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Supplementary Materials for

Controlled Hybridization of Sn-SnO_2 Nanoparticles *via* Simple-Programmed Microfluidic Processes for Tunable Ultraviolet and Blue Emissions

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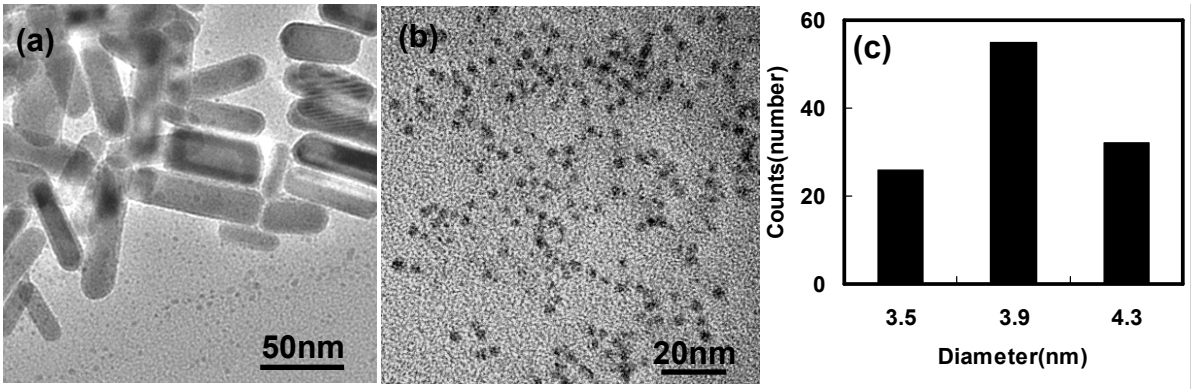

Figure s1 (a) TEM images of **t**he mixed nanorods and nanospheres as synthesized at 27.5 ± 2.5°C only using PVP as stabilizer before separating nanorods and nanospheres by centrifugal; (b) TEM images and (c) the size histogram of nanospheres obtained from the supernatant of the as-synthesized nanoparticle solution by centrifugal (10000-12000rpm, 30 min). The supernatant is the top solution after releasing most of the nanorods by centrifugal (8000-10000 rpm, 30 min).

