

New Methods for the Synthesis of Spirocyclic Cephalosporin Analogues

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Raw data files for 1D and 2D NMR spectra, for compounds **5** and **13-26** can be found at <https://doi.org/10.7488/ds/3144>

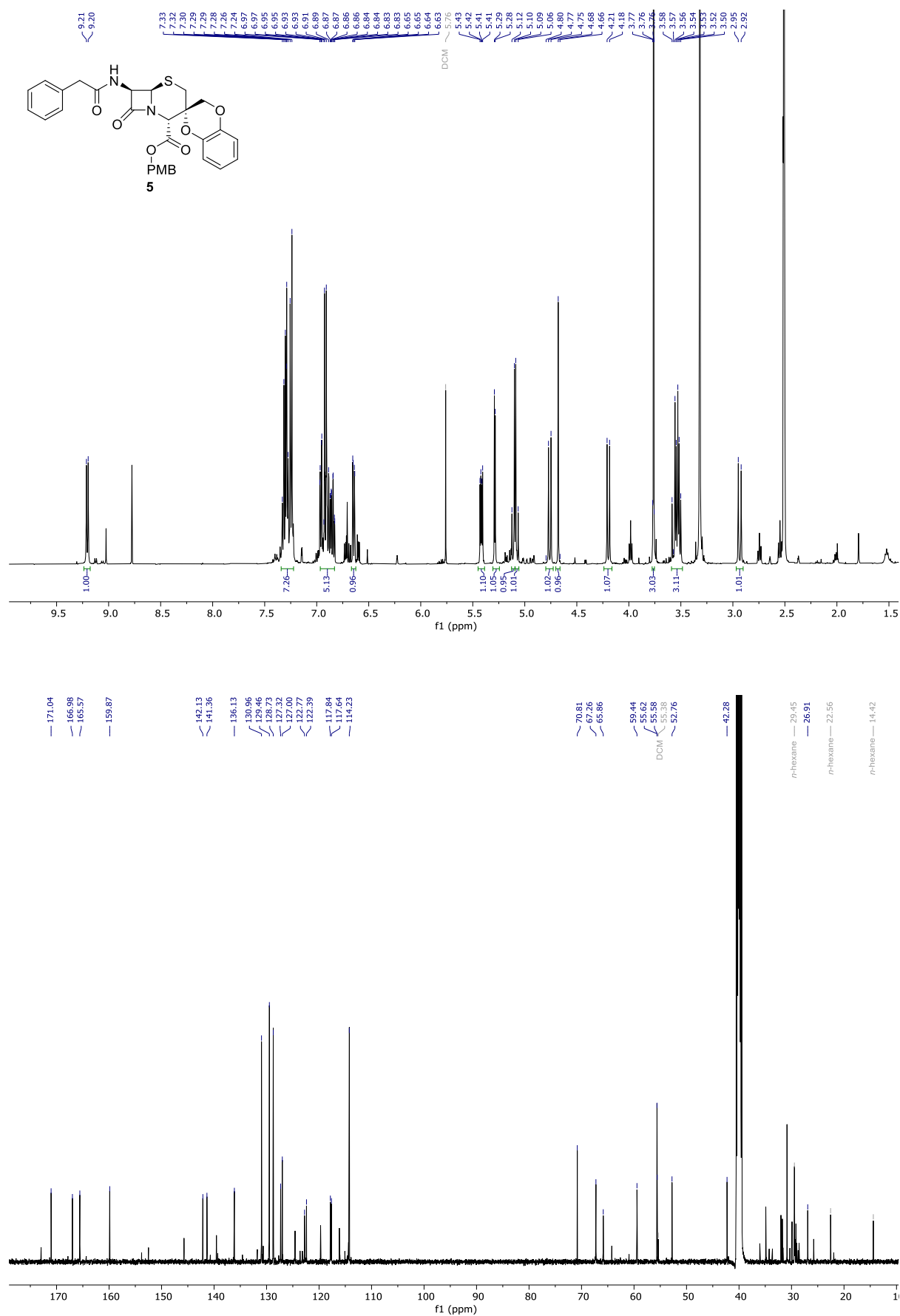


Figure S1. ^1H (top) and ^{13}C NMR (bottom) spectra of spiro-compound **5**.

