

Dual target ligands with 4-*tert*-butylphenoxy scaffold as histamine H₃ receptor antagonists and monoamine oxidase B inhibitors

Dorota Łażewska^{1*}, Agnieszka Olejarz-Maciej¹, David Reiner², Maria Kaleta¹, Gniewomir Latacz¹, Małgorzata Zygmunt³, Agata Doroz-Płonka¹, Tadeusz Karcz¹, Annika Frank², Holger Stark² and Katarzyna Kieć-Kononowicz^{1*}

¹Department of Technology and Biotechnology of Drugs, Jagiellonian University Medical College, 9 Medyczna str, 30-688 Kraków, Poland; agnieszka.olejarz@uj.edu.pl (A.O.-M.); maria.kaleta@uj.edu.pl (M.K.); glatacz@cm-uj.krakow.pl (G.L.); a.doroz-plonka@uj.edu.pl (A.D.-P.); t.karcz@uj.edu.pl (T.K.); mfkonono@cyf-kr.edu.pl (K.K.-K.)

²Institute of Pharmaceutical and Medicinal Chemistry, Heinrich Heine University Düsseldorf, Universitaetsstr. 1, 40225 Duesseldorf, Germany; david.reiner@hhu.de (D.R.); a.frank@hhu.de (A.F.); stark@hhu.de (H.S.)

³Department of Pharmacodynamics, Jagiellonian University Medical College, 9 Medyczna str, 30-688, Kraków, Poland; malgorzata.zygmunt@uj.edu.pl (M.Z.)

*Correspondence: dlazewska@cm-uj.krakow.pl (D.Ł.), mfkono@cyf-kr.edu.pl (K.K.-K.)

¹H NMR and ¹³C NMR data of synthesized compounds

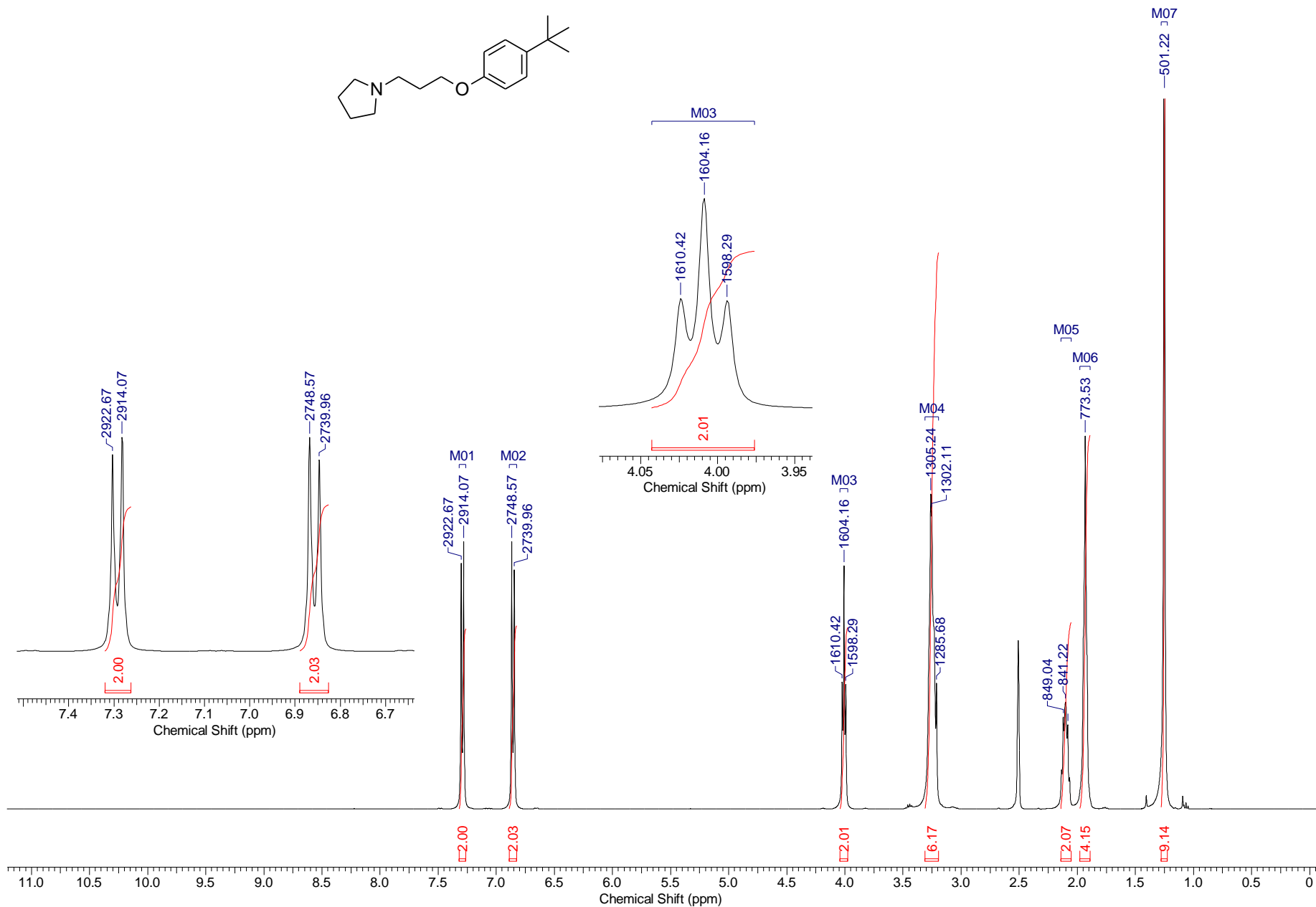
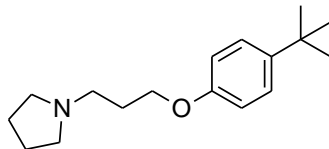


Fig S1. ^1H NMR spectrum of **5**

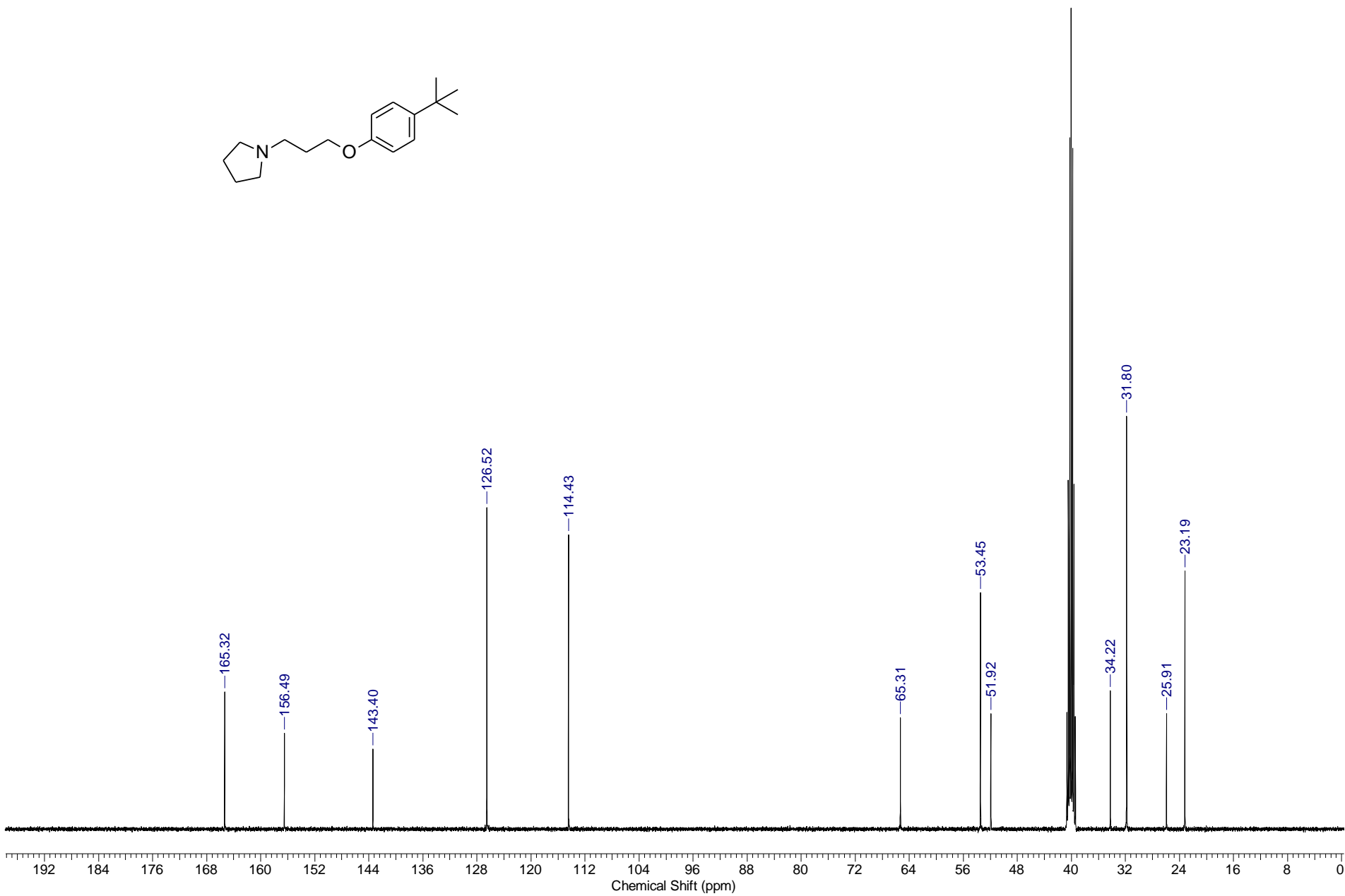
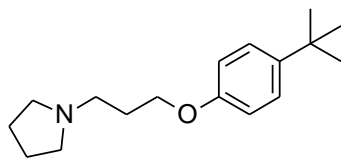


Fig S2. ^{13}C NMR spectrum of **5**

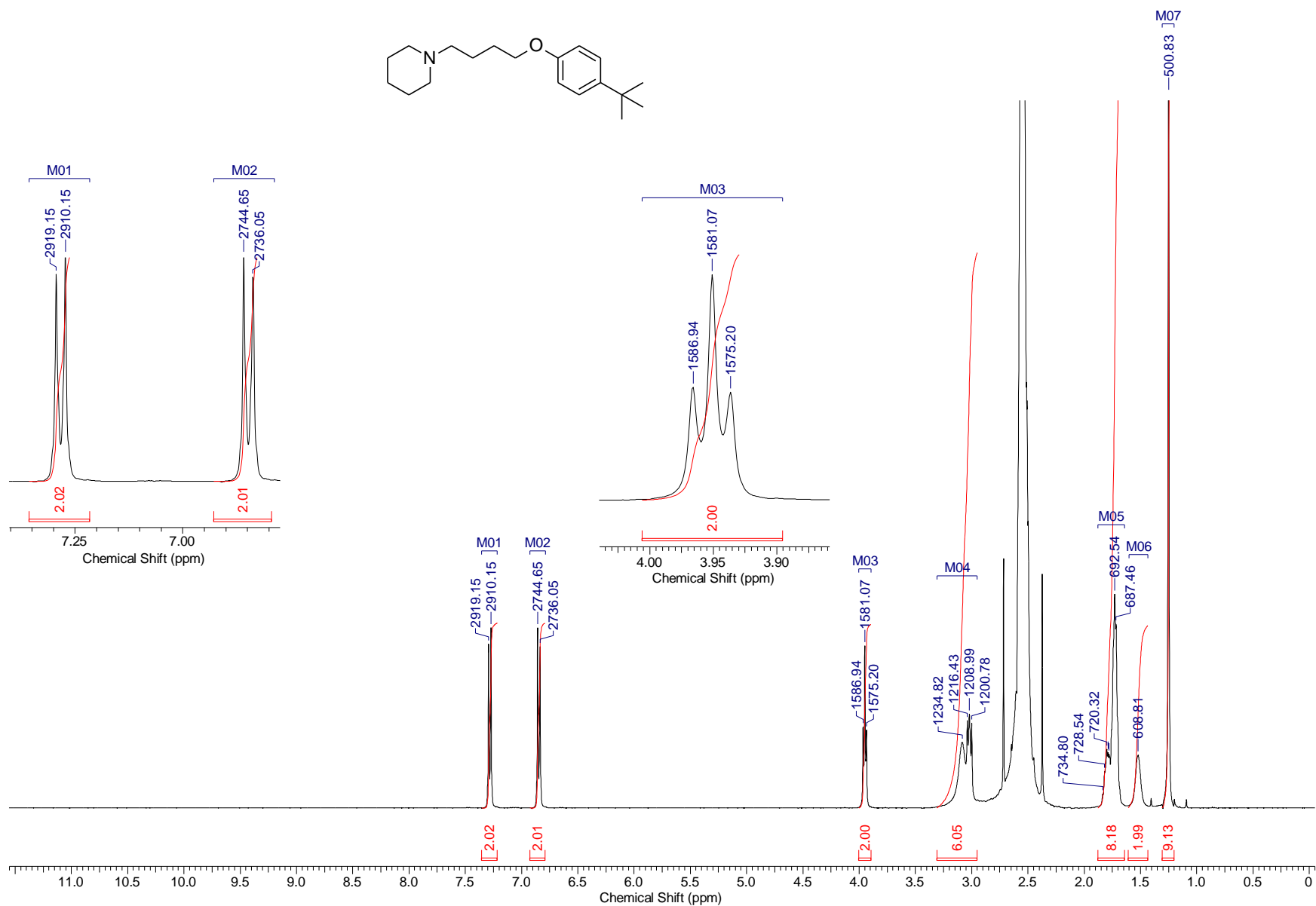


Fig S3. ¹H NMR spectrum of 6

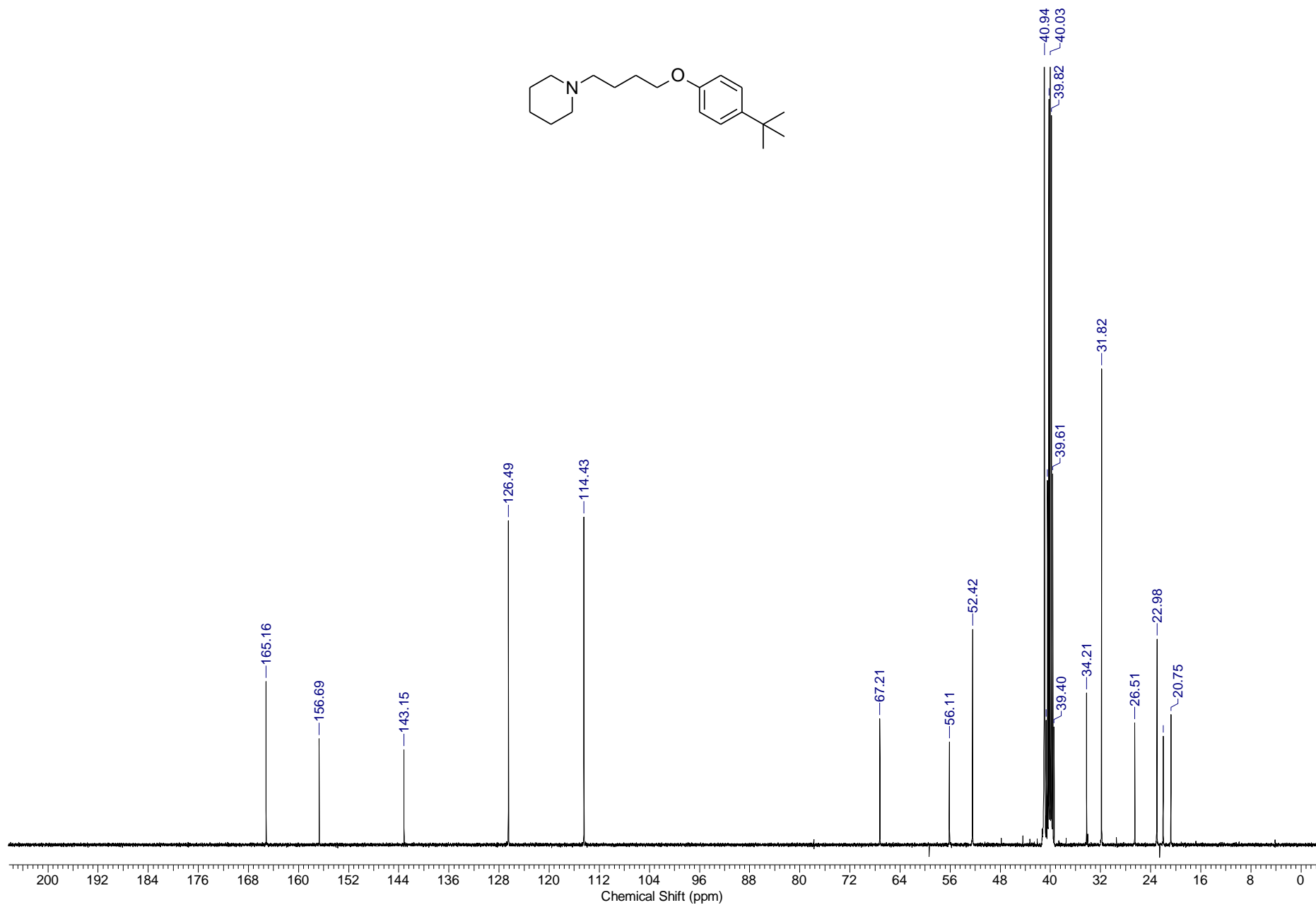
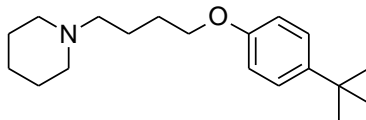


Fig S4. ¹³C NMR spectrum of **6**

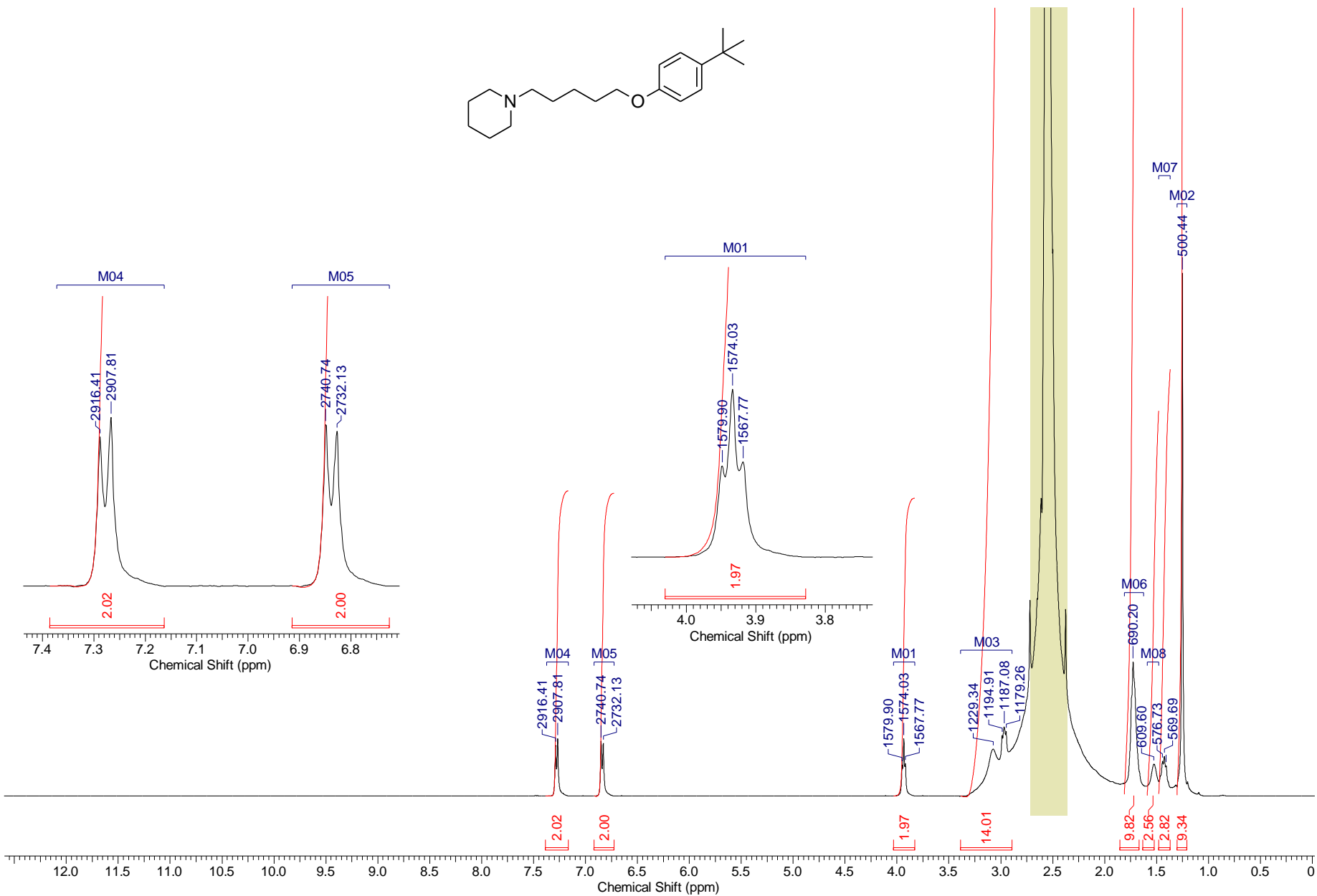


Fig S5. ^1H NMR spectrum of 7

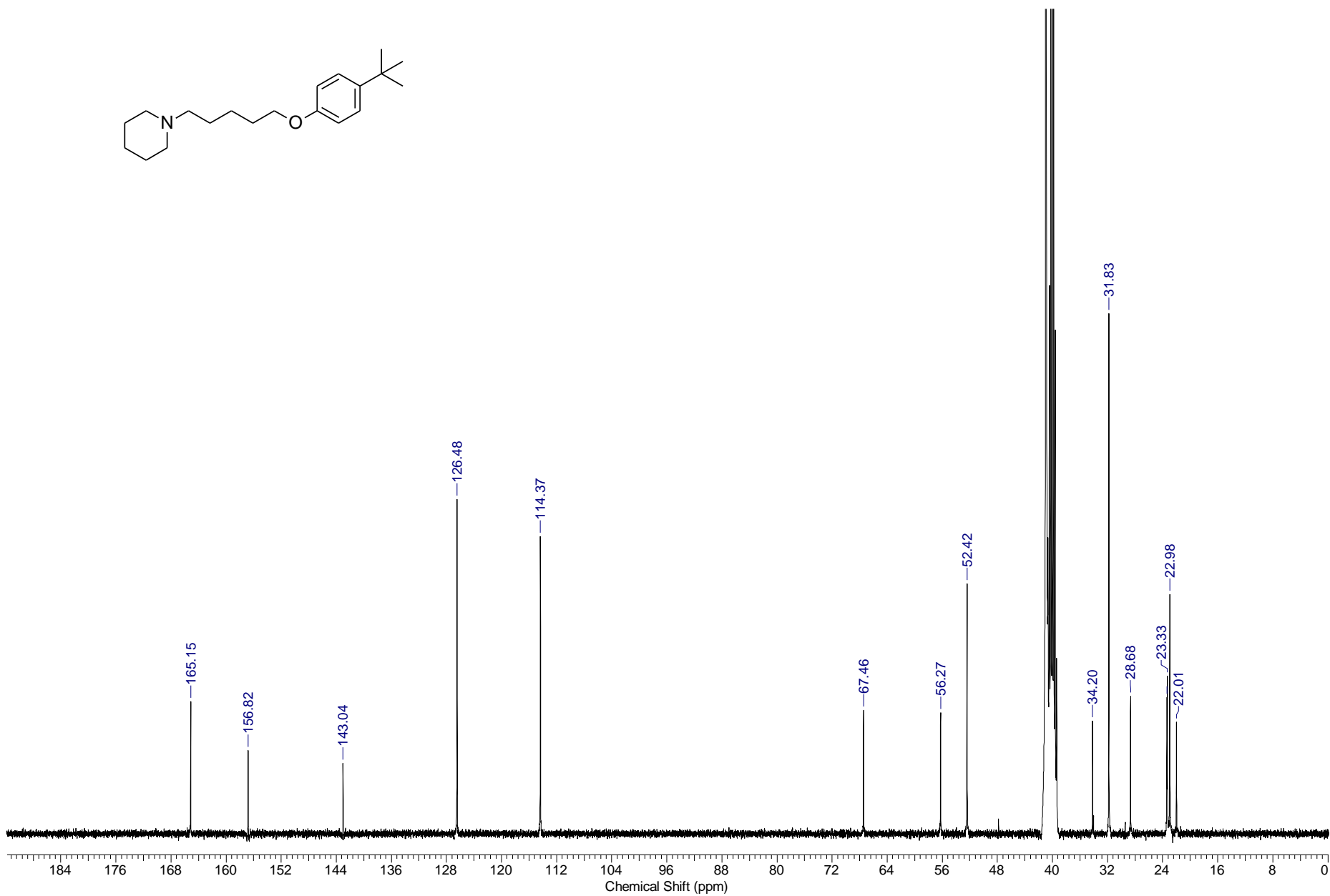
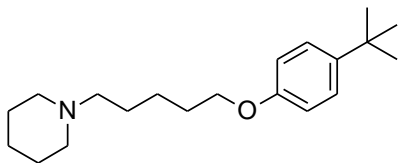


