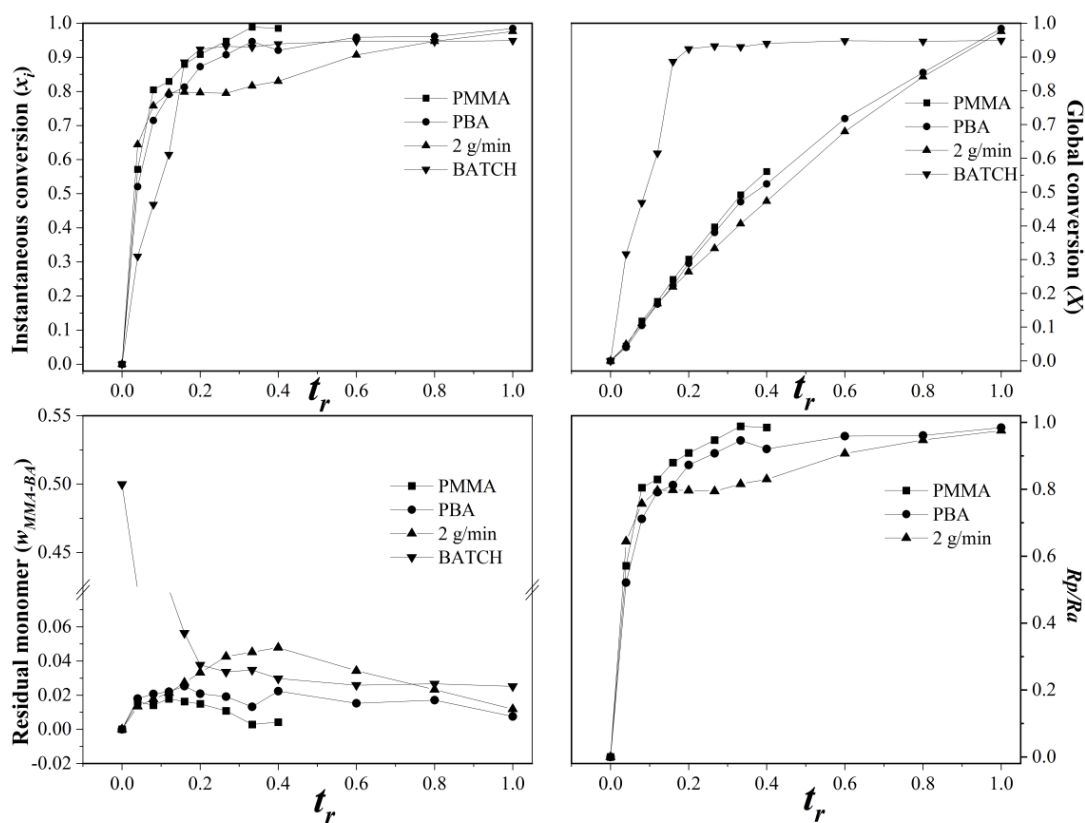
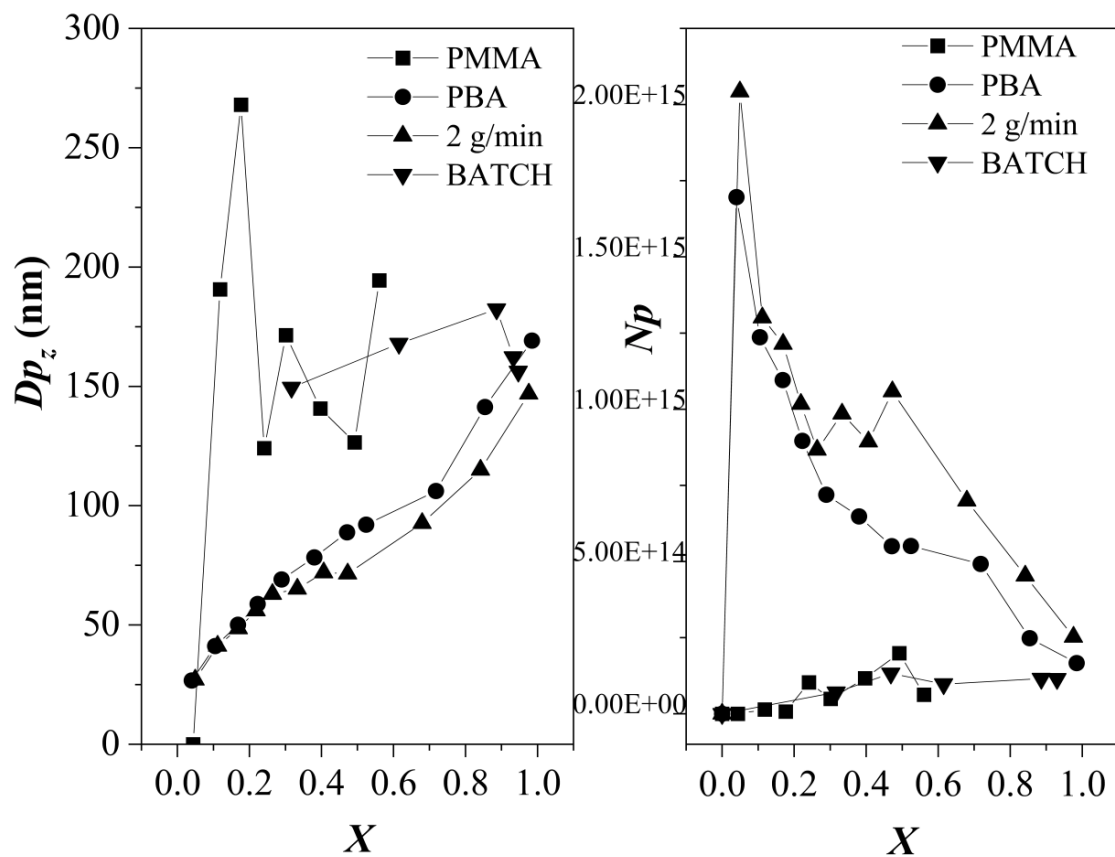


