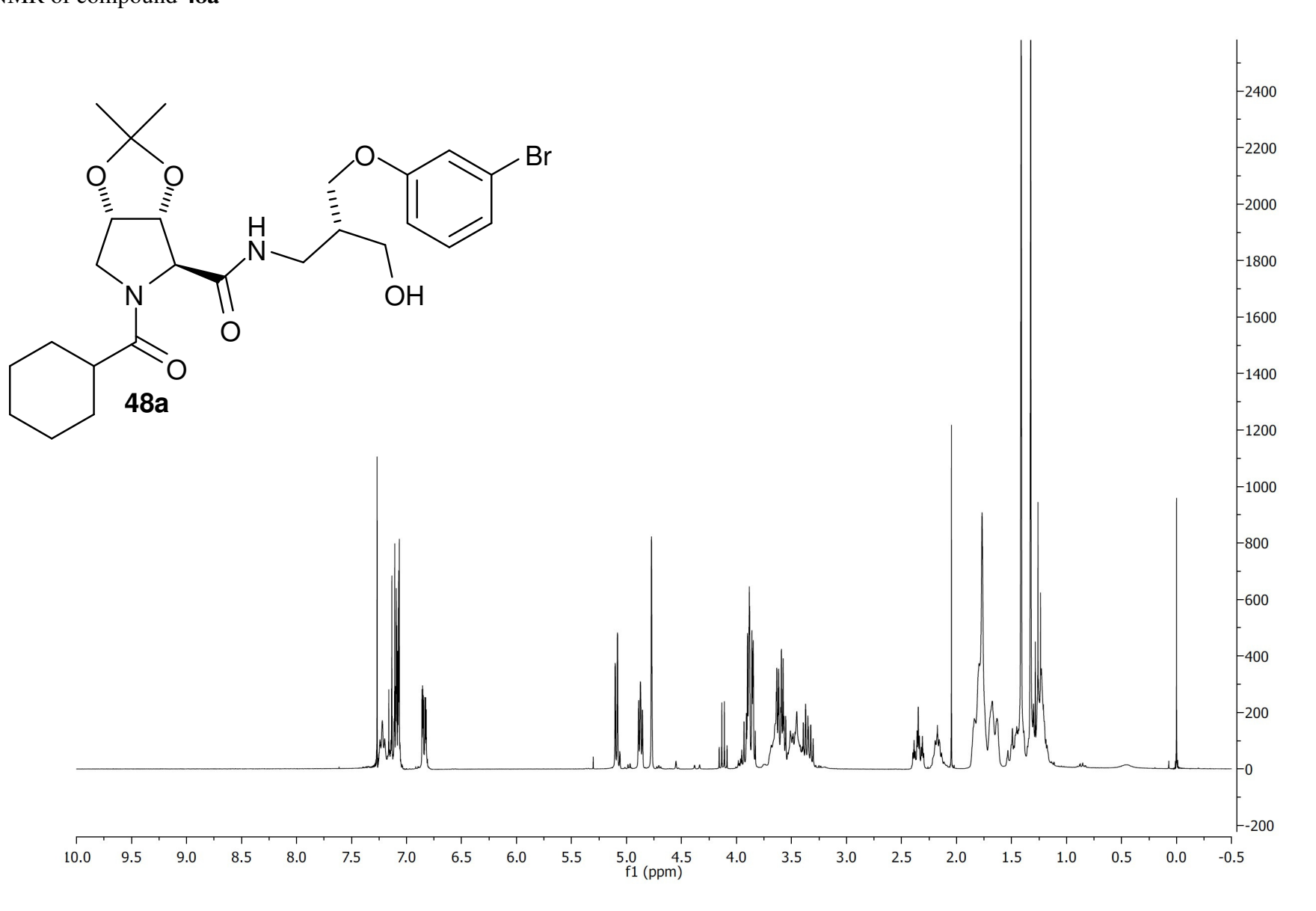
<sup>1</sup>H NMR of compound **47a**



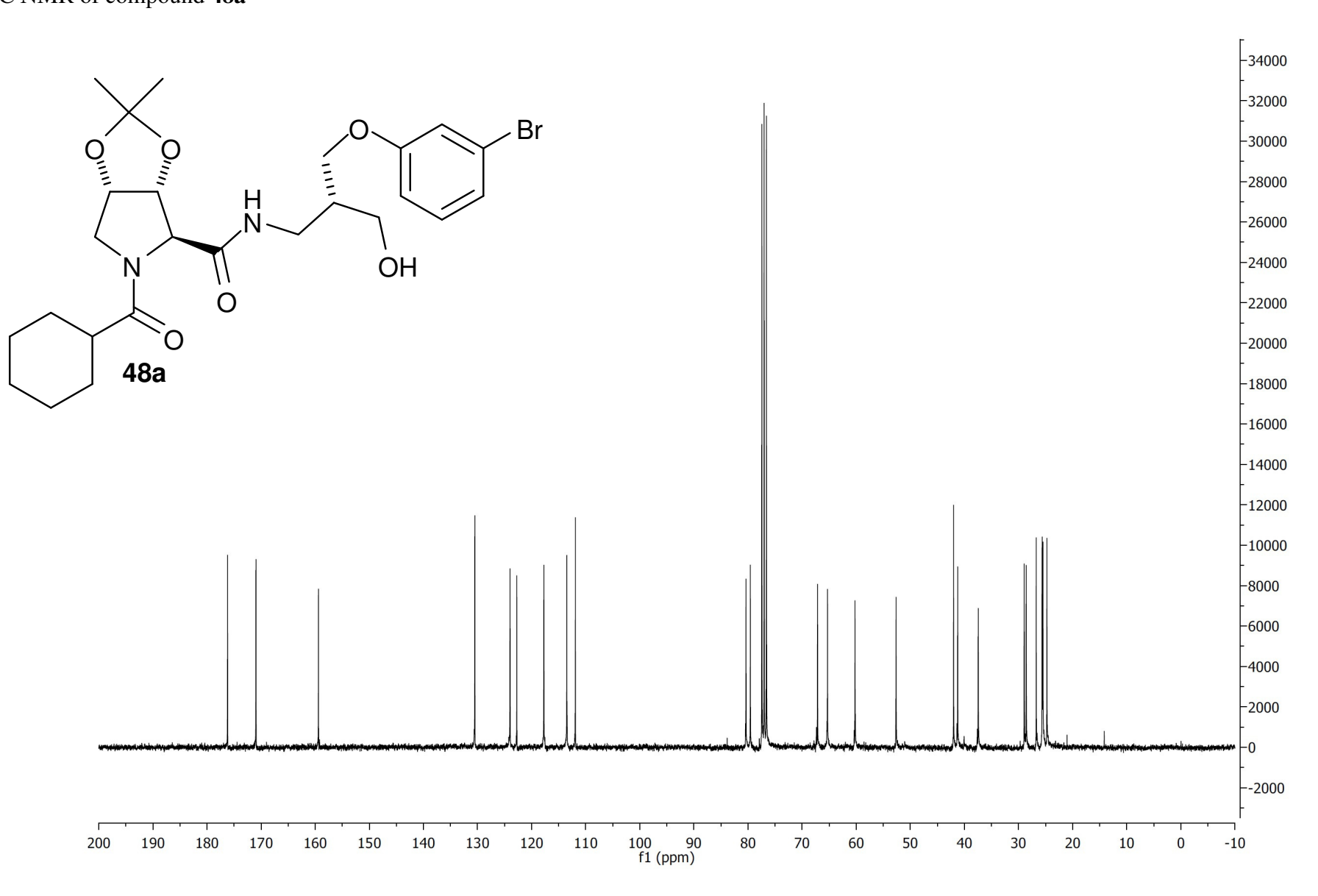
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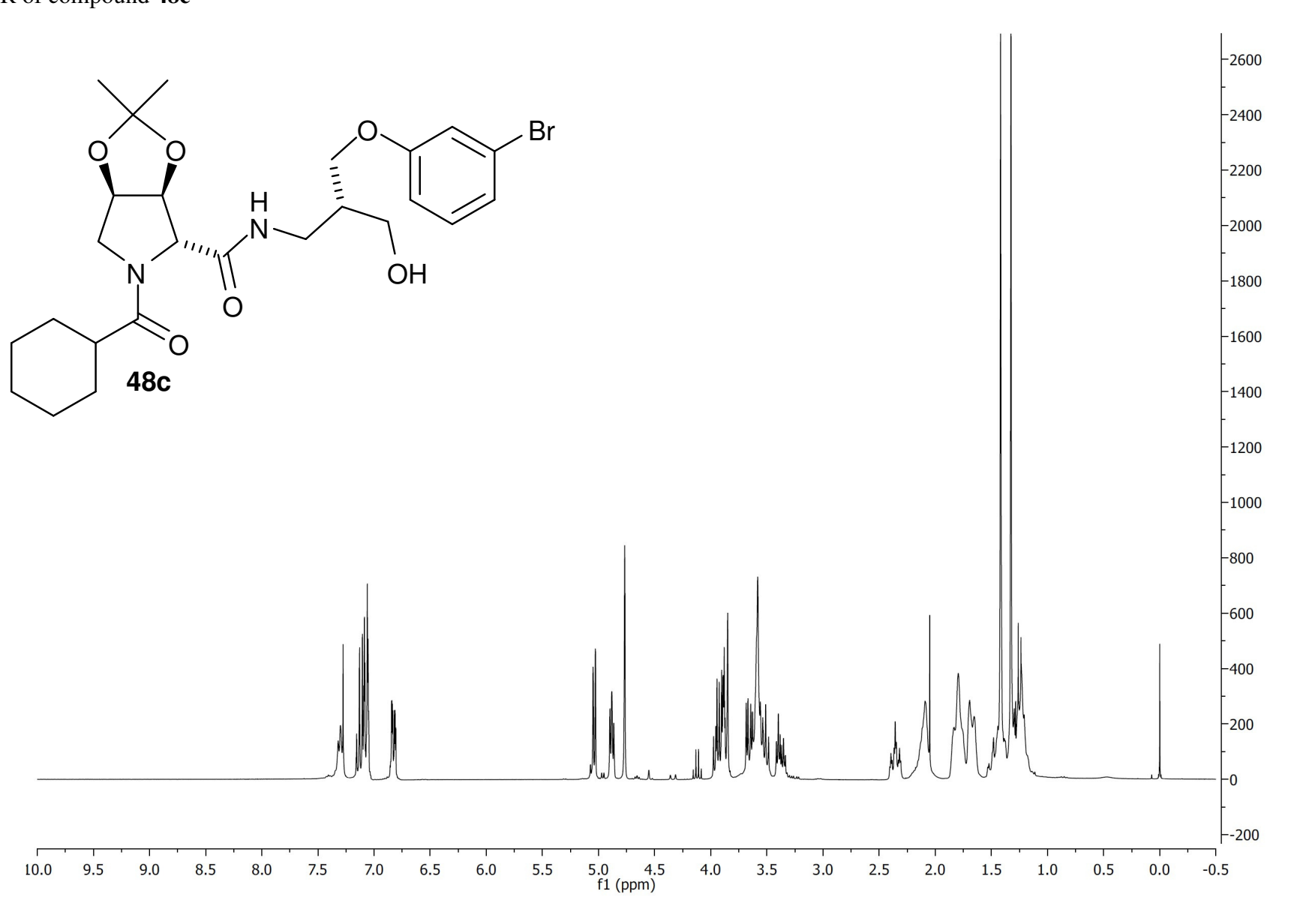
$^1\text{H}$  NMR of compound **48a**