Fig S6. ¹³C NMR spectrum of **7**

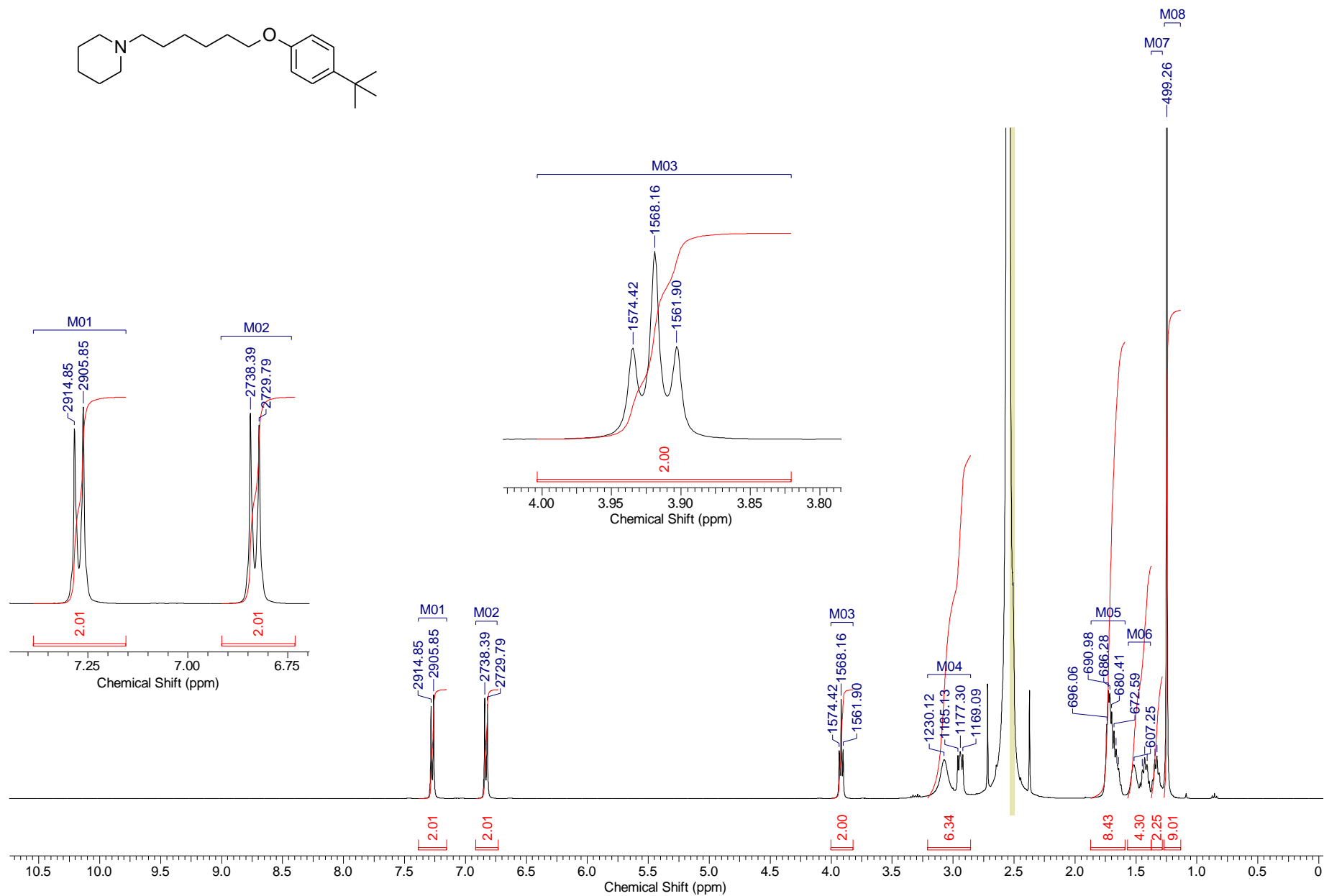
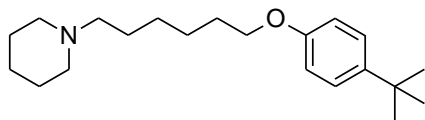


Fig S7. ^1H NMR spectrum of **8**

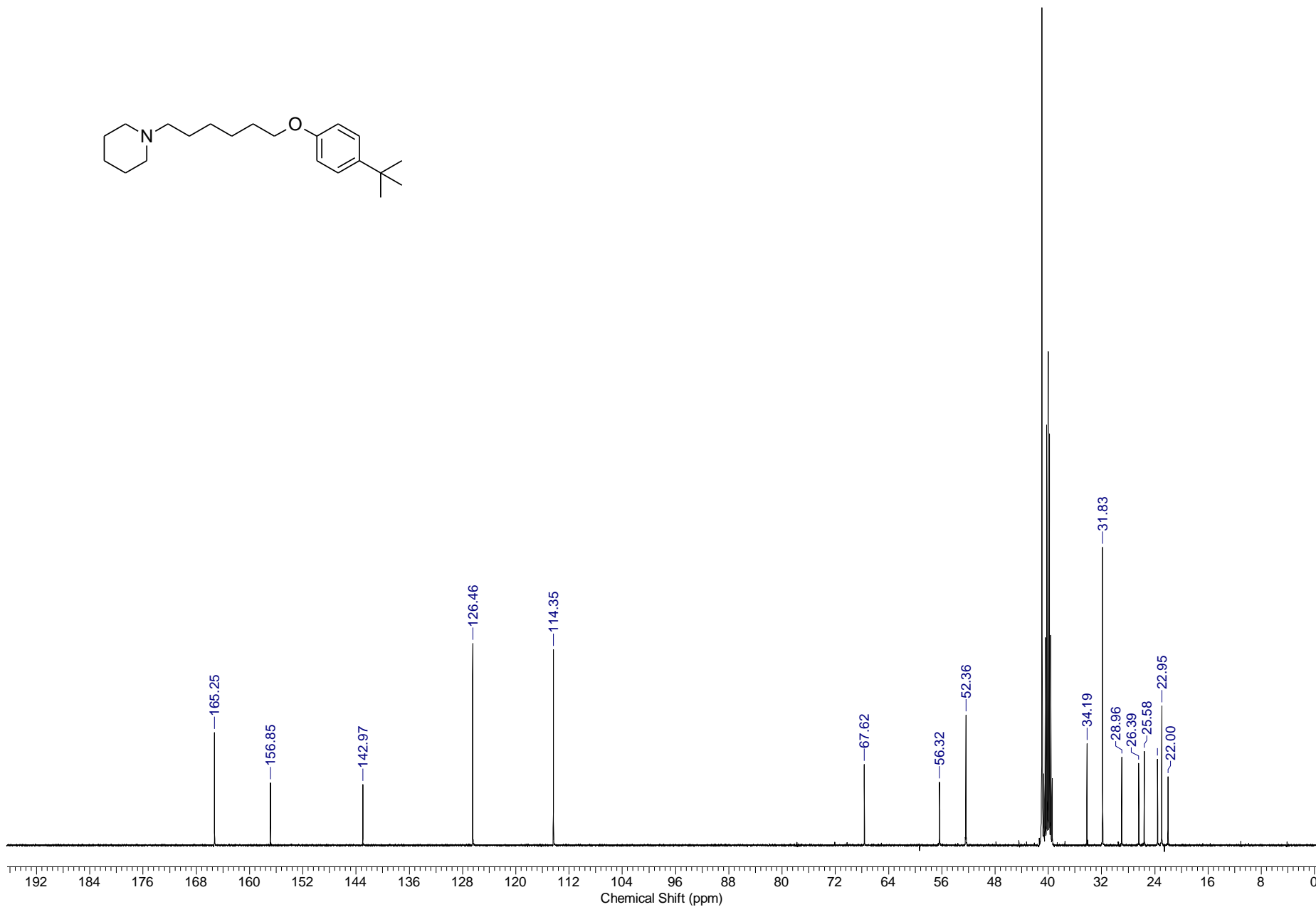
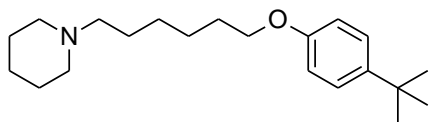


Fig S8. ¹³C NMR spectrum of **8**

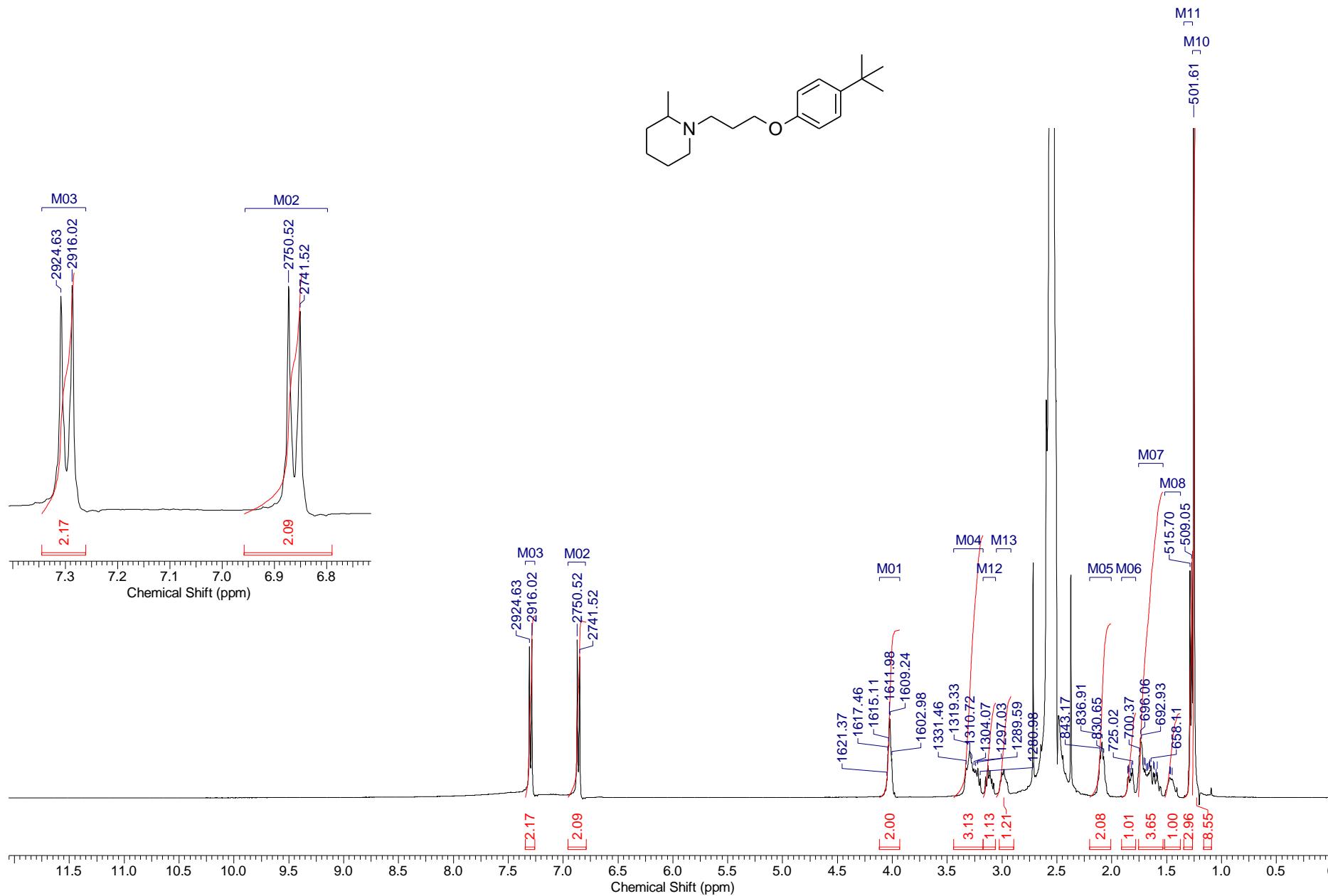


Fig S9. ^1H NMR spectrum of 9

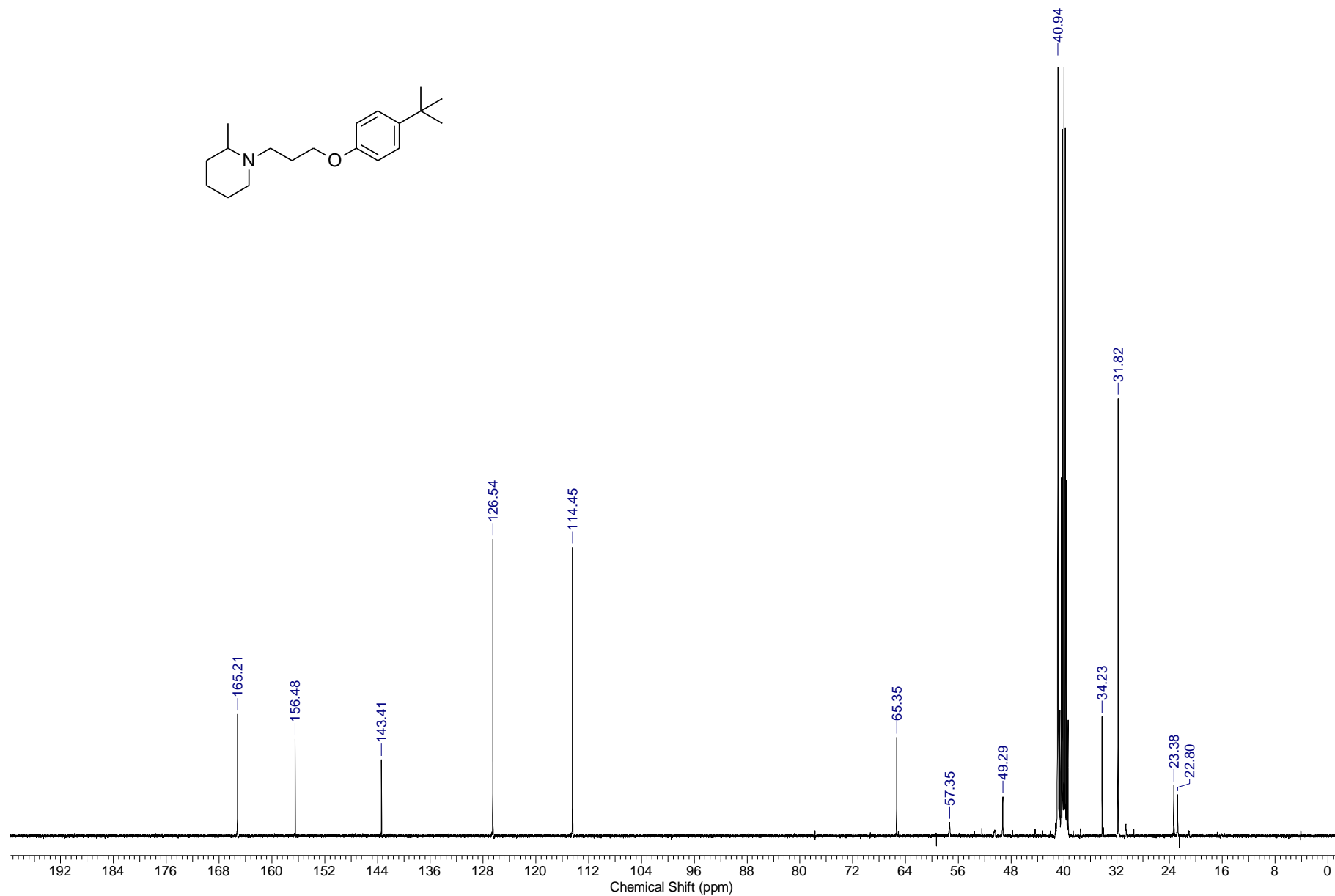
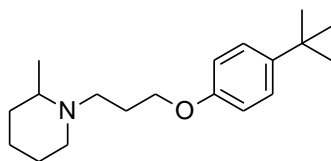


Fig S10. ¹³C NMR spectrum of **9**

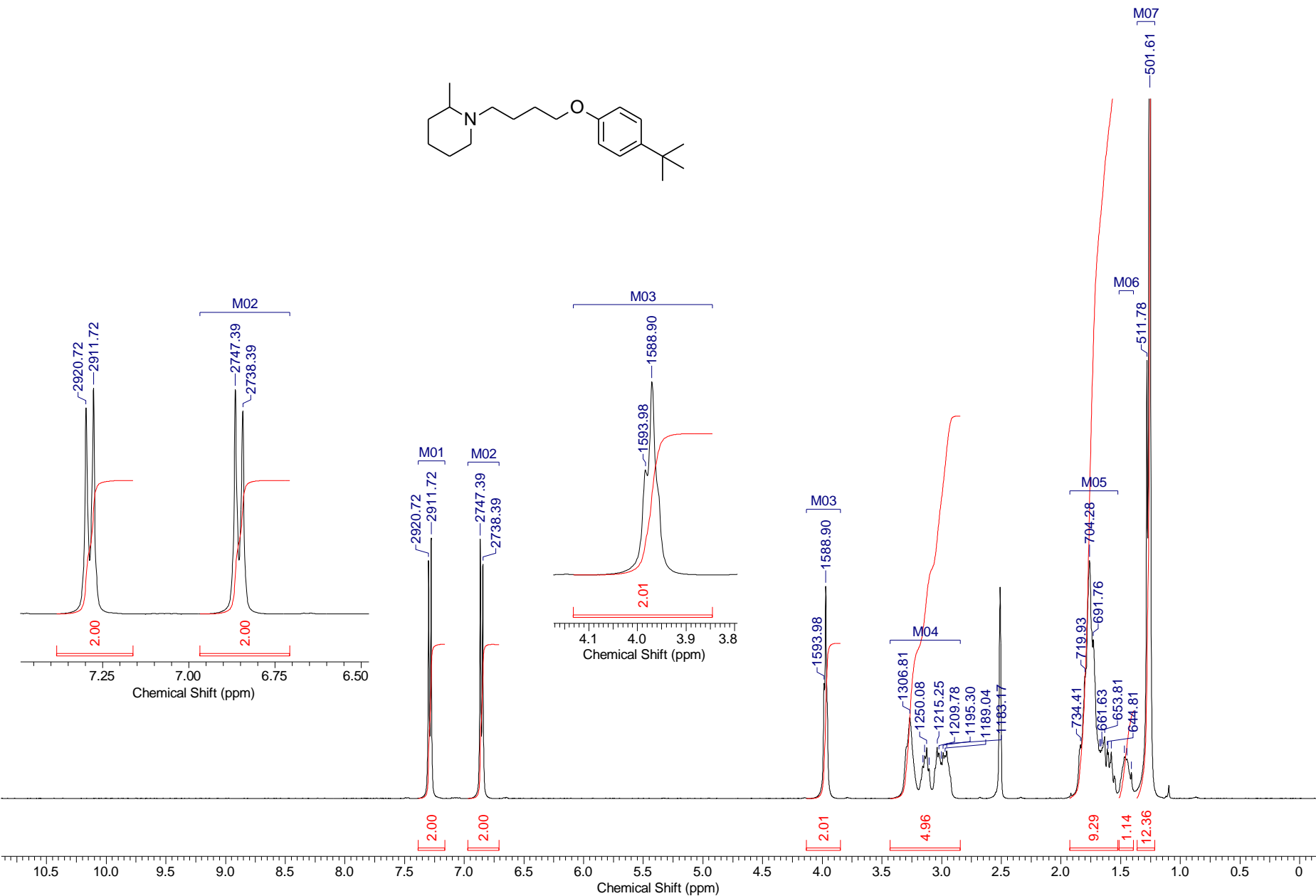


Fig S11. ^1H NMR spectrum of **10**

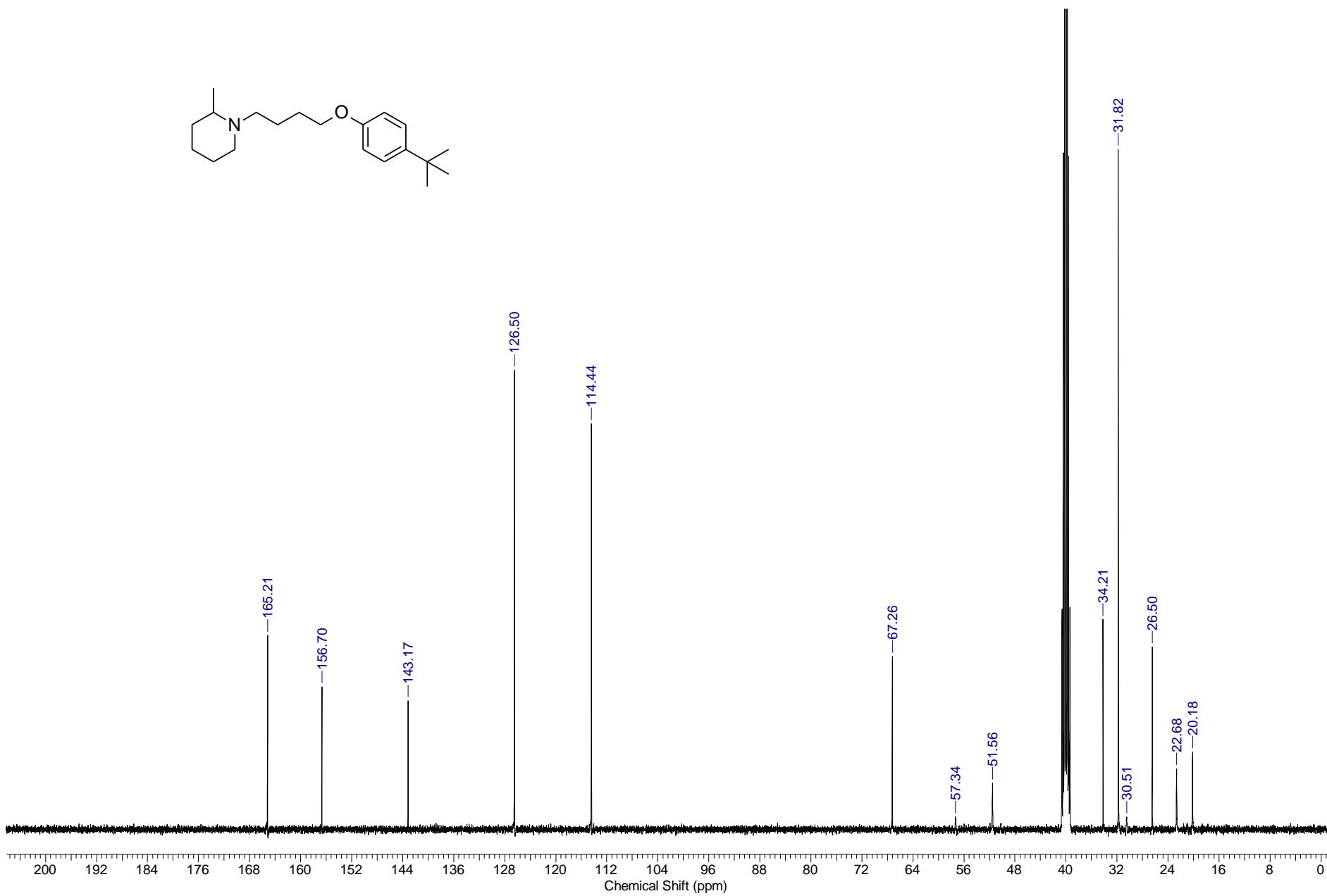
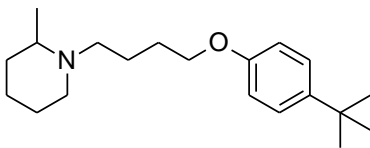


Fig S12. ¹³C NMR spectrum of **10**

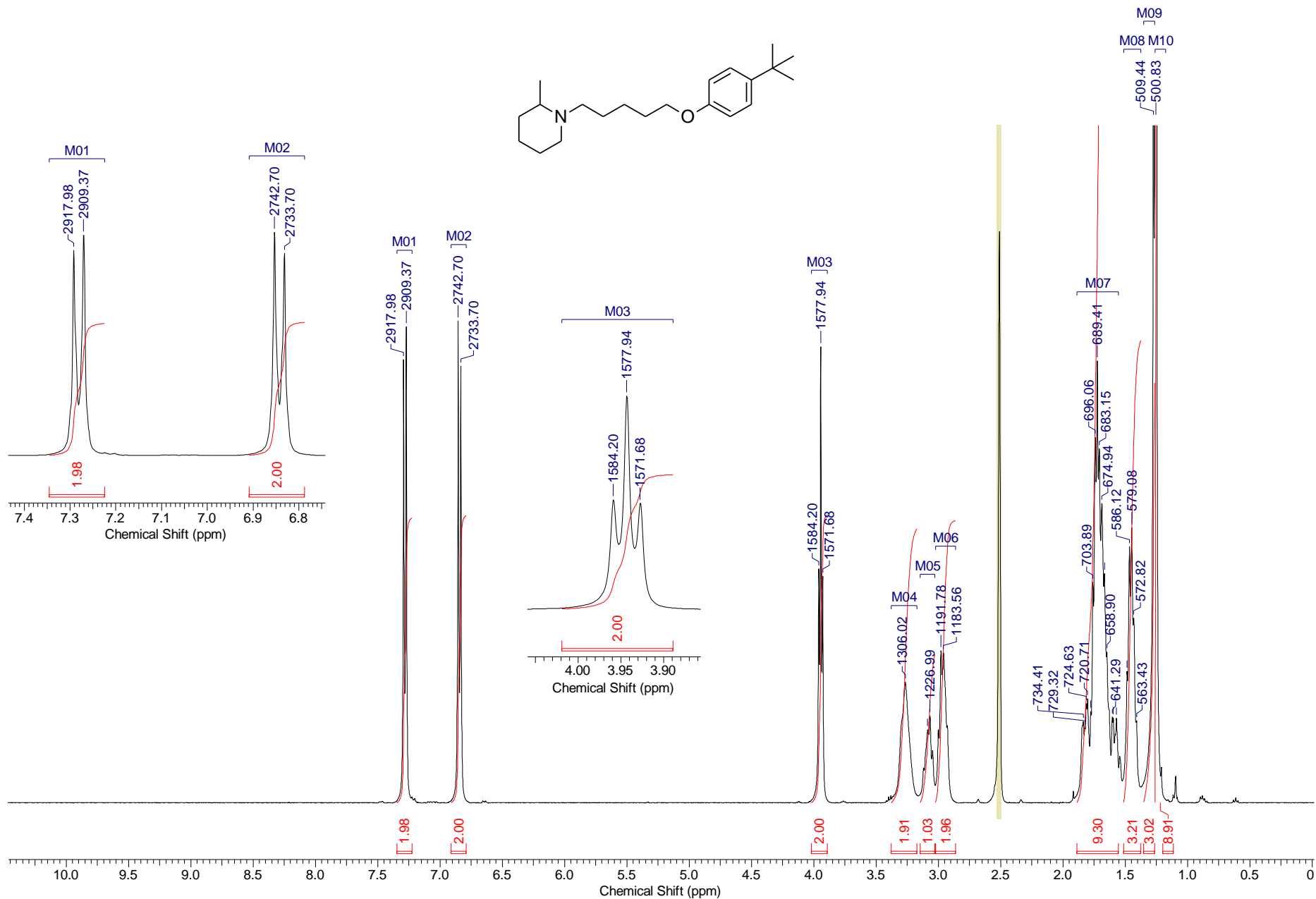


Fig S13. ¹H NMR spectrum of **11**

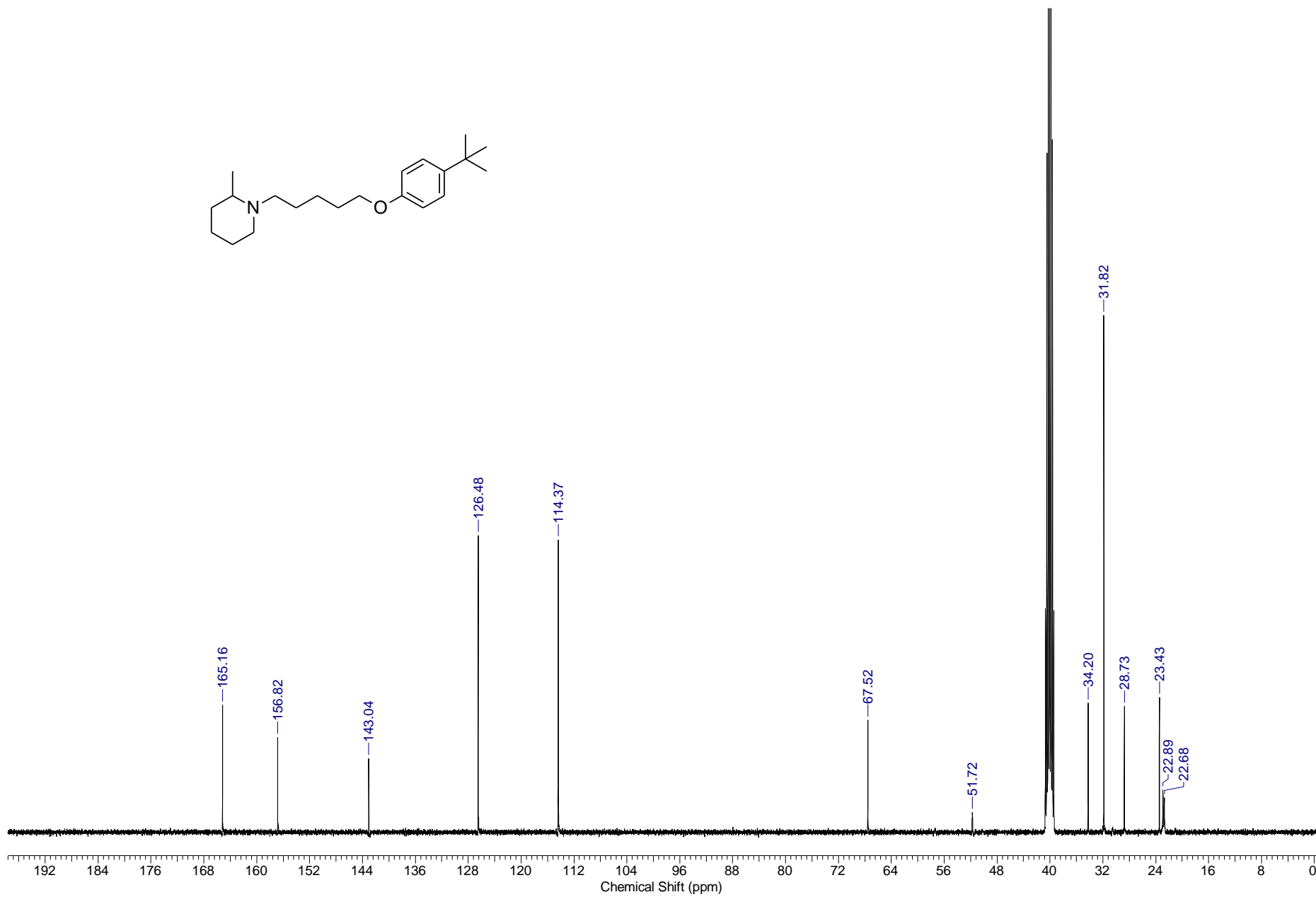
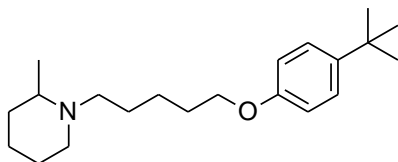


