

# Multitargeting histamine H<sub>3</sub> receptor ligands among acetyl- and propionyl-phenoxyalkyl derivatives

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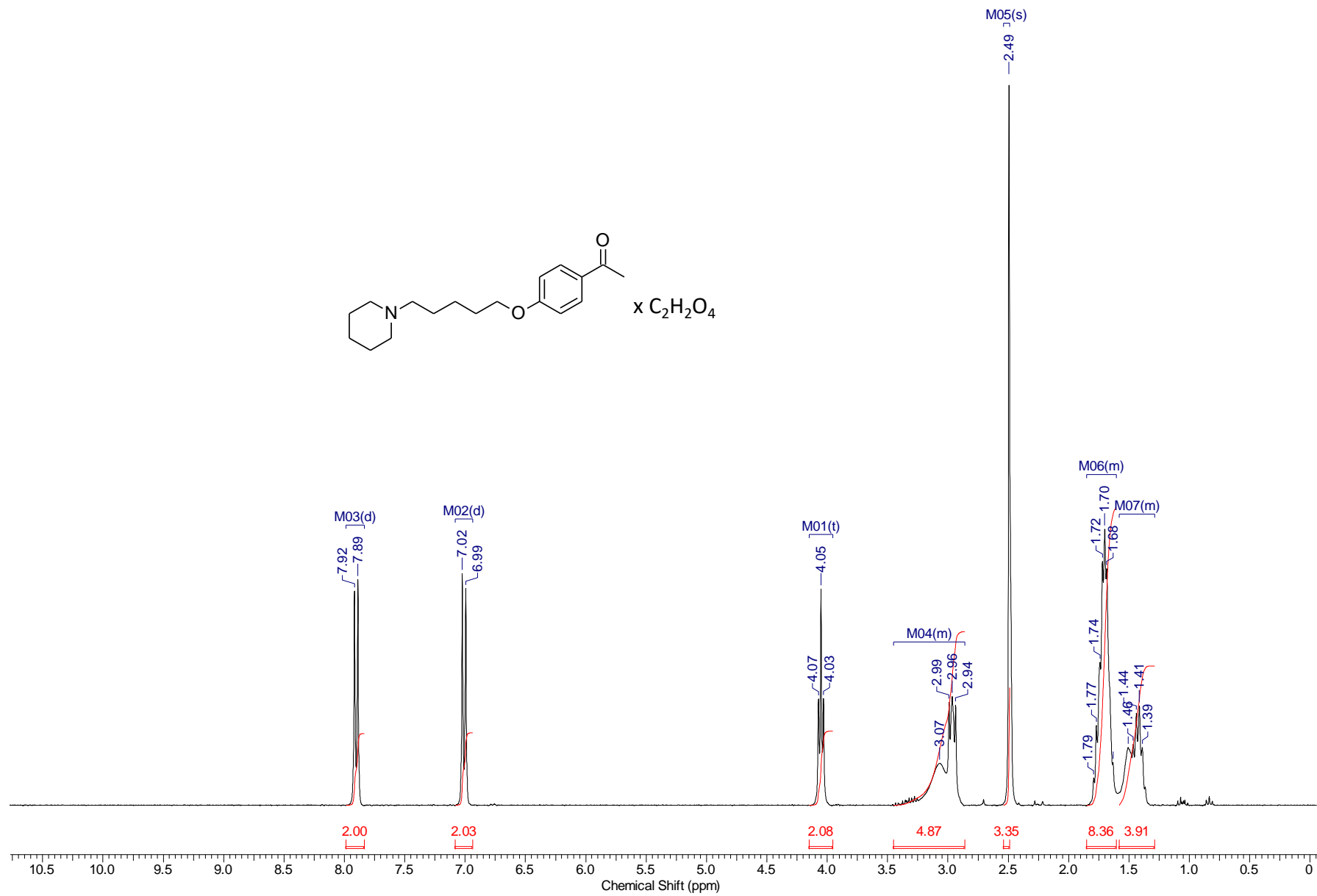


Figure S1.  $^1\text{H}$  NMR spectrum of 1-(4-((piperidin-1-yl)pentyl)oxy)phenyl ethan-1-one hydrogen oxalate (2)

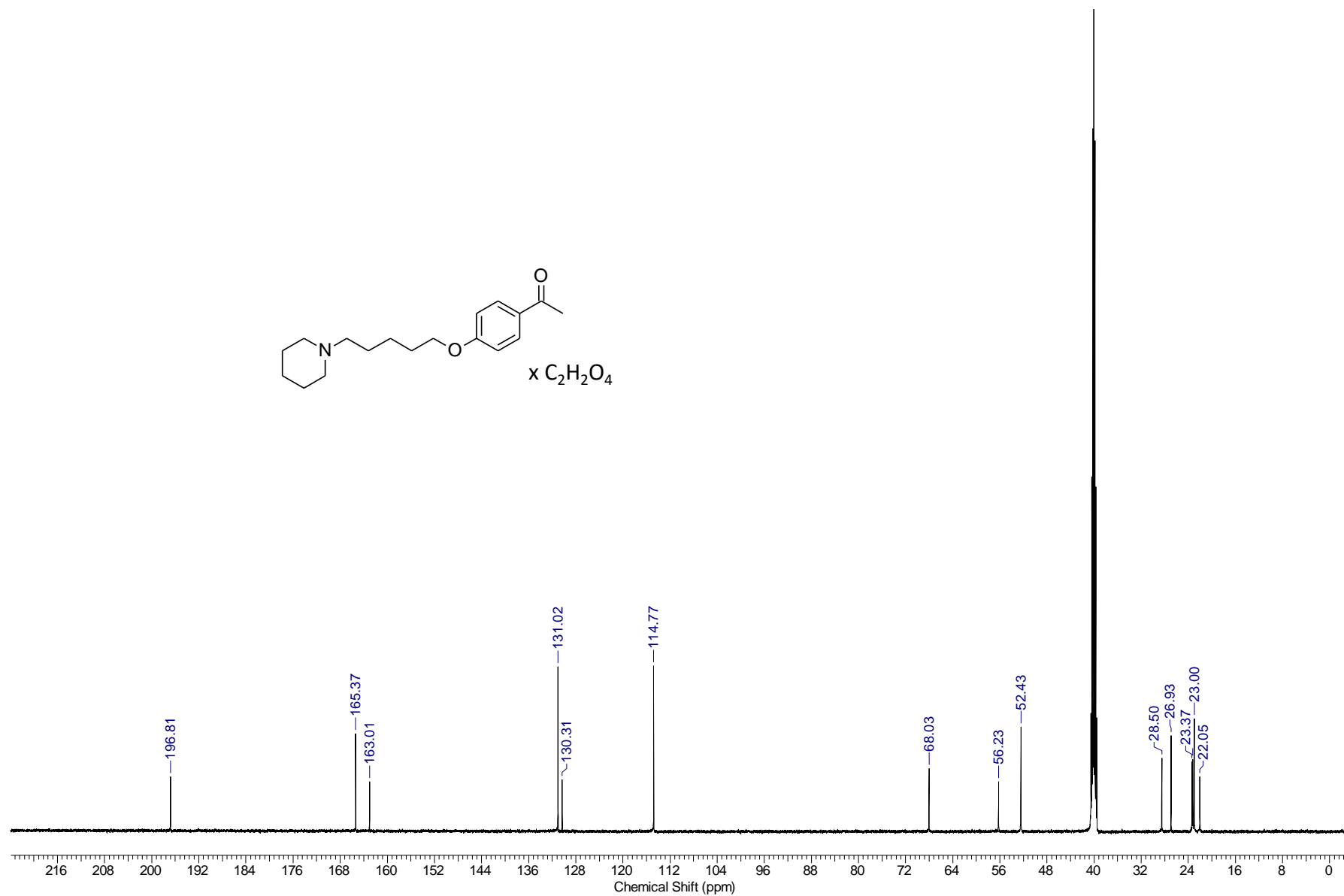


Figure S2.  $^{13}\text{C}$  NMR spectrum of 1-(4-((5-(piperidin-1-yl)pentyl)oxy)phenyl)ethan-1-one hydrogen oxalate (2)

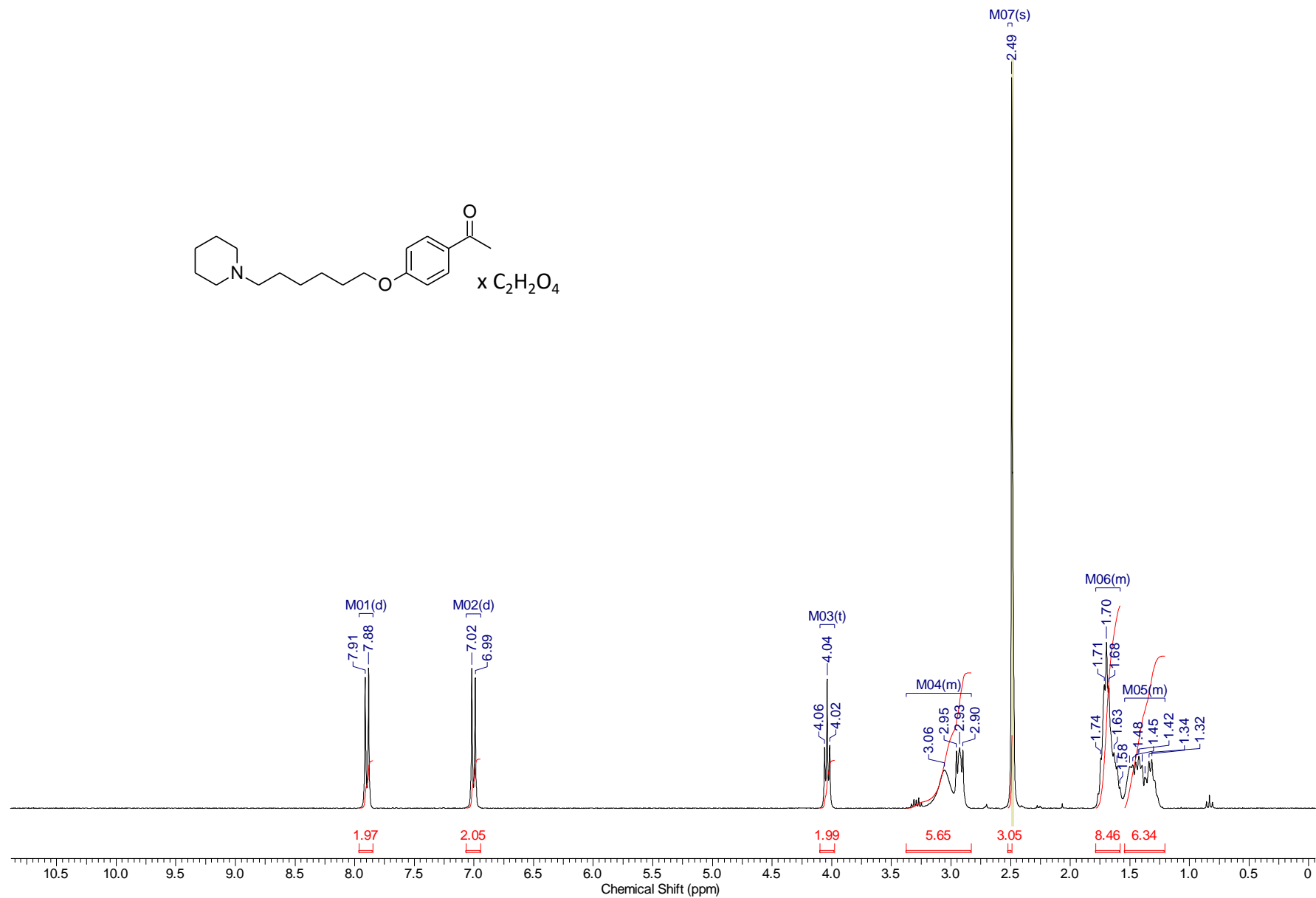


Figure S3.  $^1\text{H}$  NMR spectrum of 1-(4-((6-(piperidin-1-yl)hexyl)oxy)phenyl)ethan-1-one hydrogen oxalate (**3**)

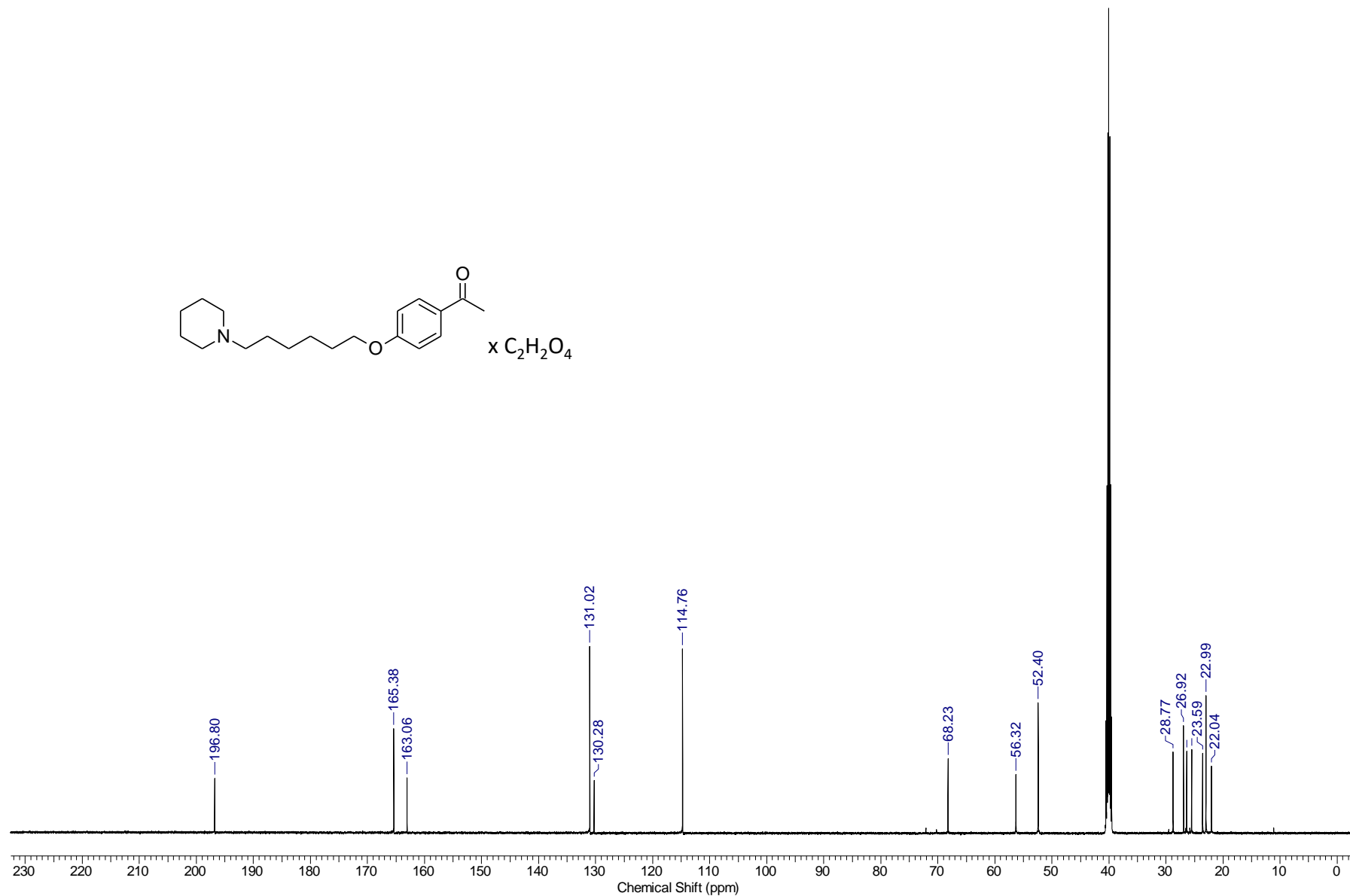
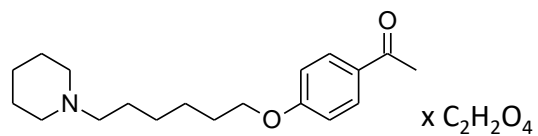


Figure S4.  $^{13}\text{C}$  NMR spectrum of 1-(4-((6-(piperidin-1-yl)hexyl)oxy)phenyl)ethan-1-one hydrogen oxalate (3)

