

## Supplementary Materials

# Encapsulation of Luminescent Gold Nanoclusters into Synthetic Vesicles

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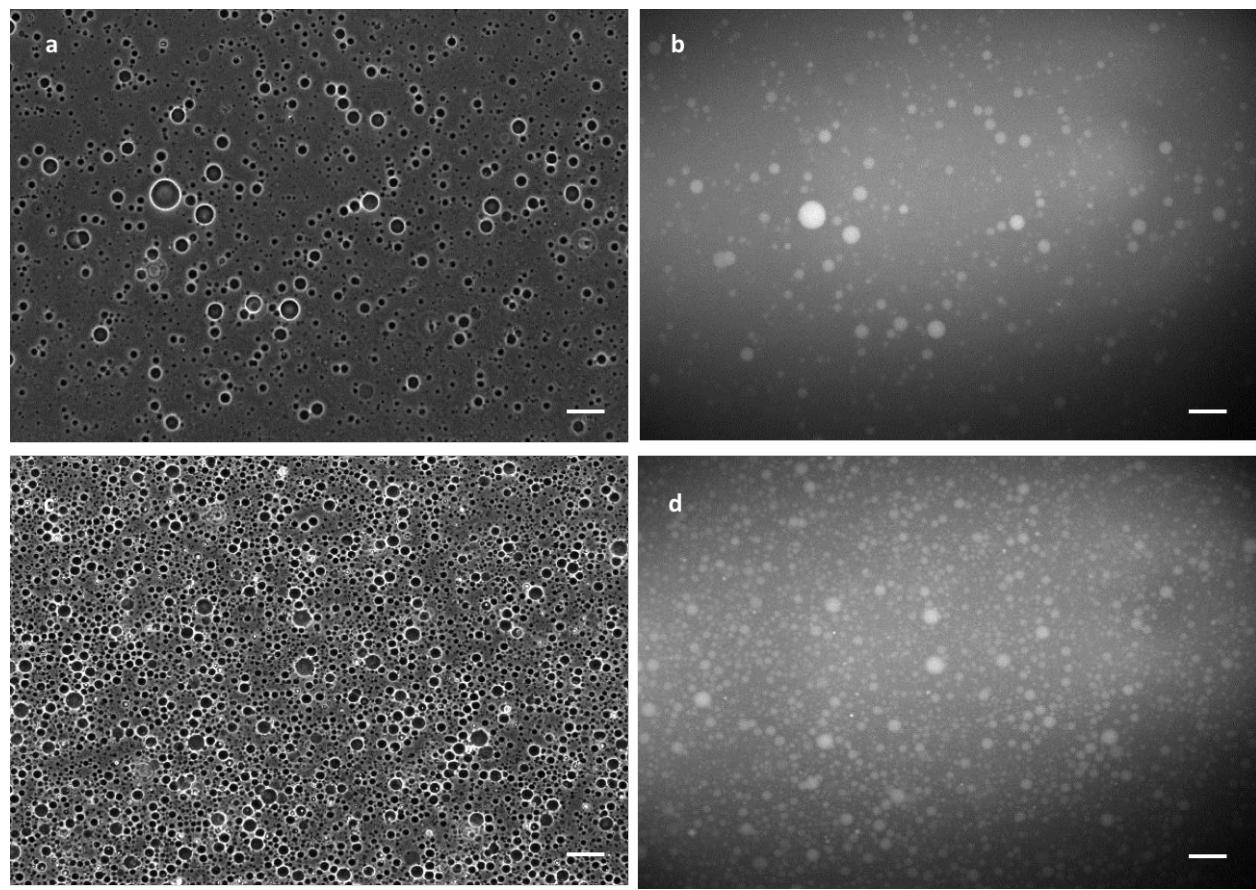
