

Supplementary material

Diterpenoids from the Brown Alga *Rugulopteryx okamurae* and their Anti-inflammatory Activity

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Figure S1. ¹H NMR spectrum (500 MHz, CD₃OD) of rugukadiol A (1)

Figure S2. ¹³C NMR spectrum (125 MHz, CD₃OD) of rugukadiol A (1)

Figure S3. ¹H NMR spectrum (500 MHz, CD₃OD) of rugukamural A (2)

Figure S4. ¹³C NMR spectrum (125 MHz, CD₃OD) of rugukamural A (2)

Figure S5. ¹H NMR spectrum (500 MHz, CD₃OD) of rugukamural B (3)

Figure S6. ¹³C NMR spectrum (125 MHz, CD₃OD) of rugukamural B (3)

Figure S7. ¹H NMR spectrum (500 MHz, CD₃OD) of rugukamural C (4)

Figure S8. ¹³C NMR spectrum (125 MHz, CD₃OD) of rugukamural C (4)

Figure S9. ¹H NMR spectrum (500 MHz, CD₃OD) of ruguloptone A (5)

Figure S10. ¹³C NMR spectrum (125 MHz, CD₃OD) of ruguloptone A (5)

Figure S11. ¹H NMR spectrum (500 MHz, CD₃OD) of ruguloptone B (6)

Figure S12. ¹³C NMR spectrum (125 MHz, CD₃OD) of ruguloptone B (6)

Figure S13. ¹H NMR spectrum (500 MHz, CD₃OD) of ruguloptone C (7)

Figure S14. ¹³C NMR spectrum (125 MHz, CD₃OD) of ruguloptone C (7)

Figure S15. ¹H NMR spectrum (500 MHz, CD₃OD) of ruguloptone D (8)

Figure S16. ¹³C NMR spectrum (125 MHz, CD₃OD) of ruguloptone D (8)

Figure S17. ¹H NMR spectrum (500 MHz, CD₃OD) of ruguloptone E (9)

Figure S18. ¹³C NMR spectrum (125 MHz, CD₃OD) of ruguloptone E (9)

Figure S19. ¹H NMR spectrum (500 MHz, CD₃OD) of ruguloptone F (10)

Figure S20. ¹³C NMR spectrum (125 MHz, CD₃OD) of ruguloptone F (10)

Figure S21. Cell survival Bv.2 cells

Figure S22. Cell survival RAW 246.7 cells

S1

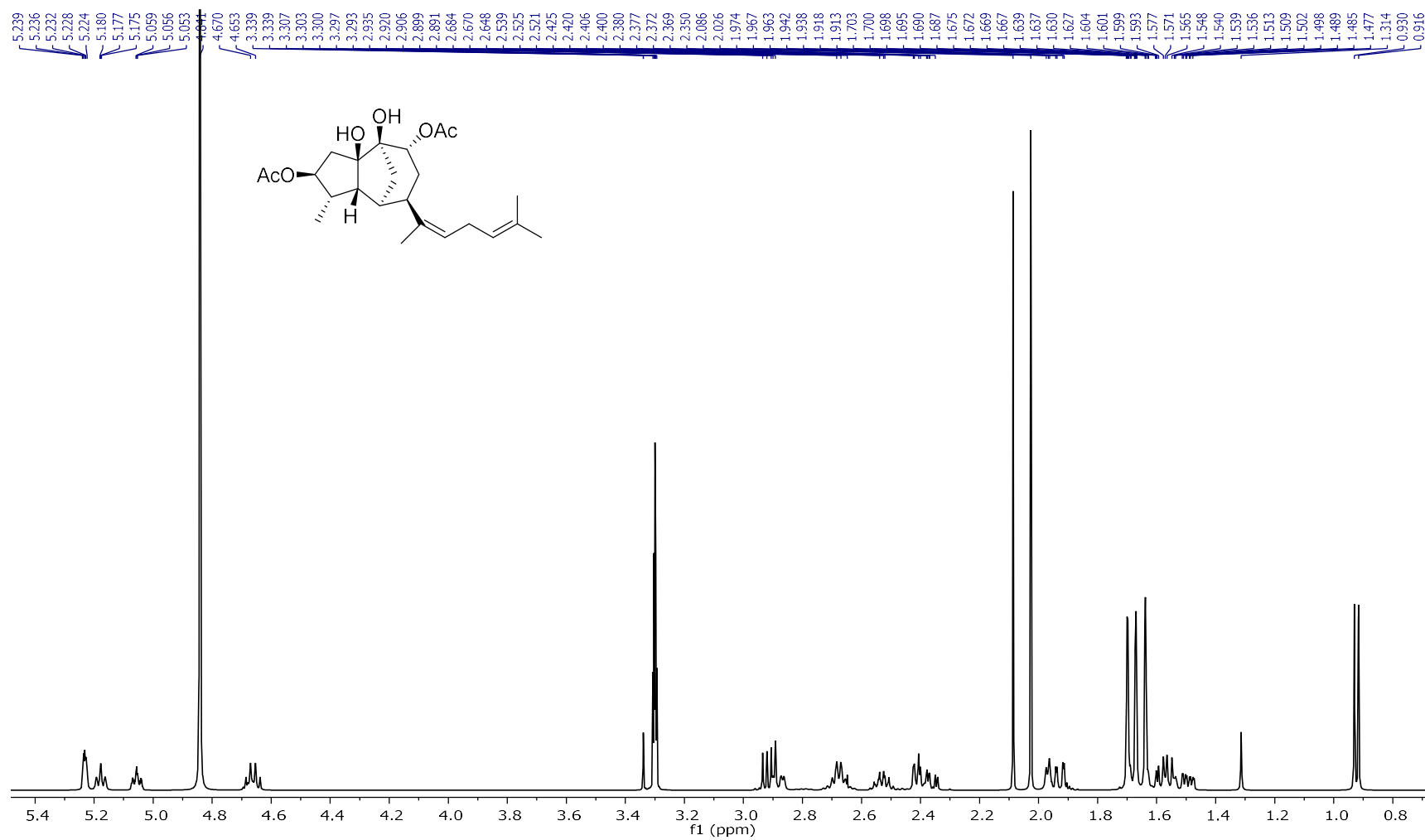
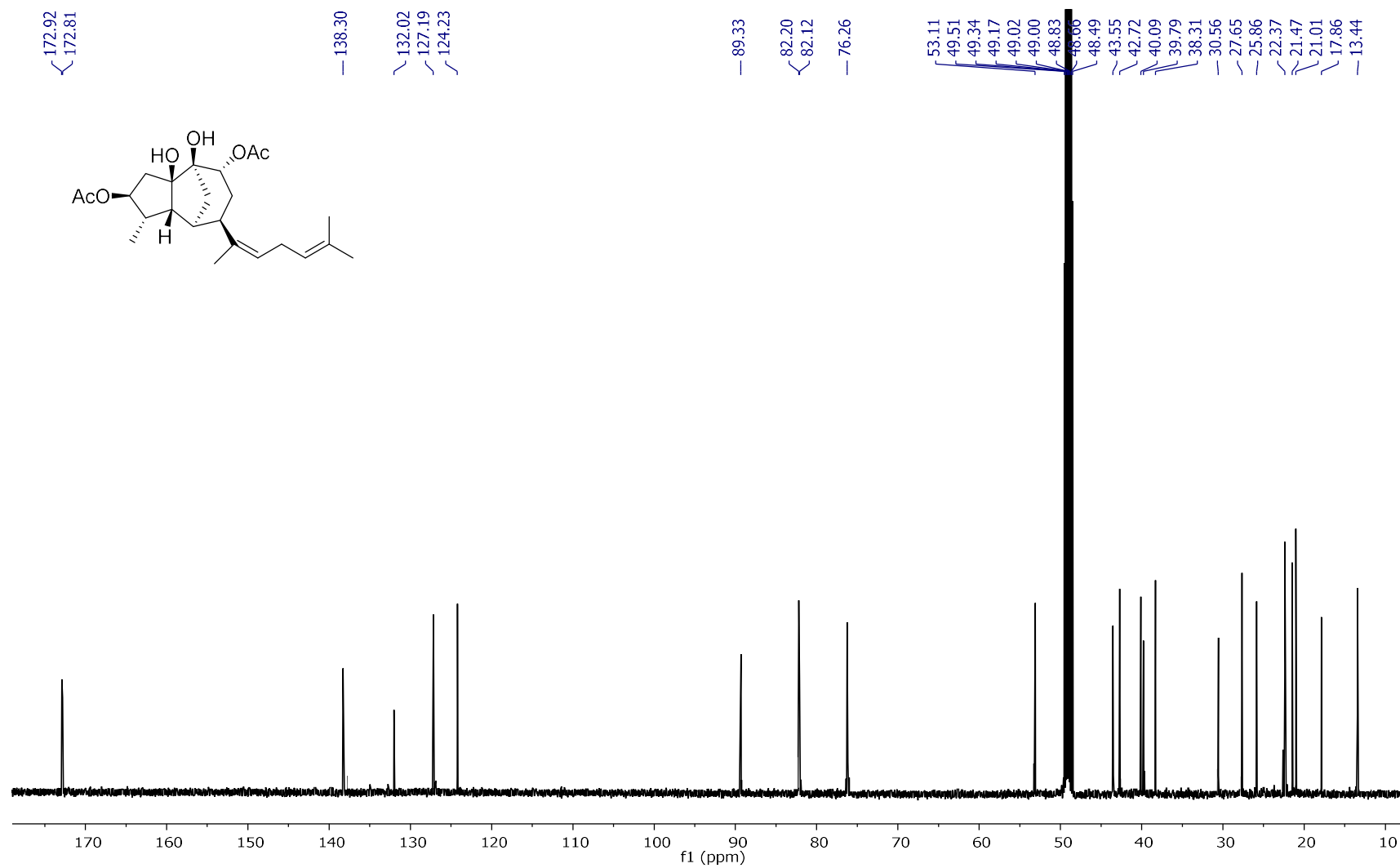


Figure S1. ^1H NMR spectrum (500 MHz, CD_3OD) of rugukadiol A (1)



S2

Figure S2. ¹³C NMR spectrum (125 MHz, CD₃OD) of rugukadiol A (1)

