**Supporting Information to:**

# Synthesis of Aminoglycoside-2′-*O*-Methyl Oligoribonucleotide Fusions

**Lotta Granqvist[1], Andrzej Kraszewski [2,3], Ville Tähtinen[1] and Pasi Virta[1,*]**

[1] Department of Chemistry, University of Turku, Vatselankatu 2, 20014 Turku, Finland
[2] Centre of New Technologies, University of Warsaw, Banacha 2c, 02 097 Warsaw; Poland
[3] College of Inter-Faculty Individual Studies in Mathematics and Natural Sciences, University of Warsaw, Banacha 2c, 02 097 Warsaw; Poland
* Correspondence: pamavi@utu.fi; Tel.: +358 294 503 209

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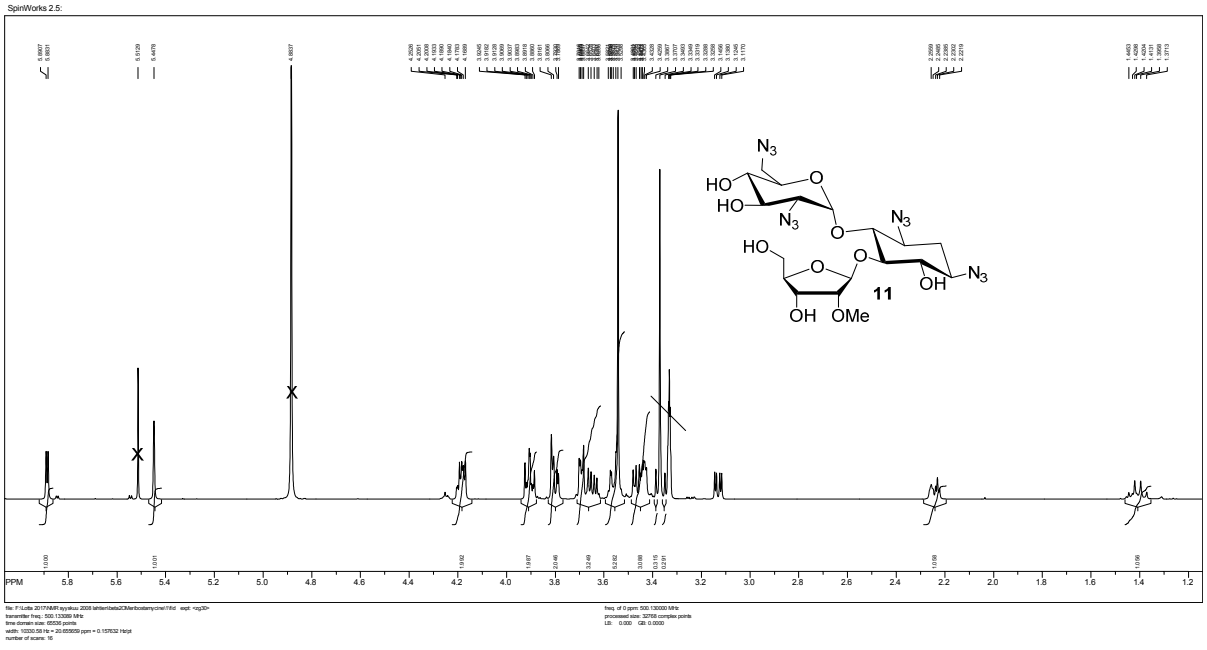


