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Supporting Information

Transfer and amplification of chirality in Phe-based C_3-symmetric tricarboxamides

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Contents:

1. Supplementary Figures and Tables

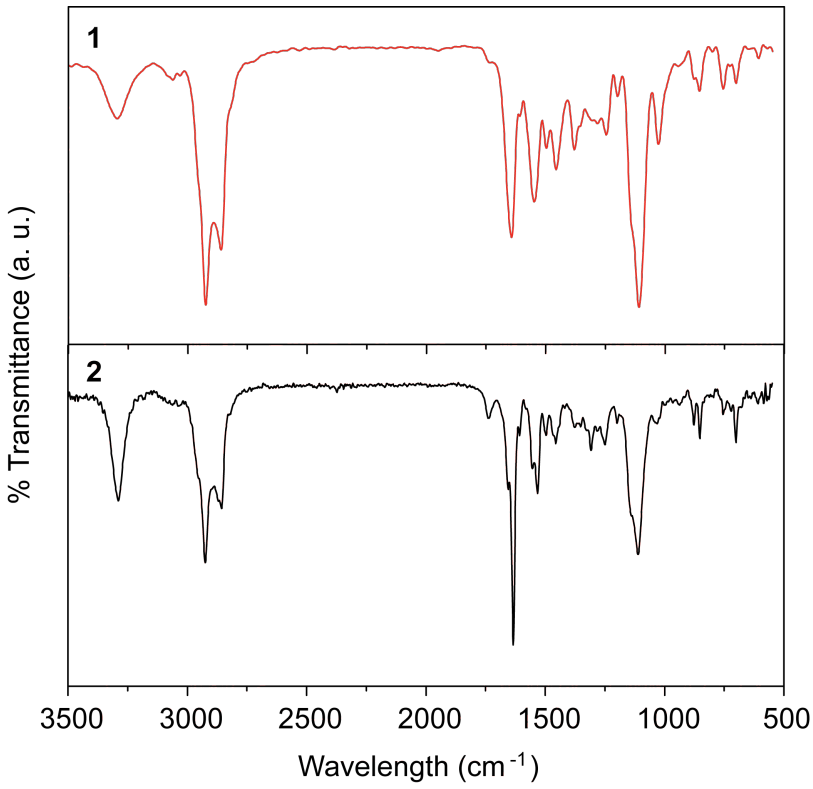


Figure S1. Partial FTIR spectra of **1** and **2**.

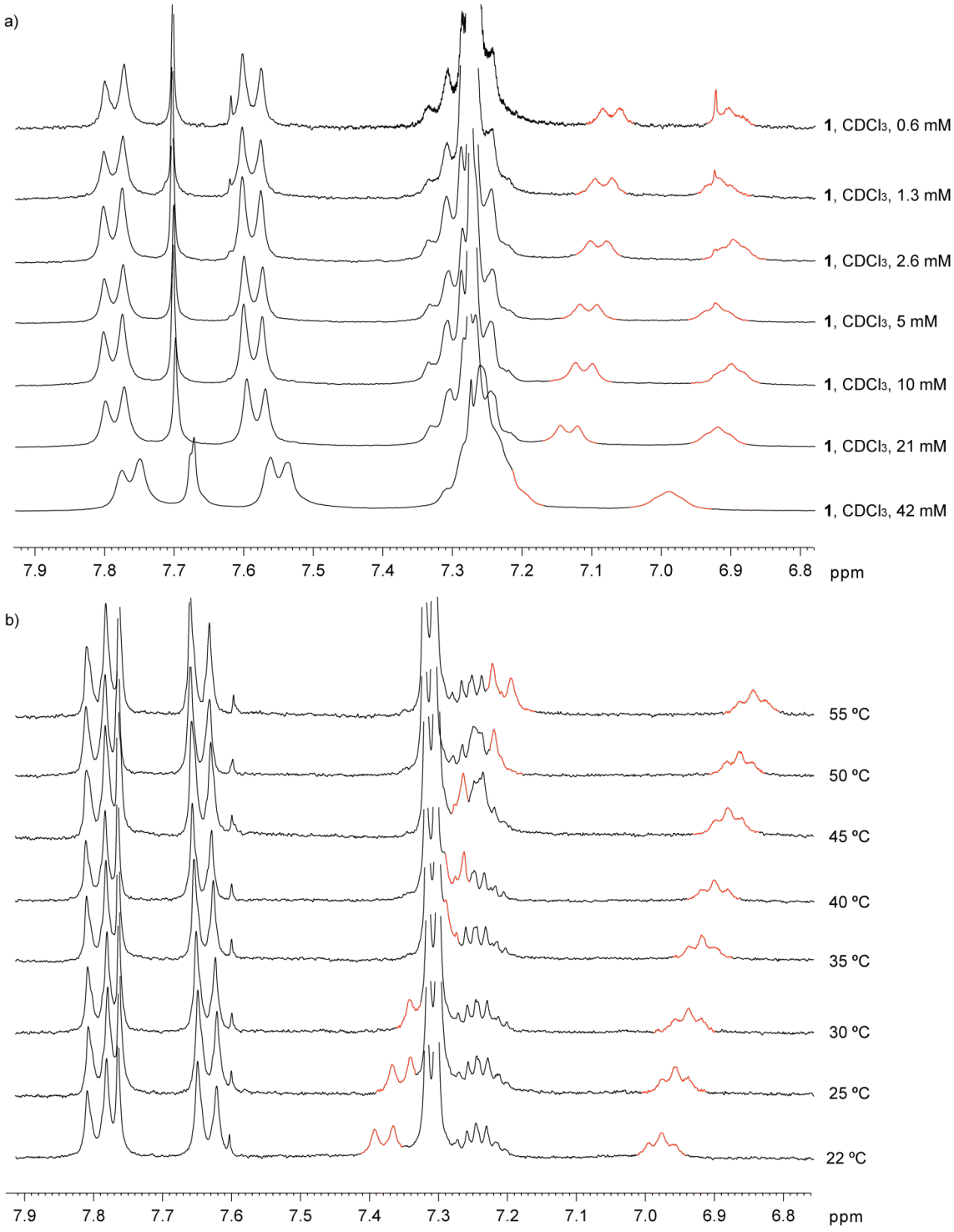


Figure S2. Partial ^{1}H NMR spectra of **1** in (a) $CDCl_3$ at different concentrations (300 MHz, 298 K), and in (b) CD_3CN at 1 mM and different temperatures. The resonances in red correspond to the inner and outer amides.

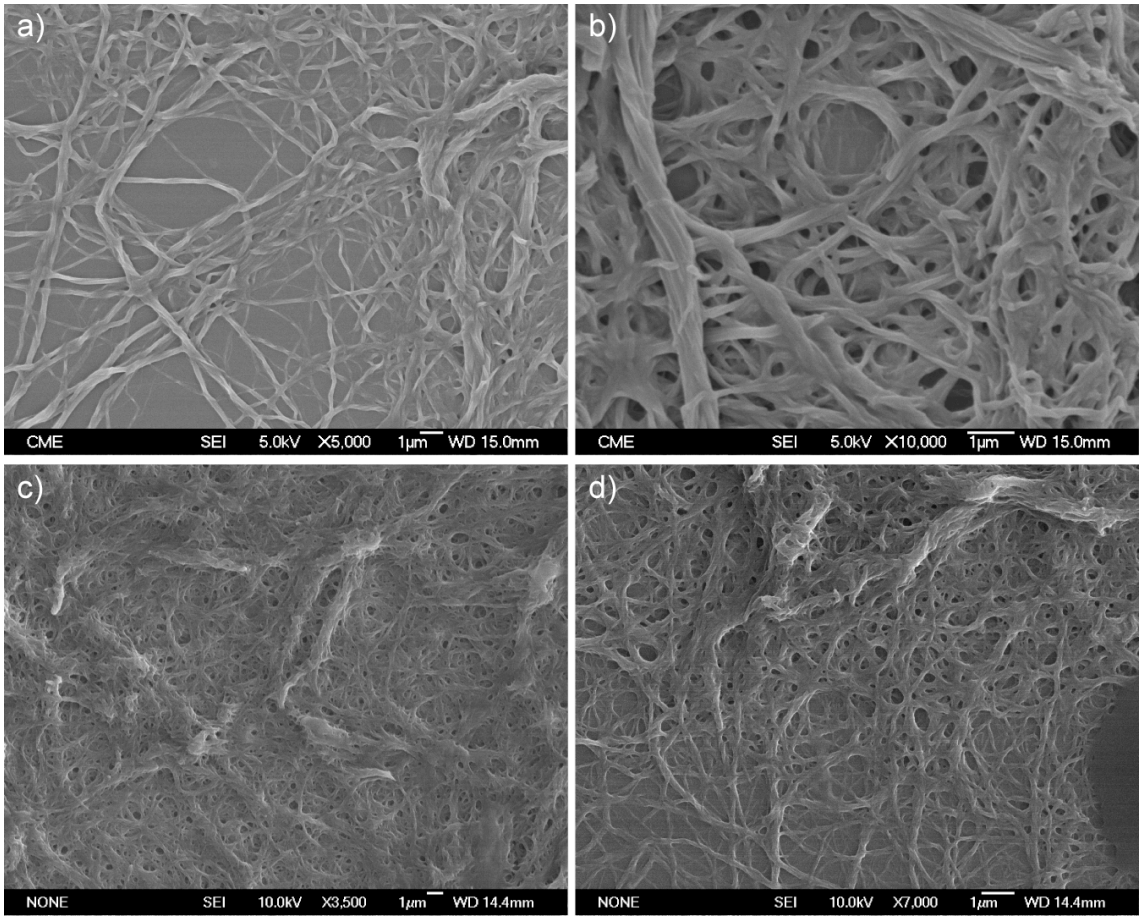


Figure S3. SEM images of the fibrillar structures formed by the self-assembly of **1** (a, b) and **2** (c, d) on to a glass substrate.

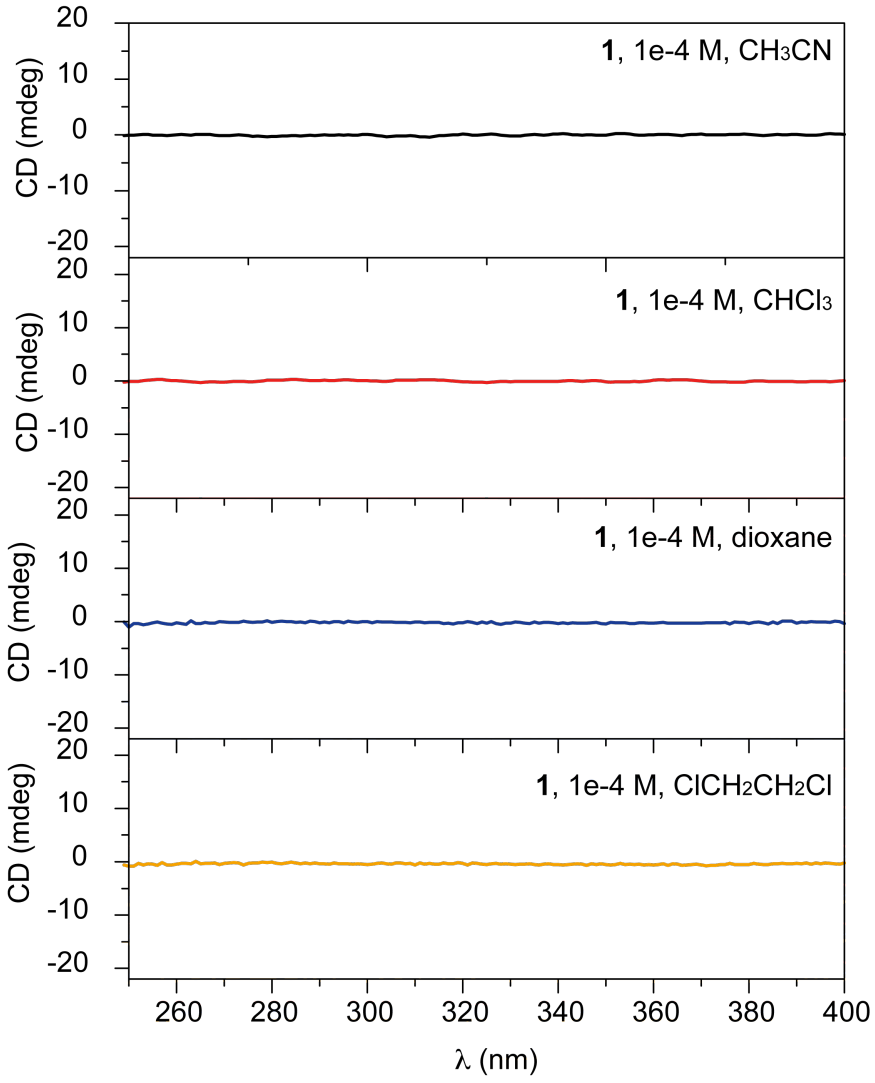


Figure S4. CD spectra of **1** in solvents of different polarity (1 x 10^{-4} M, 298 K).

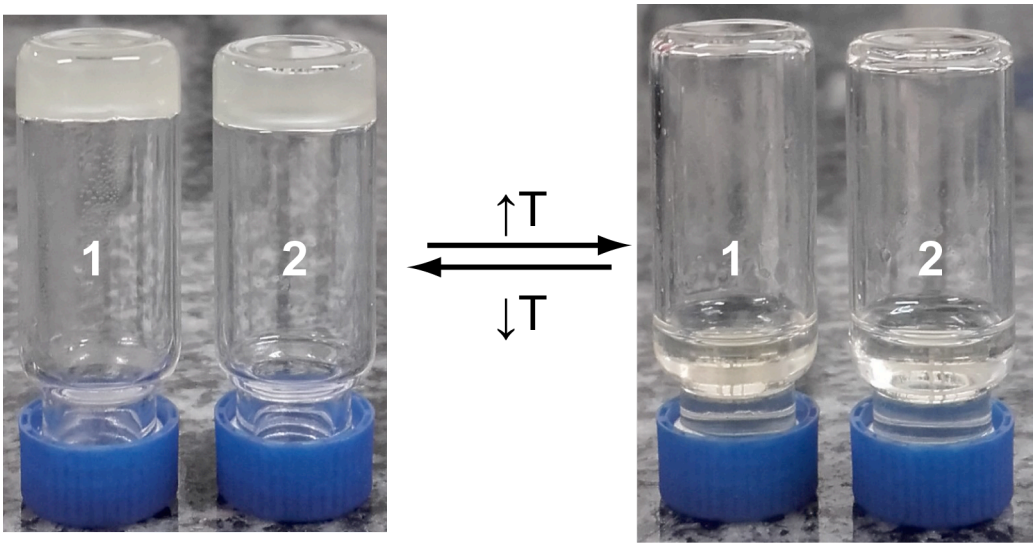


Figure S5. Photograph of the organogels formed from **1** and **2** in CCl_4 at 7 mM at room temperature (left) and at 70 ºC (right).