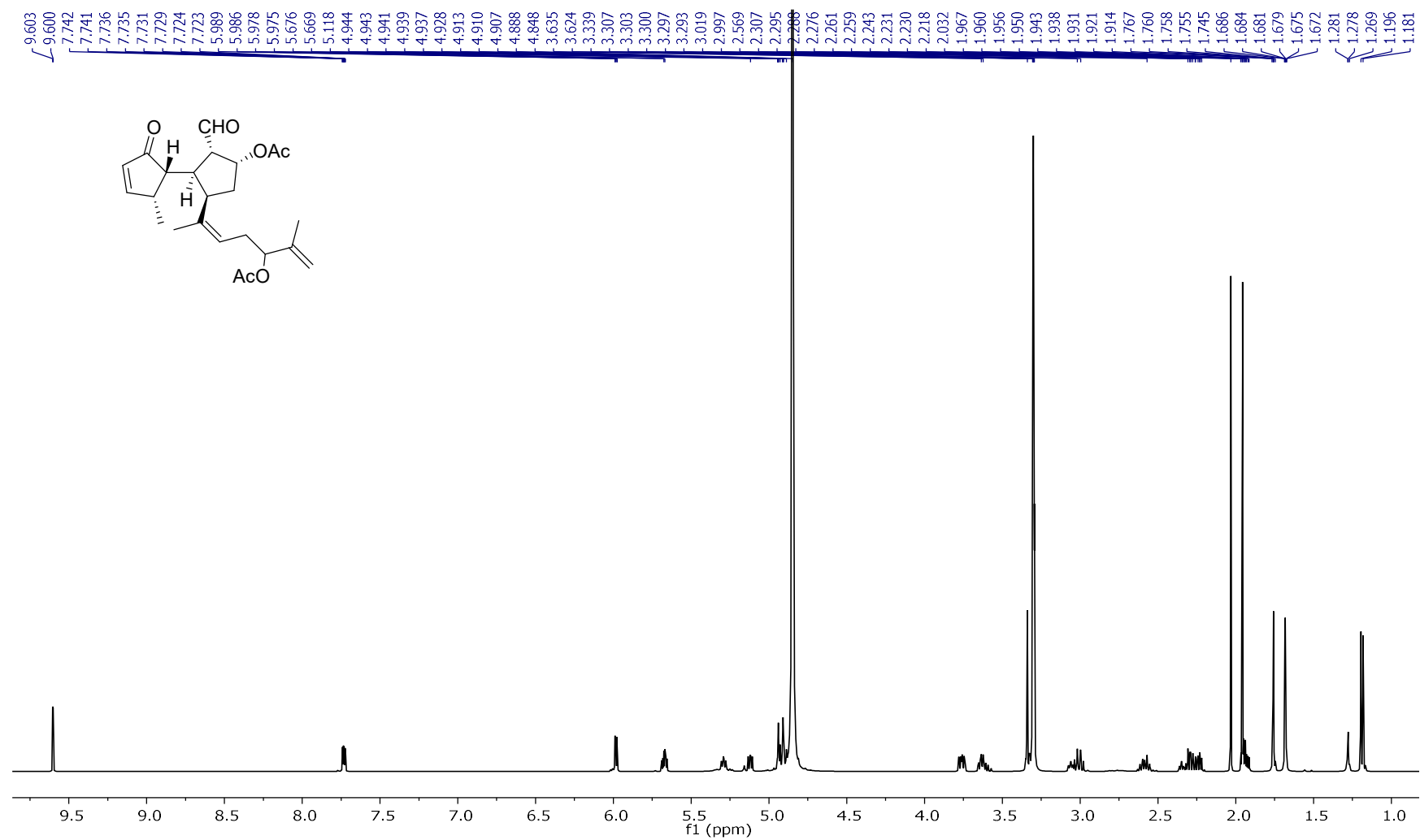


Figure S3. ¹H NMR spectrum (500 MHz, CD₃OD) of rugukamural A (2)

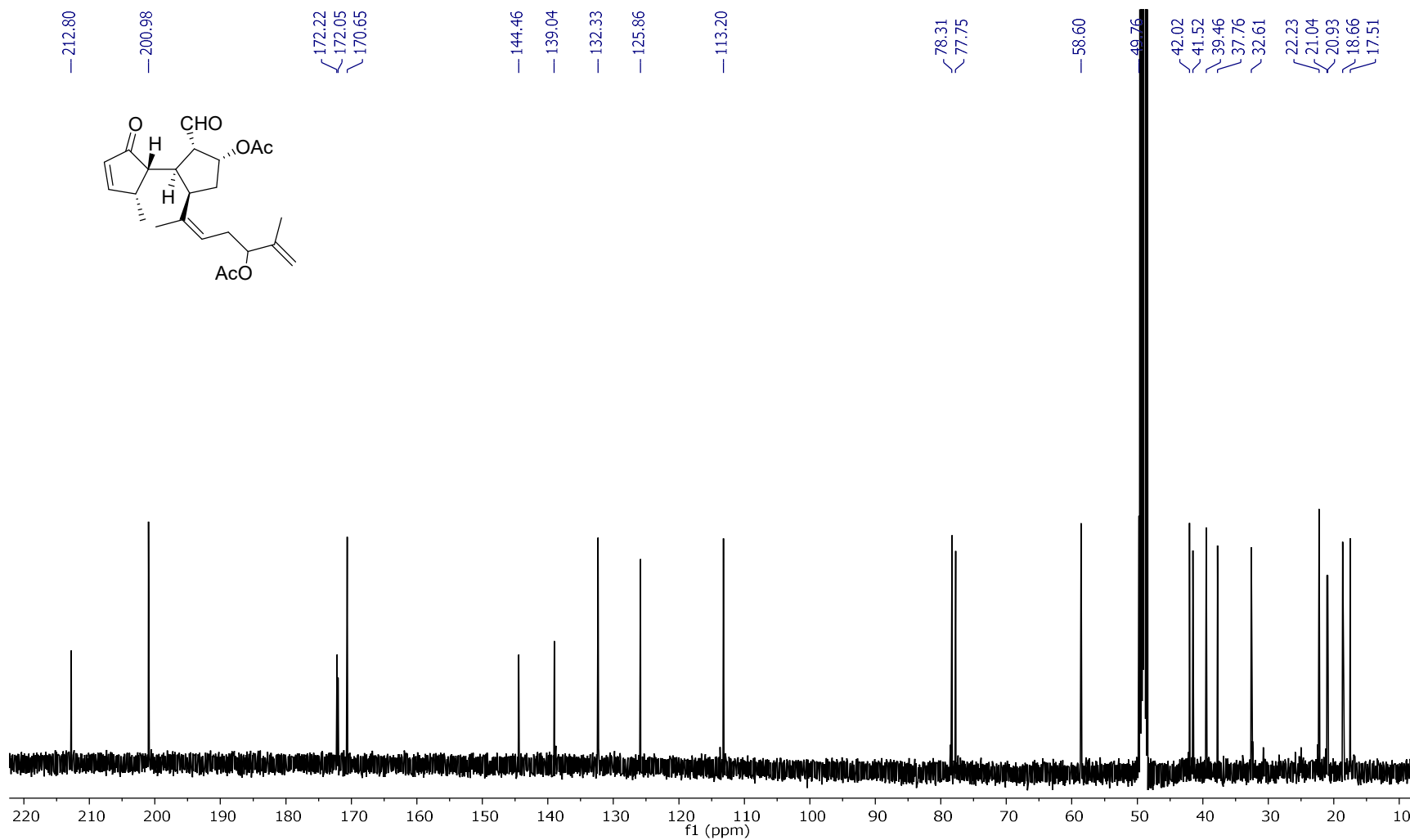


Figure S4. ^{13}C NMR spectrum (125 MHz, CD_3OD) of rugukamural A (2)

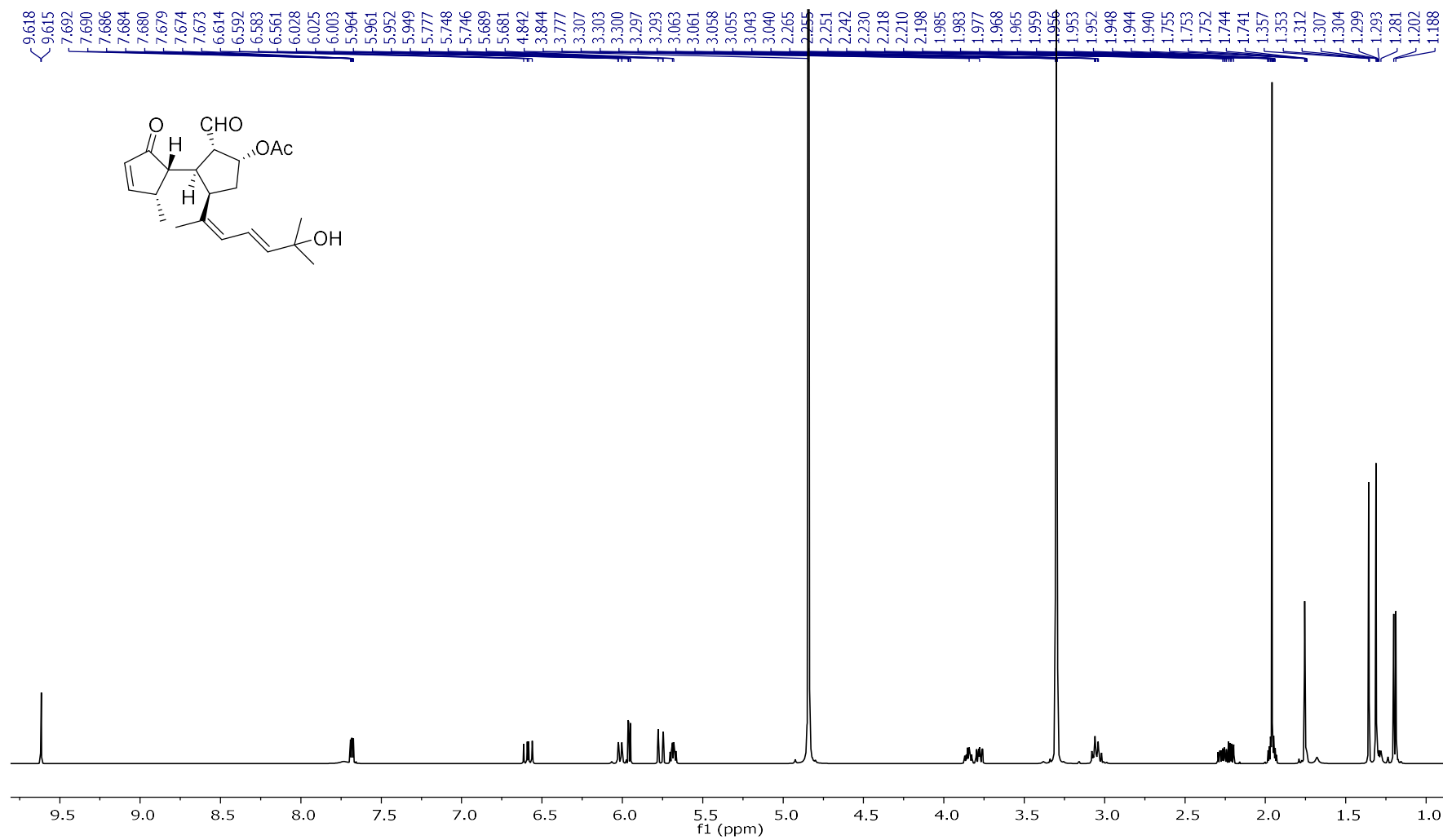


Figure S5. ¹H NMR spectrum (500 MHz, CD₃OD) of rugukamural B (3)