Fig S14. ¹³C NMR spectrum of **11**

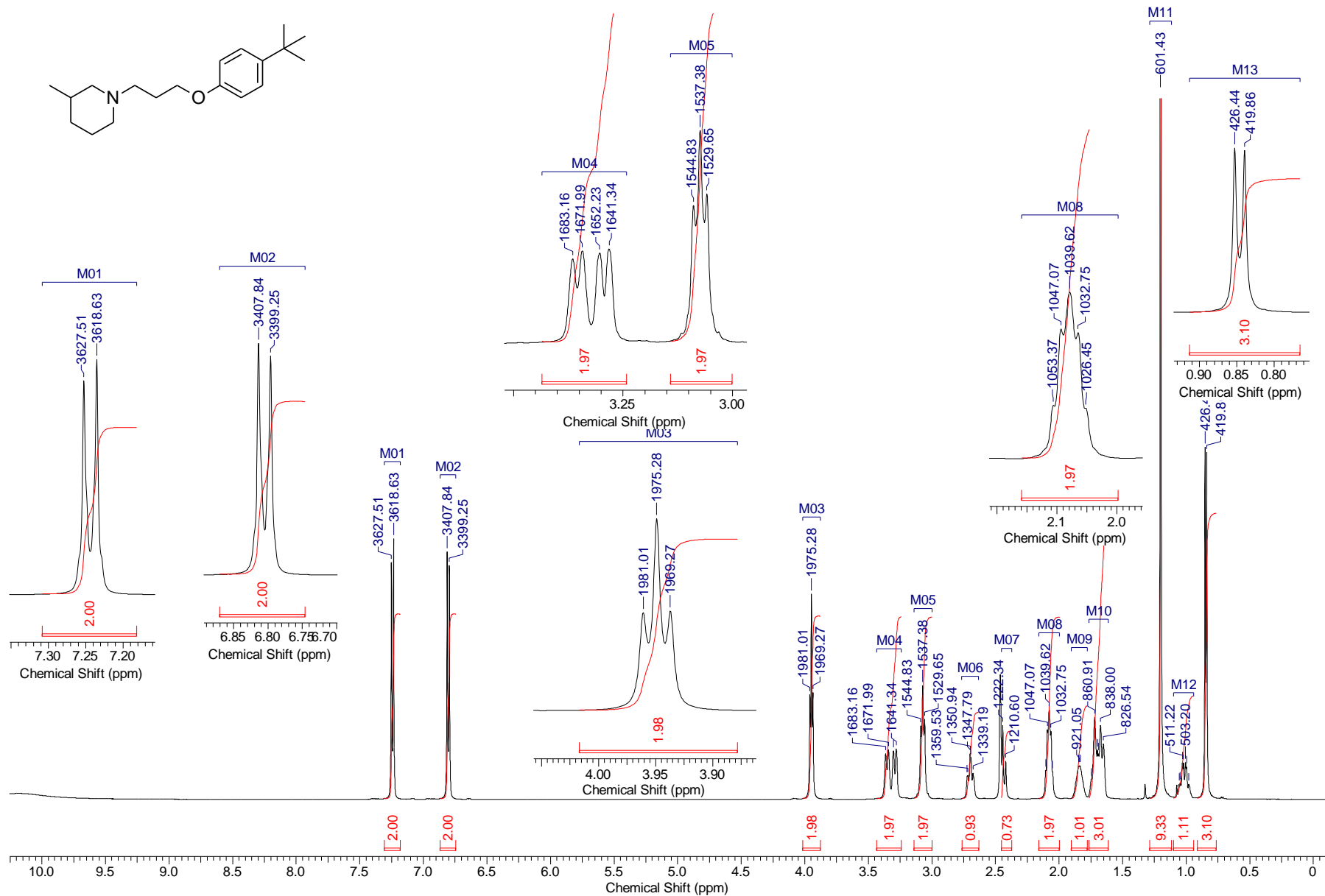


Fig S15. ^1H NMR spectrum of **12**

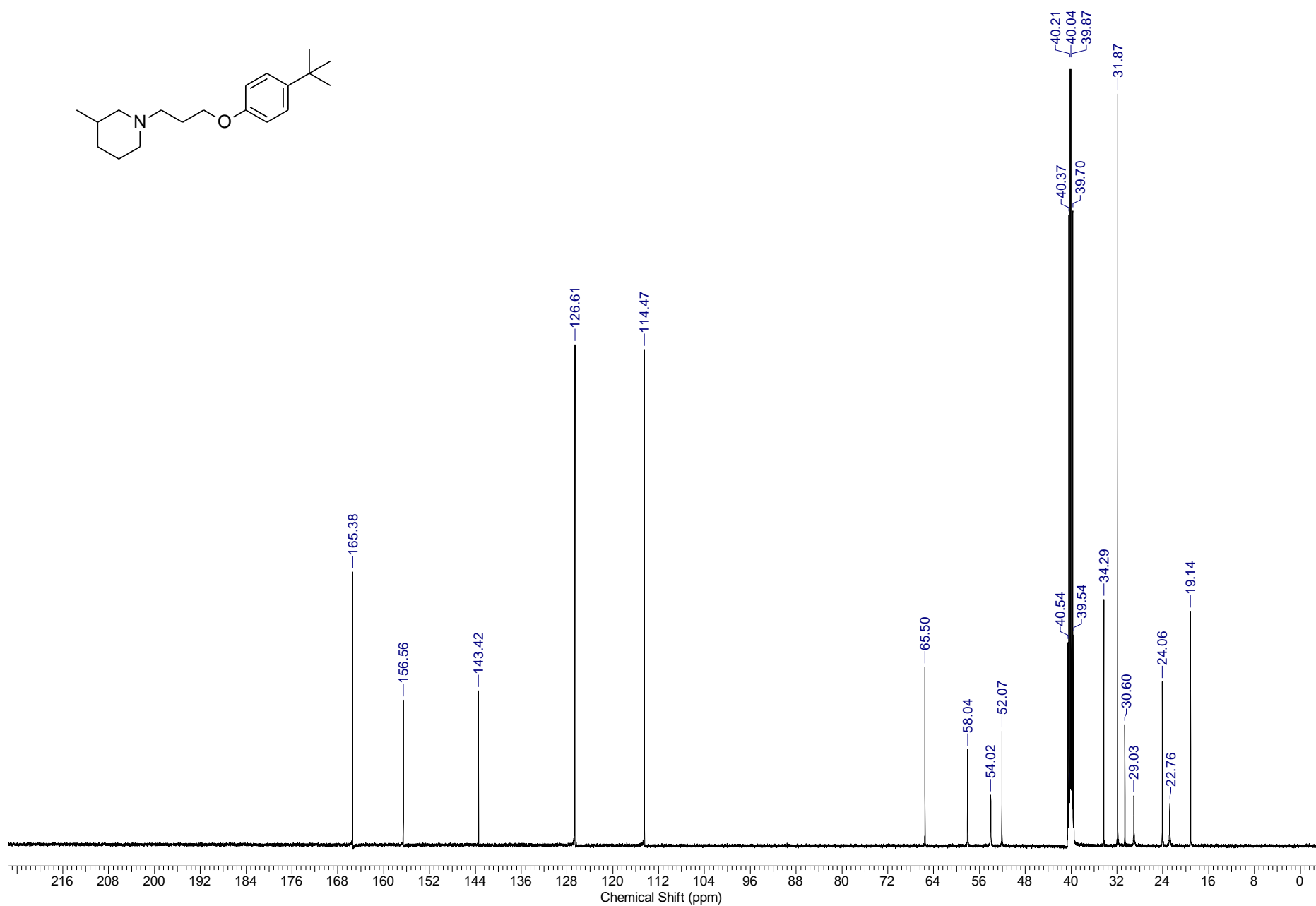
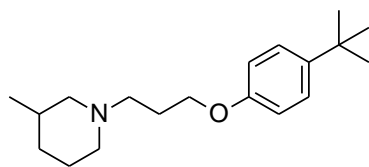


Fig S16. ¹³C NMR spectrum of **12**

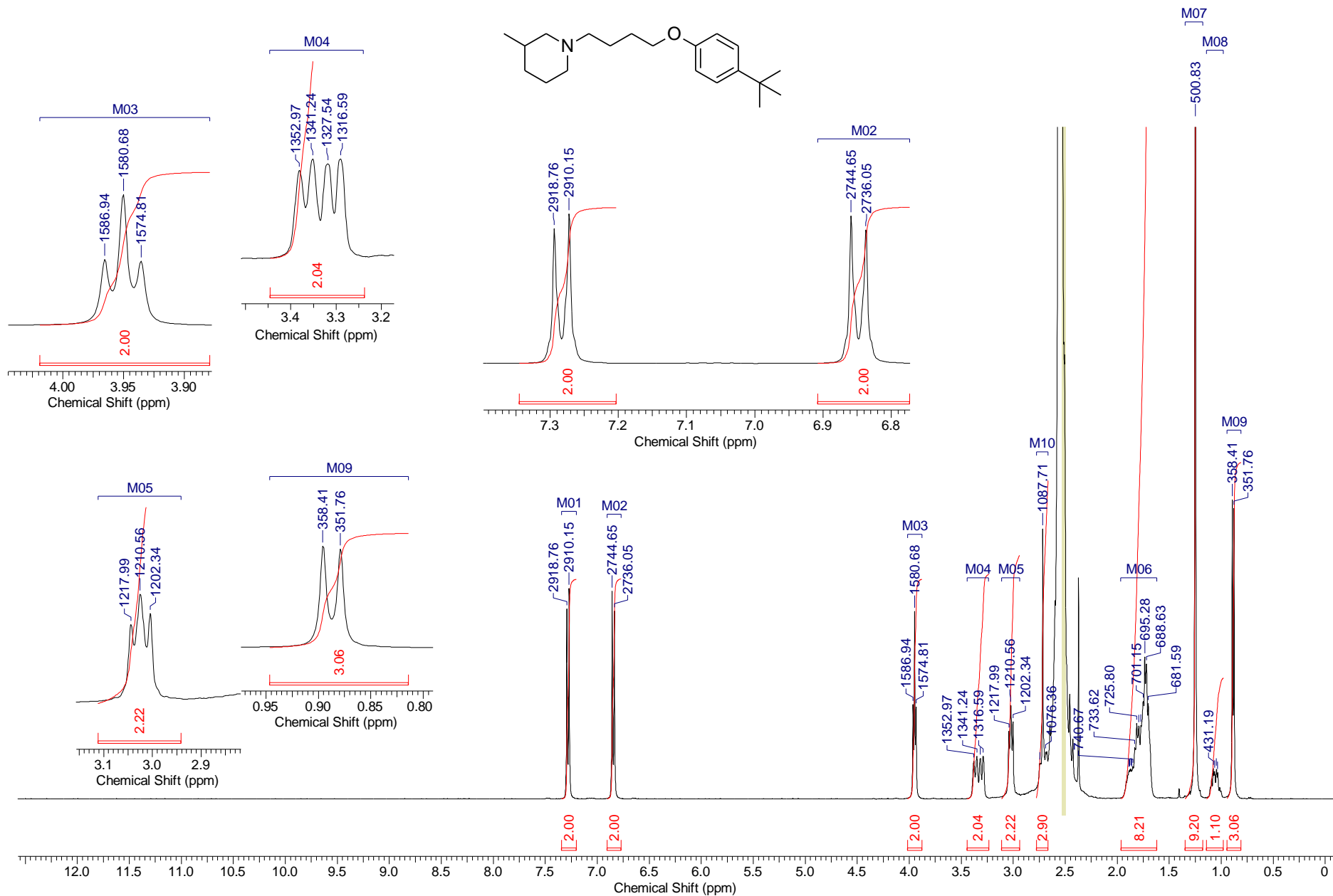


Fig S17. ^1H NMR spectrum of **13**

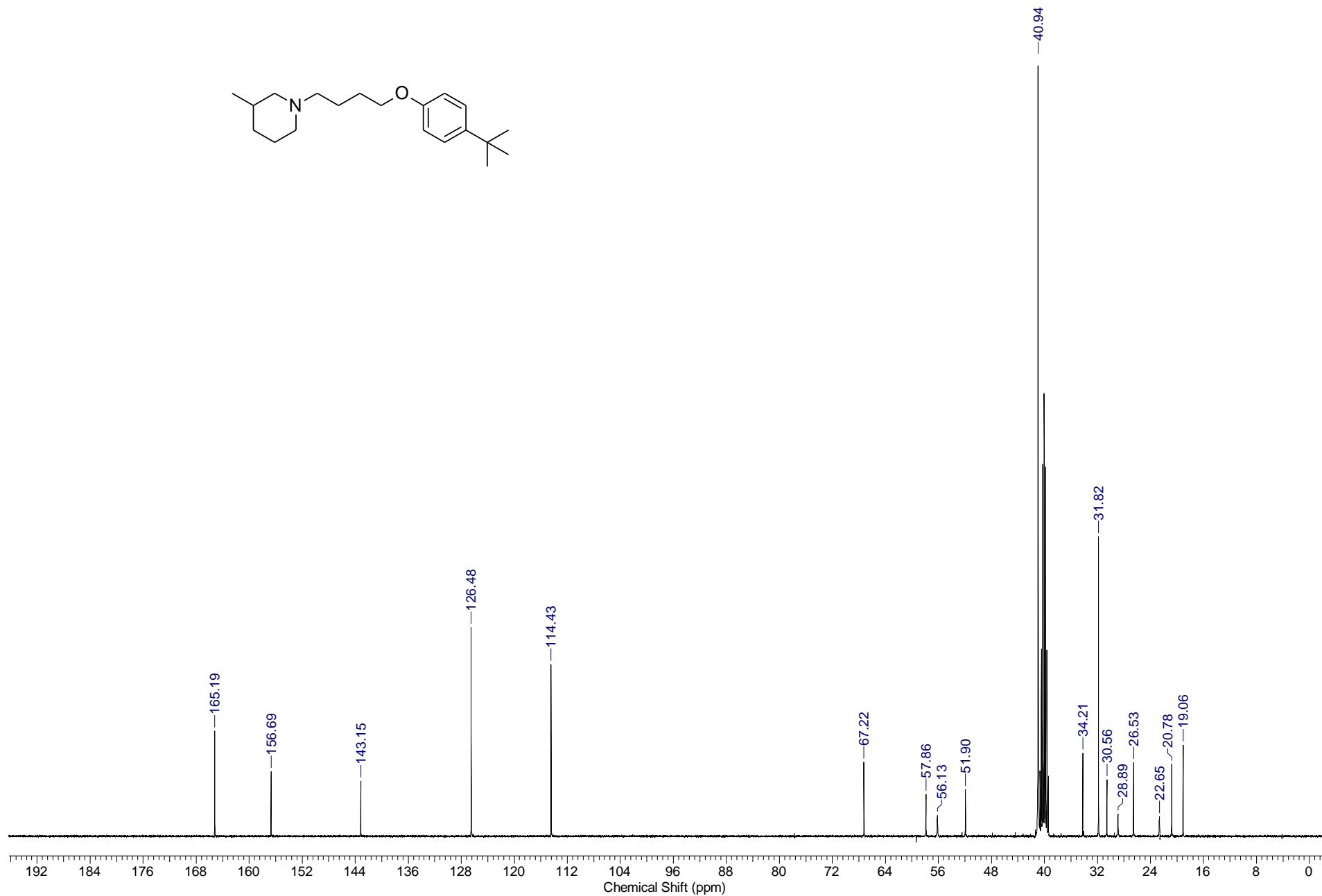
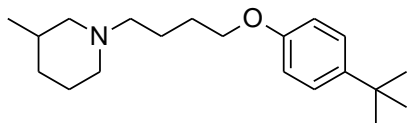


Fig S18. ¹³C NMR spectrum of **13**

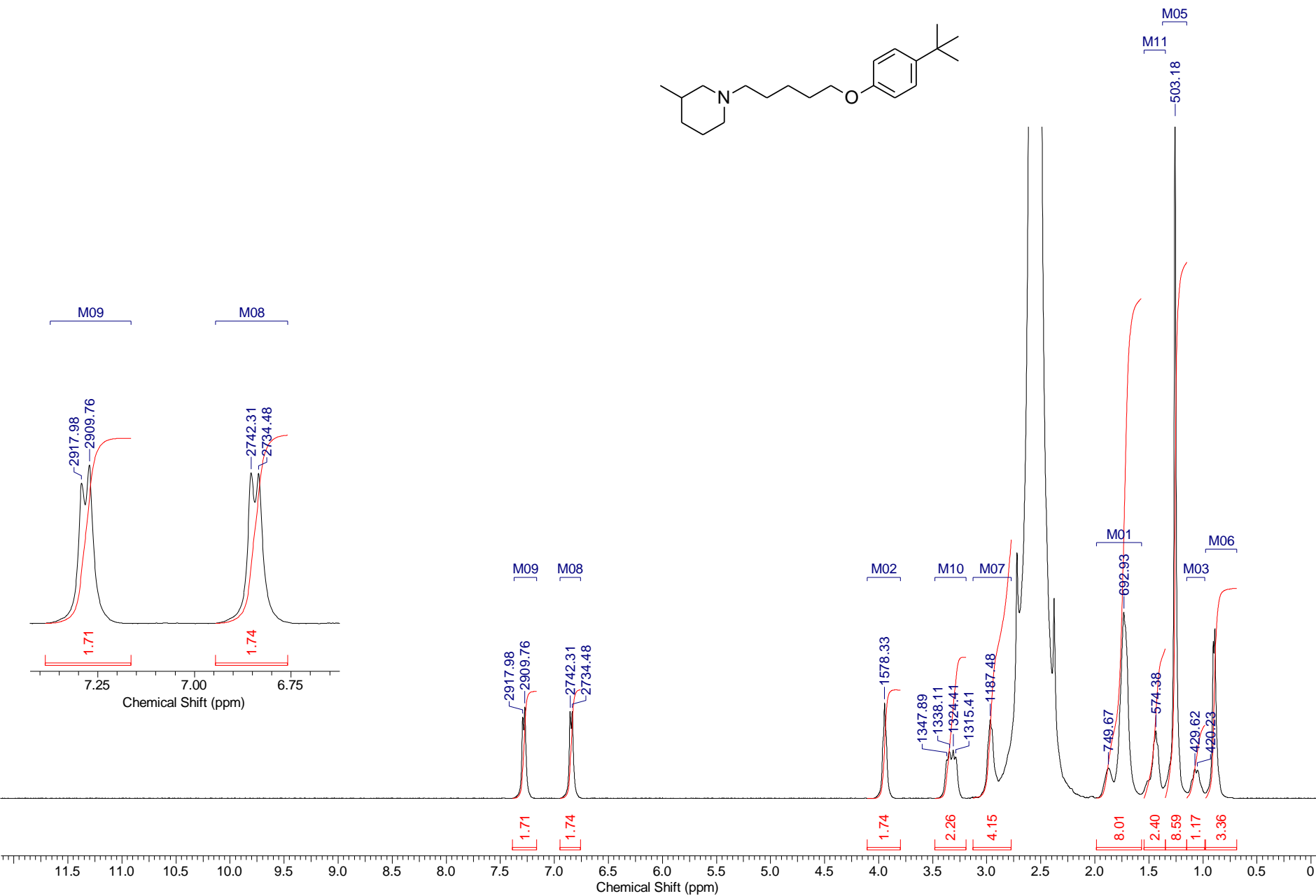
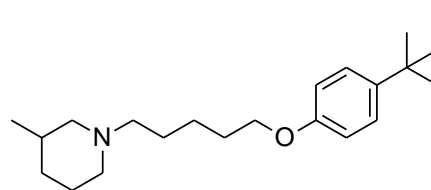


Fig S19. ^1H NMR spectrum of **14**

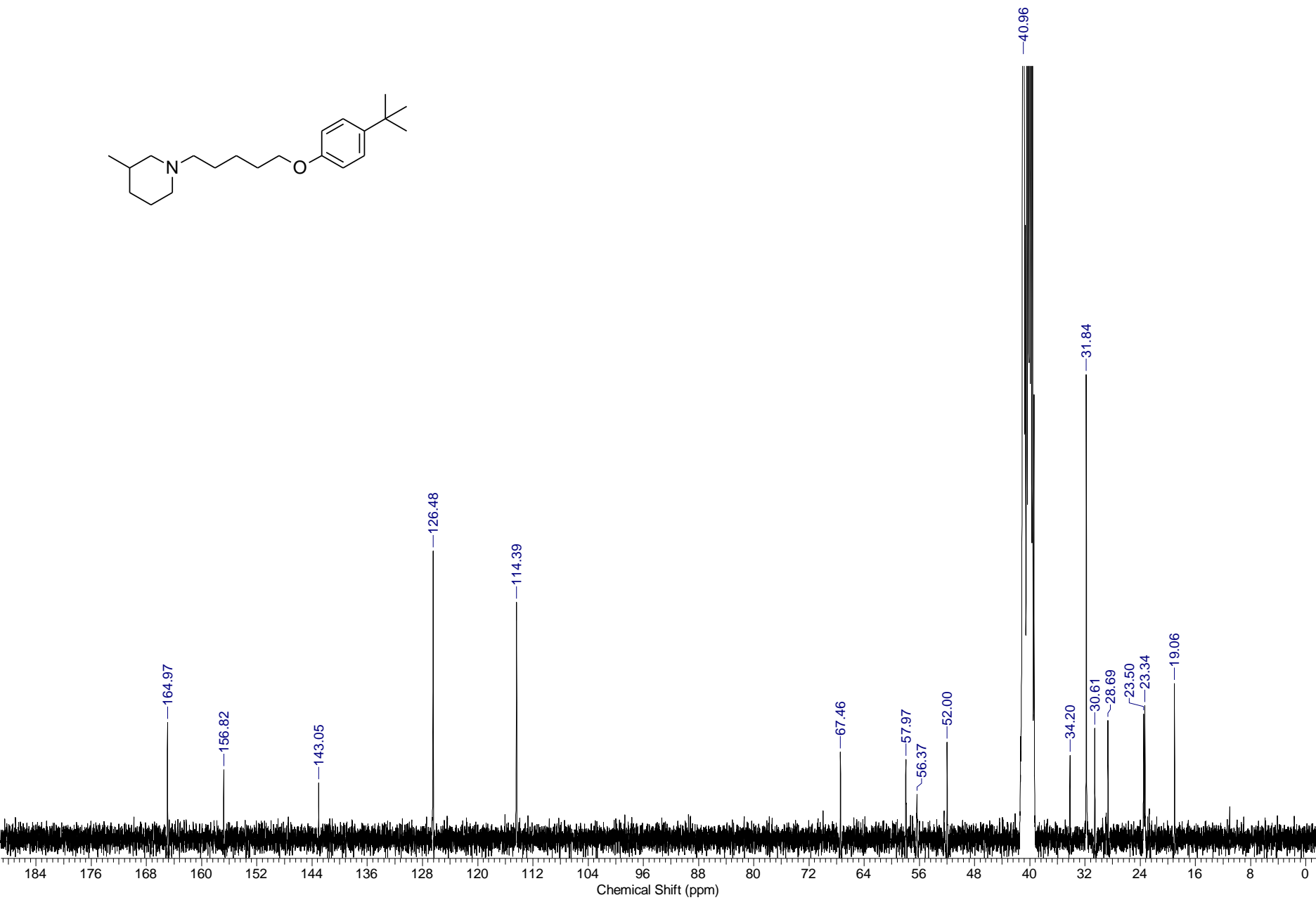
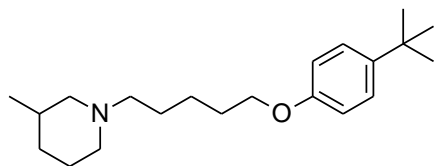


