Supporting Information

Surfactant-Mediated Thioglycosylation of 1-Hydroxy Sugar in Water

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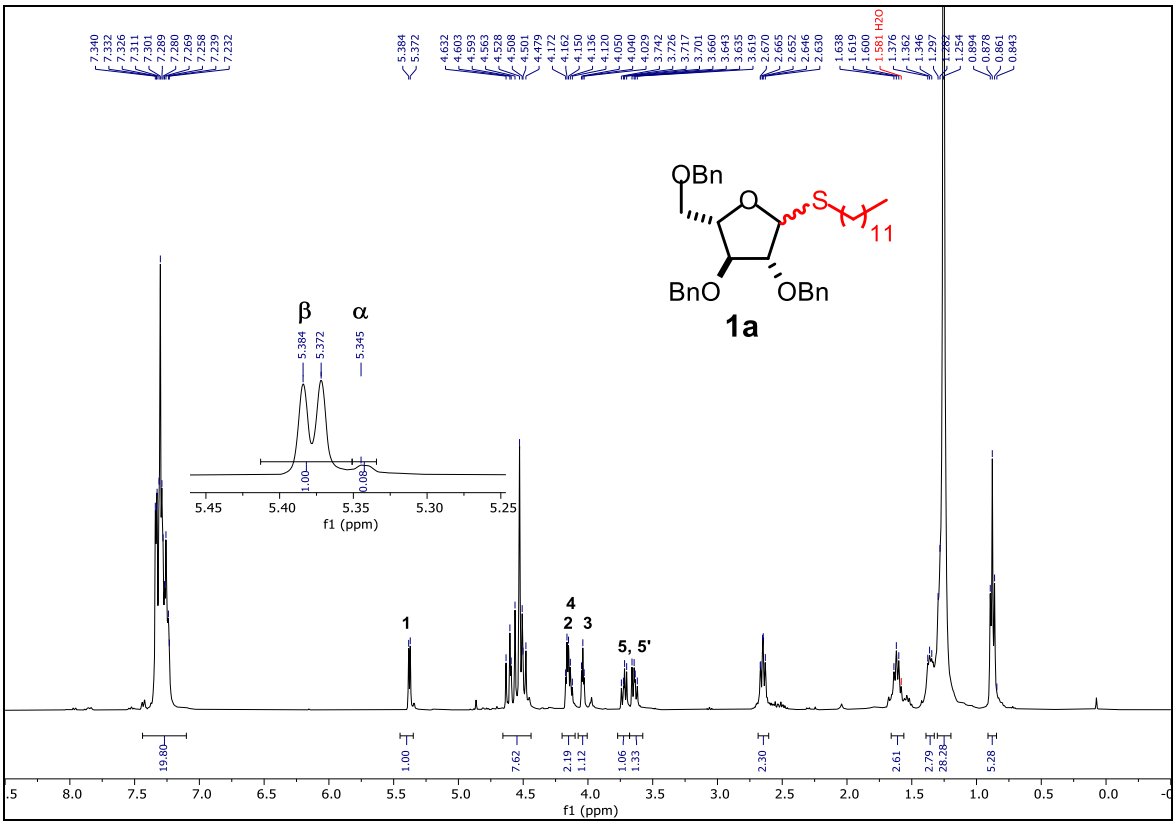

Figure S1. ^{1}H NMR spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**1a**) (400 MHz, $CDCl_3$).

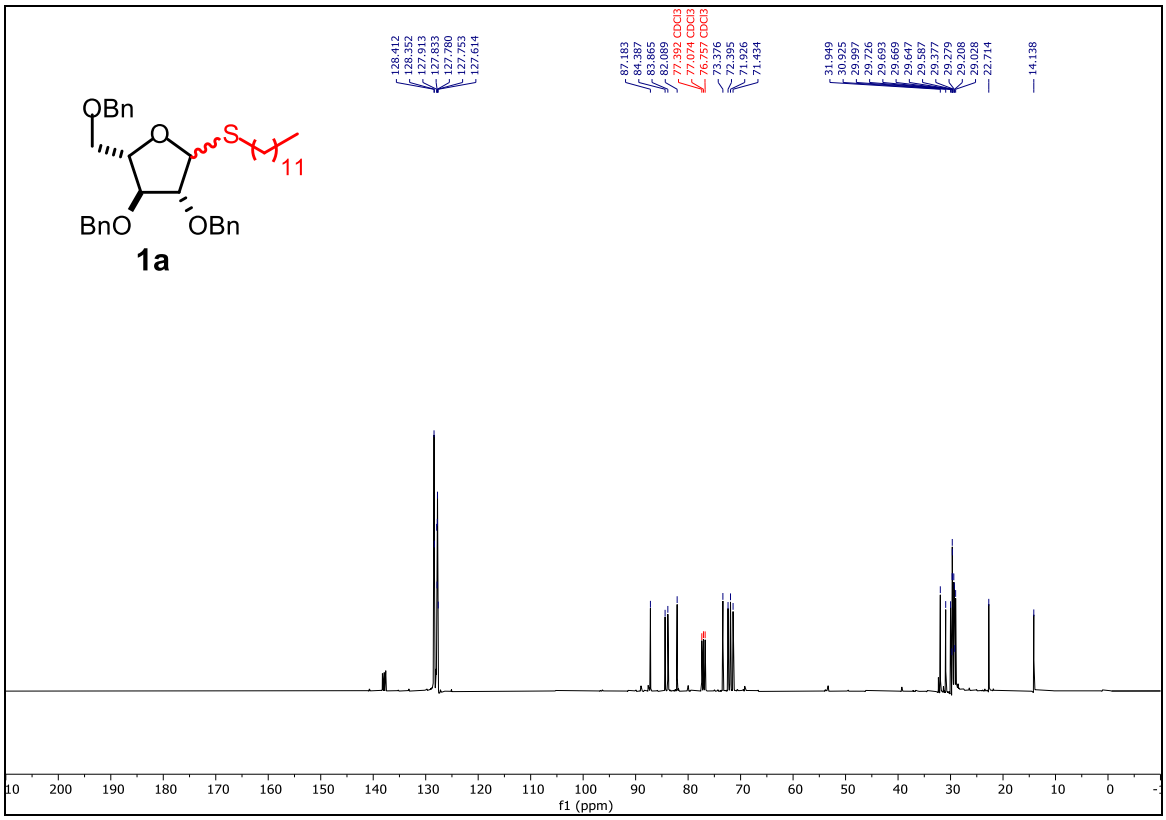

Figure S2. ^{13}C NMR spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**1a**) (101 MHz, $CDCl_3$).

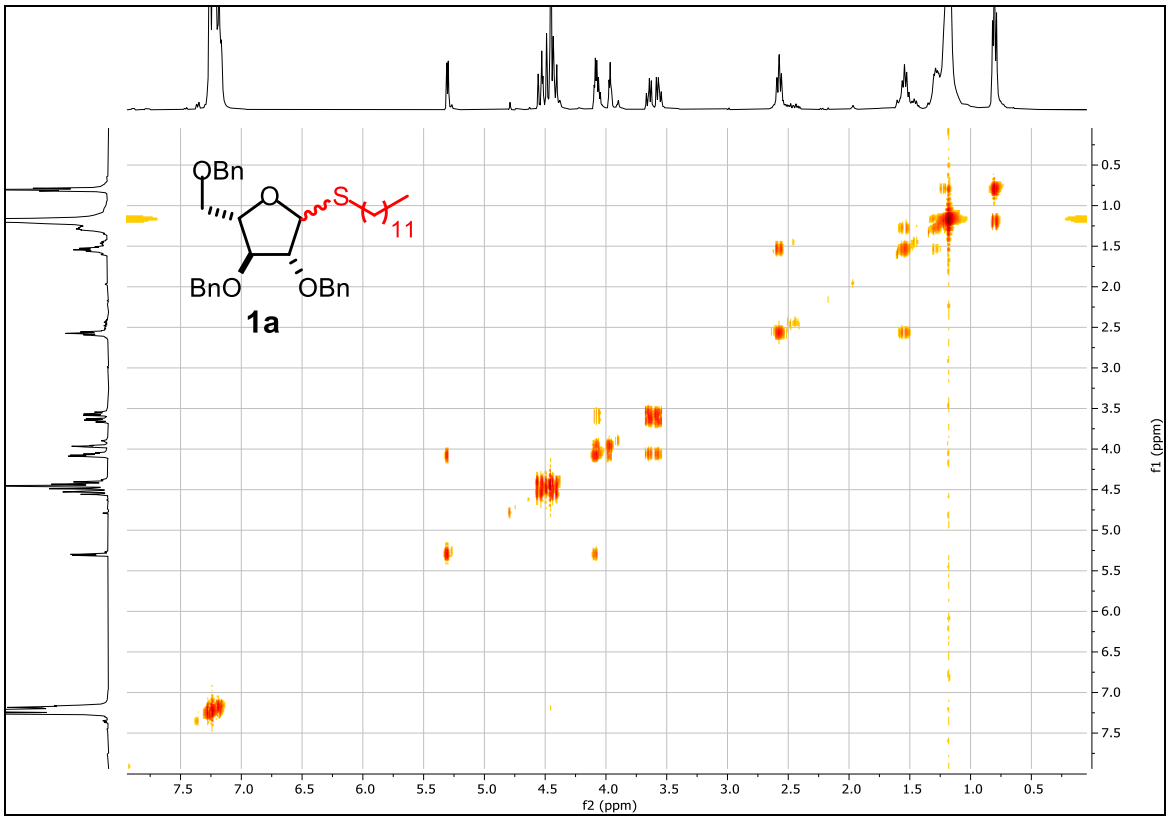

Figure S3. COSY spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**1a**) (400 MHz, $CDCl_3$).

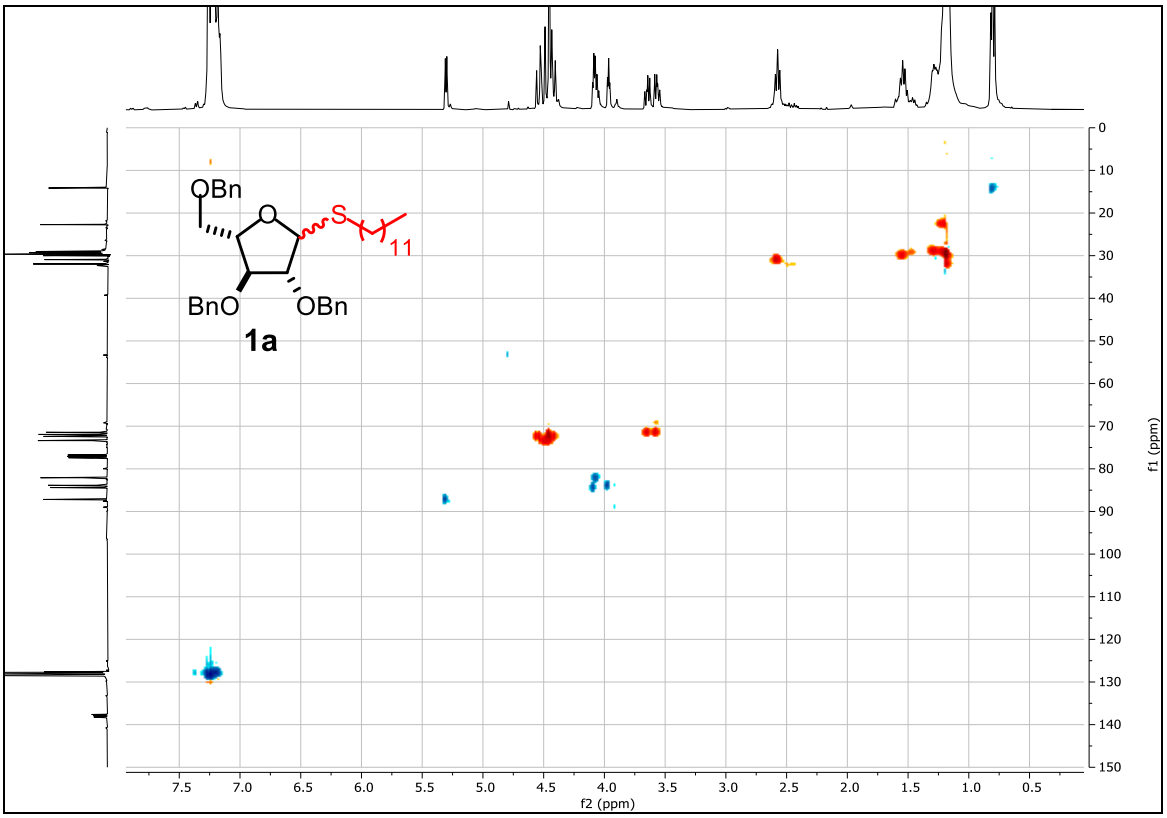

Figure S4. HSQC spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**1a**) (400 MHz, $CDCl_3$).

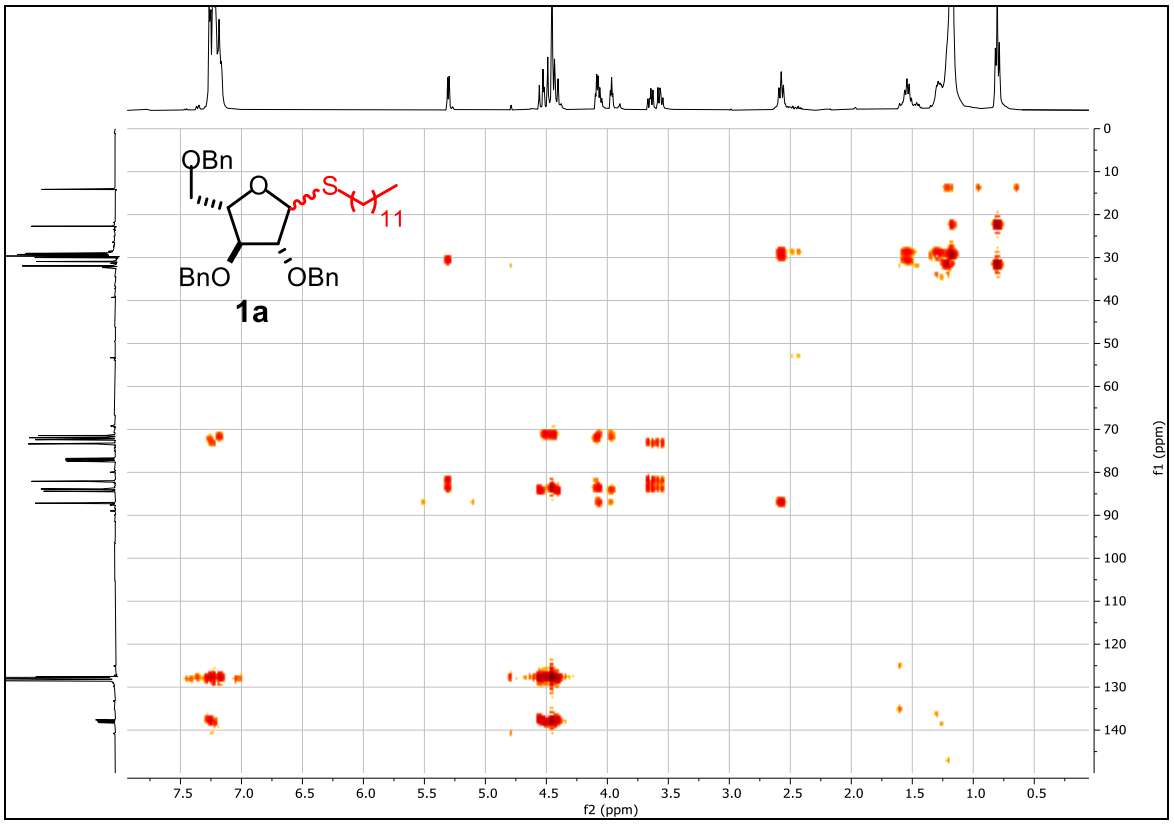

Figure S5. HMBC spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**1a**) (400 MHz, $CDCl_3$).

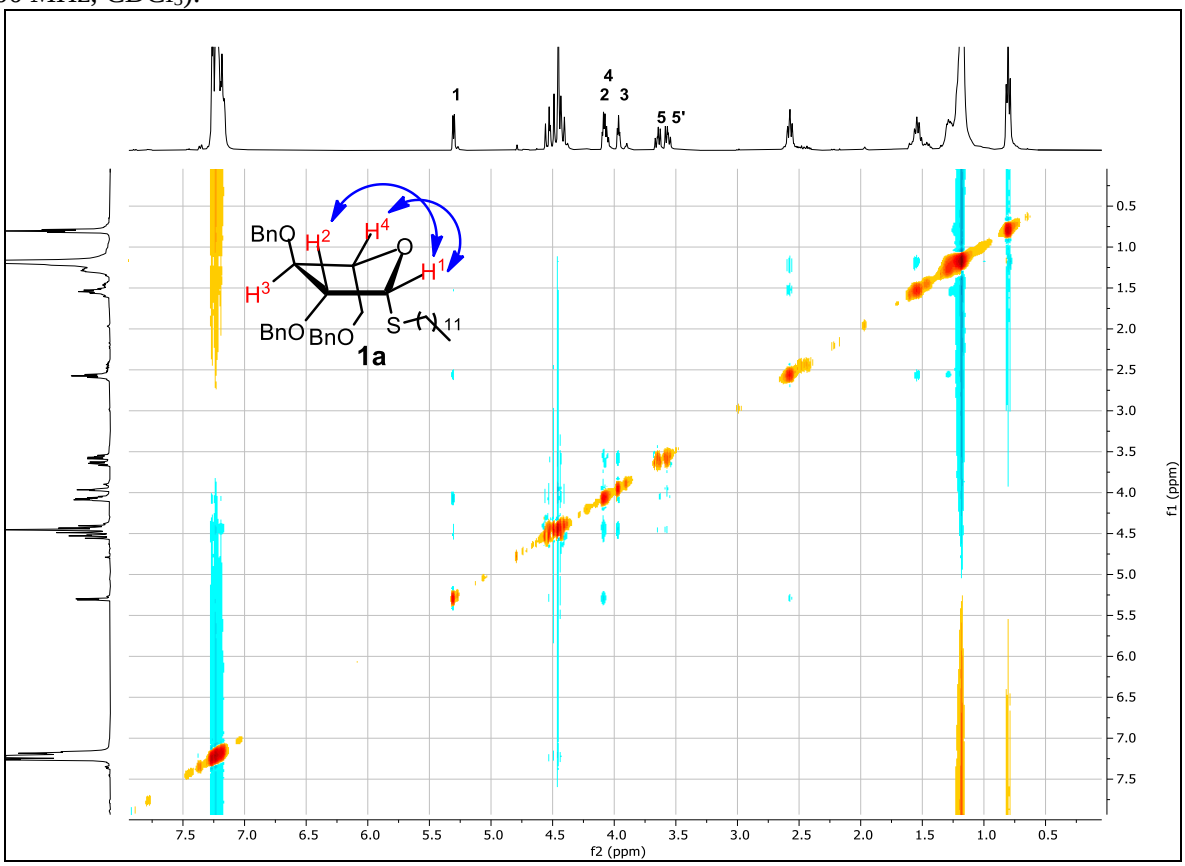

Figure S6. NOESY spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**1a**) (400 MHz, $CDCl_3$).

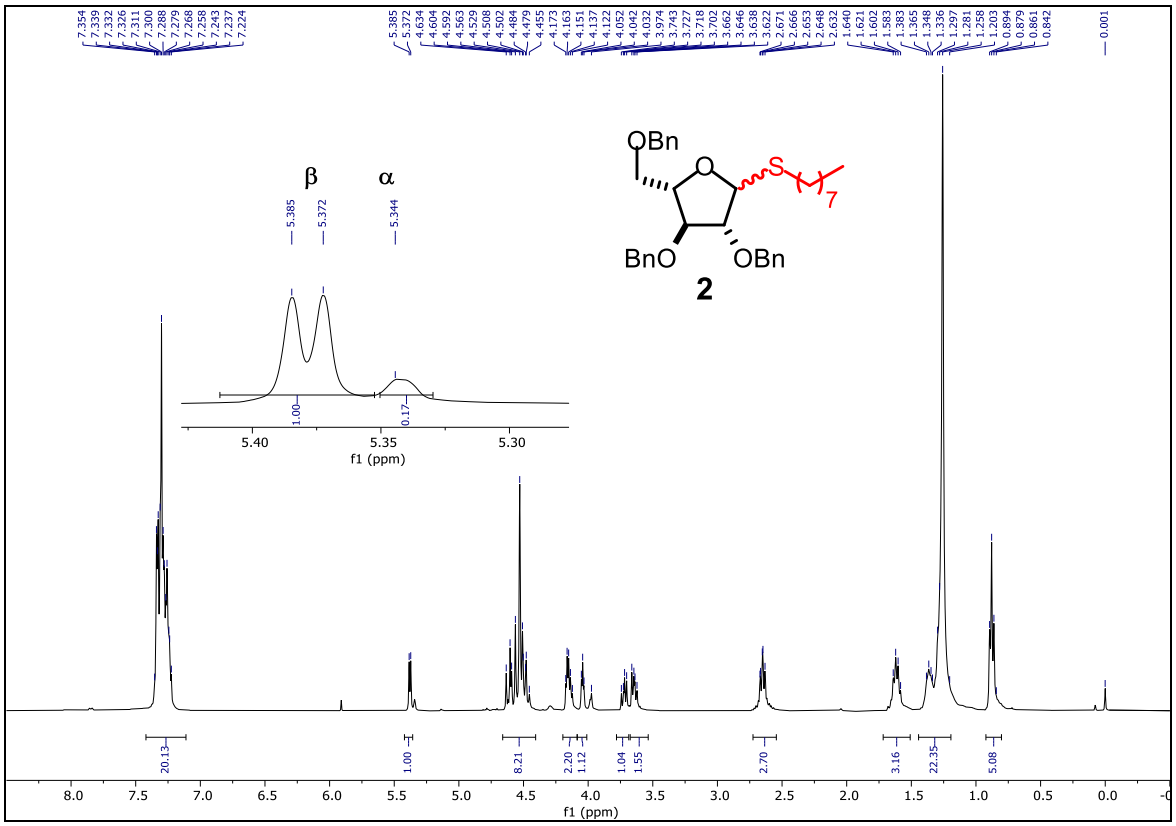

Figure S7. ^{1}H NMR spectrum of octyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**2**) (400 MHz, $CDCl_3$).

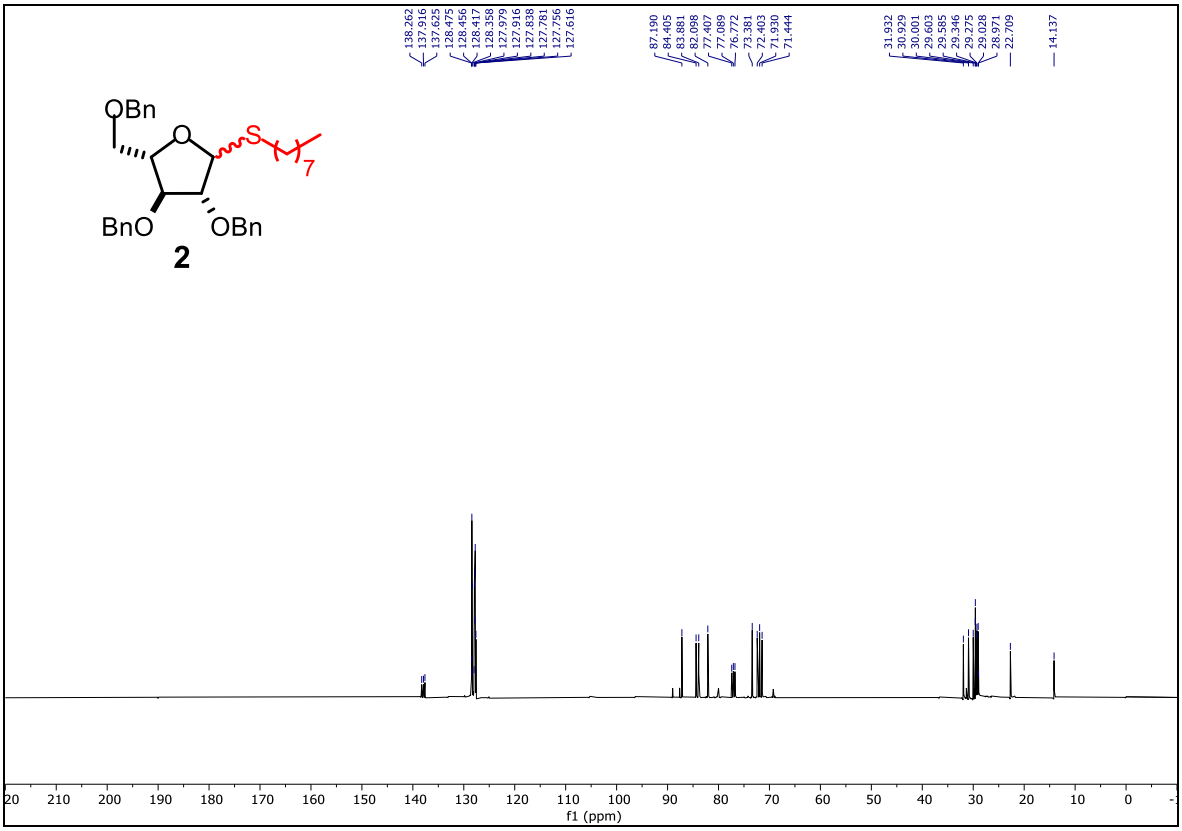

Figure S8. ^{13}C NMR spectrum of octyl 2,3,5-tri-*O*-benzyl-α,**β**-L-thioarabinofuranoside (**2**) (101 MHz, $CDCl_3$).

