Singular Supramolecular Self-assembling of Bis-Cyclodextrinyl-Bis-Lariat Hosts with Bis-Aryl-Sulfonates as Guests

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Supporting Information

1. General procedures

2. Characterization of the products

3. NMR Spectra

1. General procedures

Chemicals and solvents (reagent grade or better) were purchase from Sigma-Aldrich. Anhydrous solvents were dried by usual procedures and stored over 4Å molecular sieves under Ar before use. Chromatography was carried out using Grace silicagel. ^{1}H and ^{13}C-NMR spectra were recorded on a Bruker DRX 400 FT-NMR spectrometer at 400MHz for ^{1}H and 100 MHz for ^{13}C. Chemicals shifts δ were reported in parts per million (ppm), calibrated to the residual solvent peak set, with coupling constants reported in Hertz (Hz). High Resolution Electrospray (HR-ESIMS) and (MALDI-TOF) Mass spectra were recorded on a Bruker MicroQ-TOF and a Bruker Daltonics Reflex IV spectrometer respectively. FT-IR spectra were obtained from KBr pellets on a perkin Elmer Spectrum 1000 photometer.

Zn^{II}, Cu^{II} and Ca^{II} bis-tosylates, Zn^{II} and Cu^{II} bis-sulfanilate salts were obtained by a slightly modified method of the literature.[8] Synthesis of the chiral bis-β-cyclodextrinyl-diazacrown receptor see.[6] Synthesis of the achiral bis-β-cyclodextrinyl-diazacrown receptor see. [7]

General procedure for pseudo-rotaxane preparation
1 equiv. of metal bis-tosylate or bis-sulfanilate salt is added to 1 equiv. of dimer **1**, **2** or **3** in water (3mL) at r.t. The solution is stirred overnight at r. t., evaporated to dryness and then lyophilised.

2. Characterization of the products

[bis-triazolo-peracetylated-β-cyclodextrinyl]-diaza-[18-6]-crown **6**
To a stirred solution of *N,N'*-bis-propargyl-diaza-[18-6]-crown **5** (17 mg, 1,47 mmol, 338.44 g.mol^{-1}) in CH_2Cl_2 at r.t. are added mono-azido peracetylated β-cyclodextrin (100 mg, 2000.80 g.mol^{-1}, 2.1 equiv.), Na-ascorbate (4 mg, 0.4 equiv.) and $CuSO_4$.5 H_2O (2.5mg, 0.2 equiv.) under argon. The yellow pale mixture is stirred overnight and evaporated. The crude material is purified by chromatography on silicagel with CH_2Cl_2/MeOH gradient as eluent. The final product is obtained as a white powder in 65% yield. ^{1}H NMR (400MHz, $CDCl_3$, 298K): δ= 8.01 (s, 2H; Triazol H), 5.47 (s, 2H; H1), 5.30-5.40 (m, 7H ; H_2, H_3, H_4, H_5, H_6, $H_{6'}$), 3.90-3.75 (m; CH_2 crown), 3.70-3.40 (m; H4, CH_2 crown), 2.70 (bs, 2H; CH_2 triazol), 2.10-1.90 (m, 80H; *C*H_3-CO). ^{13}C NMR (100MHz, $CDCl_3$, 298K): δ=170.7-170.6-170.5-169.3 (CH_3*C*O), 144.1 (*C*H_2-C=*C*-*N* triazol)), 126.2 (CH_2 triazol) 97 (C1), 77 (C4), 70.3-70-69.6-69.5-69.3 (C2, C3, C5), 68 (CH_2 crown), 62.8-62.6-62.4-62.2 (C6), 53.3 (*N*-CH_2-*C*=*C* triazol), 50 (CH_2 crown), 48.9 (C6'), 29.7 (CH_2 crown), 20.7 (*C*H_3-CO).

[bis-triazolo-β-cyclodextrinyl]-diaza-[18-6]-crown **3**
NH_3 is bubbling during 3 hours through a solution of **6** (0.120mg, 0.0278 mmol, 4339.9 g.mol-1) in anhyd. MeOH. The solution is stirred into the MeOH /NH_3 saturated solution during 2 or 3 days. The mixture is then evaporated to dryness, lyophilised to give **3** in a quantitative yield as flocculent white solid.^{1}H NMR (400MHz, D_2O, 298K): δ=7.93 (s, 2H, TriazolH), 5.10 (s, 2H; CH_2 crown), 5.00 (s,14H; H_1), 4.98 (b s; CH_2 crown), 4.65-4.55 (m, 2H; CH_2 crown), 4.00-3.35 (m, 84H; H_2, H_3, H_4, H_5, H_6, $H_{6'}$), 3.20-3.10 (m; CH_2 crown), 3.10-3.00 (m; CH_2 crown), 2.85-2.70 (m; CH_2 crown), 2.71 (s, 4H; CH_2 triazol). ^{13}C NMR (100MHz, D_2O, 298K): δ=126.9 (CH_2 triazol), 102.1 (C1), 81.1 (C4), 73.1-72.1-71.9 (C2, C3, C5), 69.7 (C6), 60.1 (C6'), 52.3 (*C*H_2 triazol), 51 (*C*H_2 crown), 47.6 (*C*H_2 triazol), 44.7 (*C*H_2 crown), 25.1 (*C*H_2 crown). ESIMS: *m/z*: 1329.49 [M/2+1H$^+$].

Pseudo-[2]rotaxane **7**
[bis-β-cyclodextrinyl]-diaza-[18-6]-crown dimer **1** (50mg, 0,019 mmol, M = 2582,33 g.mol^{-1}). Zn^{II} *p*-tosylate (7,91 mg, 1,94.10^{-2} mmol, M=407,78 g.mol^{-1}). **7** was obtained quantitatively as a pale white flocculent solid. IR (KBr): ν =3300 (OH), 2950 (CH-), 2500 (CH arom.), 1637 (C=O urea) cm^{-1}. ^{1}H NMR (400MHz, D_2O, 298K): δ=7.60 (d, ^{3}J (H,H)=8Hz, 4H; Har), 7.25 (d, ^{3}J (H,H)=8Hz, 4H; Har), 5.30 (s, 4H; H1), 5.14 (d, ^{3}J (H,H) = 4Hz, 1H; CH_2 *crown*), 4.94 (bs, 7H; H_1), 4.57-4.52 (m, 1H; CH_2 *crown*), 4.05-3.91 (m, 4H; CH_2 *crown*), 3.90-3.81 (m, 6H; CH_2 *crown*), 3.78-3.41 (m, 84H; H_2, H_3, H_4, H_5, H_6, $H_{6'}$), 3.41-3.10 (m, 8H; CH_2 *crown*). ^{13}C NMR (100MHz, D_2O, 298K): δ=160.6 (*C*=*O*; urea), 142.0 (q), 140.0 (q), 129.1 (*C*H arom.), 125.3 (*C*H arom.), 101.9 (C1), 99.5 (C1), 95.8 (CH_2 crown), 92.0 (CH_2 crown), 83.3 (CH_2 crown), 76.6 (CH_2 crown), 75.9-73.2-71.8 (C2, C3, C5), 69.6 (C6) 65.0 (CH_2 crown), 62.5 (CH_2 crown), 60.4 (C6'), 48.6 (CH_2 crown), 44.6 (CH_2 crown),34.5 (CH_2 crown),20.5 (CH_3Ph). Maldi-TOF [$C_{112}H_{178}N_4O_{80}S_2Zn$: 2986.87u.m.a.], 2582.55 [M- Zn(OTs)$_2$]

Pseudo-[2]rotaxane **8**

[bis-β-cyclodextrinyl]-diaza-[18-6]-crown dimer **1** (50mg, 0,019 mmol, M = 2582,33 g.mol^{-1}). Cu^{II} *p*-tosylate (7,87mg, 1,93.10^{-2} mmol, M=405,93 g.mol^{-1}). **8** was obtained quantitatively as a pale green flocculent solid. IR (KBr): ν = 3300 (OH) 2950 (CH-) 2500 (CH arom.), 1637 (C=O urea) cm^{-1}. ^{1}H NMR (400MHz, D_2O, 298K): δ=7.60 (d, ^3J(H,H)=8Hz, 4H; Har), 7.24 (d, ^3J(H,H)=8Hz, 4H; Har), 5.30 (bs, 4H; H1), 5.13 (s, 1H; CH_2-*crown*), 4.94 (s, 7H; H_1), 4.57 (m, 2H; CH_2 *crown*), 4.05-3.38 (m, 92H; H_2, H_3, H_4, H_5, H_6, CH_2 *crown*), 3.38-3.09 (m, 8H; CH_2 *crown*), 2.26 (s, 6H; *CH*$_3$-Ph). ^{13}C NMR (100MHz, D_2O, 298K): δ=160.7 (C=O urea), 142.0 (q), 140.12 (q), 129.1 (*C*H arom.), 125.3 (*C*H arom.), 101.9 (C1), 99.5 (C1), 95.8 (CH_2 crown), 95.7 (CH_2 crown), 91.8 (CH_2 crown), 83.3 (CH_2 crown), 80.9 (C4), 76.8 (C2), 76.1 (CH_2 *crown*), 74.5-74.1-73.9 (CH_2 *crown*), 73.3 (C3), 72.8-72.7 (CH_2 *crown*), 71.8 (C5), 69.6 (C6), 67.2 (CH_2 *crown*), 60.4 (C6'), 48.6-47.1, 44.7 (CH_2 *crown*), 20.5 (CH_3) Maldi-TOF [$C_{112}H_{178}CuN_4O_{80}S_2$: 2985.87 u.m.a.]: 2645.908 [M-Cu(OTs)$_2$+Cu], 2582.897 [M-Cu(OTs)$_2$].

