

Electronic Supplementary Information for:

**Efficient Synthesis of Poly(2-hydroxypropyl methacrylate)–
Silica Colloidal Nanocomposite Particles via Aqueous
Dispersion Polymerization**

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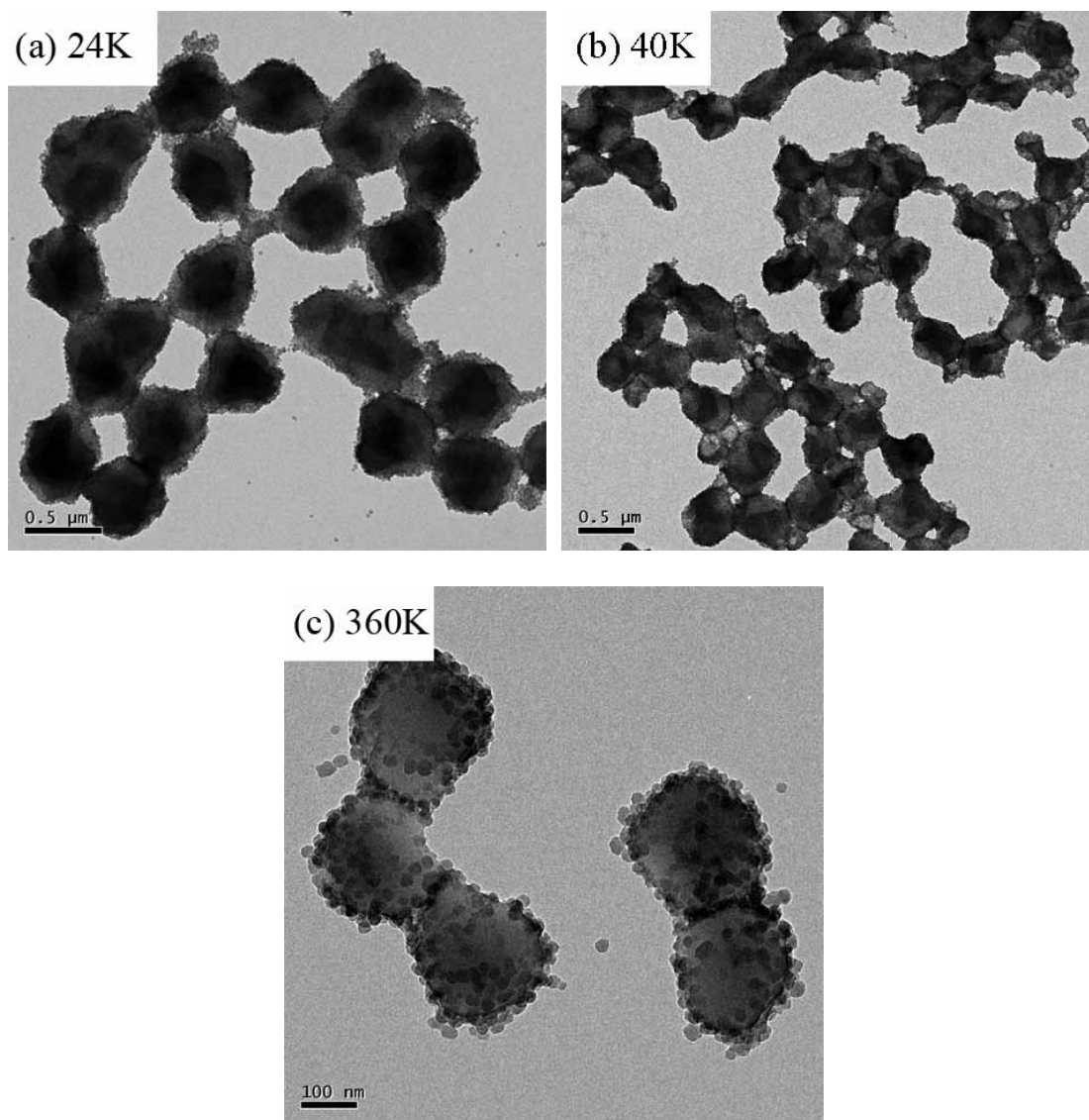


Figure S1. TEM images obtained for PHPMA/SiO₂ nanocomposite particles prepared using different molecular weights of PVP co-stabilizer using 1.05 g silica sol and 0.50 g PVP: (a) 24 K (entry 1 in Table 1); (b) 40 K (K30, entry 2 in Table 1); (c) 360 K (entry 3 in Table 1).

