

SUPPORTING INFORMATION

Synthesis of Novel Artemisinin- Ciprofloxacin and Norfloxacin Hybrids with Potent Antiplasmodial Activity

Georgia Vamvoukaki¹, Antonia I. Antoniou¹, Michel Baltas^{2*}, Elisabeth Mouray³, Sebastien Charneau^{3,4}, Philippe Grellier³ and Constantinos M. Athanassopoulos^{1*}

¹ Synthetic Organic Chemistry Laboratory, Department of Chemistry, University of Patras, GR-26504 Patras, Greece; georgiavamv.gv@gmail.com (G.V.); tonadoniou@upatras.gr (A.I.A.); kath@chemistry.upatras.gr (C.M.A.)

² CNRS, LCC (Laboratoire de Chimie, de Coordination), Université de Toulouse, UPS, INPT, 205 Route de Narbonne, BP 44099, CEDEX 4 F-31077 Toulouse, France; michel.baltas@lcc-toulouse.fr (M.B.)

³ MCAM, UMR 7245, Muséum National d'Histoire Naturelle, CNRS, CP52, 63 rue Buffon, 75005 Paris, France; mouray@mnhn.fr (E.M); grellier@mnhn.fr (P.G)

⁴ Laboratory of Biochemistry and Protein Chemistry, Department of Cell Biology, Institute of Biology, University of Brasilia, DF, Brasil; charneau@unb.br (S.C.)

* Correspondence: kath@chemistry.upatras.gr; Tel.: +30-2610-997909 (C.M.A) and michel.baltas@lcc-toulouse.fr (M.B.)

Table of Contents

Figure S1. ^1H-NMR spectrum of compound 12.	4
Figure S2. ^{13}C-NMR spectrum of compound 12.....	5
Figure S3. ^1H-NMR spectrum of compound 13.	6
Figure S4. ^{13}C-NMR spectrum of compound 13.....	7
Figure S5. ^1H-NMR spectrum of compound 14.	8
Figure S6. ^{13}C-NMR spectrum of compound 14.....	9
Figure S7. ^1H-NMR spectrum of compound 15.	10
Figure S8. ^{13}C-NMR spectrum of compound 15.....	11
Figure S9. ^1H-NMR spectrum of compound 16.	12
Figure S10. ^{13}C -NMR spectrum of compound 16.....	13
Figure S11. ^1H-NMR spectrum of compound 17.	14
Figure S12. ^{13}C-NMR spectrum of compound 17.....	15
Figure S13. ^1H-NMR spectrum of compound 18.	16
Figure S14. ^{13}C-NMR spectrum of compound 18.....	17
Figure S15. ^1H-NMR spectrum of compound 19.	18
Figure S16. ^{13}C-NMR spectrum of compound 19.....	19
Figure S17. ^1H-NMR spectrum of compound 20.	20
Figure S18. ^{13}C-NMR spectrum of compound 20.....	21
Figure S19. ^1H-NMR spectrum of compound 21.	22
Figure S20. ^{13}C-NMR spectrum of compound 21.....	23
Figure S21. ^1H-NMR spectrum of compound 22.	24
Figure S22. ^{13}C-NMR spectrum of compound 22.....	25
Figure S23. ^1H-NMR spectrum of compound 23.	26
Figure S24. ^{13}C-NMR spectrum of compound 23.....	27
Figure S25. ^1H-NMR spectrum of compound 24.	28
Figure S26. ^{13}C-NMR spectrum of compound 24.....	29
Figure S27. ^1H-NMR spectrum of compound 25.	30
Figure S28. ^{13}C-NMR spectrum of compound 25.....	31
Figure S29. ^1H-NMR spectrum of compound 26.	32
Figure S30. ^{13}C-NMR spectrum of compound 26.....	33
Figure S31. ^1H-NMR spectrum of compound 27.	34
Figure S32. ^{13}C-NMR spectrum of compound 27.....	35

Figure S33. ^1H-NMR spectrum of compound 28.	36
Figure S34. ^{13}C-NMR spectrum of compound 28.....	37
Figure S35. ^1H-NMR spectrum of compound 29.	38
Figure S36. ^{13}C-NMR spectrum of compound 29.....	39

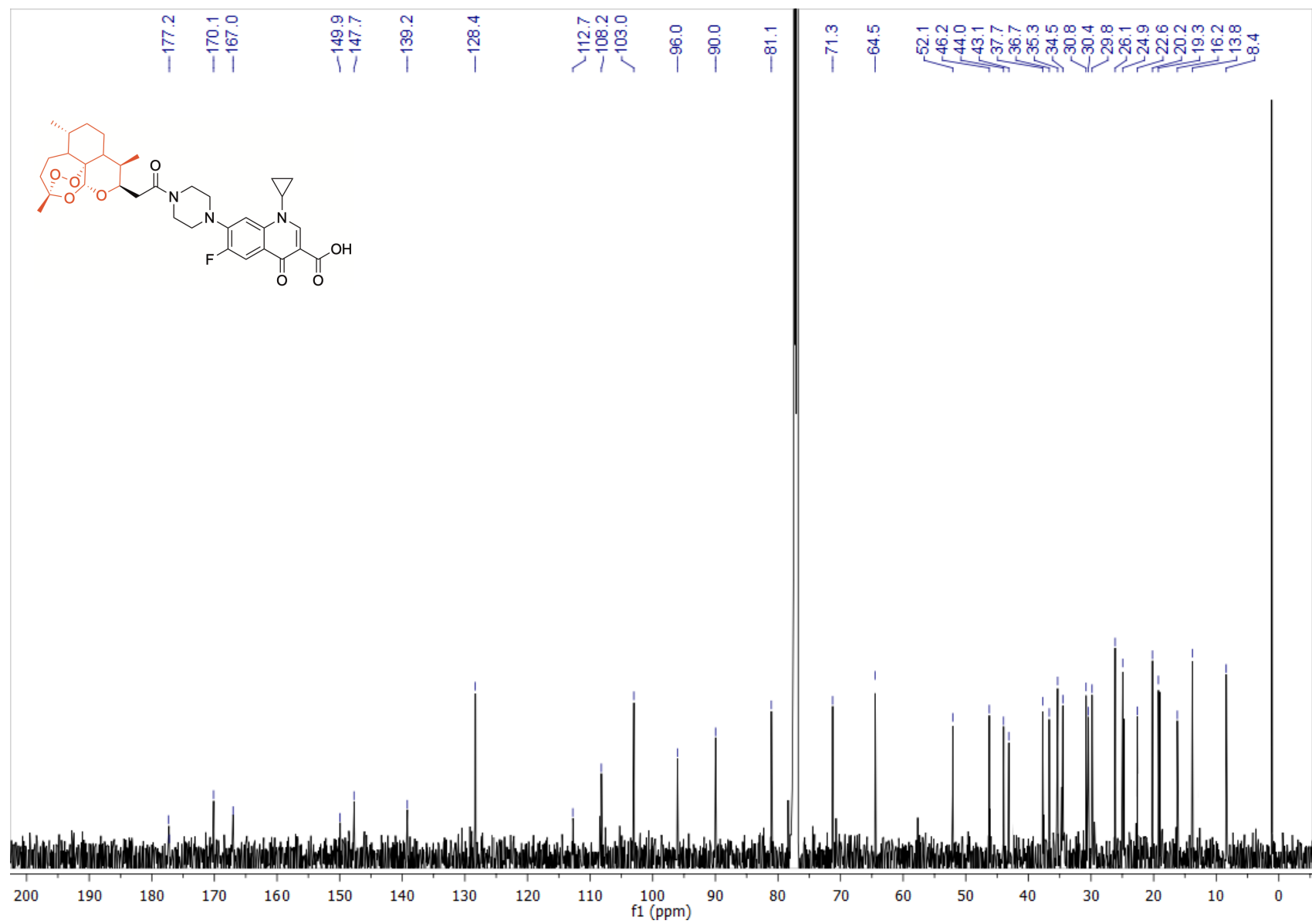


Figure S2. ^{13}C -NMR spectrum of compound 12.

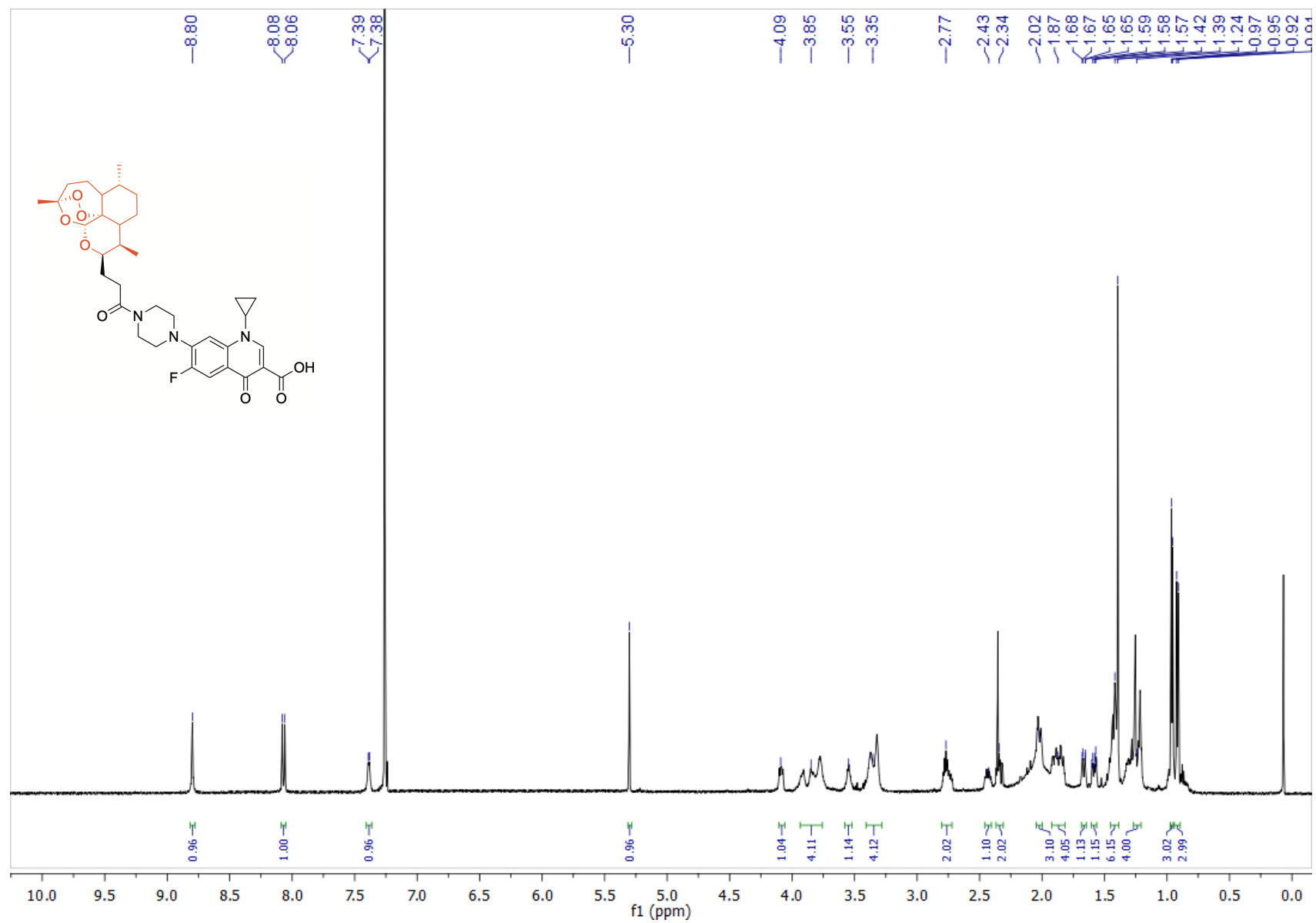


Figure S3. ¹H-NMR spectrum of compound 13.

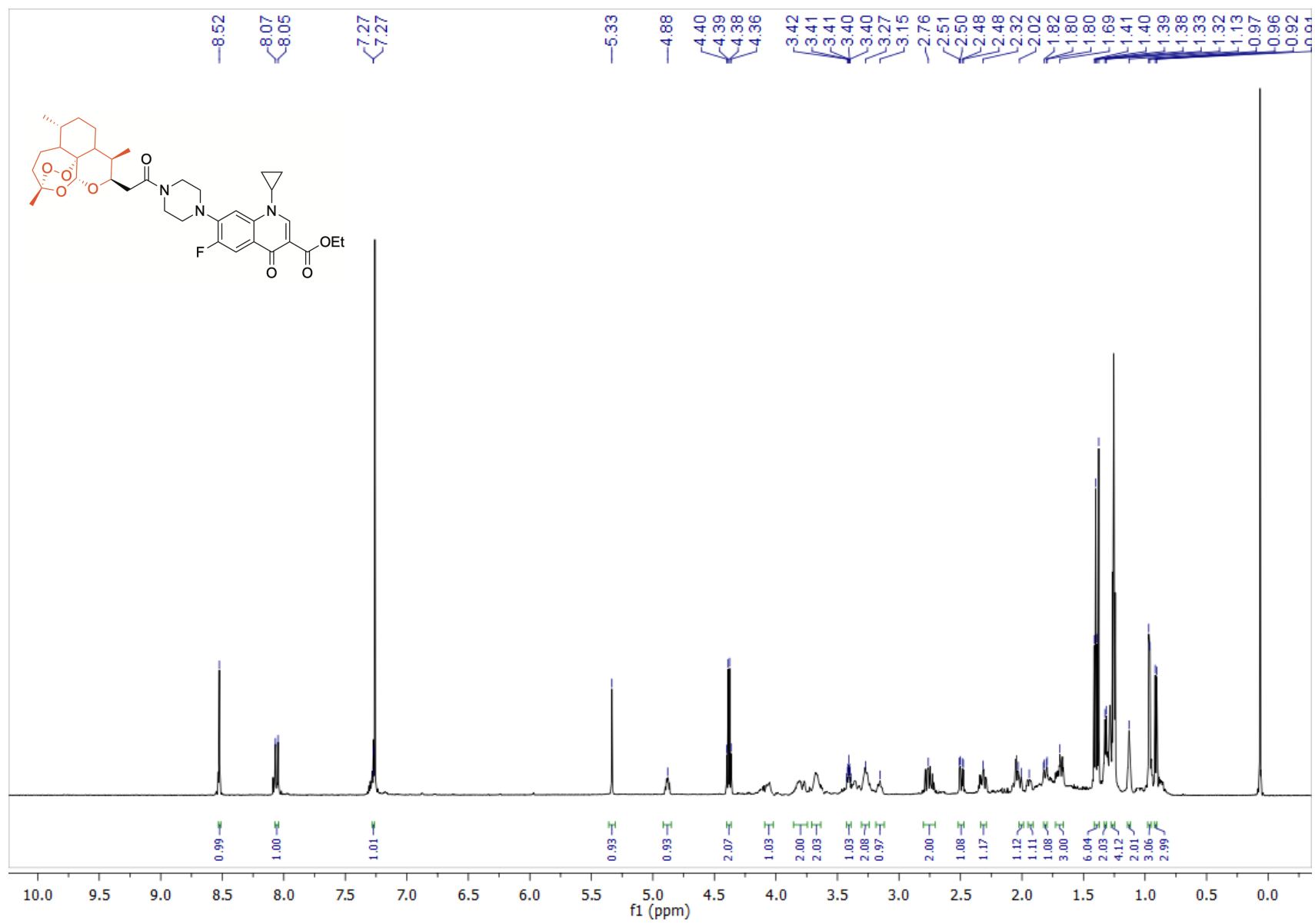


Figure S5. ^1H -NMR spectrum of compound 14.