$^{13}\text{C}$  NMR of compound **48a**

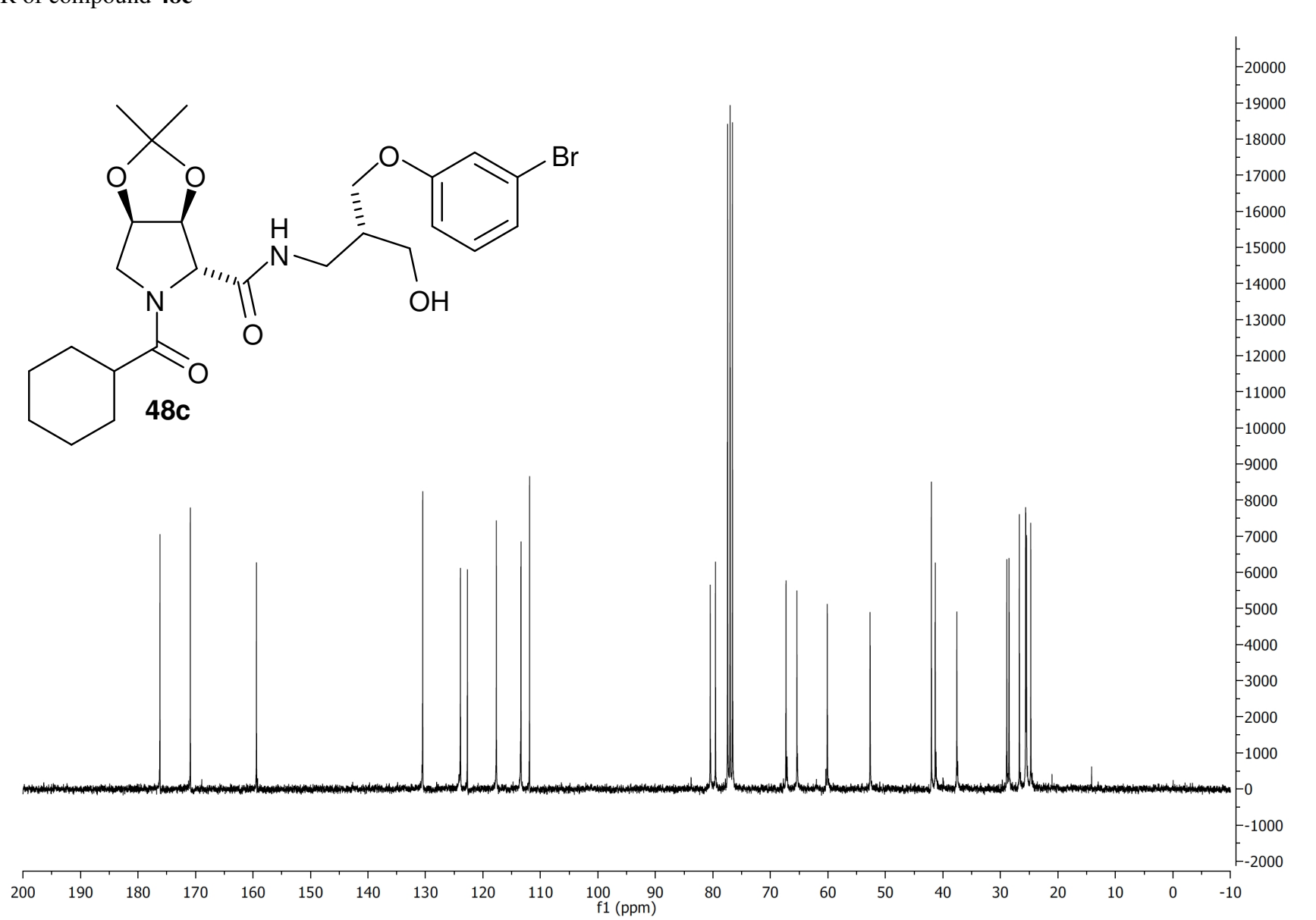


$^1\text{H}$  NMR of compound **48c**

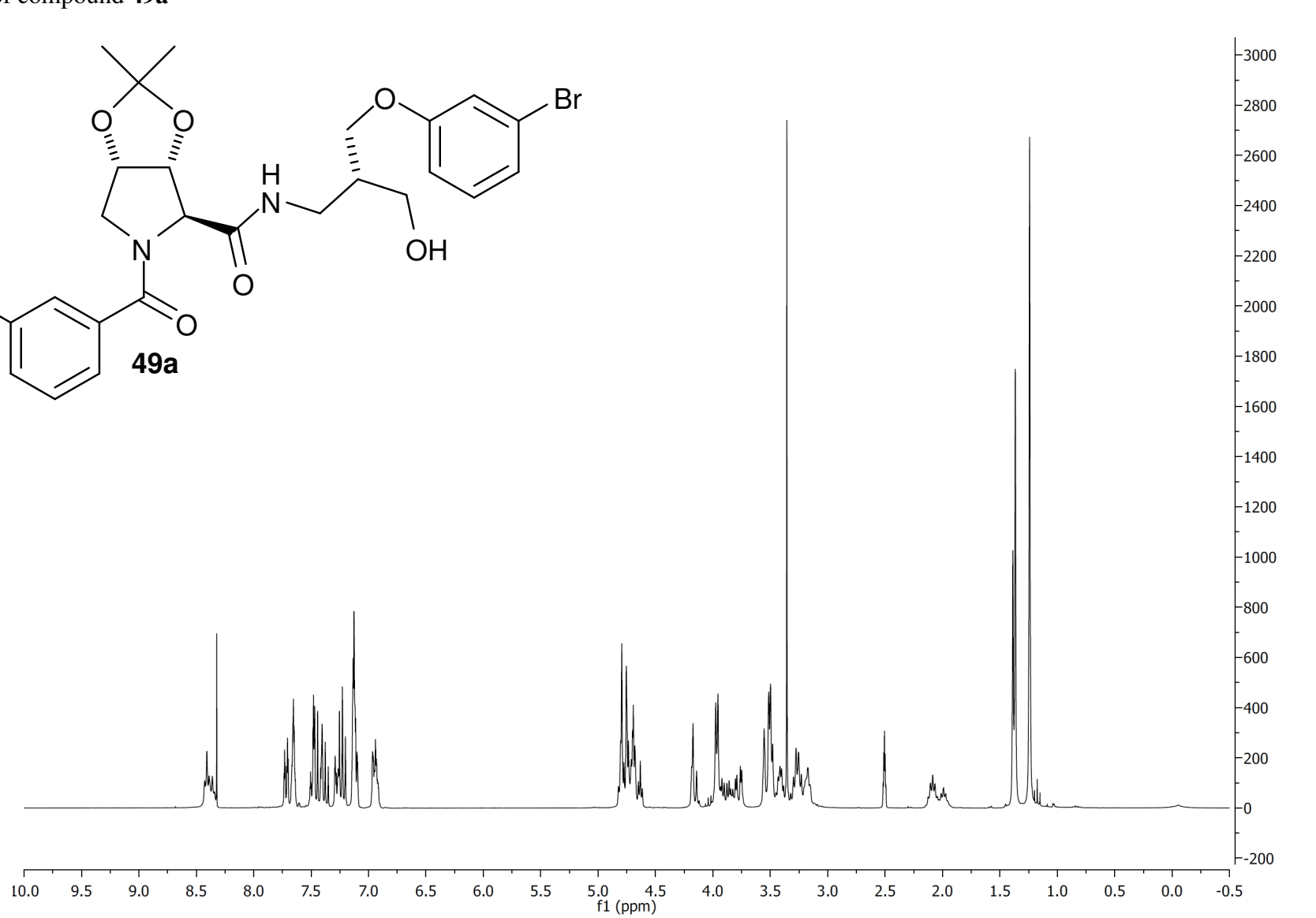
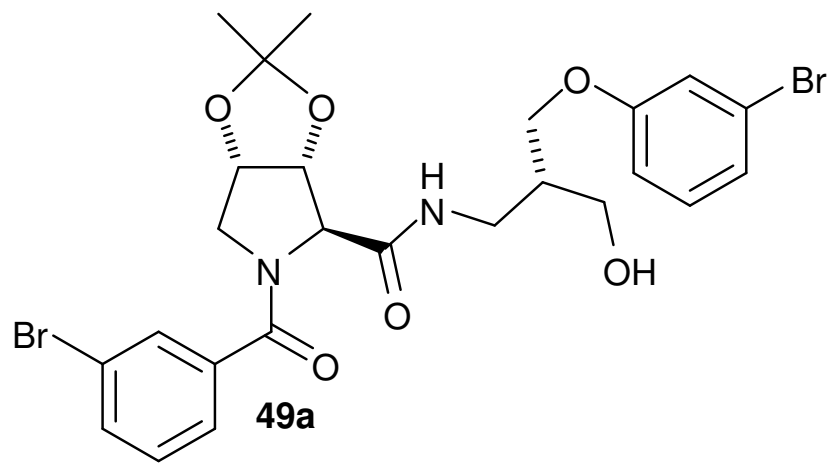




