

Figure S1. (A) GPC traces of PtBA_(30K)-Br and PtBA_(30K)-b-PS_(3K). (B) GPC traces of PtBA_(30K)-Br and PtBA_(30K)-b-PS_(10K). (C) GPC traces of PtBA_(30K)-Br and PtBA_(30K)-b-PS_(60K). (D) GPC traces of PtBA_(30K)-Br and PtBA_(30K)-b-PS_(90K).

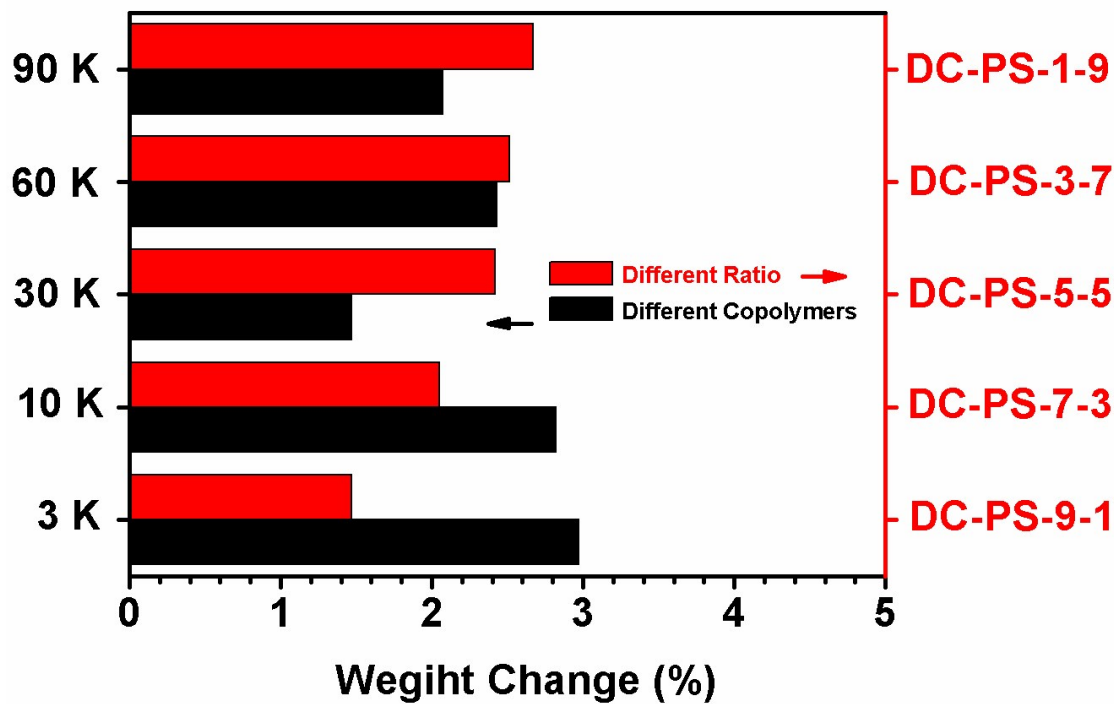


Figure S2. CO₂ adsorption capacity tested by TG method of nanoparticles synthesized with different ratio of diblock copolymers to polystyrene or different kinds of diblock copolymers

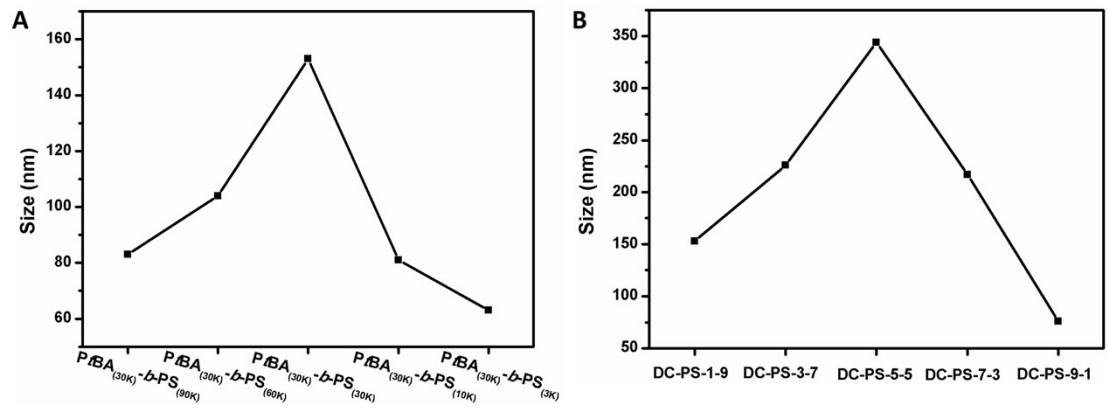


Figure S3. Change trend of nanoparticles' size: (A) different diblock copolymer. (B) different mass ratio of copolymer to total polymers.