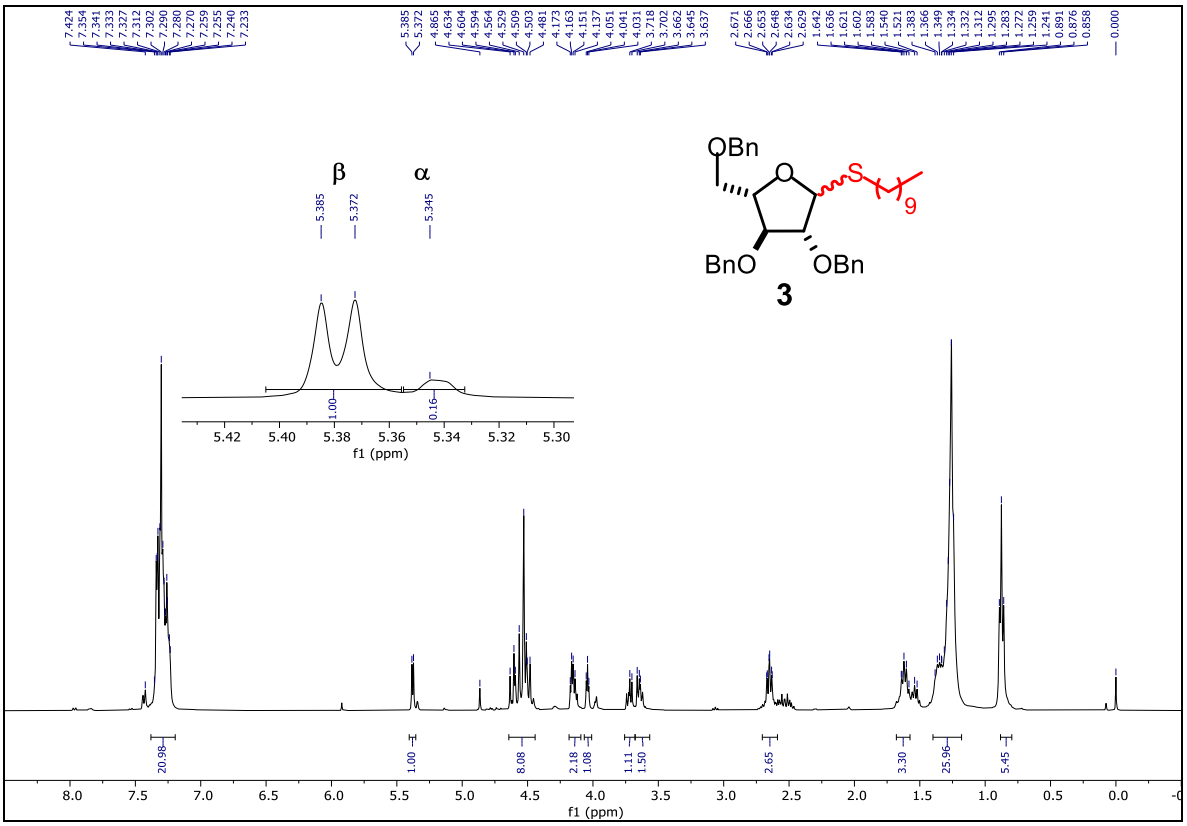

Figure S9. ^{1}H NMR spectrum of decyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β-**L-arabinofuranoside (**3**) (400 MHz, $CDCl_3$).

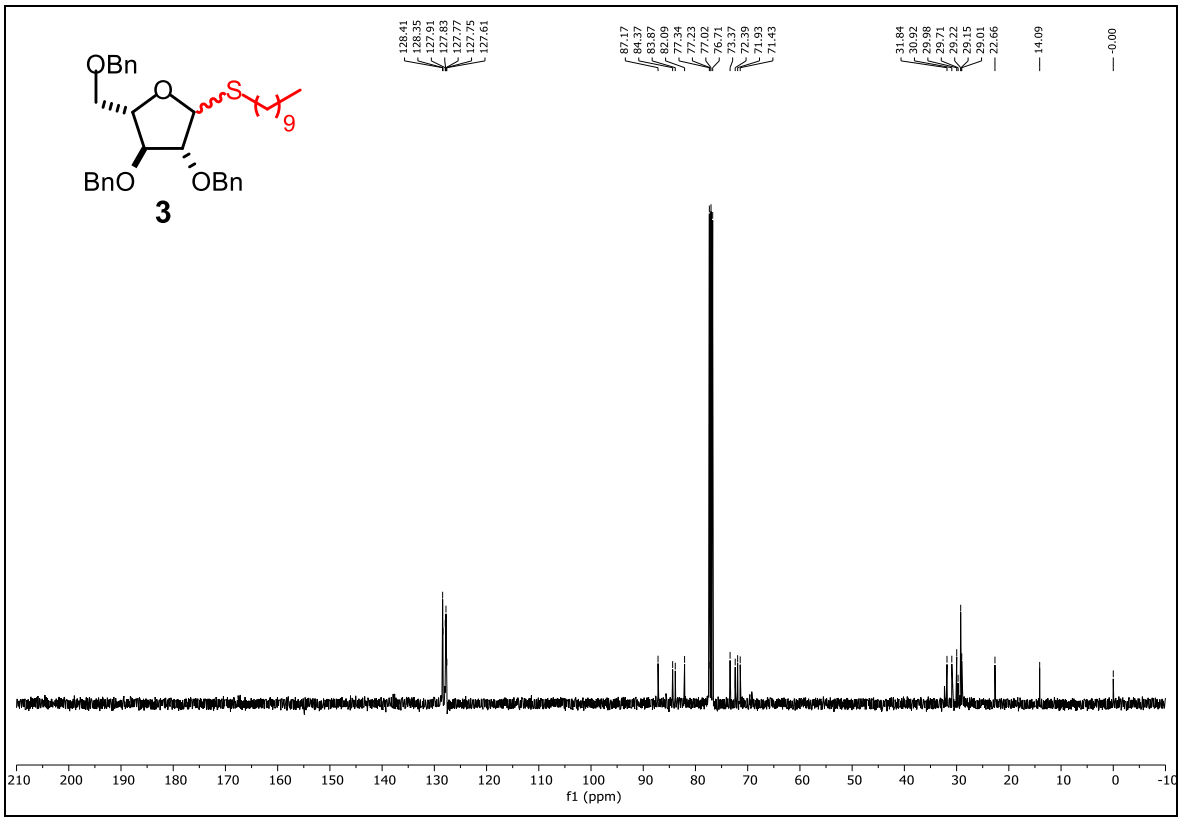

Figure S10. ^{13}C NMR spectrum of decyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β-**L-arabinofuranoside (**3**) (101 MHz, $CDCl_3$).

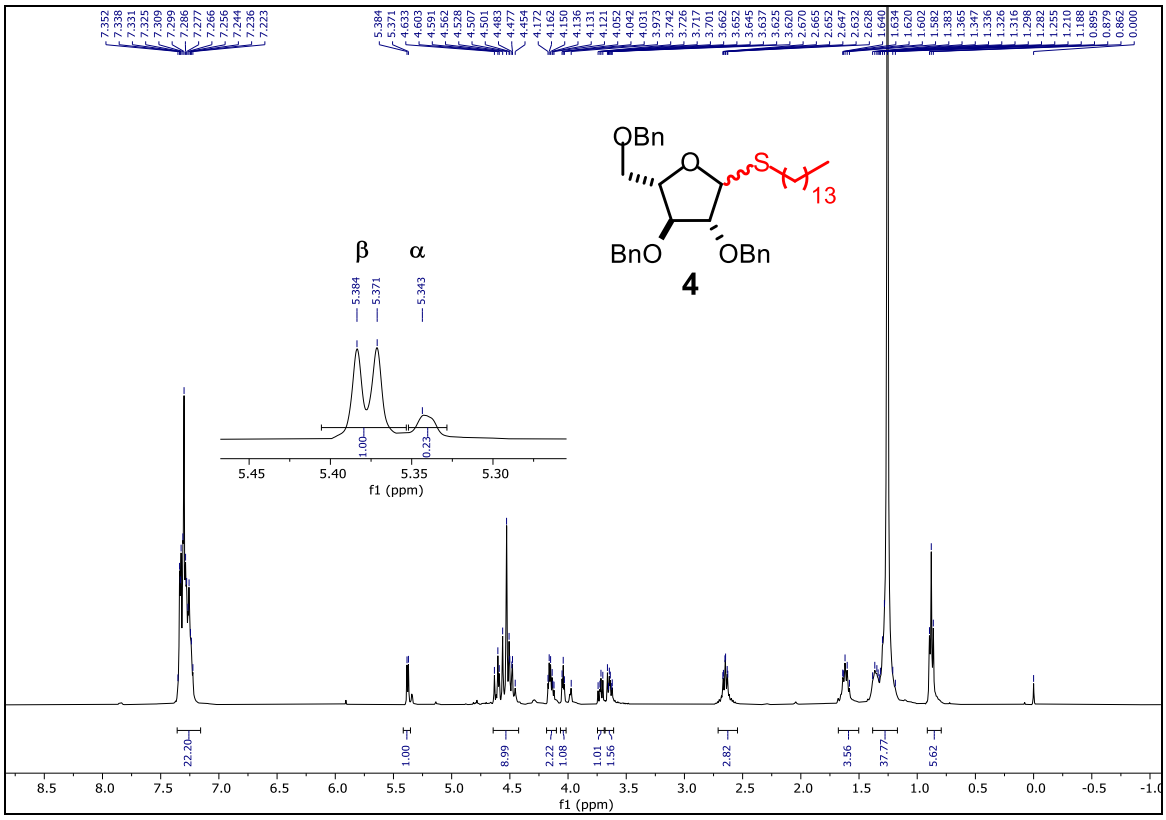

Figure S11. ^{1}H NMR spectrum of tetradecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**4**) (400 MHz, $CDCl_3$).

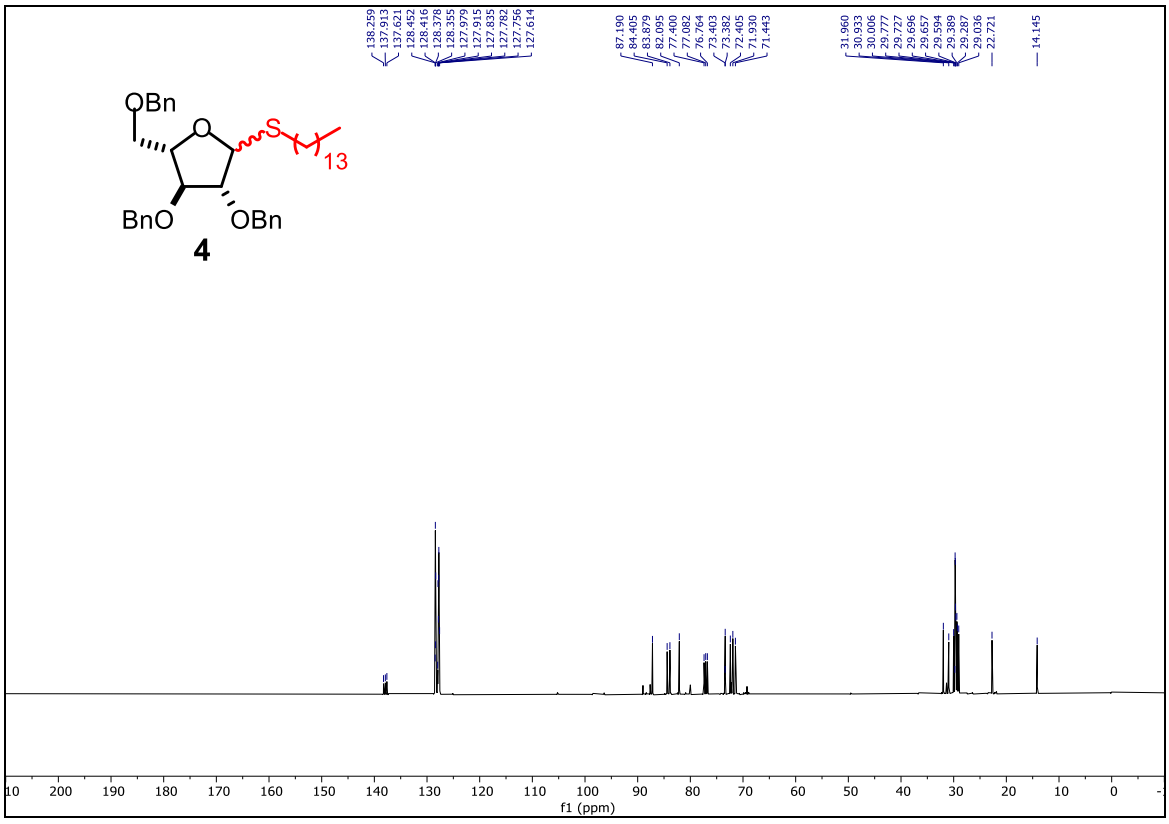

Figure S12. ^{13}C NMR spectrum of tetradecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**4**) (101 MHz, $CDCl_3$).

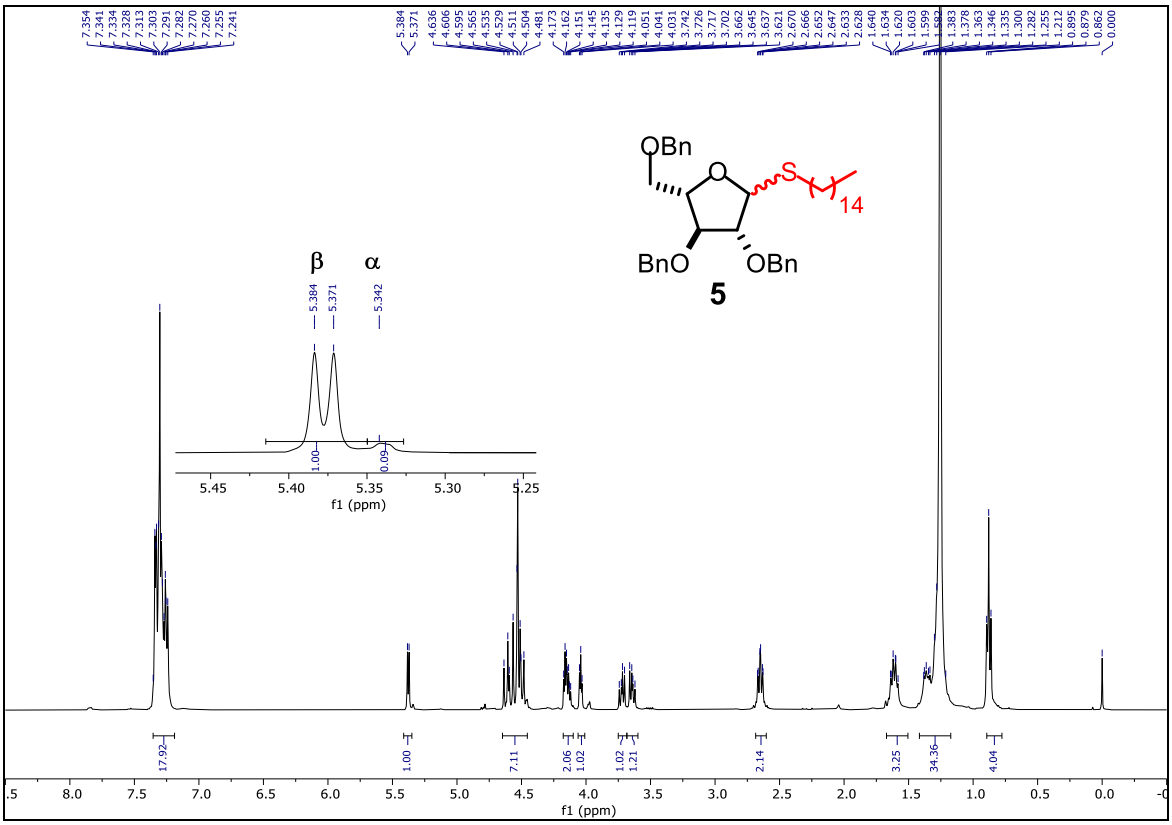

Figure S13. ^{1}H NMR spectrum of pentadecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**5**) (400 MHz, $CDCl_3$).

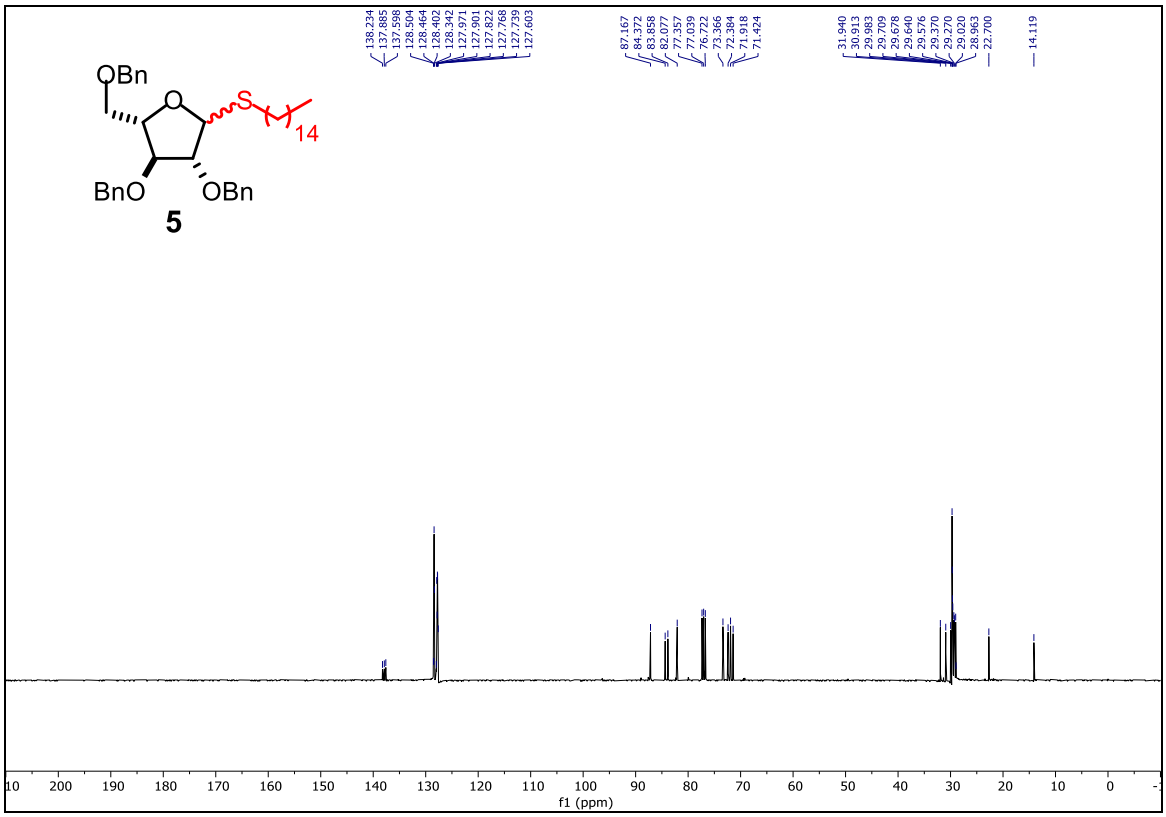

Figure S14. ^{13}C NMR spectrum of pentadecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**5**) (101 MHz, $CDCl_3$).

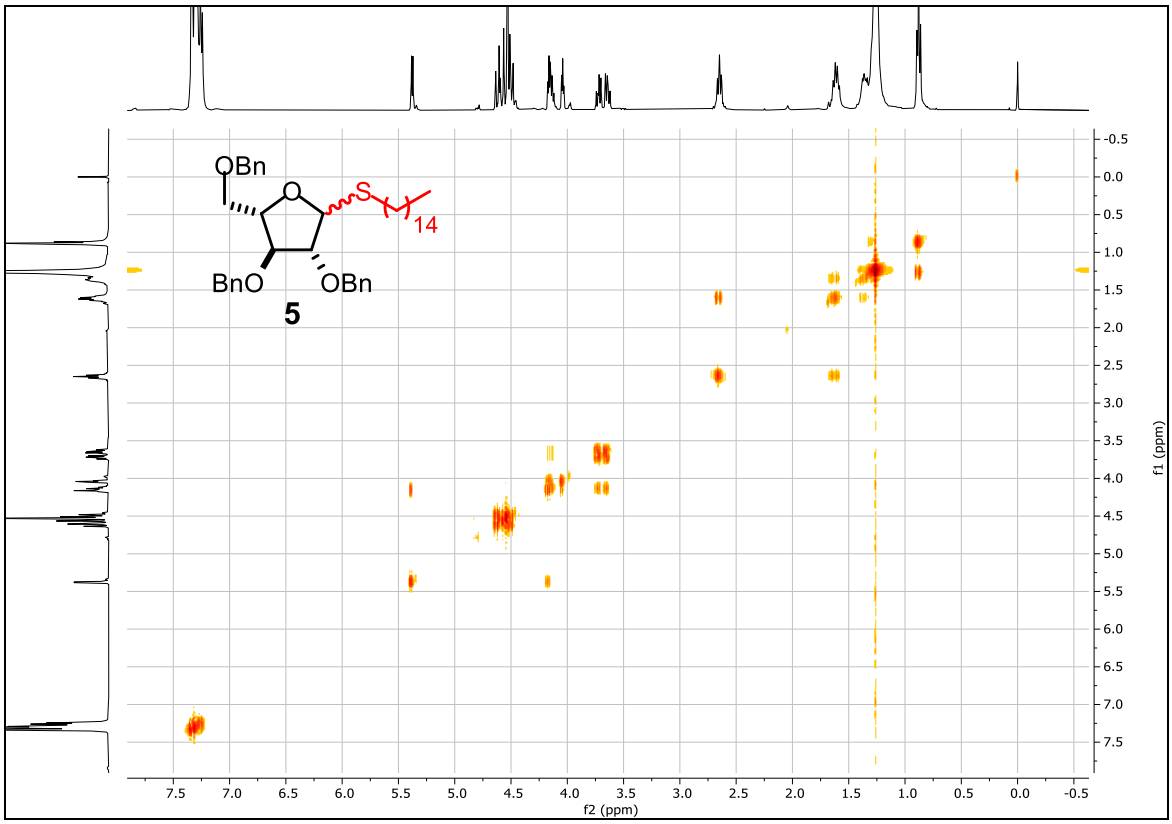

Figure S15. COSY spectrum of pentadecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**5**) (400 MHz, $CDCl_3$).