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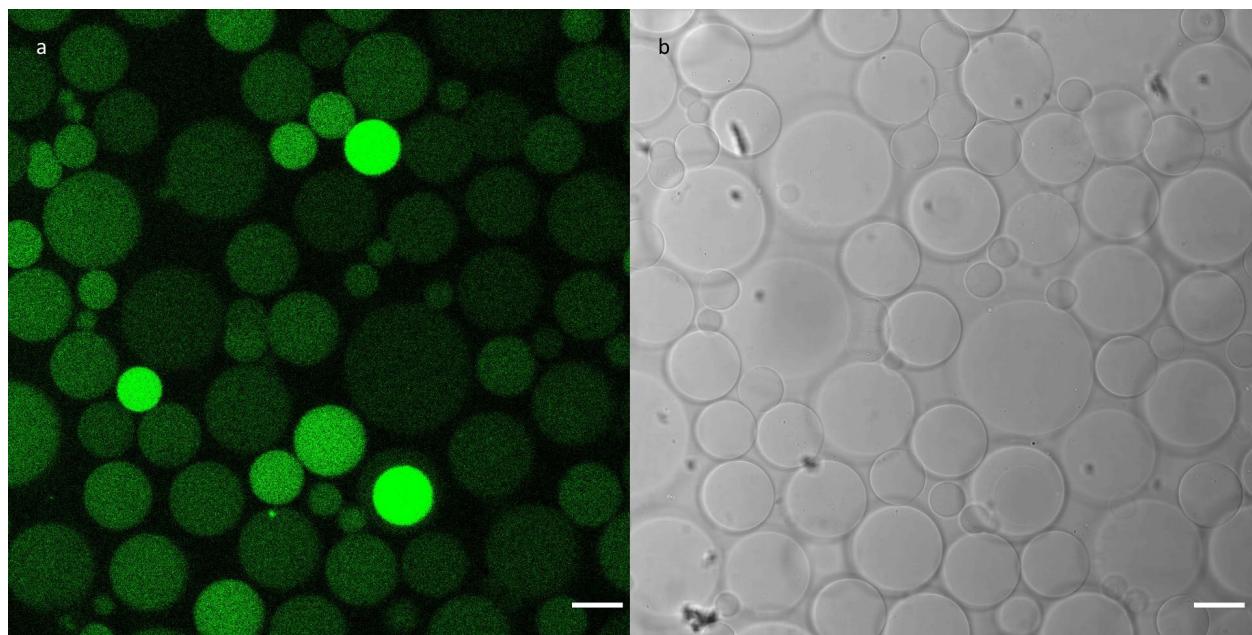
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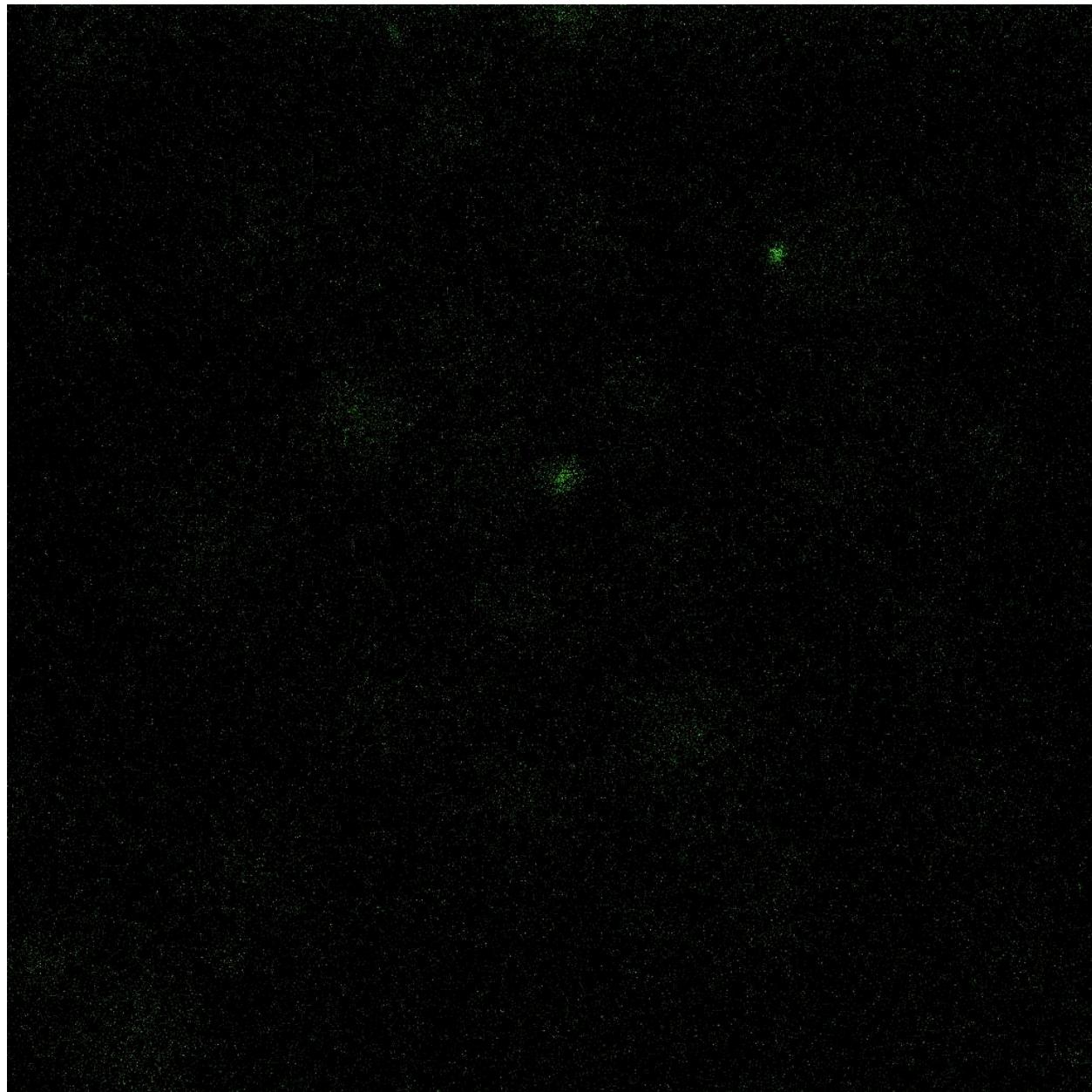
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