

SUPPORTING INFORMATION

Design of ionizable lipids to overcome the limiting step of endosomal escape - Application in the intracellular delivery of mRNA, DNA and siRNA.

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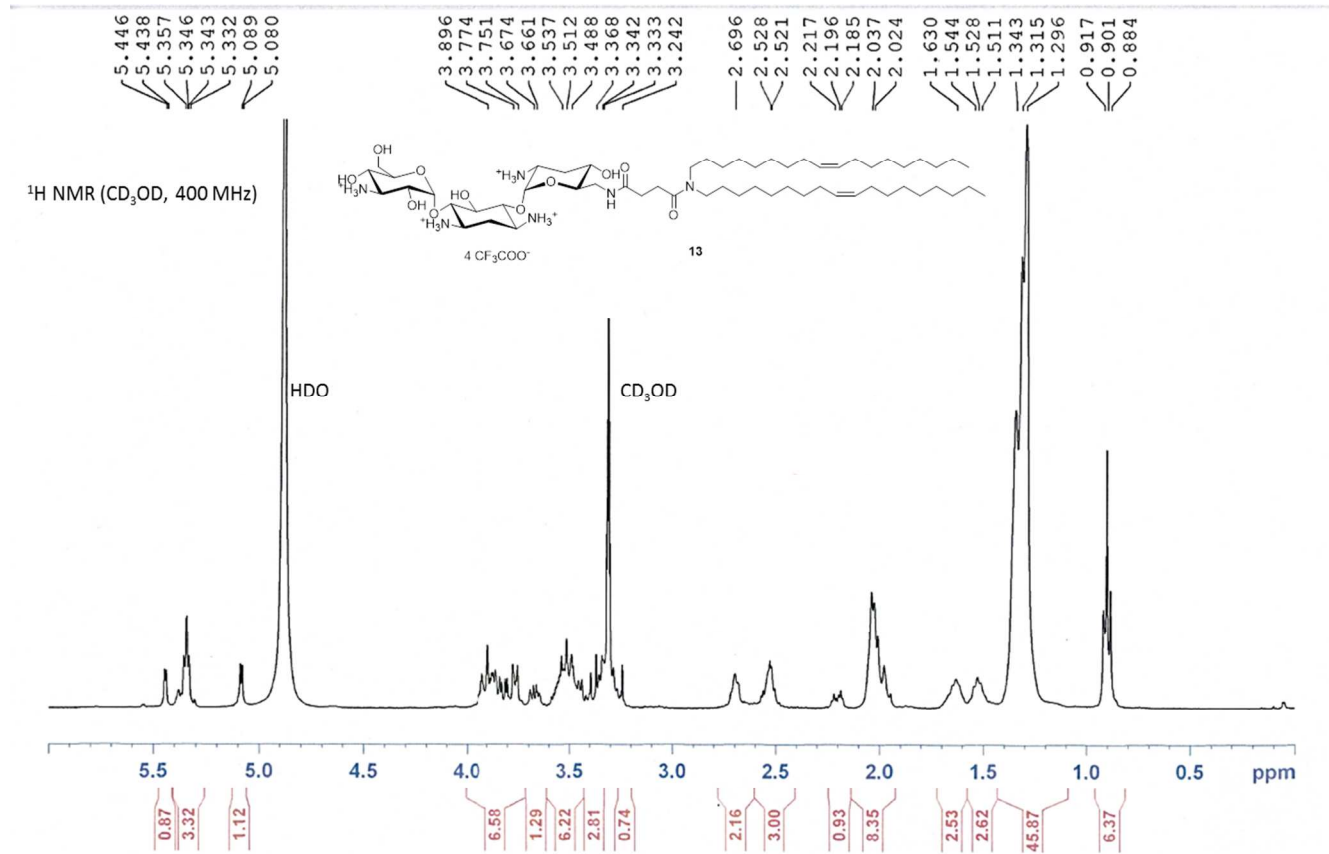