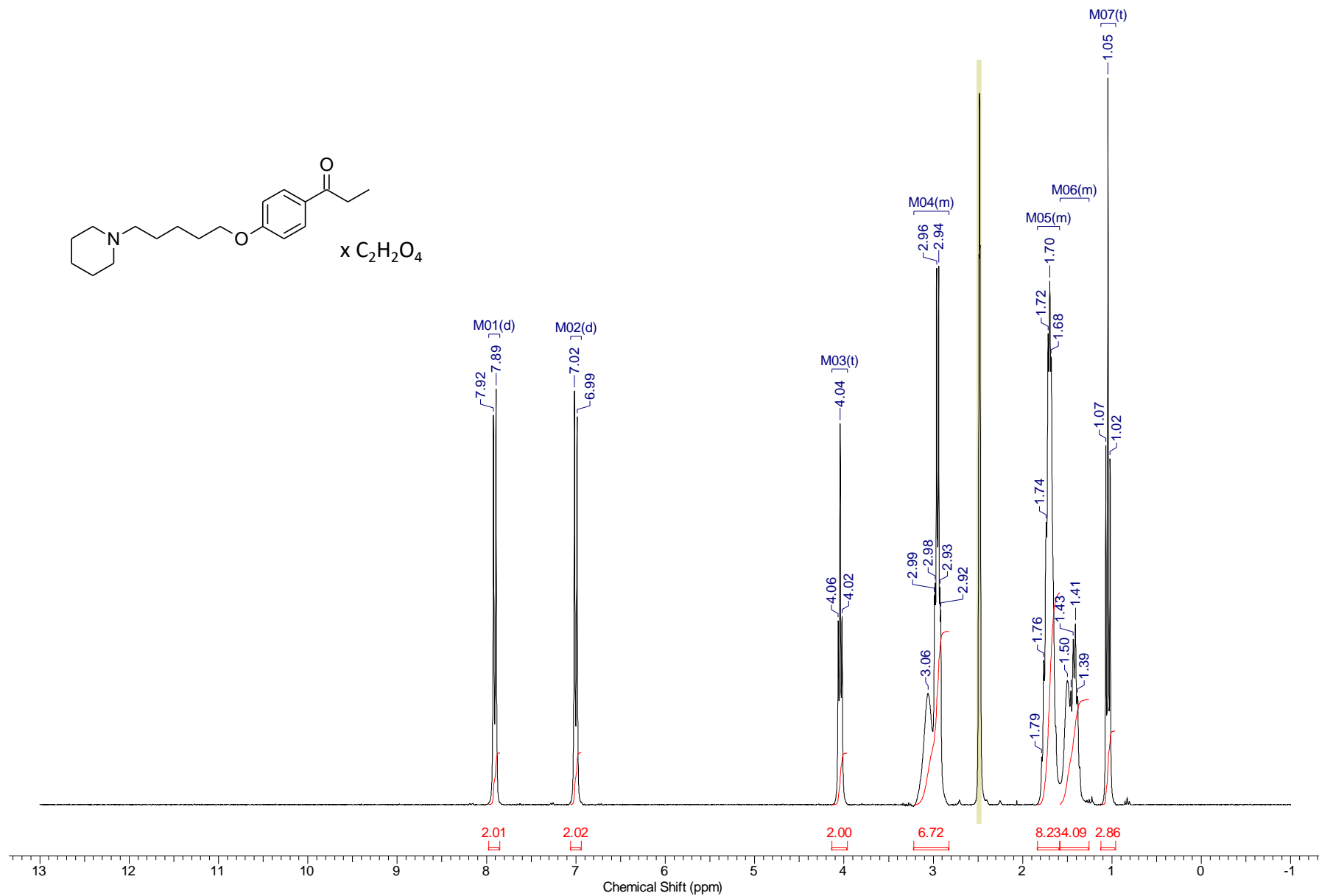


Figure S5.  $^1\text{H}$  NMR spectrum of 1-(4-((5-(piperidin-1-yl)pentyl)oxy)phenyl)ethan-1-one hydrogen oxalate (**4**)

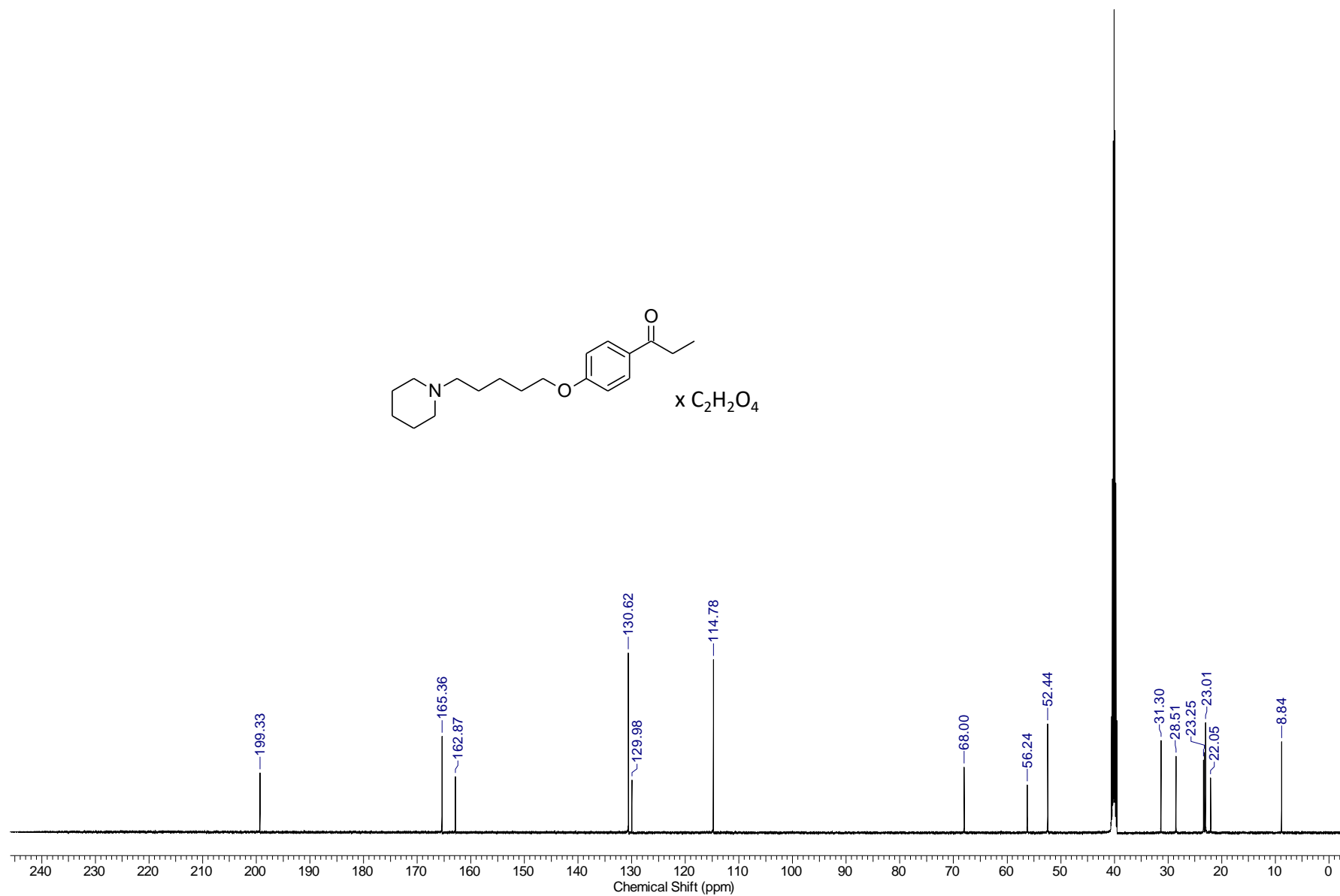


Figure S6.  $^{13}\text{C}$  NMR spectrum of 1-(4-((5-(piperidin-1-yl)pentyl)oxy)phenyl)ethan-1-one hydrogen oxalate (4)

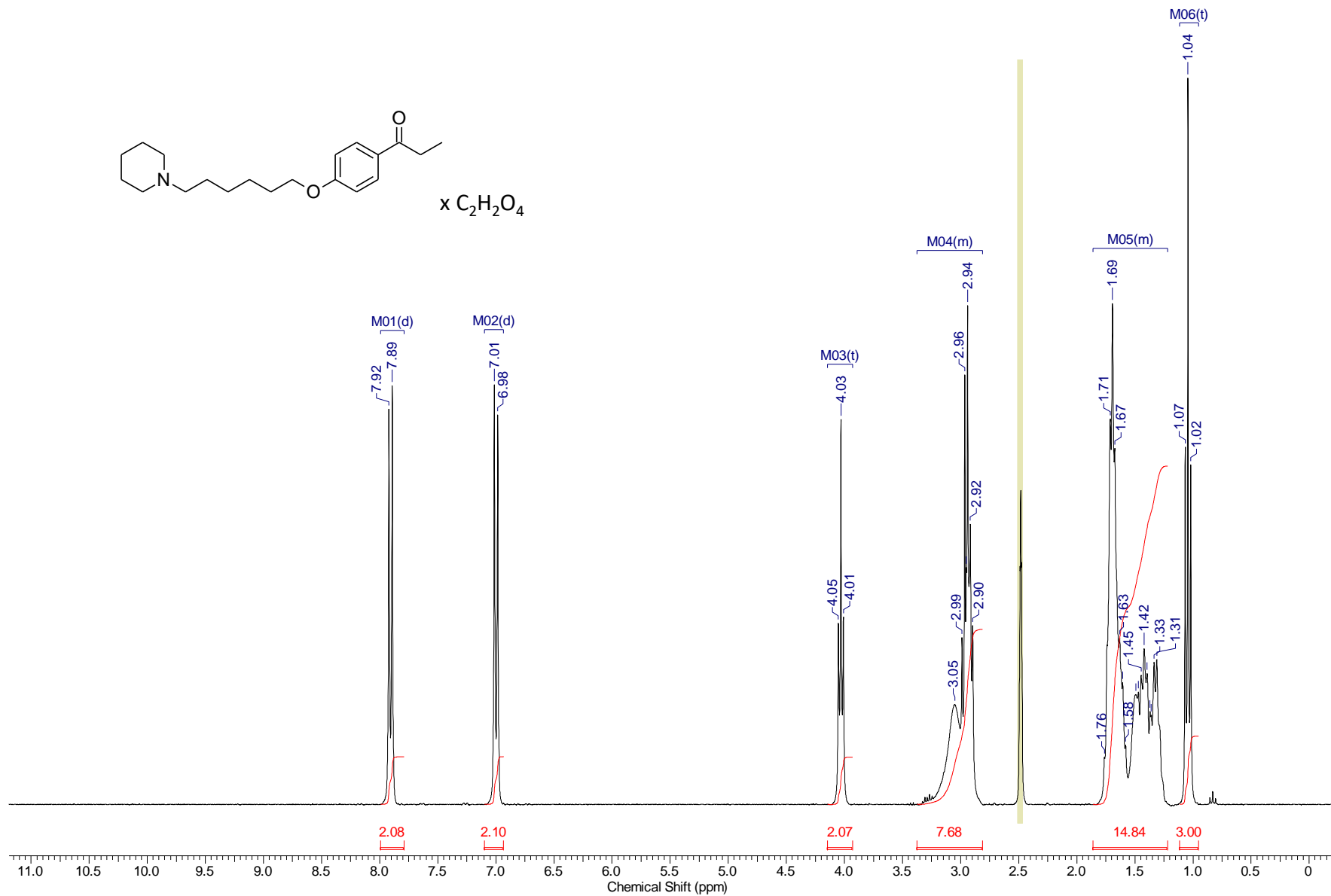


Figure S7.  $^1\text{H}$  NMR spectrum of 1-(4-((6-(piperidin-1-yl)hexyl)oxy)phenyl)propan-1-one hydrogen oxalate (5)



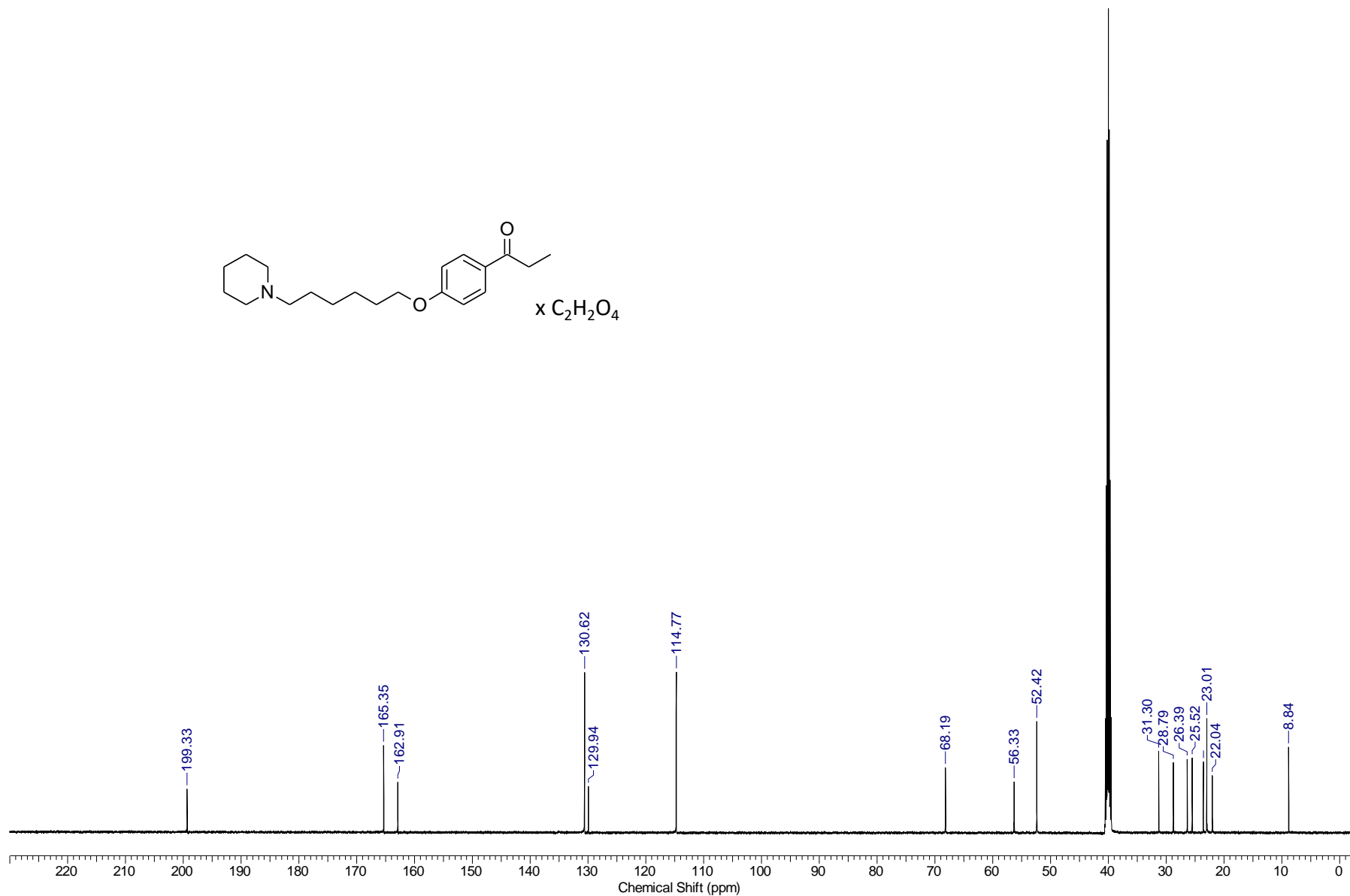
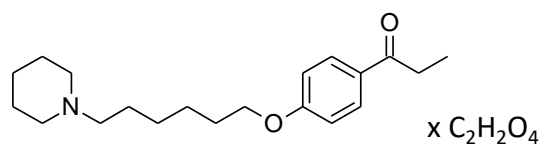


Figure S8.  $^{13}\text{C}$  NMR spectrum of 1-(4-((6-(piperidin-1-yl)hexyl)oxy)phenyl)propan-1-one hydrogen oxalate (5)