Pseudo-[2]rotaxane **9**

[bis-β-cyclodextrinyl]-diaza-[18-6]-crown dimer **1** (50mg, 0,019 mmol, M = 2582,33 g.mol^{-1}). Ca^{II} *p*-tosylate (7,42 mg, 1,94.10^{-2} mmol, M=382,47 g.mol-1). **9** was obtained quantitatively as a pale white flocculent solid.^{1}H NMR (400MHz, D_2O, 298K) δ=7.62 (d, ^3J(H,H)=8Hz, 4H; Har), 7.29 (d, ^3J(H,H)=8Hz, 4H; Har), 5.33 (s, 4H, CH_2 *crown*), 5.17 (d, ^3J(H,H)=4Hz,1H; CH_2 *crown*), 4.97 (bs, 7 H; H1), 4.58-4.55 (m, 1H; CH_2 *crown*), 4.18-3.92 (m, 4H; CH_2 *crown*), 3.84-3.45 (m, 84H; H_2, H_3, H_4, H_5, H_6, $H_{6'}$), 3.44-3.13 (m, 8H; CH_2 *crown*). ^{13}C NMR (100MHz, D_2O, 298K): δ=160.6 (*C*=O urea), 142.0 (q), 140.0 (q), 129.1(*C*H arom.), 125.3 (*C*H arom.), 101.9 (C1), 99.5 (CH_2 crown), 95.8 (CH_2 crown), 92.0 (CH_2 crown), 83.3 (CH_2 crown), 76.6 (CH_2 crown), 75.9-73.2-71.8 (C2, C3, C5), 69.6 (C6) 65.0 (CH_2 crown), 62.5 (CH_2 crown), 60.4 (C6'), 48.6 (CH_2 crown), 44.6 (CH_2 crown),34.5 (CH_2 crown),20.5 (CH_3). Maldi-TOF [$C_{112}H_{178}CaN_4O_{80}S_2$: 2962.91u.m.a.]: 2582.55 [M-Ca(OTs)$_2$].

Pseudo-rotaxane **10**

[bis-β-cyclodextrinyl]-diaza-[18-6]-crown dimer **2** (50mg, 0,019 mmol, M = 2670.44 g.mol^{-1}). Zn^{II} *p*-tosylate (7.62 mg, 1,86.10^{-2} mmol, M=407.78 g.mol^{-1}). **10** was obtained quantitatively as a white flocculent solid. IR (KBr): ν = 3300 (OH), 2950 (CH-), 2500 (CHar), 1637 (C=O urea) cm^{-1}. ^{1}H NMR (400MHz, D_2O, 298K): δ=7.61 (d, ^3J(H,H)=8Hz, 4H; Har), 7.22 (d, ^3J(H,H)=8Hz, 4H; Har), 4.95 (s, 14H; H1), 3.90-3.23 (m, 108H; H_2, H_3, H_4, H_5, H_6, $H_{6'}$, CH_2crown), 2.28 (s, 6H, CH_3). ^{13}C NMR (100MHz, D_2O, 298K): δ=160.7 (*C*=O urea), 141.8 (q), 140.2 (q), 128.9 (*C*H arom.), 125.4 (*C*H arom.), 101.9 (C1), 80.8 (C4), 73.0-72.1-72.0-71.9-71.8 (C2, C3, C4, C5) (C2), 70.3 (C6), 60.0 (C6'), 53.0 (CH_2 *crown*), 41.6 (CH_2 *crown*), 20.2 (CH_3). Maldi-TOF [$C_{116}H_{186}N_4O_{82}S_2Zn$: 3074.9 u.m.a.]: 2671.078 [M- Zn(OTs)$_2$+H$^+$]

Pseudo-[2]rotaxane **11**

[bis-β-cyclodextrinyl]-diaza-[18-6]-crown dimer **2** (50mg, 0,019 mmol, M = 2670.44 g.mol^{-1}). Cu^{II} *p*-tosylate (7,59 mg, 1,87.10^{-2} mmol, M=405,93 g.mol-1). **11** was obtained quantitatively as a pale green flocculent solid. IR (KBr): ν =3300 (OH), 2950 (CH-), 2500 (CHar), 1637 (C=O urea) cm^{-1}. ^{1}H NMR (400MHz, D_2O, 298K) δ=7.61 (d, ^3J(H,H) = 8Hz, 4H; Har), 7.22 (d, ^3J(H,H) = 8Hz, 4H; Har), 4.95 (s, 14H; H1), 3.90-3.23 (m, 108H; H_2, H_3, H_4, H_5, H_6, $H_{6'}$, CH_2 crown), 2.28 (s, 6H, CH_3). ^{13}C NMR (100MHz, D_2O, 298K): δ=160.7 (*C*=O urea), 141.2 (q), 139.8 (q), 128.4 (*C*H arom.), 124.9 (CH arom.), 101.4 (C1), 80.4 (C4), 72.6, 72.4, 71.6, 71.5, (C2, C3, C4, C5), 69.8 (C6), 59.5 (C6'), 52.5 (CH_2 *crown*), 40.7 (CH_2 *crown*), 20.2 (CH_3). Maldi-TOF [$C_{116}H_{186}CuN_4O_{82}S_2$: 3073.92 u.m.a.]: 2670.868 [M-Cu(OTs)$_2$], 2733.836 [M-Cu(OTs)$_2$+Cu]; ESIMS: *m/z* : 1336.4961[M/2+2H$^+$],1422.5129[M-Cu(OTs)$_2$+Cu+OTs], 1539.5081 [M+3H$^+$]

Pseudo-[2]rotaxane **12**

[bis-β-cyclodextrinyl]-diaza-[18-6]-crown dimer **2** (25mg, 0,0093 mmol, M = 2670.44 g.mol^{-1}). Ca^{II}-*p*-tosylate (3.58 mg, 8,78.10^{-3} mmol, M=407.78 g.mol^{-1}). **12** was obtained quantitatively as an off-white flocculent solid. IR (KBr): ν = 3300 (OH), 2950 (CH-), 2500 (CHar), 1637 (C=O urea), cm^{-1}. ^{1}H NMR (400MHz, D_2O, 298K): δ=7.69 (d, ^3J(H,H) = 8Hz, 4H; Har), 7.26 (d, ^3J(H,H) = 8Hz, 4H; Har), 5.00 (s, 14H; H1), 3.99-3.28 (m, 108H H_2, H_3, H_4, H_5, H_6, $H_{6'}$, CH_2crown), 2.33 (s, 6H; CH_3). ^{13}C NMR (100MHz, D_2O, 298K): δ= 160.7 (*C*=O urea), 141.8 (q), 140.2 (q), 128.9 (q), 125.4 (q), 101.9 (C1), 80.8 (C4), 73.0, 72.1, 72.0, 71.9, 71.8 (C2, C3, C4, C5) (C2), 70.3 (C6), 60.0 (C6'), 53.0 (CH_2 *crown*), 41.6 (CH_2 *crown*), 20.2 (CH_3). Maldi-TOF [$C_{116}H_{186}CaN_4O_{82}S_2$: 3050.96 u.m.a.]: 2670.40 [M- Ca(OTs)$_2$]

Pseudo-[2]rotaxane **13**

[bis-β-cyclodextrinyl]-diaza-[18-6]-crown dimer **1** (50mg, 0,019 mmol, M = 2582,33 g.mol^{-1}), Zn^{II} bis-sulfanilate (8.6 mg, 1,93.10^{-2} mmol, M=445.8 g.mol^{-1}) **13** was obtained quantitatively as a white solid. IR (KBr): ν = 3300 (OH), 2950 (CH-), 2500 (CHar), 1637 (C=O urea) cm^{-1}. ^{1}H NMR (400MHz, D_2O, 298K): δ=7.51 (d, ^3J (H,H) = 8Hz, 4H; Har), 6.78 (d, ^3J (H,H) = 8Hz, 4H; Har), 5.32 (s, 2H; H1), 5.15 (d, ^3J (H,H) = 4Hz, 1H; CH_2 *crown*), 4.98 (bs, 12 H; H1), 4.57 (d, ^3J (H,H) = 8Hz, 1H; CH_2 *crown*), 4.51-3.92 (m, 4H; CH_2 *crown*), 3.91-3.39 (m, 86H; H_2, H_3, H_4, H_5, H_6, $H_{6'}$, CH_2 crown), 3.40-3.11 (m, 5H, CH_2 *crown*). ^{13}C NMR (100MHz, D_2O, 298K): δ=160.6 (C=O urea), 142.0 (q), 140.0 (q), 129.1(CH arom.), 125.3 (CH arom.), 101.9 (C1), 99.5 (C1), 95.8 (CH_2 crown), 92.0 (CH_2 crown), 83.3 (CH_2 crown), 76.6 (CH_2 crown), 75.9, 73.2, 71.8 (C2, C3, C5), 69.6 (C6) 65.0 (CH_2 crown), 62.5 (CH_2 crown), 60.4 (C6'), 48.6 (CH_2 crown), 44.6 (CH_2 crown), 34.5 (CH_2 crown). Maldi-TOF [$C_{110}H_{176}N_6O_{80}S_2Zn$: 2988.86u.m.a.]: 2583.048 [M- Zn(NH_2PhSO_3)$_2$+H$^+$]

Pseudo-[2]rotaxane **14**

[bis-β-cyclodextrinyl]-diaza-[18-6]-crown dimer **1** (50mg, 0,019 mmol, M = 2582,33 g.mol^{-1}). Ca^{II} bis-sulfanilate (7.65 mg, 1,94.10^{-2} mmol, M=395 g.mol-1). **14** was obtained quantitatively as a white solid. IR (KBr): ν =3300 (OH), 2950 (CH-), 2500 (CH arom.), 1637 (C=O urea) cm^{-1}. ^{1}H NMR (400MHz, D_2O, 298K): δ=7.51 (d, ^3J =(H,H) = 8Hz, 4H; CH arom.), 6.78 (d, ^3J(H,H) = 8Hz, 4H; Har), 5.32 (s, 2H; H1), 5.15 (d, ^3J(H,H) = 4Hz, 1H; CH_2 *crown*), 4.98 (bs, 12 H; H1), 4.57 (d, ^3J (H,H) = 8Hz, 1H; CH_2 *crown*), 4.51-3.92 (m, 4H; CH_2 *crown*), 3.91-3.39 (m, 86H; H_2, H_3, H_4, H_5, H_6, $H_{6'}$, CH_2 crown), 3.40-3.11 (m, 5H; CH_2 *crown*). ^{13}C NMR (100MHz, D_2O, 298K) δ=160.6 (CO urea), 142.0 (q) 140.0 (q), 129.1(CH arom.), 125.3 (CH arom.), 101.9 (C1), 99.5 (C1), 95.8 (CH_2 crown), 92.0 (CH_2 crown), 83.3 (CH_2 crown), 76.6 (CH_2 crown), 75.9, 73.2, 71.8 (C2, C3, C5), 69.6 (C6) 65.0 (CH_2 crown), 62.5 (CH_2 crown), 60.4 (C6'), 48.6 (CH_2 crown), 44.6 (CH_2 crown), 34.5 (CH_2 crown). Maldi-TOF [$C_{110}H_{176}CaN_6O_{80}S_2$: 2964.90 u.m.a.]: 2583.119[M- Ca(NH_2PhSO_3)$_2$+H$^+$]