Fig S20. ¹³C NMR spectrum of **14**

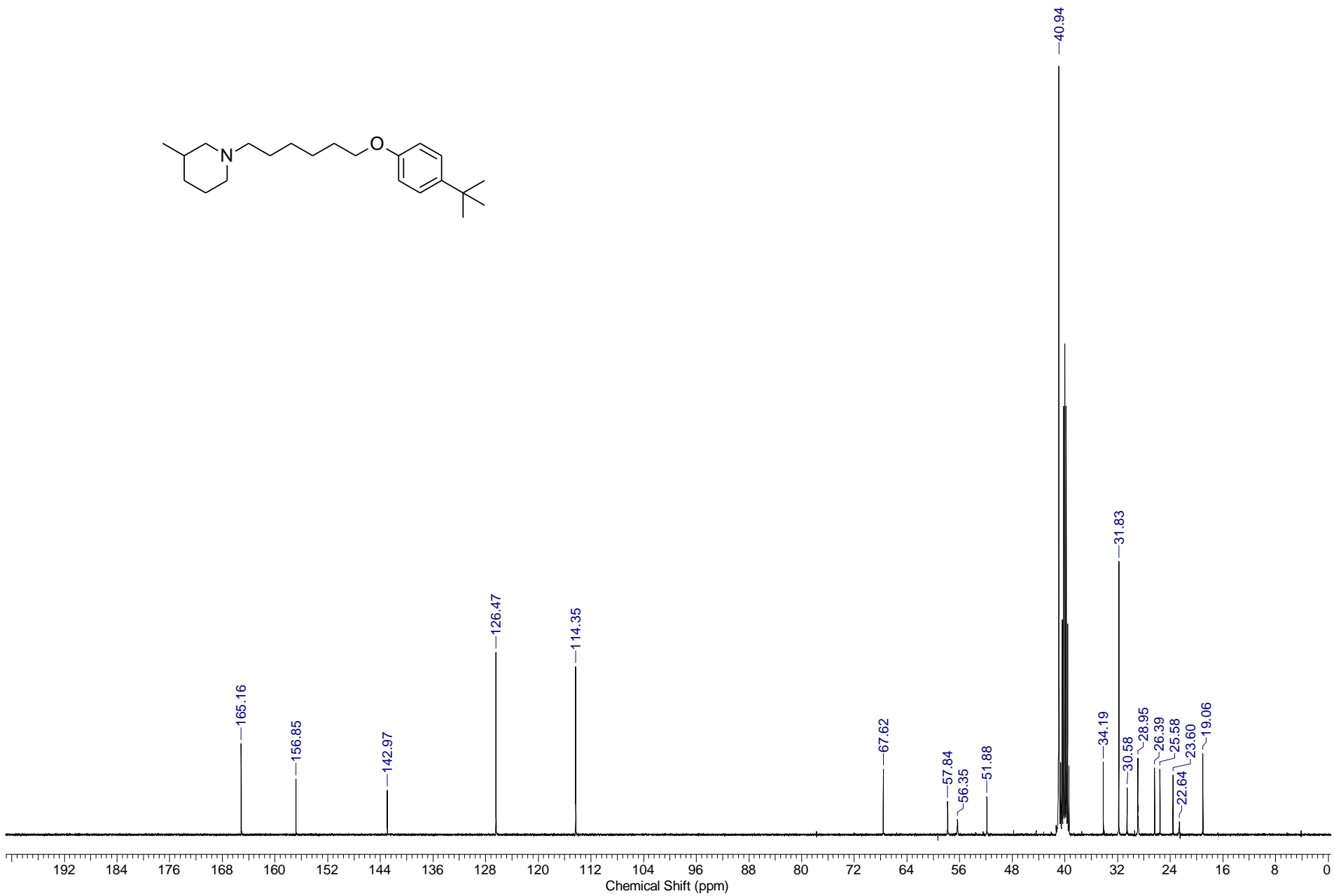
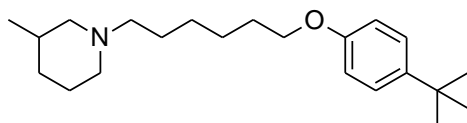


Fig S22. ¹³C NMR spectrum of **15**

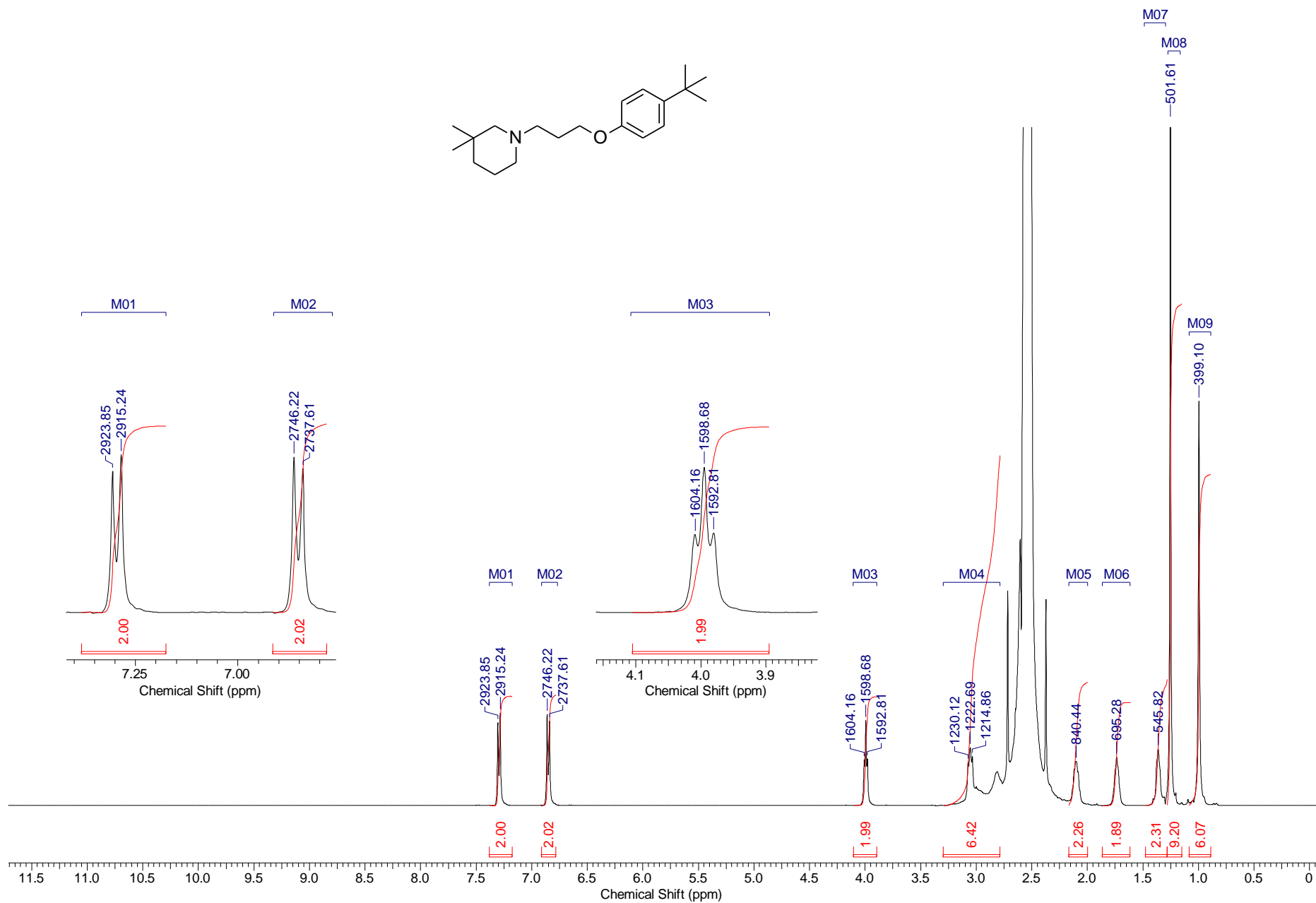
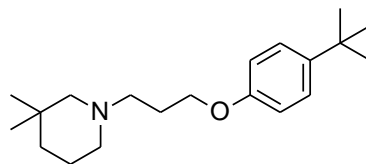


Fig S23. ^1H NMR spectrum of **16**

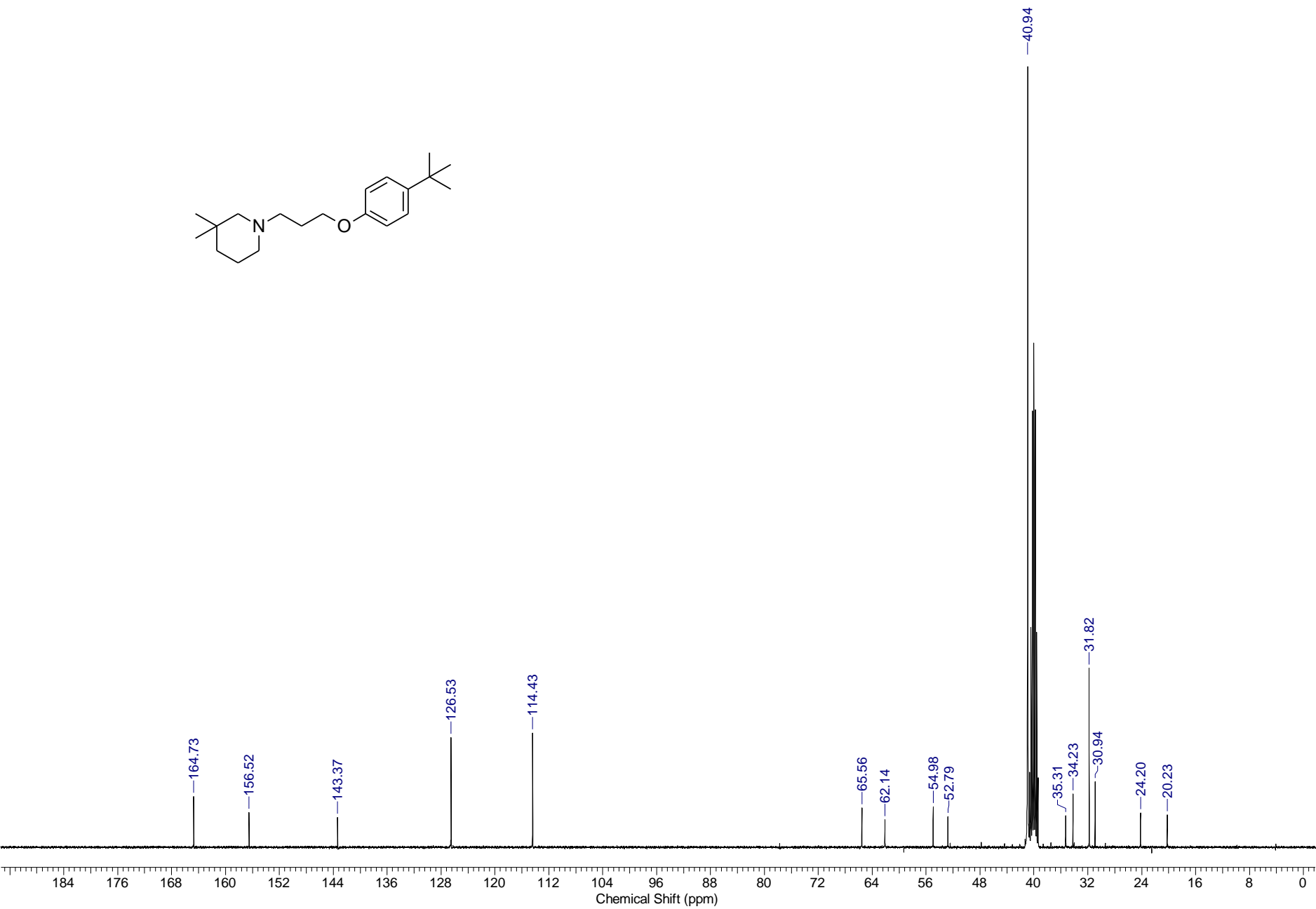
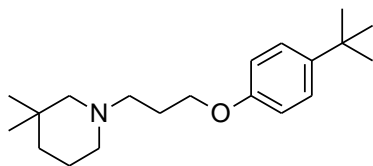


Fig S24. ¹³C NMR spectrum of **16**

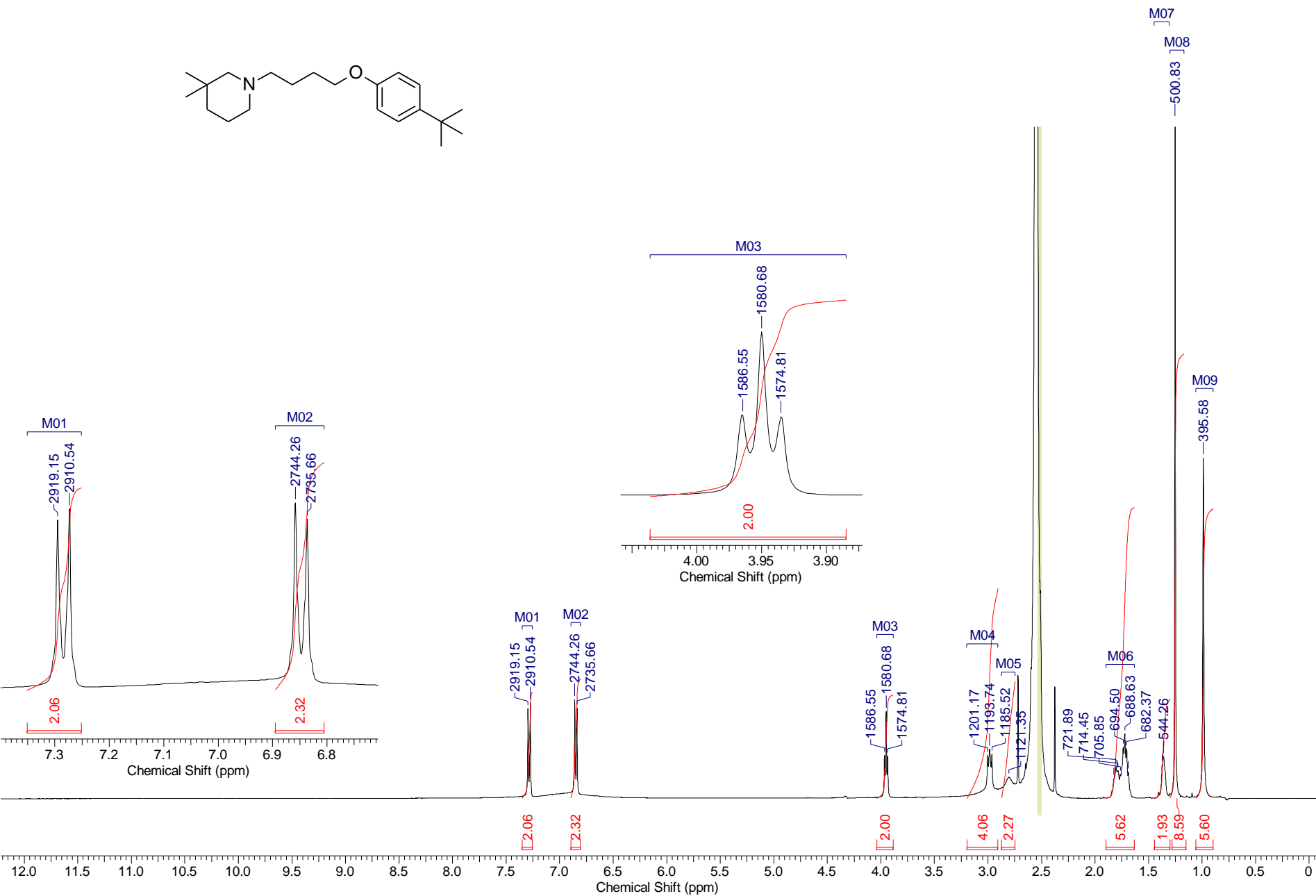
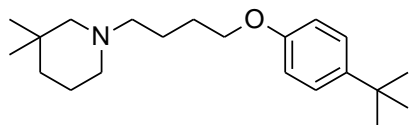


Fig S25. ^1H NMR spectrum of **17**

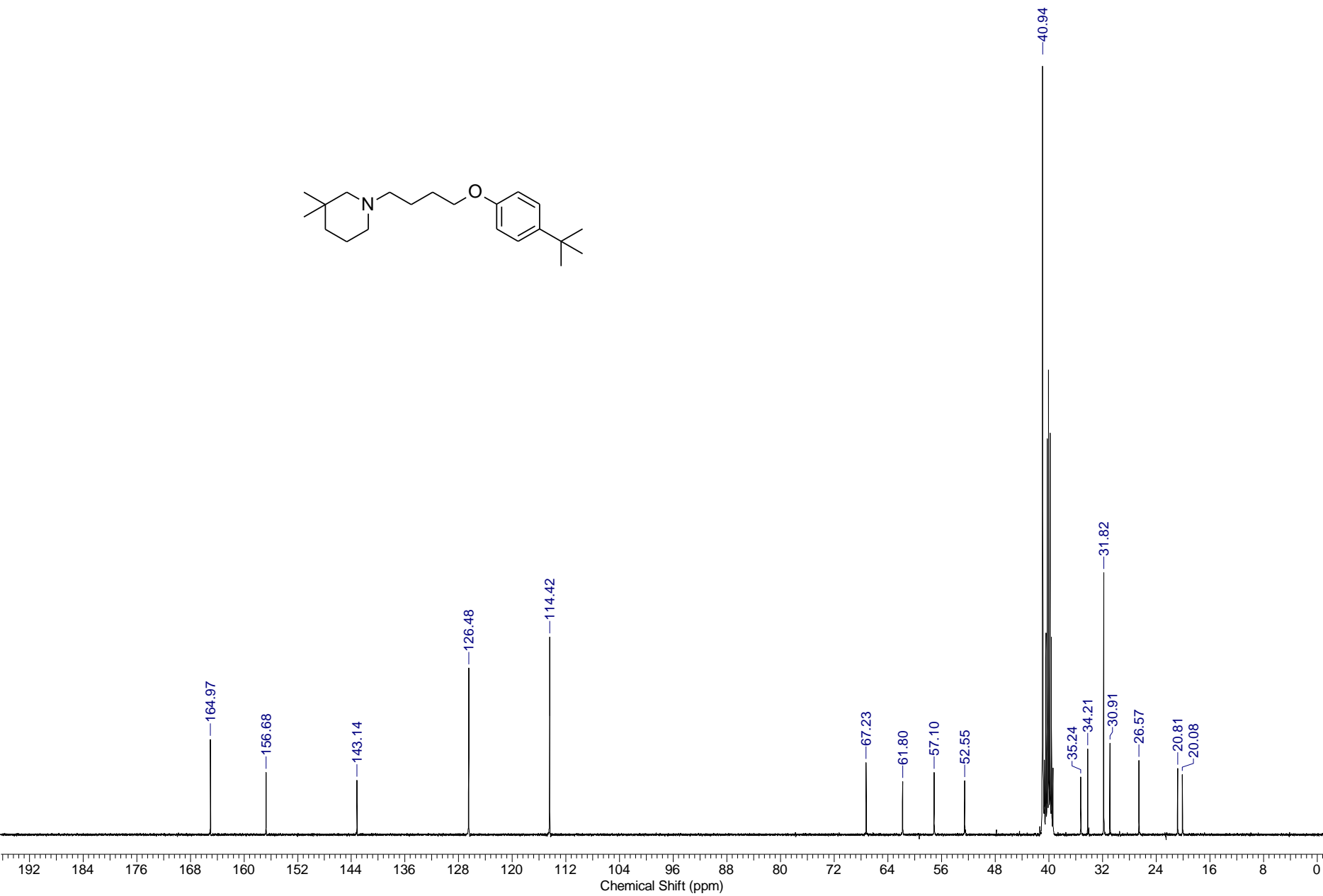
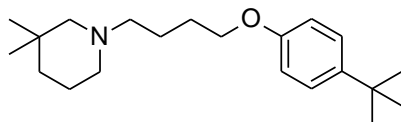


Fig S26. ¹³C NMR spectrum of **17**

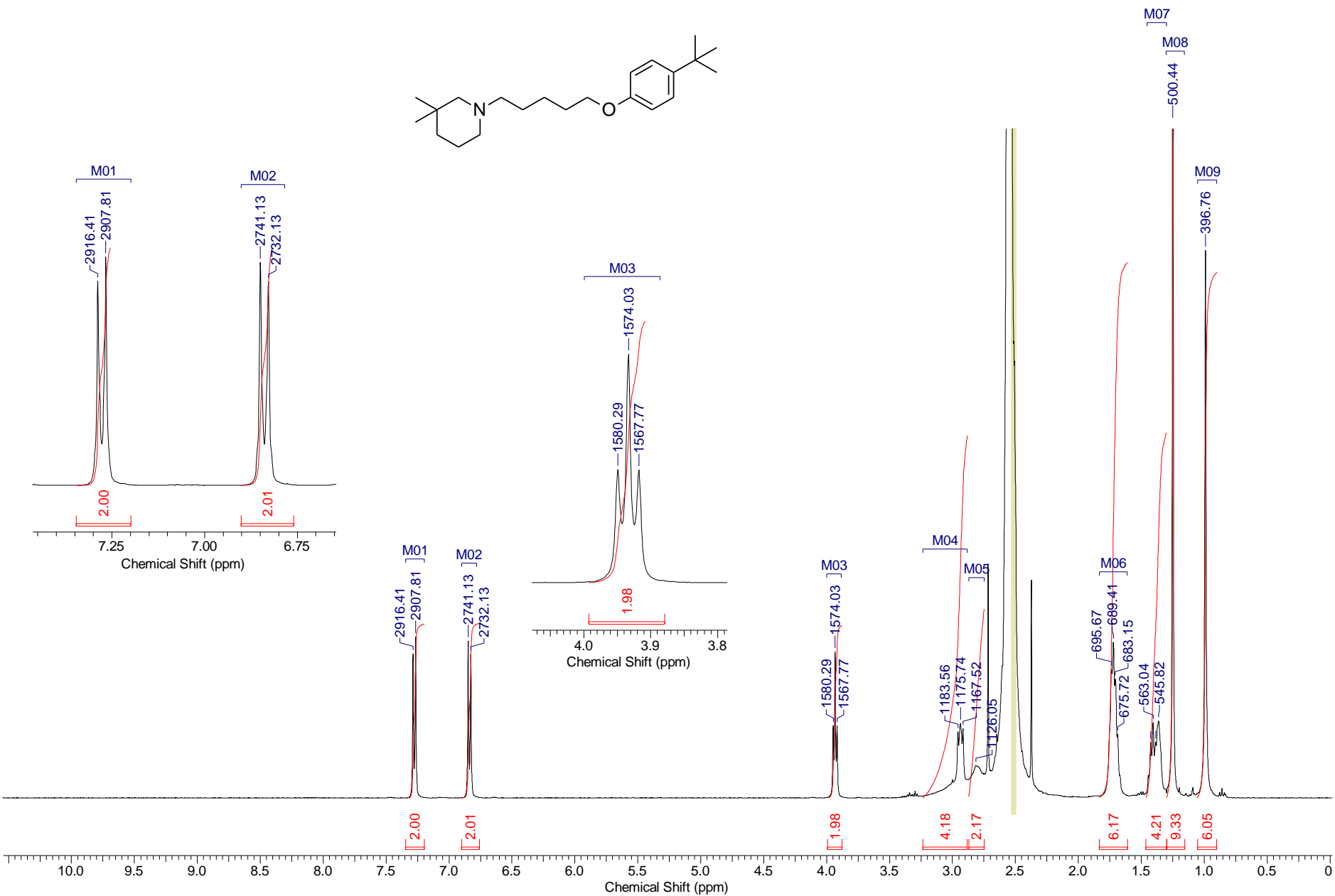


Fig S27. ^1H NMR spectrum of **18**

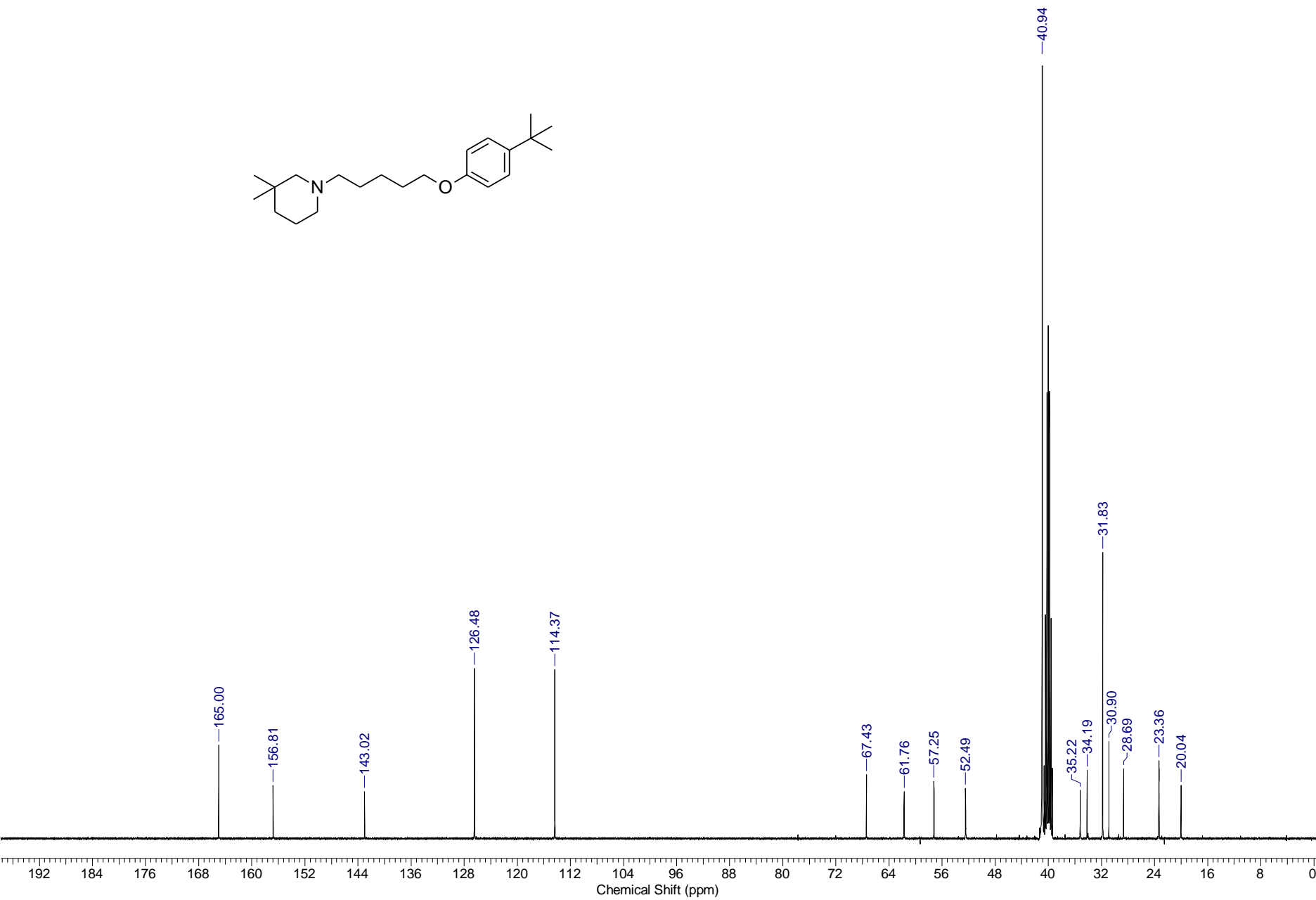
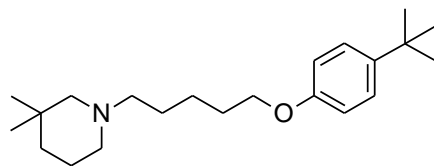


