

ESI

Novel stabilisation of emulsions by soft particles: polyelectrolyte complexes

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Figure S1. (a) Average particle diameter and (b) PDI *versus* x_{PSSNa} for aqueous PEC dispersions prepared from 0.5 g L^{-1} individual PEL solutions for freshly prepared dispersions (unfilled circles) and values 24 days after preparation (filled circles).

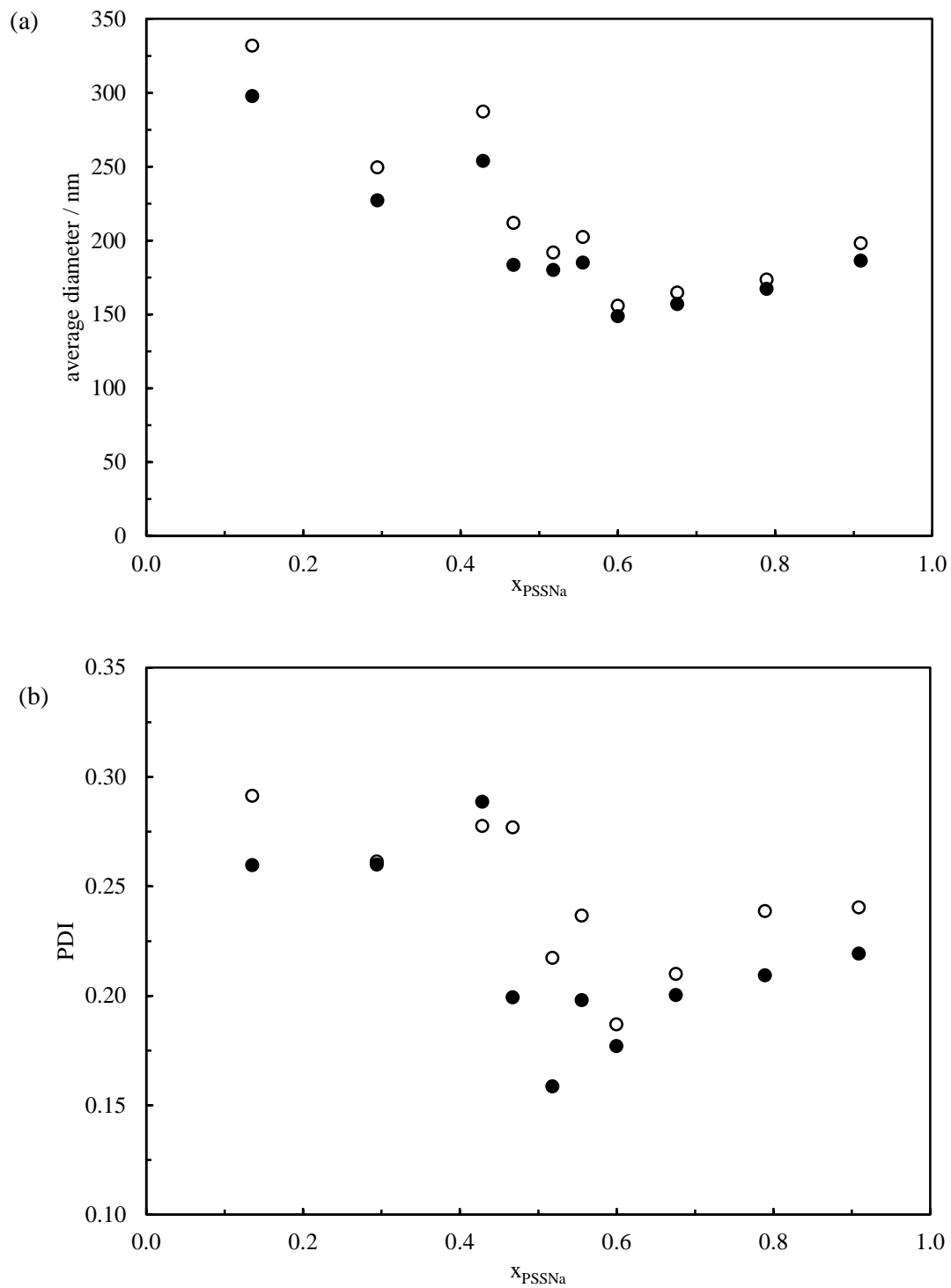


Figure S2. Variation of zeta potential with x_{PSSNa} for aqueous PEC dispersions in Figure S1.

