Electronic Supplementary Material (ESI) for Lab on a Chip.

Combination of microfluidic high-throughput production and parameter screening for an efficient shaping of gold nanocubes using *Dean-Flow* mixing

– Supporting Information –

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Results of the first growth step

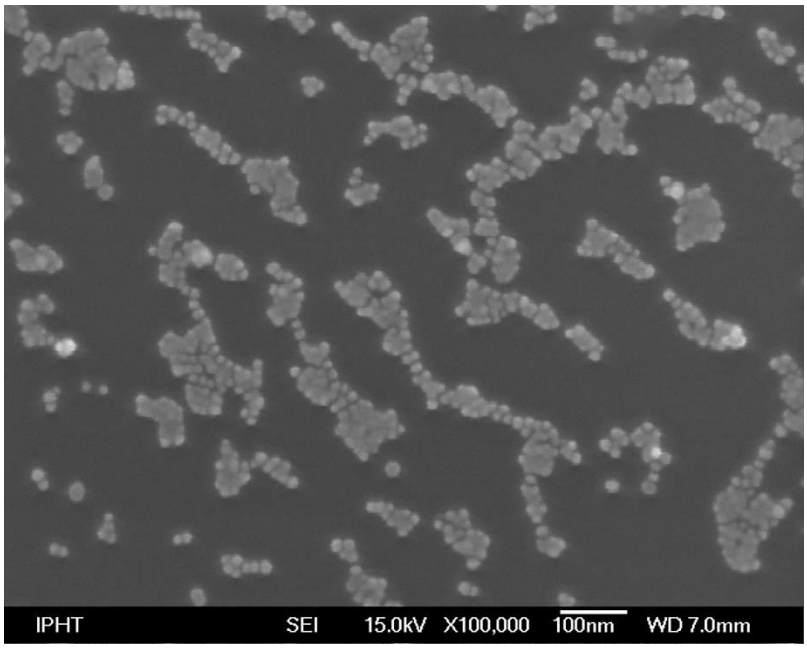
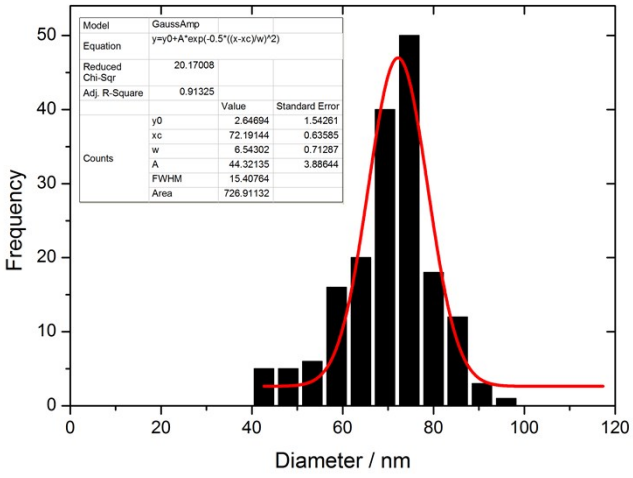
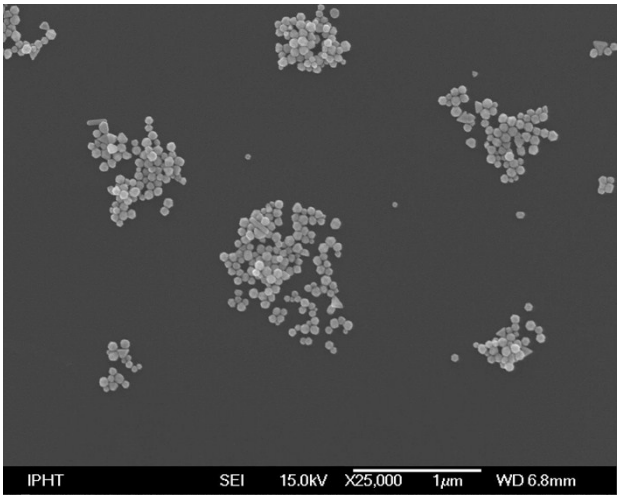