Figure S1: ^1H NMR spectrum of **13**

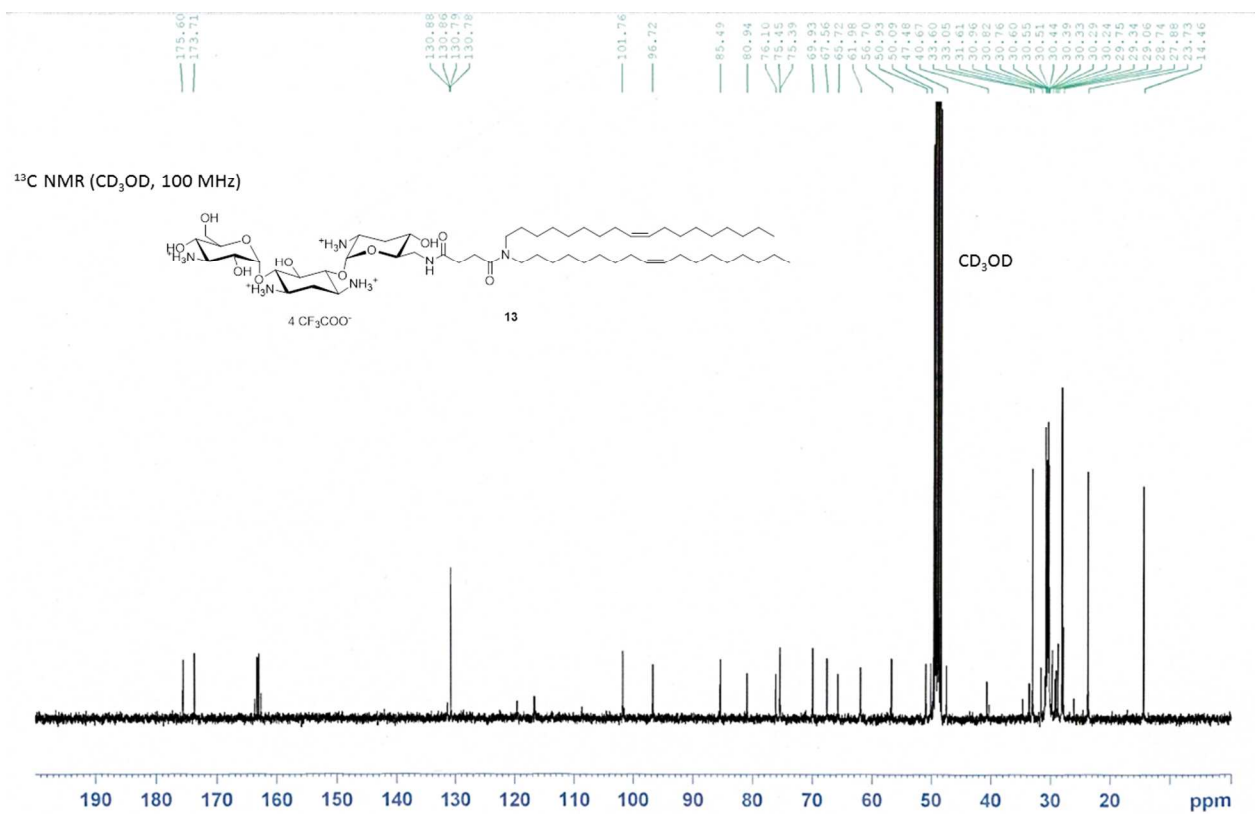


Figure S2: ^{13}C NMR spectrum of **13**

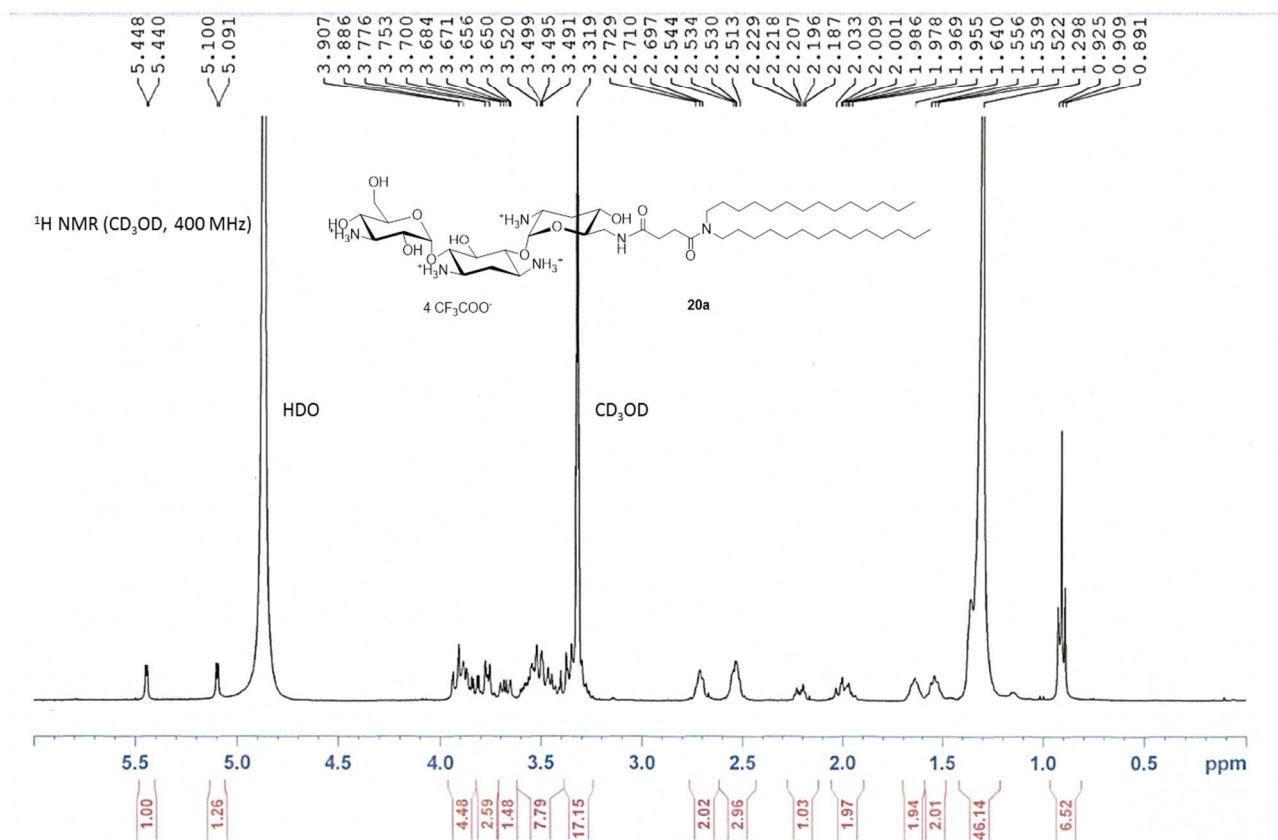


Figure S3: ^1H NMR spectrum of **20a**

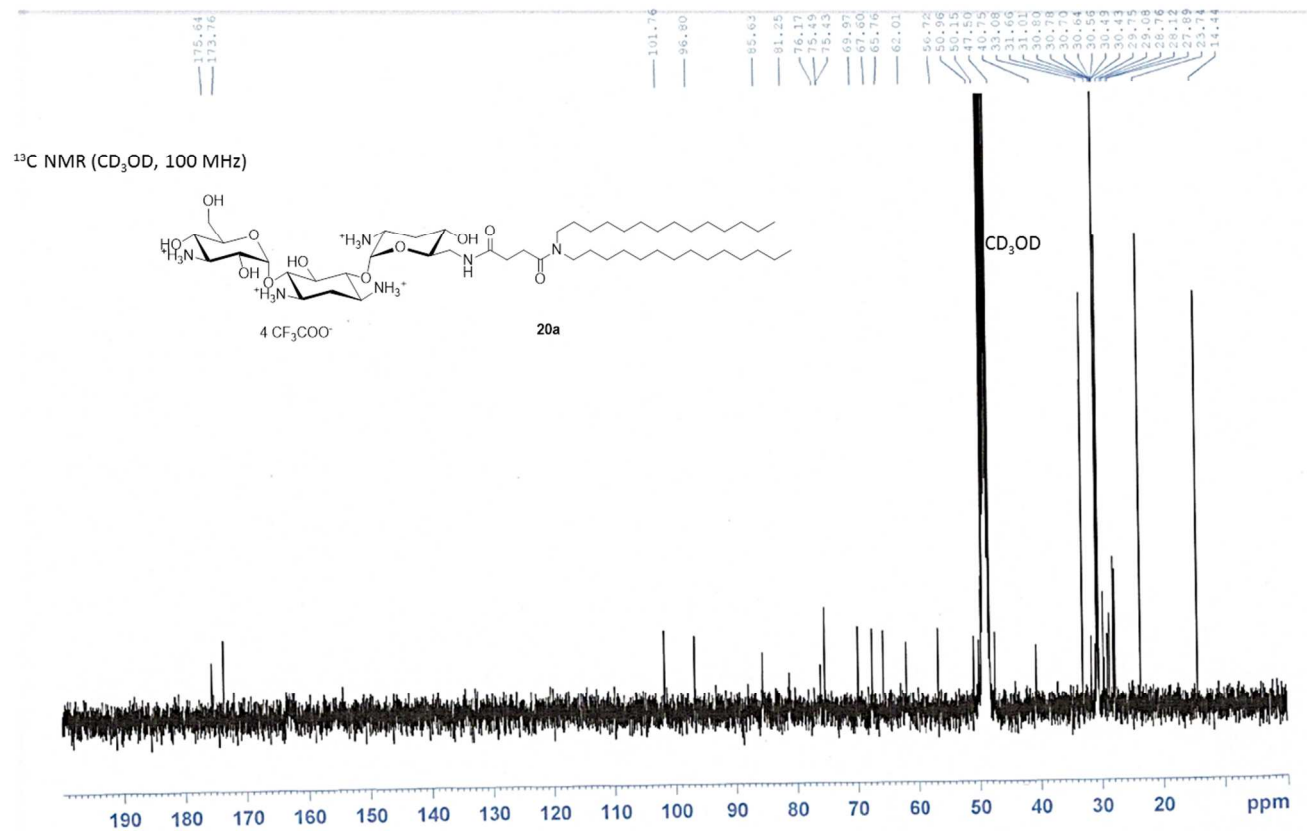


Figure S4: ¹³C NMR spectrum of **20a**

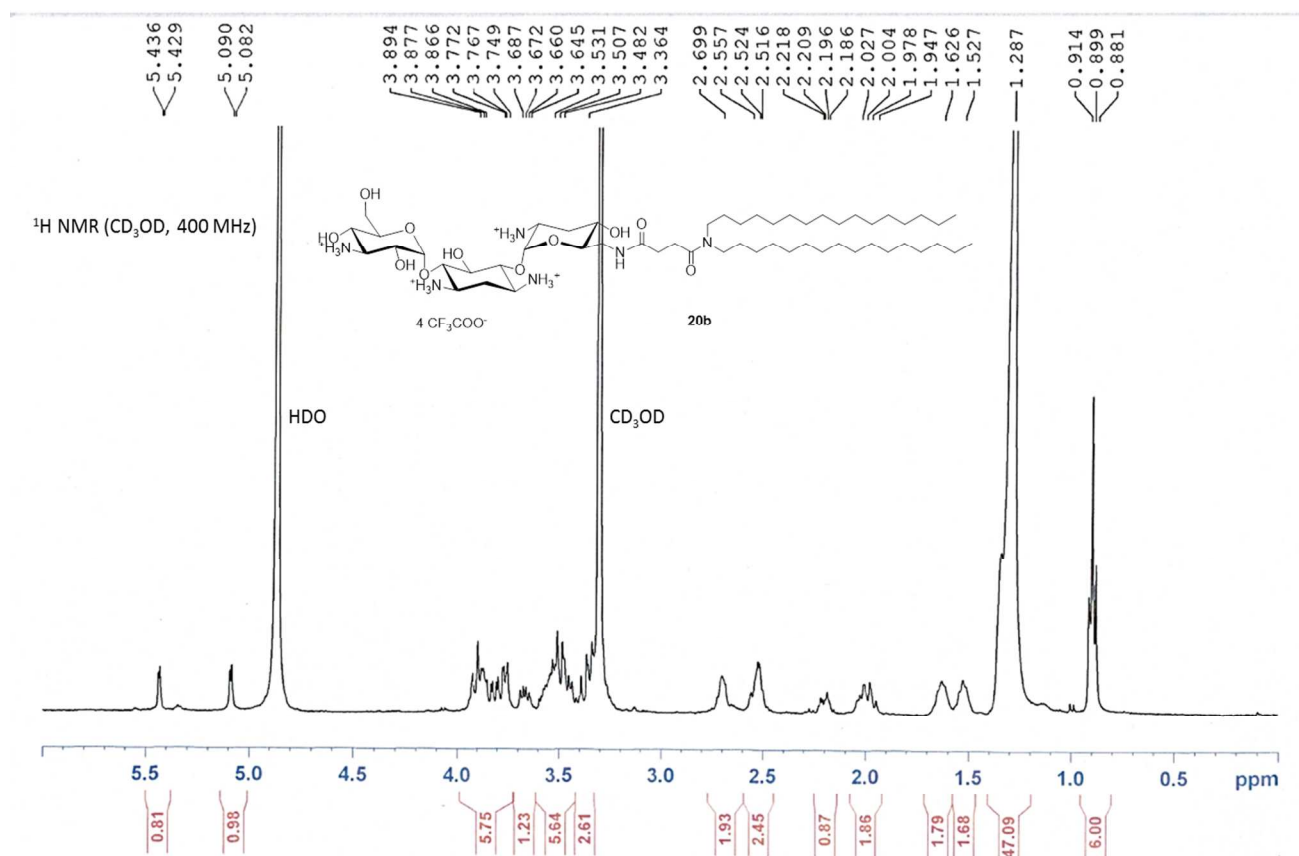


Figure S5: ¹H NMR spectrum of **20b**

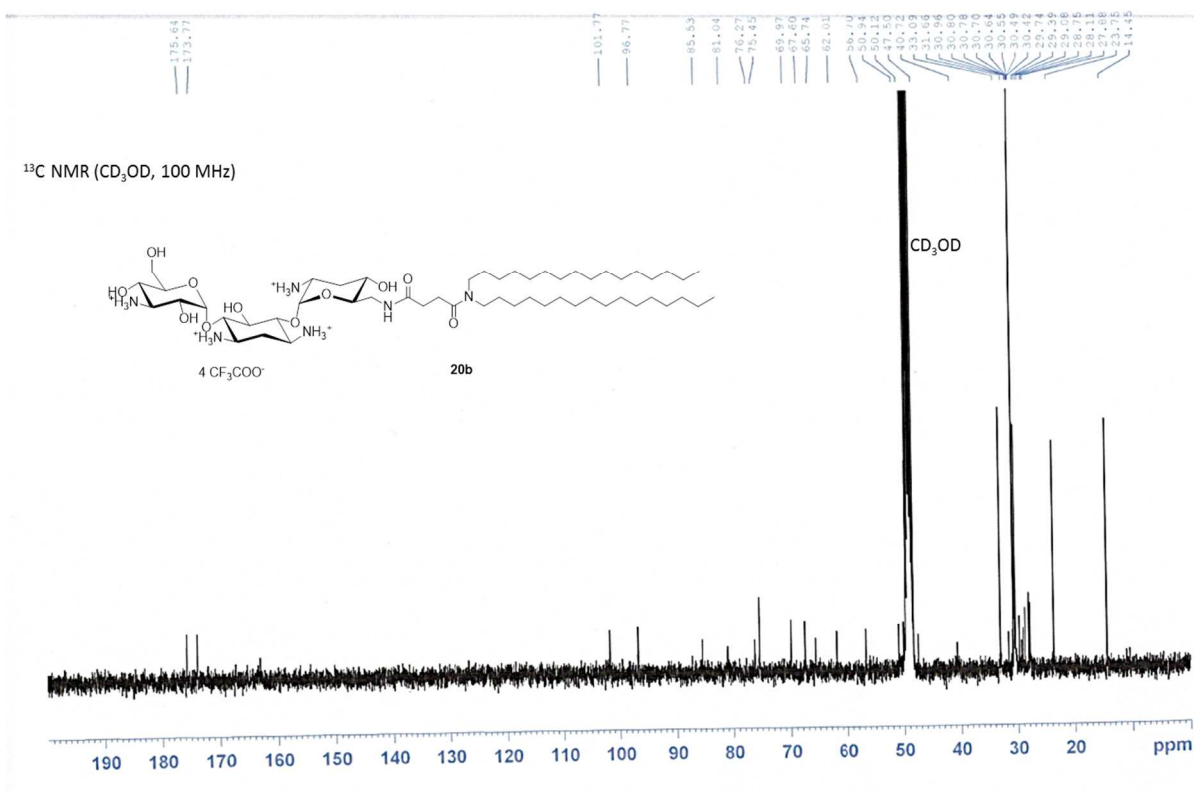


Figure S6: ^{13}C NMR spectrum of **20b**

