

Supporting Information

Non-terminal conjugation of small interfering RNAs with spermine improves duplex binding and serum stability with position-specific incorporation

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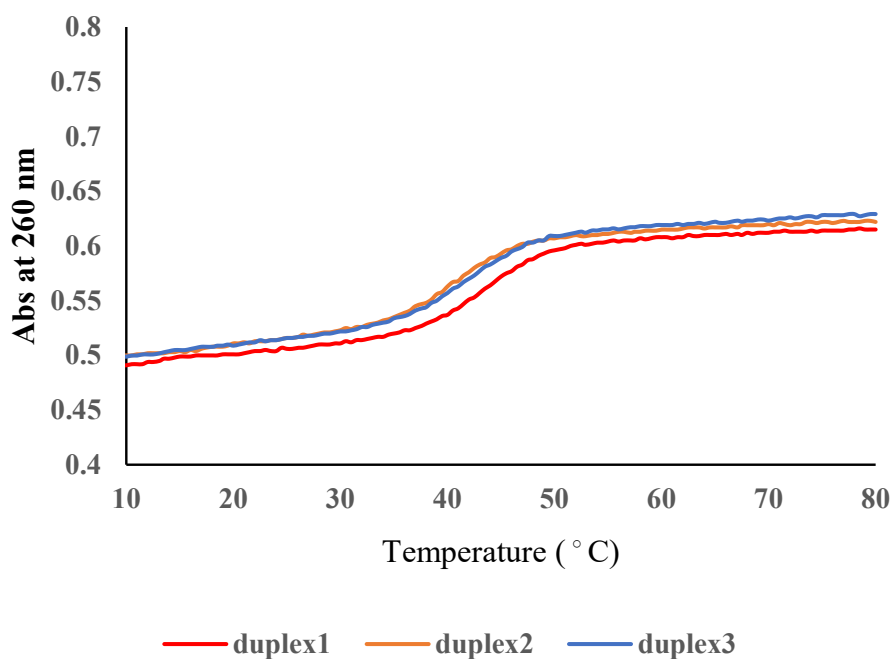


Fig. S1. UV melting profiles of the unmodified and modified RNA duplexes in a buffer containing 10 mM sodium phosphate (pH 7.0) and 100 mM NaCl.

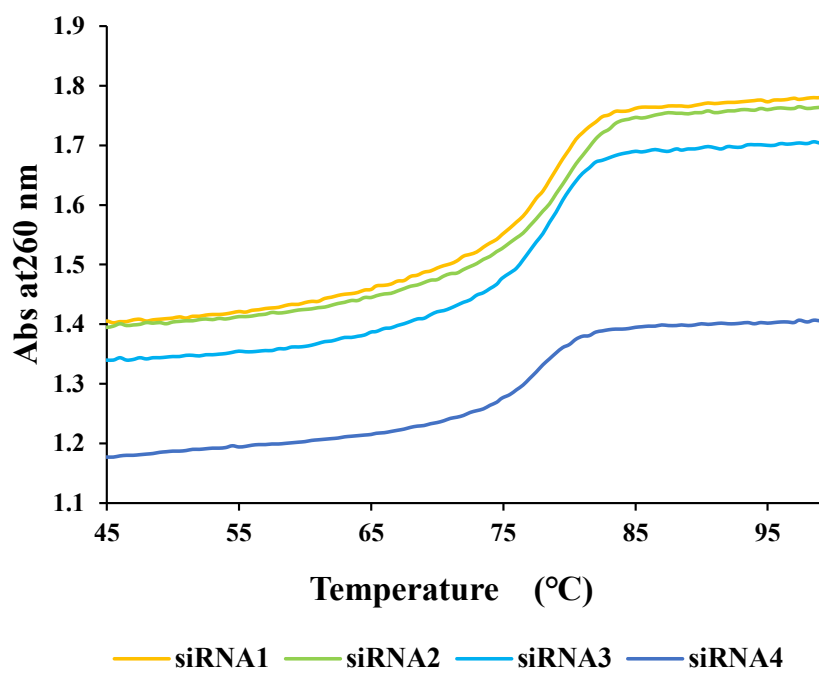


Fig. S2. UV melting profiles of the unmodified and modified siRNAs (siRNA 1-4) in a buffer containing 10 mM sodium phosphate (pH 7.0) and 100 mM NaCl.