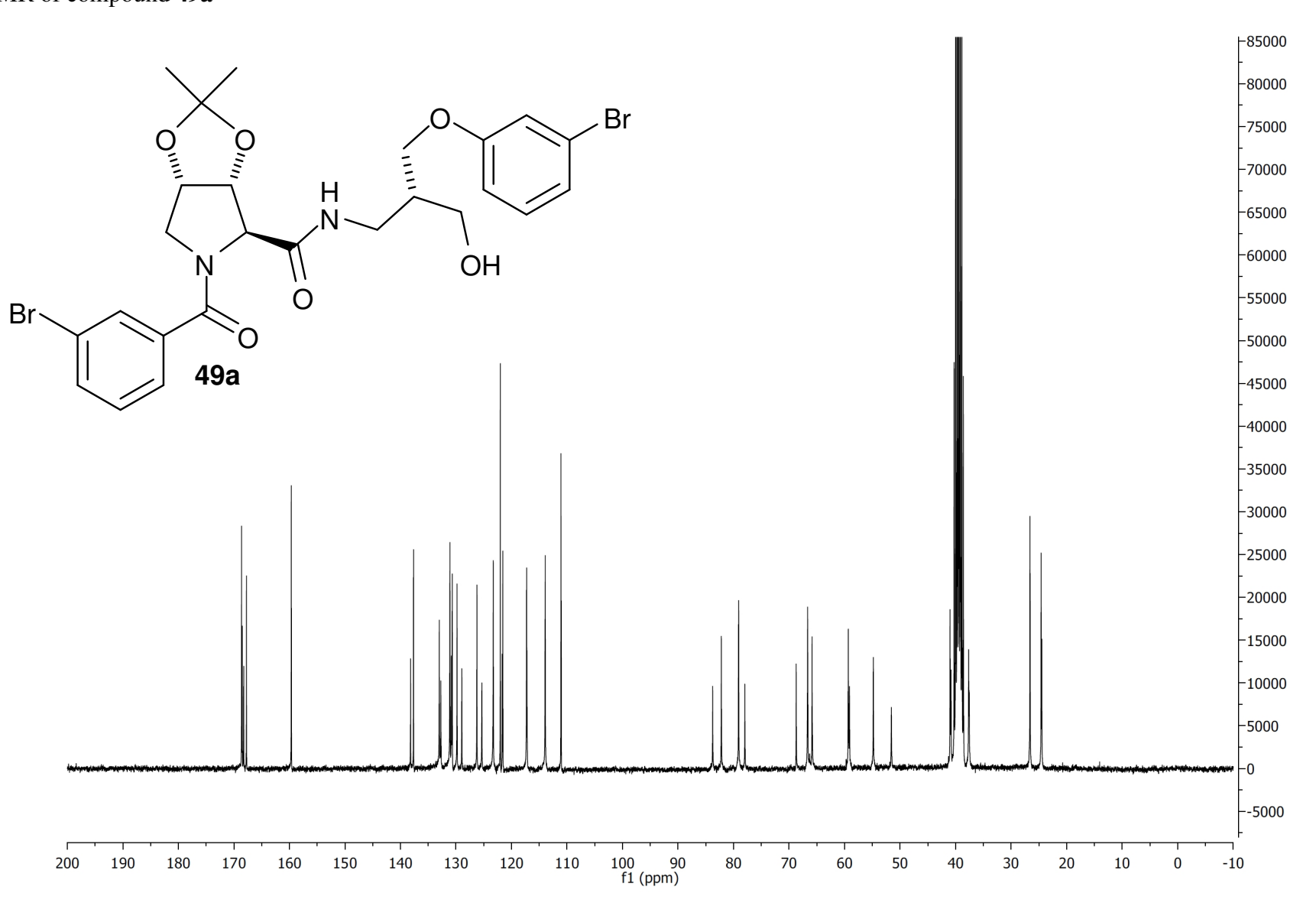
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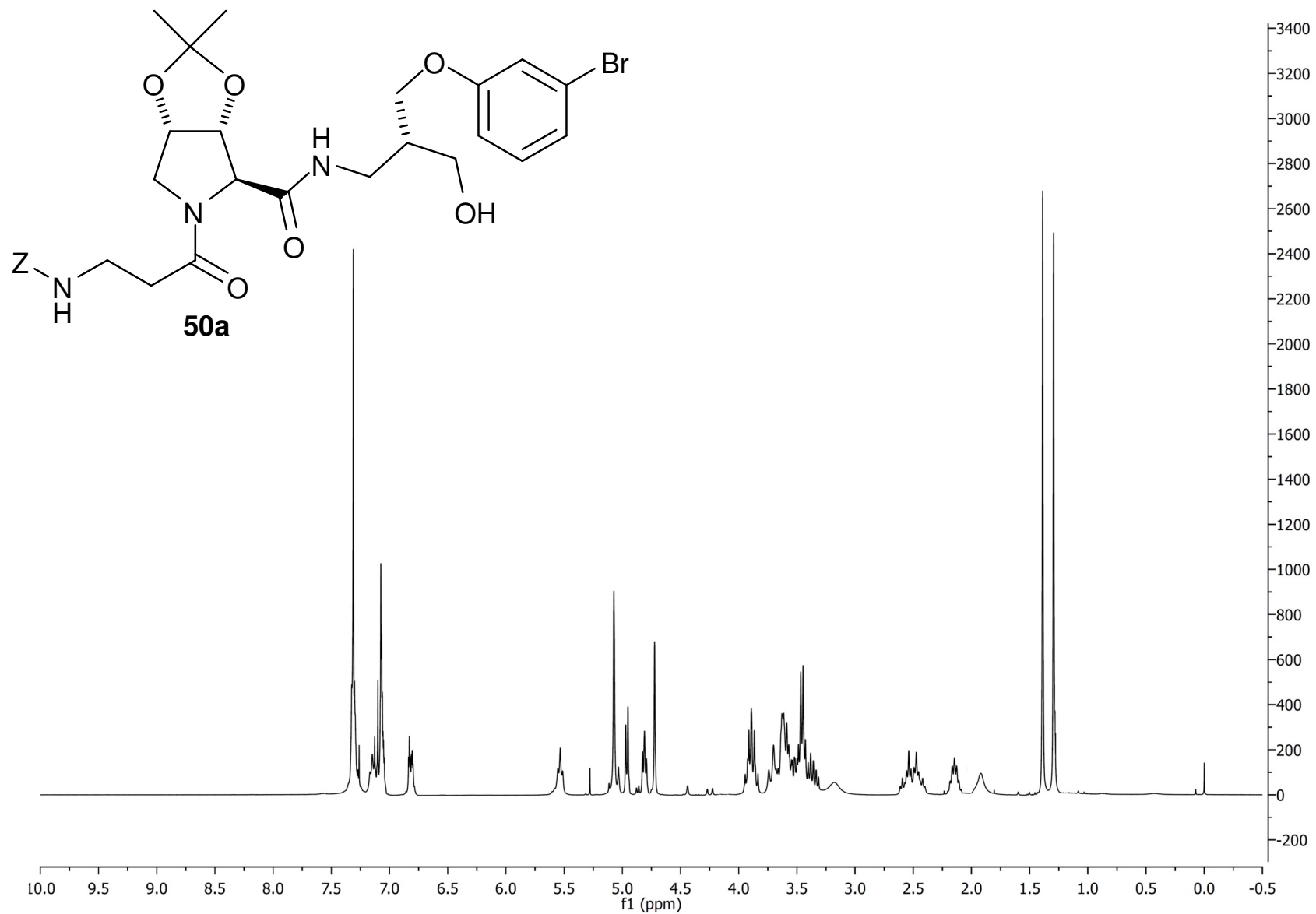
<sup>1</sup>H NMR of compound **49a**



