Electronic Supporting Information

Charge transfer effects in the chemical reactivity of Pd_xCu_{1-x} Nanoalloys

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1. TEM characterization of $Pd_{0.3}Cu_{0.7}$ and $Pd_{0.7}Cu_{0.3}$ nanoalloys

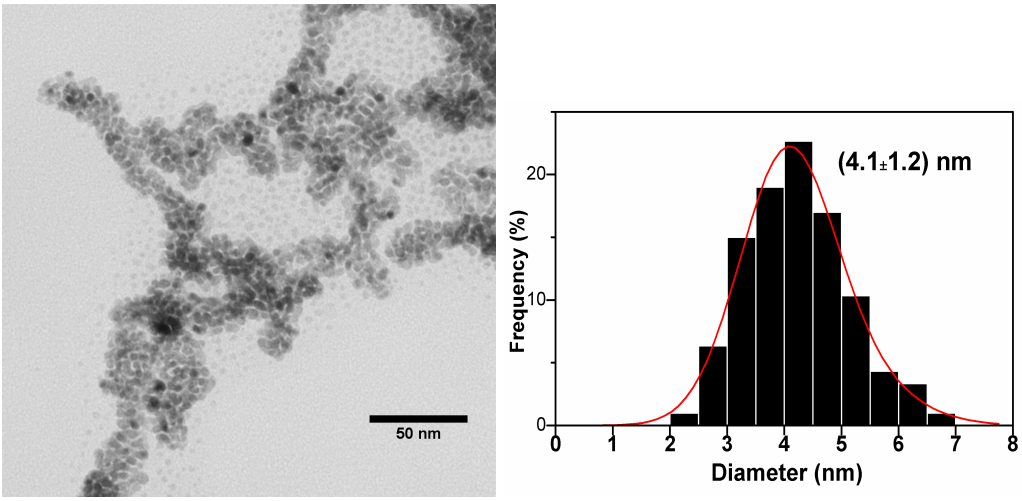

Figure ESI1. Representative TEM image and histogram of the $Pd_{0.3}Cu_{0.7}$ NPs size distribution.

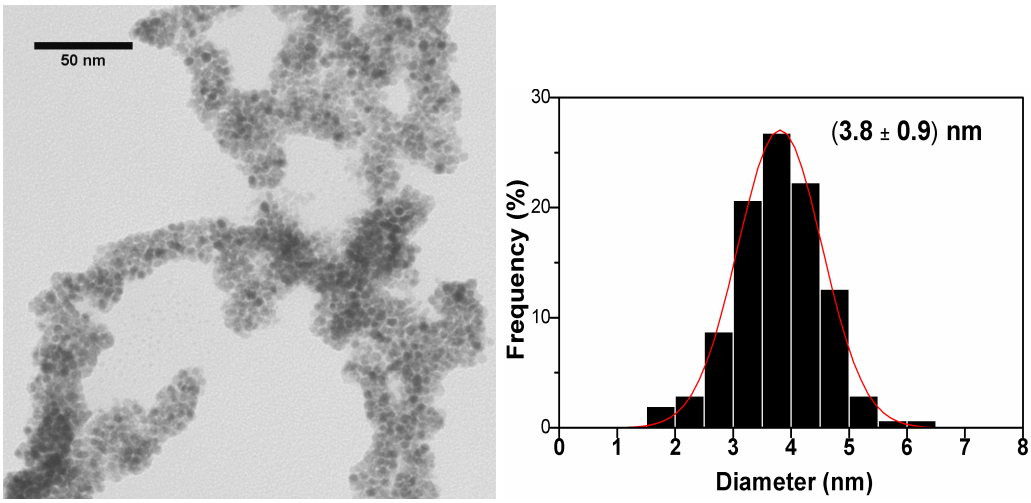

Figure ESI2. Representative TEM image and histogram of the $Pd_{0.7}Cu_{0.3}$ NPs size distribution.

