Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Supplementary Information for

Copper Sulfide Nanostructures and Thin Films

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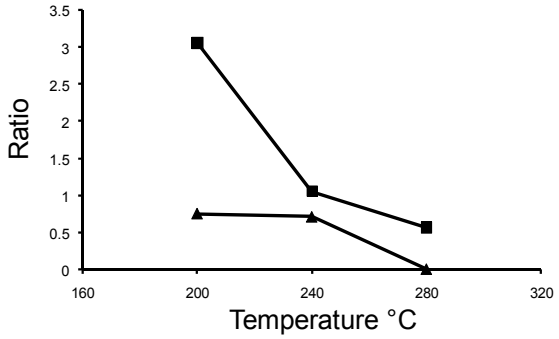

Fig. S1 Ratio between the intensity of roxbyite peak (086) to that of the anilite peak (224) from different temperatures of decomposition, (a) 10 mM (b) 20 mM solutions of the precursor.

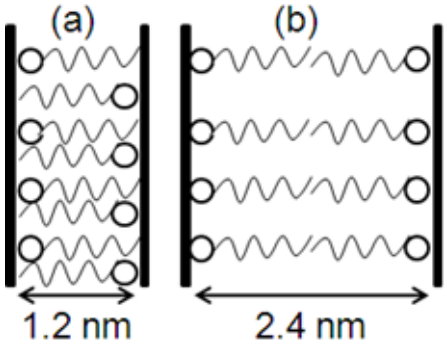

Fig. S2 Schematic diagram showing stacked face-to-face nanodisks with (a) 1.2 nm and (b) 2.4 nm spacing.