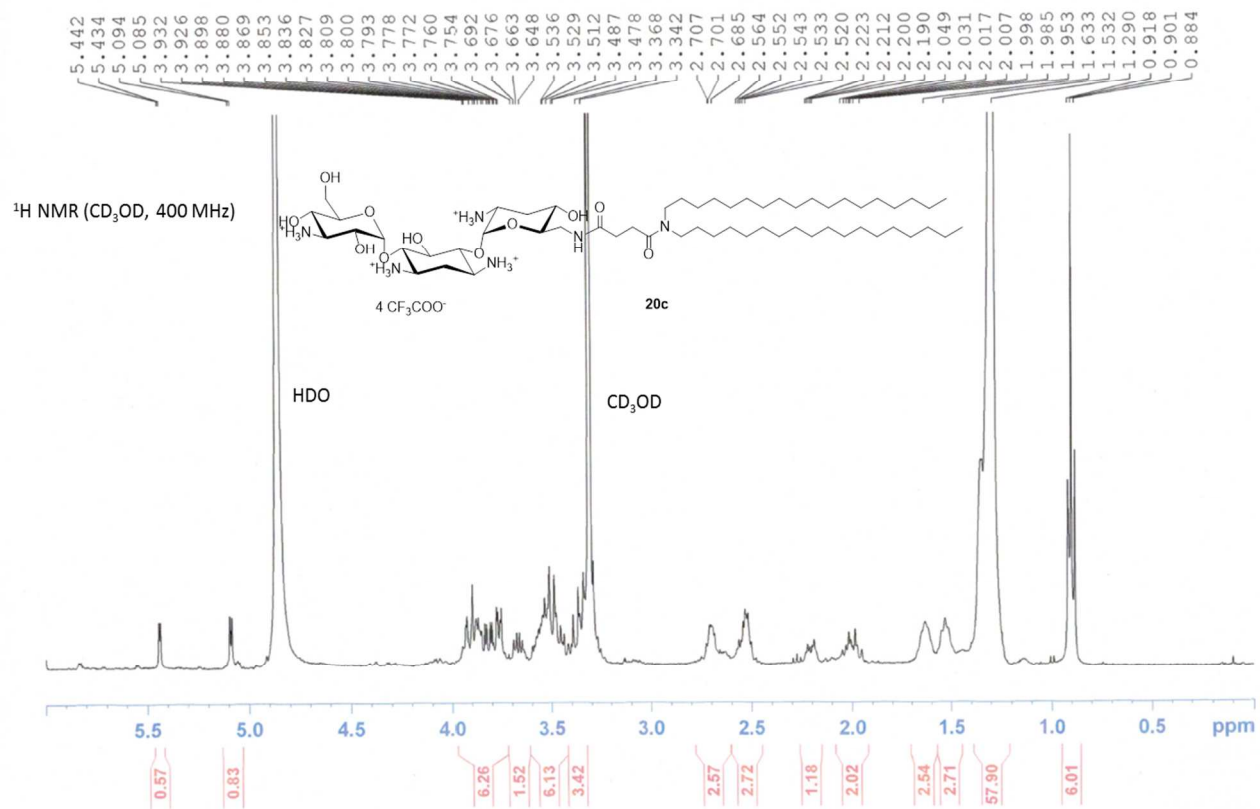


Figure S7: ^1H NMR spectrum of **20c**

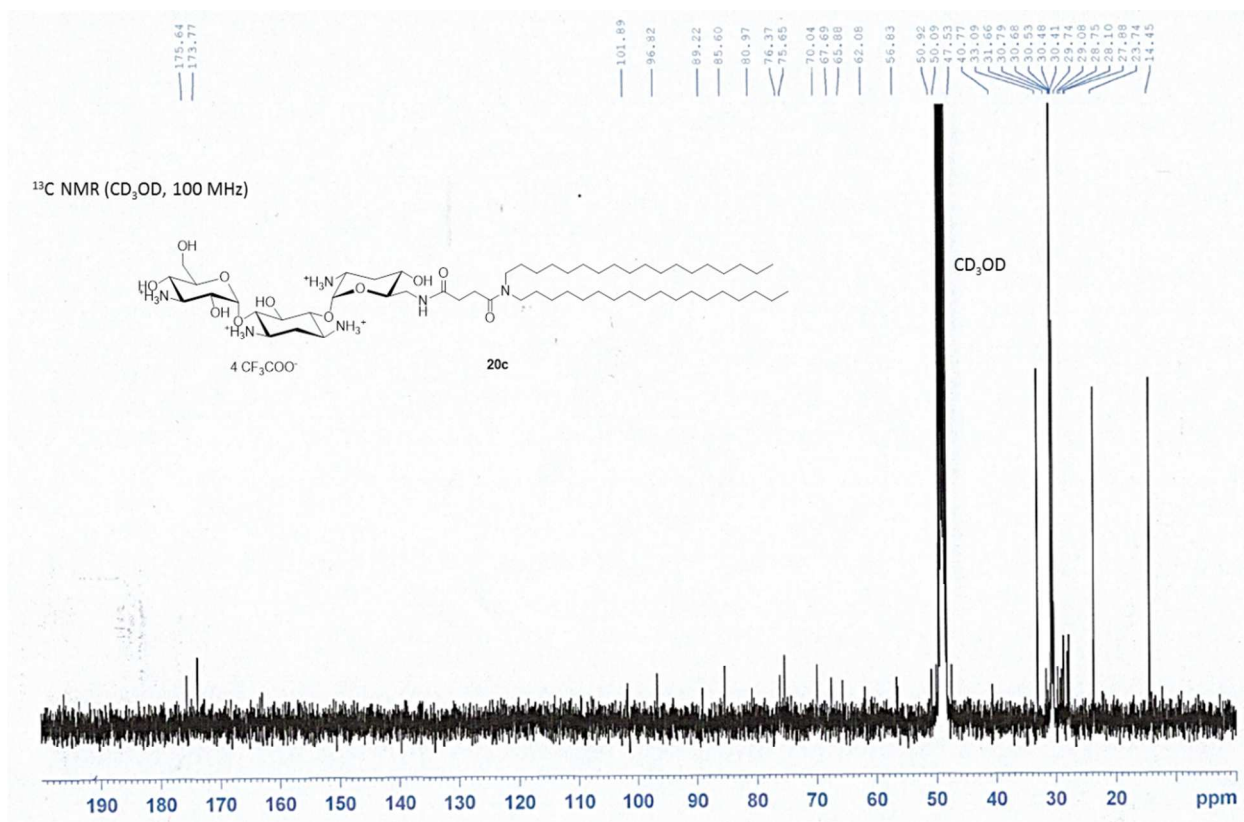


Figure S8: ¹³C NMR spectrum of **20c**

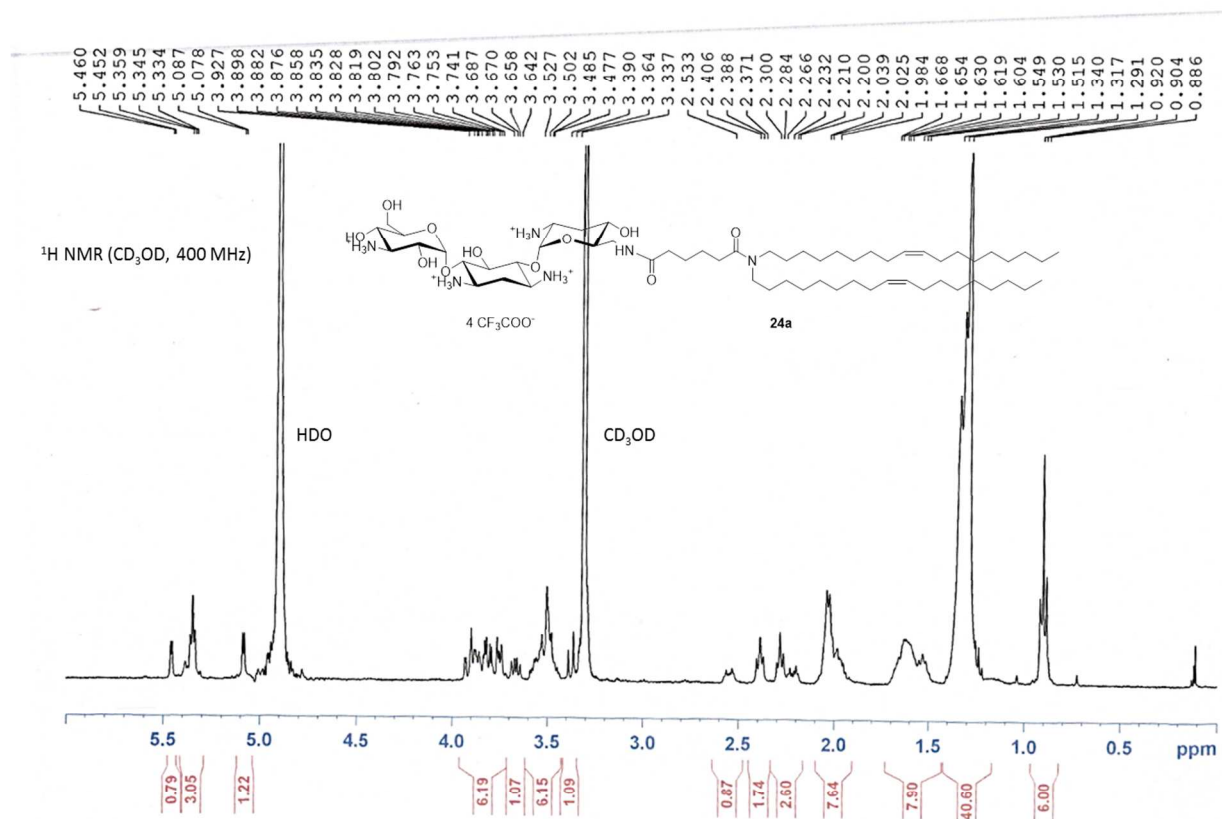


Figure S9: ¹H NMR spectrum of **24a**

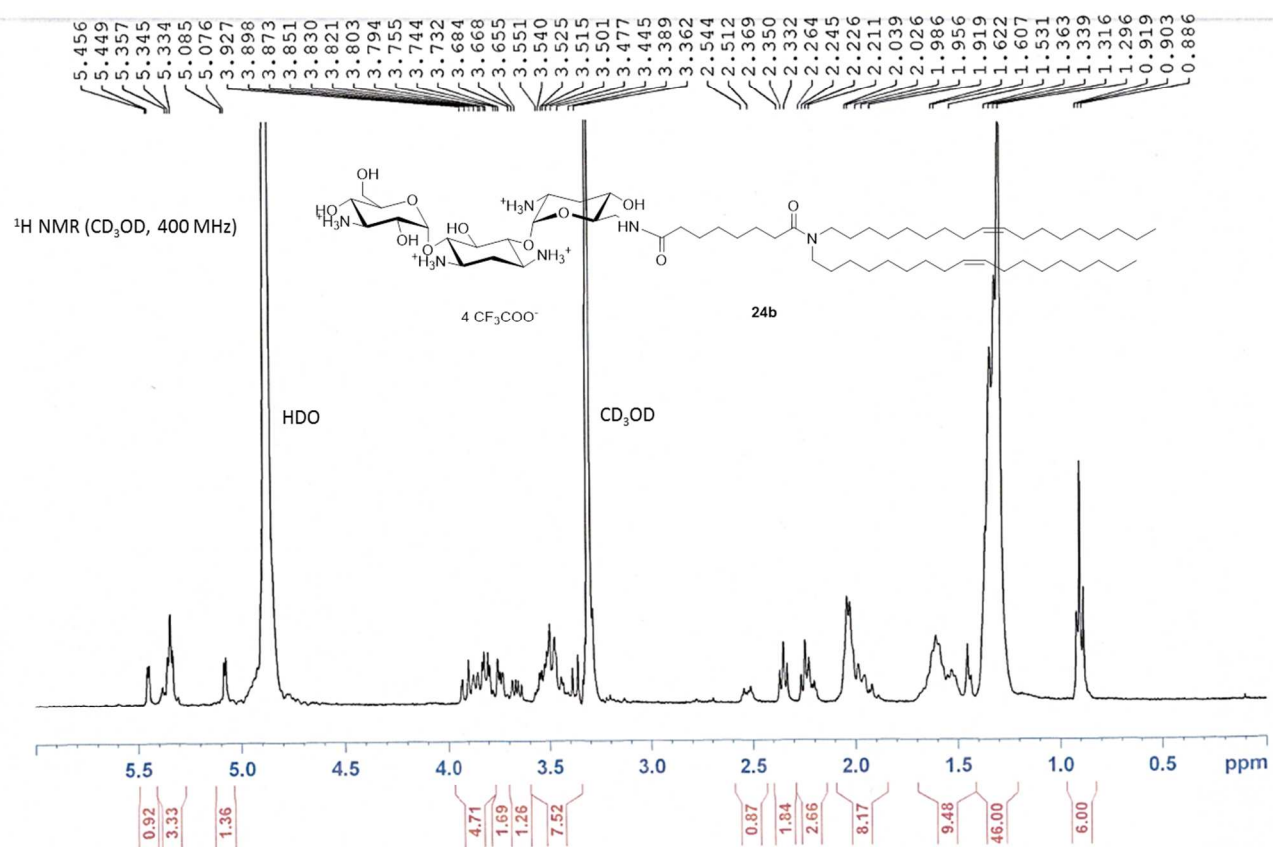


Figure S11: ¹H NMR spectrum of **24b**

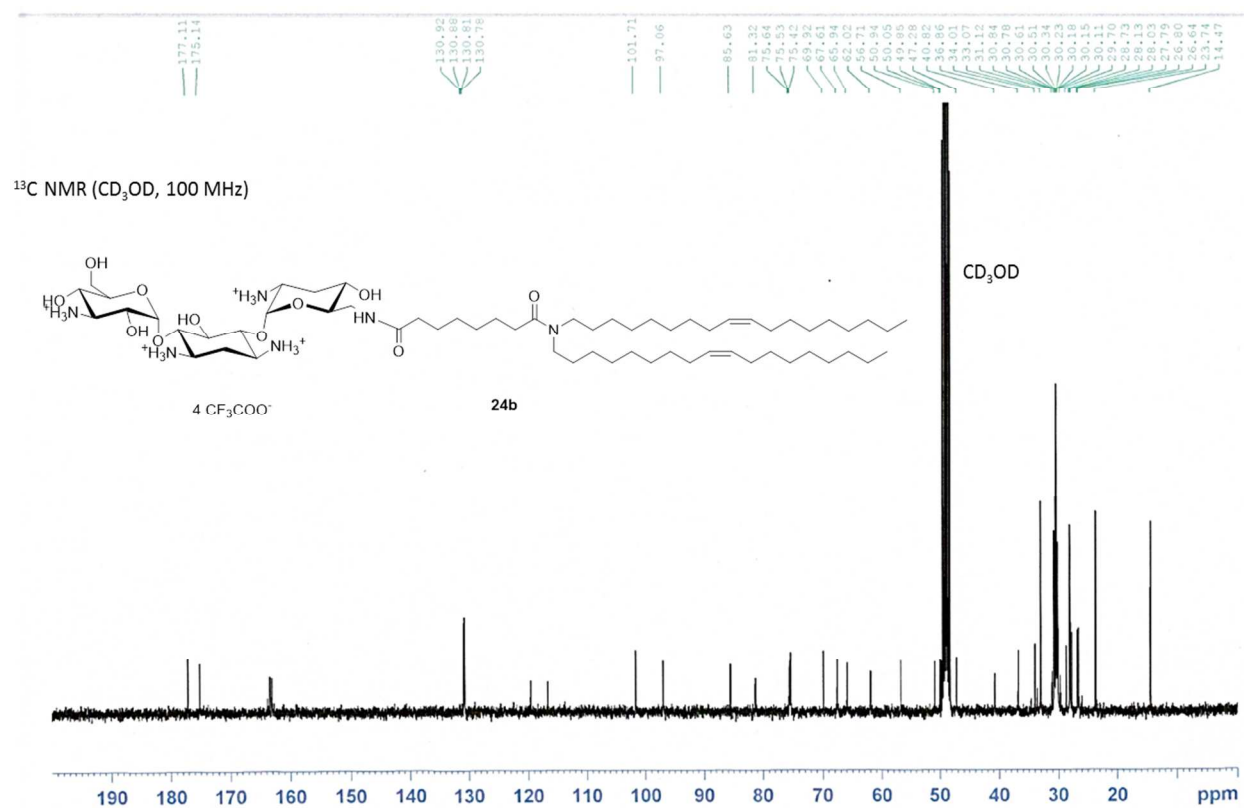


Figure S12: ^{13}C NMR spectrum of **24b**

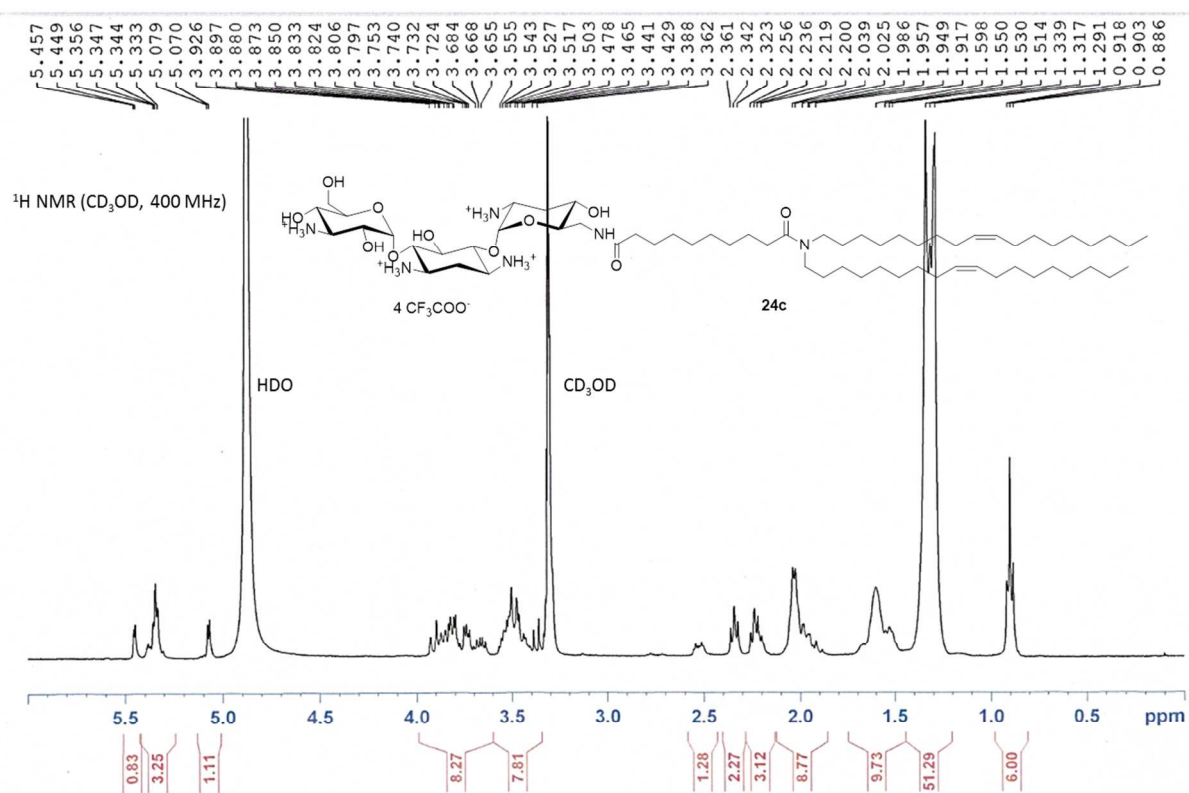