2. Additional XPS results

2.1 Cu foil

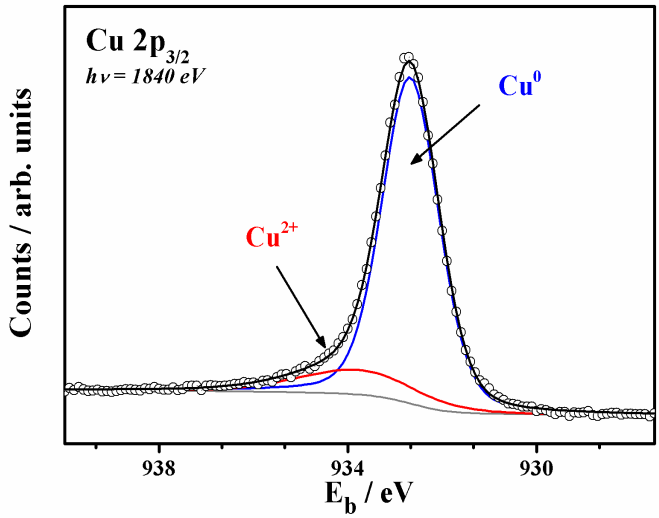

Figure ESI3. Cu $2p_{3/2}$ region of Cu foil. The open circles indicate the raw data and the overlying continuous black lines represent the sum of the components (represented as colour lines). The grey lines represent the Shirley background.

2.2 Pd foil

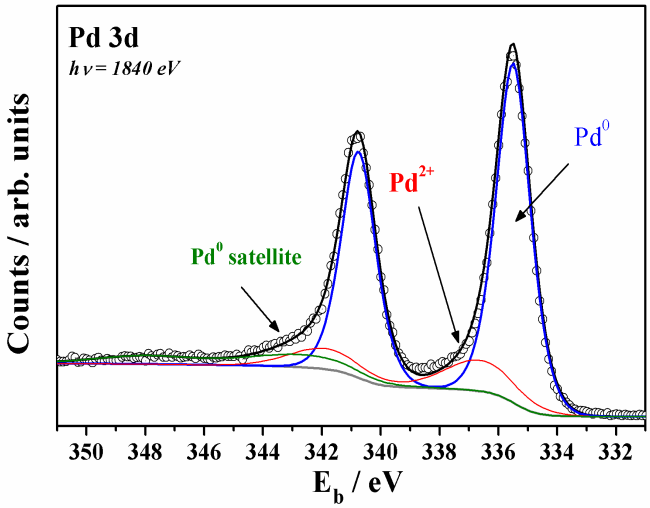

Figure ESI4. Pd 3d region of Pd foil. The open circles indicate the raw data and the overlying continuous black lines represent the sum of the components (represented as colour lines). The grey lines represent the Shirley background.

2.3 $Pd_{0.6}Cu_{0.4}$ foil

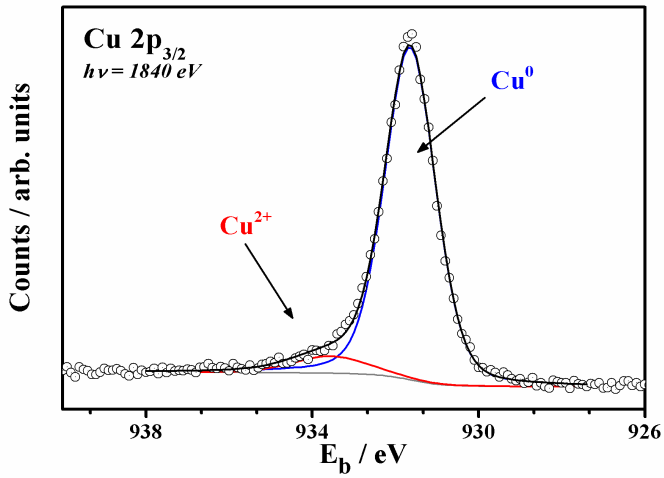

Figure ESI5. Cu $2p_{3/2}$ region of $Pd_{0.6}Cu_{0.4}$ foil. The open circles indicate the raw data and the overlying continuous black lines represent the sum of the components (represented as colour lines). The grey lines represent the Shirley background.