**Figure S1** shows the kinetics parameters such as instantaneous conversion, global conversion, residual monomer, and  $R_p/R_a$  proportion, obtained by the individual polymerization of monomers at a specific addition rate of 2 g min<sup>-1</sup> and with the presence of 1.0 wt.% of surfactant. Furthermore, Figure S1 shows a kinetics comparison between the kinetics parameters obtained by the individual polymerization of monomers at a specific addition rate of 2 g min<sup>-1</sup> and with the presence of 1.0 wt.% of surfactant and the copolymer kinetic parameters labeled in **Figure S2** as the blue triangle (▲) and Batch copolymer with 1.0 wt.% of surfactant marked in Figure S2 with the green inverted triangle (▼).



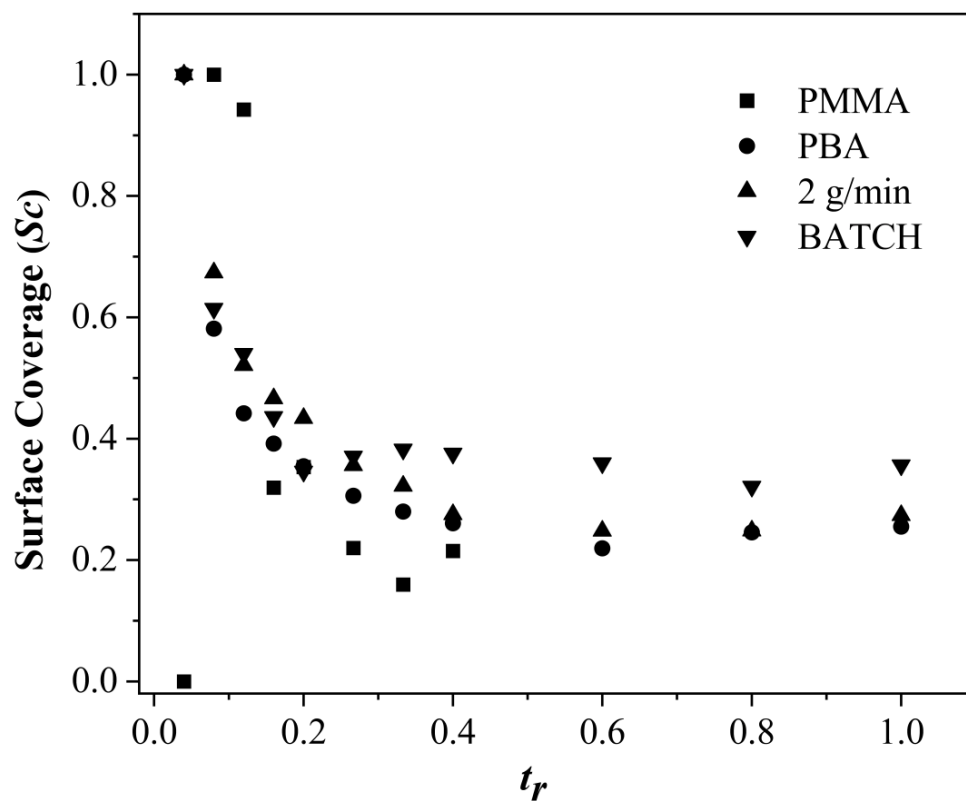
**Figure S1.** Kinetics parameters of PMMA and PBA homopolymers compared with the copolymer prepared at 2 g min<sup>-1</sup> and the Batch copolymer with 1.0 wt % of surfactant content.