Figure S13: ^1H NMR spectrum of **24c**

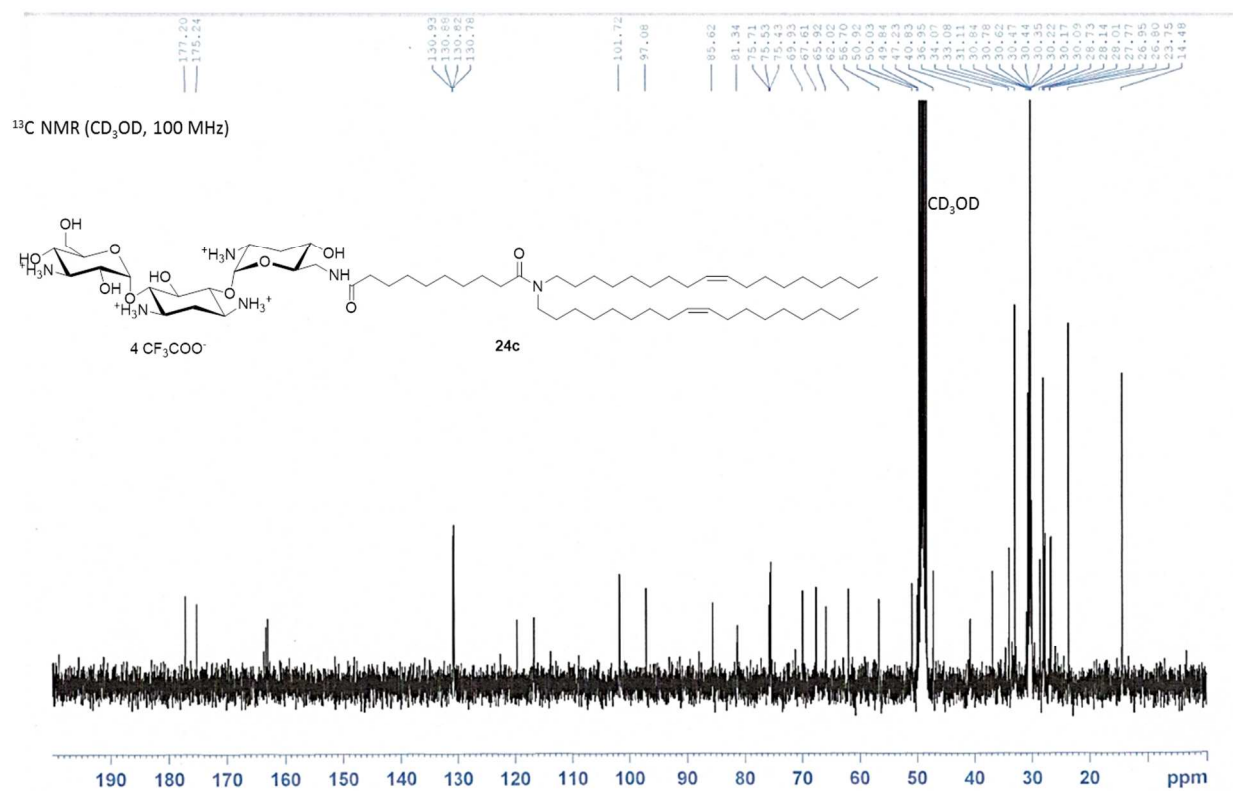


Figure S14: ^{13}C NMR spectrum of **24c**

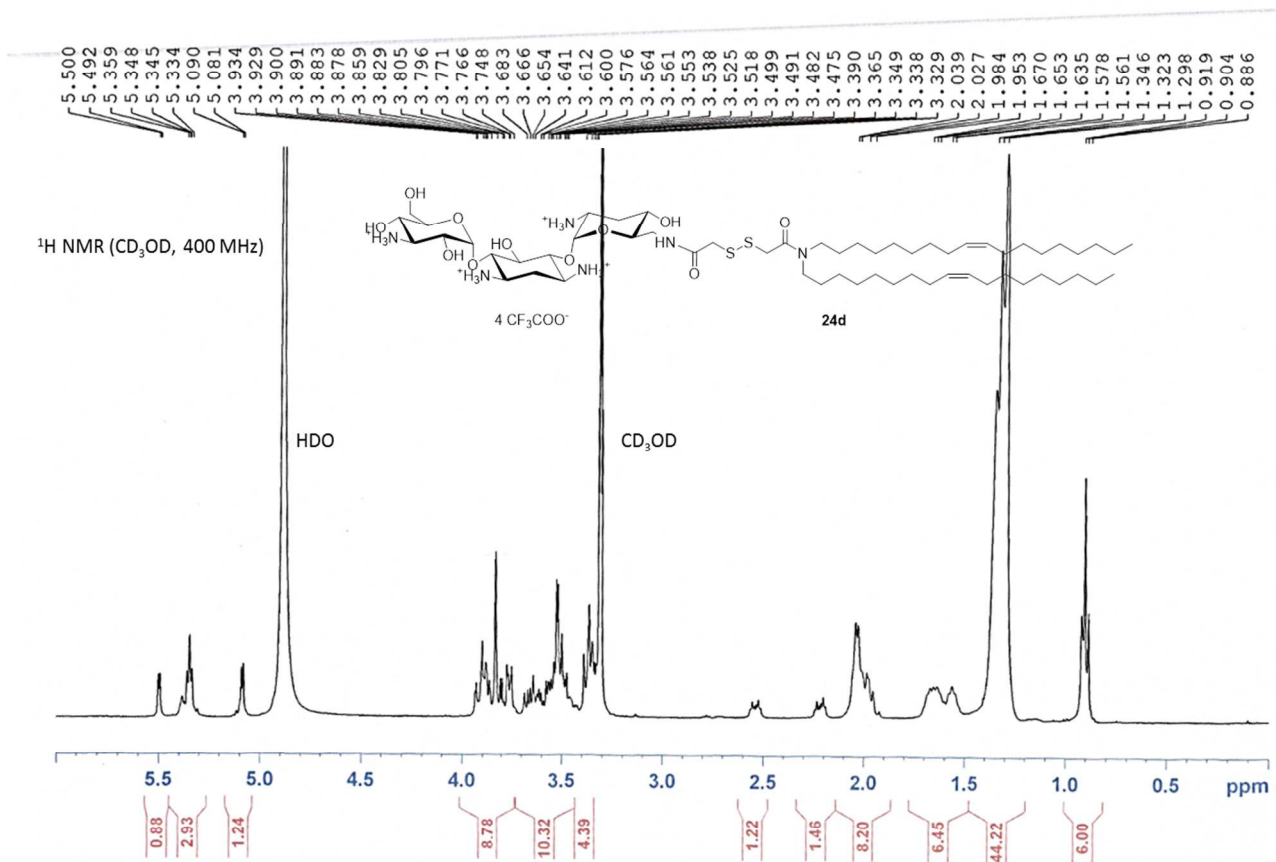


Figure S15: ^1H NMR spectrum of **24d**

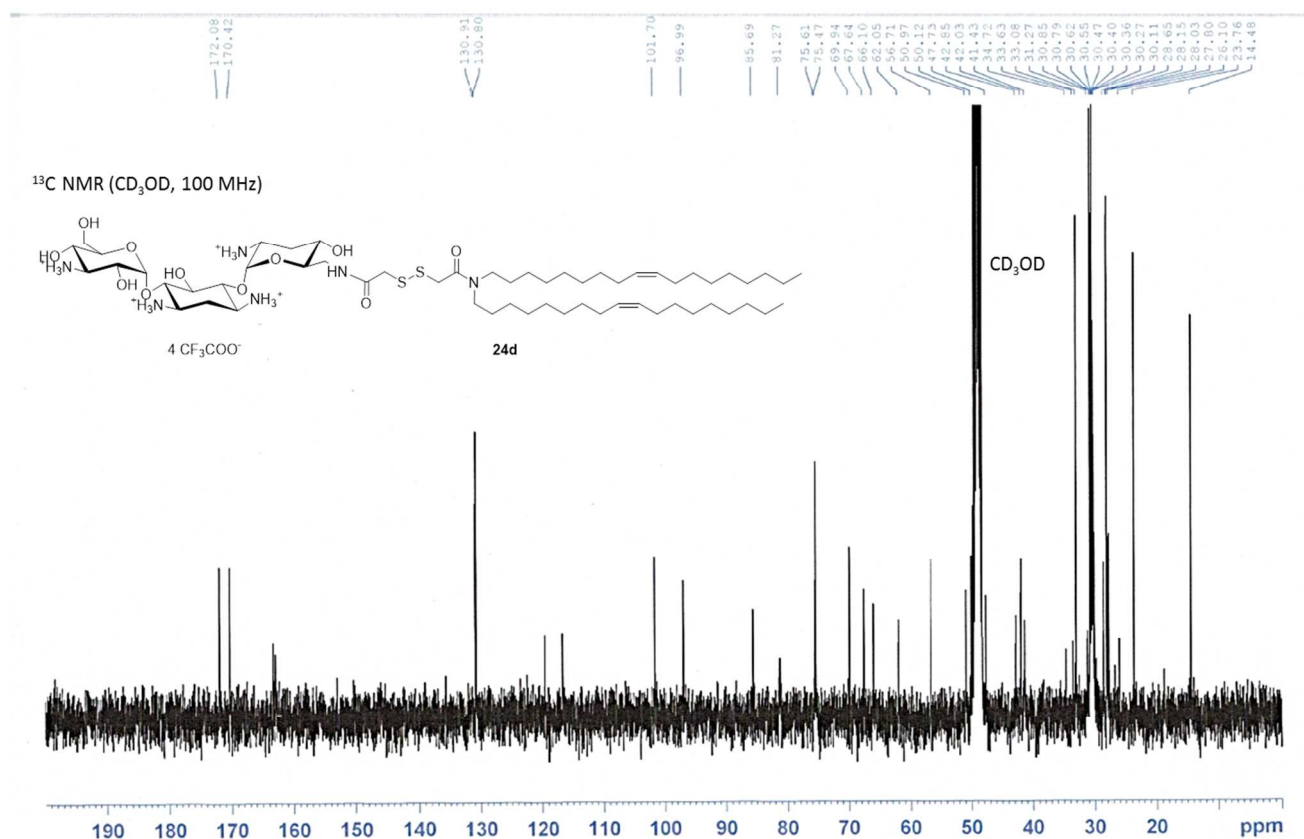


Figure S16: ^{13}C NMR spectrum of **24d**

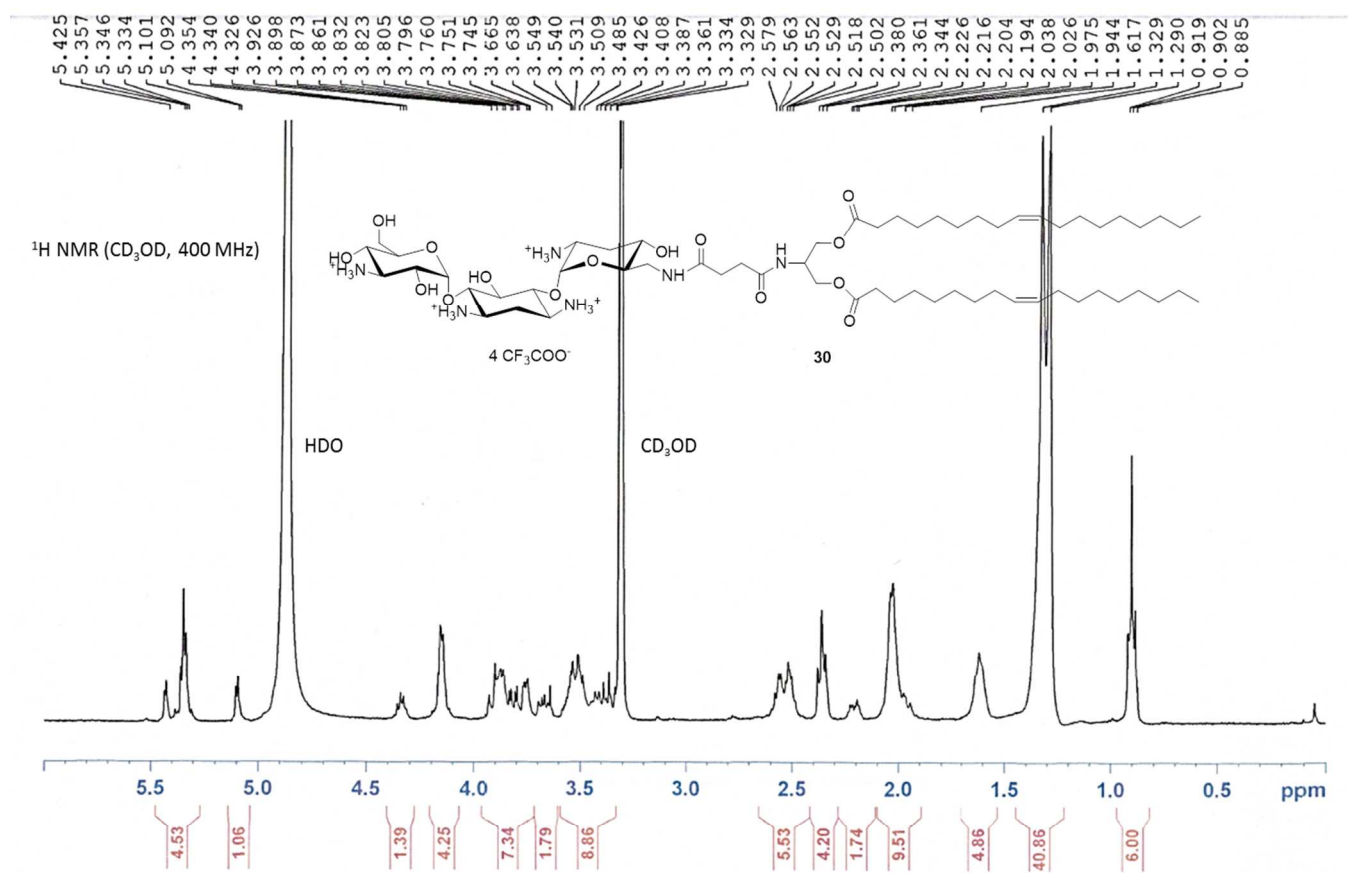


Figure S17: ^1H NMR spectrum of **30**

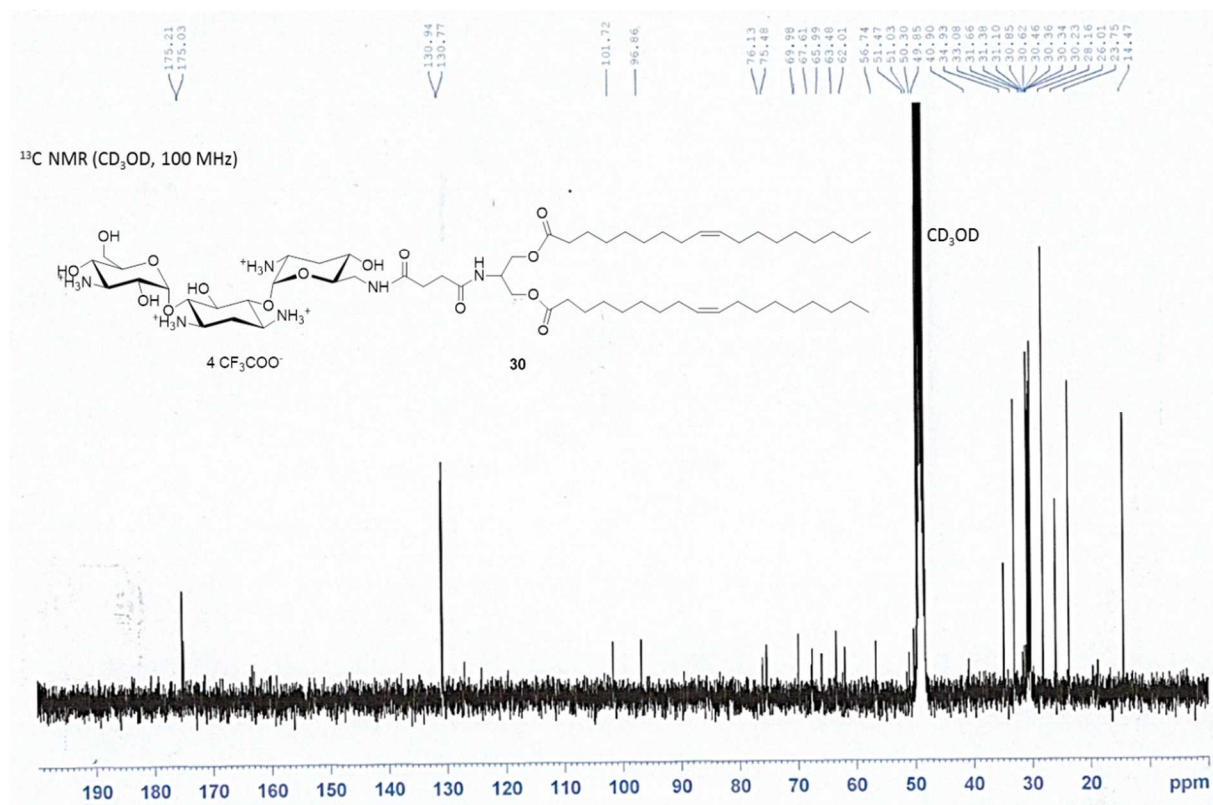


