

Supporting Information

For

Efficient Approach for Preparing Gold Nanoparticles in Layered
Double Hydroxide: Synthesis, Structure, and Properties

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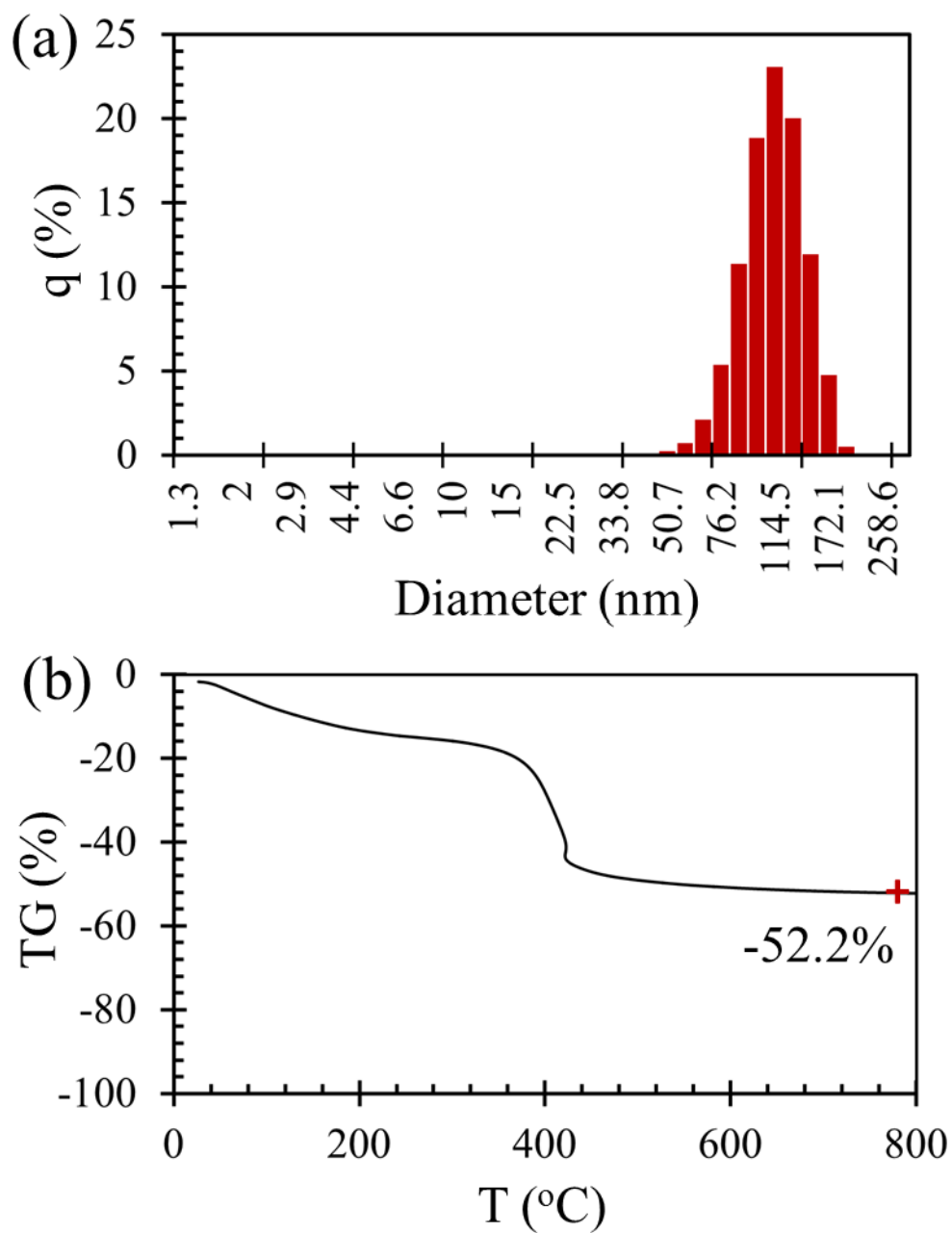


Figure S1: (a) Dynamic light scattering (DLS) measurements depicting the particle distribution for LDH dispersion in water, (b) TGA measurements for LDH sample.

