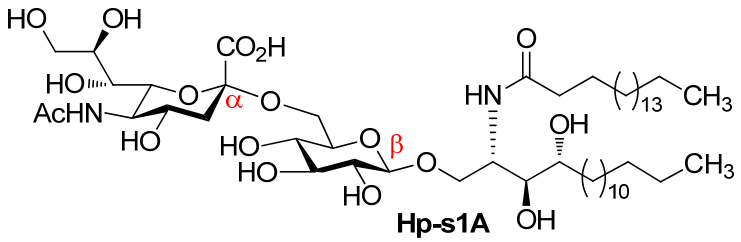

Fig. S1. Hp-s1A (5-acetamido-3,5-dideoxy-D-*glycero*-α-D-*galacto*-2-nonulopyranosyloic acid)-(2→6)-β-D-glucopyranosyl-(1→1)-(2*S*,3*S*,4*R*)- 2-octadecanoylaminoheptadecane-1,3,4-triol. To a solution of protected **Hp-s1A** (9 mg, 0.0056 mmol) in MeOH/CH_2Cl_2 (0.4 mL, 1:3 (v/v)) was added 10% Pd/C (1 mg) at room temperature. The reaction mixture was stirred under hydrogen balloon at room temperature for 16 h. The Pd/C was removed through a short pad of SiO_2/Celite and the filter was washed with MeOH/CH_2Cl_2 (1:5, v/v). The filtrate was concentrated in *vacuo*. The resulting white solid tetraol, without further purification, was dissolved in dry MeOH (0.3 mL) and then MeONa (1 mg, 88.61 mmol) was added to this solution at 0 °C. After stirring for 12 h at room temp, H_2O was added to the reaction mixture. After completing the soapnification, the solution was neutralized with Dowex 50w X 8 [H^+]. The resin was filtered out and washed with MeOH/$CHCl_3$ (1:5, v/v). The filtrate was concentrated under reduced pressure to give a white solid residue. The residue was purified via flash column chromatography on silica gel (MeOH/$CHCl_3$/H_2O = 1:2.4:0.2 (v/v)) to yield 5 mg of **Hp-s1A** as a white solid compound in 78% yield: R_f = 0.40 (MeOH/$CHCl_3$/H_2O = 1:2.4:0.2, v/v); $[\alpha]^{26}_D$ –6.7 (c 0.23, MeOH); FT-IR (neat) ν_{max} 3345, 2919, 2850, 1628, 1550, 1467, 1378, 1130, 1072, 1036 cm^{-1}; ^1H NMR (400 MHz, CD_3OD) δ 4.24 (d, *J* = 7.7 Hz, 1H), 4.14-4.06 (m, 2H), 4.02 (dd, *J* = 10.7, 4.7 Hz, 1H), 3.88-3.83 (m, 2H), 3.83-3.47 (m, 2H), 3.45-3.40 (m, 1H), 3.37-3.34 (m, 2H), 2.85 (dd, *J* = 12.3, 4.0 Hz, 1H), 2.21 (t, *J* = 7.6 Hz, 2H), 2.01 (s, 3H), 1.64-1.54 (m, 6H), 1.28 (bs, 50H), 0.90 (t, *J* = 6.8Hz, 6H); ^{13}C NMR (100 MHz, CD_3OD) δ 176.4 (C), 175.9 (C), 105.0 (CH), 101.8 (C),77.8 (CH), 76.7 (CH), 75.4 (CH), 75.0 (CH), 74.6 (CH), 73.3 (CH), 73.1 (CH), 71.6 (CH), 70.6 (CH_2), 70.5 (CH), 69.7 (CH), 64.7 (CH_2), 64.4 (CH_2), 54.5 (CH), 52.3 (CH), 42.8 (CH_2), 37.6 (CH_2), 33.4 (CH_2), 33.4 (CH), 32.2 (CH_2), 31.2 (CH_2), 31.2 (CH_2), 31.1 (CH_2), 31.1 (CH_2), 31.1 (CH_2), 31.0 (CH_2), 31.0 (CH_2), 31.0 (CH_2), 30.8(CH_2), 30.8 (CH_2), 30.7 (CH_2), 27.5 (CH_2), 24.0 (CH_2), 22.9 (CH_3), 14.8 (CH_3); HRMS-ESI $[M - H]^-$ Calcd for $C_{52}H_{97}N_2O_{17}$ 1021.6793, Found 1021.6798.