SUPPORTING INFORMATION

Trioctylphosphine: A General Phosphorus Source for the Low-Temperature Conversion of Metals into Metal Phosphides

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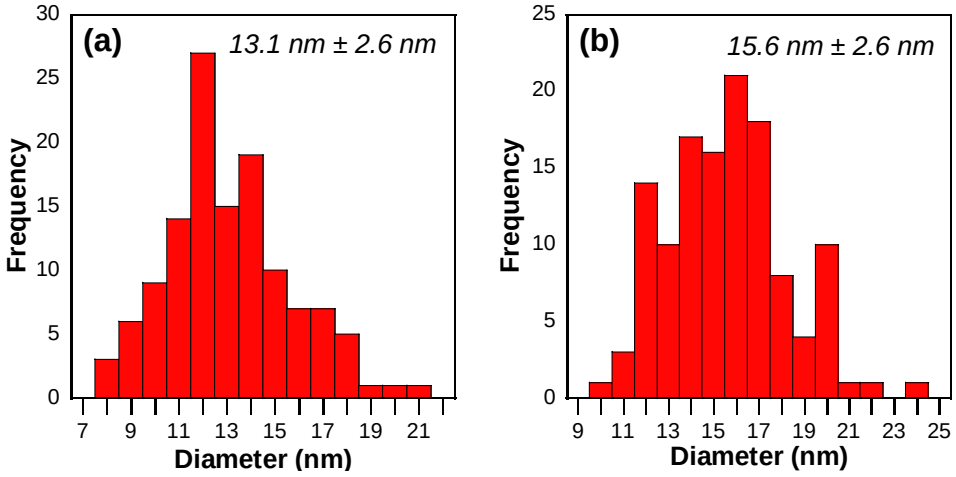

Figure S1. Histograms of nanoparticle diameters for (a) Cu and (b) Cu_3P formed by reacting the Cu nanoparticles in (a) with TOP as described in the text.

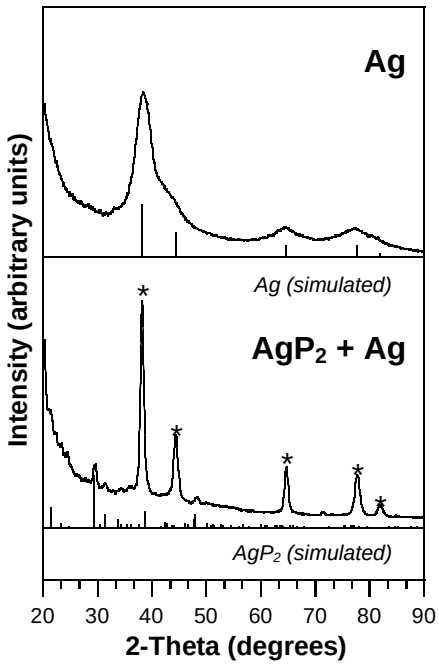

Figure S2. Powder XRD patterns for Ag nanoparticles and AgP_2 formed from their reaction with hot TOP. Conversion in this system is low-yield (Ag represented by an asterisk).

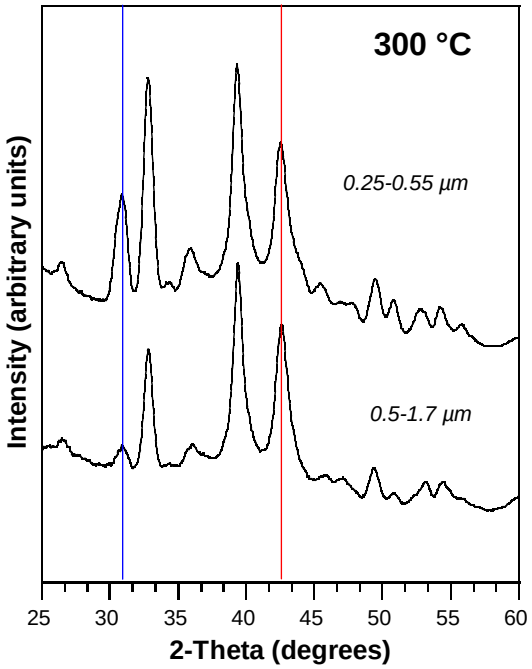

Figure S3. Dependence of Pd-P phase formation on Pd powder size for reaction with TOP at 300 °C for 2 h. Blue and red lines correspond to non-overlapping PdP_2 and Pd_5P_2 peaks, respectively, and can be used to approximate the relative amounts of each phase (discussed in text).

