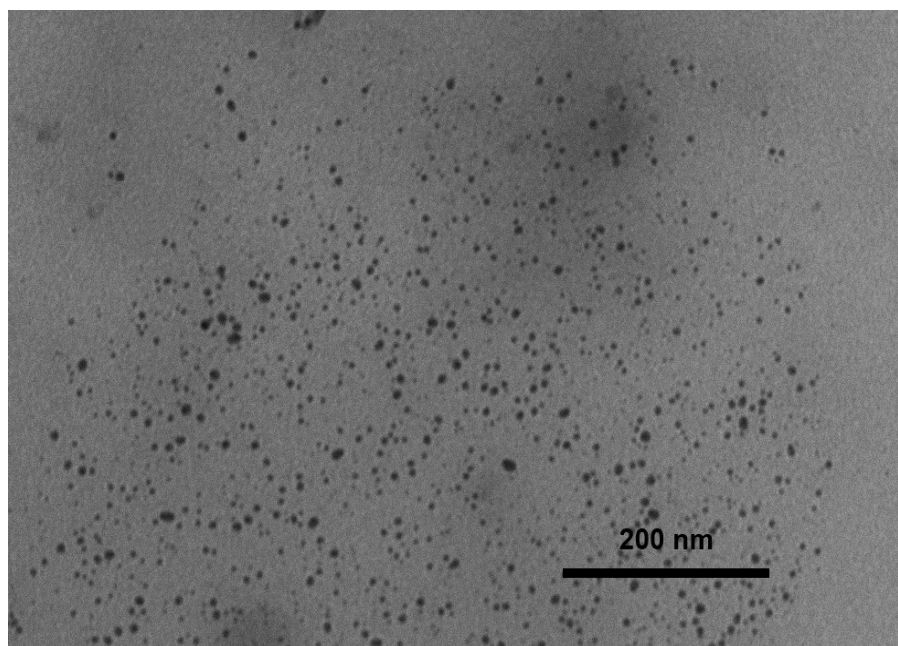
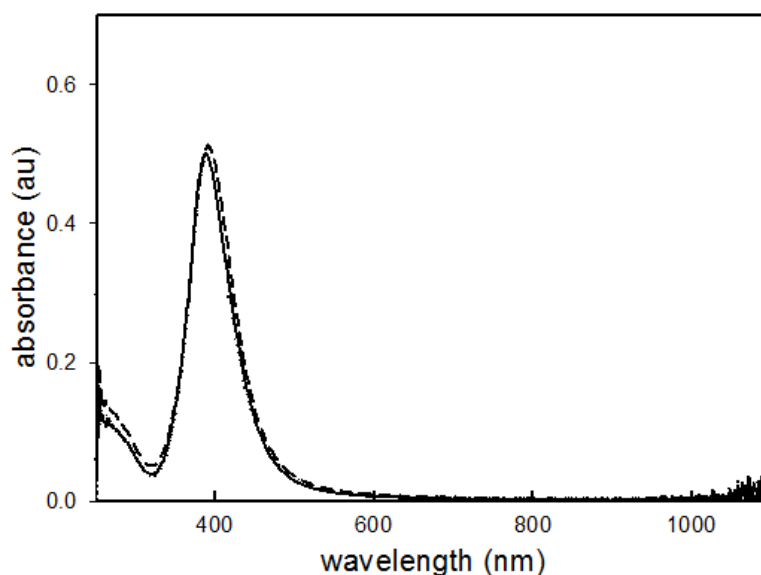


# Supplementary Materials: Bulk Surfaces Coated with Triangular Silver Nanoplates: Antibacterial Action Based on Silver Release and Photo-Thermal Effect

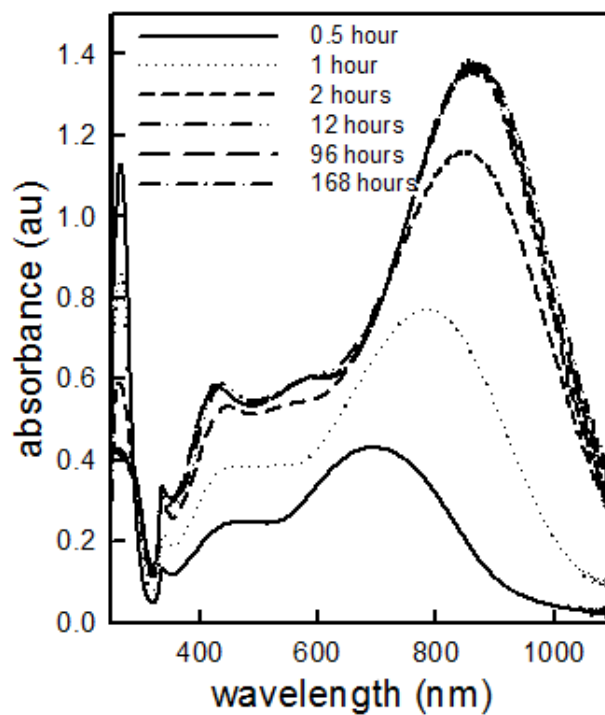
Agnese D'Agostino, Angelo Taglietti, Roberto Desando, Marcella Bini, Maddalena Patrini, Giacomo Dacarro, Lucia Cucca, Piersandro Pallavicini and Pietro Grisoli