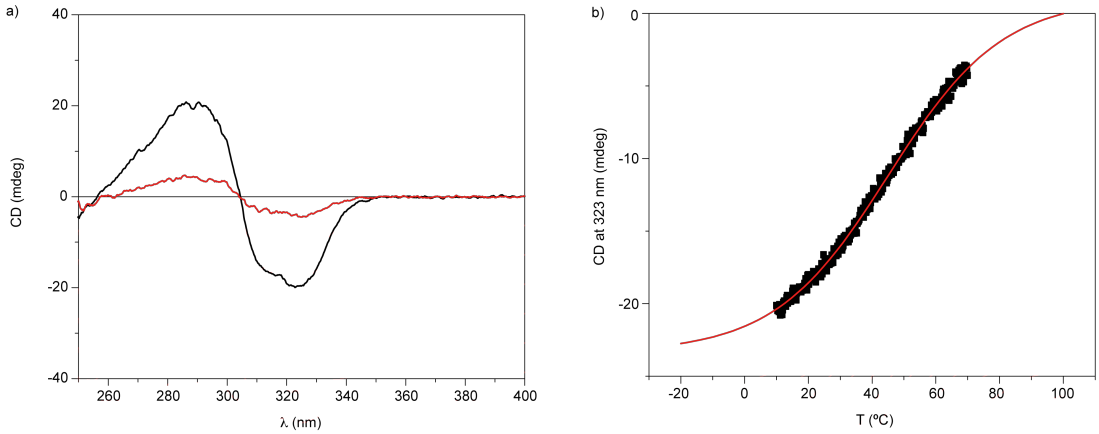


Figure S6. (a) CD spectra of **1** in CCl_4 at 25 ºC (black line) and at 70 ºC (red line). (b) Cooling curve of **1** in CCl_4 at 2 x 10^{-4} M. The red line depicts the fitting of the variation of the dichroic signal at 323 nm to a sigmoidal curve (R^2 = 0.9969).

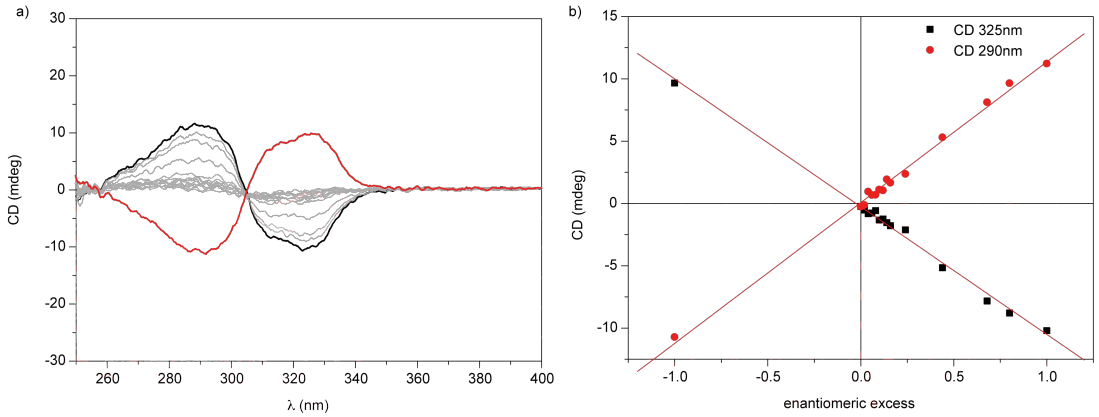
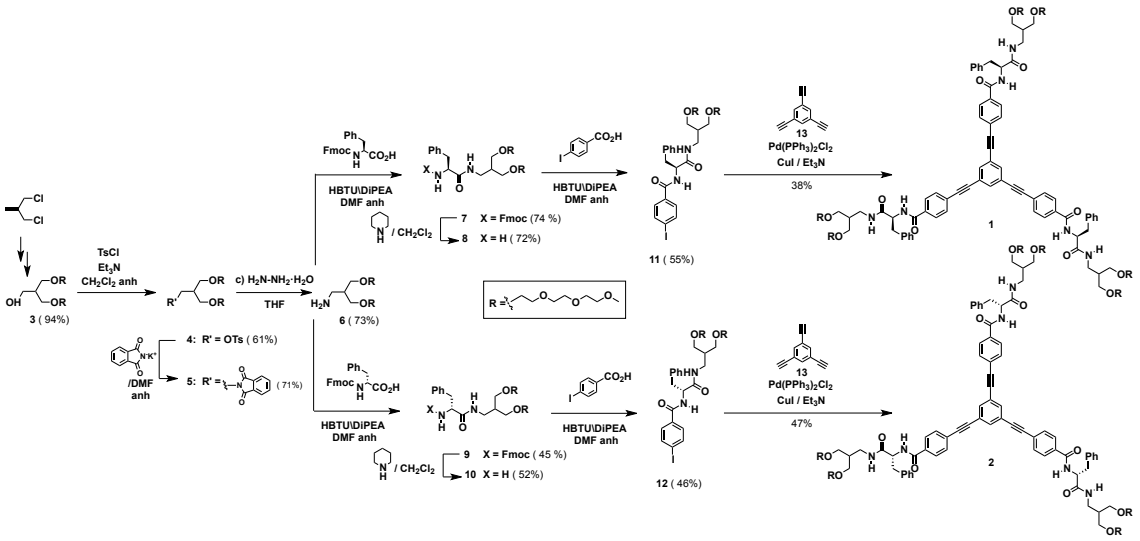


Figure S7. (a) CD spectra of mixtures of **1** and **2** (CCl_4, 293 K, 1 x 10^{-4} M). (b) Changes in the CD intensity against the *e.e.* observed upon adding increasing aliquots of **1** to a solution of **2** (CCl_4, 293 K, 1 x 10^{-4} M). The red lines represent the fitting to straight line.

2. Experimental section

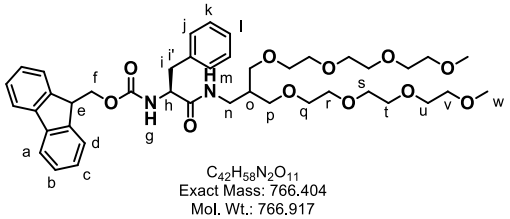
General. All solvents were dried according to standard procedures. Reagents were used as purchased. All air-sensitive reactions were carried out under argon atmosphere. Flash chromatography was performed using silica gel (Merck, Kieselgel 60, 230-240 mesh or Scharlau 60, 230-240 mesh). Analytical thin layer chromatography (TLC) was performed using aluminium-coated Merck Kieselgel 60 F254 plates. NMR spectra were recorded on a Bruker Avance 300 (^{1}H: 300 MHz; ^{13}C: 75 MHz) spectrometer at 298 K using partially deuterated solvents as internal standards. Coupling constants (J) are denoted in Hz and chemical shifts (δ) in ppm. Multiplicities are denoted as follows: s = singlet, d = doublet, t = triplet, m = multiplet, br = broad. FT-IR spectra were recorded on a Bruker Tensor 27 (ATR device) spectrometer. Circular dichroism (CD) measurements were performed on a Jasco-810 dichrograph equipped with a Peltier thermoelectric temperature controller. The spectra were recorded in the continuous mode between 400 and 200 nm, with a wavelength increment of 1 nm, a response time of 4 s, and a bandwidth of 1 nm. A 1 mm path length quartz cuvette (Hellma) was used. SEM images were obtained from on a JEOL JSM 6335F microscope working at 10kV. Matrix Assisted Laser Desorption Ionization (coupled to a Time-Of-Flight analyzer) experiments (MALDI-TOF) were recorded on a Bruker REFLEX spectrometer.

3. Synthetic details and characterization



Compounds **3**, **4**, **5** and **6** were prepared according to previously reported synthetic procedures (see: Jayaraman, M.; Fréchet, J. M. J. *J. Am. Chem. Soc.* **1998**, *120*, 12996–12997; Park, I.S.; Yoon, Y.R.; Jung, M; Kim, K.; Park, S.; Shin, S.; Lim, Y.; Lee, M. *Chem. Asian. J.* **2011**, *6*, 452-458; Buendía, J.; Sánchez, L.; *Org. Lett*. **2013**, *22*, 5746-5749) and showed identical spectroscopic properties to those reported therein.

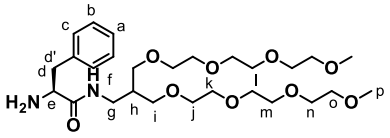
(9H-fluoren-9-yl)methyl (*S*)-1-(3-(2-(2-(2-methoxyethoxy)ethoxy)ethoxy)-2-((2-(2-(2-methoxyethoxy)ethoxy)ethoxy)methyl)propylcarbamoyl)-2 phenylethylcarbamate (7)



N,N,N′,N′-Tetramethyl-*O*-(1*H*-benzotriazol-1-yl)uronium hexafluorophosphate (HBTU) (1.30 g, 3.49 mmol) was dissolved in dry DMF (19 mL) under argon atmosphere and *N*-(9-Fluorenylmethoxycarbonyl)-L-phenylalanine (1.35 g, 3.49 mmol) and *N*,*N*-Diisopropylethylamine (DIPEA) (1.3 mL, 7.76 mmol) were added. The reaction mixture was stirred for 20 minutes. Then, amine **6** (0.77 g, 1.94 mmol) was added. The reaction mixture was stirred at room temperature overnight. The residue was washed with HCl (1M)/water/ice, NaOH (3M) and $NaHCO_3$, extracted with diethyl ether and dried over $MgSO_4$. After evaporation of the solvent under reduced pressure, the residue was purified by column chromatography (silica gel, chloroform:methanol 100:1) affording compound **7** as a colorless solid (1.10 g, 74%). ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.70 (2H,

H_a, d, J = 7.4); 7.50 (2H, H_b, t, J = 7.0); 7.34 (2H, H_c, t, J = 7.0); 7.28–7.11 (7H, $H_{d+j+k+l}$, m); 6.93 (1H, H_m, t, J = 5.3); 5.81 (1H, H_g, d, J = 8.2); 4.44–4.19 (3H, H_{f+h}, m); 4.12 (1H, H_e, t, J = 6.8); 3.60–3.16 (36H, $H_{n+p+q+r+s+t+u+v+w}$, m); 3.15–2.92 (2H, $H_{i+i'}$, m); 2.00 (1H, H_o, m). ^{13}C NMR ($CDCl_3$, 75 MHz) δ 170.58, 155.62, 143.68, 141.11, 136.84, 129.21, 128.36, 127.54, 126.91, 126.63, 124.89, 119.79, 71.72, 70.85, 70.41, 70.24, 70.22, 70.16, 70.08, 66.52, 58.80, 56.27, 46.98, 40.32, 38.65, 38.48. FTIR (neat) 701, 741, 760, 942, 1041, 1092, 1244, 1350, 1450, 1530, 1658, 1717, 2871, 3280. HRMS (MALDI-TOF): calc. for $C_{42}H_{58}N_2NaO_{11}$ $[M+Na]^+$ 789.3938; found 789.3972.

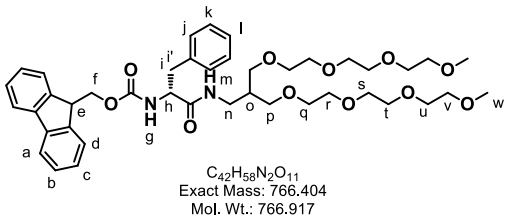
(*S*)-N-(3-(2-(2-(2-methoxyethoxy)ethoxy)ethoxy)-2-((2-(2-(2-methoxyethoxy) ethoxy)ethoxy)methyl)propyl)-2-amino-3-phenylpropanamide (8)



$C_{27}H_{48}N_2O_9$
Exact Mass: 544.336
Mol. Wt.: 544.678

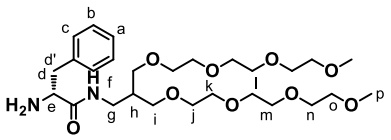
Compound **7** (1.1 g, 1.43 mmol) was dissolved in methylene chloride (35 mL) and piperidine (9 mL) was added. The reaction mixture was stirred for 24 hours. After evaporation of the solvent under reduced pressure, the residue was purified by column chromatography (silica gel, chloroform:methanol 100:5) affording compound **8** as a yellow oil (0.56 g, 72%). ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.64 (1H, H_f, t, J = 5.5); 7.30–7.14 (5H, H_{a+b+c}, m); 3.61–3.26 (37H, $H_{e+g+i+j+k+l+m+n+o+p}$, m); 3.18 (1H, $H_{d\ ó\ d'}$, dd, J = 13.6, 4.3); 2.64 (1H, $H_{d\ ó\ d'}$, dd, J = 13.6, 9.1); 2.06 (1H, H_h, m). ^{13}C NMR ($CDCl_3$, 75 MHz) δ 174.36, 138.22, 129.33, 128.59, 126.64, 71.90, 71.12, 70.59, 70.52, 70.48, 70.43, 59.00, 56.74, 41.23, 39.81, 39.13. FTIR (neat) 702, 746, 849, 1033, 1096, 1247, 1292, 1353, 1451, 1525, 1658, 2868, 3357. HRMS (MALDI-TOF): calc. for $C_{27}H_{49}N_2O_9$ $[M+H]^+$ 545.3438; found 545.3423.