Figure 1: SEM-image of Au nanoparticles after the GS1

Histograms and SEM images

1. Au nanospheres





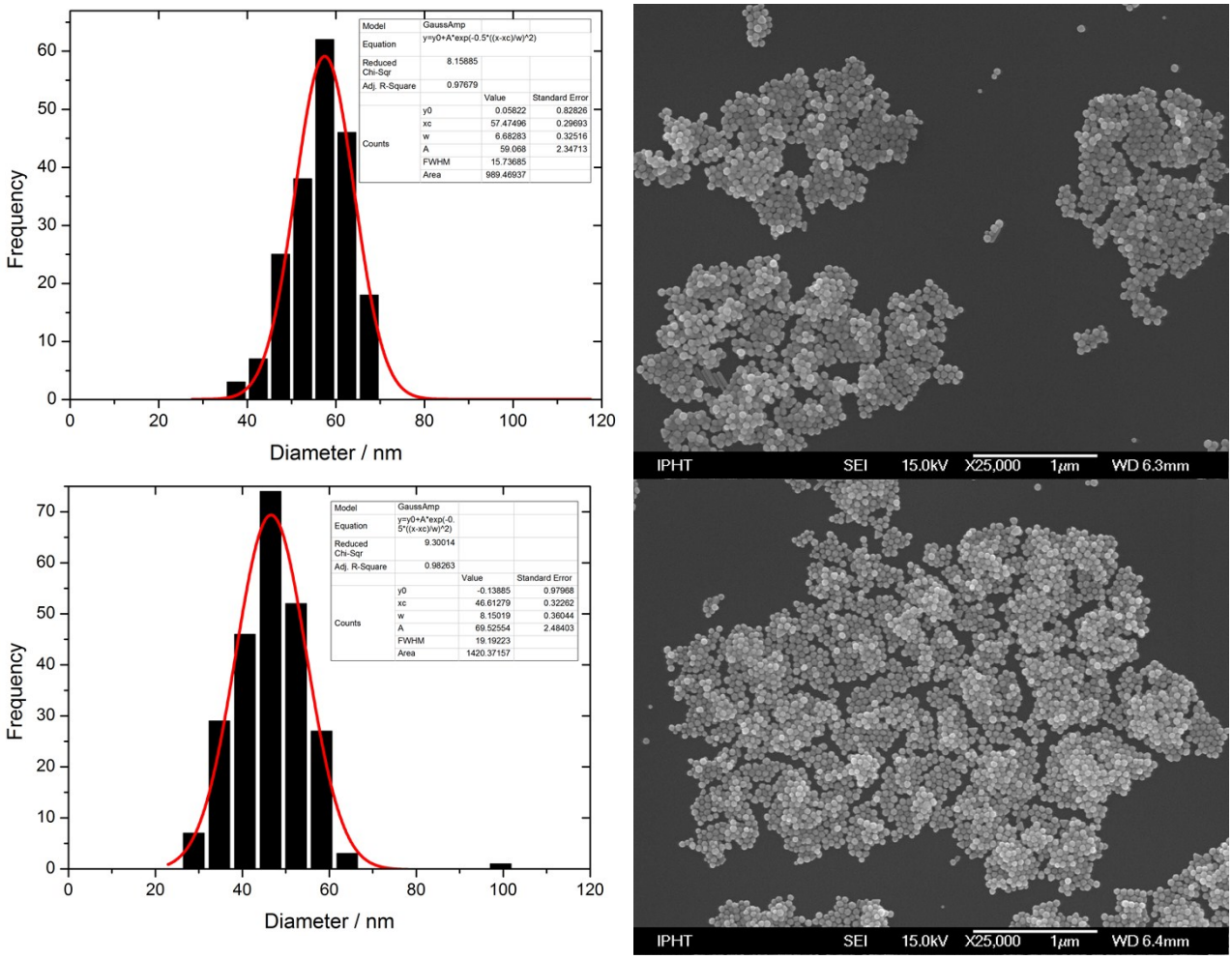
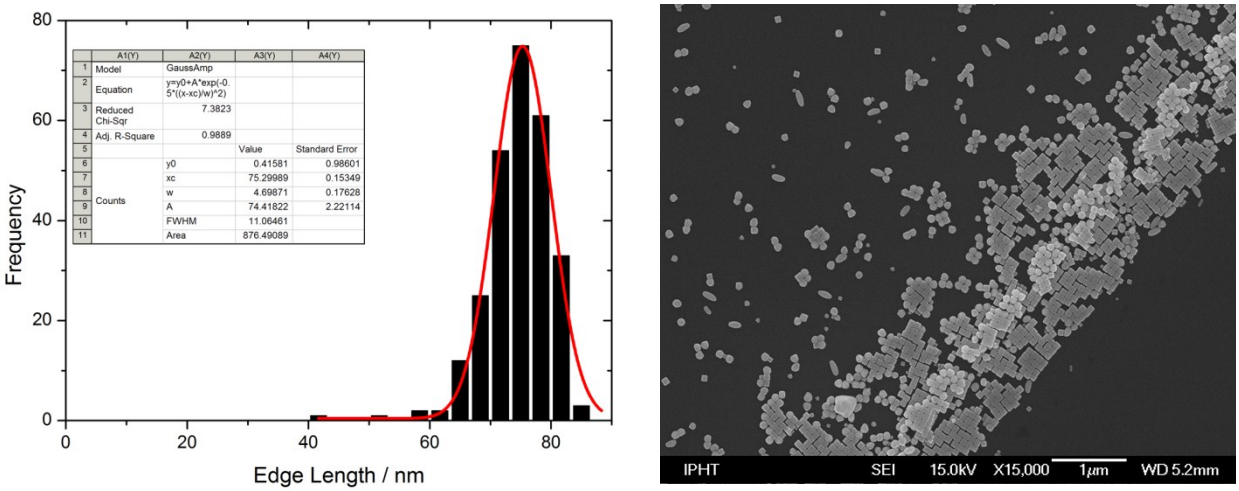


