

**Copper-catalyzed S-arylation of carbohydrate-fused
oxazolidine-2-thiones**

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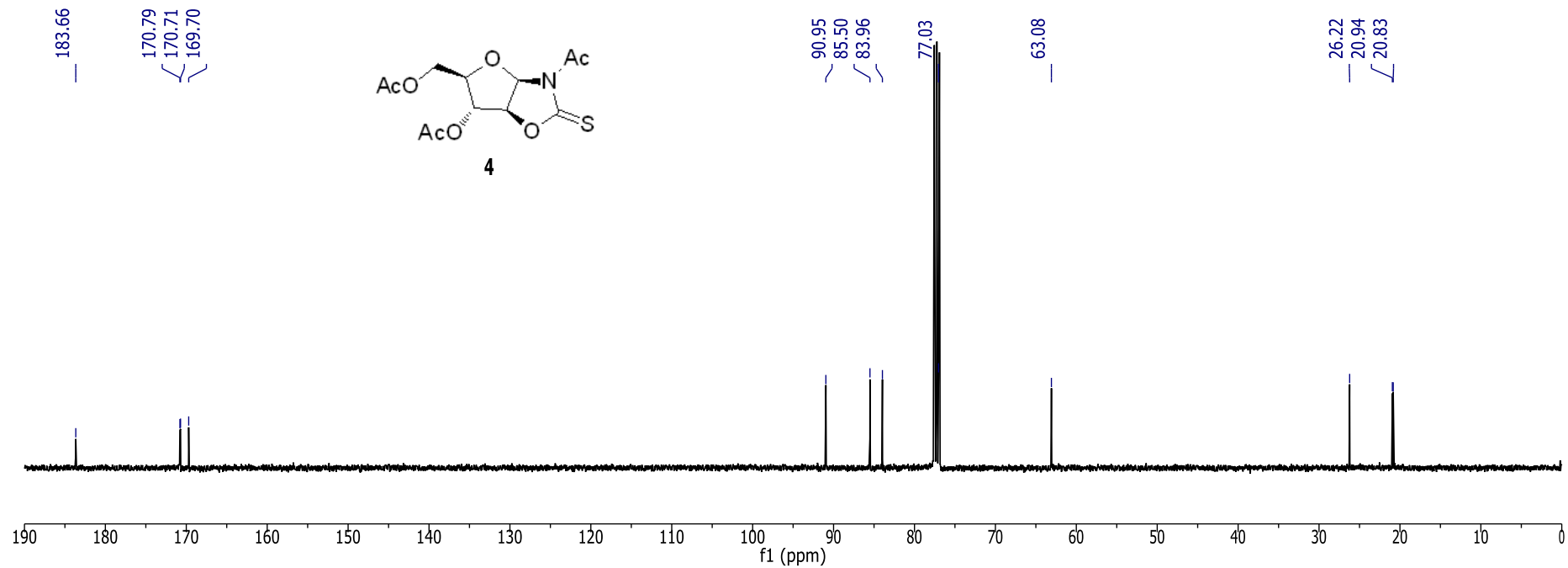
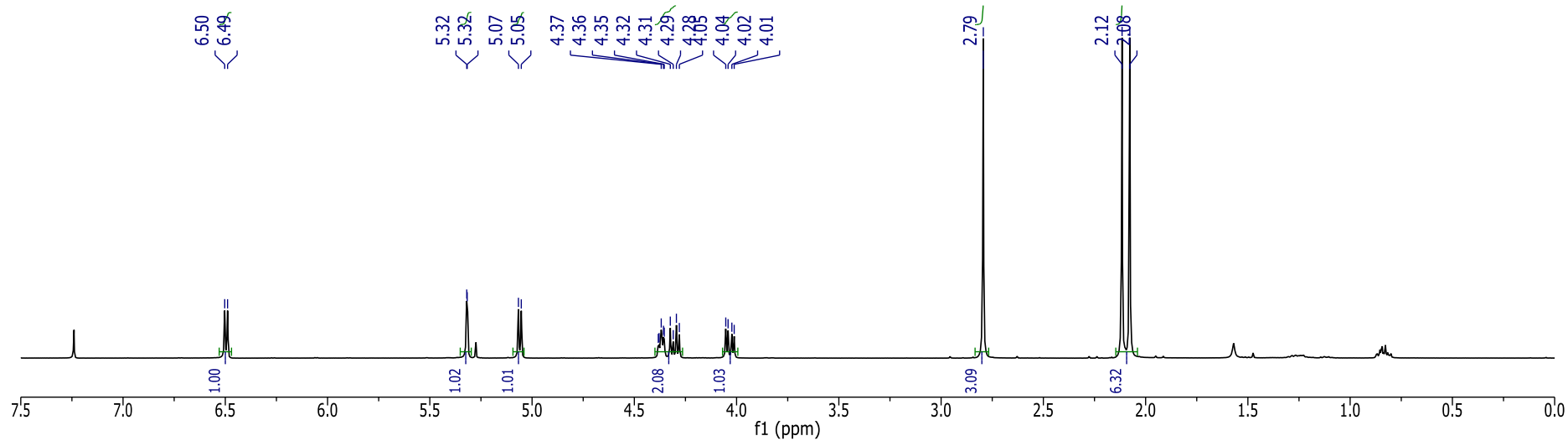


Figure S1. *N*-acetyl-4,5-dihydro(3',5'-di-*O*-acetyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazolidine-2-thione (4). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectrums.

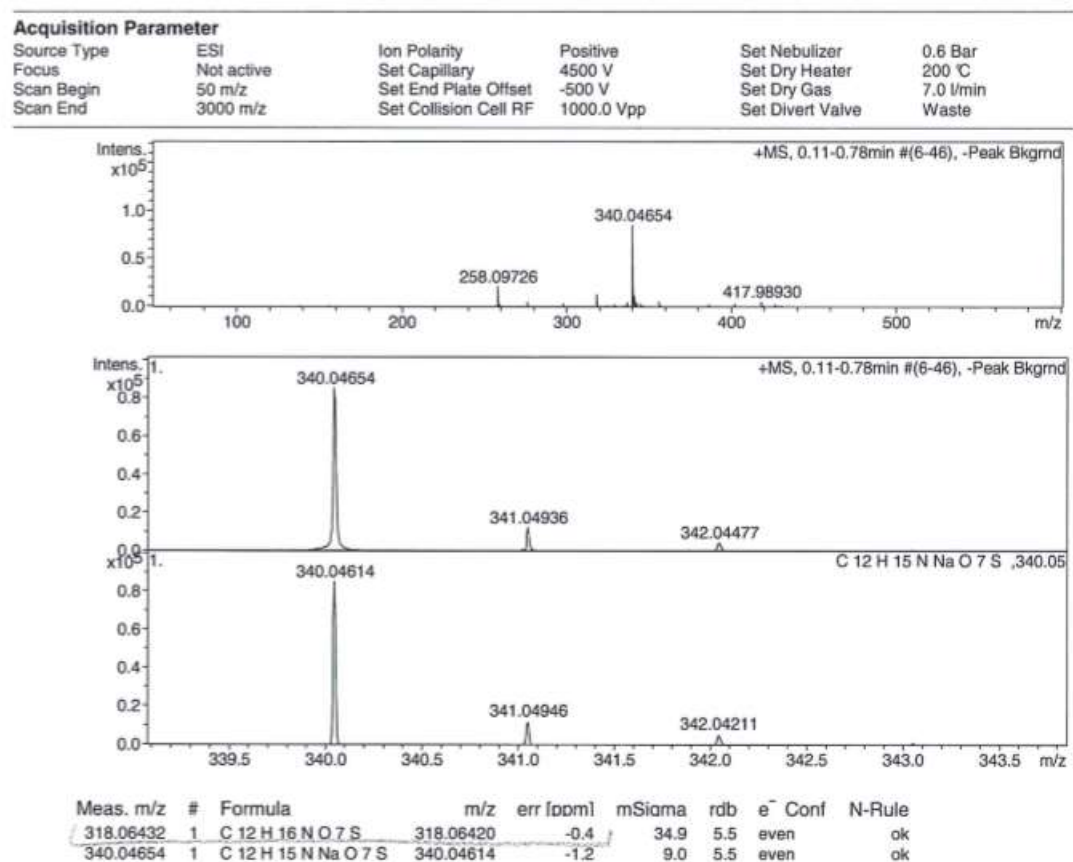


Figure S2. *N*-acetyl-4,5-dihydro(3',5'-di-*O*-acetyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazolidine-2-thione (4). HRMS (ESI).

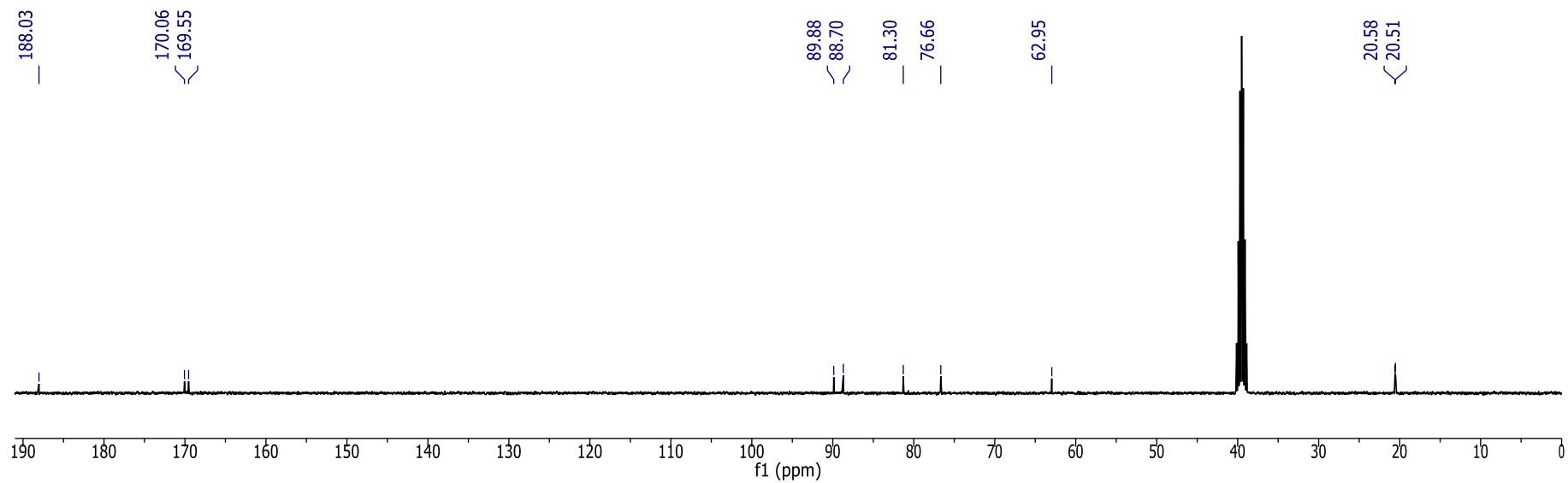
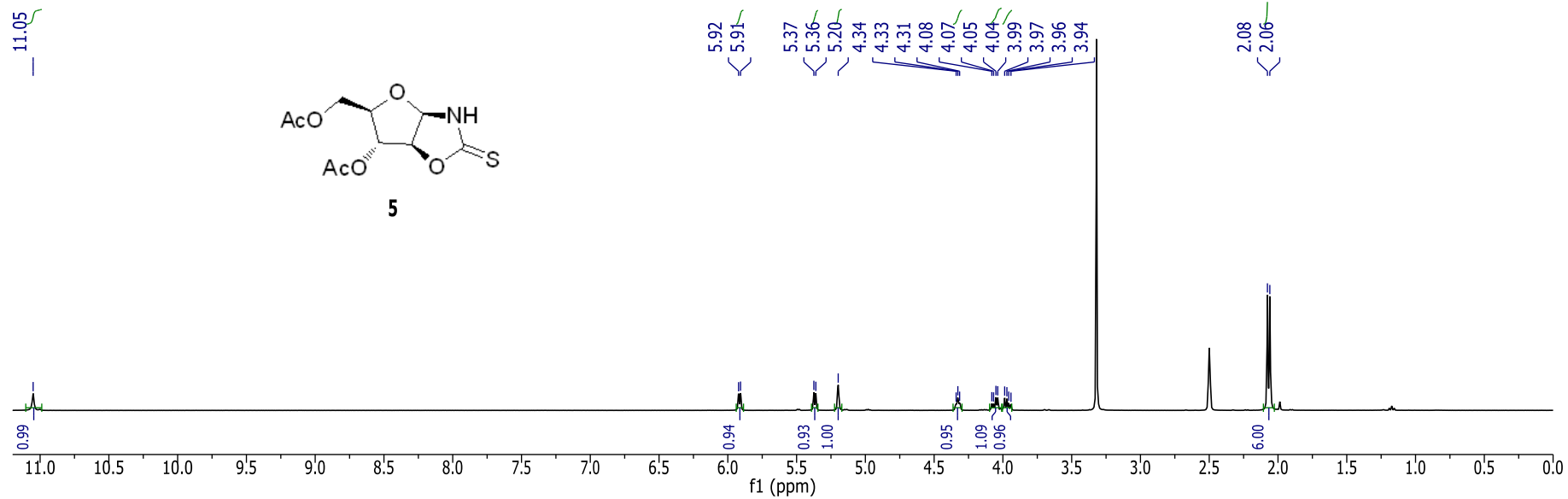


Figure S3. 4,5-Dihydro(3',5'-di-*O*-acetyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazolidine-2-thione (5). ^1H NMR (400 MHz, $\text{DMSO-}d_6$) and ^{13}C NMR (100 MHz, $\text{DMSO-}d_6$) spectrums.

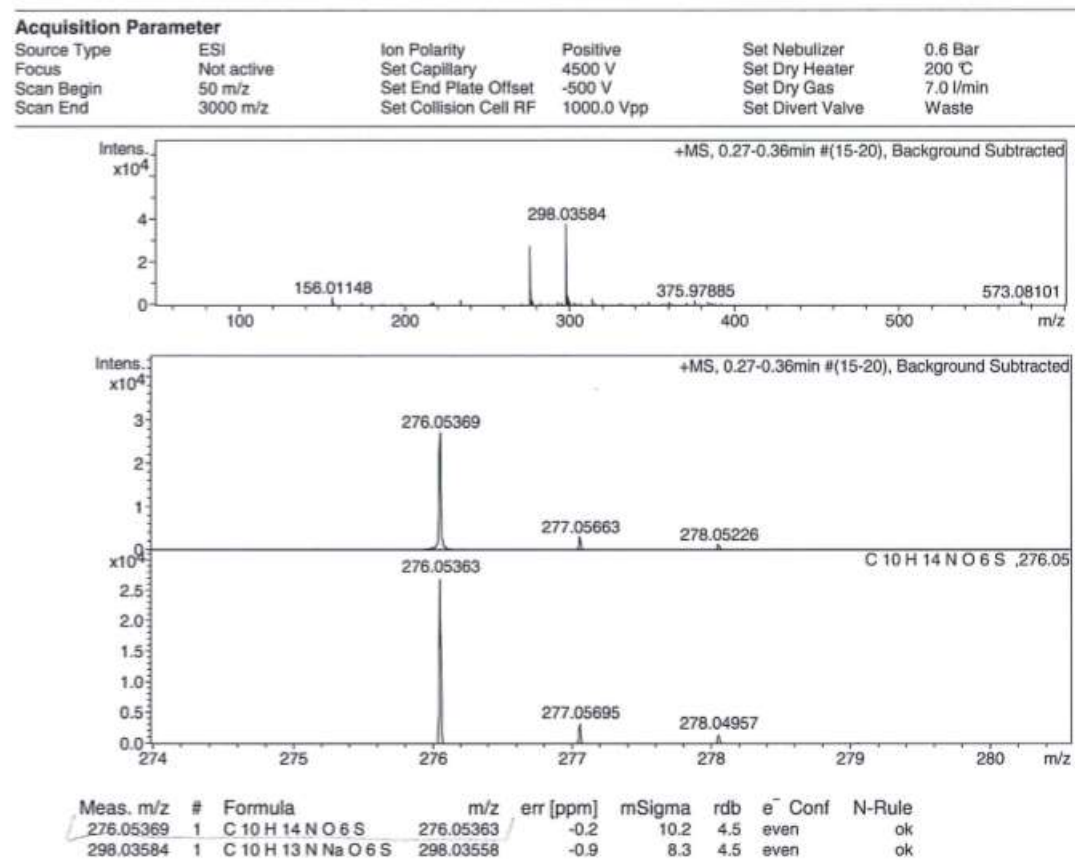


Figure S4. 4,5-Dihydro(3',5'-di-*O*-acetyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazolidine-2-thione (5). HRMS (ESI).

