

### Ultrafast synthesis of L-glutathione capped Ag<sub>2</sub>S NIR QDs using microwave reaction

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Near infrared quantum dots (NIR QDs) are gaining special attraction in research and technology due to having its unique chemical, optical properties along with their potential photostability with narrow band properties. Particularly these NIR QDs are highly recommendable for the biological applications due to lack of its auto fluorescence effect. In this regard NIR QDS are always showing grater priorities than the other conventional visible emission metallic QDs. However, a simple and environmentally benign methodologies for the synthesis of these NIR QDs have still been of great interest. As result, we have developed an ultrafast and simple protocol for the synthesis of Ag<sub>2</sub>S NIR QDs with capping agent glutathione via microwave irradiation reaction in green solvent such as DI water at 450 W within 5 min. After wards, several analytical tools like UV-vis, PL, XRD, Raman, and TEM have been employed for the characterization of as prepared Ag<sub>2</sub>S NIR QDs.