(9H-fluoren-9-yl)methyl (*R*)-1-(3-(2-(2-(2-methoxyethoxy)ethoxy)ethoxy)-2-((2-(2-(2-methoxyethoxy)ethoxy)ethoxy)methyl)propylcarbamoyl)-2 phenylethylcarbamate (9)



N,N,N′,N′-Tetramethyl-*O*-(1*H*-benzotriazol-1-yl)uronium hexafluorophosphate (HBTU) (1.96 g, 5.17 mmol) was dissolved in dry DMF (10 mL) under argon atmosphere and *N*-(9-Fluorenylmethoxycarbonyl)-D-phenylalanine (2.0 g, 5.17 mmol) and *N*,*N*-Diisopropylethylamine (DIPEA) (2.0 mL, 11.48 mmol) were added. The reaction mixture was stirred for 20 minutes. Then, amine **6** (1.14 g, 2.87 mmol) was added. The reaction mixture was stirred at room temperature overnight. The residue was washed with HCl (1M)/water/ice, NaOH (3M) and $NaHCO_3$, extracted with diethyl ether and dried over $MgSO_4$. After evaporation of the solvent under reduced pressure, the residue was purified by column chromatography (silica gel, chloroform:methanol 100:1) affording compound **9** as a colorless solid (0.99 g, 45%). ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.75 (2H, H_a, d, J = 7.4); 7.54 (2H, H_b, t, J = 7.0); 7.39 (2H, H_c, t, J = 7.0); 7.33–7.16 (7H, $H_{d+j+k+l}$, m); 6.95 (1H, H_m, t, J = 5.3); 5.72 (1H, H_g, d, J = 8.2); 4.46–4.23 (3H, H_{f+h}, m); 4.17 (1H, H_e, t, J = 6.8); 3.67–3.21 (36H, $H_{n+p+q+r+s+t+u+v+w}$, m); 3.16–2.97 (2H, $H_{i+i'}$, m); 2.04 (1H, H_o, m). ^{13}C NMR ($CDCl_3$, 75 MHz) δ 170.86, 156.86, 143.95, 141.40, 137.01, 129.49, 128.65, 127.81, 127.18, 126.93, 125.18, 120.07, 72.01, 71.18, 70.69, 70.54, 70.52, 70.47, 70.44, 66.89, 59.10, 56.48, 47.27, 40.60, 39.04, 38.75. FTIR (neat) 742, 760, 850, 942, 1041, 1093, 1199, 1244, 1350, 1450, 1532, 1659, 1717, 2872, 3282. HRMS (MALDI-TOF): calc. for $C_{42}H_{58}N_2NaO_{11}$ $[M+Na]^+$ 789.3938; found 789.3967.

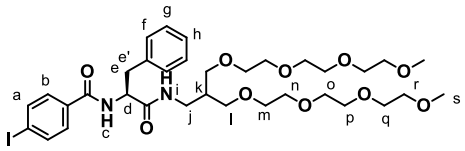
(*R*)-N-(3-(2-(2-(2-methoxyethoxy)ethoxy)ethoxy)-2-((2-(2-(2-methoxyethoxy) ethoxy)ethoxy)methyl)propyl)-2-amino-3-phenylpropanamide (10)



$C_{27}H_{48}N_2O_9$
Exact Mass: 544.336
Mol. Wt.: 544.678

Compound **9** (0.99 g, 1.29 mmol) was dissolved in methylene chloride (32 mL) and piperidine (8 mL) was added. The reaction mixture was stirred for 24 hours. After evaporation of the solvent under reduced pressure, the residue was purified by column chromatography (silica gel, chloroform:methanol 100:5) affording compound **10** as a yellow oil (0.37 g, 52%). ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.67 (1H, H_f, t, J = 5.5); 7.30–7.16 (5H, H_{a+b+c}, m); 3.63–3.30 (37H, $H_{e+g+i+j+k+l+m+n+o+p}$, m); 3.20 (1H, $H_{d\ ó\ d'}$, dd, J = 13.6, 4.3); 2.67 (1H, $H_{d\ ó\ d'}$, dd, J = 13.6, 9.1); 2.08 (1H, H_h, m). ^{13}C NMR ($CDCl_3$, 75 MHz) δ 174.27, 138.16, 129.35, 128.60, 126.67, 71.90, 71.11, 70.59, 70.52, 70.47, 70.43, 59.01, 56.72, 41.16, 39.82, 39.12. FTIR (neat) 703, 746, 850, 939, 1033, 1097, 1199, 1247, 1292, 1353, 1452, 1525, 1658, 2869, 3357. HRMS (MALDI-TOF): calc. for $C_{27}H_{49}N_2O_9$ $[M+H]^+$ 545.3438; found 545.3425.

N-((*S*)-1-(3-(2-(2-(2-methoxyethoxy)ethoxy)ethoxy)-2-((2-(2-(2-methoxyethoxy) ethoxy)ethoxy)methyl)propylcarbamoyl)-2-phenylethyl)-4-iodobenzamide (11)

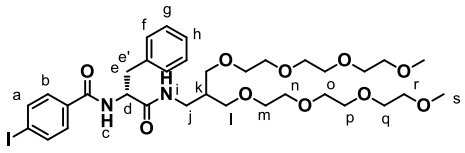


$C_{34}H_{51}IN_2O_{10}$
Exact Mass: 774.259
Mol. Wt.: 774.681

N,N,N′,N′-Tetramethyl-*O*-(1*H*-benzotriazol-1-yl)uronium hexafluorophosphate (HBTU) (0.70 g, 1.85 mmol) was dissolved in dry DMF (18 mL) under argon atmosphere and 4-iodobenzoic acid (0.46 g, 1.85 mmol) and *N*,*N*-Diisopropylethylamine (DIPEA) (0.7 mL, 4.12 mmol) were added. The reaction mixture was stirred for 20 minutes. Then, amine **8** (0.56 g, 1.03 mmol) was added. The reaction mixture was stirred at room temperature overnight. The residue was washed with HCl (1M)/water/ice, NaOH (3M) and $NaHCO_3$, extracted with diethyl ether and dried over $MgSO_4$. After evaporation of the solvent under reduced pressure, the residue was purified by column chromatography (silica gel, chloroform:methanol 50:1) affording compound **11** as a white solid (0.44 g, 55%). ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.72 (2H, H_a, d, J = 8.5); 7.46 (2H, H_b, d, J = 8.5); 7.29–7.13 (6H, $H_{c+f+g+h}$, m); 6.99 (1H, H_i, t, J = 5.4); 4.74 (1H, H_d, q,

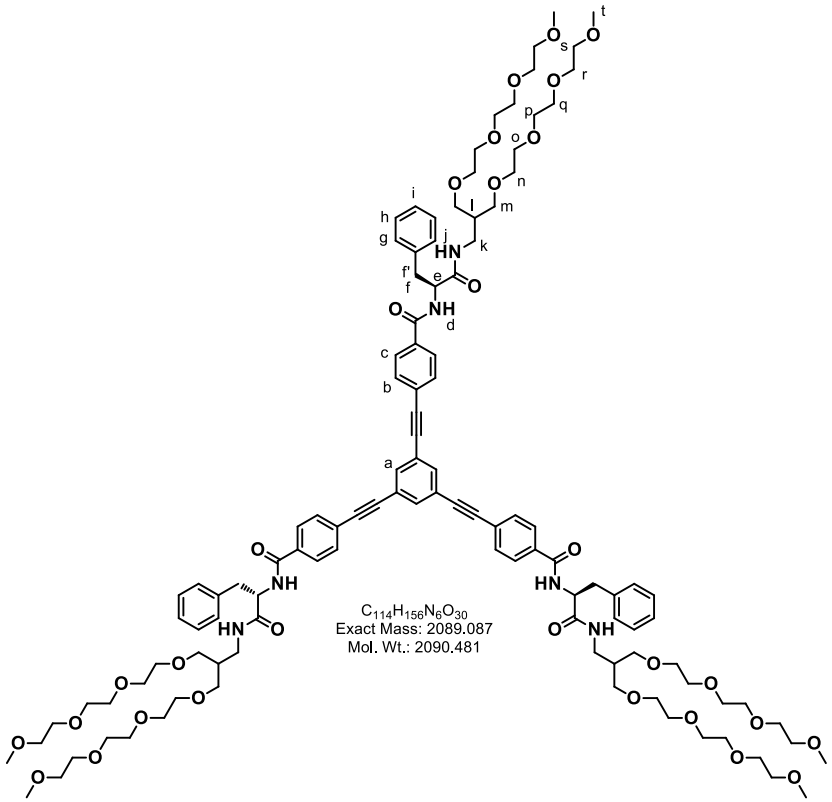
J = 6.9); 3.67–3.21 (36H, $H_{j+l+m+n+o+p+q+r+s}$, m); 3.18–3.11 (2H, $H_{e+e'}$, m); 2.03 (1H, H_k, m). ^{13}C NMR ($CDCl_3$, 75 MHz) δ 170.66, 166.11, 137.71, 136.91, 133.56, 129.46, 128.86, 128.59, 126.94, 98.66, 71.95, 70.99, 70.95, 70.67, 70.51, 70.43, 70.40, 70.36, 59.05, 55.14, 40.37, 38.76. FTIR (neat) 700, 749, 846, 1005, 1104, 1245, 1353, 1451, 1476, 1534, 1586, 1635, 1722, 2868, 3295. HRMS (MALDI-TOF): calc. for $C_{34}H_{51}IN_2NaO_{10}$ $[M+Na]^+$ 797.2486; found 797.2487.

N-((*R*)-1-(3-(2-(2-(2-methoxyethoxy)ethoxy)ethoxy)-2-((2-(2-(2-methoxyethoxy) ethoxy)ethoxy)methyl)propylcarbamoyl)-2-phenylethyl)-4-iodobenzamide (12)



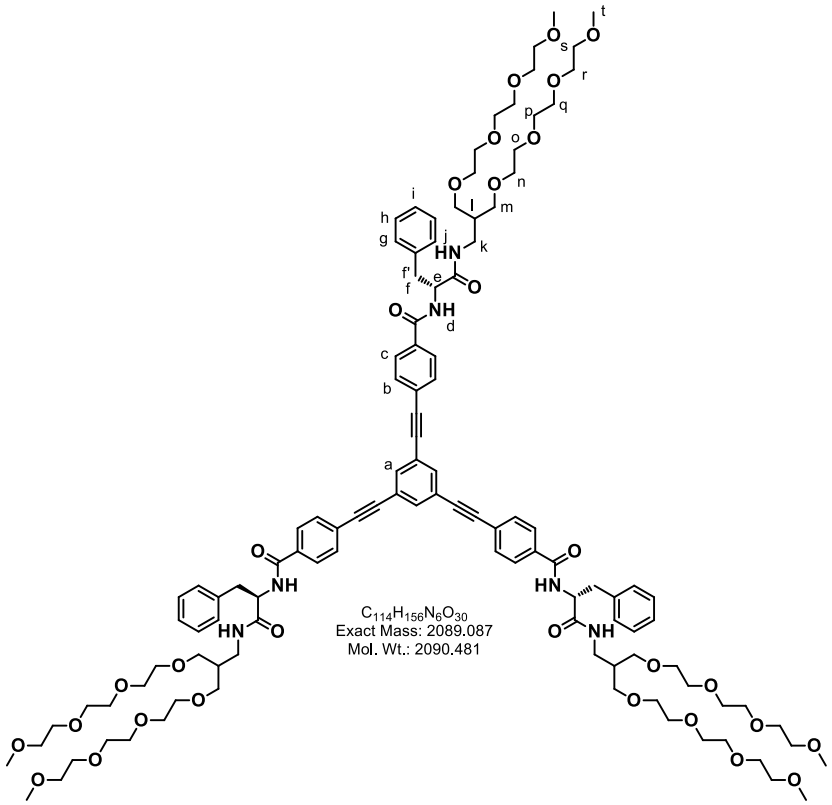
N,N,N′,N′-Tetramethyl-O-(1H-benzotriazol-1-yl)uronium hexafluorophosphate (HBTU) (0.46 g, 1.21 mmol) was dissolved in dry DMF (12 mL) under argon atmosphere and 4-iodobenzoic acid (0.30 g, 1.21 mmol) and N,N-Diisopropylethylamine (DIPEA) (0.5 mL, 2.68 mmol) were added. The reaction mixture was stirred for 20 minutes. Then, amine **10** (0.40 g, 0.67 mmol) was added. The reaction mixture was stirred at room temperature overnight. The residue was washed with HCl (1M)/water/ice, NaOH (3M) and $NaHCO_3$, extracted with diethyl ether and dried over $MgSO_4$. After evaporation of the solvent under reduced pressure, the residue was purified by column chromatography (silica gel, chloroform:methanol 50:1) affording compound **12** as a white solid (0.36 g, 46%). ^1H NMR ($CDCl_3$, 300 MHz) δ 7.75 (2H, H_a, d, *J* = 8.5); 7.48 (2H, H_b, d, *J* = 8.5); 7.29–7.16 (5H, H_{f+g+h}, m); 7.10 (1H, H_c, d, *J* = 7.4); 7.01 (1H, H_i, t, *J* = 5.4); 4.75 (1H, H_d, q, *J* = 6.9); 3.67–3.22 (36H, $H_{j+l+m+n+o+p+q+r+s}$, m); 3.18–3.11 (2H, $H_{e+e'}$, m); 2.04 (1H, H_k, m). ^{13}C NMR ($CDCl_3$, 75 MHz) δ 170.64, 166.14, 137.82, 136.91, 133.64, 129.53, 128.90, 128.67, 127.03, 98.74, 72.03, 71.12, 71.08, 70.76, 70.59, 70.50, 70.47, 70.42, 59.13, 55.15, 40.57, 38.79. FTIR (neat) 664, 701, 846, 1005, 1105, 1245, 1280, 1353, 1451, 1476, 1535, 1587, 1635, 1722, 2869, 3295. HRMS (MALDI-TOF): calc. for $C_{34}H_{51}IN_2NaO_{10}$ $[M+Na]^+$ 797.2486; found 797.2459.