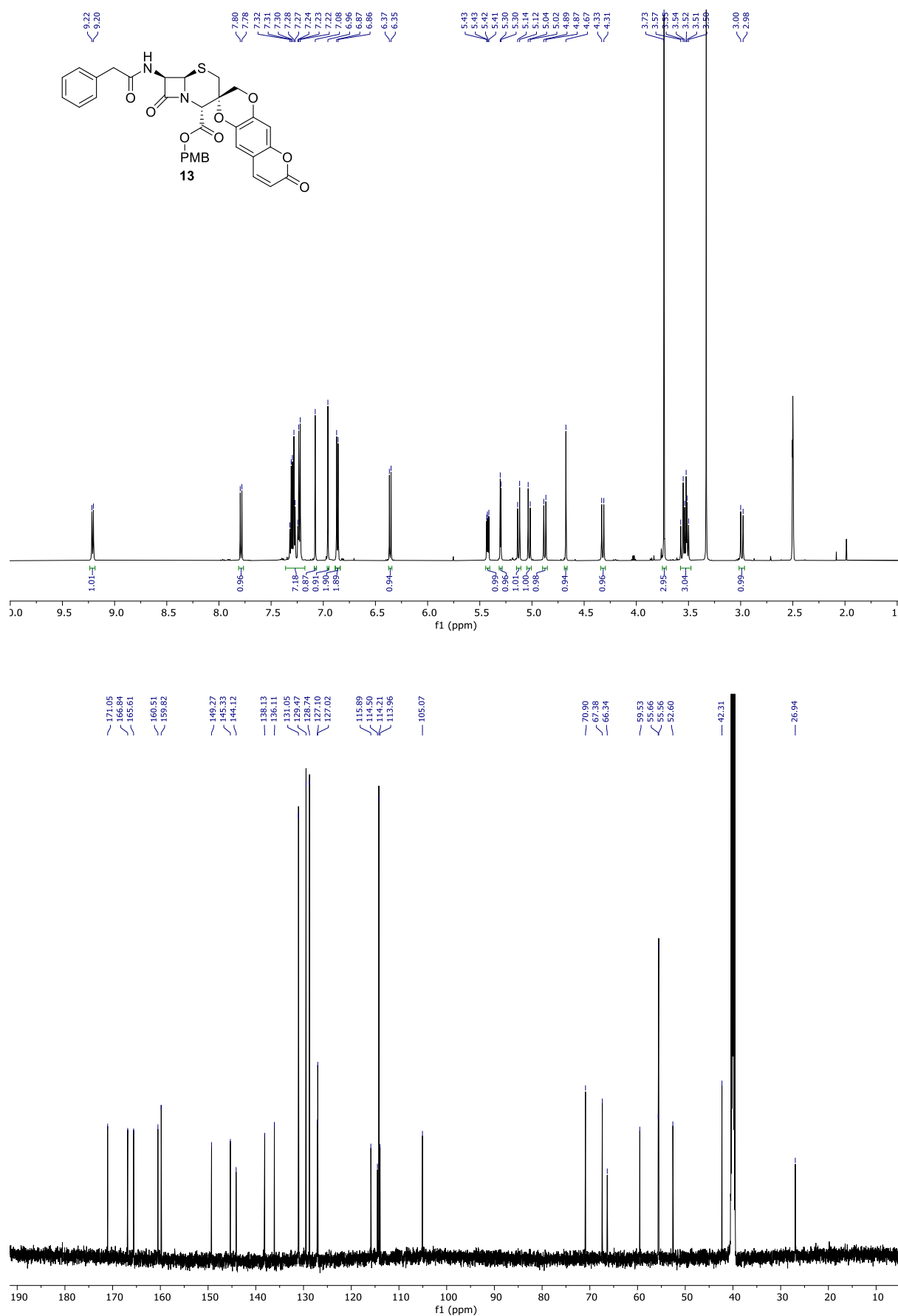


Figure S2. ^1H (top) and ^{13}C NMR (bottom) spectra of spiro-compound **13**.

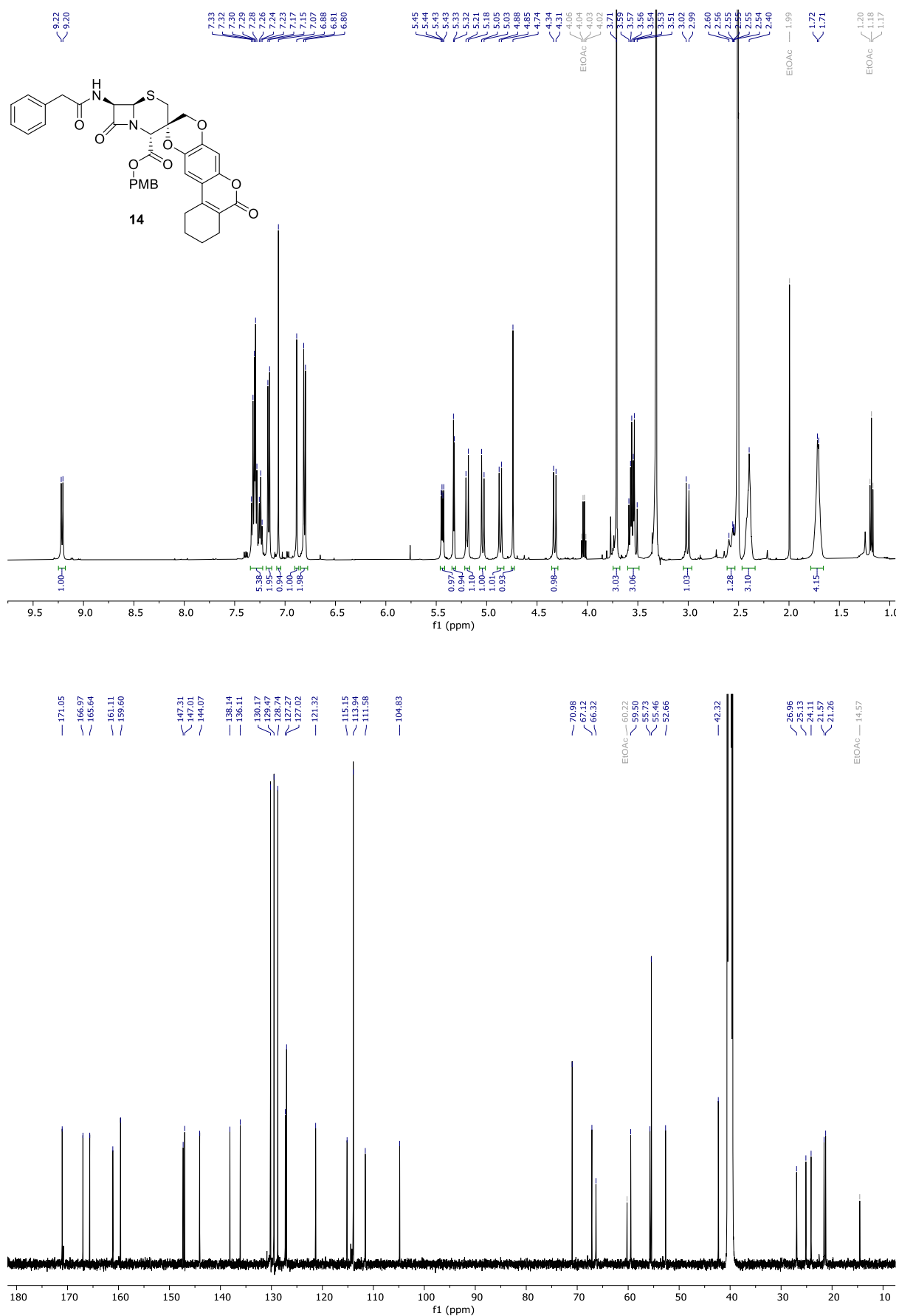


Figure S3. ^1H (top) and ^{13}C NMR (bottom) spectra of spiro-compound **14**.