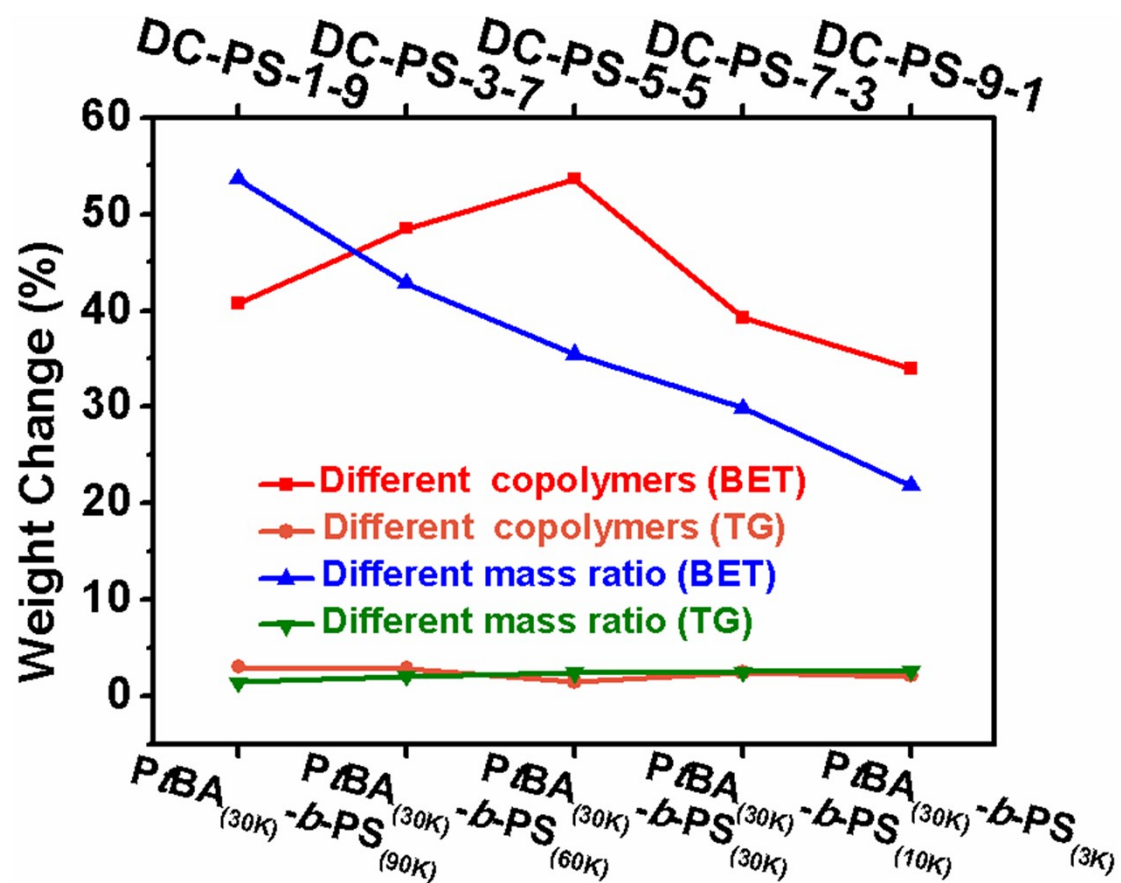


Figure S4. Change trends of CO₂ capture capacities of different AHCNPs in various synthesis condition.

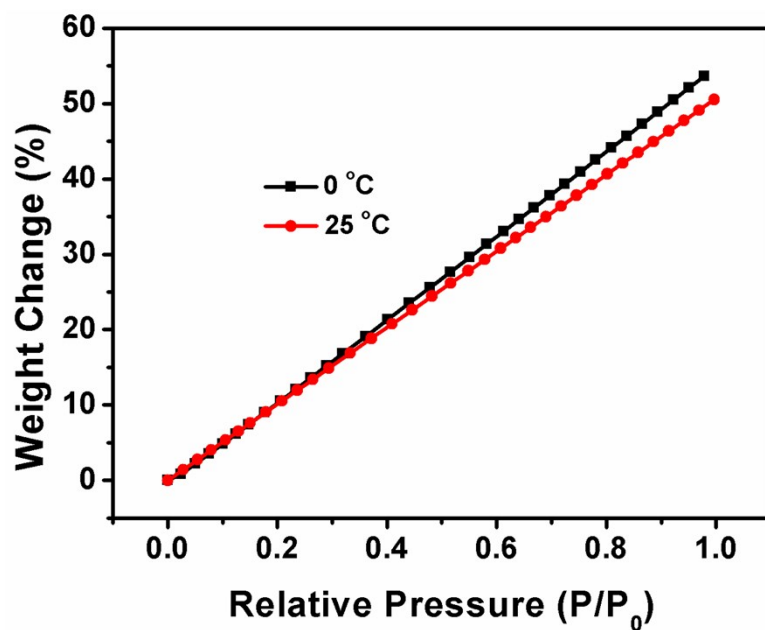


Figure S5. CO₂ capture capacity of AHCPNPs (synthesized with PtBA_(30K)-*b*-PS_(30K) and 1:9 mass ratio of copolymer to PS) at 25 °C and 0 °C.