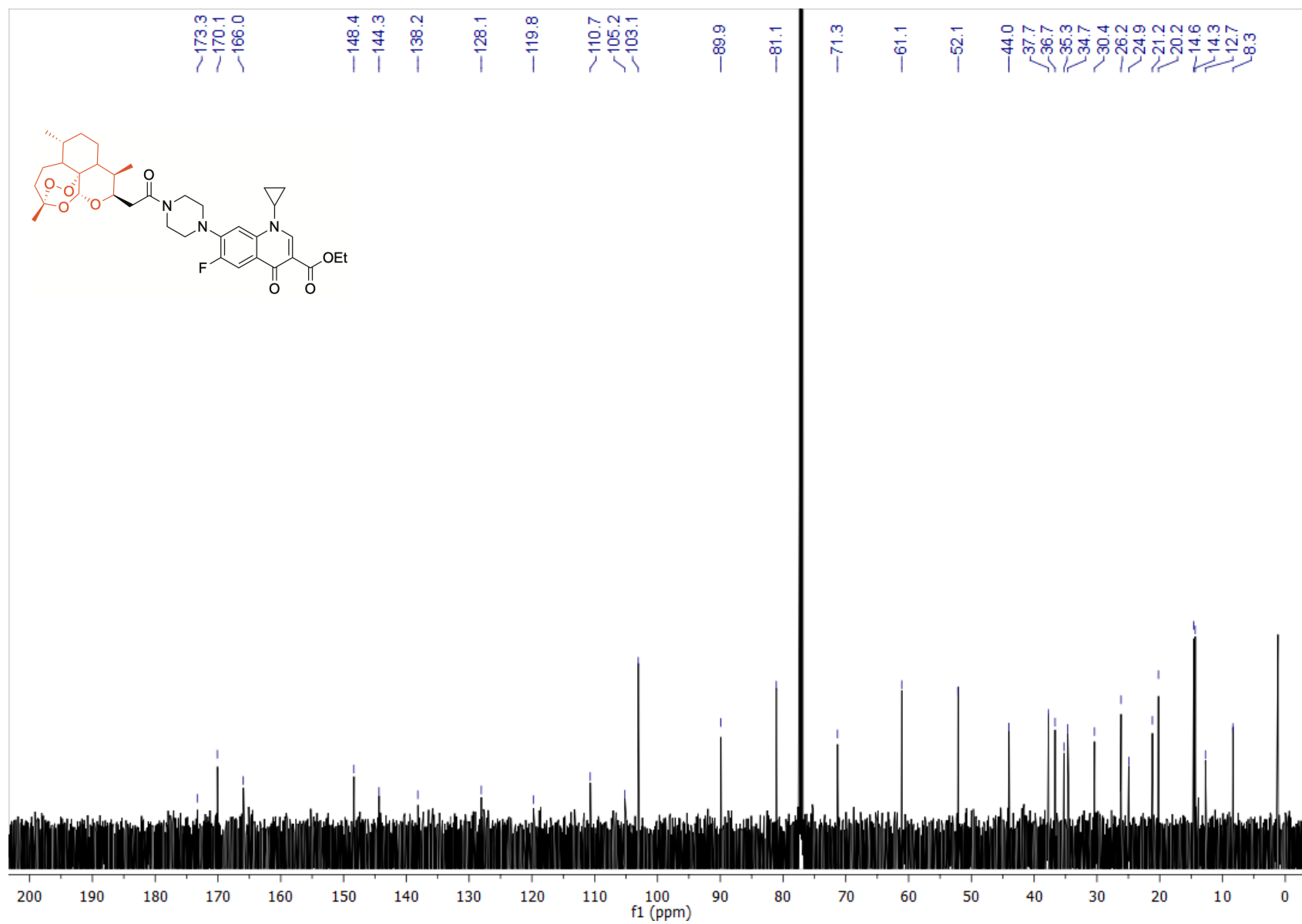


Figure S6. ¹³C-NMR spectrum of compound 14.

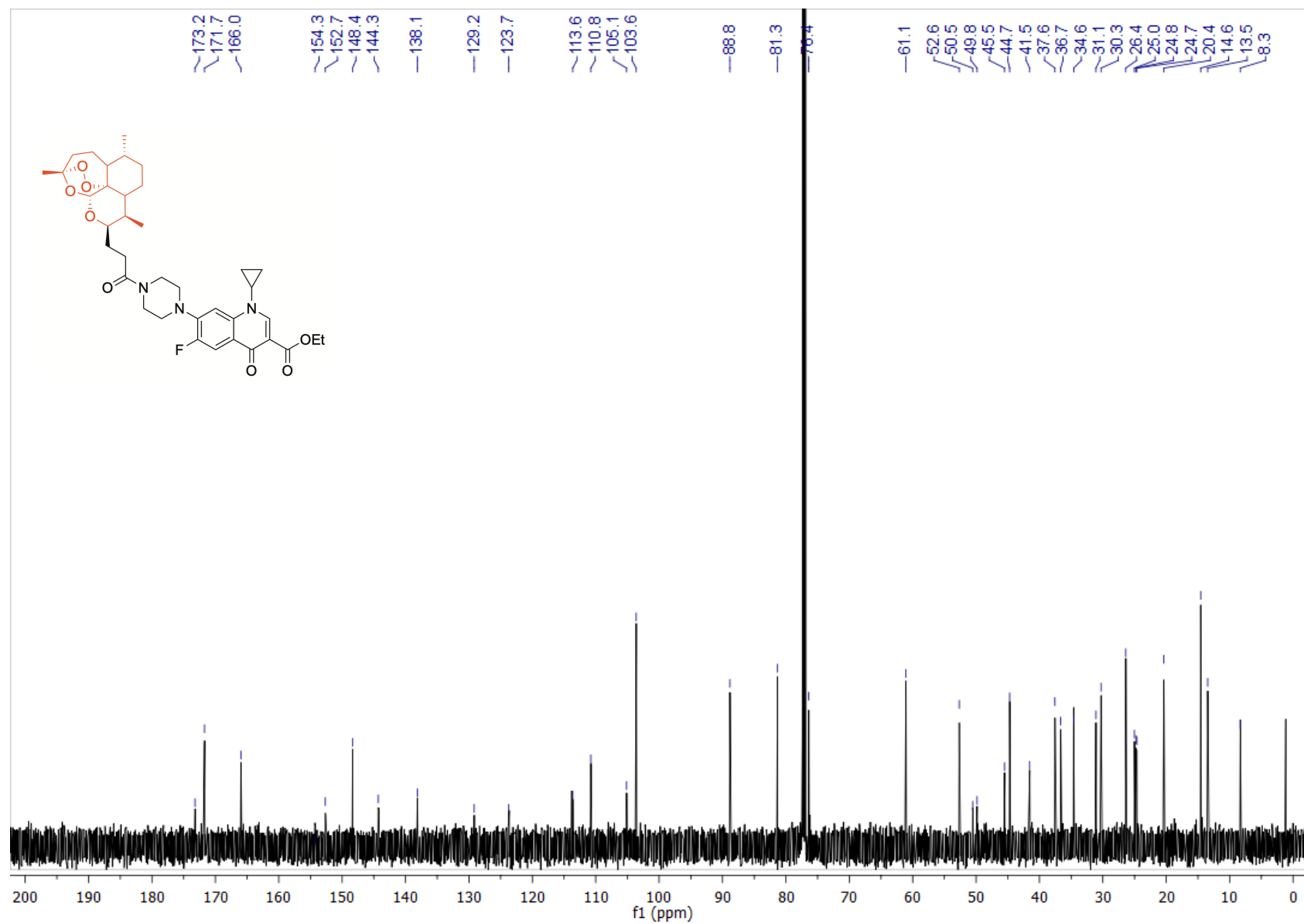


Figure S8. ^{13}C -NMR spectrum of compound 15.

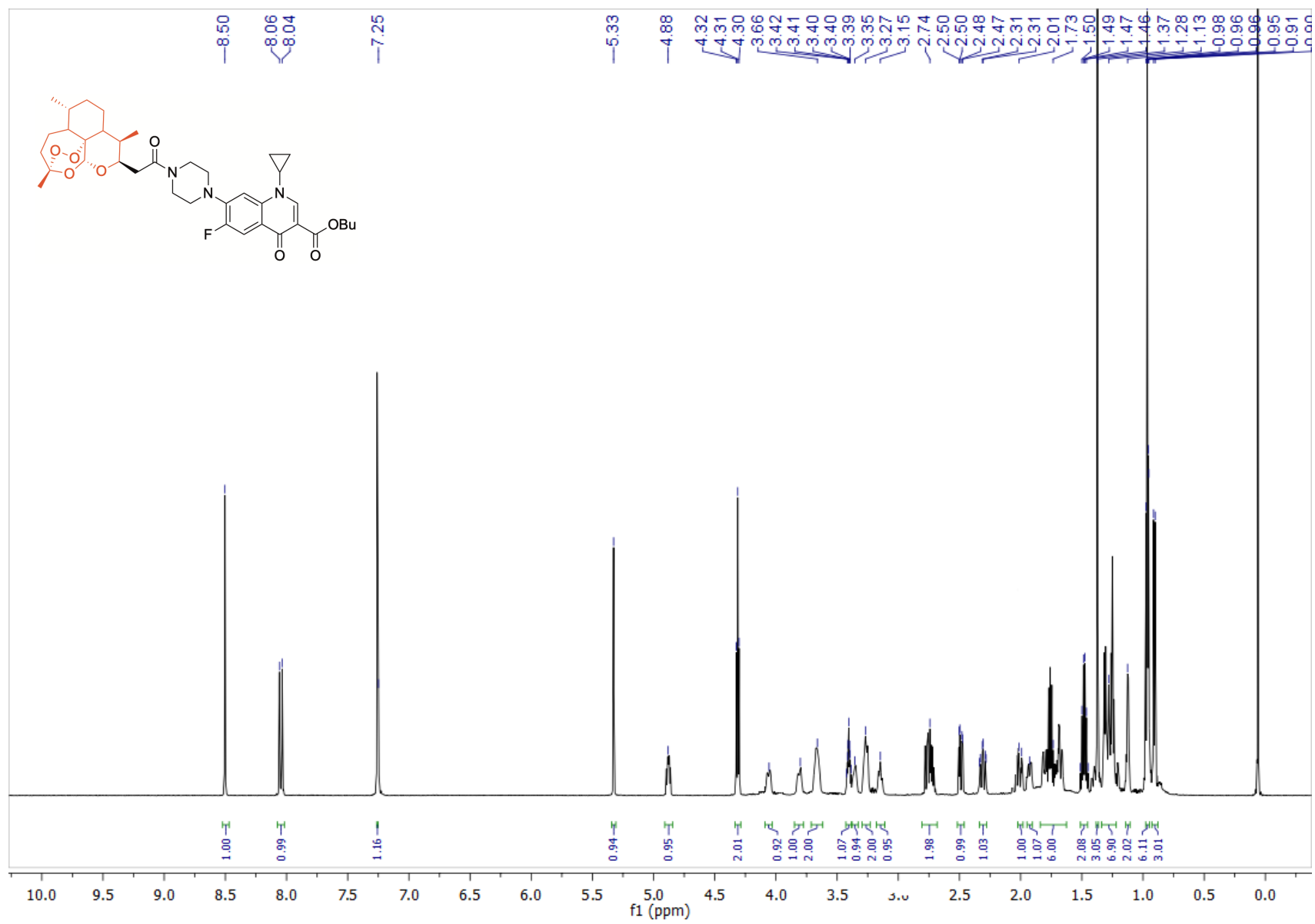


Figure S9. ^1H -NMR spectrum of compound 16.

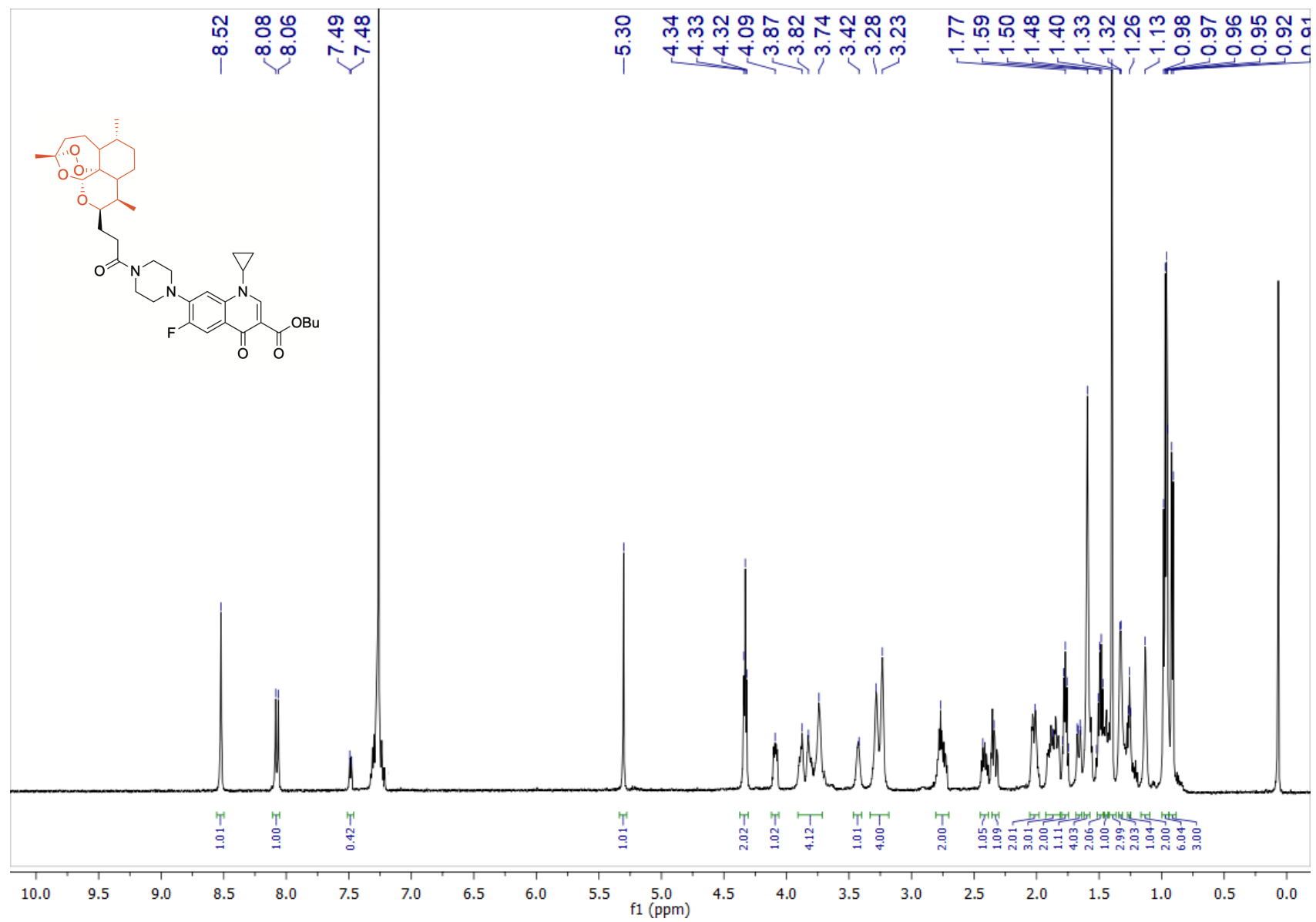


Figure S11. ^1H -NMR spectrum of compound 17.