Compound 1



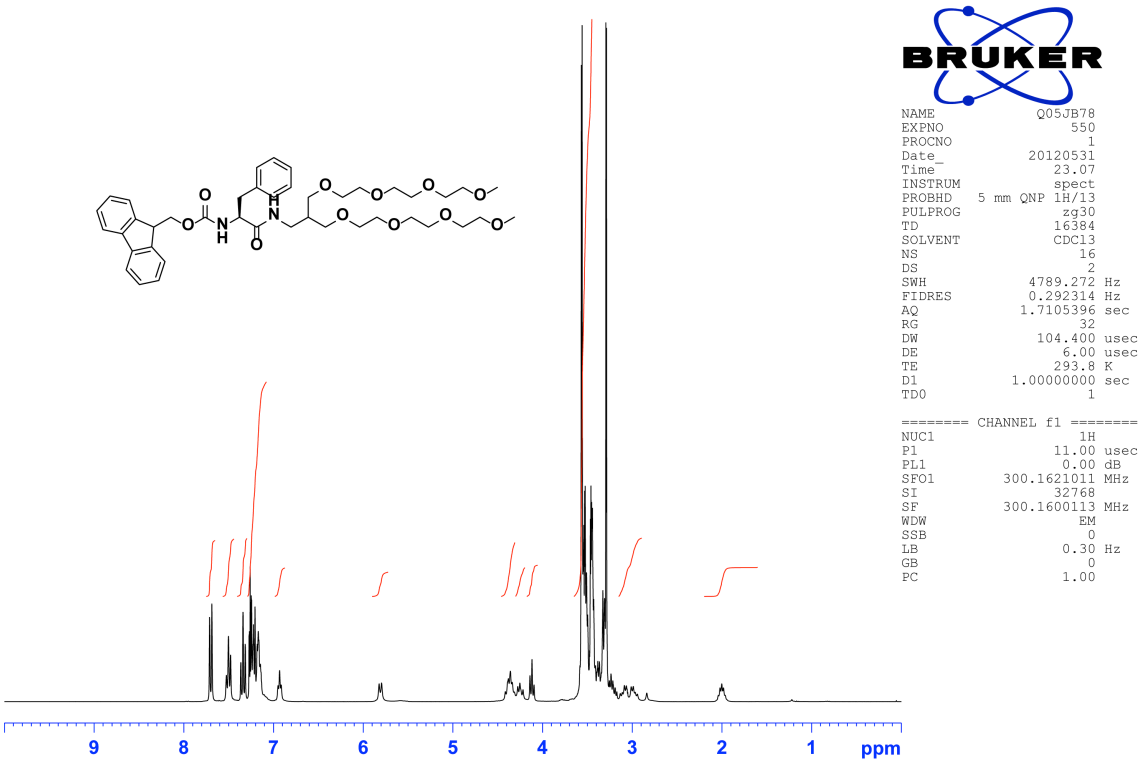
Compound **11** (0.49 g, 0.63 mmol), compound **13** (0.029 g, 0.19 mmol), bis-(triphenylphosphine)-palladium(II) chloride (0.007 g, 0.01 mmol), copper(I) iodide (0.0021 g, 0.011 mmol), were dissolved in dry THF (10 mL) and subjected to several vacuum/argon cycles. After that, triethylamine (2.5 mL) was added and subjected to more vacuum/argon cycles. The reaction mixture was heated at 67 ºC and stirred 48 hours. After evaporation of the solvent under reduced pressure, the residue was washed with HCl 1M, extracted with chloroform, washed with NH_4Cl saturated solution and water and dried over $MgSO_4$. After evaporation of the solvent, the residue was purified by column chromatography (silica gel, chloroform:methanol 50:1) affording compound **1** as a yellow solid (0.15 g, 38%). ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.76 (6H, H_c, d, J = 8.4); 7.68 (3H, H_a, s); 7.56 (6H, H_b, d, J = 8.4); 7.34–7.20 (15H, H_{g+h+i}, m); 7.08 (3H, H_d, d, J = 7.6); 6.90 (3H, H_j, t, J = 5.5); 4.77 (3H, H_e, m); 3.66–3.23 (108H, $H_{k+m+n+o+p+q+r+s+t}$, m), 3.19 (6H, $H_{f+f'}$, d, J = 6.7); 2.05 (3H, H_l, m). ^{13}C NMR ($CDCl_3$, 75 MHz) δ 170.61, 166.09, 136.97, 134,63, 134.02, 131.87, 129.54, 128.68, 127.38, 127.02, 126.12, 123.91, 90.07, 89.94, 72.03, 71.15, 71.10, 70.77, 70.59, 70.51, 70.47, 70.42, 59.12, 55.21, 40.60, 38.79. FTIR (neat) 699, 751, 851, 877, 1105, 1249, 1306, 1354, 1450, 1497, 1532, 1632, 2868, 2919, 3287. HRMS (MALDI-TOF): calc. for $C_{114}H_{157}N_6NaO_{30}$ $[M+H+Na]^+$ 2113.0842; found 2113.0869.

Compound 2

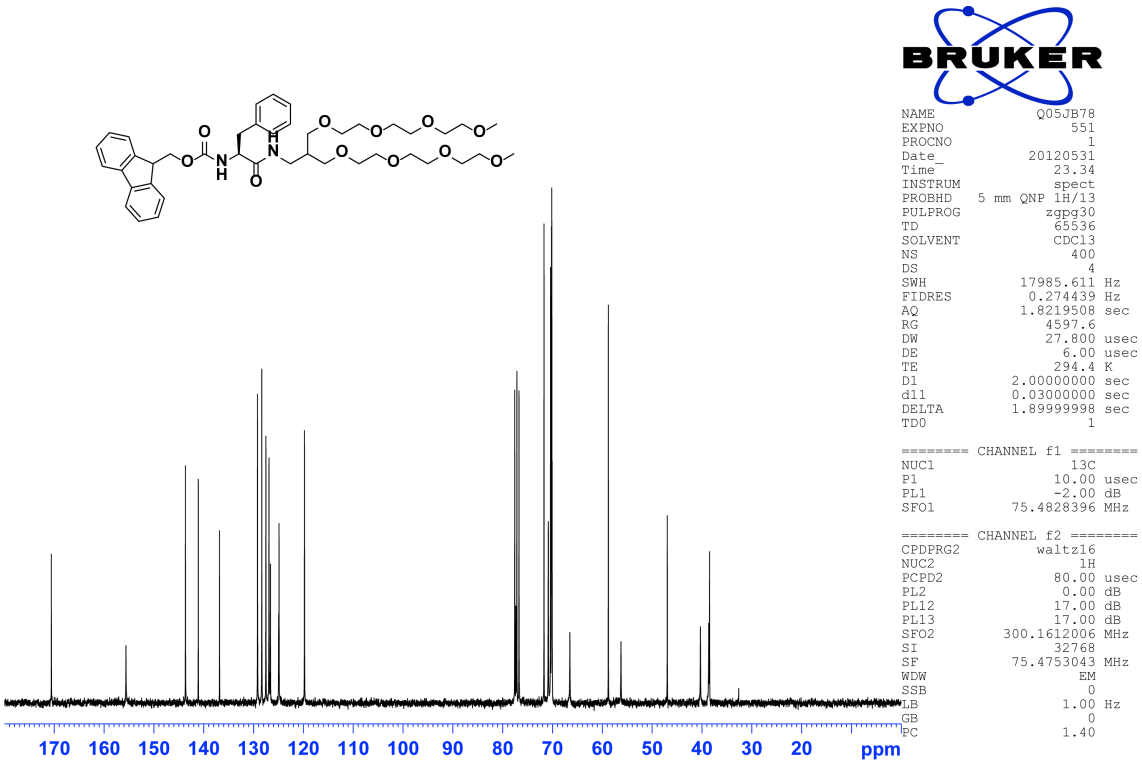


Compound **12** (0.40 g, 0.52 mmol), compound **13** (0.024 g, 0.16 mmol), bis-(triphenylphosphine)-palladium(II) chloride (0.011 g, 0.016 mmol), copper(I) iodide (0.0012 g, 0.006 mmol), were dissolved in dry THF (10 mL) and subjected to several vacuum/argon cycles. After that, triethylamine (2 mL) was added and subjected to more vacuum/argon cycles. The reaction mixture was heated at 67 ºC and stirred 20 hours. After evaporation of the solvent under reduced pressure, the residue was washed with HCl 1M, extracted with chloroform, washed with NH_4Cl saturated solution and water and dried over $MgSO_4$. After evaporation of the solvent, the residue was purified by column chromatography (silica gel, chloroform:methanol 50:1) affording compound **2** as a yellow solid (0.15 g, 47%). ^{1}H NMR ($CDCl_3$, 300 MHz) δ 7.77 (6H, H_c, d, J = 8.4); 7.69 (3H, H_a, s); 7.57 (6H, H_b, d, J = 8.4); 7.32–7.20 (15H, H_{g+h+i}, m); 7.16 (3H, H_d, d, J = 7.6); 7.08 (3H, H_j, t, J = 5.5); 4.79 (3H, H_e, m); 3.66–3.27 (108H, $H_{k+m+n+o+p+q+r+s+t}$, m), 3.19 (6H, $H_{f+f'}$, m); 2.06 (3H, H_l, m). ^{13}C NMR ($CDCl_3$, 75 MHz) δ 170.83, 166.16, 136.90, 134,62, 133.91, 131.87, 129.55, 128.68, 127.42, 127.03, 126.14, 123.89, 90.07, 89.95, 72.01, 71.06, 70.99, 70.74, 70.57, 70.45, 70.47, 70.42, 59.13, 55.21, 40.55, 38.76. FTIR (neat) 700, 754, 853, 1026, 1107, 1245, 1281, 1378, 1454, 1495, 1546, 1641, 2858, 2923, 3294. HRMS (MALDI-TOF): calc. for $C_{114}H_{156}N_6NaO_{30}$ $[M+Na]^+$ 2112.076; found 2112.084.

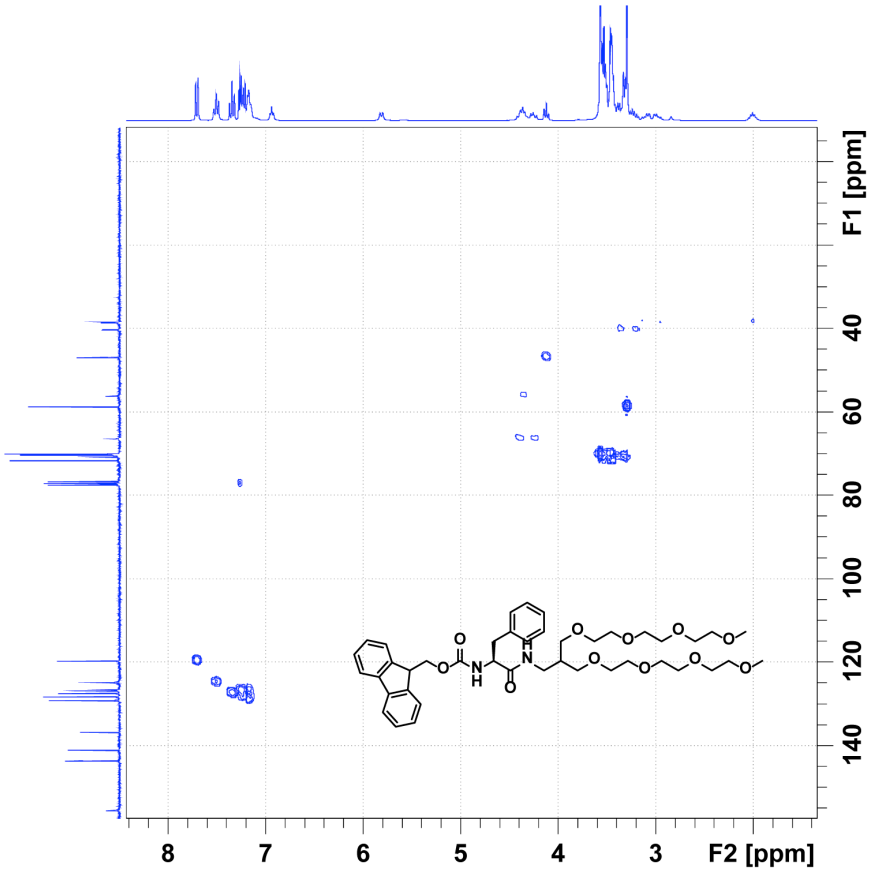
4. Collection of spectra



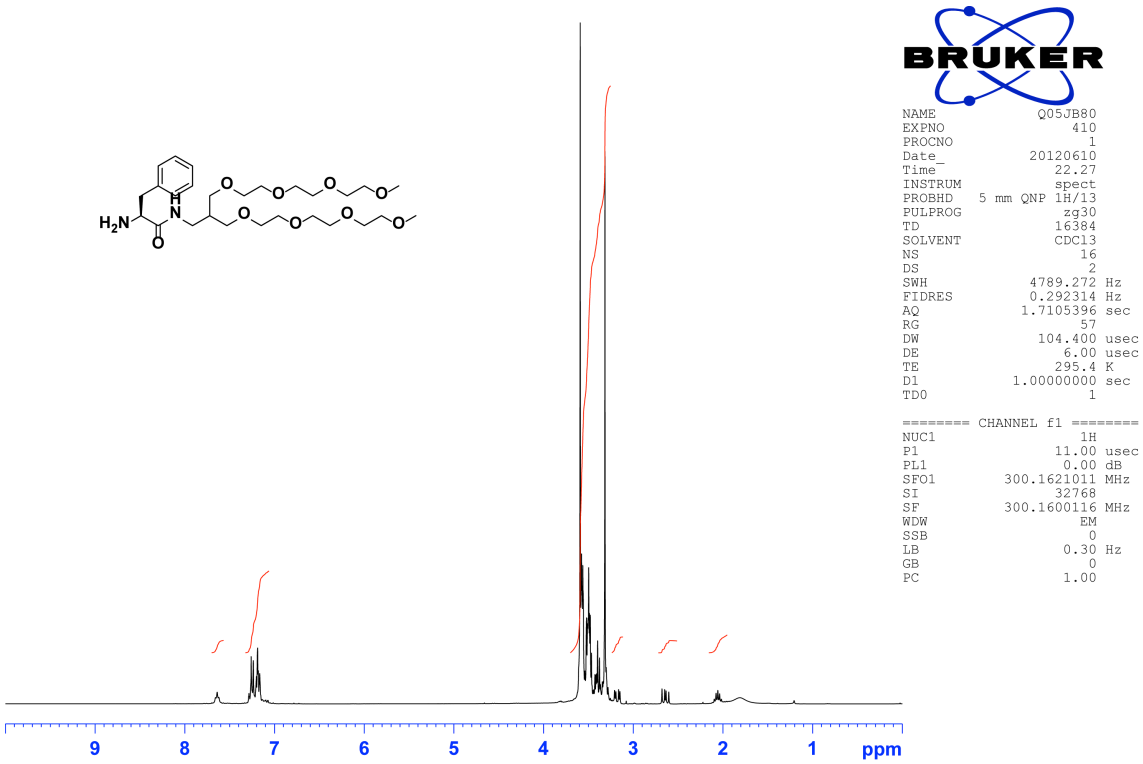
^{1}H NMR ($CDCl_3$, 300 MHz, 298 K) of compound **7**.