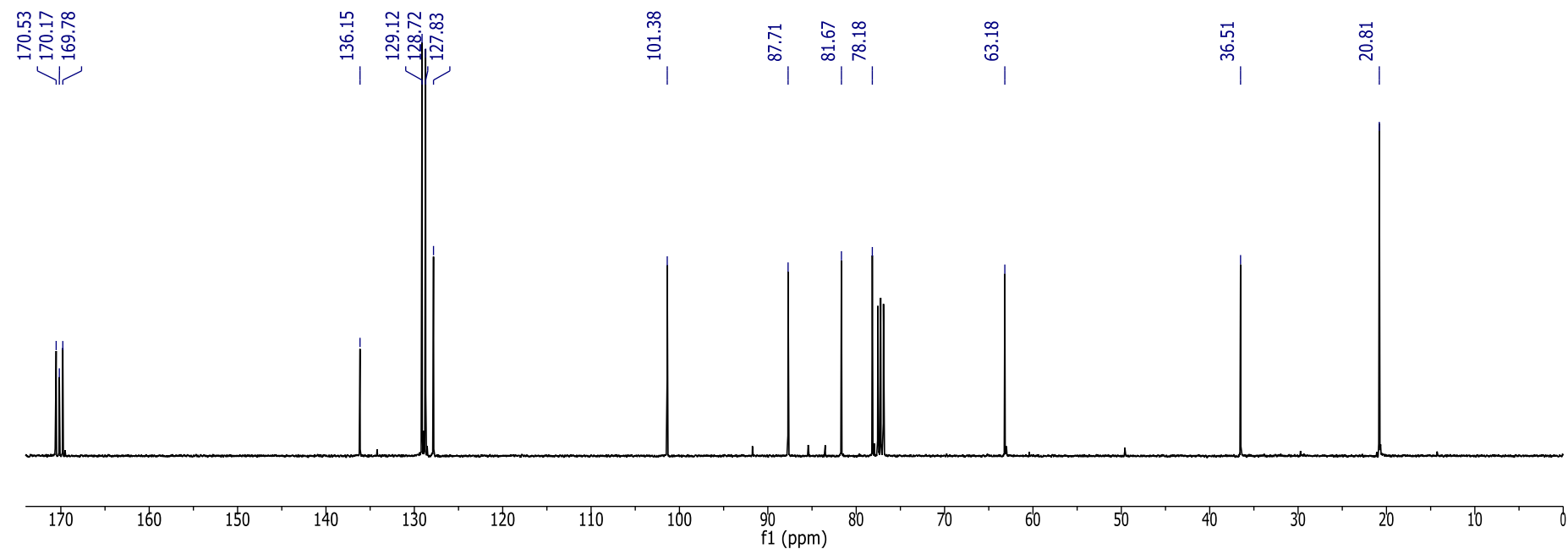
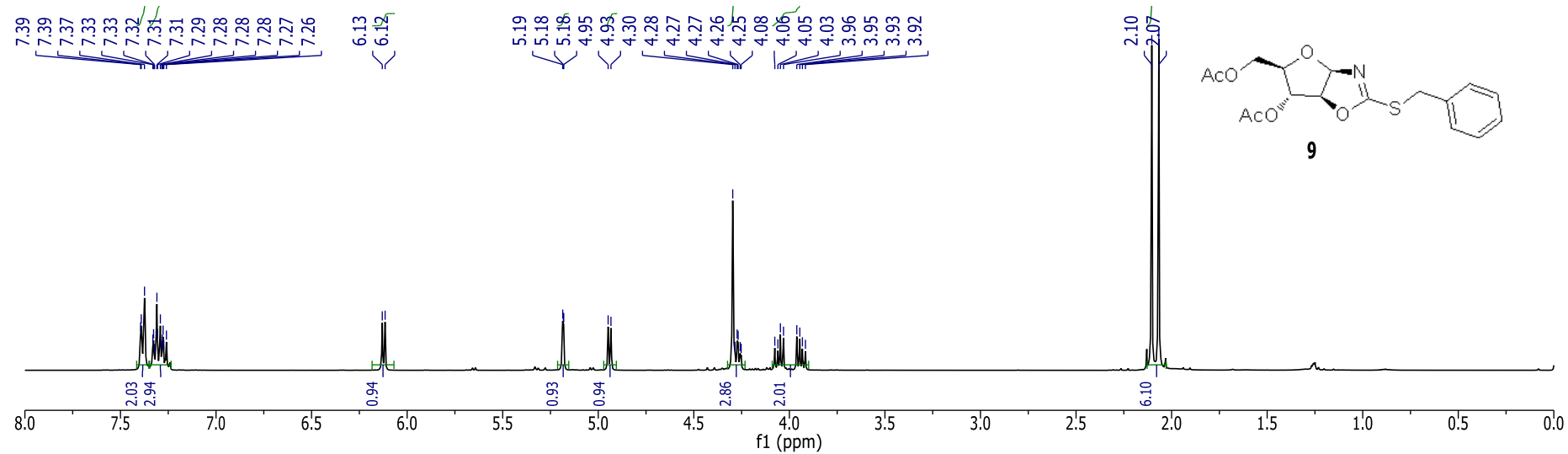


Figure S5. 2-Benzylsulfanyl-4,5-dihydro(3',5'-di-*O*-acetyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (9). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectrums.

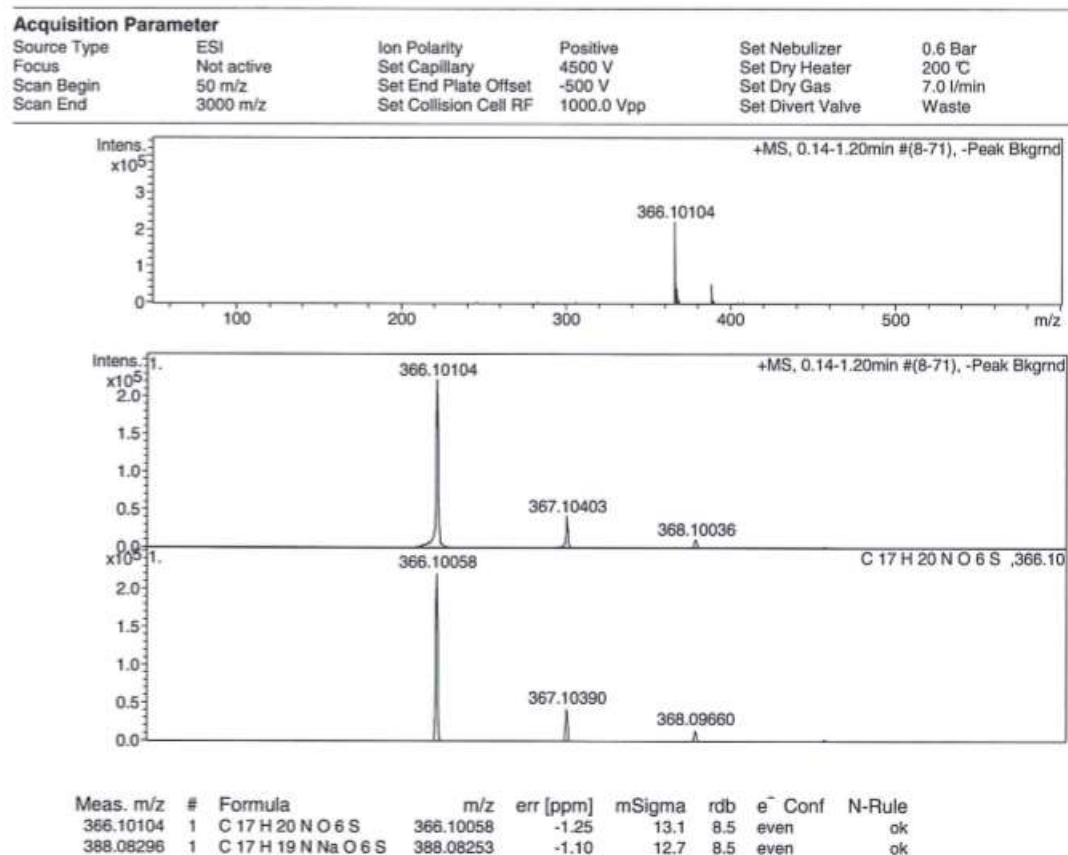


Figure S6. 2-Benzylsulfanyl-4,5-dihydro(3',5'-di-*O*-acetyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (9). HRMS (ESI).

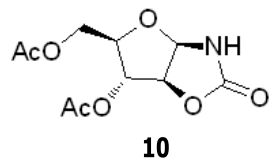
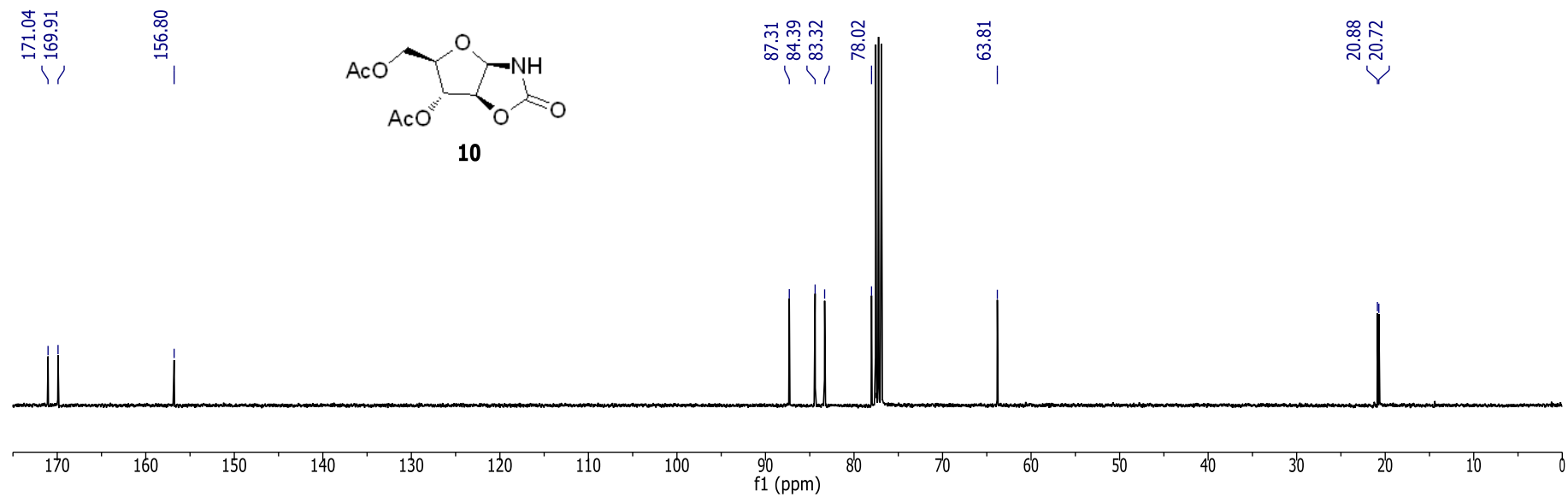
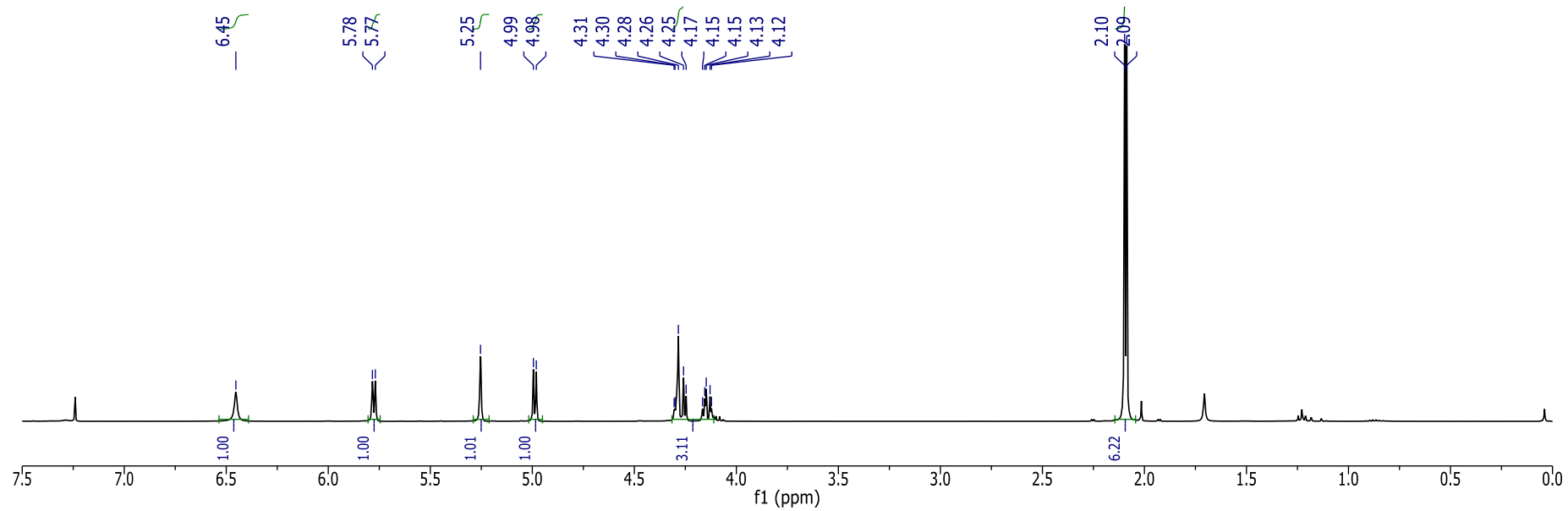


Figure S7. 4,5-Dihydro(3',5'-di-*O*-acetyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazolidine-2-one (10). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectra.

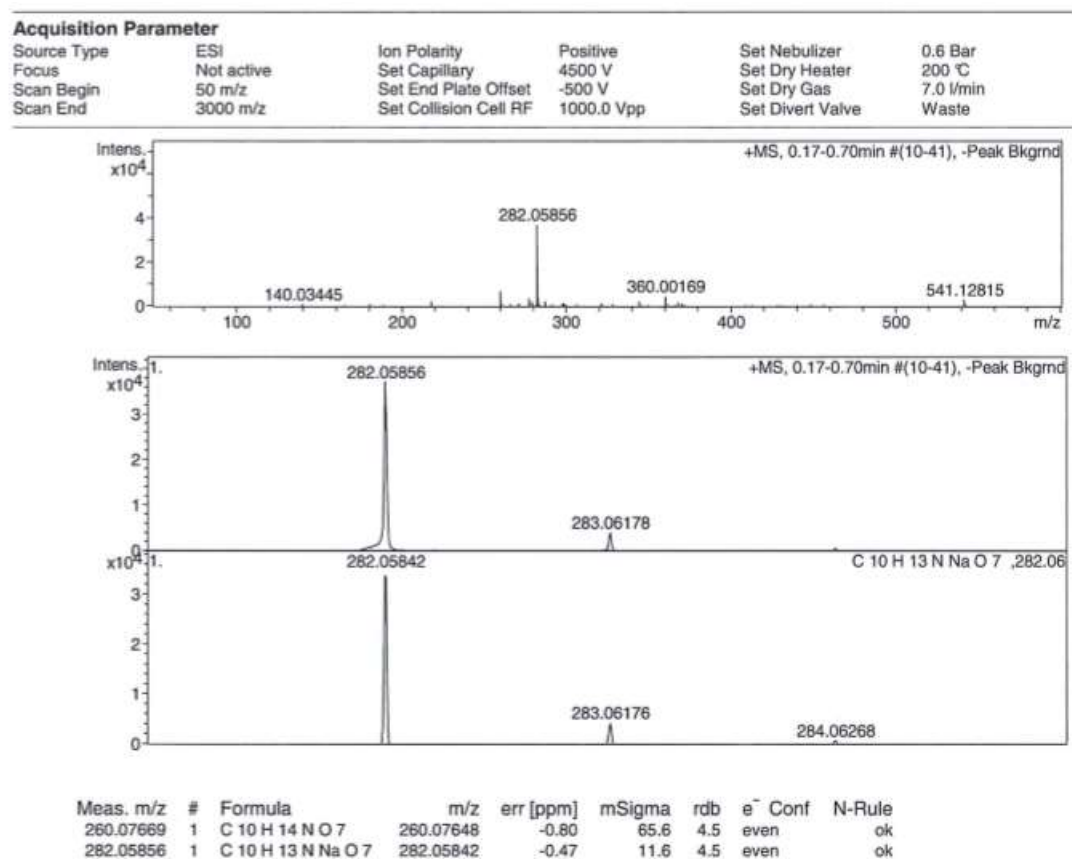


Figure S8. 4,5-Dihydro(3',5'-di-*O*-acetyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazolidine-2-one (10). HRMS (ESI).

Figure S9. 4,5-Dihydro(3',5'-di-*O*-*tert*-butyldimethylsilyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazolidine-2-thione (6). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectra.

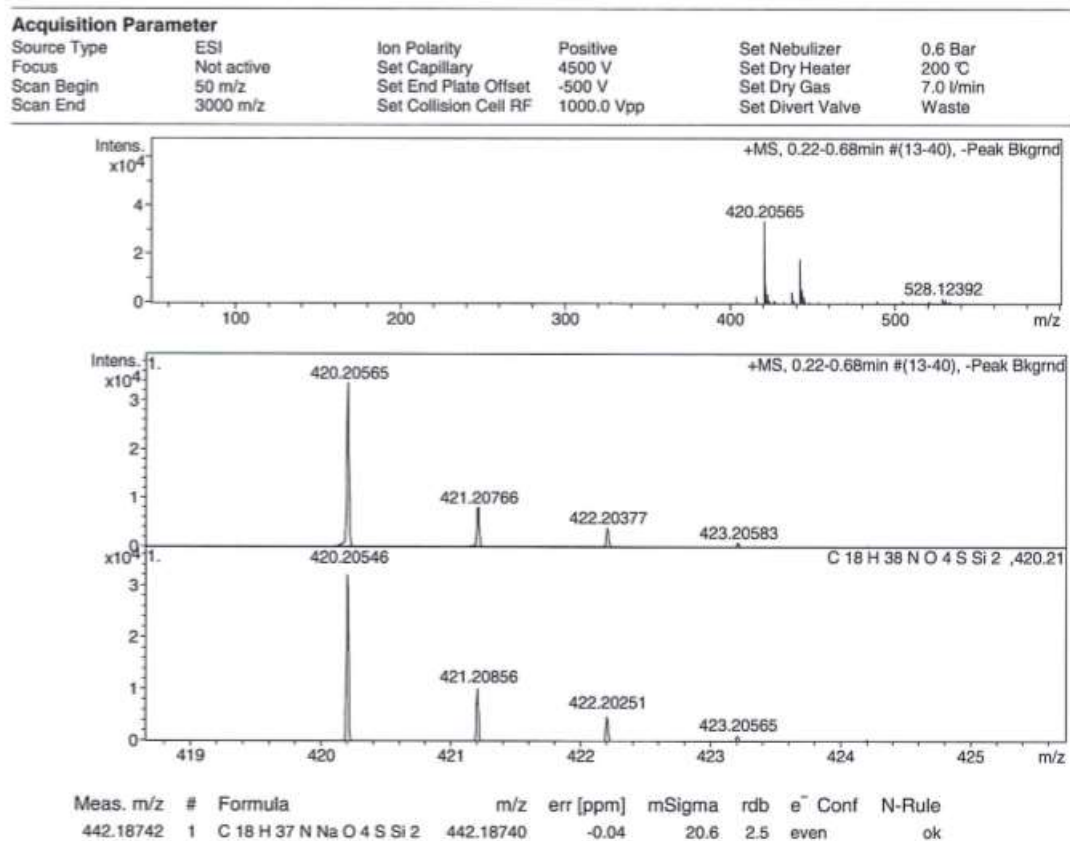


Figure S10. 4,5-Dihydro(3',5'-di-*O*-*tert*-butyldimethylsilyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazolidine-2-thione (6). HRMS (ESI).

