Supporting information

pH-Controlled Rheological Properties of Mixed Amphiphilic Triblock Copolymers

Lionel Lauber, Olivier Colombani, Taco Nicolai* and Christophe Chassenieux

<u>1. Influence of the preparation pathway on the characteristics of the DH40/DH60</u> <u>**mixtures**</u>



Figure S1. Total aggregation number (N_T) at α =0.2 (Δ , \blacktriangle) and α =0.4 (\bigcirc , \bigcirc) as a function of the fraction of DH40 in mixed micelle solutions of DH40/DH60, [Na⁺]= 0.5 mol/L and C=2 g/L for two different pathways of preparation. Open symbols: polymer solutions mixed at α =0.9, followed by addition and hydrolysis of D-glucono- δ -lactone to reach the target α value. Closed symbols: polymer solutions prepared separately at the target α values using

GDL, followed by mixing after the target α value has been reached. Dashed lines are guides to the eye.

2. Evolution of the hydrodynamic radius as a function of F_{40} for the mixtures of diblock copolymers





Figure S2. Evolution of R_h as a function of the weight fraction of DH40 (F_{40}) in aqueous solutions of DH40 and DH60 at $[Na^+]= 0.5 \text{ mol/L}$ (a) DH40 and DH60 at $[Na^+]= 0.1 \text{ mol/L}$ (b) and DH40 and DH50 at $[Na^+]= 0.5 \text{ mol/L}$ (c), C =2 g/L for different ionization degrees. The solid lines are guides to the eye.

3. Mixtures of non hybridizing TH40/TH60 triblock copolymers



Figure S3. Arrhenius representation of the temperature dependence of the shift factors normalized by the value at 20°C for mixtures of TH40/TH60 with different F_{40} as indicated in the figure at C=30 g/L and α =0.65 without added salt.



4. Mixtures of hybridizing TH40/TH50 triblock copolymers

Figure S4. Master curves obtained by frequency-temperature superposition of the shear moduli at T_{ref} =20 °C for mixtures of TH40/TH50 at different F₄₀ indicated in the figure at C=30 g/L and α =0.60 without added salt. For clarity, not all data points are shown.