

## Supporting Information

### Plasmonic Behavior of Ionic Liquid Stabilized Gold Nanoparticles in Molecular Solvents

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#### Supporting Data

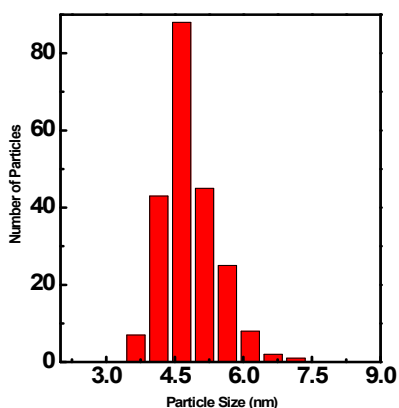
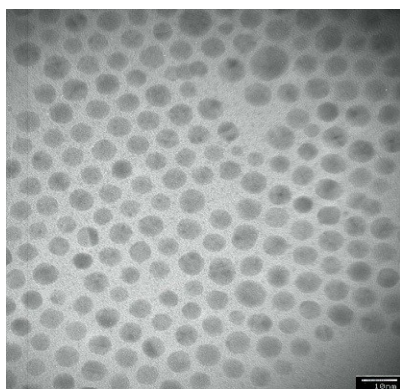


Fig. S11: TEM image and particle size distribution histogram for the AuNPs capped with [C<sub>4</sub>,C<sub>14</sub>-im]Br (Au@[C<sub>4</sub>,C<sub>14</sub>-im]Br)

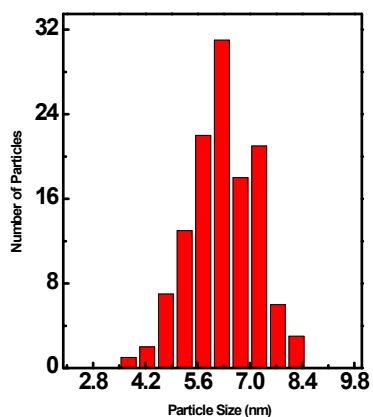
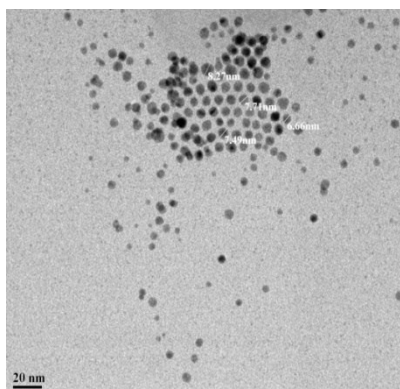


Fig. S12: TEM image and particle size distribution histogram for the AuNPs capped with [C<sub>4</sub>,C<sub>16</sub>-im]Br (Au@[C<sub>4</sub>,C<sub>16</sub>-im]Br) after redispersion in water

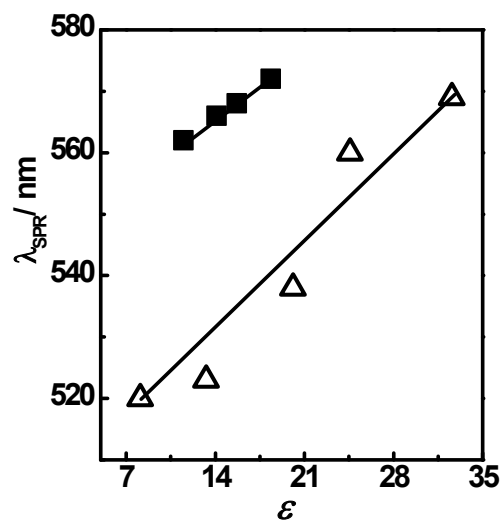


Fig SI3: Plot of  $\lambda_{\text{SPR}}$  of Au@[C<sub>4</sub>,C<sub>16</sub>-im]Br vs dielectric constant ( $\epsilon$ ) of PEGs ( $\blacksquare$ ) and alcohols ( $\triangle$ )