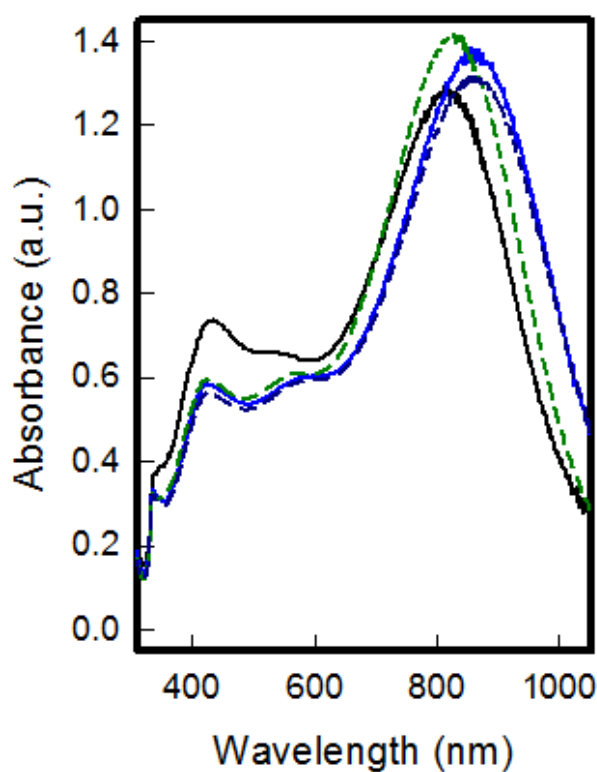
**Figure S1.** TEM image of seeds preparation, showing the presence of spherical nanoparticles with a mean diameter of  $5.4 \pm 2.6$  nm.



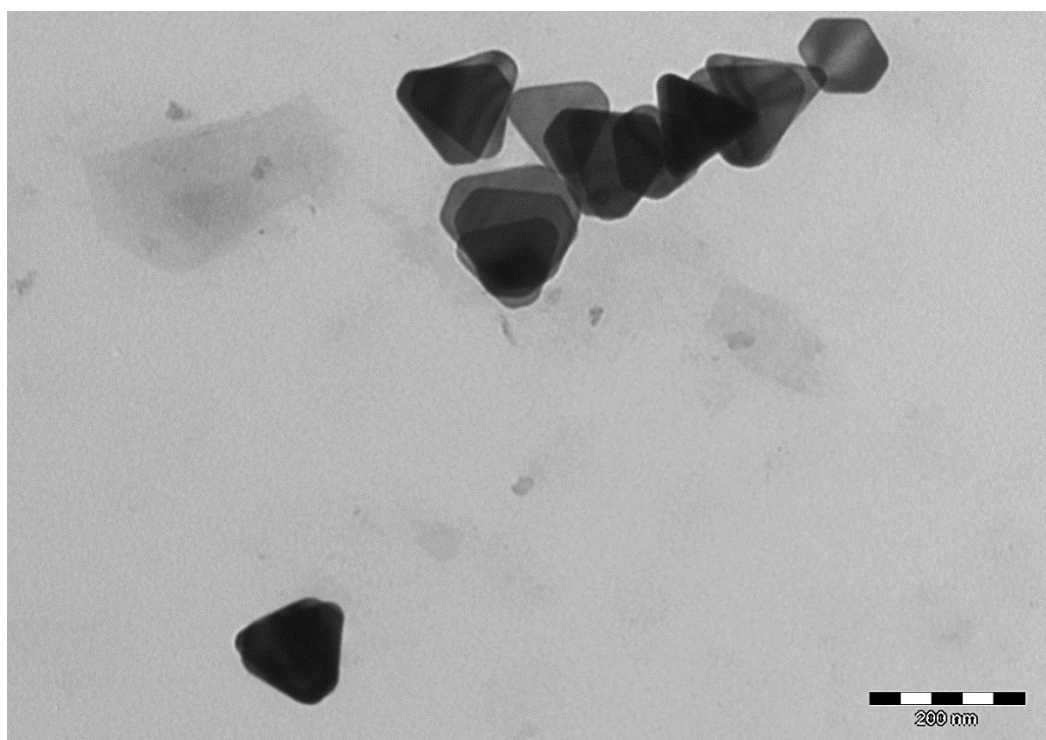
**Figure S2.** UV-vis spectra of three different stock solutions of seeds, after dilution to obtain an LSPR band having an absorbance of 0.5.



