

## Electronic Supplementary Material (ESM)

### Green microfluidic synthesis of monodisperse silver nanoparticles via genetic algorithm optimization

Daniel L. A. Fernandes,<sup>a,†</sup> Cristina Paun,<sup>a</sup> Mariia V. Pavliuk,<sup>a</sup> Arthur B. Fernandes,<sup>b</sup> Erick L. Bastos,<sup>b,†</sup> and Jacinto Sá<sup>a,c,†</sup>

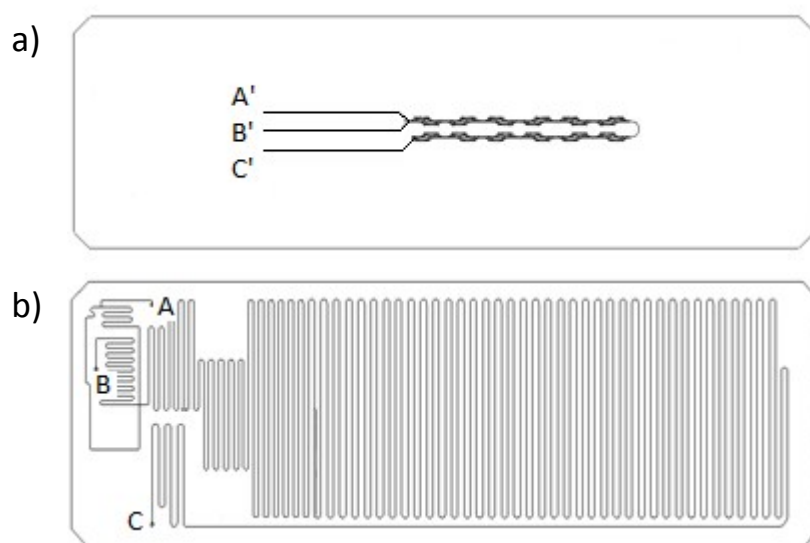


Figure S1 Details for the micromixer chip a), and for the glass microreactor b).