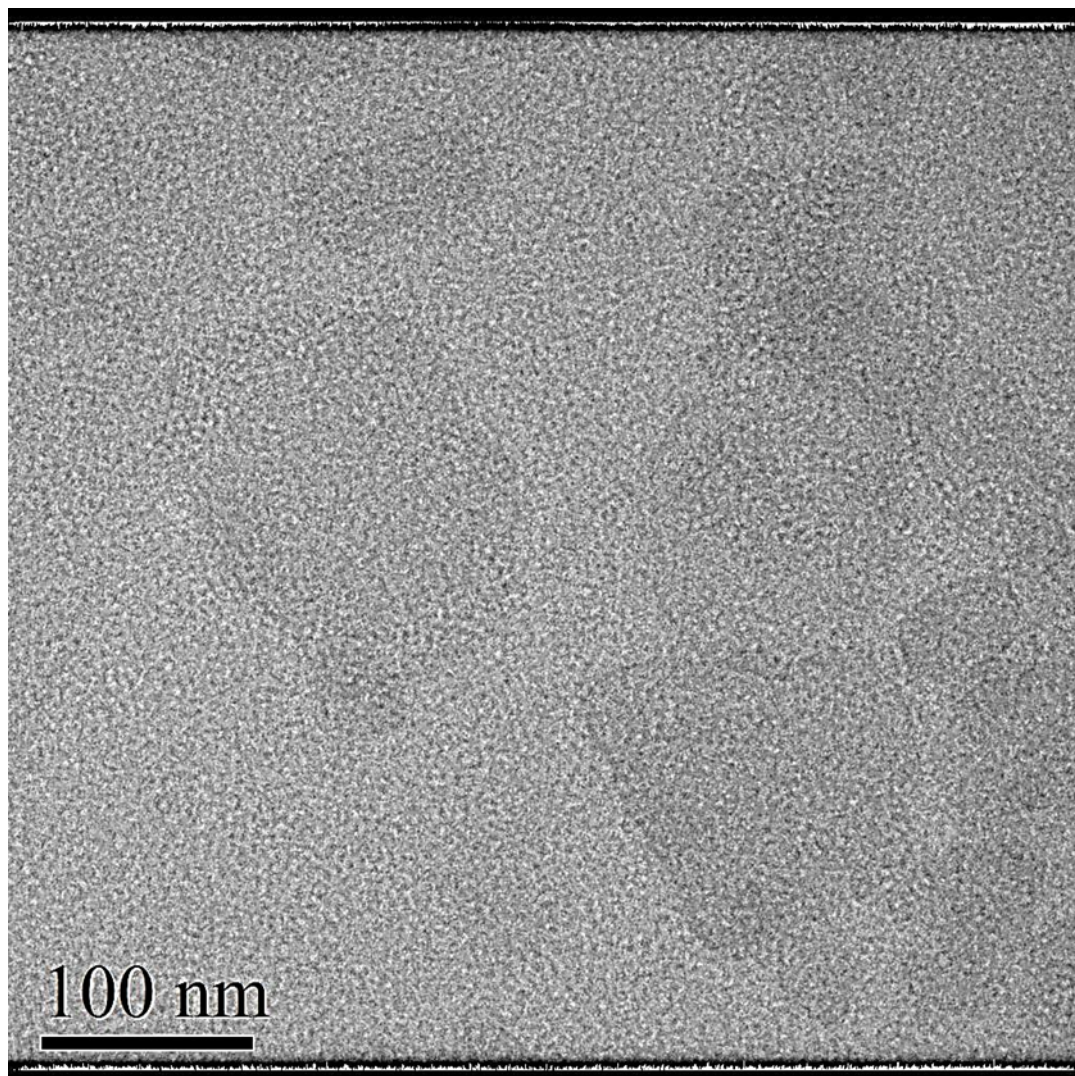


Figure S2: TEM image of 0.002 wt% LDH dispersion clearly showing the well-defined exfoliated LDH nanosheets.