Fig S28. ¹³C NMR spectrum of **18**

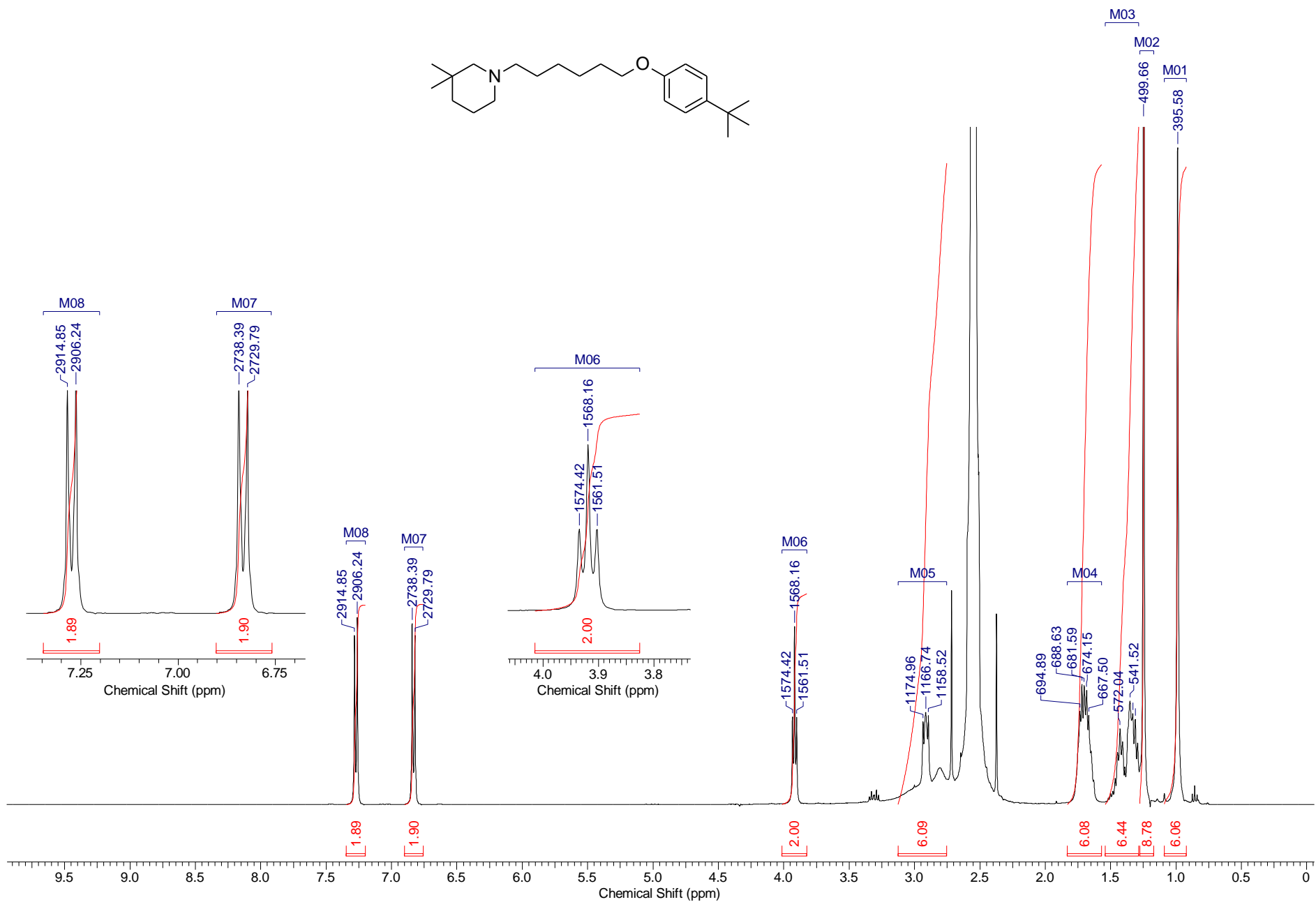
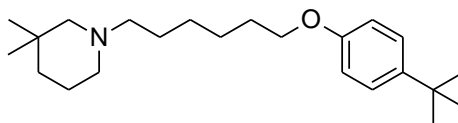


Fig S29. ¹H NMR spectrum of **19**

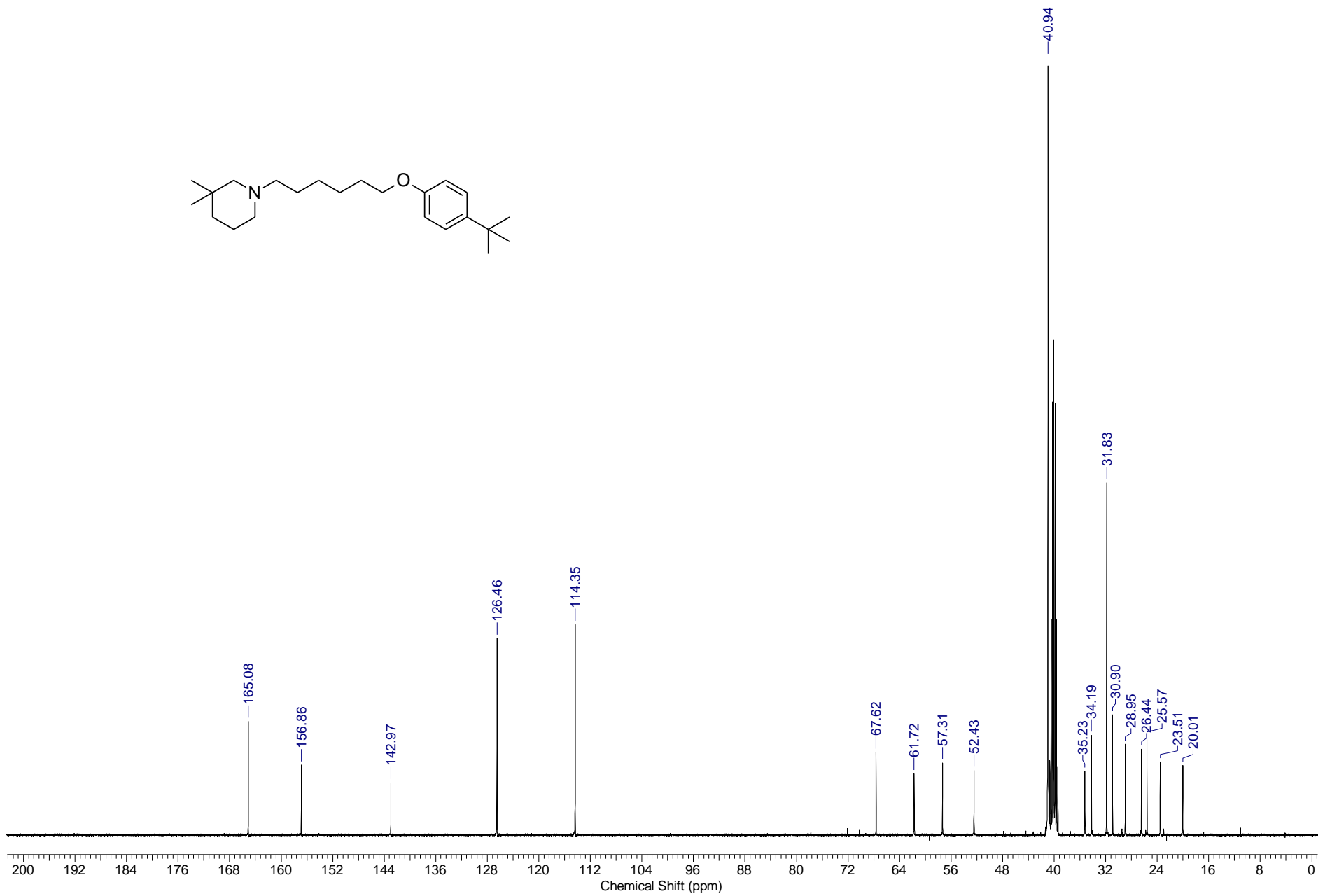
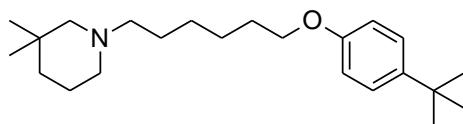


Fig S30. ¹³C NMR spectrum of **19**

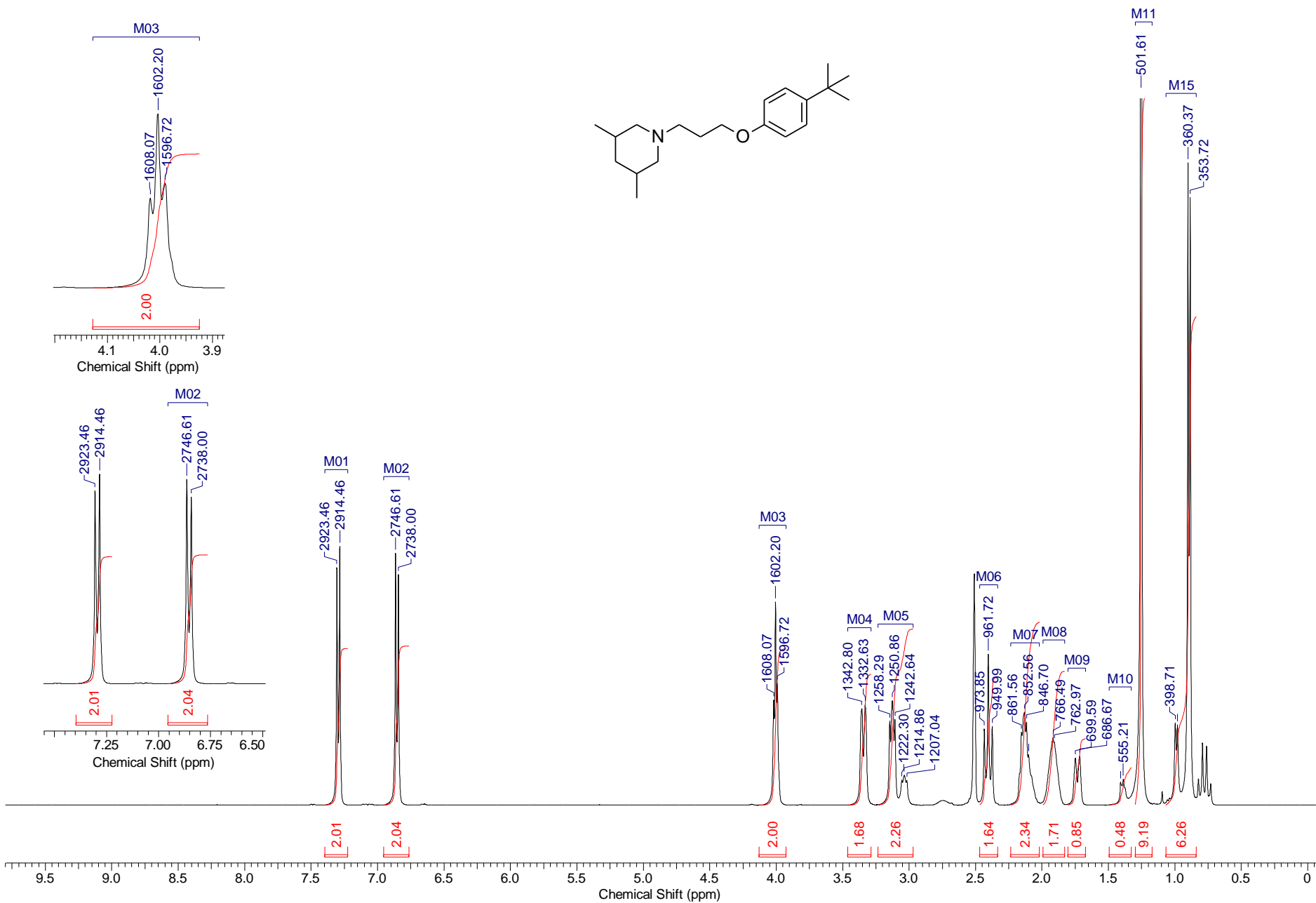


Fig S31. ¹H NMR spectrum of **20**

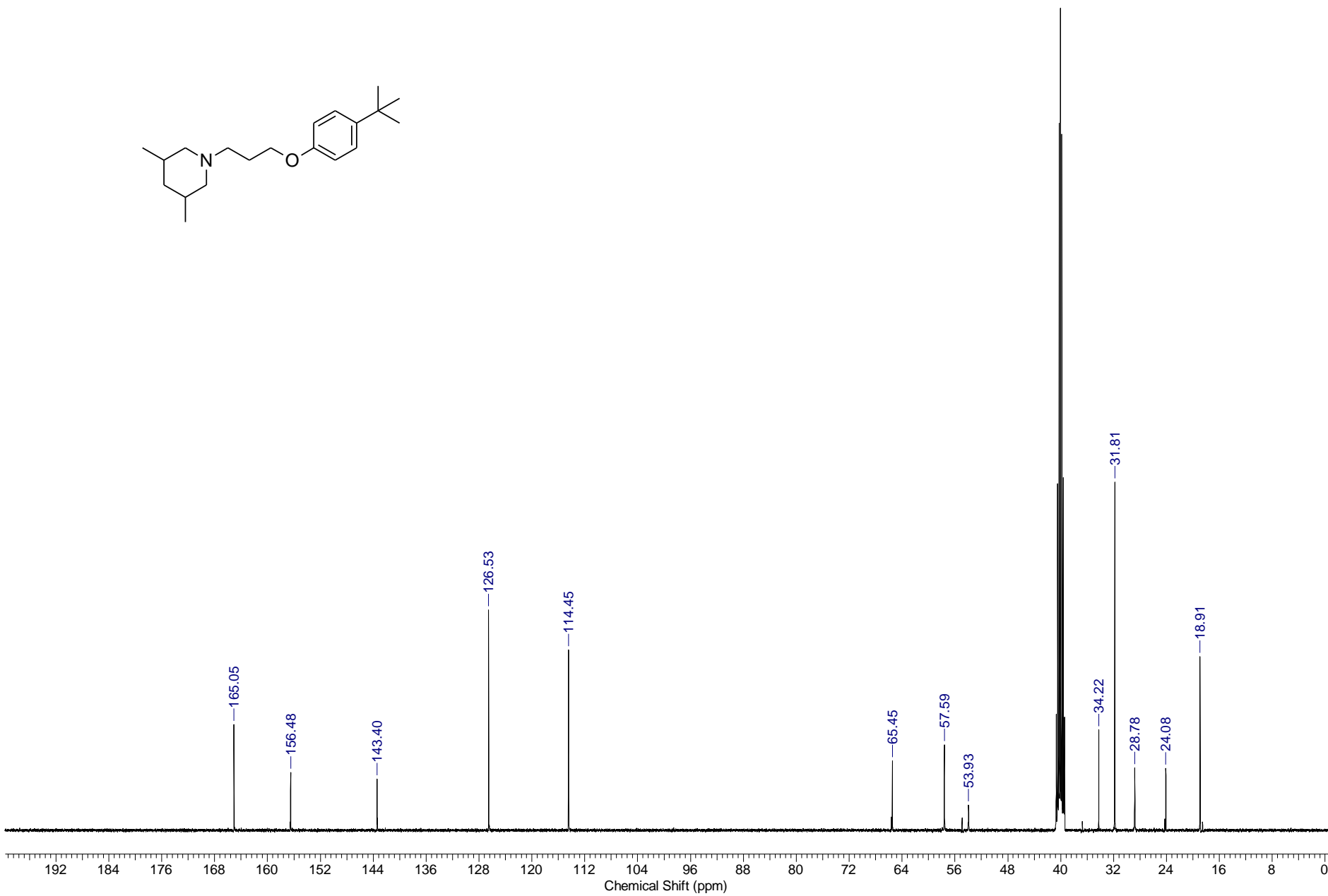
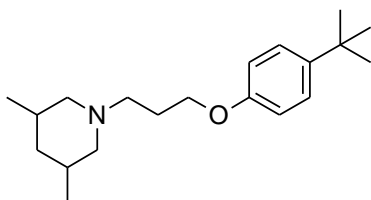


Fig S32. ¹³C NMR spectrum of **20**

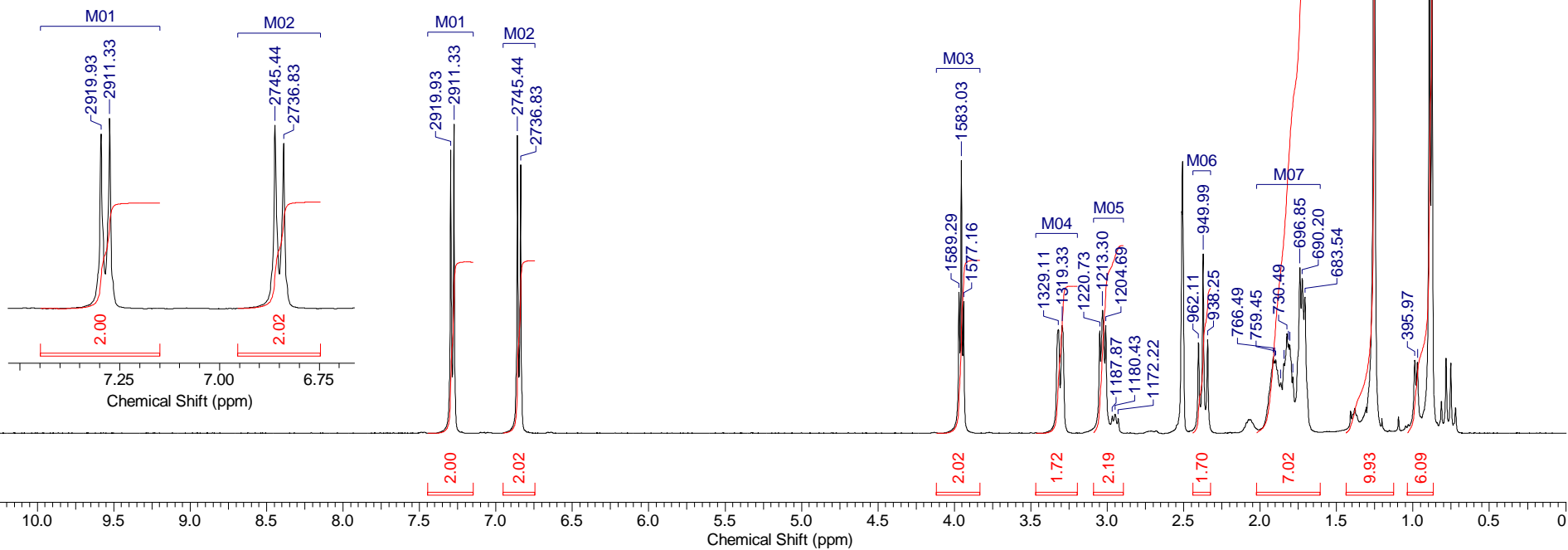
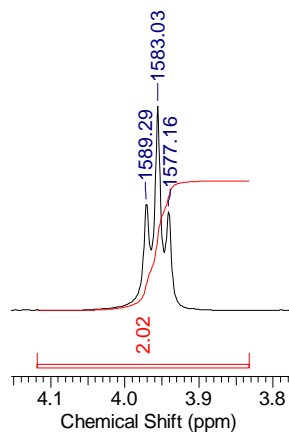
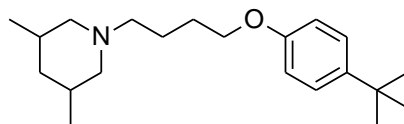


Fig S33. ^1H NMR spectrum of **21**

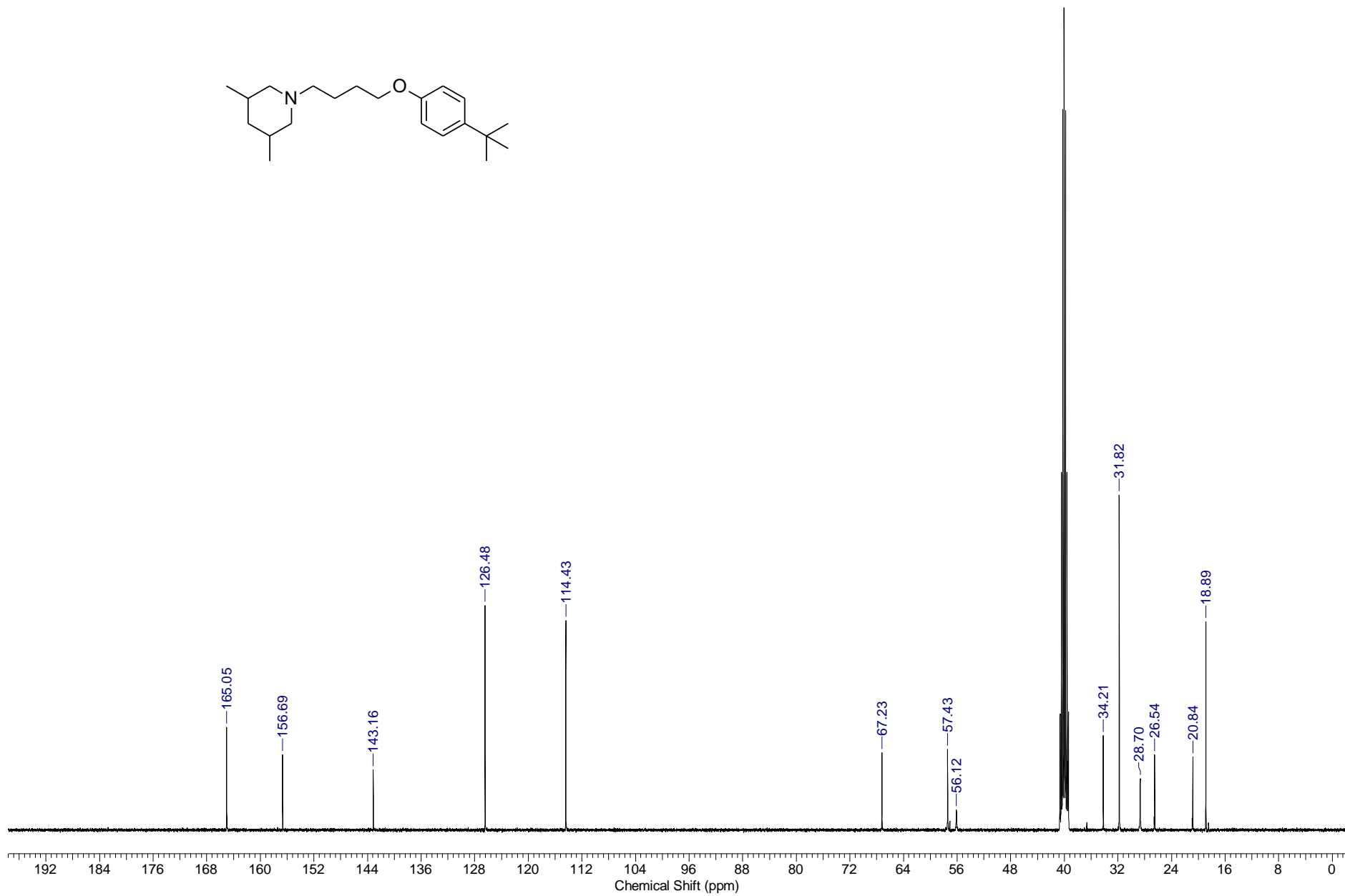
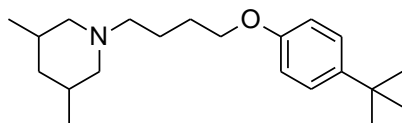


