

Research highlights

- A convenient colorimetric iodide assay with high sensitivity and selectivity was proposed.
- The detection relies on iodide can induce gold nanostar (GNS) shape transition and alters its longitudinal localized surface plasmon resonance.
- The iodide detection was simply achieved by mixing testing sample and GNS solution without no requirement of nanoparticle surface modification and the use of other reagents.