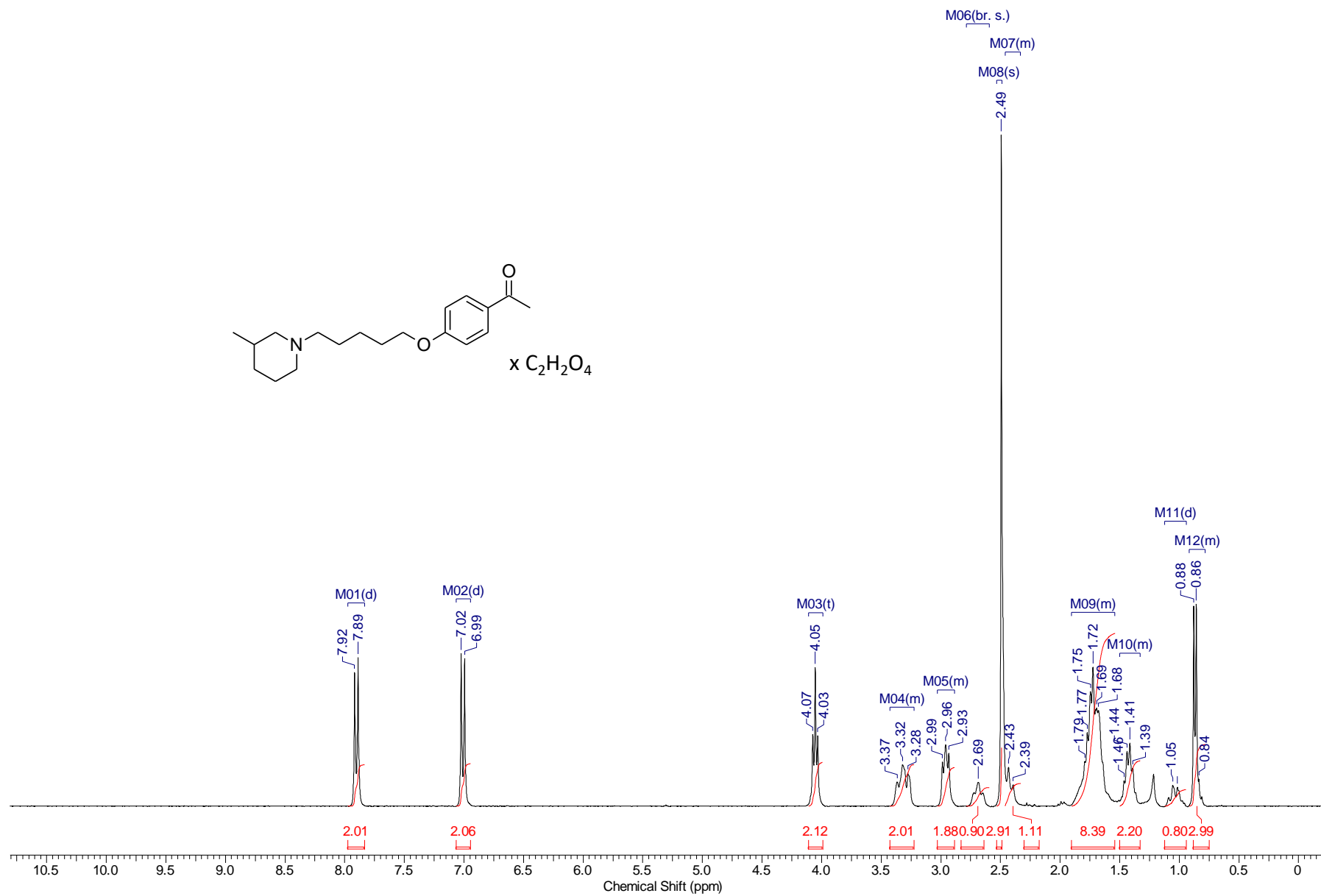


Figure S9.  $^1\text{H}$  NMR spectrum 1-(4-((5-(3-methylpiperidin-1-yl)pentyl)oxy)phenyl)ethan-1-one hydrogen oxalate (**6**)

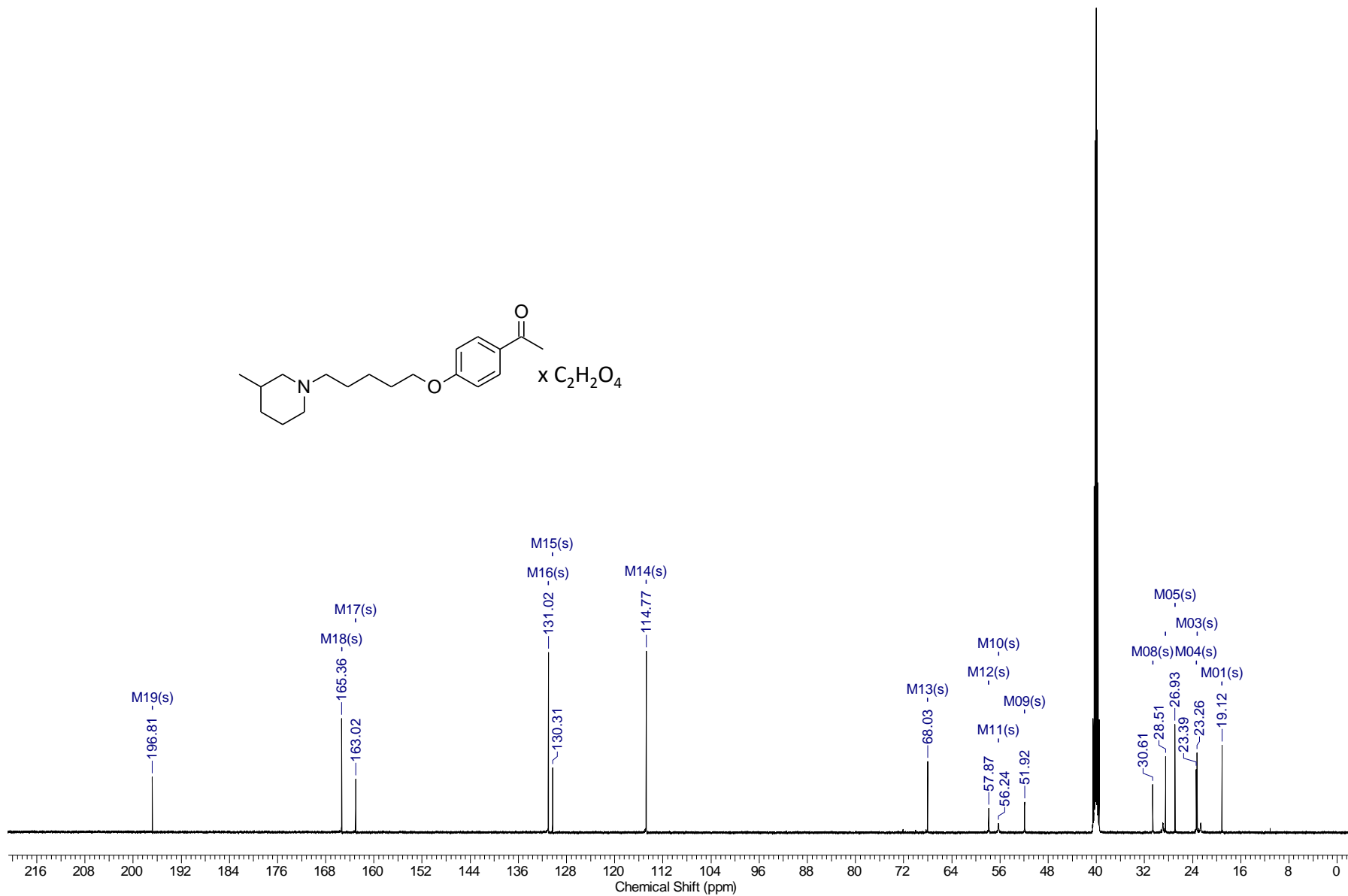
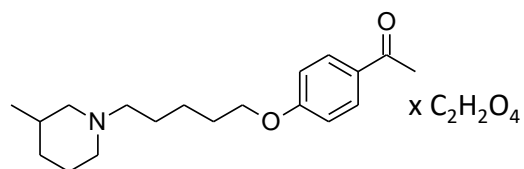


Figure S10. <sup>13</sup>C NMR spectrum of 1-(4-((5-(3-methylpiperidin-1-yl)pentyl)oxy)phenyl)ethan-1-one hydrogen oxalate (6)

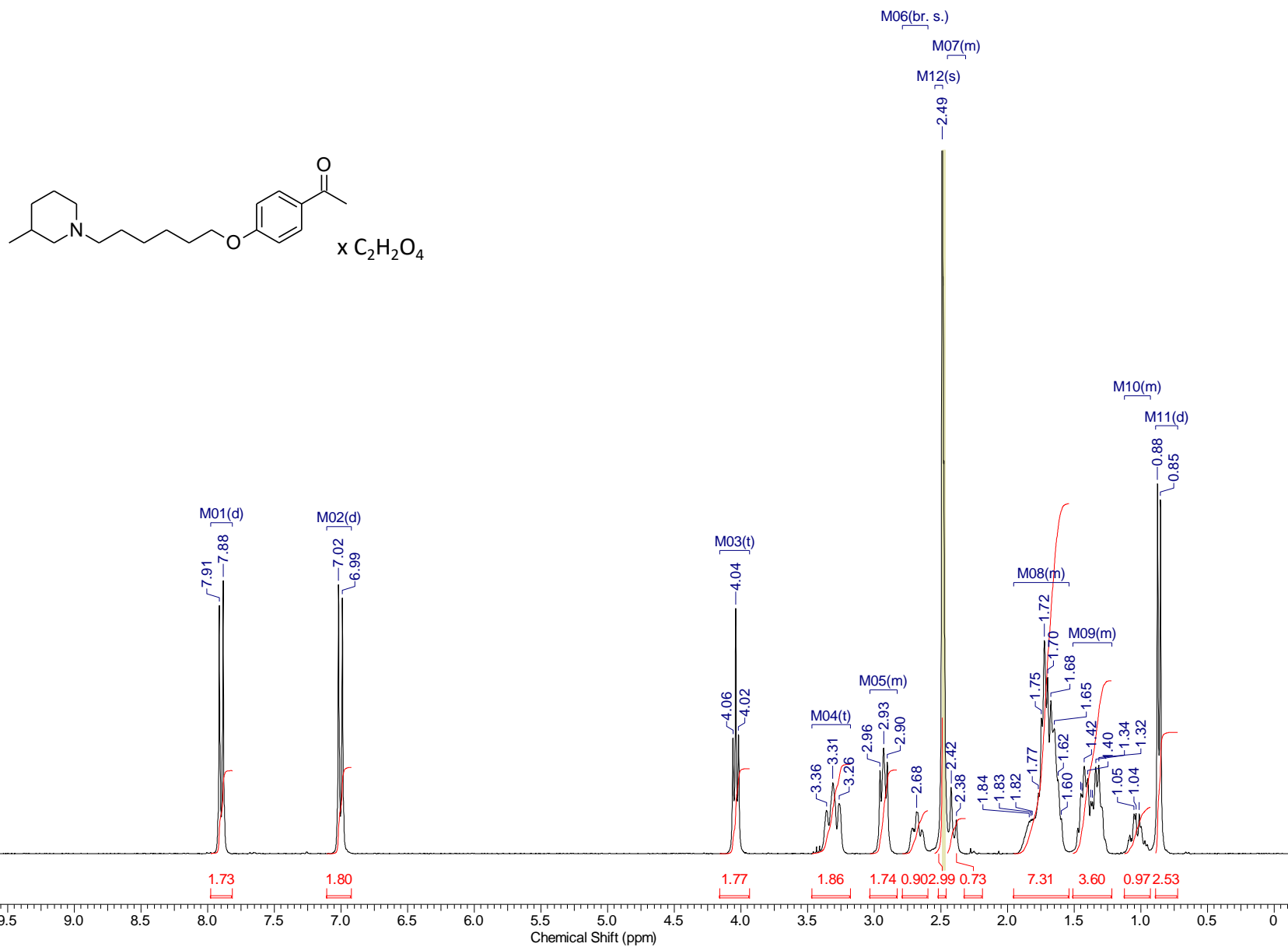


Figure S11.  $^1\text{H}$  NMR spectrum of 1-(4-((6-(3-methylpiperidin-1-yl)hexyl)oxy)phenyl)ethan-1-one hydrogen oxalate (7)

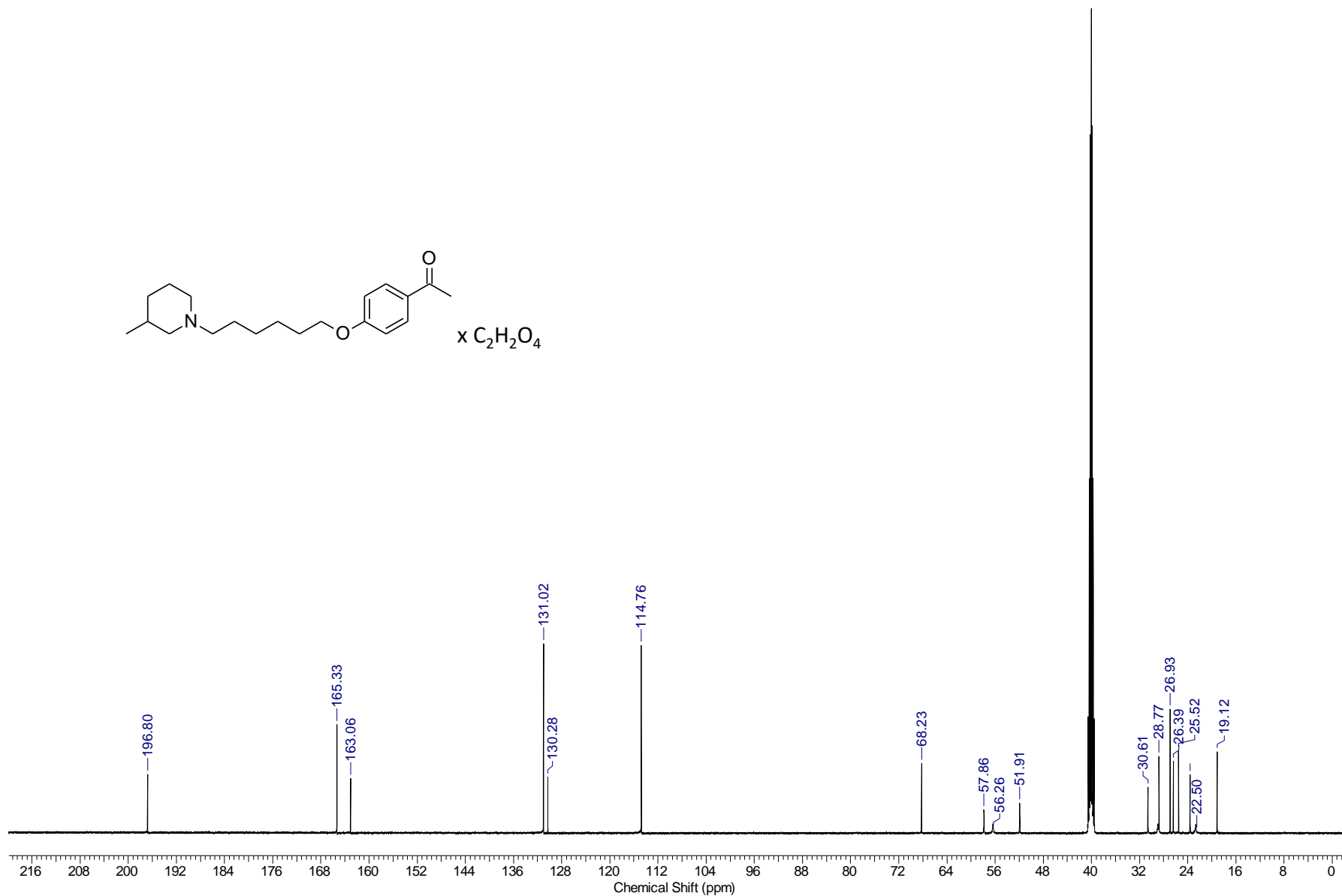
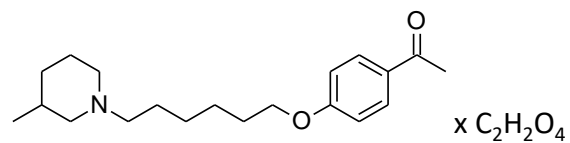


Figure S12. <sup>13</sup>C NMR spectrum of 1-(4-((6-(3-methylpiperidin-1-yl)hexyl)oxy)phenyl)ethan-1-one hydrogen oxalate (7)