Figure 2: Size distribution and corresponding SEM image for different sized Au nanospheres

2. Au nanocubes



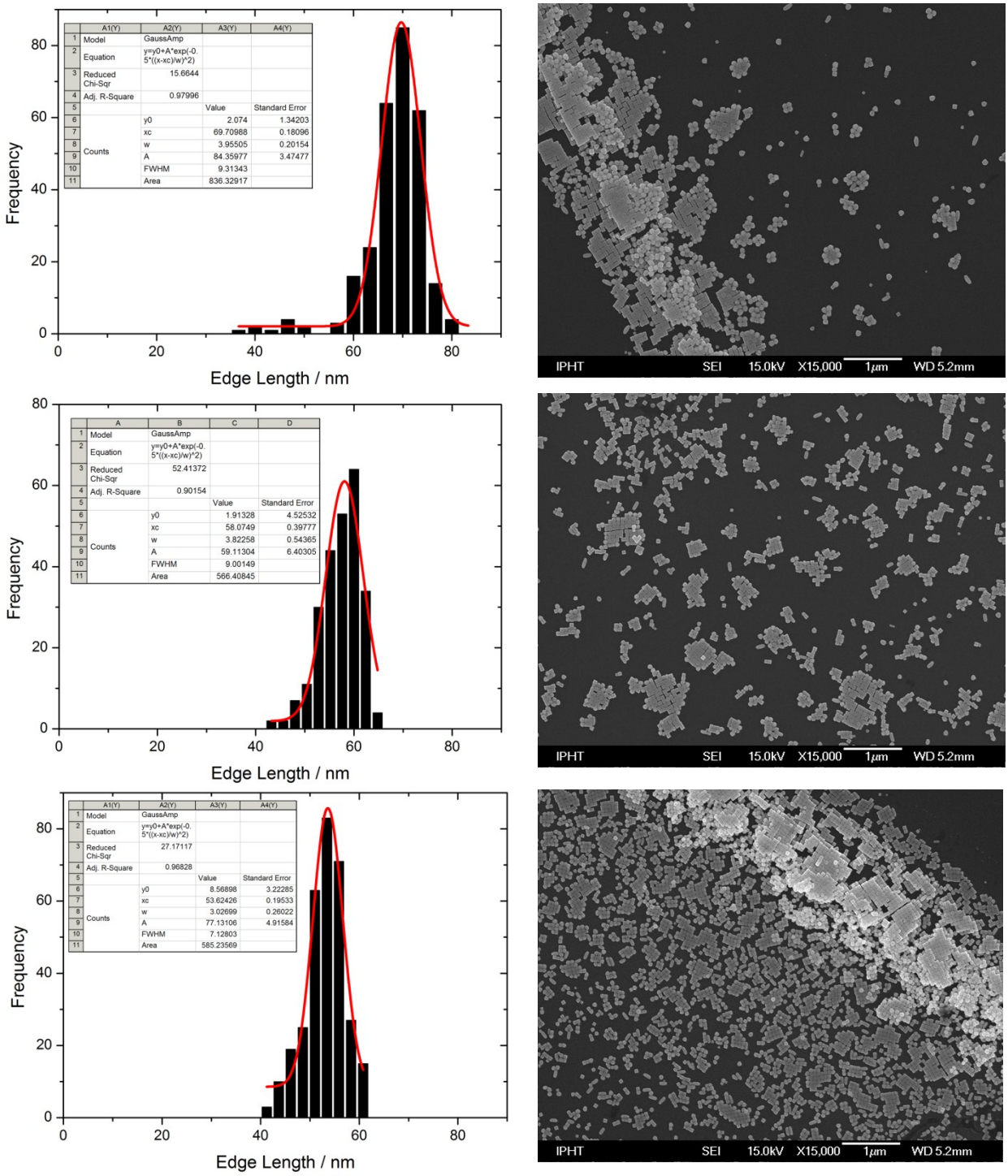


Figure 3: Size distribution and corresponding SEM image for edge length tuned Au nanocubes

Sensitivity measurements

The bulk sensitivity was measured using a glass cuvette and add 500 µl of the particular Au nanocube suspension. Then, 100 µl of a 50 %(w/w) D-glucose solution was added, well vortexed, 30 seconds incubated and the resulting spectra measured. Parallel to this, the resulting RI was measured. Next again 100 µl of the D-glucose was added to this solution, again vortexed, incubated and finally measured. All in all 5 times D-glucose were added and the resulting spectra and RI were measured. This procedure was repeated for the different sized Au nanocubes. From the resulting LSPR shifts for the different RIs the bulk sensitivity was calculated.