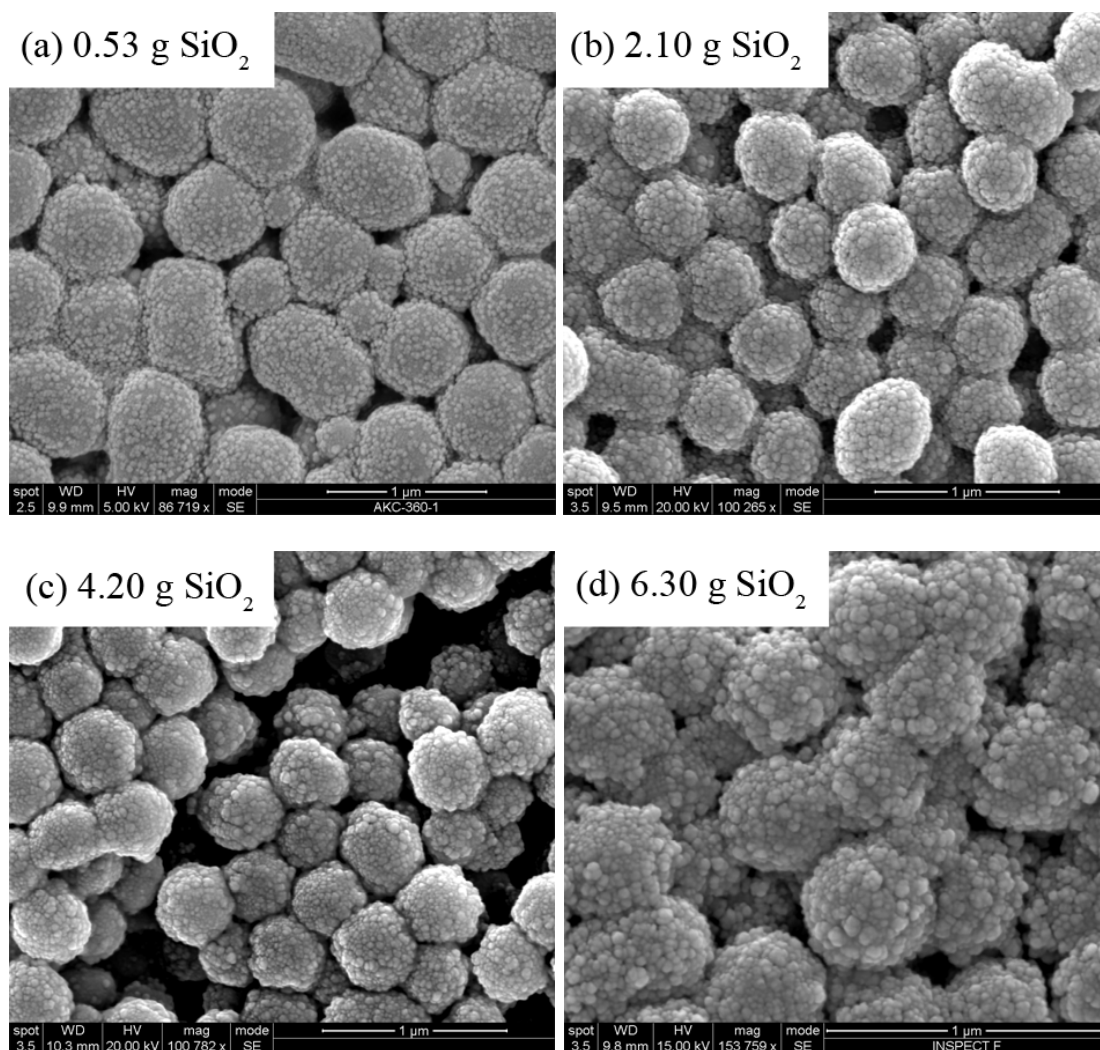


Figure S2. SEM images obtained for PHPMA/SiO₂ particles prepared using 0.50 g PVP 40 K with the following silica sol concentrations: (a) 0.53 g SiO₂ (entry 12 in Table 2); (b) 2.10 g SiO₂ (entry 15 in Table 2); (c) 4.20 g SiO₂ (entry 17 in Table 2); (d) 6.30 g SiO₂ (entry 18 in Table 2).