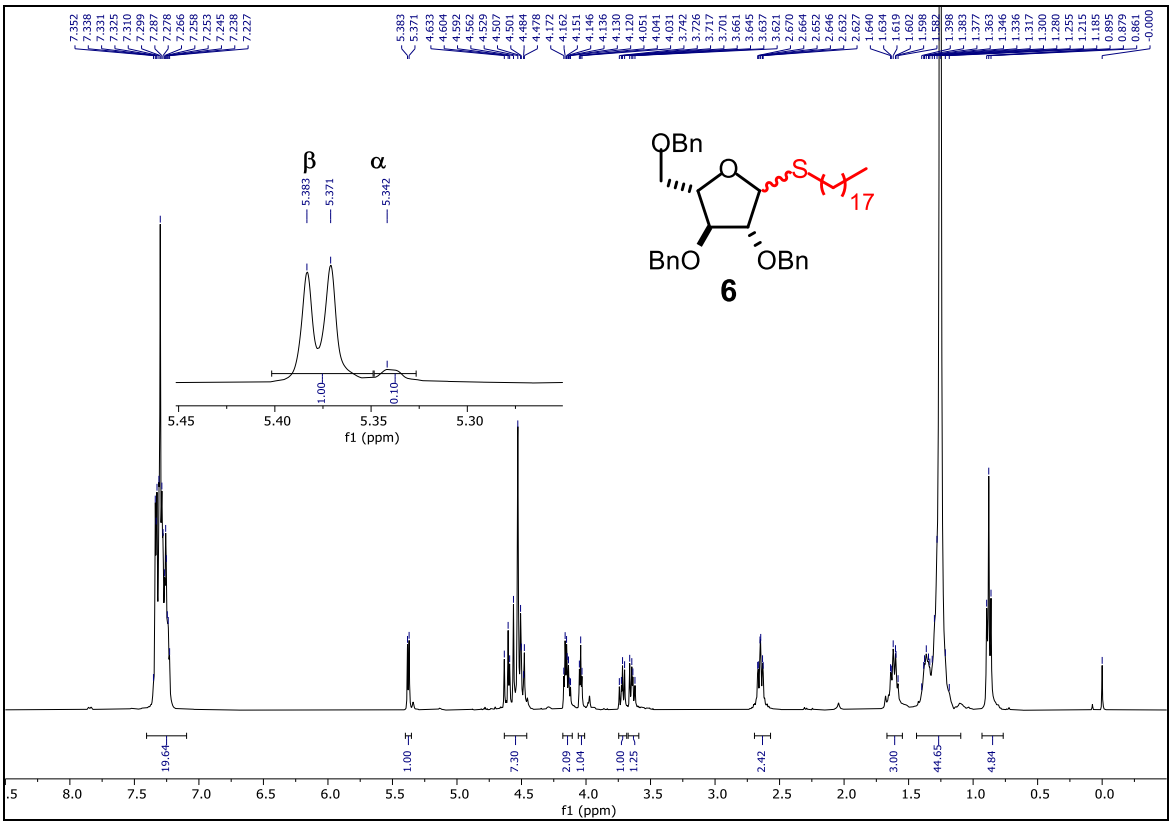

Figure S16. ^{1}H NMR spectrum of octadecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**6**) (400 MHz, $CDCl_3$).

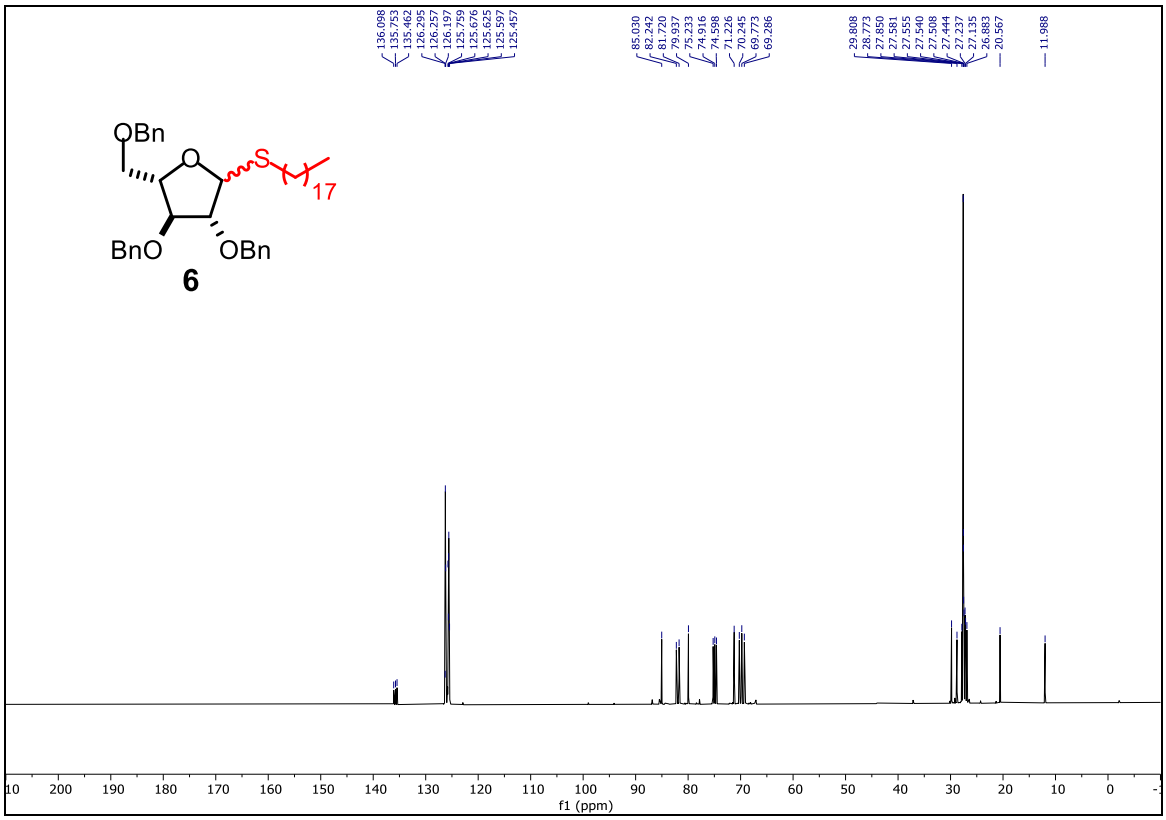

Figure S17. ^{13}C NMR spectrum of octadecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**6**) (101 MHz, $CDCl_3$).

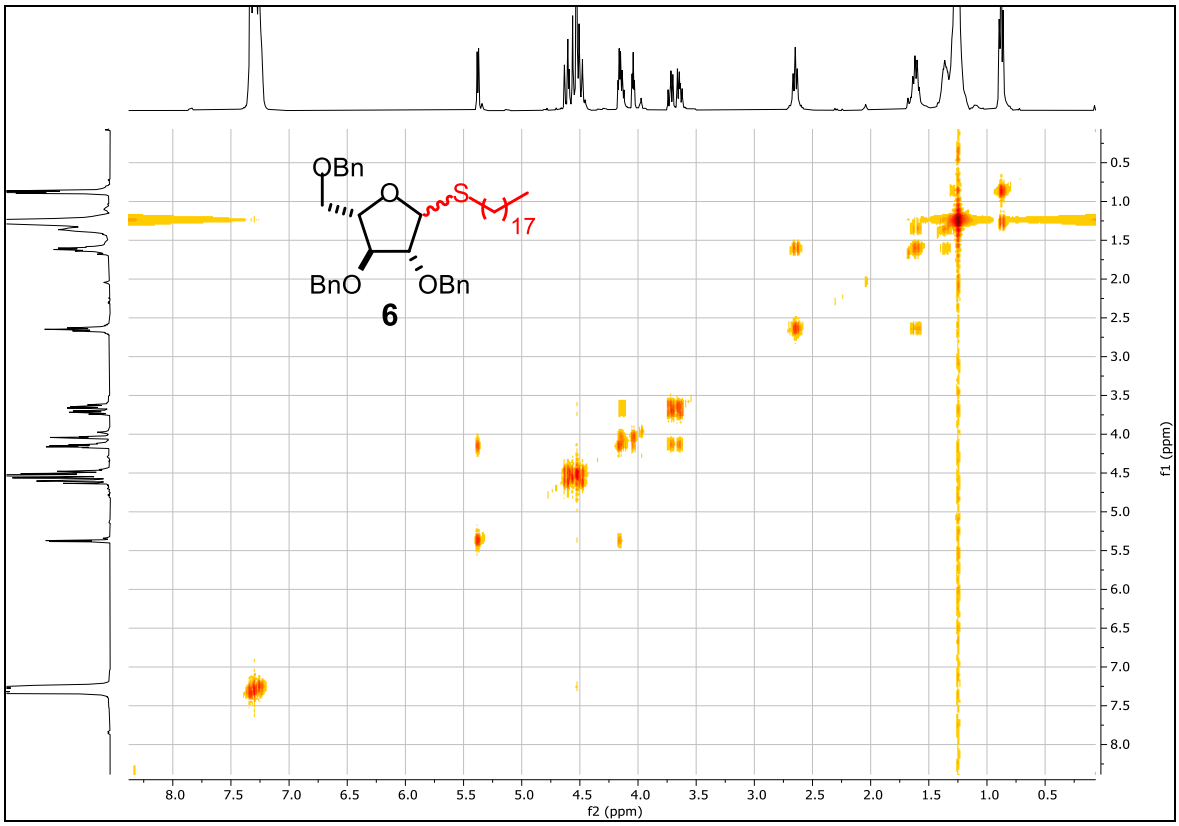

Figure S18. COSY spectrum of octadecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**6**) (400 MHz, $CDCl_3$).

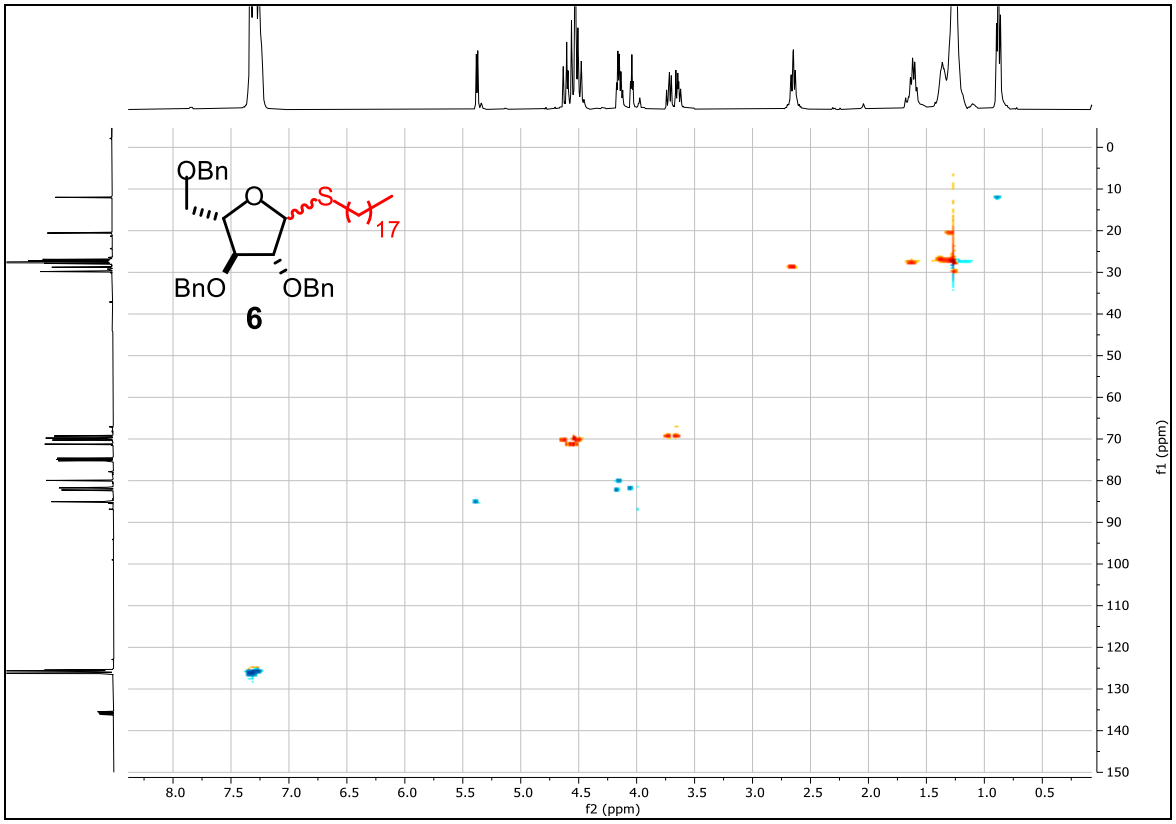

Figure S19. HSQC spectrum of octadecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**6**) (400 MHz, $CDCl_3$).

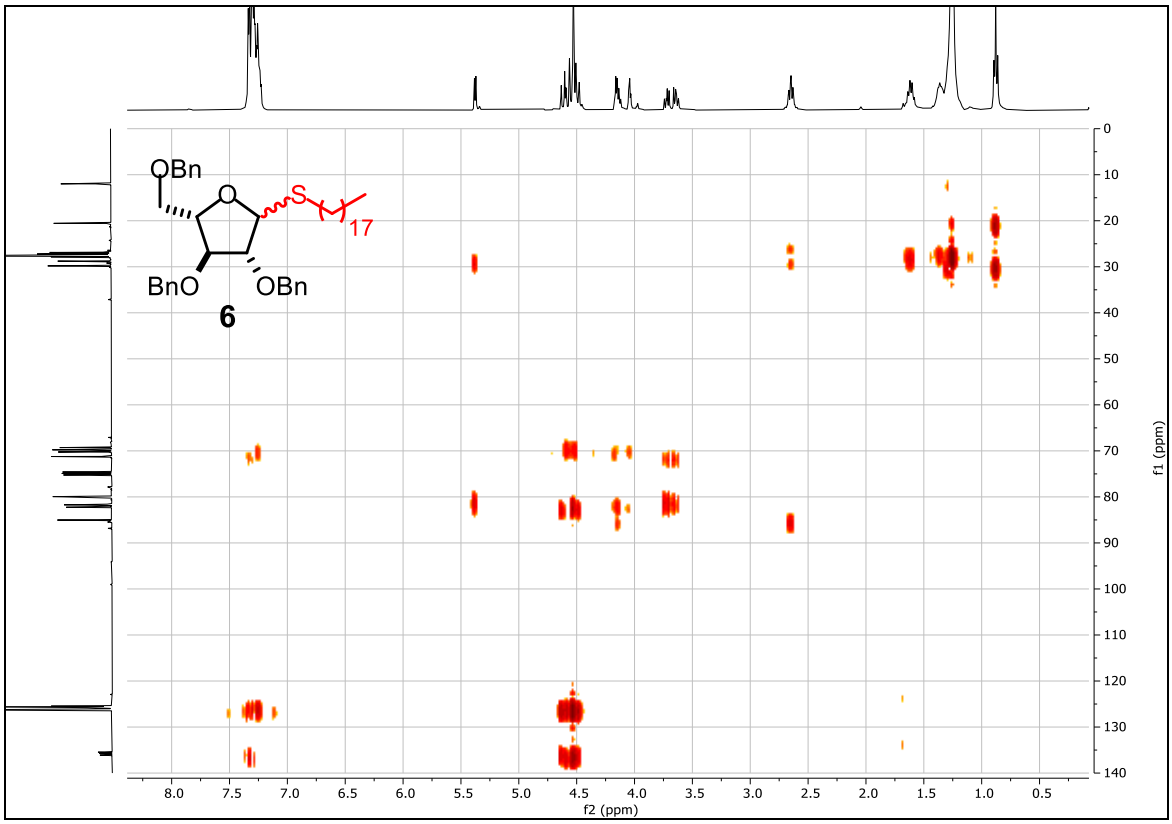

Figure S20. HMBC spectrum of octadecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**6**) (400 MHz, $CDCl_3$).

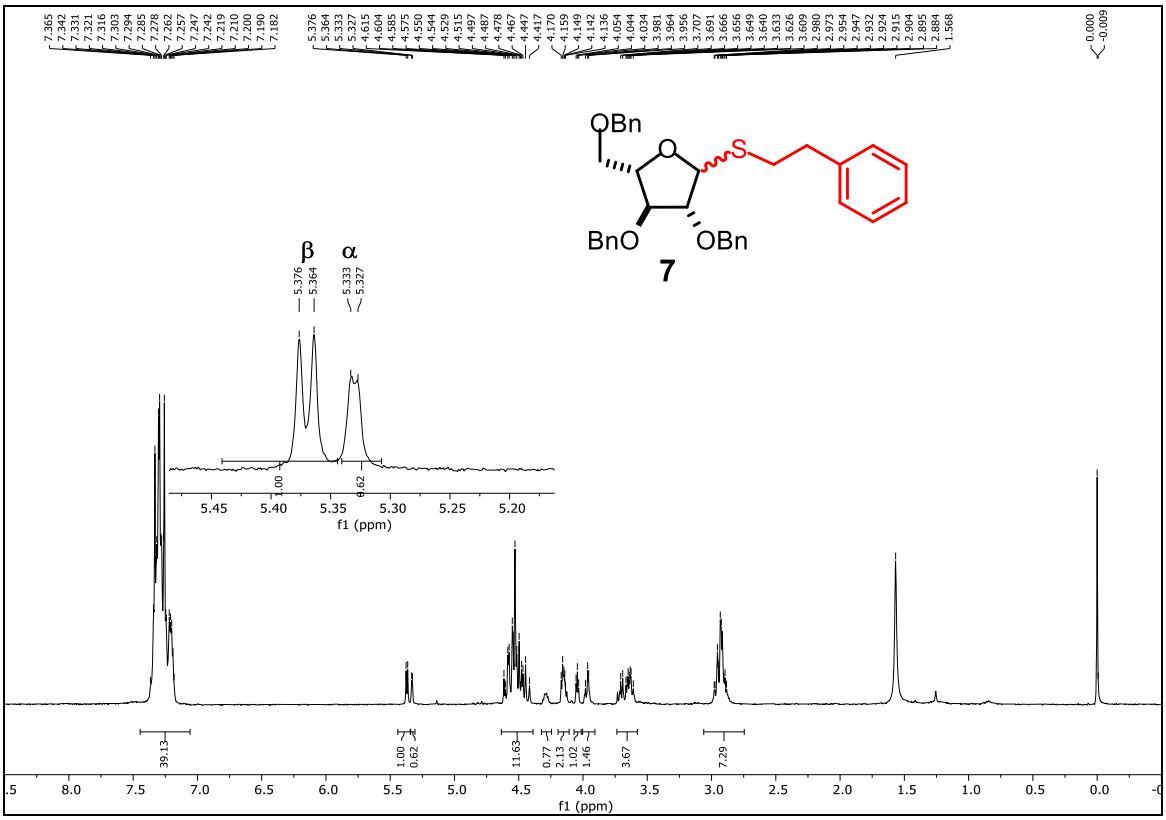

Figure S21. ^{1}H spectrum of 2-phenylethyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**7**) (400 MHz, $CDCl_3$).

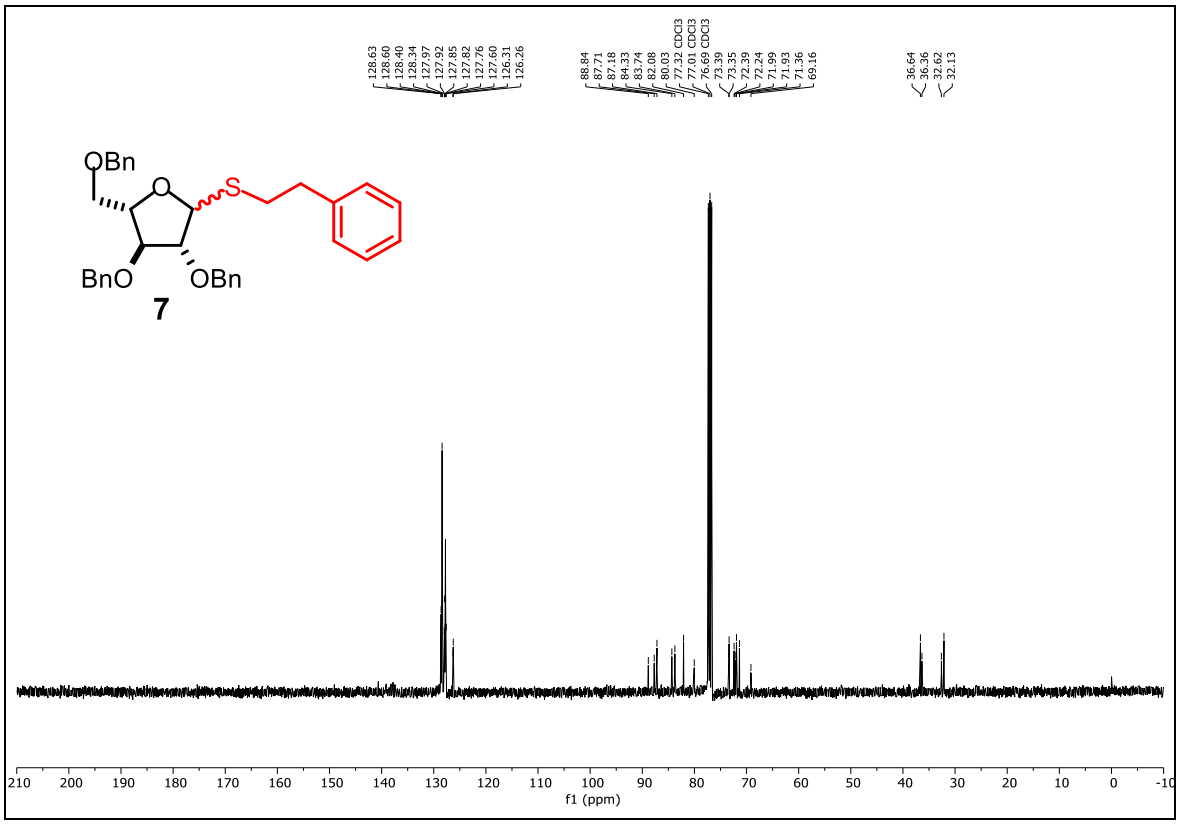

Figure S22. ^{13}C spectrum of 2-phenylethyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**7**) (101 MHz, $CDCl_3$).

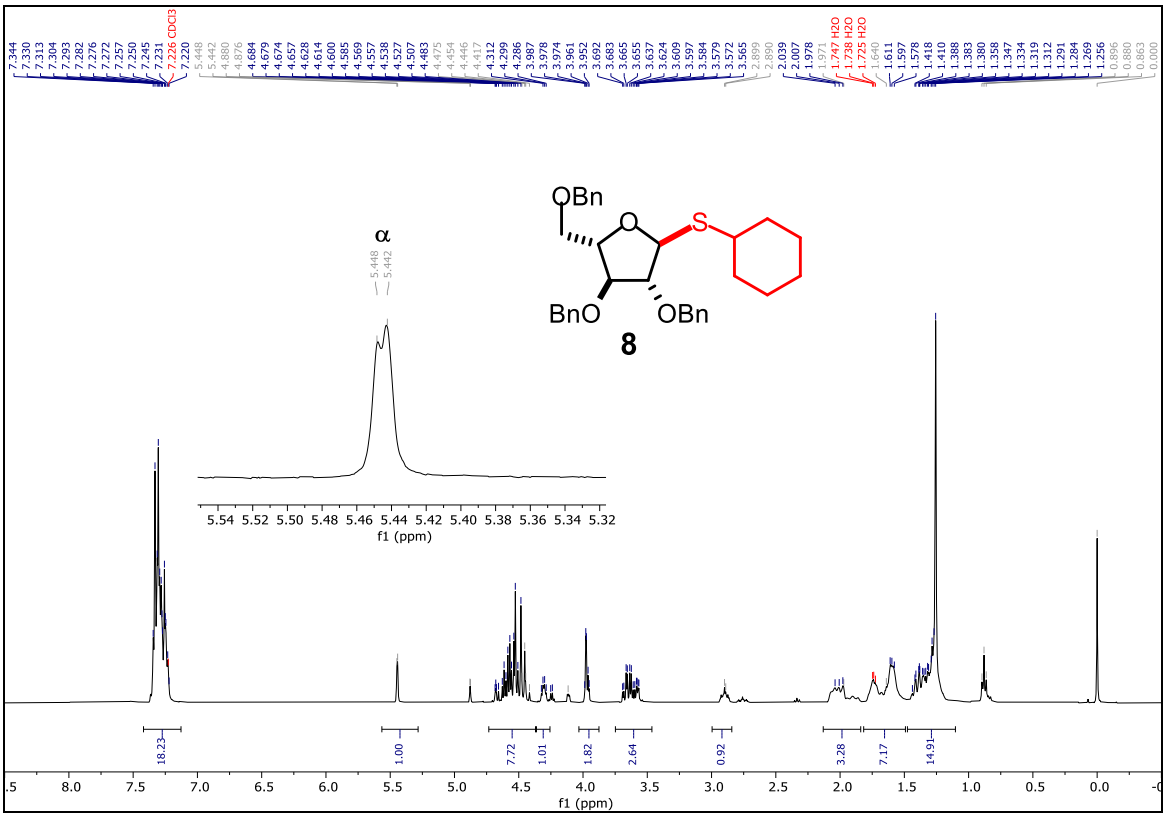

Figure S23. ^{1}H spectrum of cyclohexyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**8**) (400 MHz, $CDCl_3$).