Fig S34. ¹³C NMR spectrum of **21**

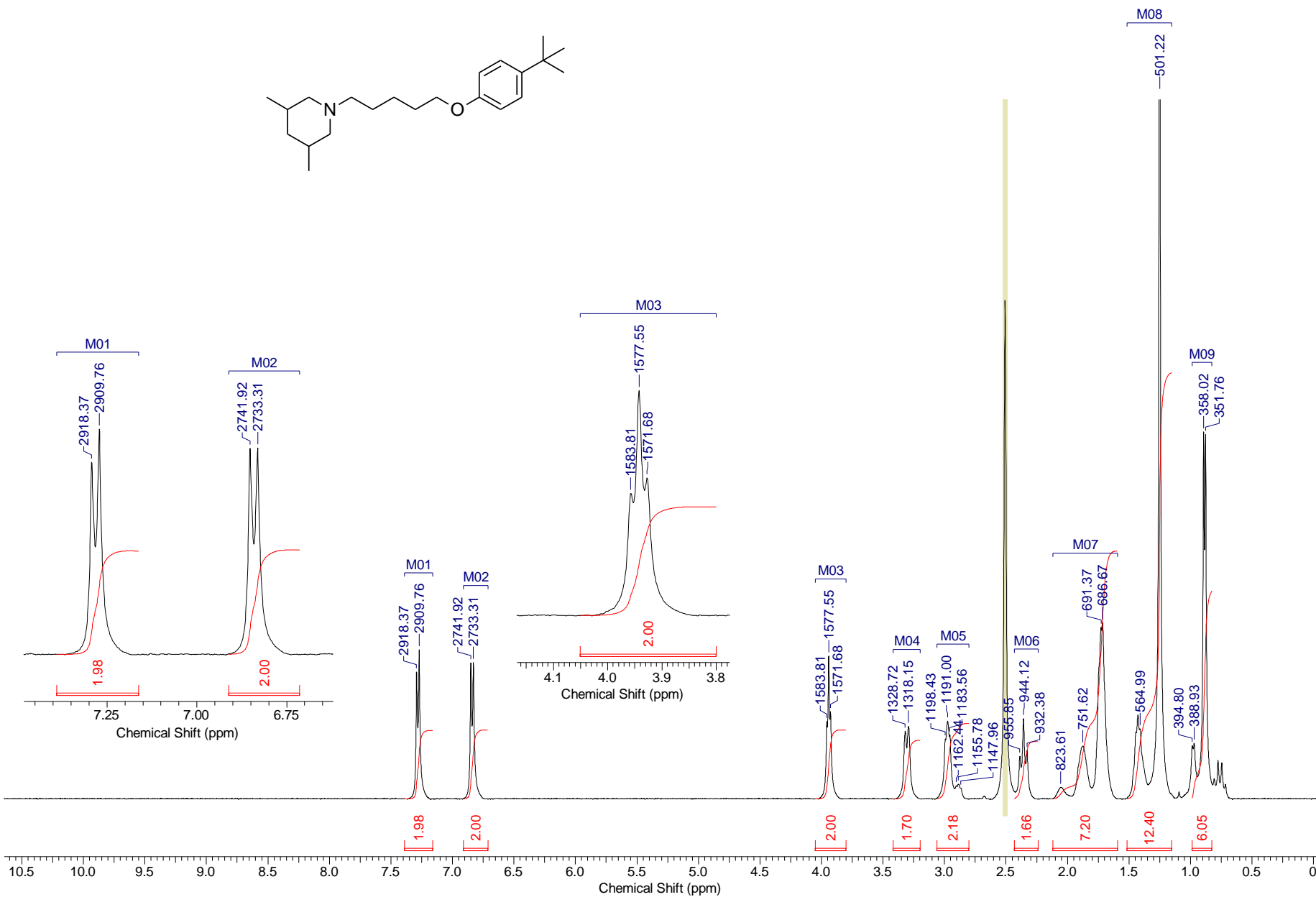
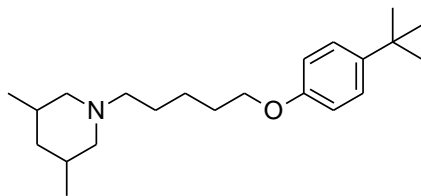


Fig S35. ^1H NMR spectrum of **22**

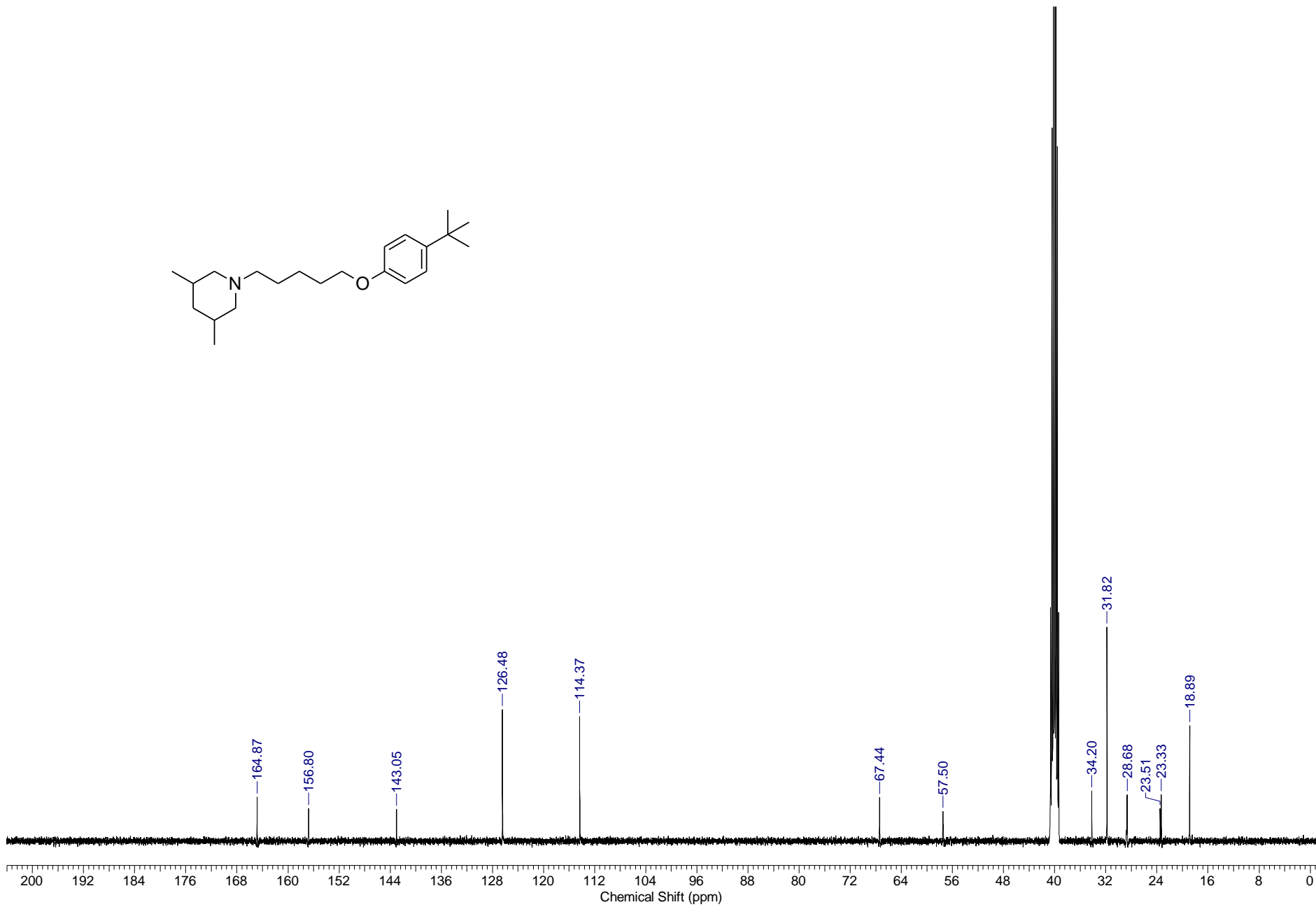
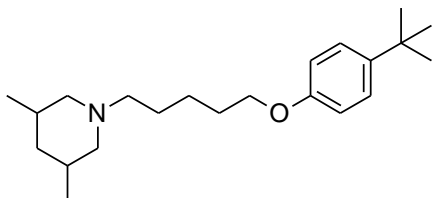


Fig S36. ¹³C NMR spectrum of **22**

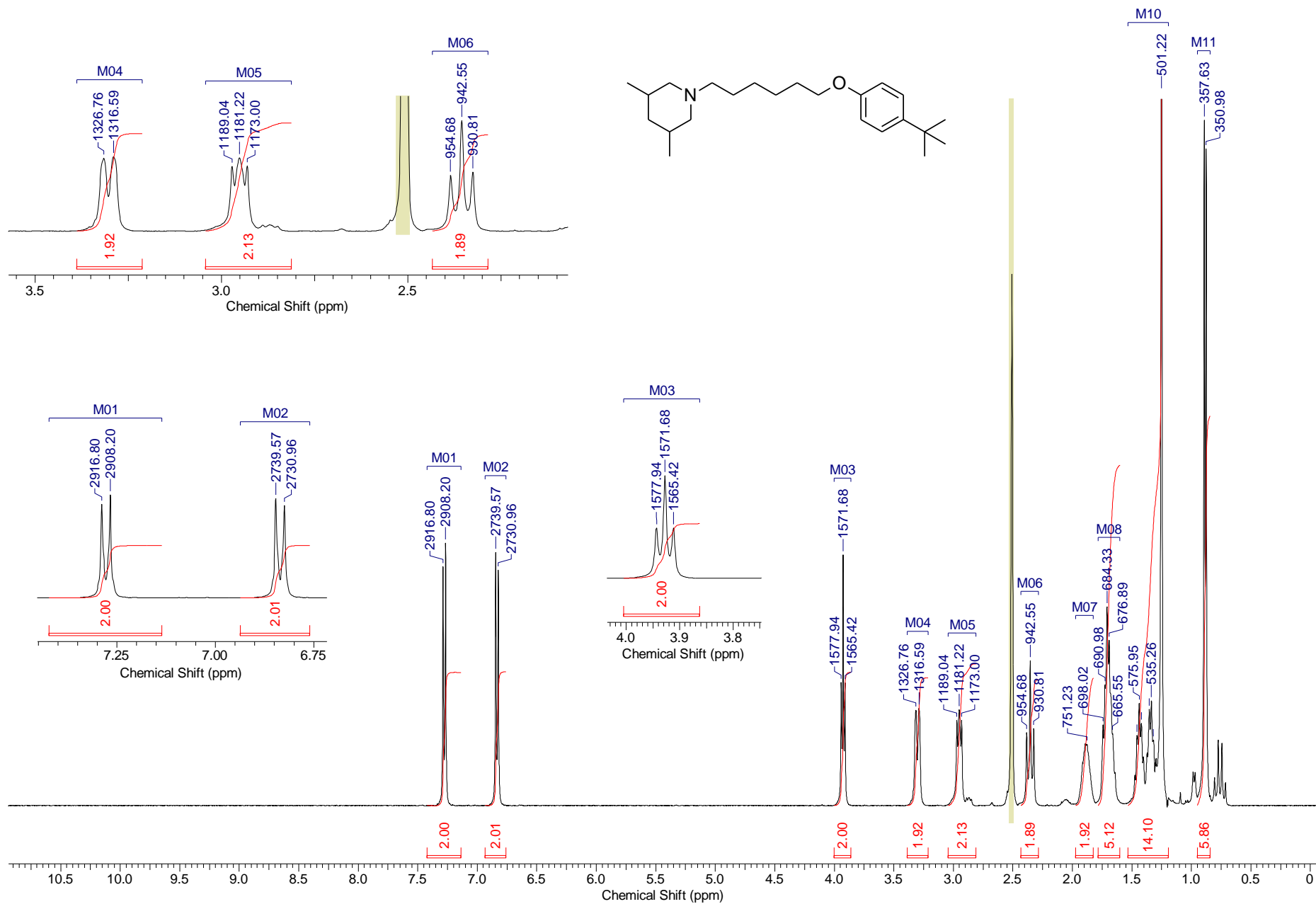


Fig S37. ^1H NMR spectrum of **23**

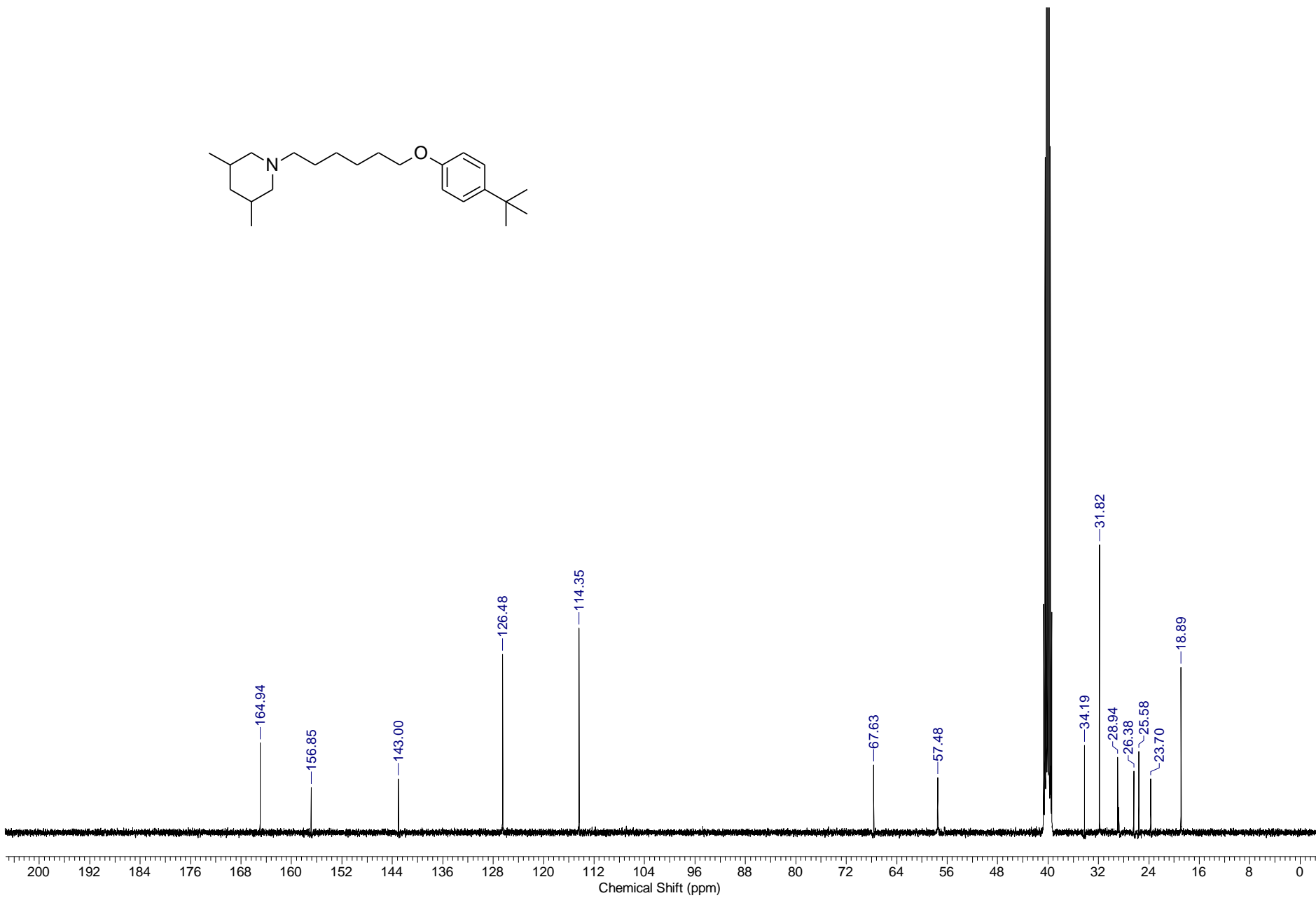
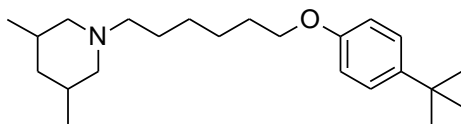


Fig S38. ¹³C NMR spectrum of **23**

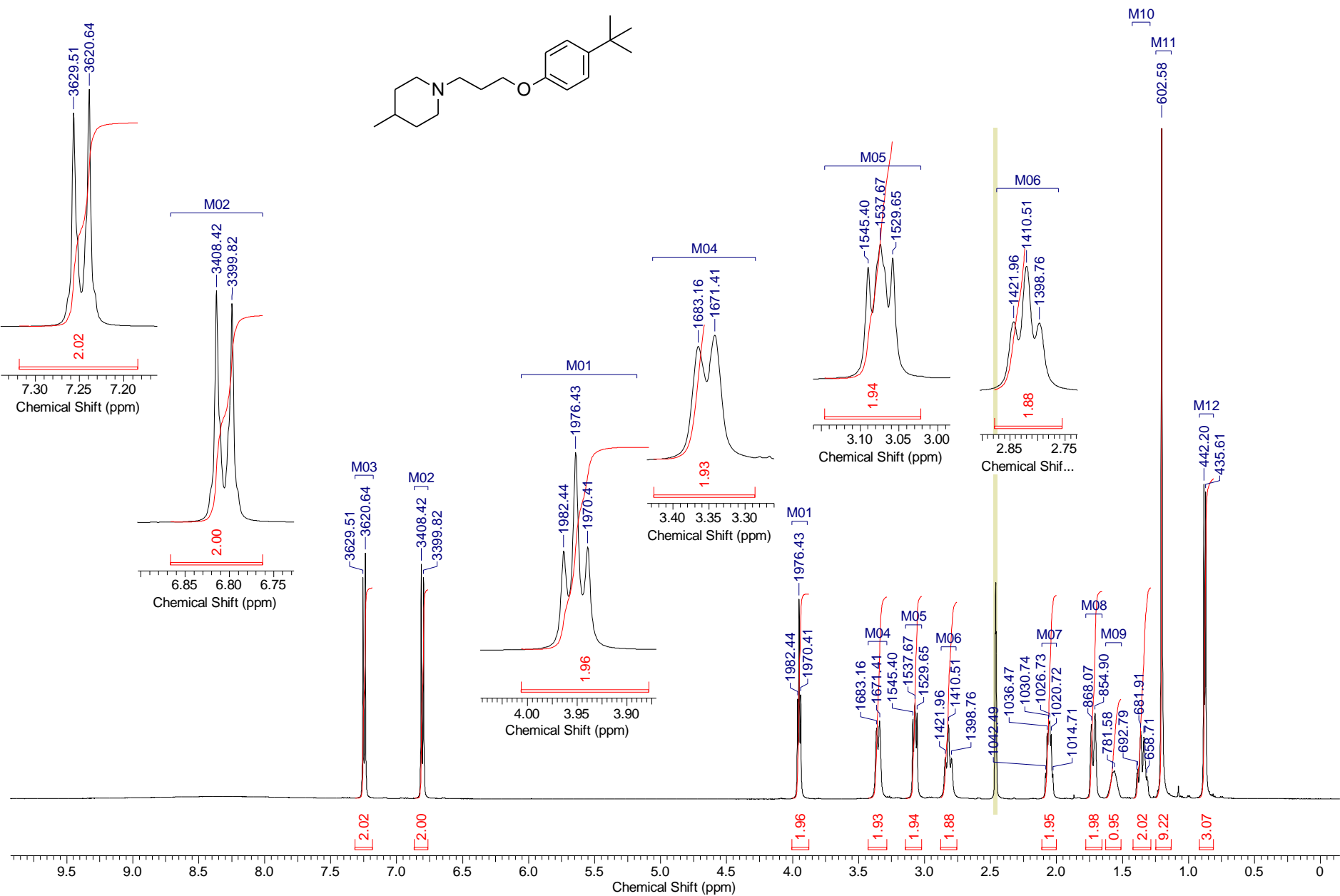


Fig S39. ¹H NMR spectrum of **24**

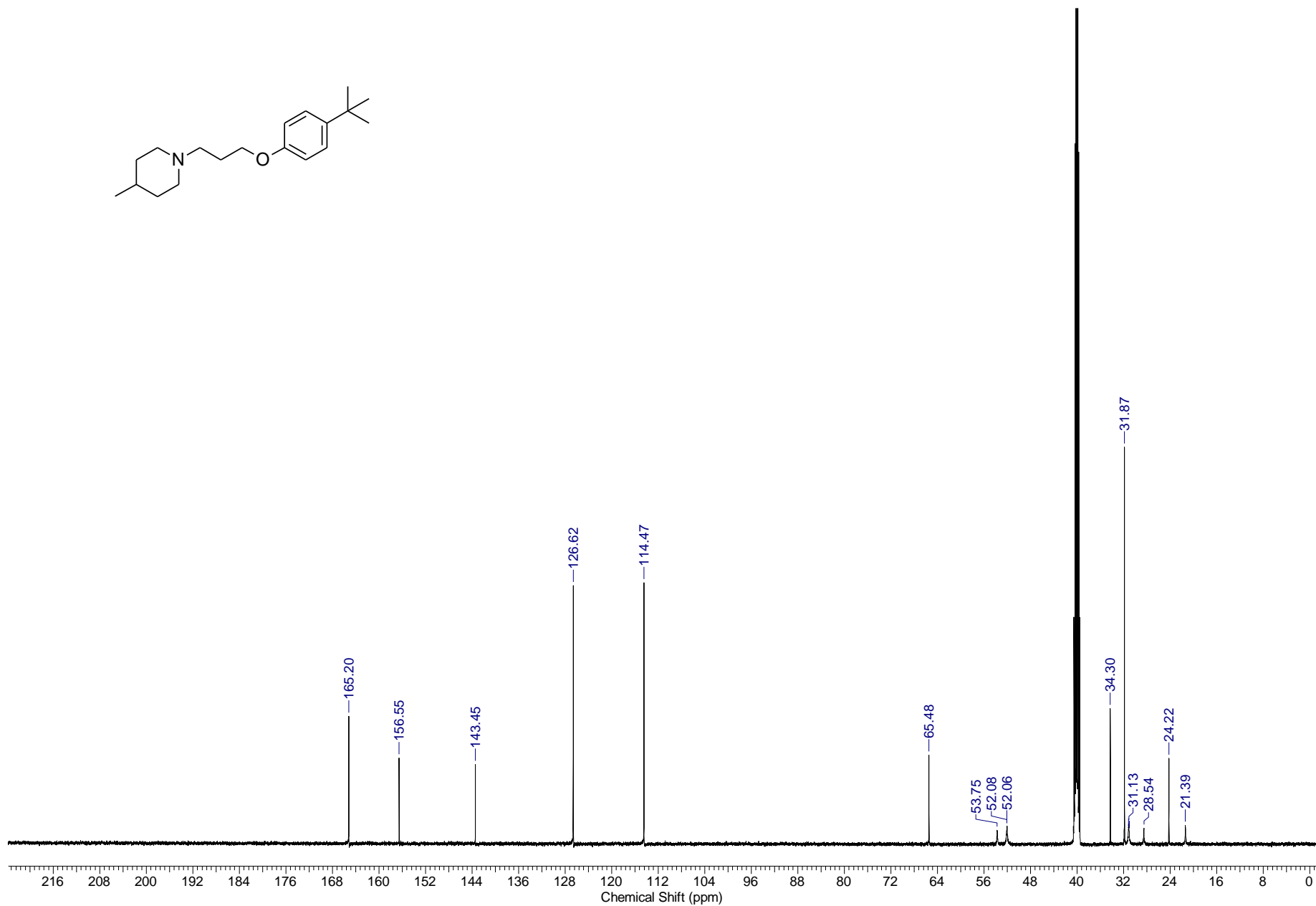
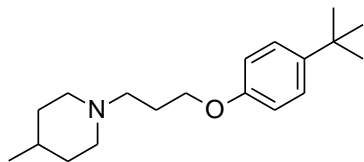


Fig S40. ¹³C NMR spectrum of **24**

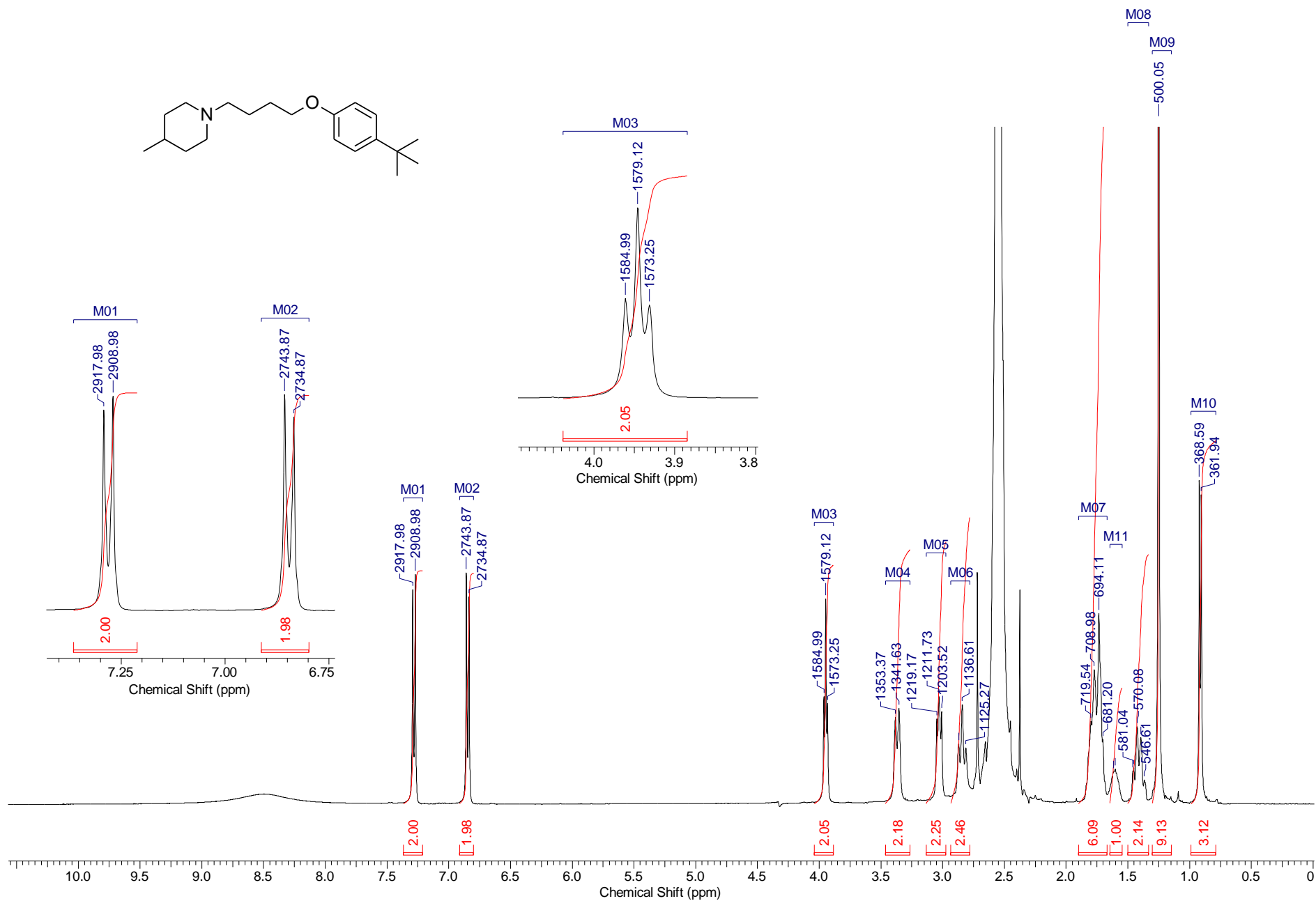
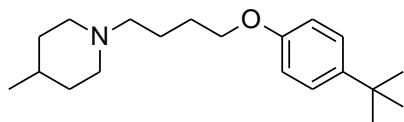