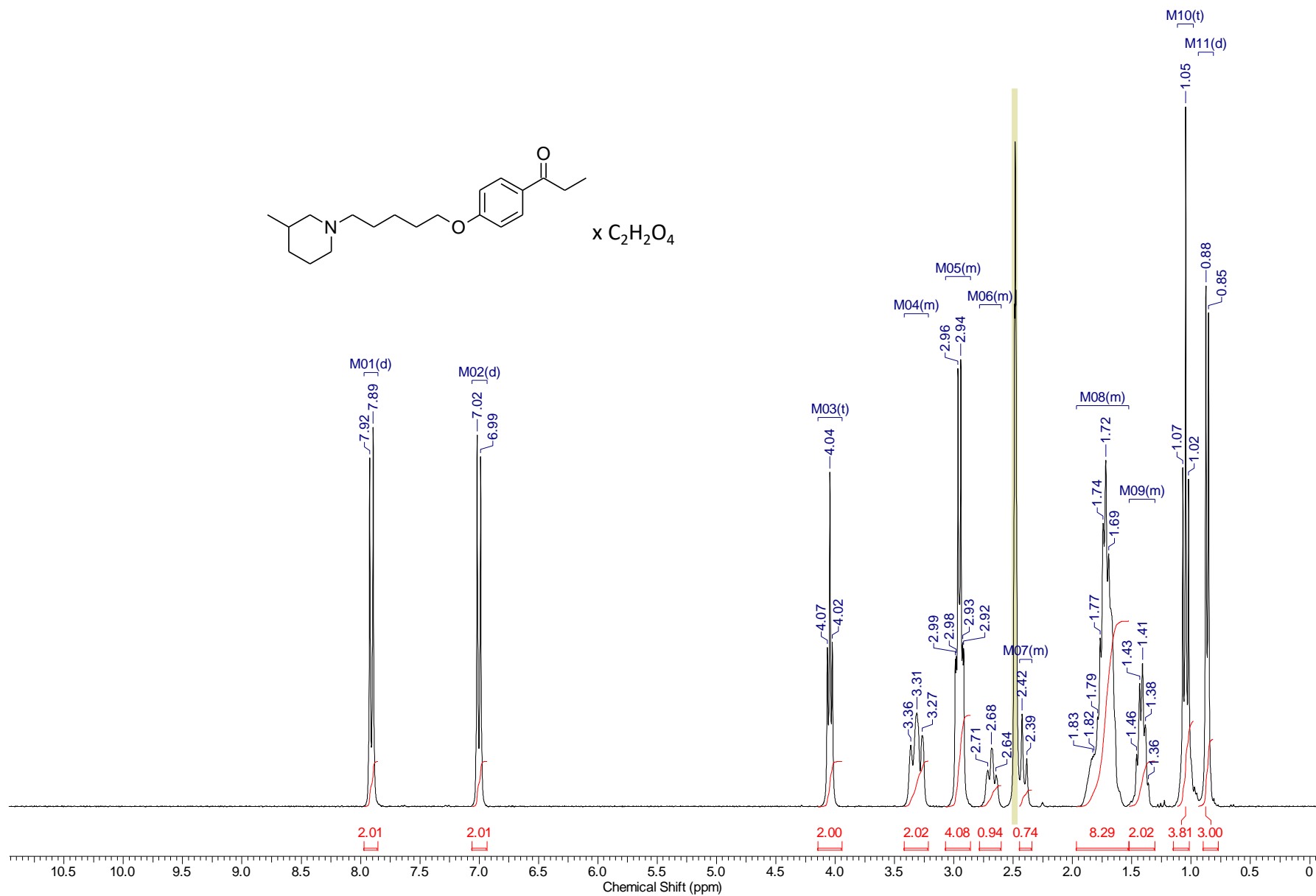


Figure S13.  $^1\text{H}$  NMR spectrum of 1-(4-((5-(3-methylpiperidin-1-yl)pentyl)oxy)phenyl)propan-1-one hydrogen oxalate (8)

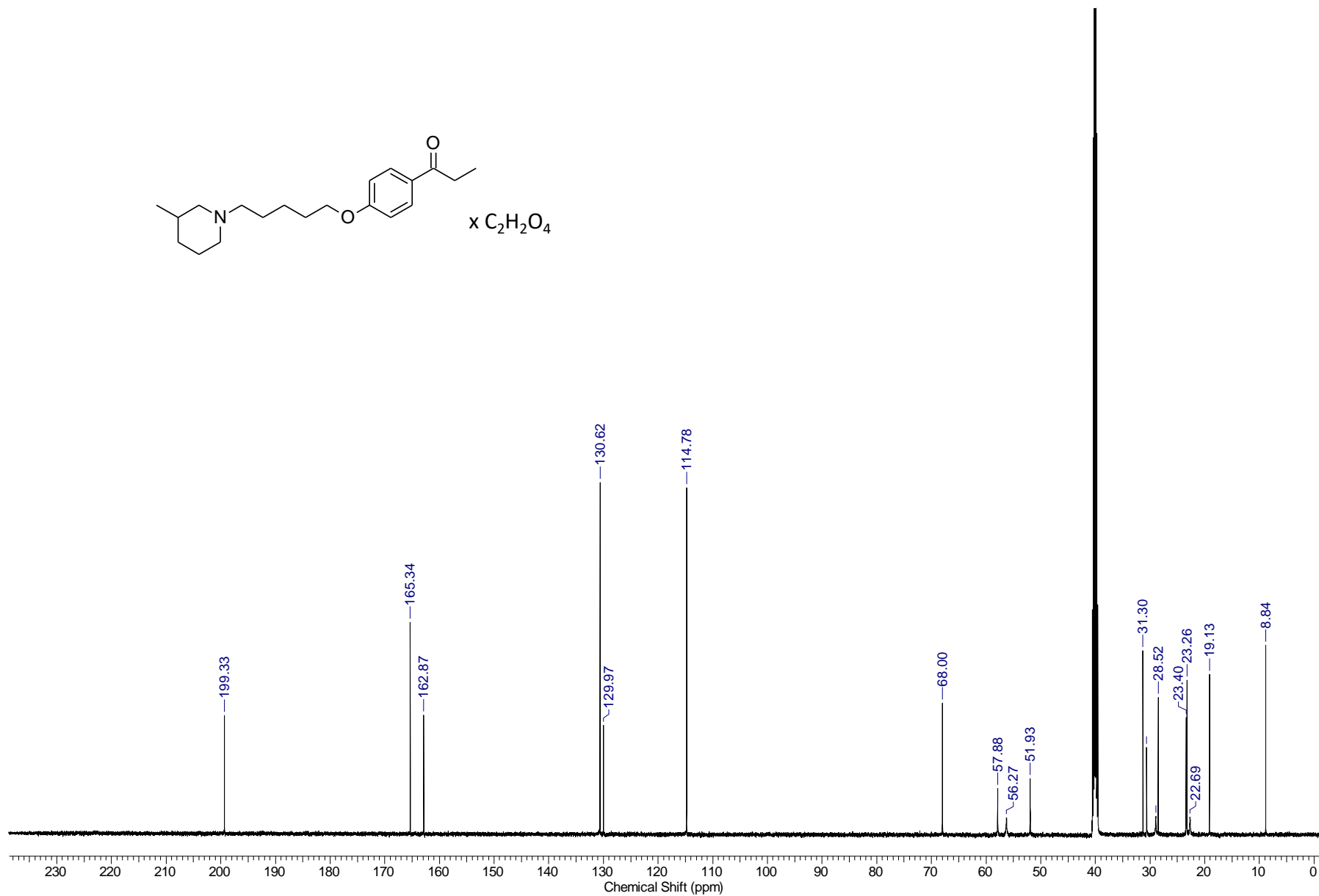
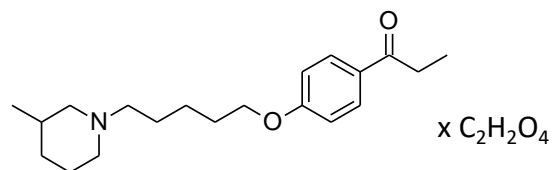


Figure S14. <sup>13</sup>C NMR spectrum of 1-(4-((5-(3-methylpiperidin-1-yl)pentyl)oxy)phenyl)propan-1-one hydrogen oxalate (8)

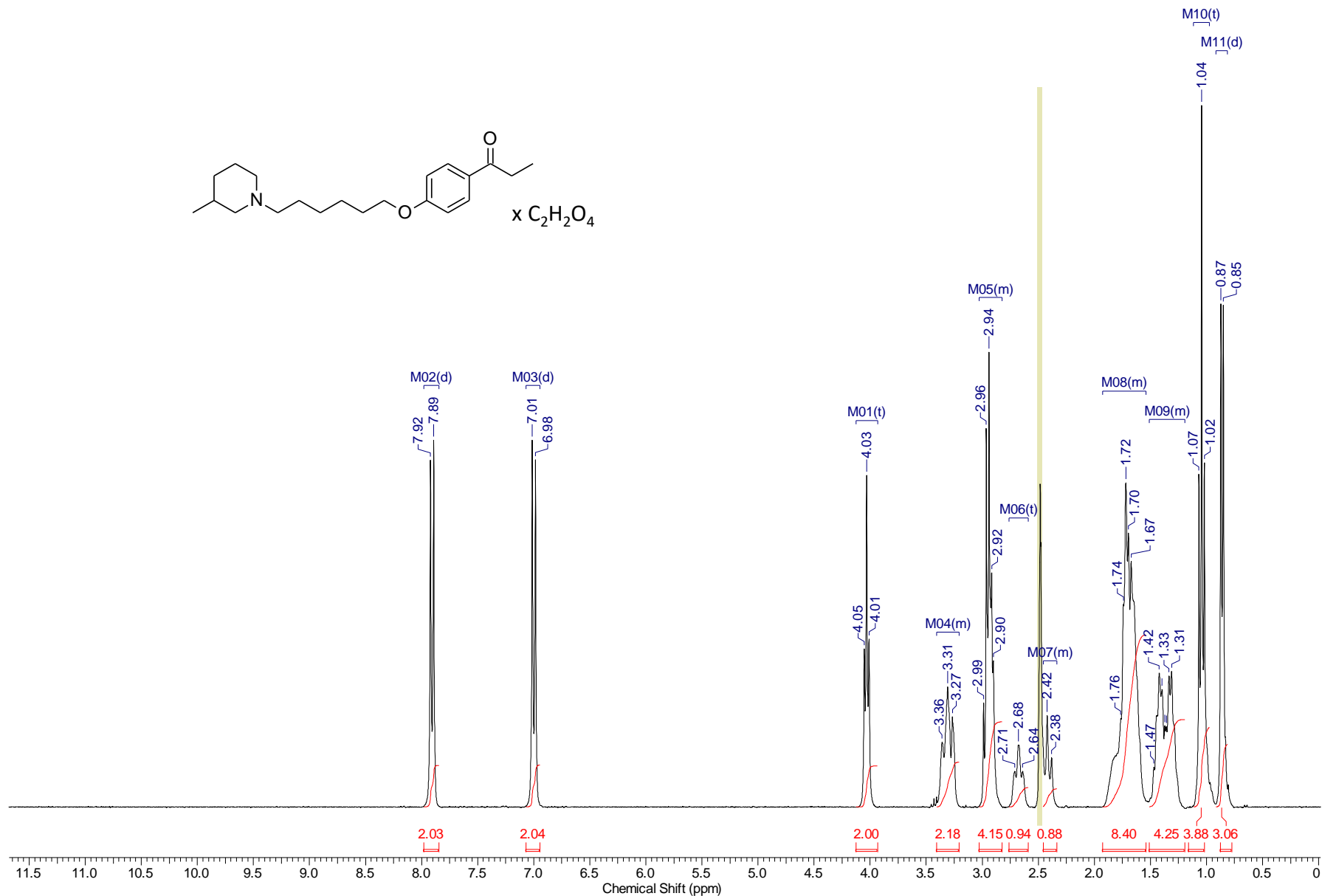


Figure S15.  $^1\text{H}$  NMR spectrum of 1-(4-((5-(3-methylpiperidin-1-yl)pentyl)oxy)phenyl)propan-1-one hydrogen oxalate (9)



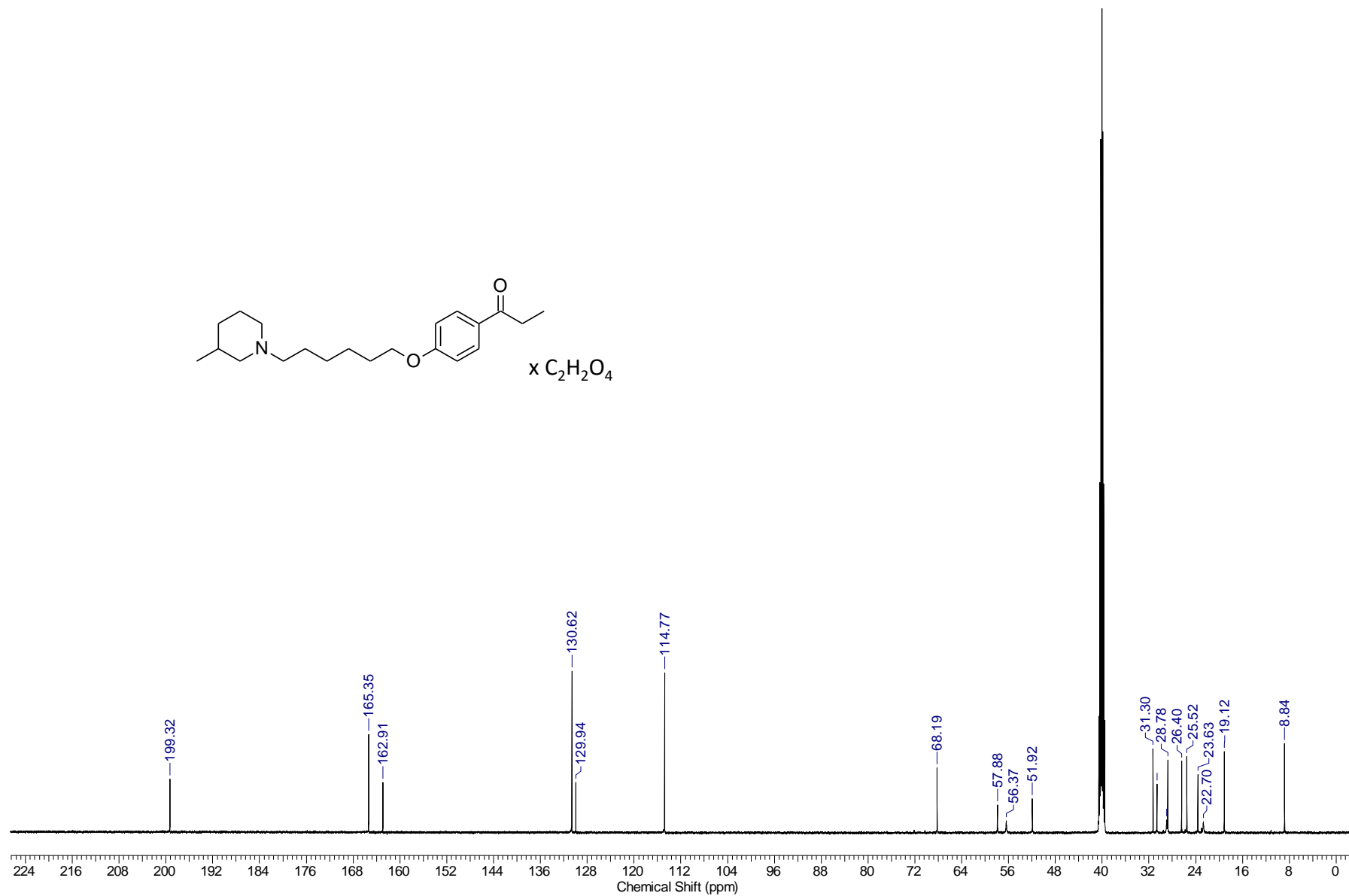


Figure S16.  $^{13}\text{C}$  NMR spectrum of 1-(4-((5-(3-methylpiperidin-1-yl)pentyl)oxy)phenyl)propan-1-one hydrogen oxalate (9)