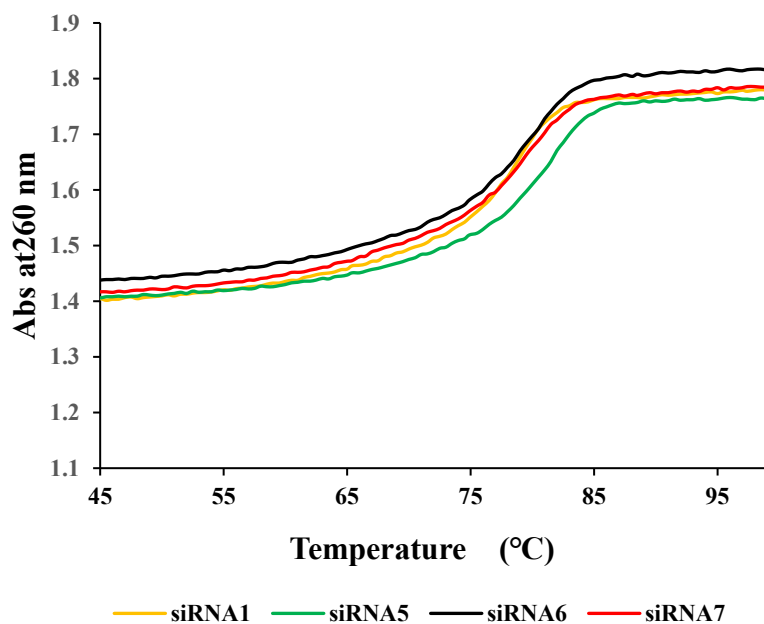


Fig. S3. UV melting profiles of the unmodified and modified siRNAs (siRNA1, 7-9) in a buffer containing 10 mM sodium phosphate (pH 7.0) and 100 mM NaCl.

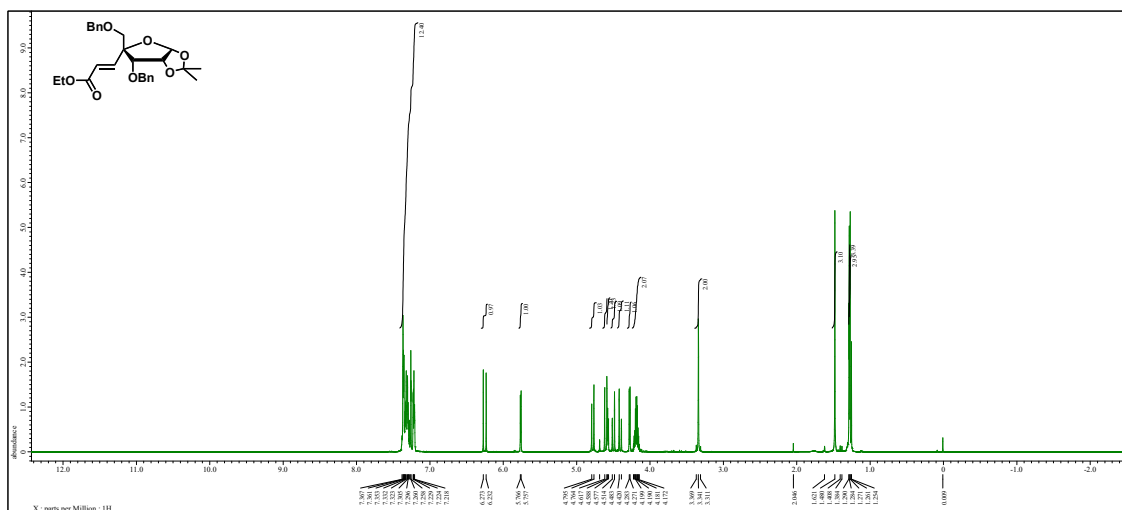
Table S1. Sequence of siRNAs for Serum stability analysis

Abbreviation of siRNA	Abbreviation of RNA	Sequence ^a
		Sense strand
siRNA 8	RNA 5	5'-GGCCUUUCACUACUCCUACUU-3'
	RNA 13	3'-UUCCGGAAAGUGAUGAGGAUG-F-5'
		Antisense strand
siRNA 9	RNA 6	5'-GGCCU _s UUCACUACUCCUACUU-3'
	RNA 13	3'-UUCCGGAAAGUGAUGAGGAUG-F-5'
siRNA 10	RNA 7	5'-GGCCUUUCACU _s ACUCCUACUU-3'
	RNA 13	3'-UUCCGGAAAGUGAUGAGGAUG-F-5'
siRNA 11	RNA 8	5'-GGCCUUUCACUACUCCU _s ACUU-3'
	RNA 13	3'-UUCCGGAAAGUGAUGAGGAUG-F-5'
siRNA 12	RNA 10	5'-GGCCU _{ss} UUCACUACUCCUACUU-3'
	RNA 13	3'-UUCCGGAAAGUGAUGAGGAUG-F-5'
siRNA 13	RNA 11	5'-GGCCUUUCACU _{ss} ACUCCUACUU-3'
	RNA 13	3'-UUCCGGAAAGUGAUGAGGAUG-F-5'
siRNA 14	RNA 12	5'-GGCCU _s UUCACU _s ACUCCUACUU-3'
	RNA 13	3'-UUCCGGAAAGUGAUGAGGAUG-F-5'