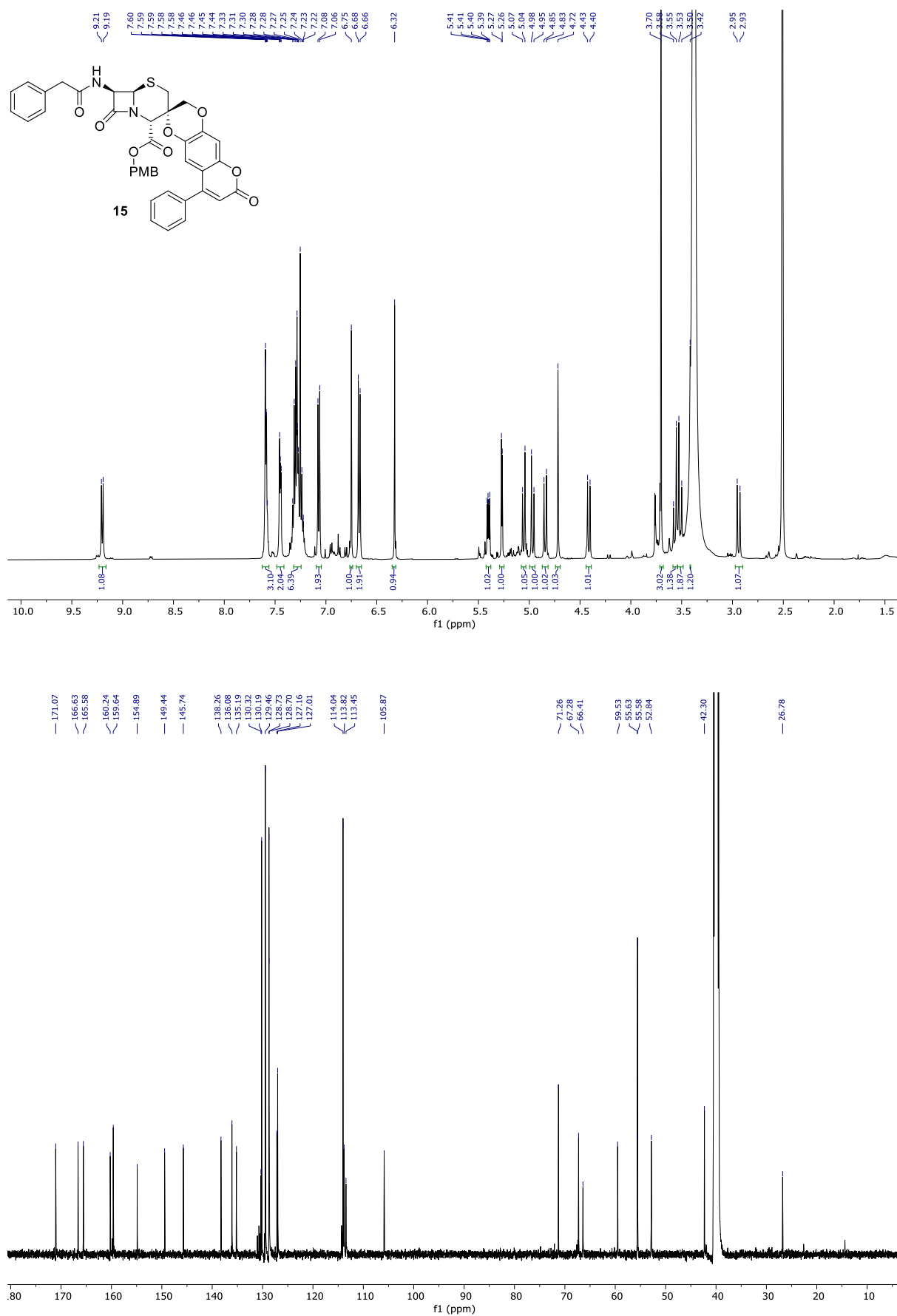


Figure S4. ¹H (top) and ¹³C NMR (bottom) spectra of spiro-compound **15**.

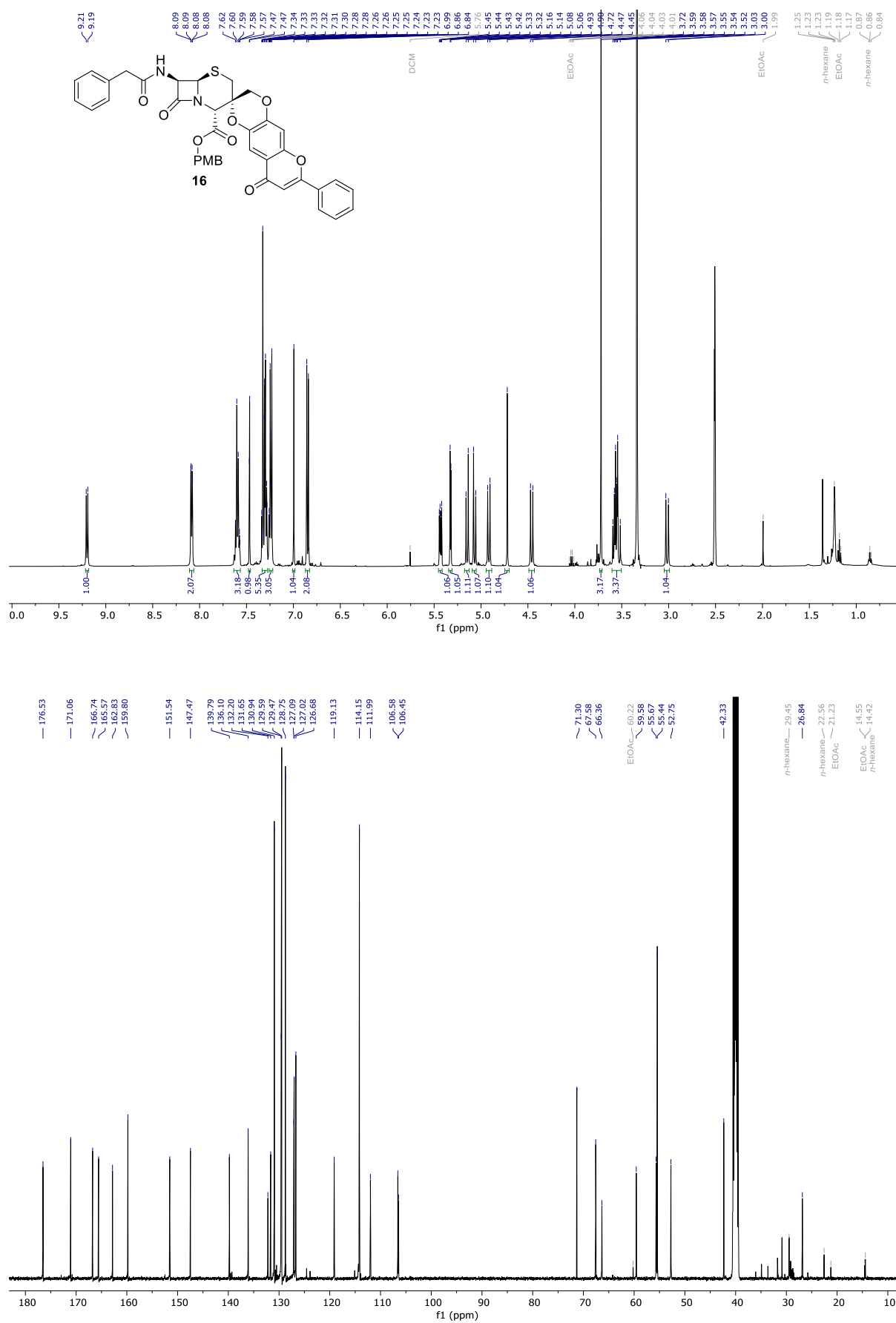


Figure S5. ¹H (top) and ¹³C NMR (bottom) spectra of spiro-compound 16.