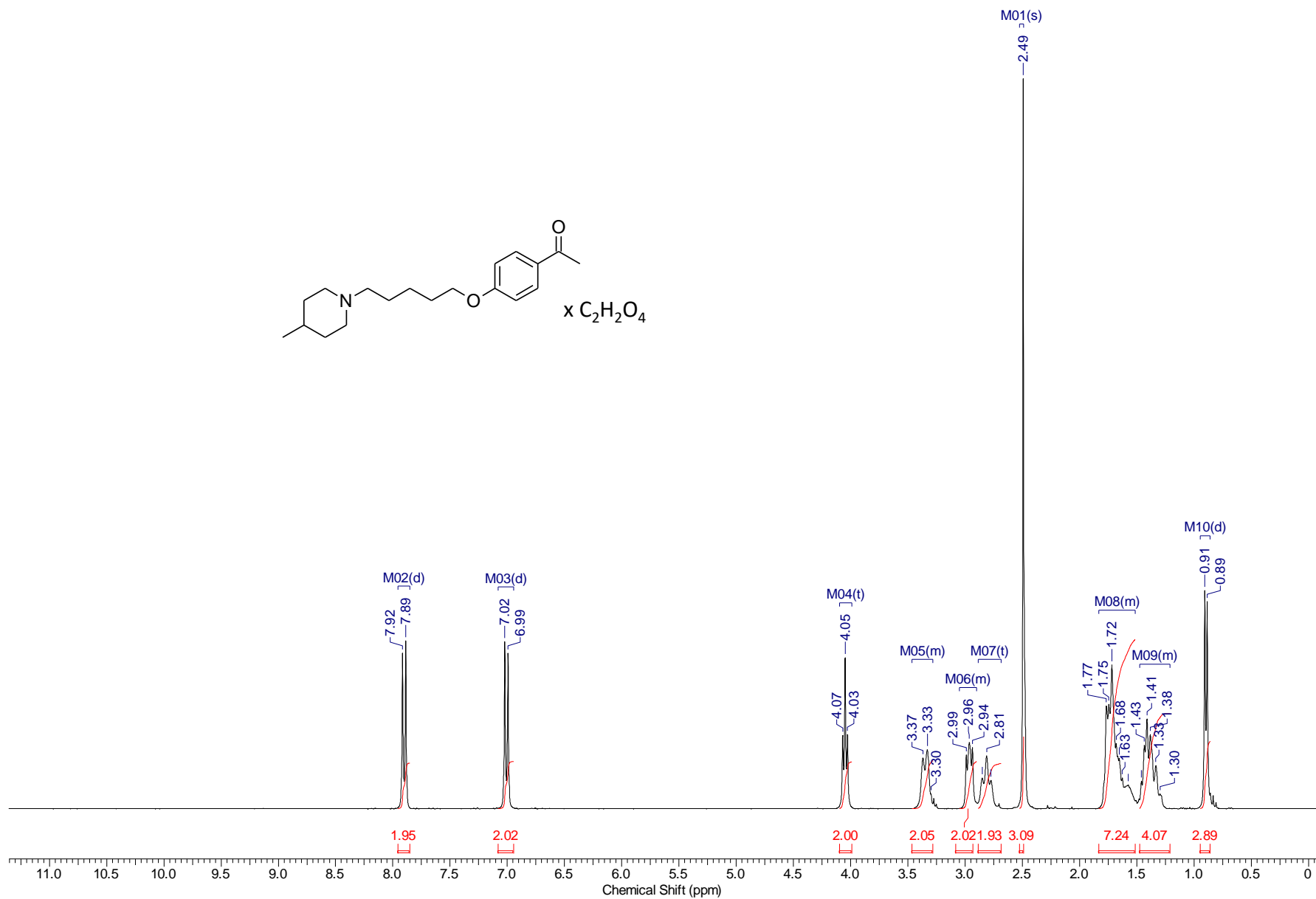


Figure S17.  $^1\text{H}$  NMR spectrum of 1-((4-((5-(4-methylpiperidin-1-yl)pentyl)oxy)phenyl)ethan-1-one) hydrogen oxalate (10)

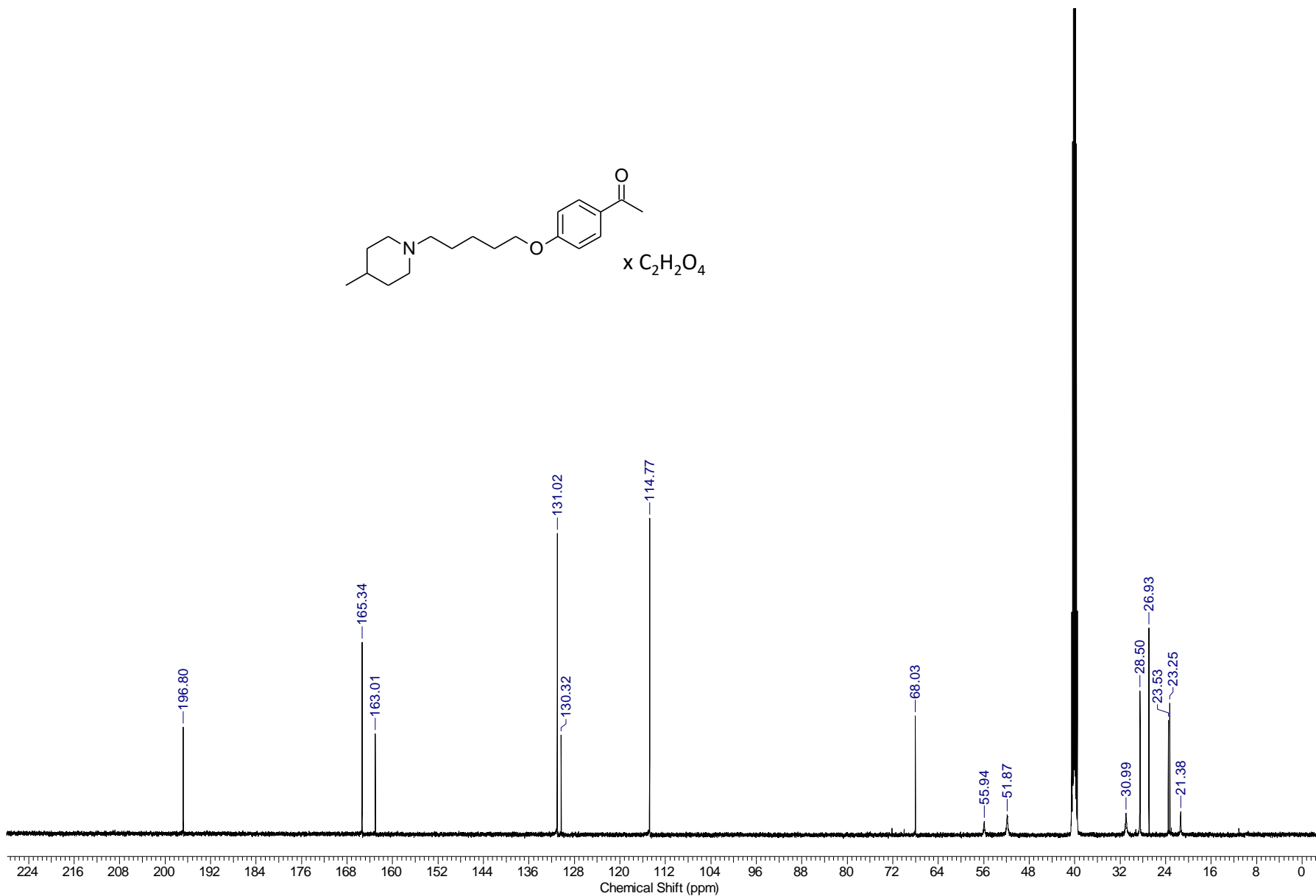
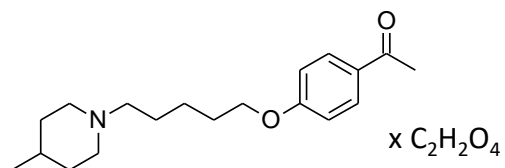


Figure S18. <sup>13</sup>C NMR spectrum of 1-(4-((5-(4-methylpiperidin-1-yl)pentyl)oxy)phenyl)ethan-1-one hydrogen oxalate (**10**)

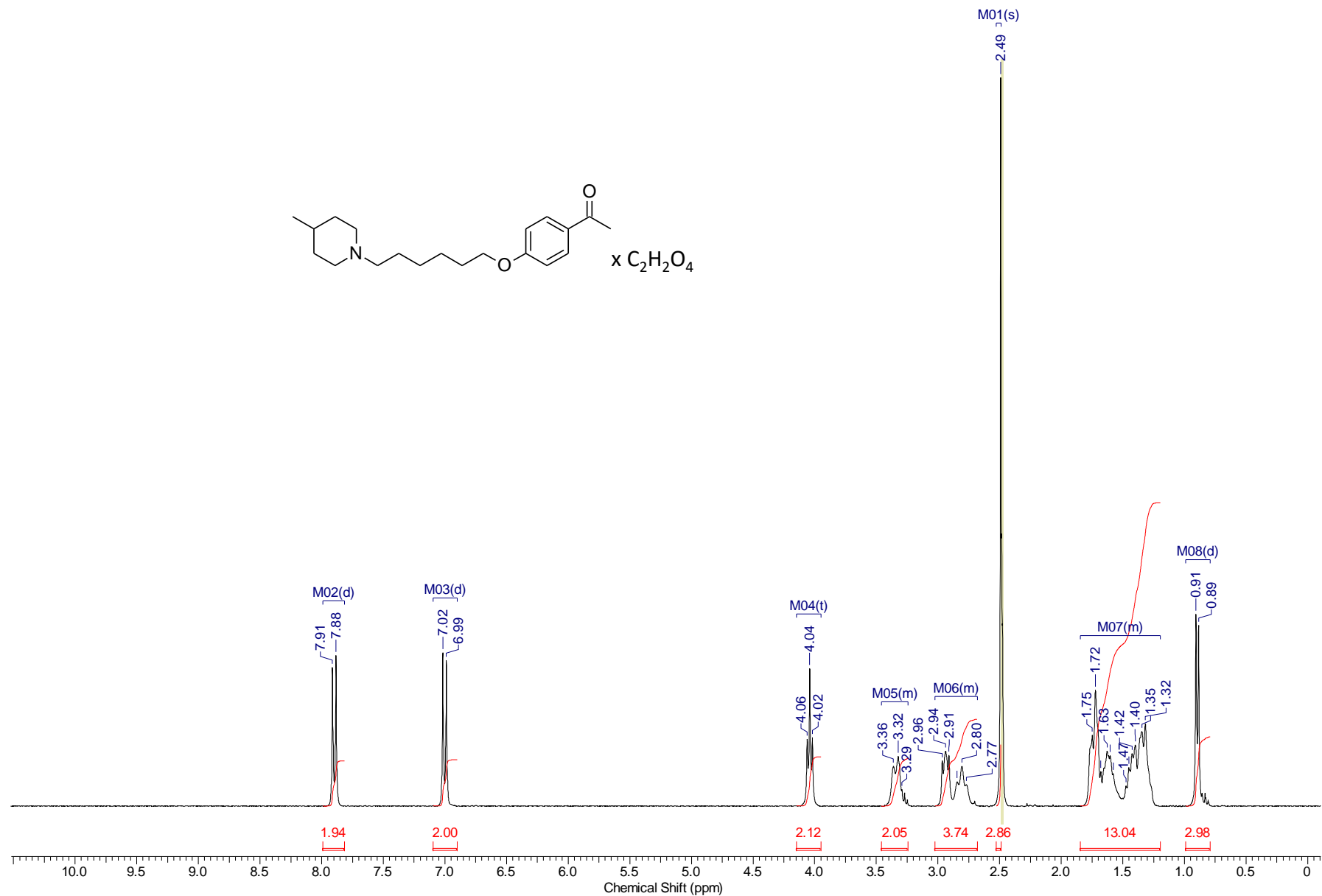
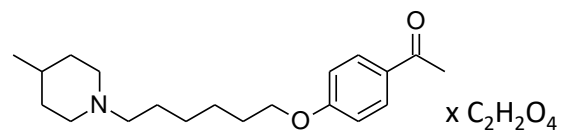


Figure S19. <sup>1</sup>H NMR spectrum of 1-((4-((6-(4-methylpiperidin-1-yl)hexyl)oxy)phenyl)ethan-1-one hydrogen oxalate (11)

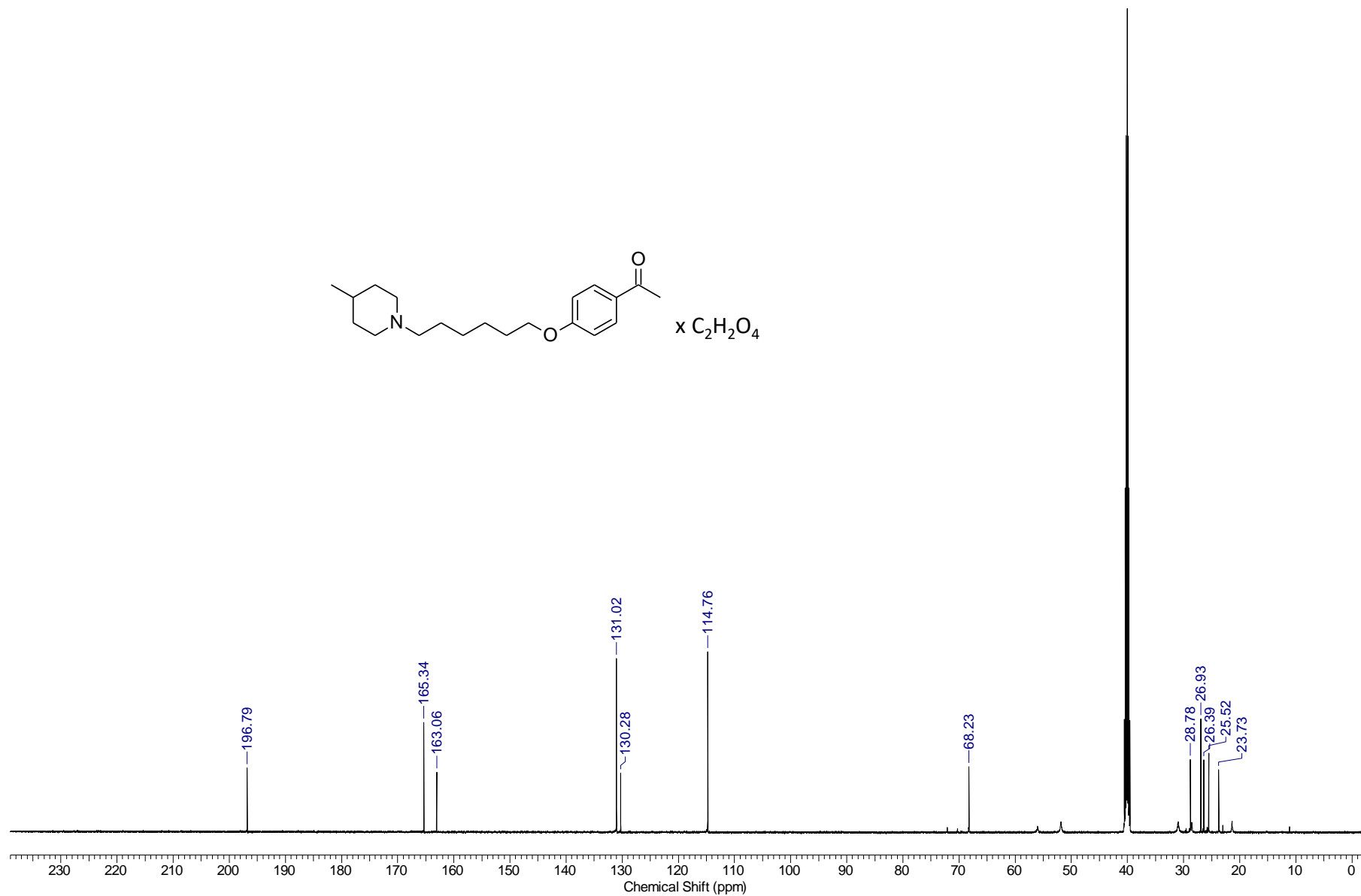
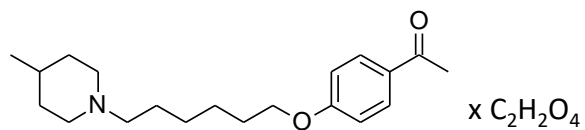


Figure S20.  $^{13}\text{C}$  NMR spectrum of 1-(4-((6-(4-methylpiperidin-1-yl)hexyl)oxy)phenyl)ethan-1-one hydrogen oxalate (11)