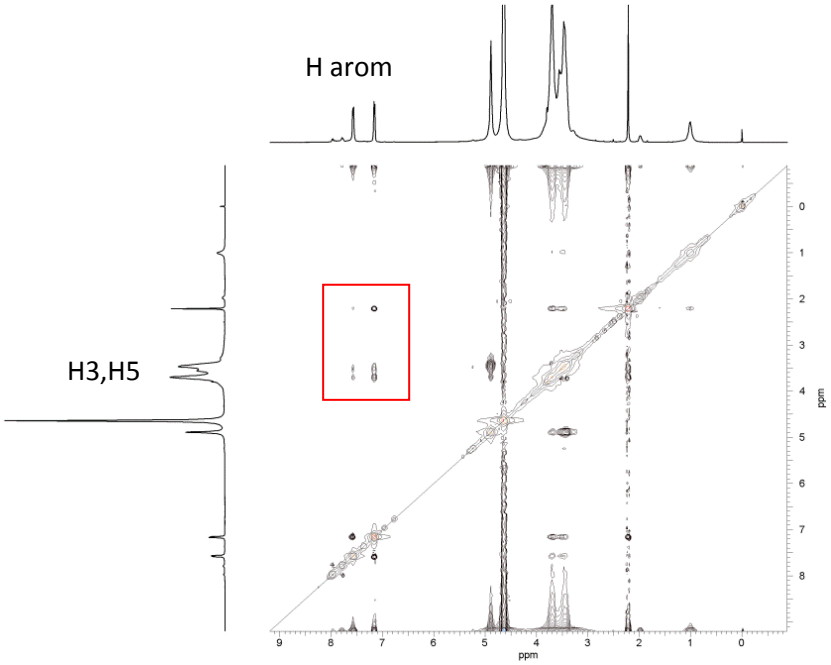
Pseudo-rotaxane **15**

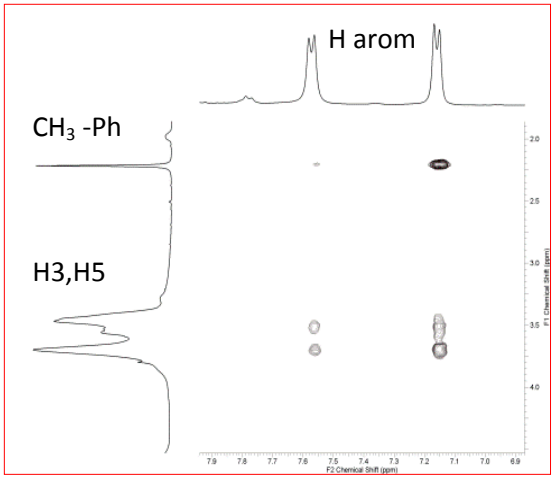
Bis-triazolo-β-cyclodextrinyl-diaza-[18-6]-crown dimer 3 (20mg, 0,0075 mmol, M = 2658.44 g.mol^{-1}). Zn^{II} bis-sulfanilate (3.35 mg, 7,51.10^{-3} mmol, M=445.8 g.mol^{-1}) in water, was obtained quantitatively as a white solid. IR (KBr): ν =3300 (OH) 2950 (CH-) 2500 (CH arom.), 1637 (C=O urea) cm^{-1}. ^{1}H NMR (400MHz, D_2O, 298K): δ=8.13 (s, 2H; TriazolH), 7.51 (d, ^3J (H,H)=8Hz, 4H; Har), 6.77 (d, ^3J (H,H)=8Hz, 4H; Har), 5.09 (s, 2H; CH_2 crown), 4.99 (s,14H; H_1), 4.92 (b s; CH_2 crown), 4.61 (m, 2H; CH_2 crown), 4.10 (m; CH_2 crown), 3.88-3.38 (m, 84H;

H_2, H_3, H_4, H_5, H_6, $H_{6'}$), 3.14-3.08 (m; CH_2 crown), 3.10-3.00 (m; CH_2 crown), 2.91-2.82 (m; CH_2 crown), 2.90 (s, 4H; CH_2 triazol). ^{13}C NMR (100MHz, D_2O, 298K): δ=132.6 (CH arom.), 126.9 (CH_2 triazol), 124.8 (CH arom.), 101.8 (C1), 81.1 (C4), 73.1-72.1-71.8 (C2, C3, C5), 69.6 (C6), 60.2 (C6'), 52.4 (CH_2 triazol), 51.2 (CH_2 crown), 42.9 (CH_2 triazol), 44.7 (CH_2 crown), 22.1 (CH_2 crown). Maldi-TOF [$C_{114}H_{180}N_{10}O_{78}S_2Zn$: 3064.92 u.m.a.]: 1330.99 [M- $Zn(NH_2PhSO_3)_2$+2H$^+$]

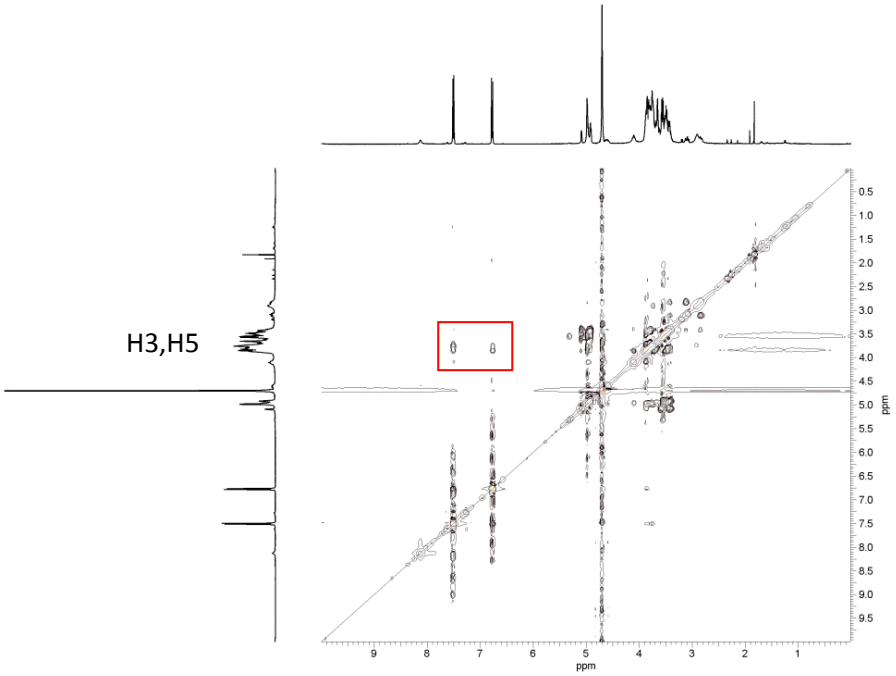
3. NMR Spectra

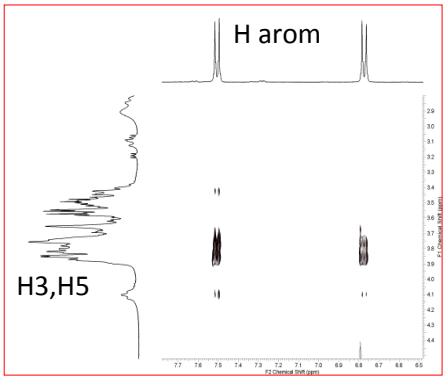
Pseudo-[2]rotaxane **11** 2D NMR (ROESY)





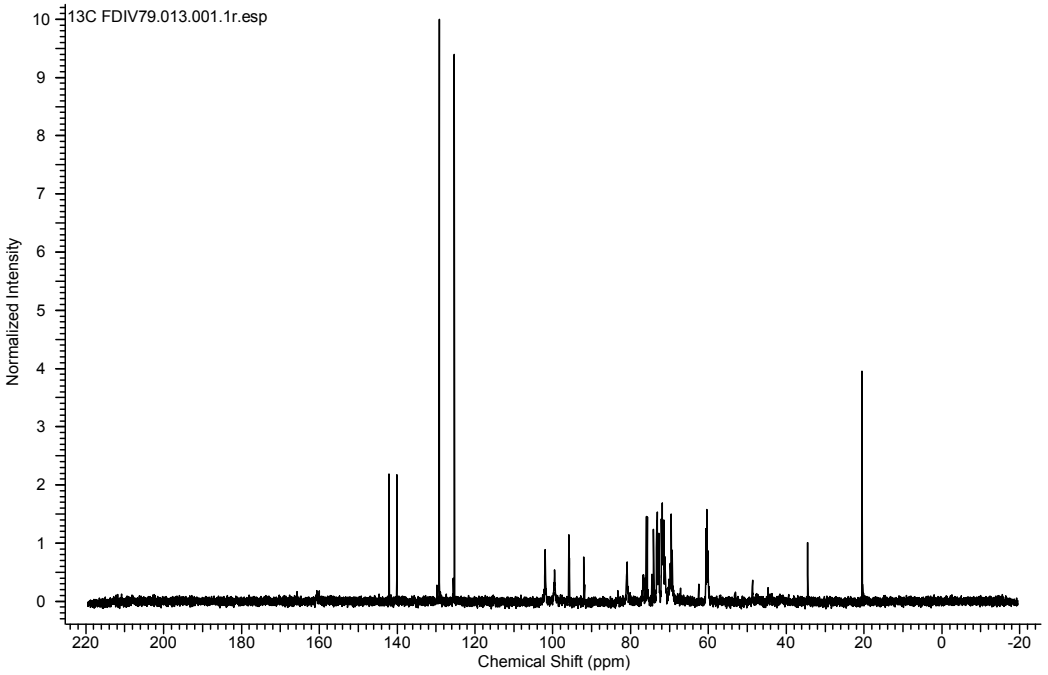
Pseudo-[2]rotaxane **15** 2D NMR (ROESY)