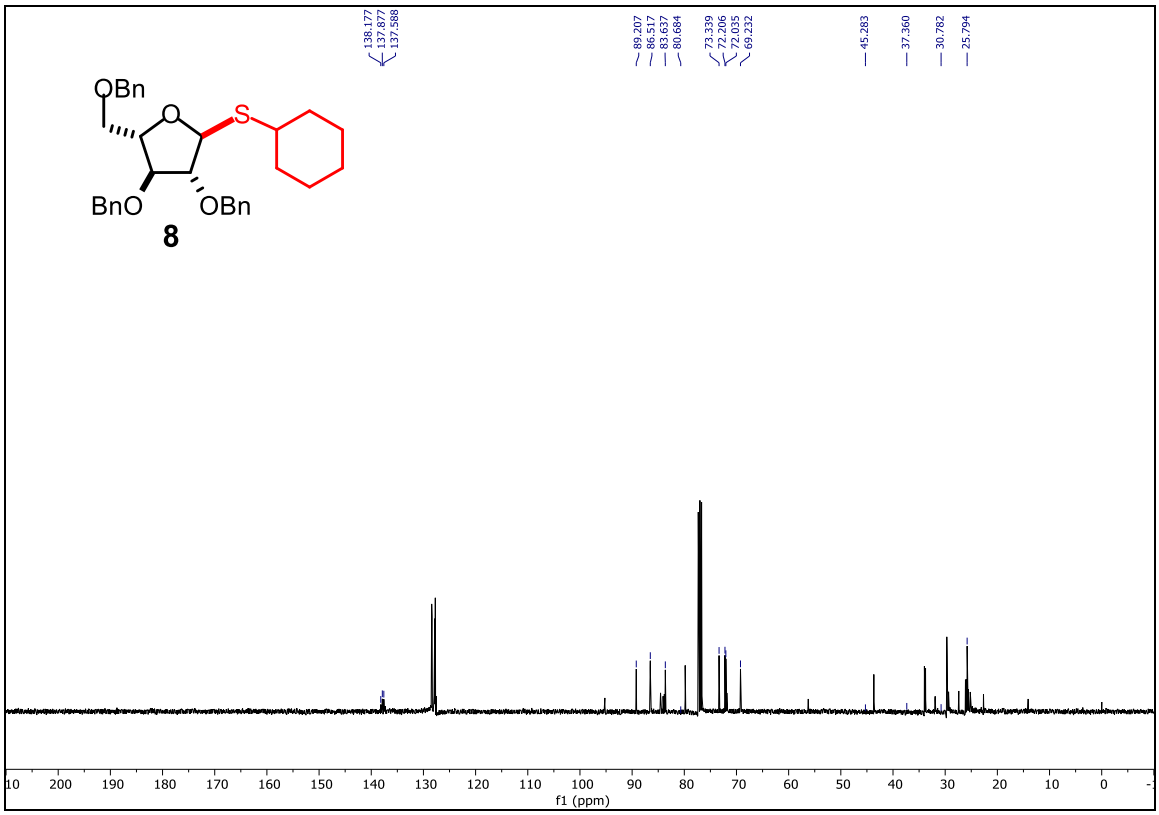

Figure S24. ^{13}C spectrum of cyclohexyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**8**) (101 MHz, $CDCl_3$).

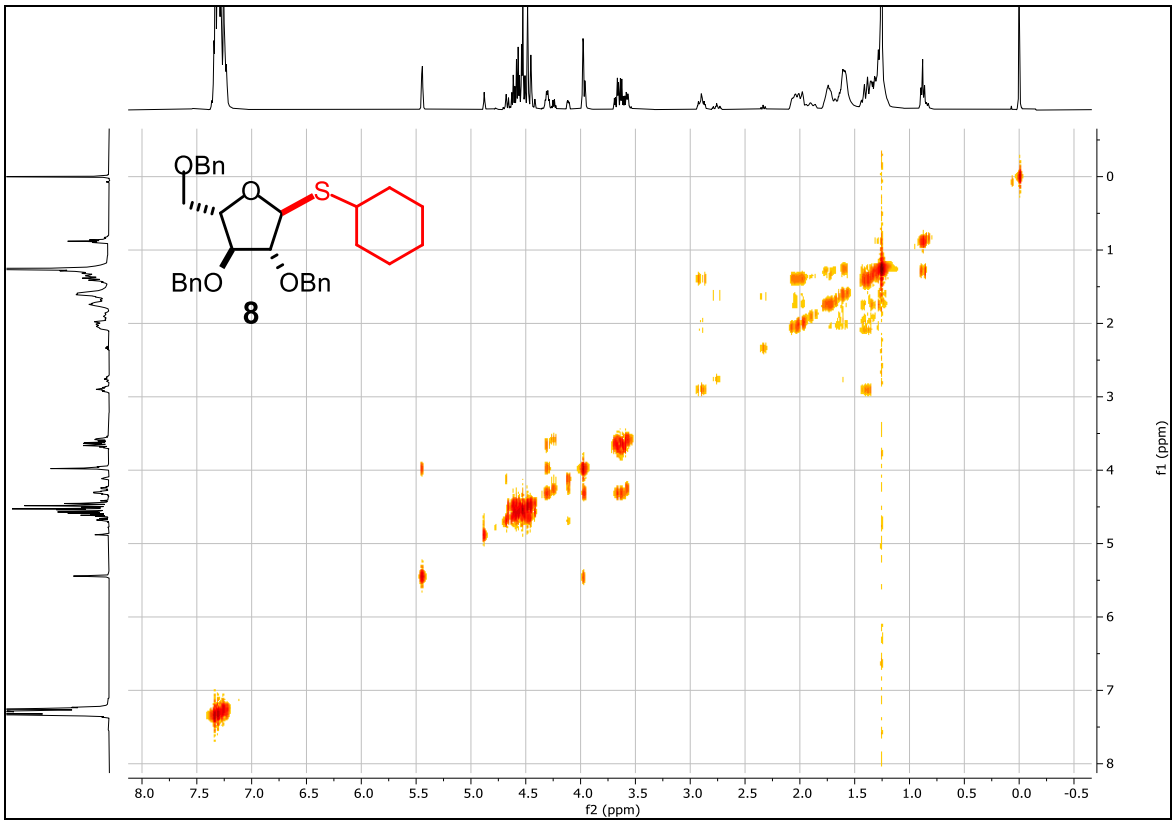

Figure S25. COSY spectrum of cyclohexyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**8**) (400 MHz, $CDCl_3$).

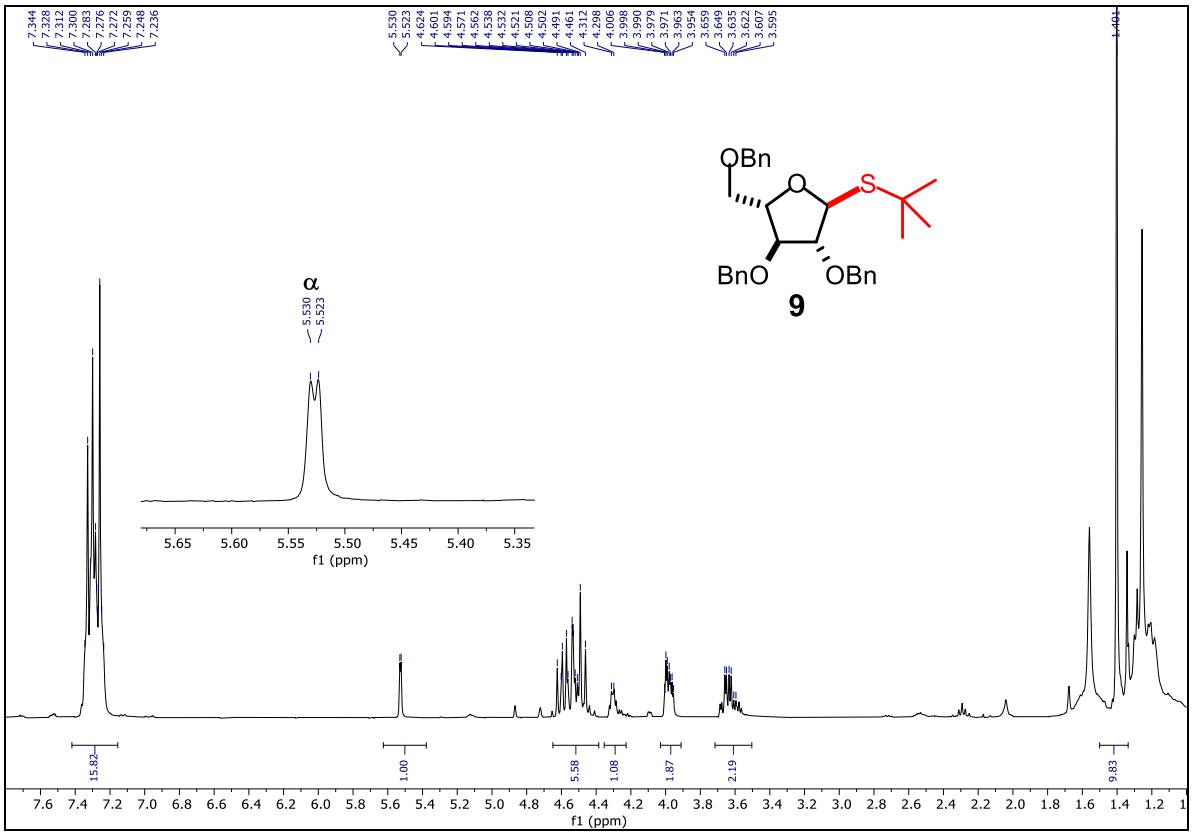

Figure S26. ^{1}H spectrum of *tert*-butyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**9**) (400 MHz, $CDCl_3$).

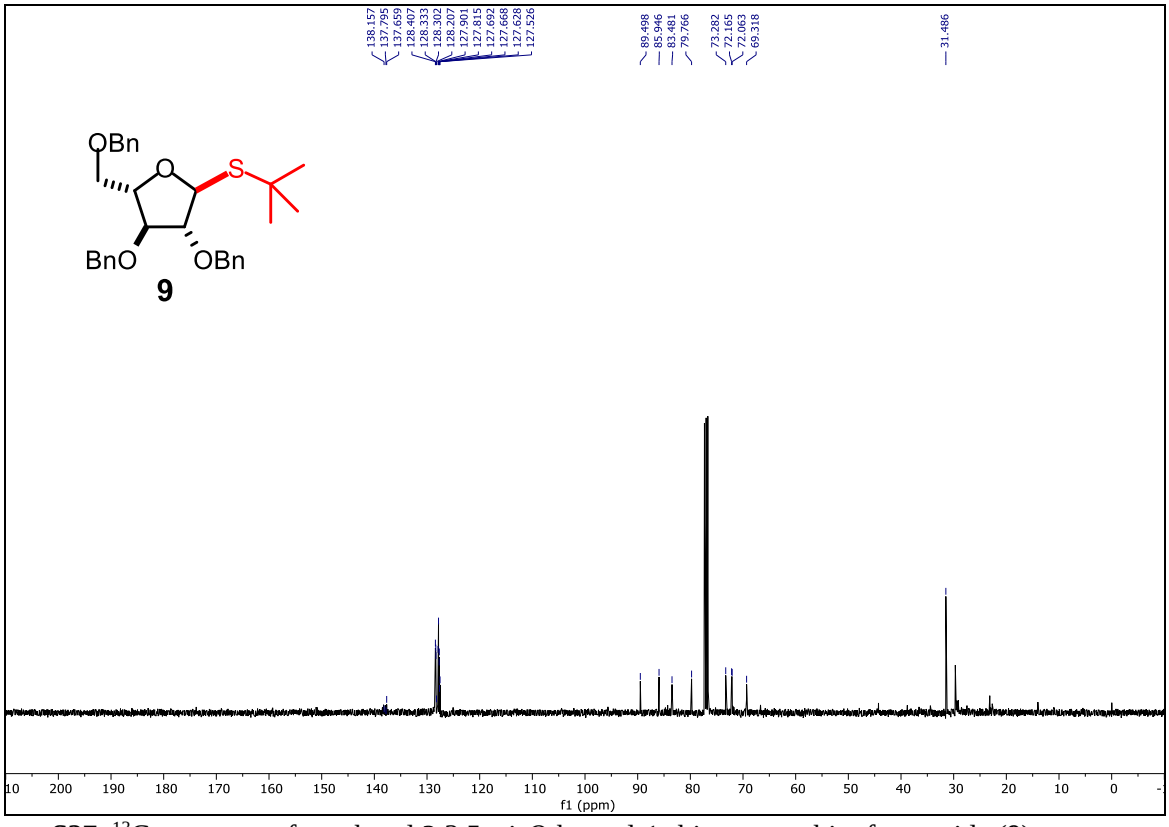

Figure S27. ^{13}C spectrum of *tert*-butyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**9**) (101 MHz, $CDCl_3$).

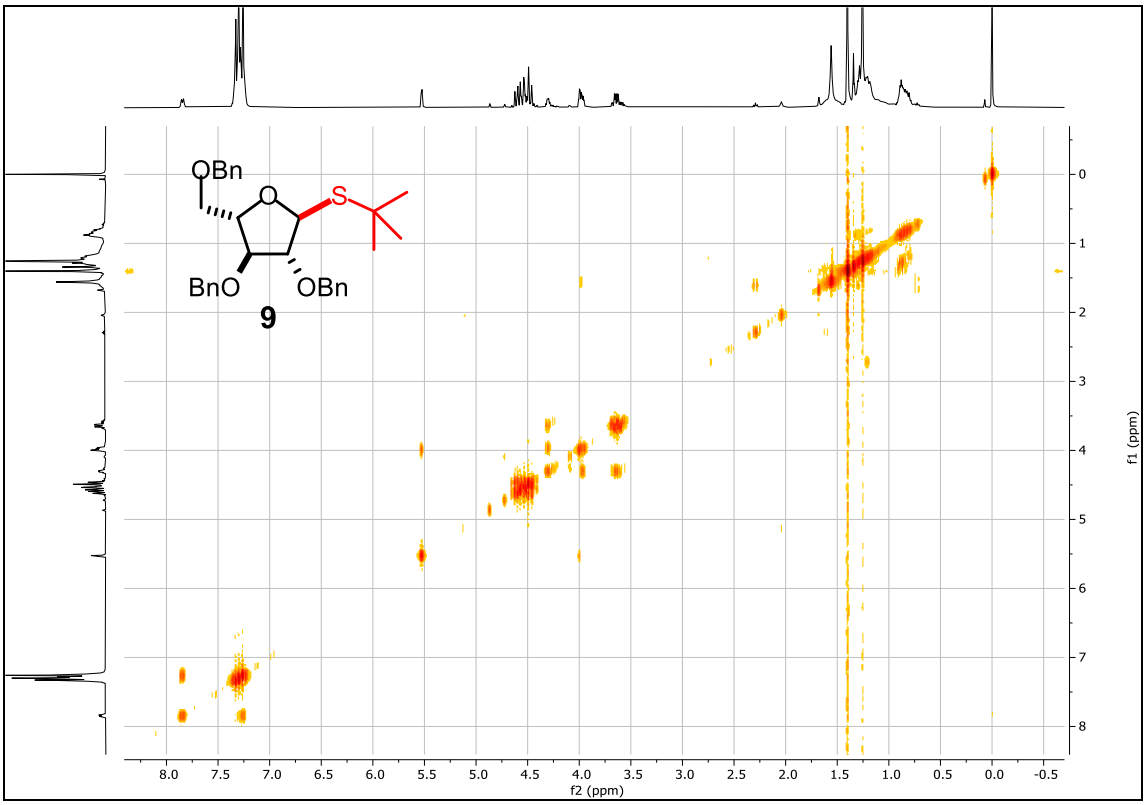

Figure S28. COSY spectrum of *tert*-butyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**9**) (400 MHz, $CDCl_3$).

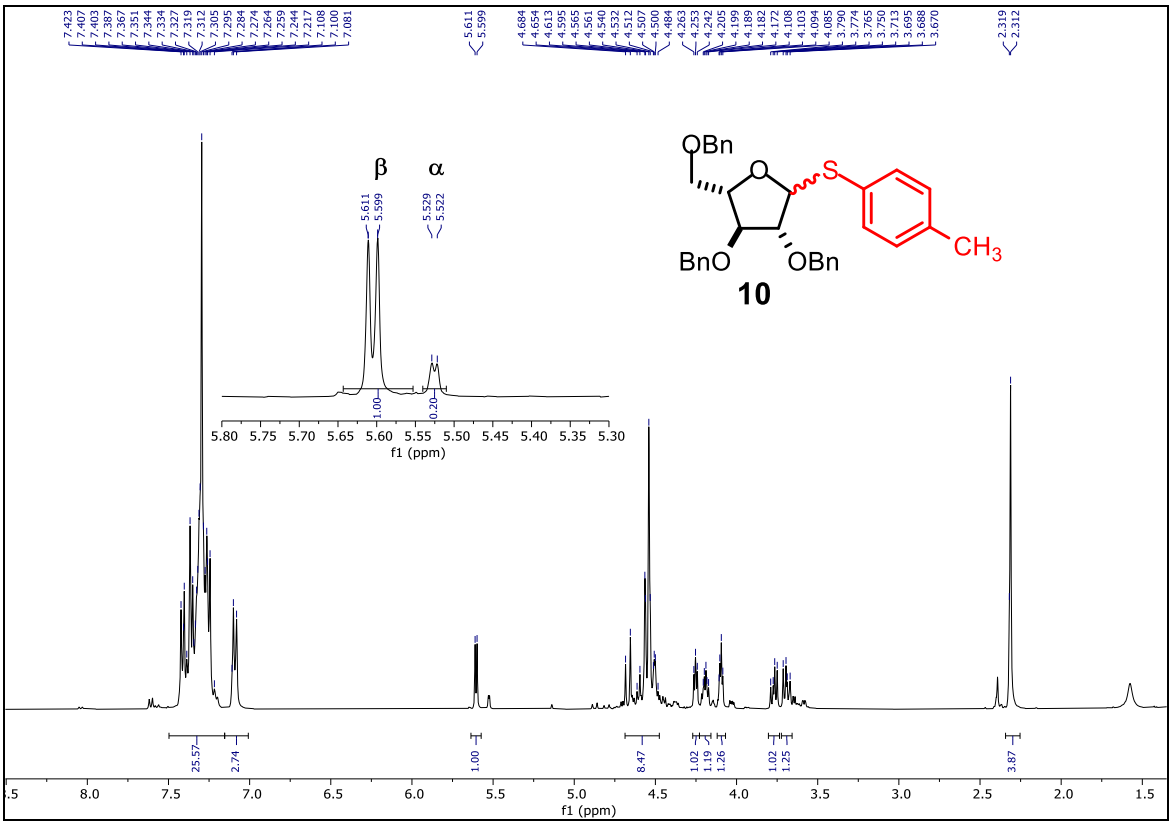

Figure S29. ^{1}H spectrum of 4-methylphenyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**10**) (400 MHz, $CDCl_3$).

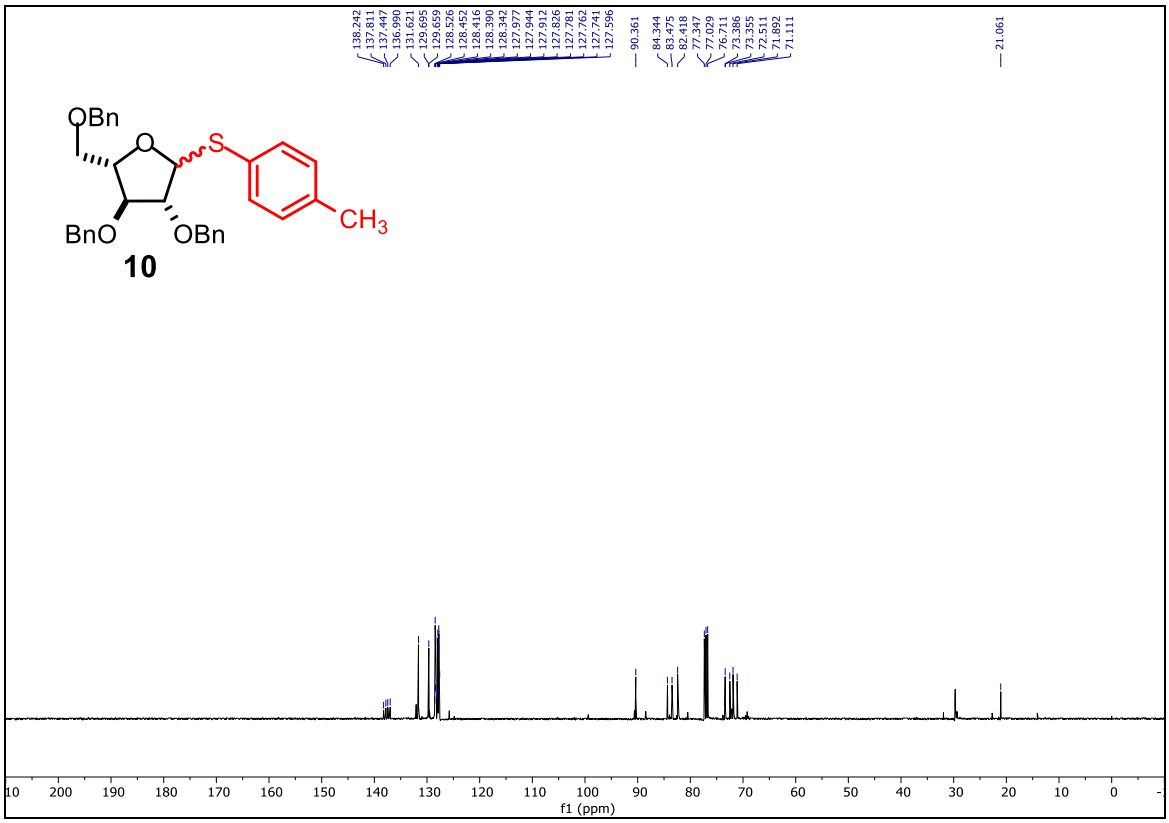

Figure S30. ^{13}C spectrum of 4-methylphenyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**10**) (101 MHz, $CDCl_3$).

