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**Supporting information for article:**

# Paracrystalline structure of gold, silver, palladium and platinum nanoparticles

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The model based on the hcp structure is inconsistent with the experimental data.

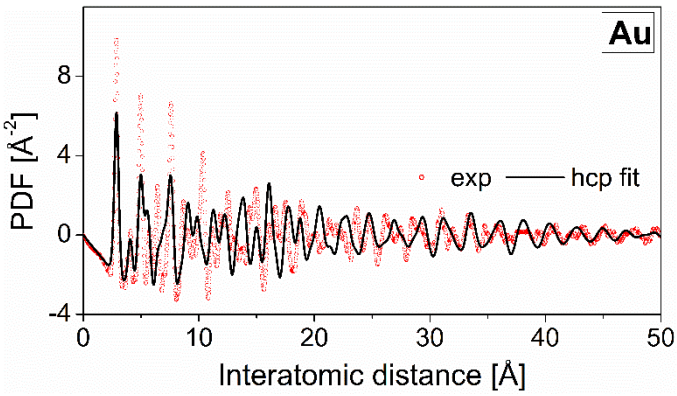



**Figure S1.** The PDFgiu fit for the Au nanoparticle for the hcp structure.

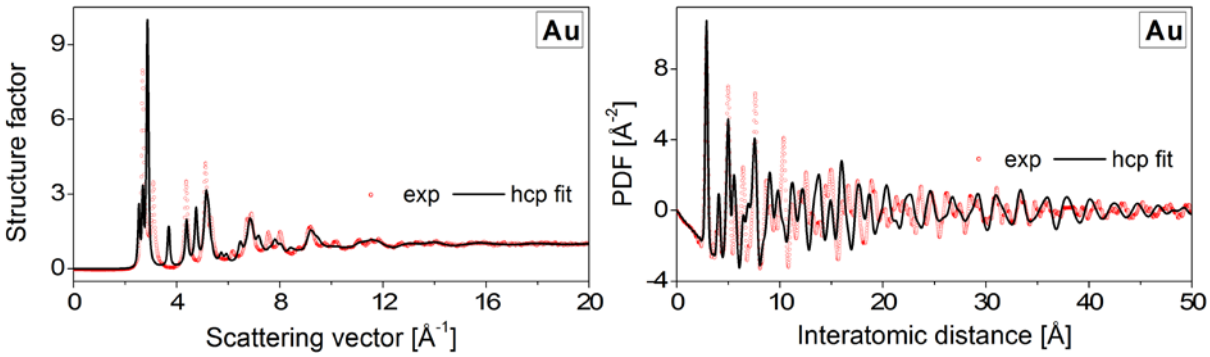
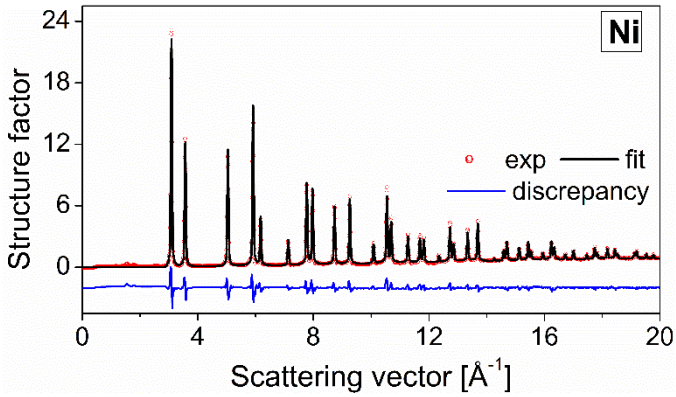



**Figure S2.** The paracrystalline hcp model of the Au nanoparticle. The generalized Debye-Waller factor was adjusted to reproduce correctly the first *PDF* peak.

a)




b)

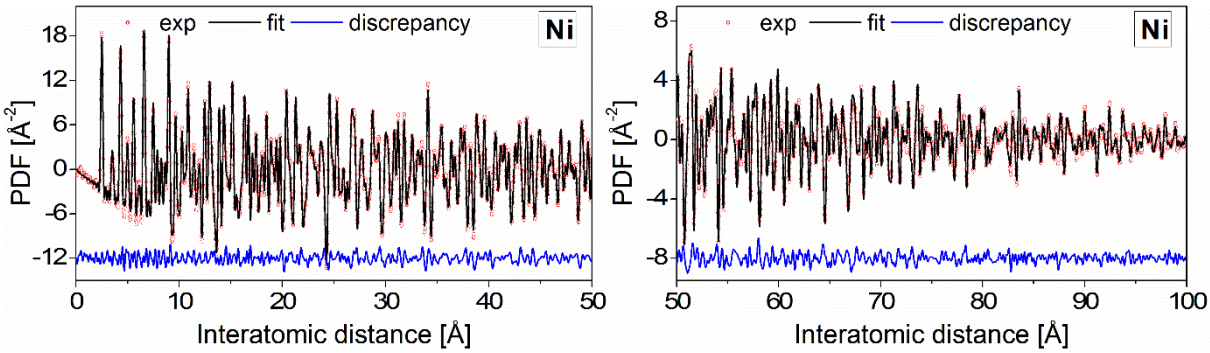



**Figure S3.** Comparison of the experimental and simulated structure factors for Ni standard (a). Comparison of the experimental and simulated *PDFs* (b) obtained from the structure factors shown in Figure S3(a).

The standard Ni powder was measured and the experimental data were fitted using only three parameters: the lattice parameter $a$=3.524 Å, the standard deviation of the interatomic distances $\sigma$=0.11 Å and $\delta_1$=1.0 Å. The first two parameters were taken from periodictable.com/Properties/A/LatticeConstants.html and from (Cooper & Taylor, (1969). *Acta Cryst*. *A* **25**, 714-715. The $\delta_1$ was an adjustable parameter. The plots shown in Figure S3 in Supporting Information provide evidence that good agreement with the experimental data in both reciprocal and real space can be achieved assuming only thermal disorder. No additional paracrystalline disorder is necessary.