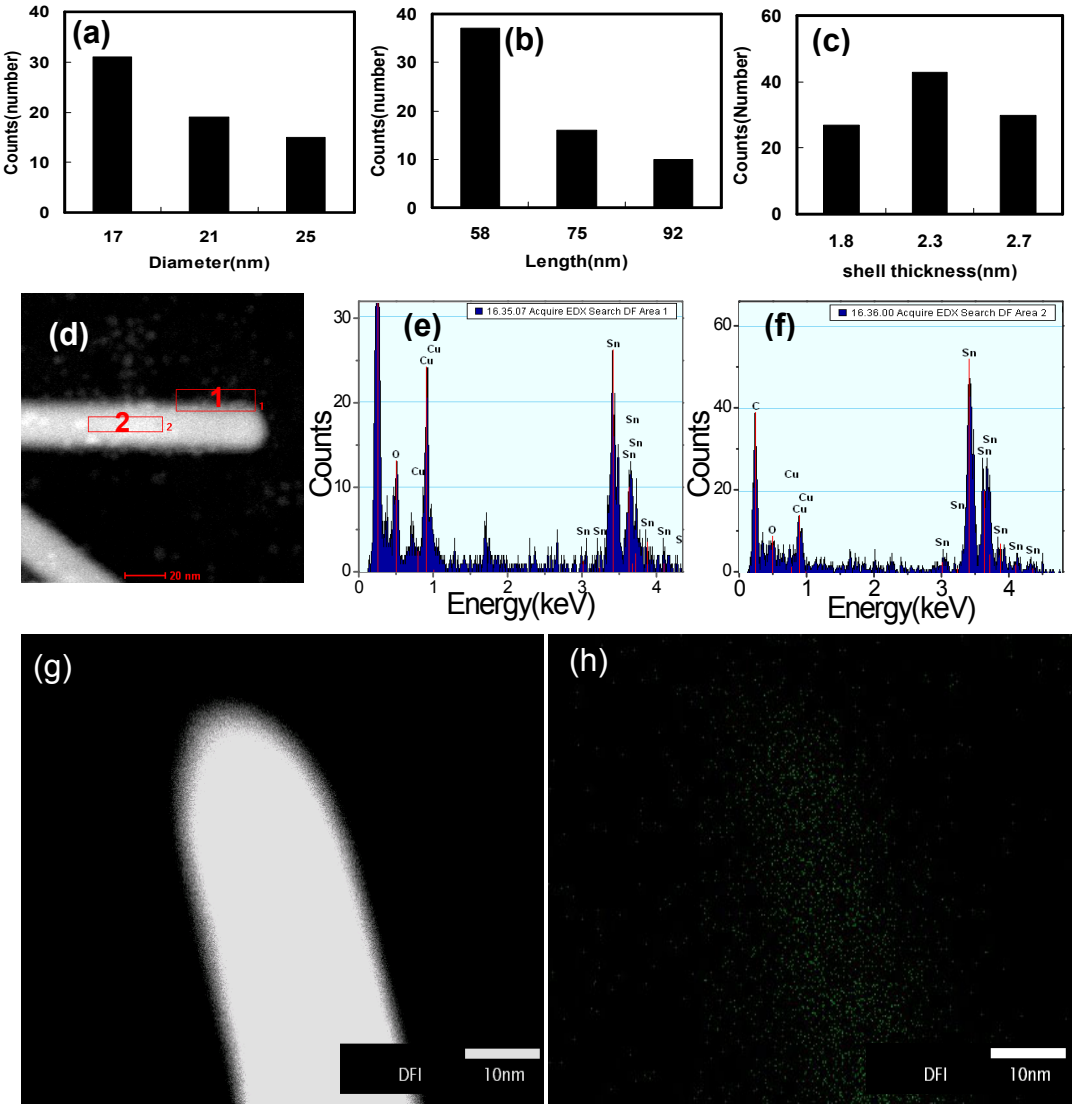

Figure s2 Histograms of diameter (a), length (b) and shell thickness (c) of Sn@SnO_2 nanorods; STEM image (d) of one typical Sn@SnO_2 nanorod and EDX spectra at its core (e) and shell (f); STEM image of another Sn@SnO_2 nanorod (g) and its tin distribution mapping (Sn L) (h).

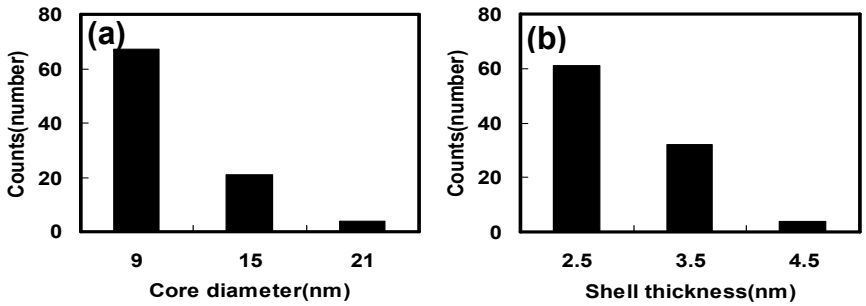

Figure s3 Histograms of core (a) and shell (b) diameters of the Sn@SnO_2 nanospheres (core: 11.0 ± 3.1 nm; shell: 2.8 ± 0.4 nm) synthesized at 82.5 ± 2.5°C only using PVP as stabilizer.

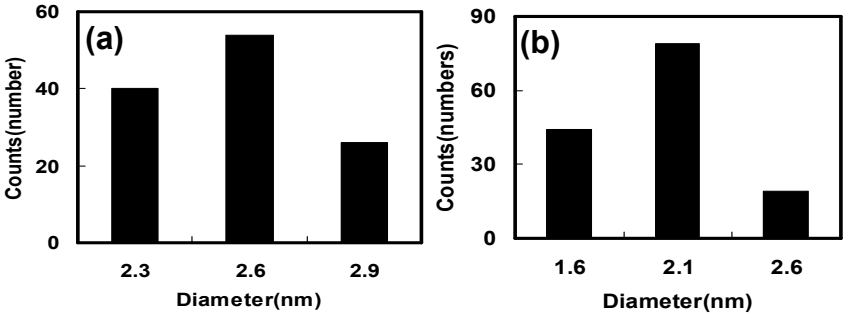

Figure s4 Diameter histogram of (a) 2.6 nm Sn-SnO_2 nanospheres (2.6 ± 0.2 nm) synthesized at 82.5 ± 2.5°C and collected at 27.5 ± 2.5°C using MAH and TSC as co-stabilizers; (b) 2.1 nm Sn-SnO_2 nanospheres (2.1 ± 0.3 nm) synthesized at 80°C and collected at 2°C using PVP, MAH and TSC as complex surfactants (stabilizer).