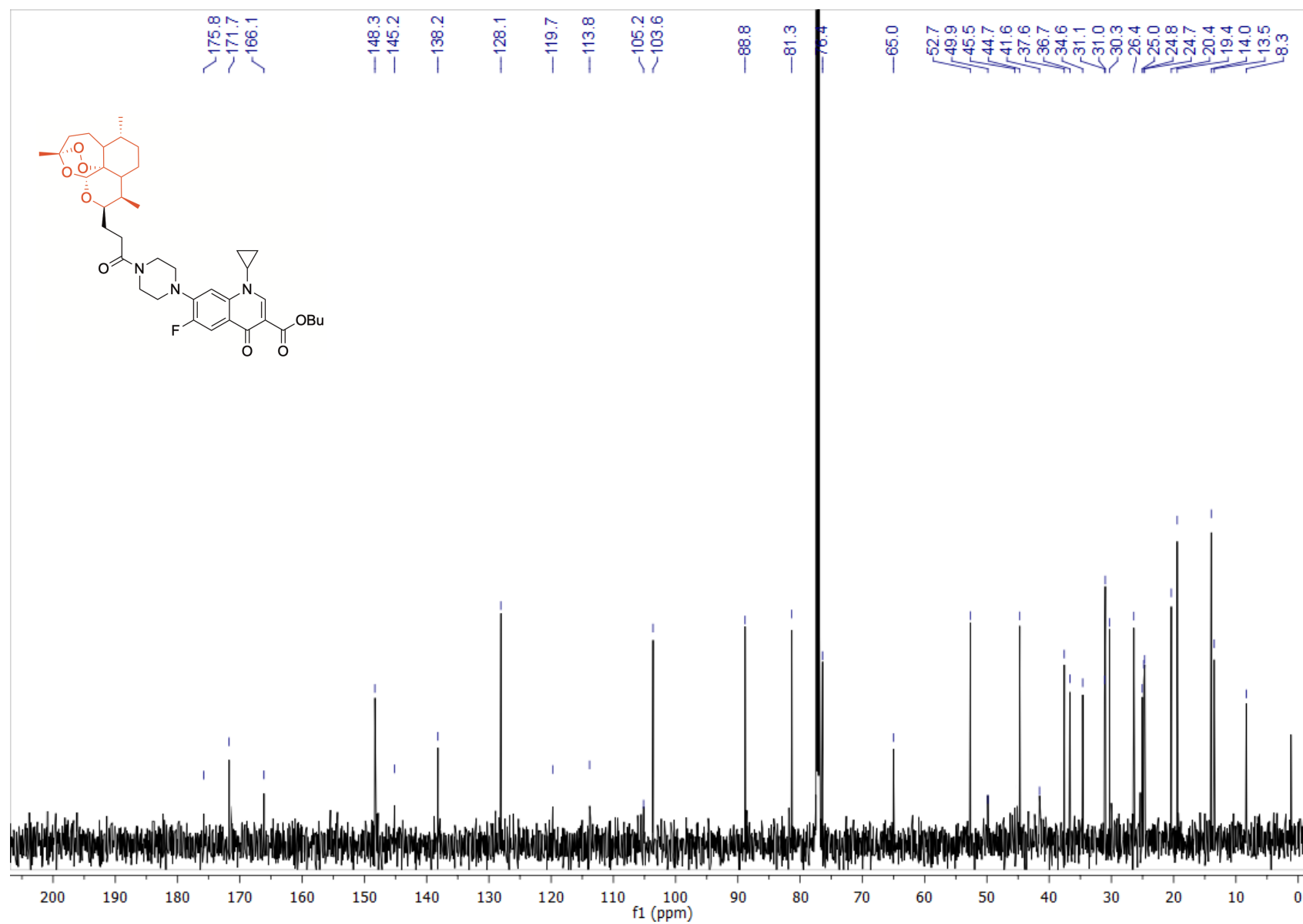


Figure S12. ¹³C-NMR spectrum of compound 17.

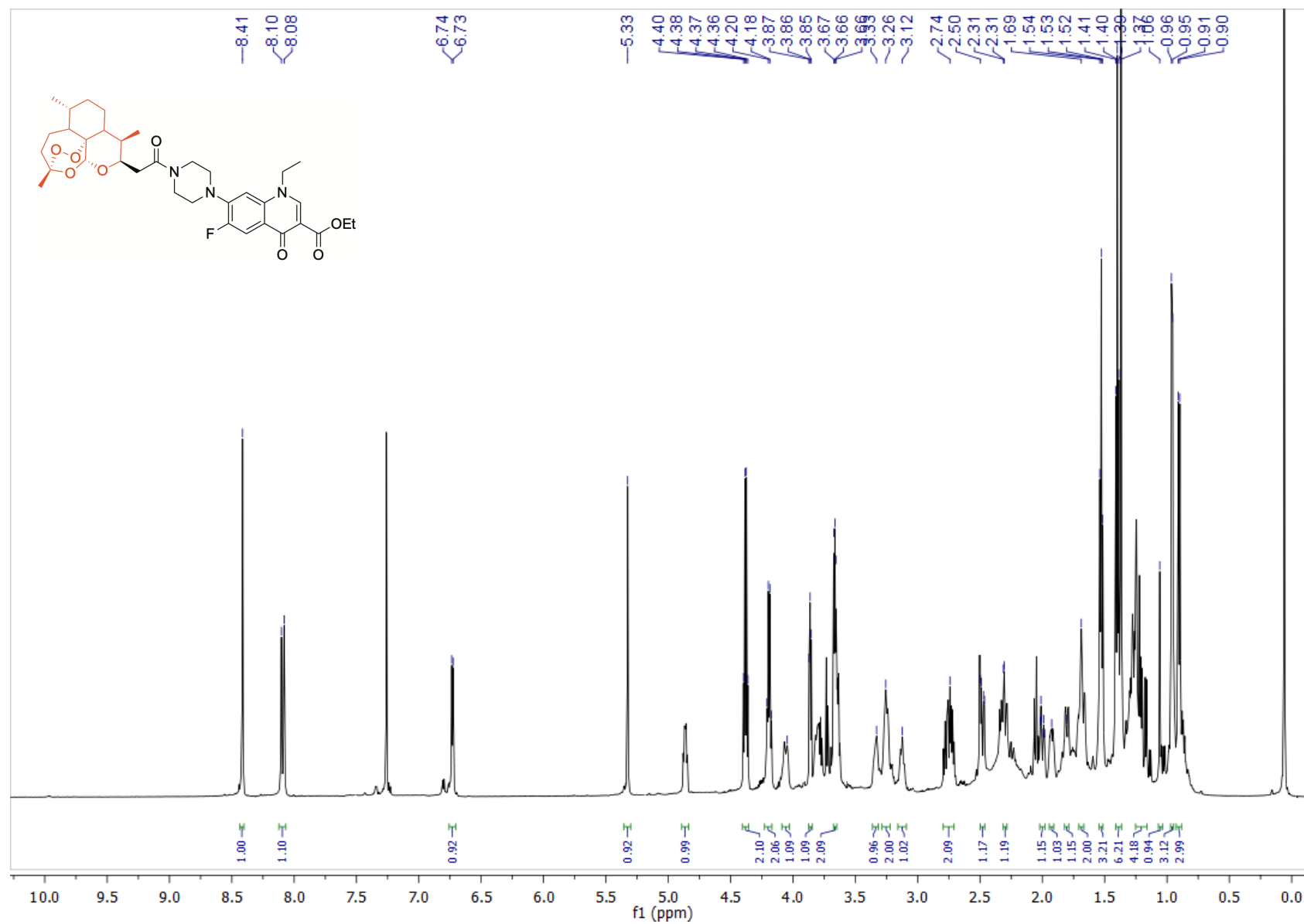


Figure S13. ^1H -NMR spectrum of compound 18.

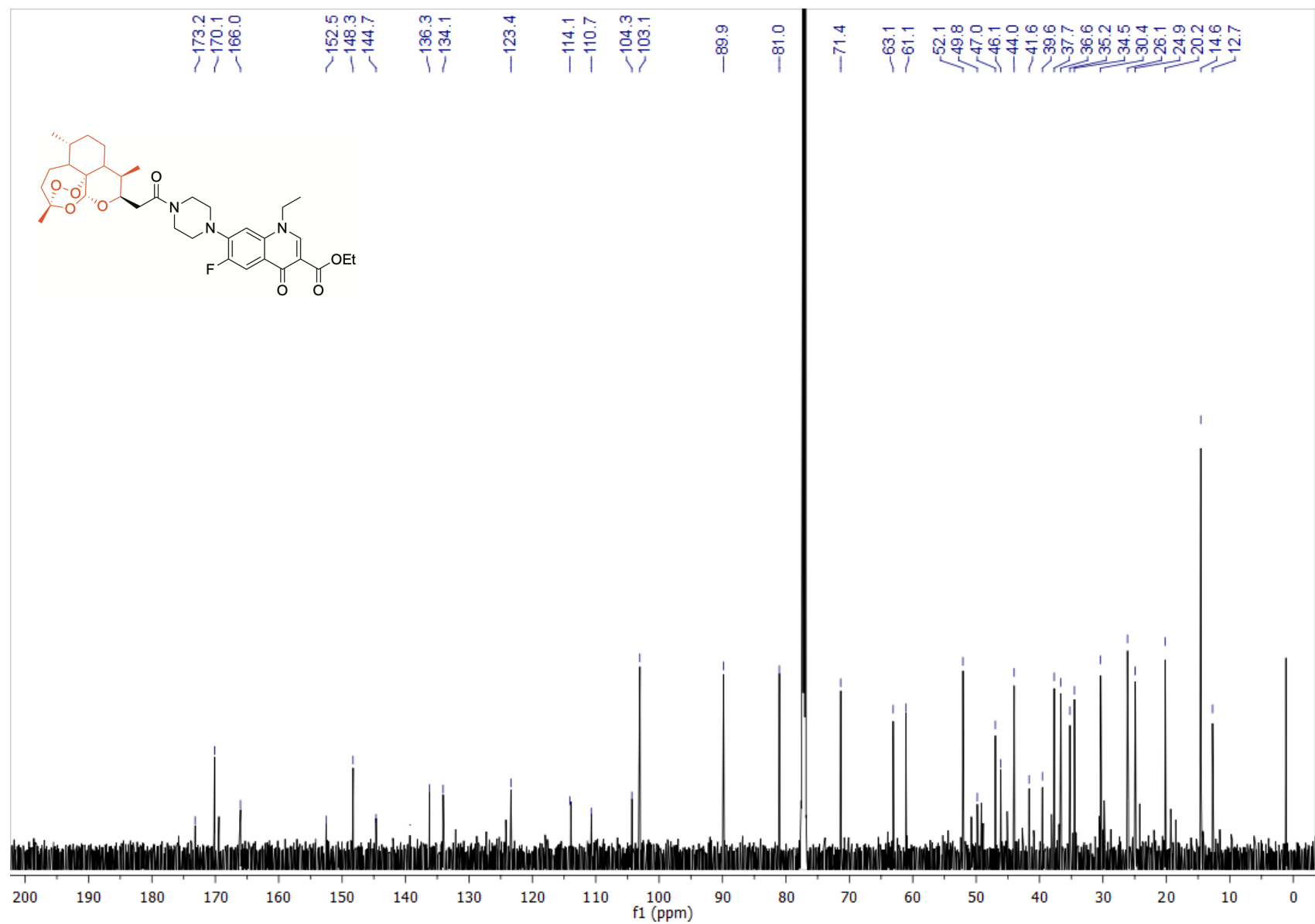


Figure S14. ¹³C-NMR spectrum of compound 18.

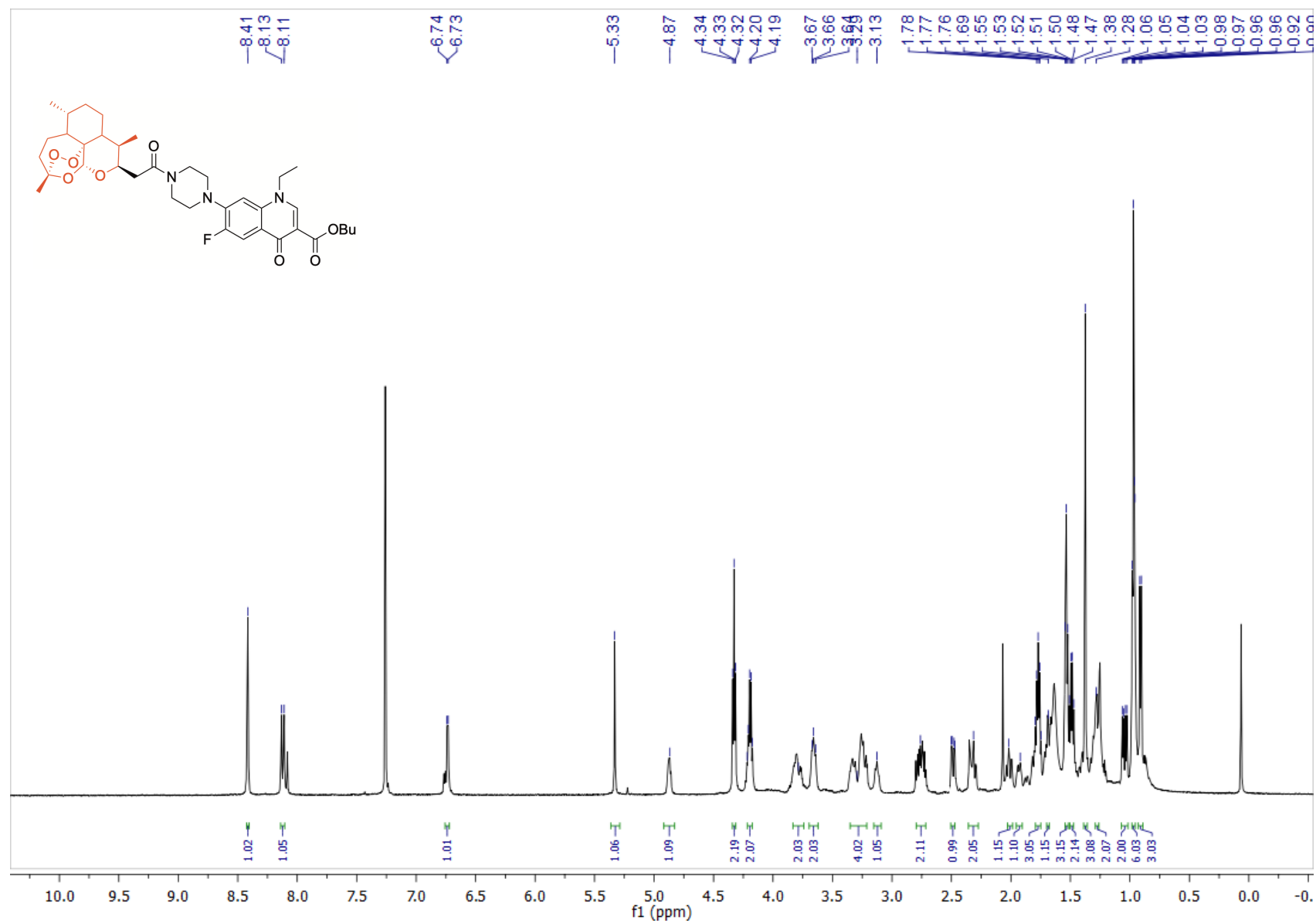


Figure S15. ^1H -NMR spectrum of compound 19.