**Figure S1.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **11**.

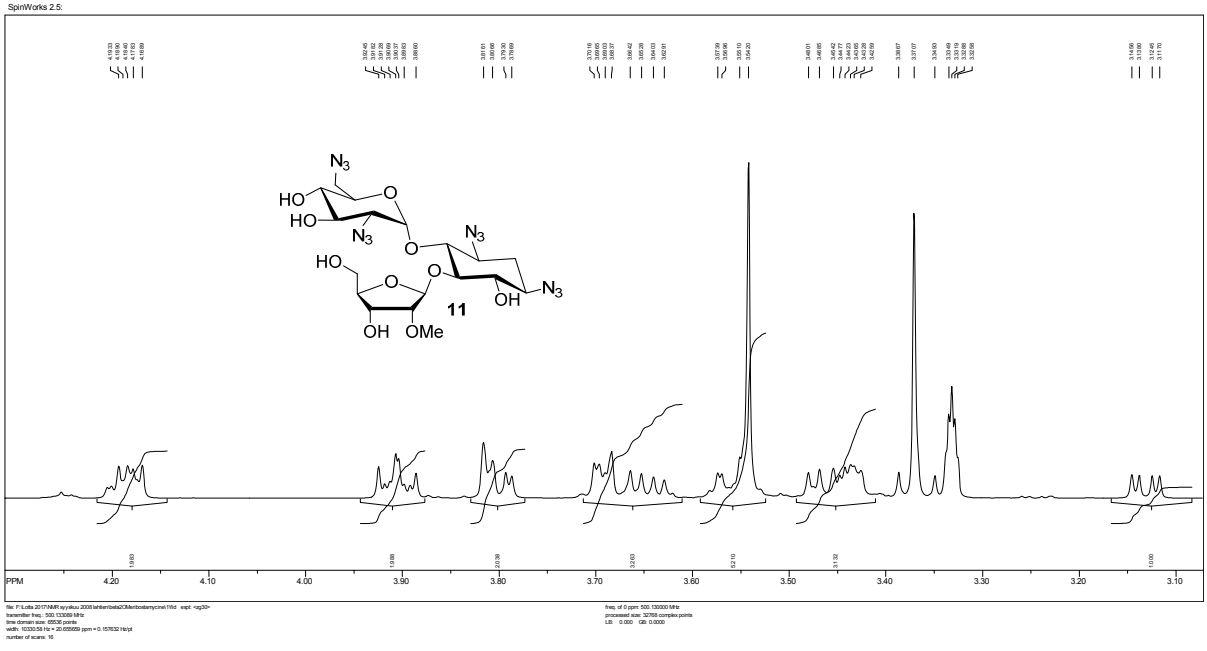


**Figure S2.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **11**.

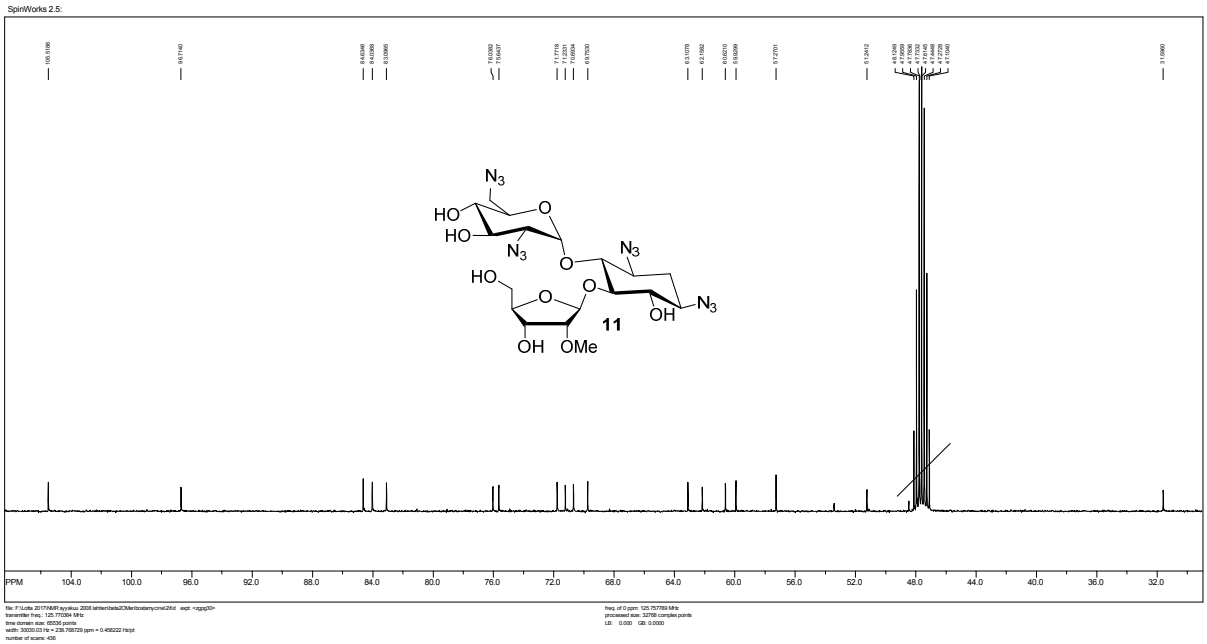


**Figure S3.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **11**.

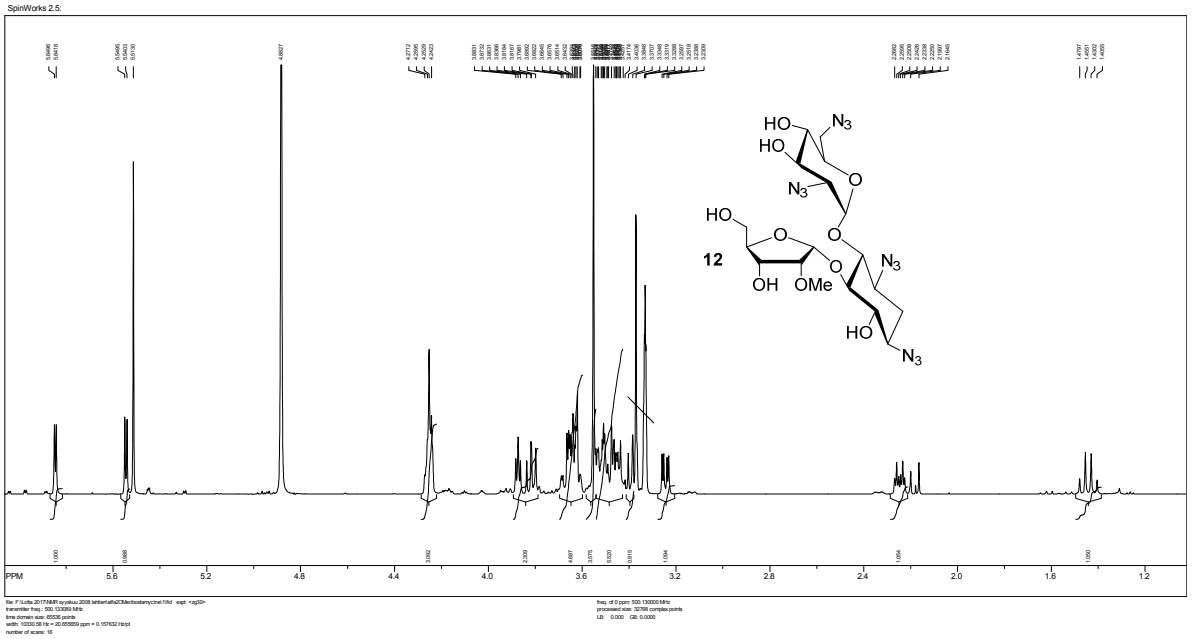


**Figure S4.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **12**.

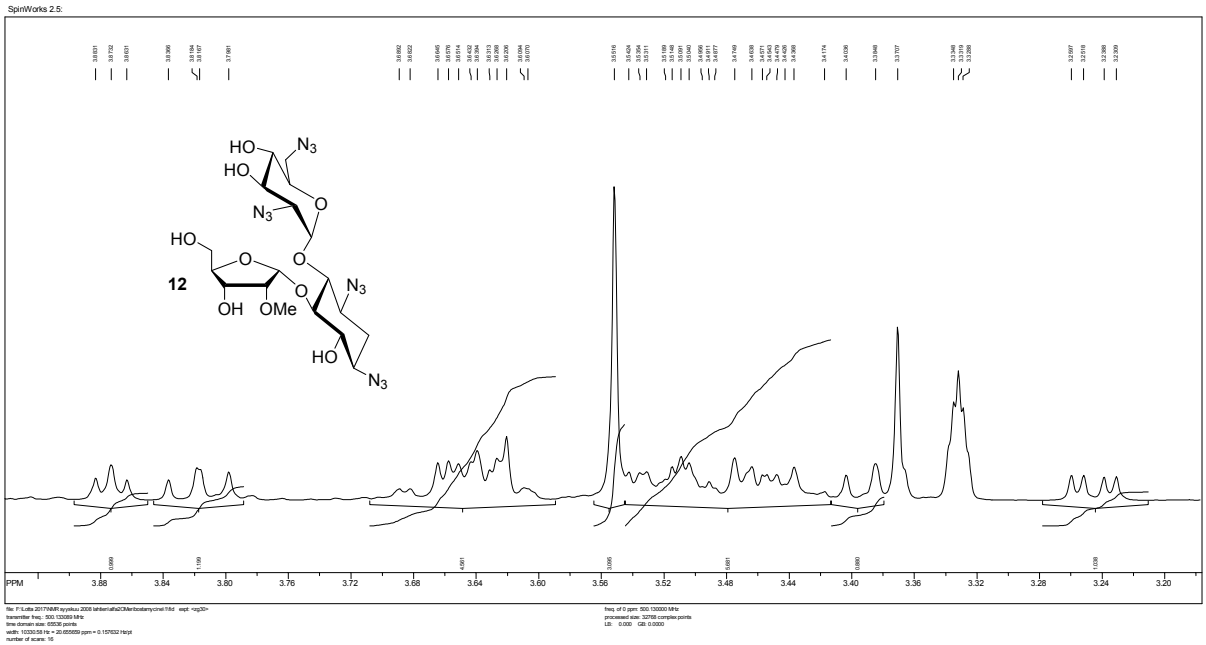


**Figure S5.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **12**.

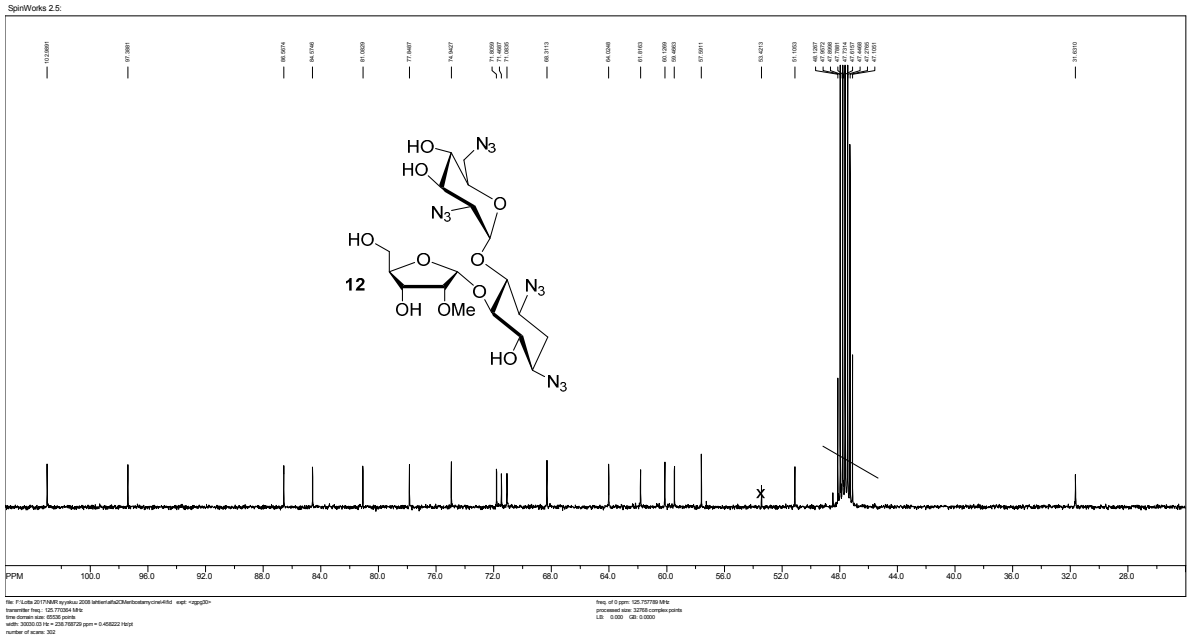


**Figure S6.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **12**.

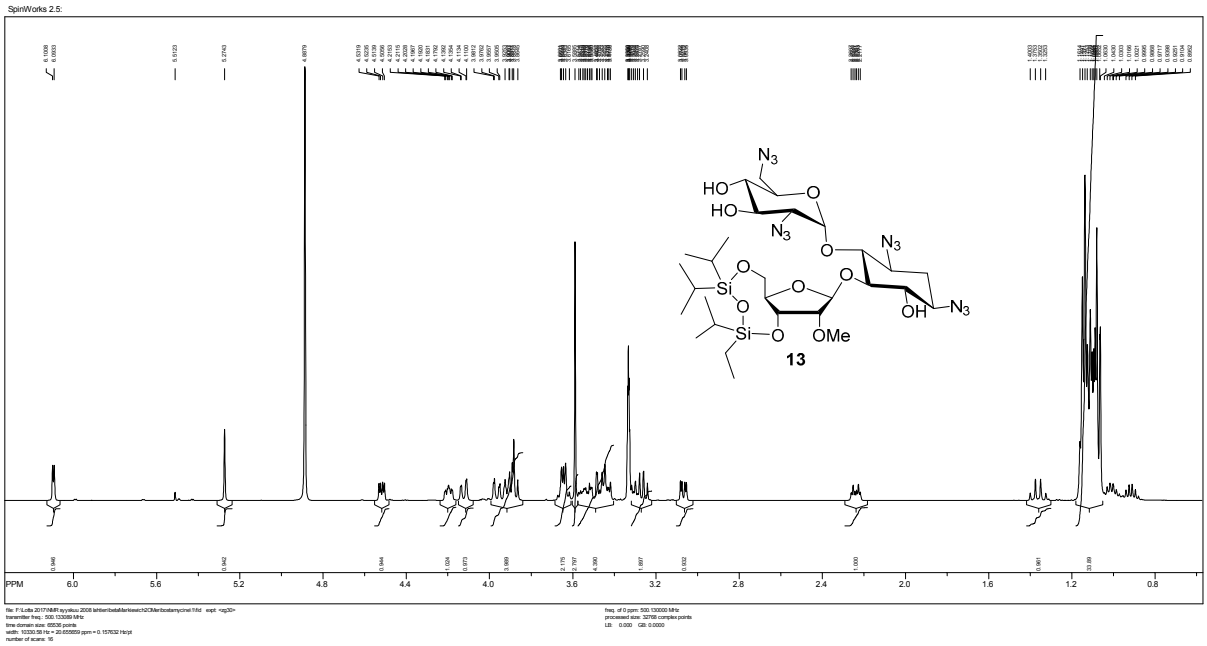


**Figure S7.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **13**.

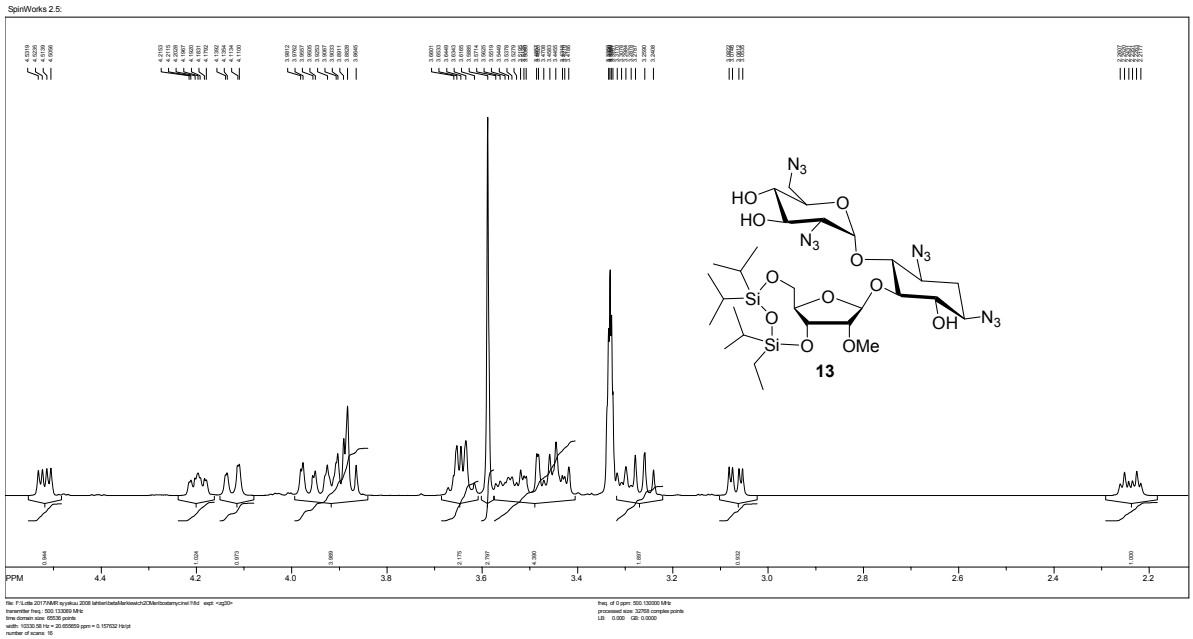