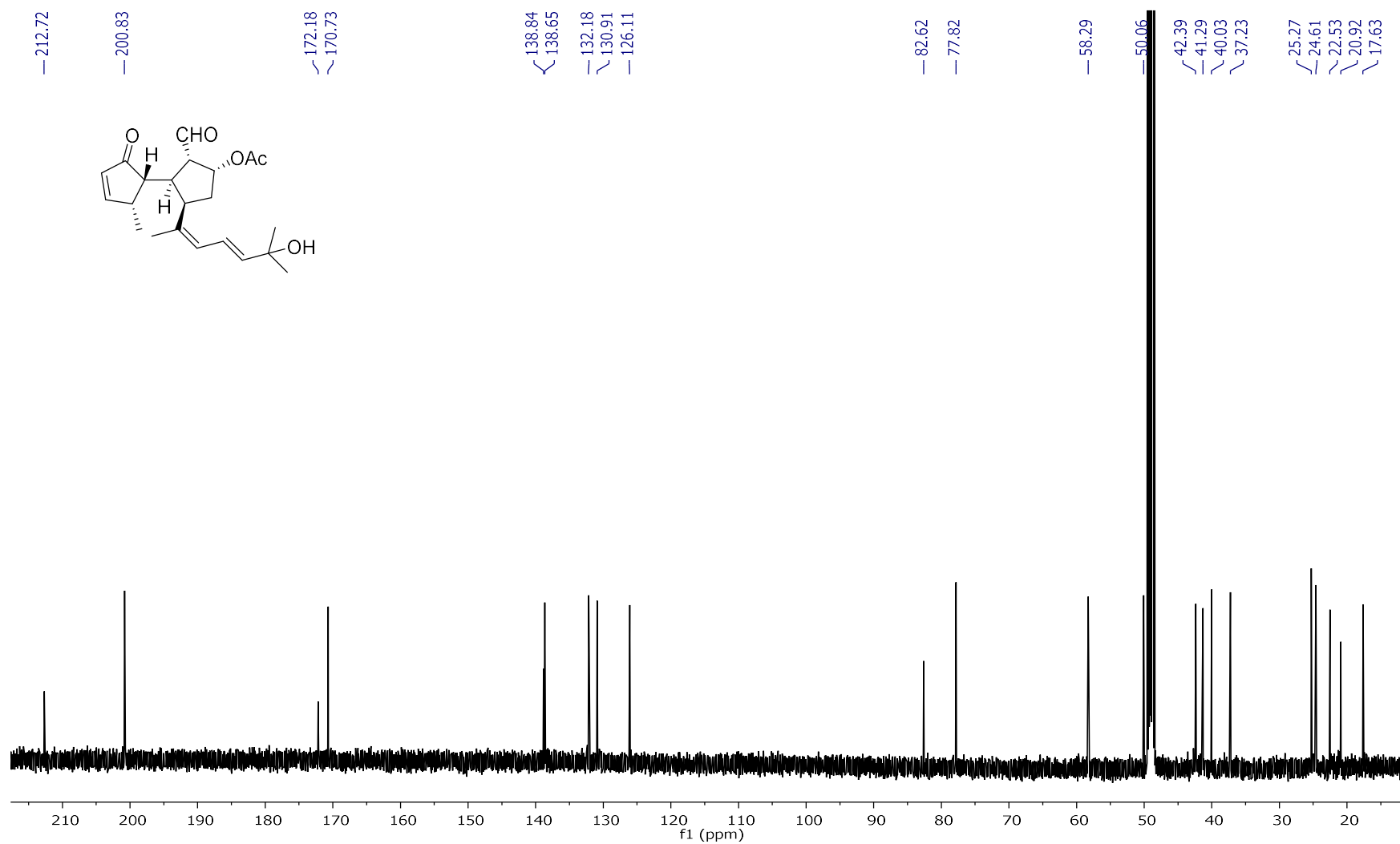


Figure S6. ¹³C NMR spectrum (125 MHz, CD₃OD) of rugukamural B (3)

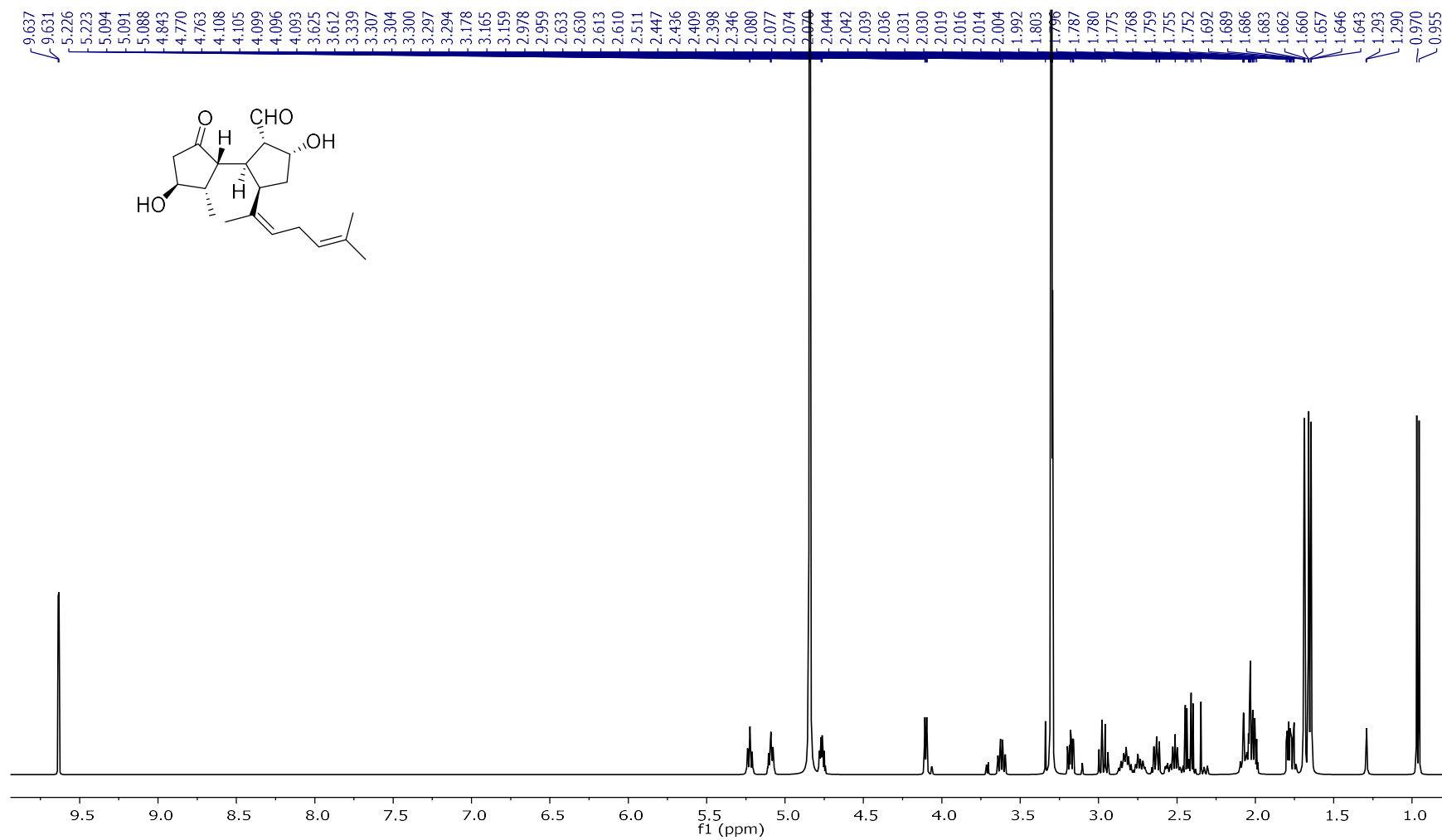


Figure S7. ¹H NMR spectrum (500 MHz, CD₃OD) of rugukamural C (4)