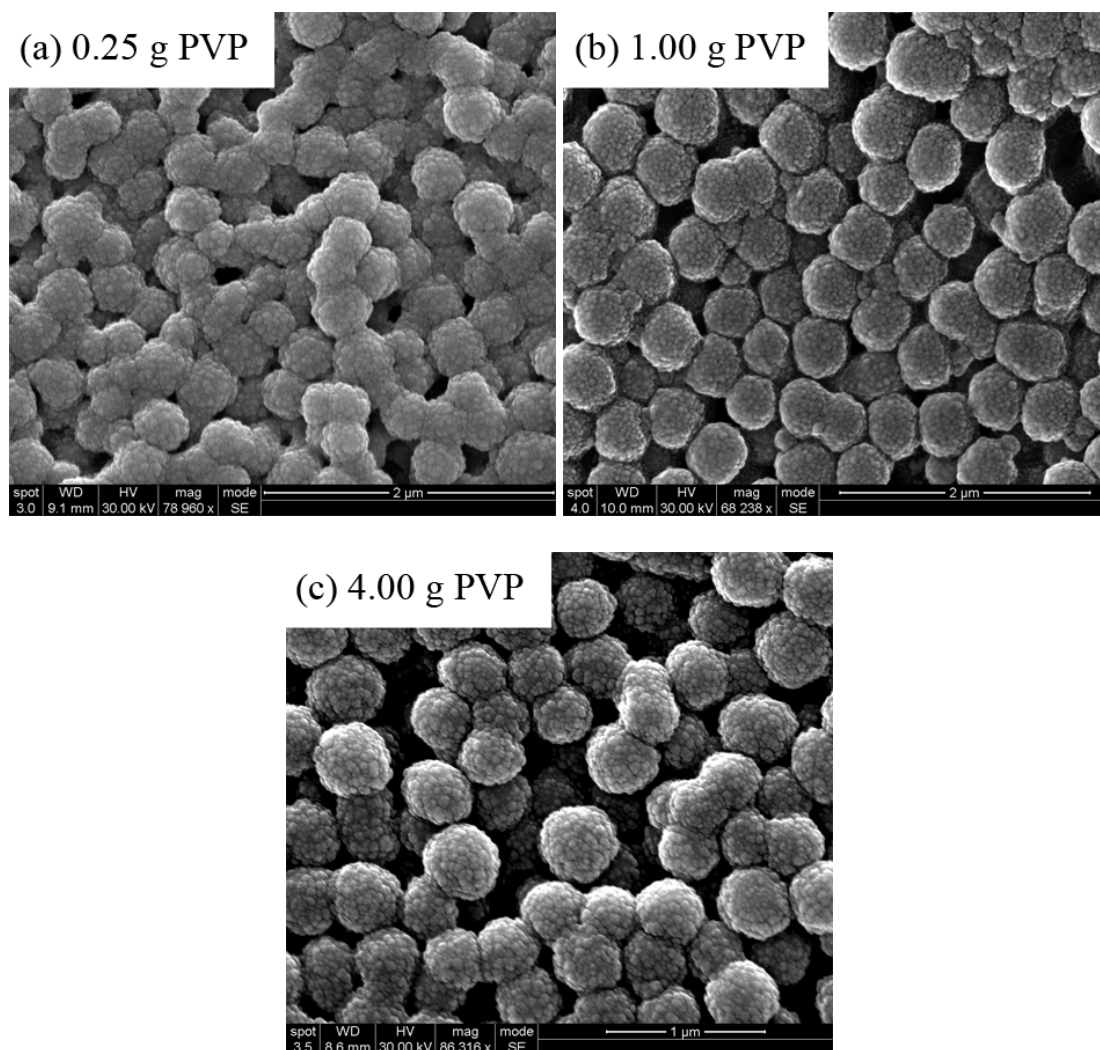


Figure S3. SEM images obtained for PHPMA/SiO₂ particles prepared using 1.05 g silica with the following masses of PVP 40 K: (a) 0.25 g (entry 2 in Table 3); (b) 1.00 g (entry 4 in Table 3); (c) 4.00 g (entry 8 in Table 3).