**Figure S8.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **13**.

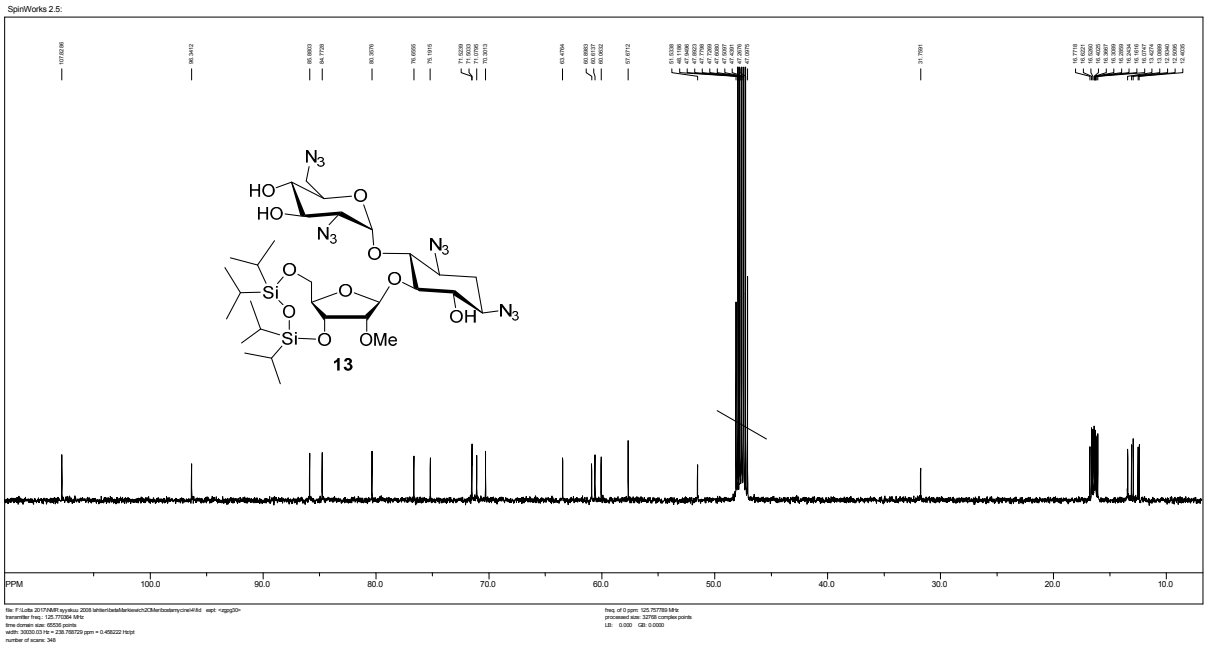


**Figure S9.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **13**.

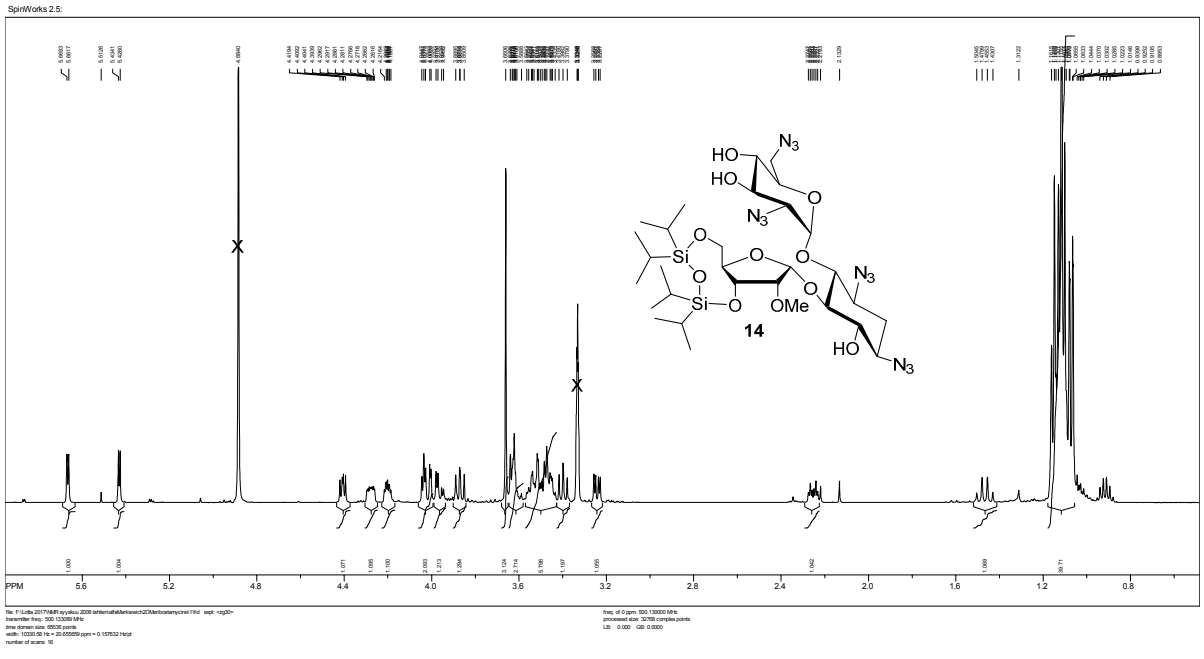


**Figure S10.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **14**.

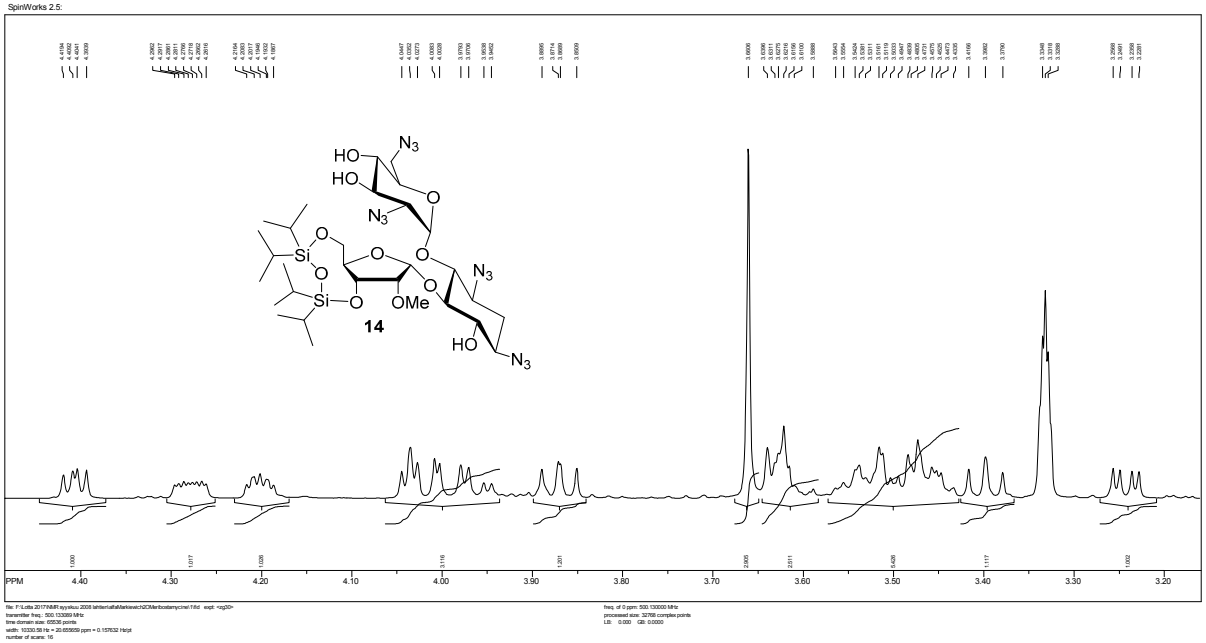


**Figure S11.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **14**.

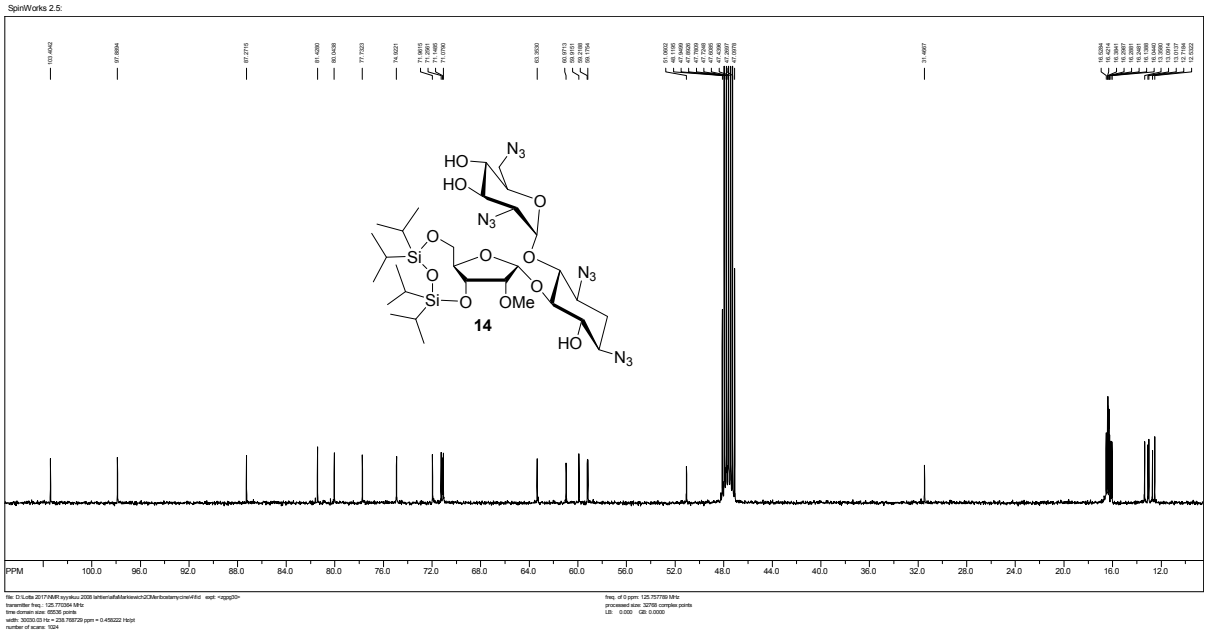


**Figure S12.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **14**.

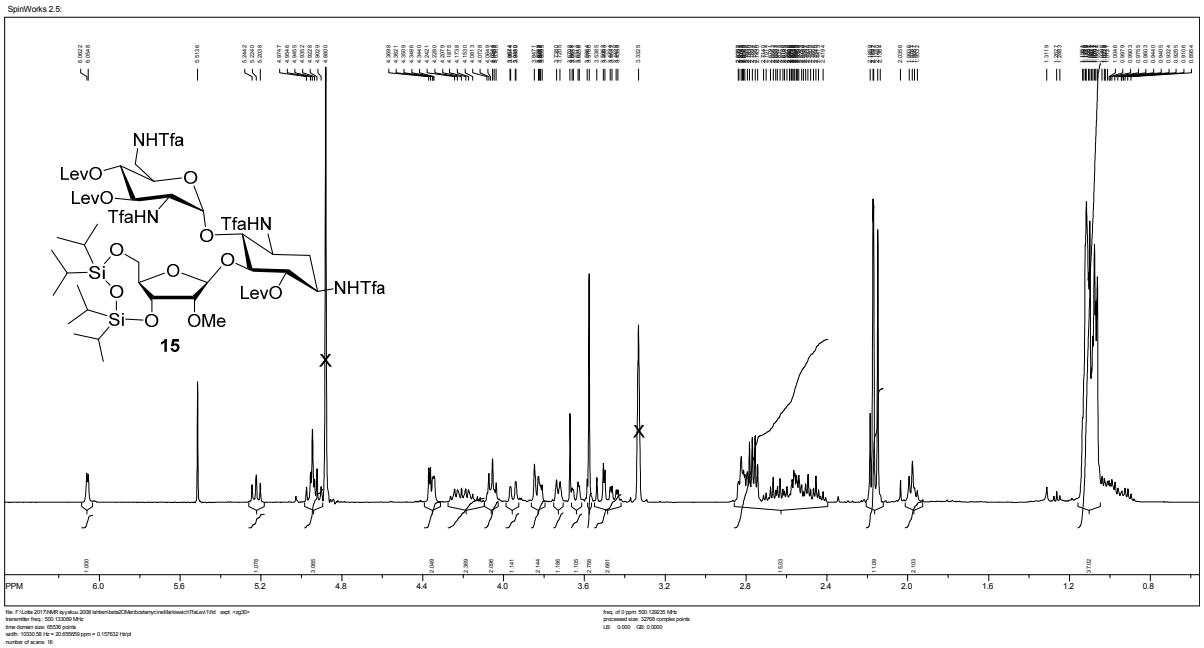


**Figure S13.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **15**.

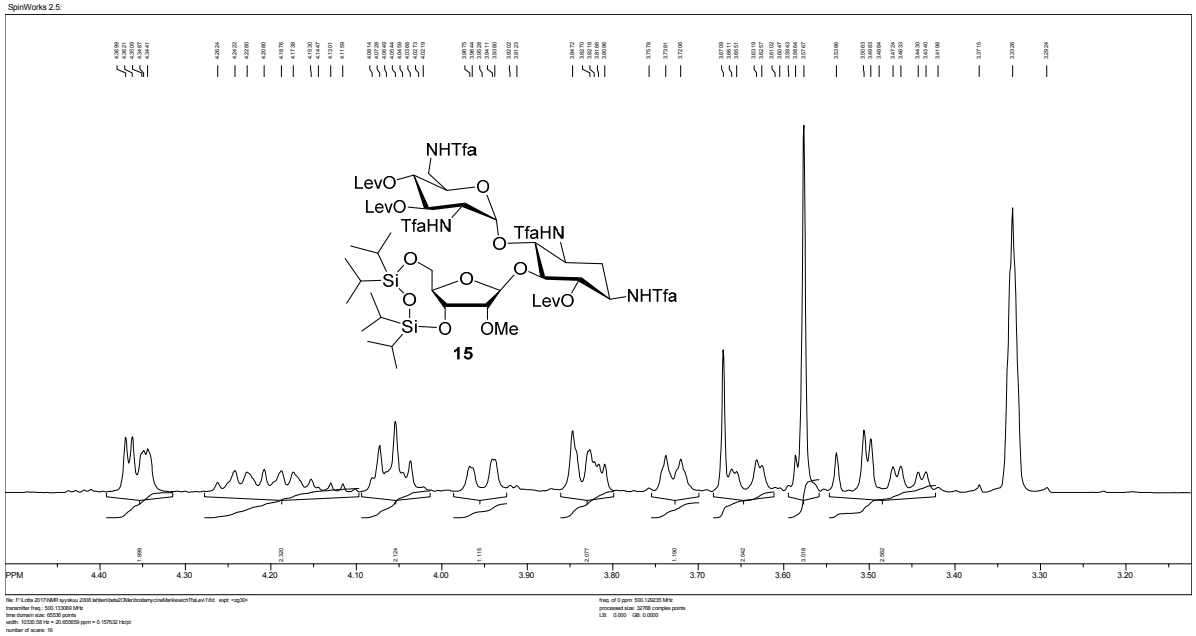


**Figure S14.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **15**.

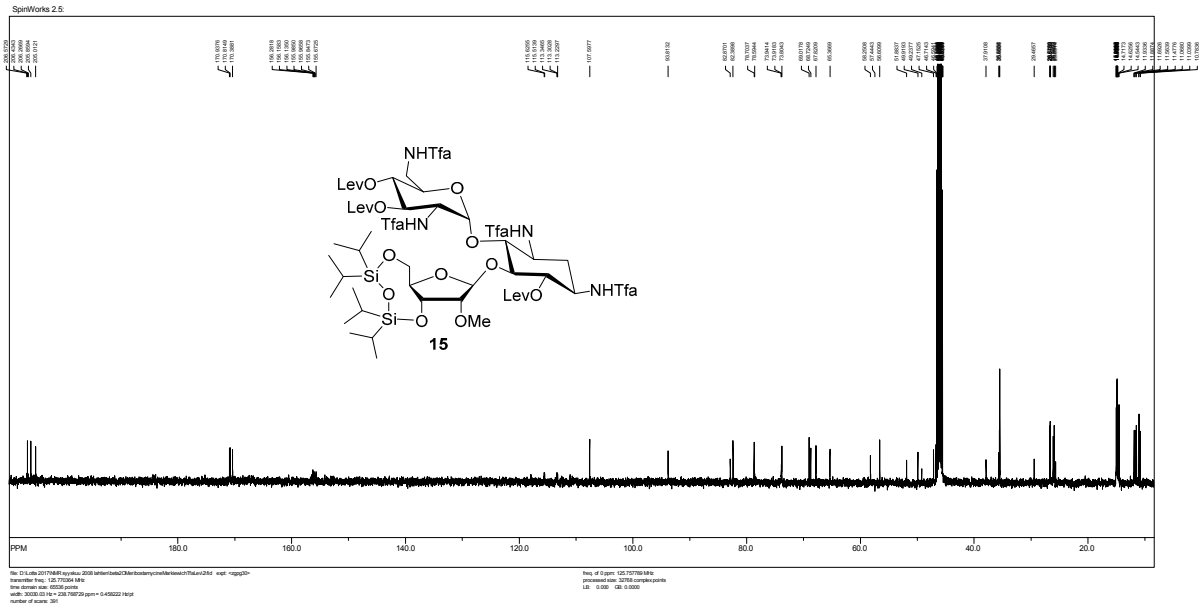


**Figure S15.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **15**.

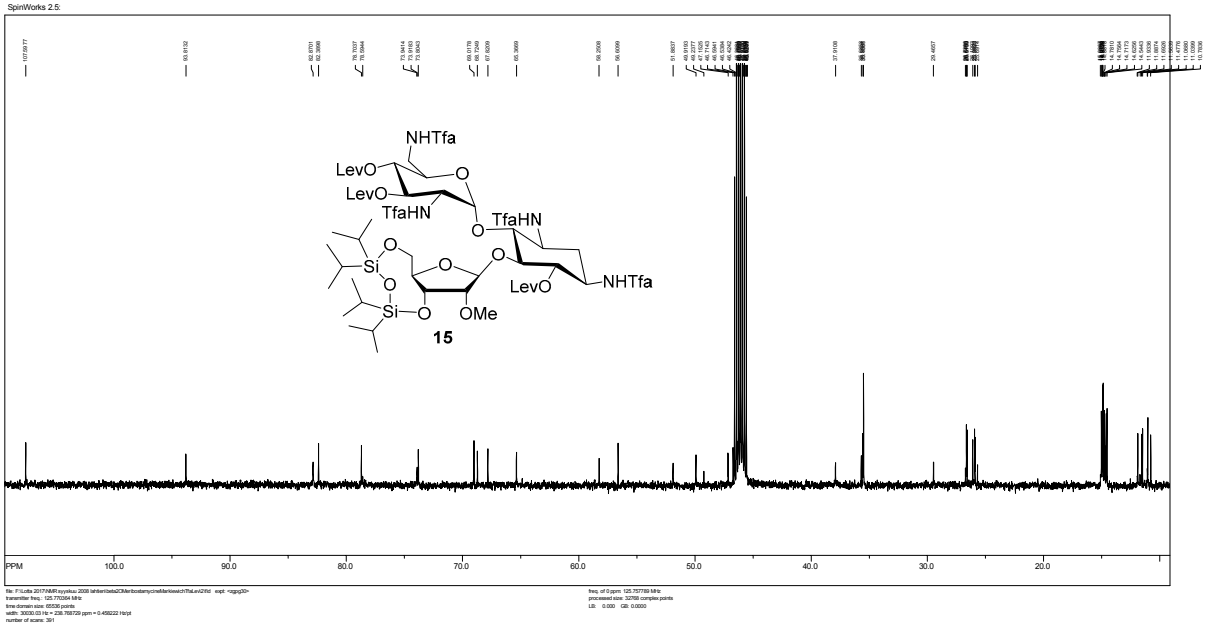


