Electronic Supplementary Material (ESI) for Polymer Chemistry.
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Supporting Information for

Effect of polymer structure on complexation of thermoresponsive dialkoxynaphthalene end-functionalized poly(oligoethylene glycol acrylate)s with CBPQT4+ in water

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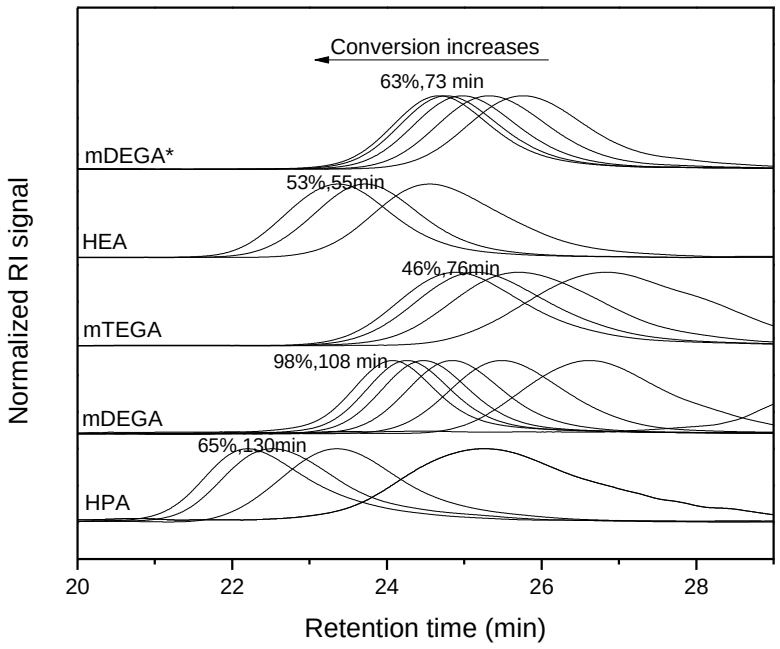

Figure S1. Size exclusion chromatography traces for samples taken during the homopolymerizations of the OEGAs. (* denotes the control sample without naphthalene end-group)

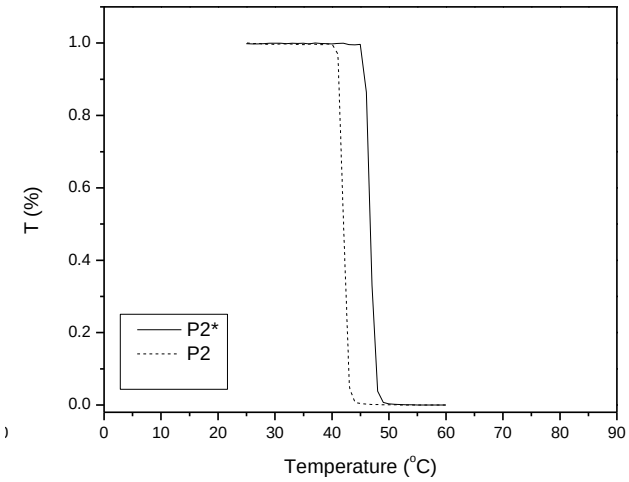

Figure S2. Effect of naphthalene group on Tcp: Thermo-sensitive phase transitions of P2* (solid line) and P2 (dotted line) (5mg/mL in water). Recorded at 700 nm. Heating rate: 1 K min^{-1}.

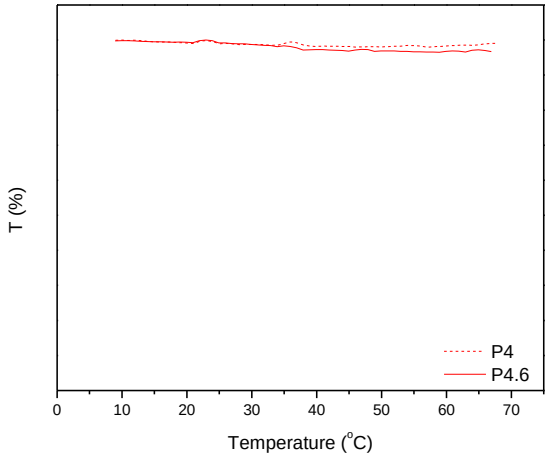

Figure S3. Transmittance of **P4** (solid dotted line) and **P4** with $CBPQT^{4+}$,$4Cl^-$ (solid line) upon heating (5 mg/mL in water). Recorded at 700 nm. Heating rate: 1 K min^{-1}.