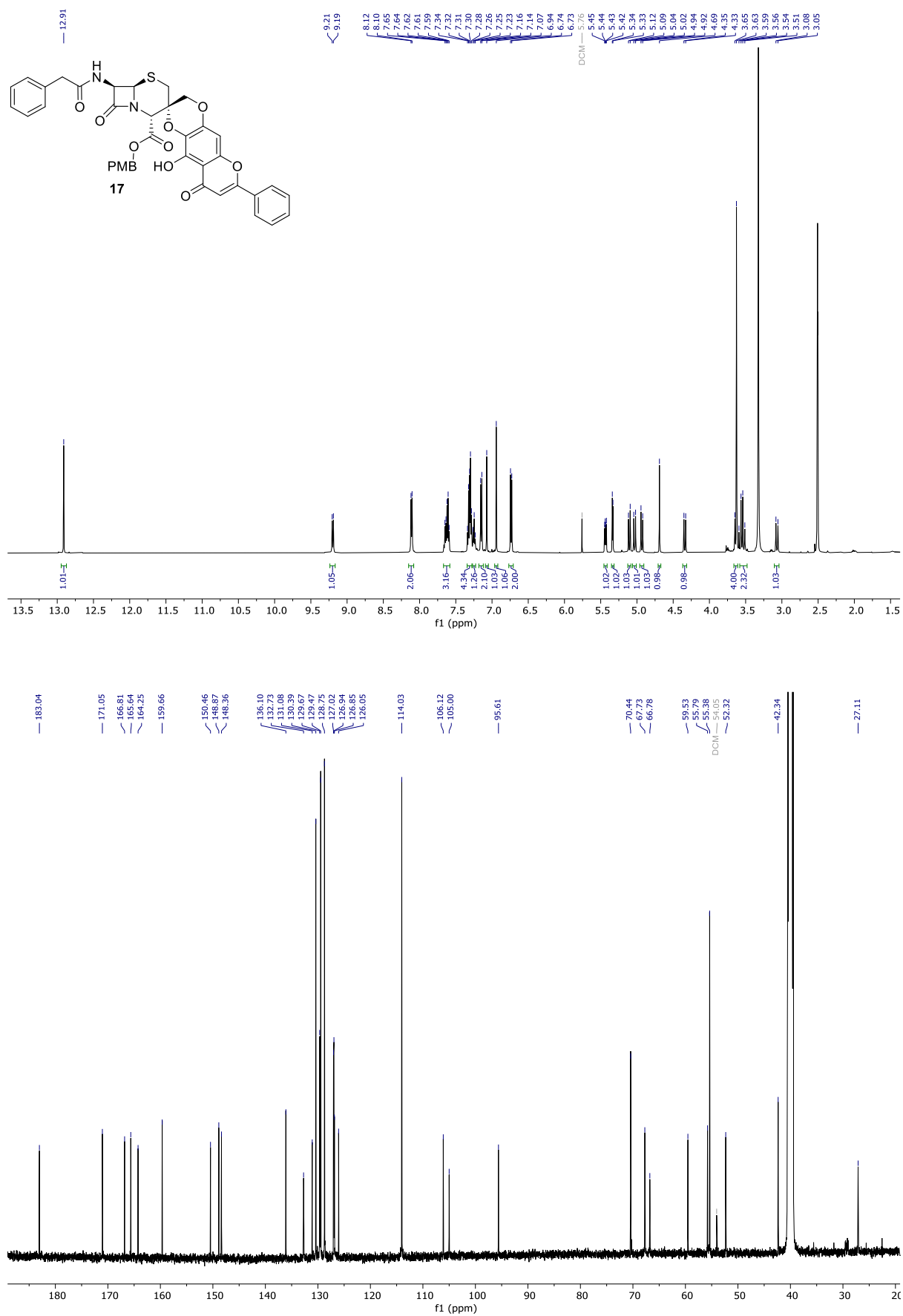


Figure S6. ^1H (top) and ^{13}C NMR (bottom) spectra of spiro-compound **17**.

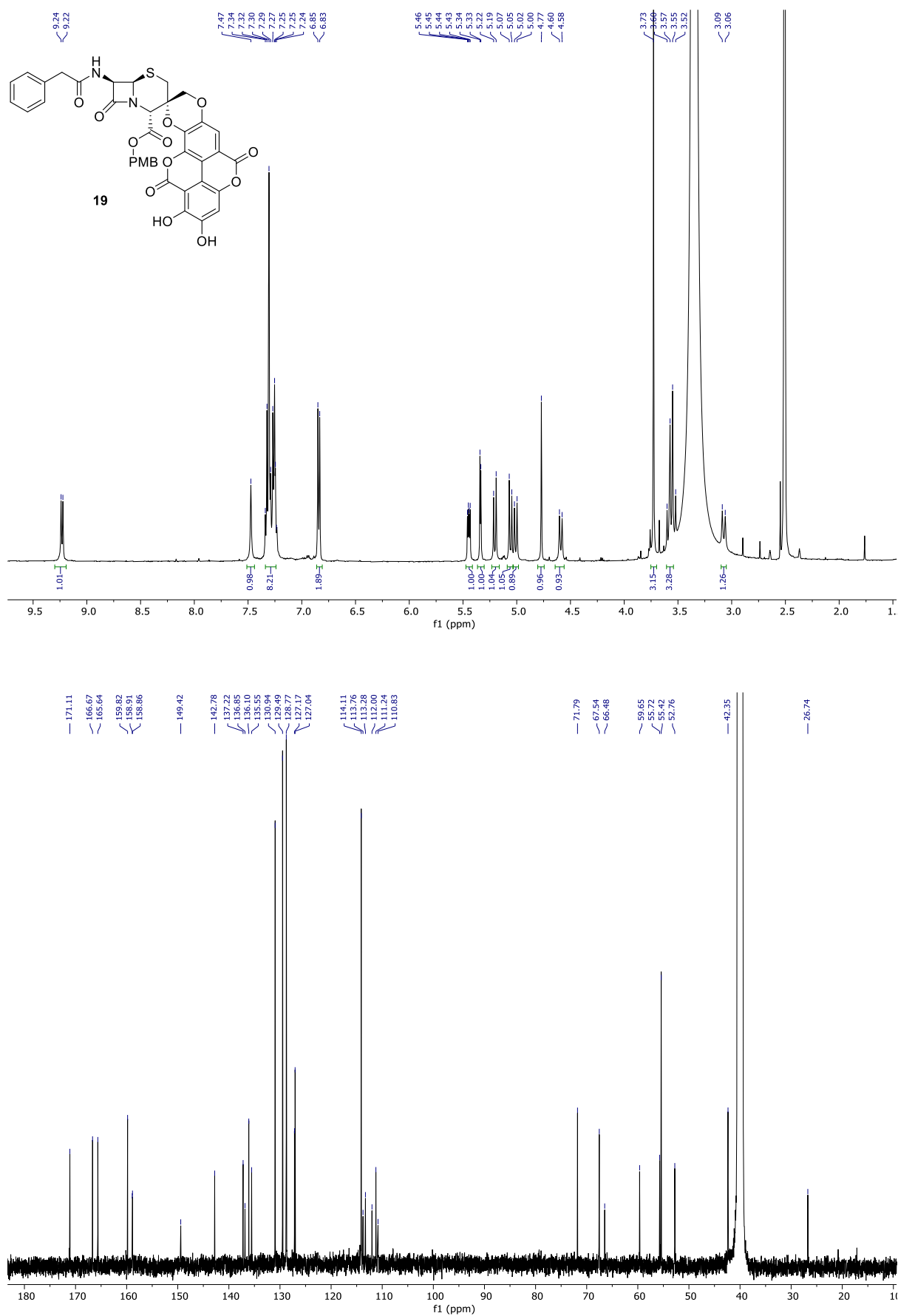


Figure S7. ¹H (top) and ¹³C NMR (bottom) spectra of spiro-compound **19**.

