

Supporting Information

Gold coated iron phosphide core-shell structures

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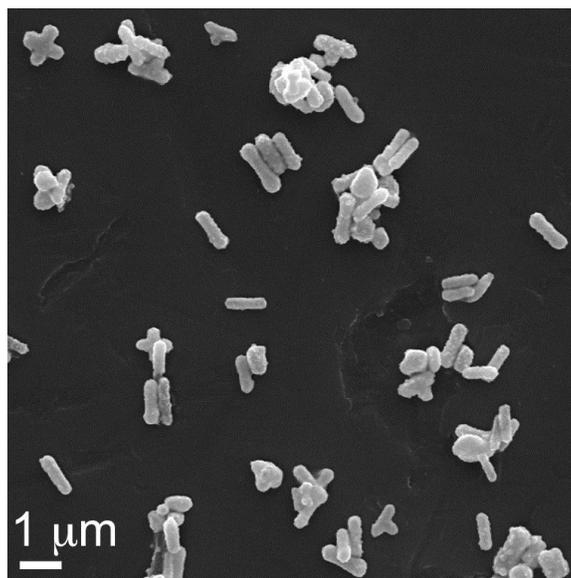


Figure S1. Representative SEM image of the CO-reduced particles, from 50 μL of gold-decorated precursor.

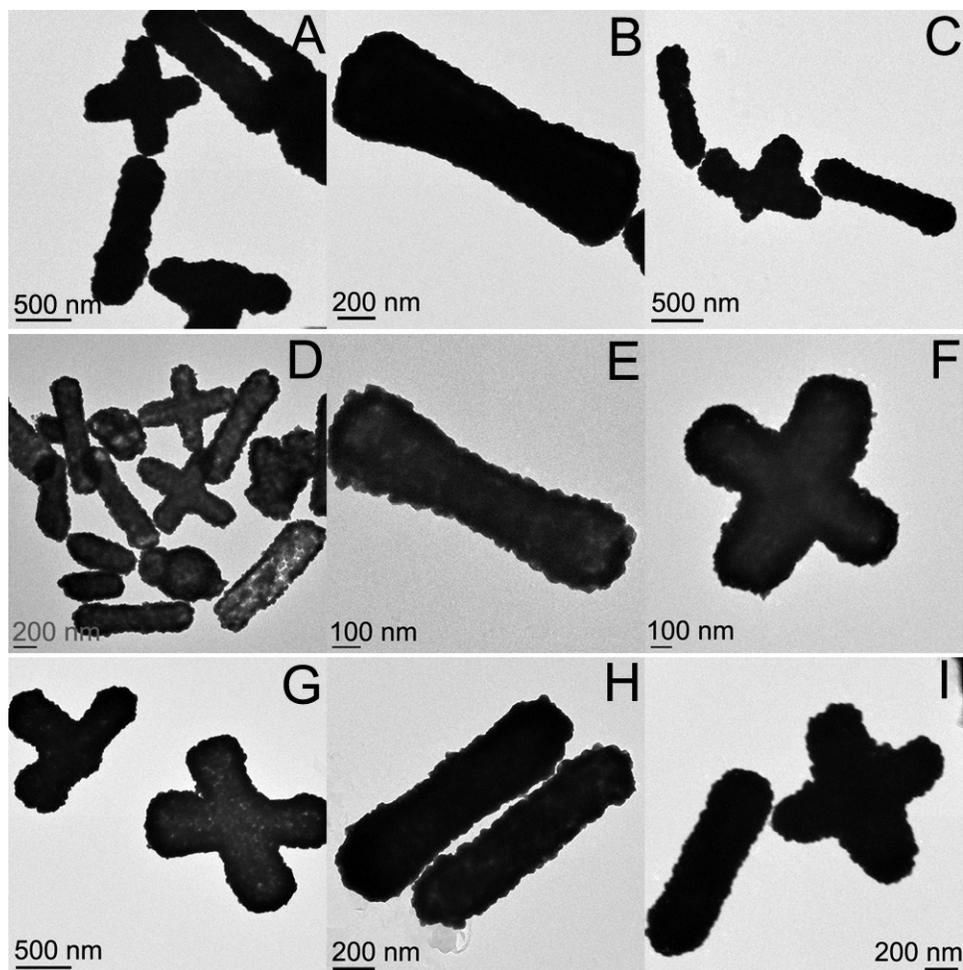


Figure S2. TEM images of $\text{Fe}_2\text{P-Au}$ structures obtained using CO-reduction. The images shown represent the structures synthesized from 75 μL (A-C), 100 μL (D-F), and 125 μL (G-I) of gold-decorated precursor solution. Note that in figures D and G, it appears as though some of the particles do not have a complete shell; this is believed to account for the shift back to higher wavelengths of the extinction maximum for the sample synthesized from 100 μL of gold-decorated precursor (see Figure 6).