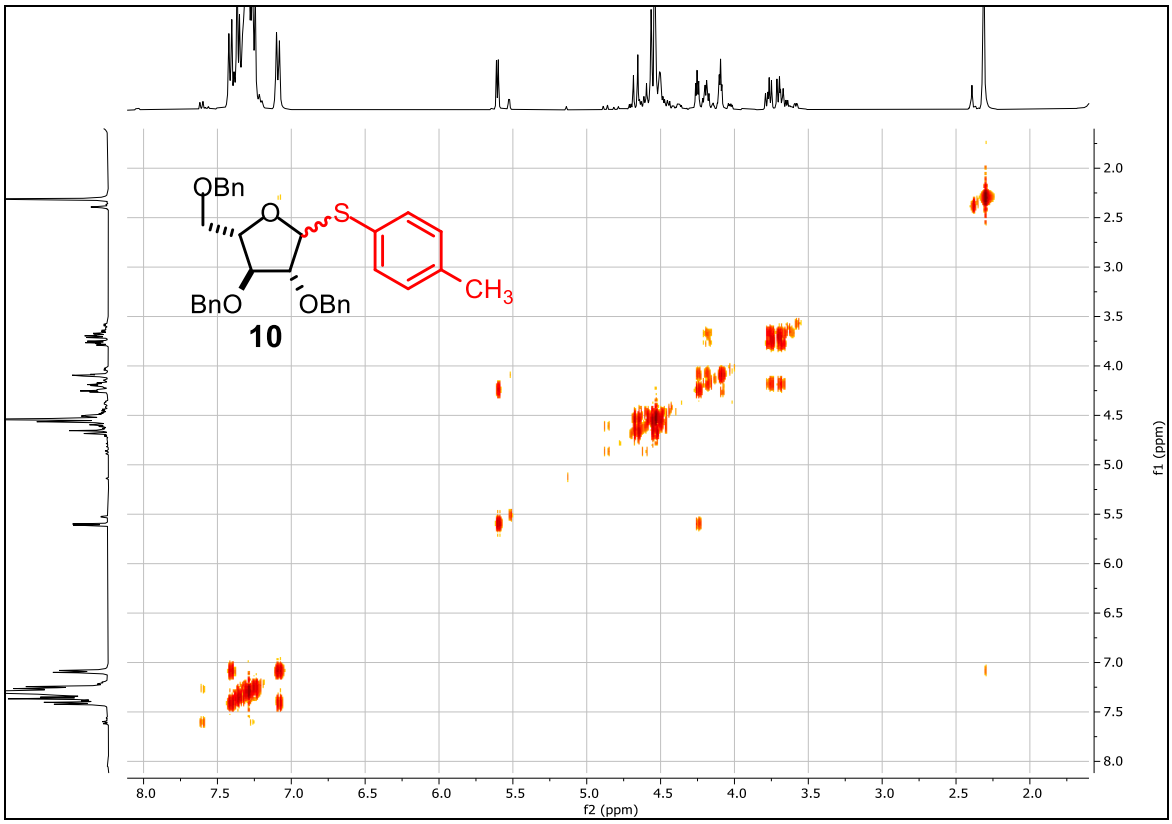

Figure S31. COSY spectrum of 4-methylphenyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**10**) (400 MHz, $CDCl_3$).

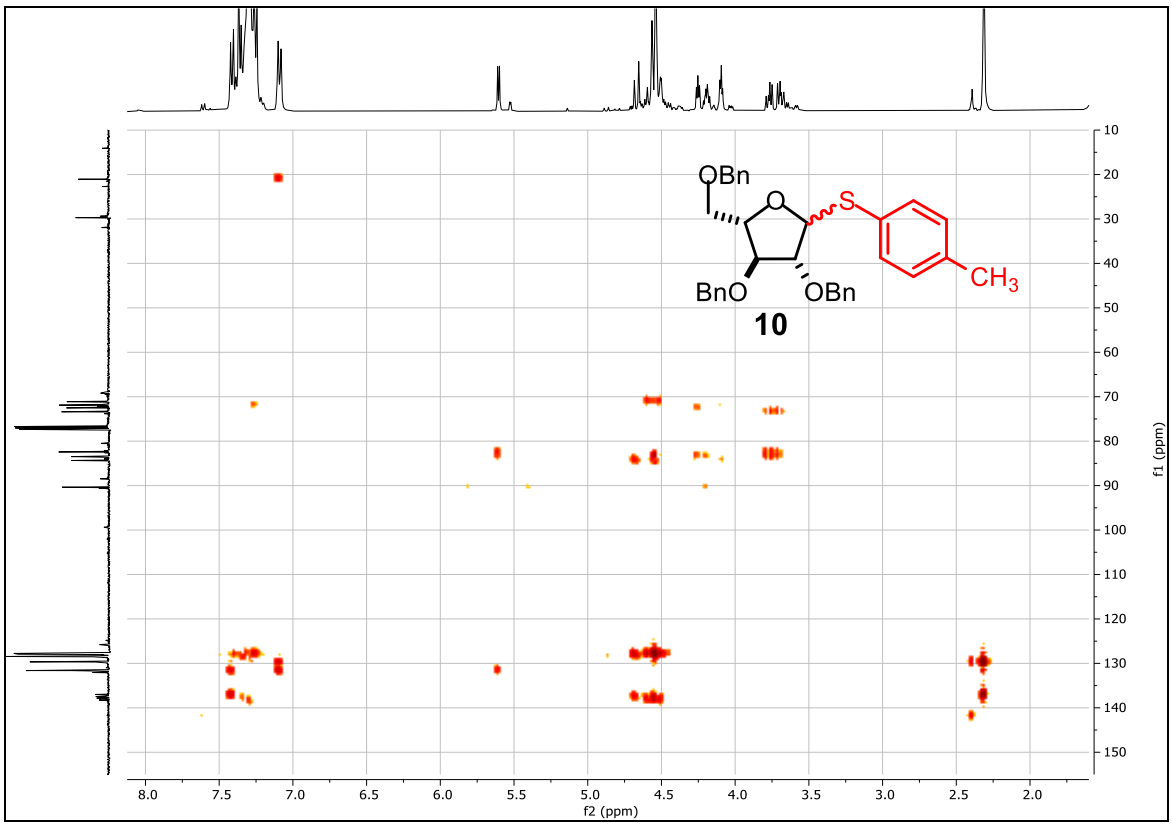

Figure S32. HMBC spectrum of 4-methylphenyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**10**) (400 MHz, $CDCl_3$).

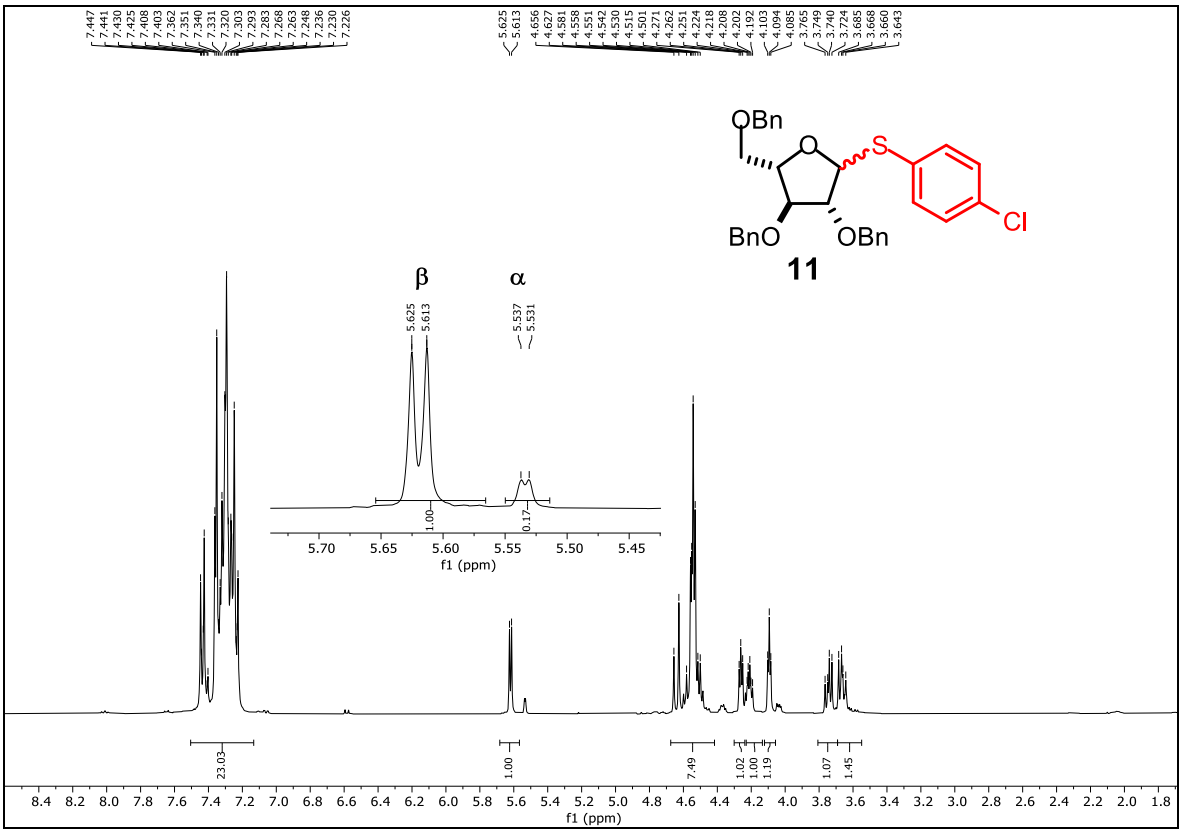

Figure S33. ^{1}H spectrum of 4-chlorophenyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**11**) (400 MHz, $CDCl_3$).

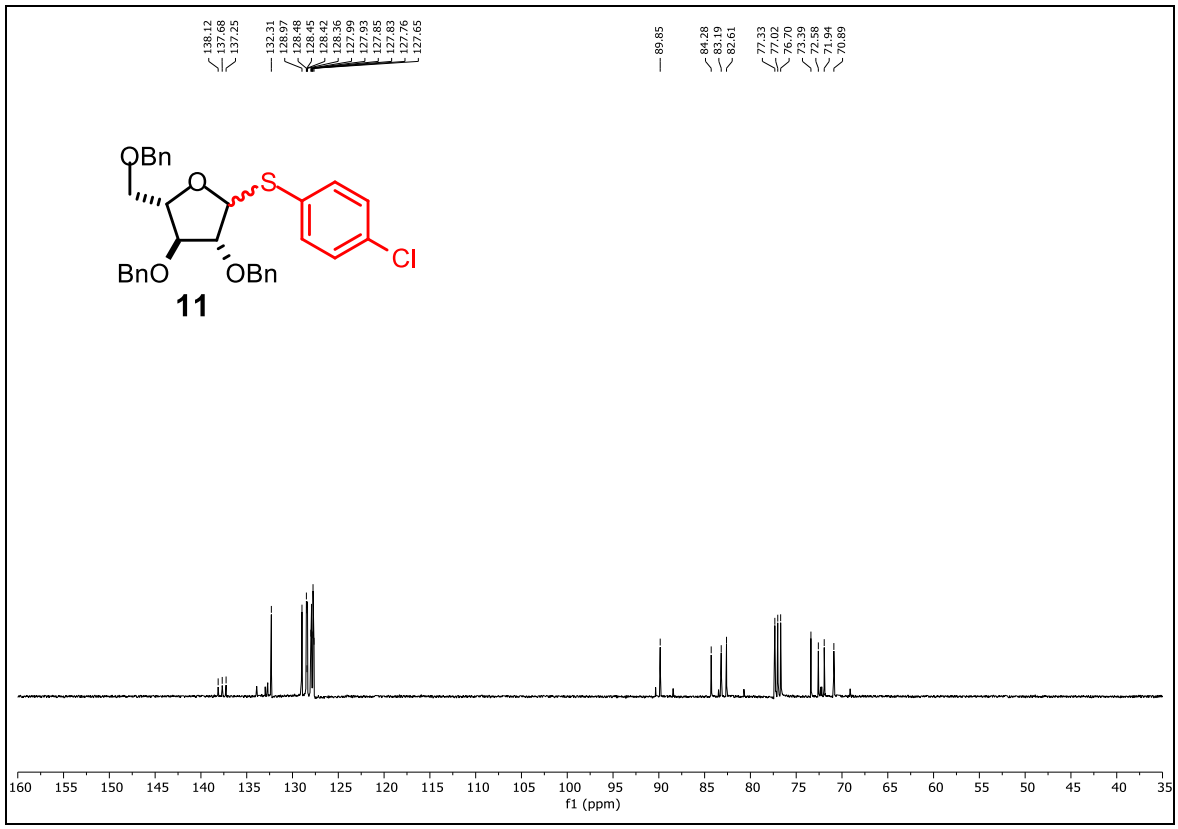

Figure S34. ^{13}C spectrum of 4-chlorophenyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-L-arabinofuranoside (**11**) (101 MHz, $CDCl_3$).

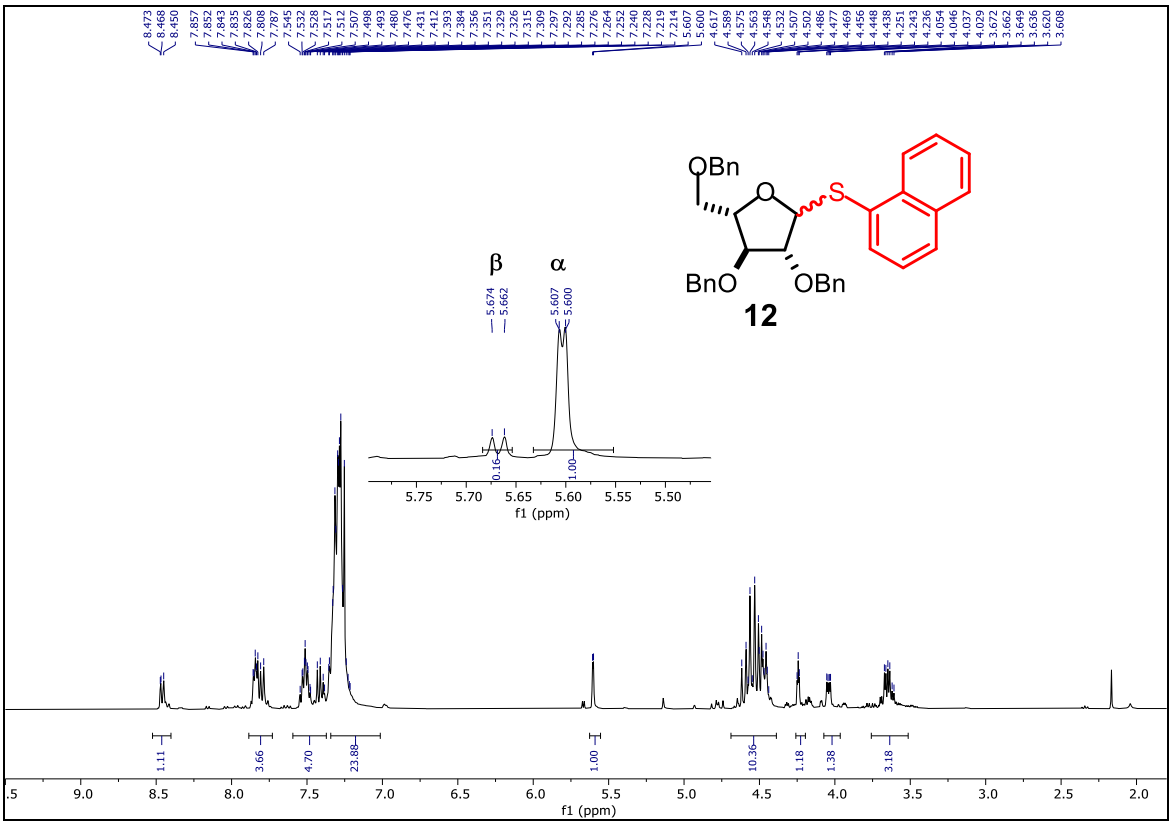

Figure S35. ^{1}H spectrum of 1-naphthyl 2,3,5-tri-*O*-benzyl-1-thio-α,β-L-arabinofuranoside (**12**) (400 MHz, $CDCl_3$).

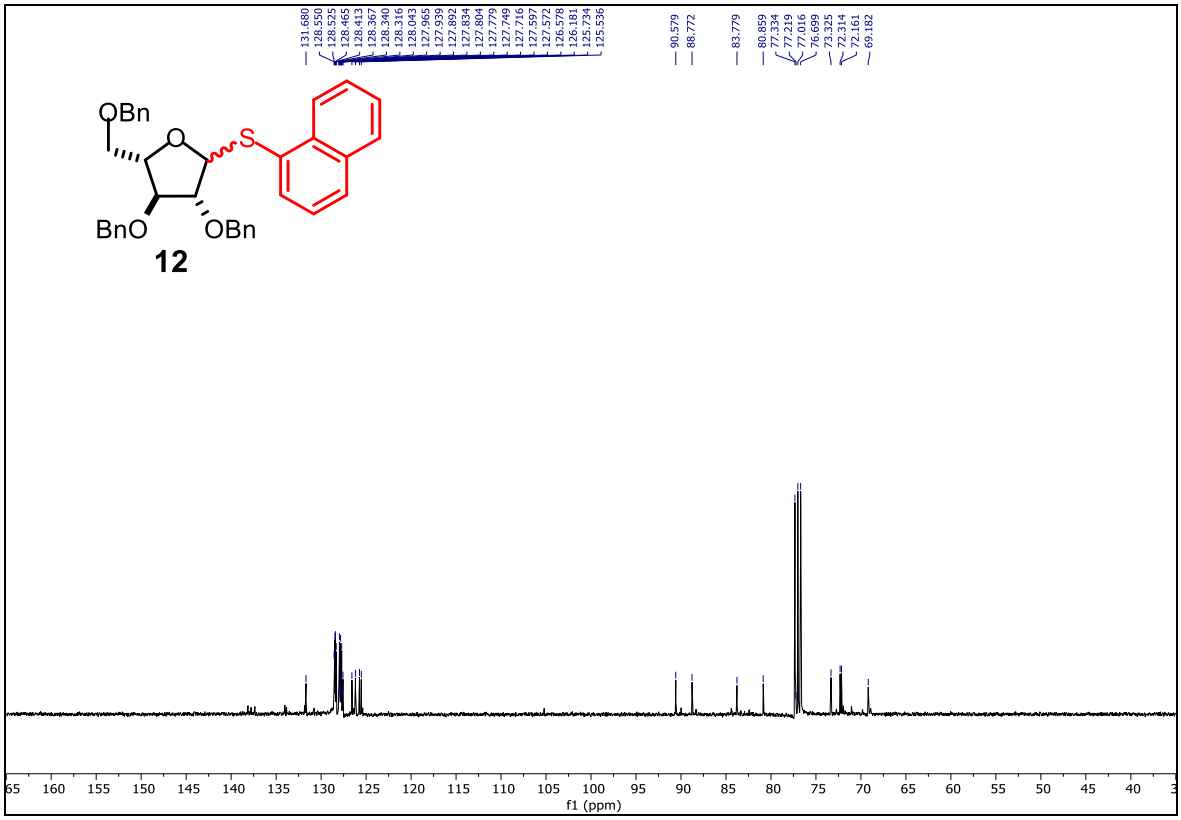

Figure S36. ^{13}C spectrum of 1-naphthyl 2,3,5-tri-*O*-benzyl-1-thio-α,β-L-arabinofuranoside (**12**) (101 MHz, $CDCl_3$).

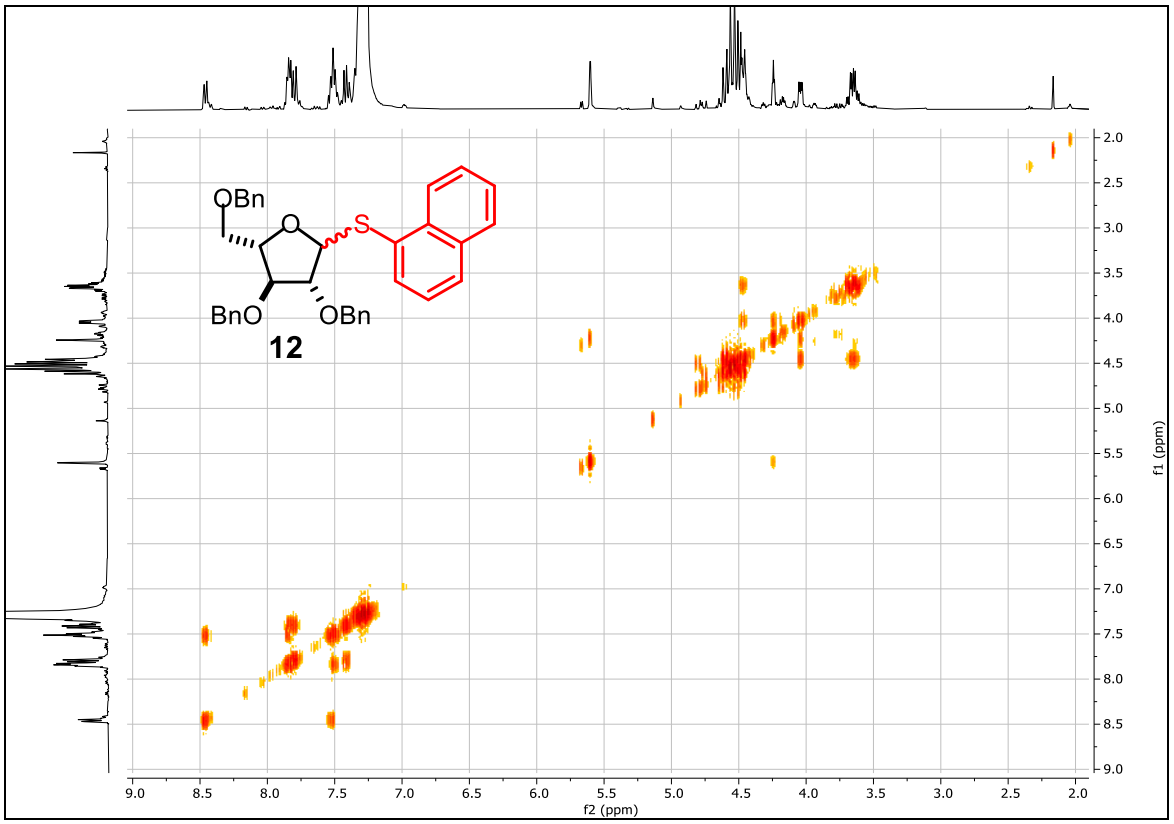

Figure S37. COSY spectrum of 1-naphthyl 2,3,5-tri-*O*-benzyl-1-thio-α,β-L-arabinofuranoside (**12**) (400 MHz, $CDCl_3$).

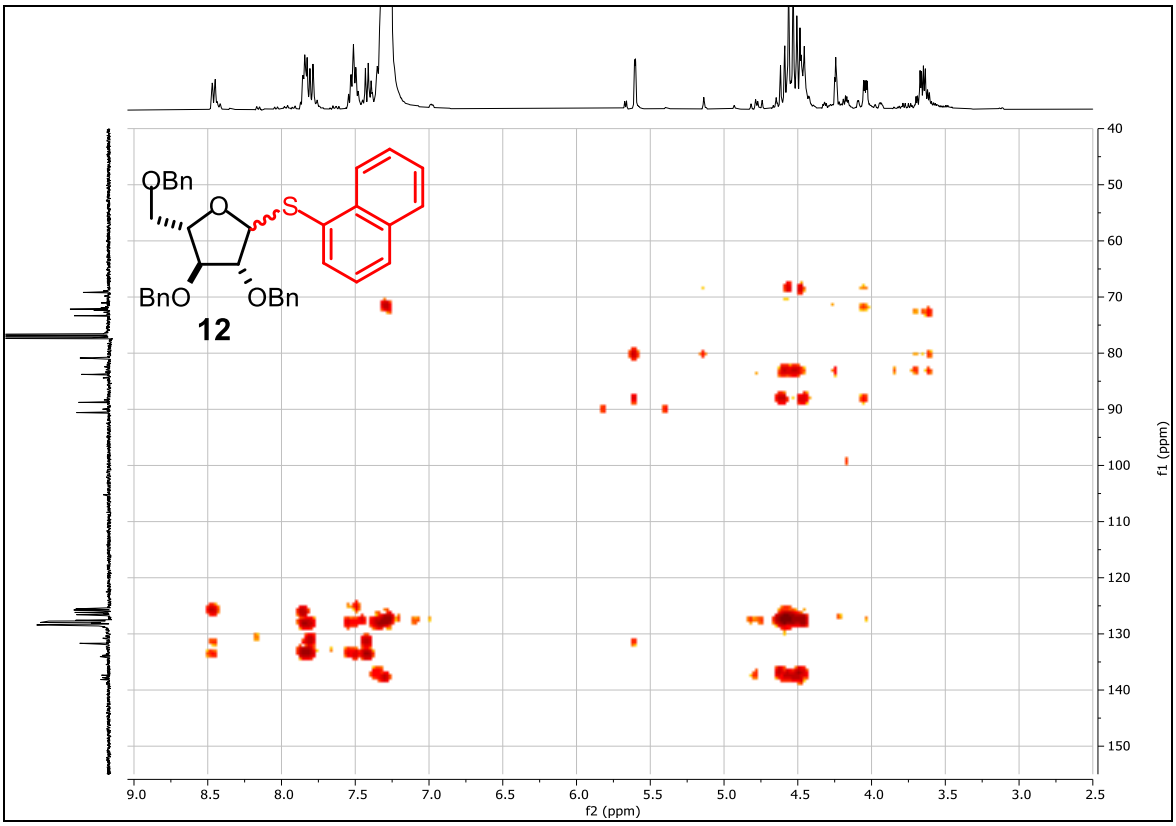

Figure S38. HMBC spectrum of 1-naphthyl 2,3,5-tri-*O*-benzyl-1-thio-α,β-L-arabinofuranoside (**12**) (400 MHz, $CDCl_3$).