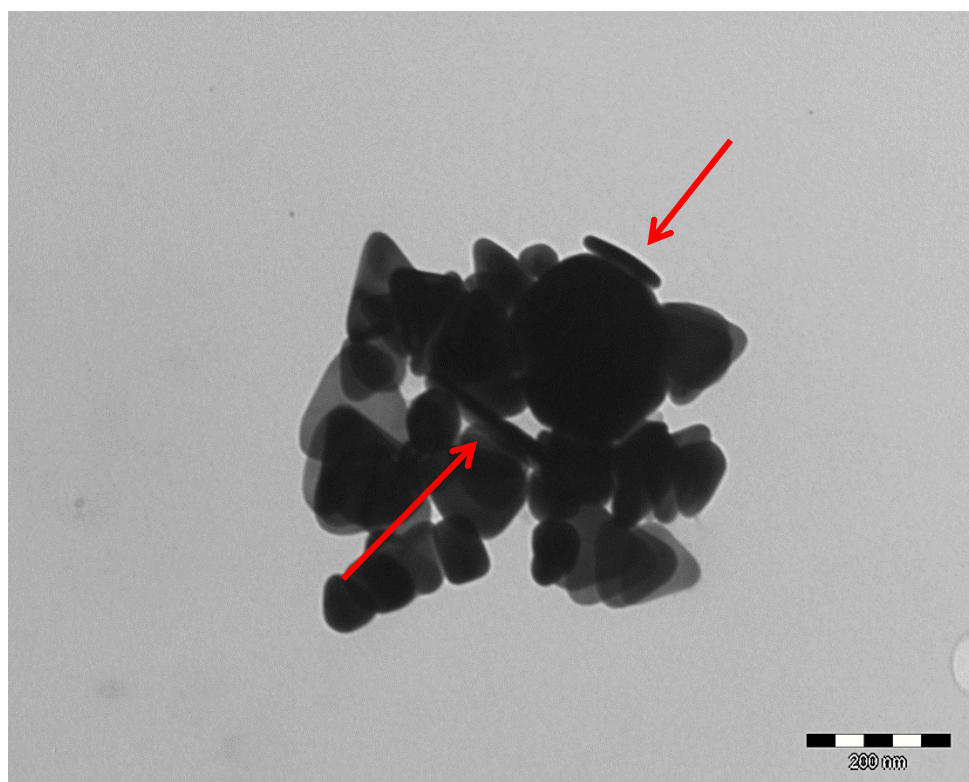
**Figure S3.** UV-vis spectra showing the kinetic of evolution with time of the seed-growth preparation of silver nanoplates, with  $t = 0$  being the seed solution introduction into the growth solution.



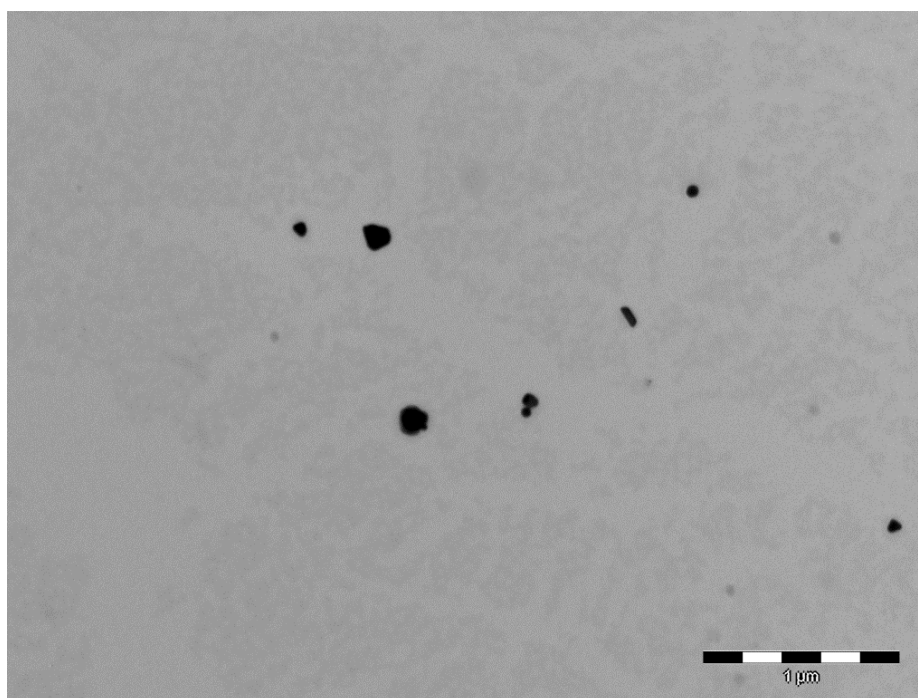
**Figure S4.** UV-vis spectra of four colloidal suspensions of silver nanoplates obtained with the standard preparation.