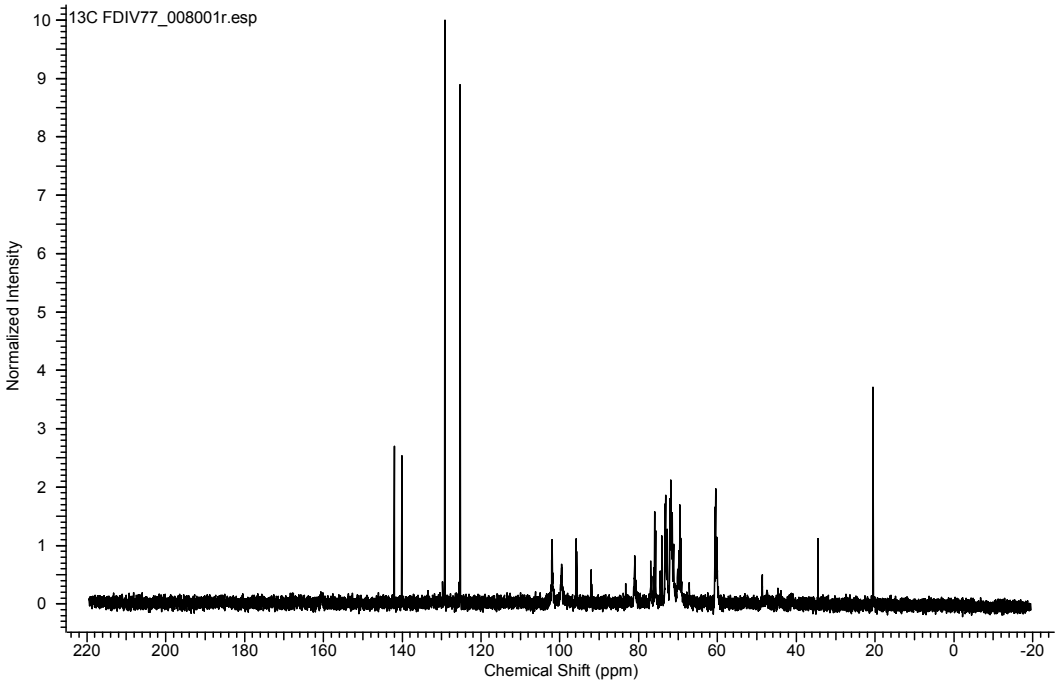


13 C NMR SPECTRA

Pseudorotaxane 7 :



Pseudorotaxane 8



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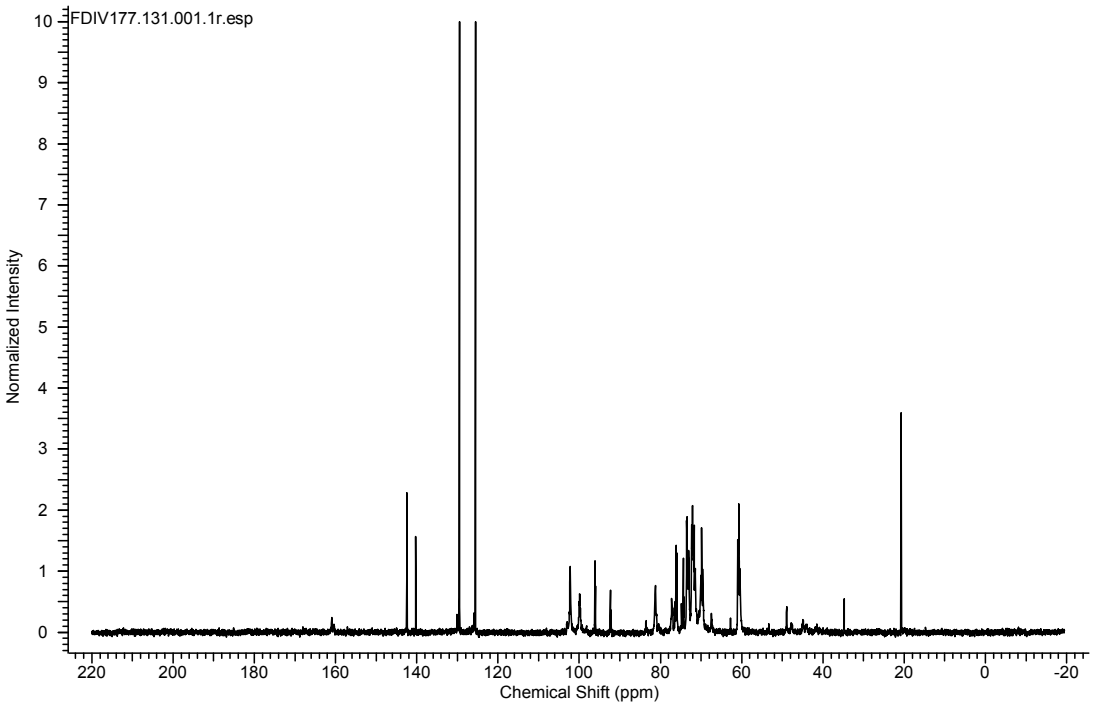

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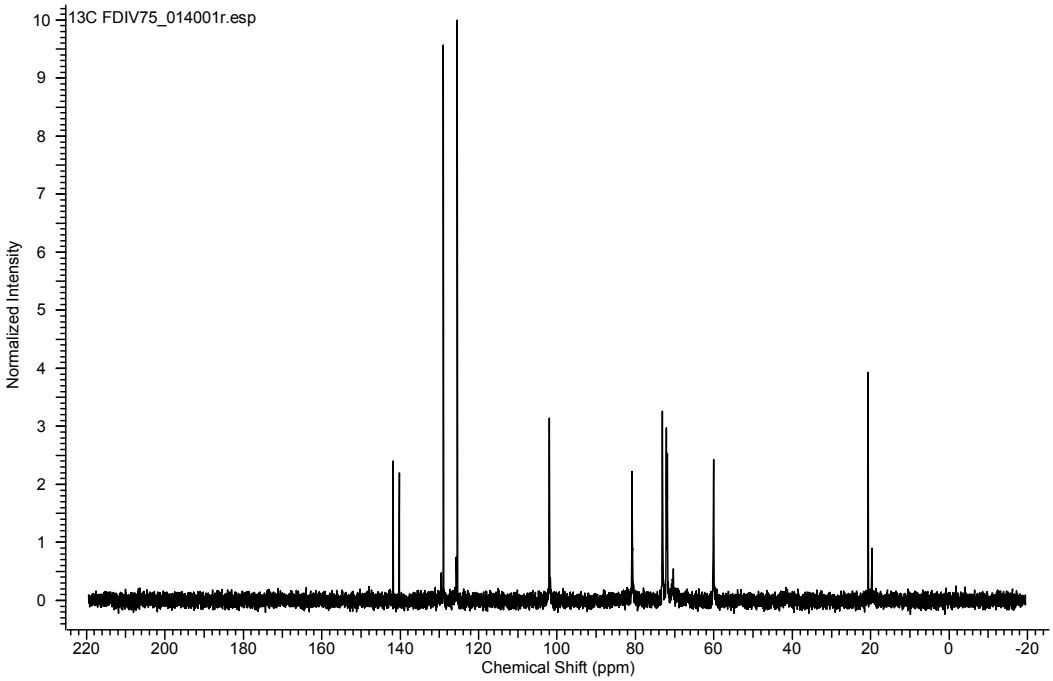

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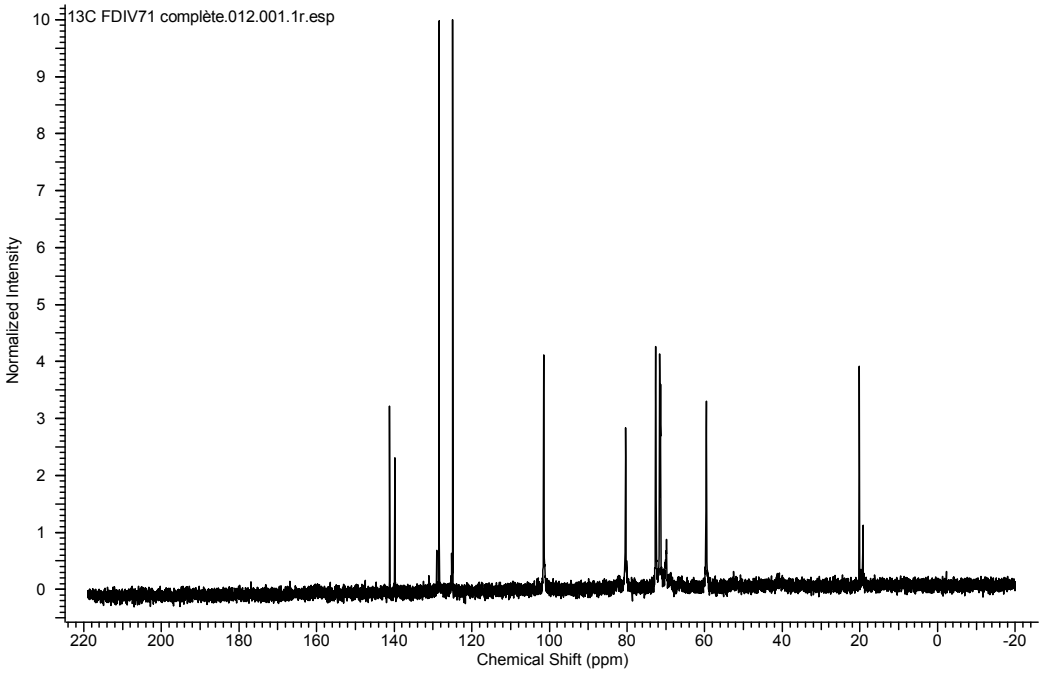
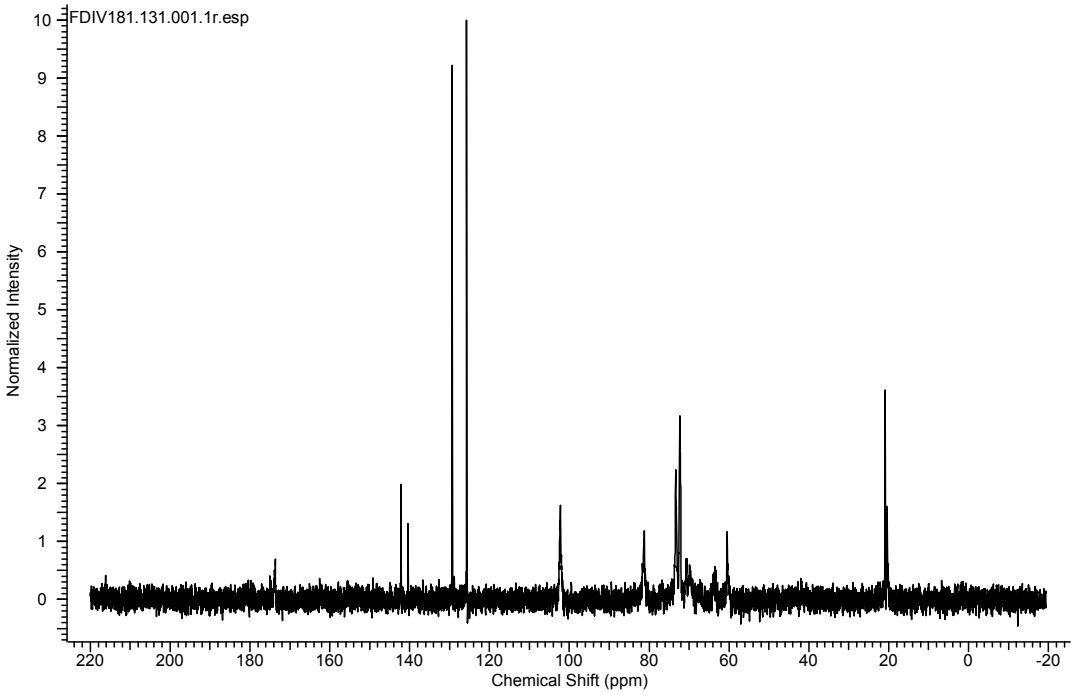
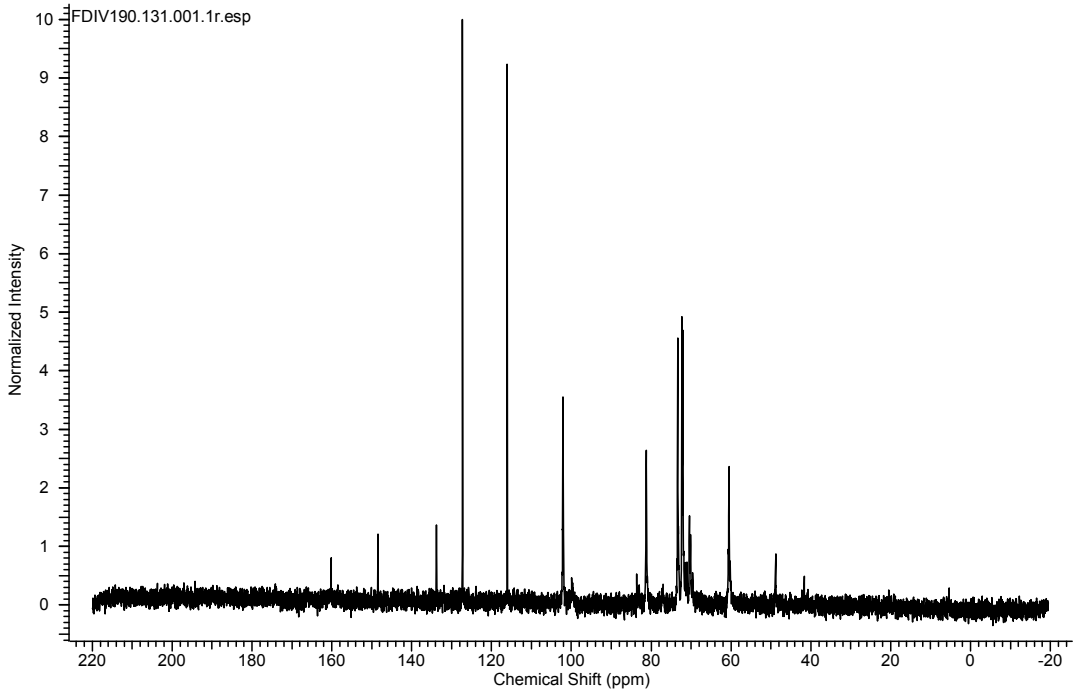