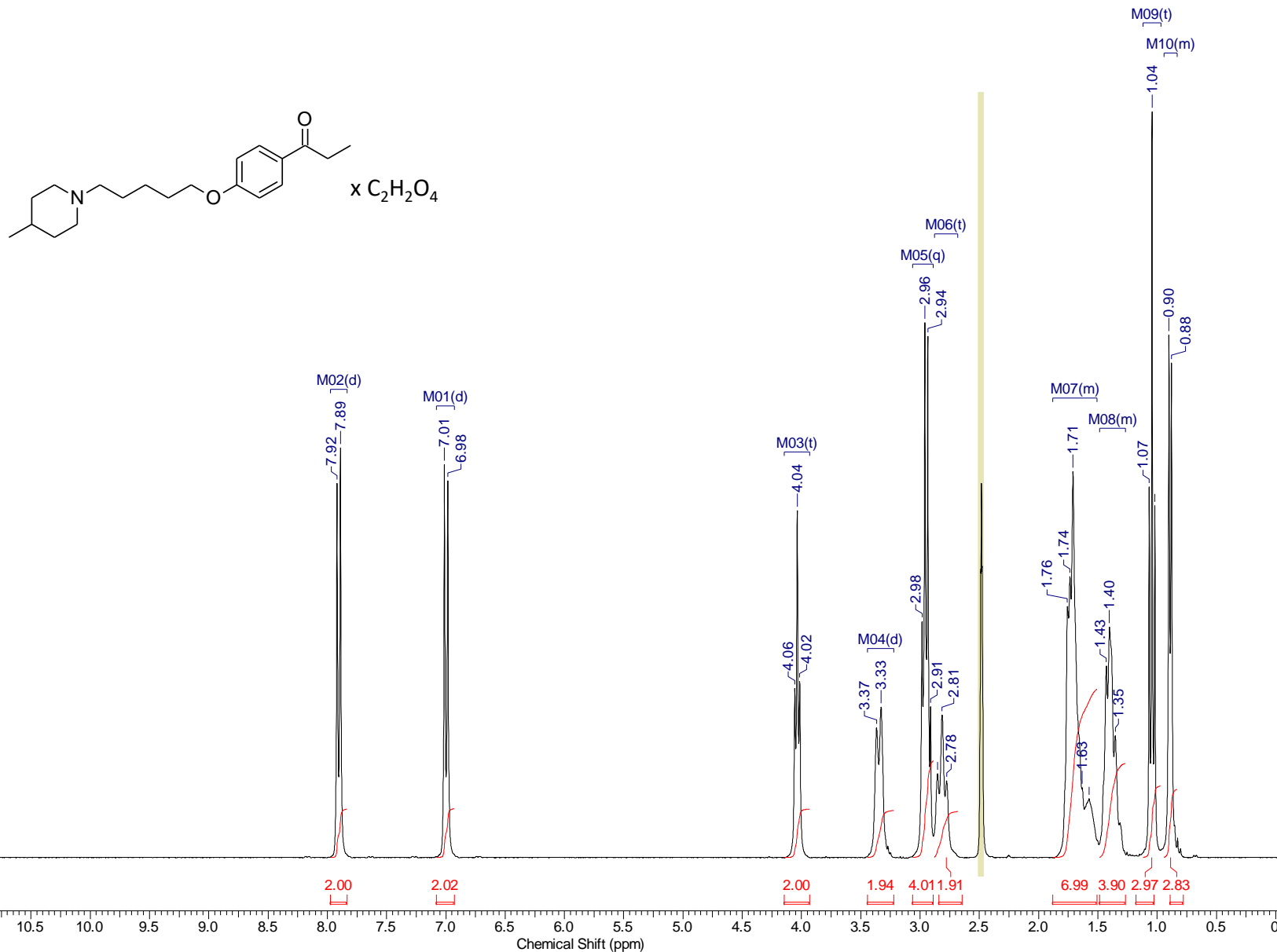


Figure S21.  $^1\text{H}$  NMR spectrum of 1-4-((5-(4-methylpiperidin-1-yl)pentyl)oxy)phenylpropan-1-one hydrogen oxalate (**12**)

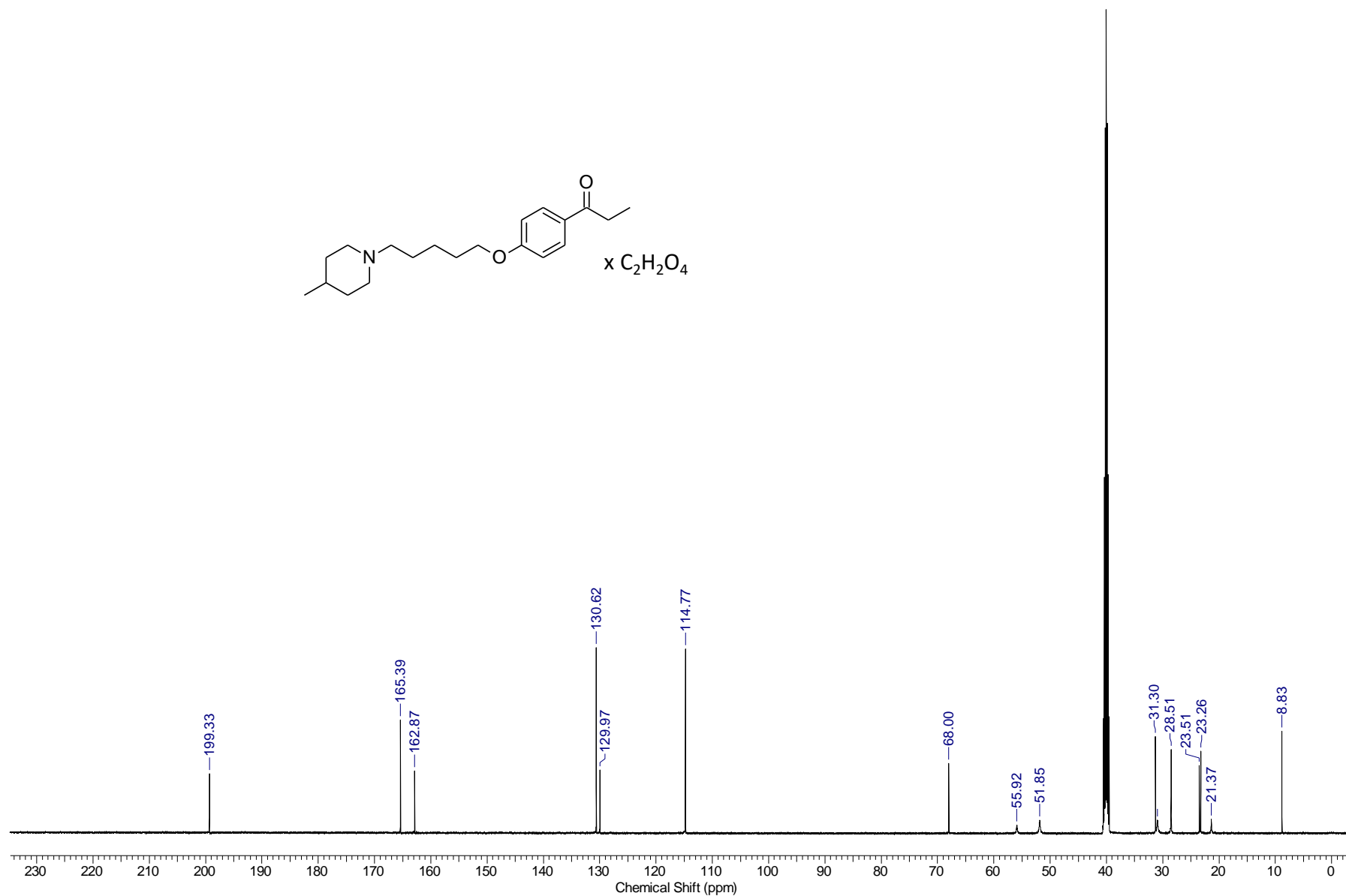
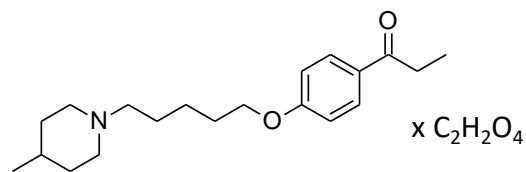


Figure S22. <sup>13</sup>C NMR spectrum of 1-(4-((5-(4-methylpiperidin-1-yl)pentyl)oxy)phenyl)propan-1-one hydrogen oxalate (**12**)

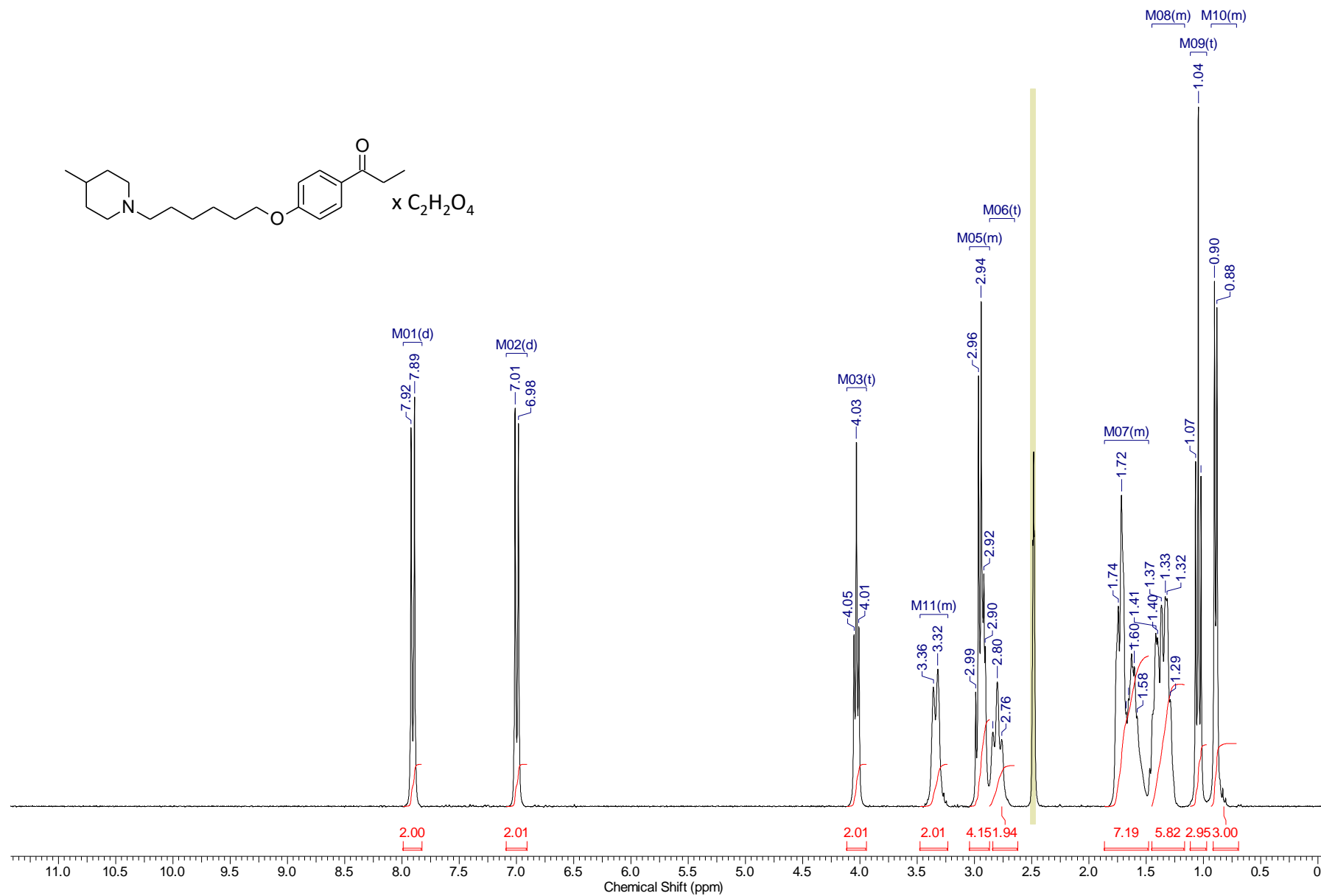


Figure S23.  $^1\text{H}$  NMR spectrum of 1-(4-((6-(4-methylpiperidin-1-yl)hexyl)oxy)phenyl)propan-1-one hydrogen oxalate (**13**)



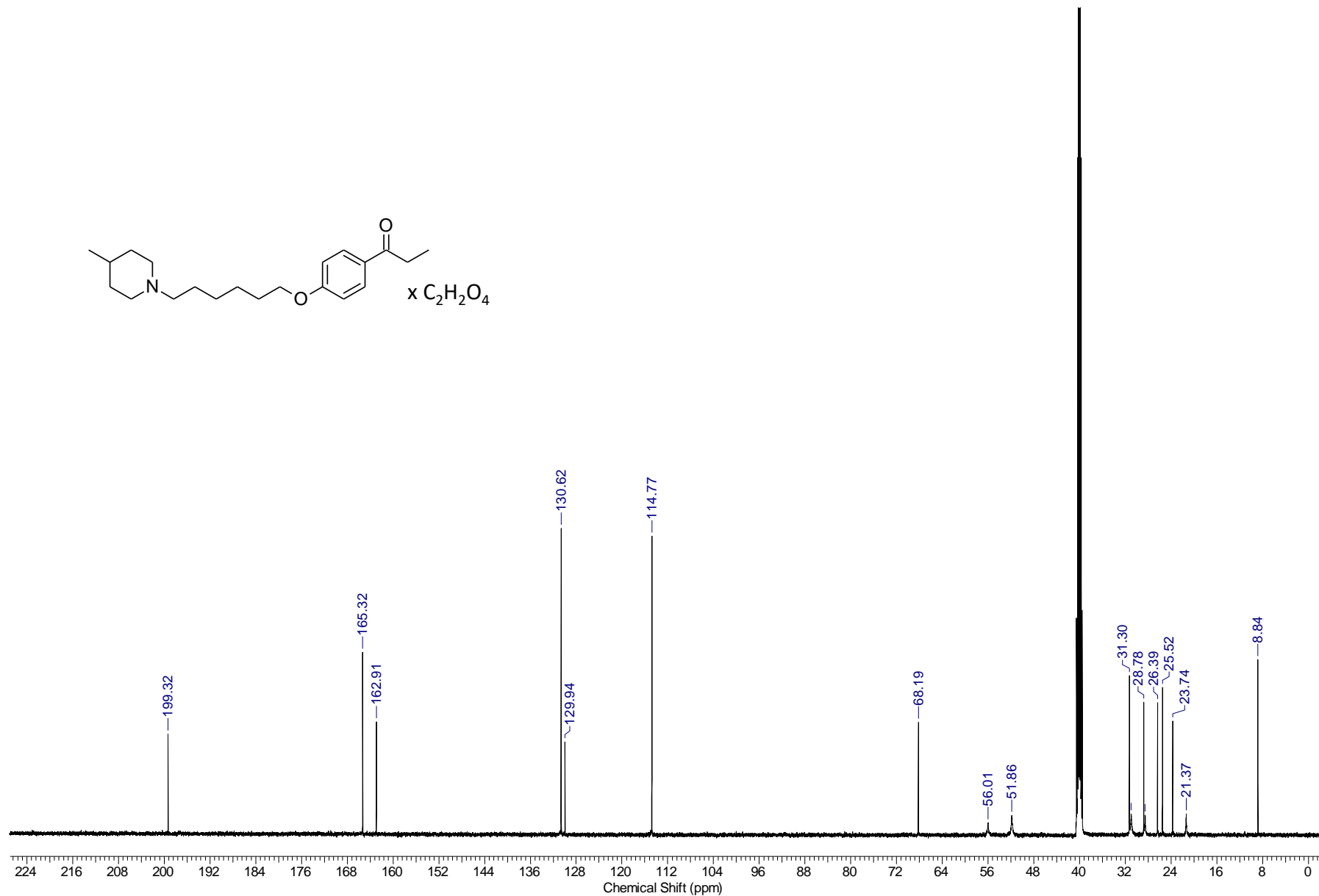
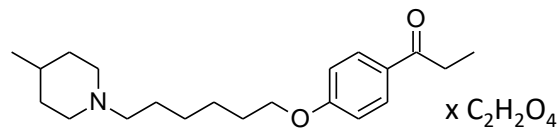


Figure S24.  $^{13}\text{C}$  NMR spectrum of 1-((4-((6-(4-methylpiperidin-1-yl)hexyl)oxy)phenyl)propan-1-one) hydrogen oxalate (13)