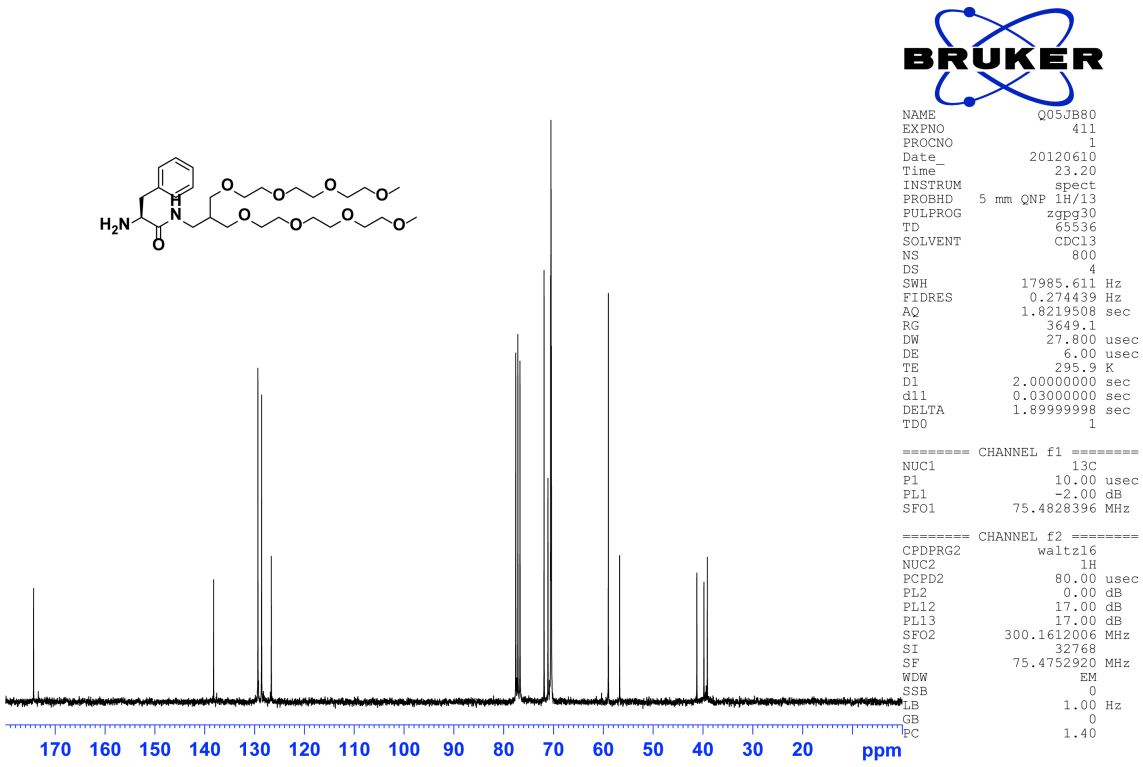
^{13}C NMR ($CDCl_3$, 75 MHz, 298 K) of compound **7**.



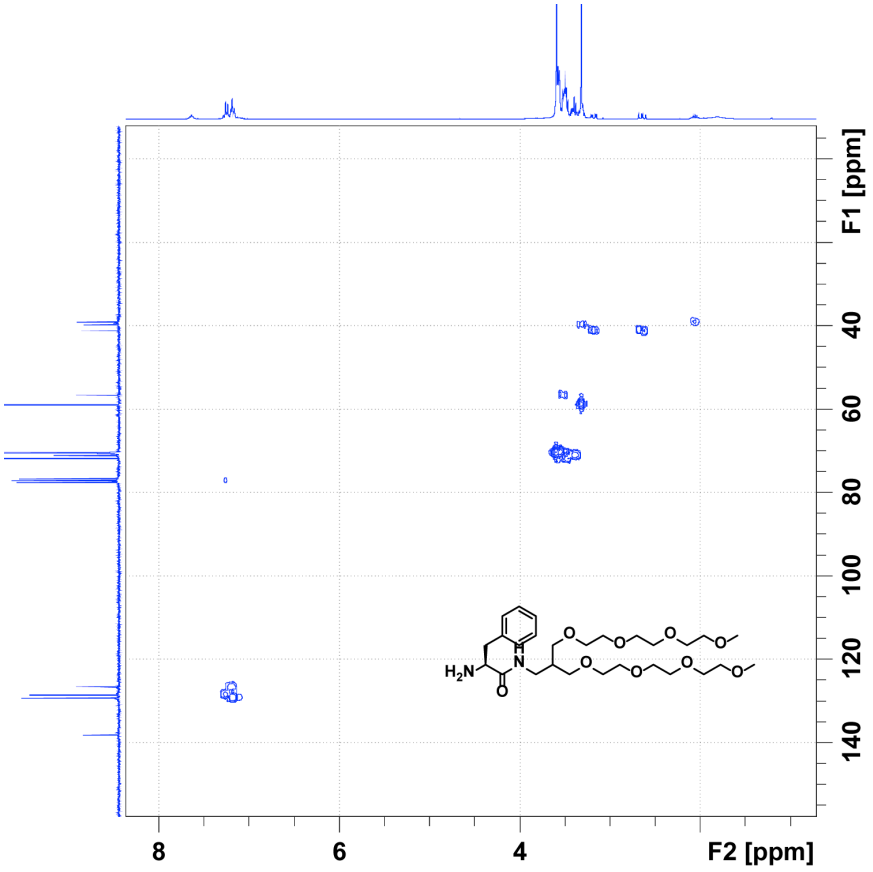
^{1}H, ^{13}C-HMQC spectrum ($CDCl_3$, 298 K) of compound **7**.



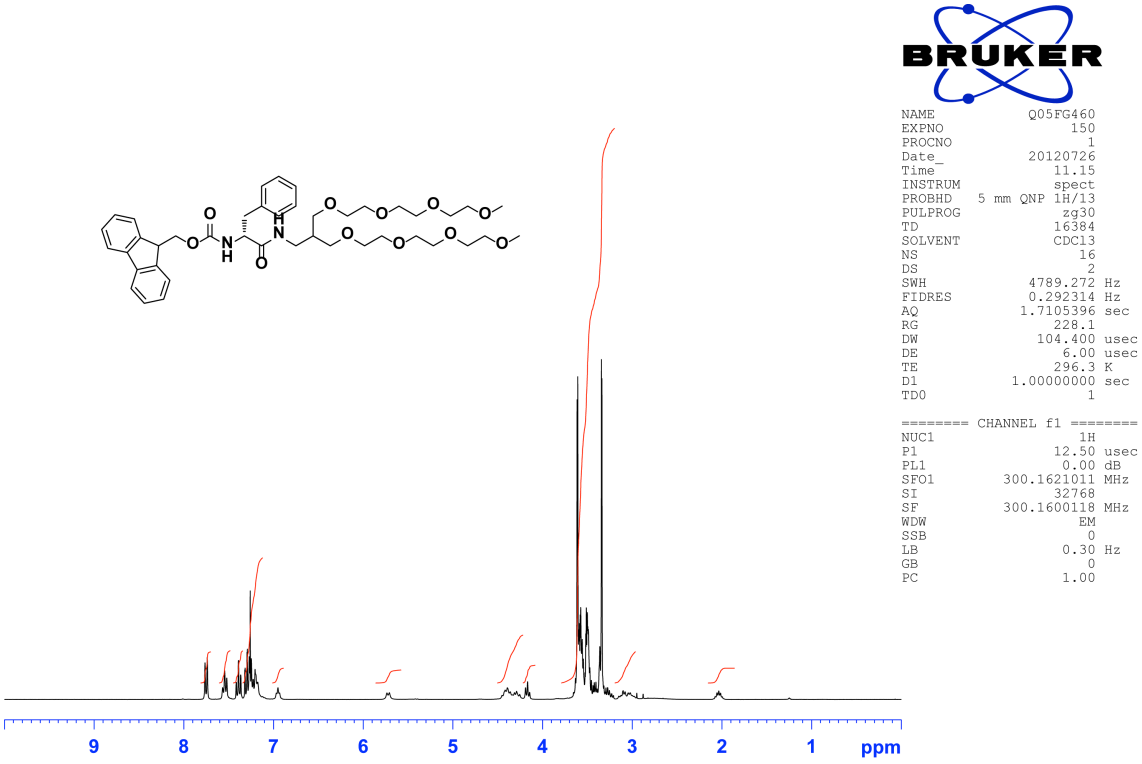
^{1}H NMR ($CDCl_3$, 300 MHz, 298 K) of compound **8**.



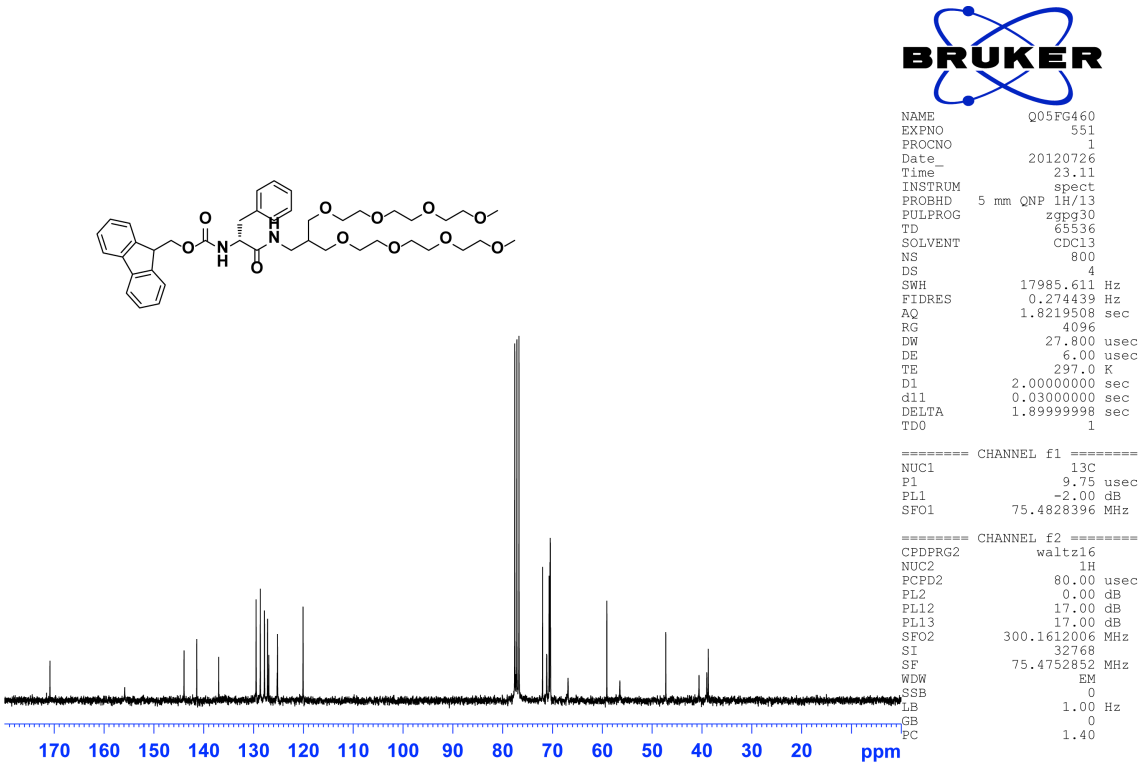
^{13}C NMR ($CDCl_3$, 75 MHz, 298 K) of compound **8**.



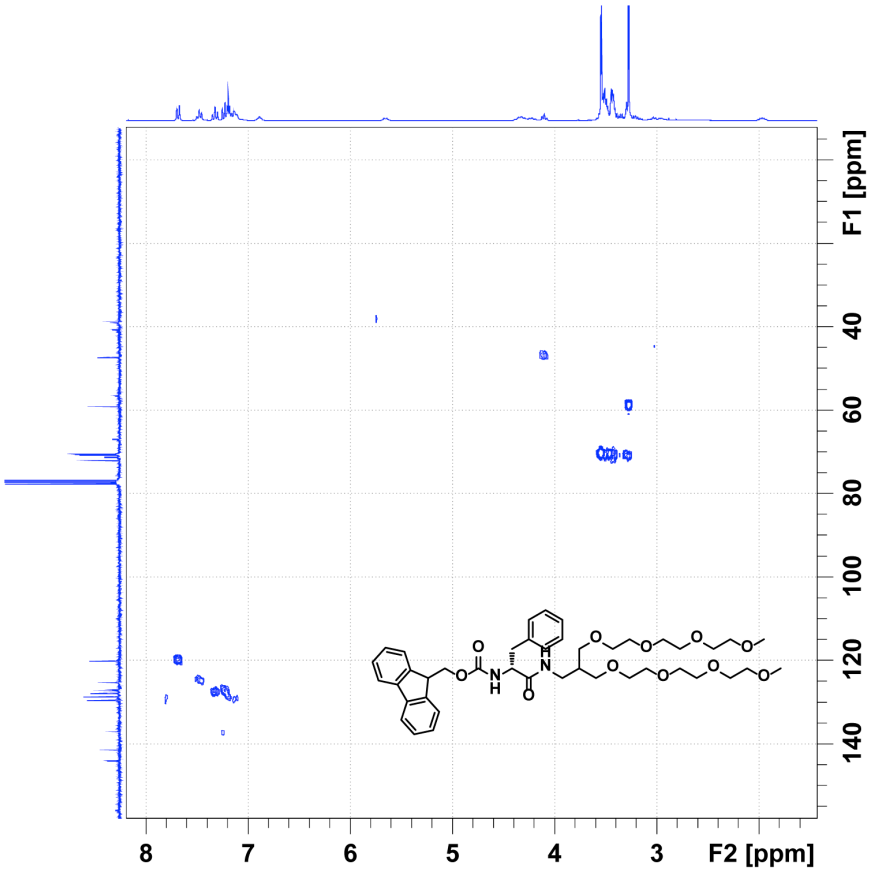
^{1}H, ^{13}C-HMQC spectrum ($CDCl_3$, 298 K) of compound **8**.