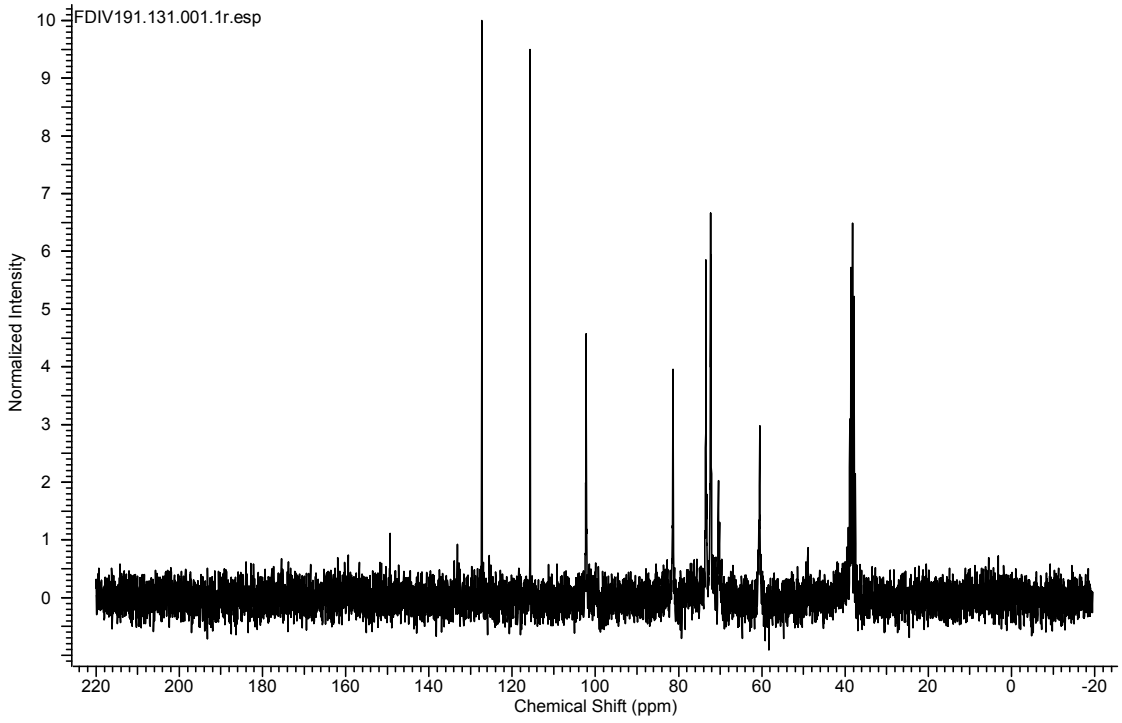
Pseudorotaxane 12:



Pseudorotaxane 13:



Pseudorotaxane 14:

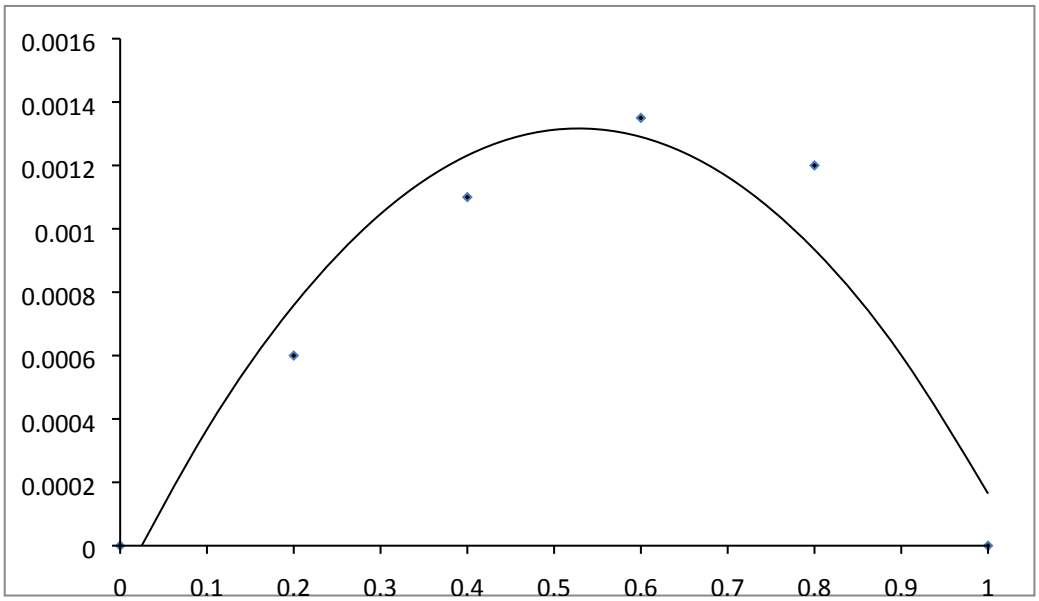


Job plots of pseudo[2]rotaxanes 7 to 15

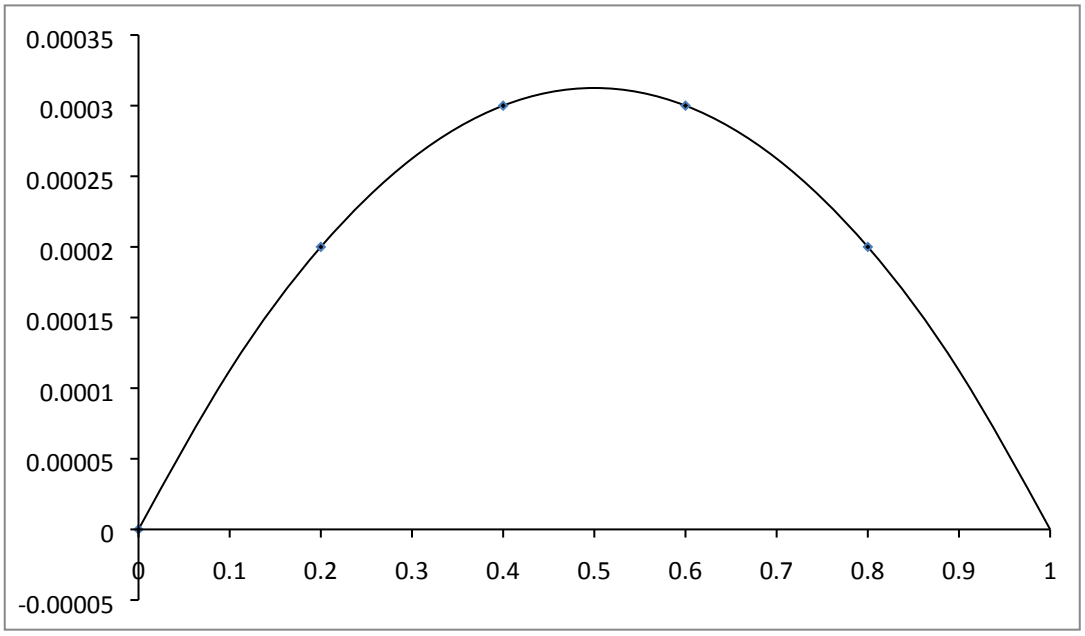
NB : job plots of 11 and 12 : are not given because of less amount of starting the chiral dimer 2 material.