**Figure S16.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **15**.

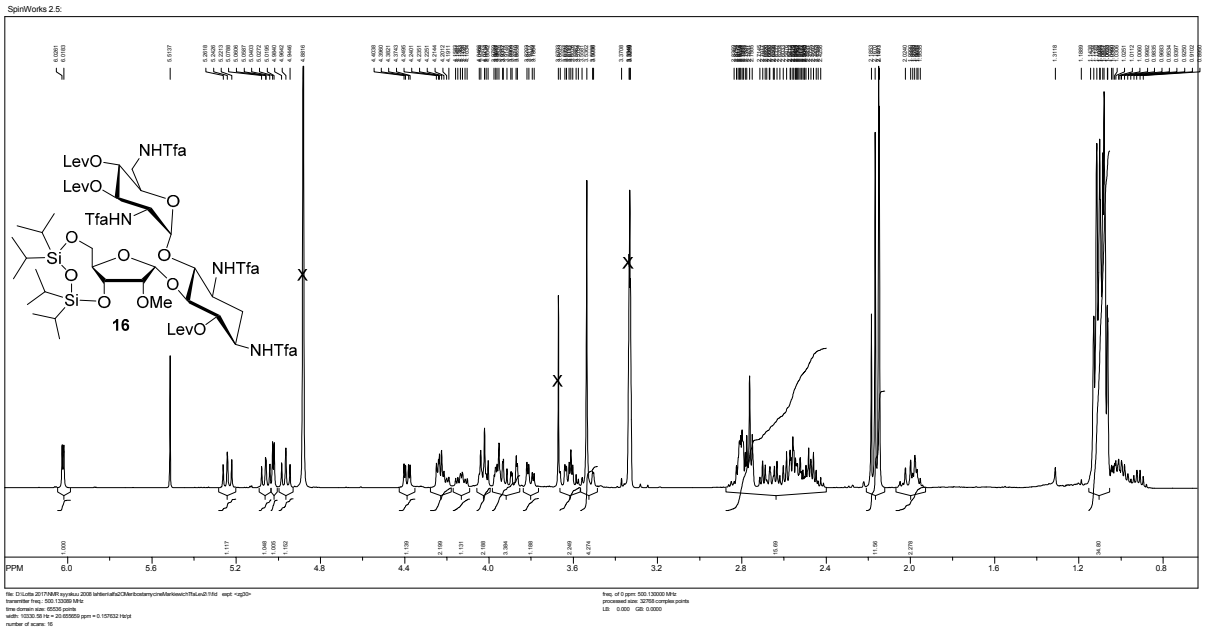


**Figure S17.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **16**.

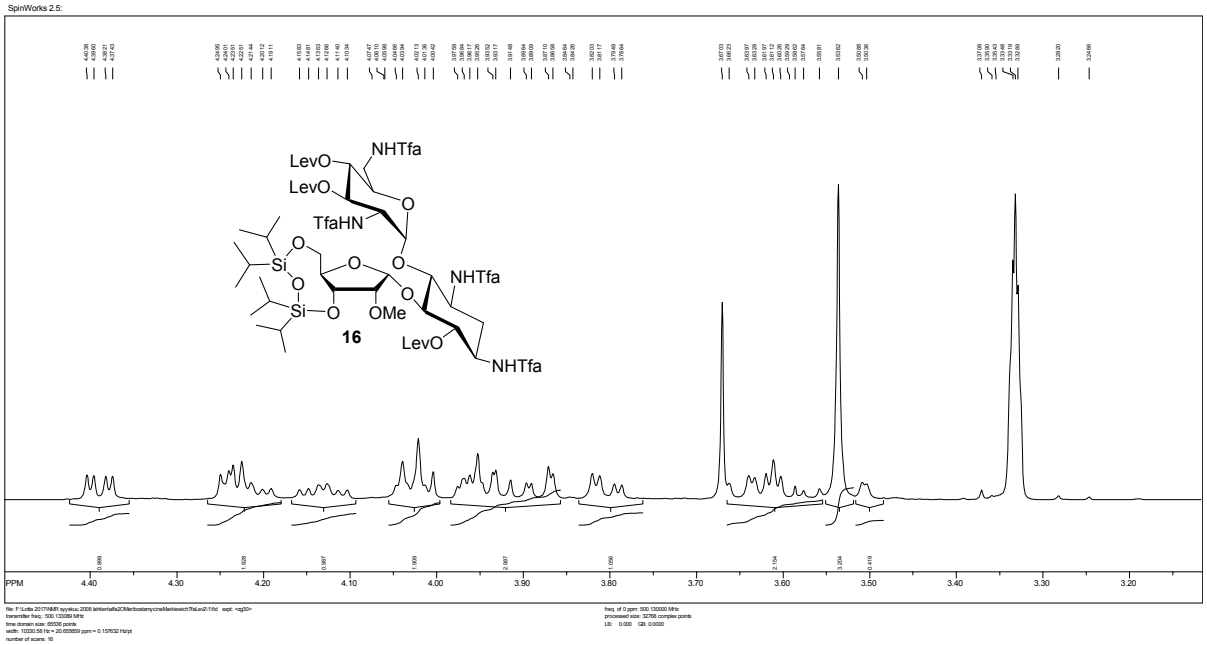


**Figure S18.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **16**.

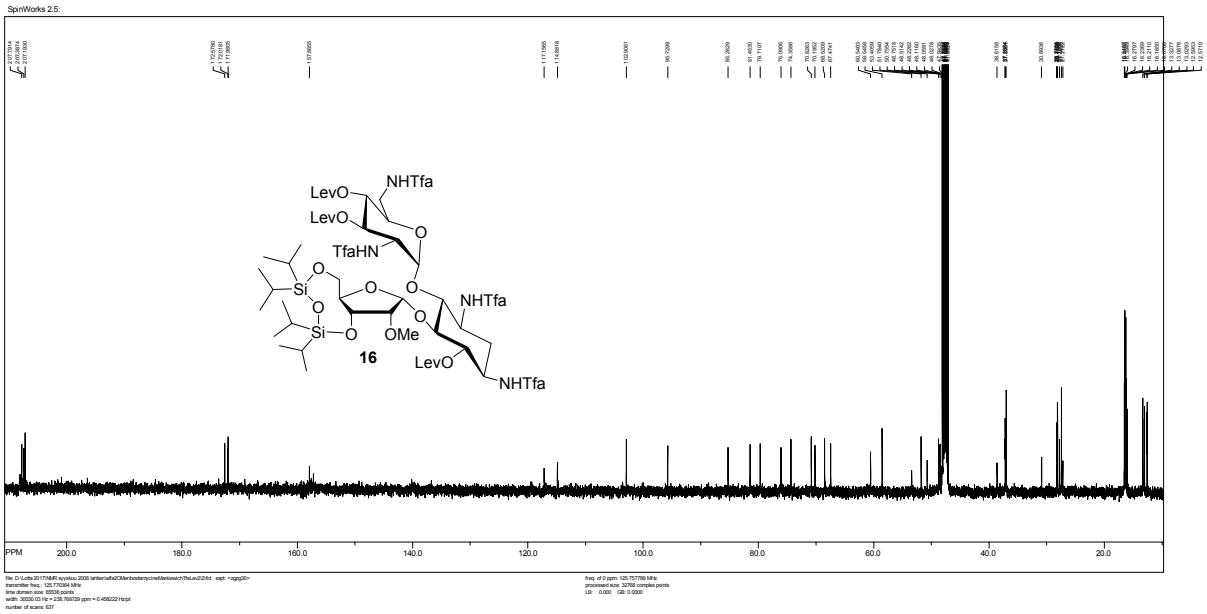


**Figure S19.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **16**.

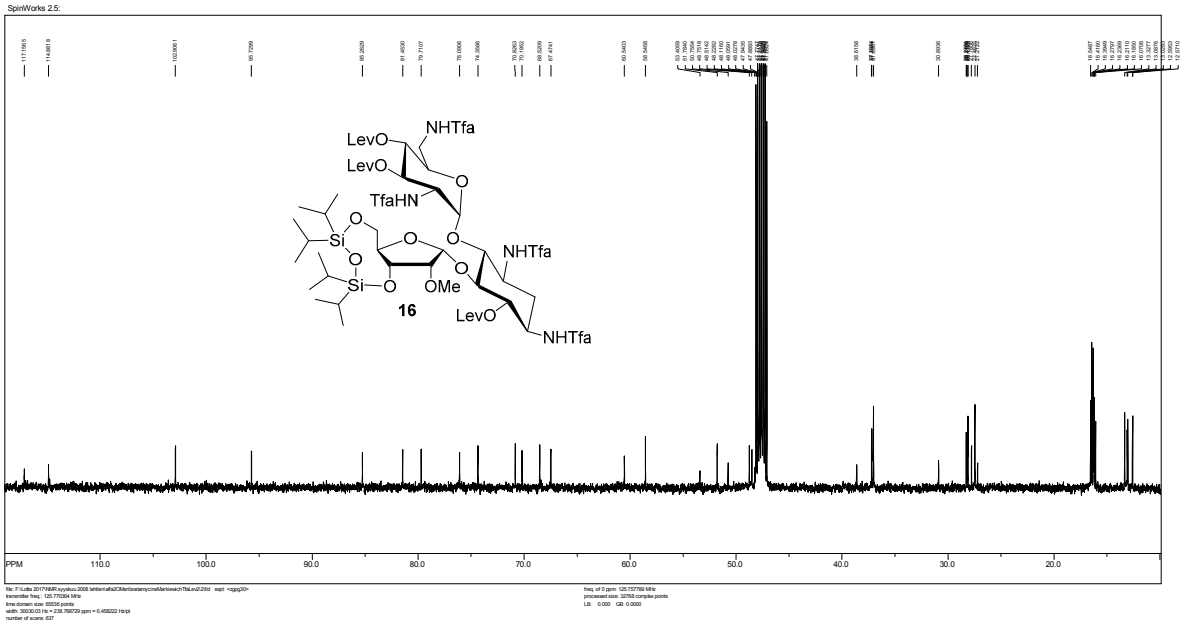


**Figure S20.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **16**.

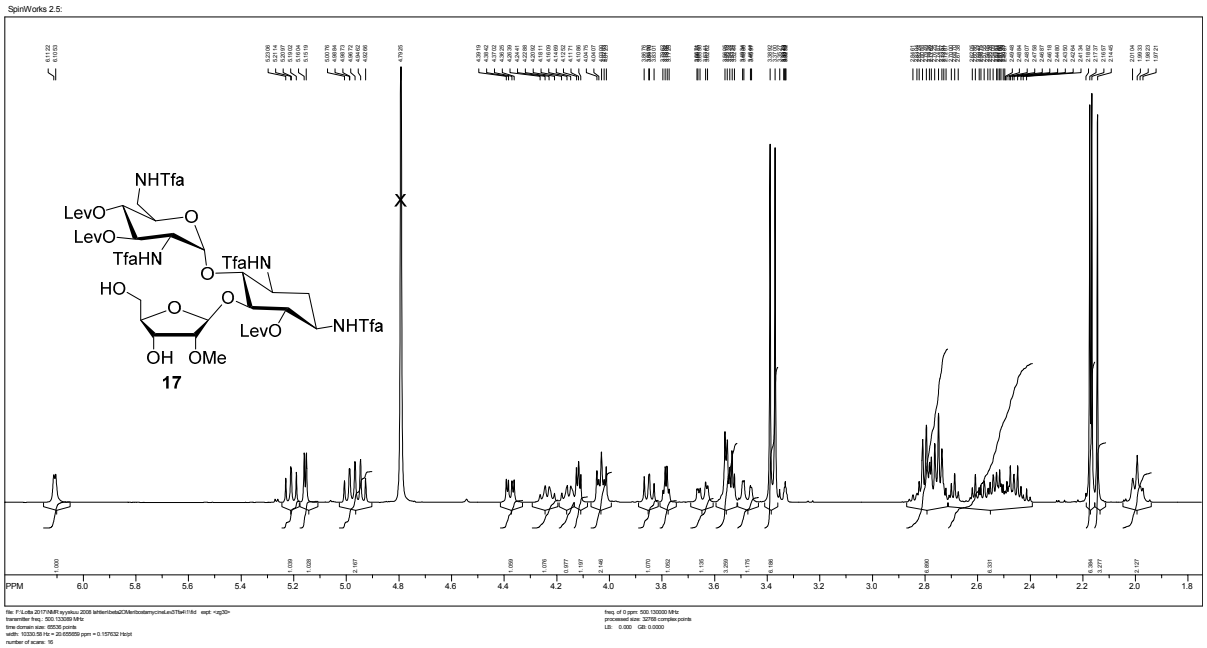


**Figure S21.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **17**.

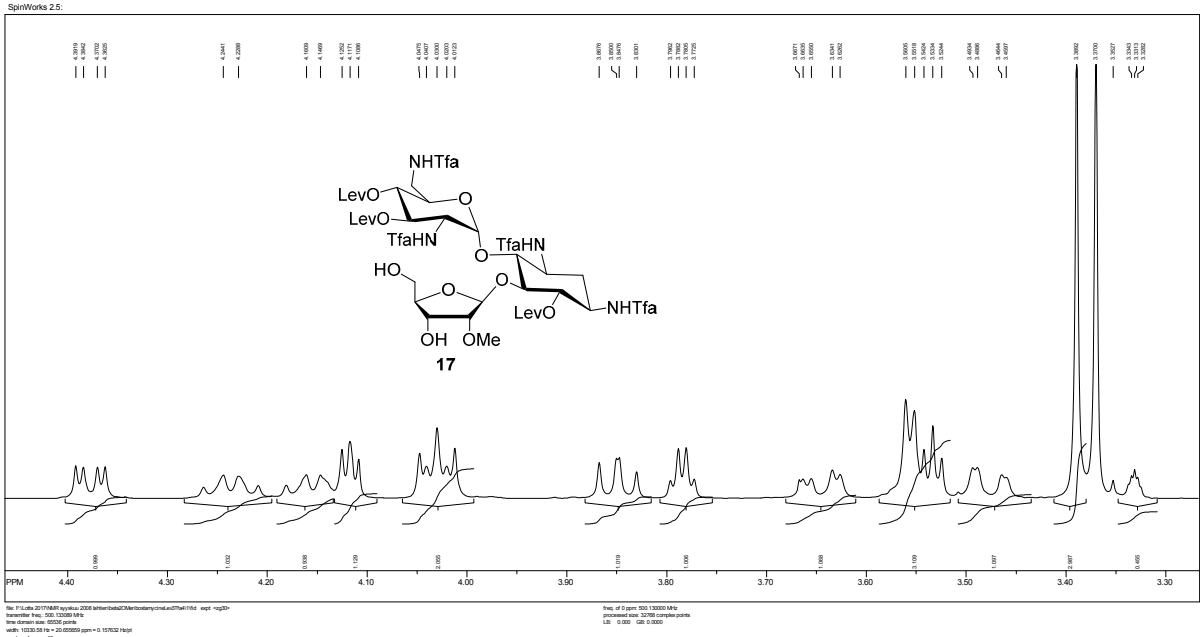


**Figure S22.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **17**.

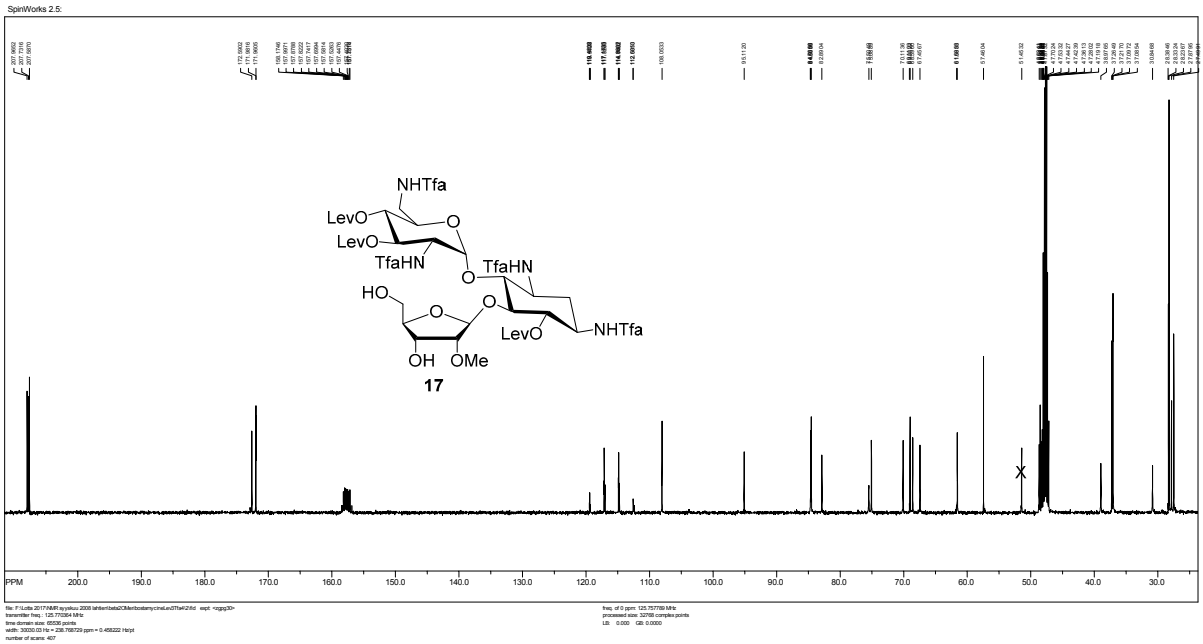