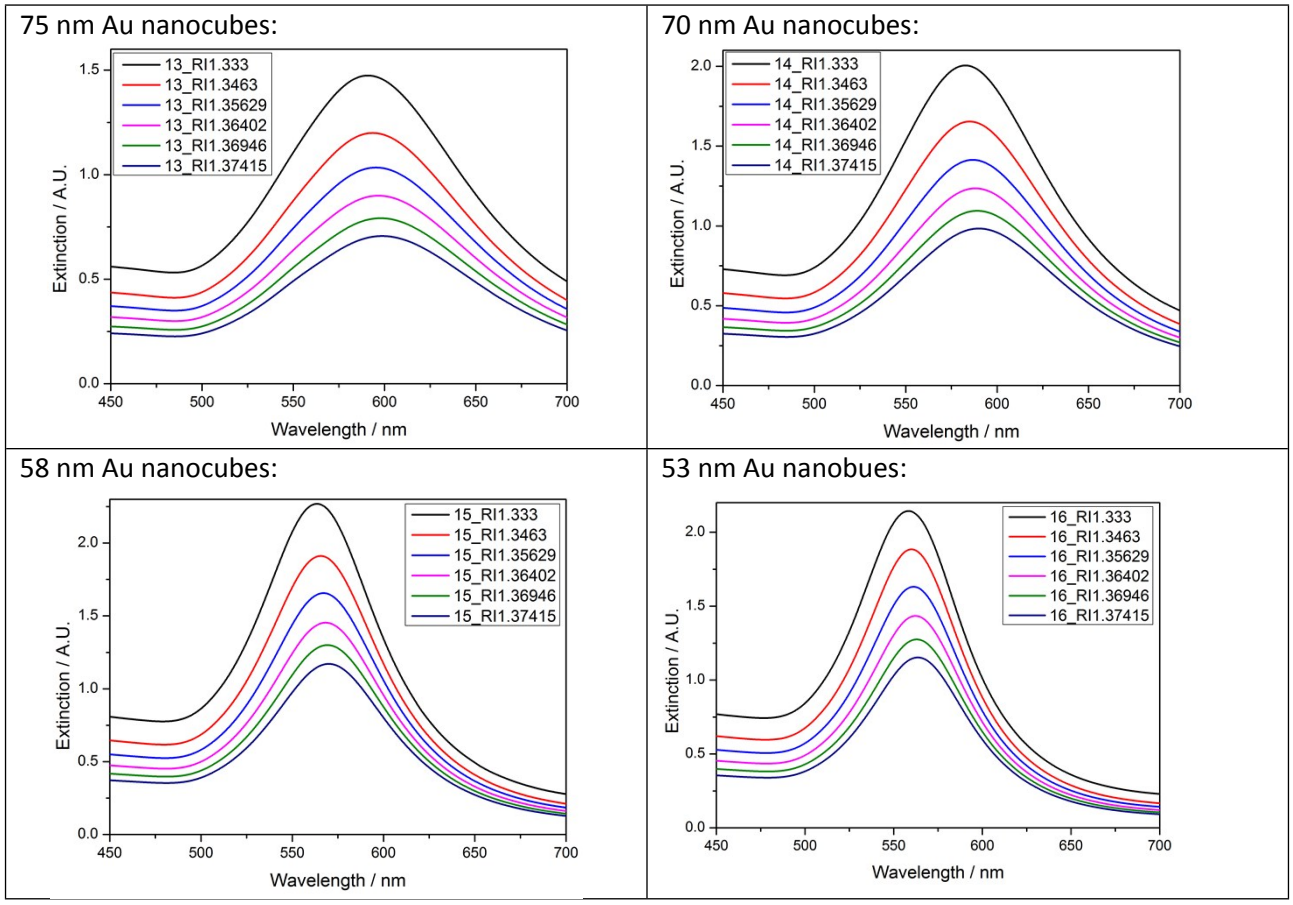


Figure 4: Raw-data for the sensitivity measurement of Au nanocubes with different edge length. The signal decreasing is attributed to the dilution through the addition of glucose.

Influence of halides on Au nanoparticle morphology