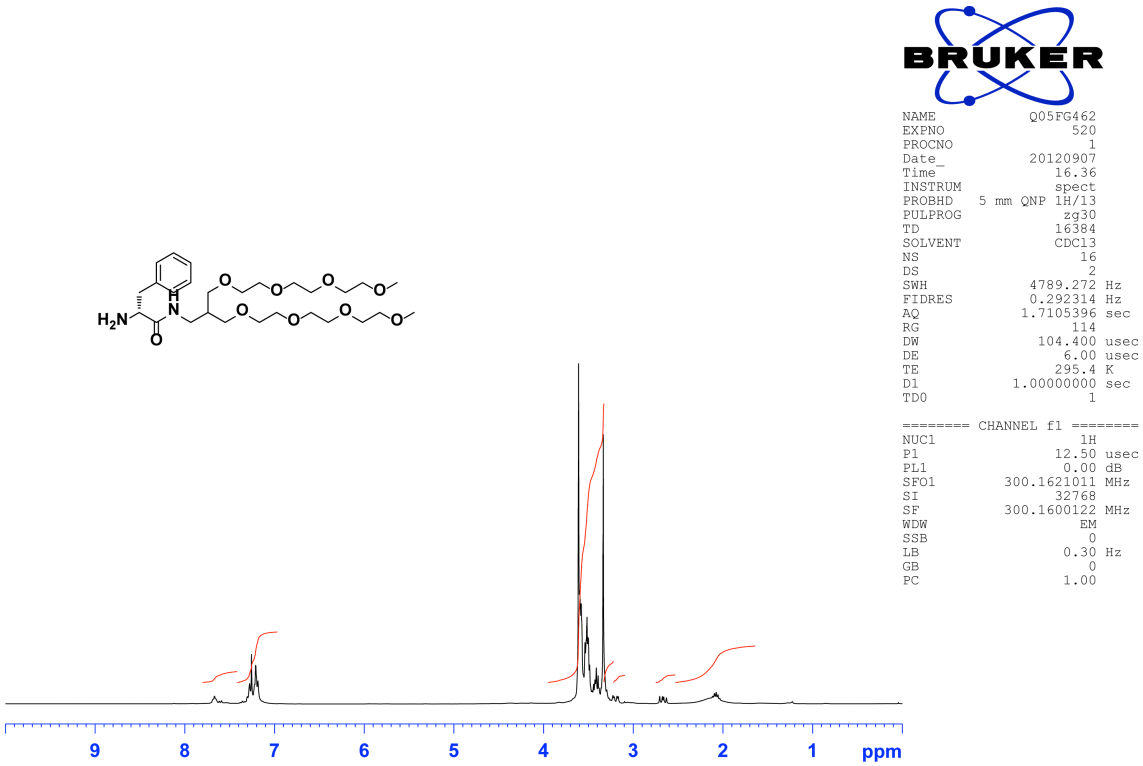
^{1}H NMR ($CDCl_3$, 300 MHz, 298 K) of compound **9**.



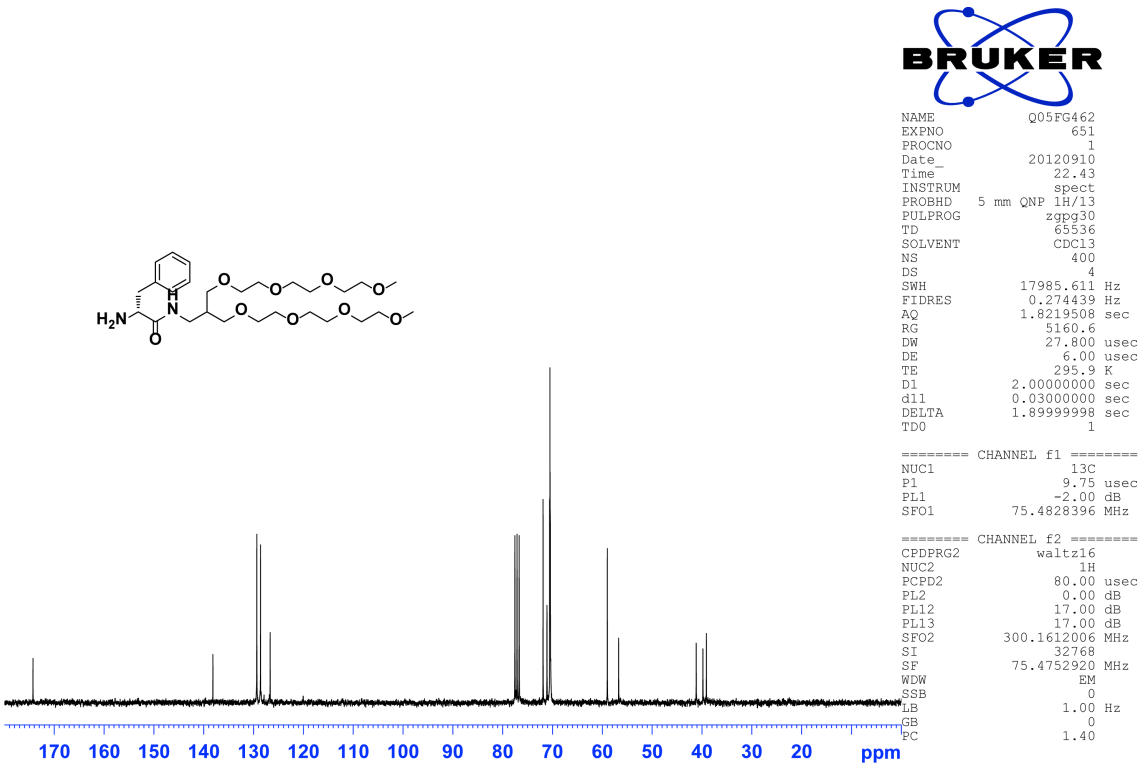
^{13}C NMR ($CDCl_3$, 75 MHz, 298 K) of compound **9**.



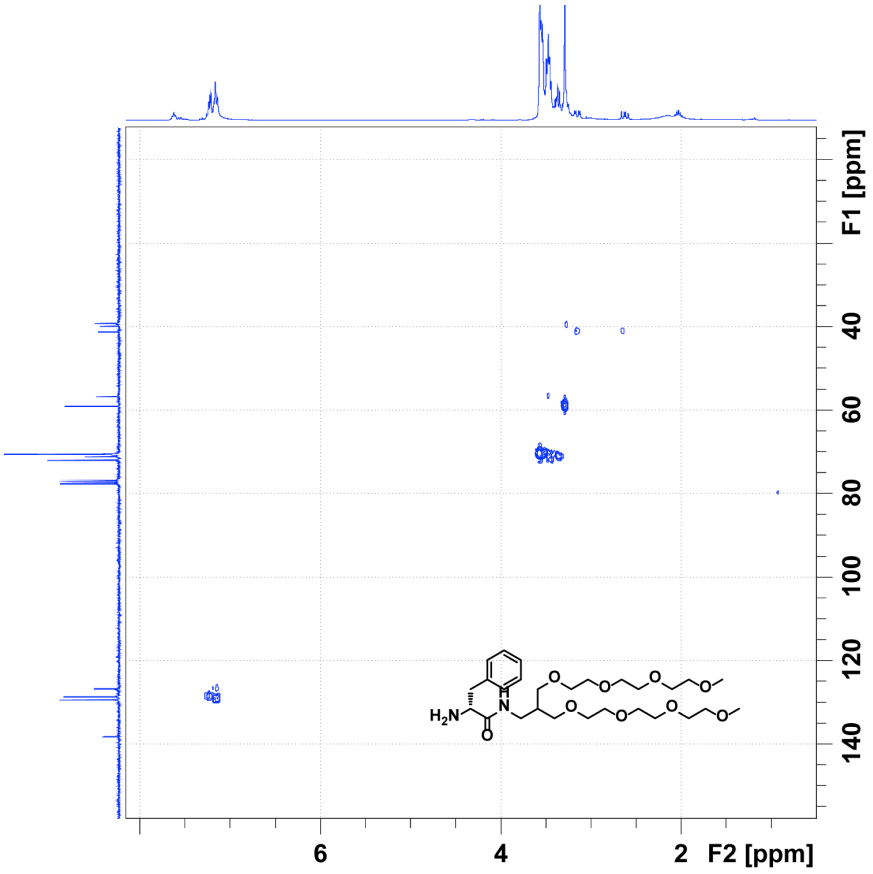
^{1}H, ^{13}C-HMQC spectrum ($CDCl_3$, 298 K) of compound **9**.



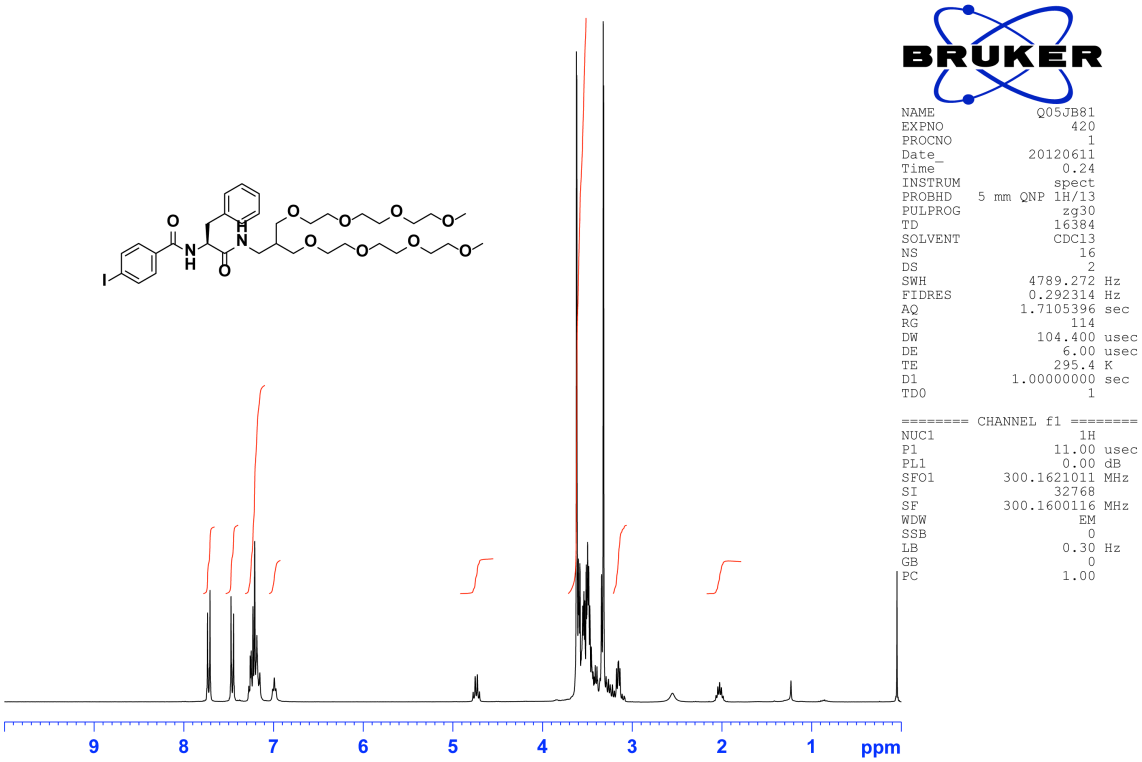
^{1}H NMR ($CDCl_3$, 300 MHz, 298 K) of compound **10**.



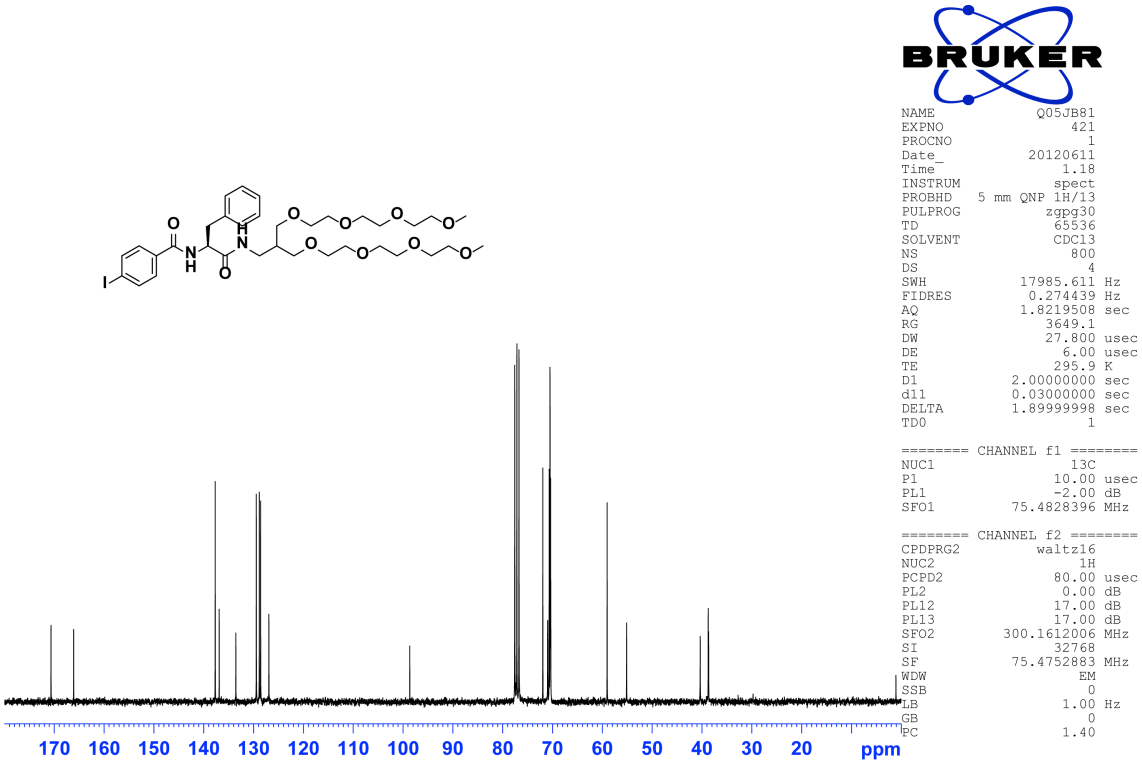
^{13}C NMR ($CDCl_3$, 75 MHz, 298 K) of compound **10**.