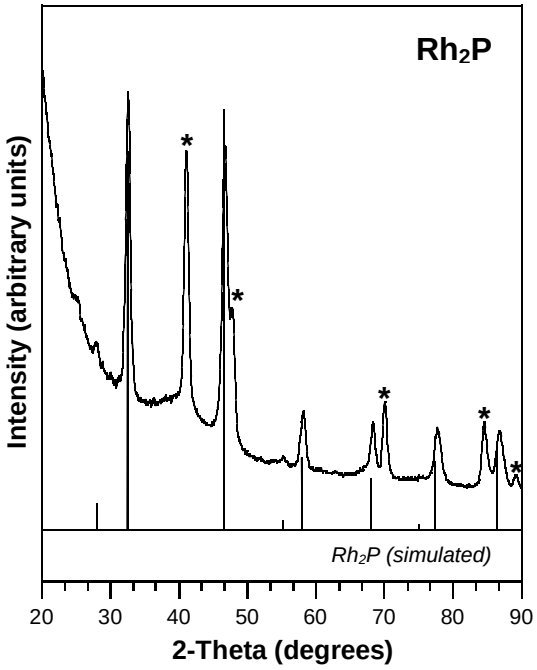

Figure S4. Powder XRD pattern for Rh_2P formed by refluxing -325 mesh Rh powder in TOP. An asterisk represents a Rh metal impurity.

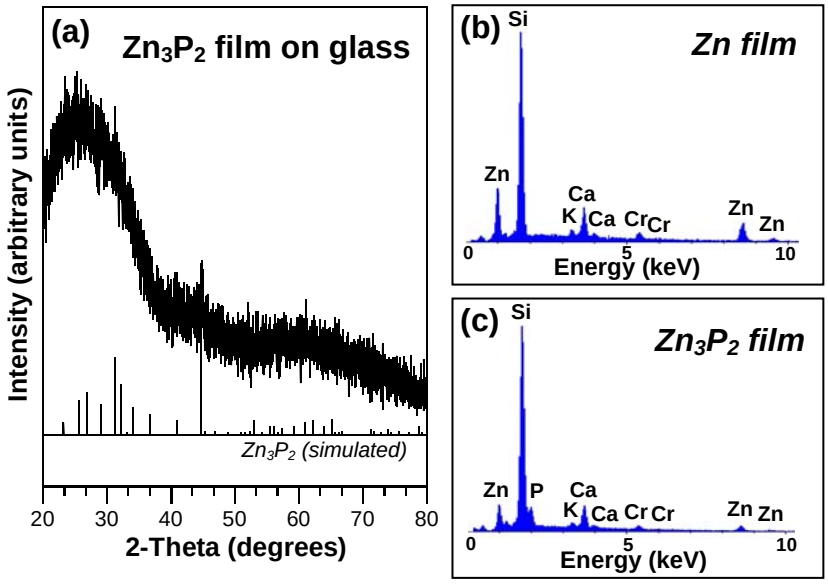

Figure S5. (a) Powder XRD pattern for Zn_3P_2 film on glass; EDS spectra for (b) 100 nm Zn film on glass (with 10 nm Cr adhesion layer) and (c) Zn_3P_2 film made by reacting the Zn film with hot TOP. (Si, Ca, and K are present in the glass substrate.)

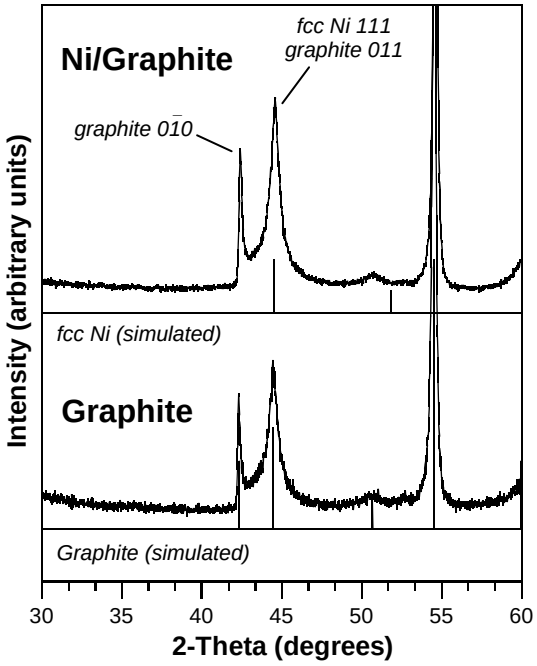

Figure S6. Powder XRD patterns for graphite-supported Ni nanoparticles and graphite (Alfa Aesar, conducting, -325 mesh). The relative ratios of the intensities of the graphite *0-10* and *011* peaks suggest that fcc Ni is present, because the *111* peak of fcc Ni is superimposed over the graphite *011* peak and adds intensity. EDS and SAED data (discussed in text) further confirm this assignment.