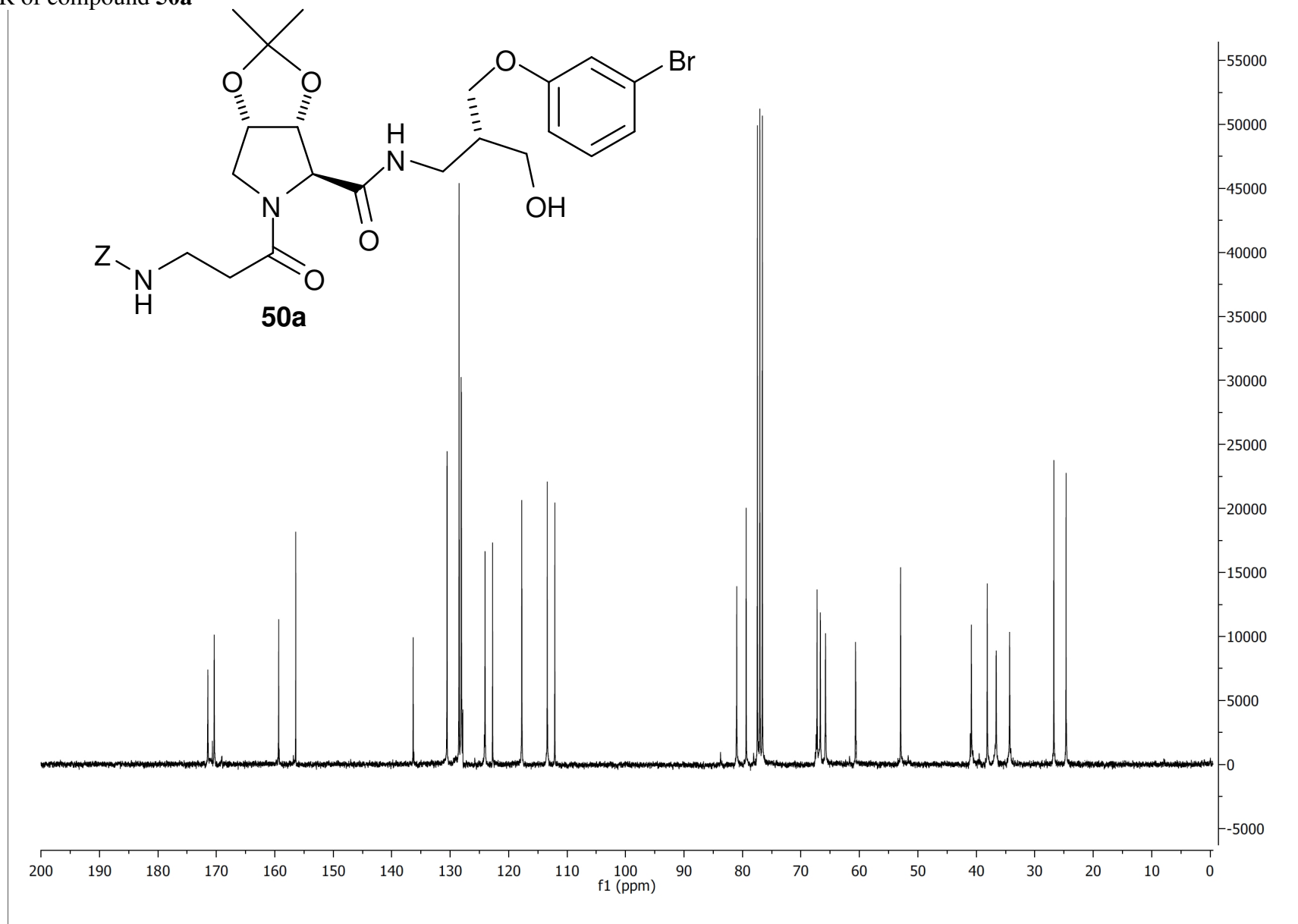
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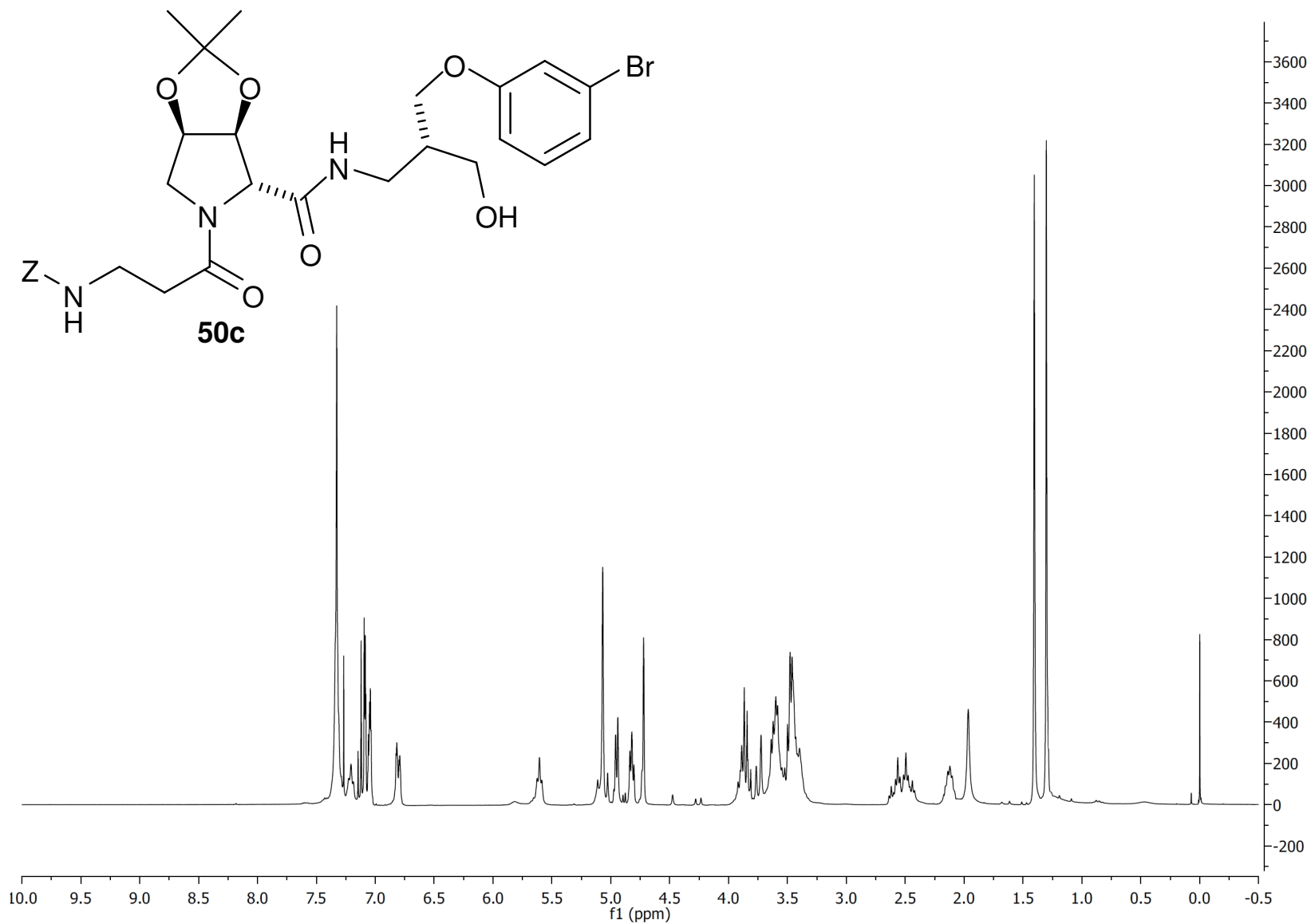
<sup>1</sup>H NMR of compound **50a**



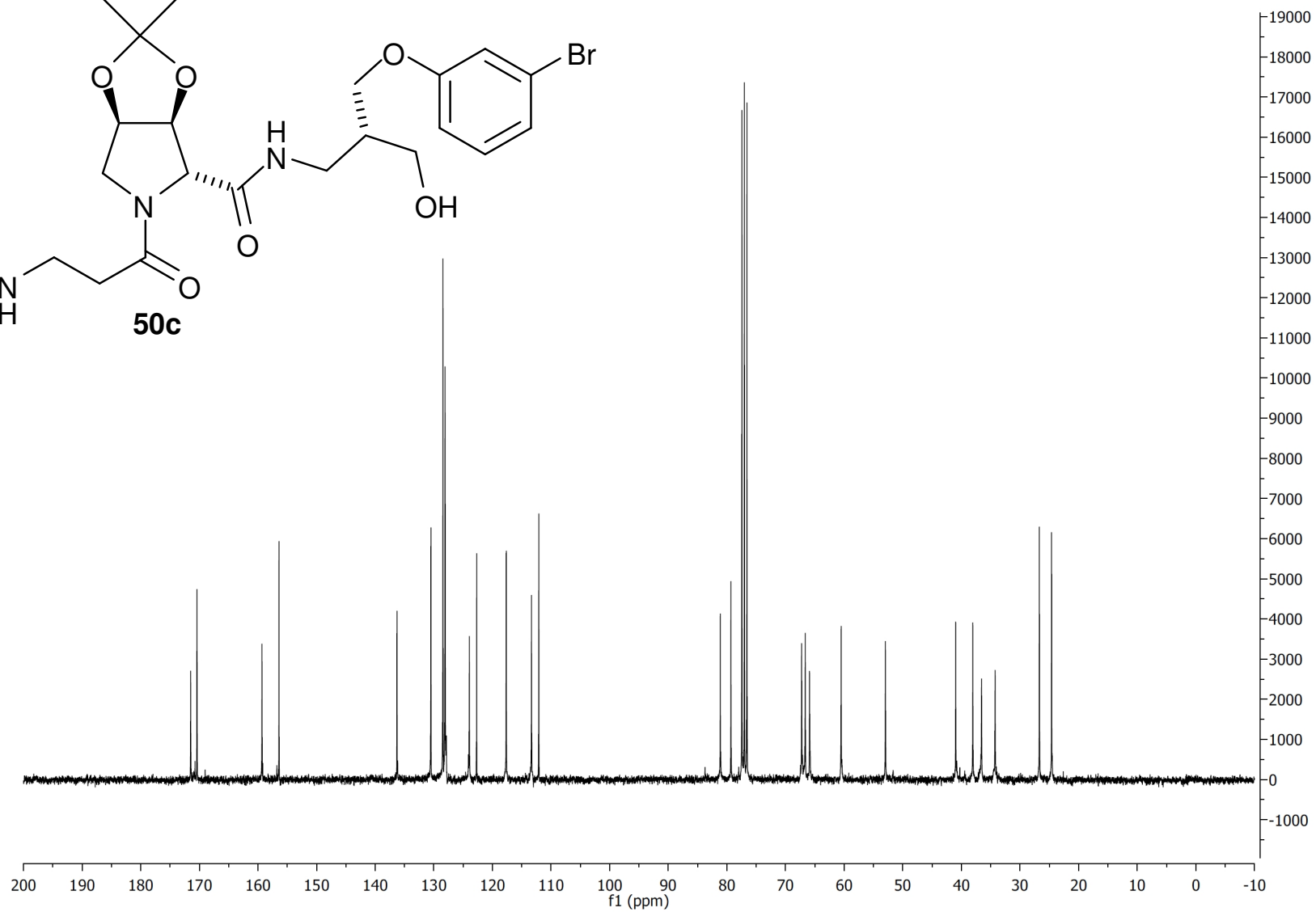
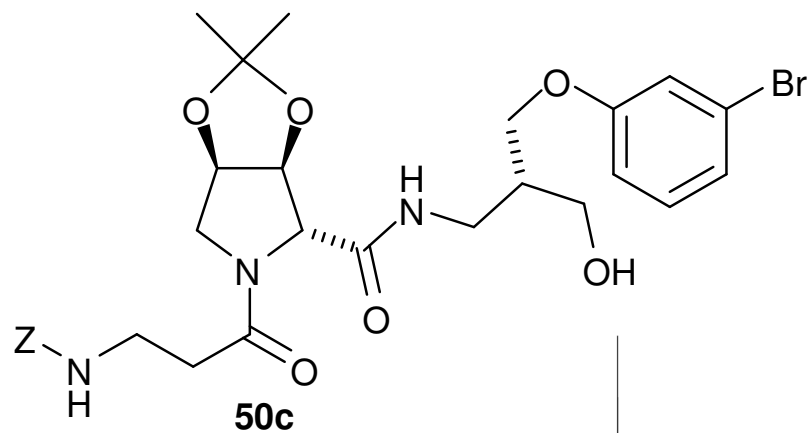
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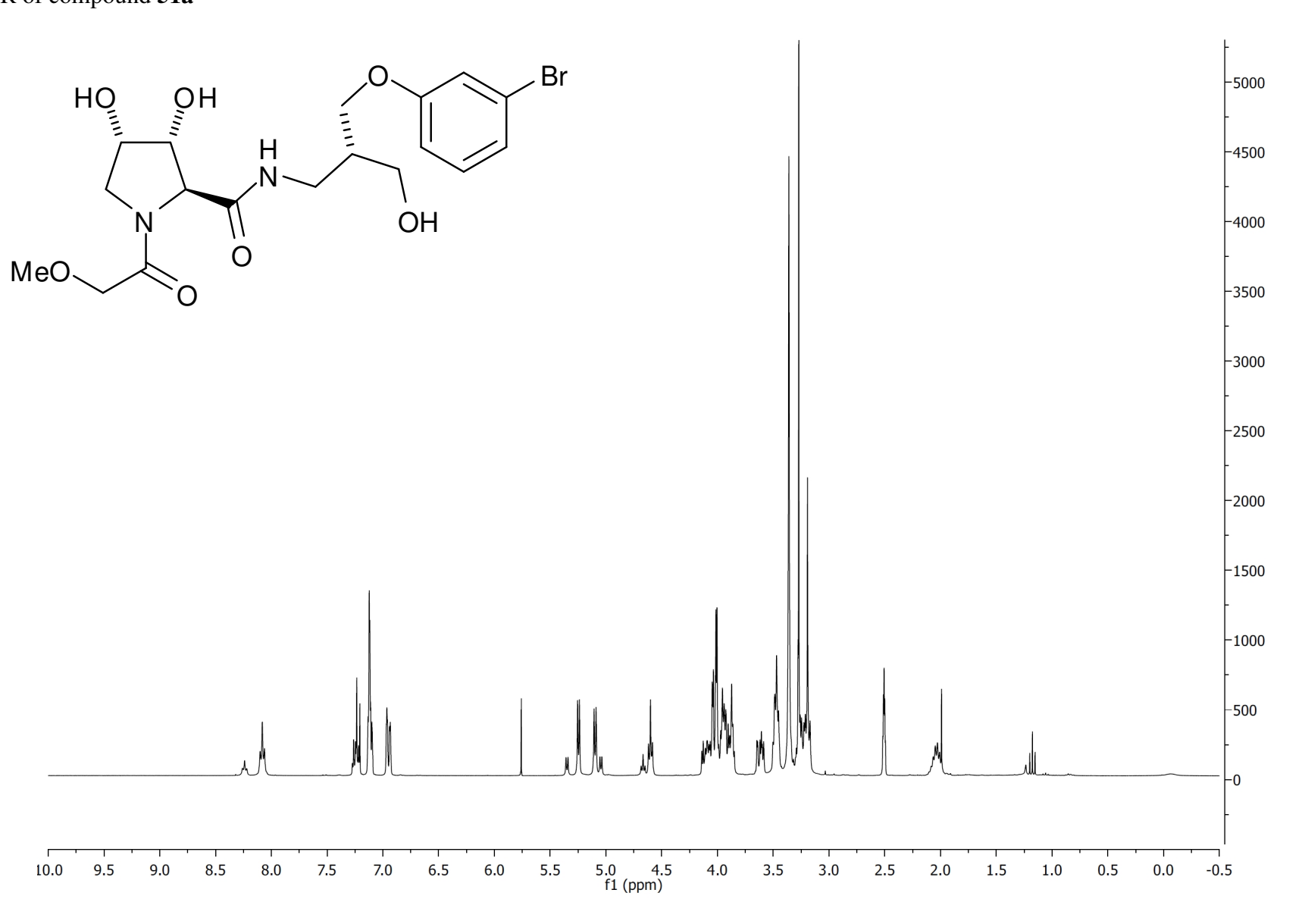
$^1\text{H}$  NMR of compound **50c**