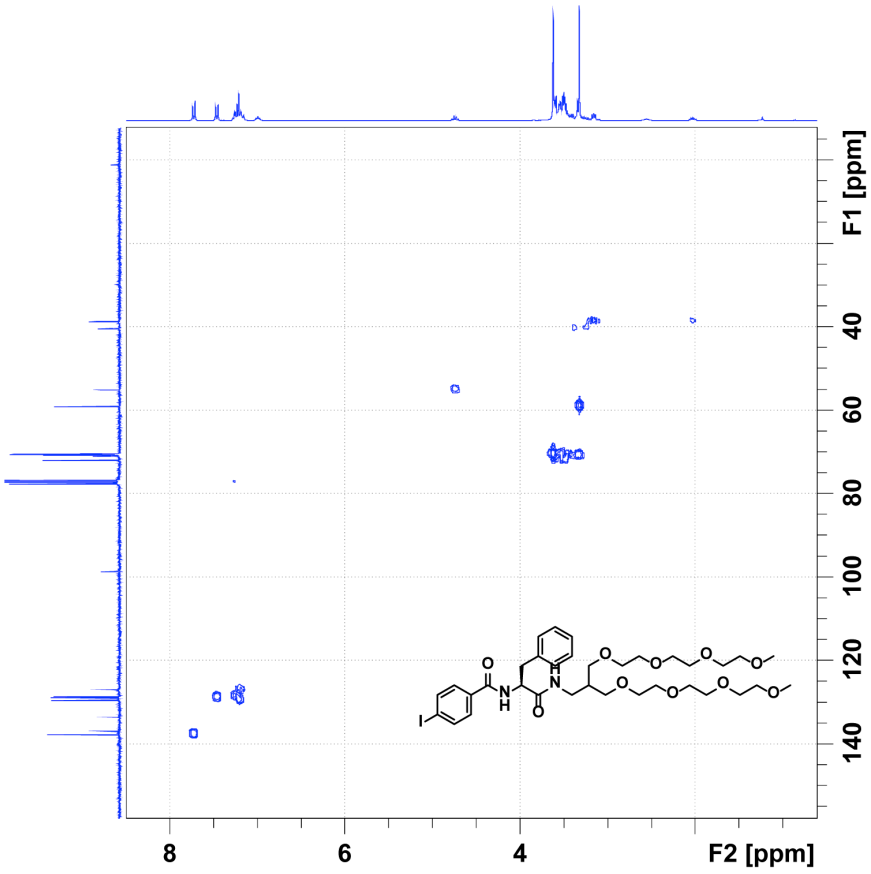
^{1}H, ^{13}C-HMQC spectrum ($CDCl_3$, 298 K) of compound **10**.



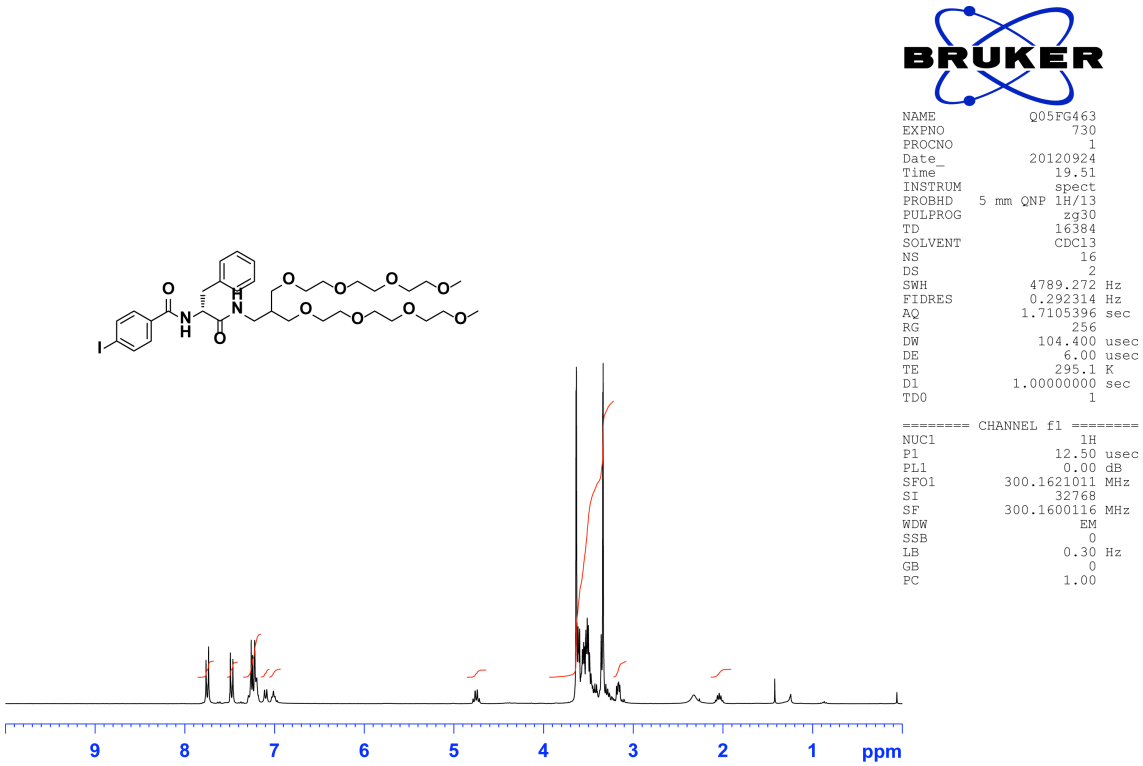
^{1}H NMR ($CDCl_3$, 300 MHz, 298 K) of compound **11**.



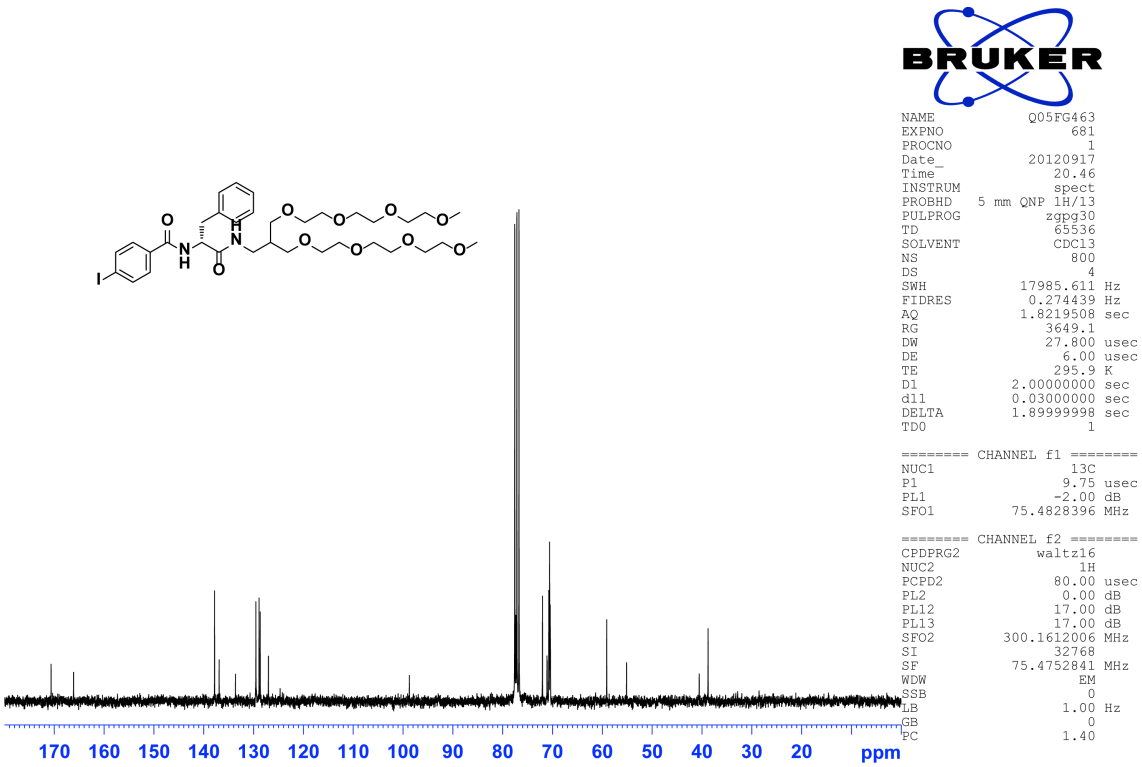
^{13}C NMR ($CDCl_3$, 75 MHz, 298 K) of compound **11**.



^{1}H, ^{13}C-HMQC spectrum ($CDCl_3$, 298 K) of compound **11**.



^{1}H NMR ($CDCl_3$, 300 MHz, 298 K) of compound **12**.



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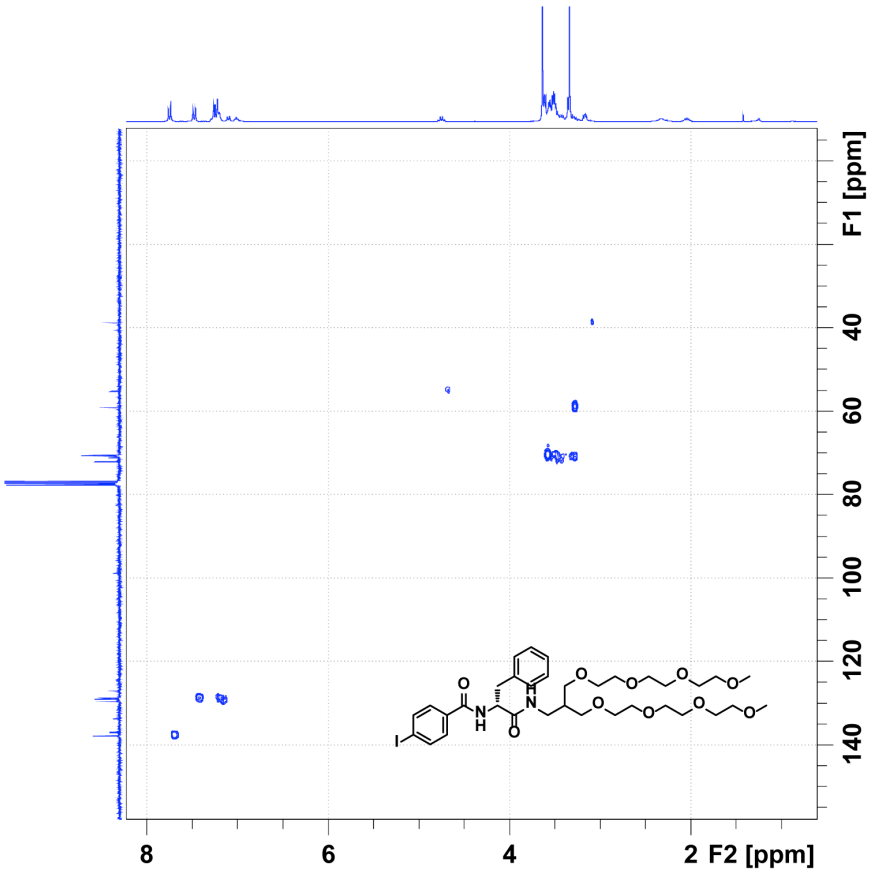
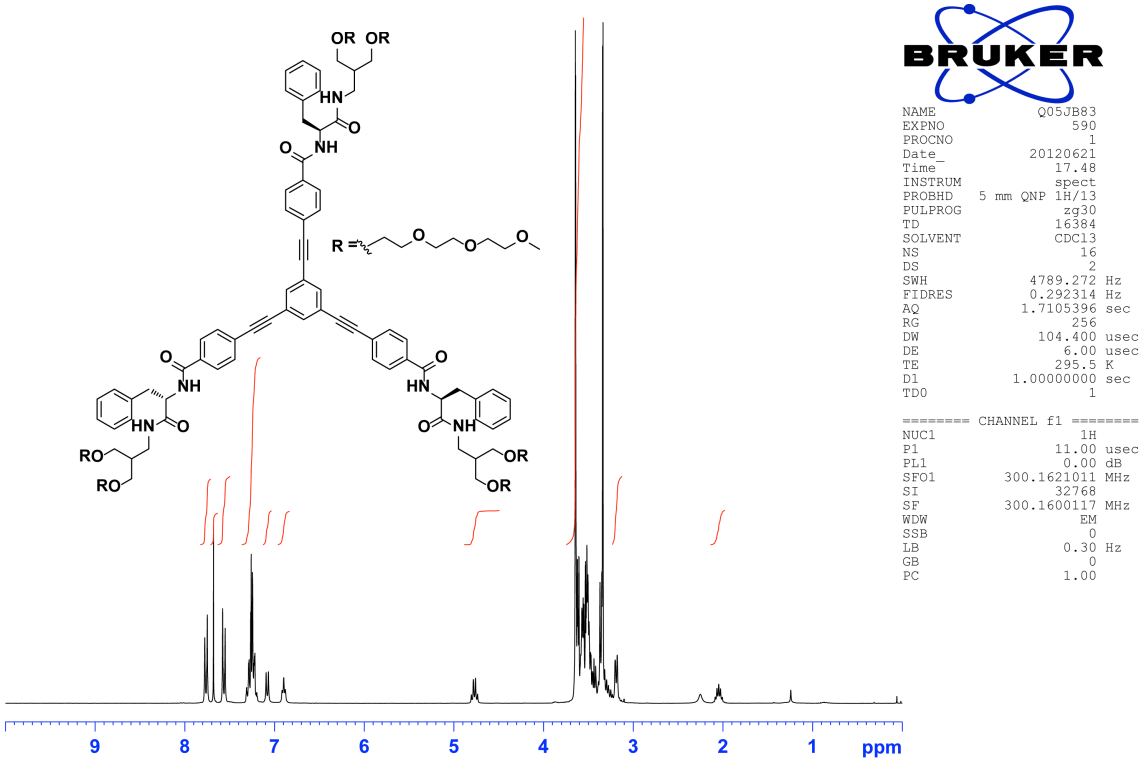


^{1}H, ^{13}C-HMQC spectrum ($CDCl_3$, 298 K) of compound **12**.

