

Supporting information

Silver particles coated with conductive polymers: expanding the concept of hybrid particle sinter-free conductive materials

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Effect of the ϵ -Ahx concentration:

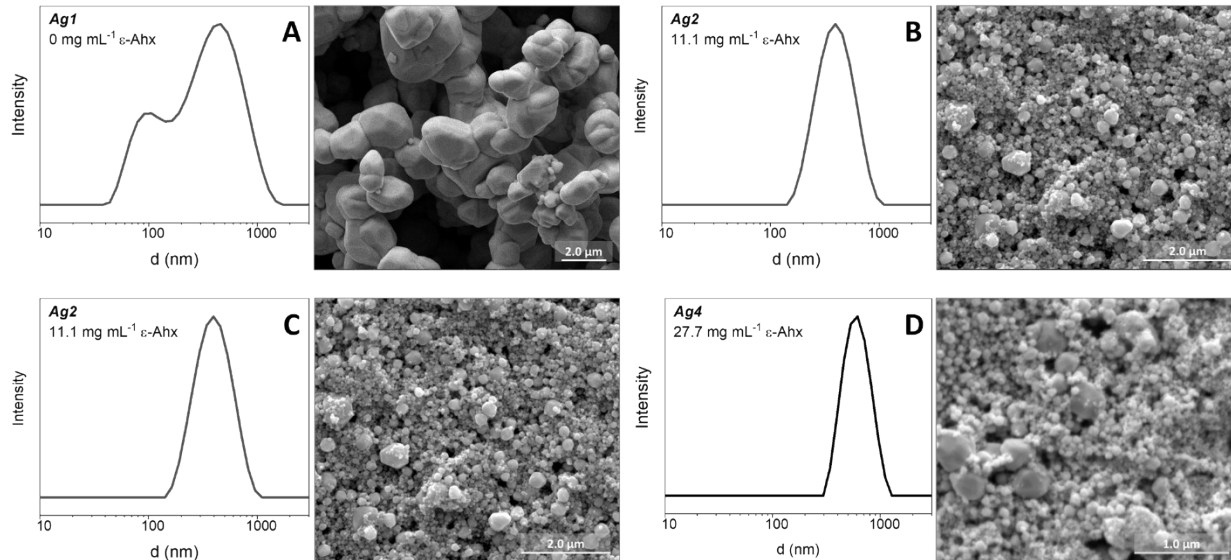


Figure S1. DLS data and SEM image of **A)** sample Ag1 (0 mg mL⁻¹ of ϵ -Ahx); **B)** sample Ag2 (11.1 mg mL⁻¹ of ϵ -Ahx); **C)** sample Ag3 (22.1 mg mL⁻¹ of ϵ -Ahx); **D)** sample Ag4 (27.7 mg mL⁻¹ of ϵ -Ahx). All samples were prepared in pure ethylene glycol (EG).

Effect of the water concentration:

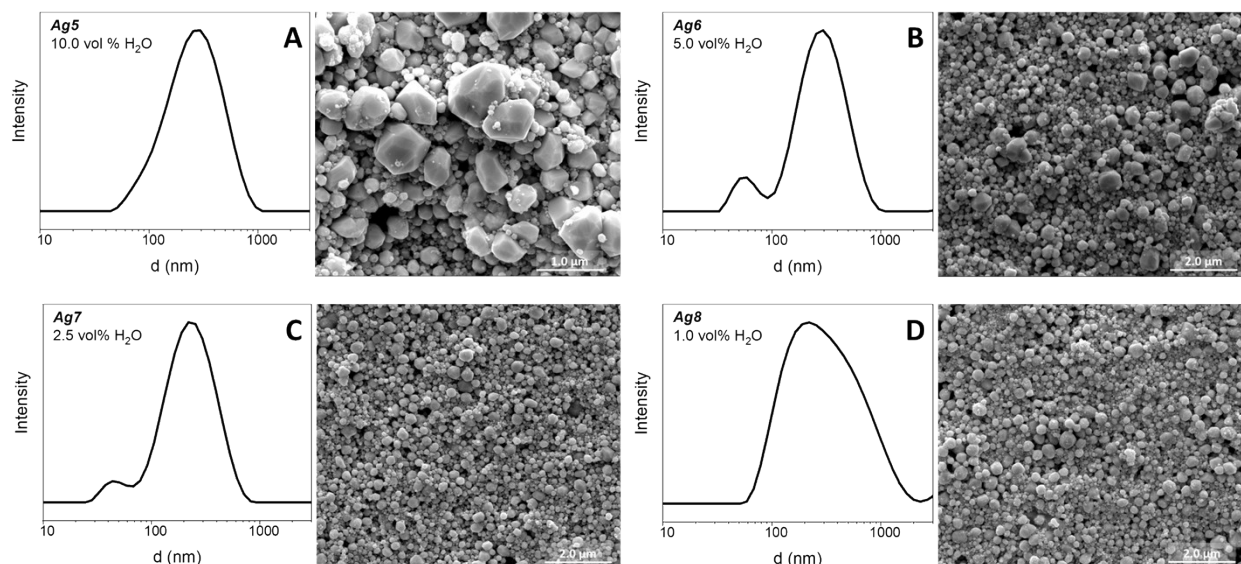


Figure S2. DLS data and SEM image of **A)** sample Ag5 (10 vol% H₂O); **B)** sample Ag6 (5 vol% H₂O); **C)** sample Ag7 (2.5 vol% H₂O); **D)** sample Ag8 (1 vol% H₂O). All these samples were prepared with a ϵ -Ahx concentration of 11.1 mg/mL.