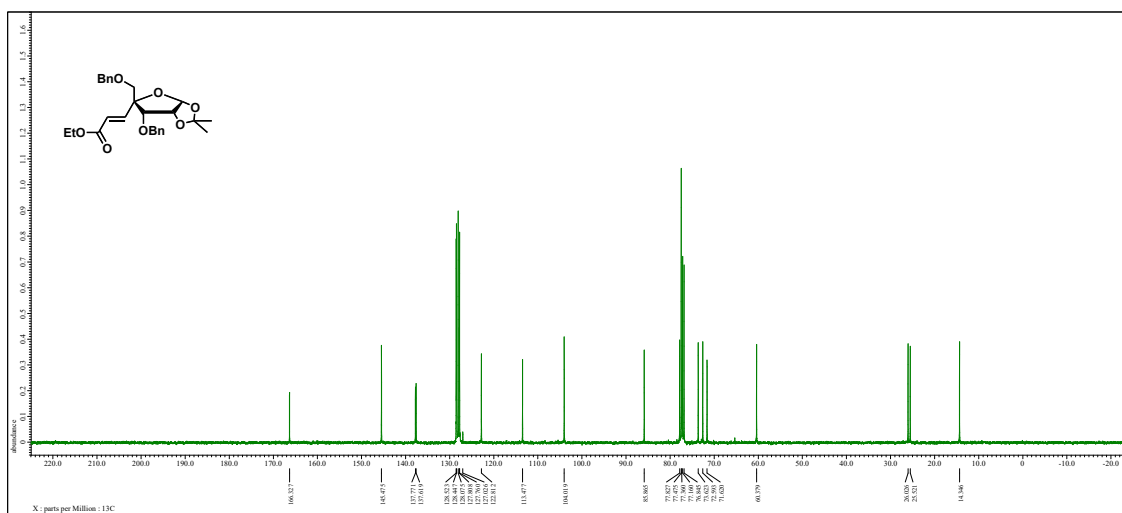
^(a) F is fluorescein, U is 2'-OMe-4'-HP-U analog and s is spermine molecule.

NMR spectra (¹H, ¹³C and ³¹P)