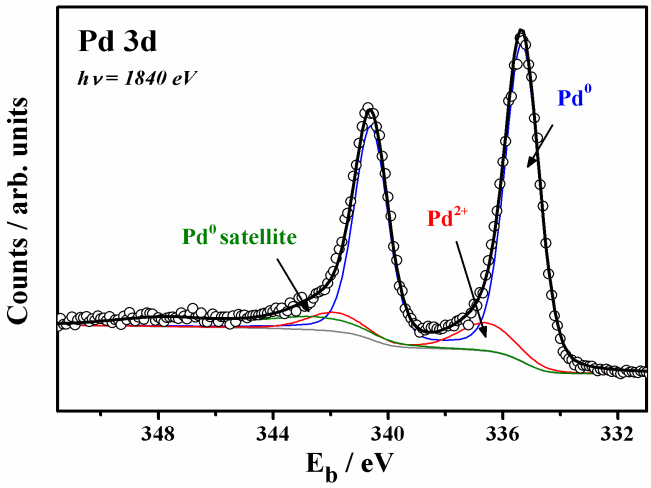

Figure ESI6. Pd 3d region of $Pd_{0.6}Cu_{0.4}$ foil. The open circles indicate the raw data and the overlying continuous black lines represent the sum of the components (represented as colour lines). The grey lines represent the Shirley background.

3 Example of the XANES linear combinations: Cu/C and $Pd_{0.5}Cu_{0.5}$/C at 210°C

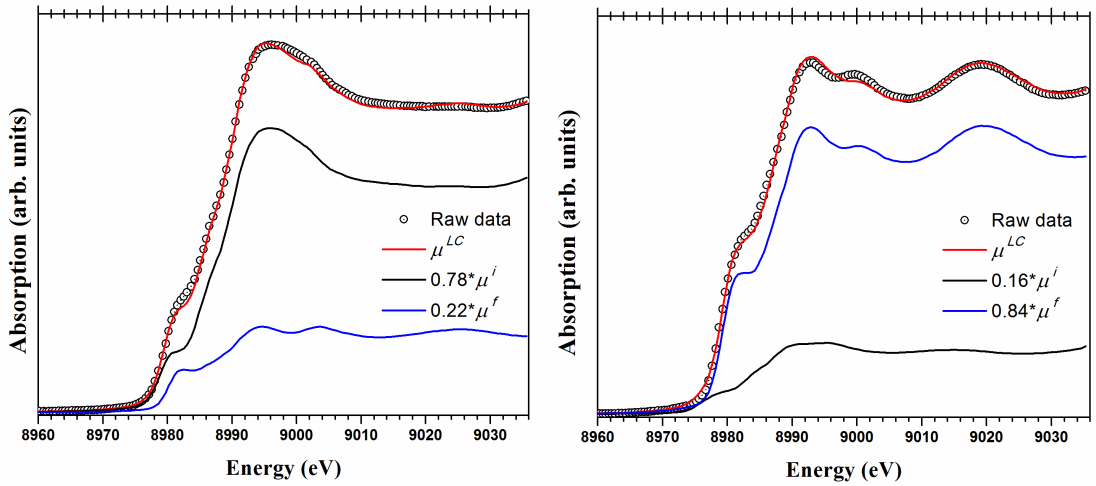

Figure ESI7. Linear combinations (LC) of Cu K edge XANES spectra of Cu/C (left) and $Pd_{0.5}Cu_{0.5}$/C (right) collected at 210°C during heating under CO atmosphere. The open circles are the experimental data, the red lines are the best LC obtained, black and blue lines are the components used in the LC.