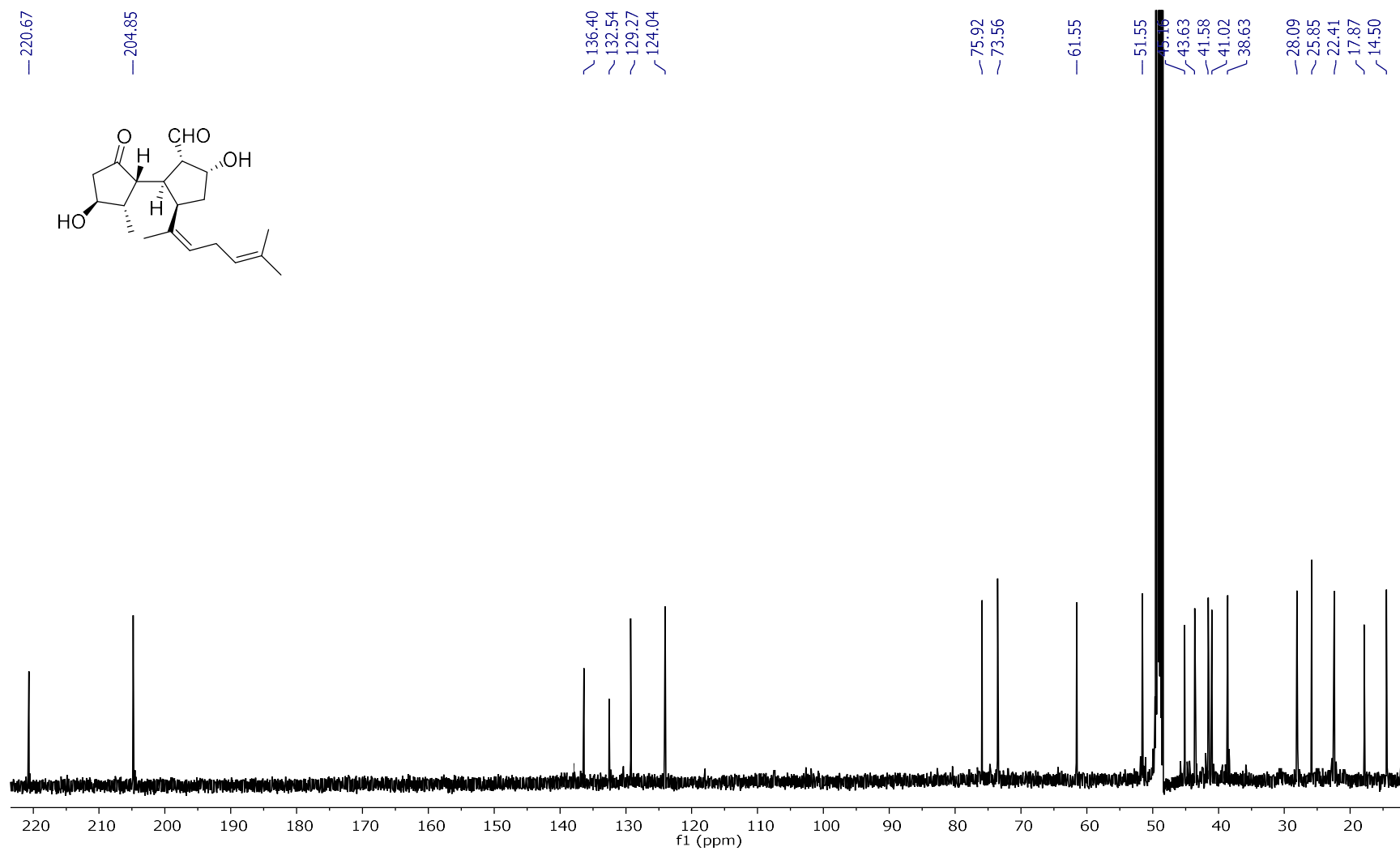
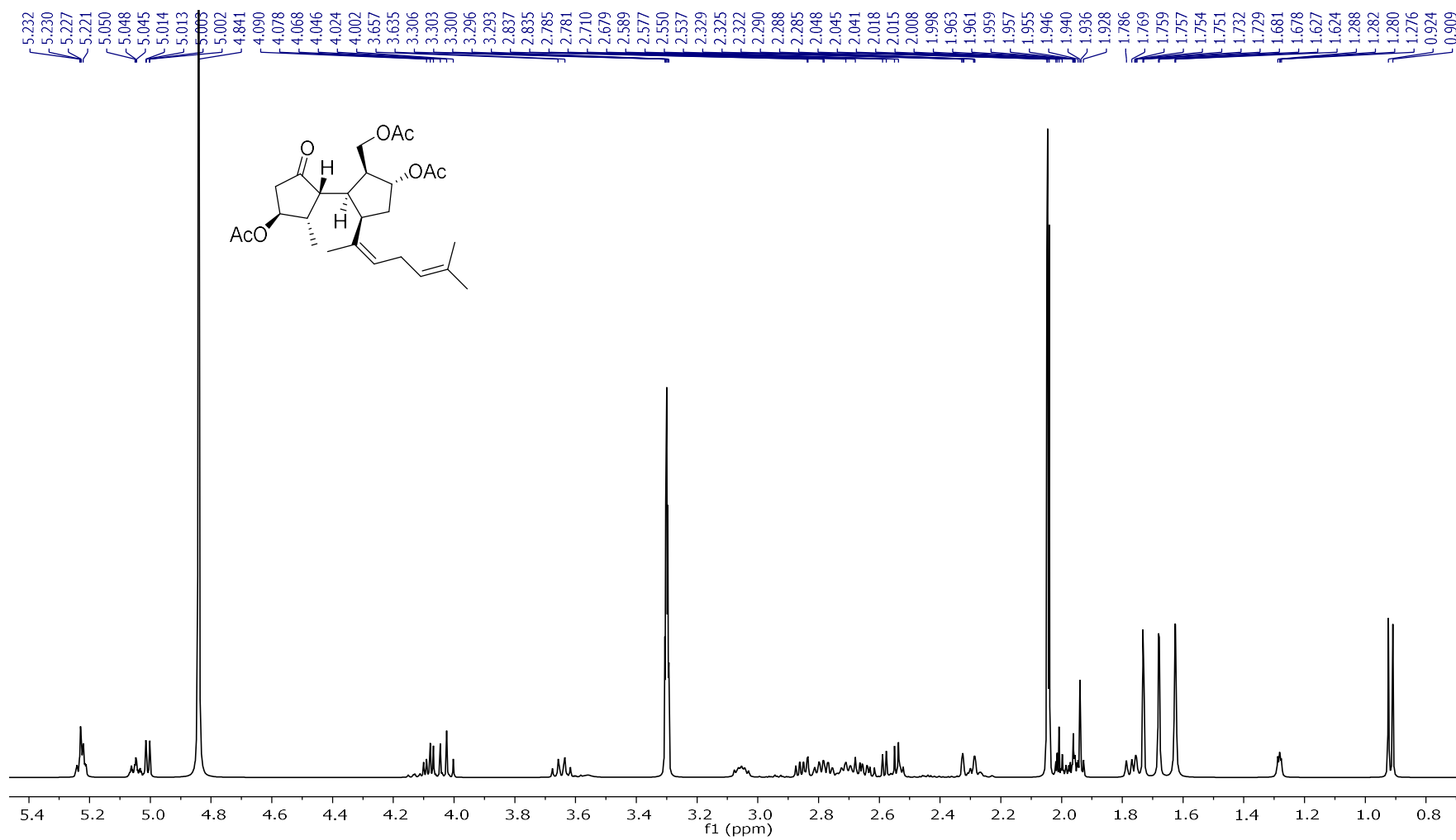
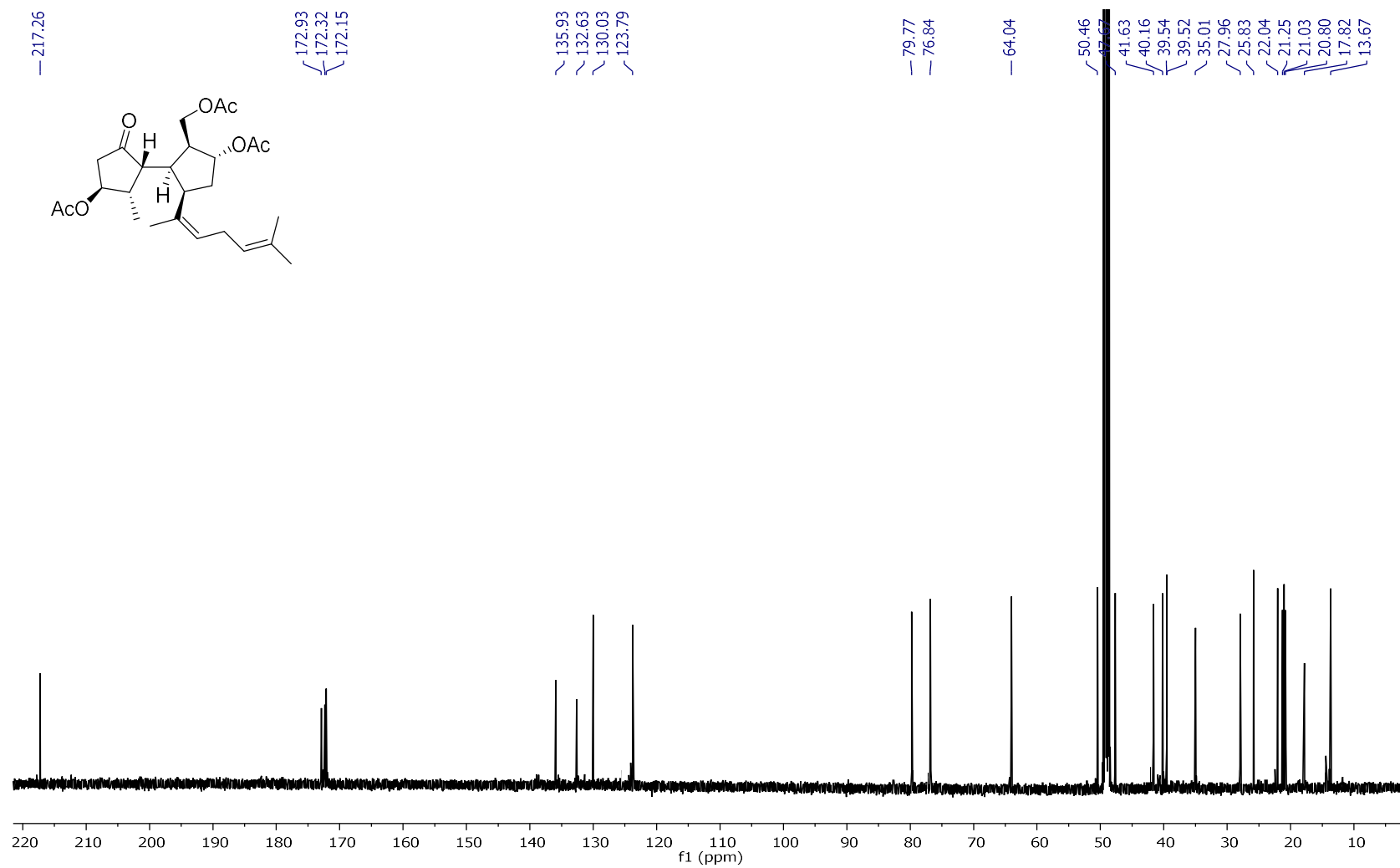


Figure S8. ^{13}C NMR spectrum (125 MHz, CD_3OD) of rugukamural C (4)



S9

Figure S9. ¹H NMR spectrum (500 MHz, CD₃OD) of ruguloptone A (5)



S10

Figure S10. ^{13}C NMR spectrum (125 MHz, CD_3OD) of ruguloptone A (5)