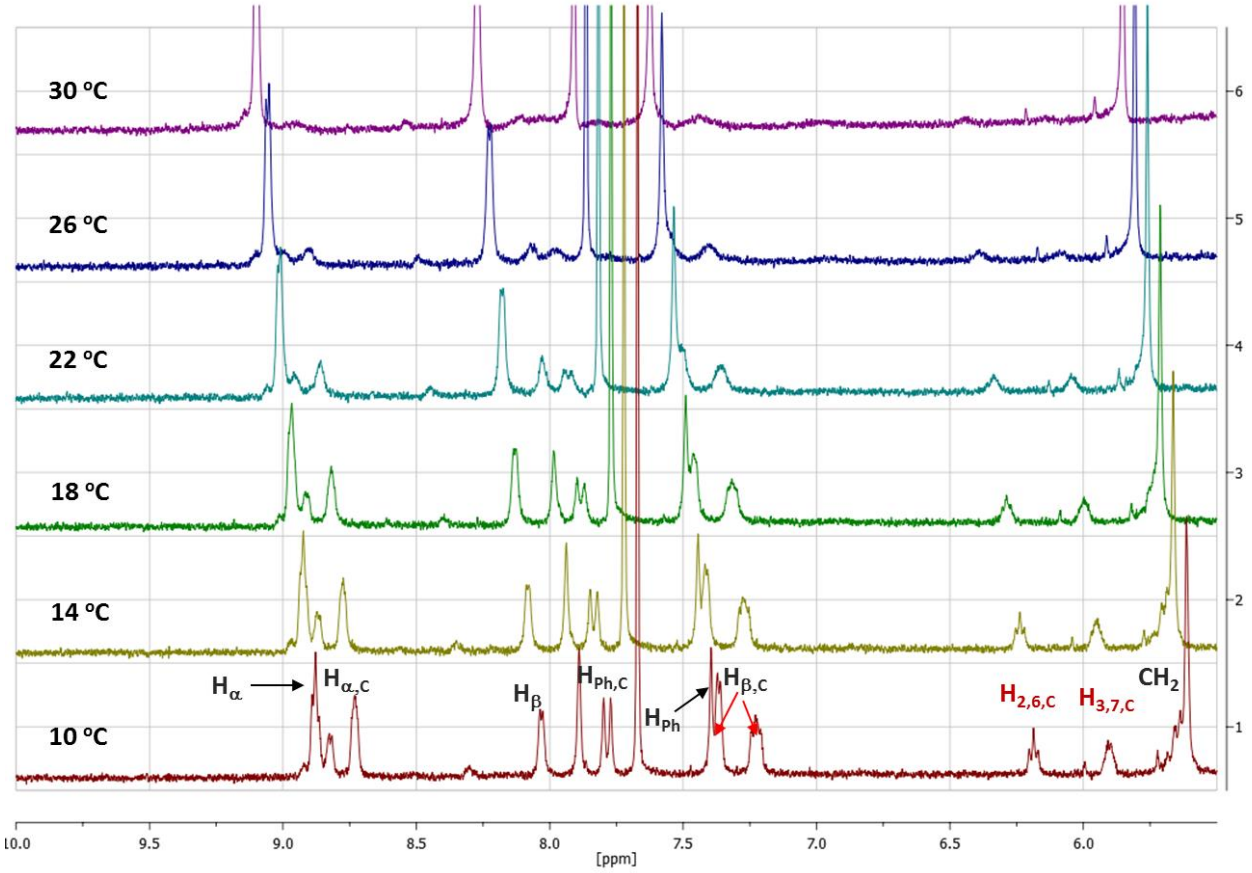

Figure S4. ^{1}H NMR spectra recorded for a 1:1 Mixture of **P1** with CBPQT^{4+},4Cl^{-} at 10^{-3} M concentration in D_2O. Spectra were recorded at 10, 14, 18, 22, 26 and 30 ^{o}C (from bottom to top). The percentage of complexation was calculated based on the total amount of CBPQT^{4+},Cl^{-} (total integral of the aromatic CBPQT^{4+},Cl^{-} signals from 9.0 – 8.7 ppm) and the complex (integral of the signal around 6.2 ppm corresponding to complexed naphthalene). The signals of the complexed naphthalene are indicated in red and the signals of CBPQT^{4+},Cl^{-} in black, where C is added for signals corresponding to the complex.