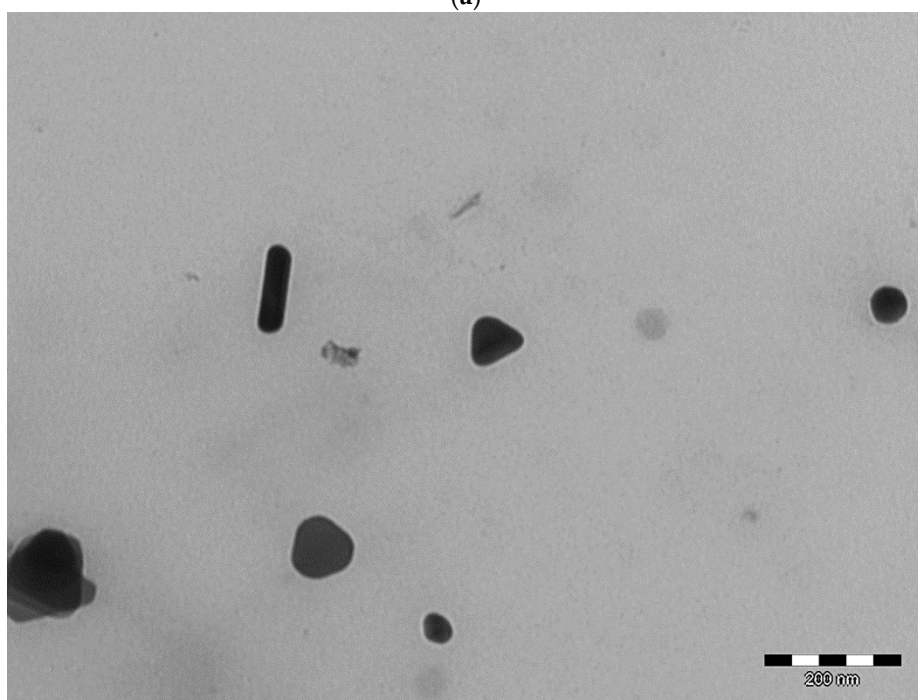
**Figure S5.** TEM image for a standard nanoplates preparation, showing the presence of snipped triangular and hexagonal objects, together with regular triangular objects.



**Figure S6.** TEM image for a standard nanoplates preparation, showing the presence of a majority of triangular objects, with objects of various dimensions morphology, and of vertically placed objects (see arrows) with a thickness of about 20 nm.

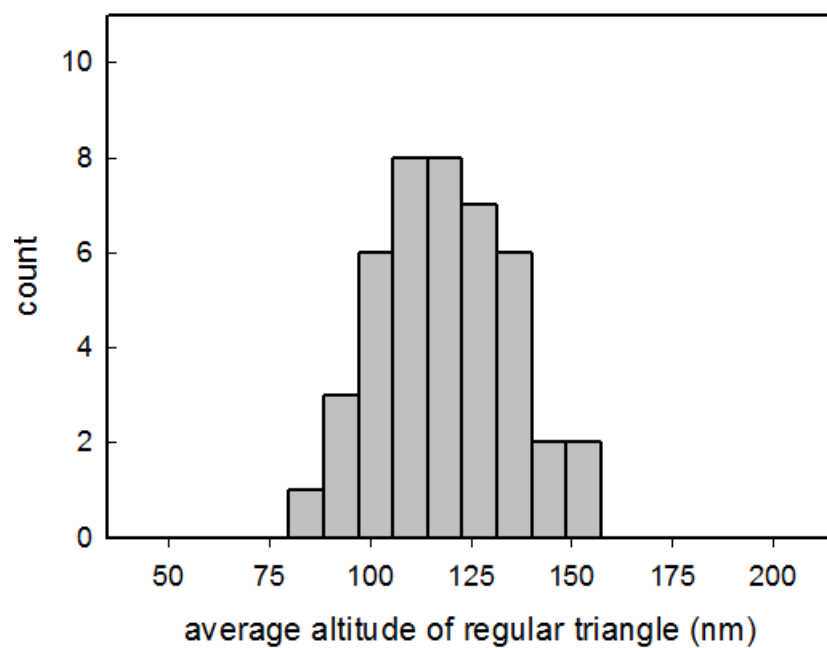


(a)

