Size control of laser-fabricated surfactant-free gold nanoparticles with highly diluted electrolytes and their subsequent bioconjugation

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Supporting information:

Figure S1: Calibration curve correlating the Au NP interband absorption at λ= 380 nm to the gravimetrically determined mass concentration ($c_{Au}$)
Figure S2: Exemplary spectra elucidating the primary-particle-index (PPI). UV-Vis spectra of Au NPs synthesized in the presence of 15 µM NaF and NaBr resulting in a low and high PPI were chosen.

Figure S3: Exemplary UV-Vis spectrum of gold nanoparticles synthesized in the presence of 15 µM NaBr (red curve). Simulated spectrum using the program MGFit 1.0 described by Amendola and Meneghetti\textsuperscript{41} (black curve) to fit the experimental data based on a Mie-Gans plot.
Figure S4: Representative image and size distribution from SEM measurements from a sample containing 1 μM sodium phosphate buffer. Distributions were calculated from 110 particles on 3 different images. Fitting was done by a log-normal function.

Figure S5: Representative size distribution from disk centrifugation with NaCl containing 1 μM ionic strength. Fitting was done with a log-normal function.
Figure S6: Polydispersity index (PDI) for samples synthesized at different NaBr ionic strengths.

Figure S7: Particle sizes determined by disk centrifugation at different ionic strengths of Na₃PO₄.