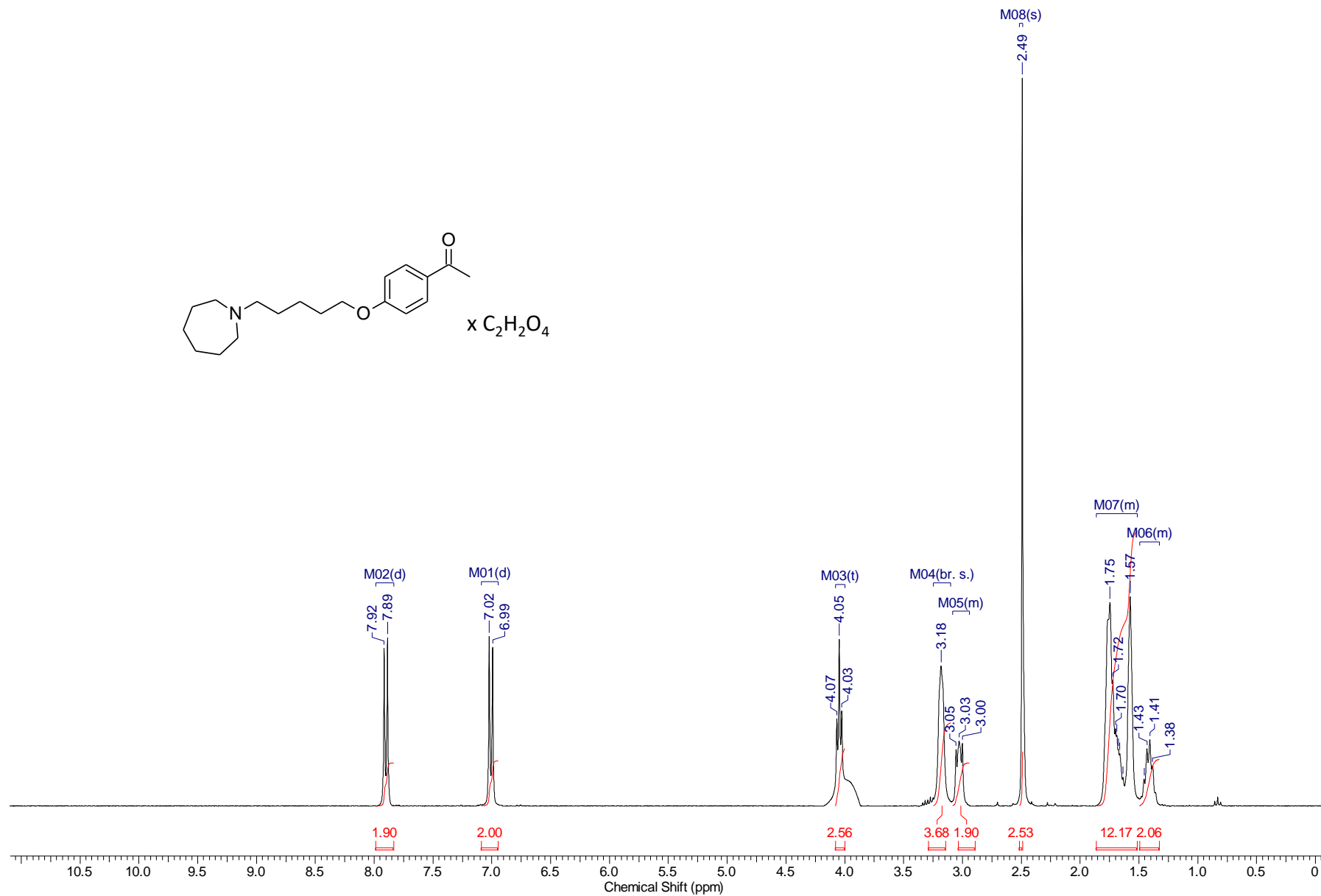
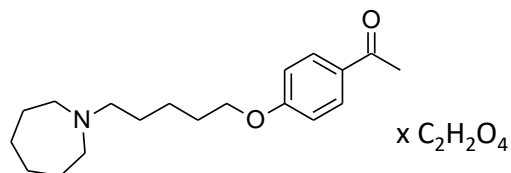


Figure S25. <sup>1</sup>H NMR spectrum of 1-(4-((5-(azepan-1-yl)pentyl)oxy)phenyl)ethan-1-one hydrogen oxalate (**14**)

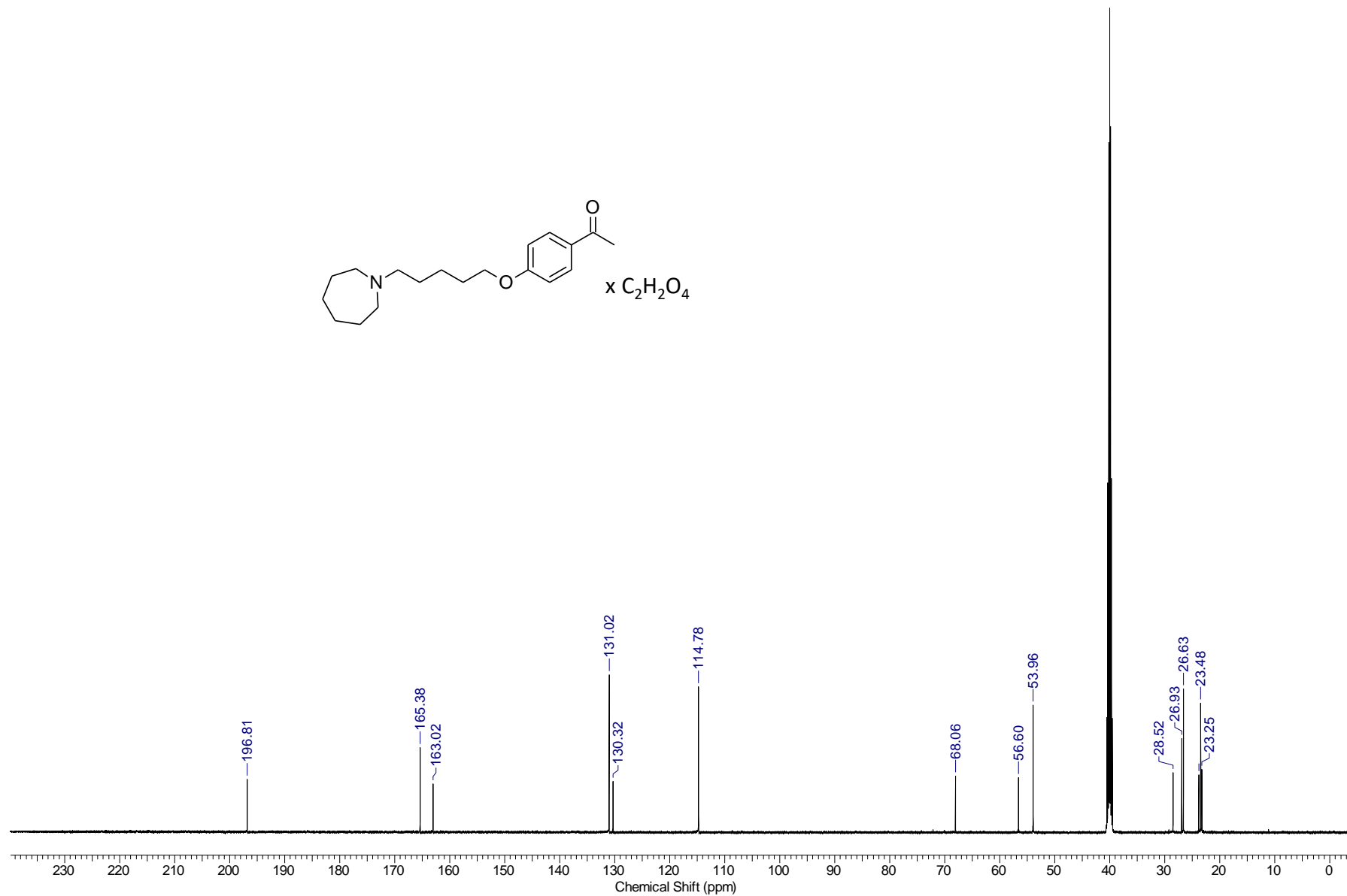
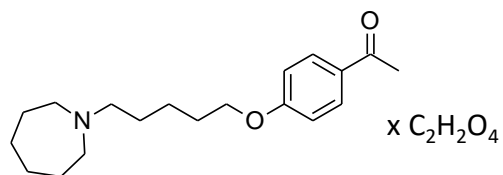


Figure S26.  $^{13}\text{C}$  NMR spectrum of 1-(4-((5-(azepan-1-yl)pentyl)oxy)phenyl)ethan-1-one hydrogen oxalate (**14**)

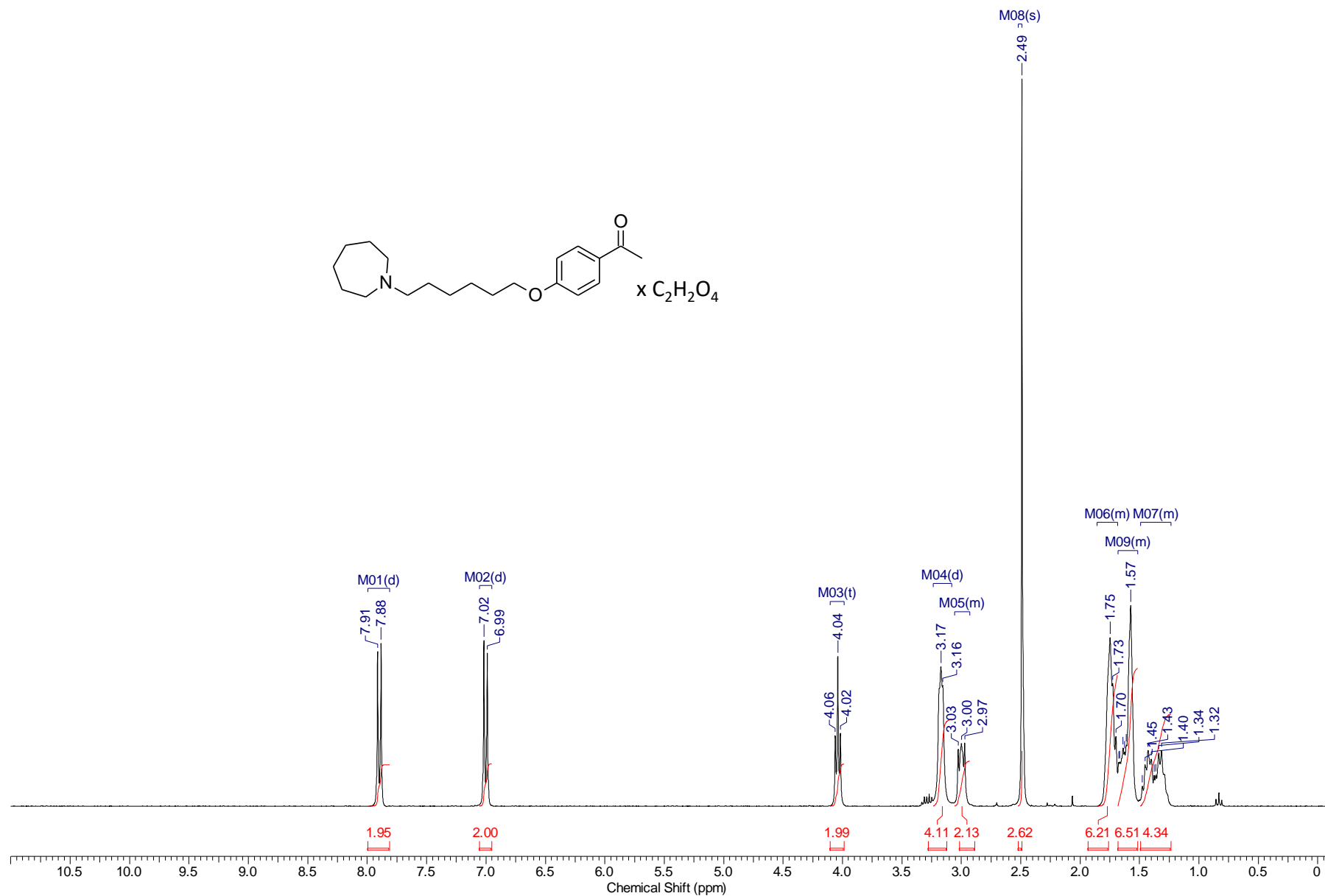


Figure S27.  $^1\text{H}$  NMR spectrum of 1-(4-((5-(azepan-1-yl)hexyl)oxy)phenyl)ethan-1-one hydrogen oxalate (**15**)

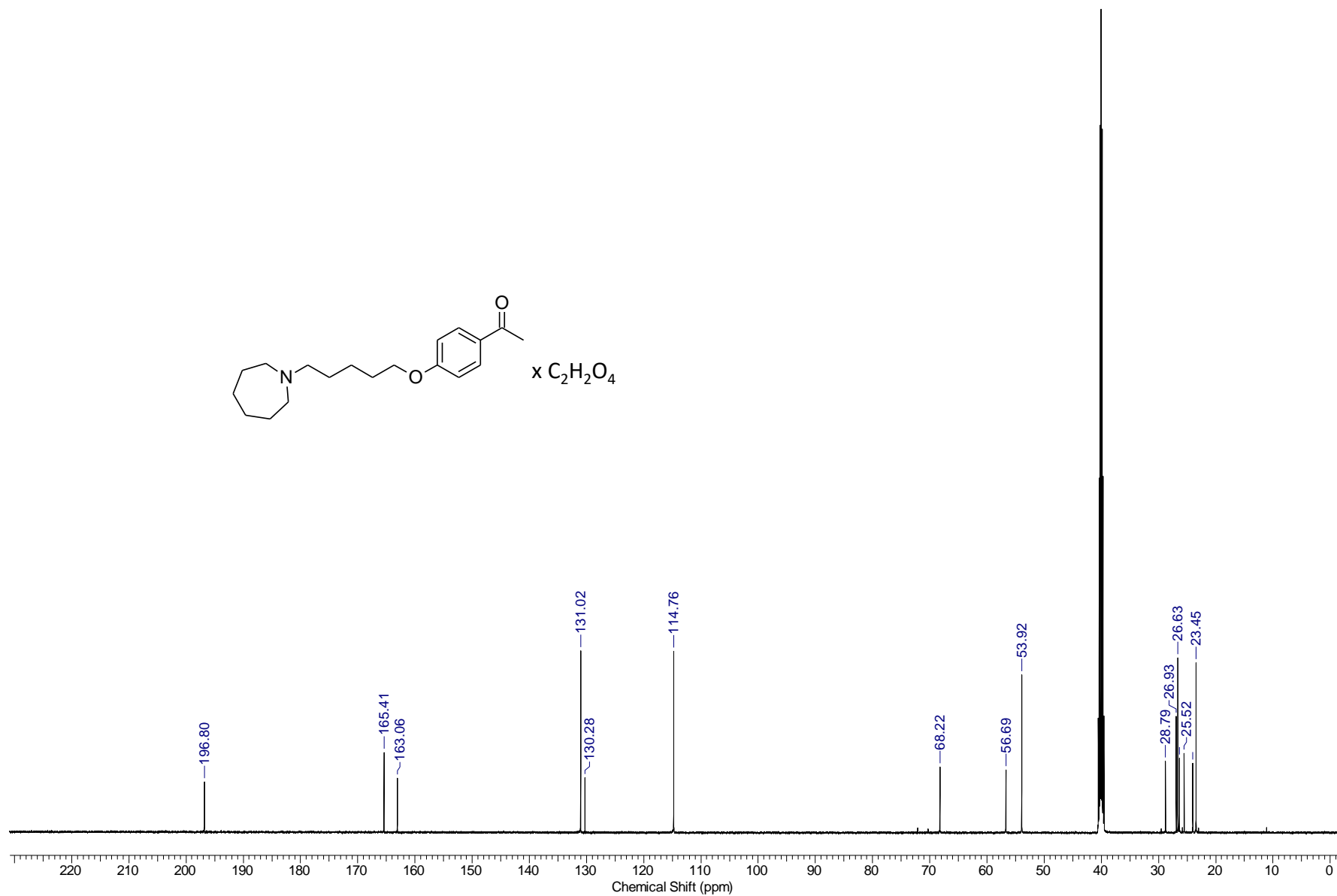


Figure S28.  $^{13}\text{C}$  NMR spectrum of 1-(4-((5-(azepan-1-yl)hexyl)oxy)phenyl)ethan-1-one hydrogen oxalate (15)