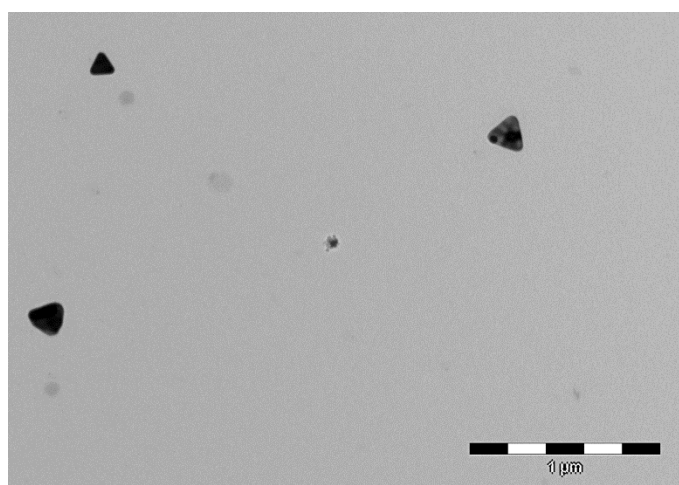


(b)

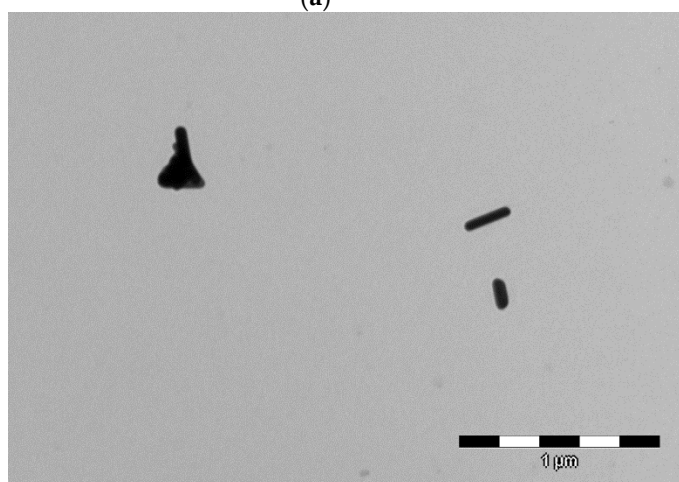
**Figure S7.** TEM images for a standard nanoplates preparation showing the existence of a few rod-like and rounded objects. (a) Scale 1 micron; (b) Scale 200 nm.



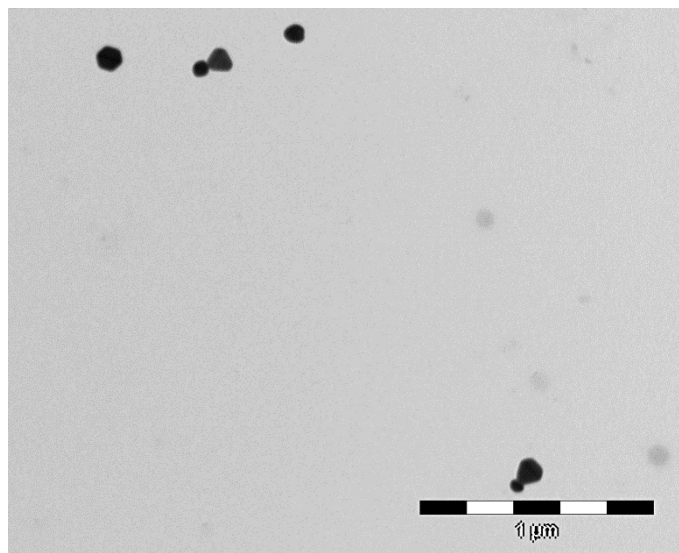
**Figure S8.** Histogram representing the distribution of the average altitude values measured for 43 regular triangles obtained from the standard preparation reported in Figure. 1a of the main text.



(a)

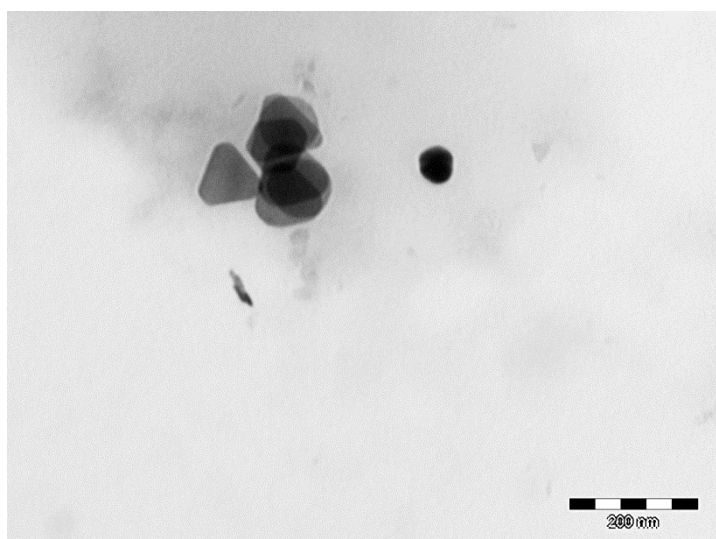


(b)