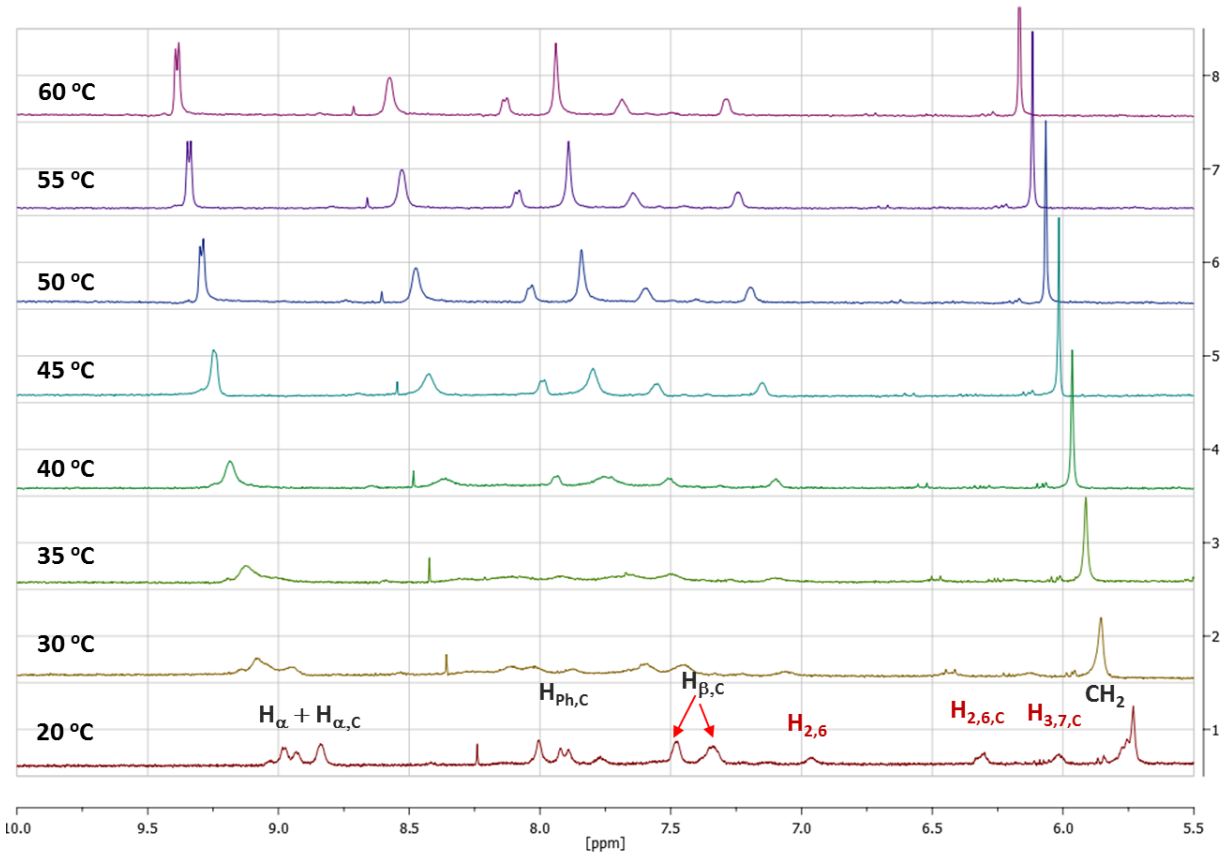

Figure S5. ^{1}H NMR spectra recorded for a 1:1 Mixture of **P2** with $CBPQT^{4+}$,$4Cl^{-}$ at 10^{-3} M concentration in D_2O. Spectra were recorded at 20, 30, 35, 40, 45, 50, 55 and 60 °C (from bottom to top). The percentage of complexation was calculated based on the total amount of $CBPQT^{4+}$,Cl^{-} (total integral of the signals from 9.0 – 8.7 ppm) and the free naphthalene (integral of the signal around 7.2 ppm). In this experiment there was an excess of naphthalene polymer as at 60 °C the naphthalene integrated for 136% compared to the $CBPQT^{4+}$,$4Cl^{-}$ and the percent of complexation has been compensated by subtracting the excess integral from the signal around 7.2 ppm. The signals of the complexed naphthalene are indicated in red and the signals of $CBPQT^{4+}$,Cl^{-} in black, where C is added for signals corresponding to the complex.