$^{13}\text{C}$  NMR of compound **50c**

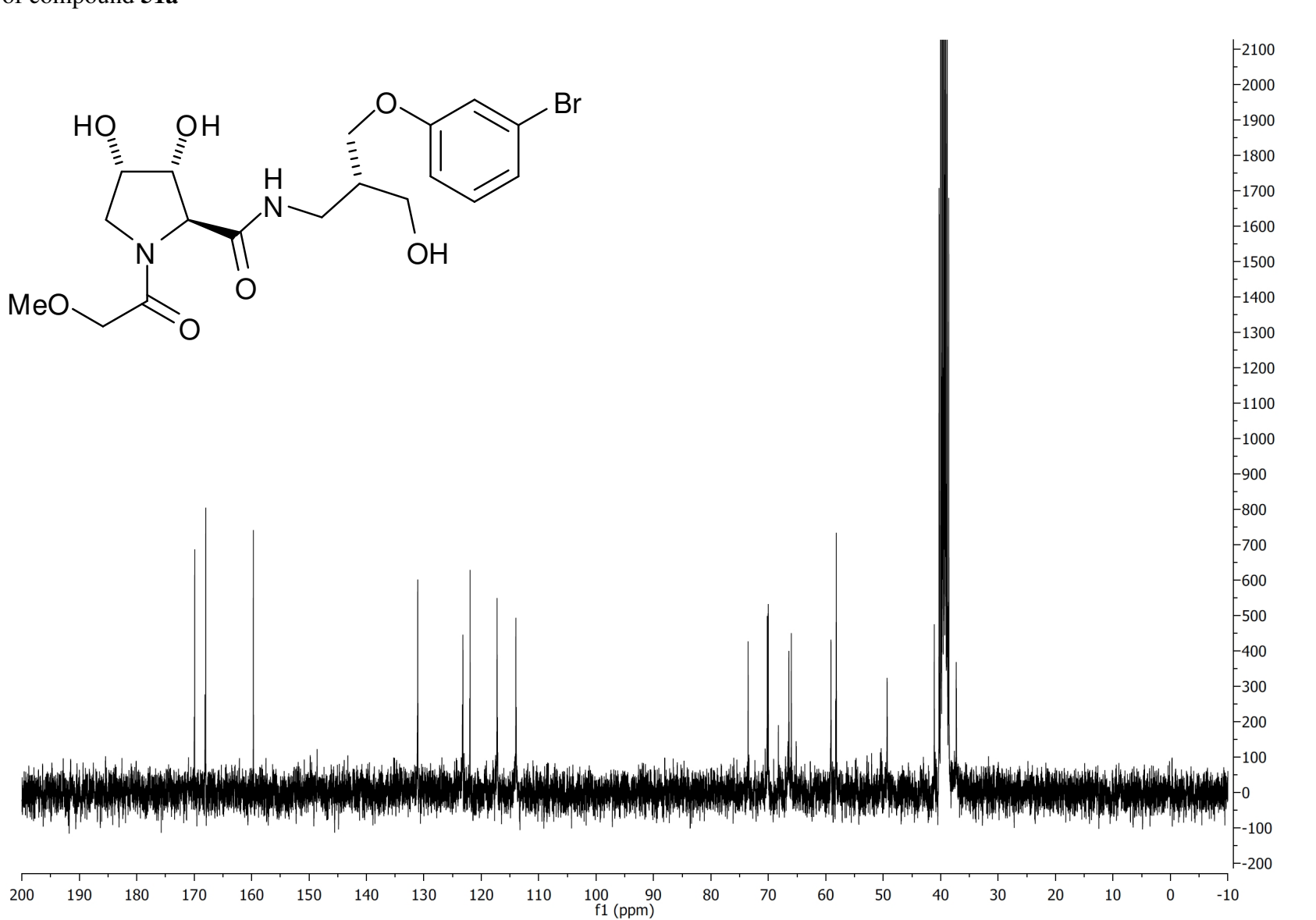
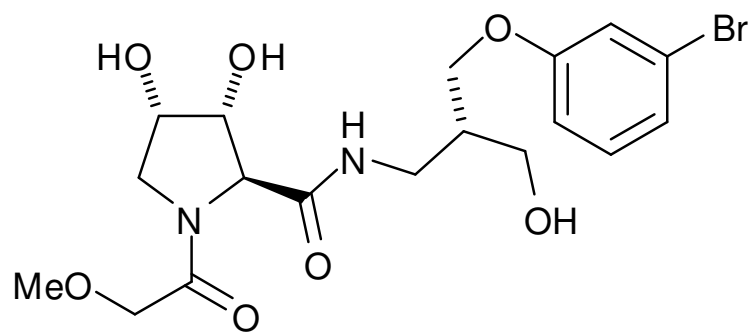