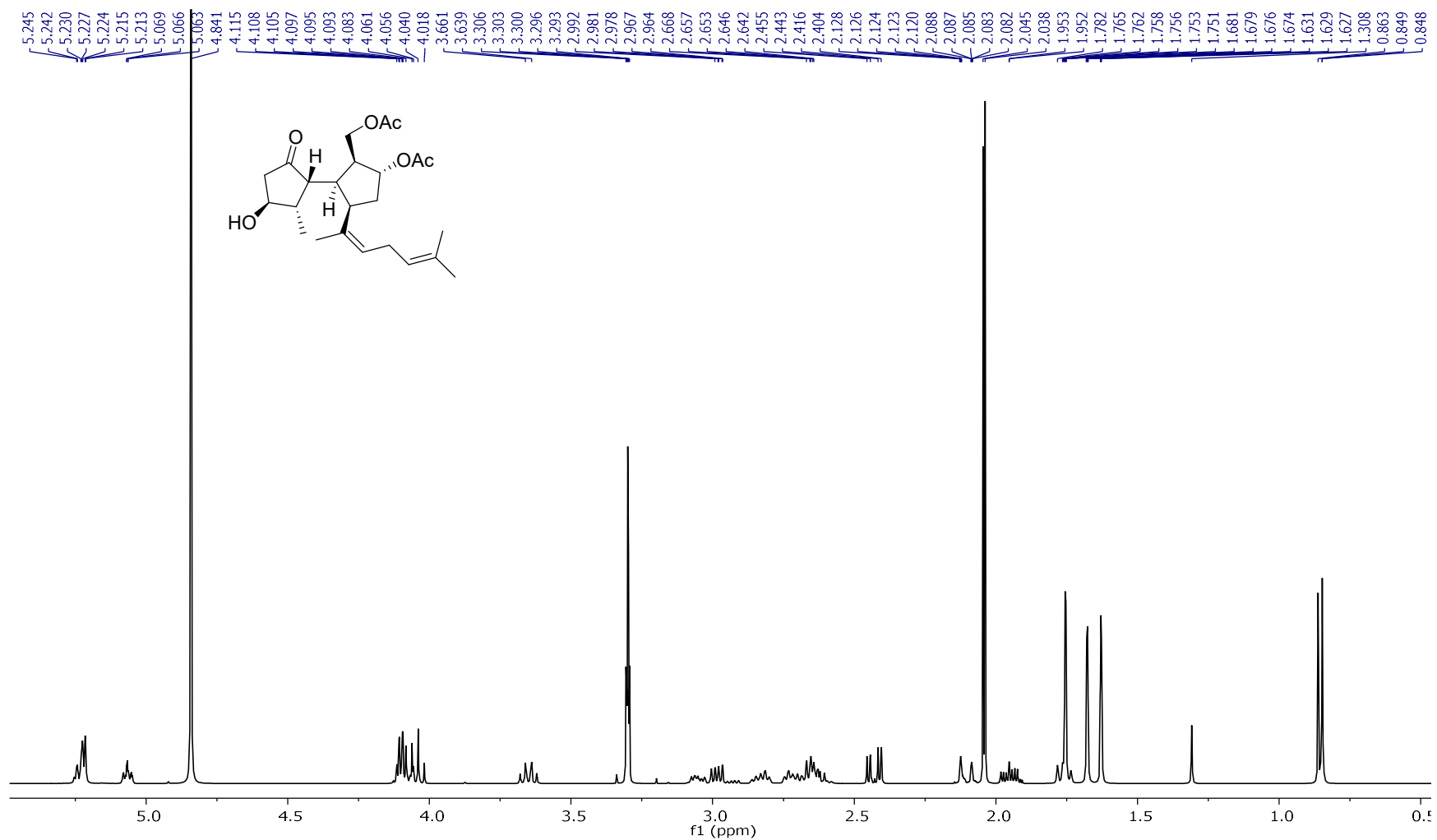
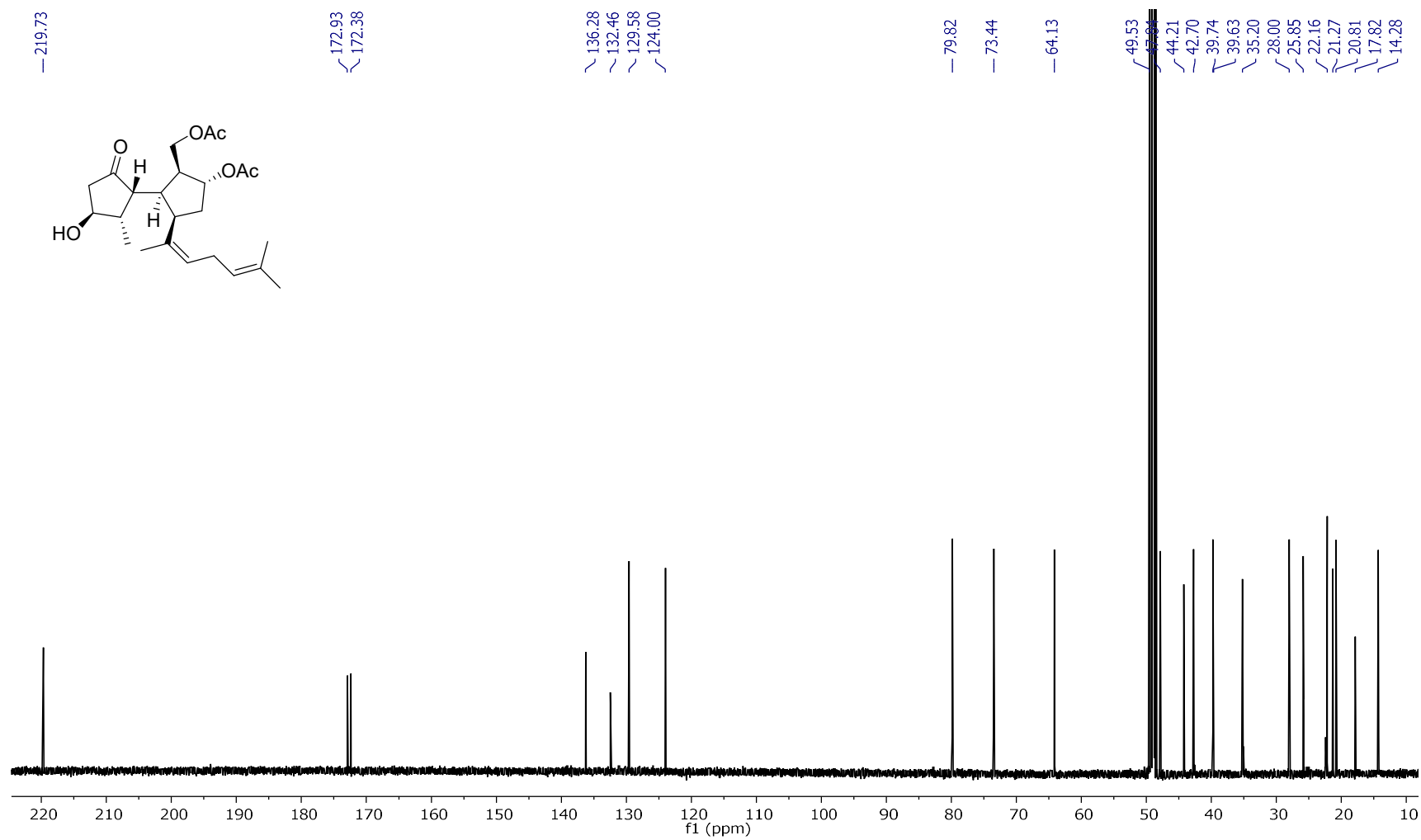


Figure S11. ^1H NMR spectrum (500 MHz, CD_3OD) of ruguloptone B (6)



S12

Figure S12. ^{13}C NMR spectrum (125 MHz, CD_3OD) of ruguloptone B (**6**)

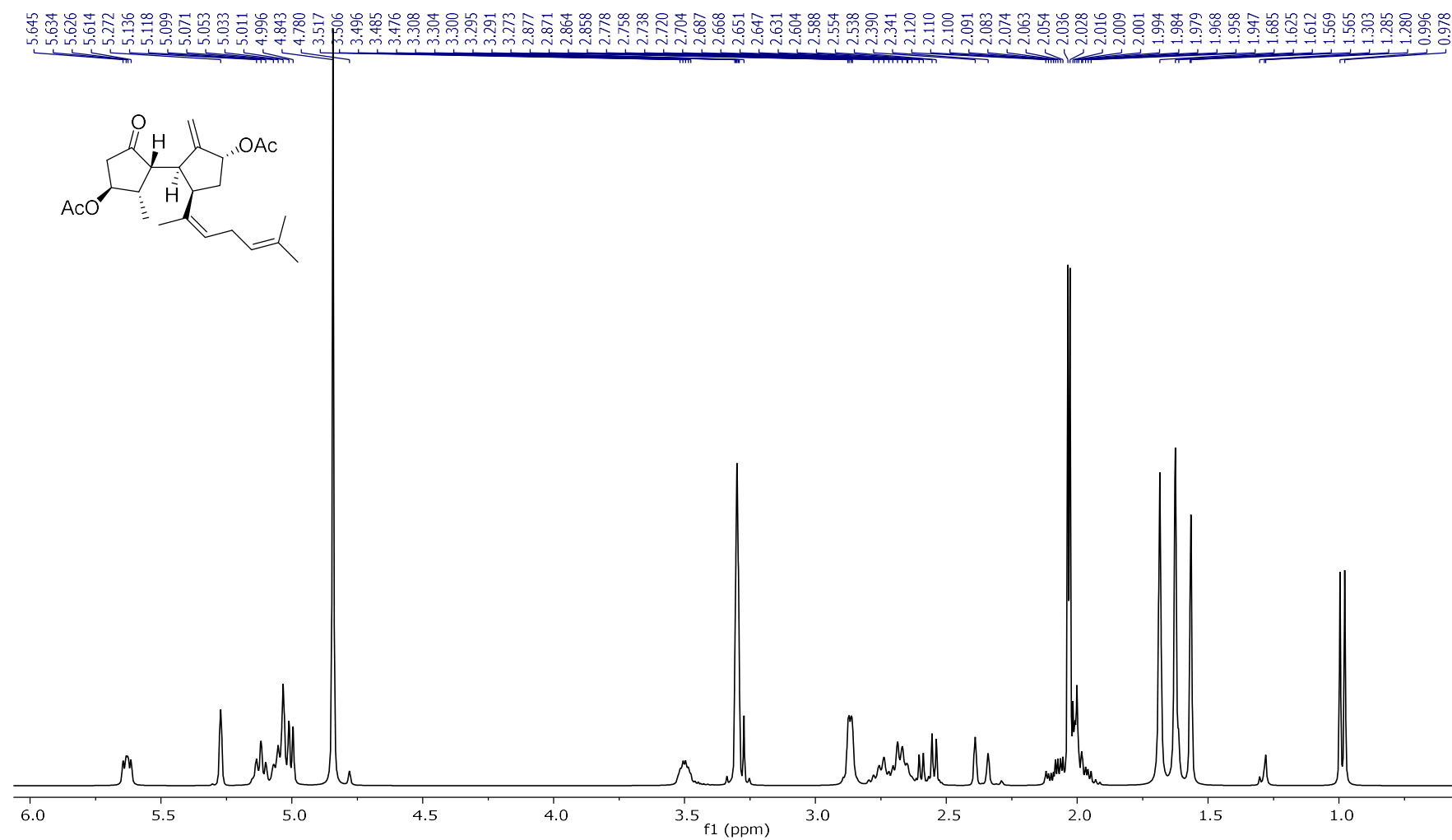
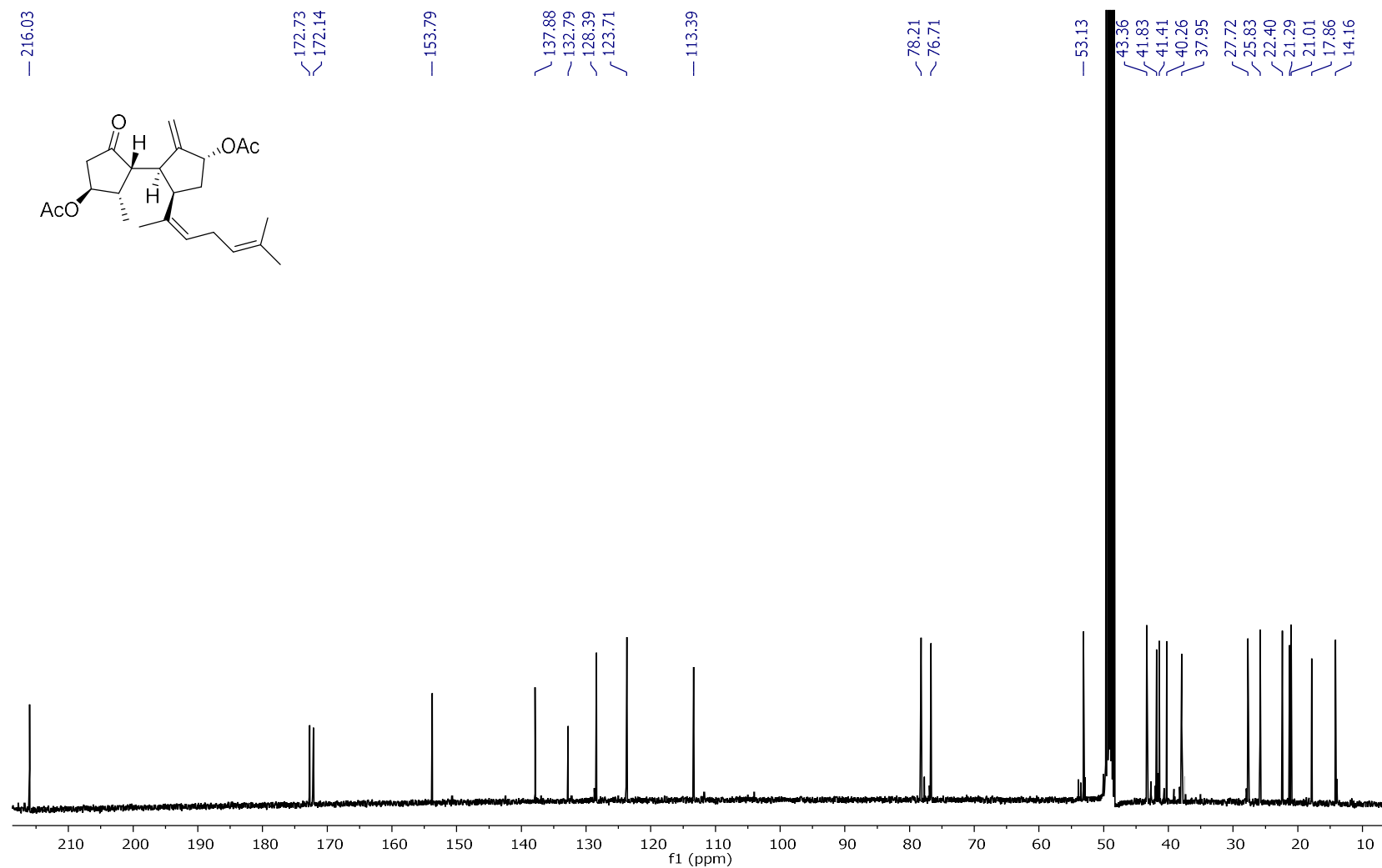


