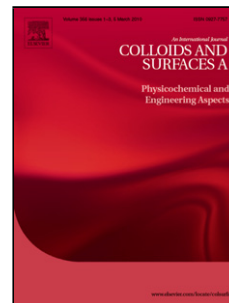


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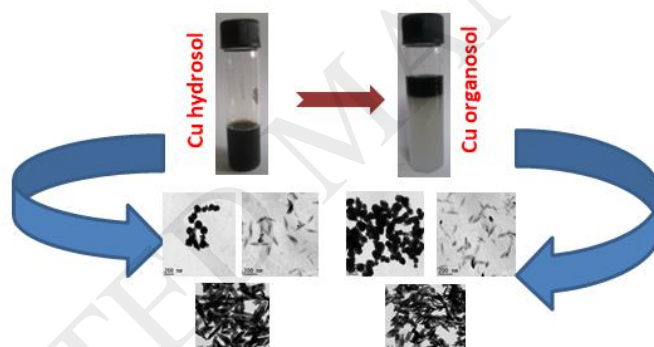
# Preparation of stable copper nanostructures and their direct phase transfer using Mercaptosuccinic acid

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## Graphical Abstract



Graphical abstract describing the direct phase transfer Cu nanostructures

## Abstract

This work aims at synthesis and phase transfer of highly stable oxidation resistant copper nanostructures (large nanoparticles, nanorods and nanosheets) using simple reduction of  $\text{Cu}(\text{OH})_4^{2-}$  with hydrazine hydrate in the presence of cetyltrimethylammonium bromide (CTAB) as a surfactant. Different copper nanostructures were synthesized by varying the concentration of copper salt ( $\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$ ), surfactant (CTAB) and reducing agent (hydrazine hydrate). The morphology of copper nanostructures is found to be dependent on the concentration of  $\text{Cu}(\text{OH})_4^{2-}$ . The synthesized copper nanostructures are stable against

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