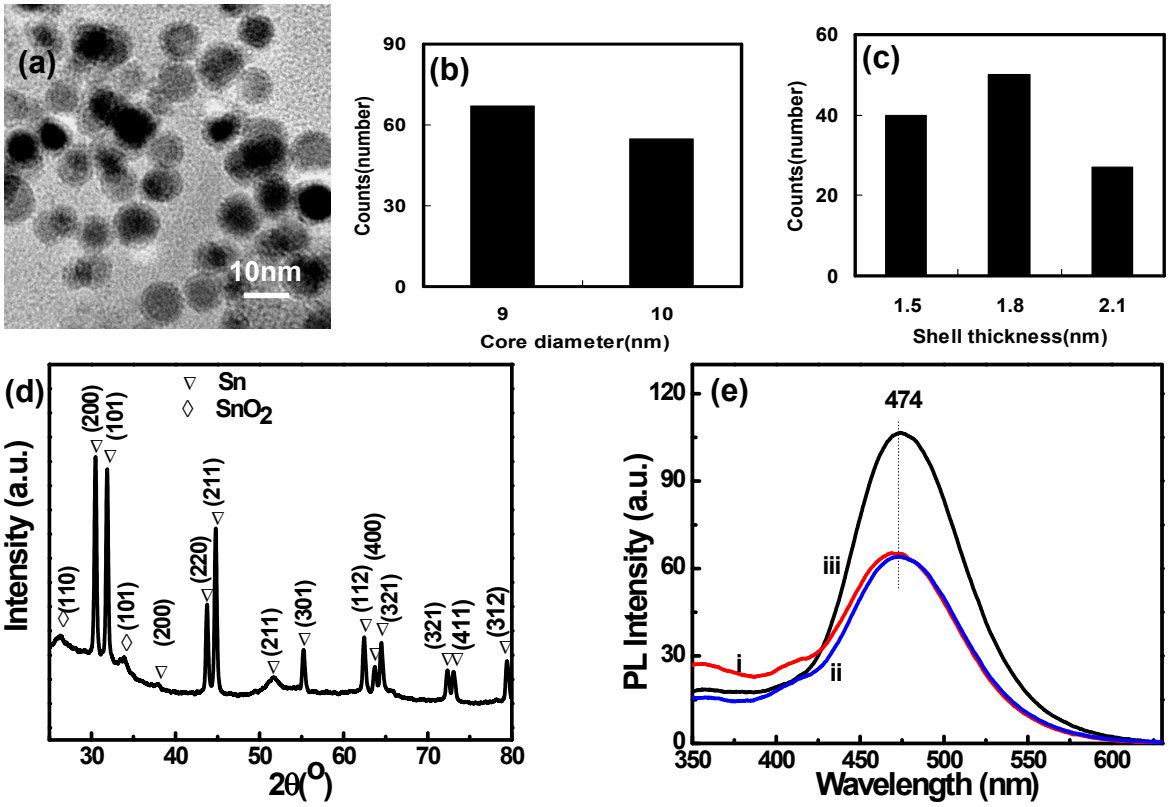

Figure s5 TEM image (a), histograms of core diameter (b) and shell thickness (c), XRD (d) and photoluminescence (e) of Sn@SnO_2 nanospheres (core: 9.8 ± 1.1; shell: 1.8 ± 0.2) (i) formed by annealing of 2.08nm Sn-SnO_2 nanohybrids solution for more than 2 hours at ~90°C by comparing with 13.8 nm Sn@SnO_2 nanospheres with amorphous shells (ii) and 2.1 nm Sn-SnO_2 with disordered SnO_2 component (iii).