**Figure S23.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **17**.

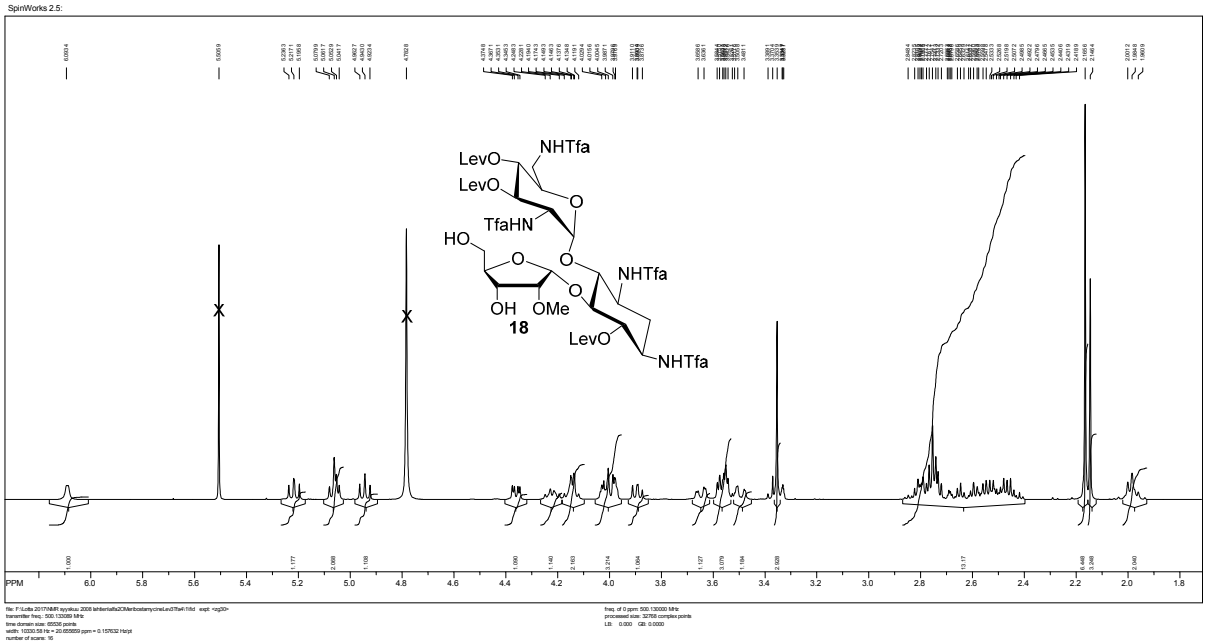


**Figure S24.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **18**.

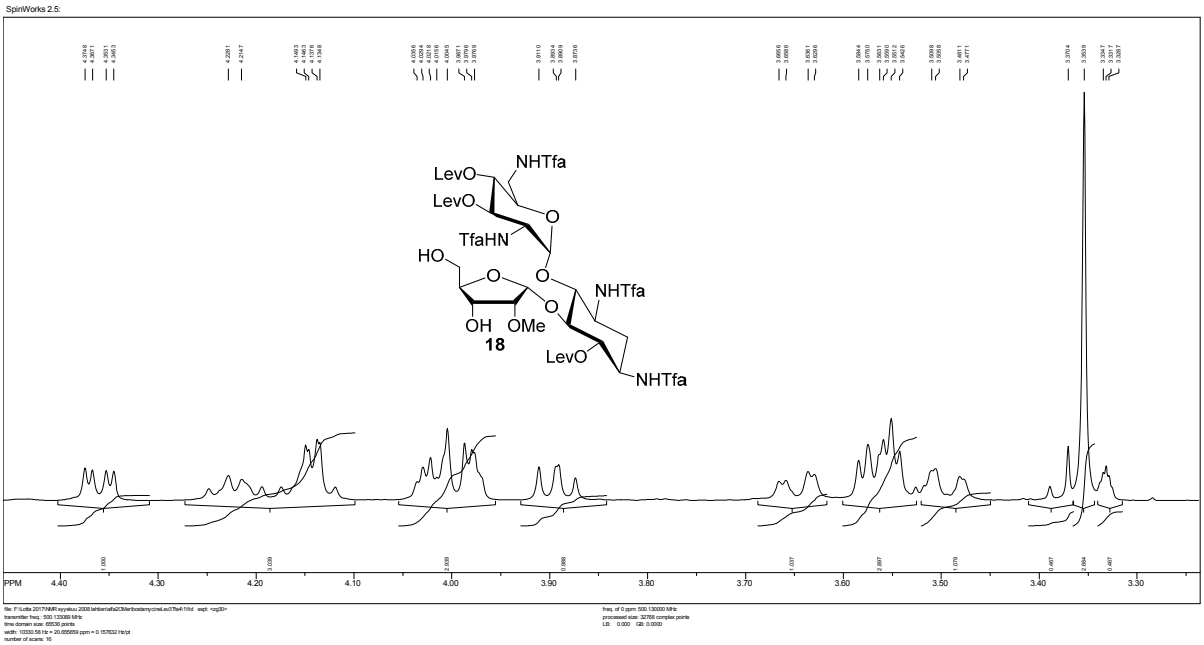


**Figure S25.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **18**.

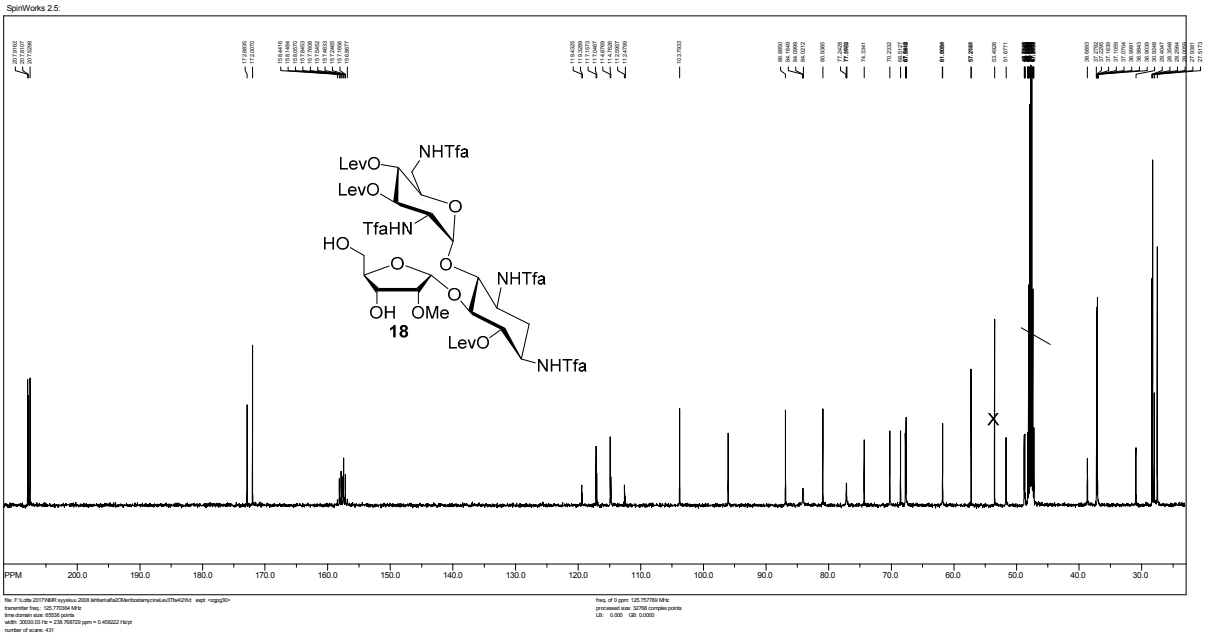


**Figure S26.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **18**.

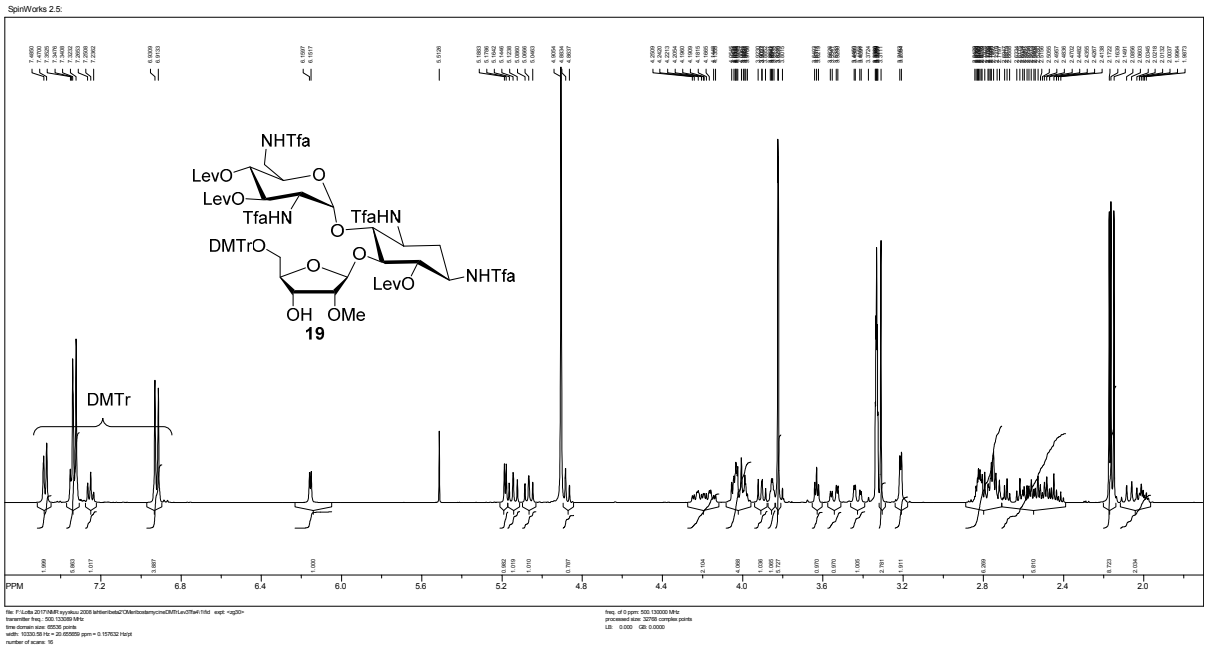


**Figure S27.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **19**.

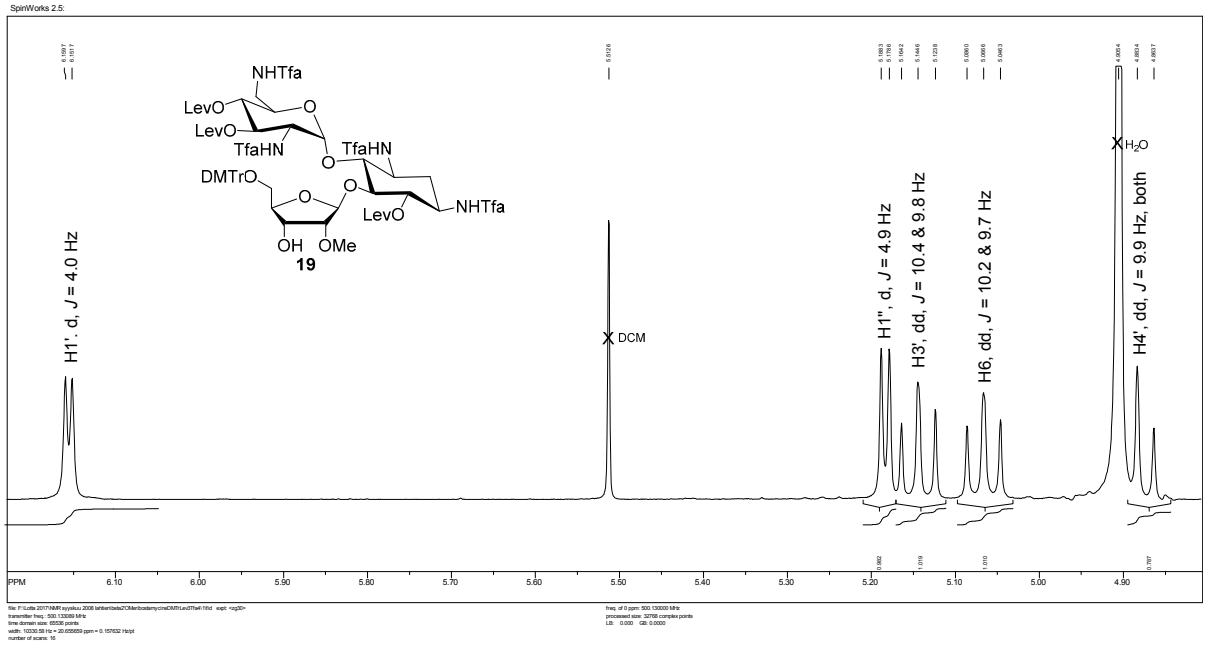


**Figure S28.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **19**.

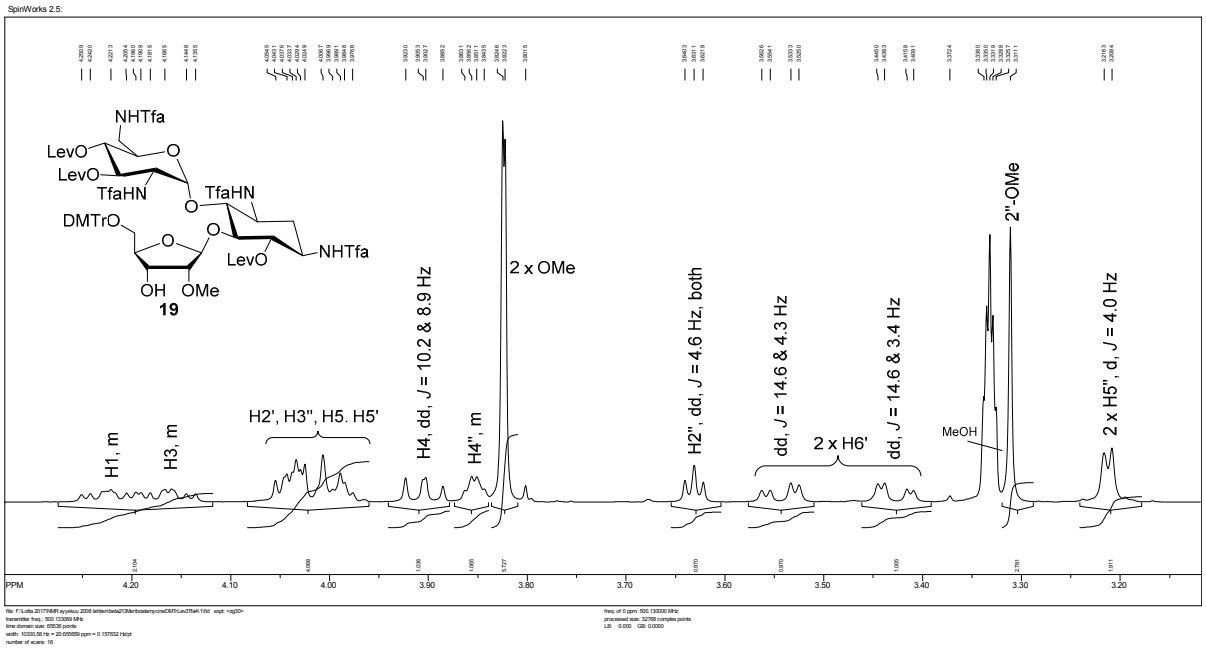


**Figure S29.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **19**.

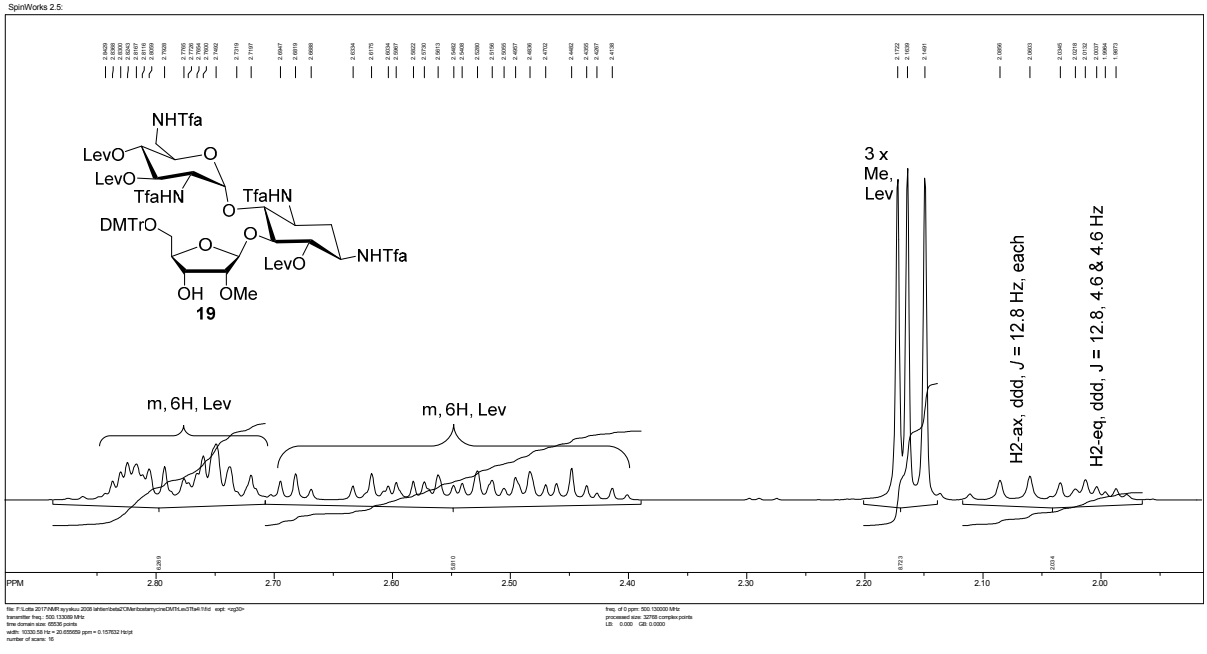