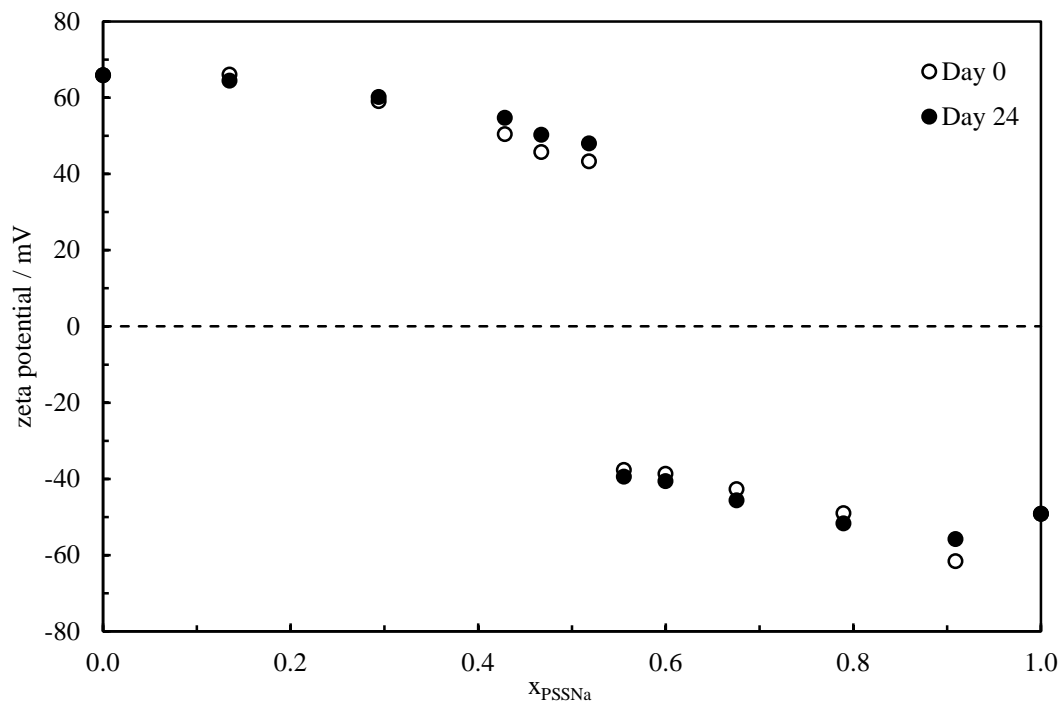


Figure S3. (a) Variation of the transmittance at $\lambda = 500$ nm of aqueous PEC dispersions prepared at $x_{\text{PSSNa}} \approx 0.54$ with concentration of PSSNa. (b) Plot of zeta potential *versus* [PSSNa] for the above dispersions.