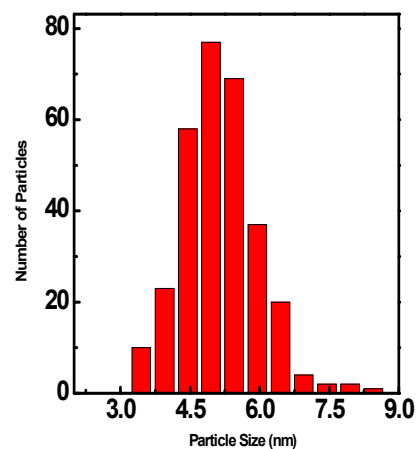
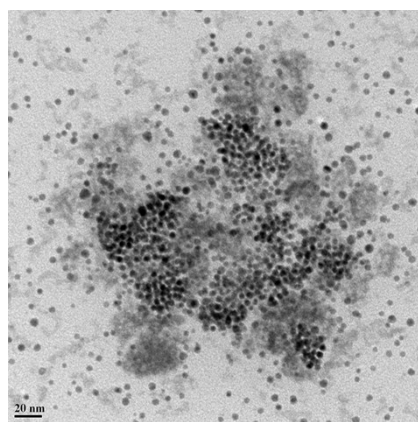


Fig. SI4: TEM image and particle size distribution histogram for the AuNPs capped with [C<sub>4</sub>,C<sub>16</sub>-im]Br (Au@[C<sub>4</sub>,C<sub>16</sub>-im]Br) after transferring to methanol

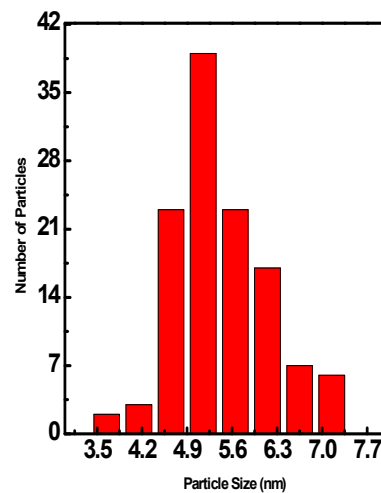
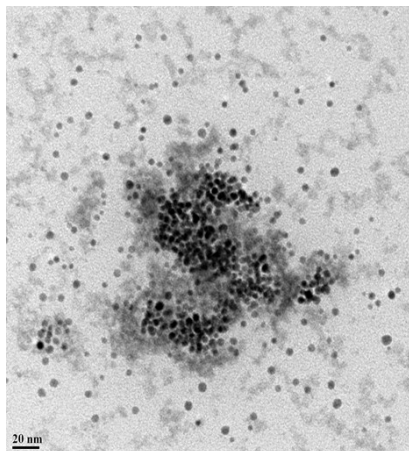


Fig. SI5: TEM image and particle size distribution histogram for the AuNPs capped with  $[C_4,C_{16}\text{-im}]\text{Br}$  ( $\text{Au}@[C_4,C_{16}\text{-im}]\text{Br}$ ) after transferring to ethanol

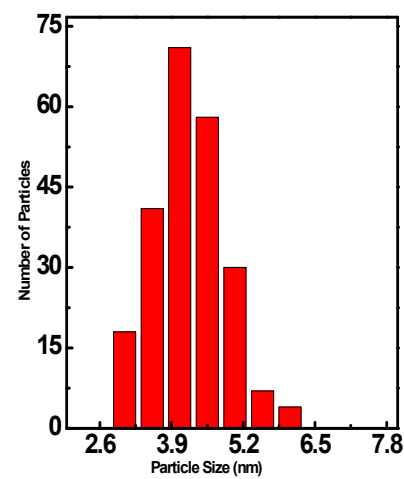
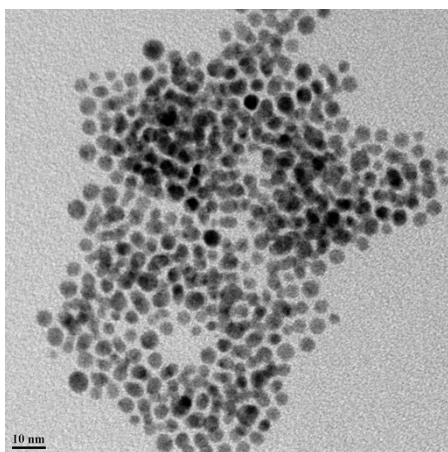


Fig. SI6: TEM image and particle size distribution histogram for the AuNPs capped with  $[C_4,C_{16}\text{-im}]\text{Br}$  ( $\text{Au}@[C_4,C_{16}\text{-im}]\text{Br}$ ) after transferring to Butanol