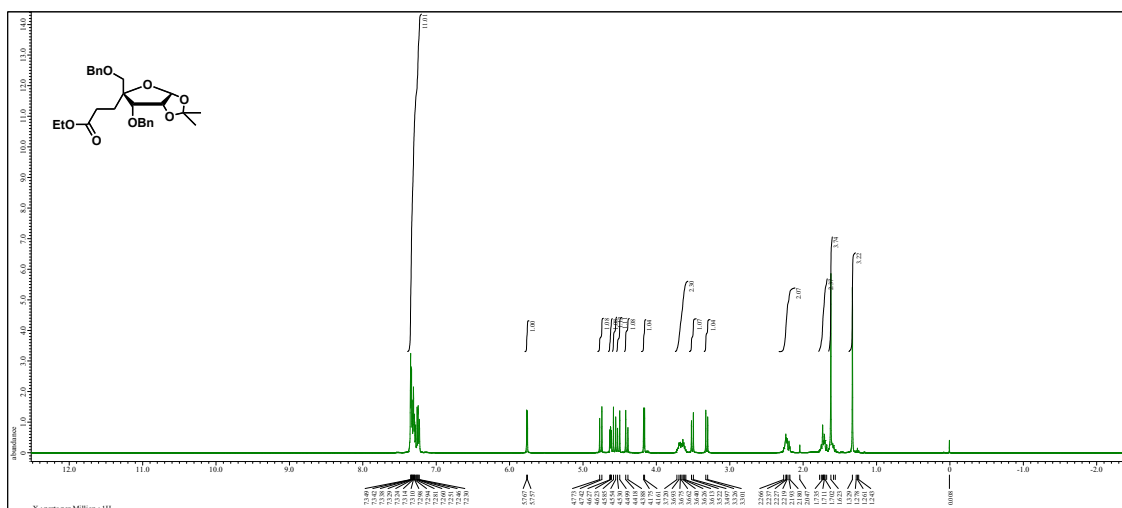
¹H NMR spectrum of compound **3**



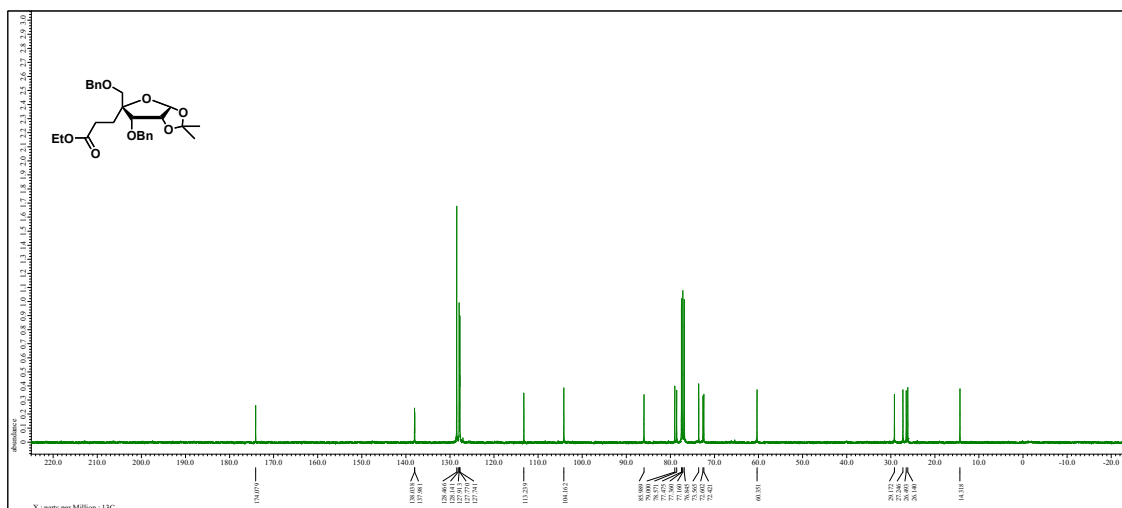
¹³C {¹H } NMR spectrum of compound **3**



