Supporting Information

# Improved smart microgel carriers for catalytic silver nanoparticles

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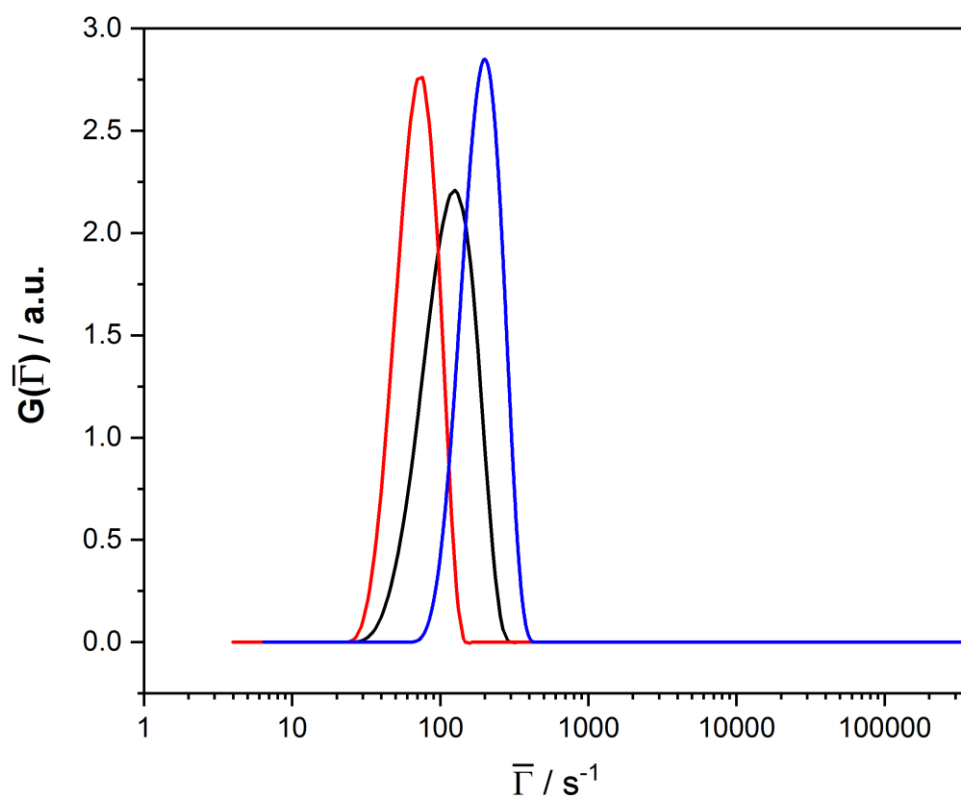\* To whom correspondence should be addressed.

Figure S1: Relaxation rate distribution of the core-shell microgels PNI5@PNN5 (black), PMAM5@PNN (red) and PNN5@PNN (blue).

Table S1: Polydispersity of all core-shell microgels, obtained from the fixed-angle light scattering measurements with the method of cumulants.

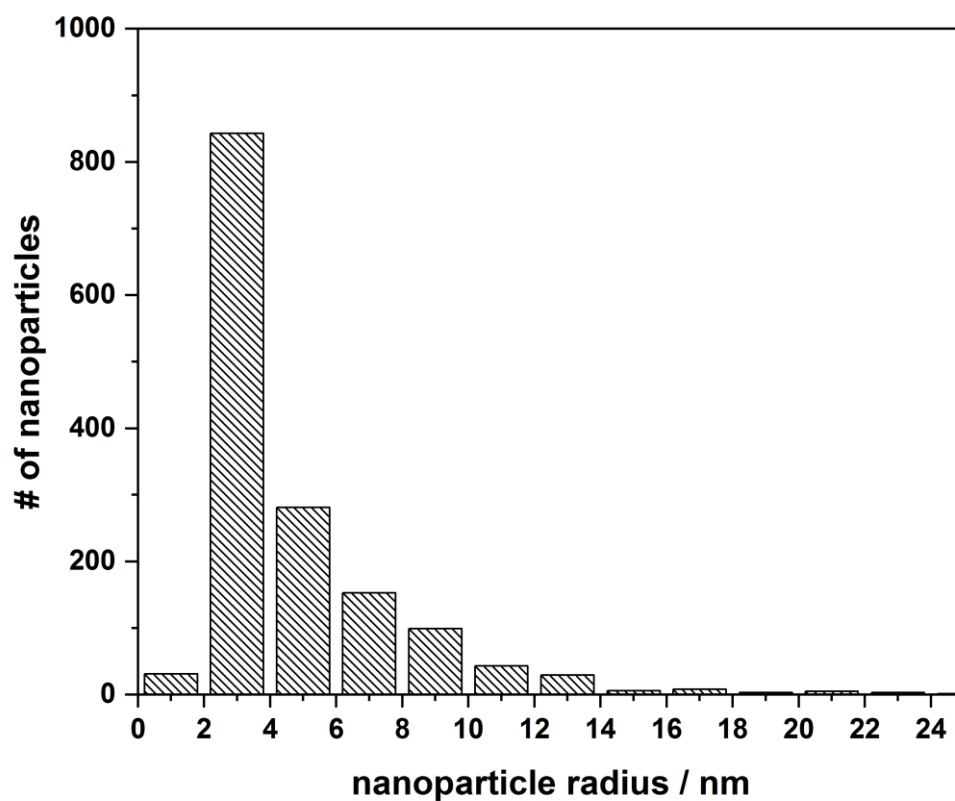| Sample name | PDI / % |
|---|---|
| PNI5@PNN | 2.2 |
| PNI10@PNN | 2.5 |
| PNI15@PNN | 3.1 |
| PMAM5@PNN | 7.7 |
| PMAM10@PNN | 14.1 |
| PMAM15@PNN | 8.8 |
| PNN5@PNN | 2.4 |
| PNN10@PNN | 2.8 |
| PNN15@PNN | 2.5 |

Figure S2: Exemplaric distribution of silver nanoparticle radii inside the sample PNI15@PNN. The distribution was extracted from the dry-state TEM image, which is shown in the publication via analysis with ImageJ.

Table S2: Detailed analysis of AgNP-loading and AgNP size for all microgel/nanoparticle hybrids. The analysis was performed from the dry-state TEM pictures of the samples.

| Sample name | Number of AgNP per Microgel | Mean radius of AgNP / nm |
|---|---|---|
| PNI5@PNN | 73 | 4.3±0.7 |
| PNI10@PNN | 73 | 6.4±0.2 |
| PNI15@PNN | 102 | 6.0±0.5 |
| PMAM5@PNN | 45 | 12.6±5.1 |
| PMAM10@PNN | 103 | 8.2±2.8 |
| PMAM15@PNN | 122 | 8.3±5.3 |
| PNN5@PNN | 42 | 3.8±0.2 |
| PNN10@PNN | 39 | 4.6±0.4 |
| PNN15@PNN | 96 | 3.3±0.5 |