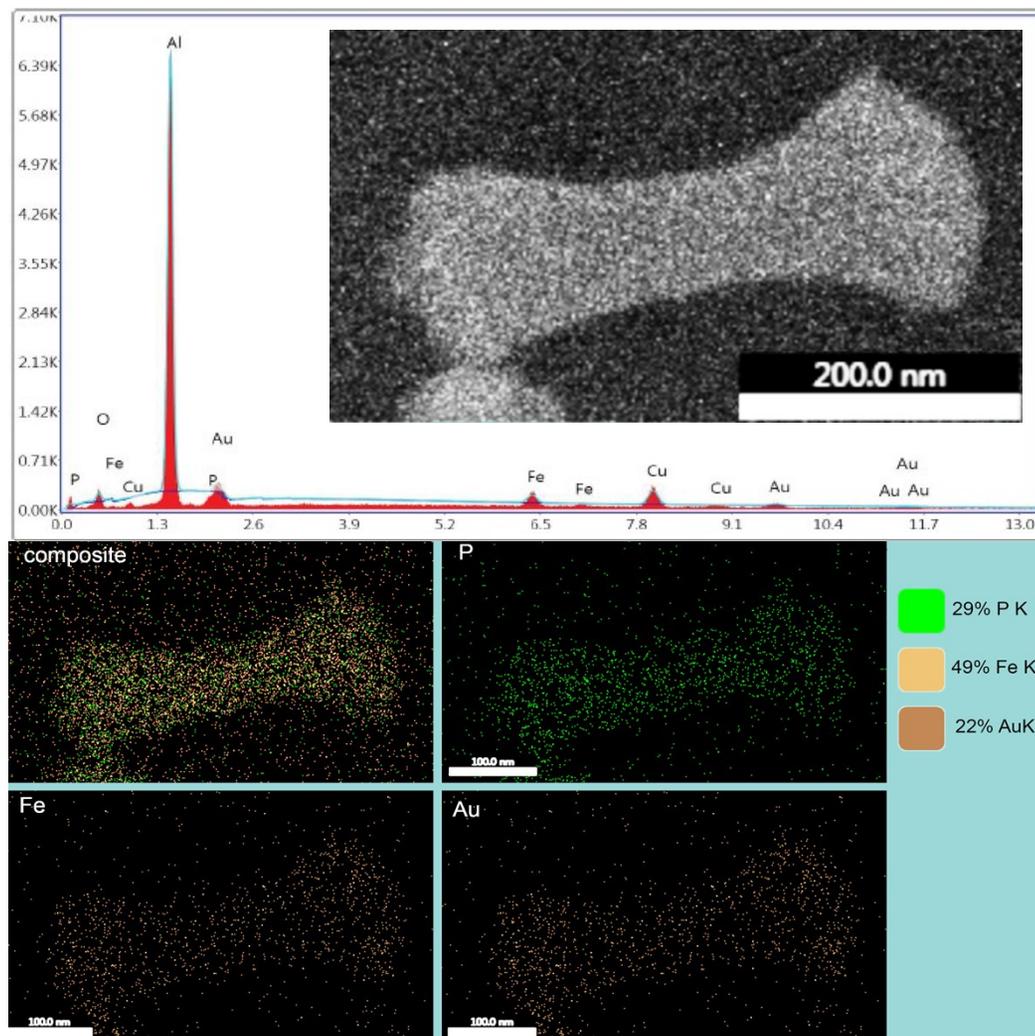


Figure S3. SEM/EDAX spectra for a representative particle obtained using the CO-reduction method with 100 μ L of gold-decorated precursor solution. Note: the Al and Cu signals come from the SEM support. FEI Quanta 400 ESEM FEG

Amount of decorated precursor (μL)	Length (nm)	Width (nm)	Shell Thickness (nm)	Aspect Ratio	λ_{max} (nm)
25	1089 ± 88	323 ± 42	65	3.4	588
50	1065 ± 115	317 ± 53	62	3.4	555
75	1011 ± 90	279 ± 38	43	3.6	542
100	1033 ± 71	246 ± 27	27	4.2	555

Table S1. Summary of the sizing and solution extinction maxima for various sizes of Fe₂P-Au core-shell structures synthesized via CO-reduction. The Au decorated-Fe₂P particles had dimensions of $1051 \pm 62 \times 193 \pm 22$ nm (aspect ratio: 5.4, λ_{max} 365 nm).