

SUPPORTING INFORMATION

Incorporation of Metal Phosphide Domains into Colloidal Hybrid Nanoparticles

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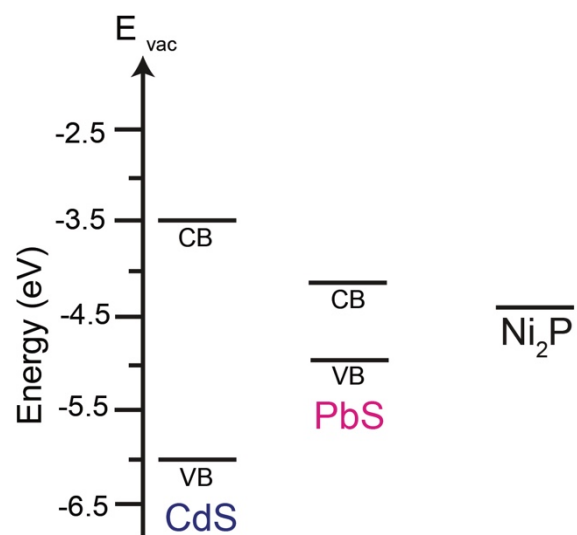


Figure S1. Conduction and valence band energy levels for CdS and PbS relative to the work function of Ni_2P .¹⁻³

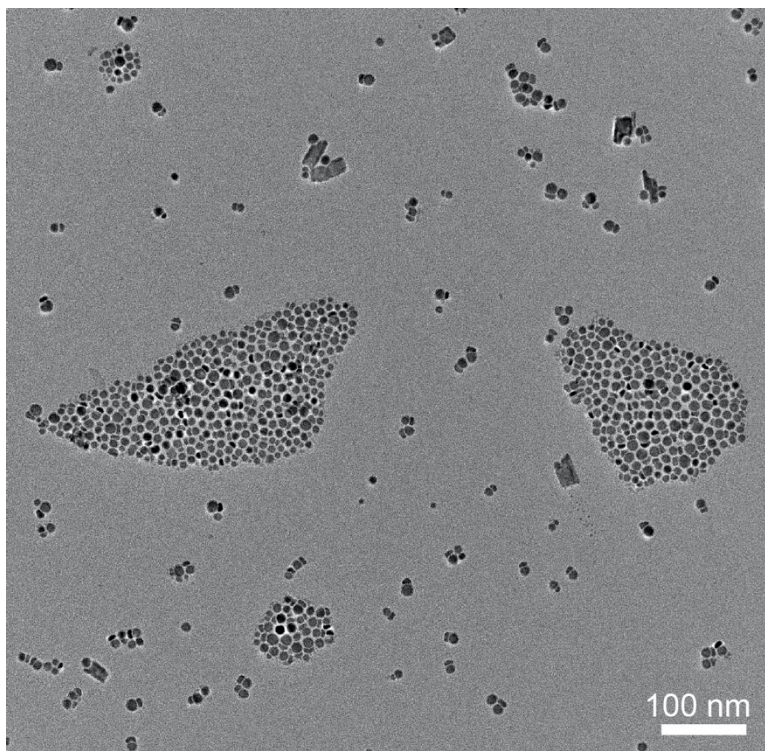


Figure S2. TEM image of the Ni₂P-PbS hybrid nanoparticles.