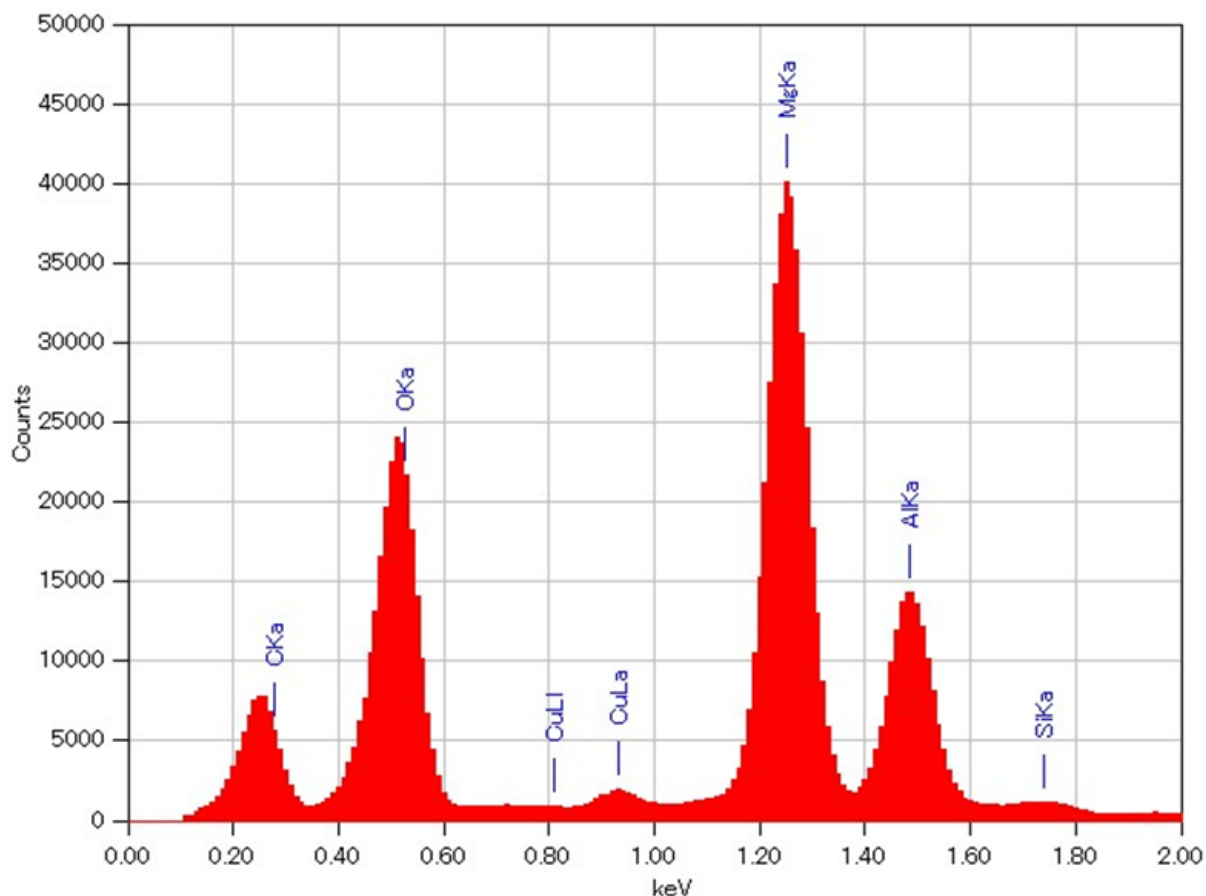


Figure S3: EDX mapping confirms the magnesium (Mg) and aluminium (Al) content of the LDH nanosheets.