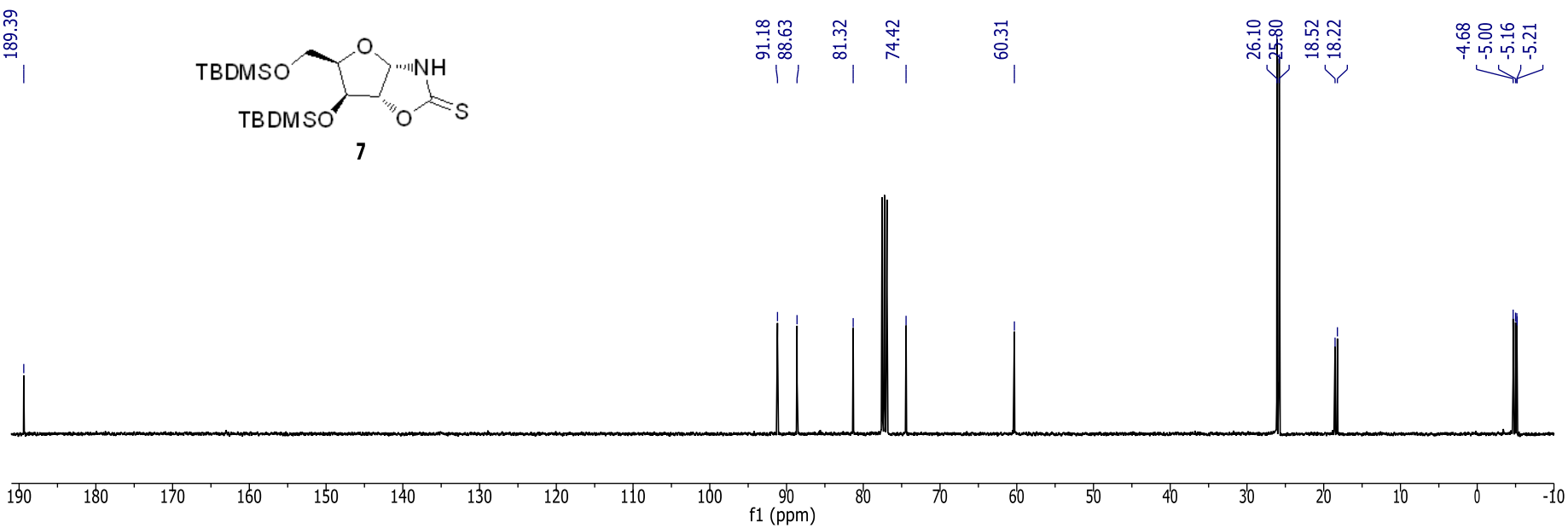


Figure S11. 4,5-Dihydro(3',5'-di-*O*-*tert*-butyldimethylsilyl-1',2'-dideoxy- α -*D*-xylofuranoso)-[1,2-*d*]-oxazolidine-2-thione (7). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectra.

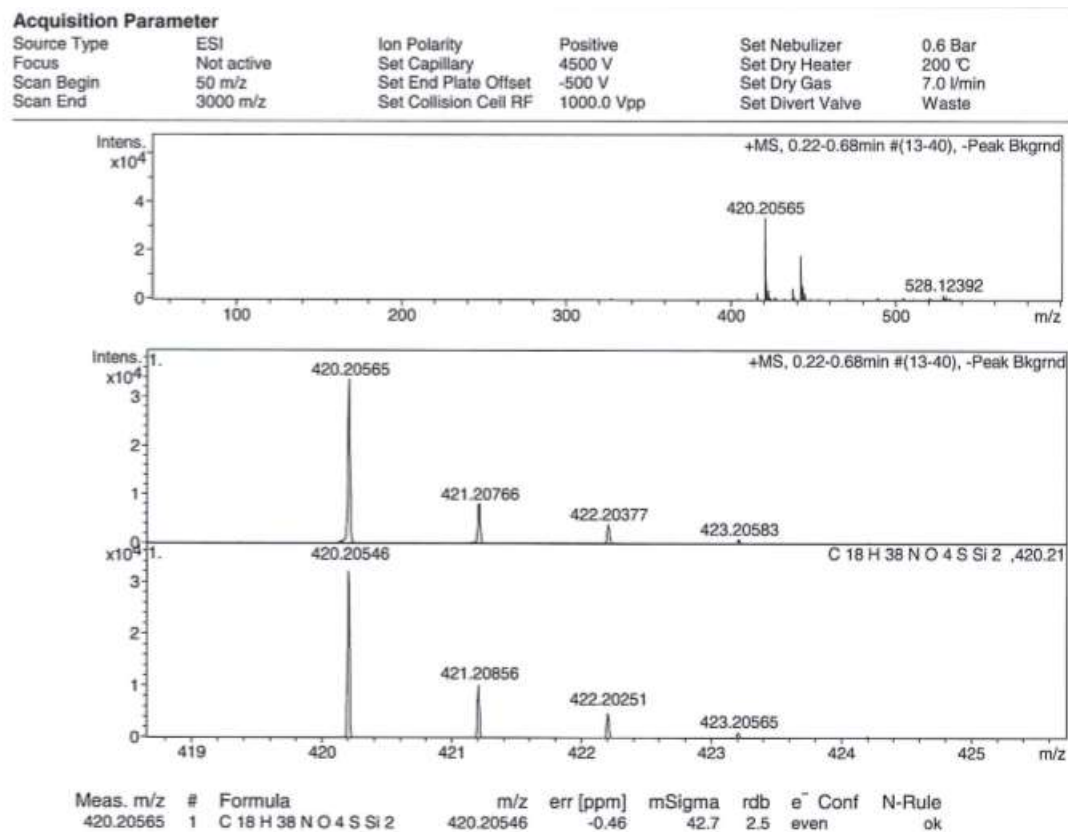


Figure S12. 4,5-Dihydro(3',5'-di-*O*-*tert*-butyldimethylsilyl-1',2'-dideoxy- α -*D*-xylofuranoso)-[1,2-*d*]-oxazolidine-2-thione (7). HRMS (ESI).

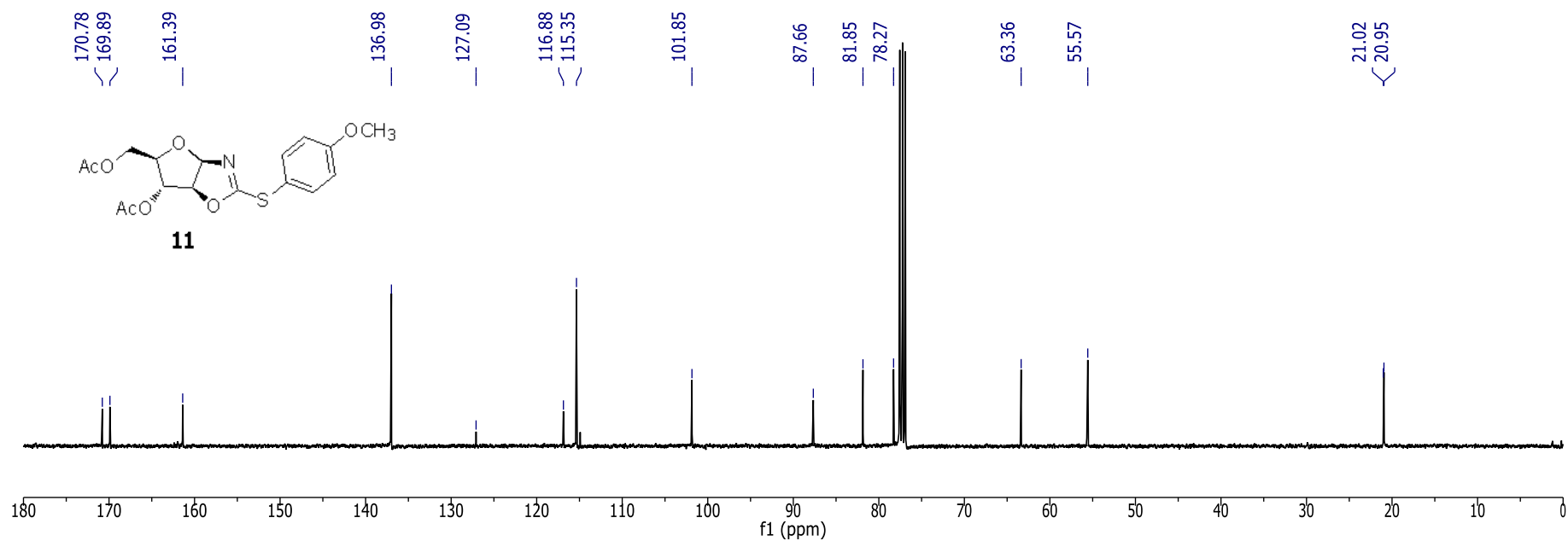
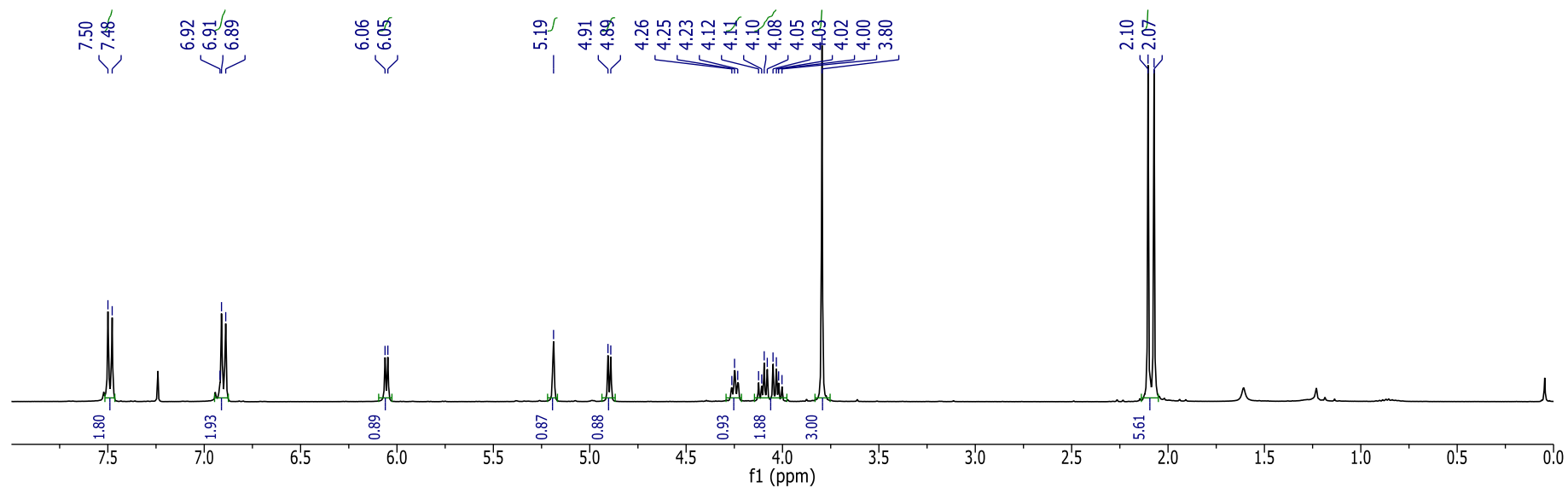


Figure S13. 2-[(4-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-acetyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (11). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectra.

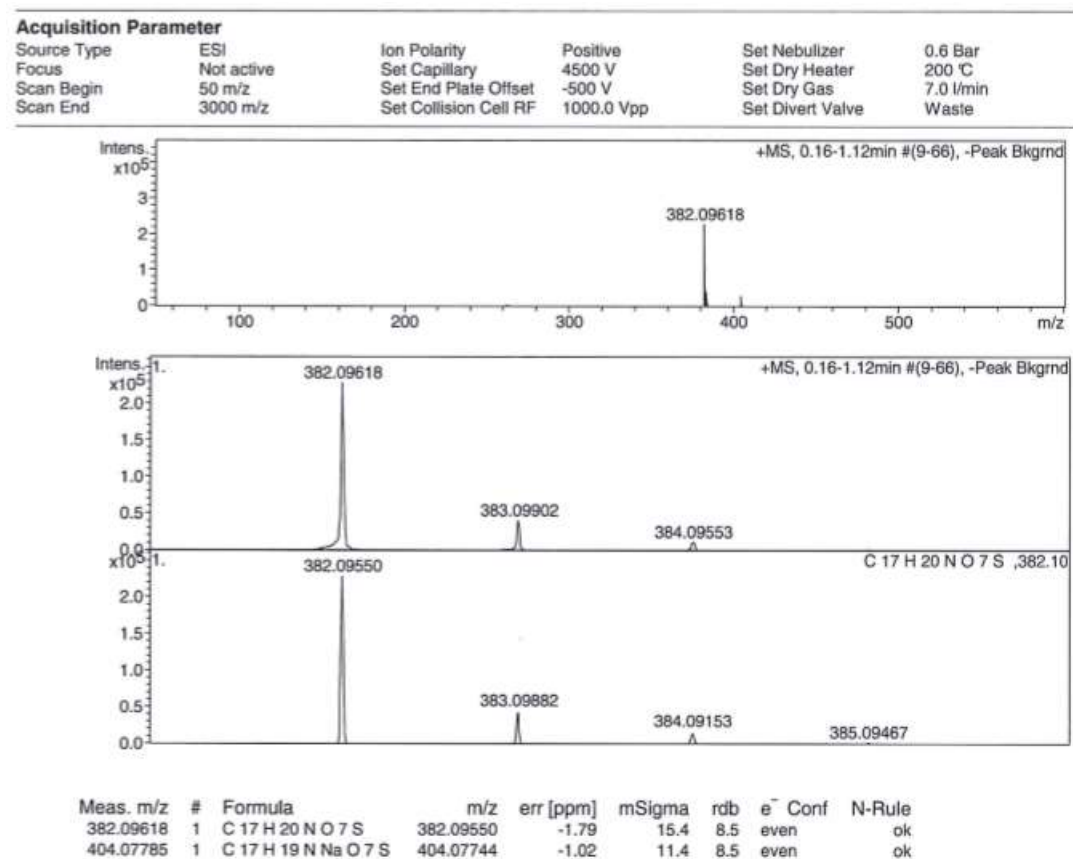


Figure S14. 2-[(4-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-acetyl-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (11). HRMS (ESI).