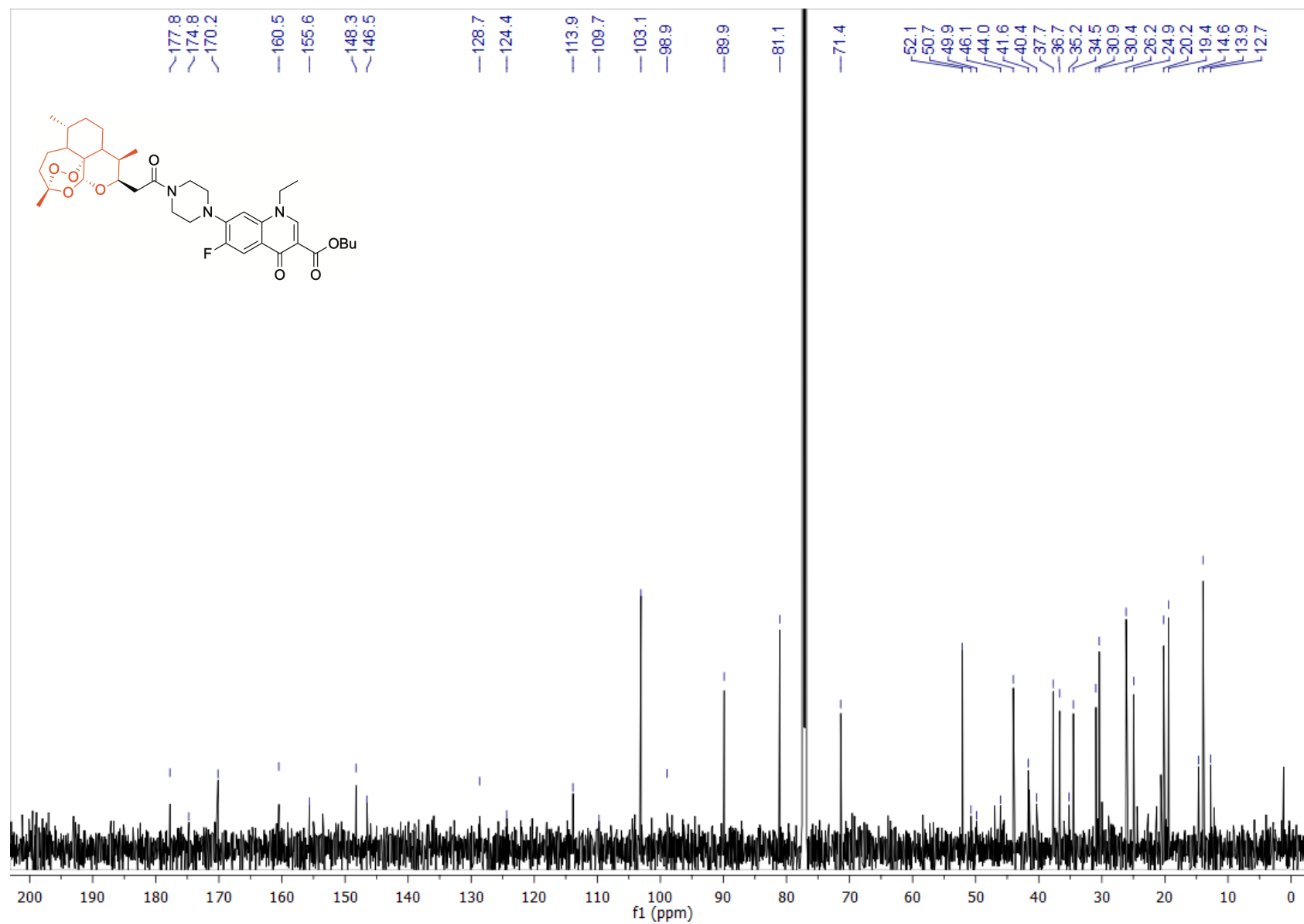


Figure S16. ^{13}C -NMR spectrum of compound 19.

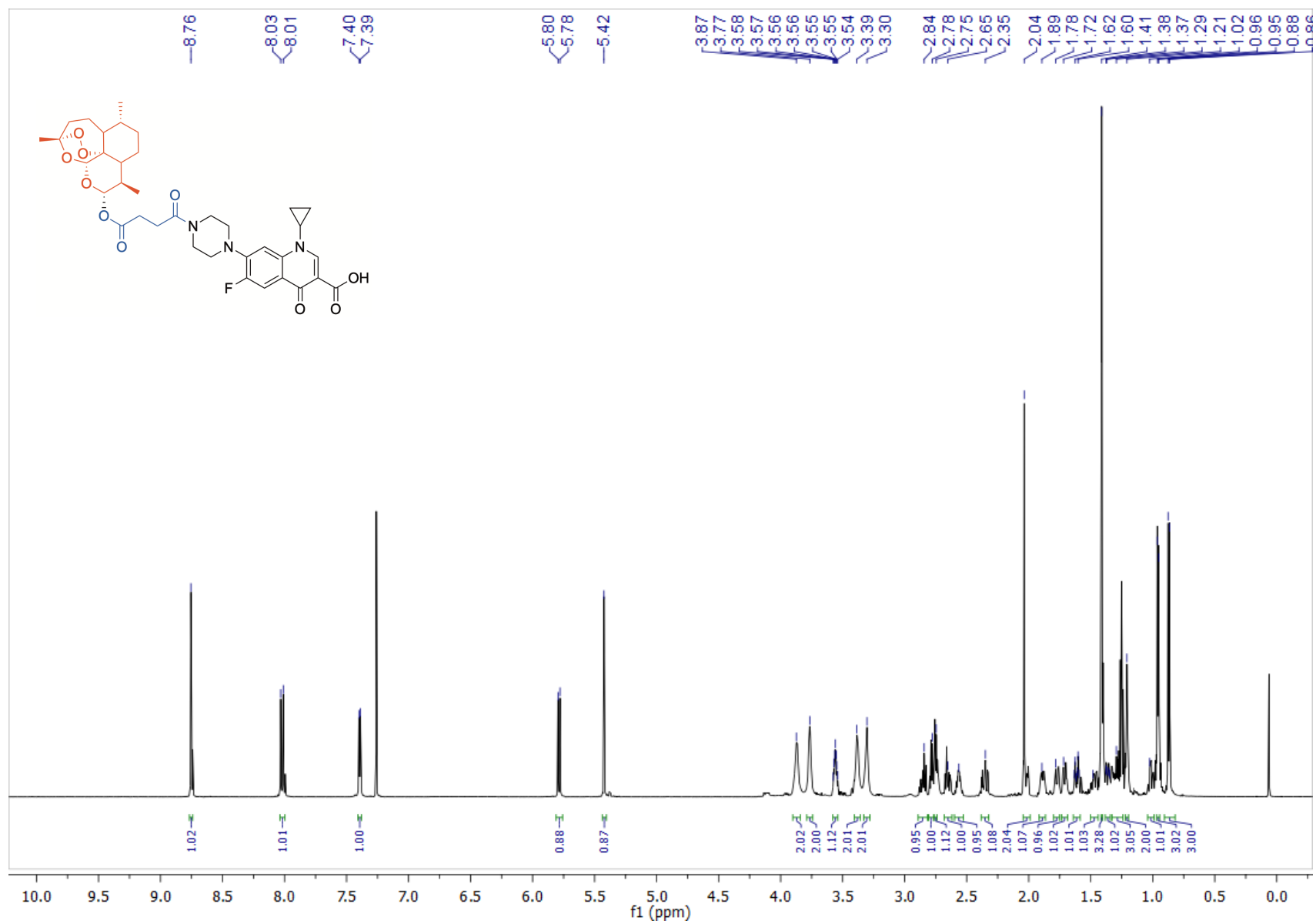


Figure S17. ¹H-NMR spectrum of compound 20.

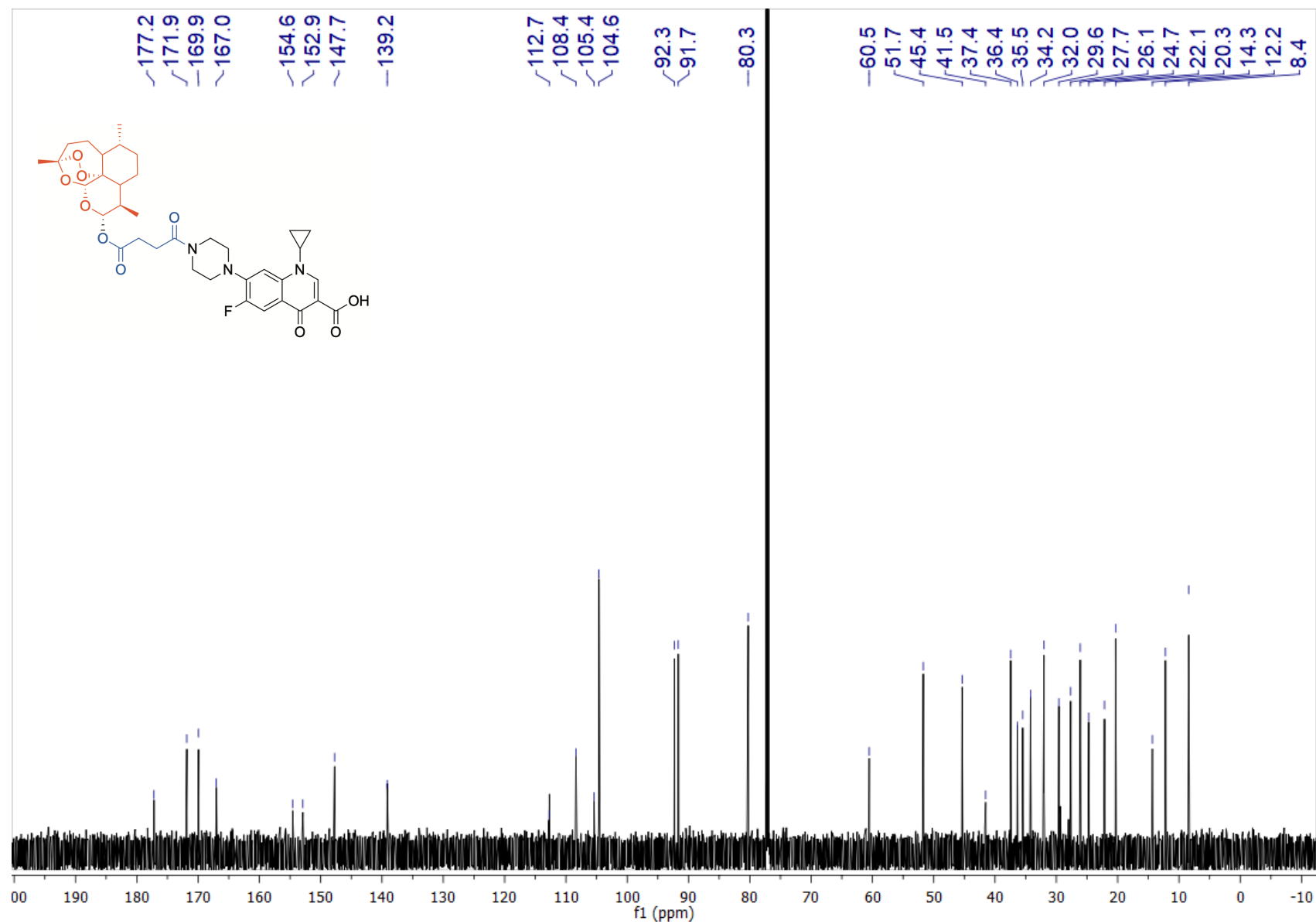


Figure S18. ¹³C-NMR spectrum of compound 20.

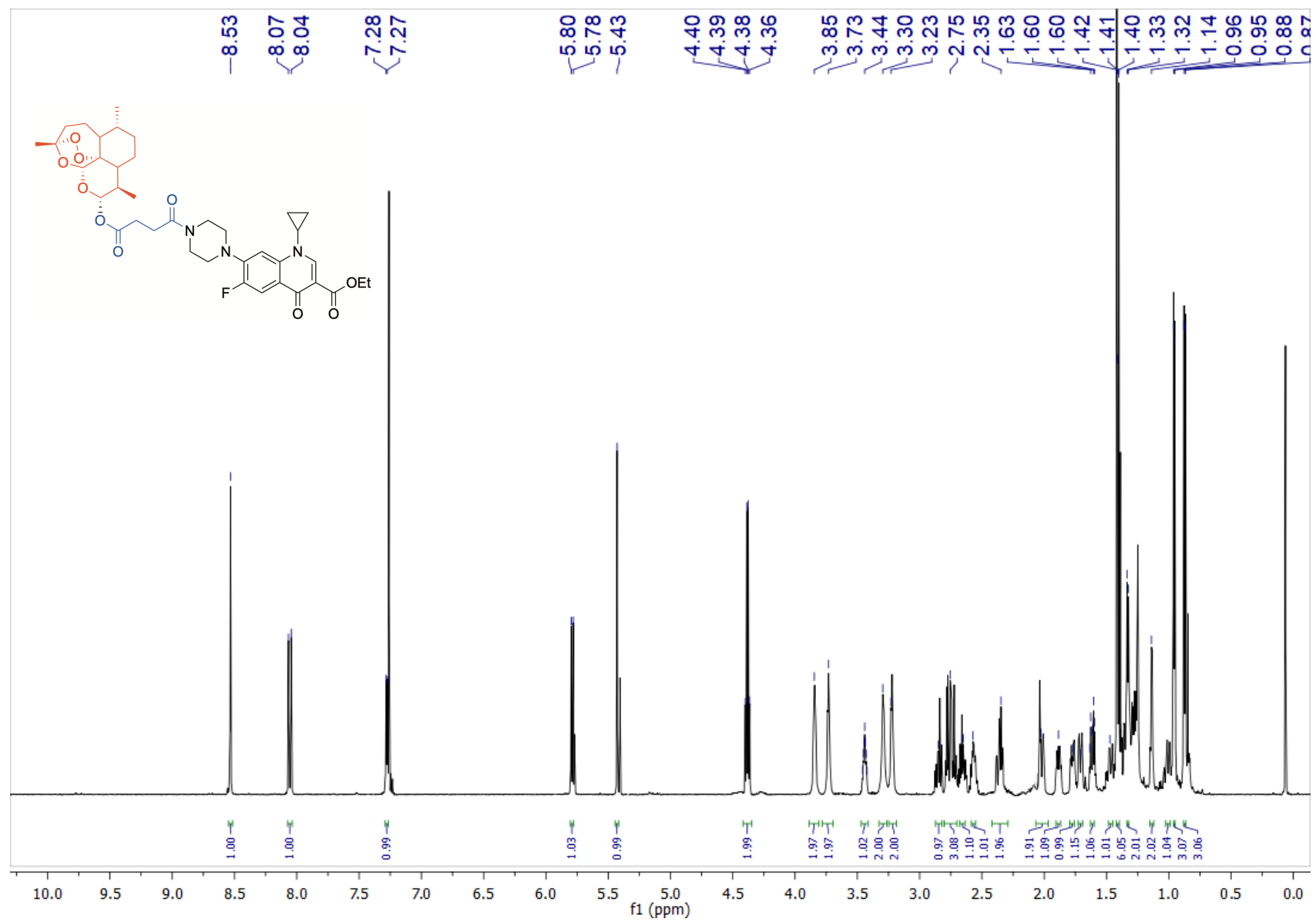


Figure S19. ¹H-NMR spectrum of compound 21.