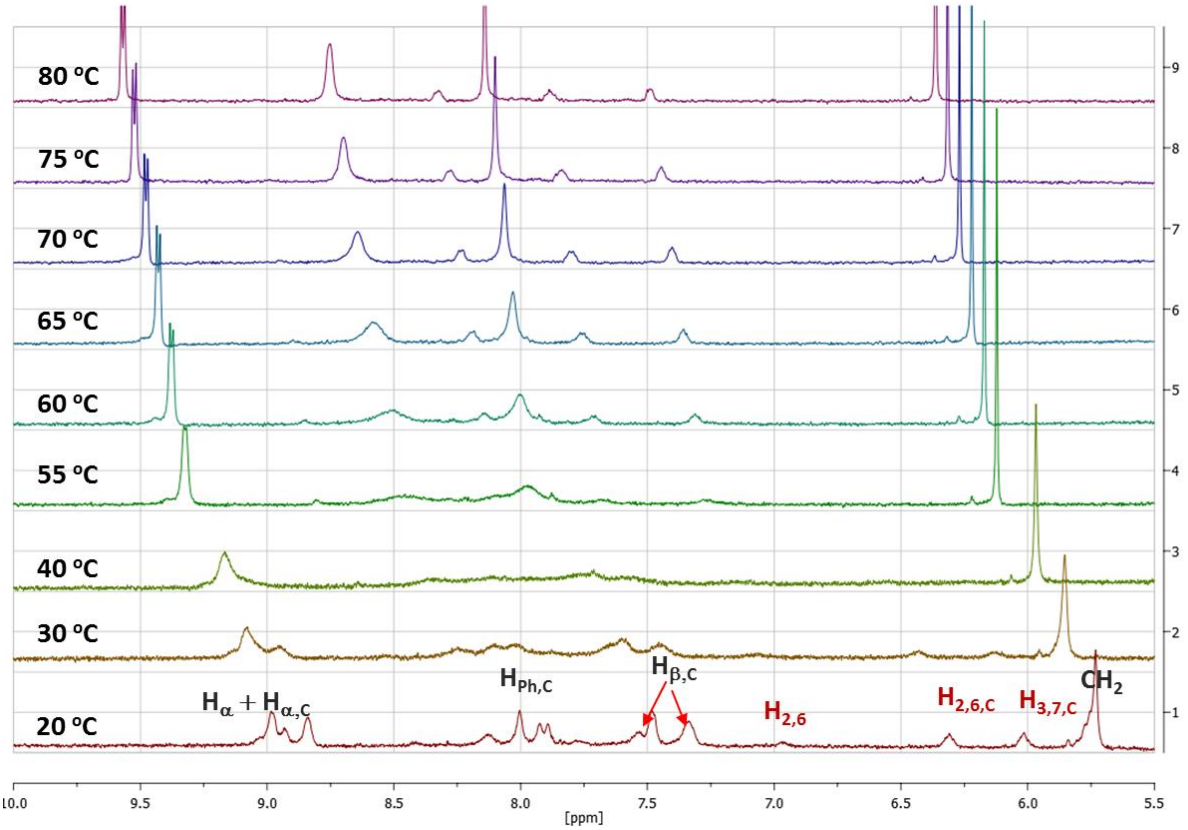

Figure S6. ^{1}H NMR spectra recorded for a 1:1 Mixture of **P3** with CBPQT^{4+},4Cl^{-} at 10^{-3} M concentration in D_2O. Spectra were recorded at 20, 30, 40, 55, 60, 65, 70, 75 and 80 ^{o}C (from bottom to top). The percentage of complexation was calculated based on the total amount of CBPQT^{4+},Cl^{-} (total integral of the signals from 9.0 – 8.7 ppm) and the free naphthalene (integral of the signal around 7.2 ppm). The signals of the complexed naphthalene are indicated in red and the signals of CBPQT^{4+},Cl^{-} in black, where C is added for signals corresponding to the complex.