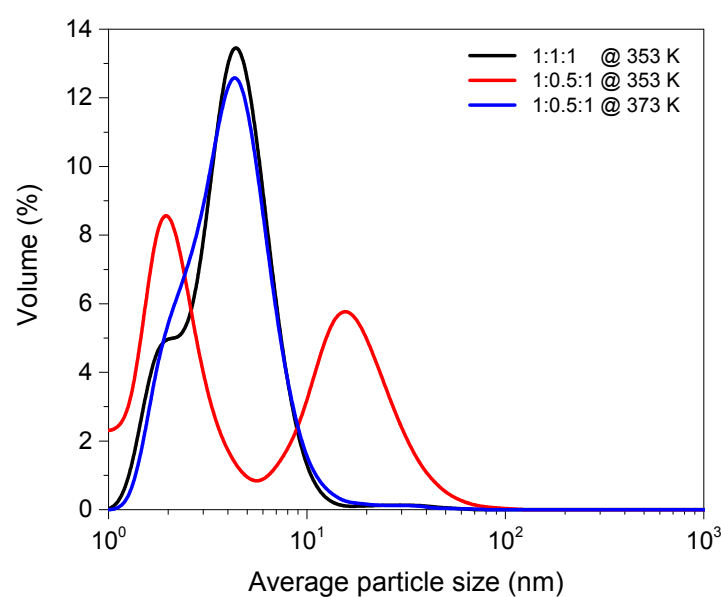
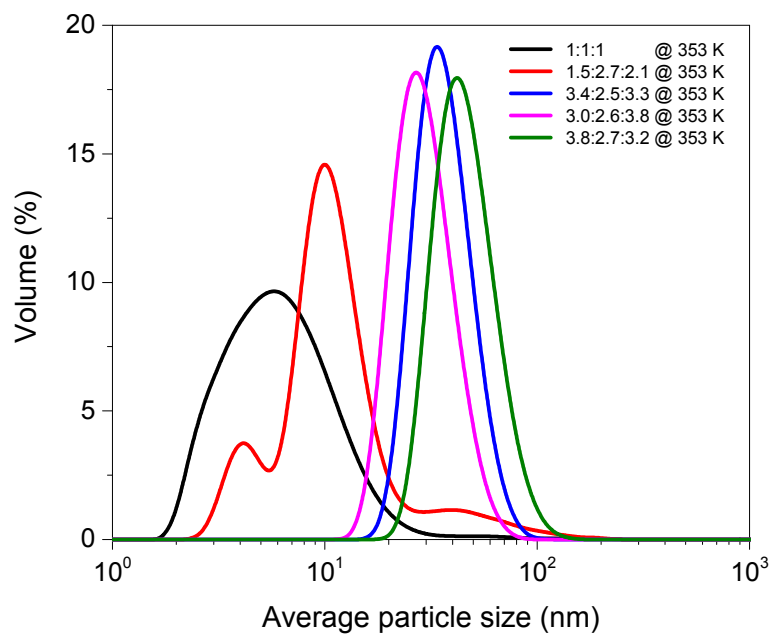
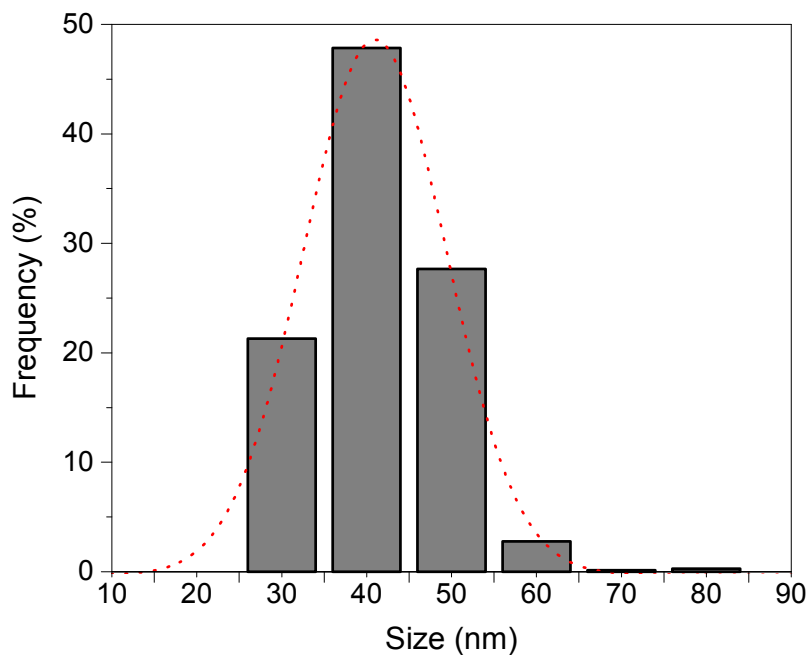


Figure S2 Spectroscopic data of AgNPs prepared in batch mode. DLS, particles size analysis from volume profiles.



**Figure S3** Spectroscopic data of AgNPs prepared in the microfluidic reactor at 353 K. DLS, particles size analysis from volume profiles.



**Figure S4** Histogram of size distribution of AgNPs prepared in the microfluidic reactor from a ratio between Bn:NaOH:AgNO<sub>3</sub> of 3.4:2.5:3.3 @ 353 K.