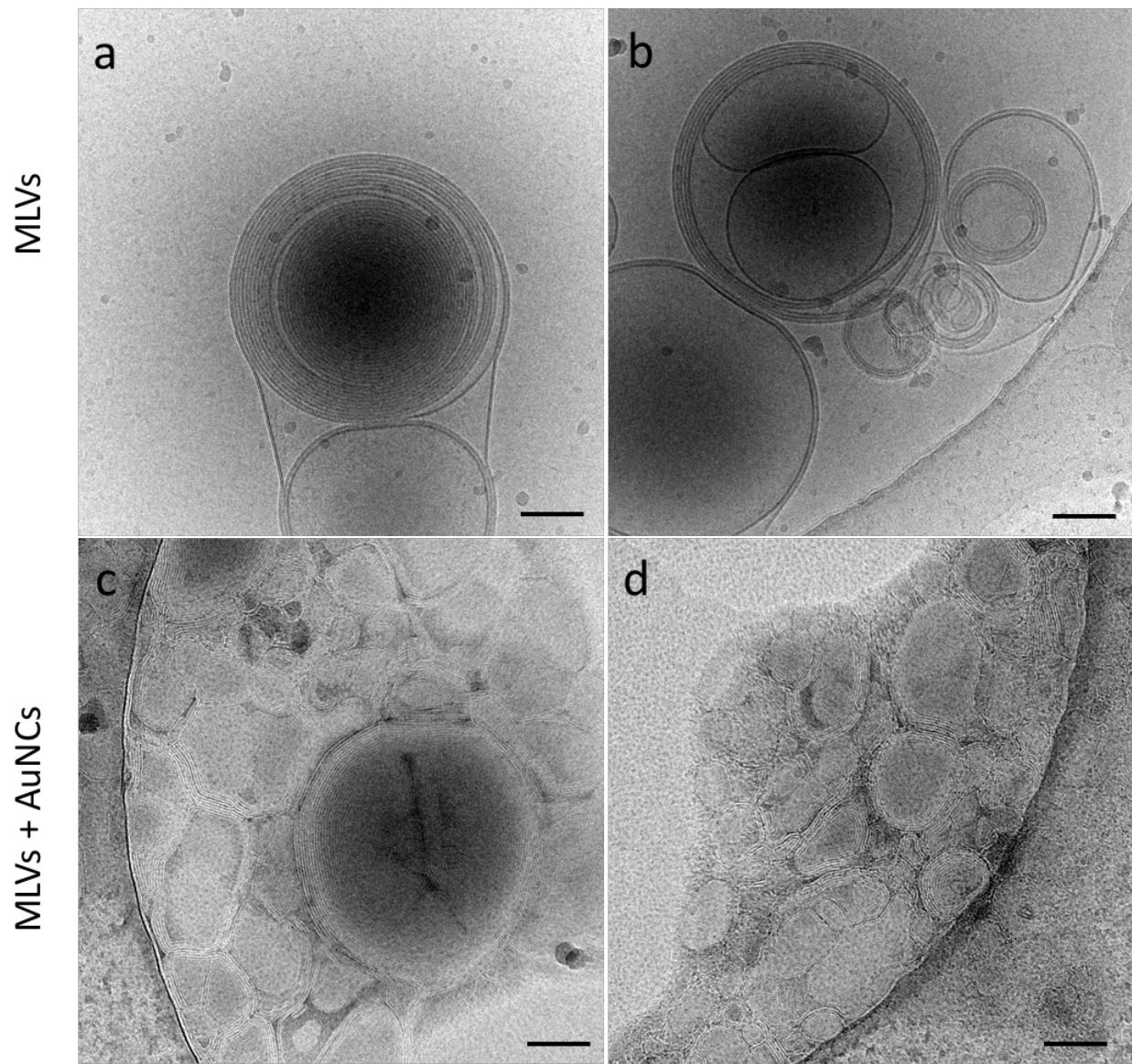
**Figure S1.** Phase contrast (left) or Fluorescence (right) Optical microscope images of C<sub>3</sub>E<sub>6</sub>D Red NCs encapsulated inside: (a,b) DOPC and (c,d) DOPC/DOTAP GUVs. Scale bar 20  $\mu$ m.