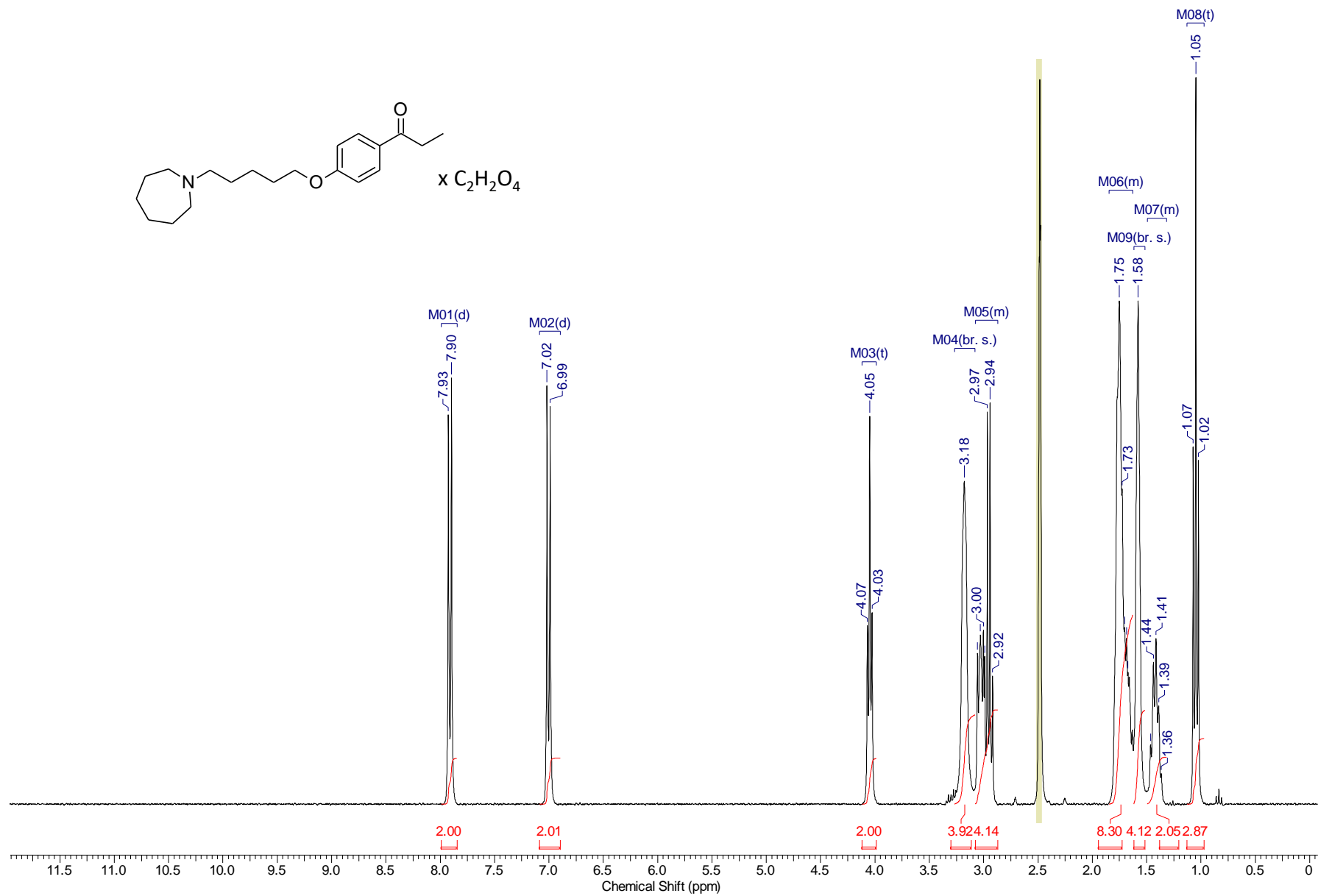


Figure S29.  $^1\text{H}$  NMR spectrum of 1-(4-((5-(azepan-1-yl)pentyl)oxy)phenyl)propan-1-one hydrogen oxalate (**16**)

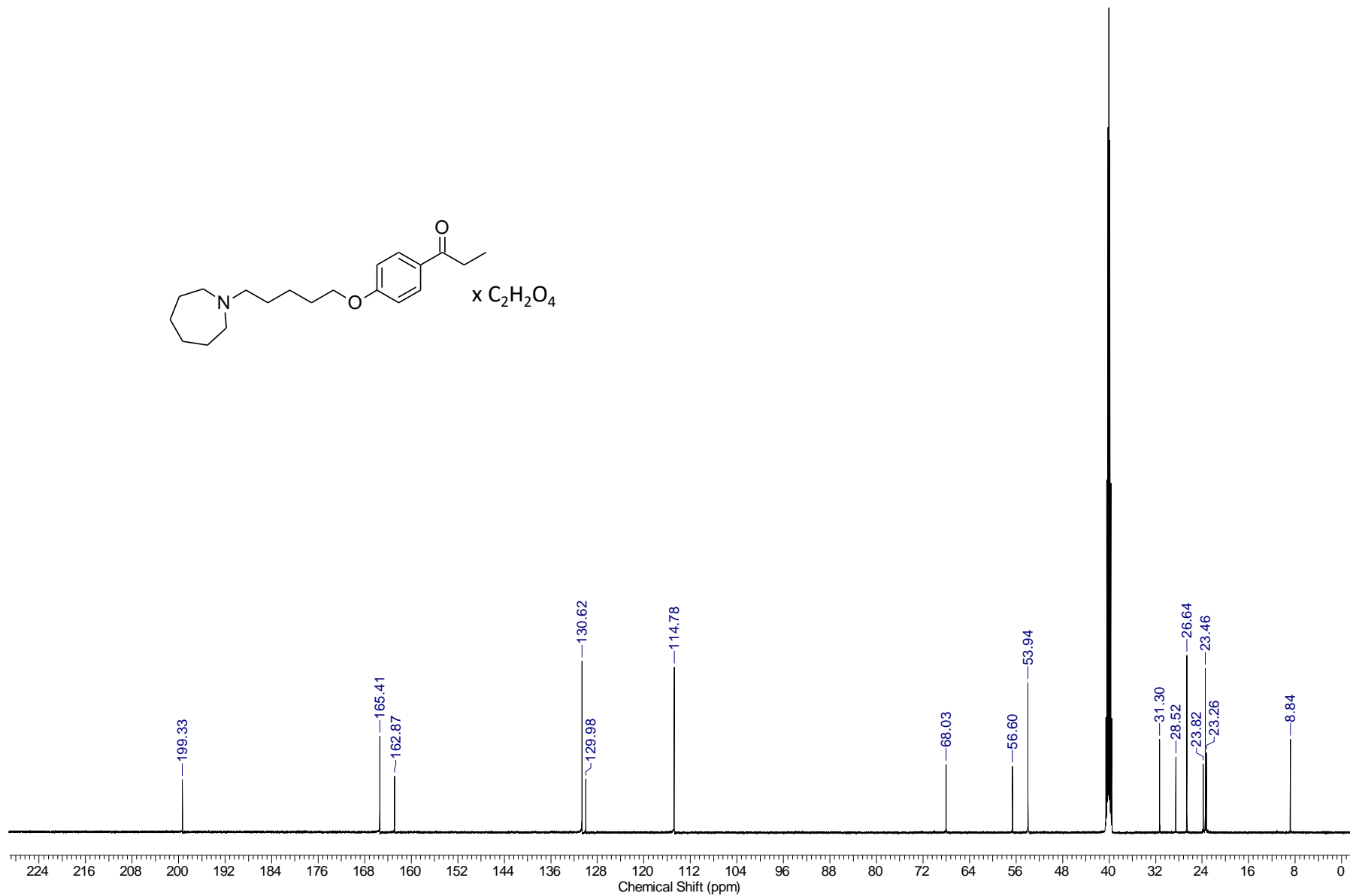
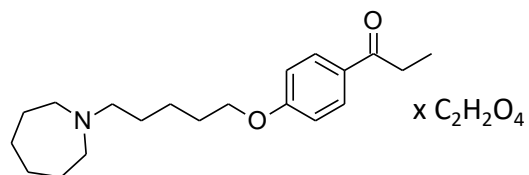


Figure S30. <sup>13</sup>C NMR spectrum of 1-(4-((5-(azepan-1-yl)pentyl)oxy)phenyl)propan-1-one hydrogen oxalate (**16**)

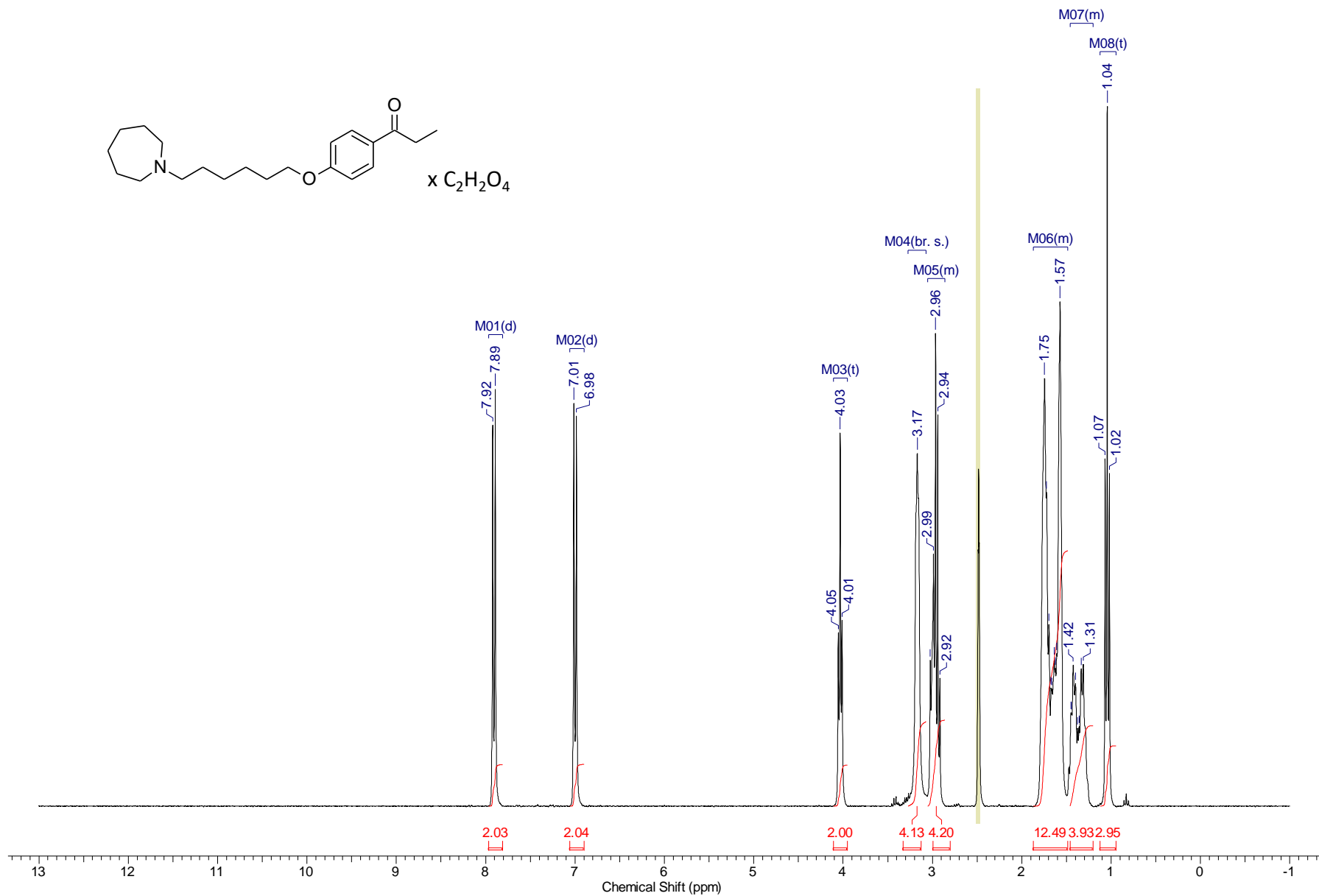


Figure S31.  $^1\text{H}$  NMR spectrum of 1-(4-((6-(azepan-1-yl)hexyl)oxy)phenyl)propan-1-one hydrogen oxalate (**17**)



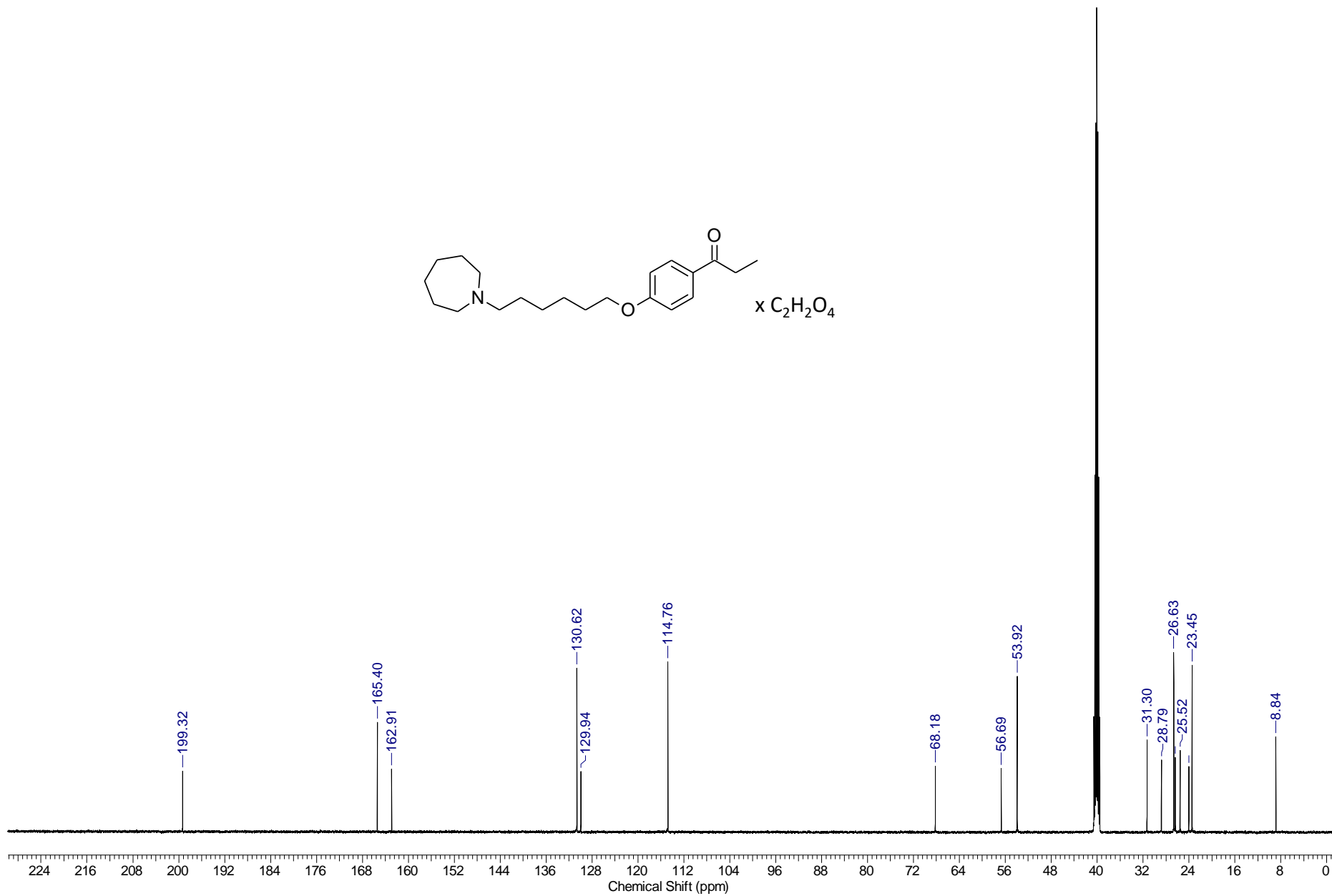
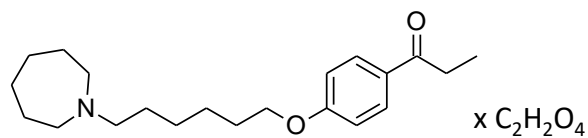


Figure S32. <sup>13</sup>C NMR spectrum of 1-(4-((6-(azepan-1-yl)hexyl)oxy)phenyl)propan-1-one hydrogen oxalate (17)