

Supplementary information

Characterization of silver-polymer core-shell nanoparticles using electron microscopy.

Nathalie Claes¹, Ramesh Asapu², Natan Blommaerts², Sammy W. Verbruggen², Silvia Lenaerts² and Sara Bals¹.

¹ Electron Microscopy for Materials Science (EMAT), Department Physics, University of Antwerp, Groenenborgerlaan 171, B-2020 Antwerp, Belgium.

² Sustainable Energy, Air and Water Technology (DuEL), Department of Bioscience Engineering, University of Antwerp, Groenenborgerlaan 171, B-2020 Antwerp, Belgium.

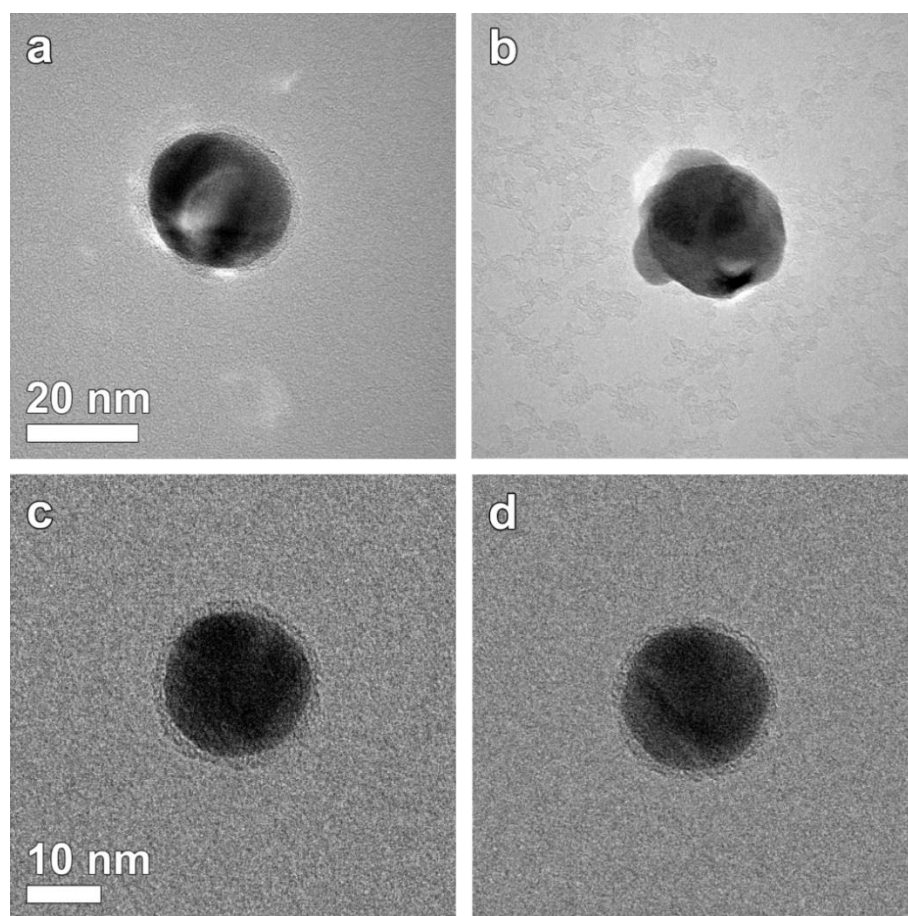


Figure S1: (a) Projection image at 0° using beam current 2.5 nA (typical 2-3 nA for BF-TEM). (b) Projection image at 0° after 15 images. The particle and polymer shell are destroyed. (c) Projection image at 0° using screen current 0.5 nA. (d) Projection image at 0° after 78 images. The polymer shell is still intact.