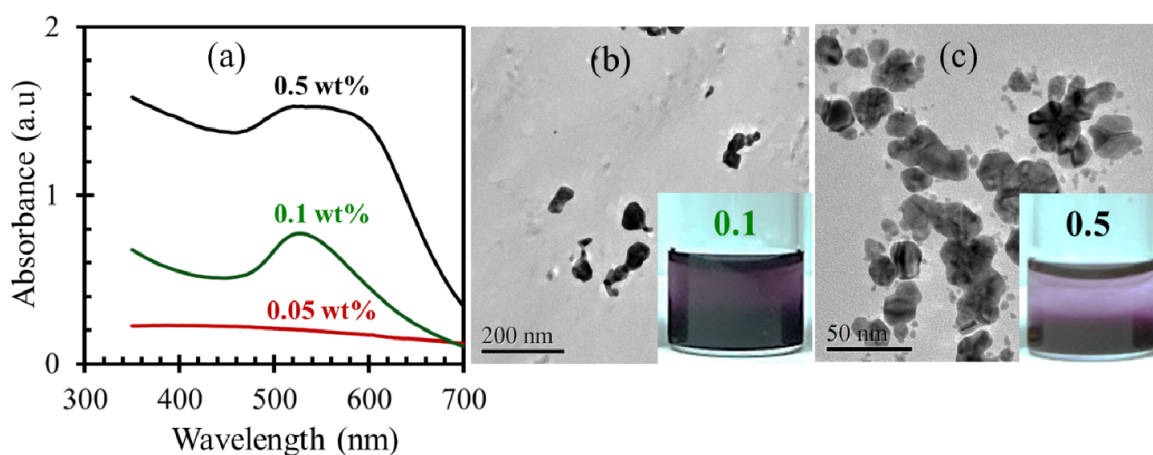


Figure S4: (a) UV-visible spectra of AuNPs formed using 20 μL of 5 wt% NaAuCl_4 in varying concentrations of sodium acrylate (0.1 wt% and 0.5 wt%) acquired after 24 h. Parts (b) and (c) show the corresponding TEM images. Inset shows the digital image of the resultant solution.

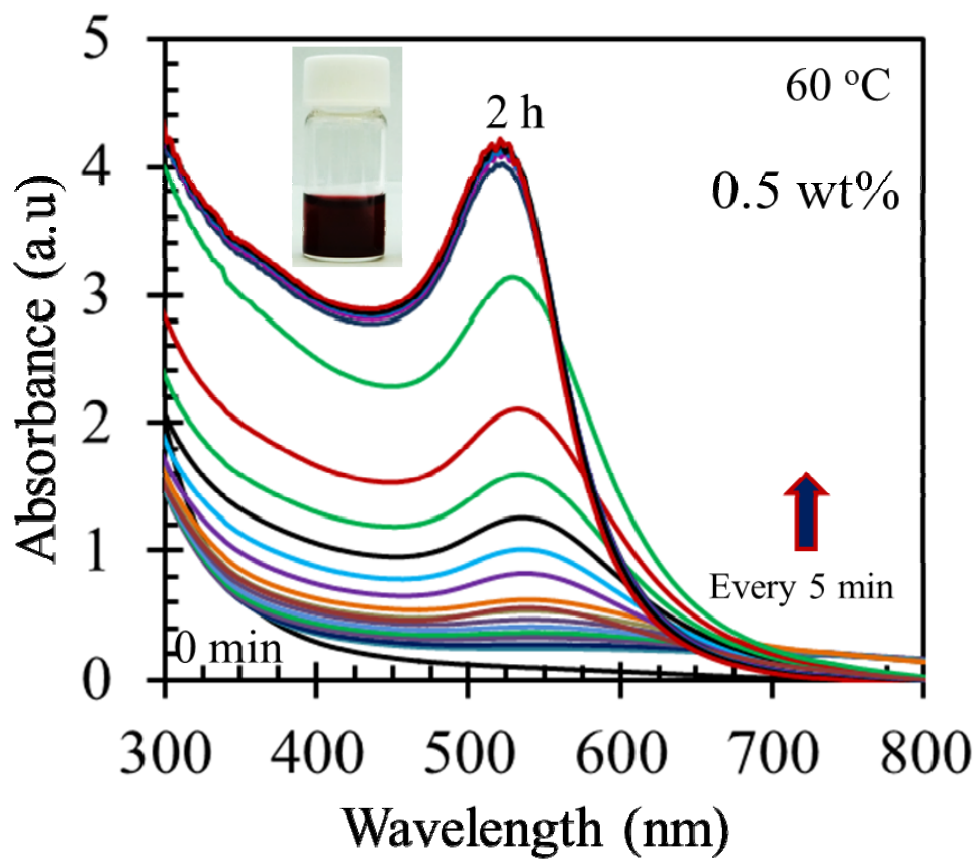


Figure S5: UV-visible spectrum for 0.5 wt% LDH at 60 °C. Spectra were acquired at 5 min intervals from the time of preparation. The reaction is almost complete in 2 h.