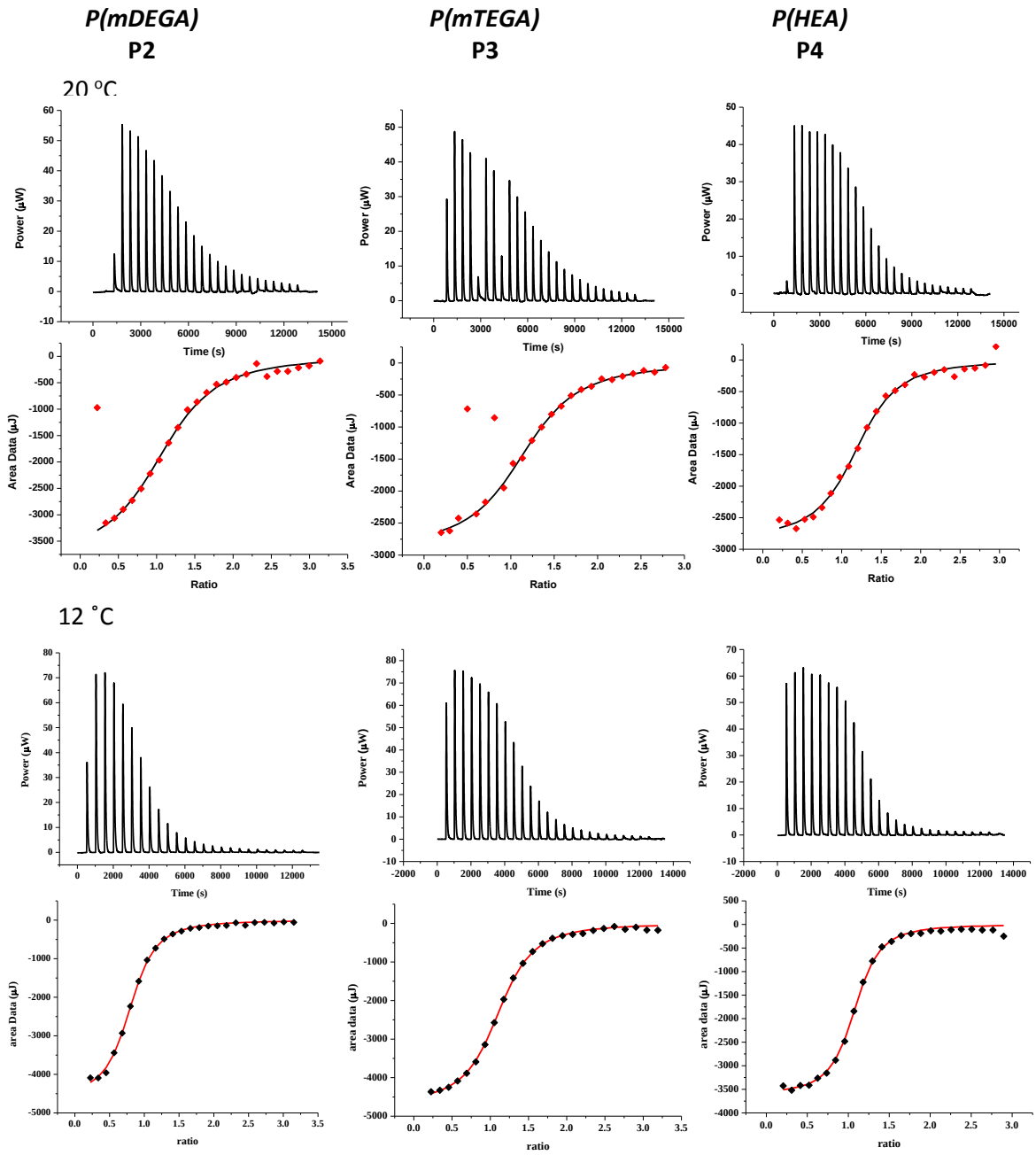

Figure S7. Isothermal titration calorimetry data for the addition of aliquots of **6** to **P2**-**P4**. Recorded in H_2O at 20°C and 12°C.