Fig S41. ^1H NMR spectrum of **25**

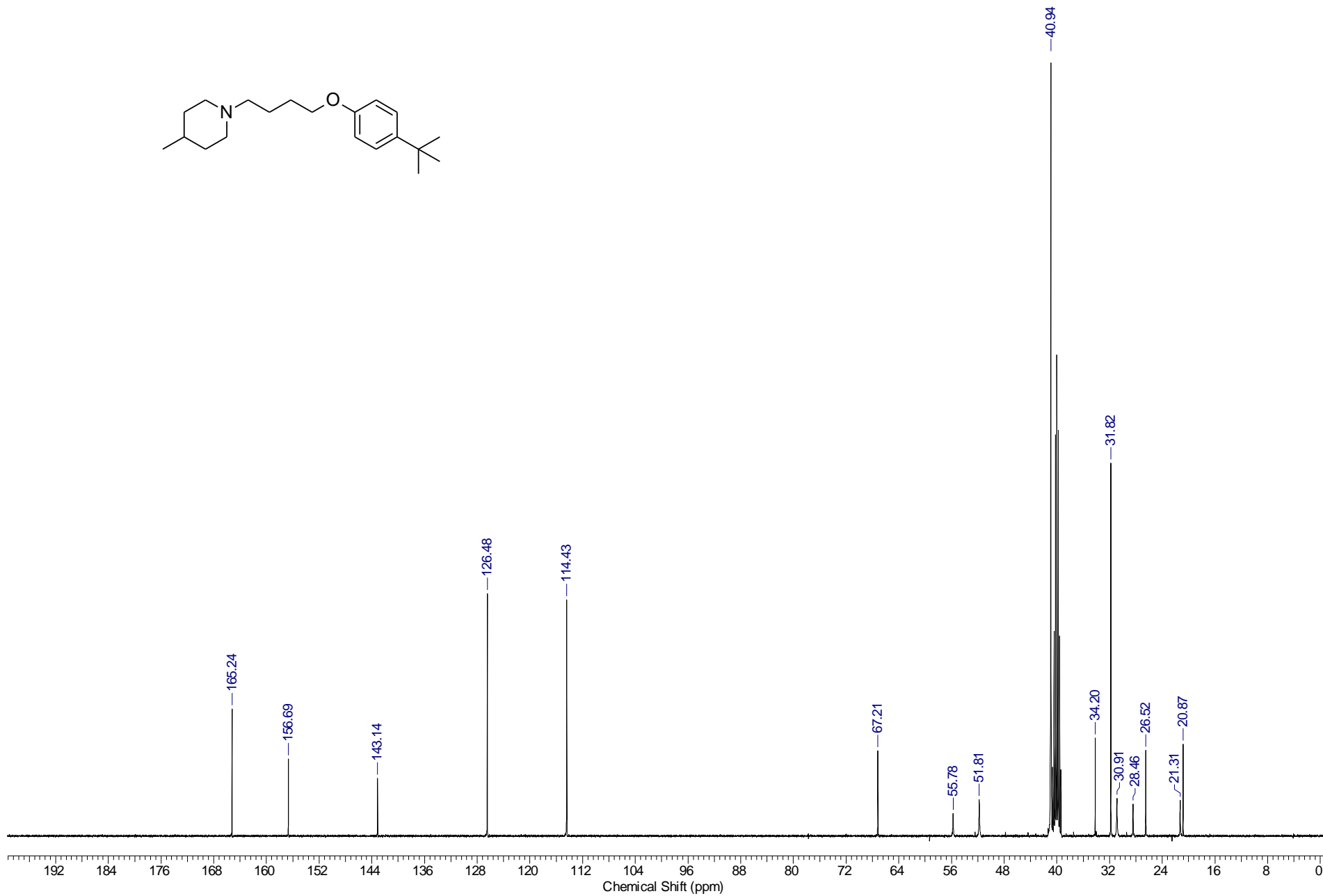
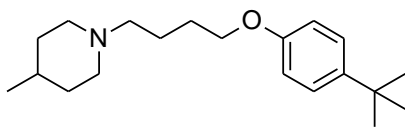


Fig S42. ¹³C NMR spectrum of **25**

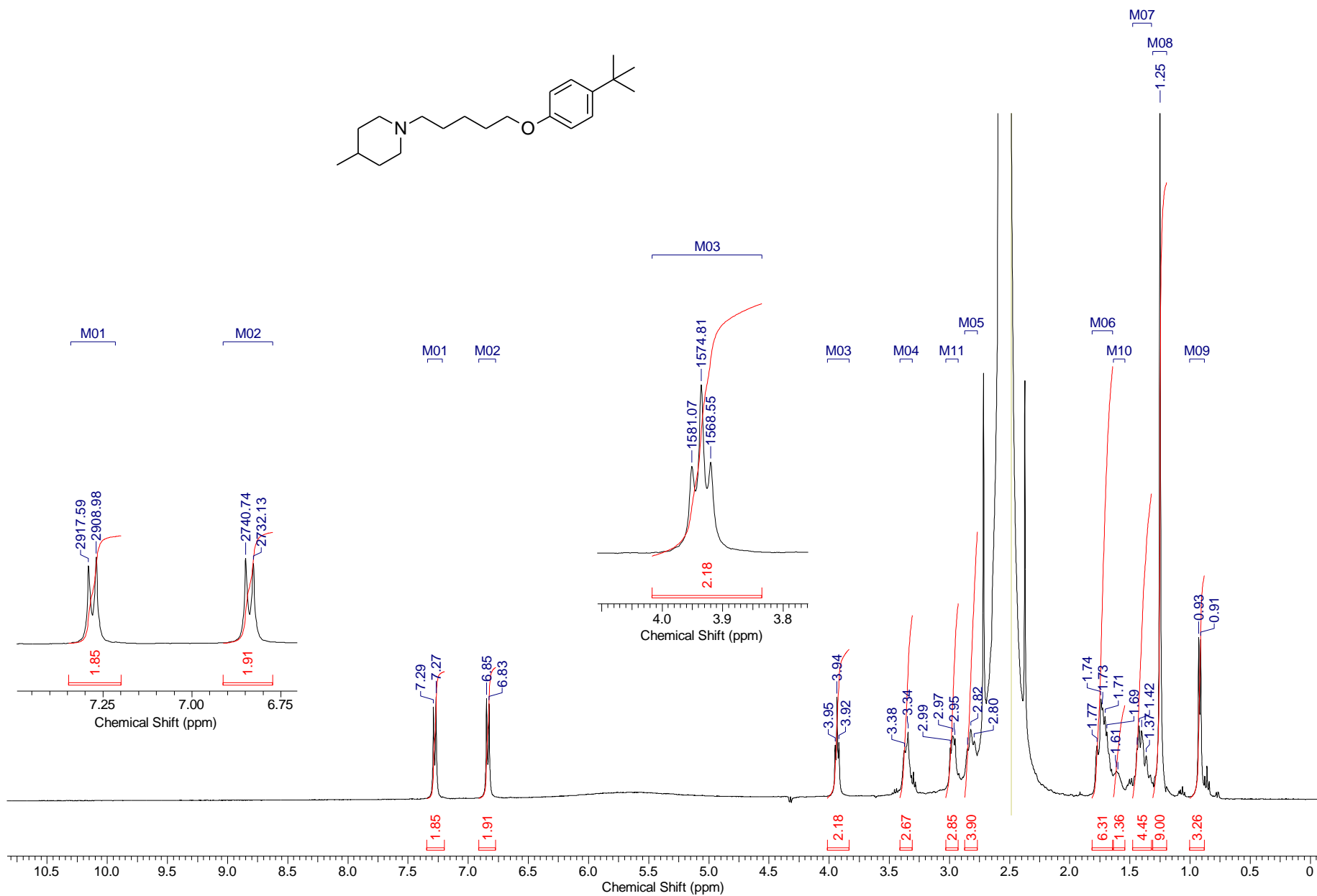
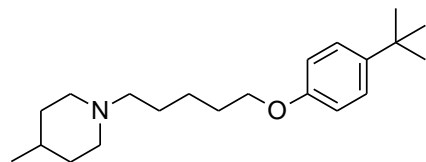


Fig S43. ^1H NMR spectrum of **26**

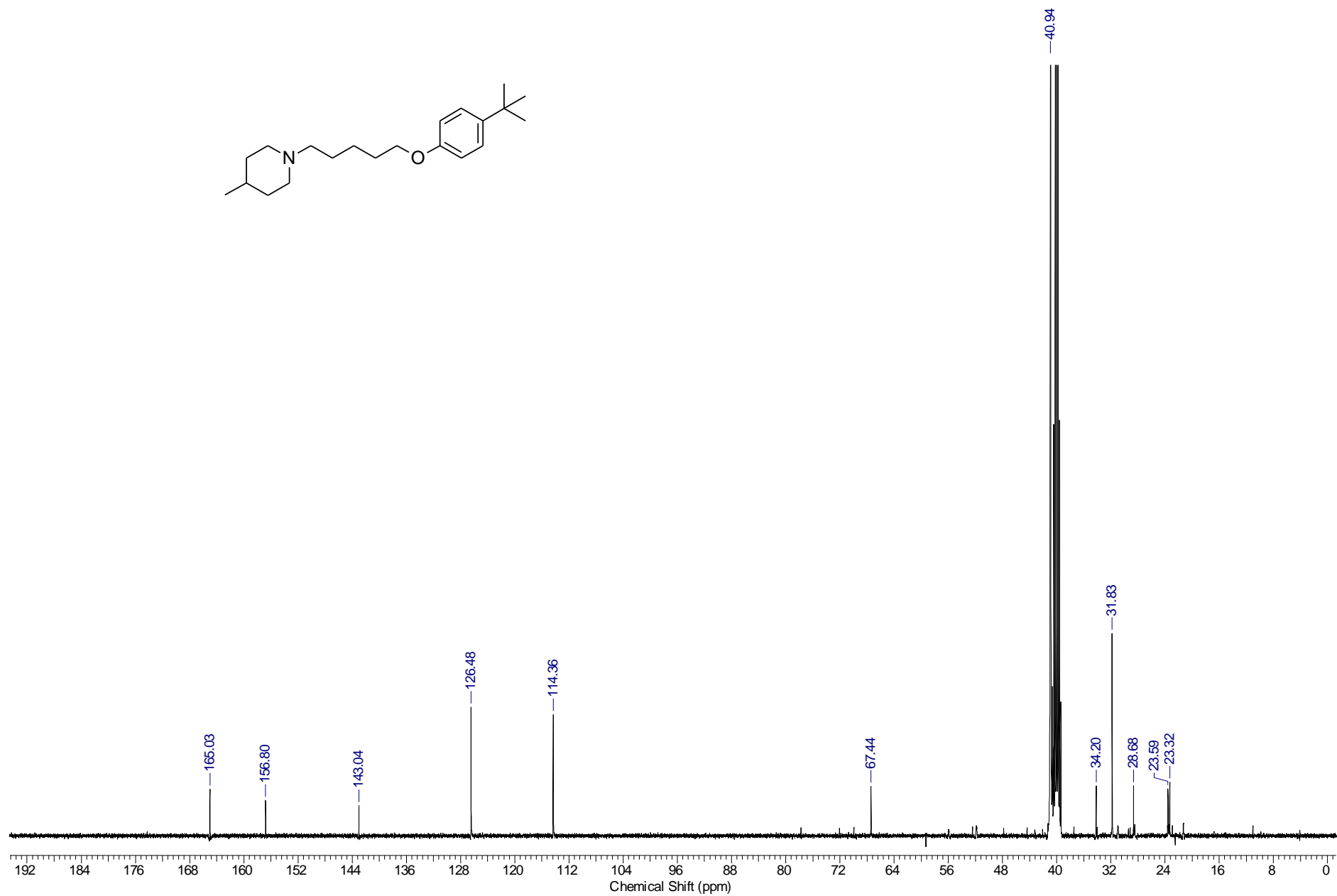
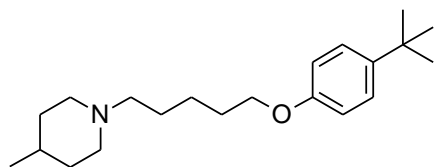


Fig S44. ¹³C NMR spectrum of **26**

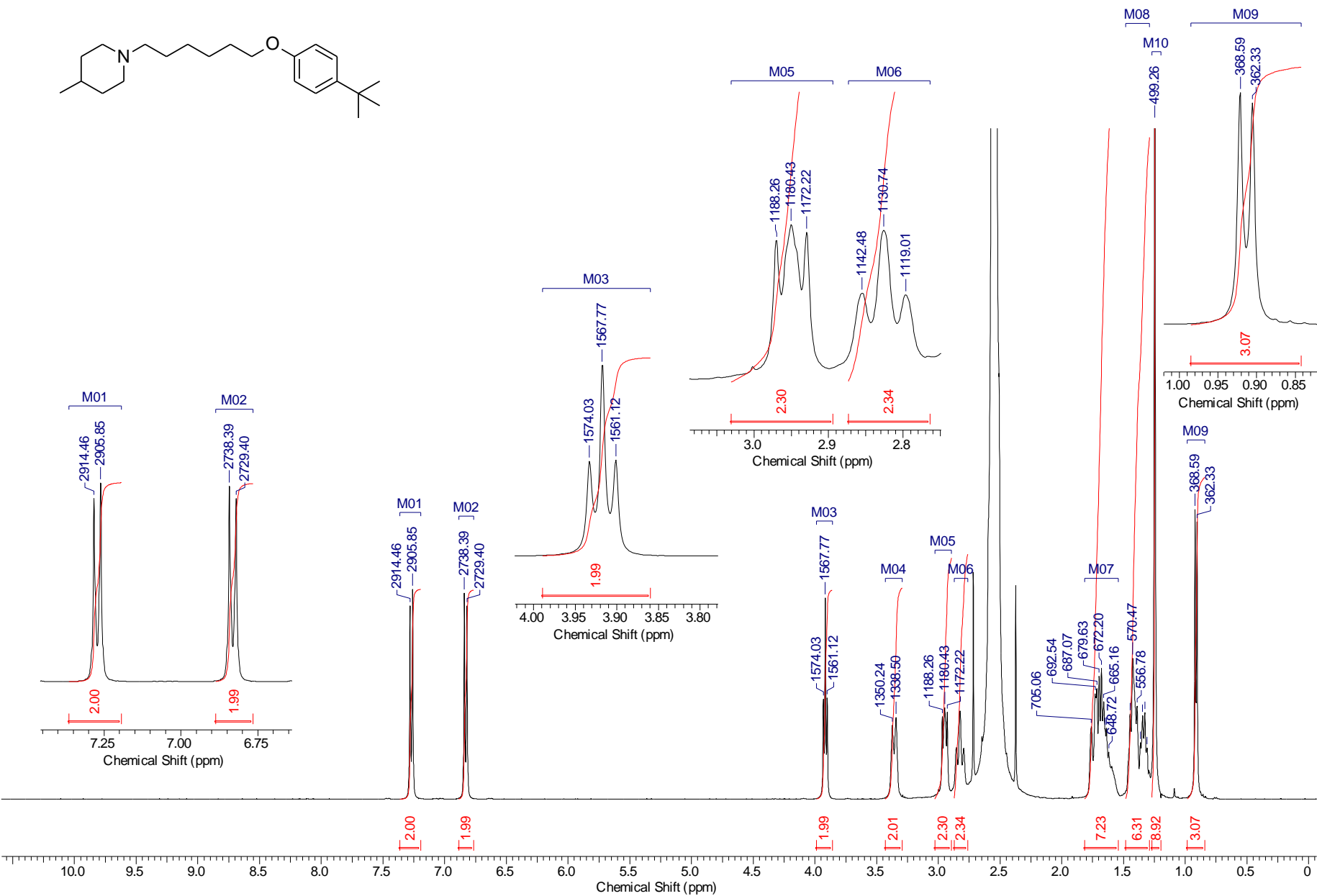
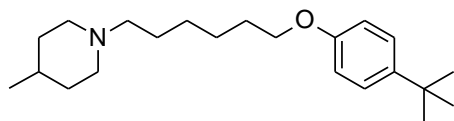


Fig S45. ^1H NMR spectrum of **27**

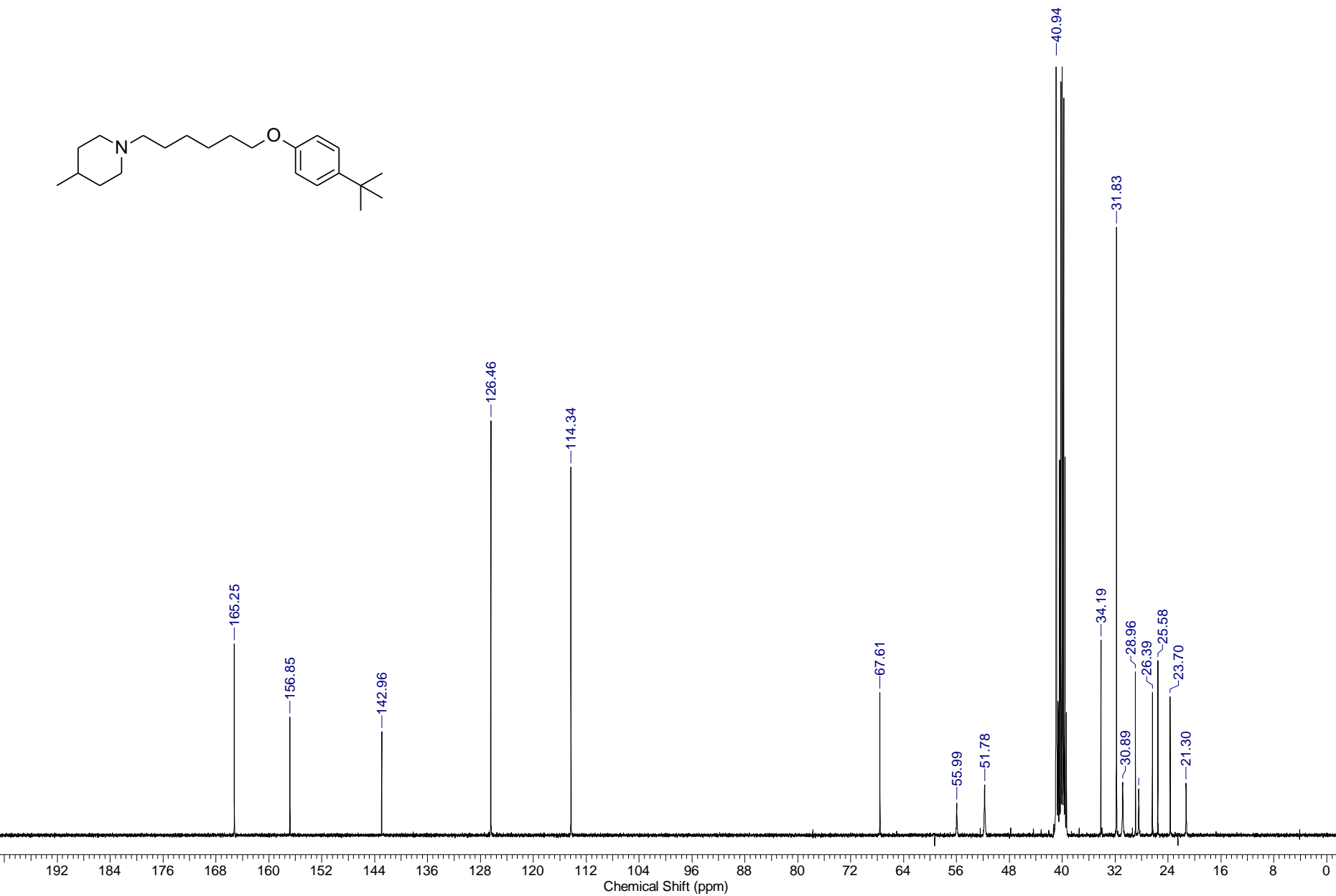
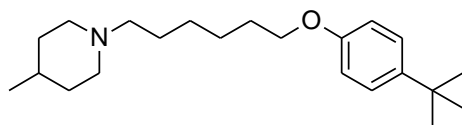


Fig S46. ¹³C NMR spectrum of **27**

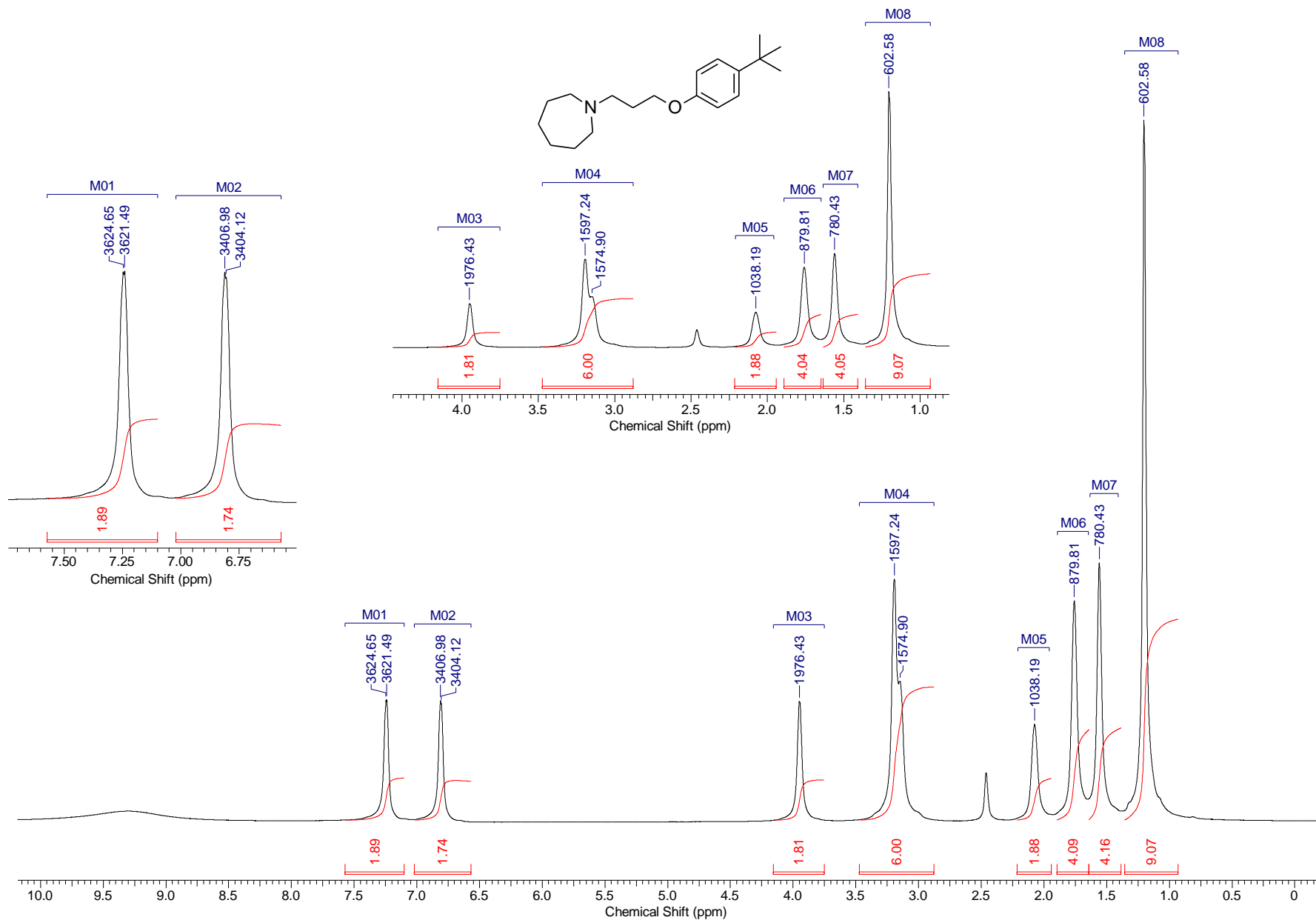


Fig S47. ^1H NMR spectrum of **28**

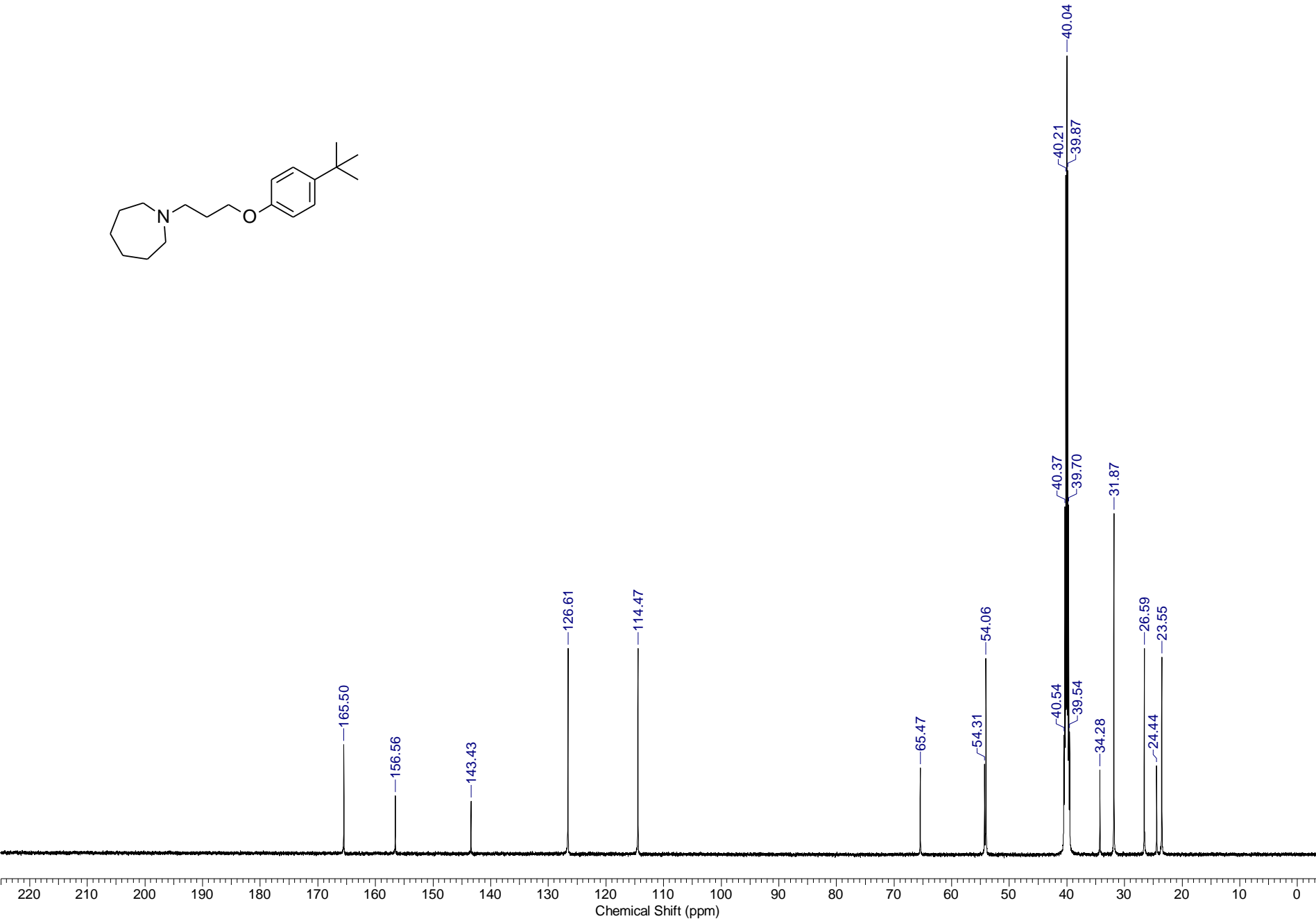
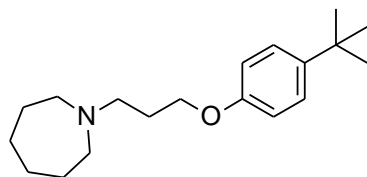


