

Support Information

^1H and ^{13}C NMR spectra of **1d** (page S1), **2d** (page S1), (S)-2-hexyltosylate (page S1), 1-azidooctane (page S1), 1-cyanoctane (page S1), (R)-2-azidohexane (page S2), 2-azidoheptane (page S2) and 2-azidooctane (page S2).

1-Octyl tosylate, 1d: ^1H NMR: δ (ppm) 0.79 (t, 3H, CH_3); 1.14-1.30 (br, 10H, 5 CH_2); 1.55 (m, 2H, $\text{CH}_2\text{-CH}_2\text{O}$); 2.37 (s, 3H, Ph-CH_3); 3.94 (t, 2H, CH_2OTs); 7.26 (m, 2H, aromatic protons); 7.71 (m, 2H, aromatic protons). ^{13}C NMR and DEPT: δ (ppm) 14.00 (CH_3); 21.55 (CH_3); 22.53 (CH_2); 25.25 (CH_2); 28.79 (2 CH_2); 28.97 (CH_2); 31.62 (CH_2); 70.65 (CH_2OSO_2); 127.80 (2 =CH); 129.73 (2 =CH); 133.10 (>C<); 144.57 (>C<).

2-Octyl tosylate, 2d: ^1H NMR: δ (ppm): 0.85 (t, 3H, CH_3 , $J = 6.3$ Hz); 1.15 (br, 8H, 4 CH_2); 1.25 (d, 3H, $\text{CH}_3\text{-CH}$, $J = 6.2$ Hz); 1.48-1.57 (m, 2H, CH_2); 2.43 (s, 3H, PhCH_3); 4.59 (m, 1H, CHOTs); 7.32 (m, 2H, aromatic protons); 7.79 (m, 2H, aromatic protons). ^{13}C NMR and DEPT: δ (ppm) 13.93 (CH_3); 20.76 (CH_2); 21.48 (CH_3); 22.38 (CH_2); 24.73 (CH_2); 28.70 (CH_2); 31.49 (CH_2); 36.40 (CH_3); 80.58 (CH_2OSO_2); 127.62 (2 =CH); 129.59 (2 =CH); 134.60 (>C<); 144.57 (>C<).

(S)-2-Hexyl tosylate: ^1H NMR: δ (ppm): 0.77 (t, 3H, CH_3 , $J = 6.3$ Hz); 1.15 (br, 4H, 2 CH_2); 1.21 (d, 3H, $\text{CH}_3\text{-CH}$, $J = 6.2$ Hz); 1.55 (m, 2H, CH_2); 2.40 (s, 3H, PhCH_3); 4.55 (m, 1H, CHOTs); 7.32 (m, 2H, aromatic protons); 7.78 (m, 2H, aromatic protons). ^{13}C NMR and DEPT: δ (ppm): 13.73 (CH_3); 20.72 (CH_2); 21.51 (CH_3); 22.14 (CH_2); 26.90 (CH_2); 36.10 (CH_3); 80.58 (CH_2OSO_2); 125.62 (2 =CH); 127.59 (2 =CH); 134.60 (>C<); 144.57 (>C<).

1-Azidooctane: ^1H NMR: δ (ppm) 3.26 (t, 2H, CH_2N_3); 1.60 (m, 2H, CH_2); 1.43-1.00 (br, 10H, 5 CH_2); 0.89 (t, 3H, CH_3). ^{13}C NMR: δ (ppm) 51.41 (CH_2N_3); 31.69 (CH_2); 29.06 (CH_2); 28.78 (CH_2); 26.66 (CH_2); 22.56 (CH_2); 13.96 (CH_3). MS: 84; 70 (100); 56; 43; 41.

1-Cyanoctane: ^1H NMR: δ (ppm) 2.29 (t, 2H, CH_2CN); 1.57 (m, 2H, CH_2); 1.43-1.16 (br, 10H, 5 CH_2); 0.84 (t, 3H, CH_3). ^{13}C NMR: δ (ppm) 31.61 (CH_2CN); 28.88 (CH_2); 28.61 (CH_2); 25.30 (CH_2); 22.51 (CH_2); 17.03 (CH_2); 13.96 (CH_3). MS: 140 (16, $\text{M}+1$); 110; 96; 82 (100); 54; 41.

(R)-2-Azidohexane: ^1H NMR: δ (ppm) 3,42 (m, 1H, CHN_3); 1,96 (m, 2H, CH_2); 1,50-1,12 (br, 4H, 2 CH_2); 1,21 (d, 3H, CH_3); 0,87 (t, 3H, CH_3). MS: 84 (M- HN_3), 70, 43.

2-Azidoheptane: ^1H NMR: δ (ppm) 3,37 (m, 1H, CHN_3); 1,18 (d, 3H, CH_3); 1,50-1,12 (br, 8H, 4 CH_2); 0,84 (t, 3H, CH_3). ^{13}C NMR: δ (ppm) 58,02 (CHN_3); 36,14 (CH_2); 31,15 (CH_2); 25,73 (CH_2); 22,50 (CH_2); 19,42 (CH_3); 13,93 (CH_3). MS: 98 (M- HN_3), 84, 70, 57, 43, 42.

2-Azidooctane: ^1H NMR: δ (ppm) 3,43 (m, 1H, CHN_3); 1,96 (m, 2H, CH_2); 1,50-1,12 (br, 8H, 4 CH_2); 1,25 (d, 3H, CH_3); 0,89 (t, 3H, CH_3). ^{13}C NMR: δ (ppm) 58,02 (CHN_3); 36,17 (CH_2); 31,70 (CH_2); 29,05 (CH_2); 26,03 (CH_2); 22,50 (CH_2); 19,44 (CH_3); 14,2 (CH_3). MS: 112 (M- HN_3), 98, 84, 70, 57, 43, 42.