Figure S13. ¹H NMR spectrum (500 MHz, CD₃OD) of ruguloptone C (7)



S14

Figure S14. ¹³C NMR spectrum (125 MHz, CD₃OD) of ruguloptone C (7)

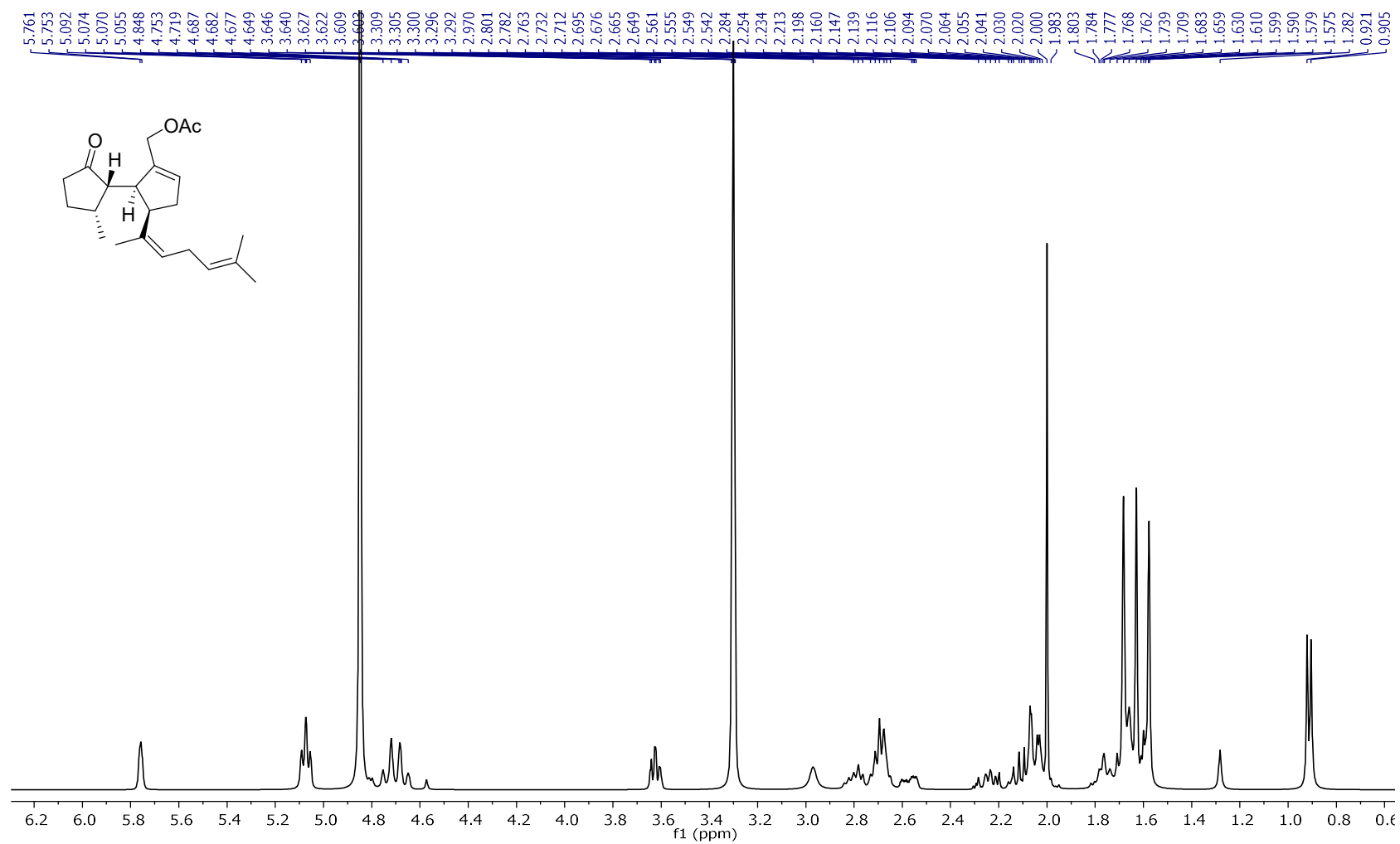
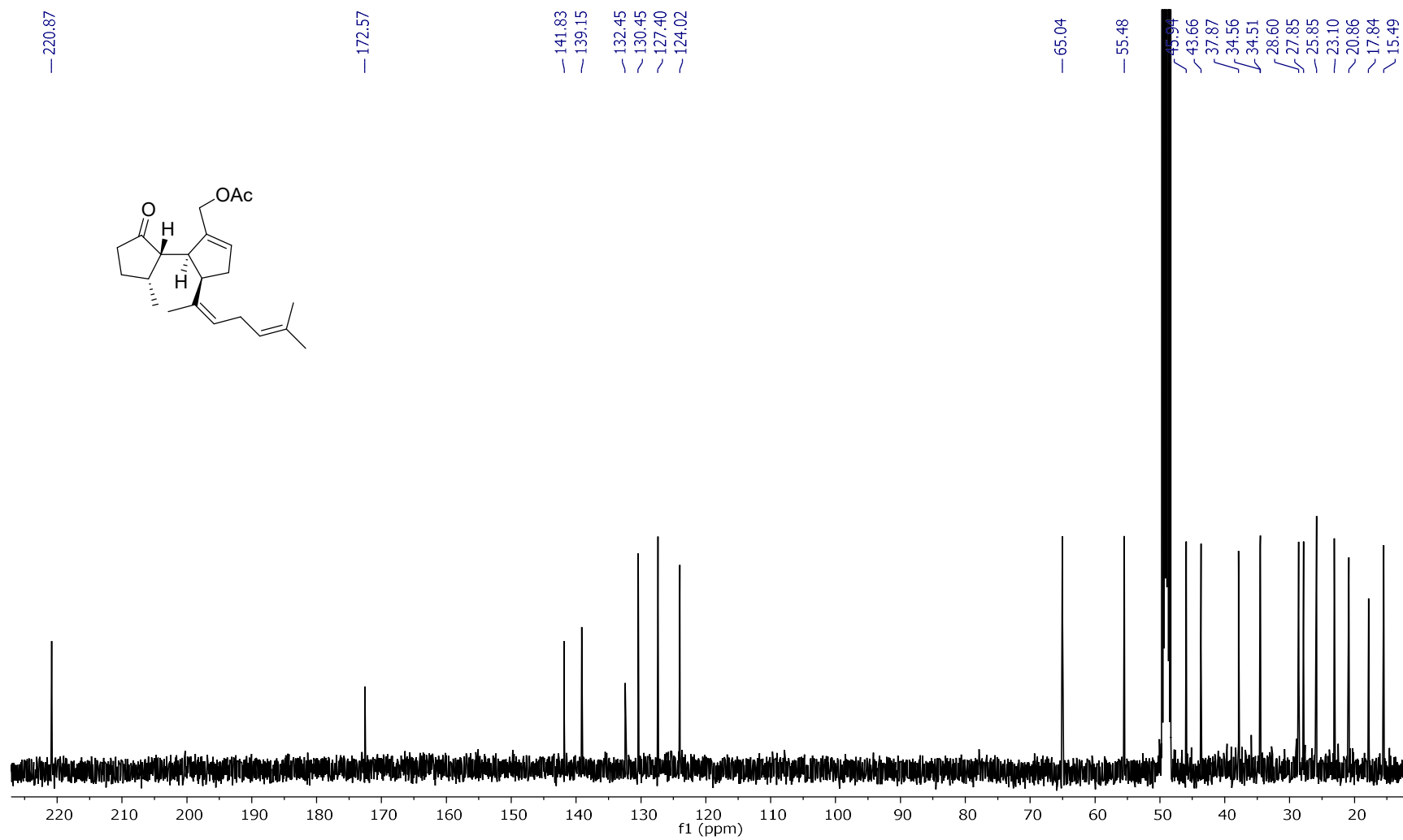


Figure S15. ^1H NMR spectrum (500 MHz, CD_3OD) of ruguloptone D (8)



S16

Figure S16. ¹³C NMR spectrum (125 MHz, CD₃OD) of ruguloptone B (8)