Figure S18: ^{13}C NMR spectrum of **30**

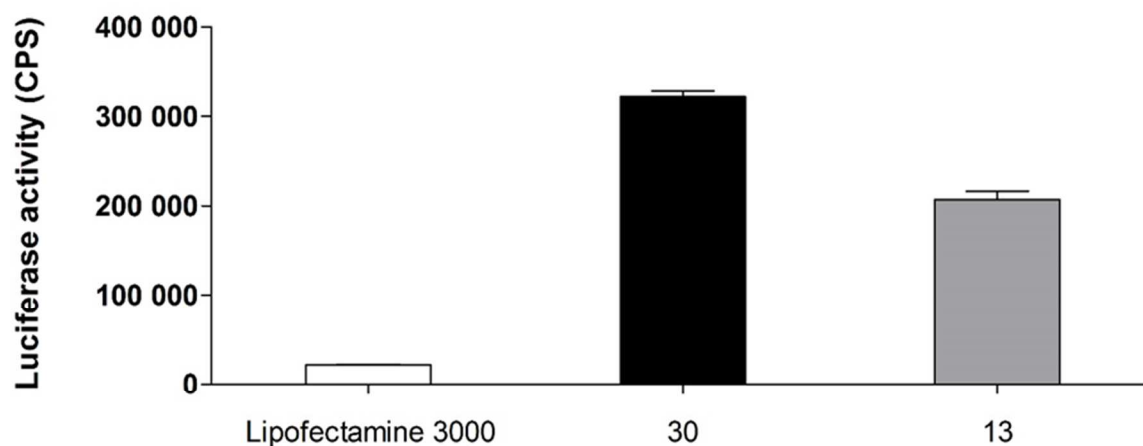


Figure S19: *In vitro* transfection of plasmid DNA encoding luciferase in HeLa cell line. Cells were transfected with 0.5 μ g of DNA formulated with Lipofectamine 3000 (as recommended by the provider, white), DOSST **30** (black) or DOST **13** (grey) at a charge ratio of 5. Data represent mean, \pm SEM, luciferase activity in count per second (CPS) 24 h post-transfection.