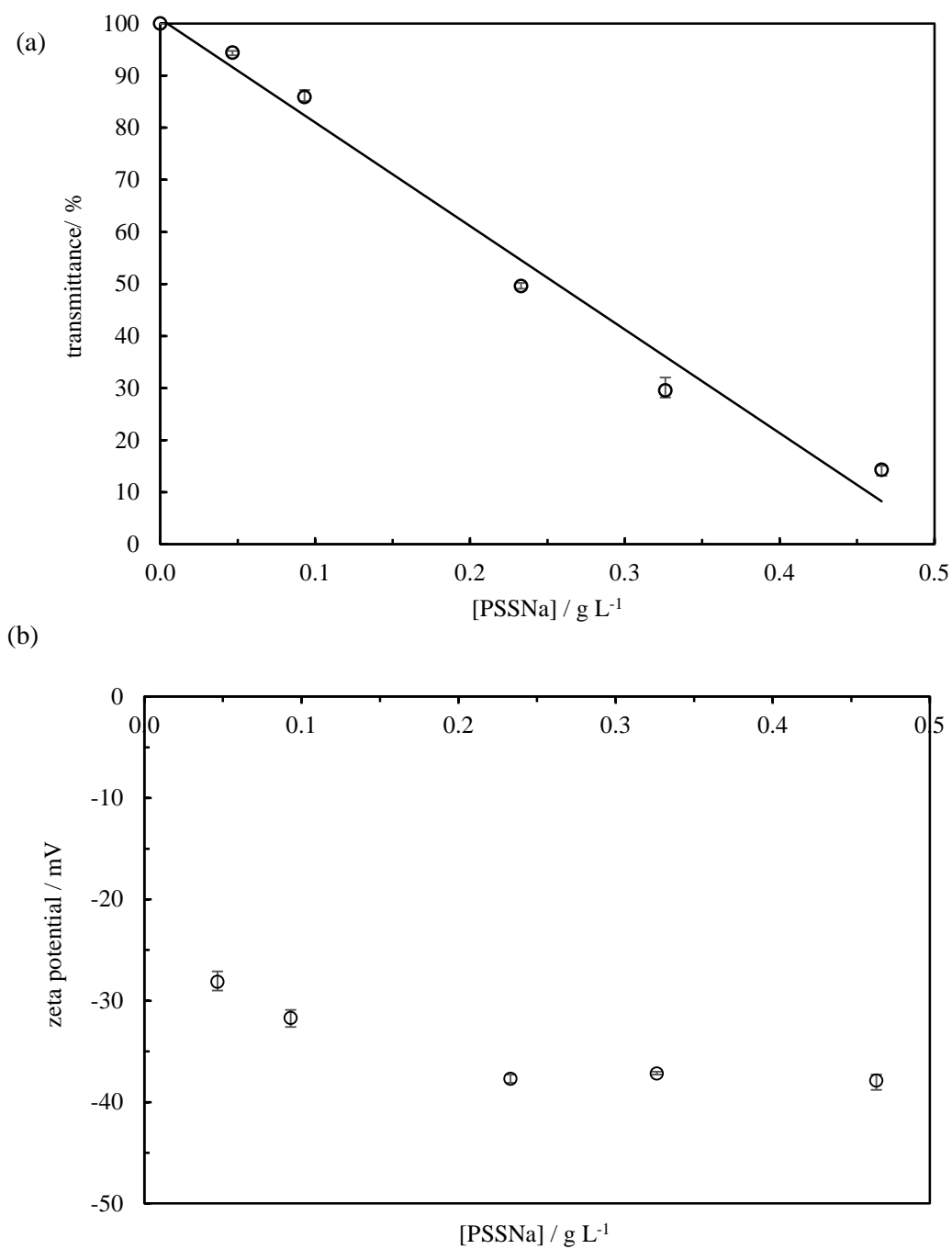


Figure S4. (a) Average particle diameter and (b) PDI *versus* x_{PSSNa} for aqueous PEC dispersions prepared from 0.1 g L^{-1} individual PEL solutions of different molecular weight; $M_{\text{WPSSNa}} = 976 \text{ kDa}$, $M_{\text{WPDADMAC}} = 160 \text{ kDa}$.