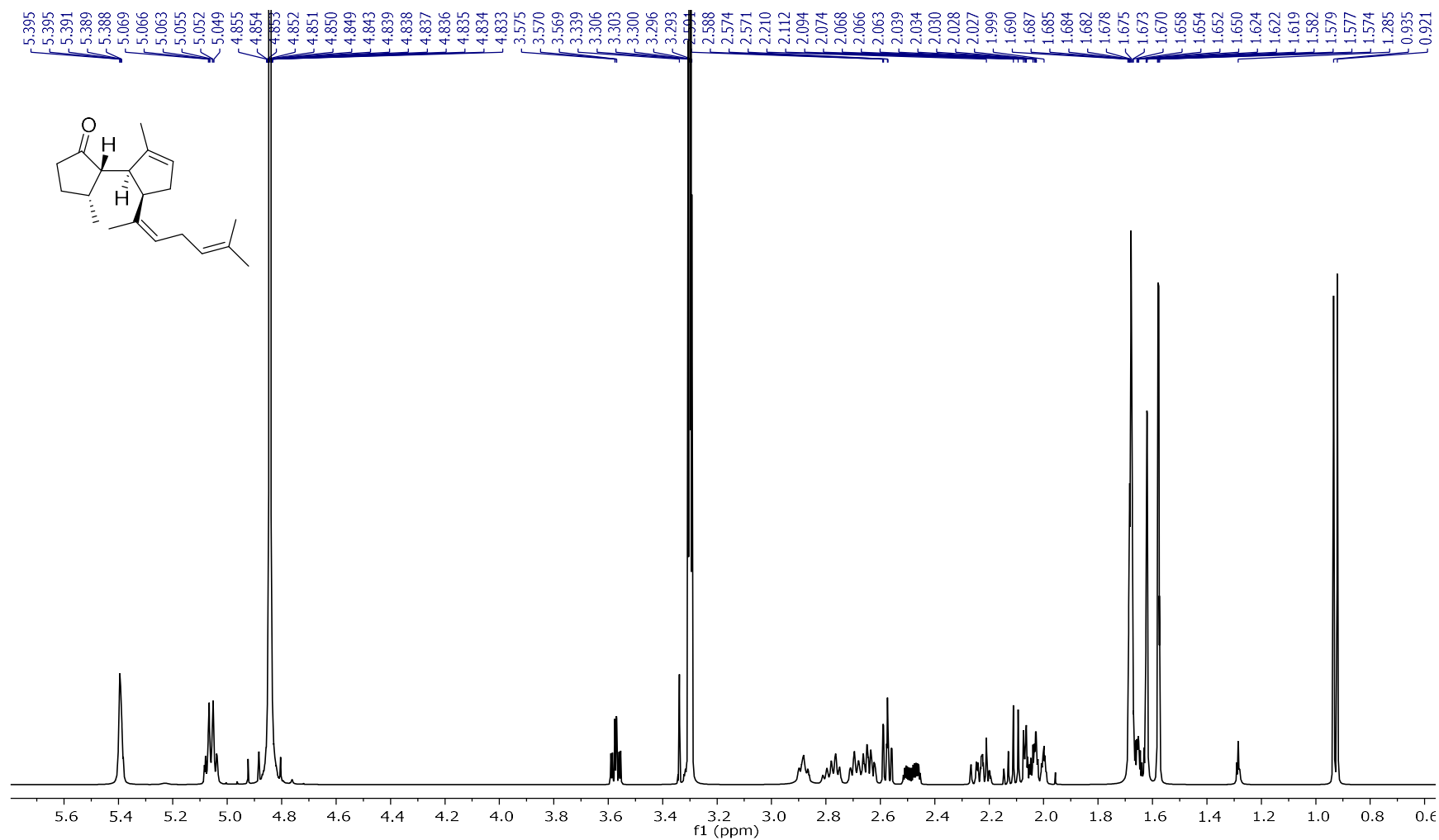


Figure S17. ^1H NMR spectrum (500 MHz, CD_3OD) of ruguloptone E (9)

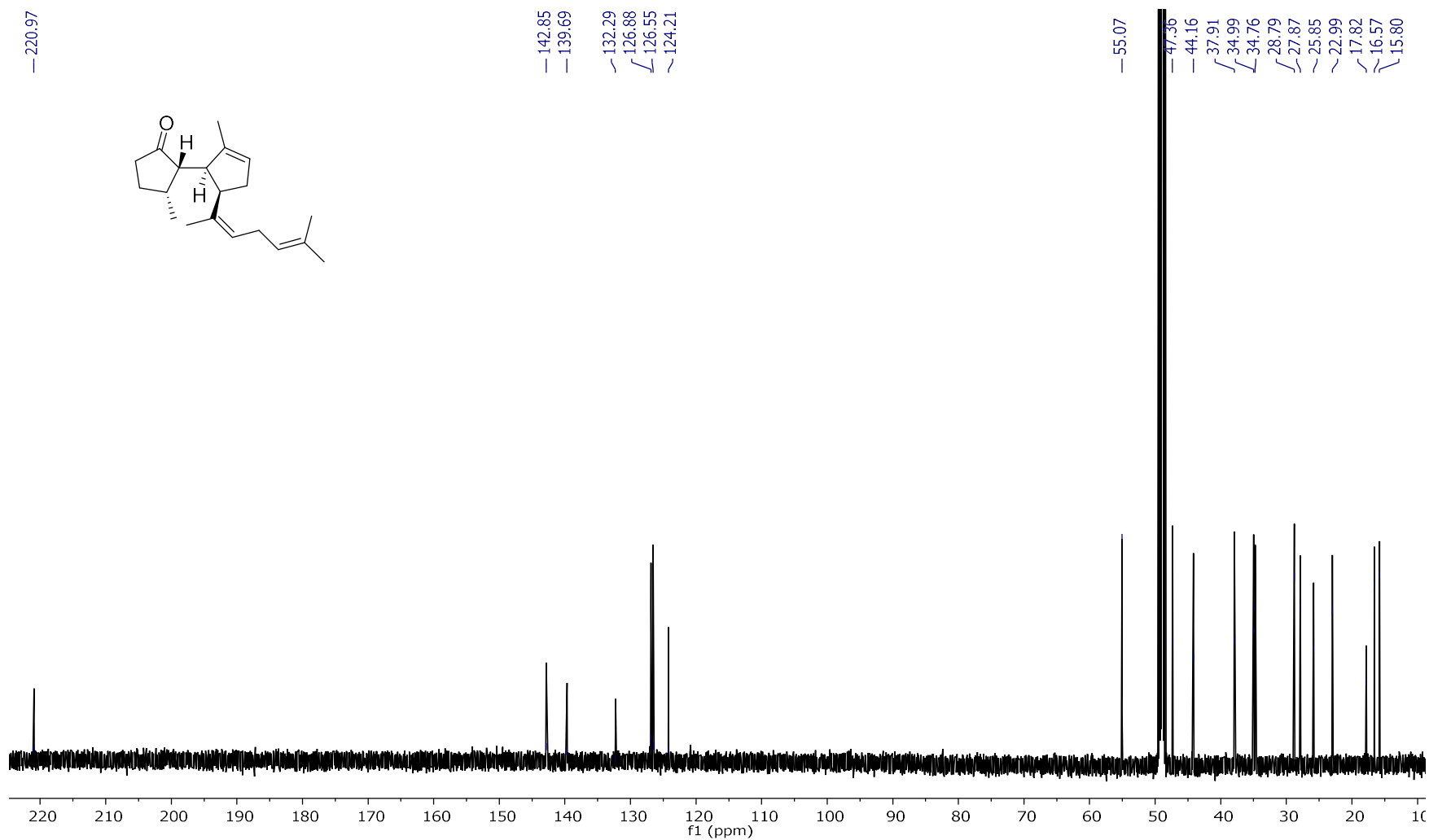


Figure S18. ¹³C NMR spectrum (125 MHz, CD₃OD) of ruguloptone E (9)

S19

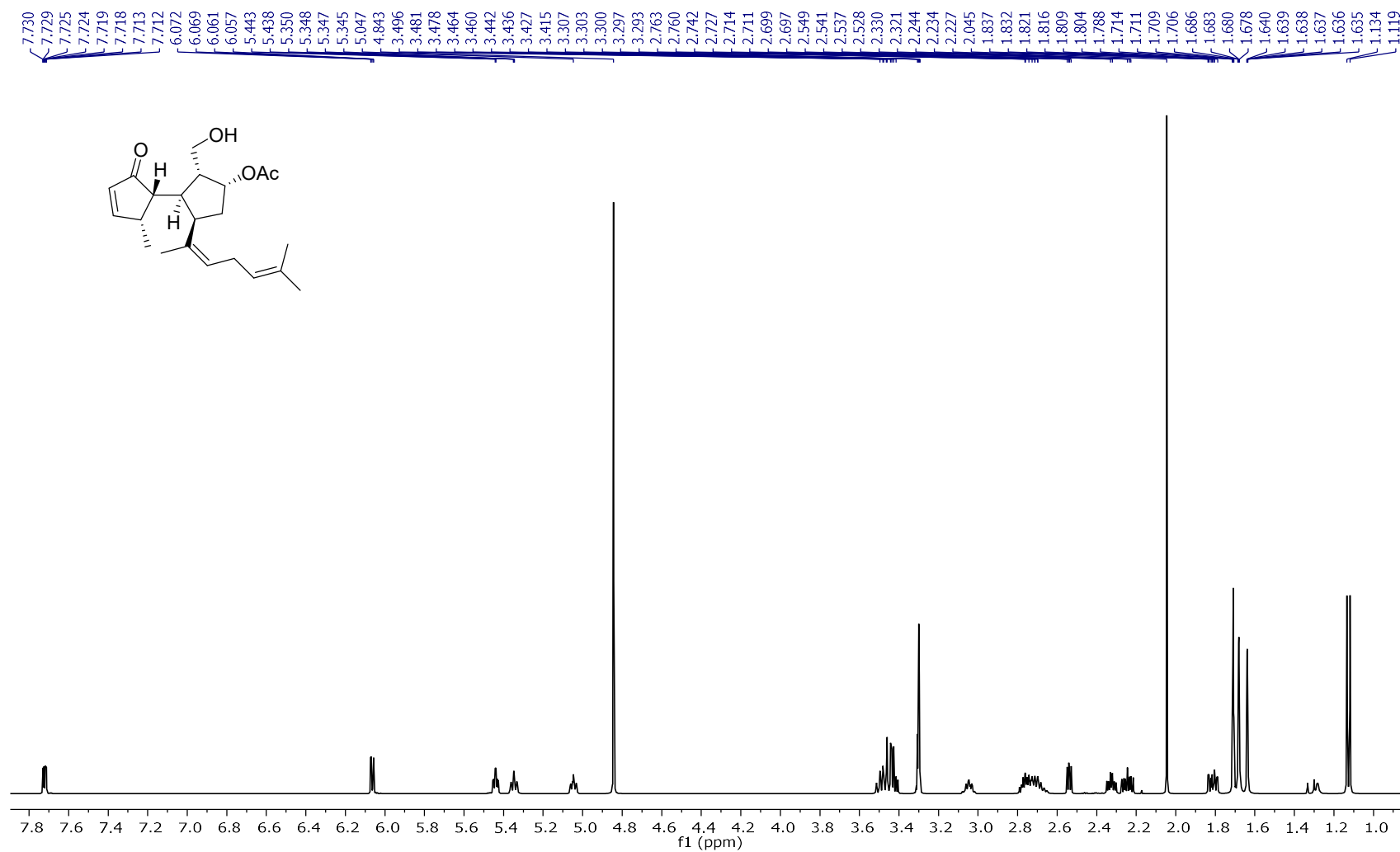
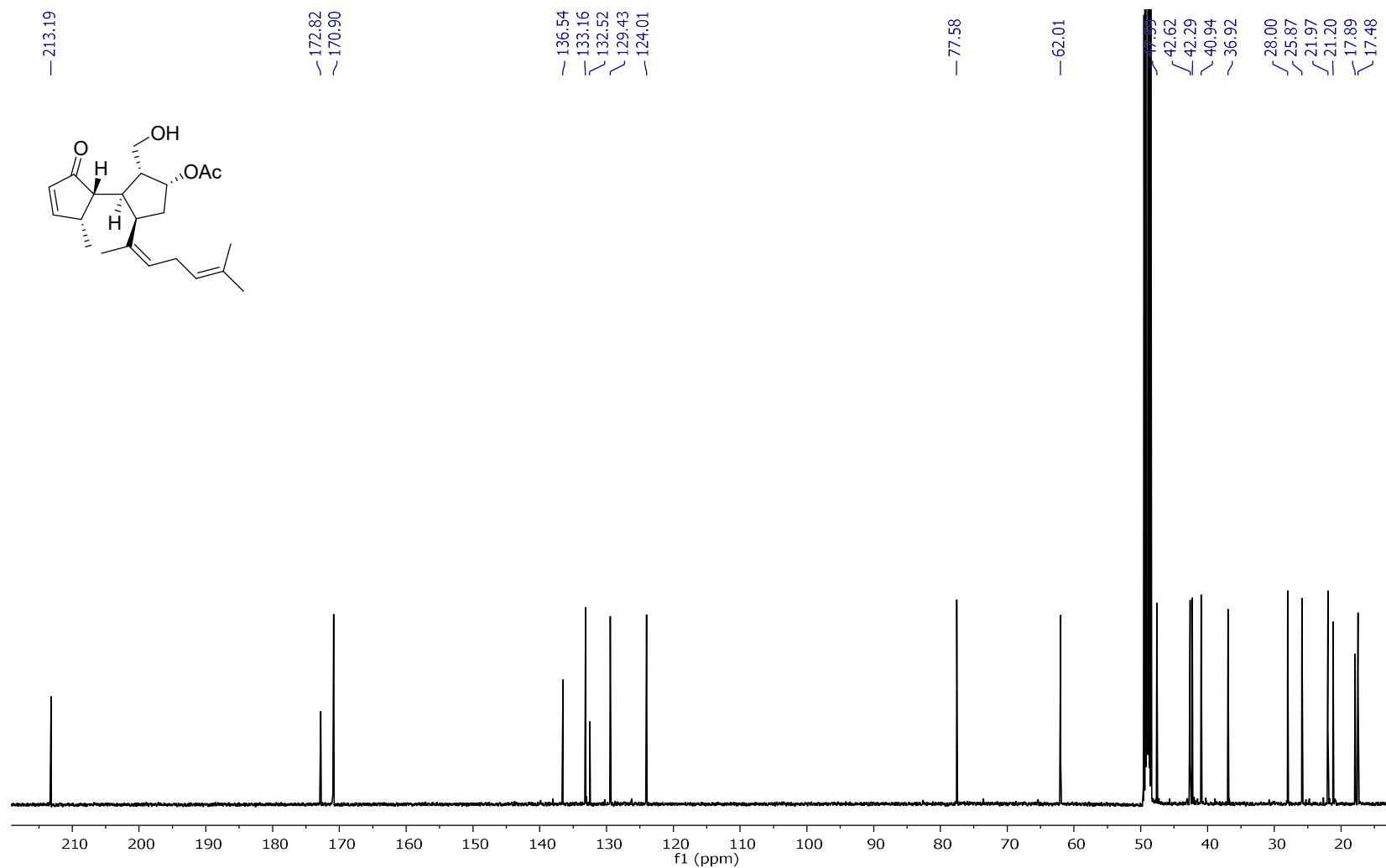