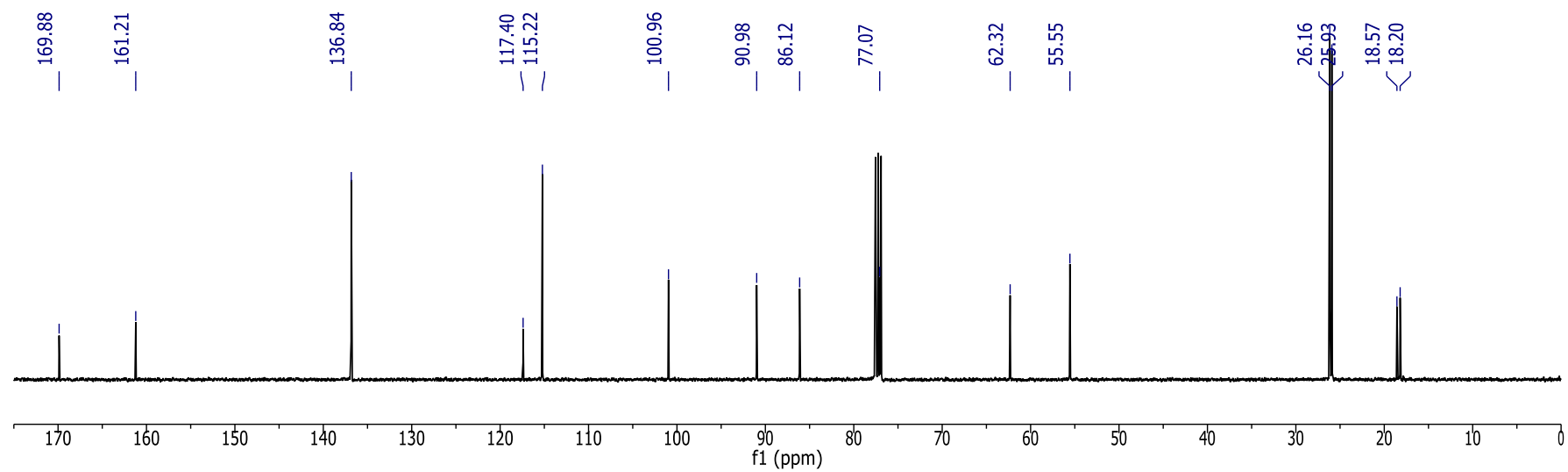
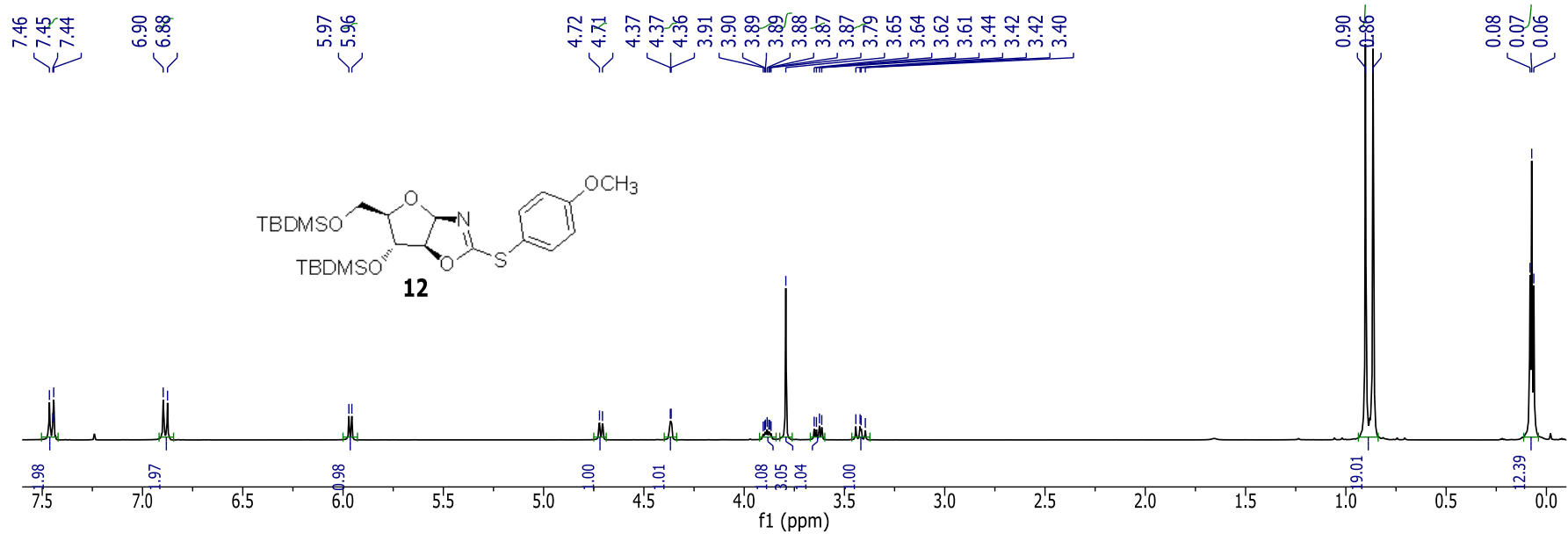


Figure S15. 2-[(4-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (12). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectrums.

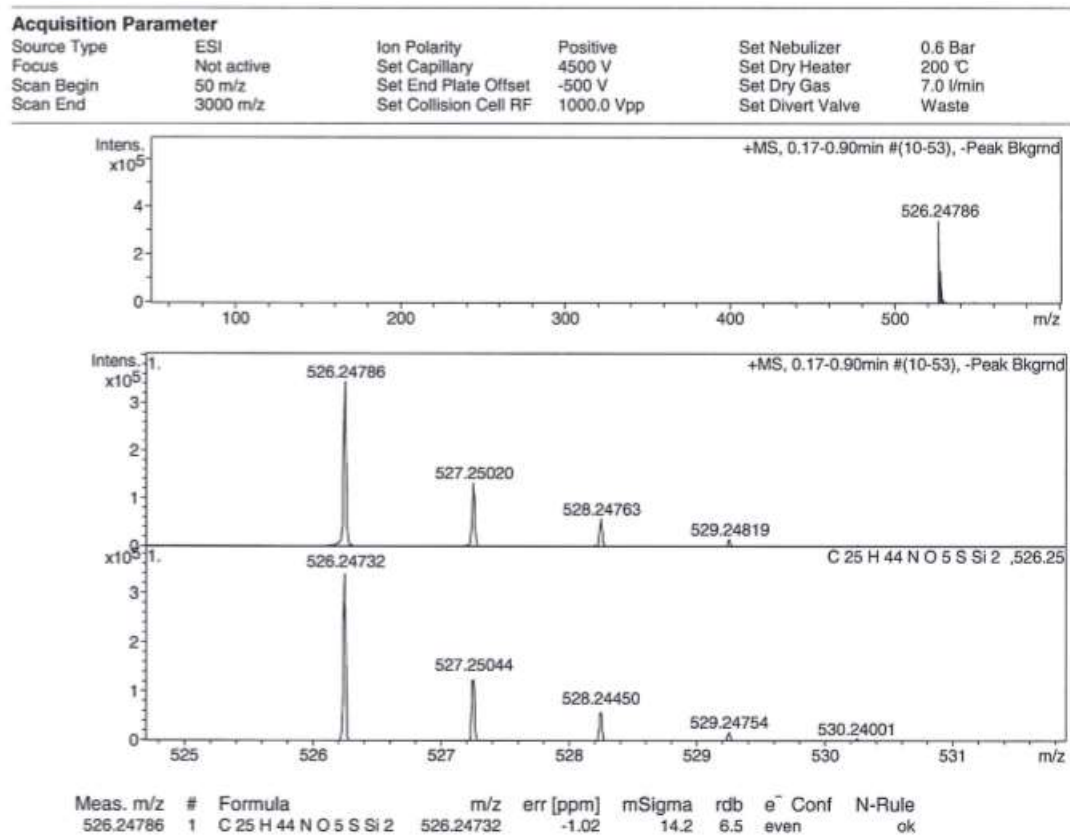


Figure S16. 2-[(4-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (12). HRMS (ESI).

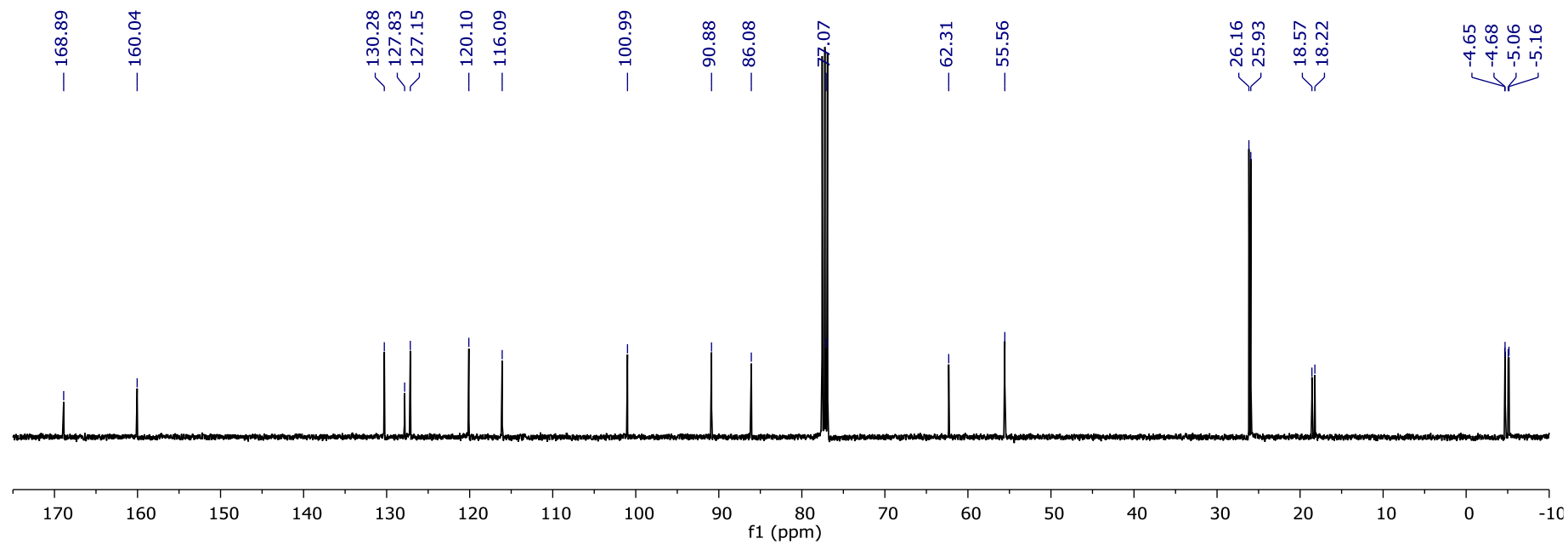
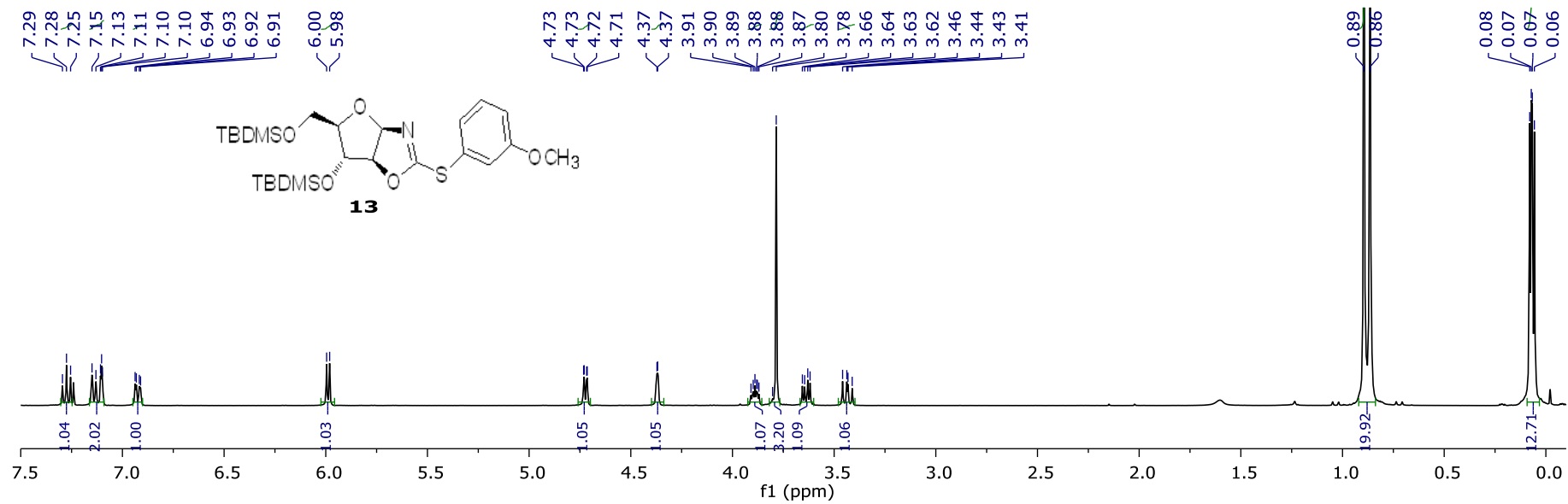


Figure S17. 2-[(3-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -D-arabinofuranoso)-[1,2-*d*]-oxazole (13). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectrums.

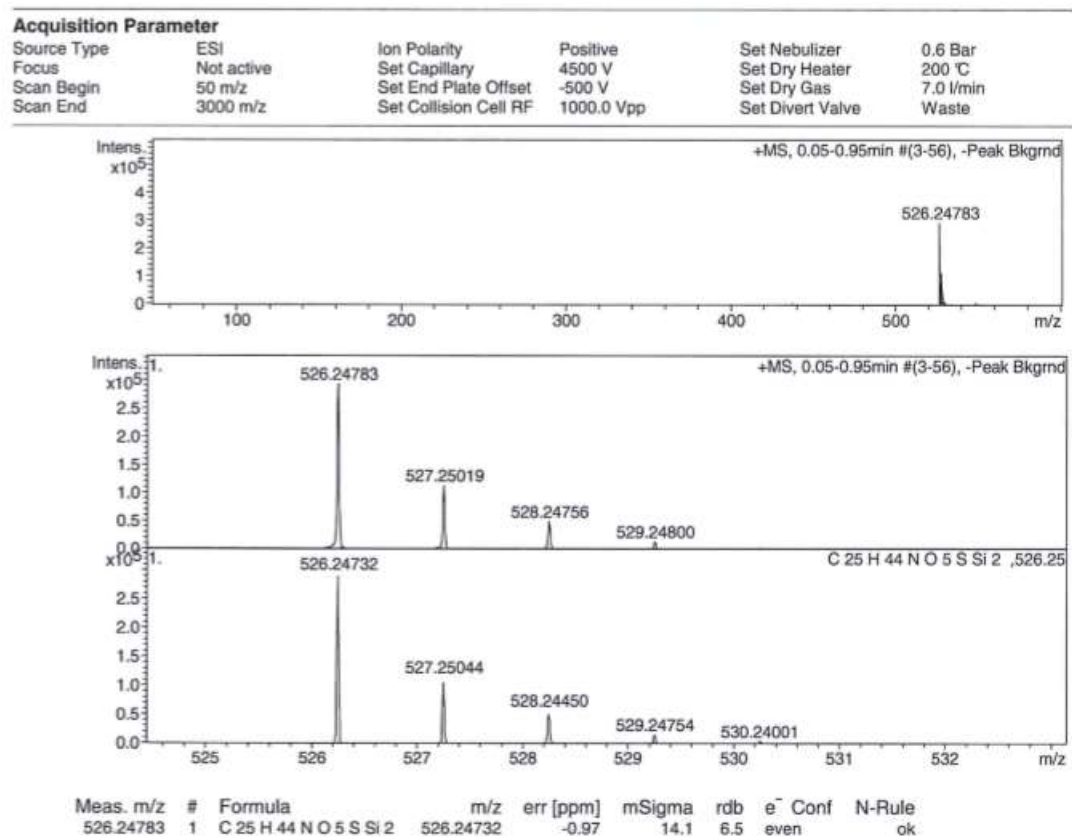


Figure S18. 2-[(3-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -D-arabinofuranoso)-[1,2-*d*]-oxazole (13). HRMS (ESI).

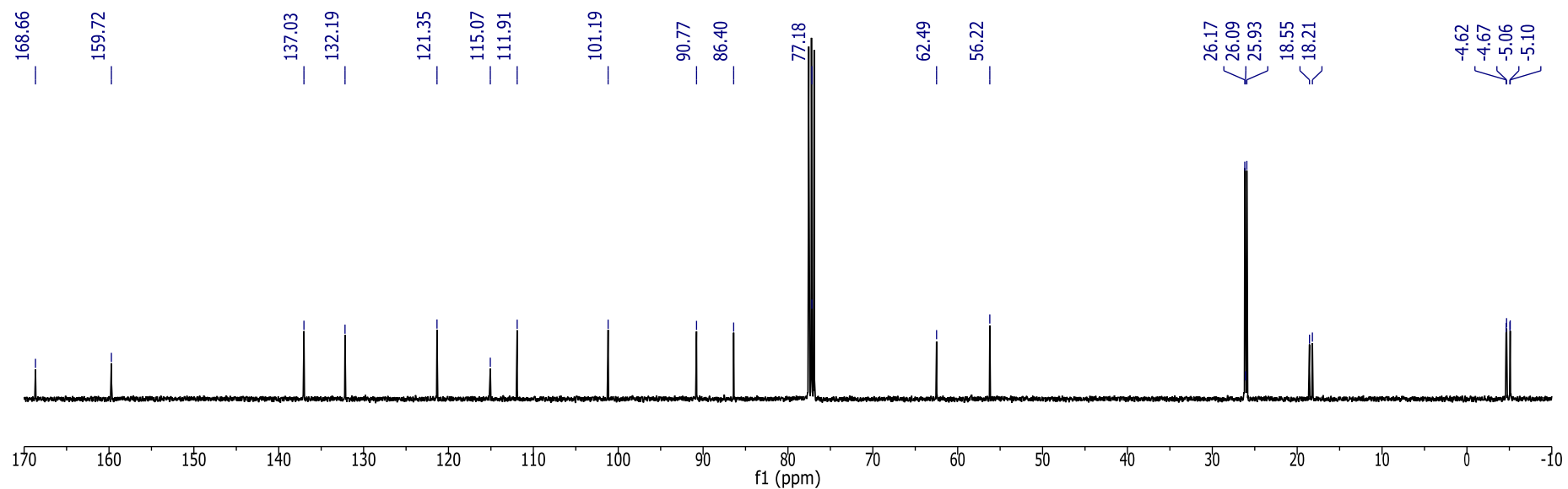
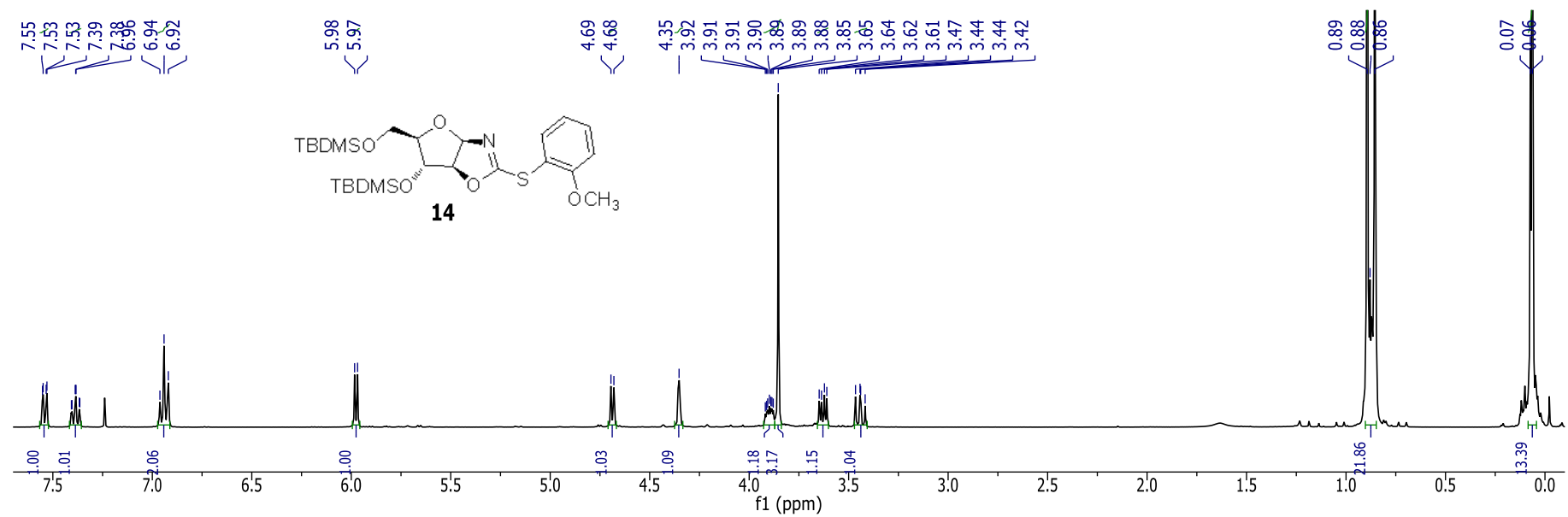


Figure S19. 2-[(2-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (14). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectrums.