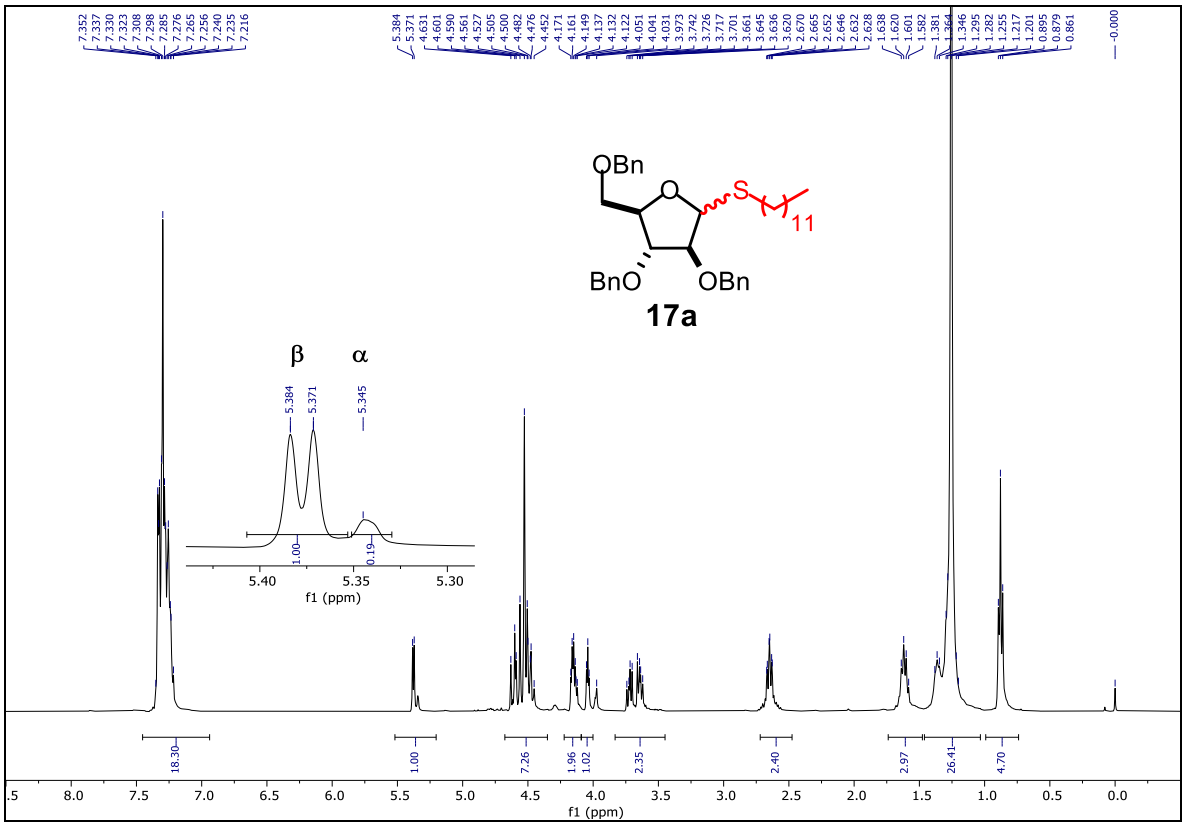

Figure S39. ^{1}H NMR spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-D-arabinofuranoside (**17a**) (400 MHz, $CDCl_3$).

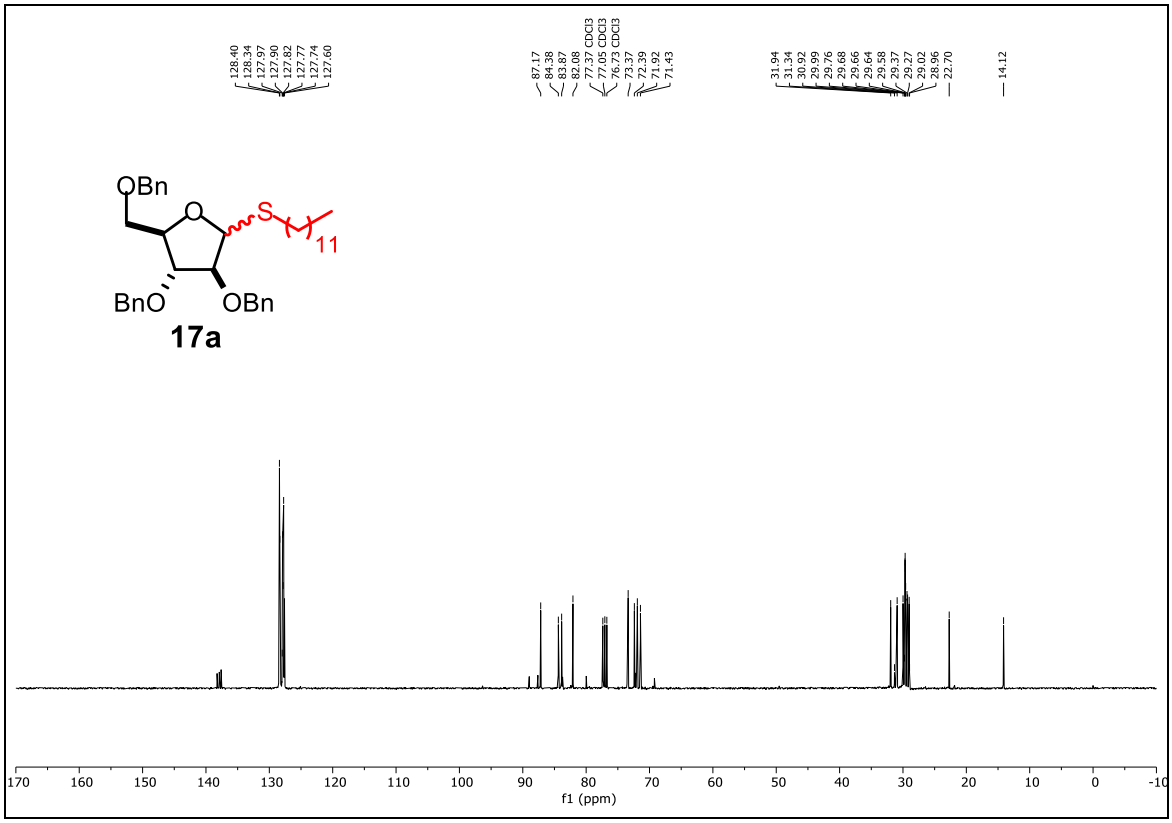

Figure S40. ^{13}C NMR spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β-**D-arabinofuranoside (**17a**) (101 MHz, $CDCl_3$).

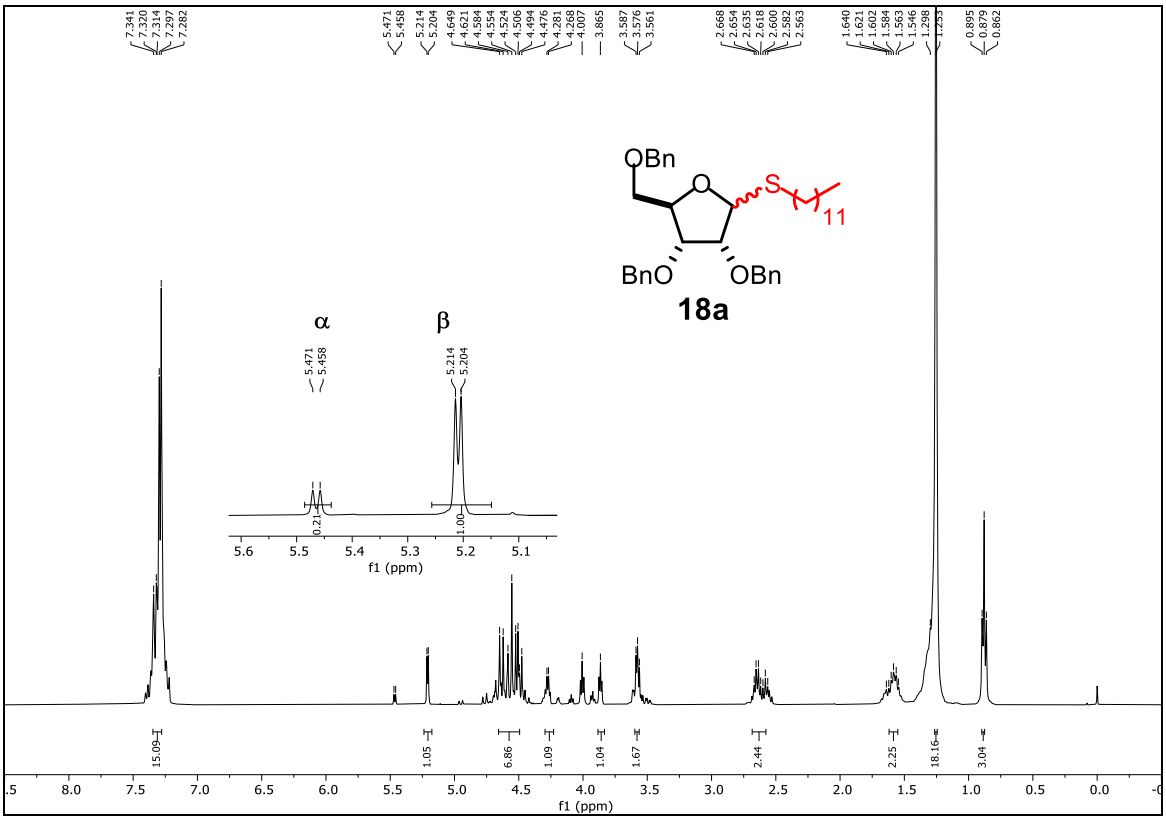

Figure S41. ^{1}H NMR spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-D-ribofuranoside (**18a**) (400 MHz, $CDCl_3$).[1, 2]

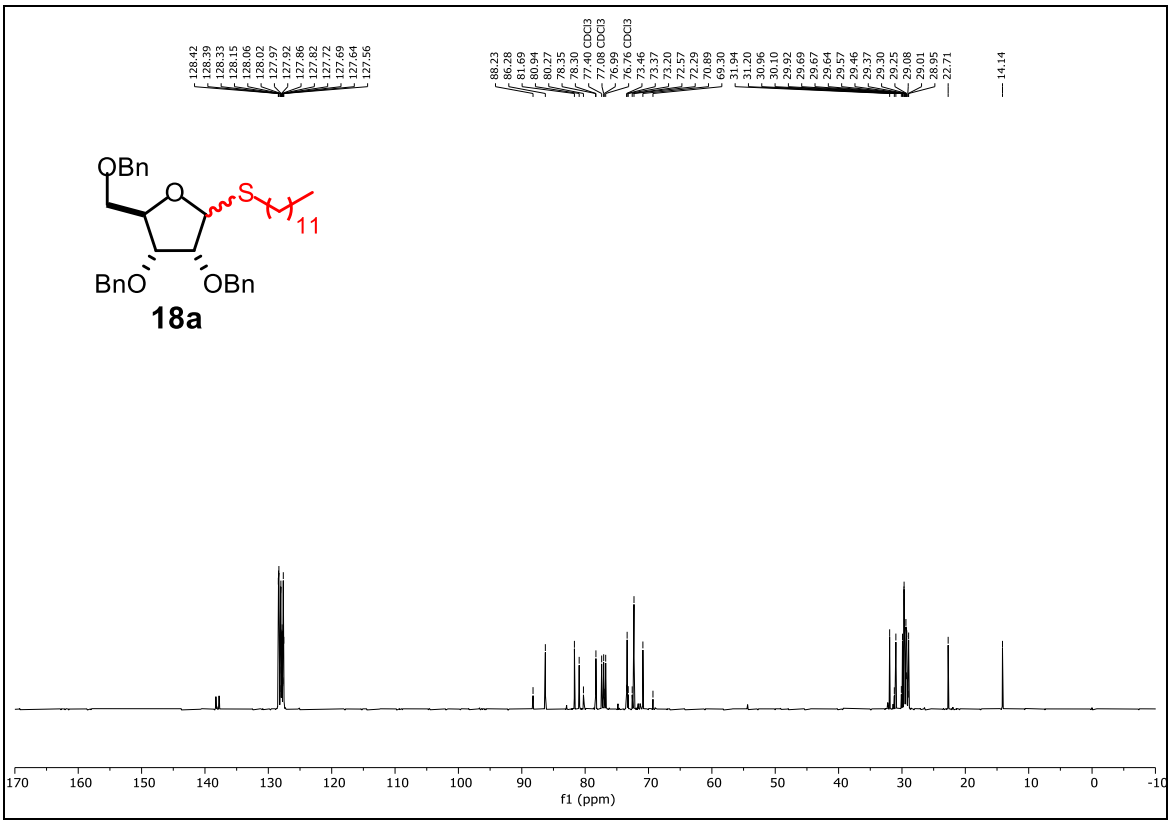

Figure S42. ^{13}C NMR spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,**β**-D-ribofuranoside (**18a**) (101 MHz, $CDCl_3$).

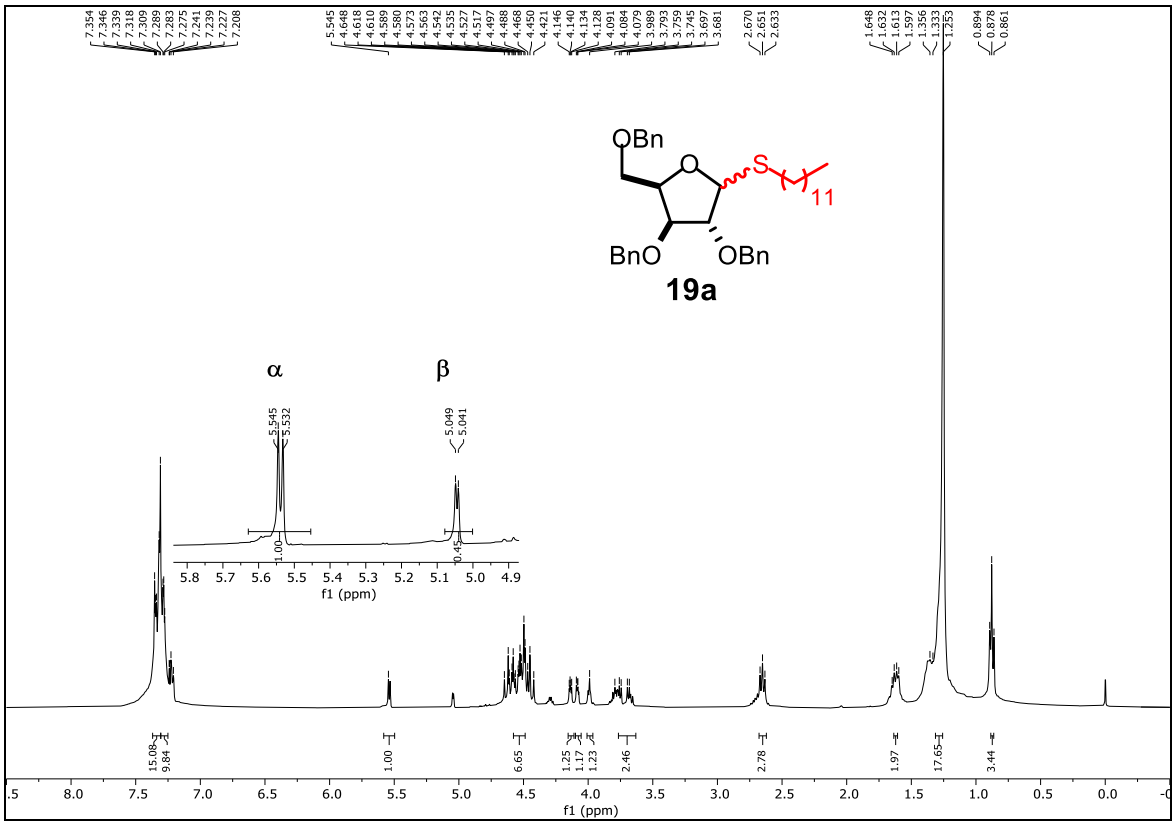

Figure S43. ^{1}H NMR spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,β-D-xylofuranoside (**19a**) (400 MHz, $CDCl_3$).[3]

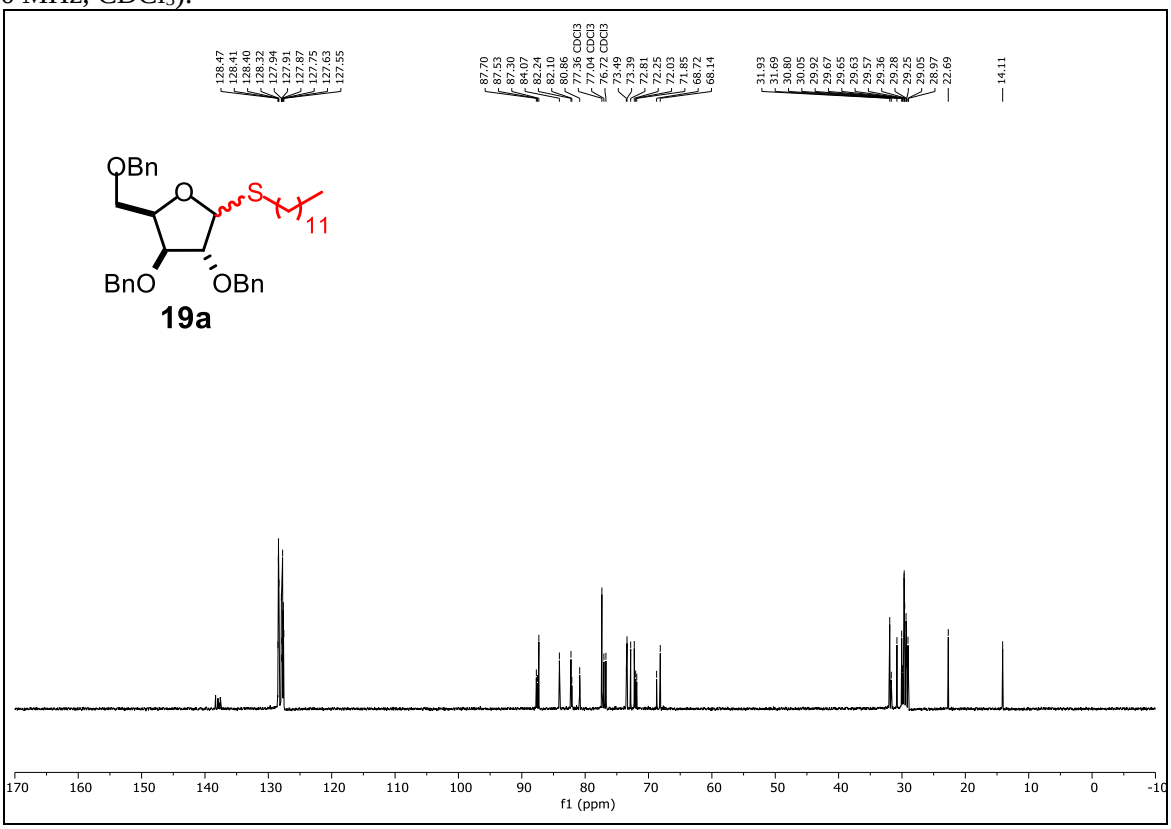

Figure S44. ^{13}C NMR spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α,β-D-xylofuranoside (**19a**) (101 MHz, $CDCl_3$).

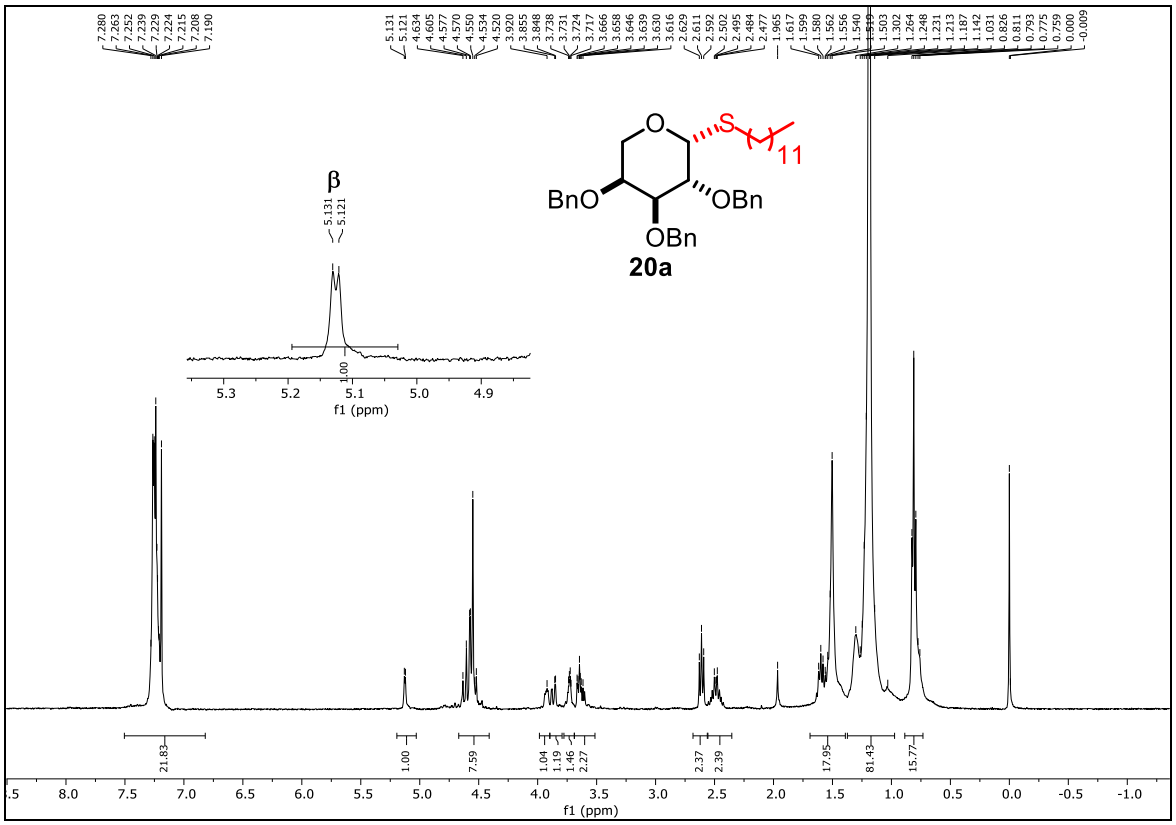

Figure S45. ^{1}H NMR spectrum of dodecyl 2,3,4-tri-*O*-benzyl-1-thio-β-L-arabinopyranoside (**20a**) (400 MHz, $CDCl_3$).[4]

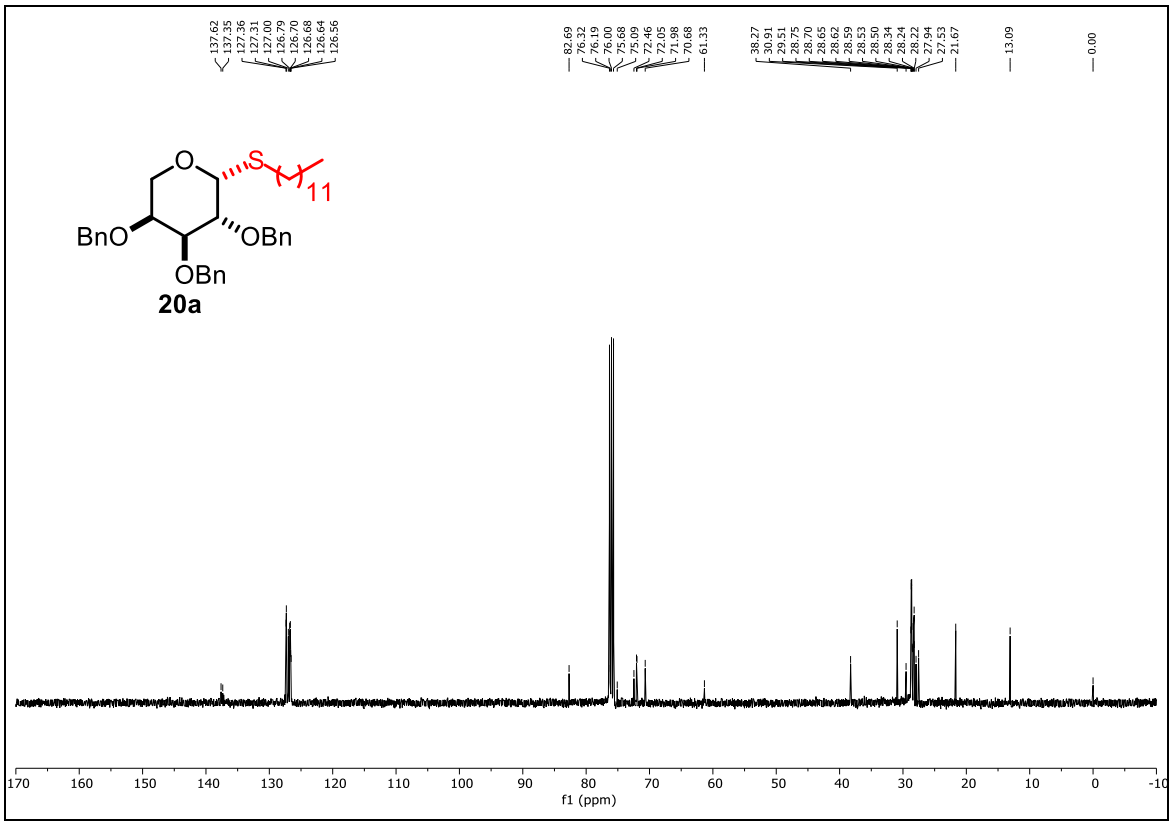

Figure S46. ^{13}C NMR spectrum of dodecyl 2,3,4-tri-*O*-benzyl-1-thio-β-L-arabinopyranoside (**20a**) (101 MHz, $CDCl_3$).