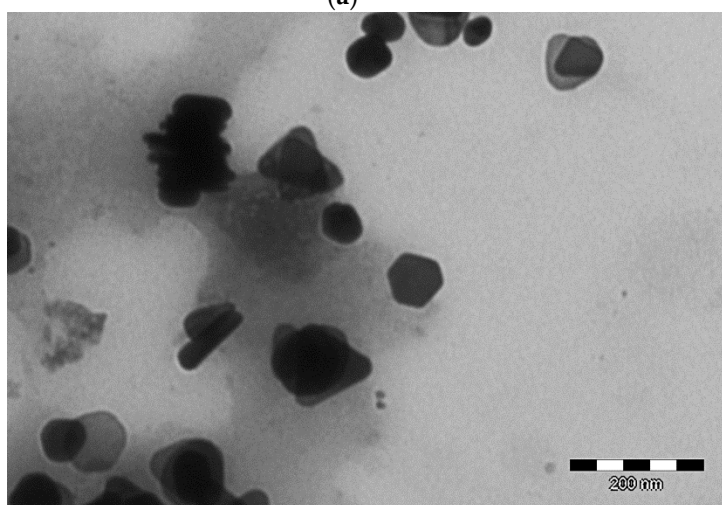


(c)

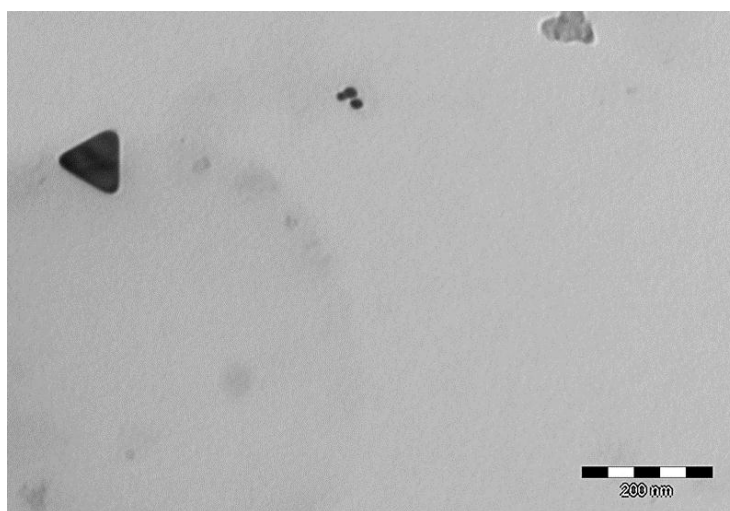
**Figure S9.** (a–c) TEM images of nanoplates obtained decreasing of one third the seed quantity (in respect to the standard preparation). Scale bar: 1 micron.



(a)

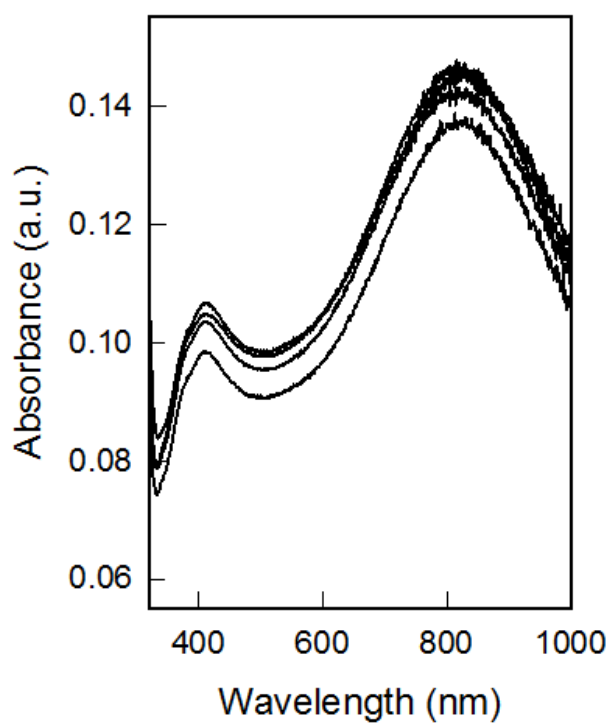


(b)

