

Supplementary Material (ESI) for *PCCP*  
This journal is © the Owner Societies 2010

**Electronic Supplementary Information for:**

**EXAFS as a tool to interrogate the size and shape of mono and  
bimetallic catalyst nanoparticles**

Andrew M. Beale\* and Bert M. Weckhuysen

Inorganic Chemistry and Catalysis, Debye Institute for NanoMaterials Science, Utrecht  
University, Sorbonnelaan16, 3584 CA, Utrecht, the Netherlands

To whom correspondence should be addressed:

Email: A. M. Beale@uu.nl

Tel. 00 31 (0) 30 253 6815

Fax. 00 31 (0) 30 251 1027

Figure 1.

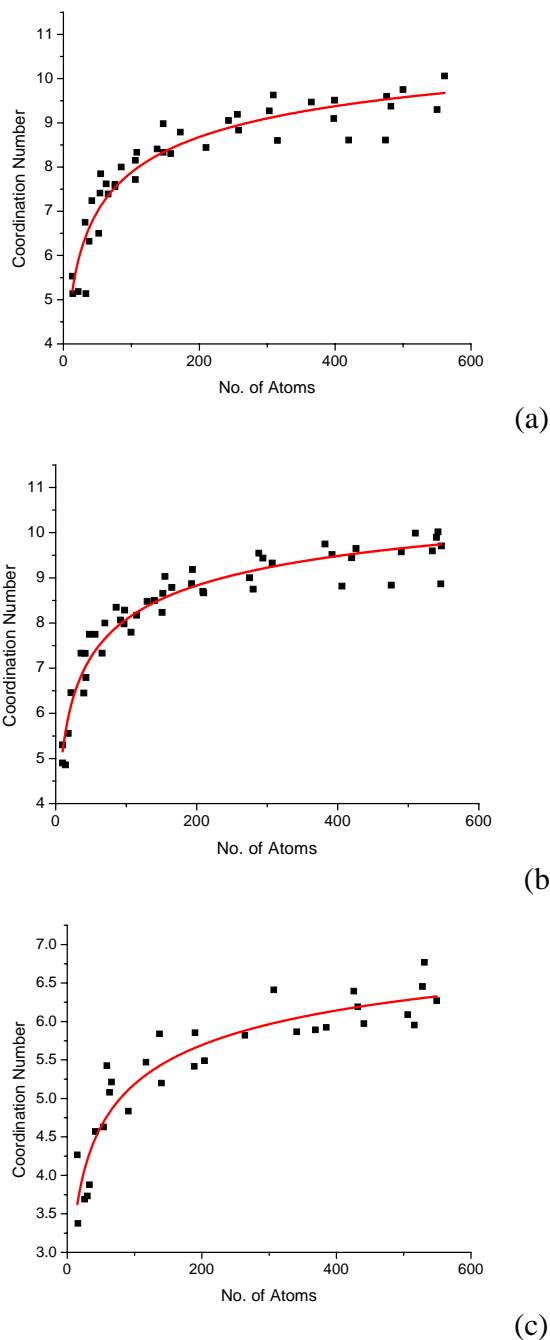


Figure 1. Results from the non-linear least squares fitting of the Hill exponential function to the complete data sets for the fcc (a), hcp (b) and bcc (c) shapes.

Figure 2.

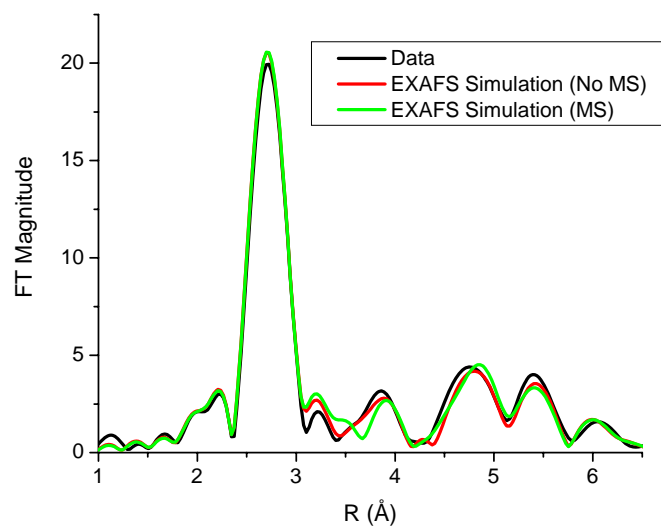


Figure 2. Simulated EXAFS data for a Pt foil comparing the effects of including multiple scattering (MS) paths on the data simulation.

