

## Supporting Information

### Shell-Isolated Assembly of Atomically Precise Nanoclusters on Gold Nanorods for Integrated Plasmonic-Luminescent Nanocomposites

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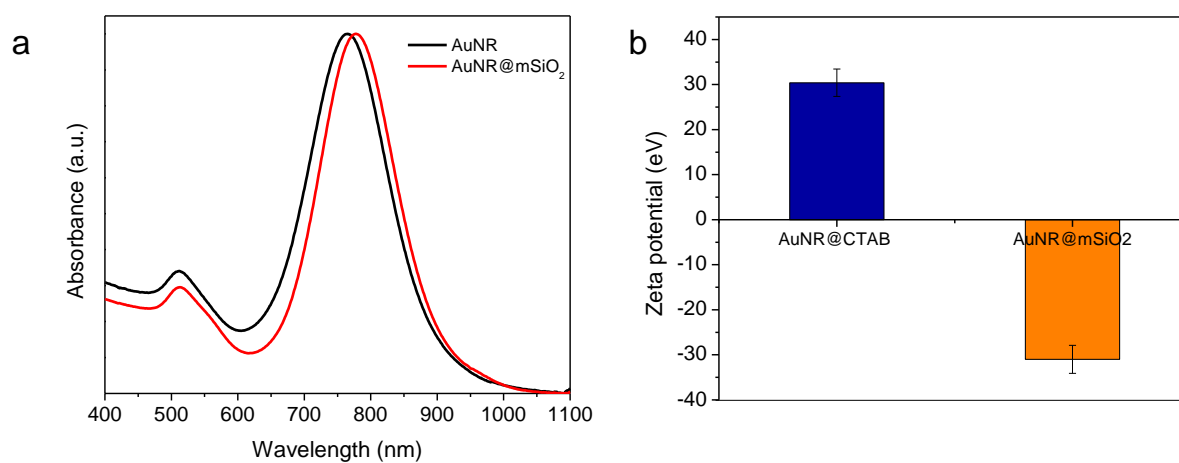
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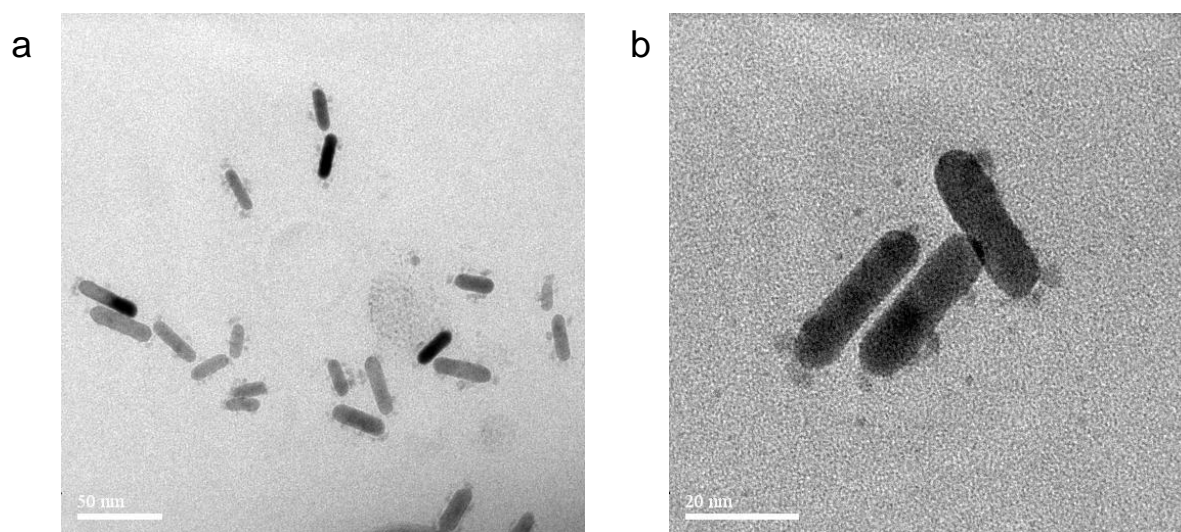
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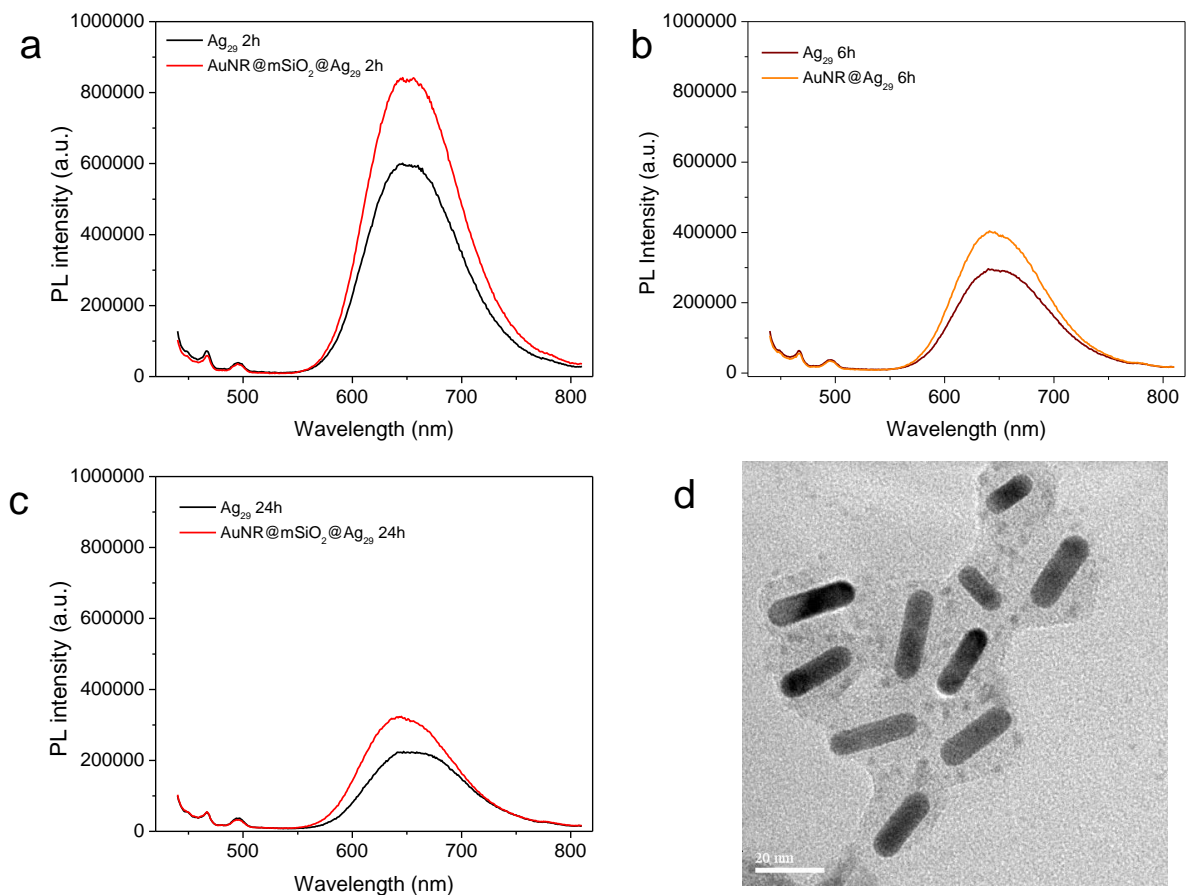
## Supporting Figures