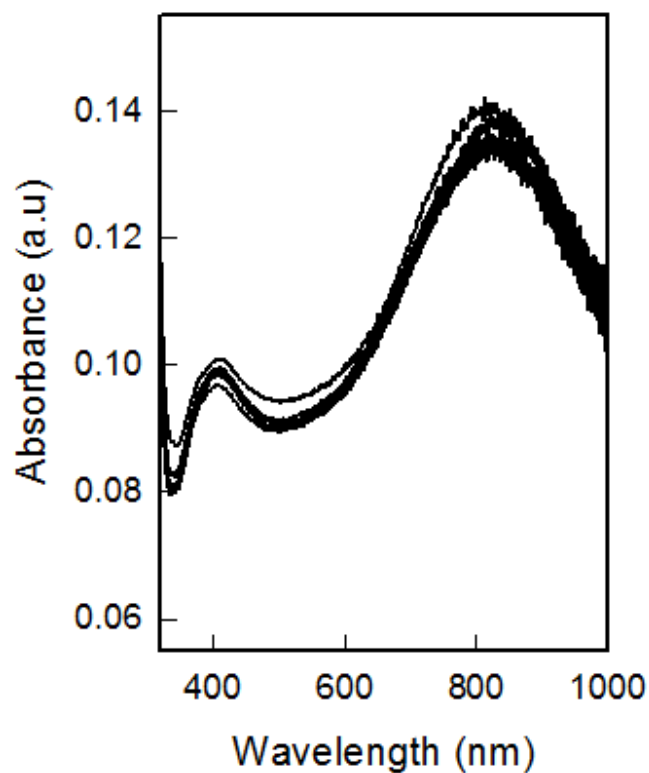


(c)

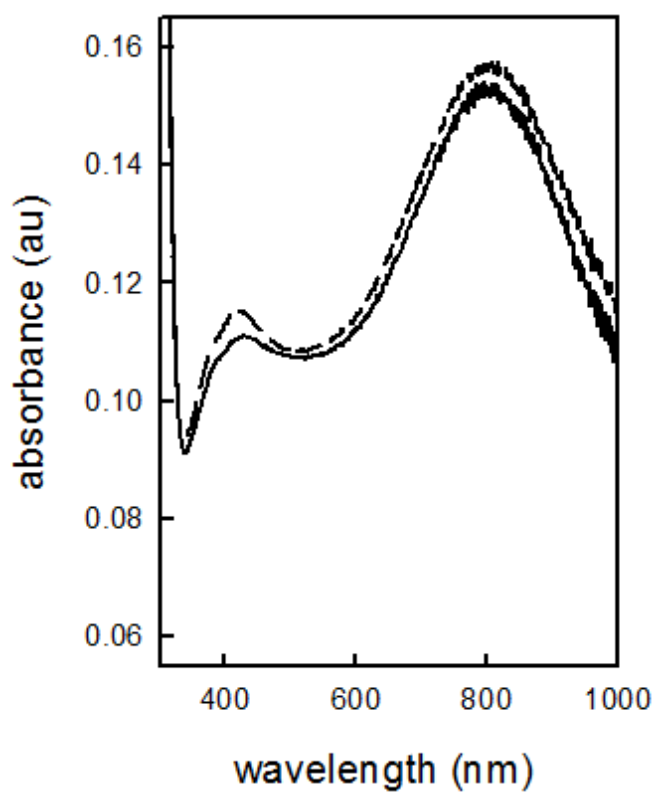
**Figure S10.** (a–c) TEM images of nanoplates obtained doubling the seed quantity (in respect to the standard preparation). Scale bar: 200 nm.



**Figure S11.** UV-vis spectra of four GLASS-PEI-TRI samples, obtained from grafting of nanoplates on PEI functionalized glass samples (GLASS-PEI), coming from four identical preparations performed in four different reaction vessels.