Pseudo[2]rotaxane 7

Variation of CD H_3 protons

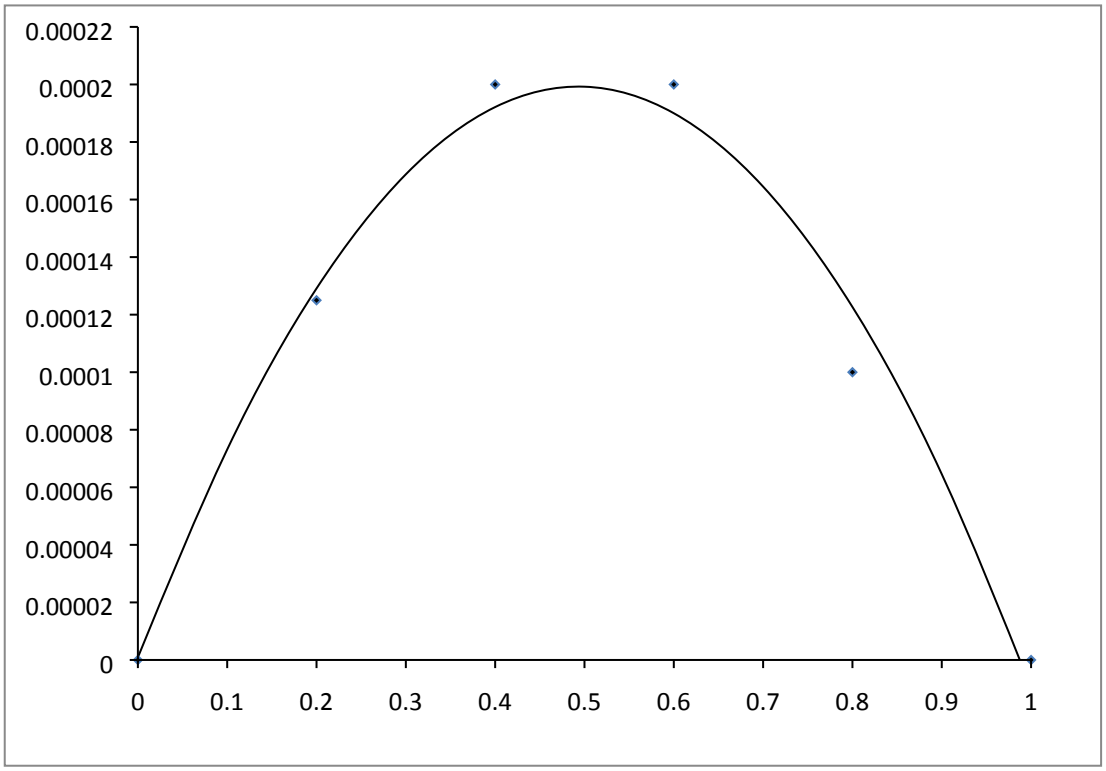


Variation of tosylate aromatic protons

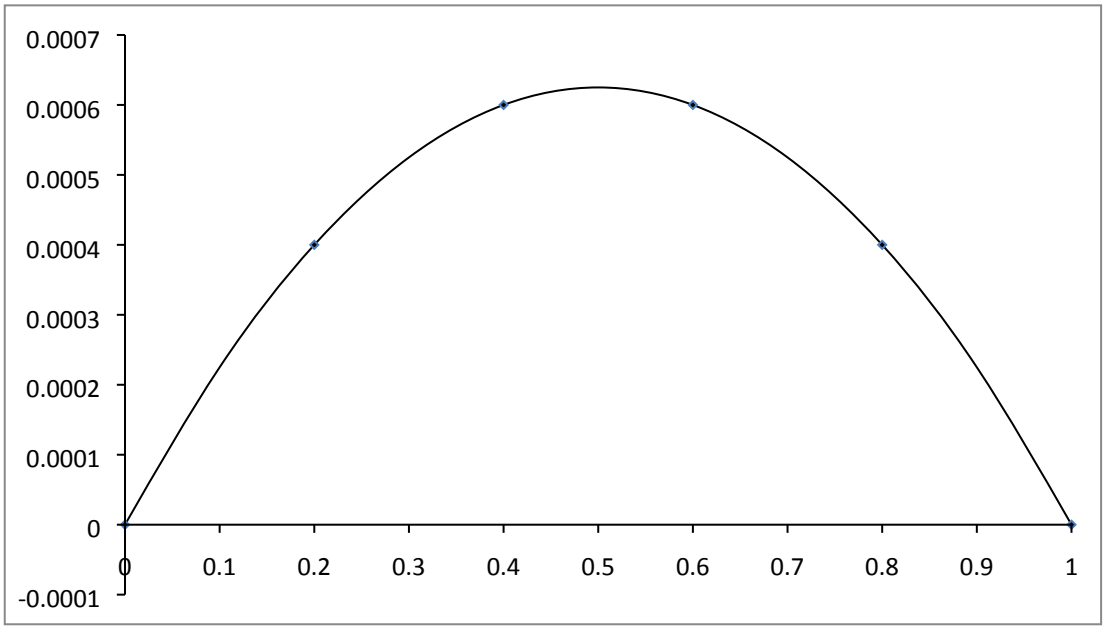


Pseudo[2]rotaxane 8 :

Variation of CD H_3 protons

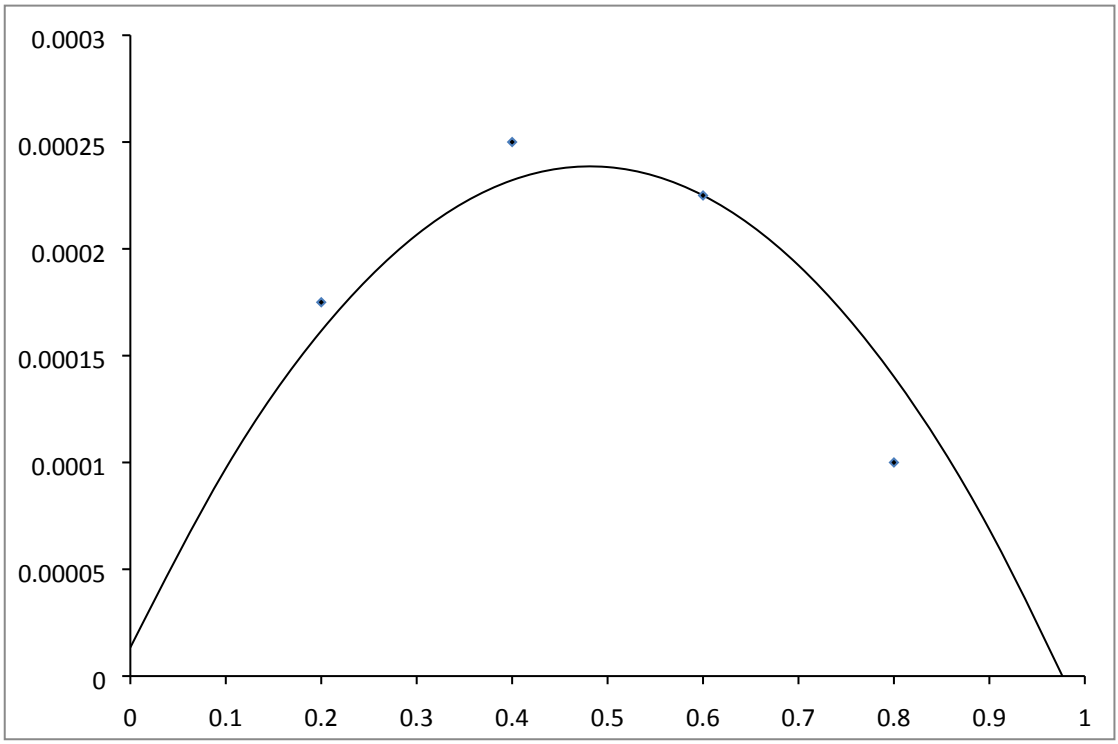


Variation of tosylate aromatic protons

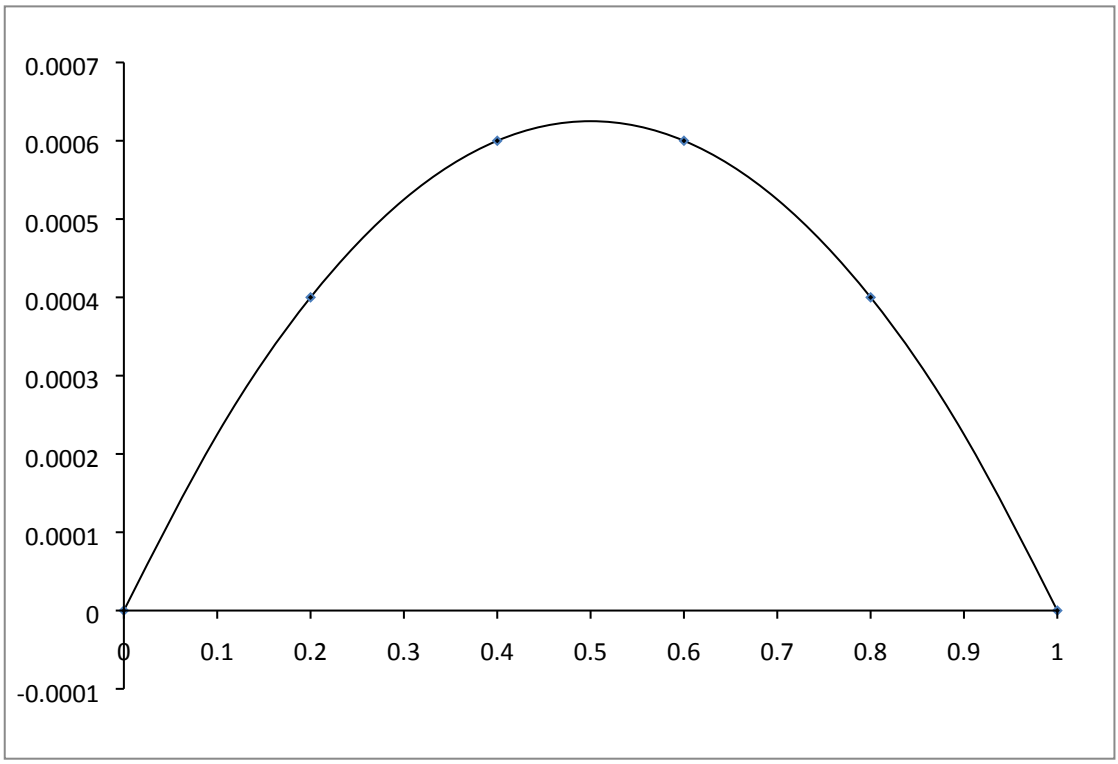


Pseudo[2]rotaxane 9 :