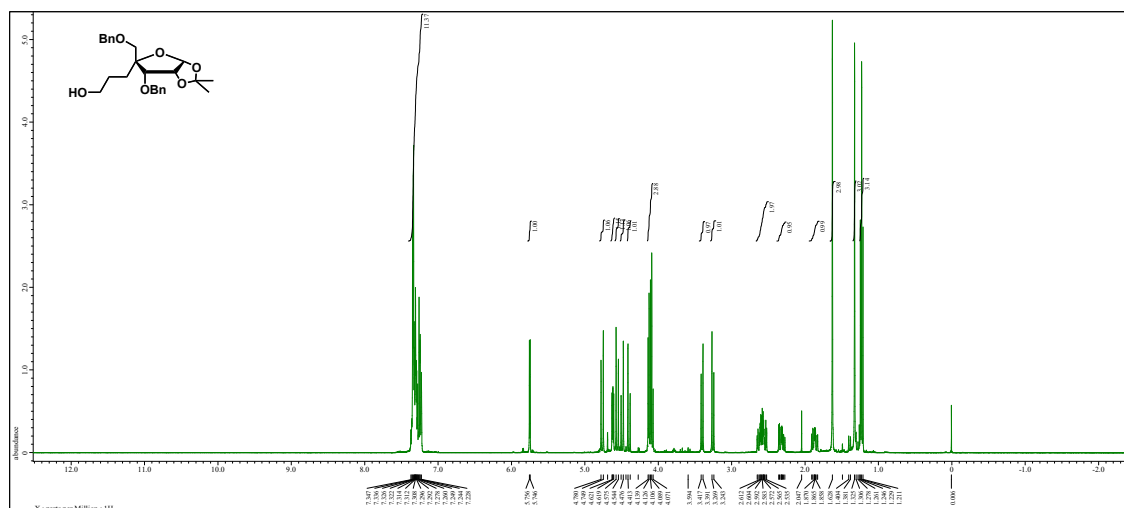
¹H NMR spectrum of compound 4



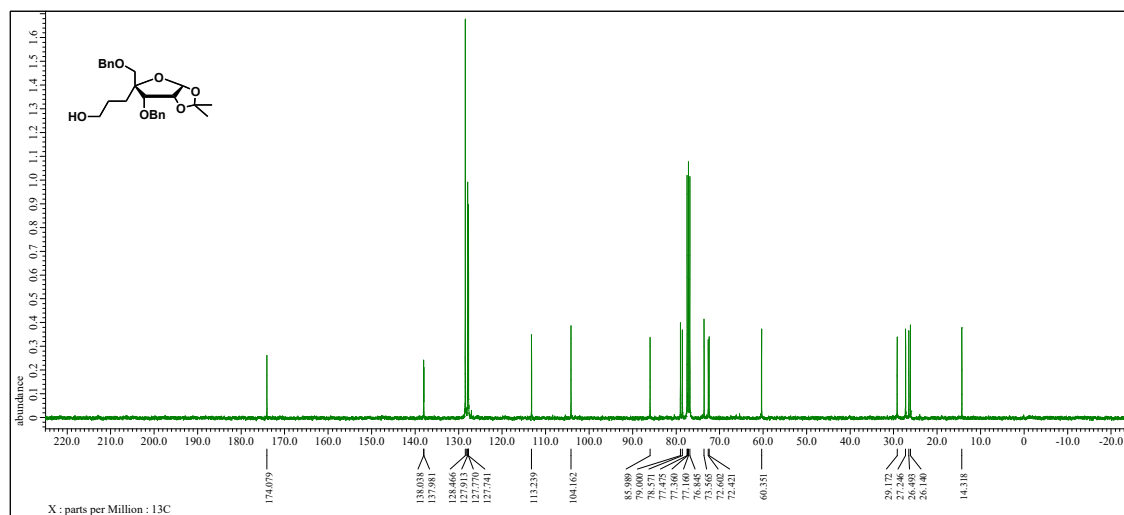
¹³C {¹H} NMR spectrum of compound 4



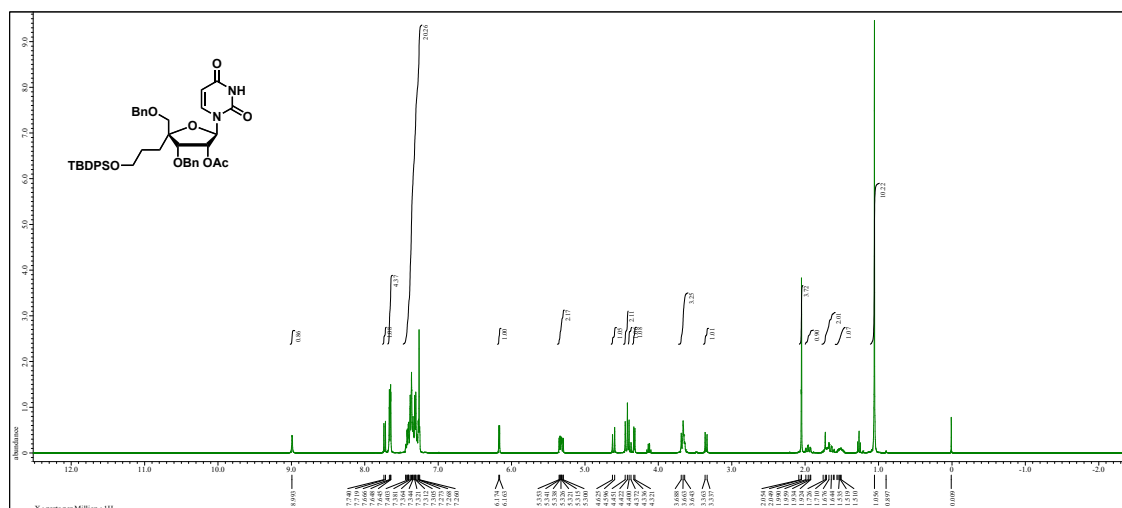
¹H NMR spectrum of compound **5**