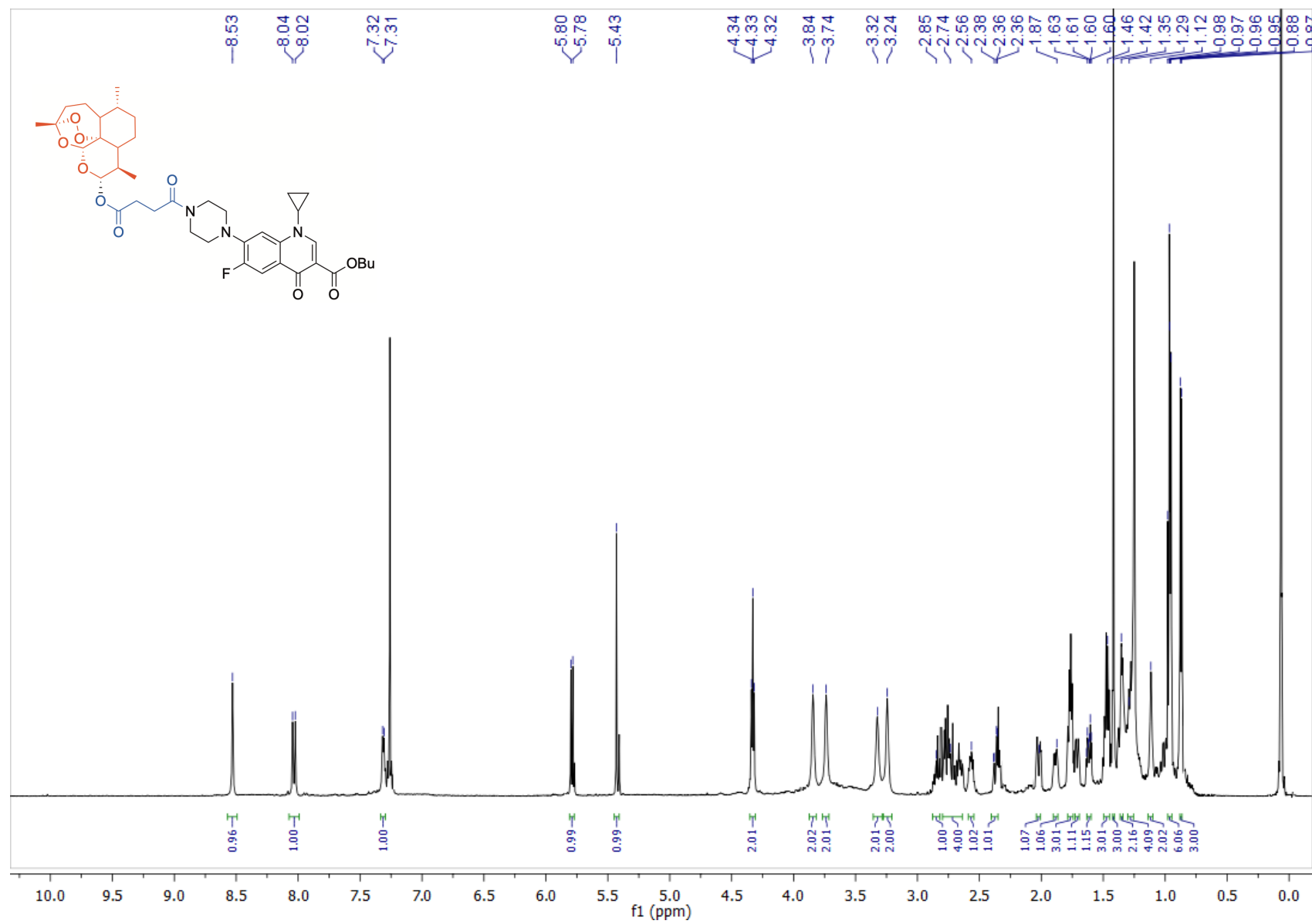


Figure S21. ^1H -NMR spectrum of compound 22.

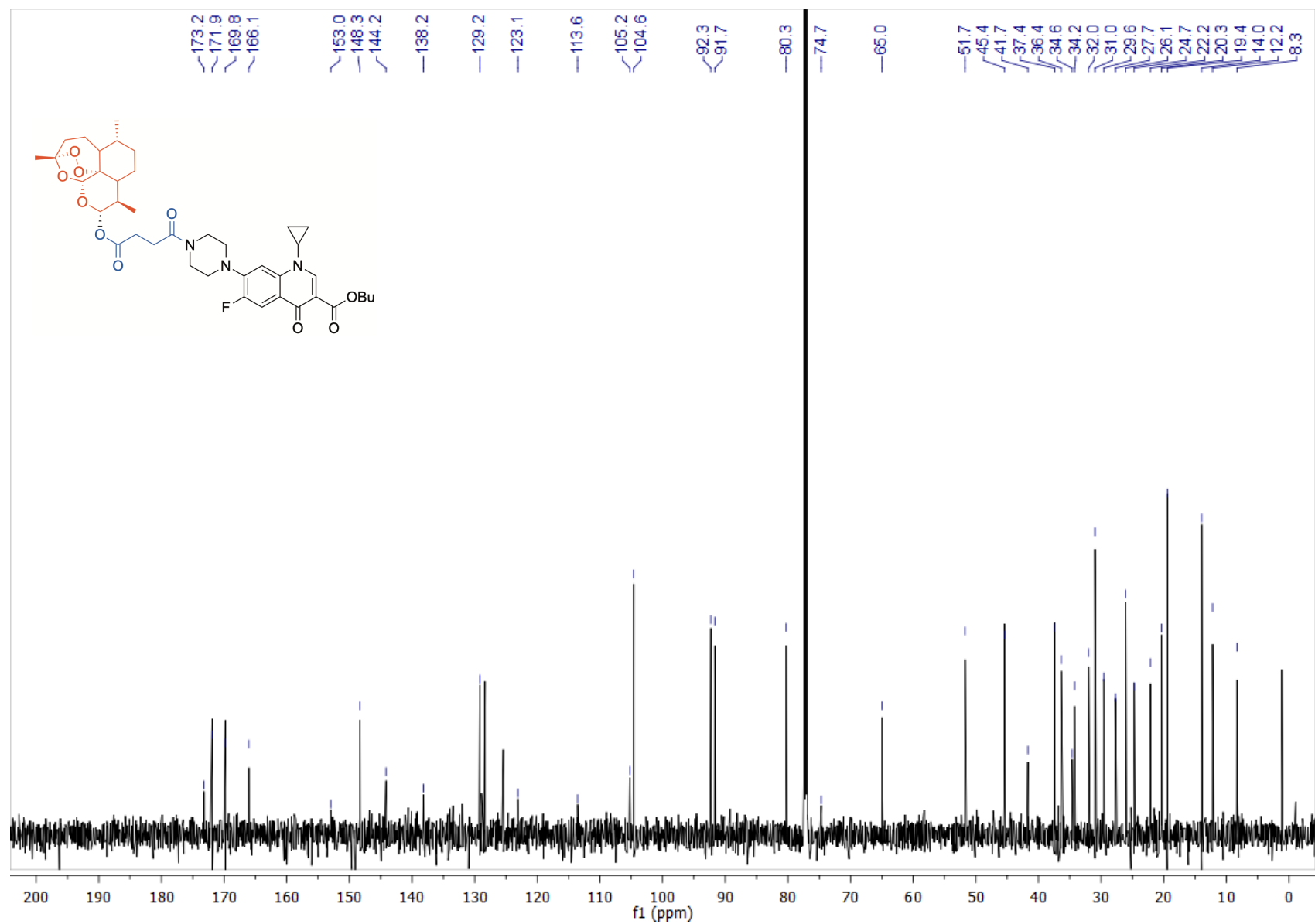
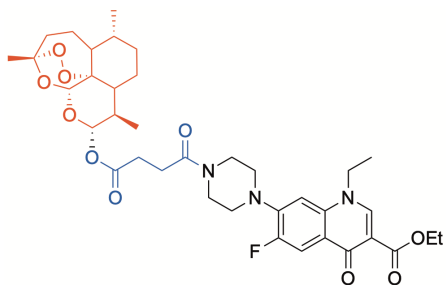


Figure S22. ^{13}C -NMR spectrum of compound 22.



26

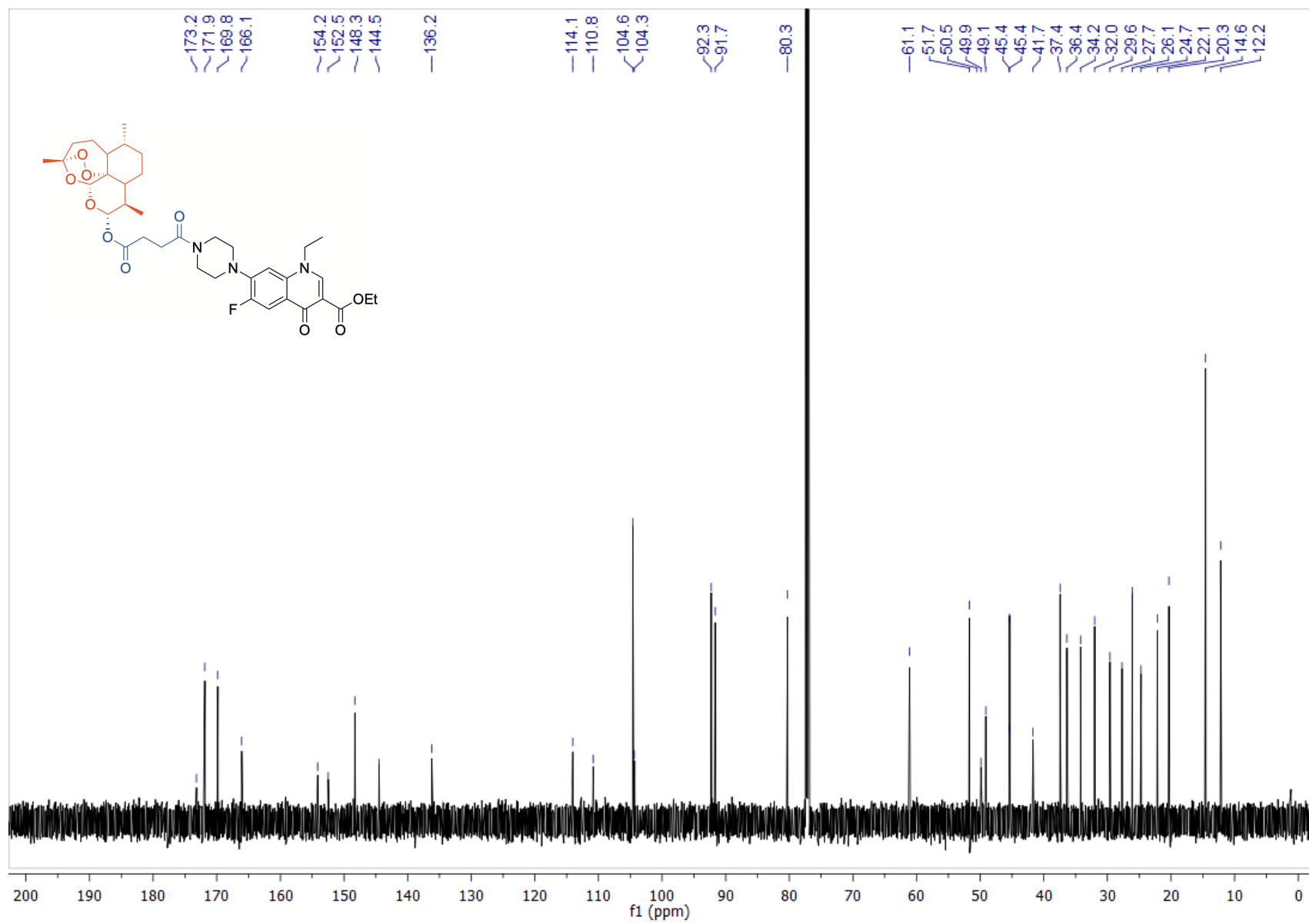


Figure S24. ^{13}C -NMR spectrum of compound 23.