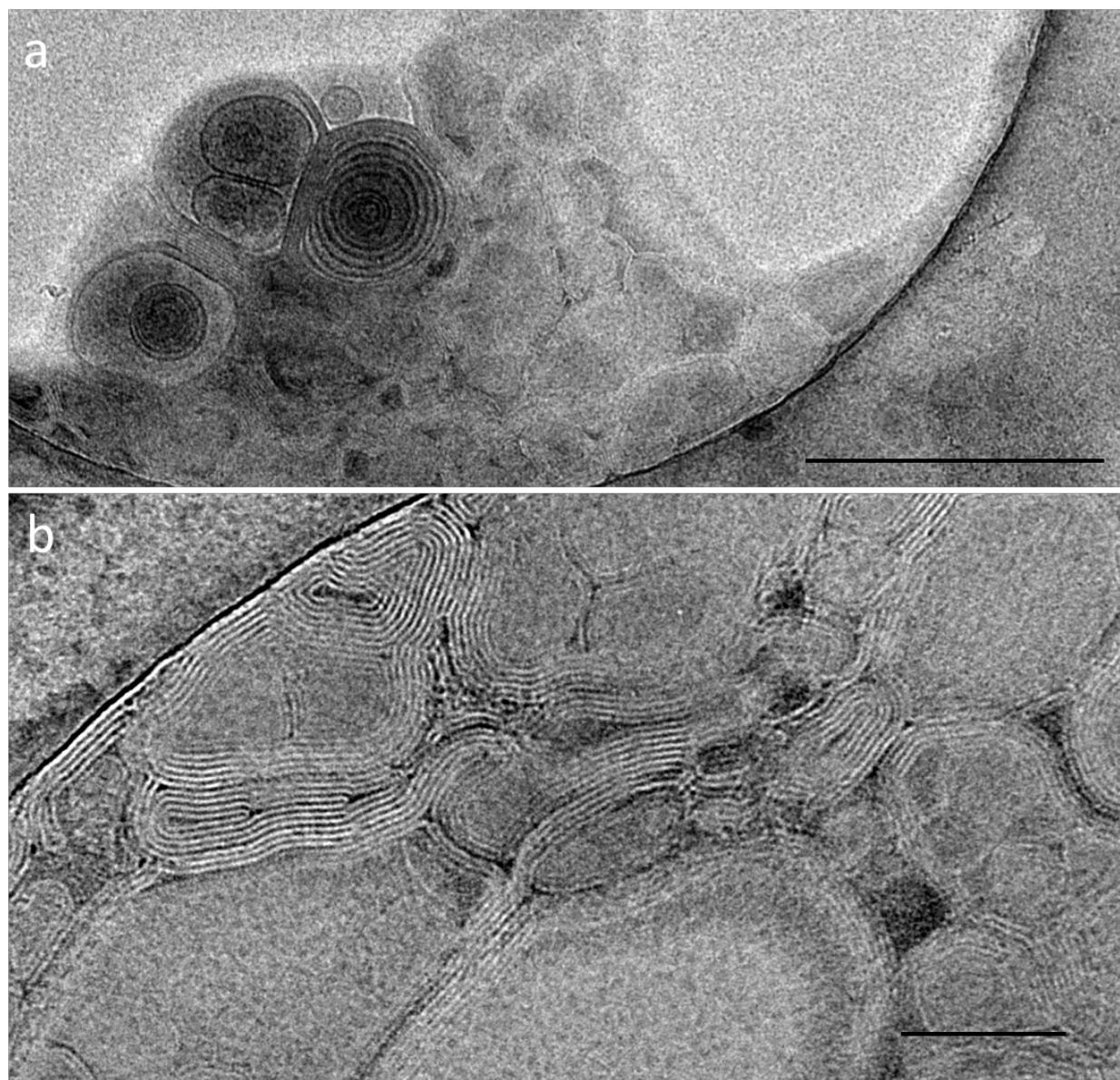
**Figure S2.** Confocal microscope (a) fluorescence and (b) bright field images of C<sub>3</sub>E<sub>6</sub>D Blue NCs encapsulated inside DOPC GUVs. Scale bar 20  $\mu$ m.