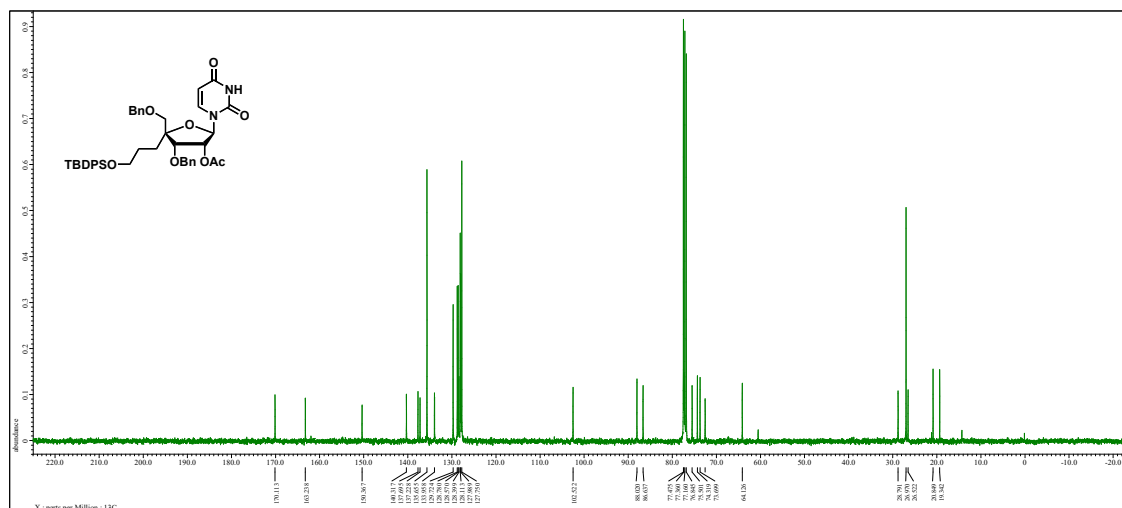
¹³C {¹H} NMR spectrum of compound **5**



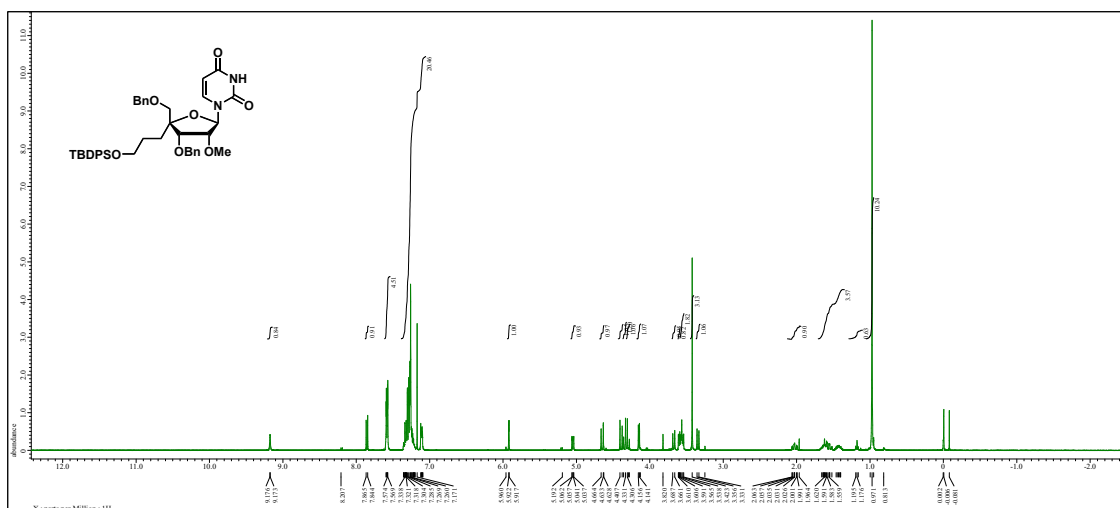
^1H NMR spectrum of compound **8**



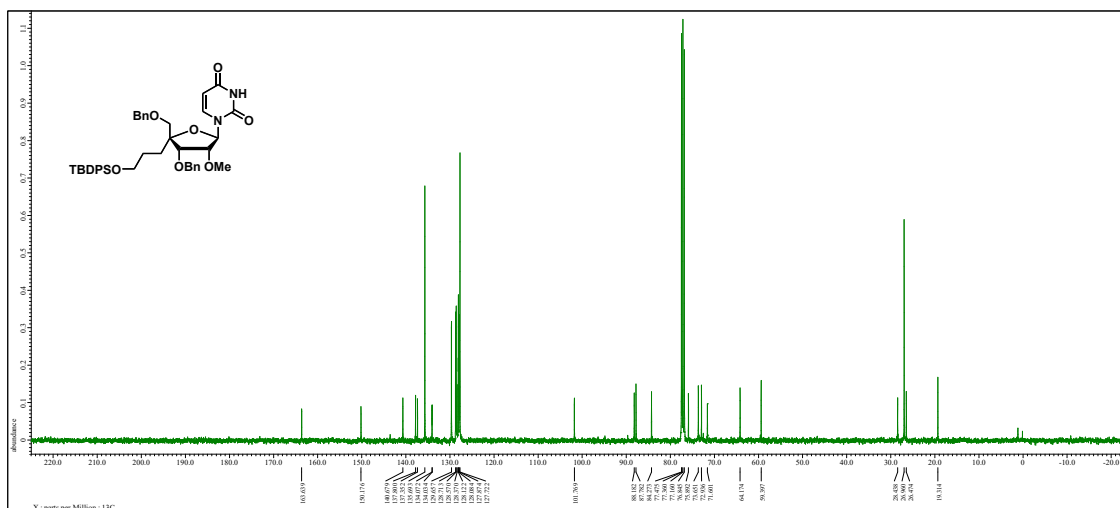
^{13}C $\{^1\text{H}\}$ NMR spectrum of compound **8**