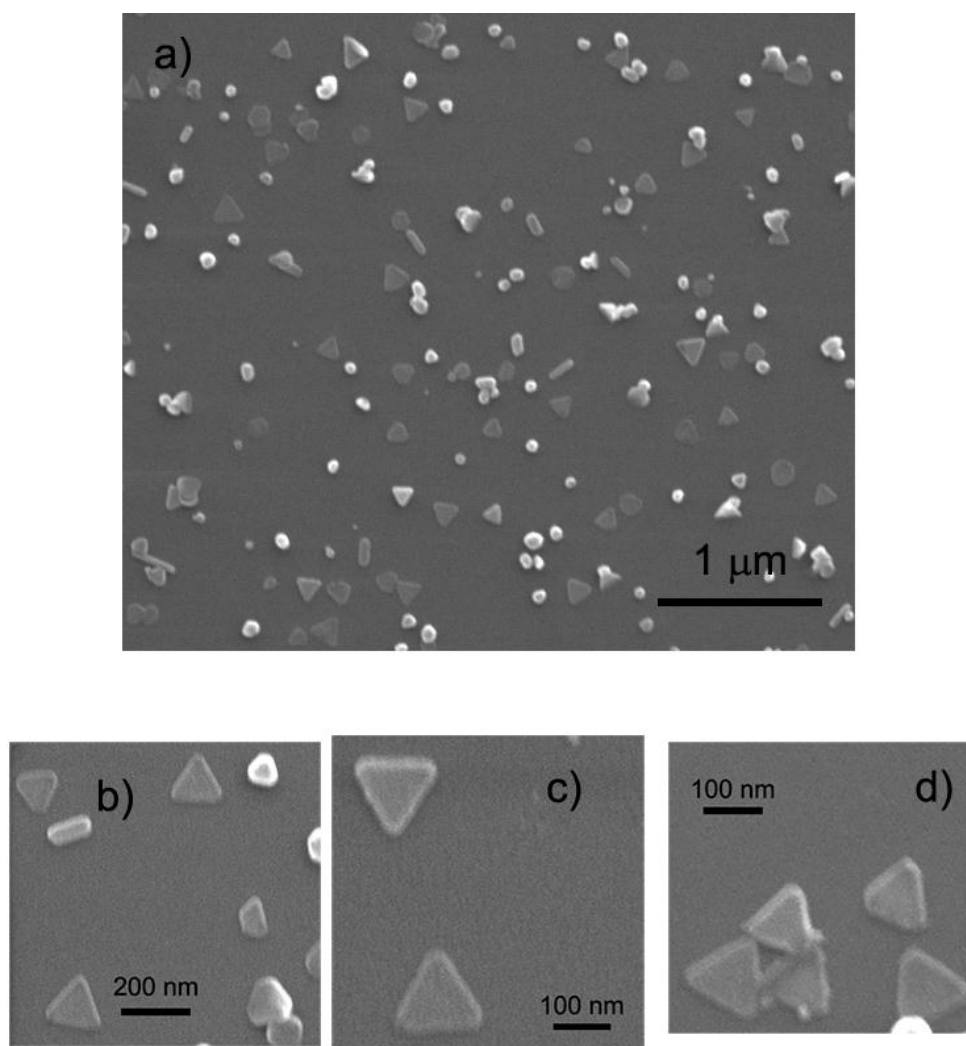


**Figure S12.** UV-vis spectra of seven GLASS-PEI-TRI samples obtained in the same reaction vessel during a single preparation.

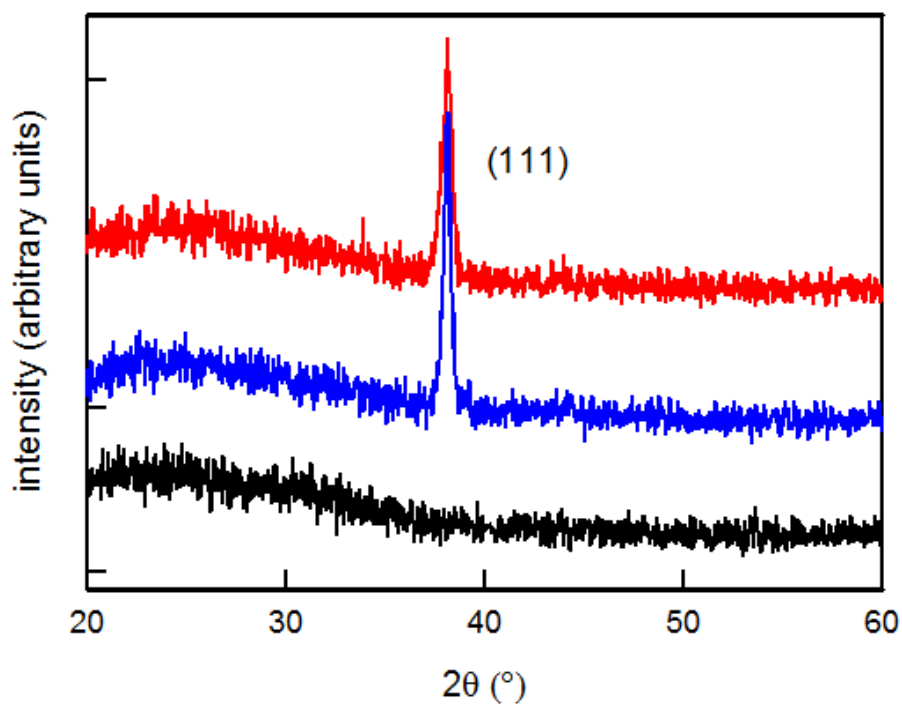


**Figure S13.** UV-vis spectra of the same GLASS-PEI-TRI sample before (solid line) and after (dashed line) immersion in water for 48 hours.





**Figure S14.** SEM images of a sample of GLASS-PEI-TRI after 48 h of immersion in water: (a) large area image; (b–d) images of triangular objects, which retains morphology and dimension observed in the fresh samples.



**Figure S15.** XRD patterns obtained for a blank glass (black line), for a sample of nanoplates centrifuged, concentrated, placed on a blank glass and dried as a powder (blue line), and for a GLASS-PEI-TRI sample (red line), evidencing the presence of (111) diffraction peak.



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