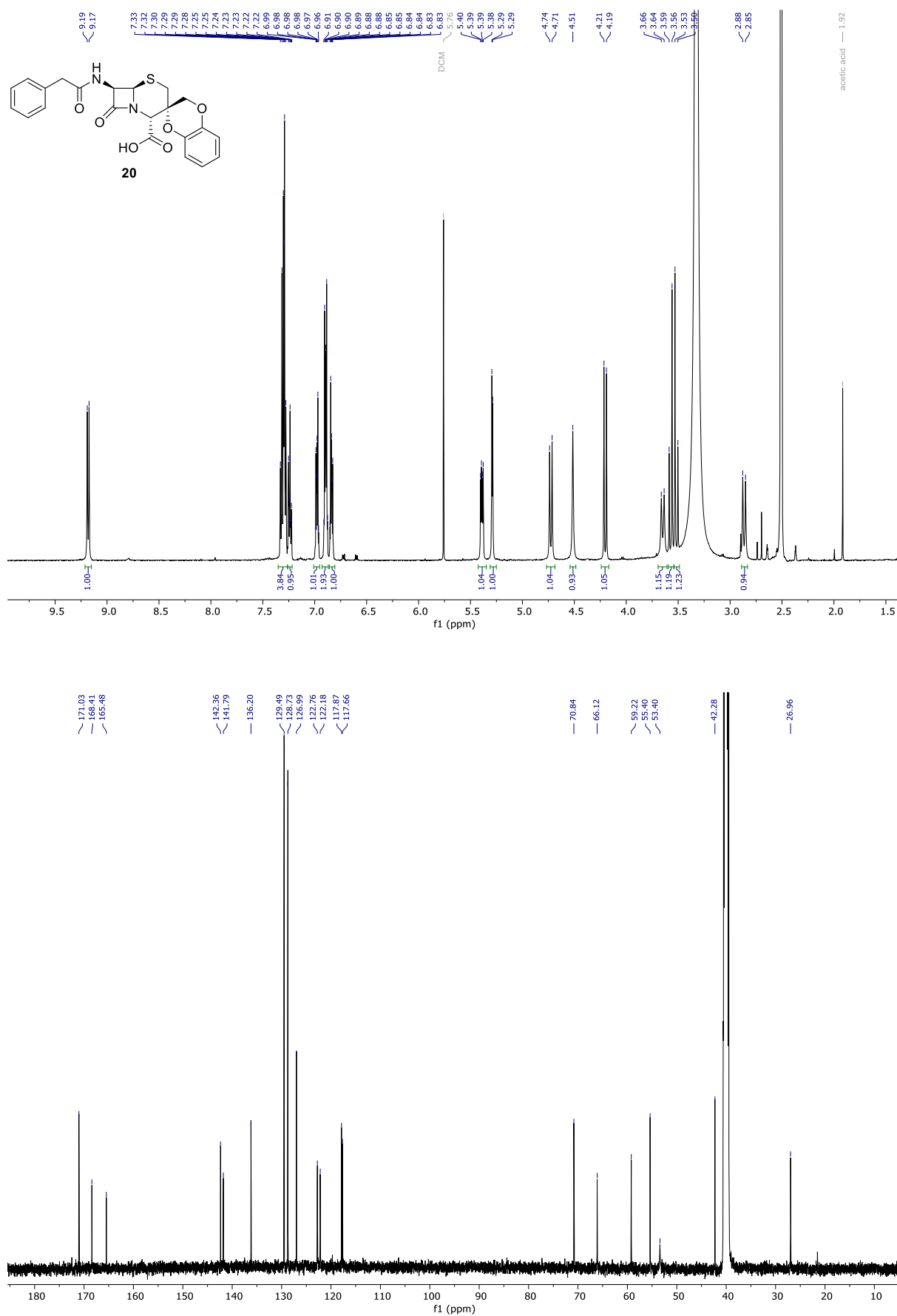


Figure S8. ^1H (top) and ^{13}C NMR (bottom) spectra of spiro-compound **20**.