Variation of CD H_3 protons

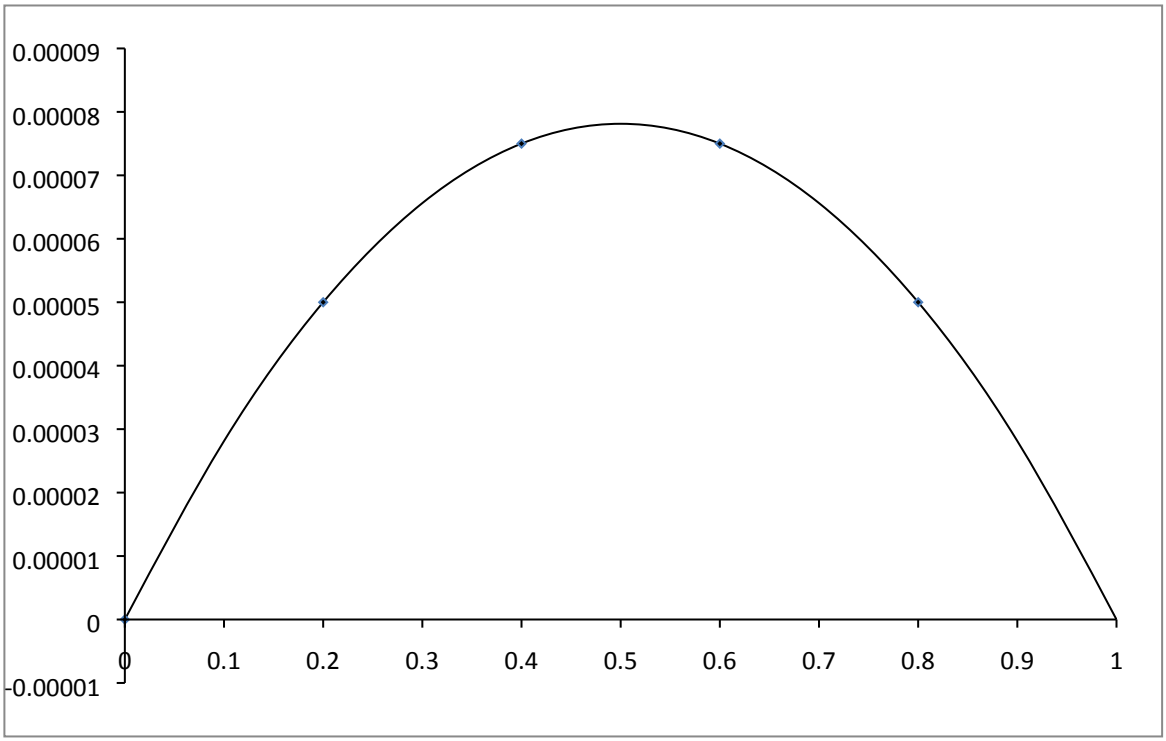


Variation of tosylate aromatic protons

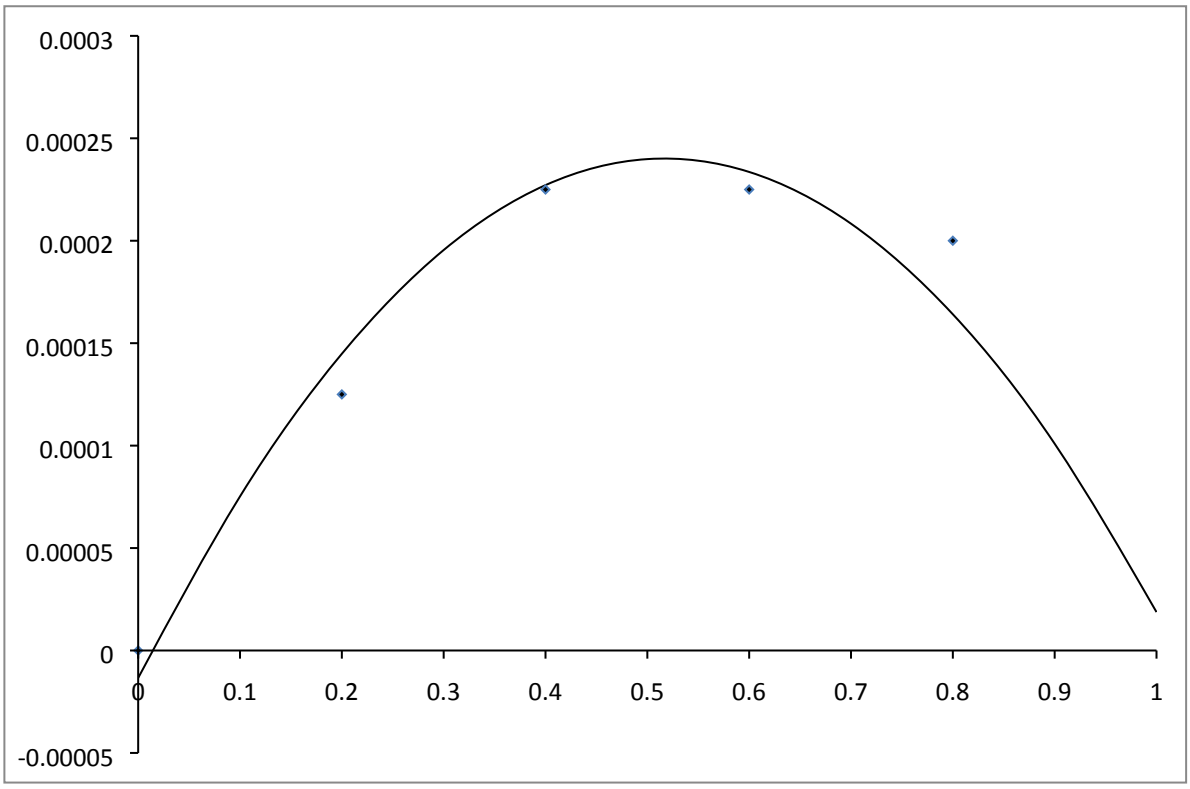


Pseudo[2]rotaxane 10 :

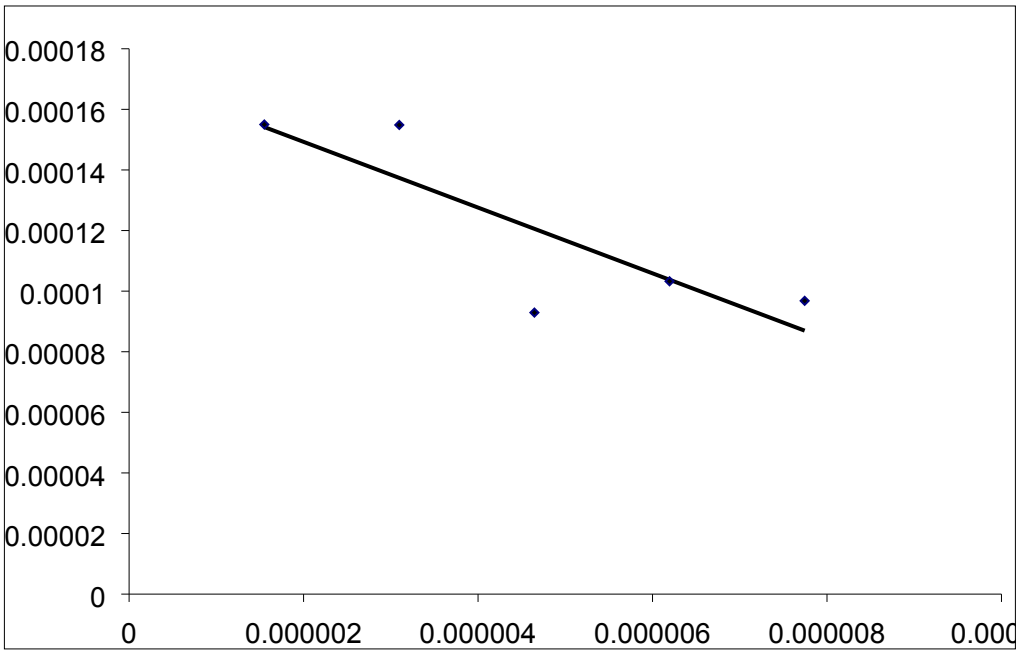
Variation of tosylate aromatic protons



Variation of CD H_3 protons



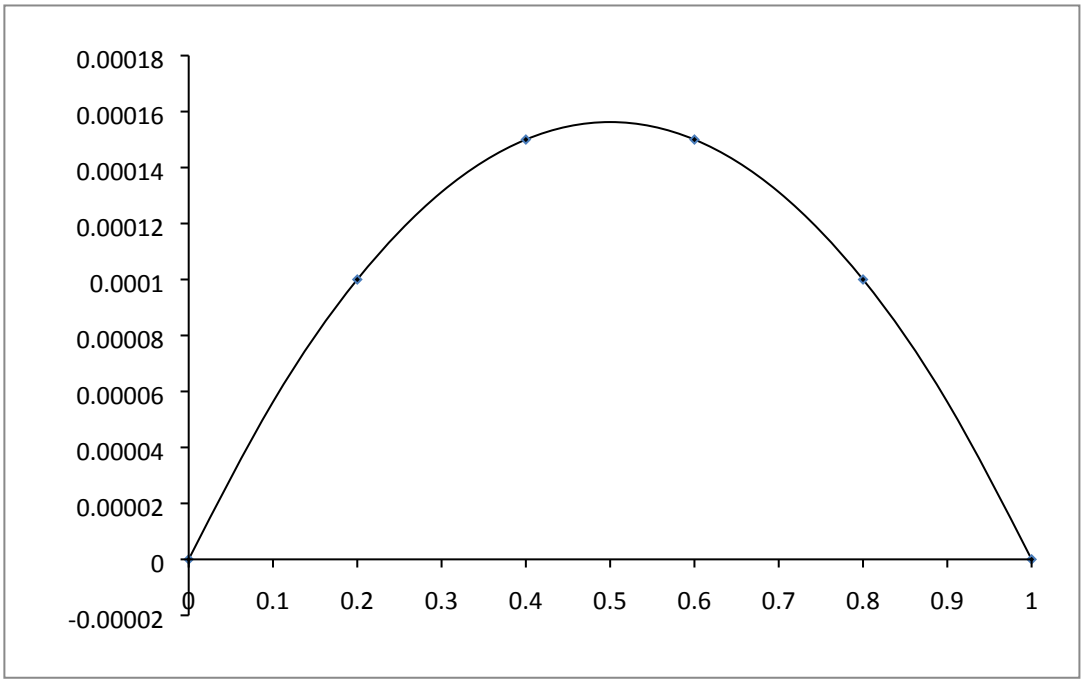
pseudorotaxane 13 Titration of **13** with Zn^{II} bisulfanilate