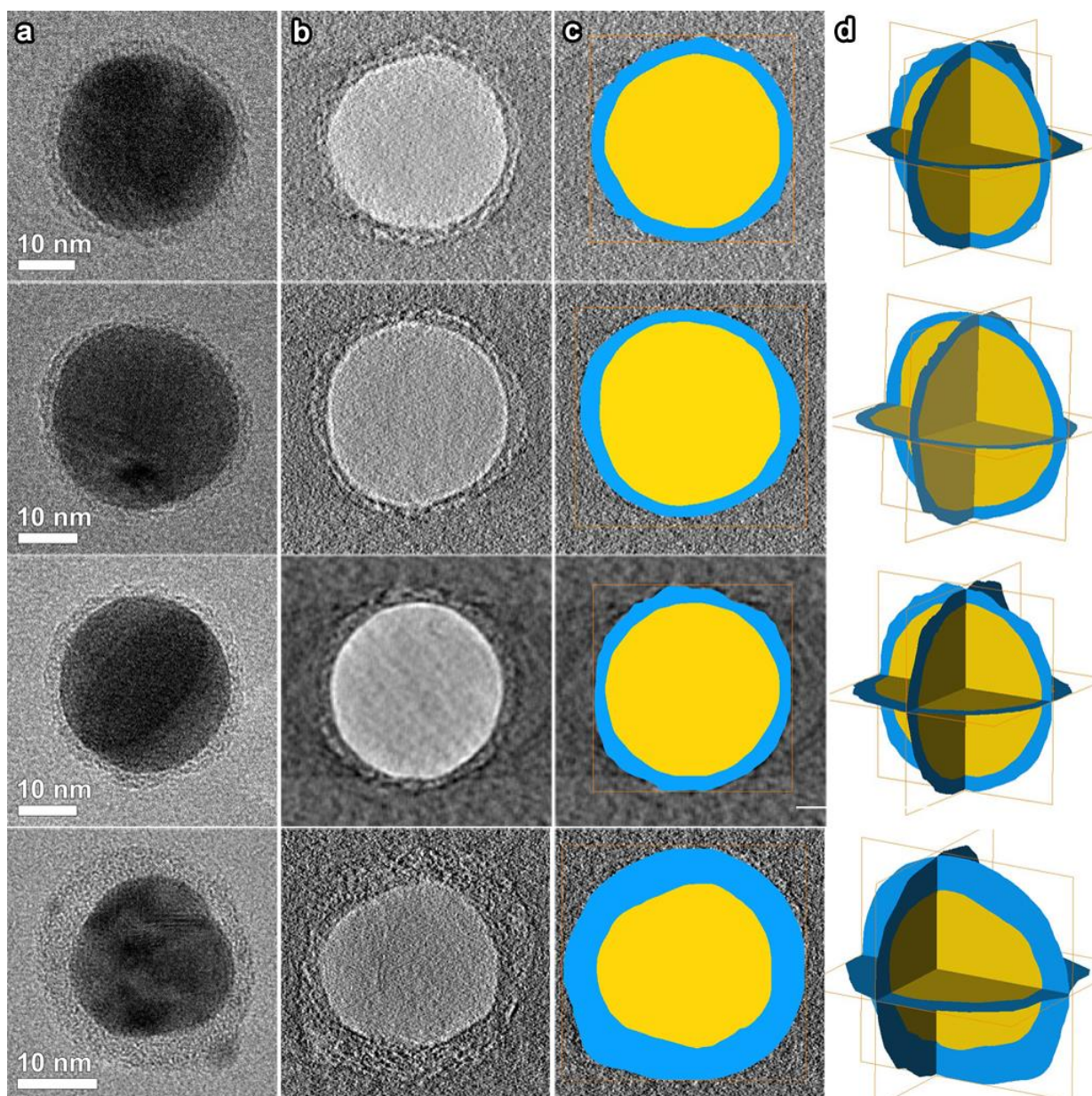


Figure S2: (column a) BF-TEM projection at 0° for respectively Ag-L4, Ag-L6, Ag-L8 and Ag-L12. (column b) Slices through the reconstructed 3D volumes obtained by the weighted back projection and (column c) superimposed segmentation. Figures (column d) show the result of the 3D segmentation. The polymer shell (**blue**) is encapsulating the complete particle (**yellow**).