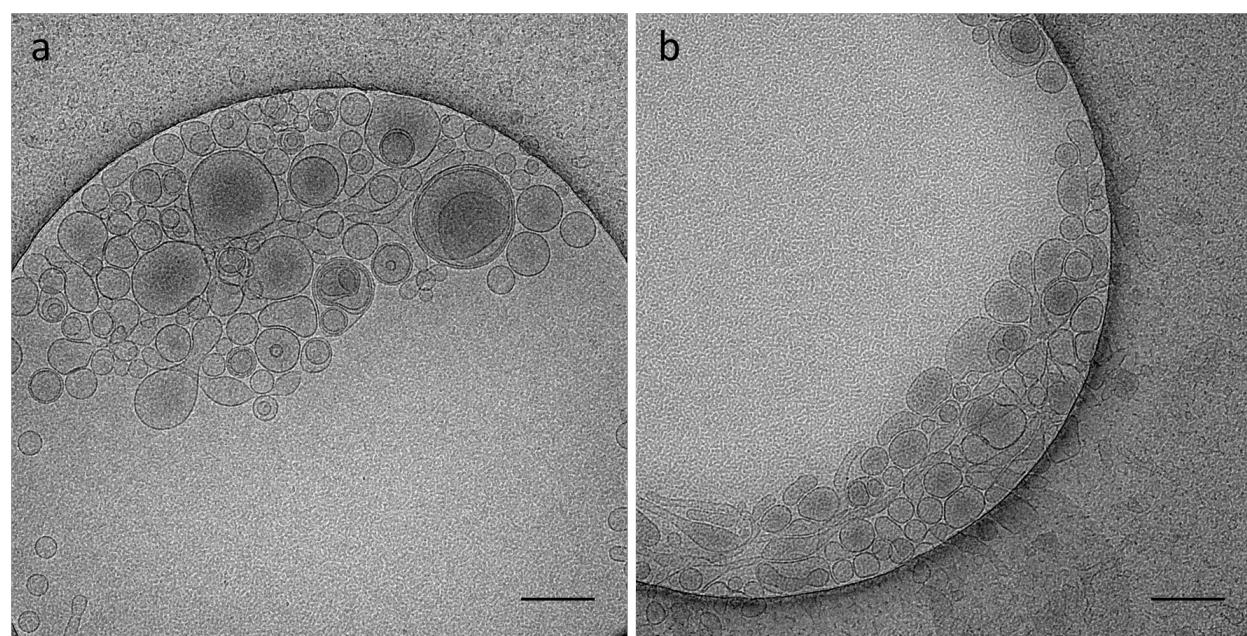
**Figure S3.** Confocal microscopy images (in z-stack) of C<sub>3</sub>E<sub>6</sub>D Blue NCs encapsulated inside DOPC GUVs corresponding to Figure S2a.