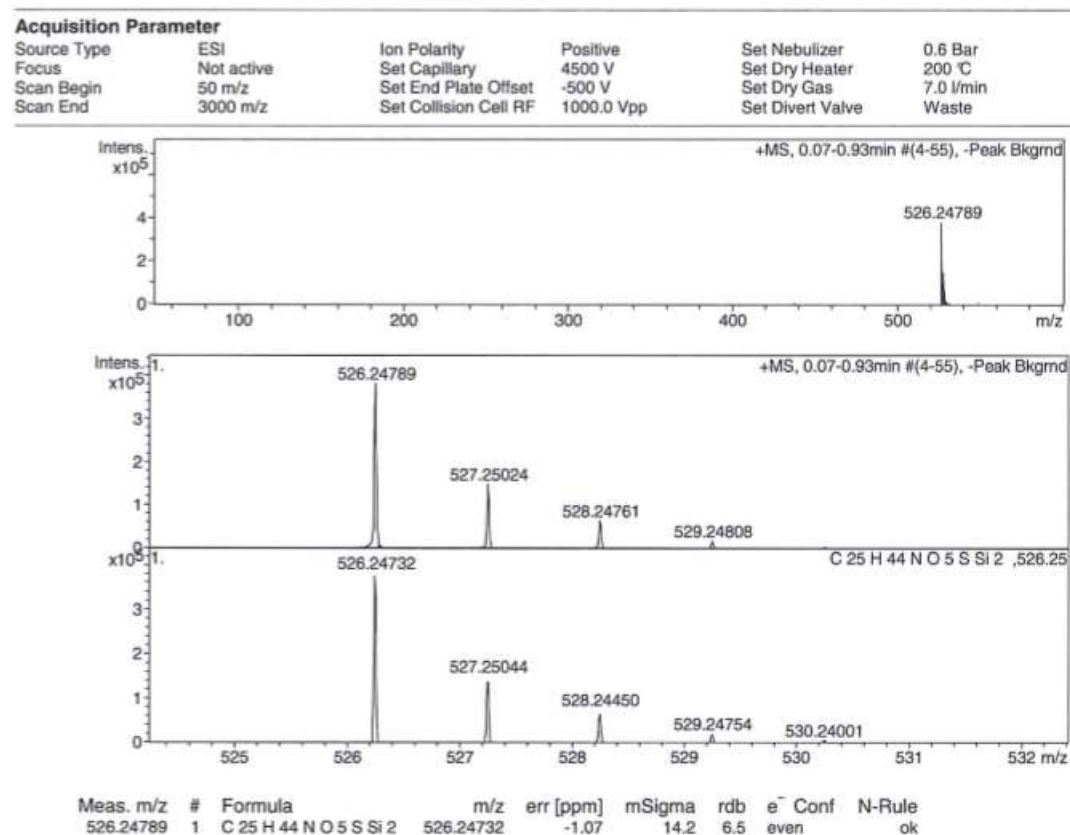


Figure S20. 2-[(2-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (14). HRMS (ESI).

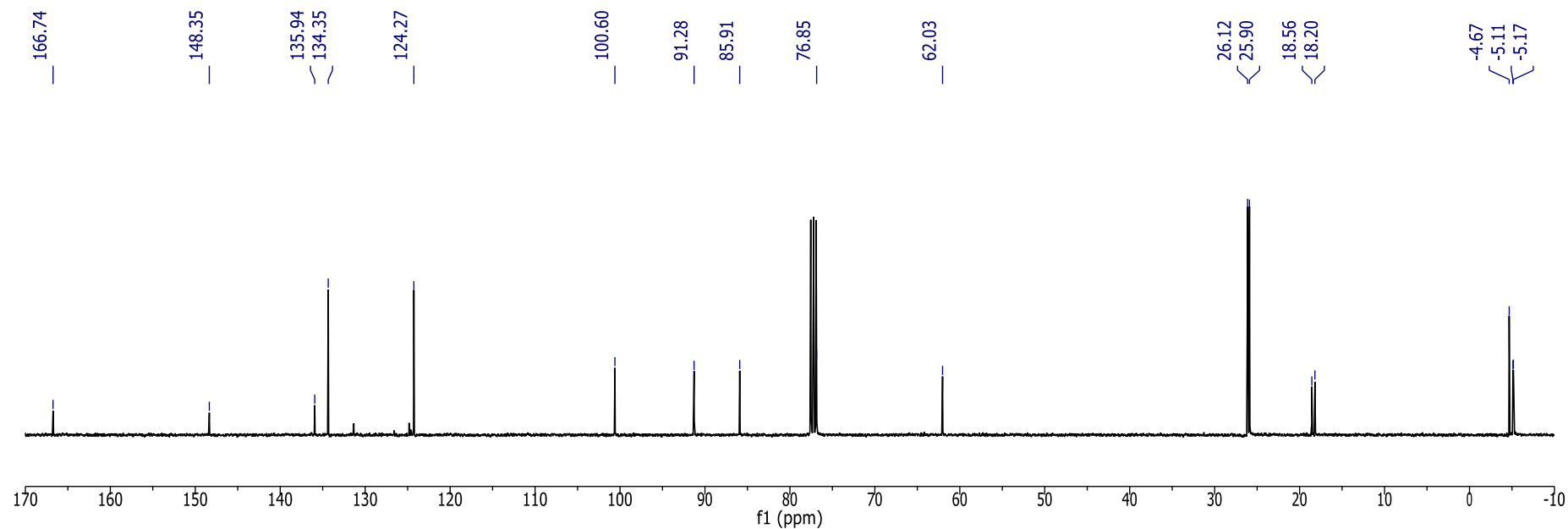
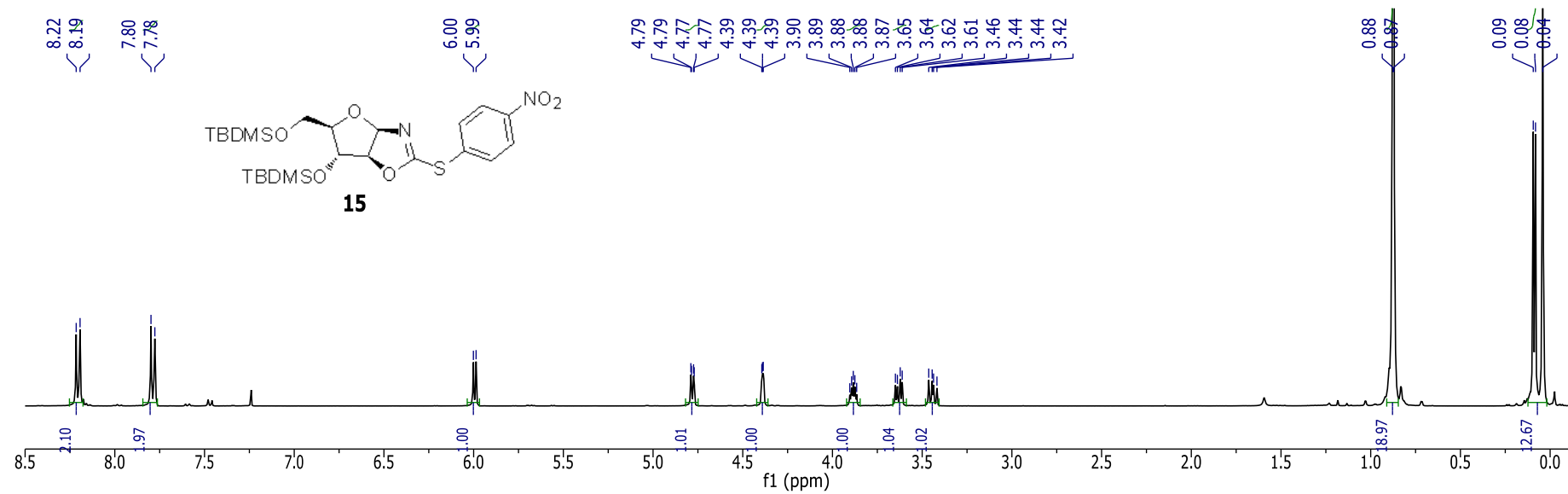


Figure S21. 2-[(4-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (15). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectrums.

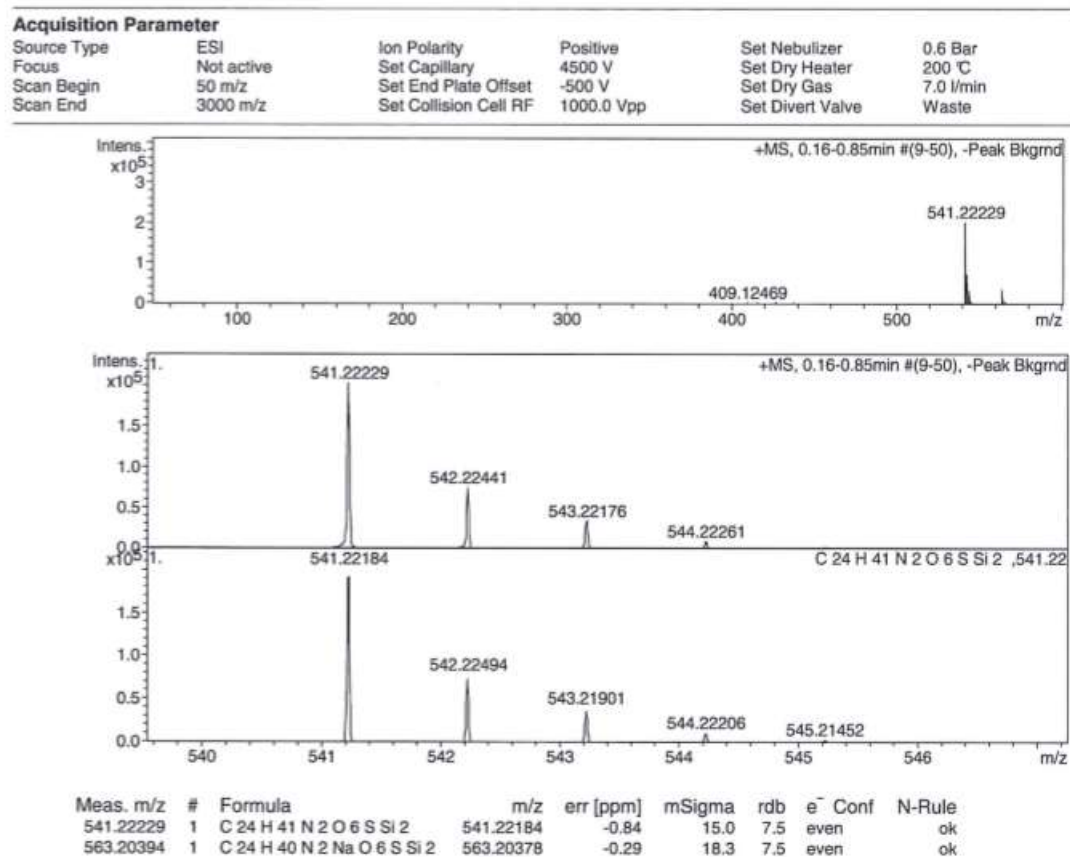


Figure S22. 2-[(4-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (15). HRMS (ESI).

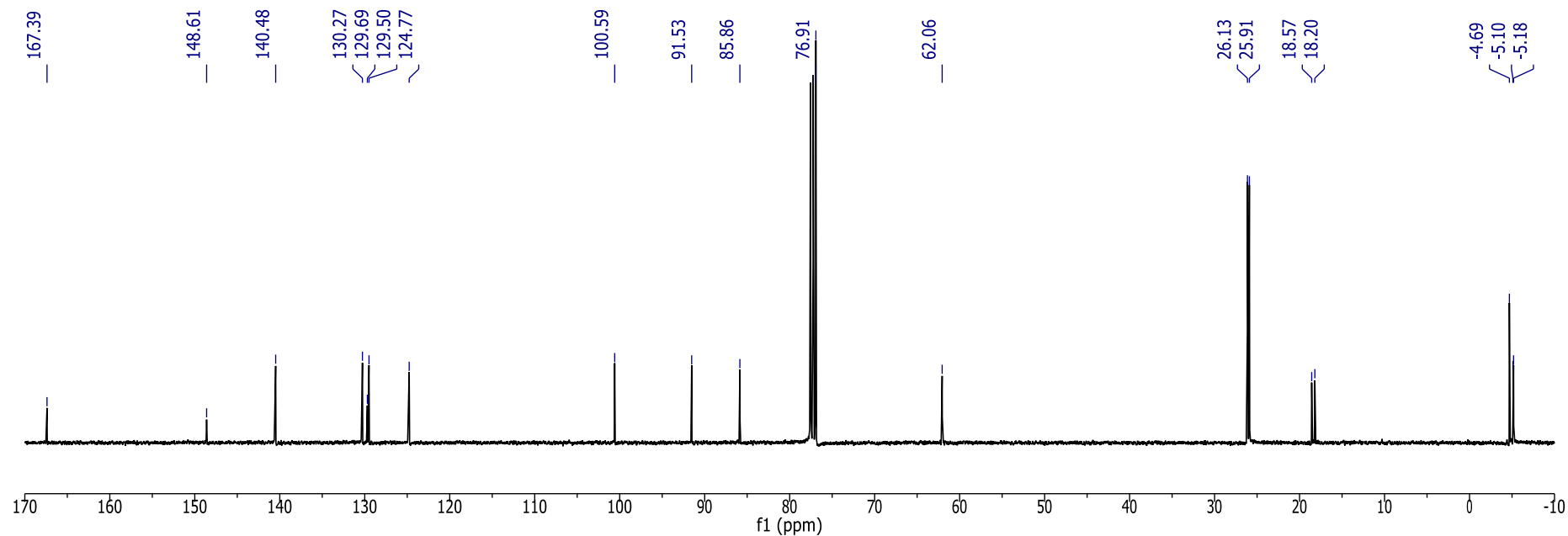
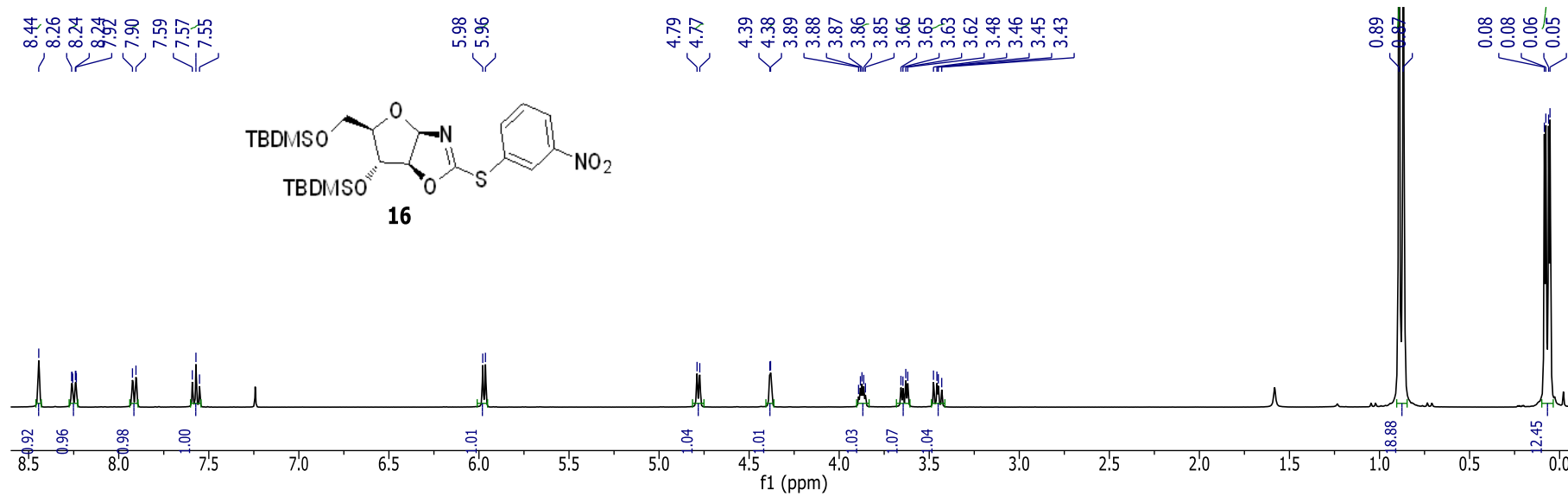
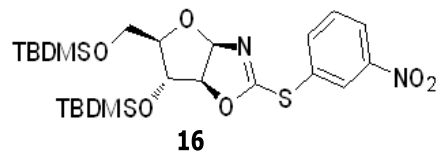


Figure S23. 2-[(3-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (16). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectrums.