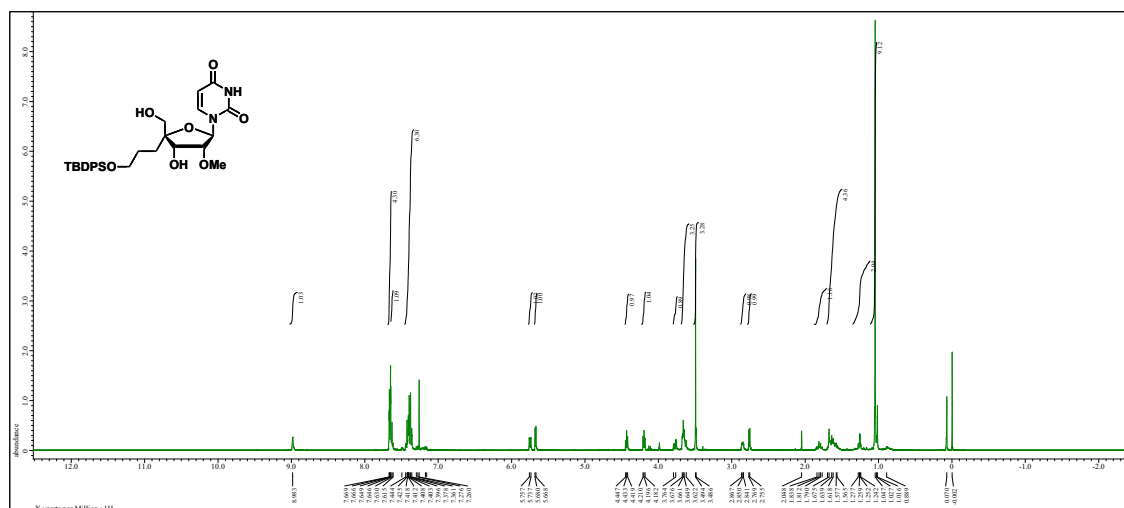
^1H NMR spectrum of compound **10**



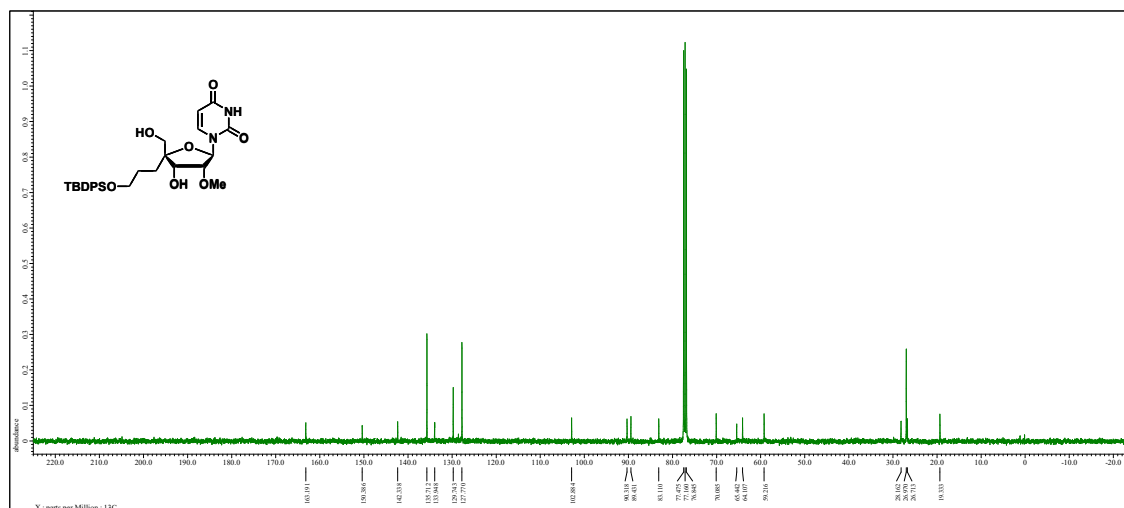
^{13}C { ^1H } NMR spectrum of compound **10**