**Figure S2** Shows the comparison between homopolymers and copolymers of particle size and number of particle size calculations.



**Figure S2.** Particle size ( $Dp_z$ ) and number of particles ( $Np$ ) of PMMA and PBA homopolymers compared with the copolymer prepared at 2 g min<sup>-1</sup> and the Batch copolymer with 1.0 wt.% of surfactant content.

**Figure S3** shows the comparison between homopolymer and copolymer surface coverage ( $S_c$ ) calculations.



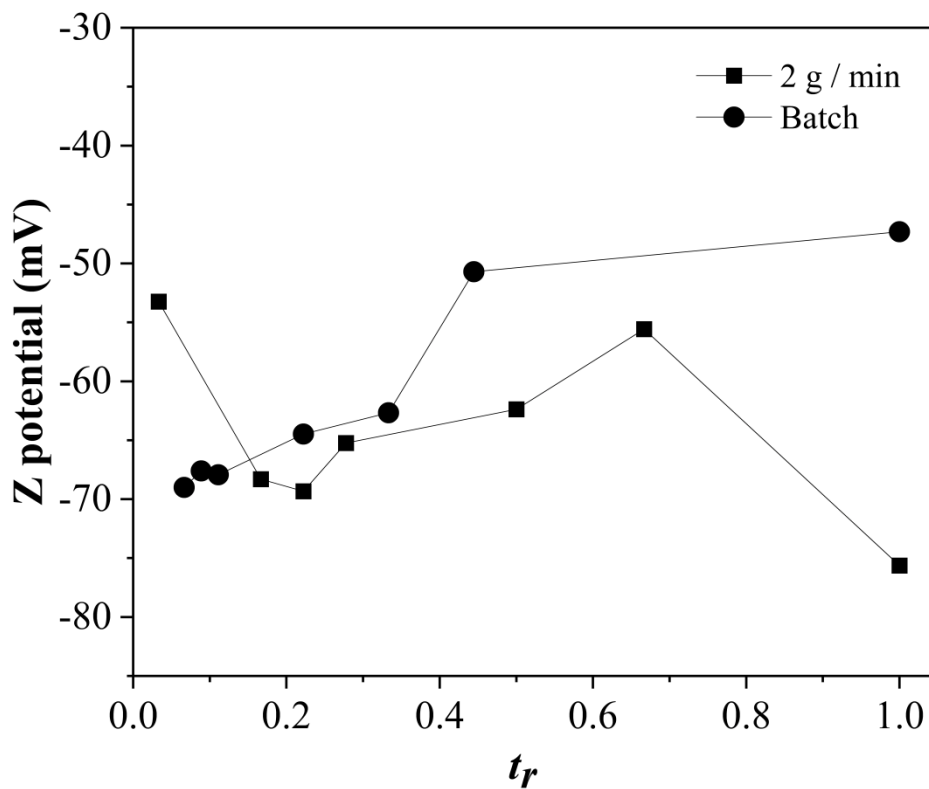
**Figure S3.** Surface coverage calculations of PMMA and PBA homopolymers compared with the copolymer prepared at 2 g min<sup>-1</sup> and the Batch copolymer with 1.0 wt % of surfactant content.

T<sub>g</sub> calculation according to calorimetric profiles of the copolymers synthesized with comonomers addition rate modification is shown in **Table S1**.