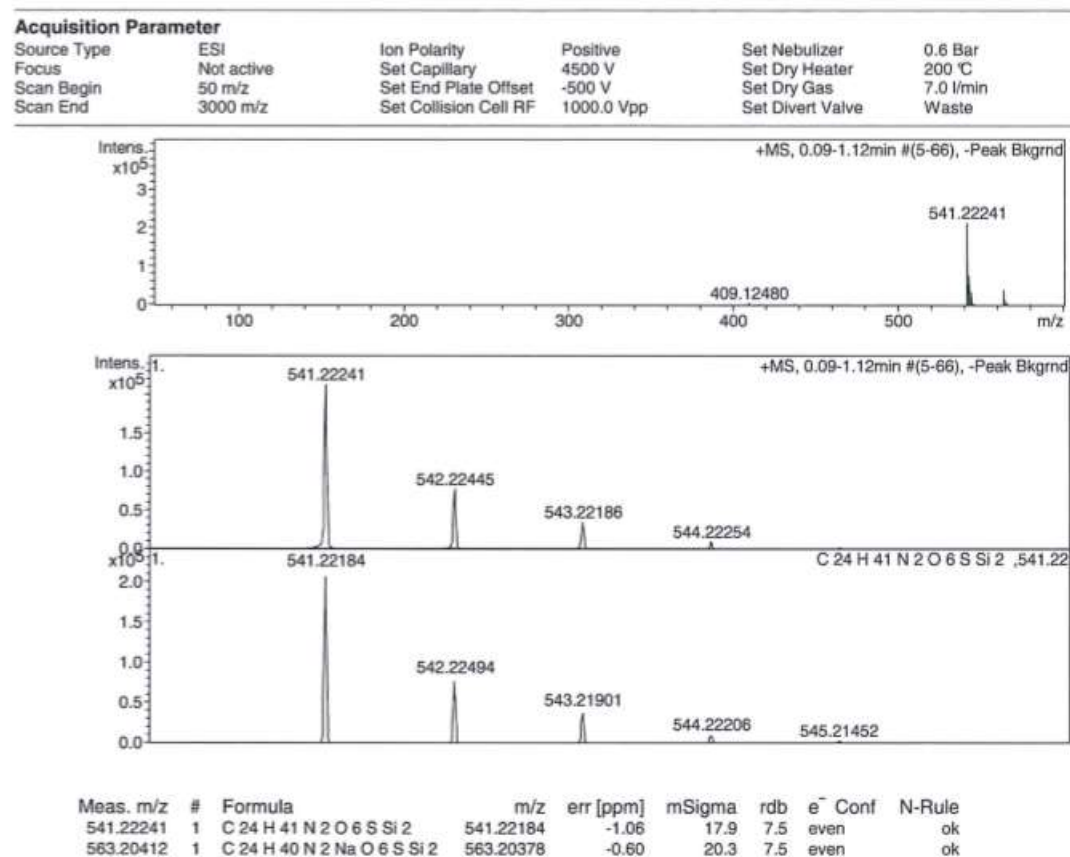


Figure S24. 2-[(3-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (16). HRMS (ESI).

Figure S25. 2-[(2-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -D-arabinofuranoso)-[1,2-*d*]-oxazole (17). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectrums.

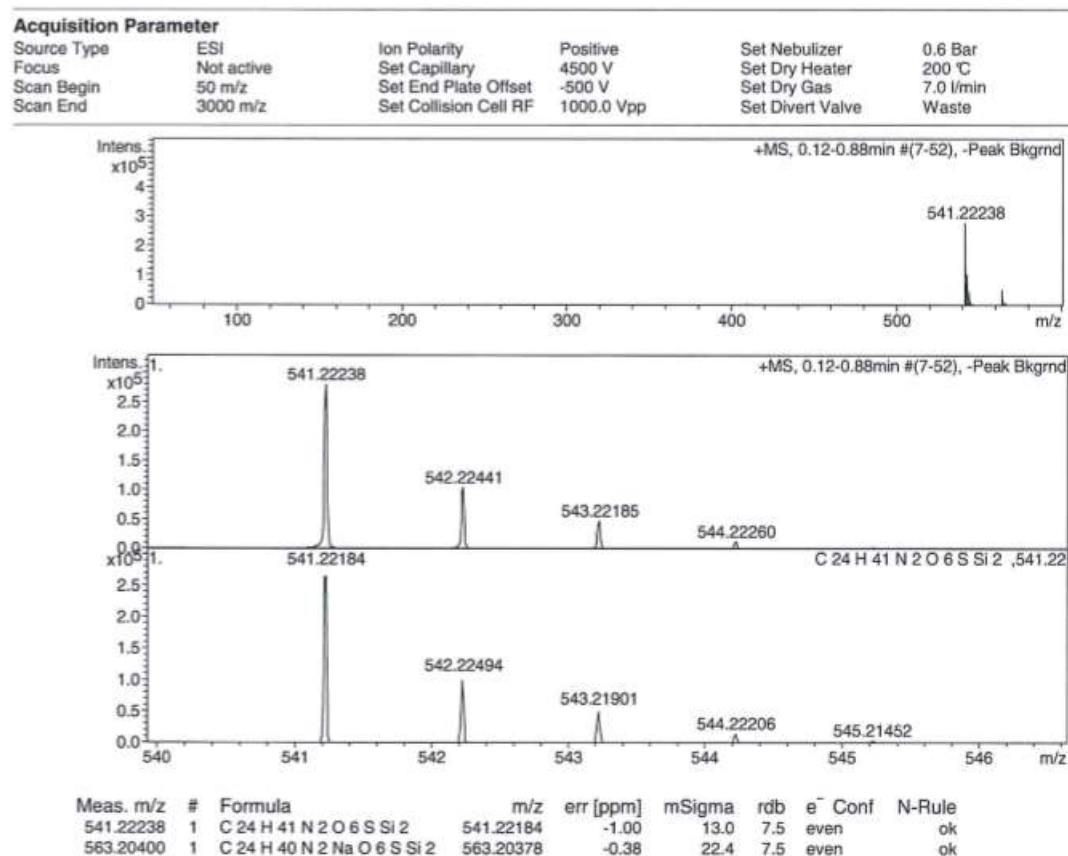


Figure S26. 2-[(2-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -D-arabinofuranoso)-[1,2-*d*]-oxazole (17). HRMS (ESI).

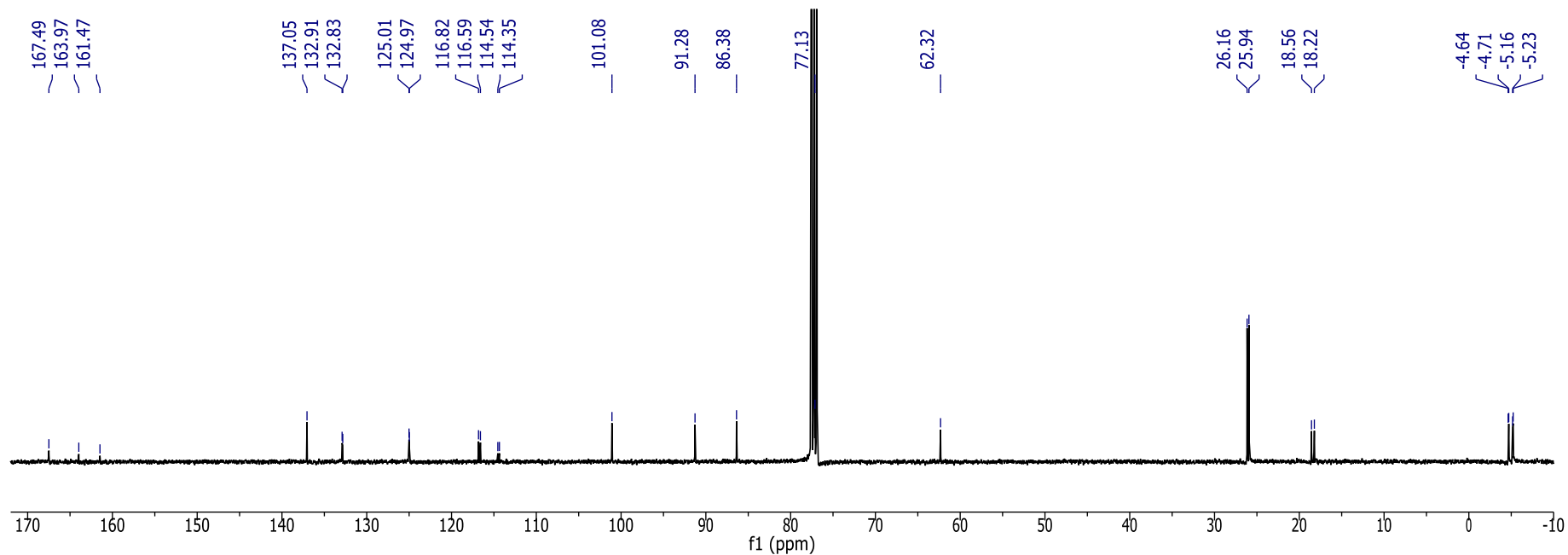
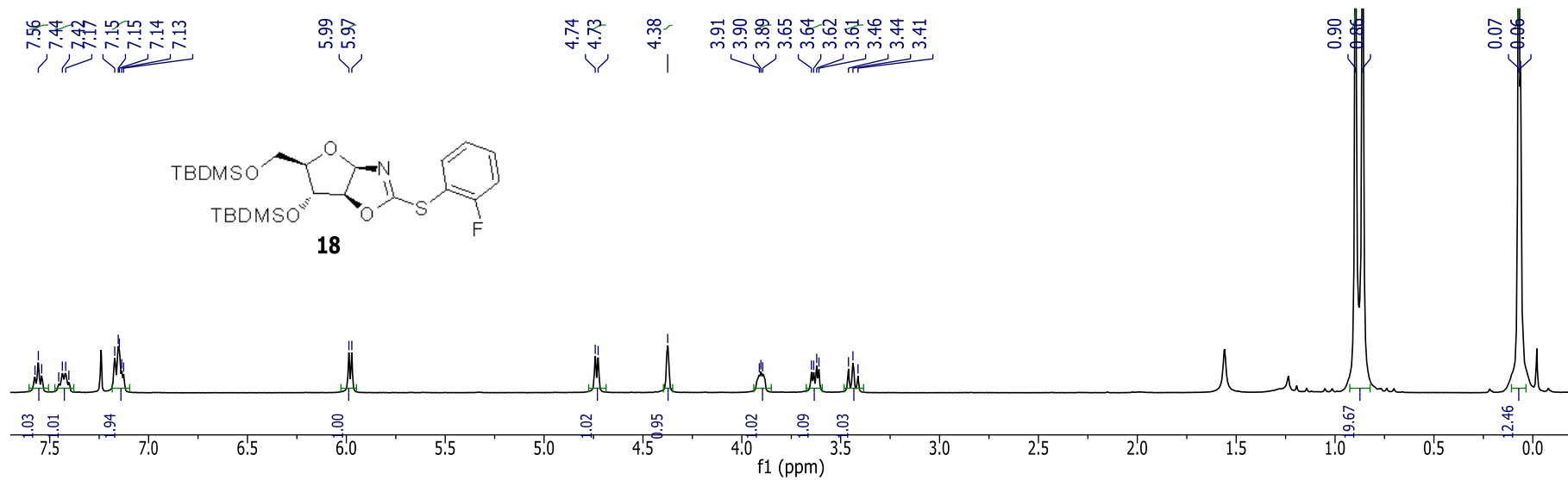


Figure S27. 2-[(2-Fluorophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (18). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectrums.

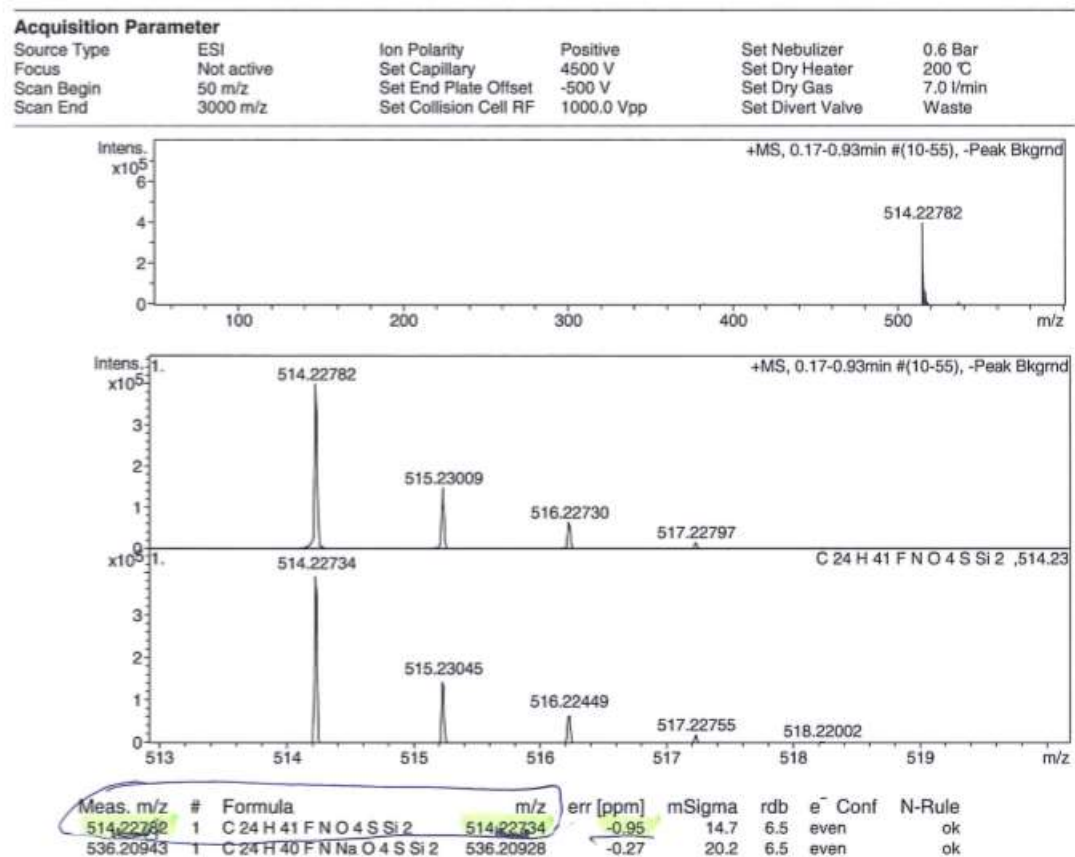


Figure S28. 2-[(2-Fluorophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (18). HRMS (ESI).

