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(57) Abstract :

ABSTRACT HYDROTHERMALLY SYNTHESIZED NANO-DIMENSIONAL CORE-SHELL STRUCTURED CuO@Cu(0) MATERIAL FOR OXIDATION OF As (III) FROM AQUEOUS SOLUTION This invention relates a nano-adsorbent, specifically a novel core-shell structured material of Copper and a method of synthesis thereof. It relates to an adsorbent material, comprising an outer shell of Copper oxide (CuO) layer; and an inner core of zero valent Copper (Cu(0)); wherein the inner core provides stability and the outer Copper oxide layer plays a role in the oxidation of As(III) to As(V) in aqueous solution. The adsorbent material is formed using hydrothermal synthesis without the use of surfactants and can be used for arsenic removal from aqueous solution.

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