

Fig. S1 SEM images of the BaTiO<sub>3</sub> nanocrystals prepared at 0.01M for 3 and 7 min under ultrasonic irradiation

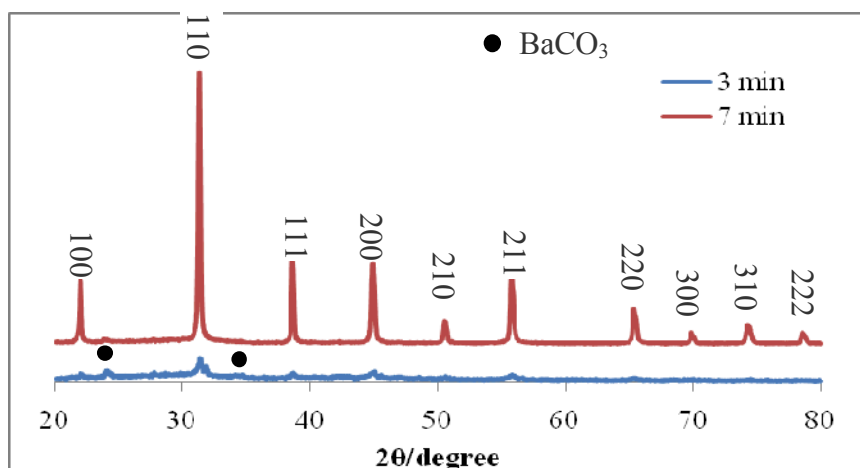


Fig. S2 XRD patterns of the BaTiO<sub>3</sub> particles sonochemically synthesized for 3min and 7min at 0.01M

As shown in Fig. S1, BaTiO<sub>3</sub> nanocrystals firstly formed after 3 min ultrasonication, and then the aggregation of BaTiO<sub>3</sub> nanocrystals occurred in a short period under ultrasonic irradiation. The BaTiO<sub>3</sub> peaks were characterized from the XRD patterns of the BaTiO<sub>3</sub> nanocrystals sonochemically synthesized for 3min and 7min at 0.01M as shown in Fig. S2.

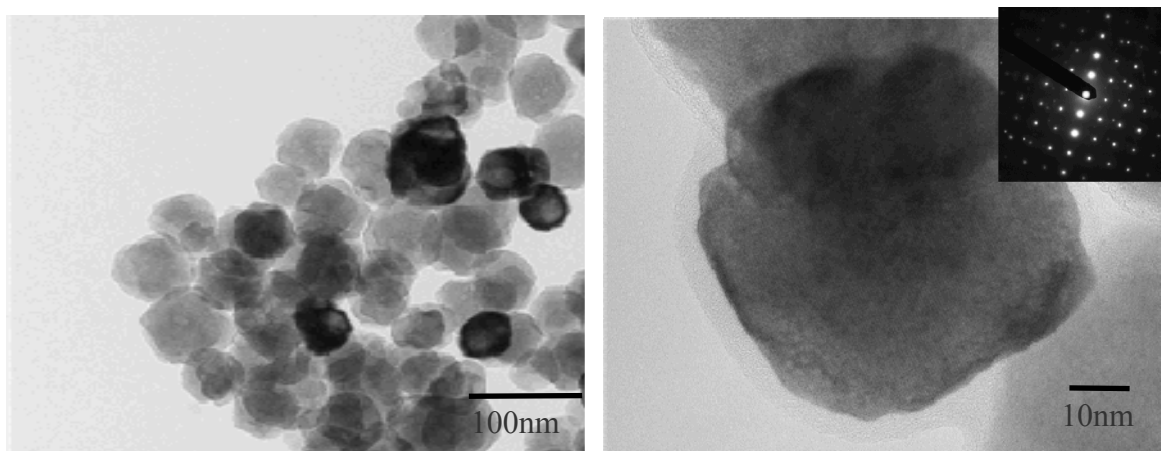


Fig. S3 TEM images of the BaTiO<sub>3</sub> particles sonochemically synthesized through the addition of ethanol (10 %) at 80 °C, 0.05M for 40 min.

Through the addition of ethanol which was used for the capturing of radical species in the sonochemical synthesis process, no aggregation of nanocrystals and nanoparticles were observed. The formation of radical species was important for the aggregation of BaTiO<sub>3</sub> nanocrystals