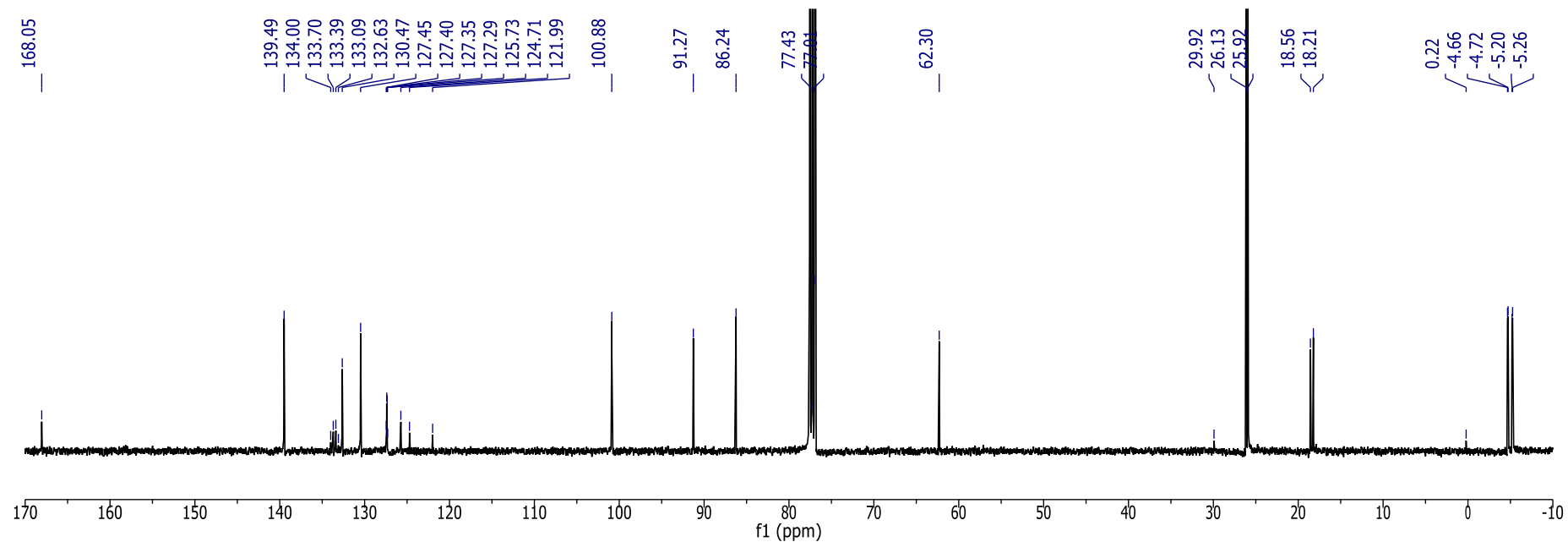
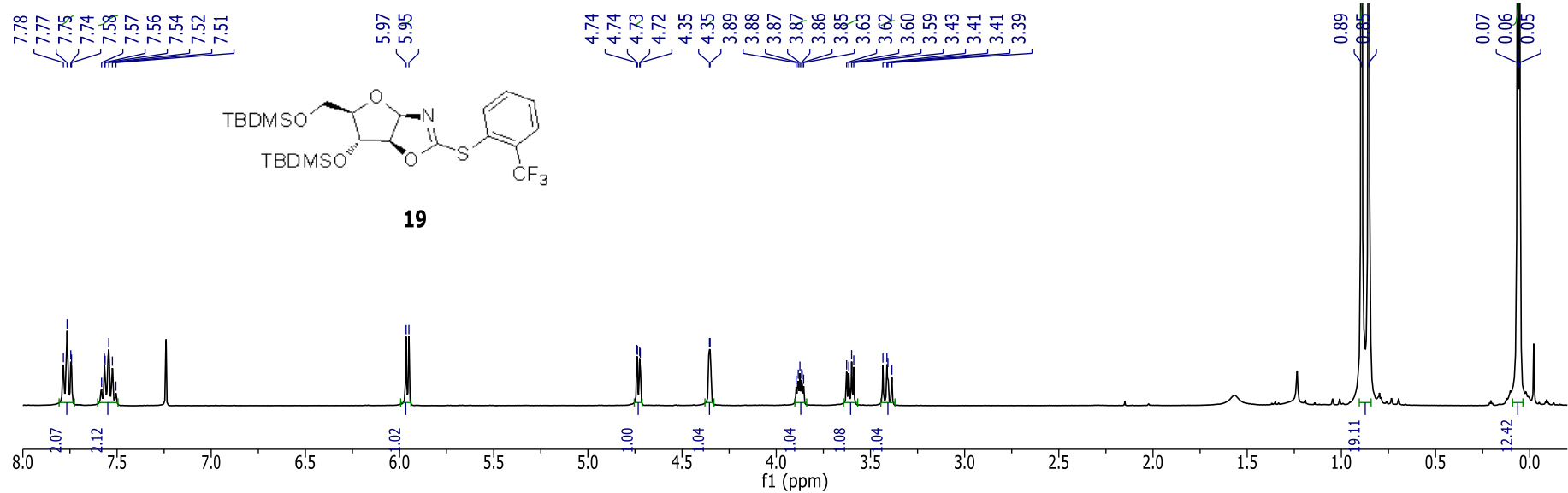


Figure S29. 2-[(2-Trifluoromethylphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (19). ^1H NMR (400 MHz, CDCl_3) and ^{13}C NMR (100 MHz, CDCl_3) spectrums.

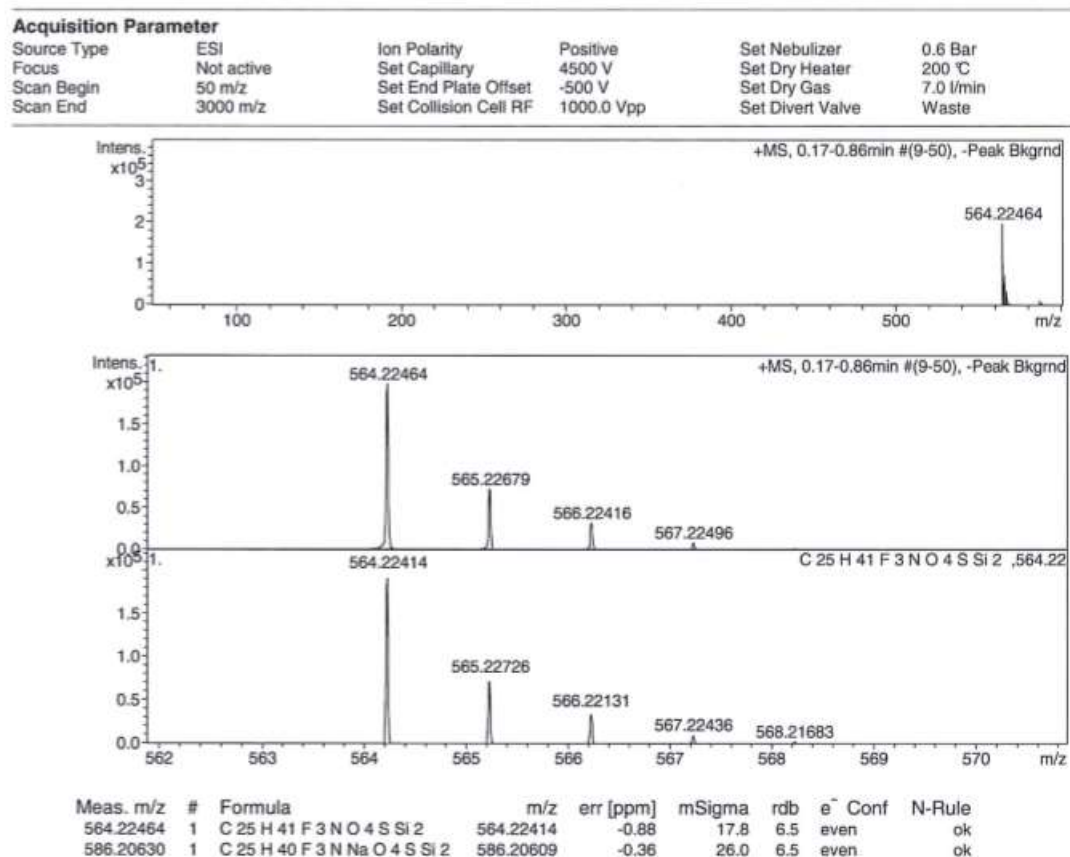


Figure S30. 2-[(2-Trifluoromethylphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-arabinofuranoso)-[1,2-*d*]-oxazole (19). HRMS (ESI).

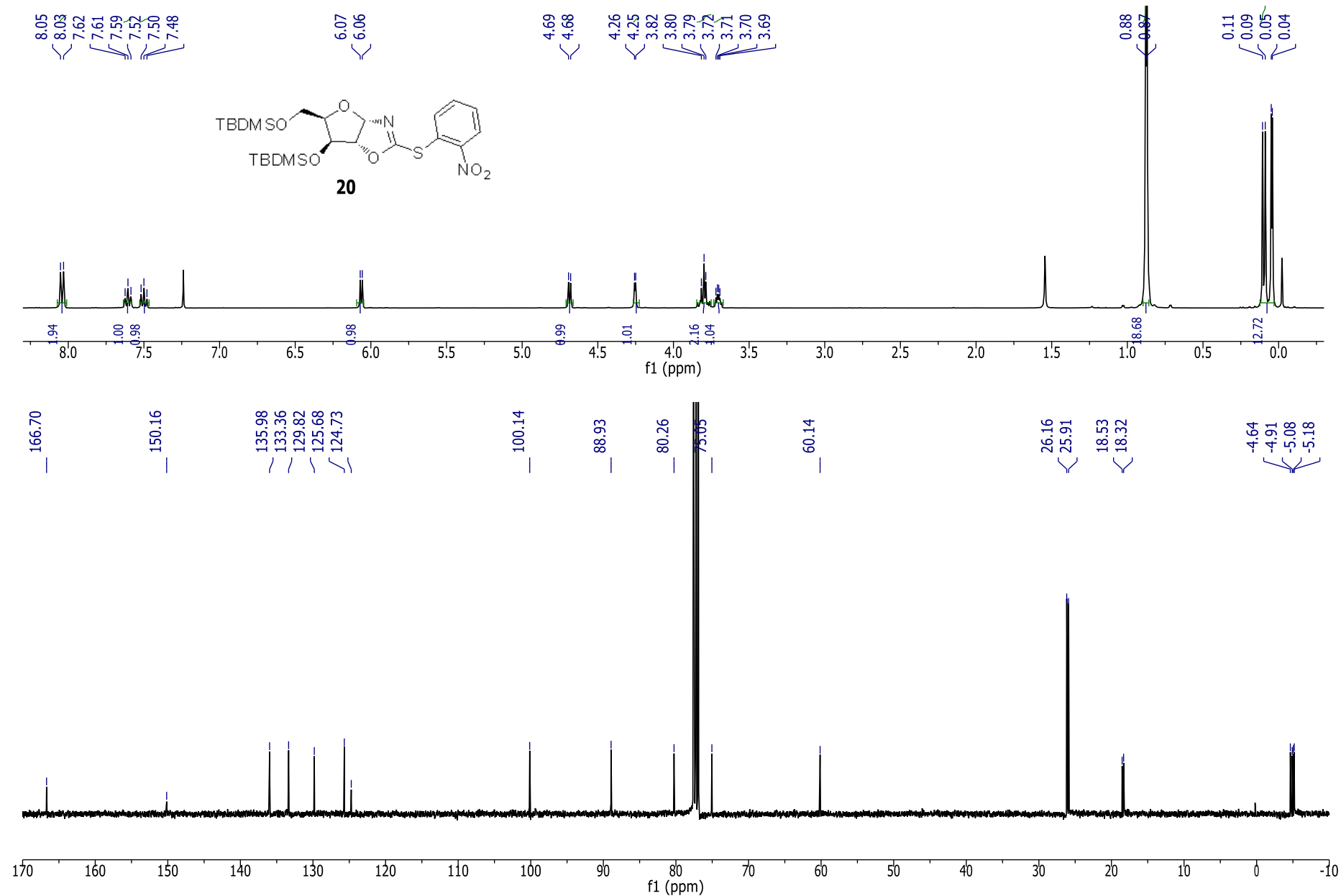


Figure S31. 2-[(2-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*- xylofuranoso)-[1,2-*d*]-oxazole (20). ¹H NMR (400 MHz, CDCl₃) and ¹³C NMR (100 MHz, CDCl₃) spectrums.

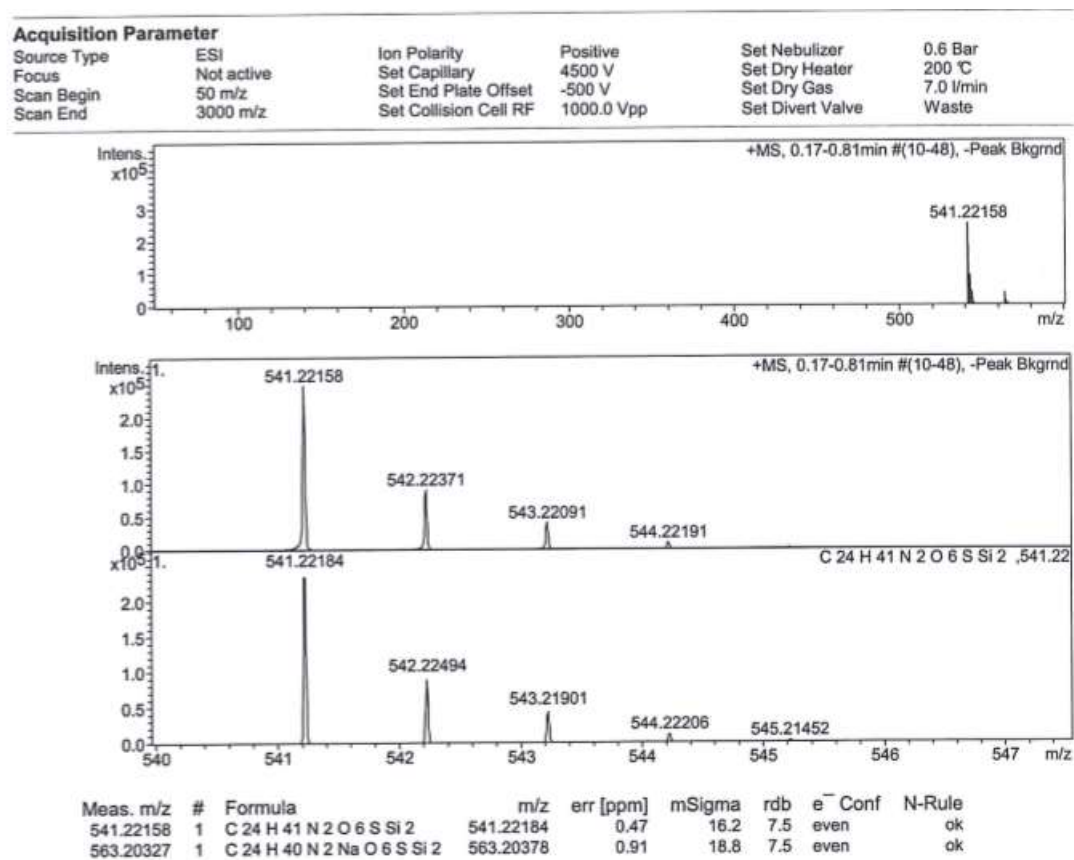


Figure S32. 2-[(2-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*- xylofuranoso)-[1,2-*d*]-oxazole (20). HRMS (ESI).

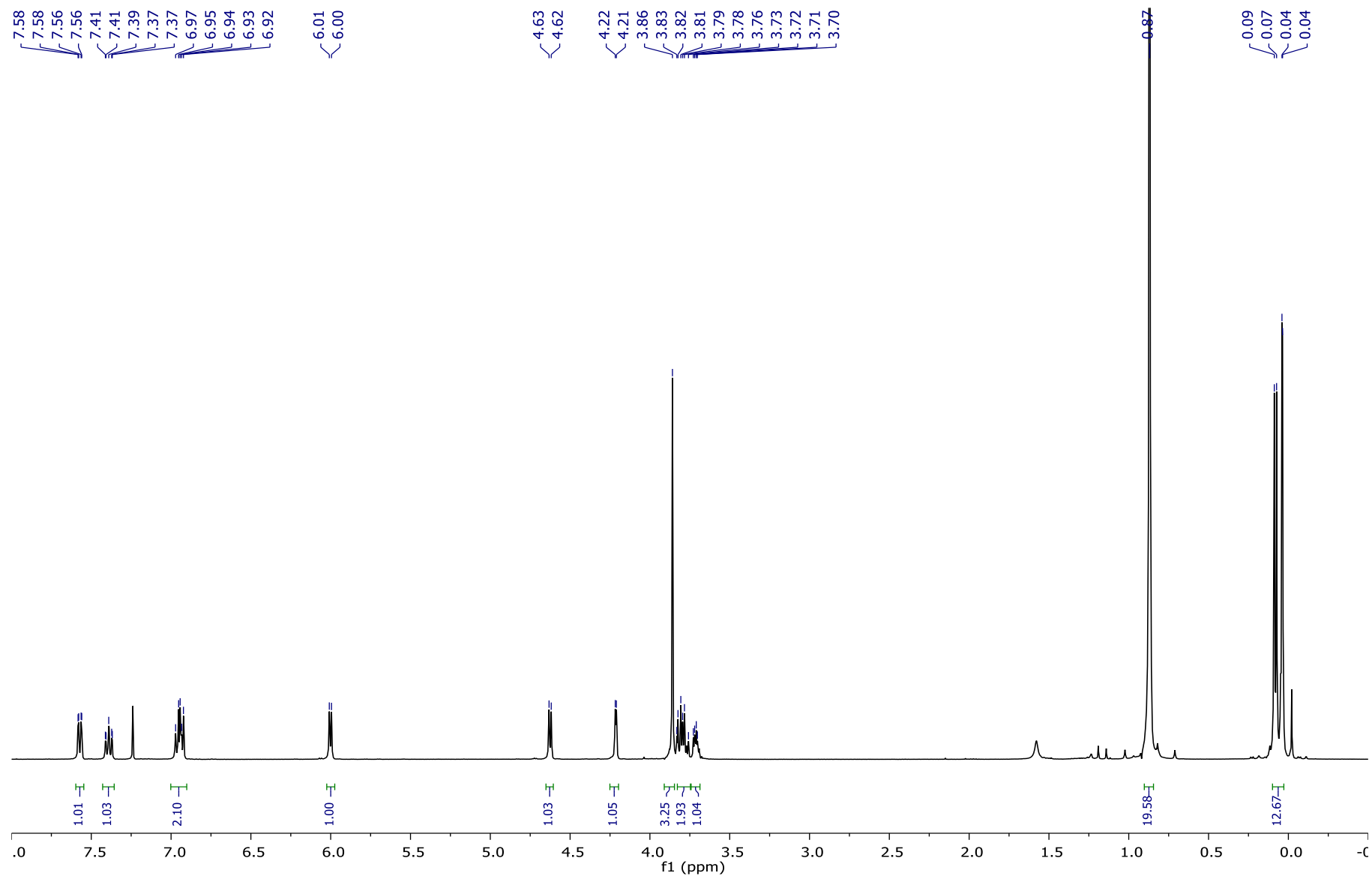


Figure S33. 2-[(2-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -D- xylofuranoso)-[1,2-*d*]-oxazole (21). ^1H NMR (400 MHz, CDCl_3) spectrum.