**Figure S30.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **19**.

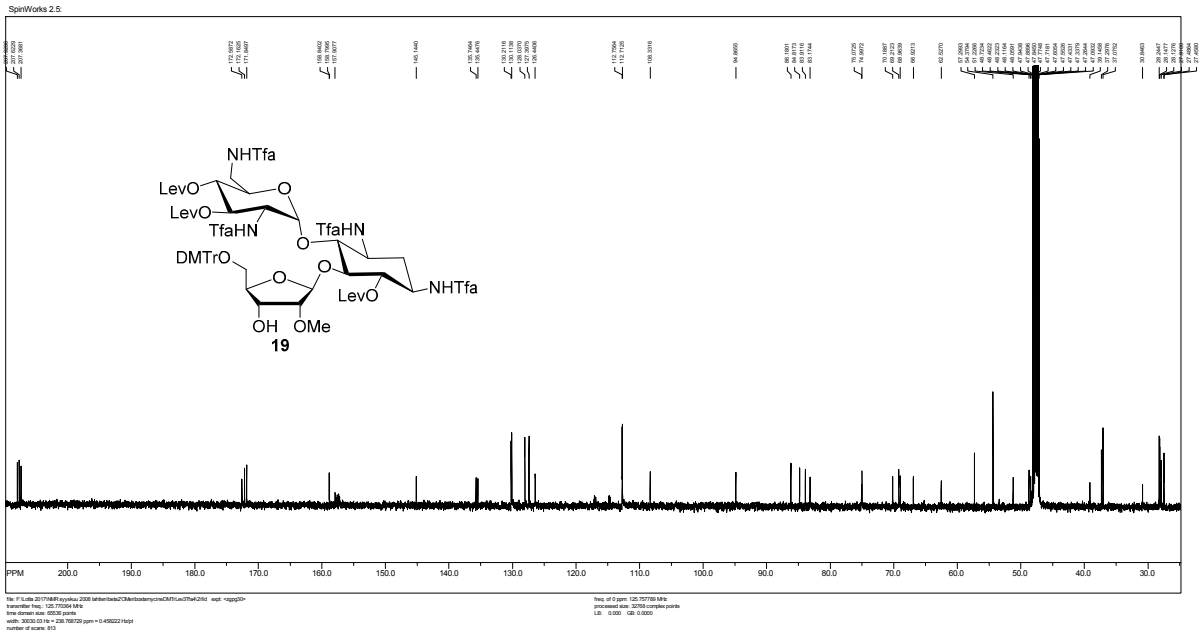


**Figure S31.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **19**.

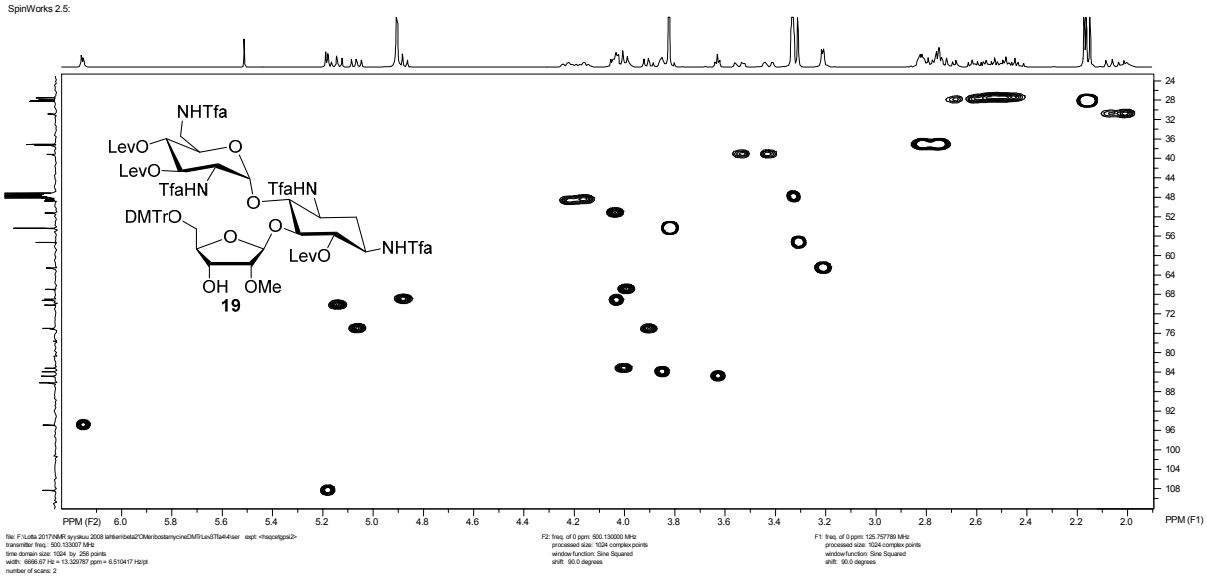


**Figure S32.** HSQC spectrum of **19**.

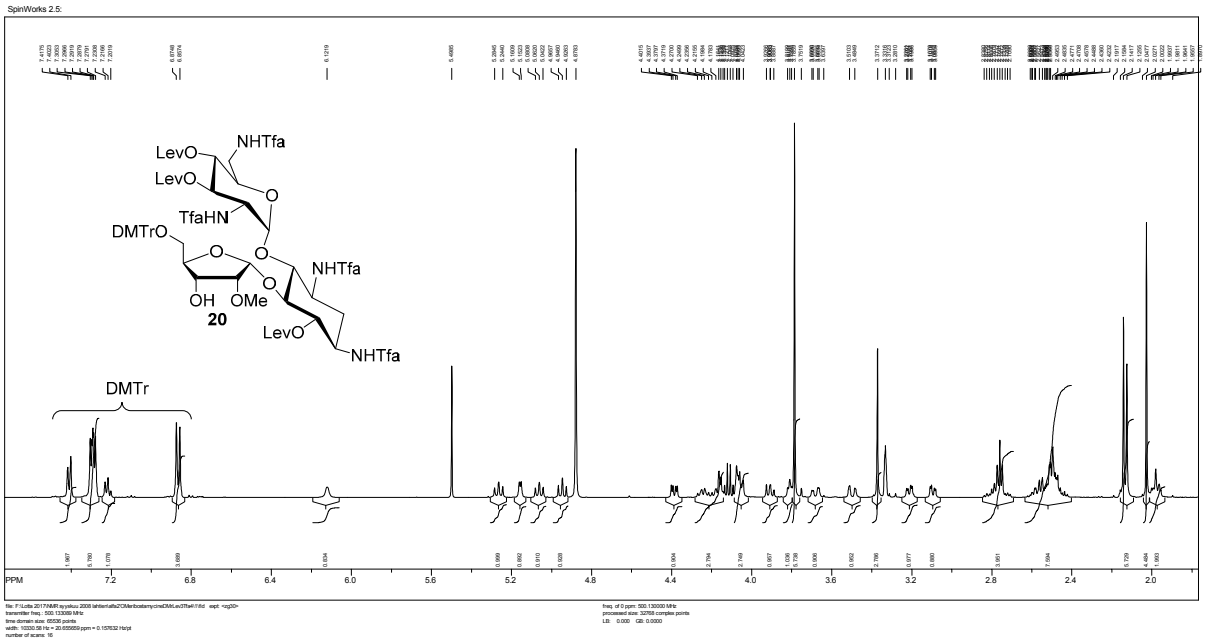


**Figure S33.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **20**.

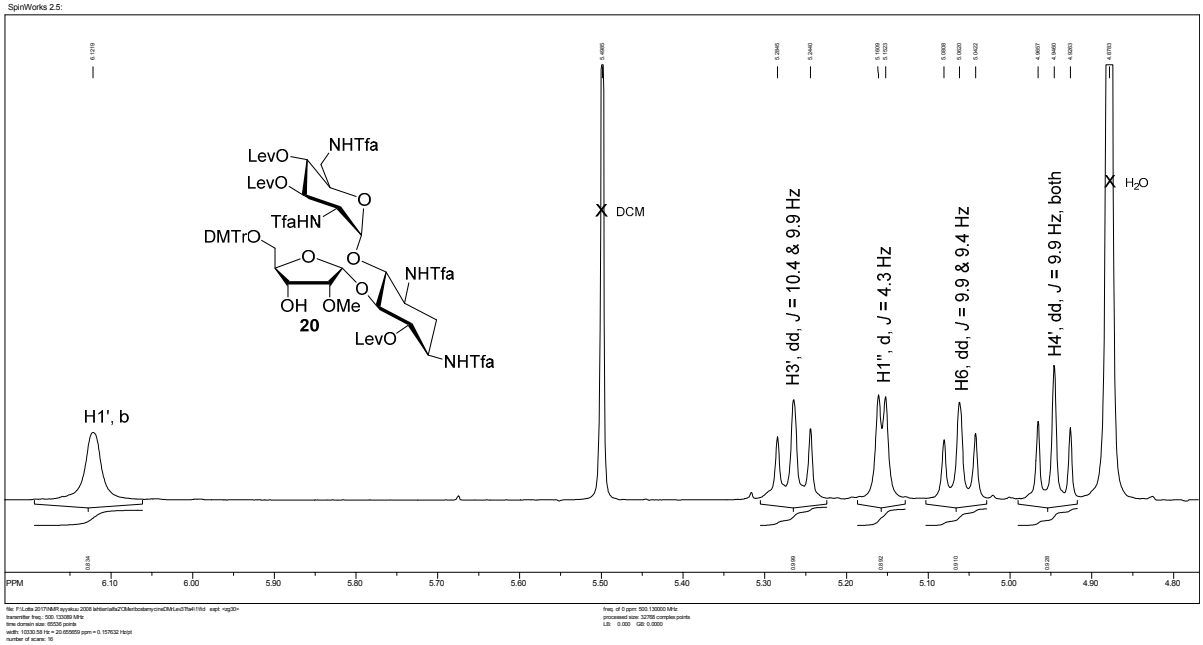


**Figure S34.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **20**.

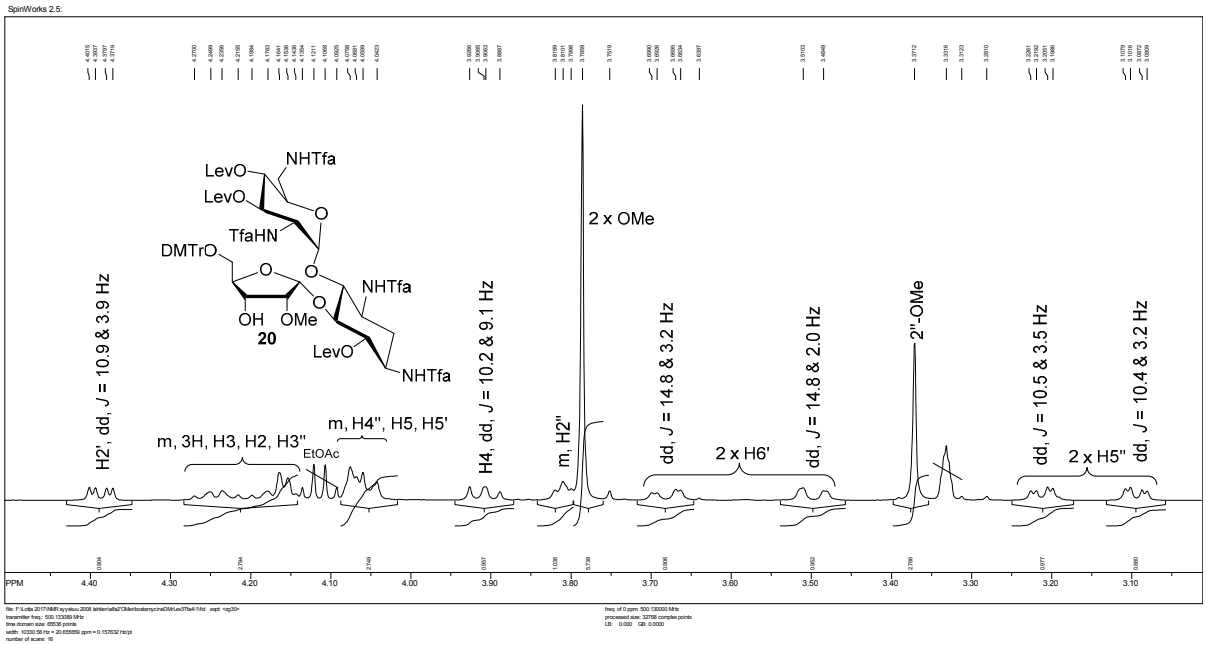


**Figure S35.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **20**.

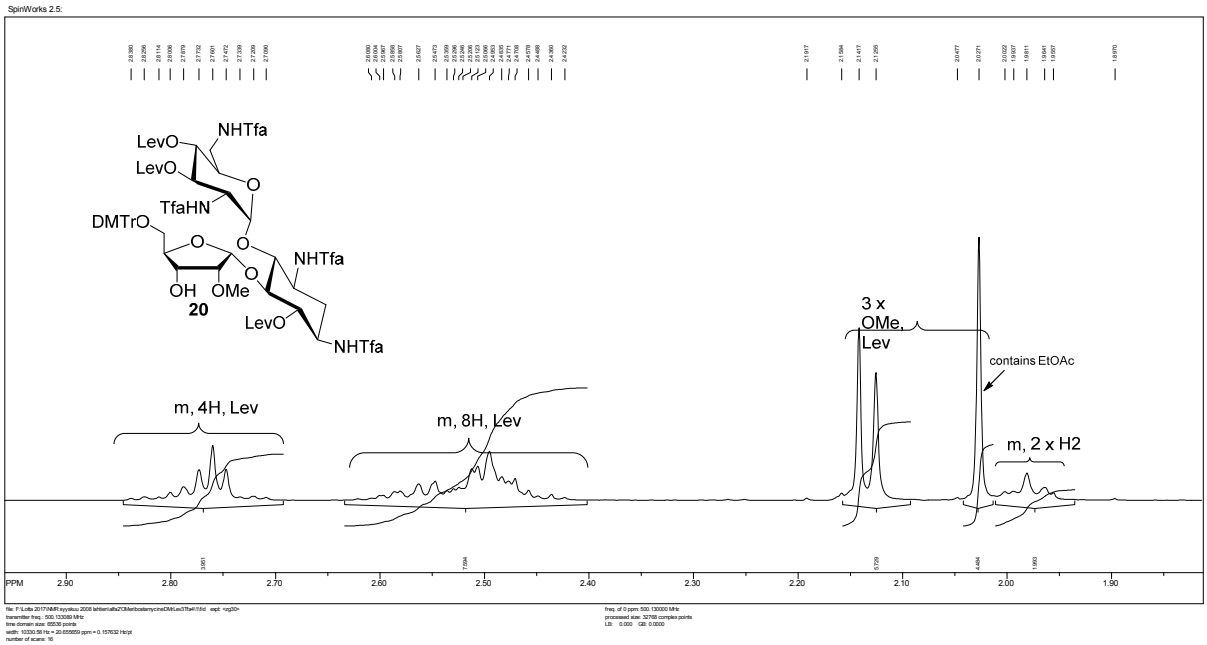


**Figure S36.** $^{1}$H NMR (500 MHz, $CD_3OD$) spectrum of **20**.

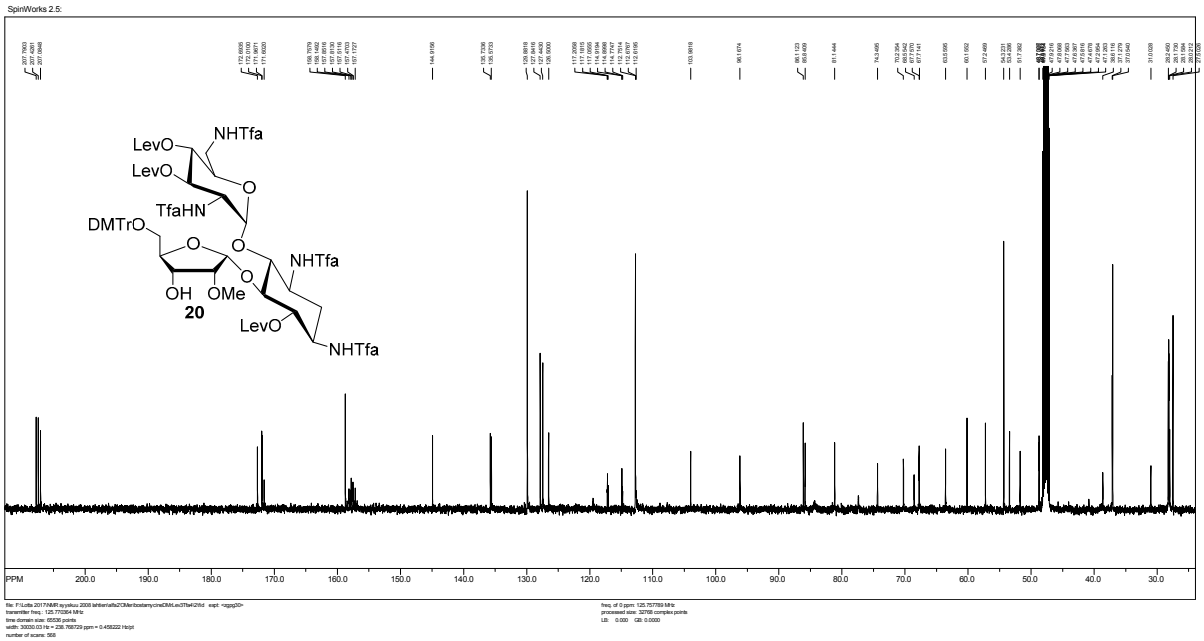


**Figure S37.** $^{13}$C NMR (125 MHz, $CD_3OD$) spectrum of **20**.

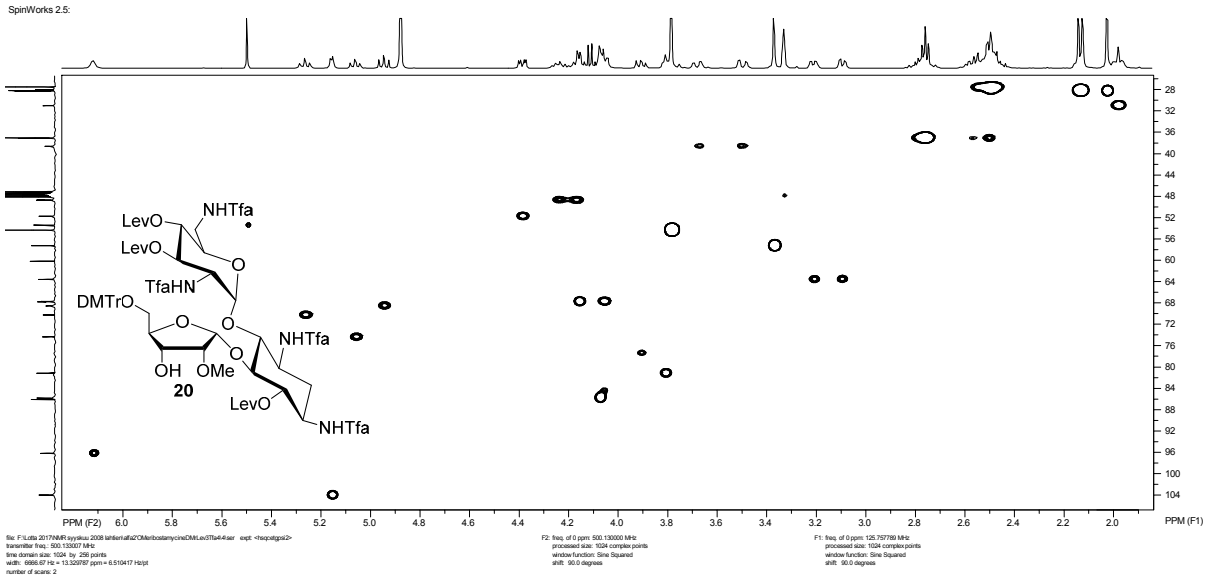