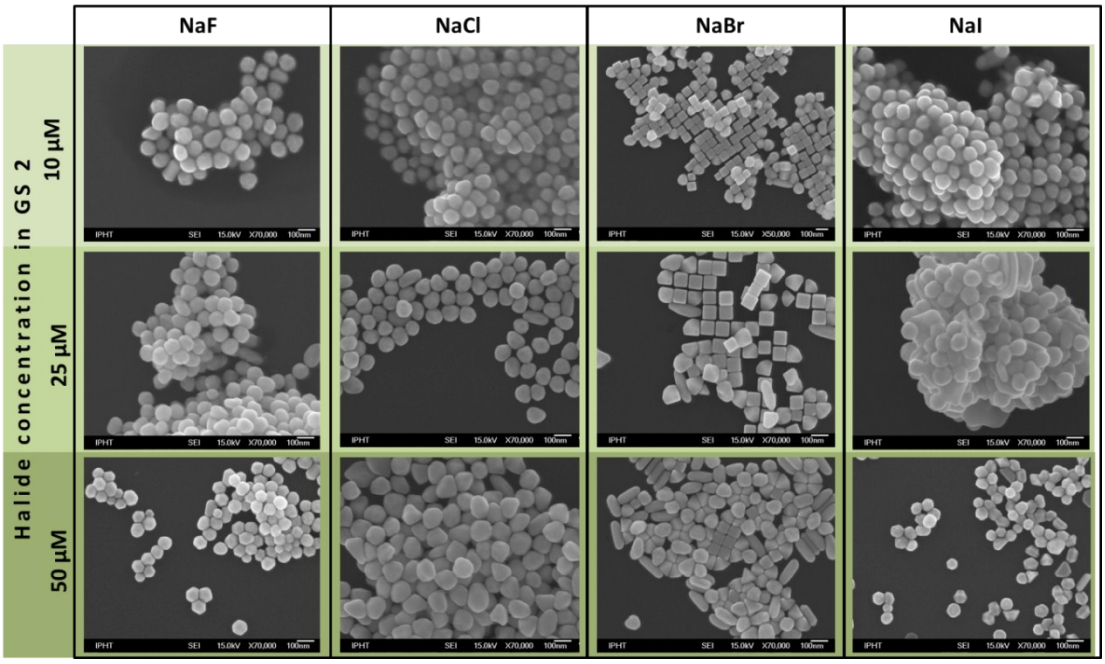


Figure 5: DFM based screening of halide (Sodium + halogen ion) influences on Au nanoparticles morphologies. The halogens act as counter ions to CTA^+ and are introduced in different concentrations only in the GS2, whereat GS1 was free of additives.