Electronic Supplementary Material (ESI) for Nanoscale.

Anisotropic Responsive Microgels with Tuneable Shape and Interactions

Supporting Information

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1 Bowl-Shaped particles geometrical model

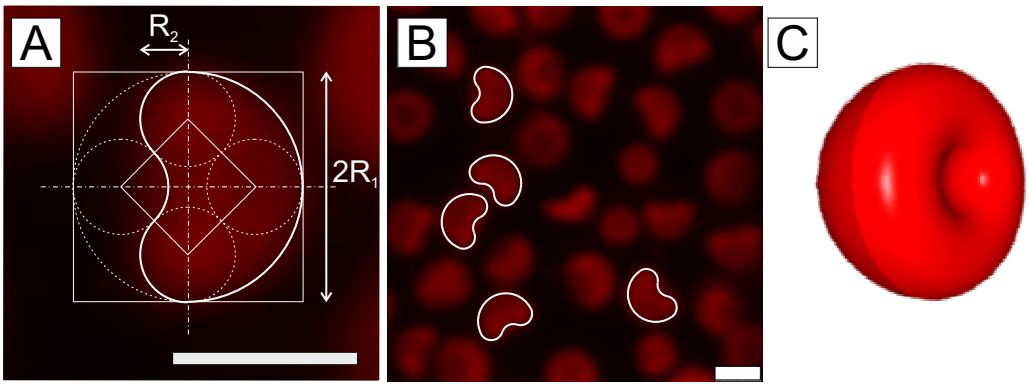

Figure 1 (A) Description of the bowl-shaped model employ for the calculation of the volume of the particles. From simple geometric consideration the volume of the particle can be estimated as $V_p \approx 0.7678.(4/3)\pi R_T^3$. (B) Comparison of the model with the CLSM micrographs (scale bars are 1 μm). (C) 3D representation of the model bowl-shaped particles.

2 Dynamical arrest in dense bowl-shaped particle dispersion

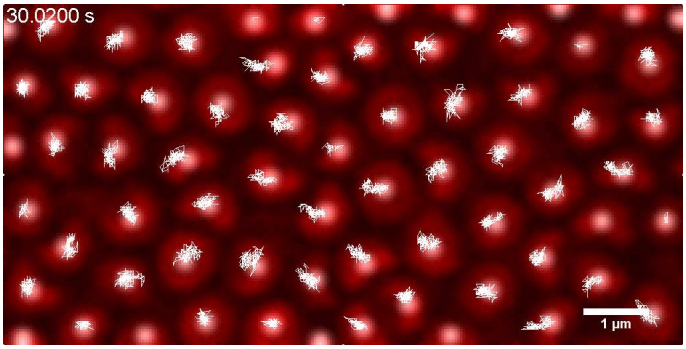

Figure 2 Trajectories recorded in a dense bowl-shaped particles dispersion at 20°C recorded during 30s (see Figure 8 A).

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3 Crystal structure of the bowl-shaped composite microgel in AC electric field

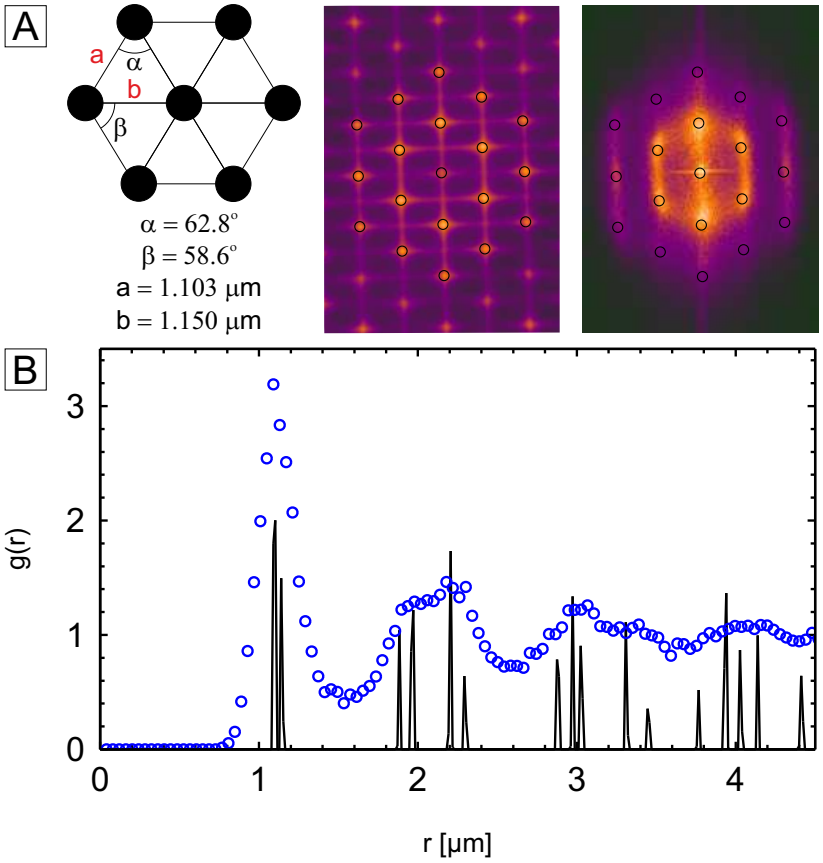

Figure 3 Analysis of the 2D ordering of the bowl-shaped particles in AC electric field. (A) From the left to the right: Pseudo hexagonal lattice with a broken 6 fold symmetry used as model. The model has been Fourier transformed and the main reflexions compared to the experimental time-average Fourier transform of the experimental results shown in Figure 11 (C). (B) Time-averaged 2D $g(r)$ (empty circles) derived for the dense particle string fluid shown in Figure 11 and Video S4 in the supporting materials. The position of the characteristic peaks is compared to the model shown in (A) (line).

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