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Synthesis and phase transfer of GNPs from aqueous to organic solution containing FPTT

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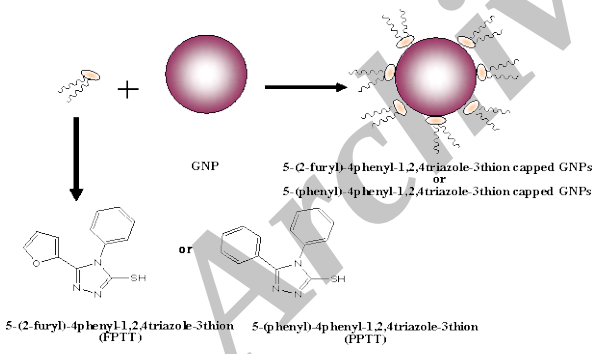
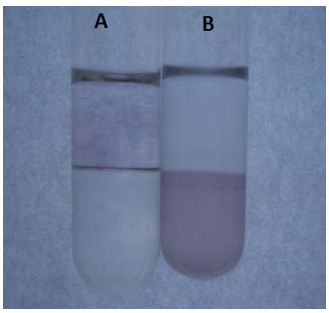
In this research work, gold nanoparticles have been synthesized within 40 minutes by reducing gold chloride ($HAuCl_4$) with CTAB in basic aqueous media, CTAB-capped gold nanoparticles (GNPs) in aqueous solution then were transferred directly in to organic solution chloroform containing 5-(2-furyl)-4phenyl-1,2,4triazole-3thion (FPTT). Optical absorption spectra corresponding to surface plasmon resonance provided a broad band centered at: 540 for FPTT capped gold nanoparticles (GNPs) in chloroform. Transmission electron micrograph images revealed that the average particle diameter of CTAB-capped gold NPs is 20-25nm.To obtain metal NPs in nonpolar solvents, Beust et al. [1, 2] developed a biphasic methodology, involving transfer of metal ions in to the organic layer using phase transfer reagents. In a different approach, there have been some reports where metal nanoparticles formed in aqueous solution are transferred to the organic solution containing capping agents [3].





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