**Table S1.** T<sub>g</sub> of copolymers with 1.0 wt % and 2.0 wt % of surfactant content at different addition rates.

Addition rate	SDS	SDS
	1.0 wt %	2.0 wt %
0.5 g/min	21.4 °C	23.1 °C
1.0 g/min	22.3 °C	22.7 °C
2.0 g/min	21.7 °C	21.1 °C
BATCH	20.9 °C	19.6 °C

**Figure S4** shows measurements of the Z-potential of selected copolymer samples synthesized with 1.0 wt % of SDS, for the BEP and 2 gmin<sup>-1</sup> comonomer feed for the SEHP process.



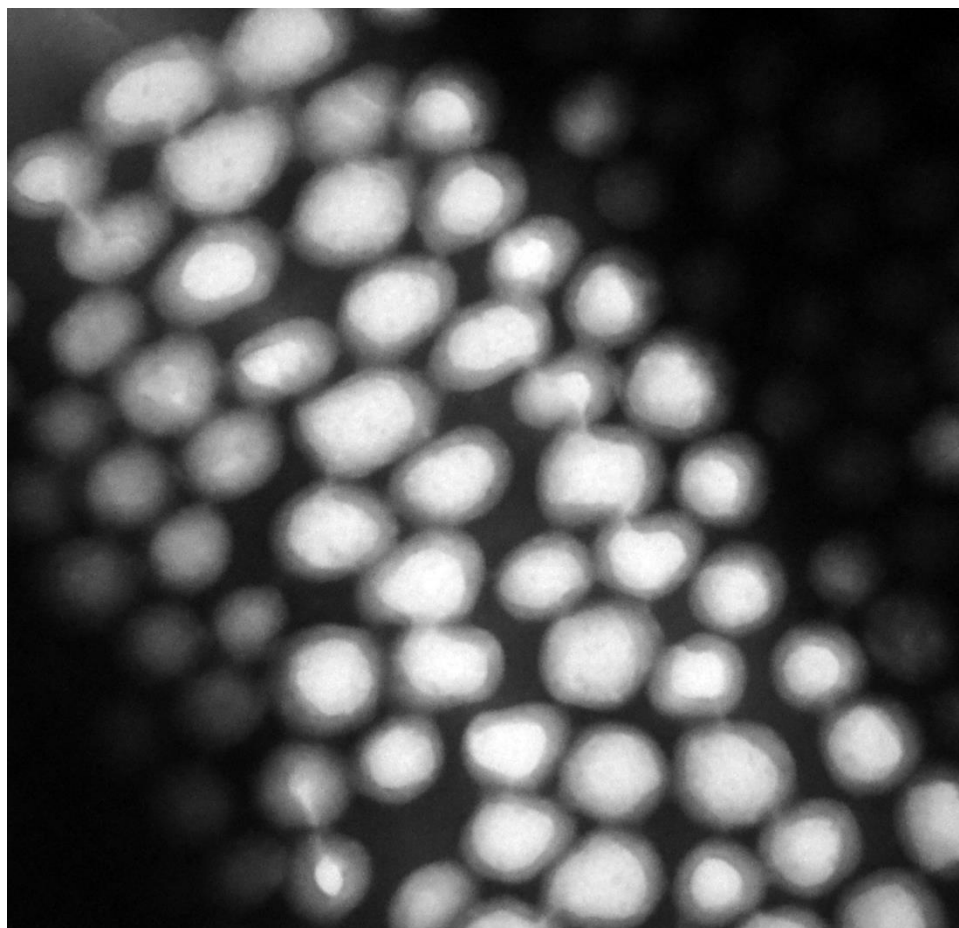
**Figure S4.** Z-potential measurements for BEP and SEHP process at the feed rate of 2 g/min with 1 wt % of SDS in both processes.

**Table S2** shows a resume of stereoregularity of copolymer and BA concentration obtained in selected samples.

**Table S2.** Tacticity and BA concentration of copolymer obtained by RMN.

Sample	C <sub>BA</sub> (%)	rr (%)	rm (%)	mm (%)
0.5 gmin <sup>-1</sup> 1SDS	21	63.2	29.2	7.6
0.5 gmin <sup>-1</sup> 2SDS	19.5	65.1	26.7	8.1
BATCH 1SDS	20	63.3	33.60	3.1

A TEM image of Batch copolymer nanoparticles with 1.0 wt. % of surfactant is shown in Figure S5; homogeneous quasi-spherical shapes were obtained.



JEOL 1010 Mag: 120 kx 125 nm 

**Figure S5.** TEM image of final copolymer synthesized with 1.0 wt.% of surfactant content in Batch copolymerization.