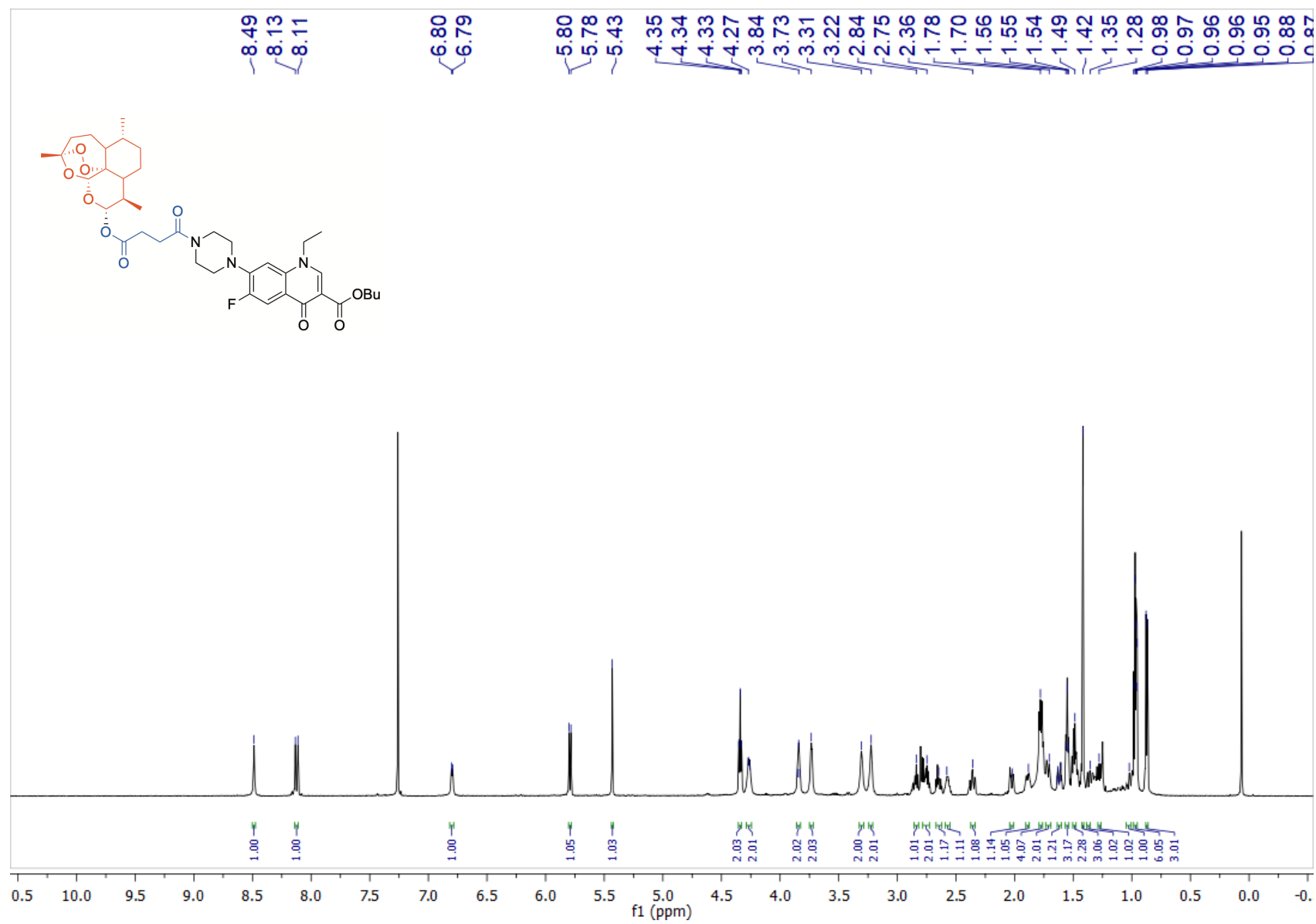


Figure S25. ^1H -NMR spectrum of compound 24.

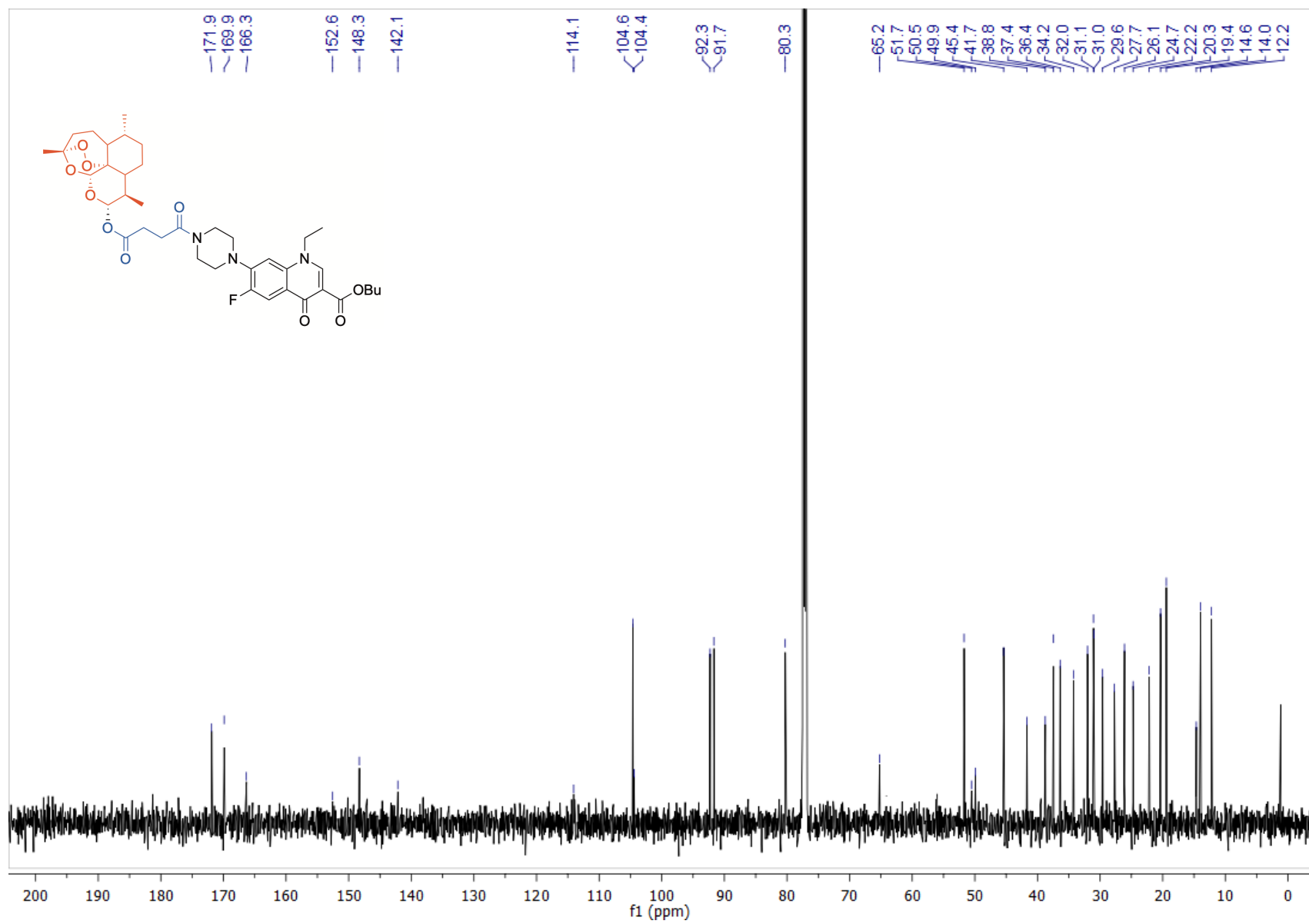


Figure S26. ^{13}C -NMR spectrum of compound 24.

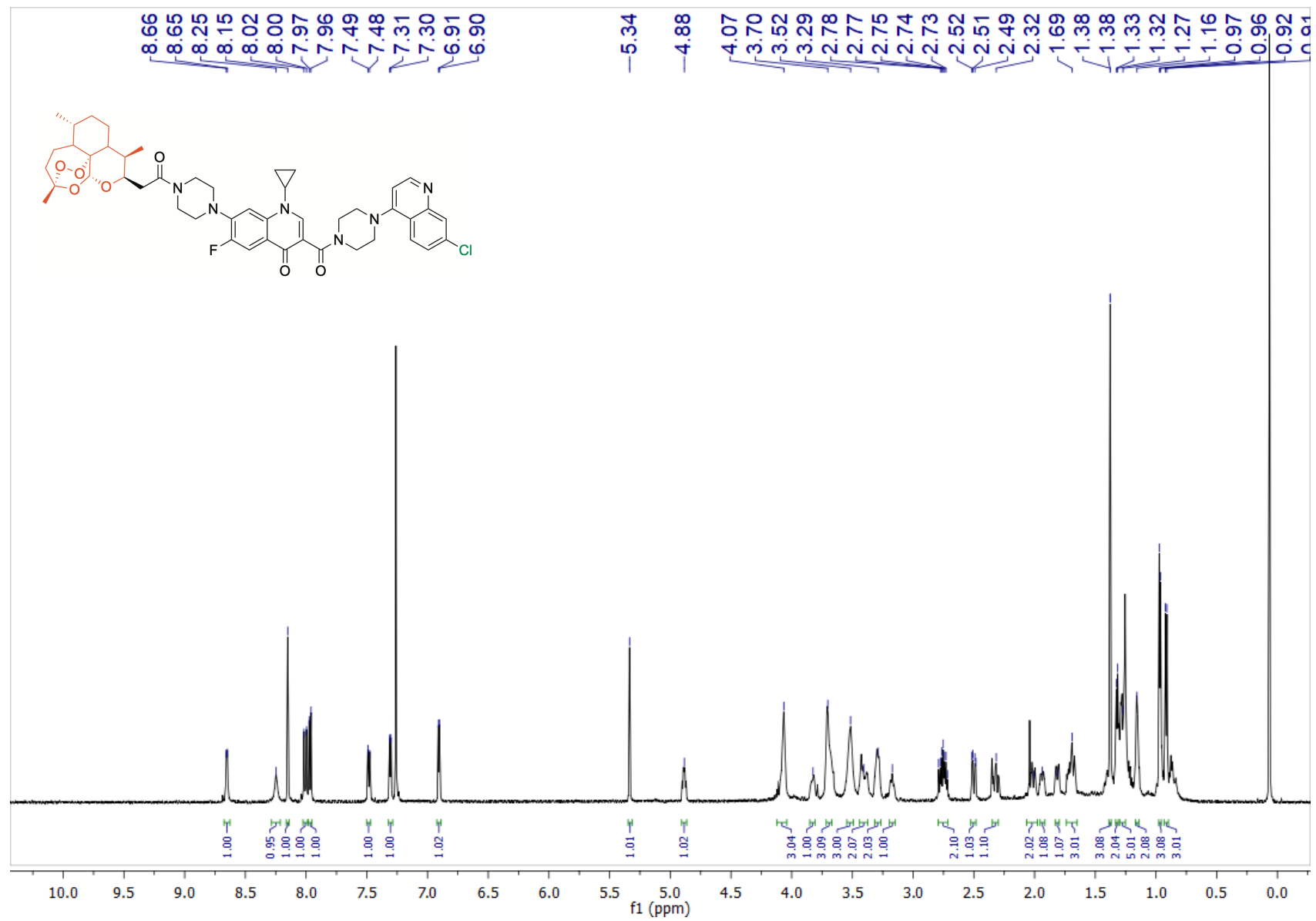


Figure S27. ^1H -NMR spectrum of compound 25.

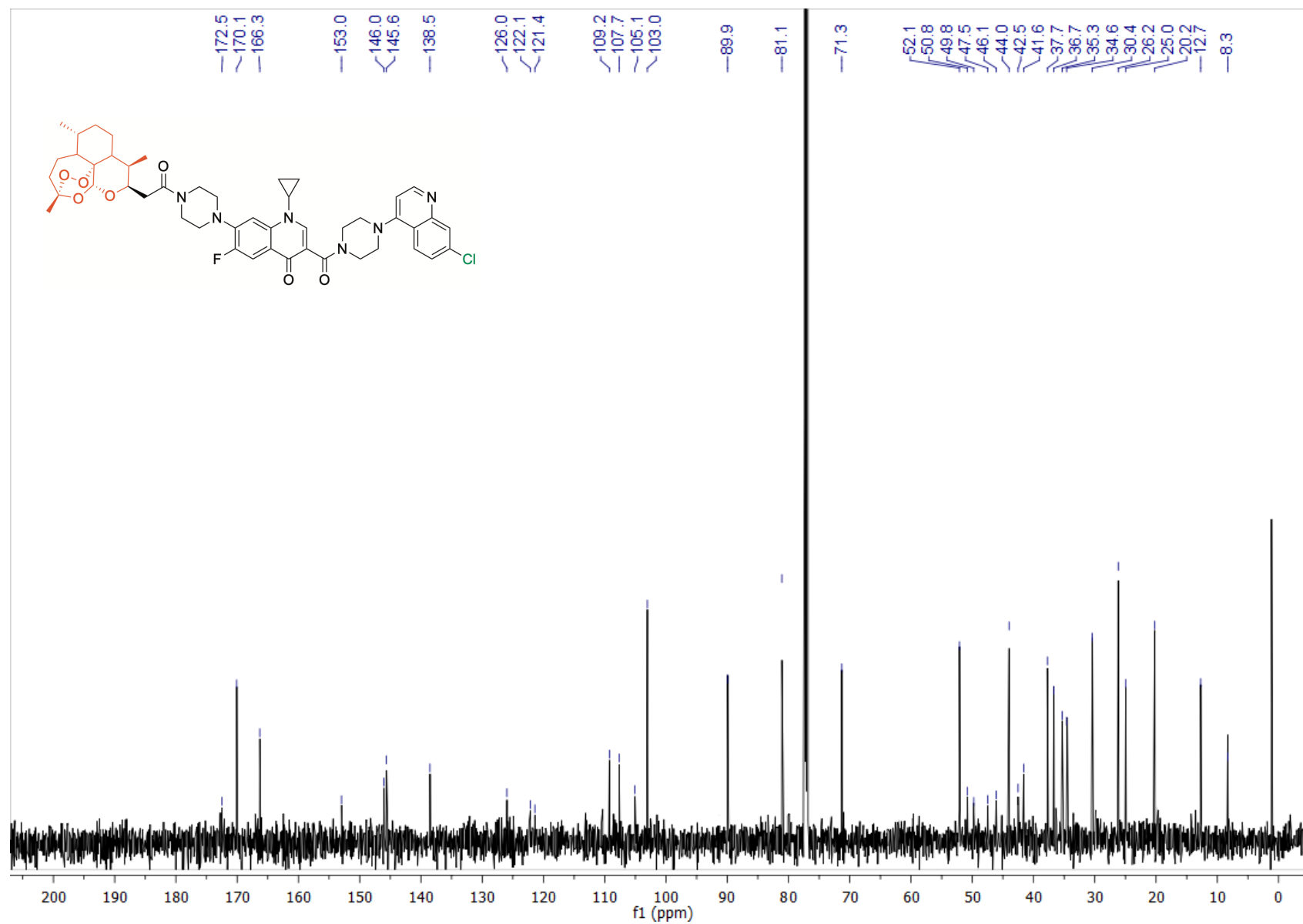


Figure S28. ^{13}C -NMR spectrum of compound 25.