<sup>1</sup>H NMR of compound **51a**

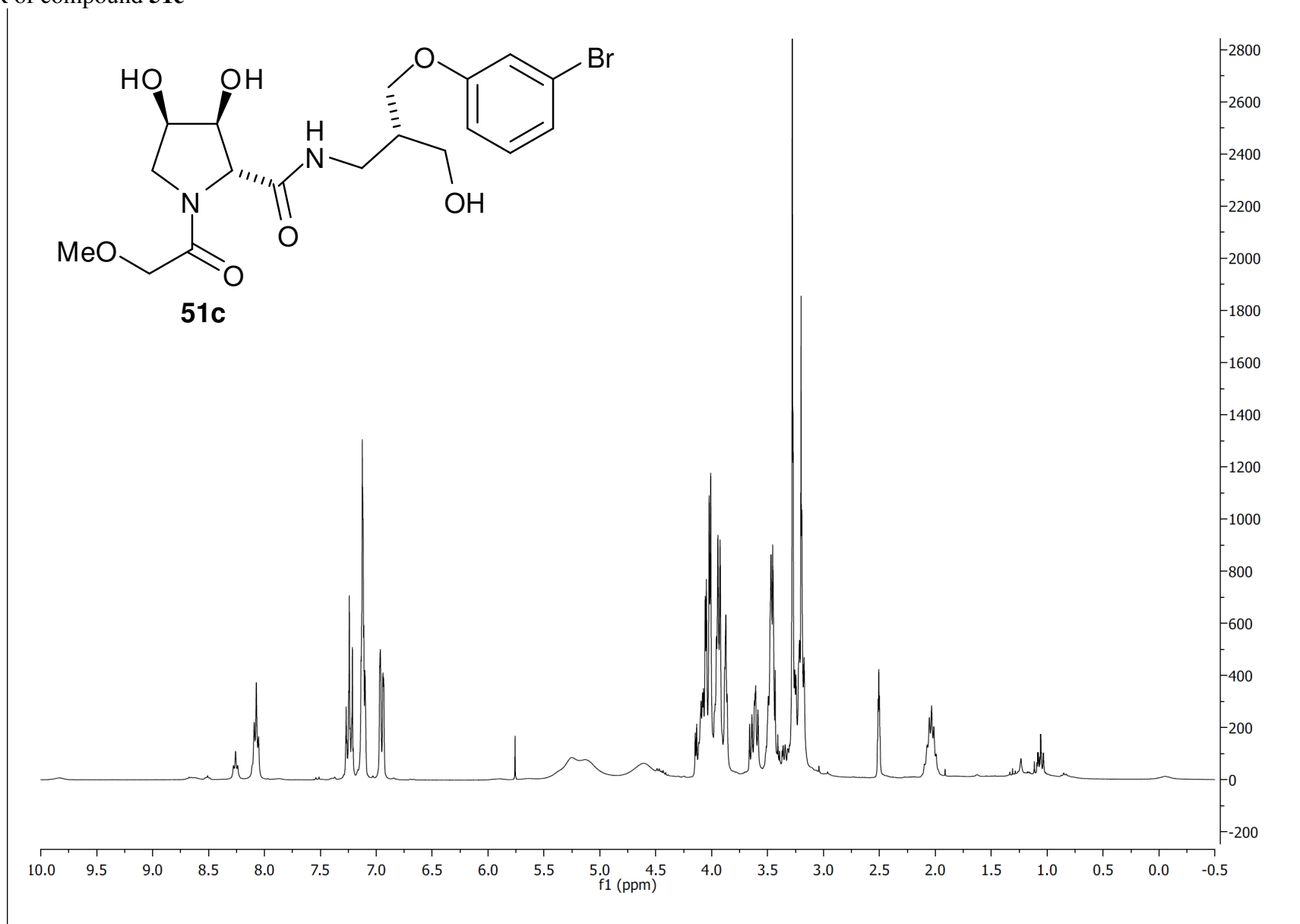




$^{13}\text{C}$  NMR of compound **51a**



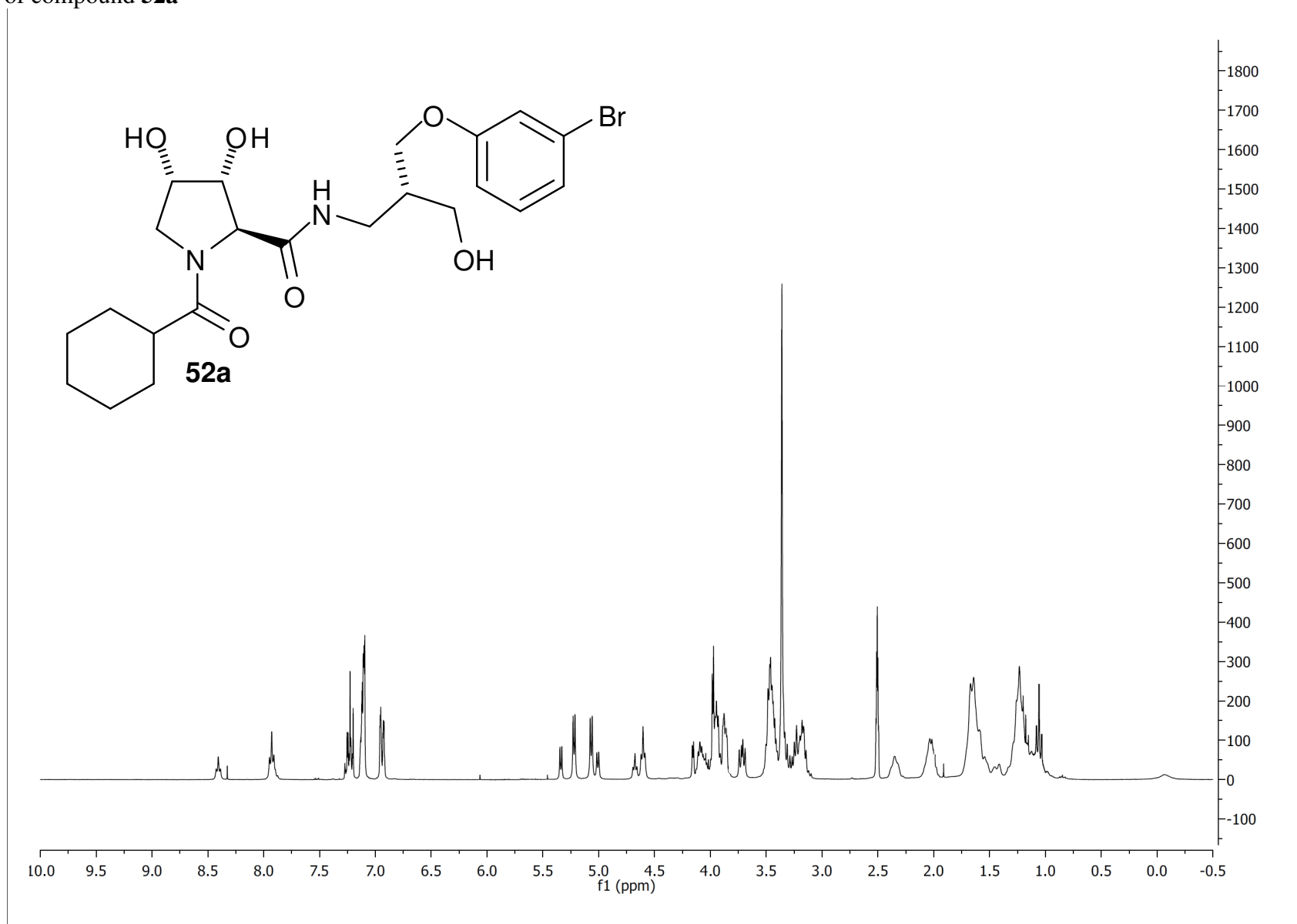
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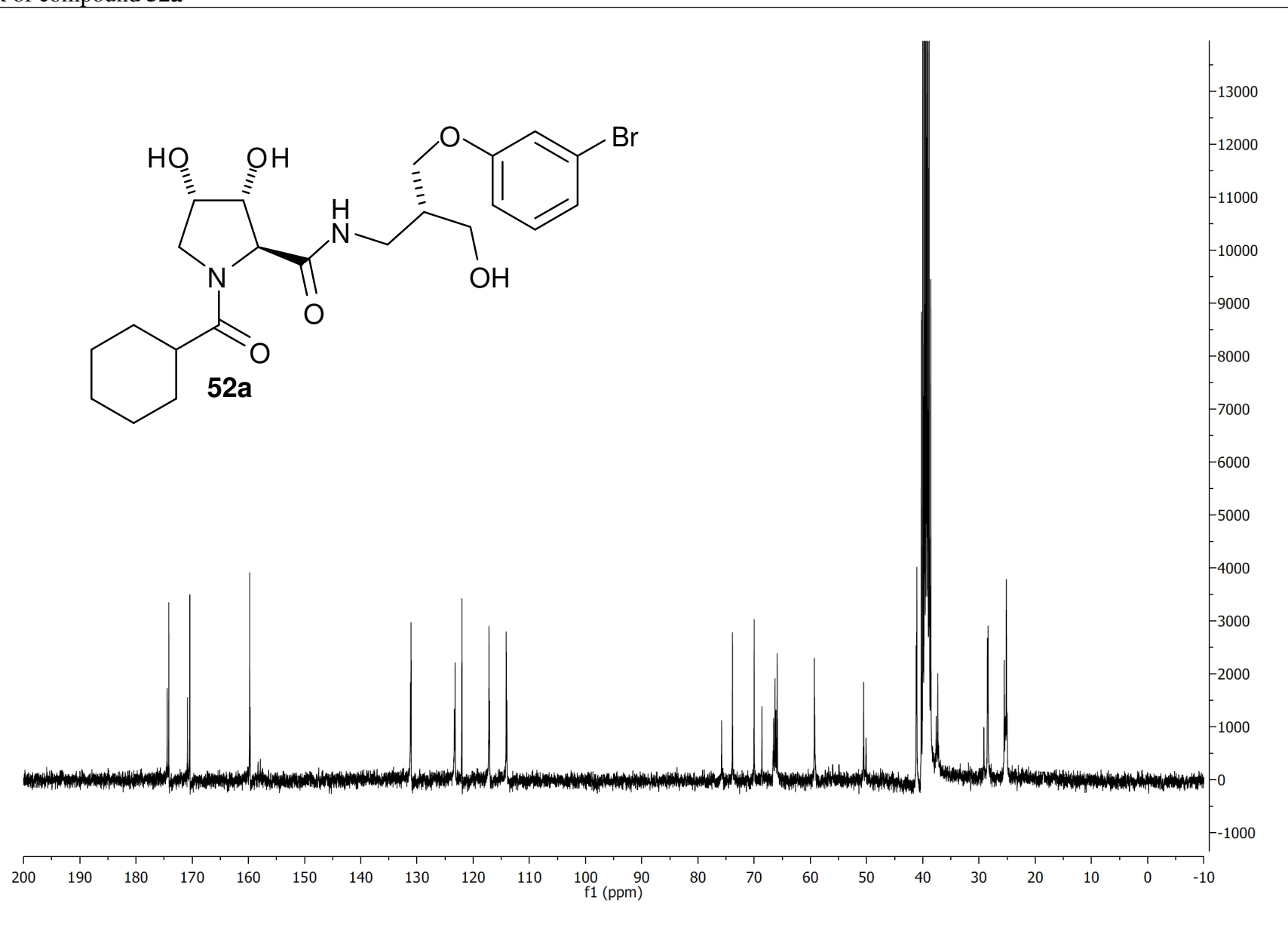
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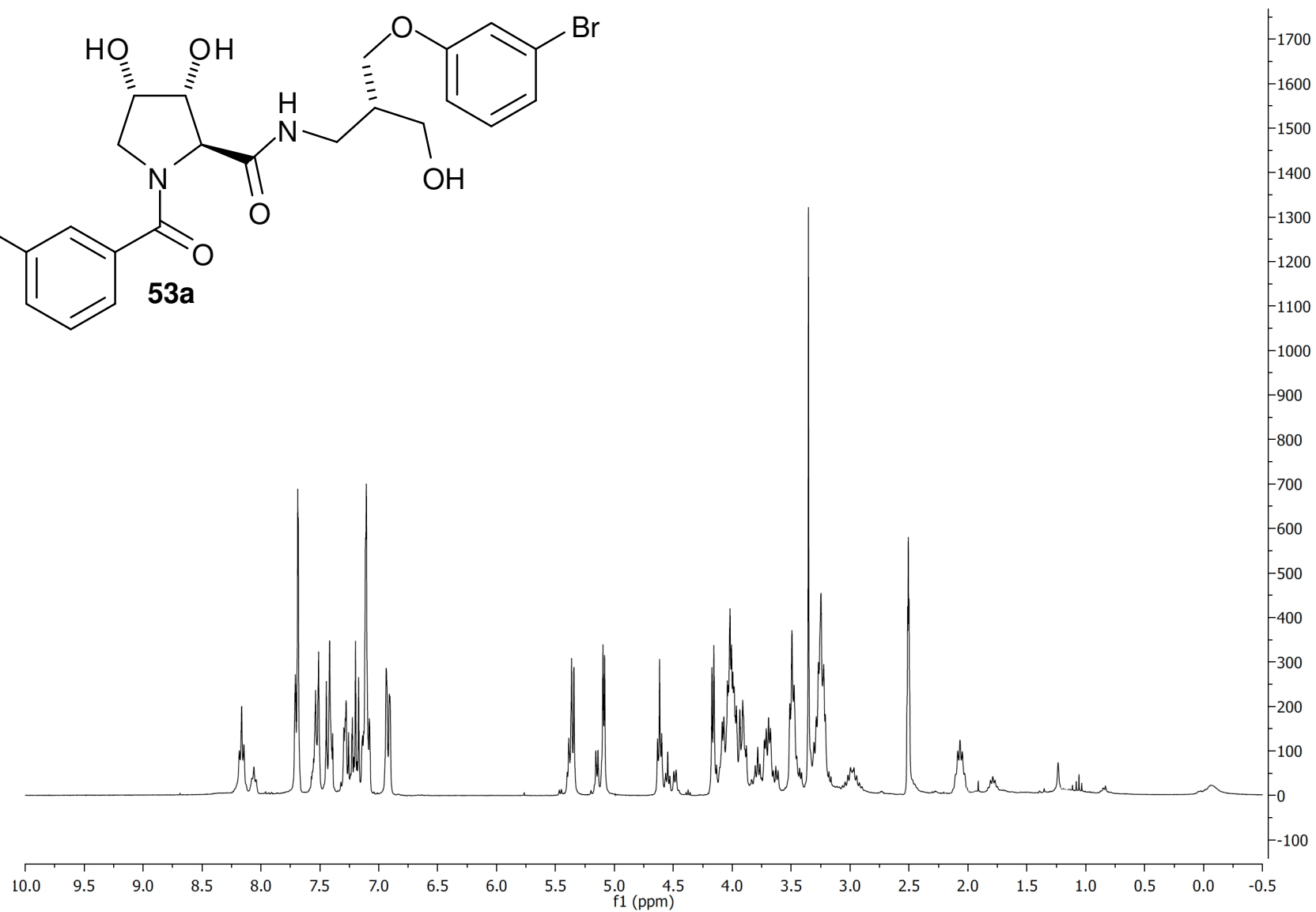
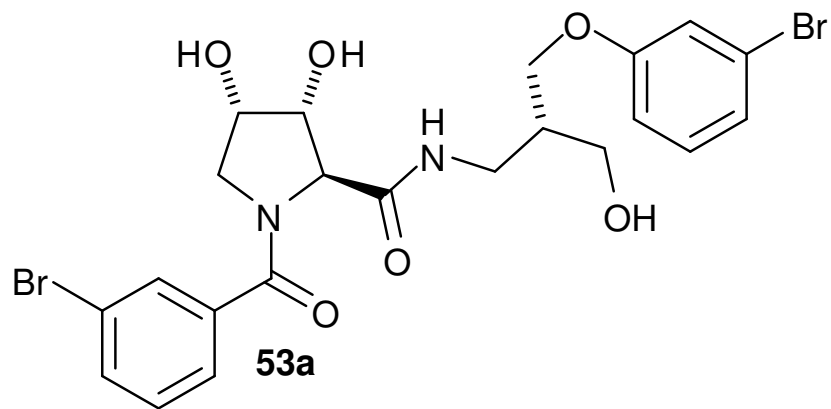
<sup>1</sup>H NMR of compound **52a**