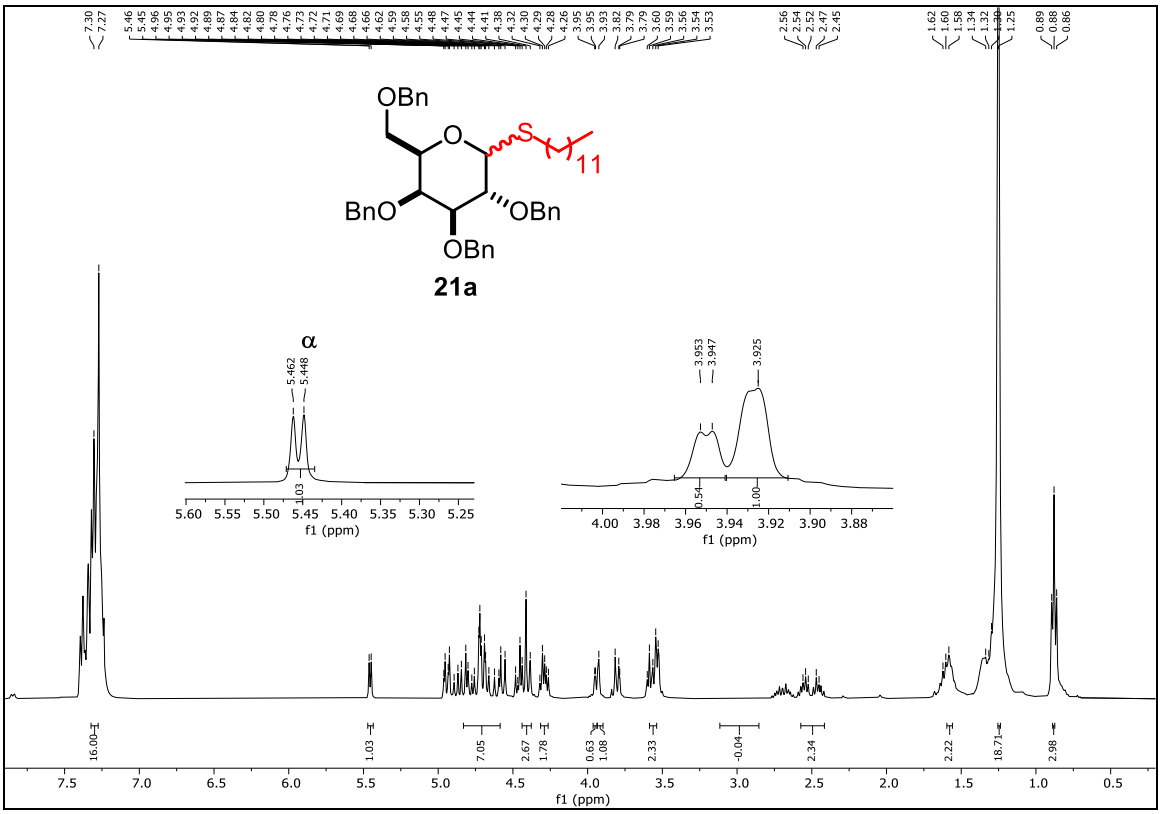

Figure S47. ^{1}H NMR spectrum of dodecyl 2,3,4,6-tetra-*O*-benzyl-1-thio-**α**,β-D-galactopyranoside (**21a**) (400 MHz, $CDCl_3$).[5]

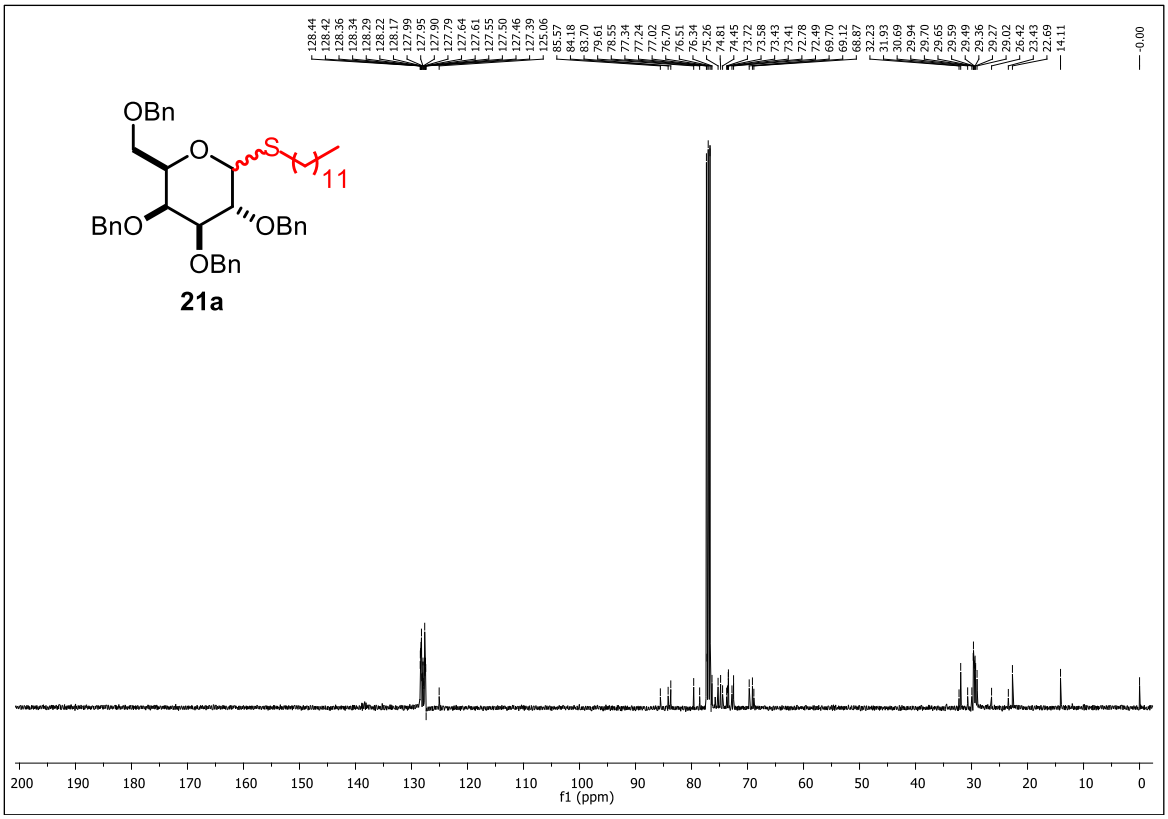

Figure S48. ^{13}C NMR spectrum of dodecyl 2,3,4,6-tetra-*O*-benzyl-1-thio-**α**,β-D-galactopyranoside (**21a**) (101 MHz, $CDCl_3$).

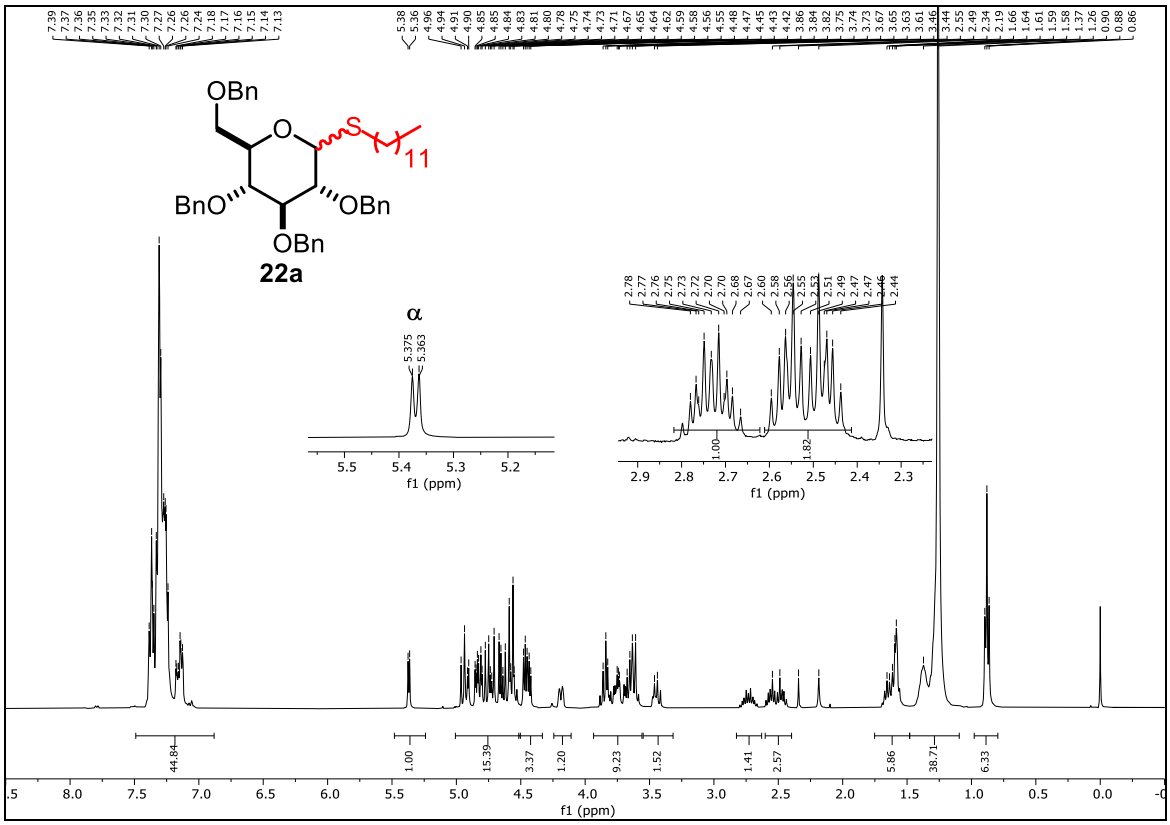

Figure S49. ^{1}H NMR spectrum of dodecyl 2,3,4,6-tetra-*O*-benzyl-1-thio-α,β-D-glucopyranoside (**22a**) (400 MHz, $CDCl_3$).[6]

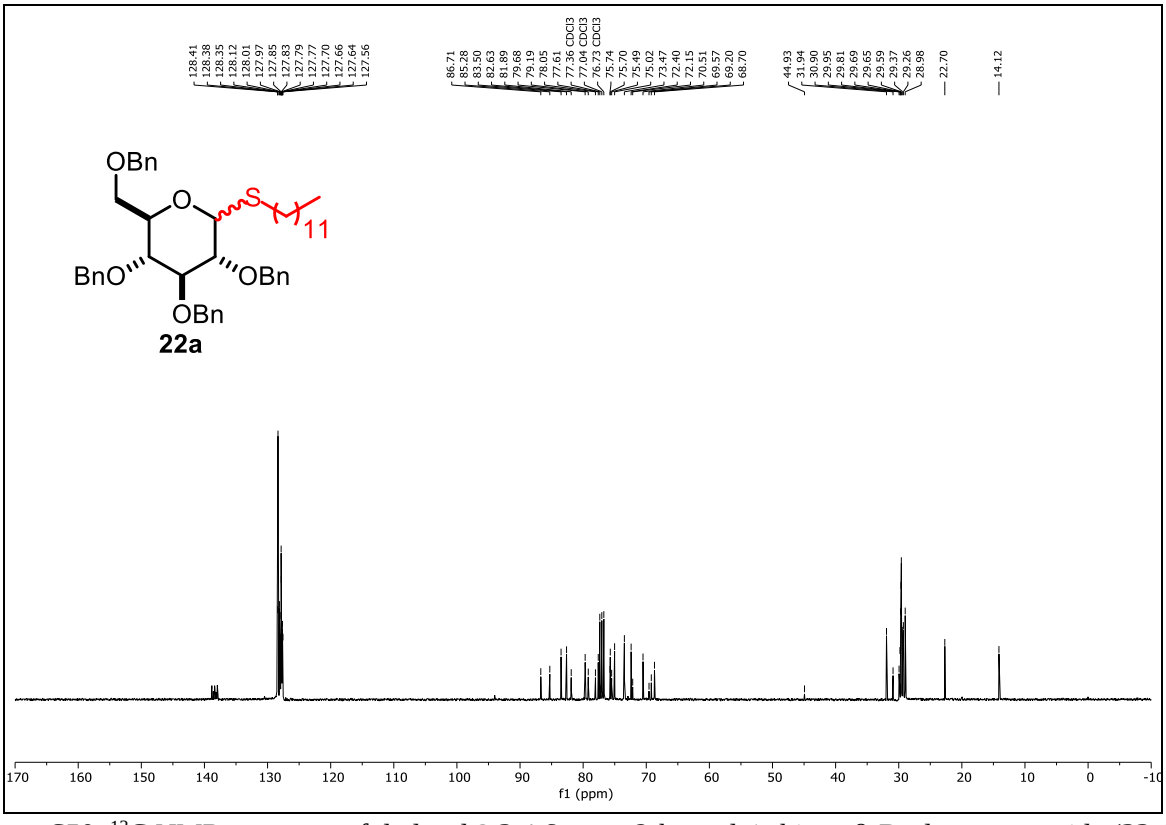

Figure S50. ^{13}C NMR spectrum of dodecyl 2,3,4,6-tetra-*O*-benzyl-1-thio-α,β-D-glucopyranoside (**22a**) (101 MHz, $CDCl_3$).

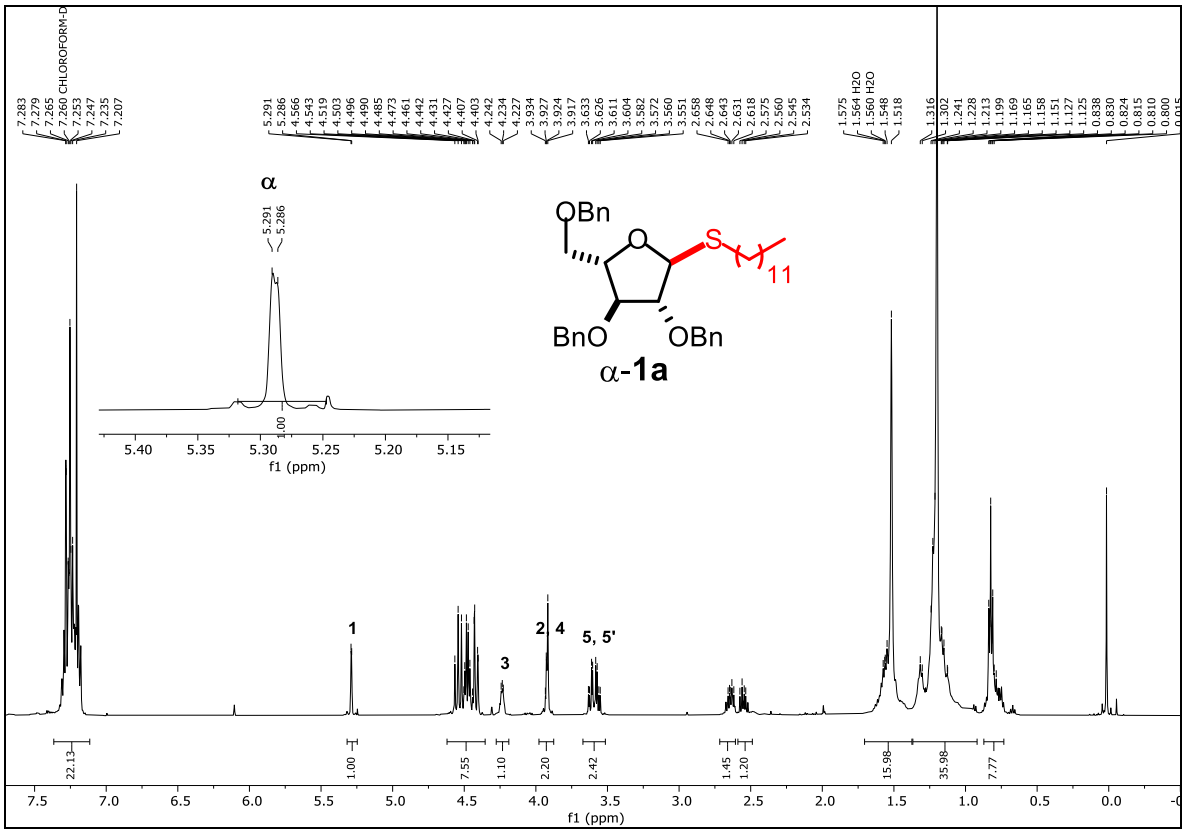

Figure S51. ^{1}H NMR spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**1a**) (500 MHz, $CDCl_3$).

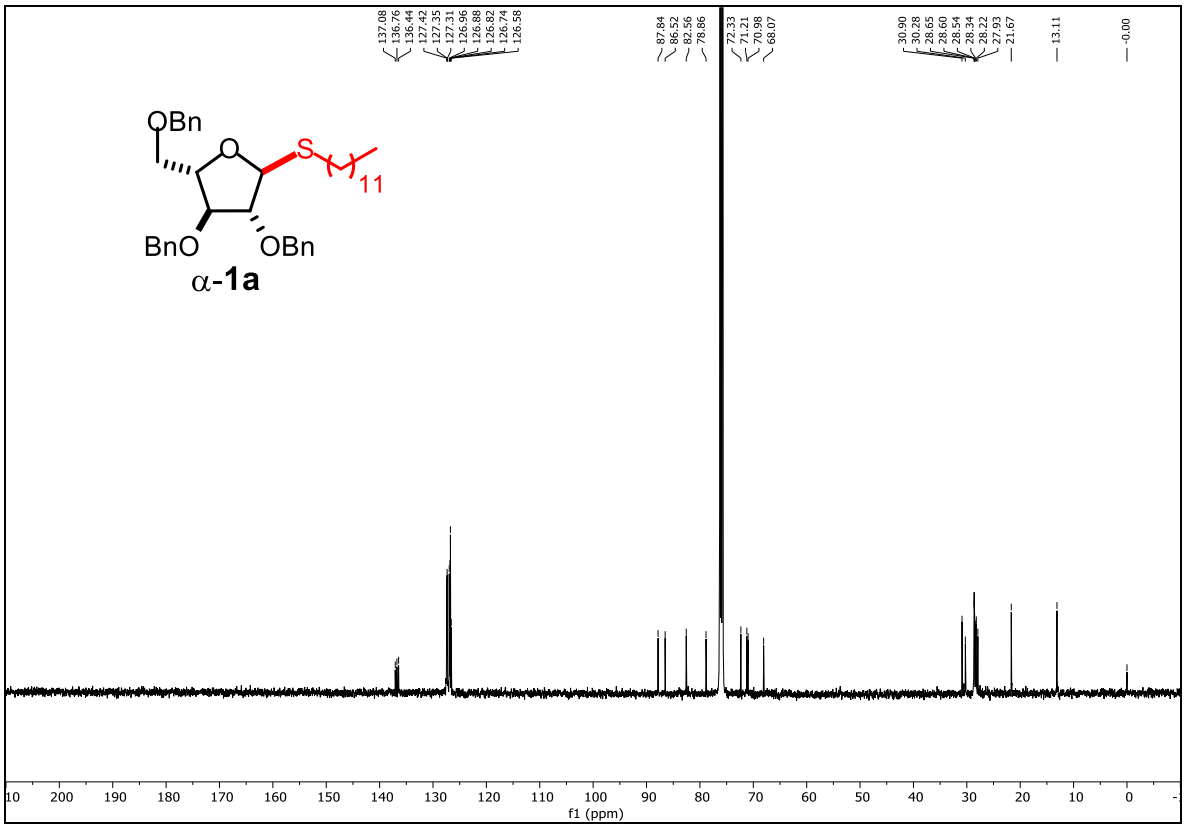

Figure S52. ^{13}C NMR spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**1a**) (126 MHz, $CDCl_3$).

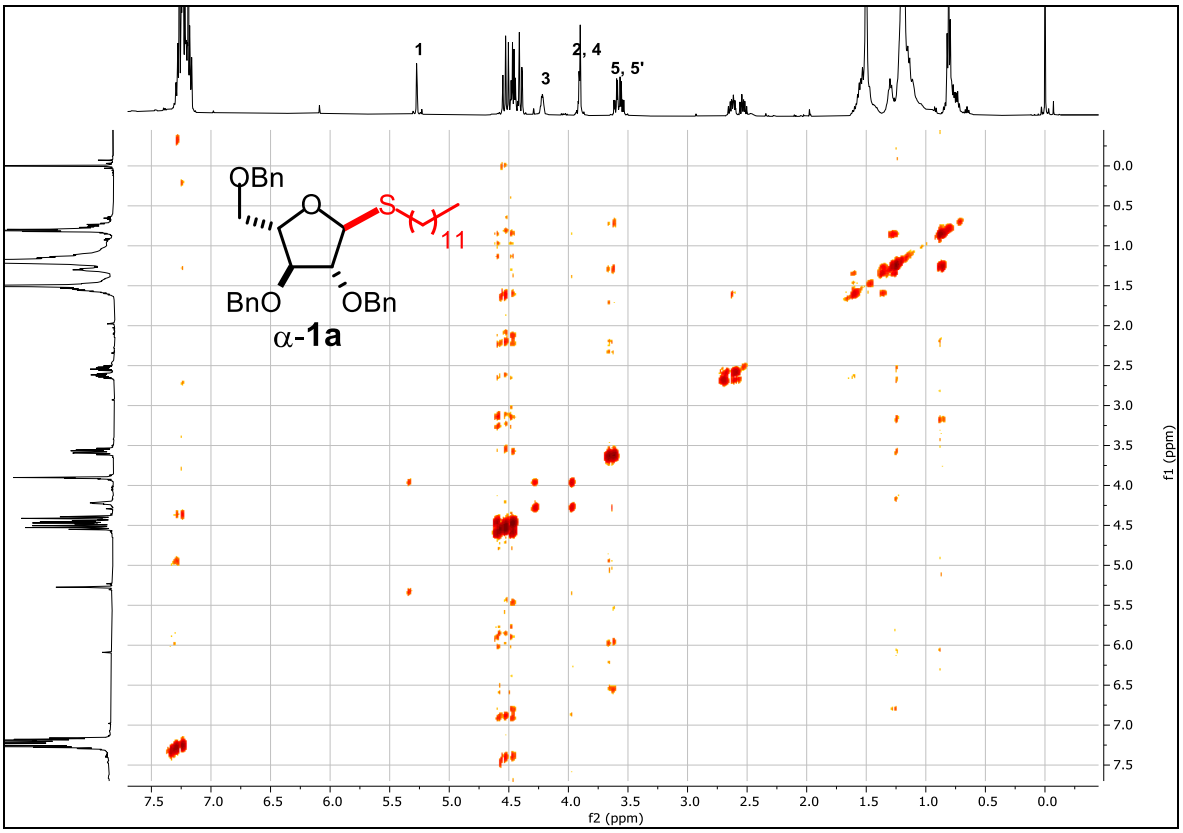

Figure S53. COSY spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**1a**) (500 MHz, $CDCl_3$).