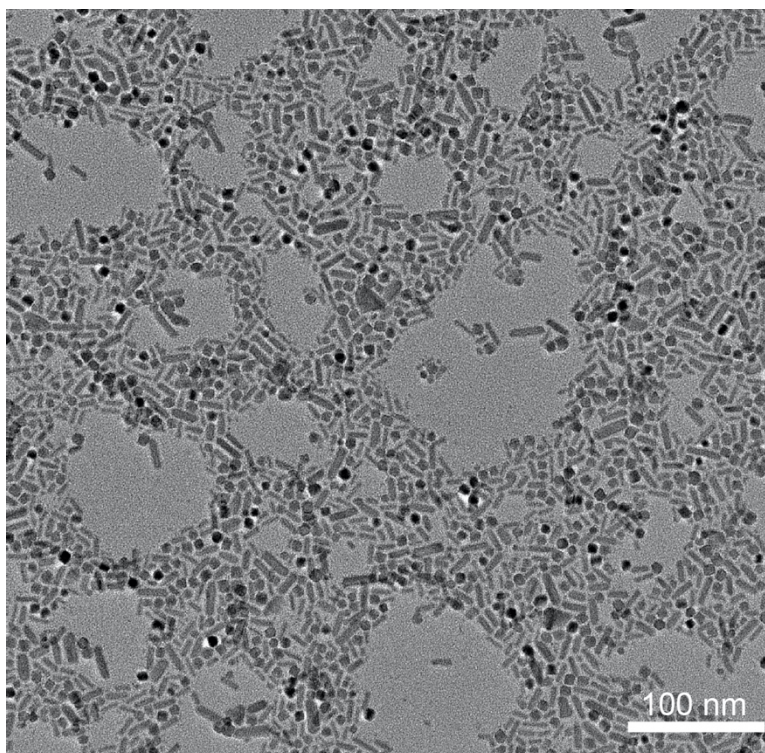


Figure S3. TEM image of the Co_xP_y-PbS hybrid nanoparticles.

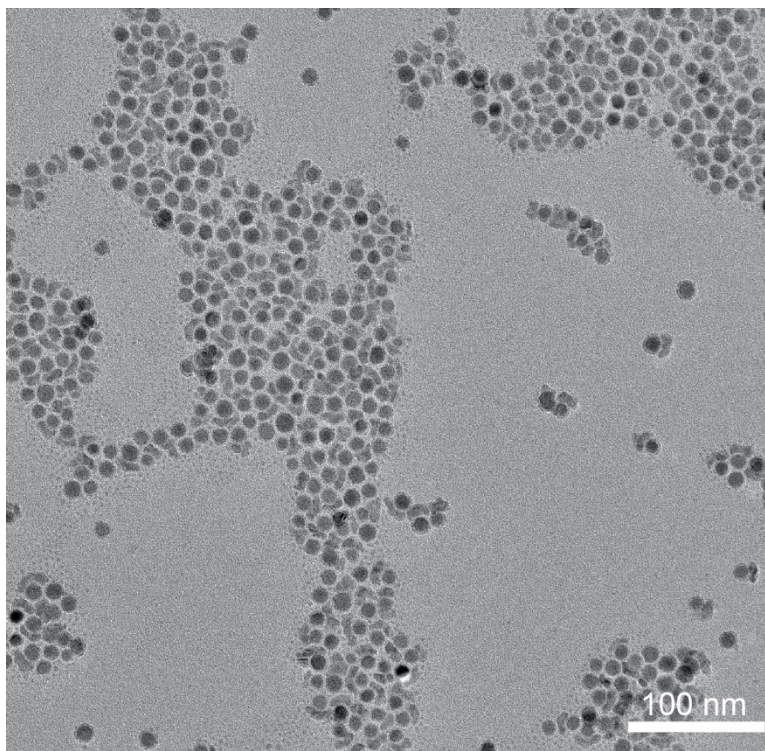


Figure S4. TEM image of Ni₂P–CdS hybrid nanoparticles, showing the presence of CdS quantum dots that homogeneous nucleated during the synthesis.