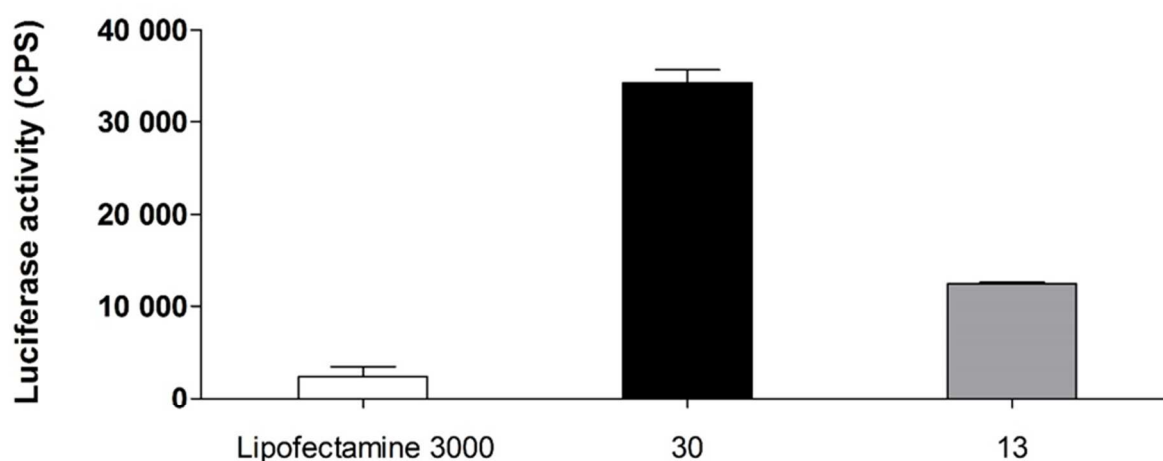


Figure S20: *In vitro* transfection of mRNA encoding luciferase in HeLa cell line. Cells were transfected with 0.5 μ g of mRNA formulated with Lipofectamine 3000 (as recommended by the provider, white), DOSST **30** (black) or DOST **13** (grey) at a charge ratio of 5. Data represent mean, \pm SEM, luciferase activity in count per second (CPS) 24 h post-transfection.

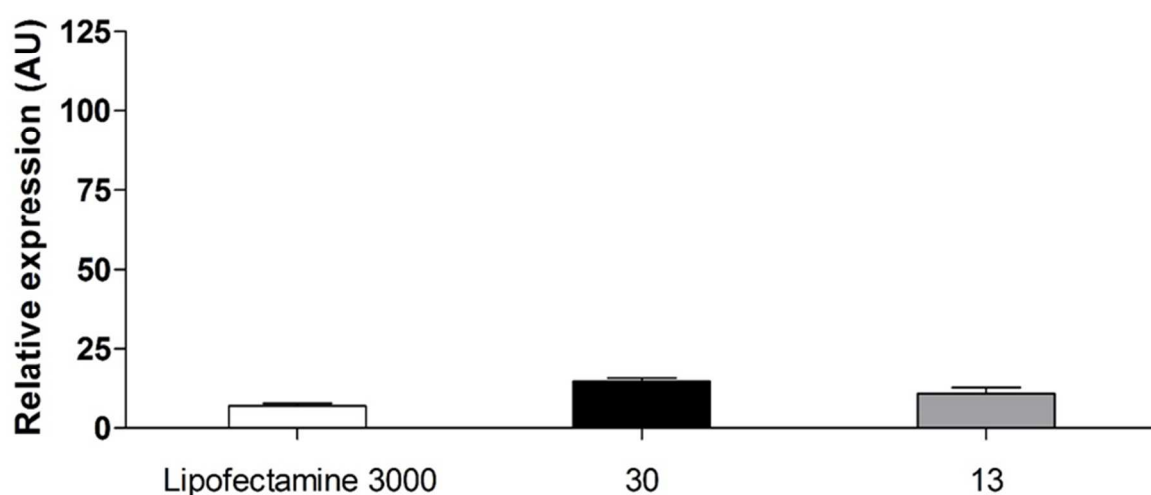