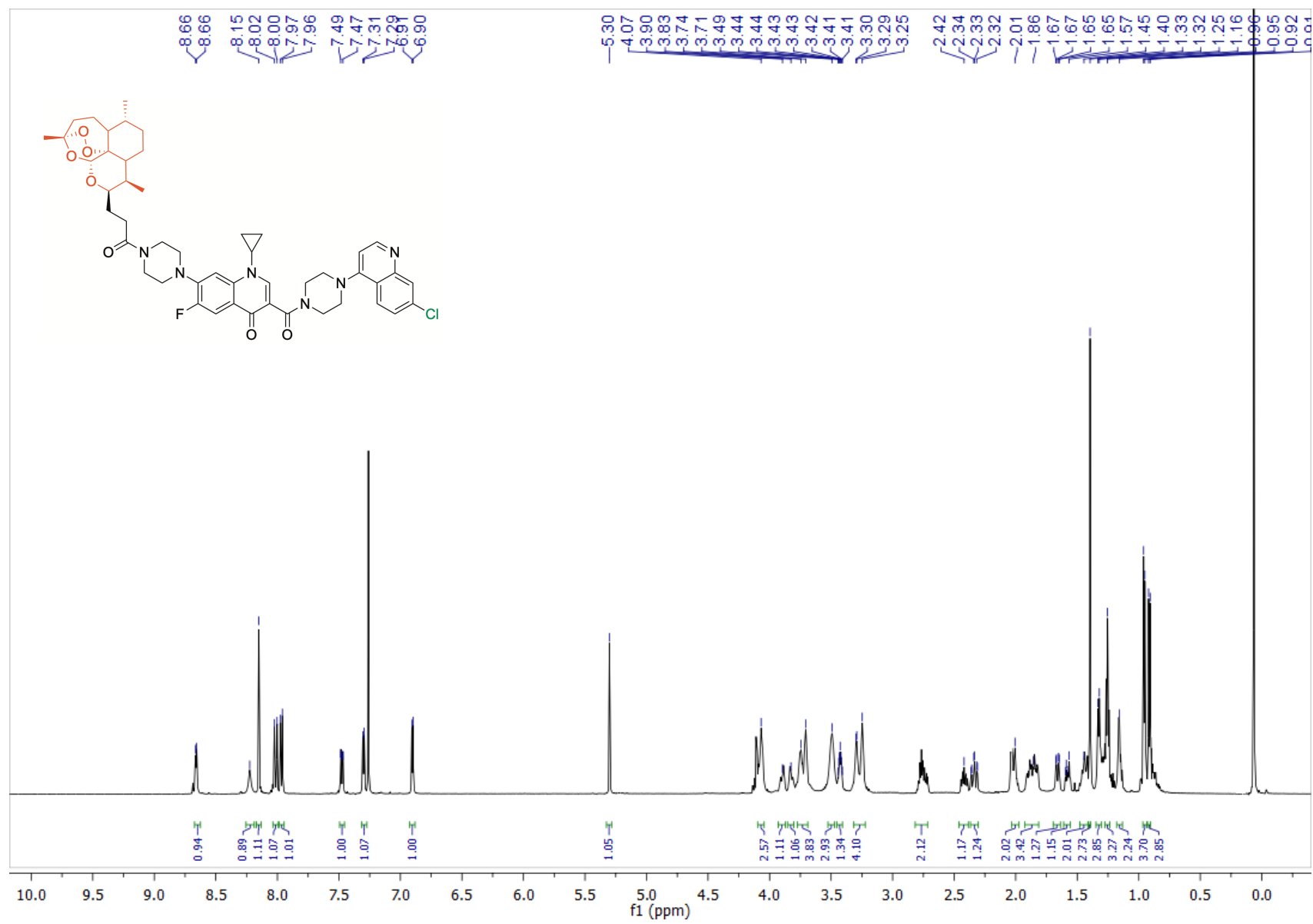


Figure S29. ^1H -NMR spectrum of compound 26.

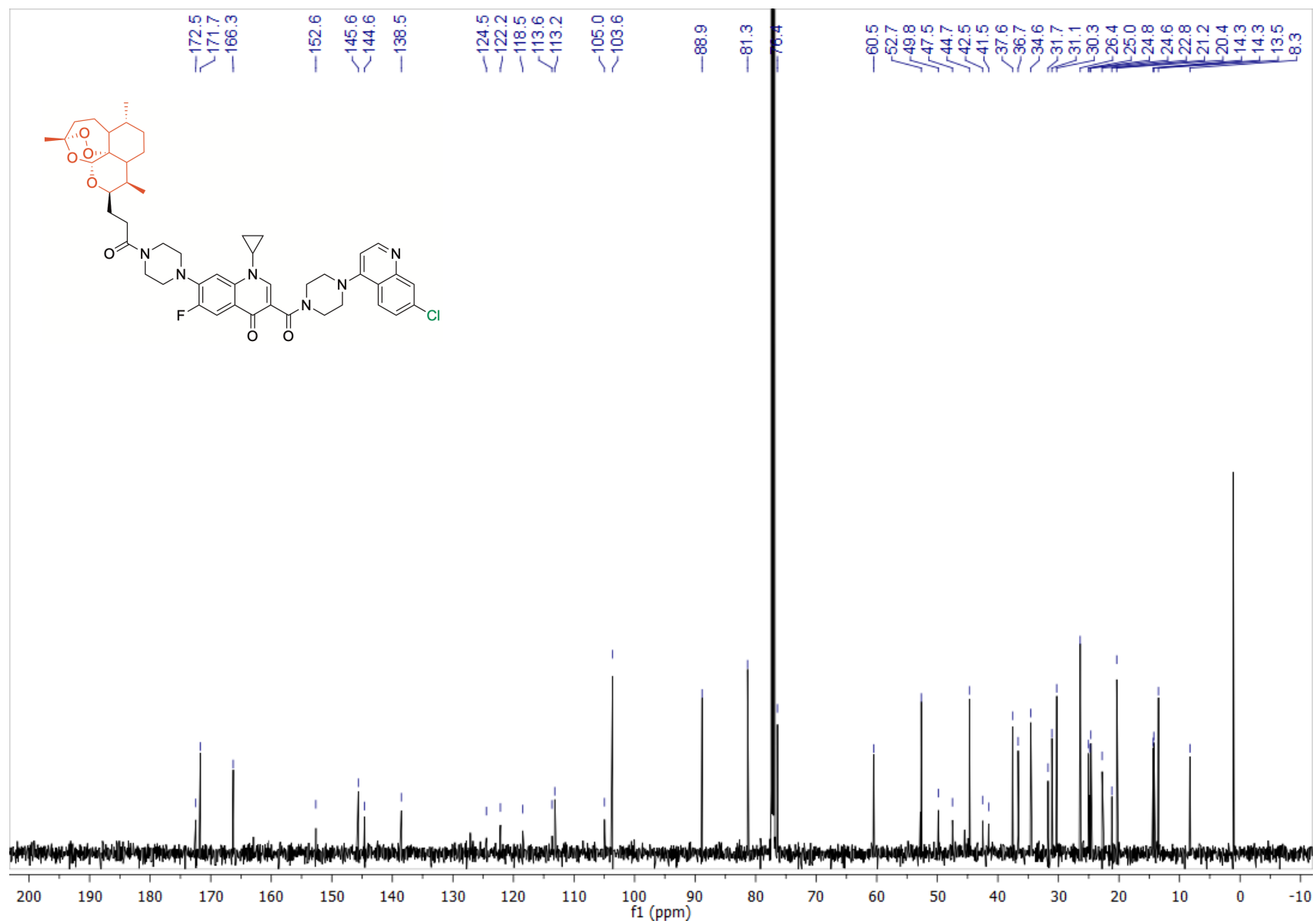


Figure S30. ¹³C-NMR spectrum of compound 26.

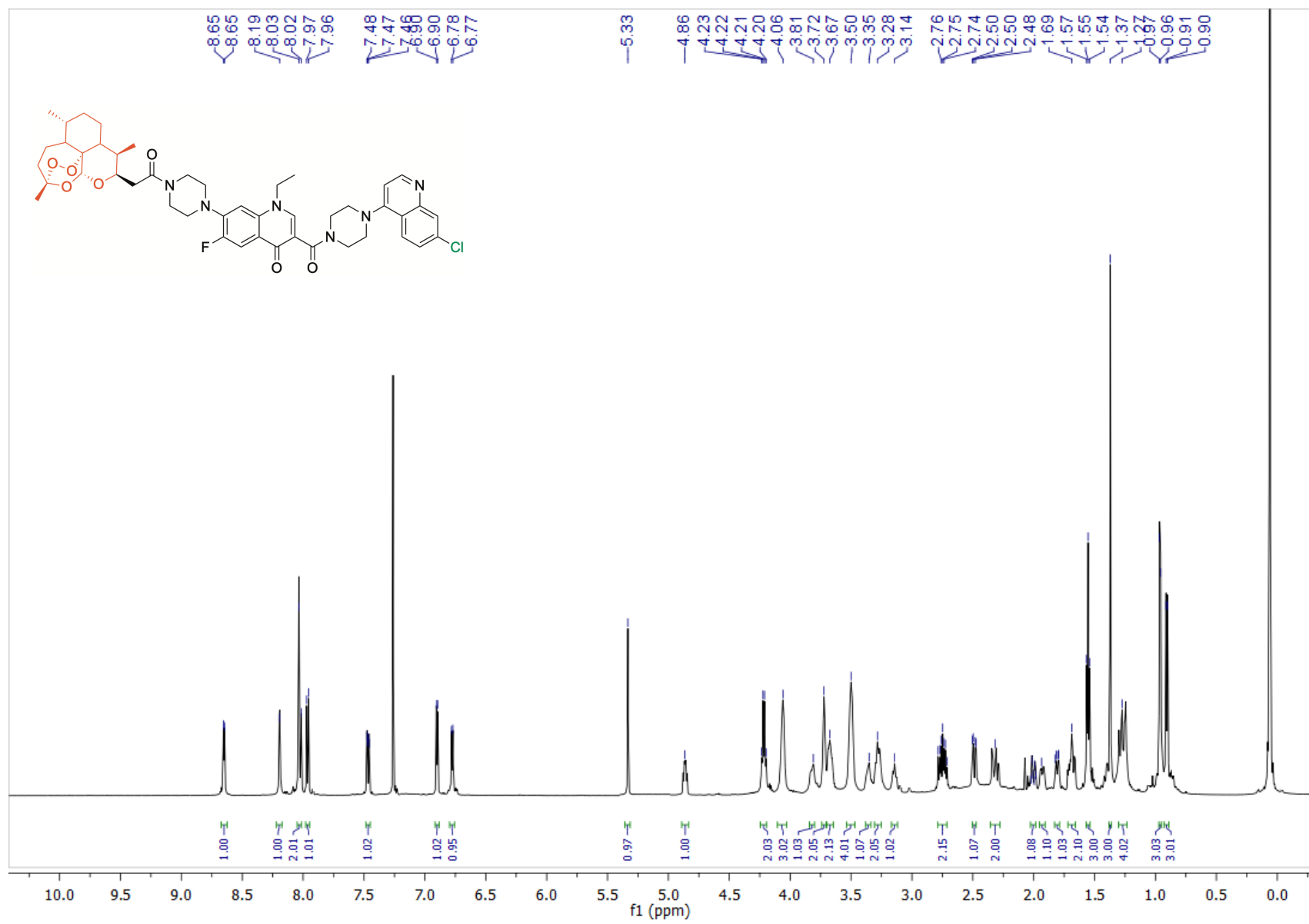


Figure S31. ^1H -NMR spectrum of compound 27.

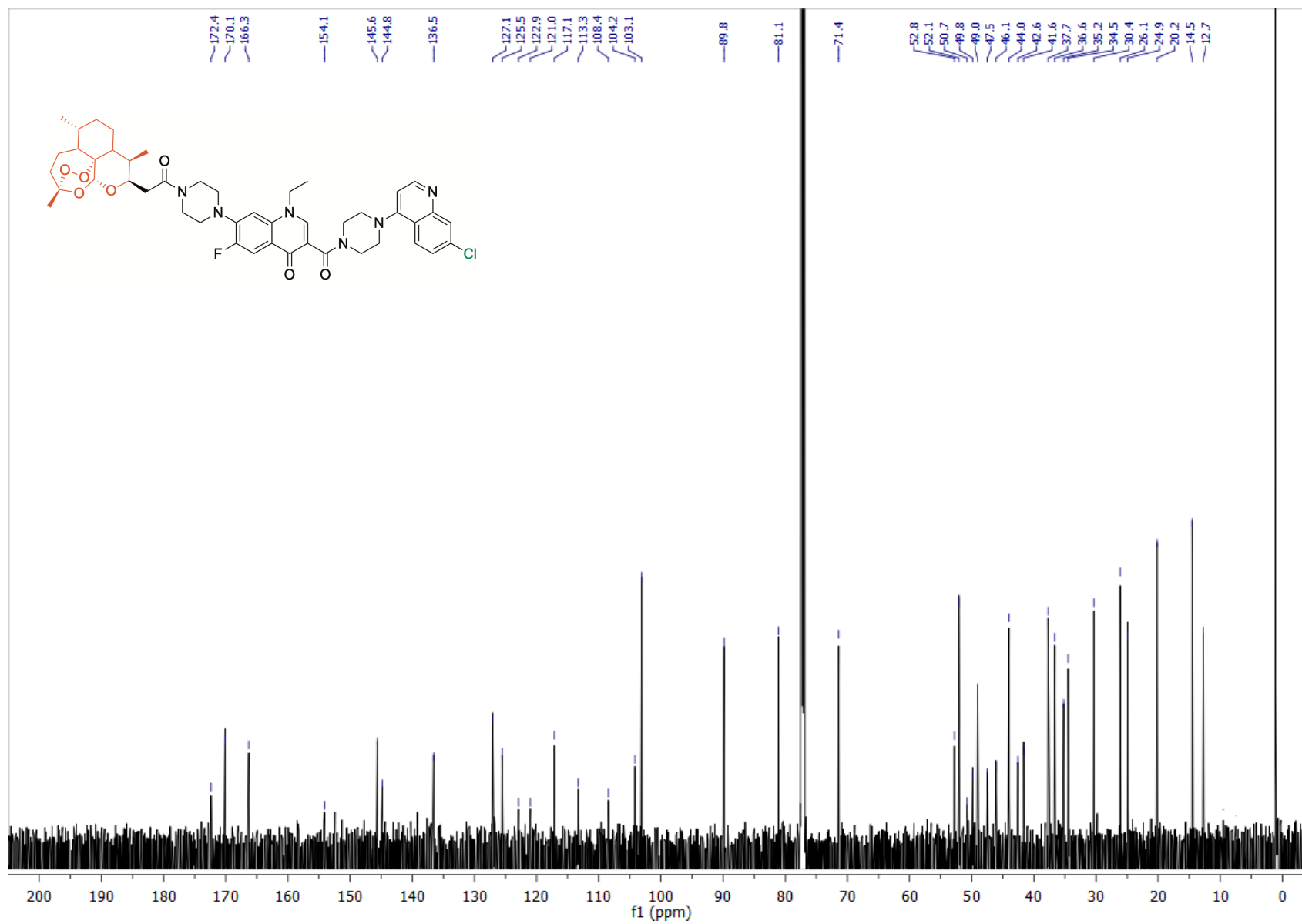


Figure S32. ^{13}C -NMR spectrum of compound 27.