**Figure S38.** HSQC spectrum of **20**.

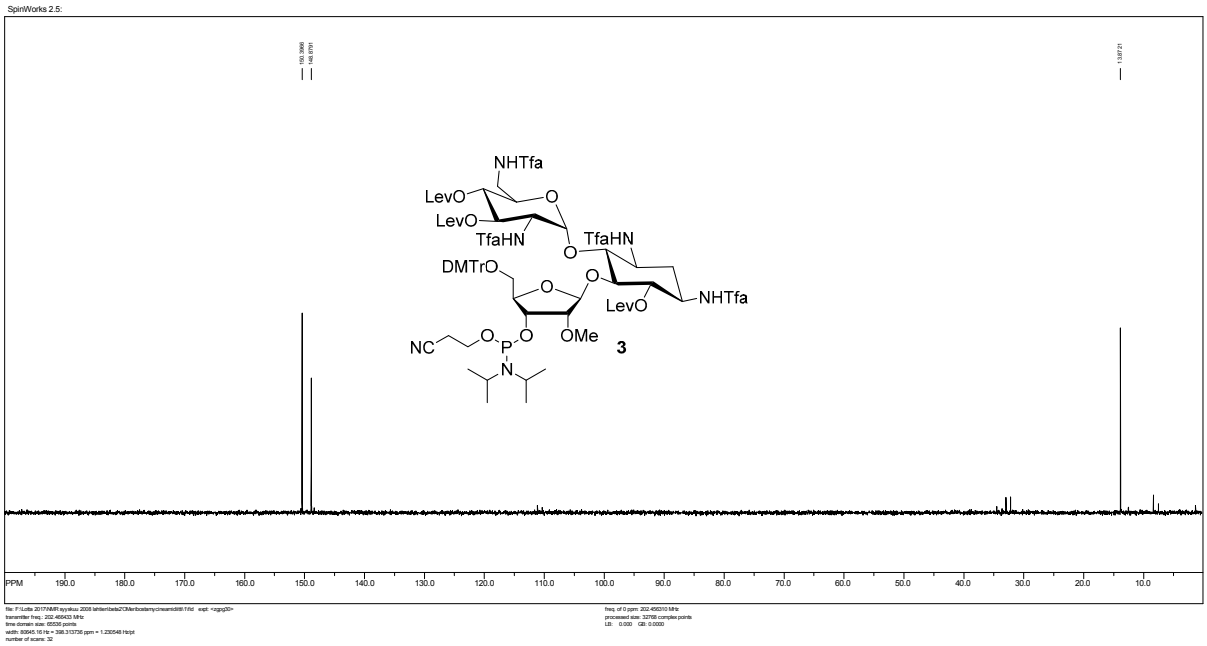


**Figure S39.** $^{31}$P NMR (200 MHz, $CD_3CN$) spectrum of **3**.

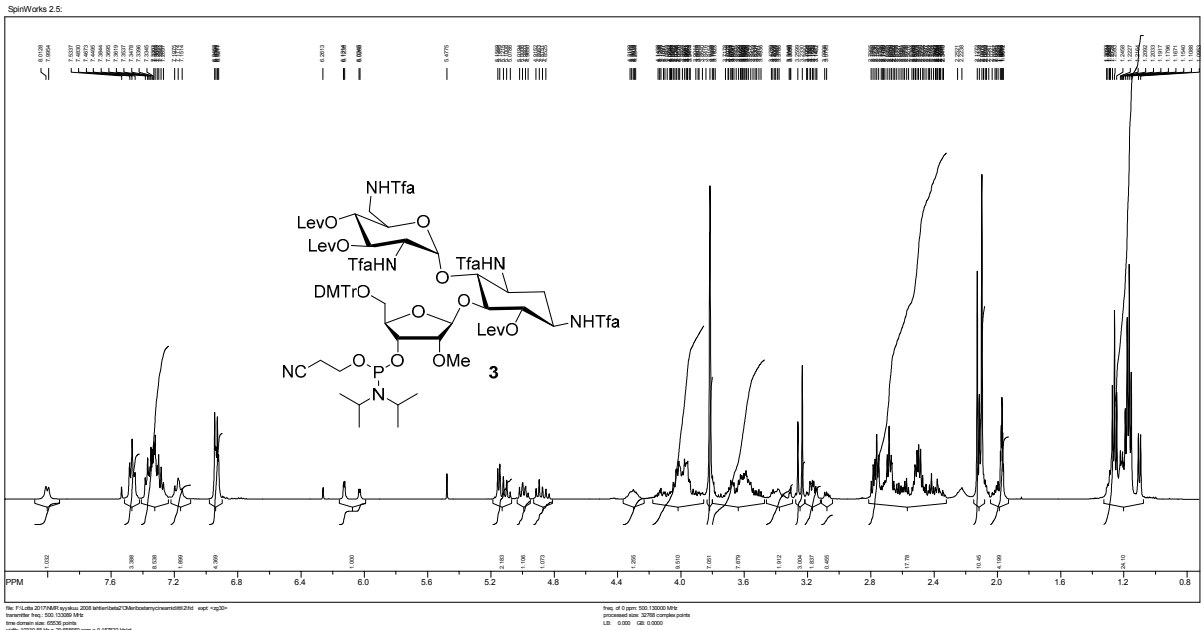


**Figure S40.** $^{1}$H NMR (500 MHz, $CD_3CN$) spectrum of **3**.

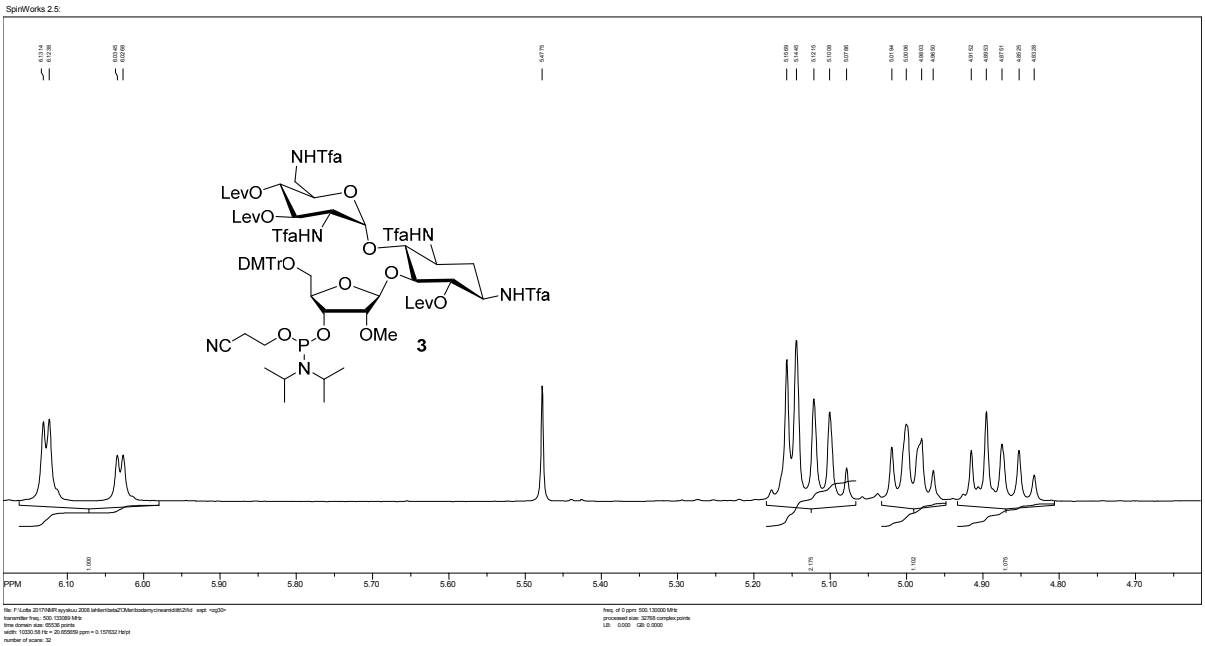


**Figure S41.** $^{1}$H NMR (500 MHz, $CD_3CN$) spectrum of **3**.

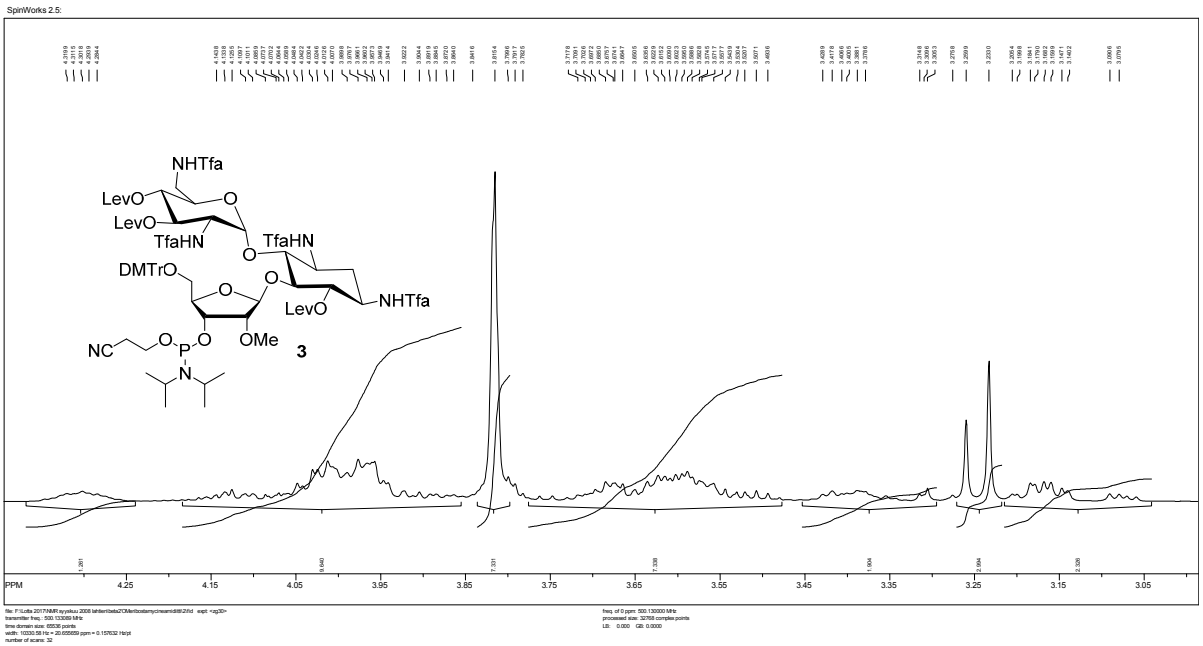


**Figure S42.** $^{1}$H NMR (500 MHz, $CD_3CN$) spectrum of **3**.

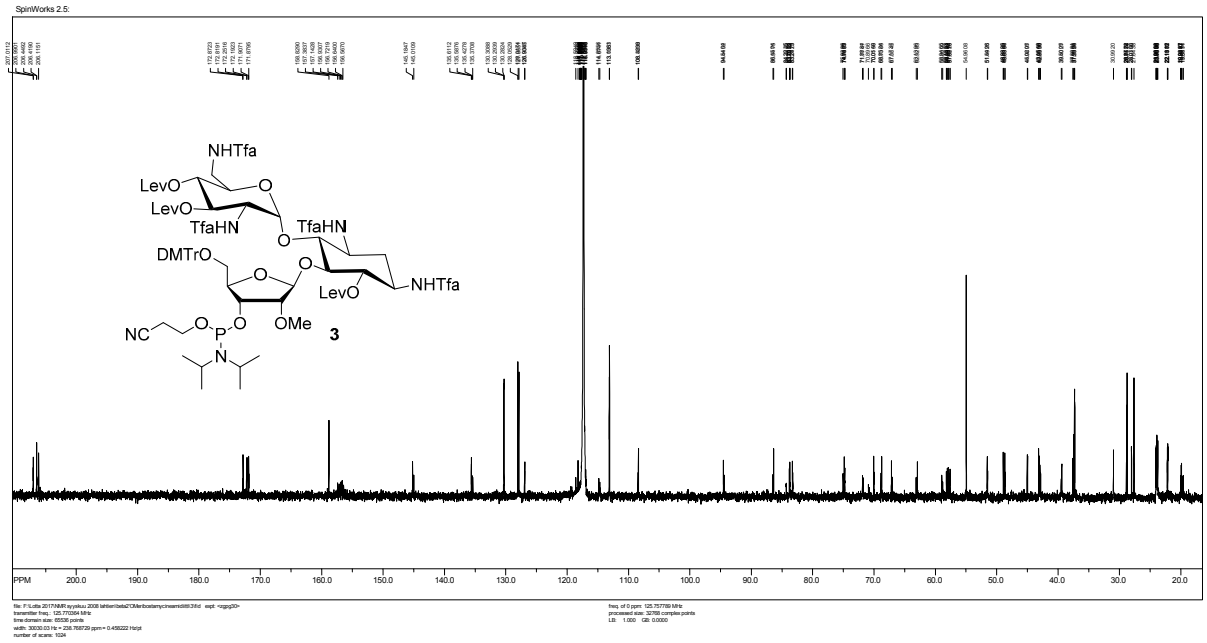


**Figure S43.** $^{13}$C NMR (125 MHz, $CD_3CN$) spectrum of **3**.

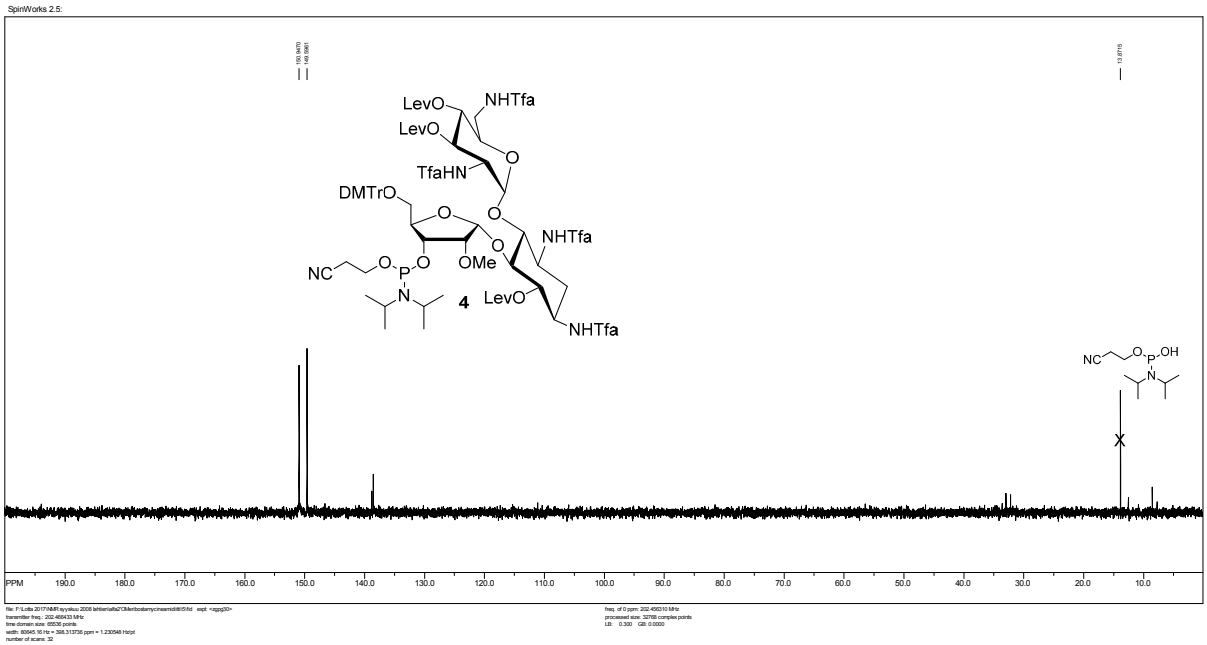


**Figure S44.** $^{31}$P NMR (200 MHz, $CD_3CN$) spectrum of **4**.

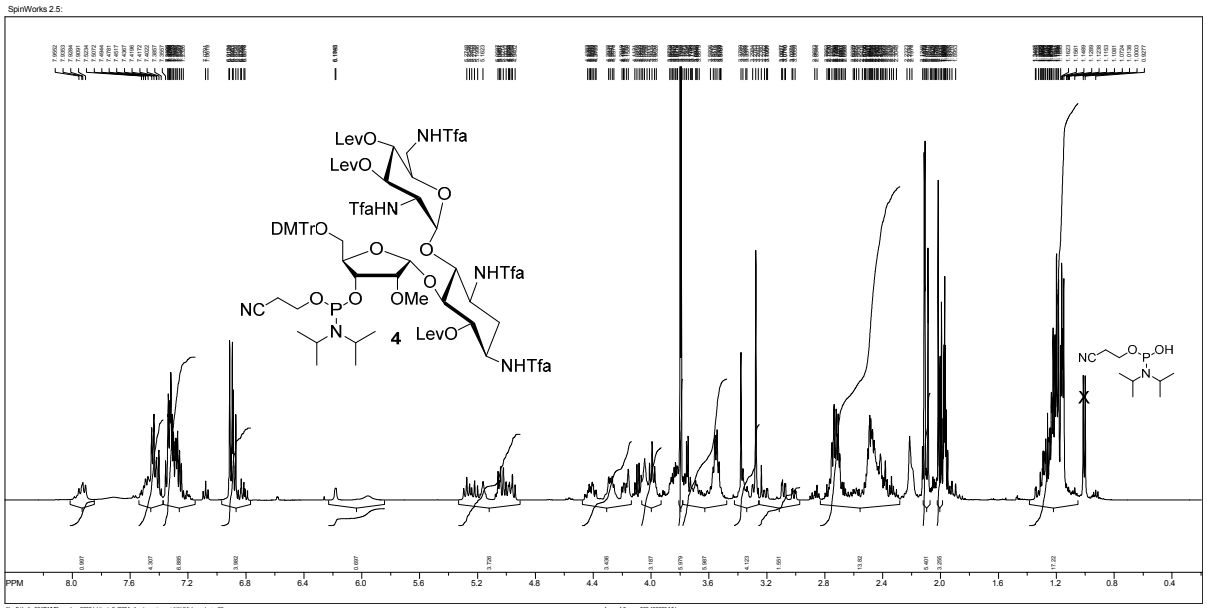