Effect of the Br:Ag ratio:

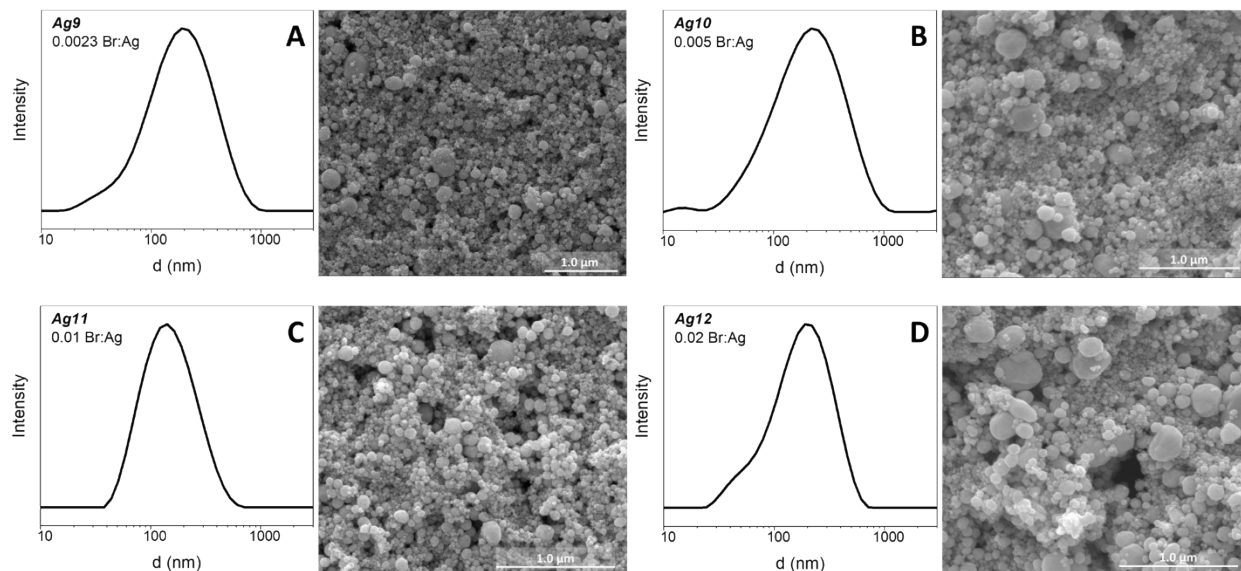


Figure S3. DLS data and SEM image of **A)** sample Ag9 (0.0023 Br:Ag); **B)** sample Ag10 (0.005 Br:Ag); **C)** sample Ag11 (0.01 Br:Ag); **D)** sample Ag12 (0.2 Br:Ag). For all these samples the final %vol H₂O was 2.5% and the ϵ -Ahx concentration was 11.1 mg/mL.

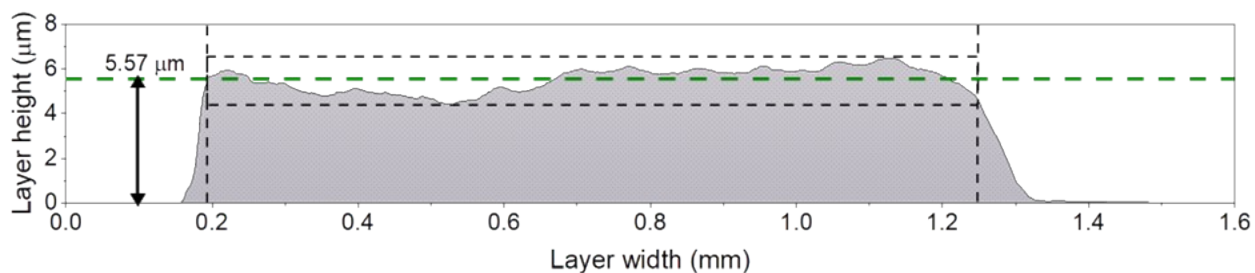


Figure S4: Graphical representation of cross-sectional profile of deposited patterns of AgNP@PEDOT:PSS (Ag13 LE). Seven samples on glass were measured over entire surface using a 3D confocal microscope to obtain profile height. The obtained topography data of profile heights was converted into Abbott Firestone histograms and layer thickness was calculated as difference between peaks.

Table S1. Confocal microscopy data: Layer thickness calculated from difference in topography histograms peaks and measured average cross section surface for each sample.

sample #	Layer thickness (μm)	Av. cross section surface (μm ²)
1	5.57	5473
2	5.93	6580
3	5.75	8817
4	6.36	6133
5	4.57	4076
6	5.33	4596
7	4.95	4203