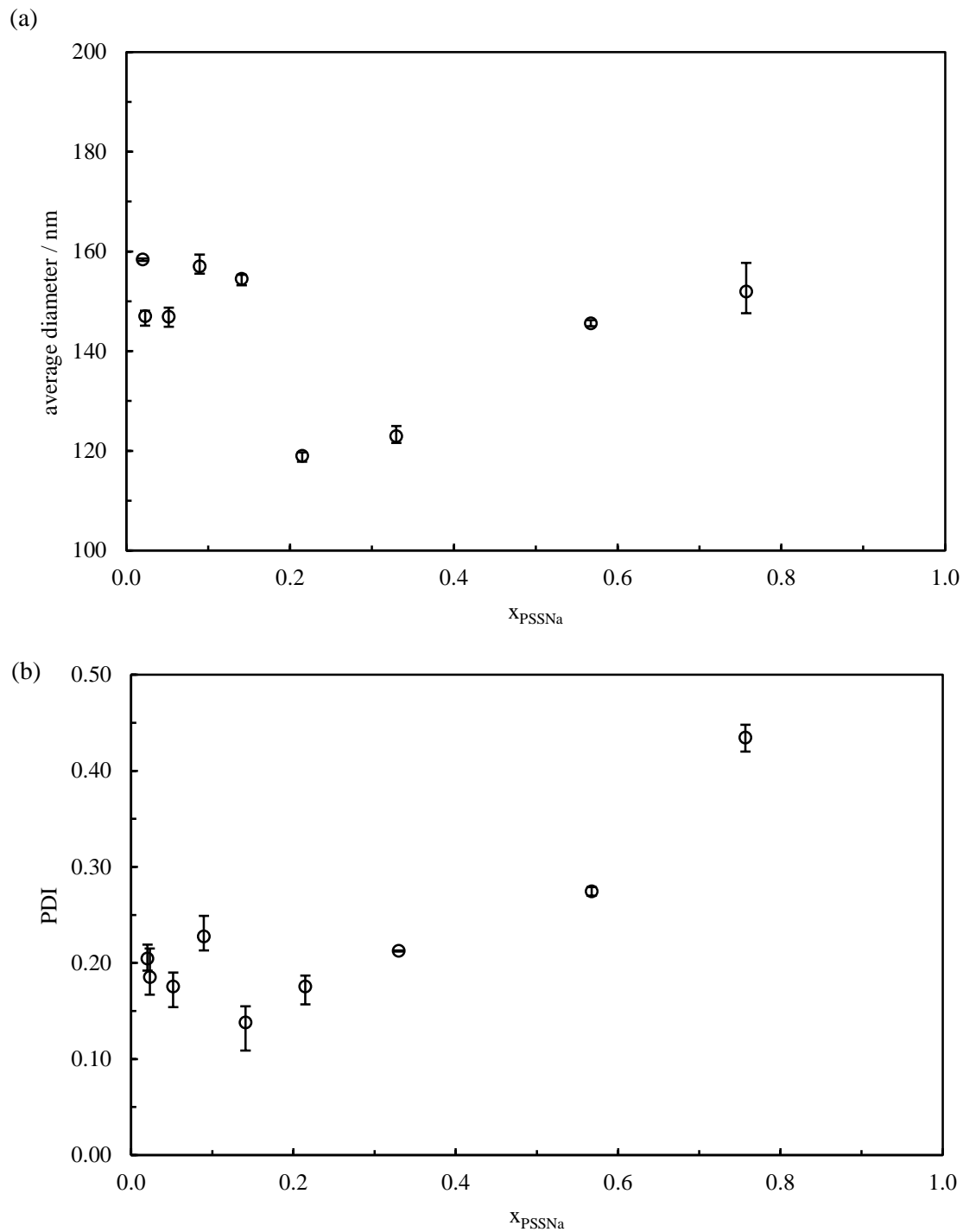
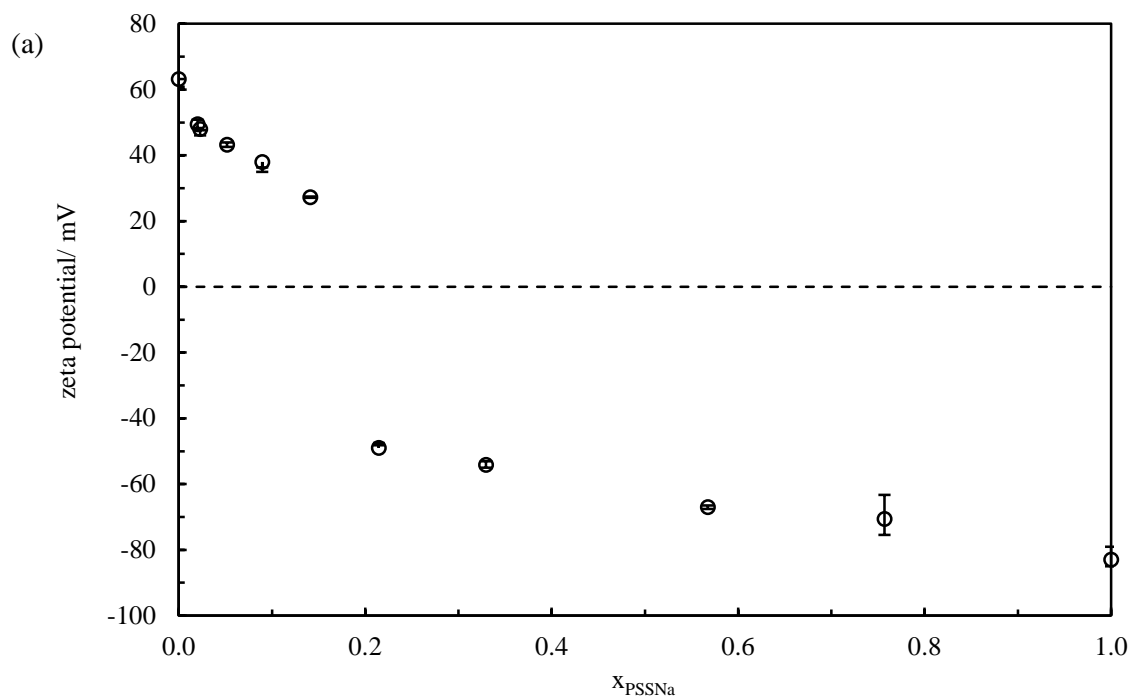


Figure S5. (a) Variation of zeta potential with x_{PSSNa} for aqueous PEC dispersions given in Figure S4, (b) appearance of dodecane-in-water emulsion ($\phi_o = 0.2$) stabilised by PEC particles with $x_{\text{PSSNa}} = 0.13$ prepared from 20 g L⁻¹ individual PEL solutions of different molecular weight.