		1 sur	Ka
pente	**10.848**	**0.092183**	
ord ori	**2.00E-04**	**5000**	**54240**

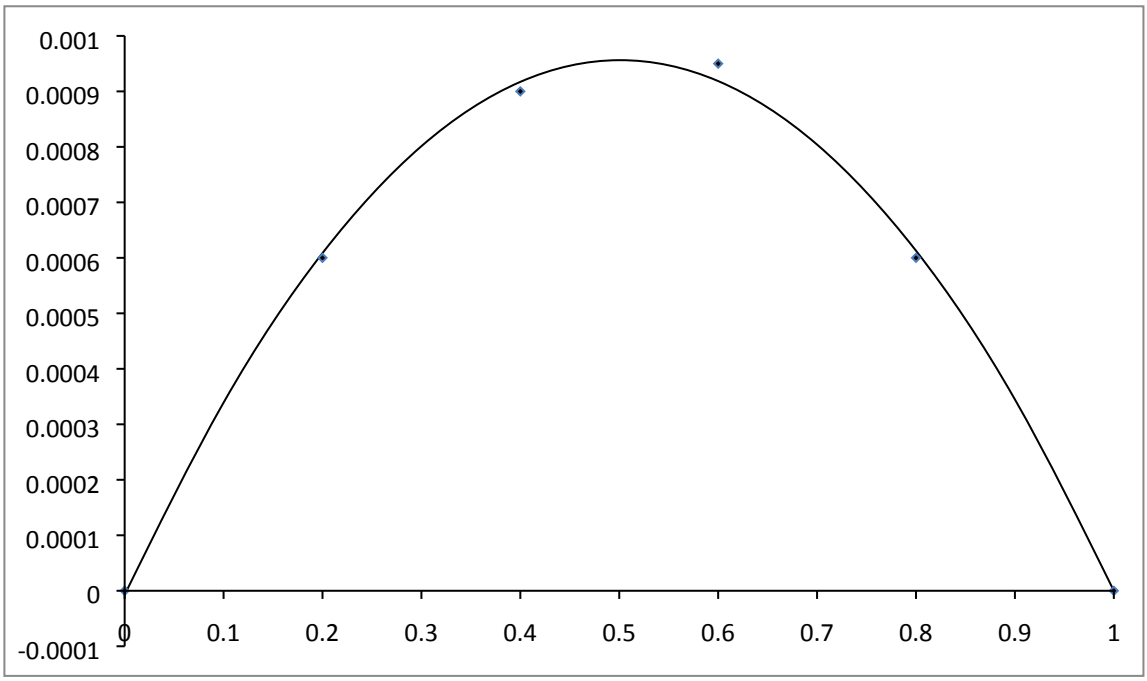
Ka = 54240 M^{-1}

Variation of sulfanilate aromatic protons

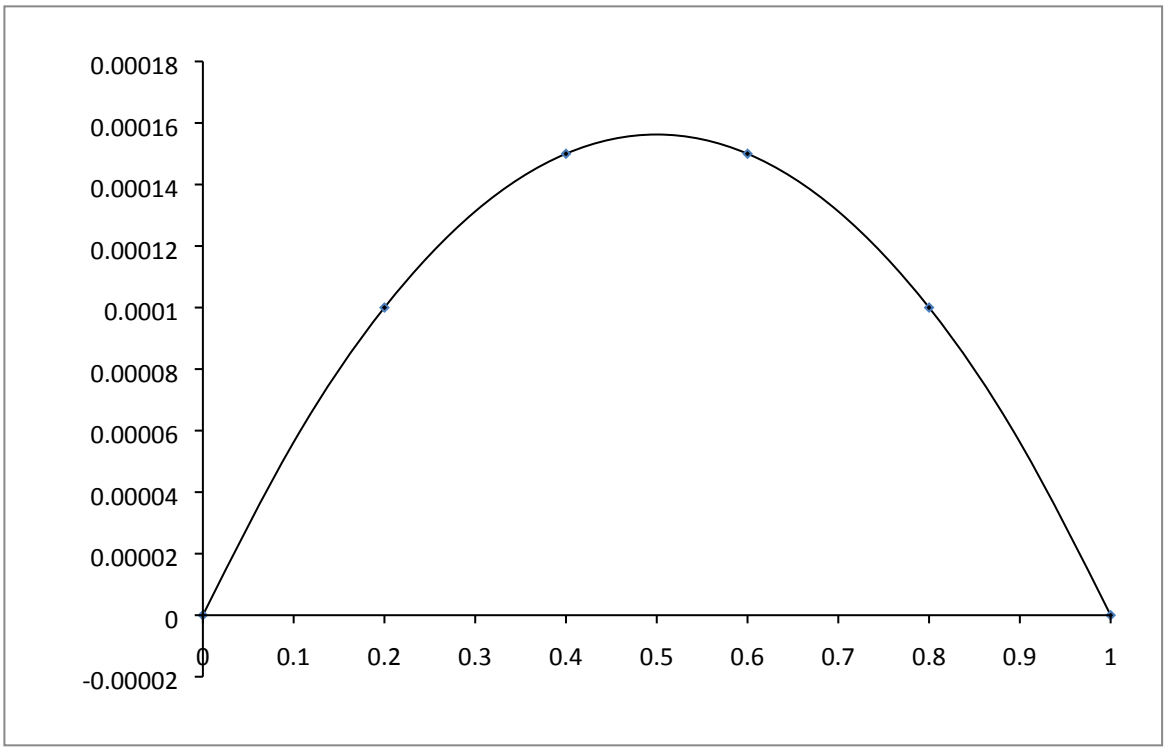


Pseudo[2]rotaxane 14 :

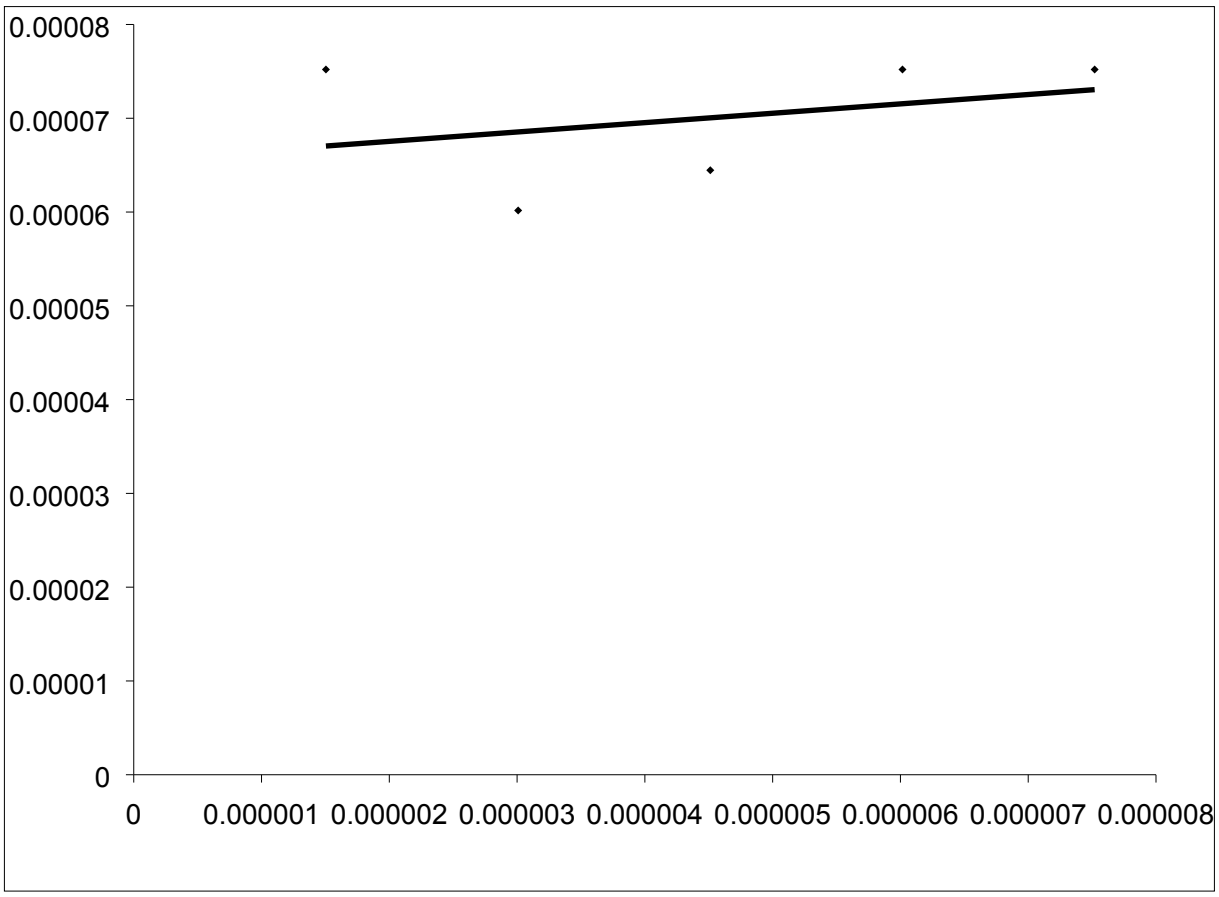
Variation of CD H_3 protons



Variation of sulfanilate aromatic protons



Pseudo[2]rotaxane 15 : Titration of **15** with Zn^{II} bisulfanilate



:

		1 sur	Ka
pente	**0.9993**	**1.0007**	
ord ori	**7.00E-05**	**14285.71**	**14275.71**

Ka = 14276 M^{-1}

References

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