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TE                  295.5 K
D1             1.00000000 sec
TD0                       1

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PL1                  0.00 dB
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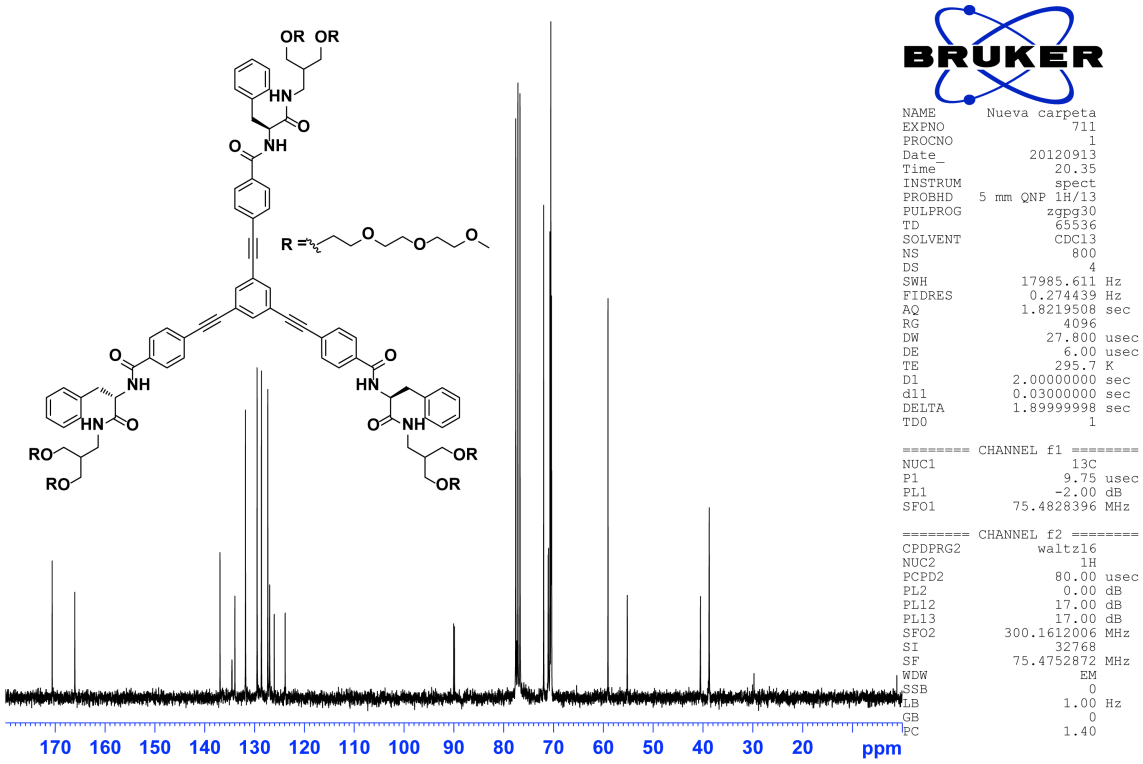
^{1}H NMR ($CDCl_3$, 300 MHz, 298 K) of compound **1**.

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PL1                  -2.00 dB
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PL2                  0.00 dB
PL12                17.00 dB
PL13                17.00 dB
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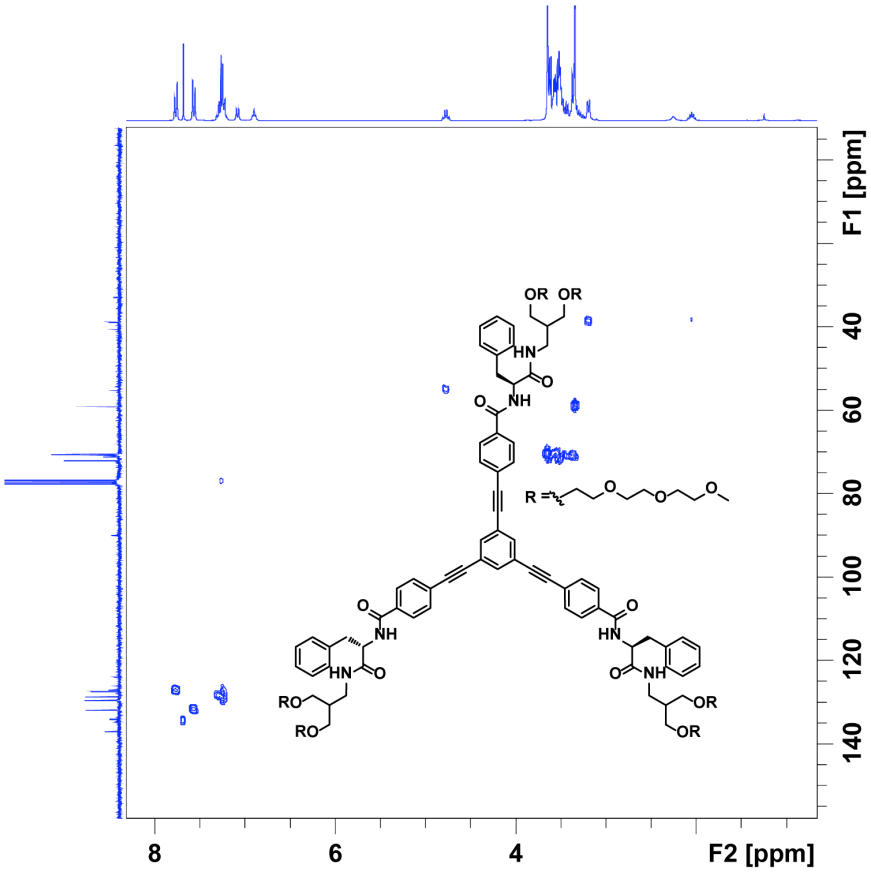
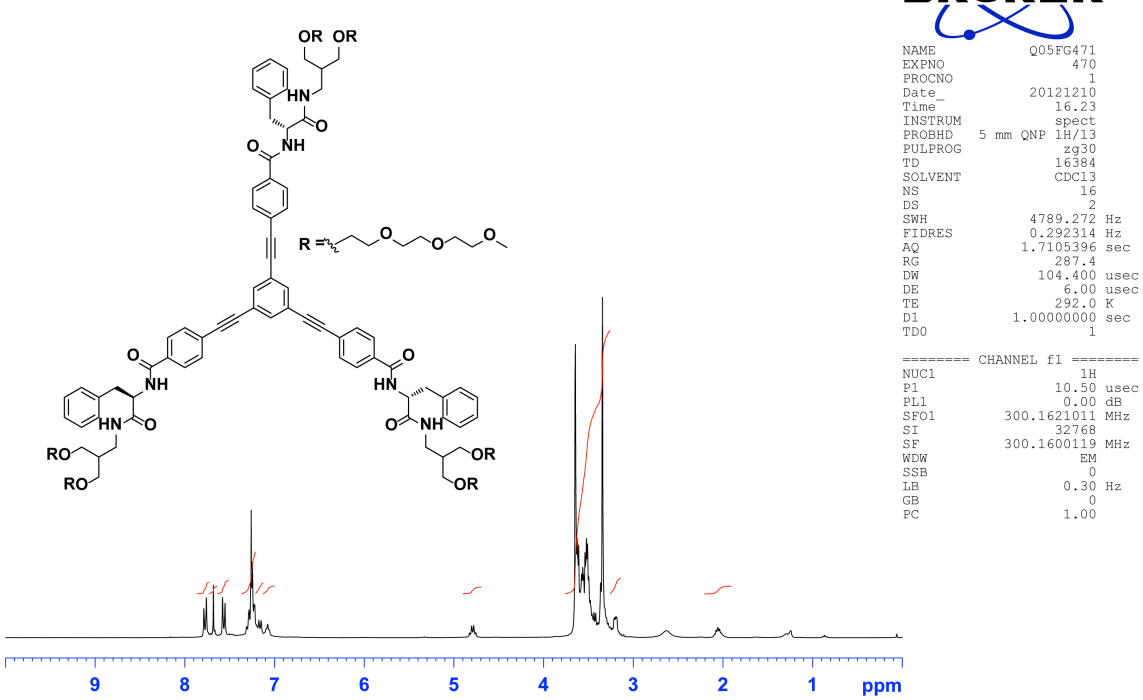
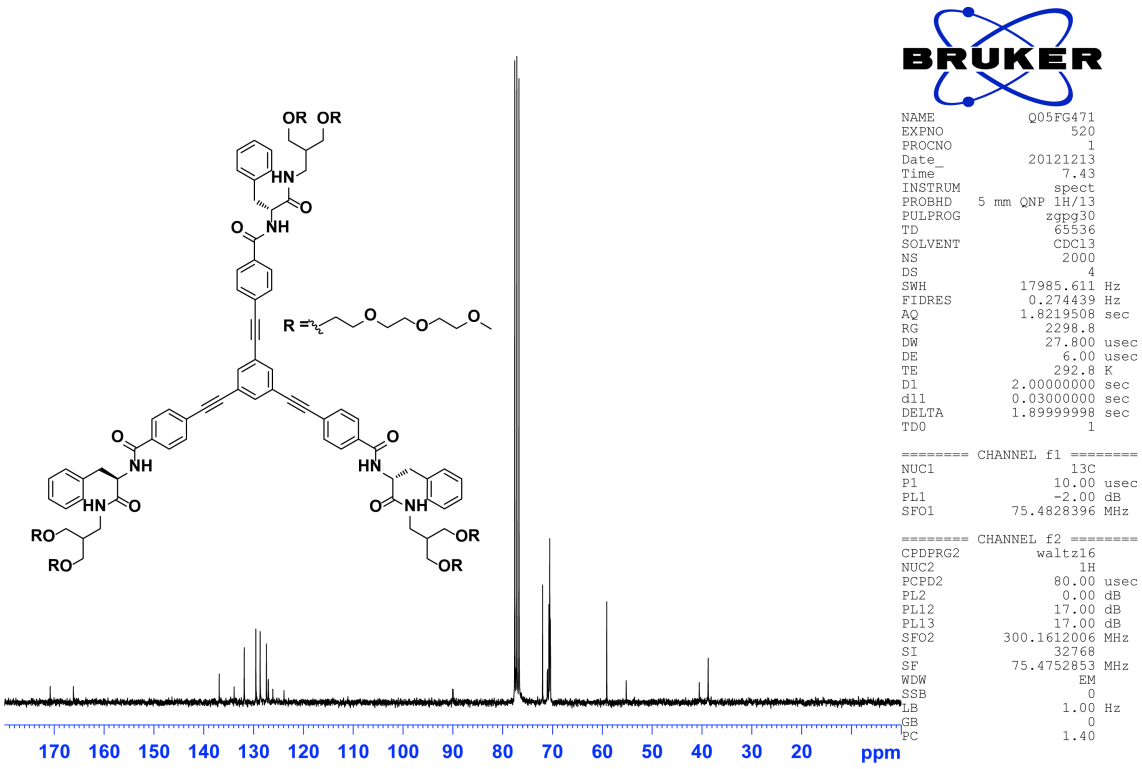
^{13}C NMR ($CDCl_3$, 75 MHz, 298 K) of compound **1**.



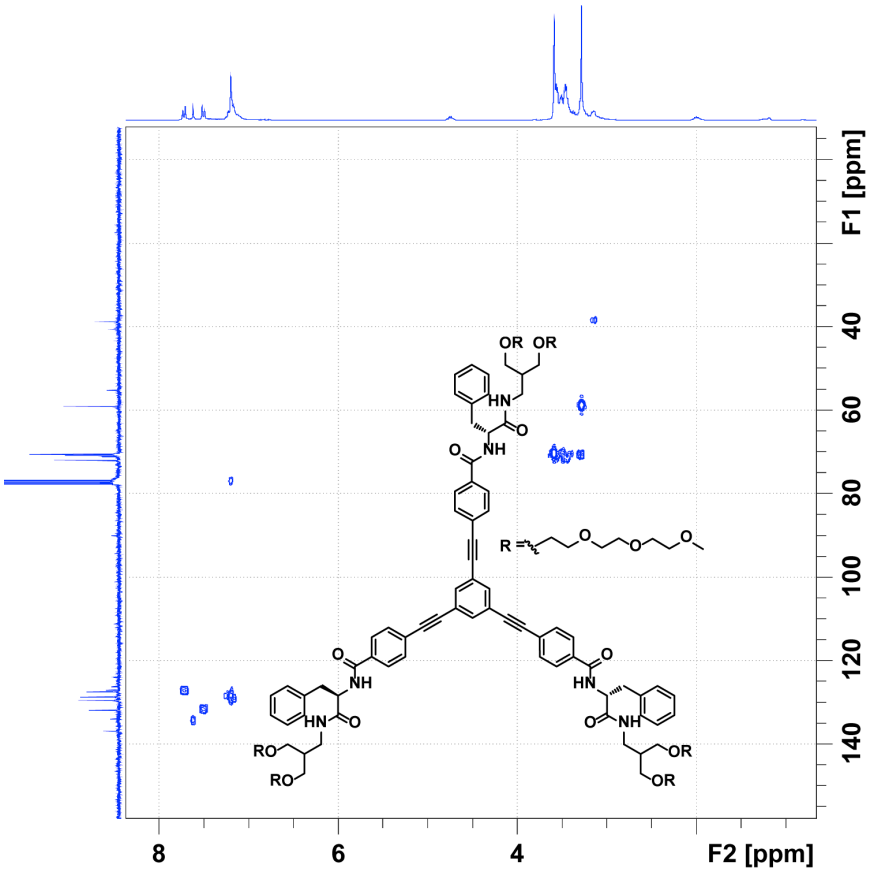
^{1}H, ^{13}C-HMQC spectrum ($CDCl_3$, 298 K) of compound **1**.



^{1}H NMR ($CDCl_3$, 300 MHz, 298 K) of compound **2**.



^{13}C NMR ($CDCl_3$, 75 MHz, 298 K) of compound **2**.



^{1}H, ^{13}C-HMQC spectrum ($CDCl_3$, 298 K) of compound **2**.