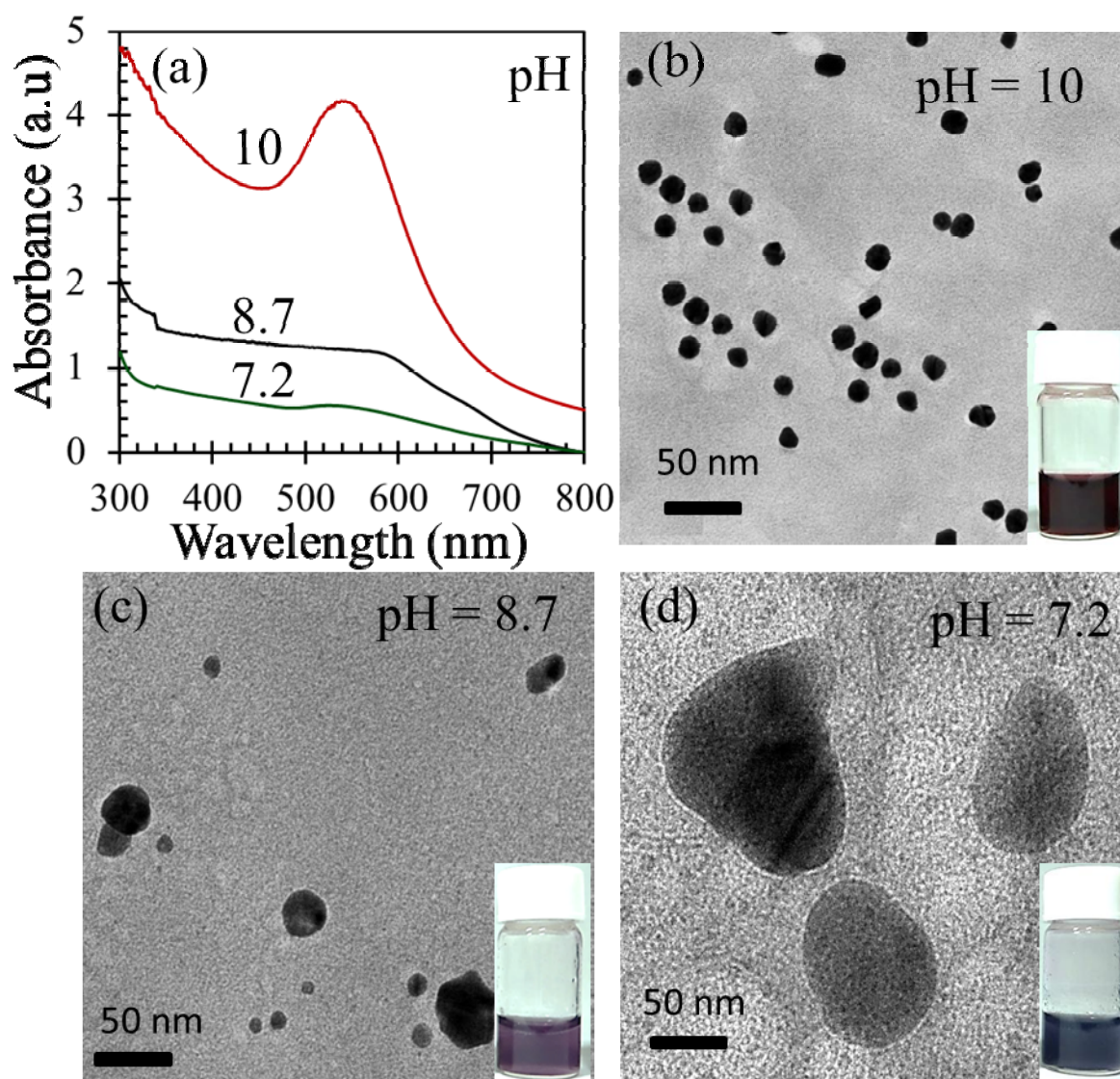


Figure S6: (a) UV-visible spectra of AuNPs (using 20 μL of 5 wt% NaAuCl_4) in 0.5 wt% LDH at different pH (adjusted using 1 M HCl). (b, c, d) Corresponding TEM images. Insets show the digital images of the resulting dispersion of AuNPs in LDH.