Figure 3.

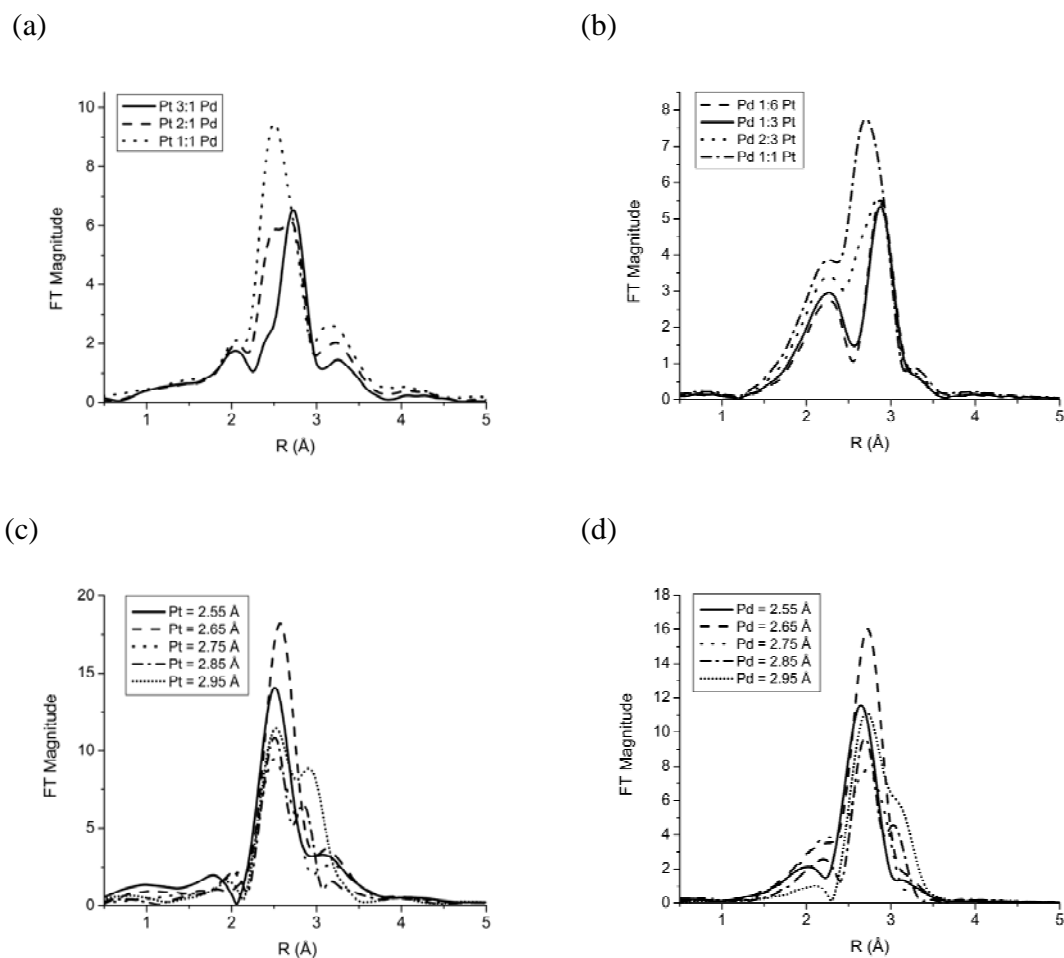


Figure 3. Simulated EXAFS FT spectra at the Pt L<sub>III</sub> and Pd K-edges, as a function of Pt:Pd occupancy ratio ((a) and (b))  $\Delta r$  between the Pt and Pd shells ((c) and (d)). (a) and (c) contains the EXAFS FT spectra at the Pt L<sub>III</sub> edge and whereas (b) and (d) contain EXAFS FT spectra at the Pd K-edge. In (c) the Pt distance varies by  $\Delta r = \pm 0.2$  Å, with Pd fixed at 2.75 Å and in (d) the Pd distance varies by  $\Delta r = \pm 0.2$  Å, with Pt fixed to 2.75 Å.