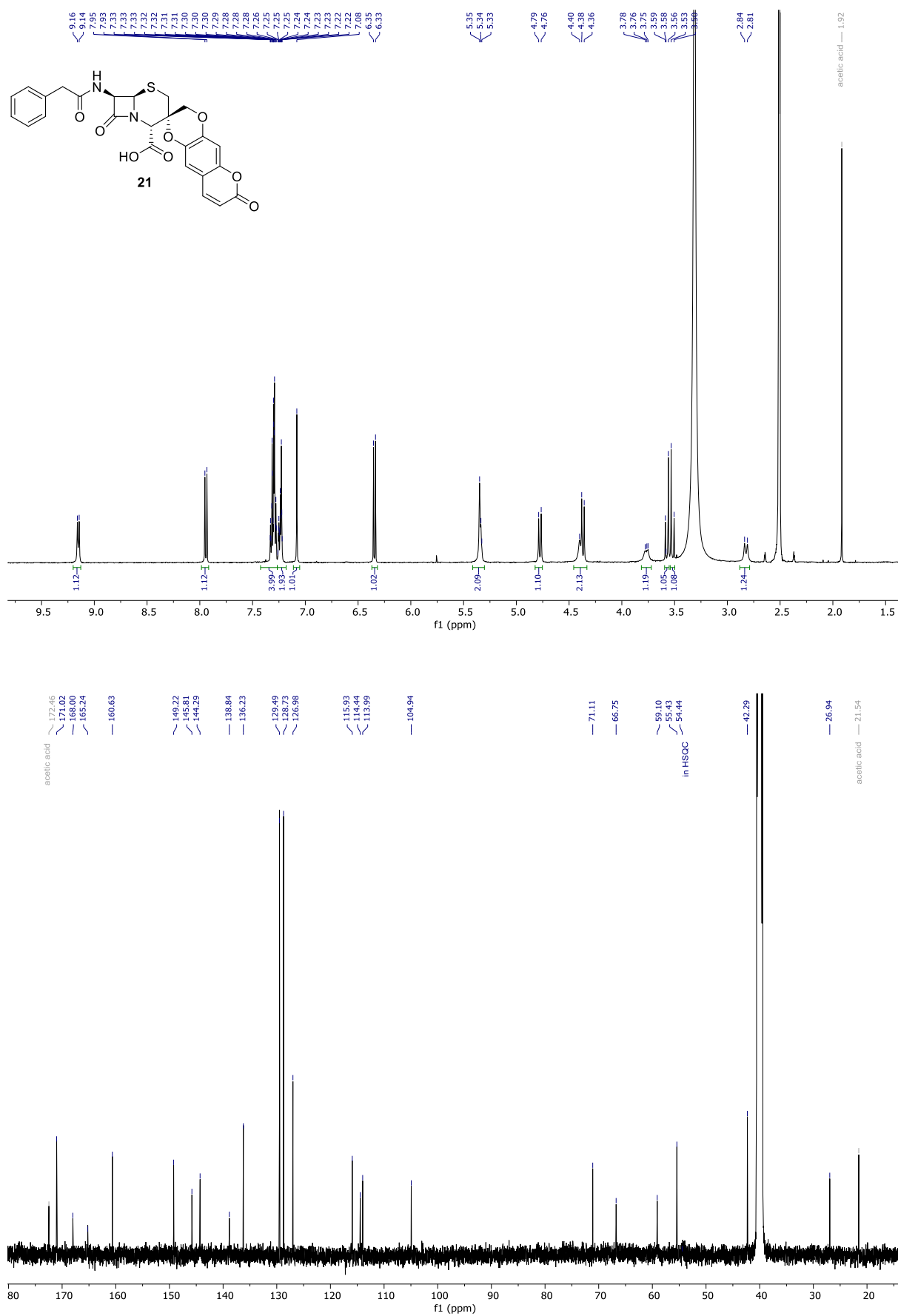


Figure S9. ^1H (top) and ^{13}C NMR (bottom) spectra of spiro-compound **21**.

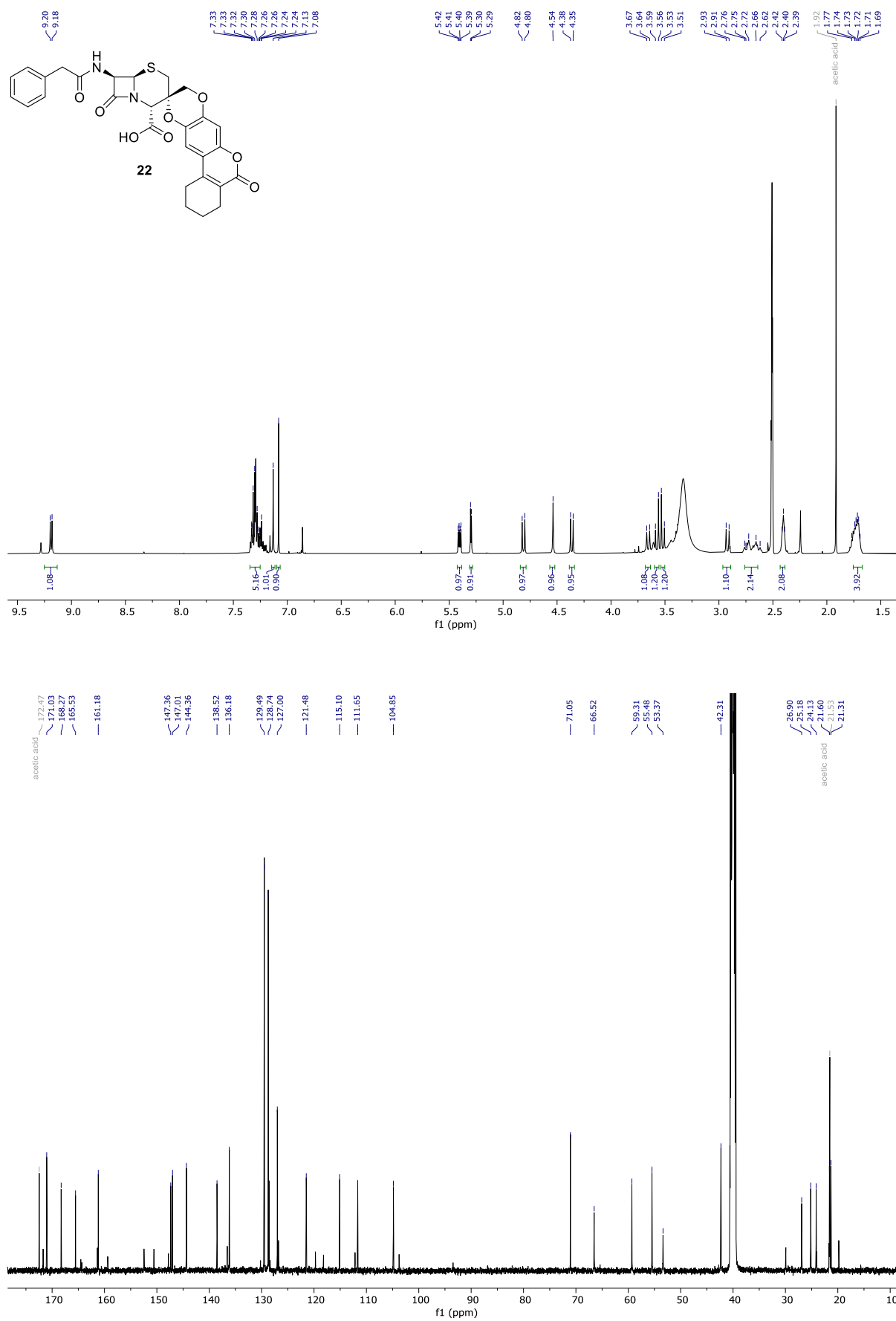
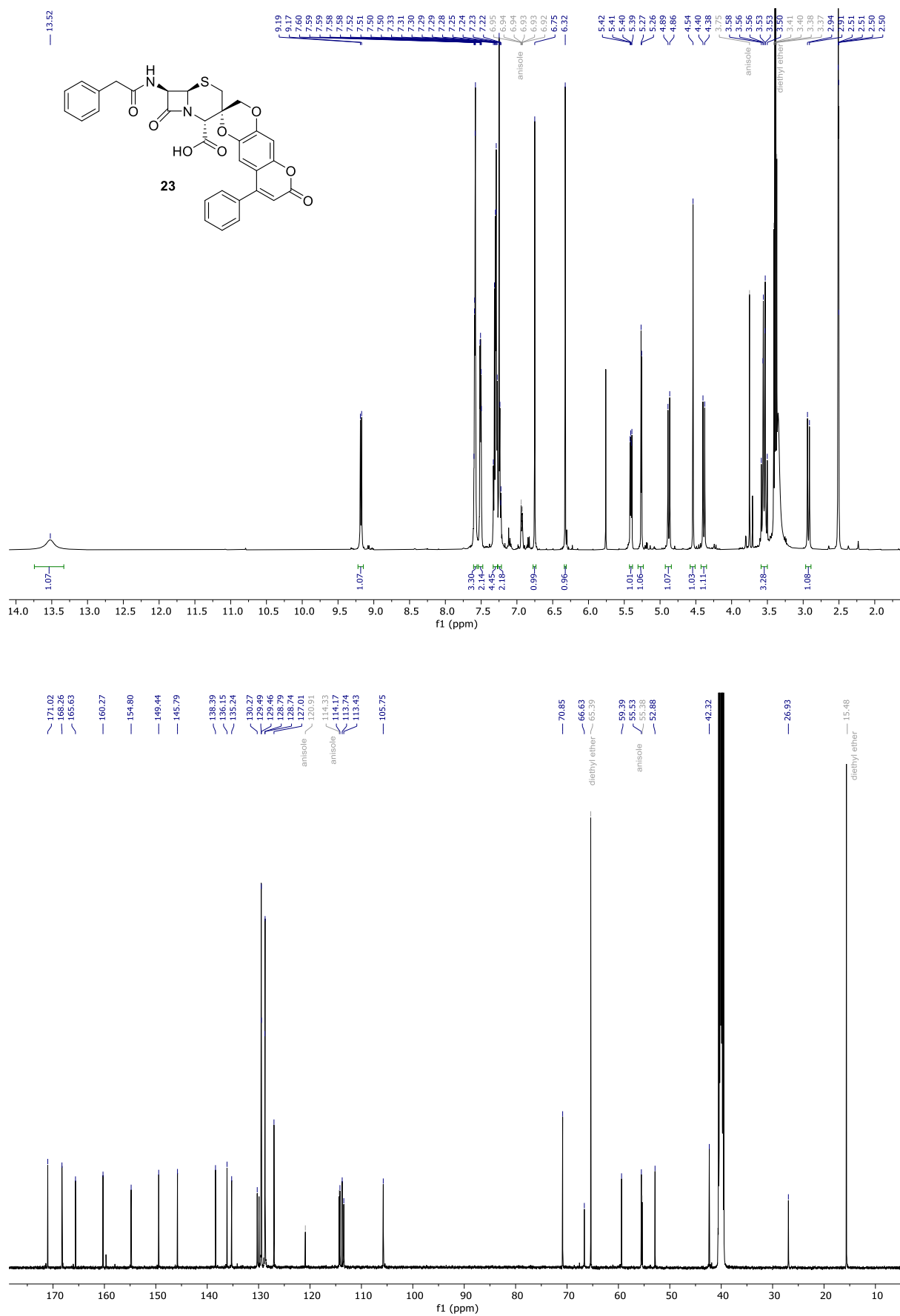