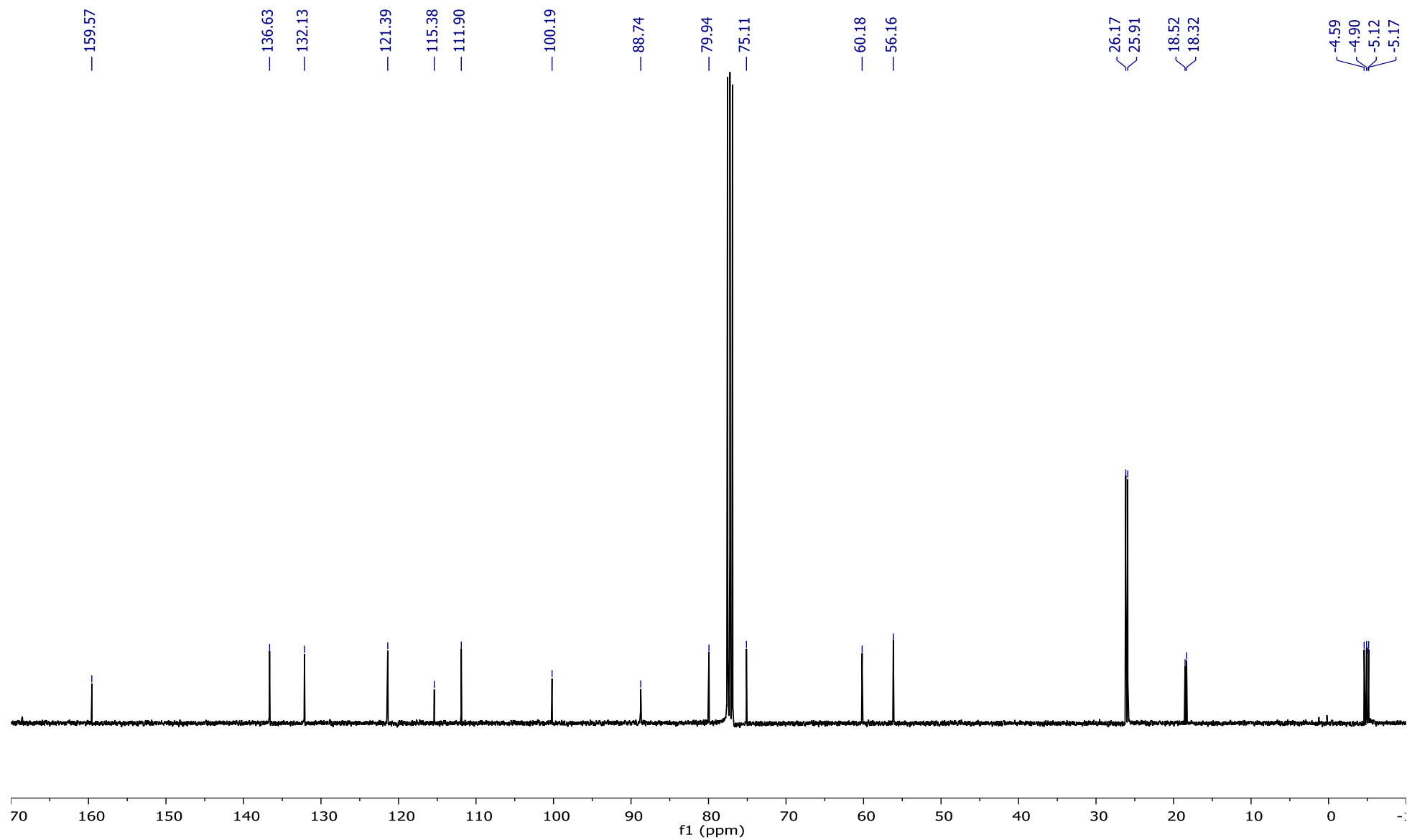


Figure S34. 2-[(2-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-xylofuranoso)-[1,2-*d*]-oxazole (21). ¹³C NMR (100 MHz, CDCl₃) spectrum.

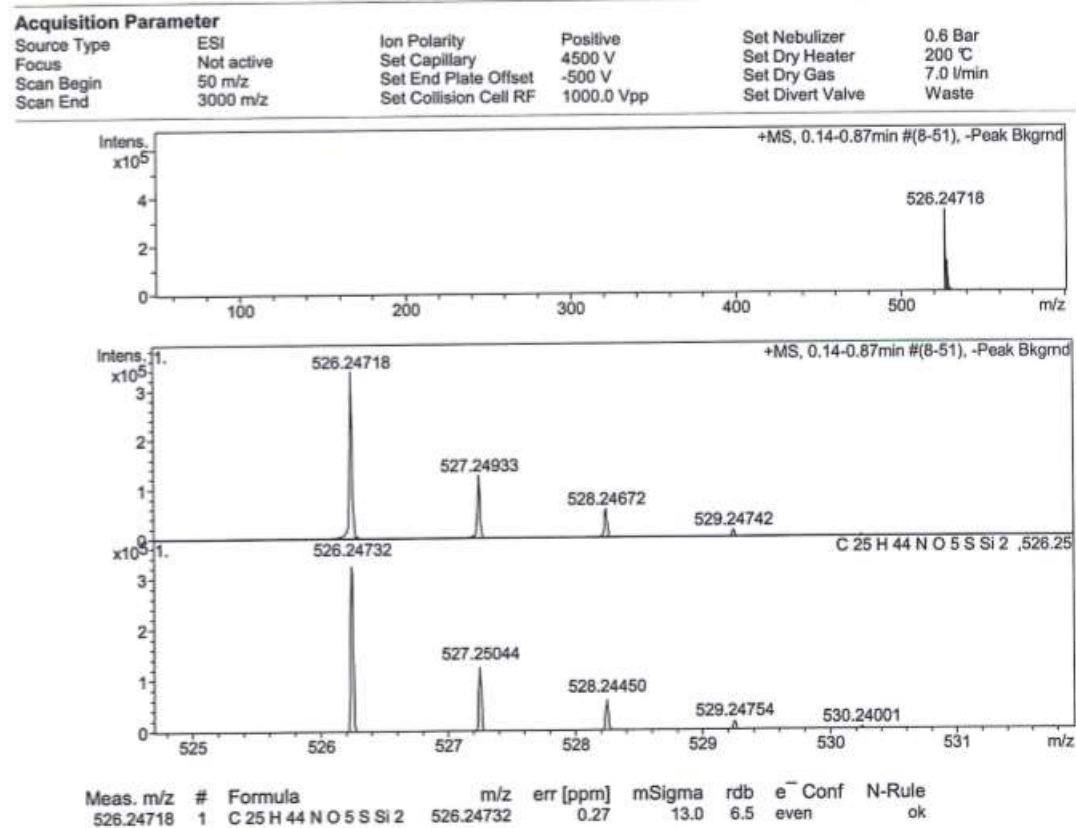


Figure S35. 2-[(2-Methoxyphenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*- xylofuranoso)-[1,2-*d*]-oxazole (21). HRMS (ESI).

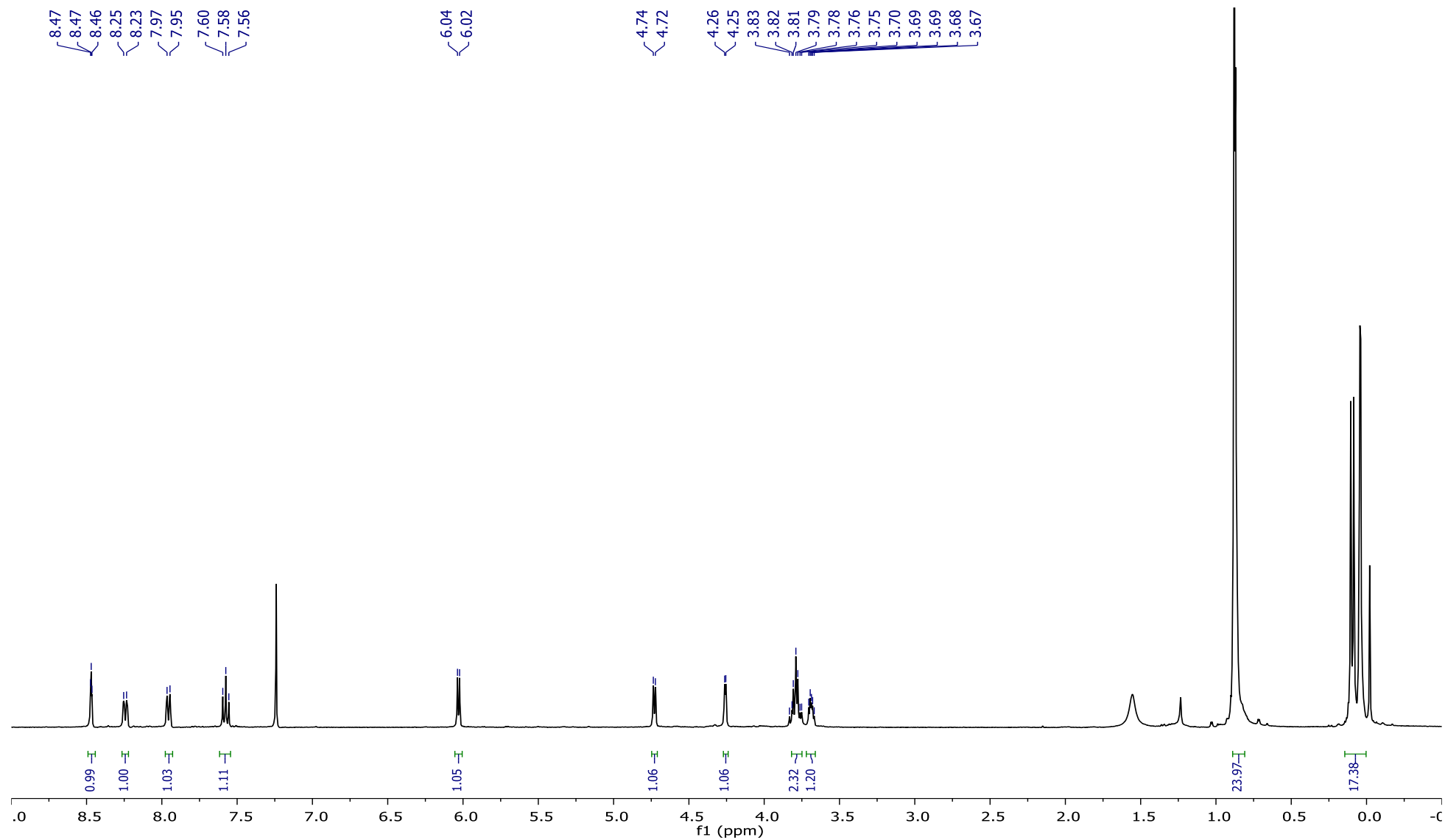


Figure S36. 2-[(2-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-ribofuranoso)-[1,2-*d*]-oxazole (22). ^1H NMR (400 MHz, CDCl_3) spectrum.

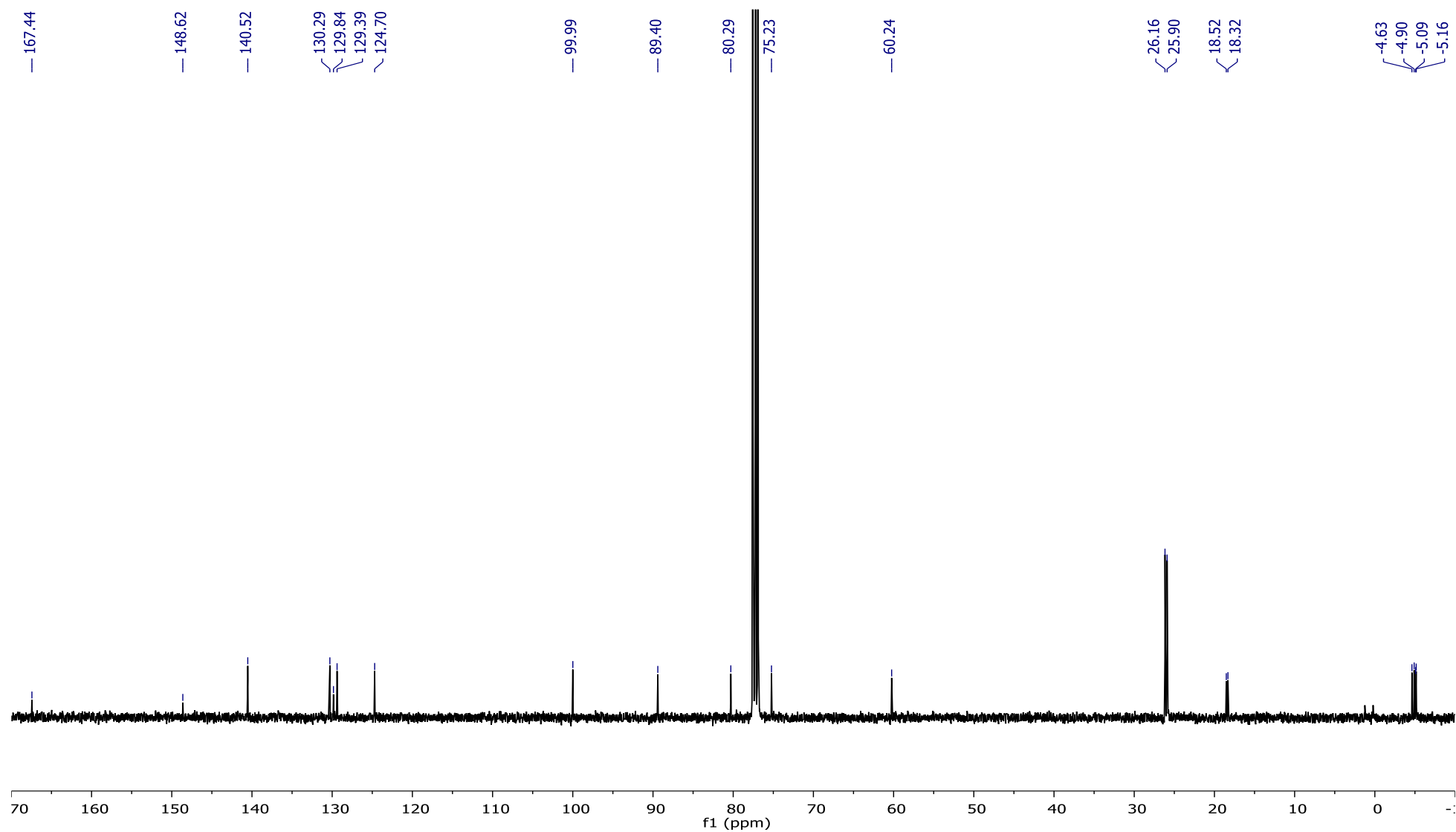


Figure S37. 2-[(2-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O*-*tert*-1',2'-dideoxy- β -*D*-ribofuranoso)-[1,2-*d*]-oxazole (22). ^{13}C NMR (100 MHz, CDCl_3) spectrum.

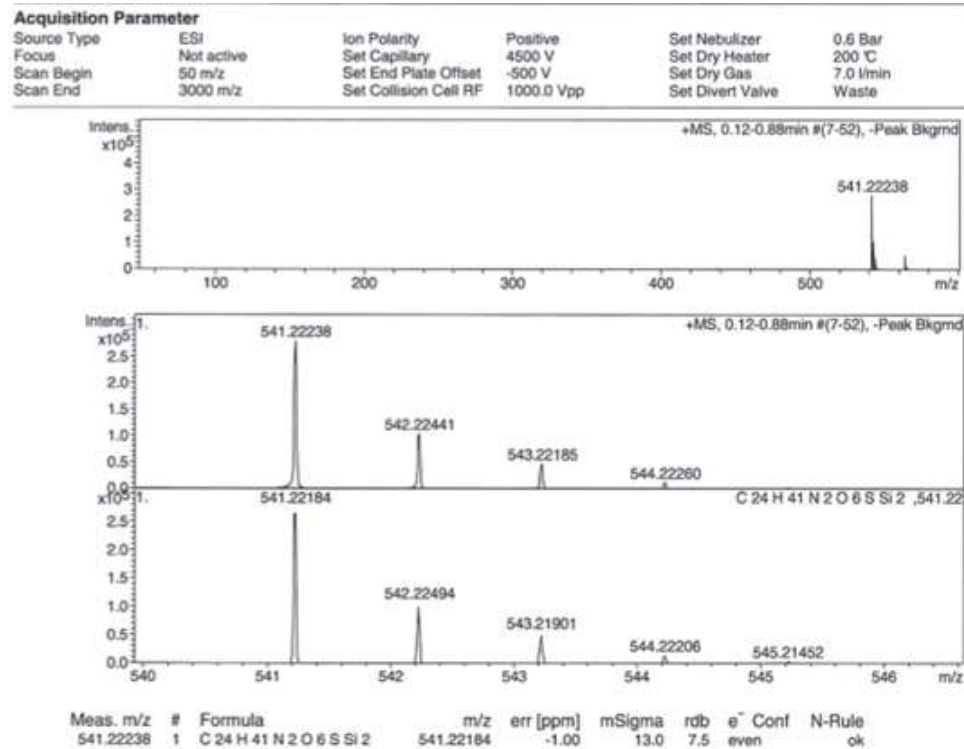


Figure S38. 2-[(2-Nitrophenyl)sulfanyl]-4,5-dihydro(3',5'-di-*O-tert*-1',2'-dideoxy- β -*D*-ribofuranoso)-[1,2-*d*]-oxazole (22). HRMS (ESI).