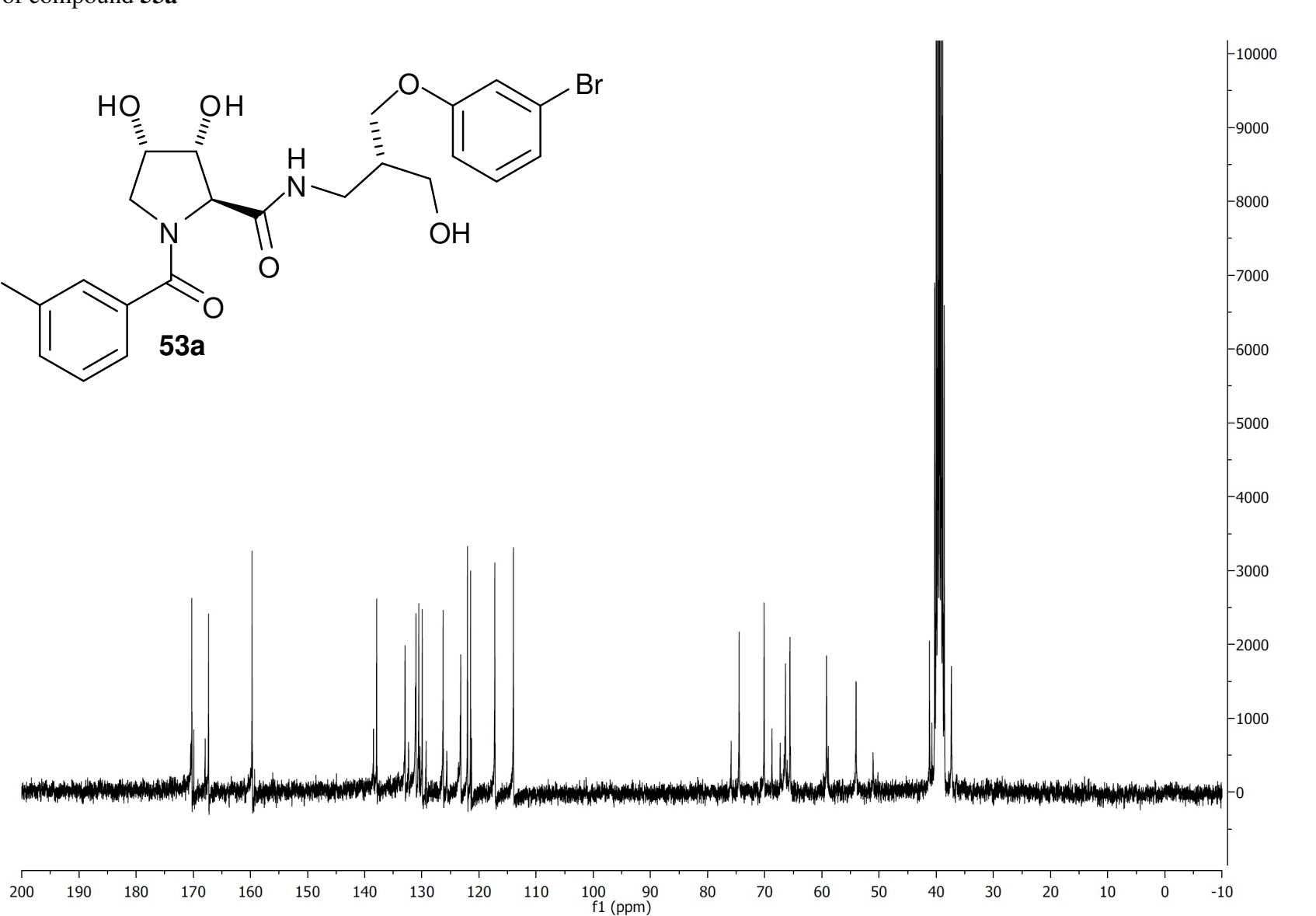
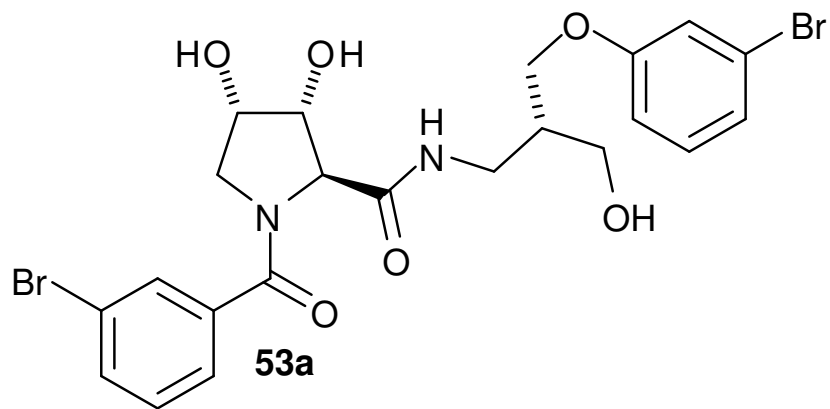
$^{13}\text{C}$  NMR of compound **52a**



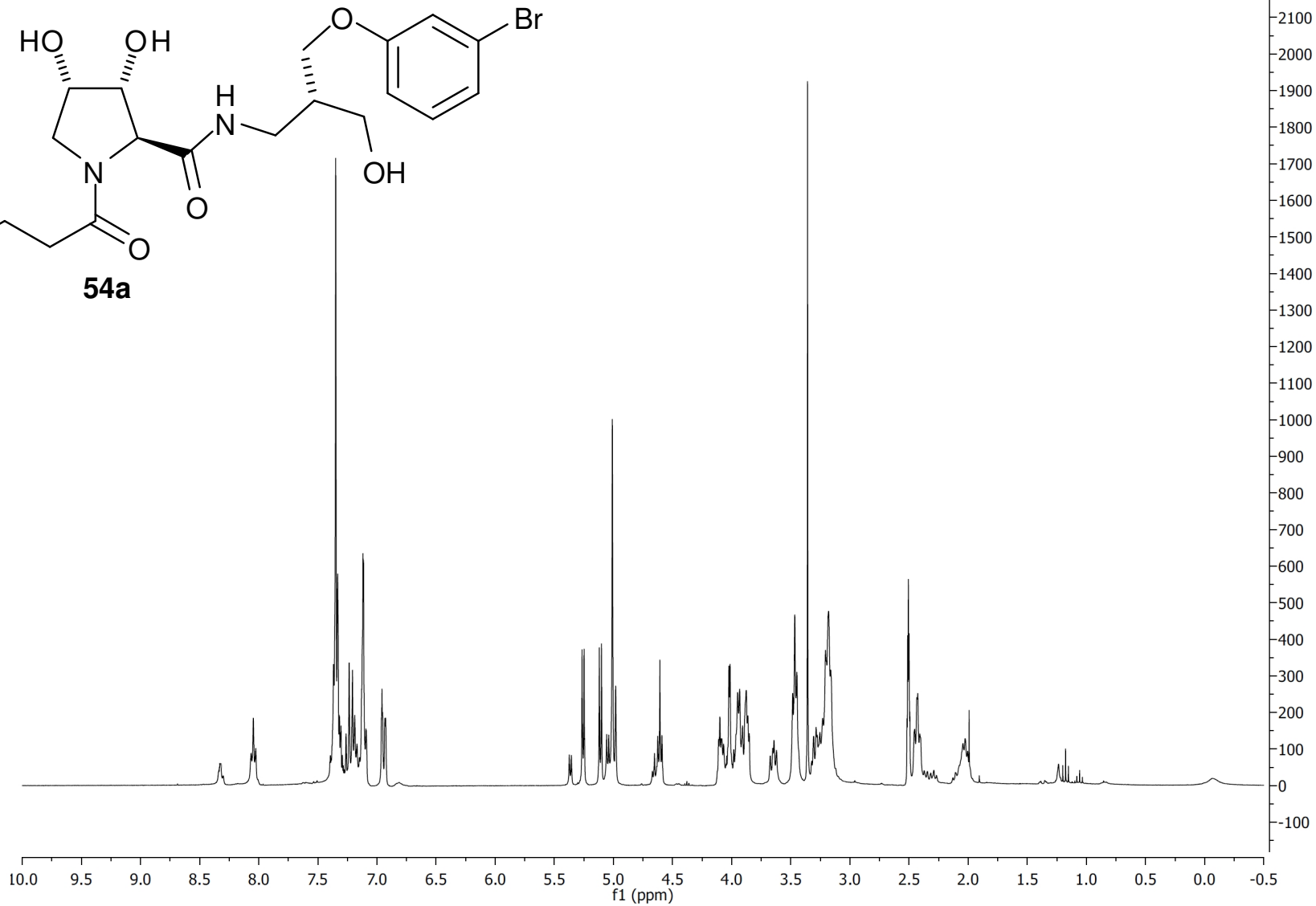
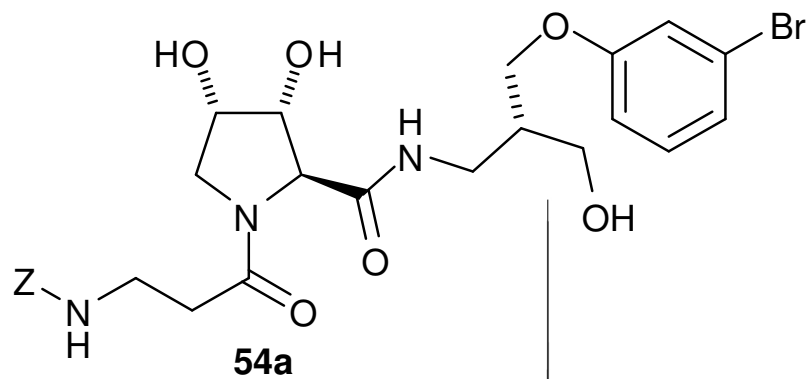
$^1\text{H}$  NMR of compound **53a**