Figure S10. ^1H (top) and ^{13}C NMR (bottom) spectra of spiro-compound **22**.



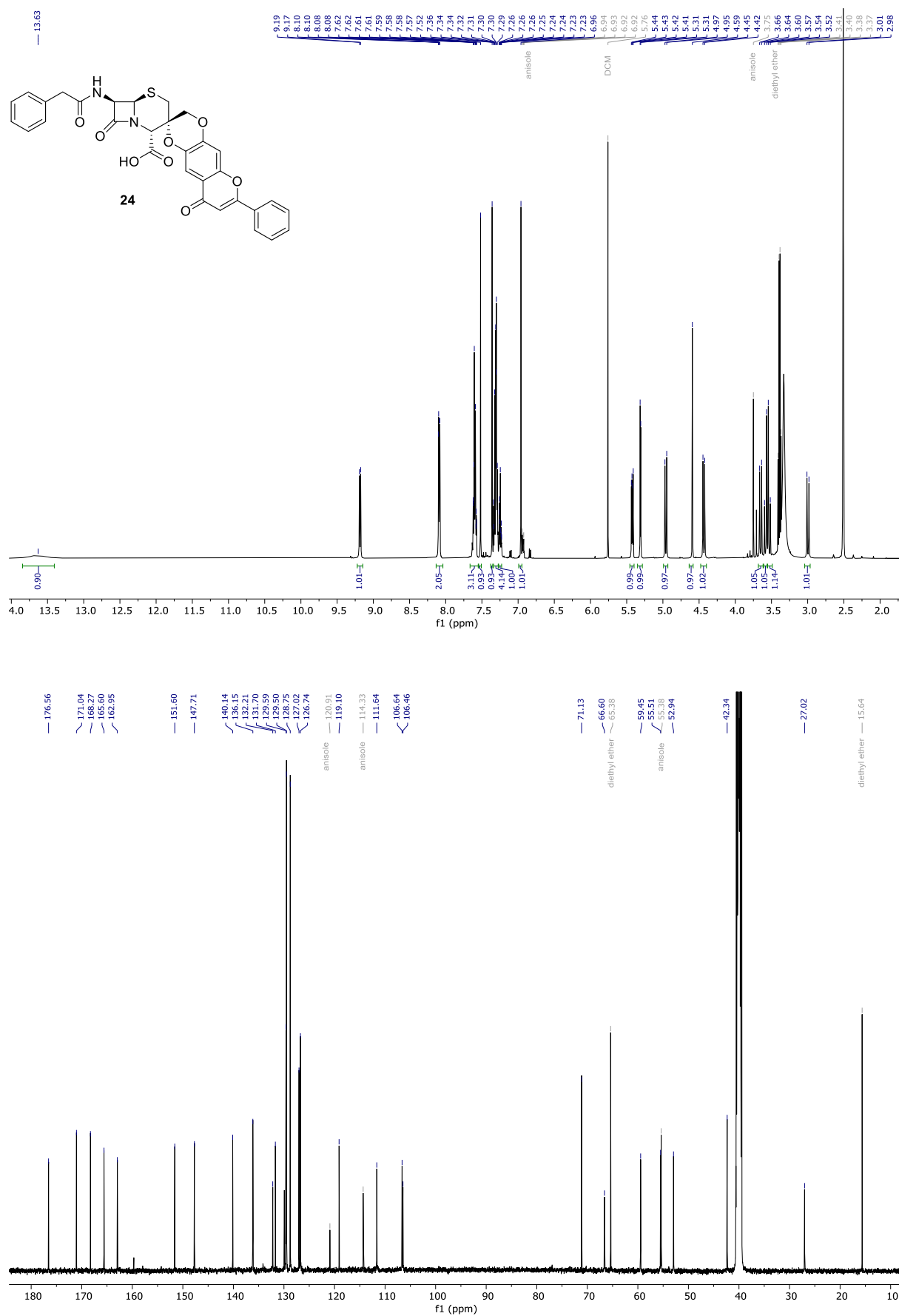


Figure S12. ^1H (top) and ^{13}C NMR (bottom) spectra of spiro-compound **24**.

