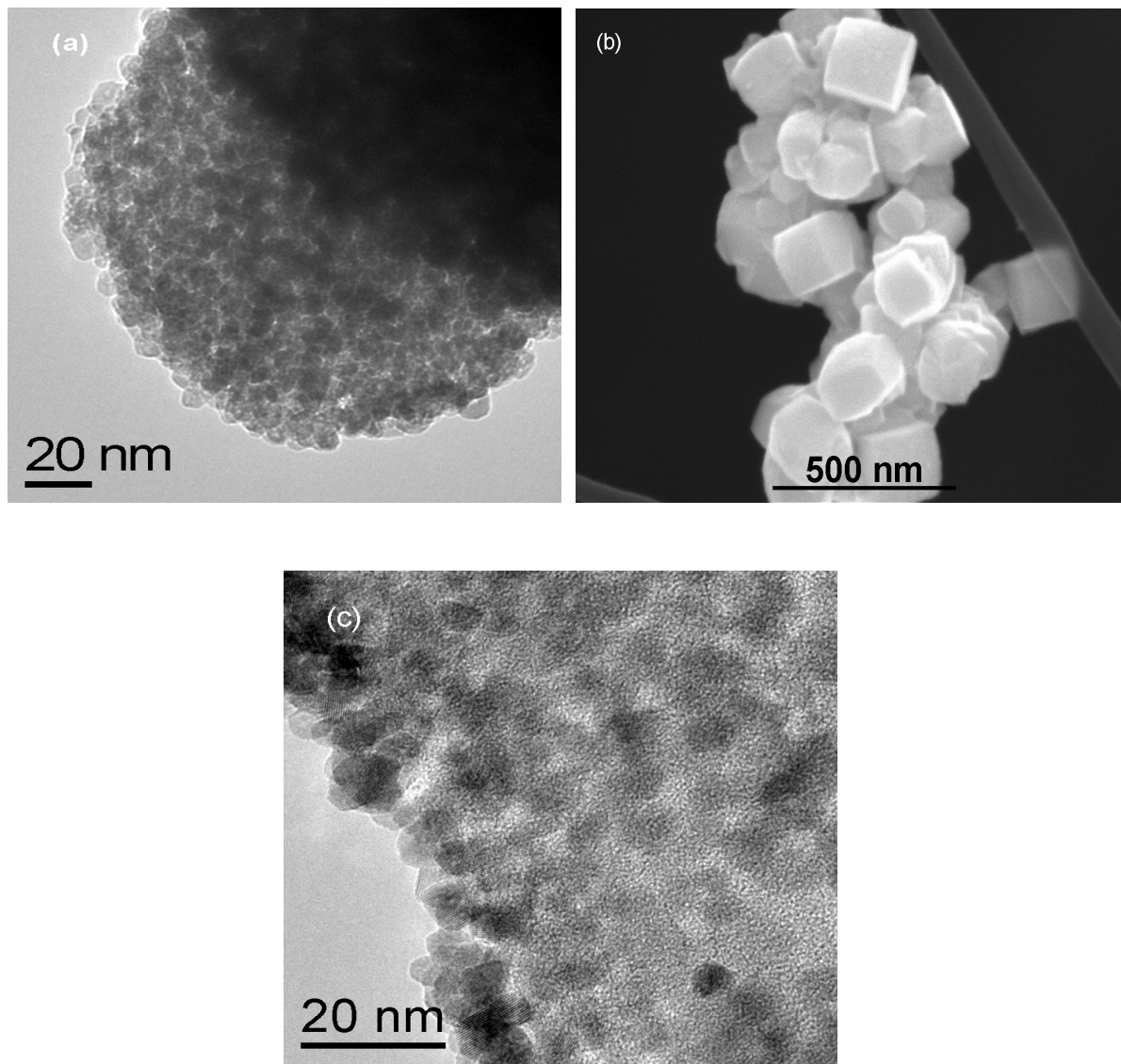


Supplementary Information

Fig. S1 TEM of the samples prepared under different pH values. (a) pH=3, (b) pH=7, (c) pH=12.



5

10

15

20

Fig. S2 Particle sizes distribution of SnO₂. (a) pH=3, (b) pH=12.