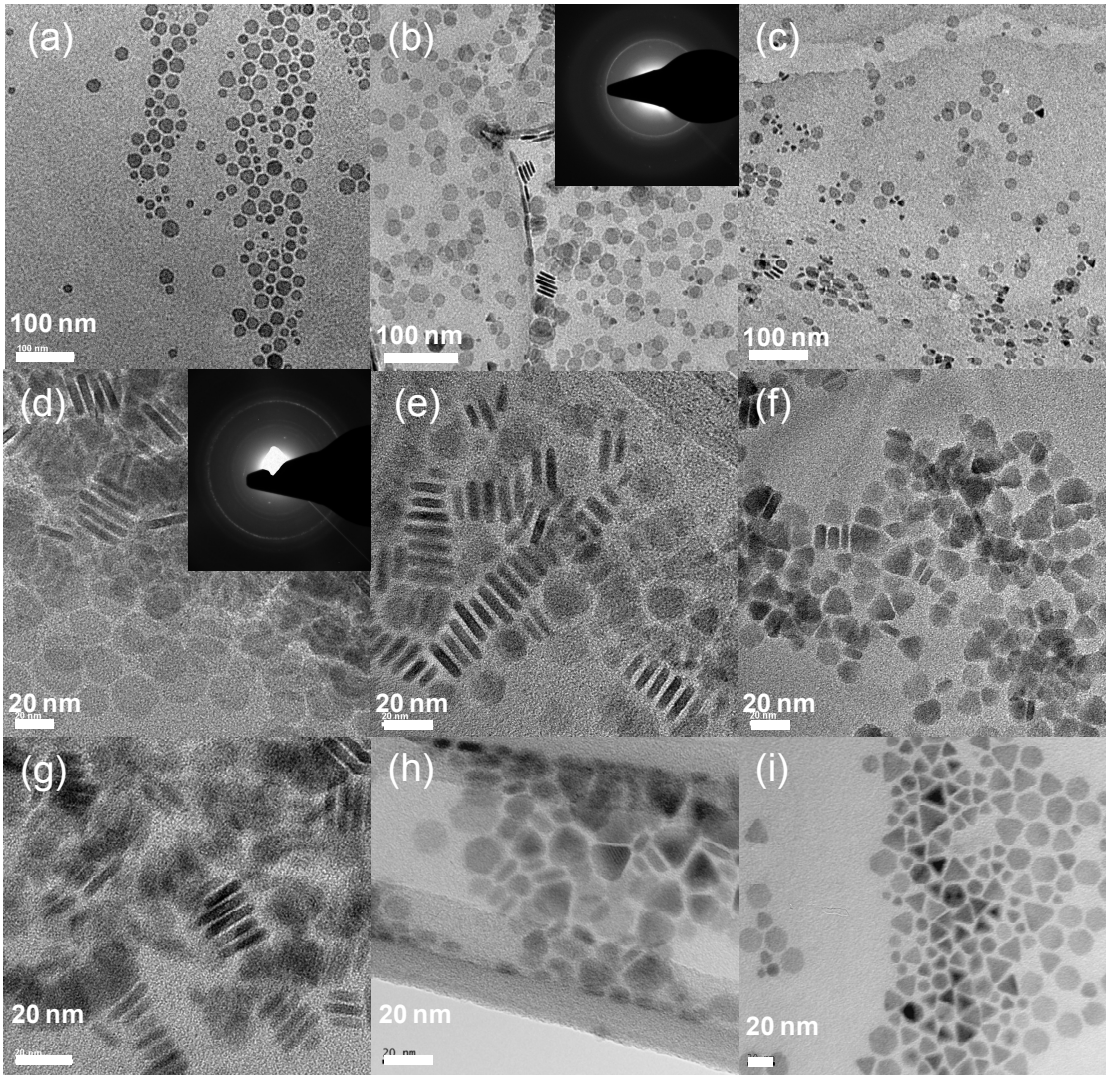

Fig. S3 TEM images of Cu_7S_4 after 5 min. Reactions carried out using 5 mM (a - c), 10 mM (d - f) and 20 mM (g - i) solutions of the precursor at 200 °C (a, d and g), 240 °C(b, e and h) and 280 °C (c, f and i). Inset shows SAED.

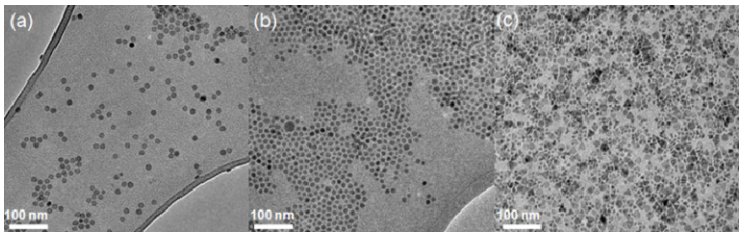

Fig. S4 TEM images of (a) only oleylamine (b) dodecanthiol and oleylamine (c) oleylamine and octadecene.

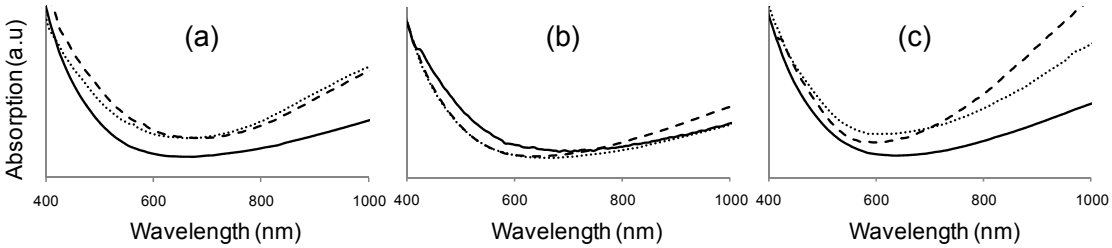

Fig. S5. UV-Vis spectra of Cu_7S_4 (a) 200 °C (solid), 240 °C (doted) and 280 °C (dashed), (b) 5 mM (solid), 10 mM (doted) and 20 mM (dashed) and (c) mixture of monoclinic and orthorhombic Cu_7S_4 (solid) orthorhombic Cu_7S_4 with minor monoclinic Cu_7S_4 and (doted) and pure orthorhombic Cu_7S_4 (dashed).