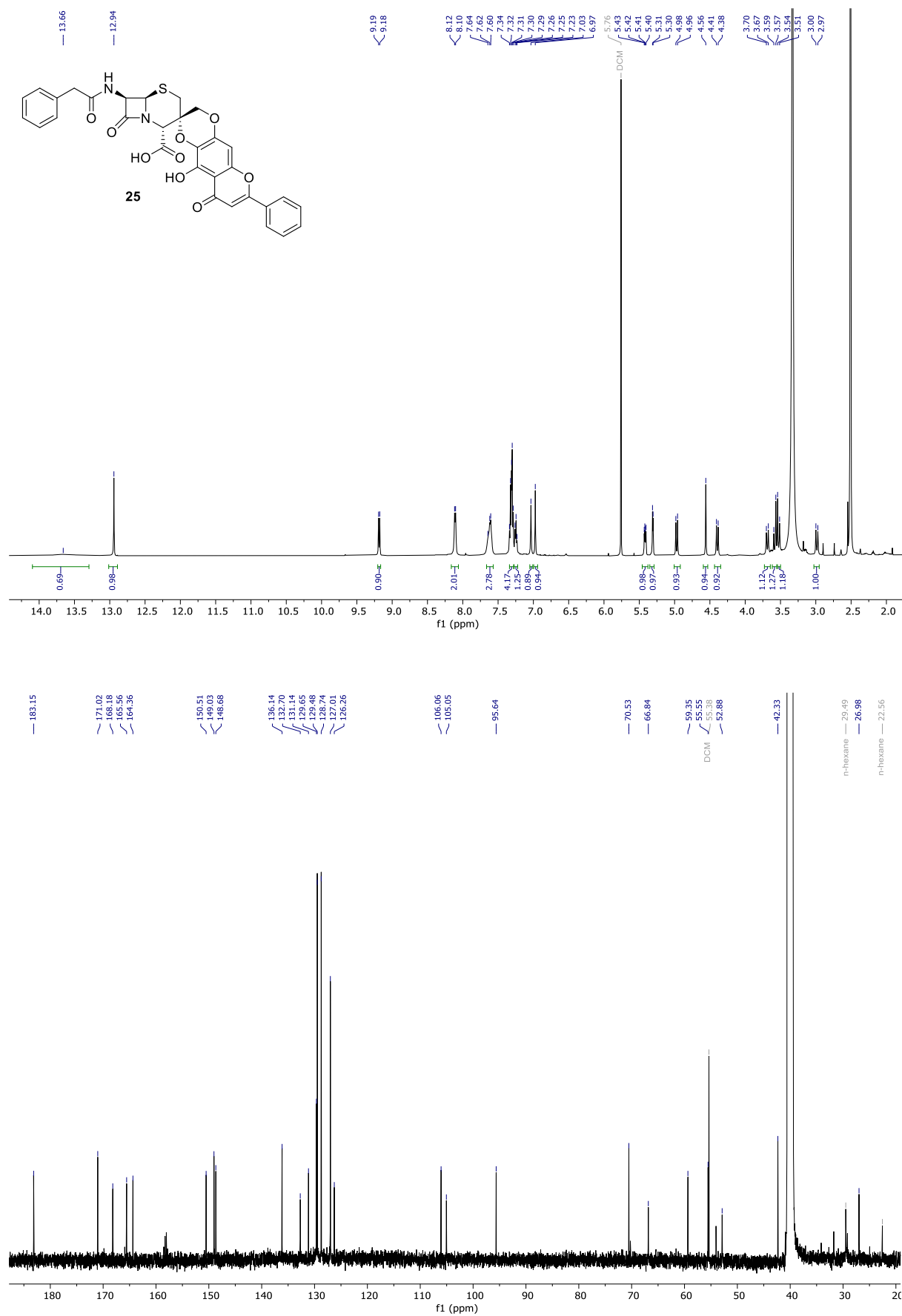


Figure S13. ^1H (top) and ^{13}C NMR (bottom) spectra of spiro-compound **25**.

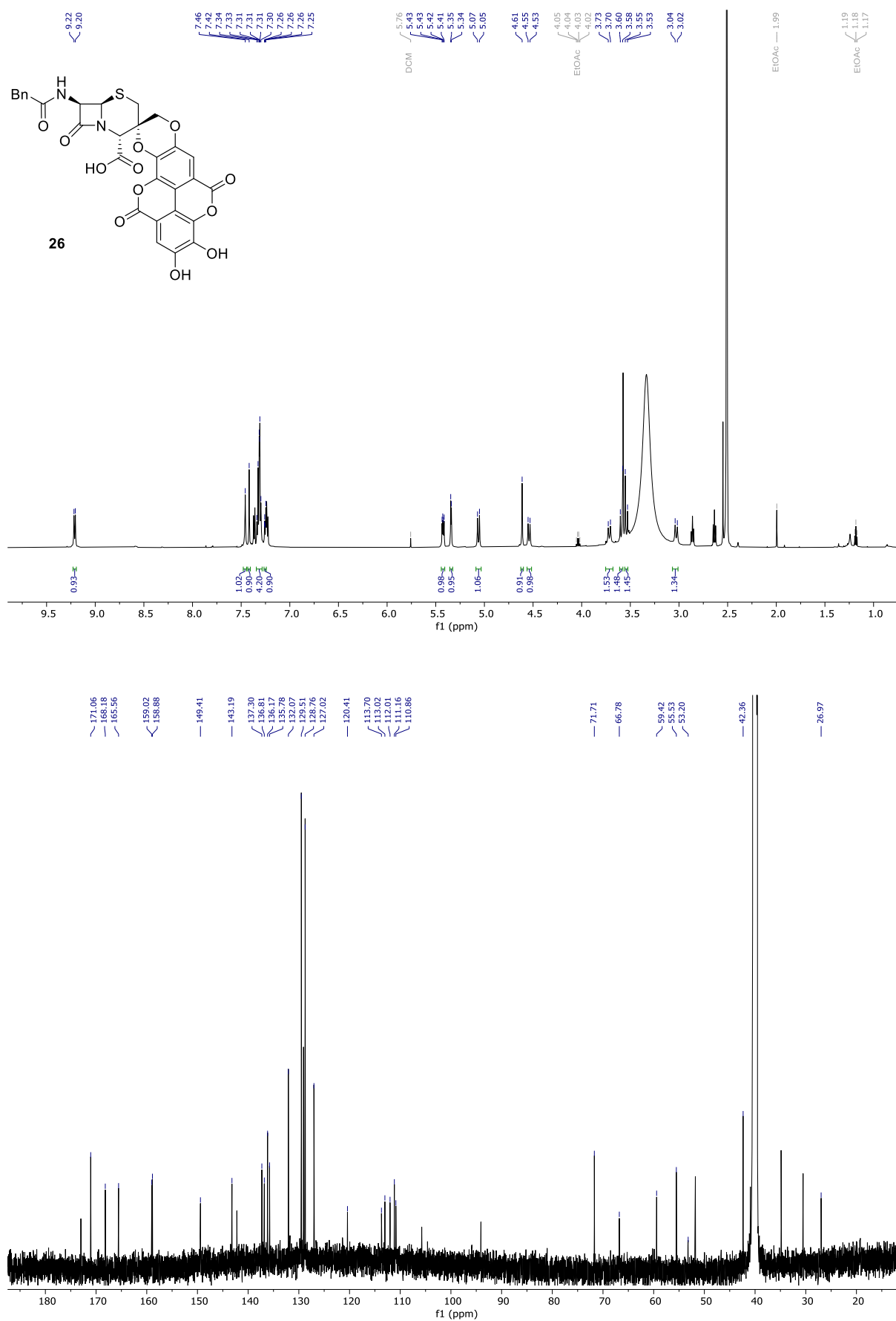


Figure S14. ^1H (top) and ^{13}C NMR (bottom) spectra of spiro-compound **26**.