Figure S21: Inhibition of LaminA/C expression in HeLa cell line. Cells were transfected with 150 ng of siRNA formulated with Lipofectamine 3000 (as recommended by the provider, white), DOSST **30** (black) or DOST **13** (grey) at a charge ratio of 5. After 24 h, the gene expression levels of LaminA/C were measured by qPCR analysis, normalized against the expression levels of HPRT (housekeeping gene). The results are expressed as the $2^{-\Delta\Delta CT}$ formula. Bars represent mean values \pm SEM.

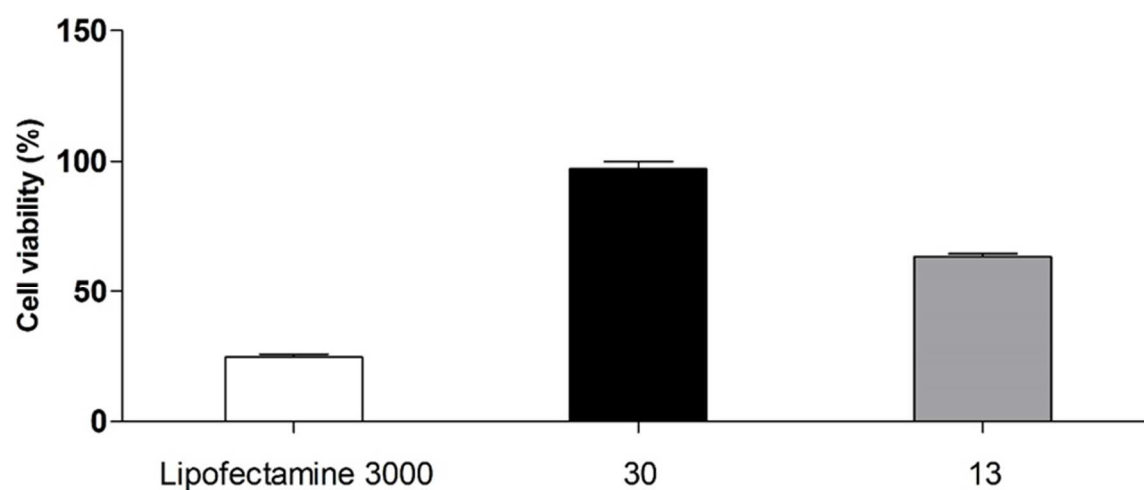


Figure S22: Percentage of cell survival in HeLa cell line. Cells were transfected with 0.5 μ g of DNA formulated with Lipofectamine 3000 (as recommended by the provider, white), DOSST **30** (black) or DOST **13** (grey) at a charge ratio of 5. After 24 h, cytotoxicity was evaluated by Cell titer 96 Non-radioactive cell proliferation assay. Data represent mean \pm SEM.