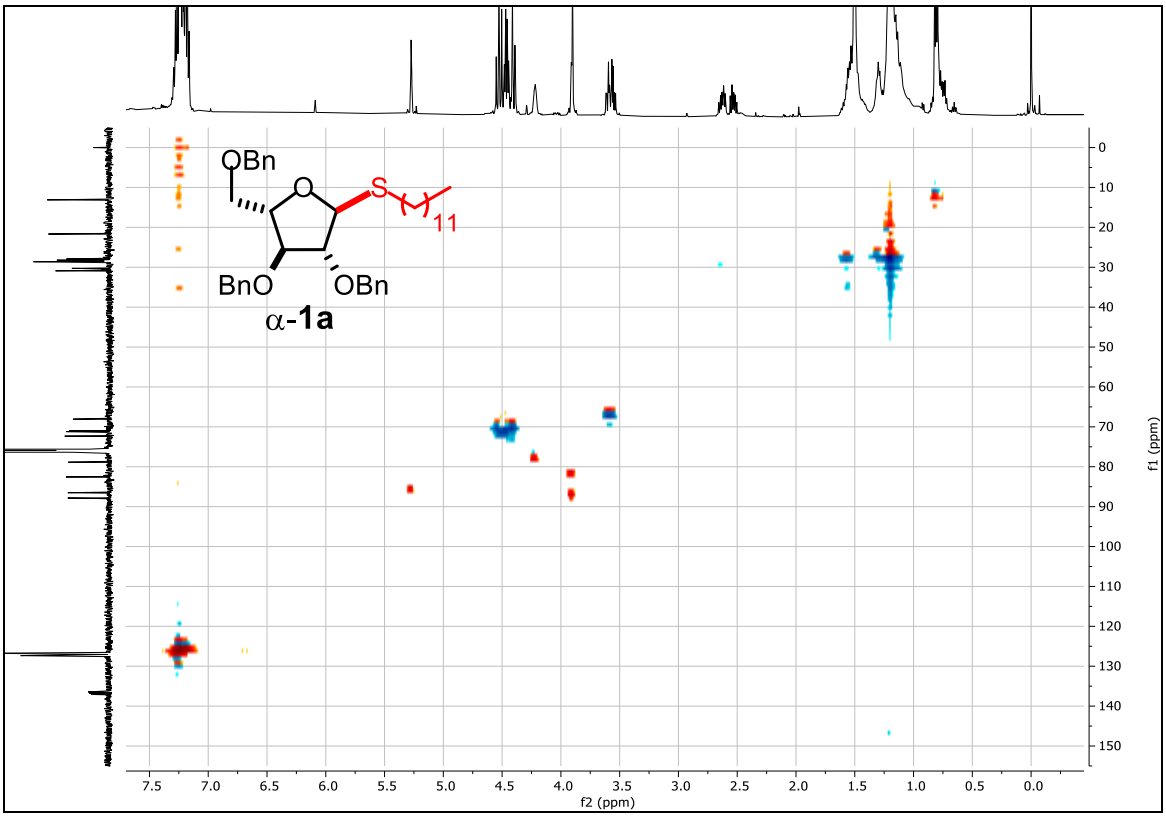

Figure S54. HSQC spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**1a**) (500 MHz, $CDCl_3$).

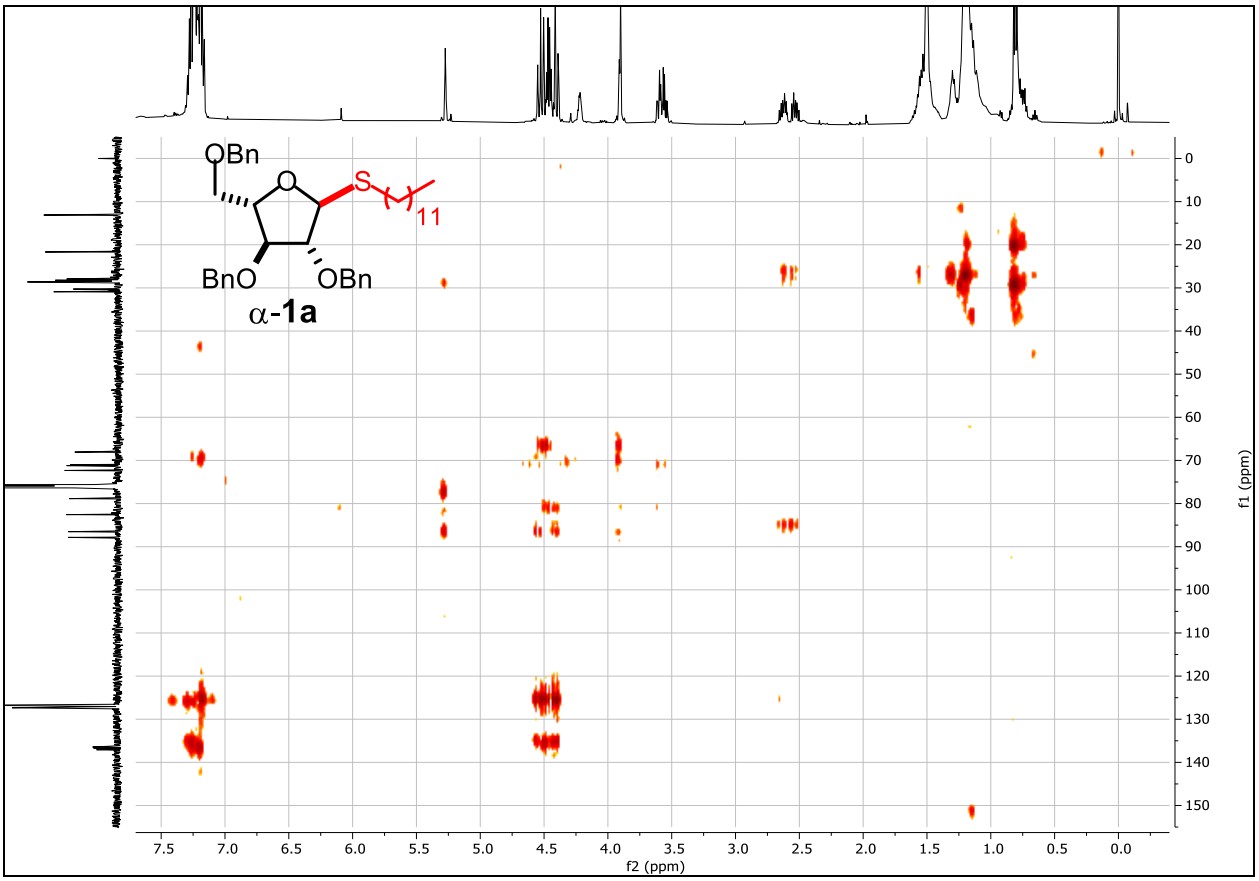

Figure S55. HMBC spectrum of dodecyl 2,3,5-tri-*O*-benzyl-1-thio-α-L-arabinofuranoside (**1a**) (500 MHz, $CDCl_3$).

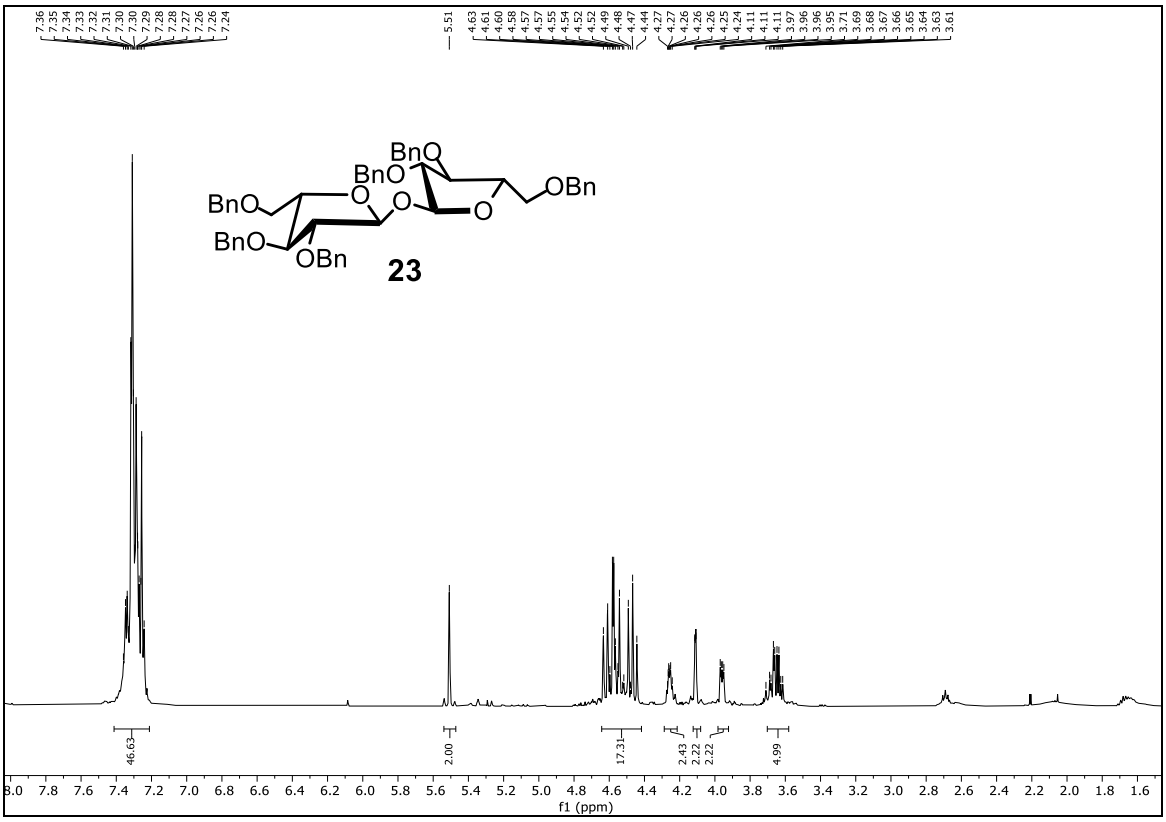

Figure S56. ^{1}H NMR spectrum of 2,3,5,2',3',5'-hexa-*O*-benzyl-α,α- L-arabinofuranoside (**23**) (500 MHz, $CDCl_3$).

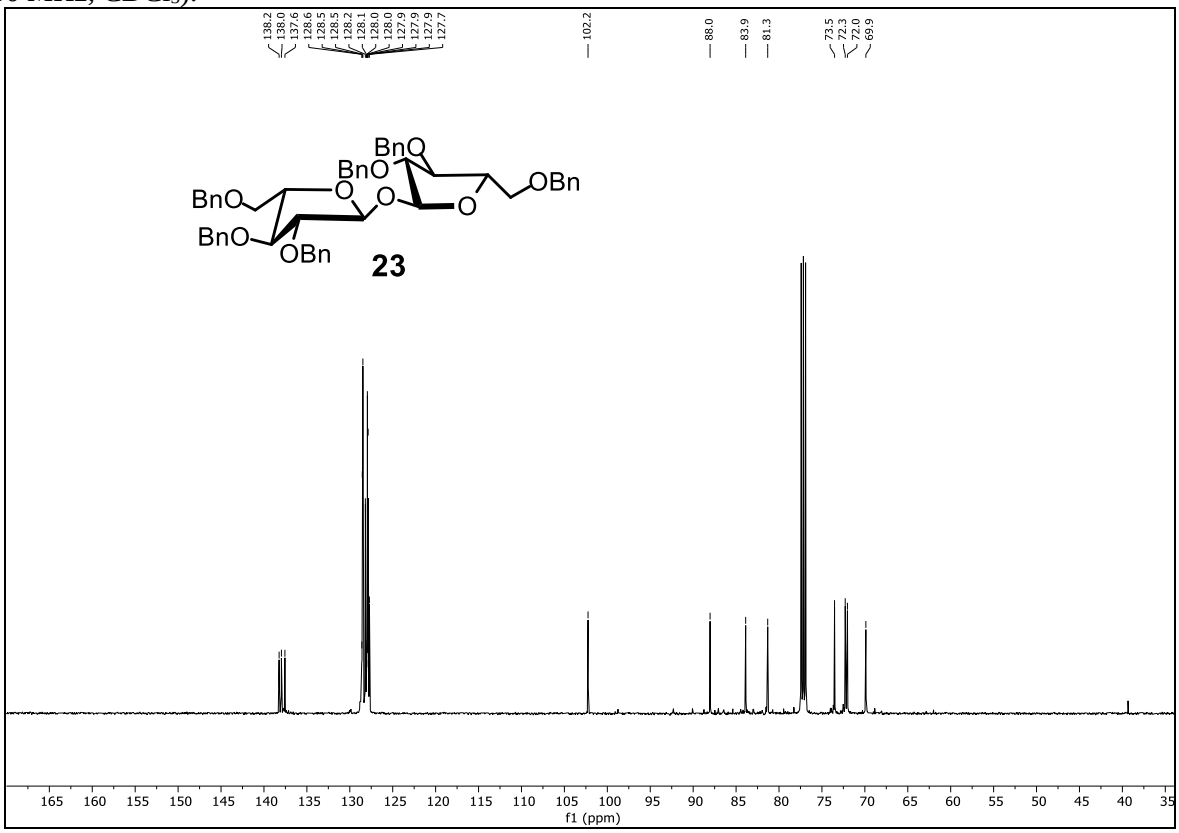

Figure S57. ^{13}C NMR spectrum of 2,3,5,2',3',5'-hexa-*O*-benzyl-α,α- L-arabinofuranoside (**23**) (126 MHz, $CDCl_3$).

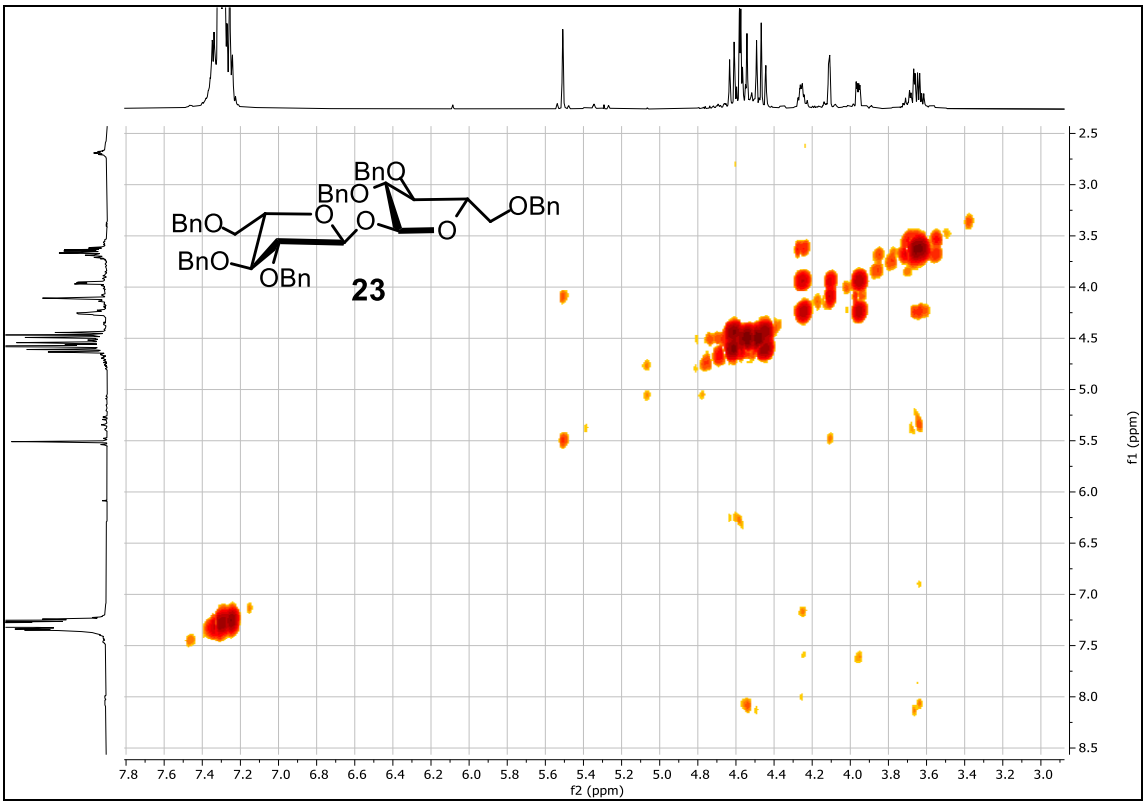

Figure S58. COSY spectrum of 2,3,5,2',3',5'-hexa-*O*-benzyl-α,α-L-arabinofuranoside (**23**) (500 MHz, $CDCl_3$).

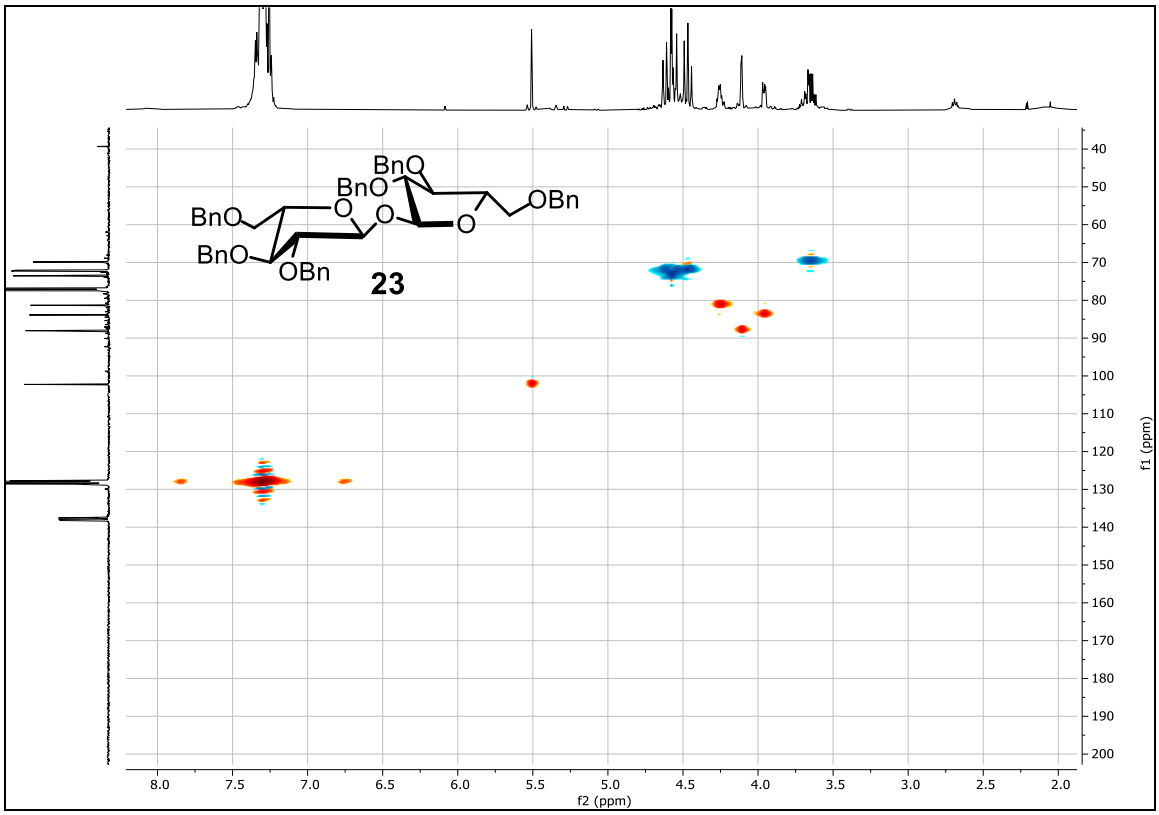

Figure S59. HSQC spectrum of 2,3,5,2',3',5'-hexa-*O*-benzyl-α,α-L-arabinofuranoside (**23**) (500 MHz, $CDCl_3$).

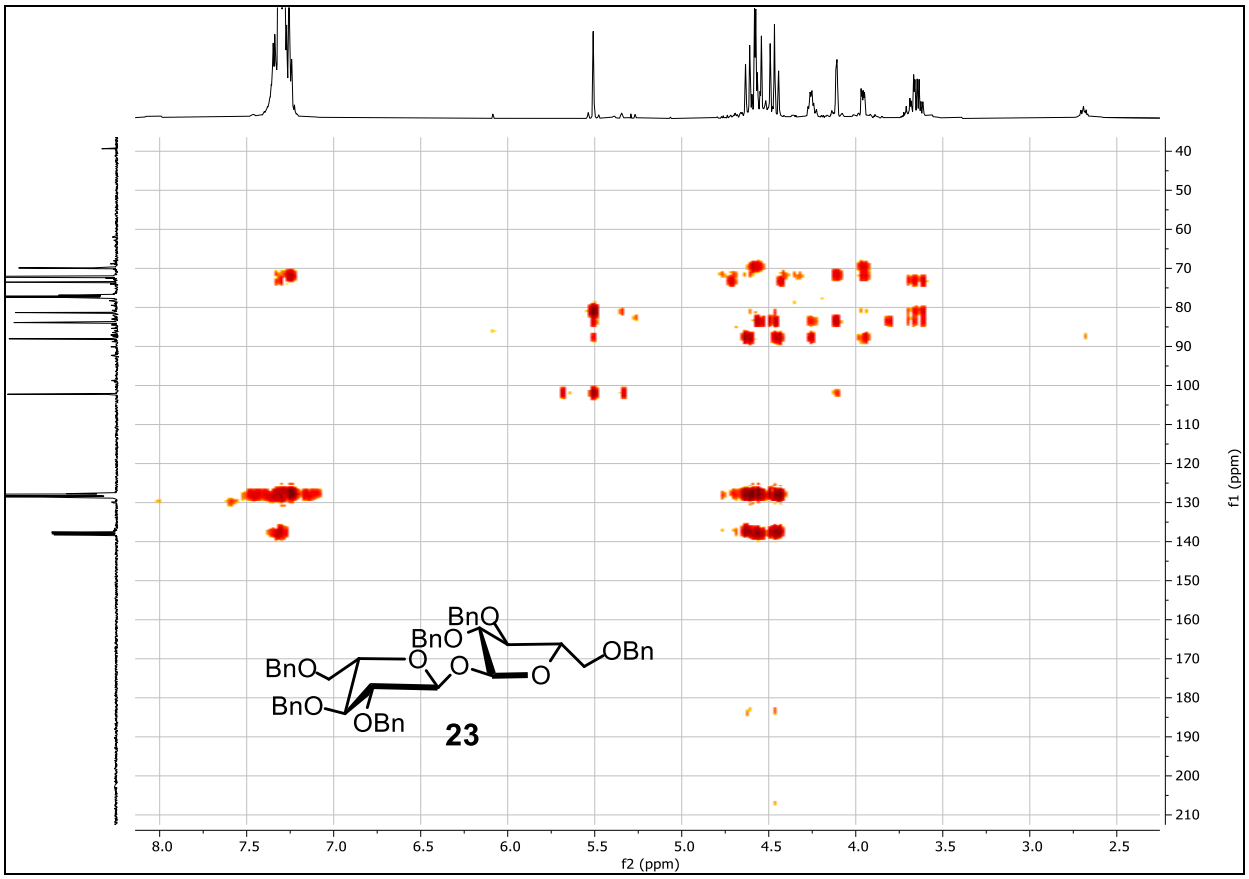

Figure S60. HMBC spectrum of 2,3,5,2',3',5'-hexa-*O*-benzyl-α,α-L-arabinofuranoside (**23**) (500 MHz, $CDCl_3$).

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