Fig S48. ¹³C NMR spectrum of **28**

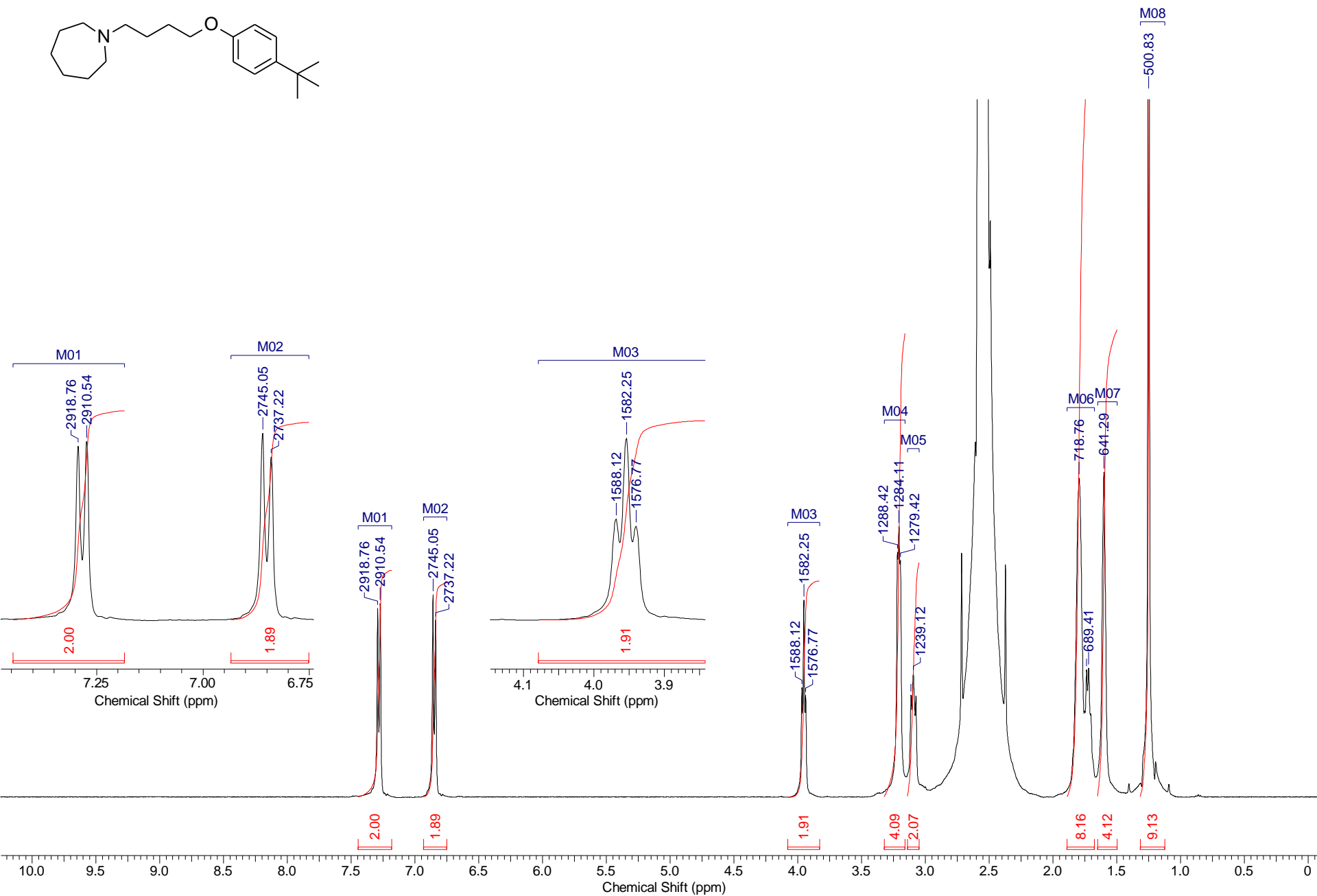
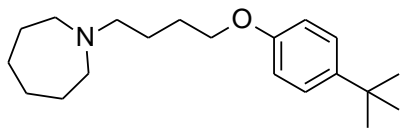


Fig S49. ^1H NMR spectrum of **29**

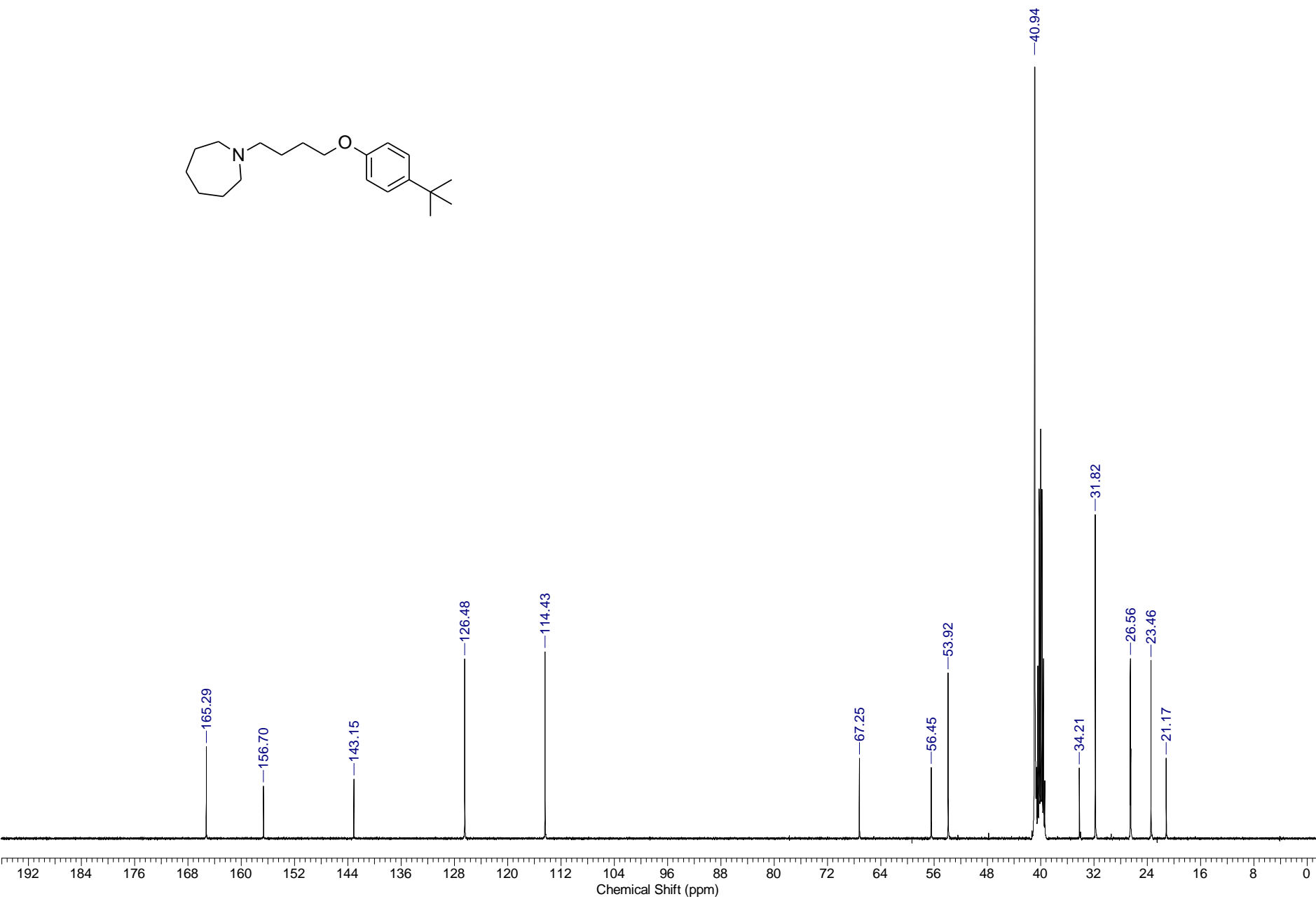
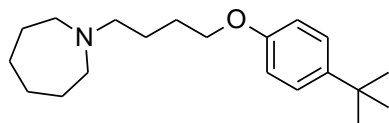


Fig S50. ¹³C NMR spectrum of **29**

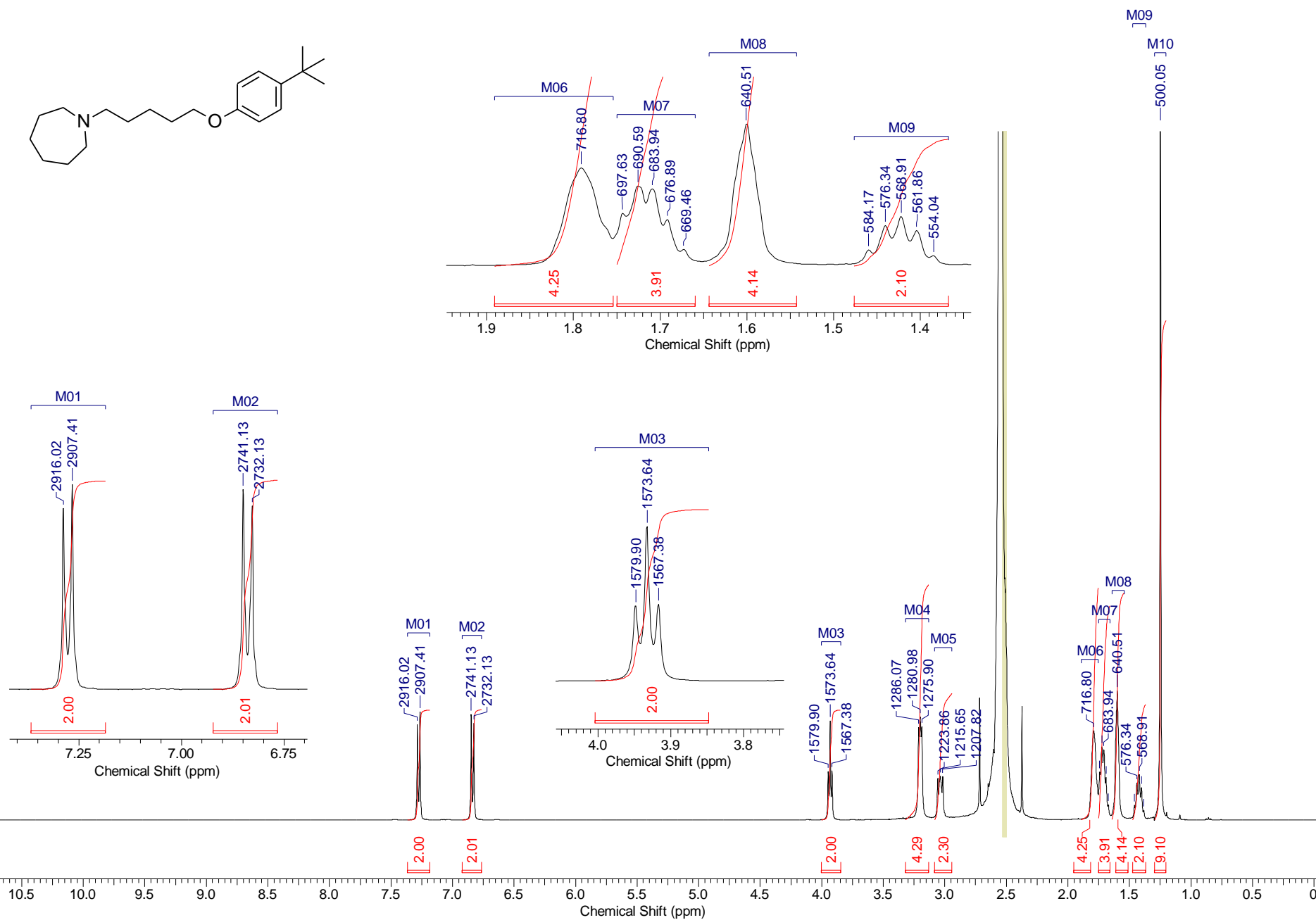
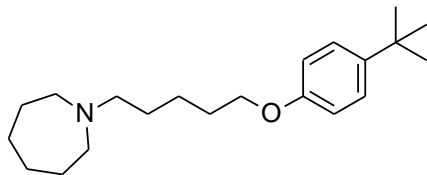


Fig S51. ^1H NMR spectrum of **30**

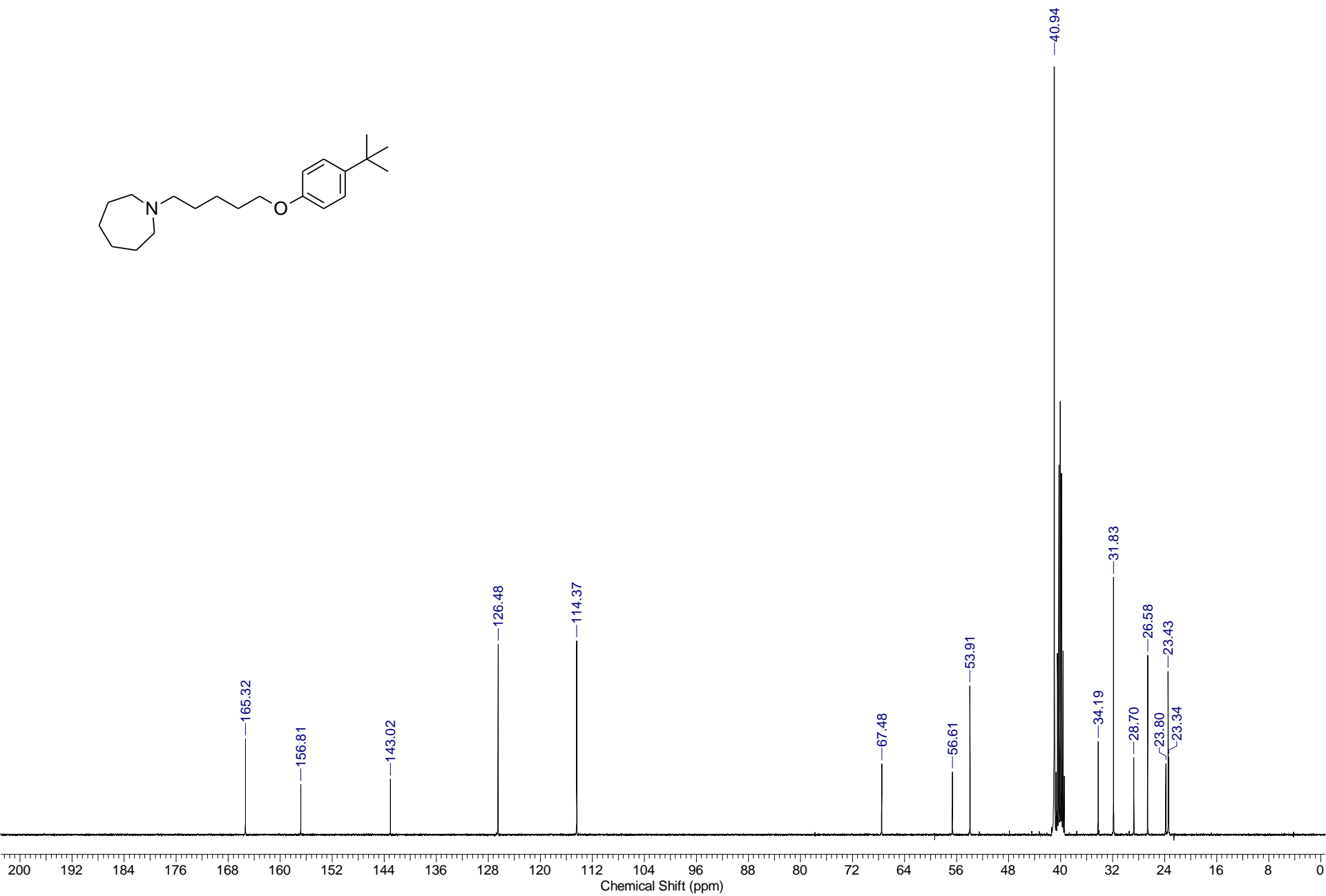
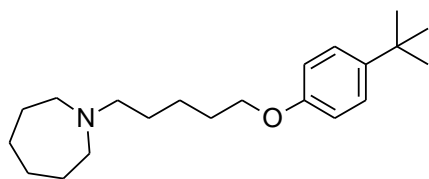


Fig S52. ¹³C NMR spectrum of **30**

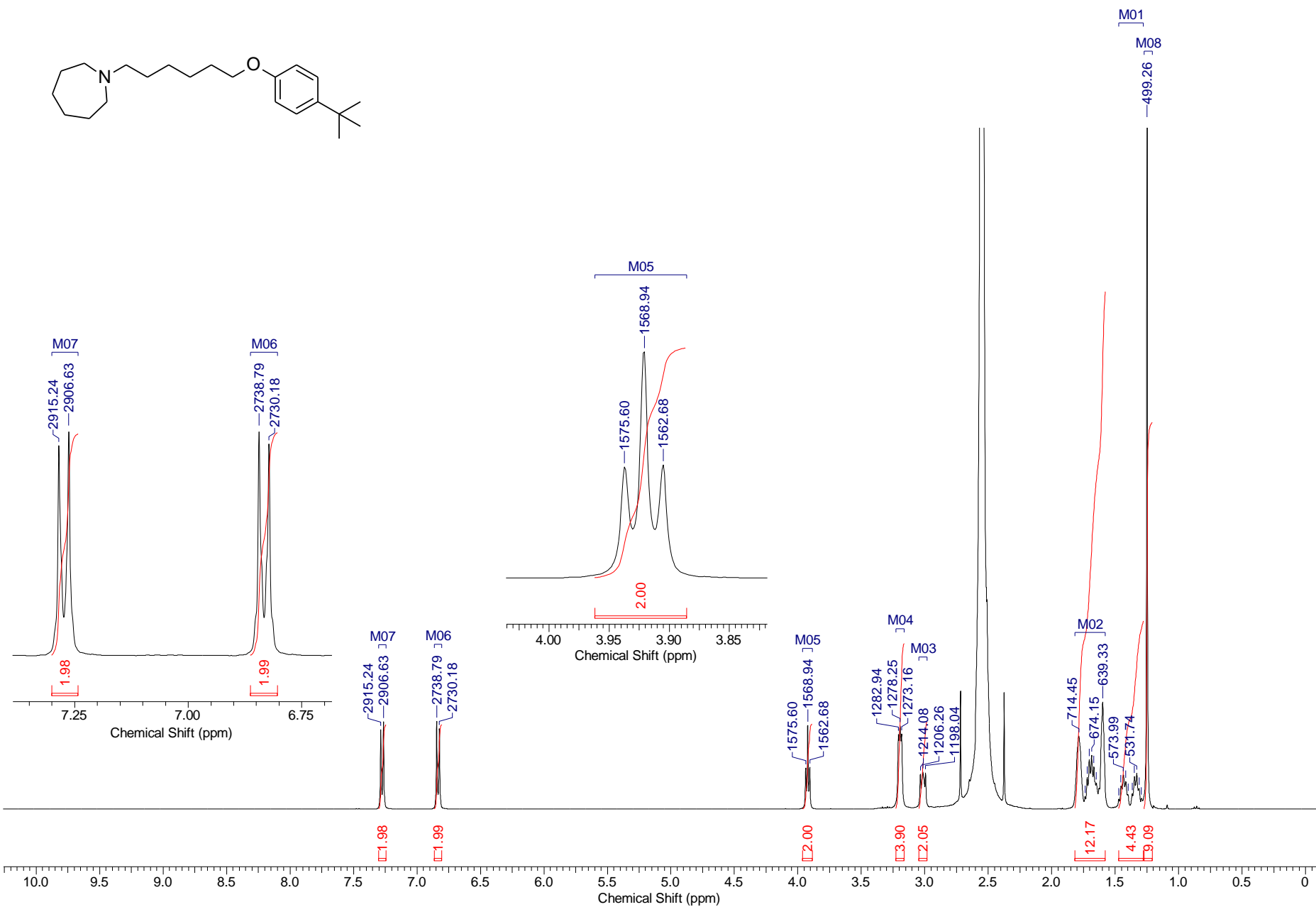
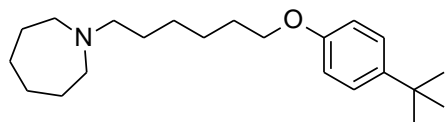


Fig S51. ^1H NMR spectrum of **31**

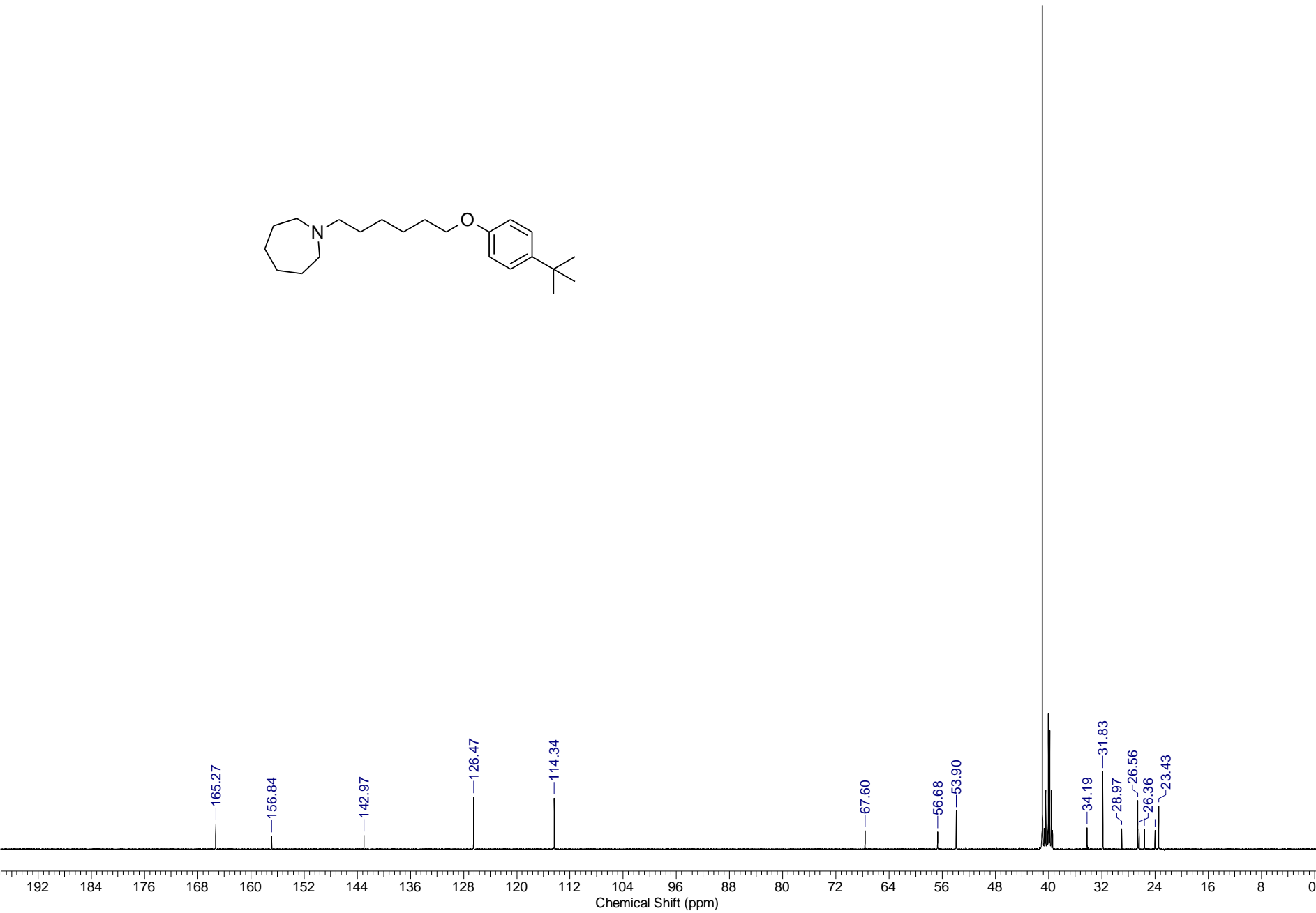
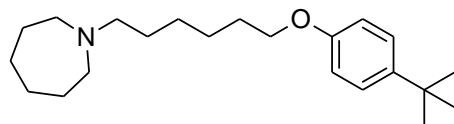


Fig S52. ¹³C NMR spectrum of **31**