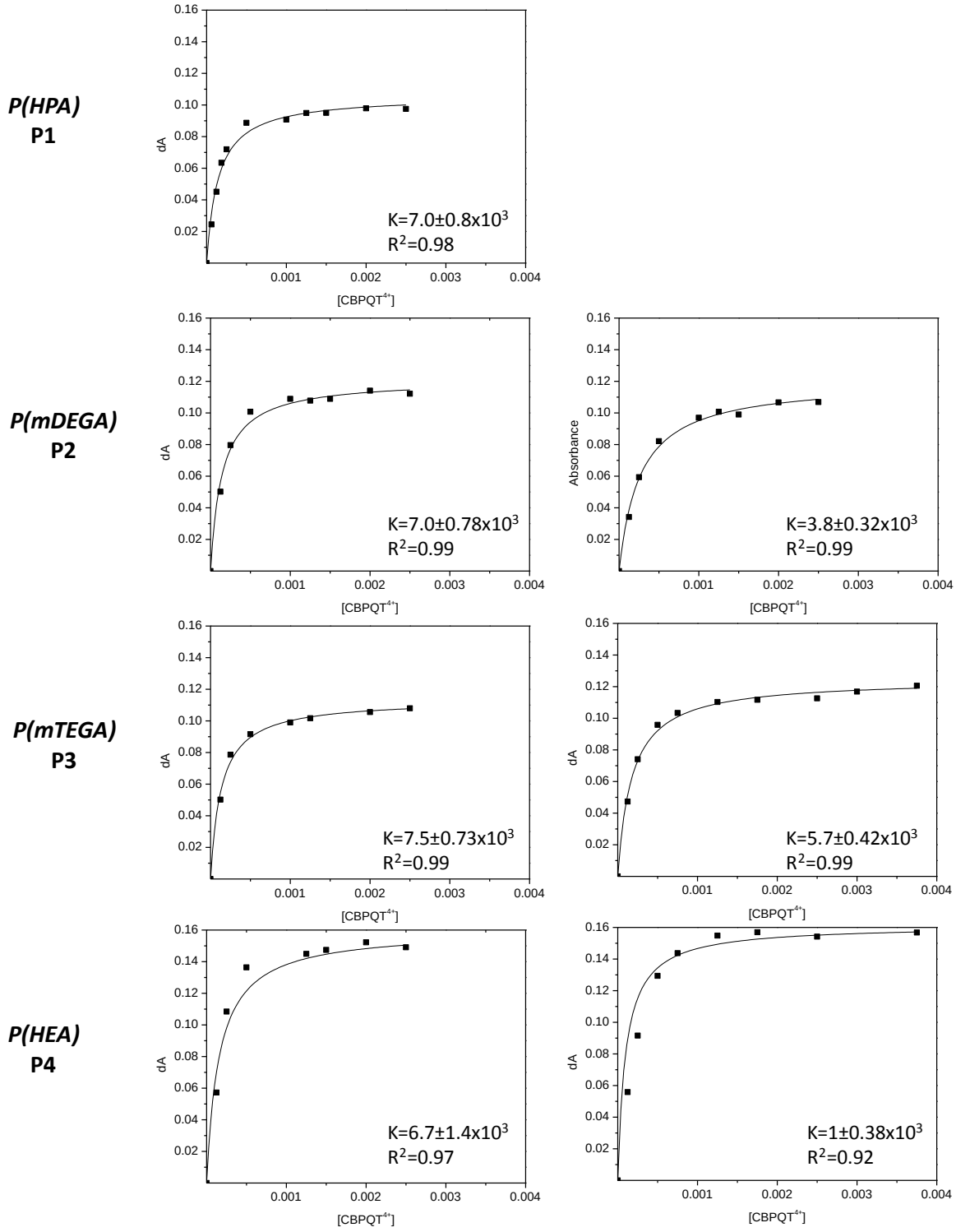

Figure S8. The non-linear fitting of UV-Vis titration curves obtained upon the addition of aliquots of 6 to **P1**-**P4** (10^{-3} M concentration) recorded in milliQ water at 12 °C (Left) and 25 °C (Right). Non-linear fitting performed using $dA_{obs} = dA_{complex}\ Ka\ [BB]_t / (1 + Ka\ [BB]_t)$.