(b)



Figure S6. Cryo-SEM images of dodecane-in-water emulsions ($\phi_o = 0.2$) stabilised by PEC particles prepared from 25 g L^{-1} individual PEL solutions and $x_{\text{PSSNa}} = 0.52$. (d) is of the continuous aqueous phase.

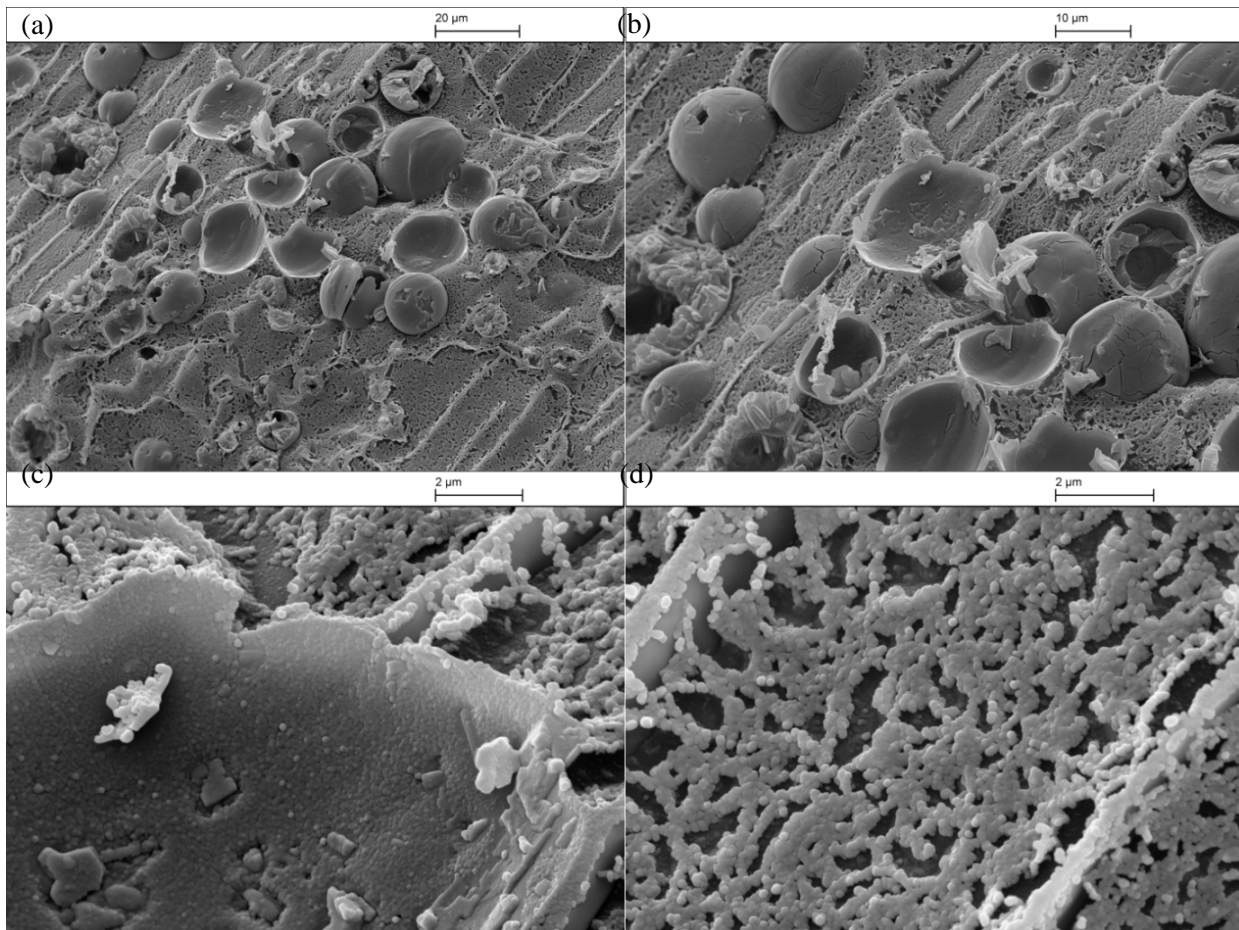


Figure S7. (a) Appearance of the 1 g L^{-1} PEL solutions in 5 M NaCl after hand shaking for 30 s for (1) PDADMAC and (2) PSSNa. (b) Appearance of the emulsions prepared between n-dodecane ($\phi_o = 0.2$) and 1 g L^{-1} PEL solution after preparation for (1) PDADMAC and (2) PSSNa. Scale bar = 1 cm .