**Figure S45.** $^{1}$H NMR (500 MHz, $CD_3CN$) spectrum of **4**.

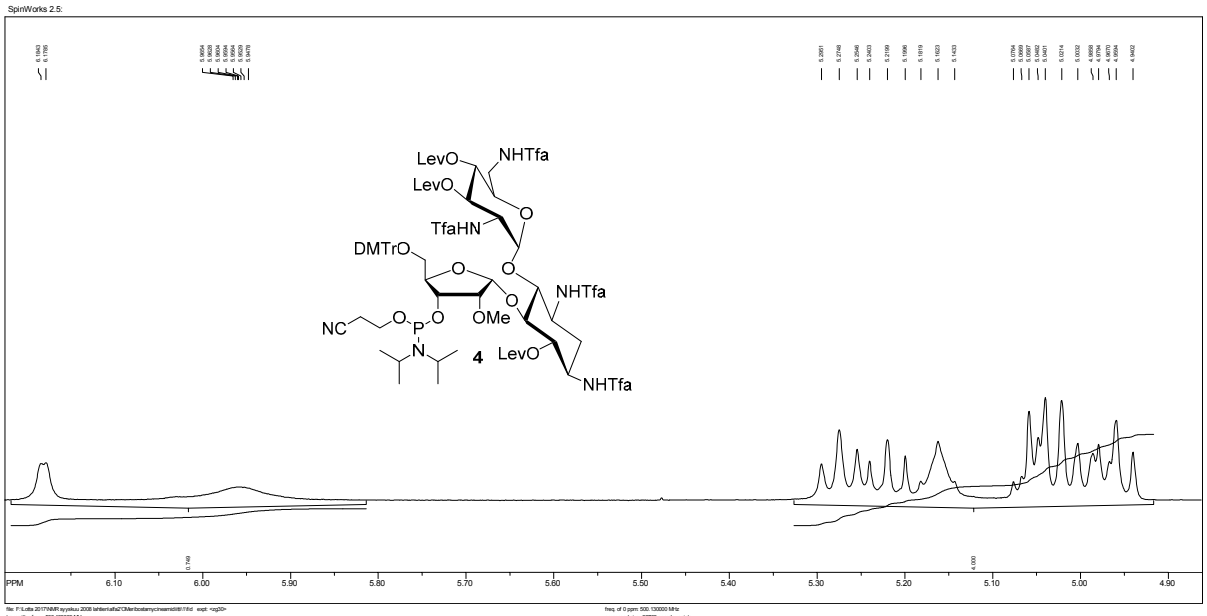


**Figure S46.** $^{1}$H NMR (500 MHz, $CD_3CN$) spectrum of **4**.

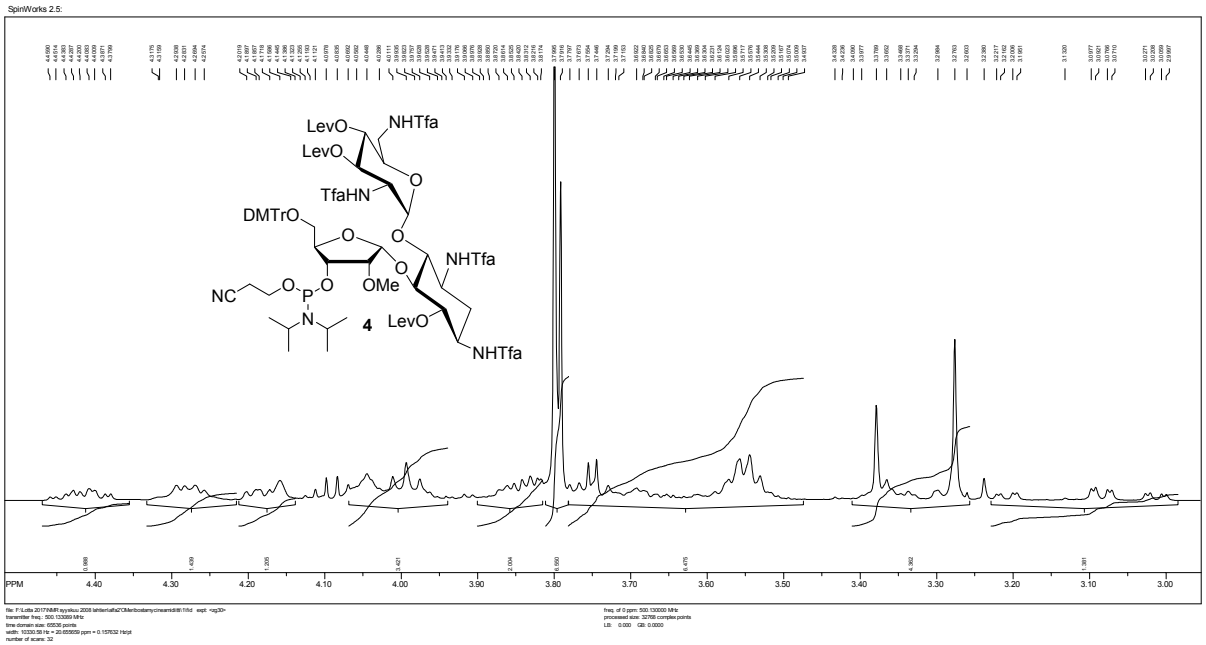


**Figure S47.** $^{1}$H NMR (500 MHz, $CD_3CN$) spectrum of **4**.

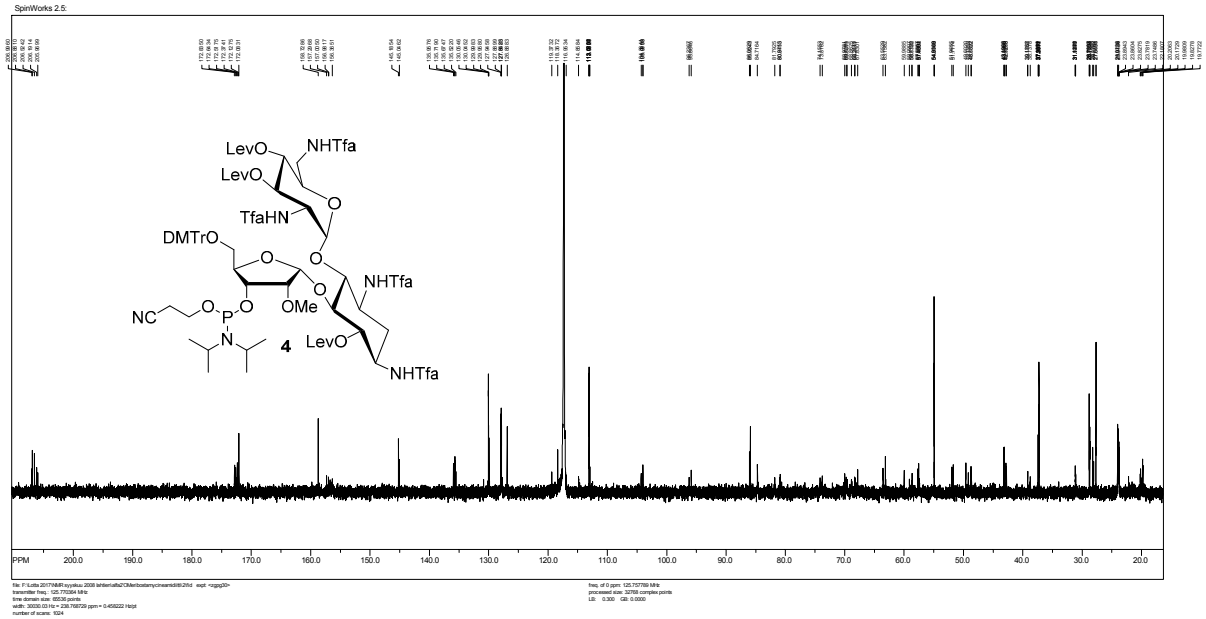


**Figure S48.** $^{13}$C NMR (125 MHz, $CD_3CN$) spectrum of **4**.

**Table S1.** MS(ESI-TOF) data of the oligonucleotides.

| | **ON1** | **ON2** | **ON4** | **ON5** | **ON6** | **ON7** | **ON8** |
|---|---|---|---|---|---|---|---|
| Observed molecular mass | 3447.7 | 3447.7 | 10104.3 | 10635.3 | 10635.1 | 9653.6 | 9652.8 |
| Calculated molecular mass | 3448.4 | 3448.4 | 10103.9 | 10635.0 | 10635.0 | 9653.8 | 9653.8 |

[1] Notes: The observed molecular masses are calculated from $[(M-2H)/2]^{-2}$,(**ON1** and **ON2**) and $[(M-4H)/4]^{-4}$ (**ON3**-**ON8**)