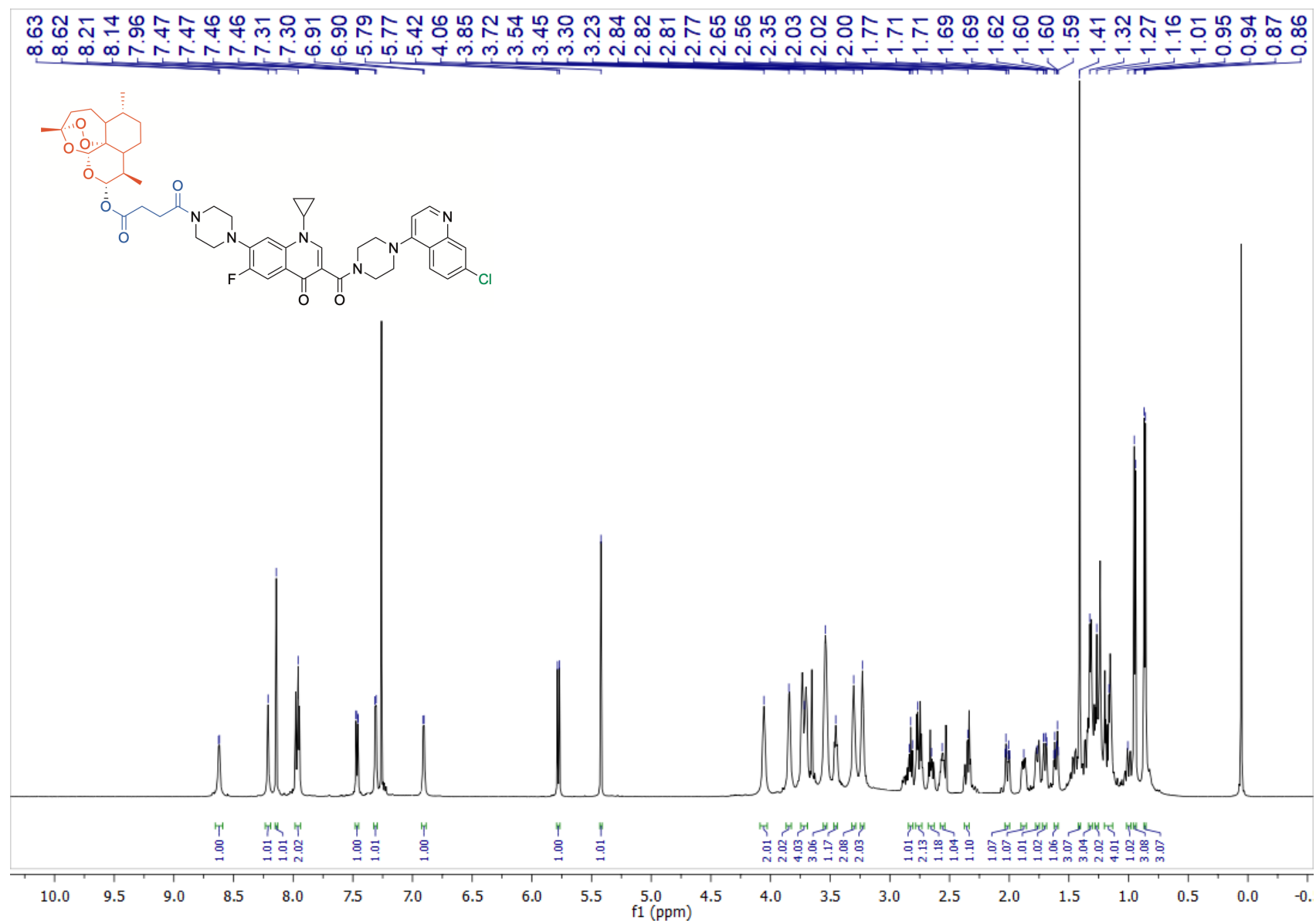


Figure S33. ¹H-NMR spectrum of compound 28.

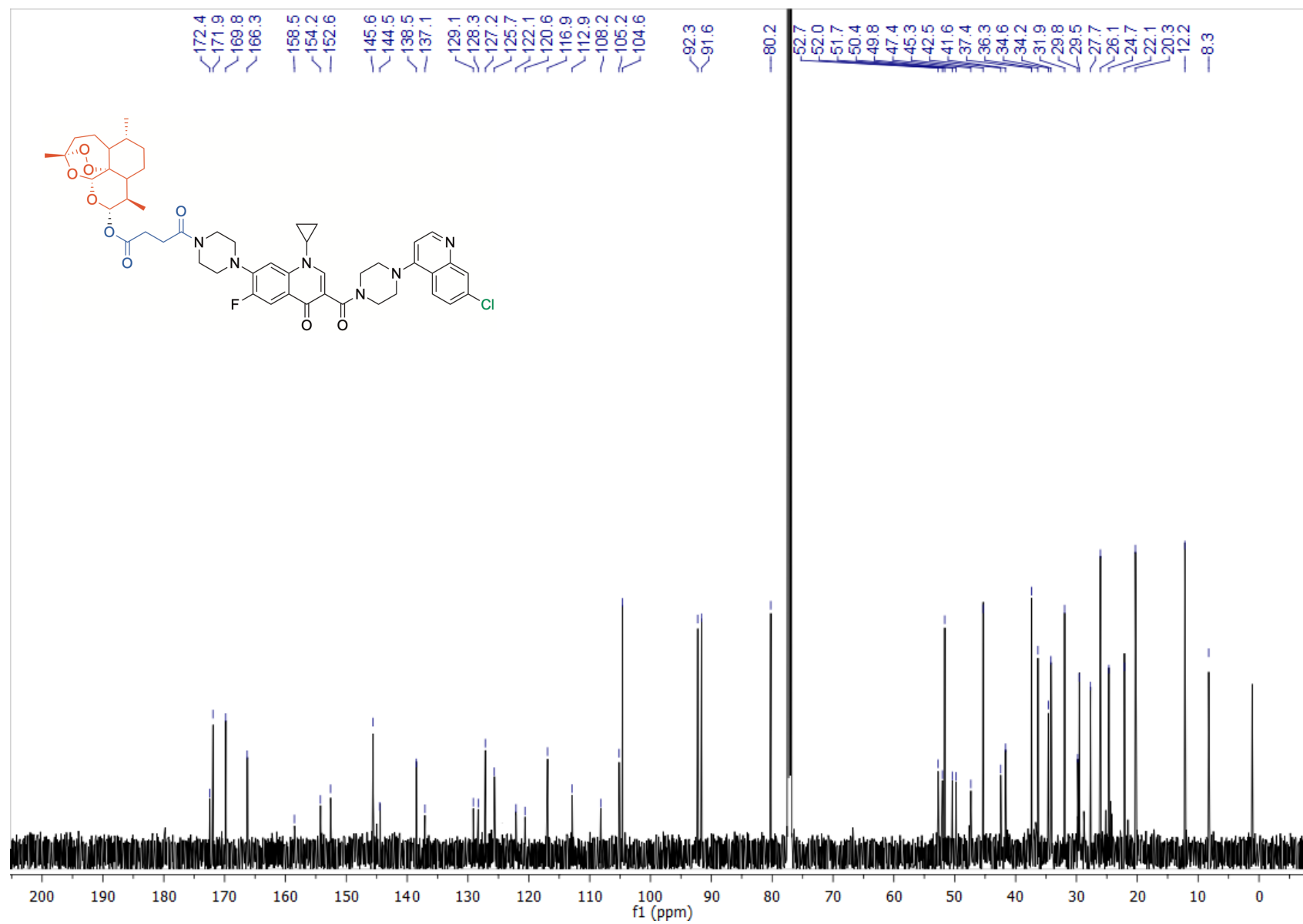


Figure S34. ^{13}C -NMR spectrum of compound 28.

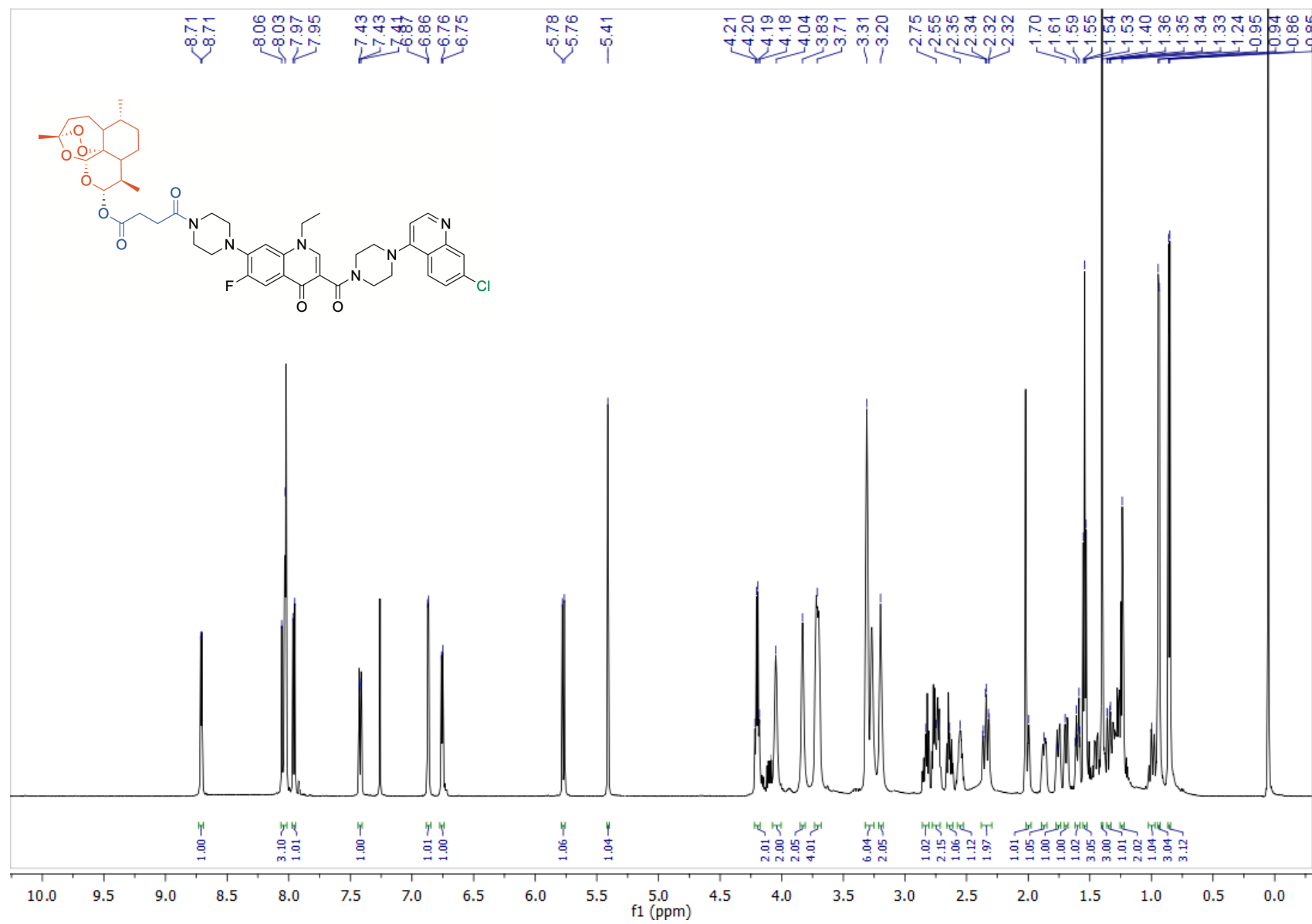


Figure S35. ¹H-NMR spectrum of compound 29.

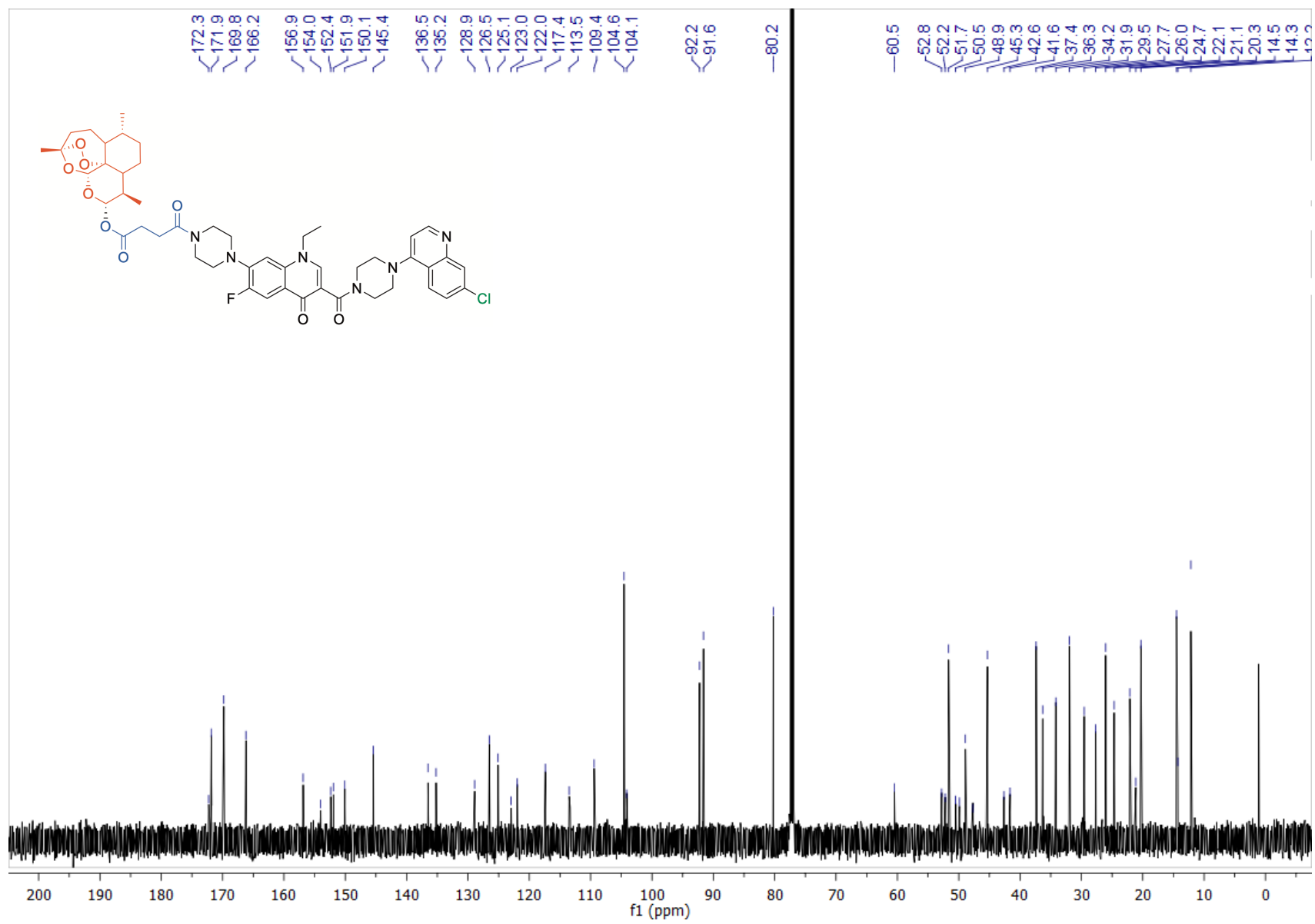


Figure S36. ^{13}C -NMR spectrum of compound 29.