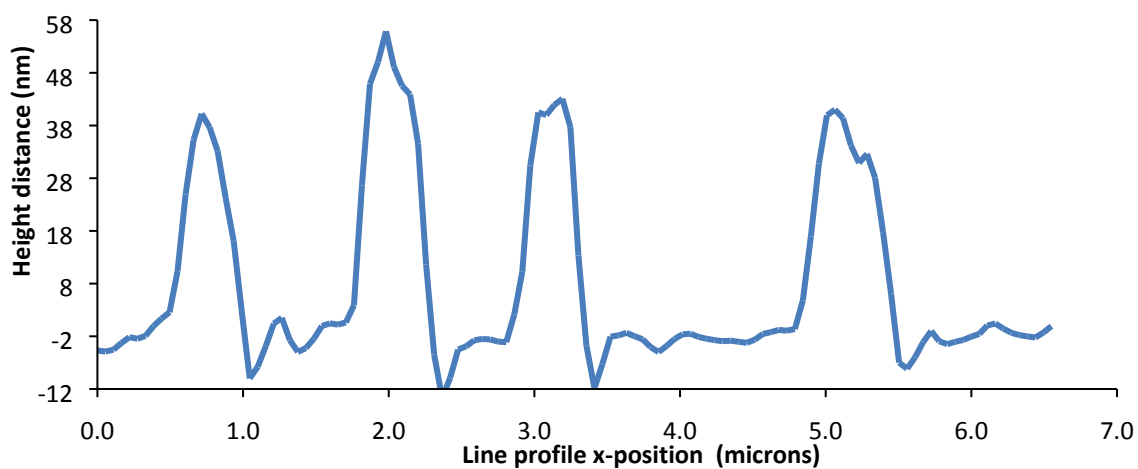


Figure S5 Example of AFM intensity profile used to create figure S4 histogram.

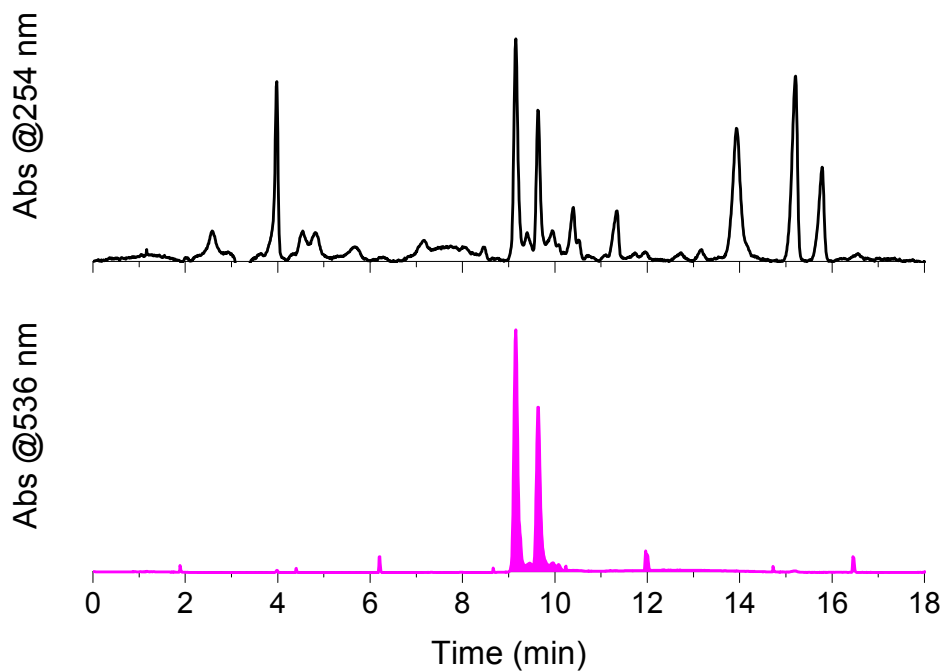


Figure S6 HPLC-DAD chromatogram of commercial betanin at 254 nm and 536 nm (betanin and isobetanin). Conditions: Shimadzu 20A HPLC equipped with a PDA SPD20A detector and C18 Ascentis® reverse phase column (250 × 4.6 mm, Supelco); 5 – 95% B within 20 min; A: 0,1% TFA/water, B: 0,1% TFA/60% MeCN/water, flow: 1.0 mL min<sup>-1</sup>.