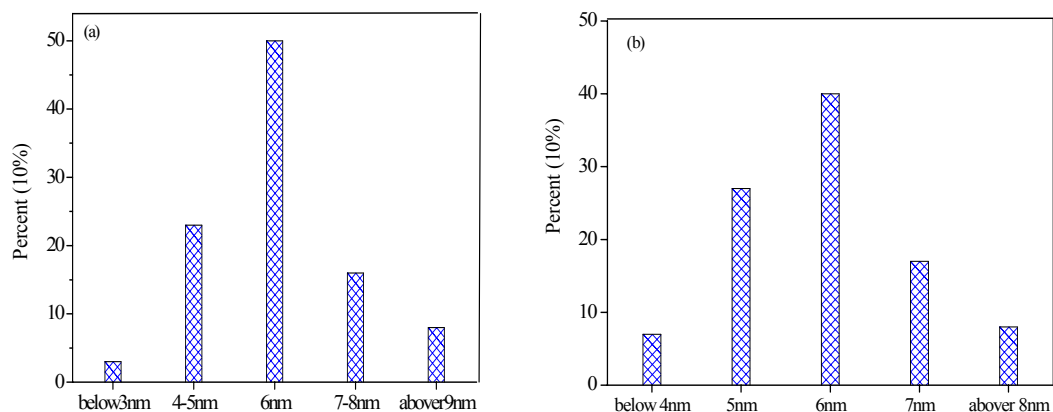
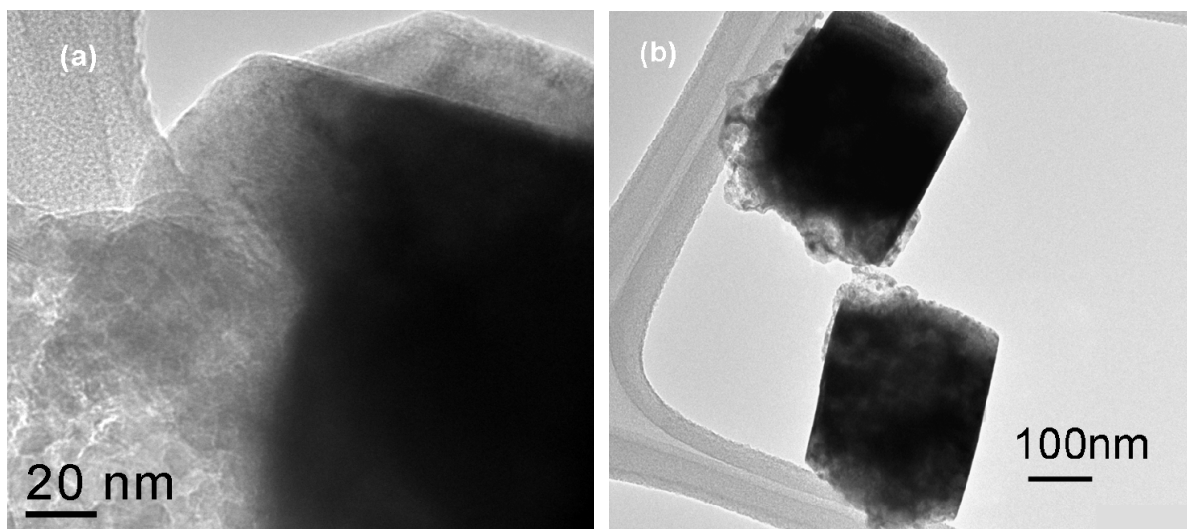
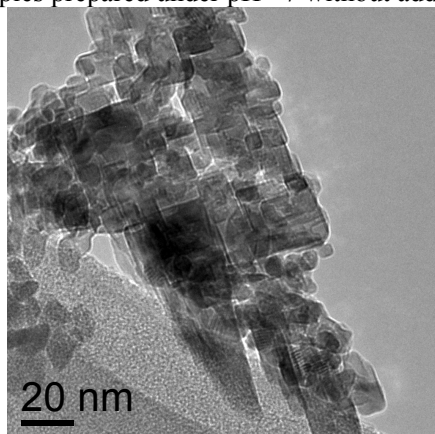


Fig. S3 TEM images of nanocubes and nano- particles
25



30 **Fig. S4** TEM image of samples prepared under pH =7 without addition of (NH₄)₂S₂O₈.



Instrumentation procedures:

Powder X-ray diffraction data were recorded by using a Bruker D8 Advance X-ray diffractometer with Cu K α 1 35 irradiation ($\lambda=1.5406 \text{ \AA}$). The selective area electron diffraction and transmission electron microscopy (TEM) images were recorded on a CM120 microscope (120 kV). A trace amount of sample was suspended in ethanol solution, followed by sonication for 10 minutes. Carbon-coated copper grids were used as the sample holders. High resolution transmission electron microscopy (HRTEM) images were recorded on a Tecnai F20 microscope (200 kV) coupled with an energy-dispersive X-ray (EDX, Oxford Instrument) spectrometer. Samples were deposited on thin amorphous 40 carbon films supported by copper grids from ultrasonically processed ethanol solutions of the products.