

## Synthesis, characterization and conversion of zinc acetate thiourea complex into zinc oxide nanoparticles via solution process

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Conversion of zinc acetate di hydrate and thiourea complex into zinc oxide nanoparticles were successfully achieved via thermal annealing at different temperatures. In this regard the as grown zinc thiourea complex  $[Zn[CS(NH_2)_2] \cdot (CH_3COO)_2]$  was synthesized by the solution process at  $\sim 90^\circ C$  and reflux for 12 hours. The refluxed powder sample was annealed in ambient air for two hours at four different temperatures i.e., 300, 500, 700 and  $900^\circ C$ . The morphological observations of obtained powder was done by the FESEM and TEM spectroscopy. It reveals that the obtained powders are in nanosized ( $\sim 50nm$ ) and in spherical shaped. The crystallinity of the product was characterized by the X-ray diffracto meter. The composition analysis was done by the FTIR measurements. It shows a characteristic peak of zinc oxide at  $523\text{ cm}^{-1}$ .