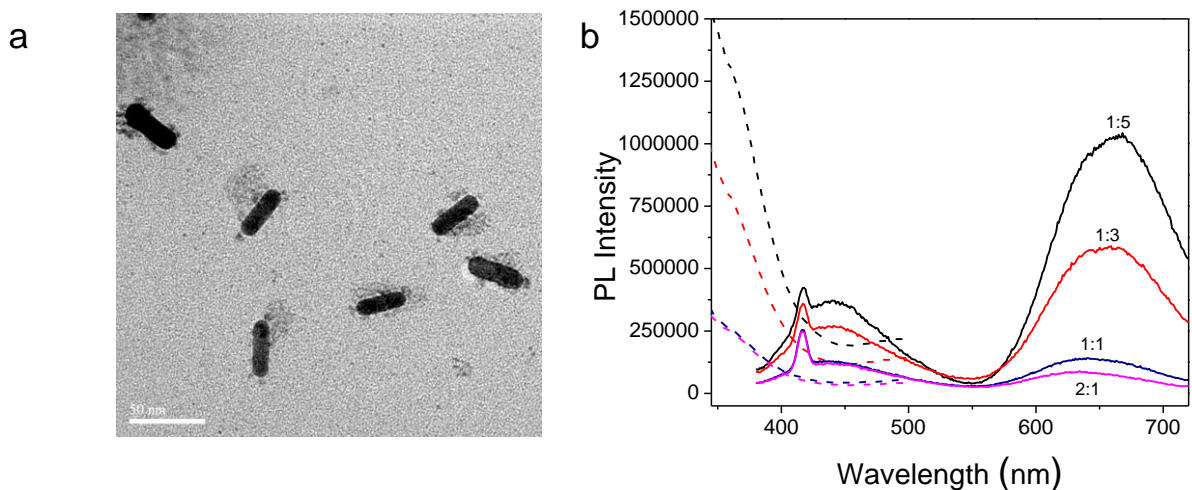
**Figure S1.** (a) Comparative absorption spectra of AuNR and AuNR@mSiO<sub>2</sub>, and (b) change in zeta potential value upon silica coating of AuNR.



**Figure S2.** (a) TEM image of AuNR@Ag<sub>29</sub>, and b) that at higher magnification, showing direct attachment of NC to AuNR surface.



**Figure S3.** Comparative PL emission spectra of AuNR@mSiO<sub>2</sub>@Ag<sub>29</sub> and blank Ag<sub>29</sub> after (a) 2h, (b) 6h and (c) 24 h. (d) TEM image of AuNR@mSiO<sub>2</sub>@Ag<sub>29</sub> after 48 h.



**Figure S4.** (a) TEM image of AuNR@mSiO<sub>2</sub>@Au<sub>30</sub>BSA, (b) comparative excitation spectra (dotted lines) and emission spectra (solid lines) corresponding to AuNR:Au<sub>30</sub>BSA volume ratios 2:1 (magenta), 1:1 (blue), 1:3 (red) and 1:5 (black) in AuNR@mSiO<sub>2</sub>@Au<sub>30</sub>BSA.