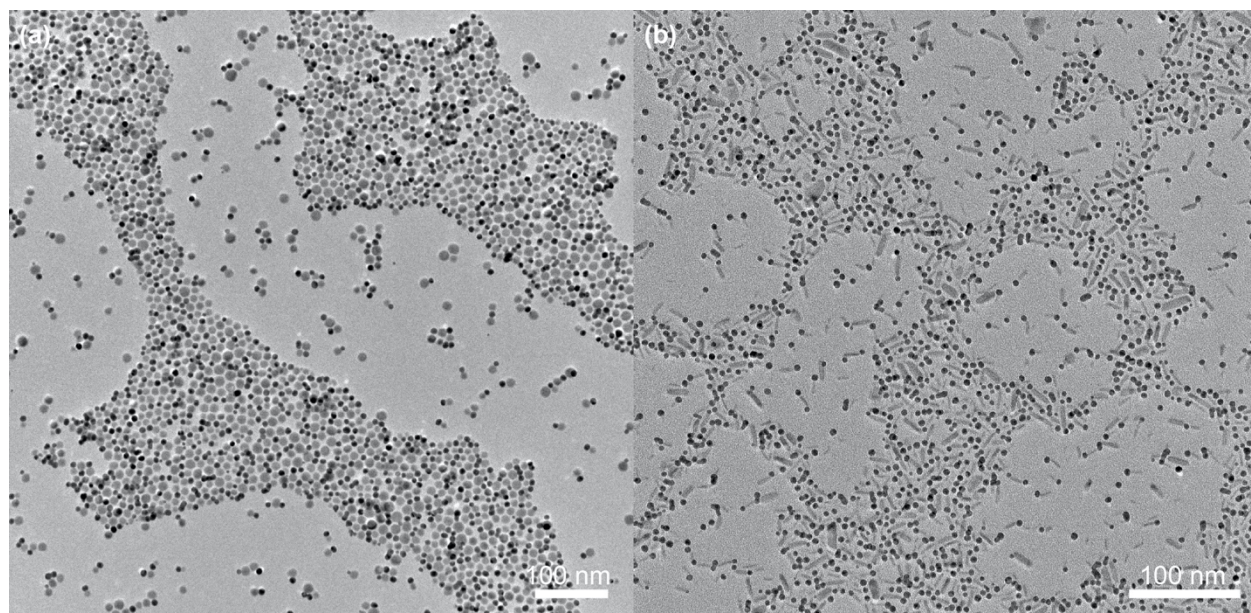


Figure S5. TEM image of (a) Ni₂P–Au and (b) Co_xP_y–Au hybrids nanoparticles.

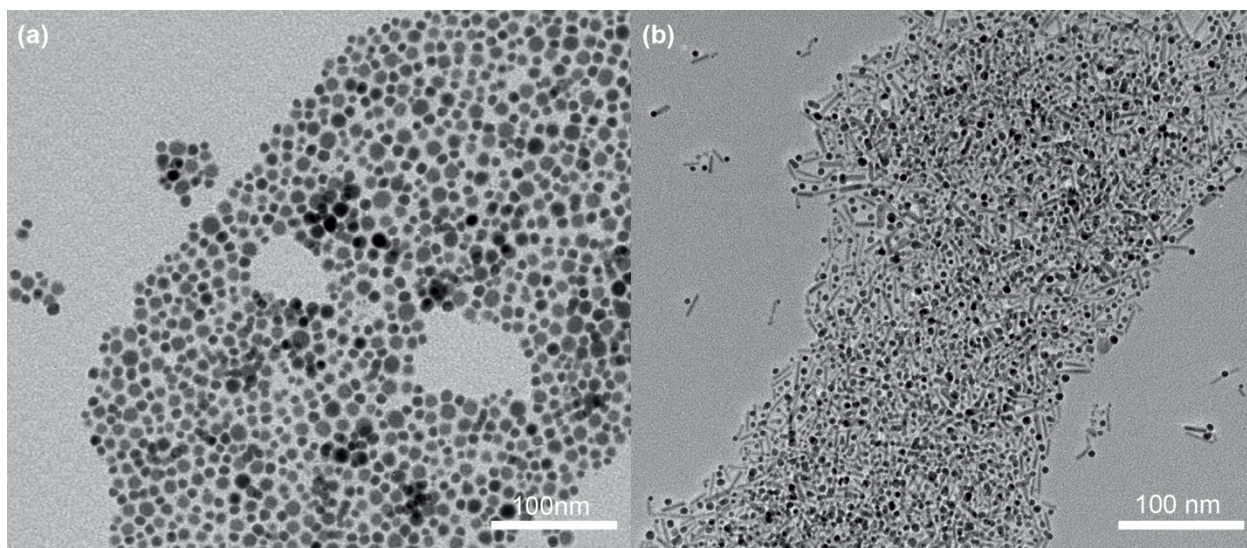


Figure S6. TEM image of (a) $\text{Ni}_2\text{P-Ag}$ and (b) $\text{Co}_x\text{P}_y\text{-Ag}$ hybrid nanoparticles.

References

- (1) Nozik, A.; Memming, R. Physical Chemistry of Semiconductor-Liquid Interfaces. *J. Phys. Chem.* **1996**, *100*, 13061–13078.
- (2) Yeon, D.; Lee, S.; Jo, Y.; Moon, J.; Cho, Y. Origin of the enhanced photovoltaic characteristics of PbS thin film solar cells processed at near room temperature. *J. Mater. Chem. A* **2014**, *2*, 20112-20117.
- (3) Song, R.; Zhou, W.; Luo, B.; Jing, D. Highly efficient photocatalytic H_2 evolution using TiO_2 nanoparticles integrated with electrocatalytic metal phosphides as cocatalysts. *Appl. Surf. Sci.* **2017**, *416*, 957-964.