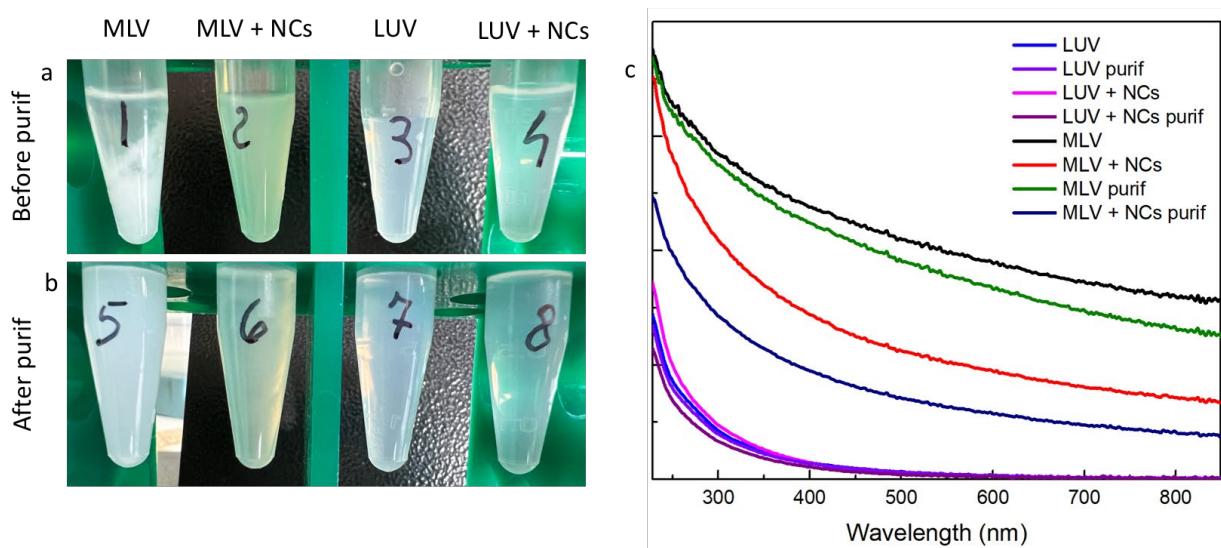
**Figure S4.** Cryo-TEM images of DOPC MLVs alone (**a,b**) and with Au NCs (**c,d**). Scale bar 200 nm.



**Figure S5.** Cryo-TEM images of DOPC MLVs with Au NCs (**a,b**). Scale bar 400 nm.



**Figure S6.** Cryo-TEM images of DOPC LUVs alone (a,b). Scale bar 200 nm.



**Figure S7.** (a,b) Images of suspensions composed of the multilamellar vesicles (MLV) or unilamellar vesicles (LUV) alone and in presence of red AuNCs before and after purification; (c) corresponding UV-Vis spectra of the vesicles suspensions.