Figure S19. ¹H NMR spectrum (500 MHz, CD₃OD) of ruguloptone F (10)



S20

Figure S20. ¹³C NMR spectrum (125 MHz, CD₃OD) of ruguloptone F (10)

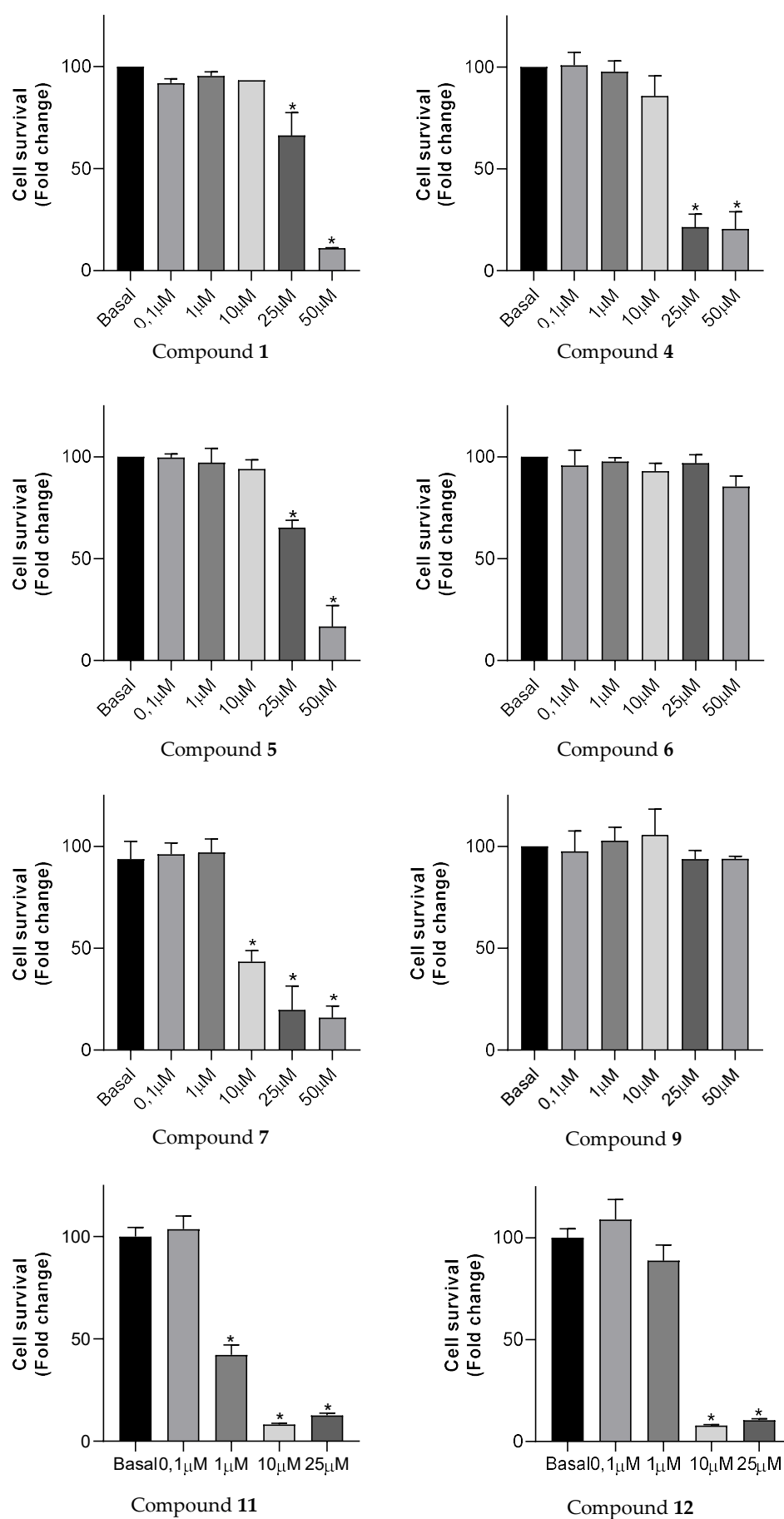


Figure S21. Dose-response cell viability of Bv.2 cells was determined by cristal violet assay. Colorimetric quantification was performed, and the results are mean \pm SD ($n \geq 3$ independent experiments performed in duplicate). Significant differences were determined by two way ANOVA followed by Bonferroni t-test $*p \leq 0.05$ vs Basal.

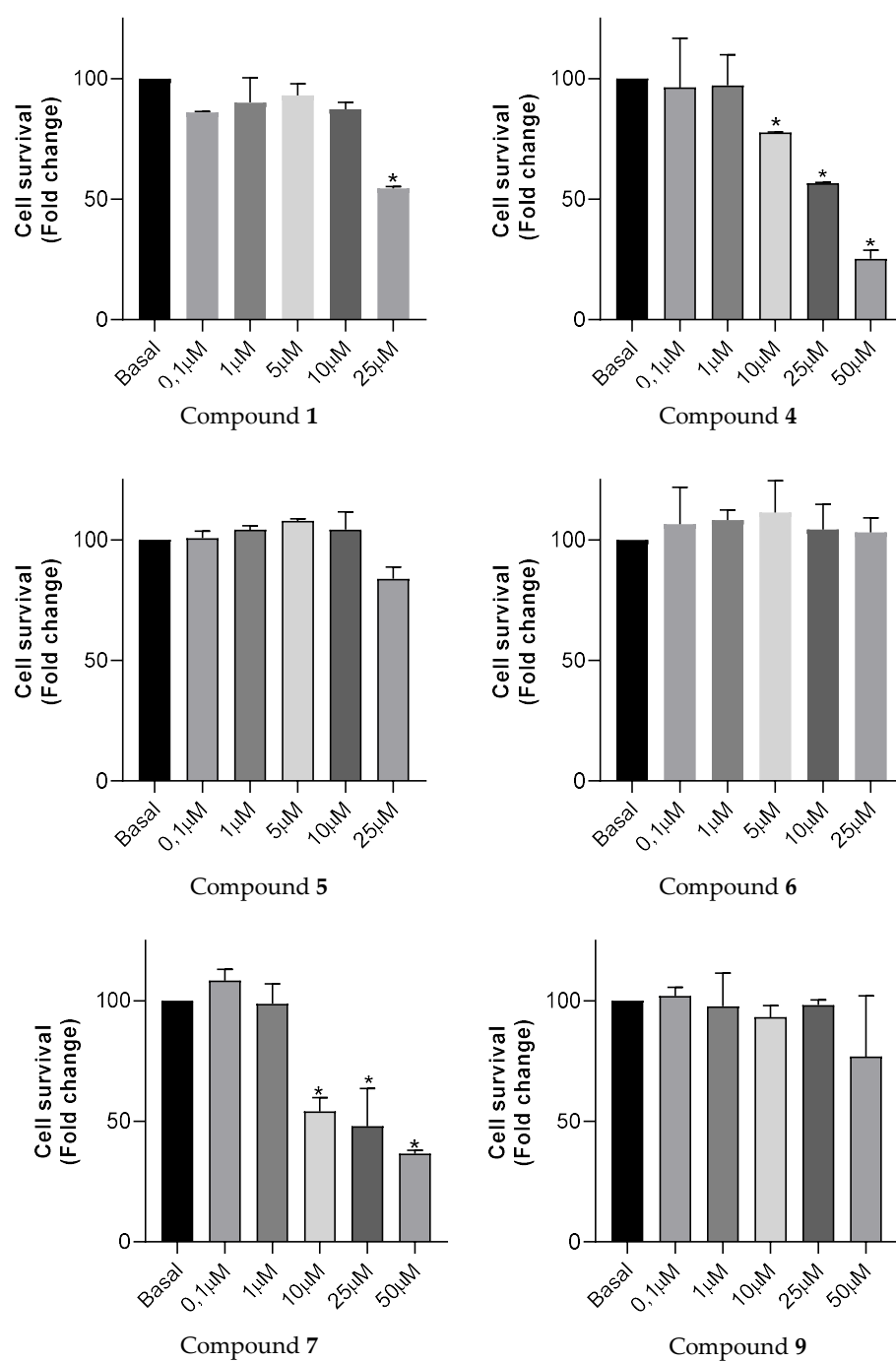


Figure S22. Dose-response cell viability of RAW 264.7 cells was determined by cristal violet assay. Colorimetric quantification was performed, and the results are mean \pm SD ($n \geq 3$ independent experiments performed in duplicate). Significant differences were determined by two way ANOVA followed by Bonferroni t-test $*p \leq 0.05$ vs Basal.