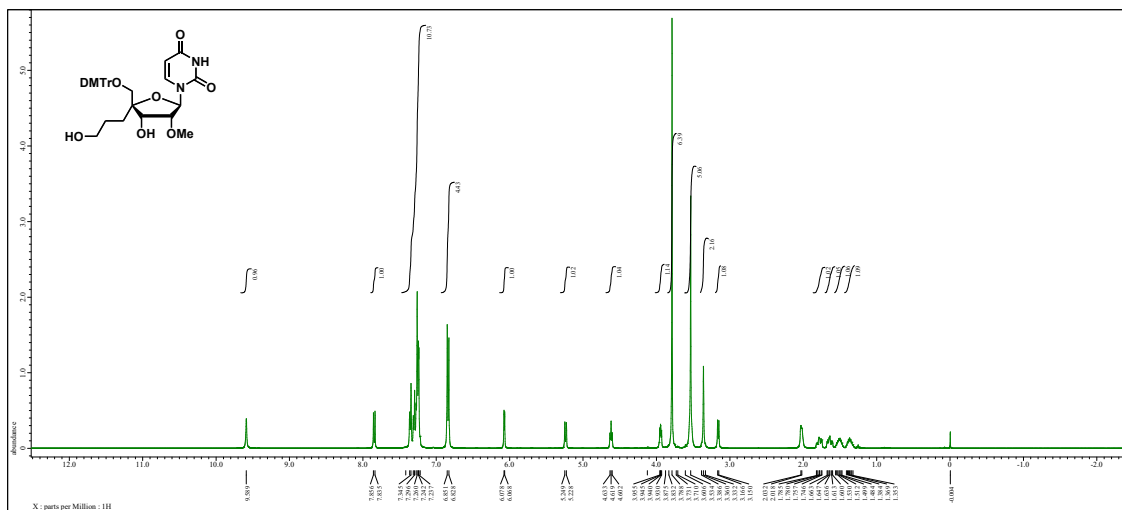
^1H NMR spectrum of compound **11**



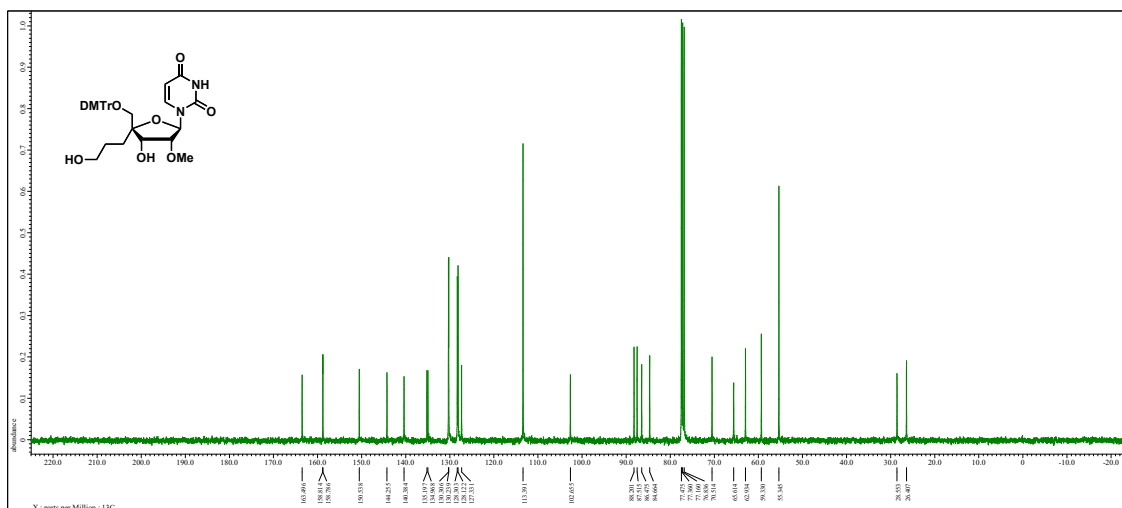
^{13}C { ^1H } NMR spectrum of compound **11**



¹H NMR spectrum of compound **13**



¹³C {¹H} NMR spectrum of compound **13**



³¹P NMR spectrum of compound **15**

