Electronic Supplementary Information

In Situ Synthesis and Assembly of Copper Oxide Nanocrystals on Copper Foil via Mild Hydrothermal Process

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ESI Fig. 1 Fine structures of chrysanthemum-like CuO nanoarchitectures. (a–b) compact assembling structures, (c–d) incompact assembling structures.
ESI Fig. 2 FE-SEM images of CuO rods grown on copper substrate (1.5 cm \times 1.5 cm \times 0.2 mm) for 24 h at 160 °C with $C_{\text{APS}} = 0.15$ M, $C_{\text{NaOH}} = 5$ M and without CTAB in solution (a) low-magnification; (b) high-magnification.
ESI Fig. 3 The CuO nanostructures grown on copper substrate (1.5 cm × 1.5 cm × 0.2 mm) for 24 h at 160 °C with $C_{\text{APS}} = 0.15$ M, $C_{\text{NaOH}} = 5$ M and (a) $C_{\text{CTAB}} = 0.005$ M; (b) $C_{\text{CTAB}} = 0.05$ M.
**ESI Fig. 4** The CuO nanostructures grown on copper substrate (1.5 cm × 1.5 cm × 0.2 mm) for 24 h at 160 °C with $C_{\text{CTAB}}=0.02$ M, $C_{\text{APS}} = 0.15$ M and (a) $C_{\text{NaOH}} = 1.6$ M, (b) $C_{\text{NaOH}} = 3.5$ M.
ESI Fig. 5 FE-SEM images of haystack-like CuO nanostructures grown on copper substrate (1.5 cm × 1.5 cm × 0.2 mm) for 24 h at 160 °C with $C_{\text{SDS}} = 0.02$ M, $C_{\text{APS}} = 0.25$ M and $C_{\text{NaOH}} = 5$ M. (a) low-magnification, (b)-(d) high-magnification.
ESI Fig. 6 FE-SEM images of CuO nanostructures grown on copper substrate (1.5 cm × 1.5 cm × 0.2 mm) for 24 h at 160 °C with $C_{\text{SDS}} = 0.02$ M, $C_{\text{APS}} = 0.15$ M and $C_{\text{NaOH}} = 3$ M. (a) low-magnification, (b) high-magnification.
**ESI Fig. 7** FE-SEM image of CuO nanorods array grown on copper substrate (1.5 cm × 1.5 cm × 0.2 mm) for 24 h at 140 °C with $C_{\text{SDS}} = 0.02$ M, $C_{\text{APS}} = 0.15$ M and $C_{\text{NaOH}} = 5$ M.
ESI Fig. 8 FE-SEM image of octahedral CuO microparticles with holes grown on copper substrate (1.5 cm × 1.5 cm × 0.2 mm) for 24 h at 160 °C with $C_{\text{TX-100}} = 0.05$ M, $C_{\text{APS}} = 0.15$ M and $C_{\text{NaOH}} = 5$ M.