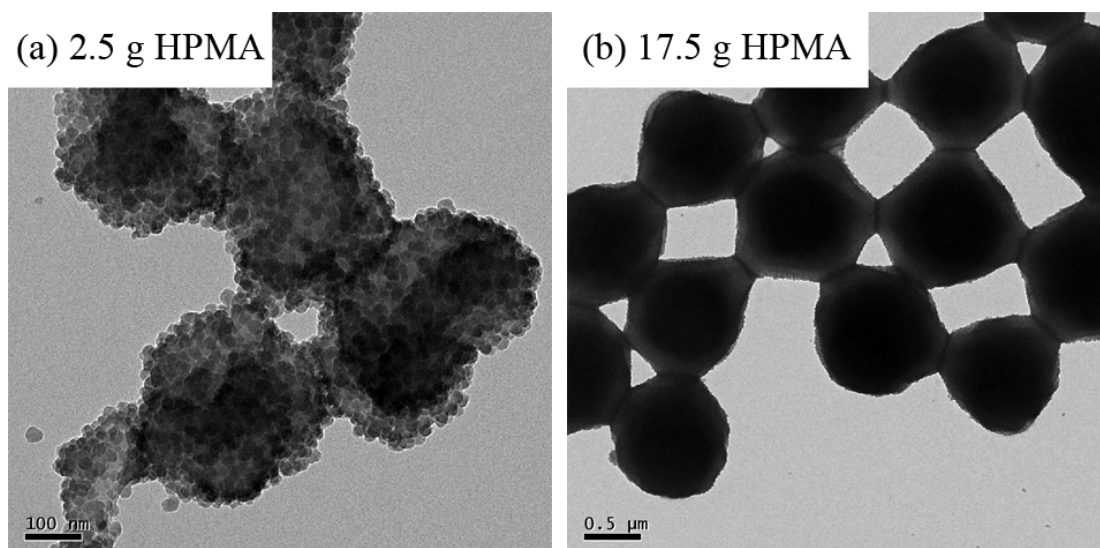


Figure S4. TEM images obtained for PHPMA/SiO₂ particles prepared using 1.05 g silica and 0.50 g PVP 40 K using the following masses of HPMA: (a) 2.50 g (entry 1 in Table 4); (b) 17.5 g (entry 7 in Table 4).

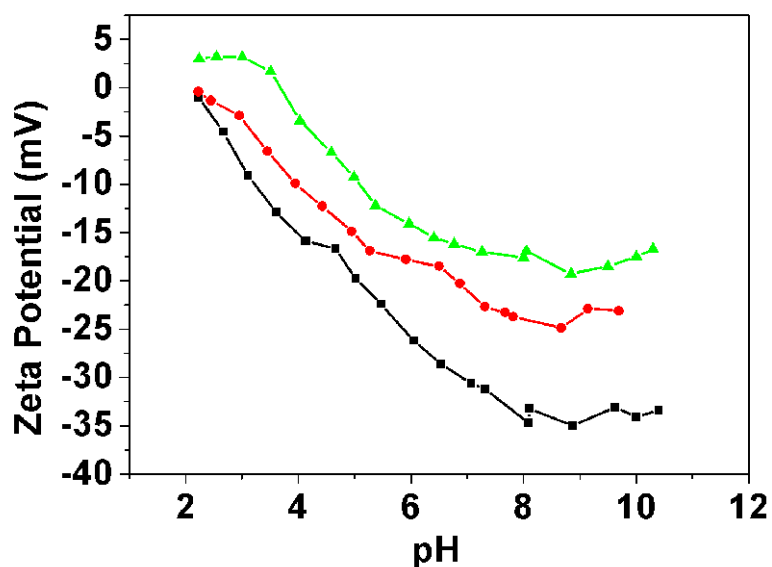


Figure S5. Aqueous electrophoresis curves obtained for (▲) PVP-stabilized PHPMA latex, and PHPMA/SiO₂ nanocomposite particles prepared using (●) 0.26 g silica sol and (■) 6.30 g silica sol (entries 1, 2 and 9 in Table 2, respectively).

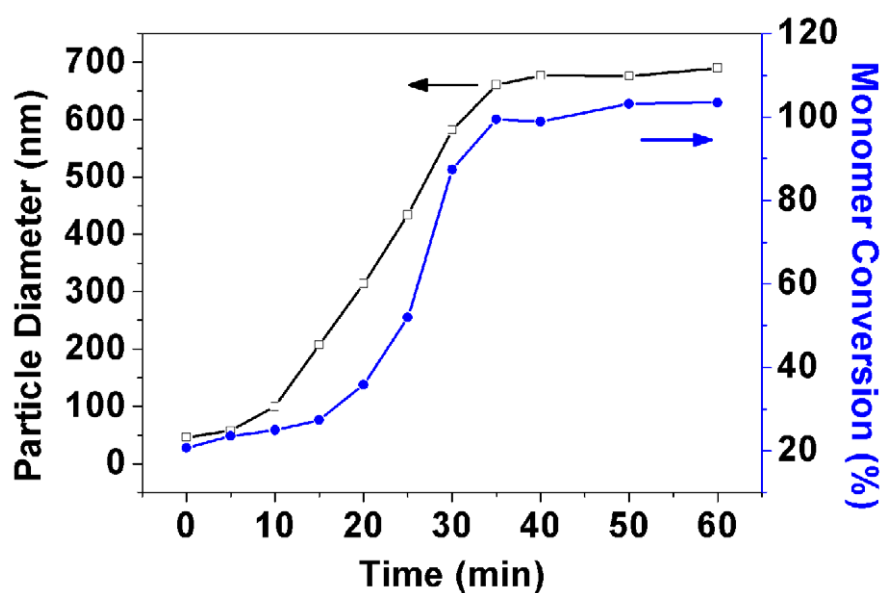


Figure S6. Evolution of monomer conversion vs. time and particle growth vs. time curves during the synthesis of PHPMA/SiO₂ nanocomposite particles. Conditions: 10.0 g HPMA, 1.0 g PVP 40 K and 2.10 g Bindzil 2040 silica sol in 100 g water, initiated with 100 mg APS initiator and mechanically stirred at 200 rpm (i.e. a two-fold scale-up of the synthesis conditions used for entry 13 in Table 2).