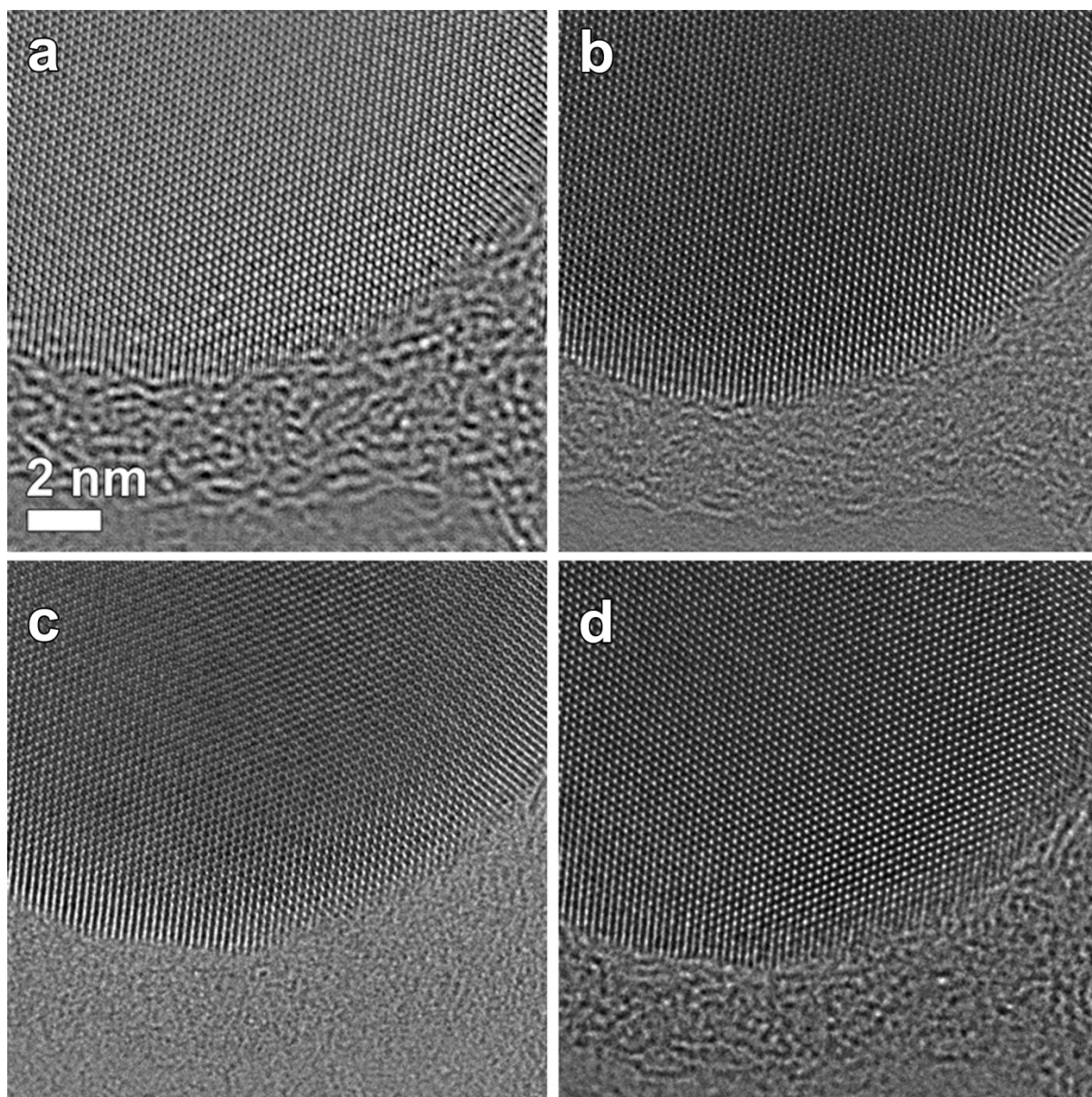


Figure S3: (a) Reconstructed phase image. (b-d) HRTEM images respectively at defocus 16 nm, -1 nm and 27 nm. Contrast inversion is observed between the images. Around 0 nm defocus, the polymer layer is not visible.