$^{13}\text{C}$  NMR of compound **53a**

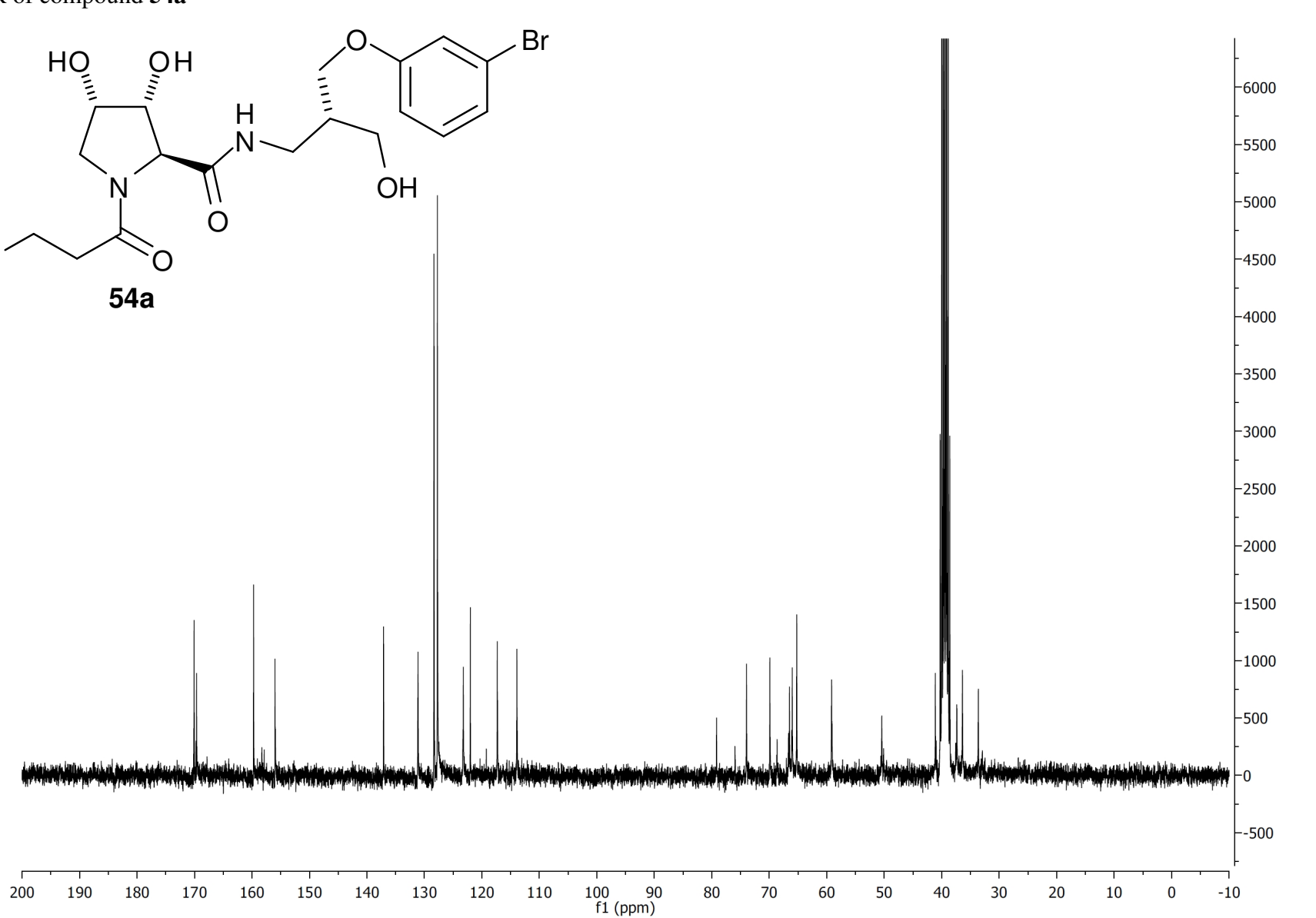
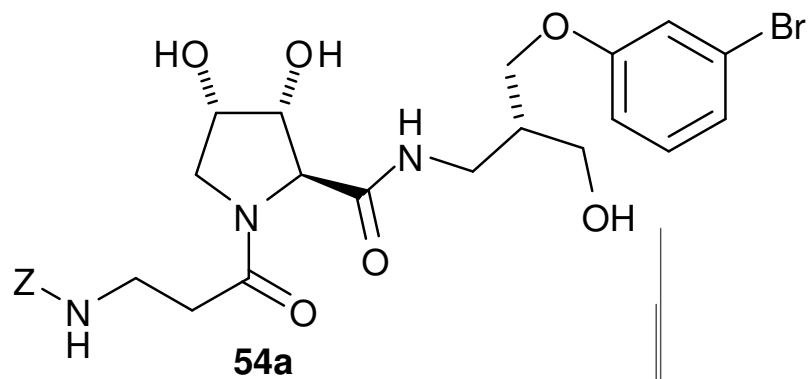


$^1\text{H}$  NMR of compound **54a**

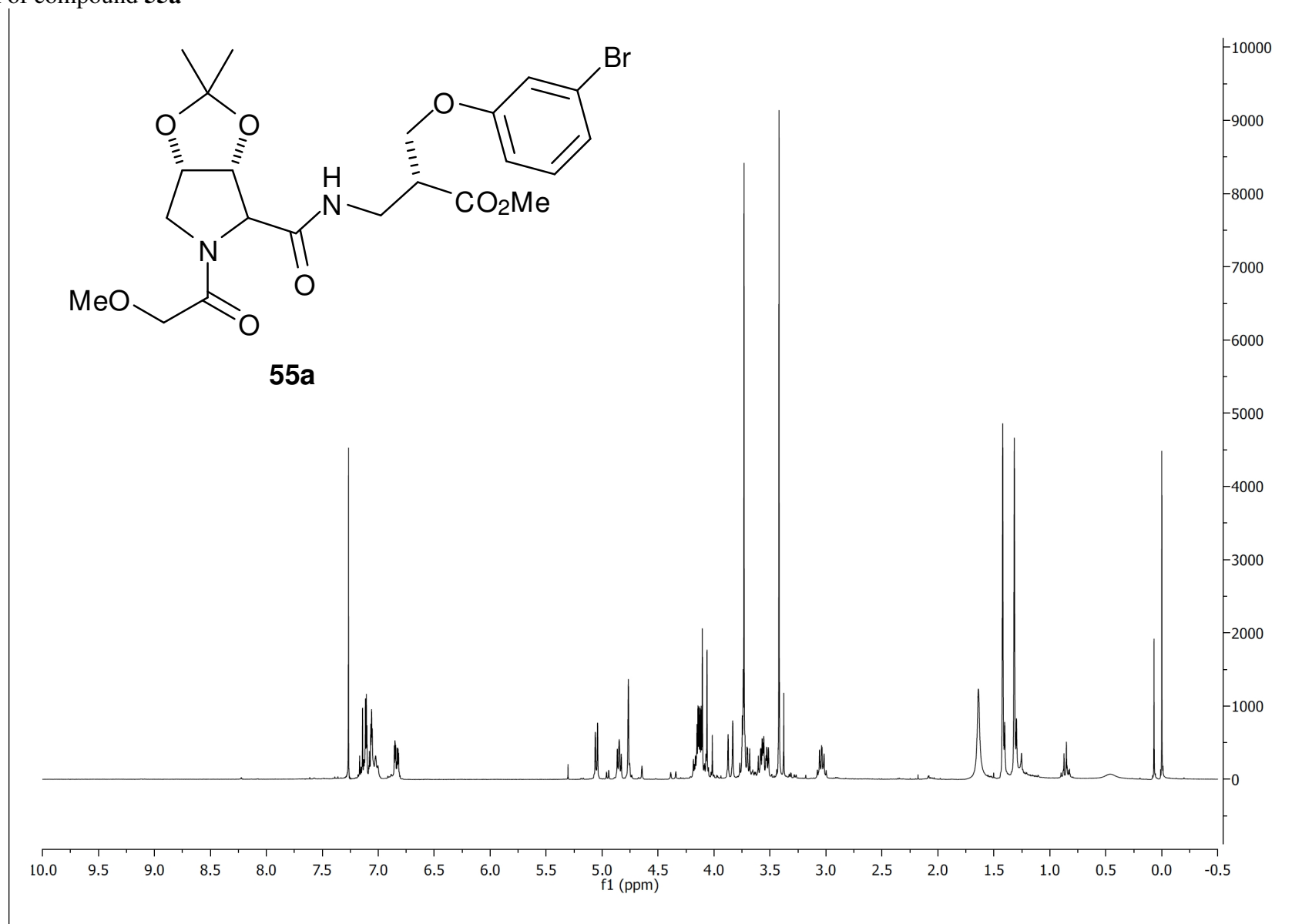




$^{13}\text{C}$  NMR of compound **54a**



<sup>1</sup>H NMR of compound **55a**



$^{13}\text{C}$  NMR of compound **55a**

