

## Supplementary material for “Self-assembly of “Mickey Mouse” shaped colloids”

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This Supplementary Information file contains Supplementary Figures S1 to S3. Fig. S1 and S2 show the structure morphology at too high depletant concentration for  $\phi_{\text{particles}} = 0.003$  and  $0.01$ , respectively. Fig. S3 shows an overview of typical tube-like clusters found as a result of specific interaction between the Mickey Mouse particles. The Supplementary Movie M1, which is available as a separate file, shows a full scan through the sample in the  $z$ -direction in the field of view of Fig. S3.

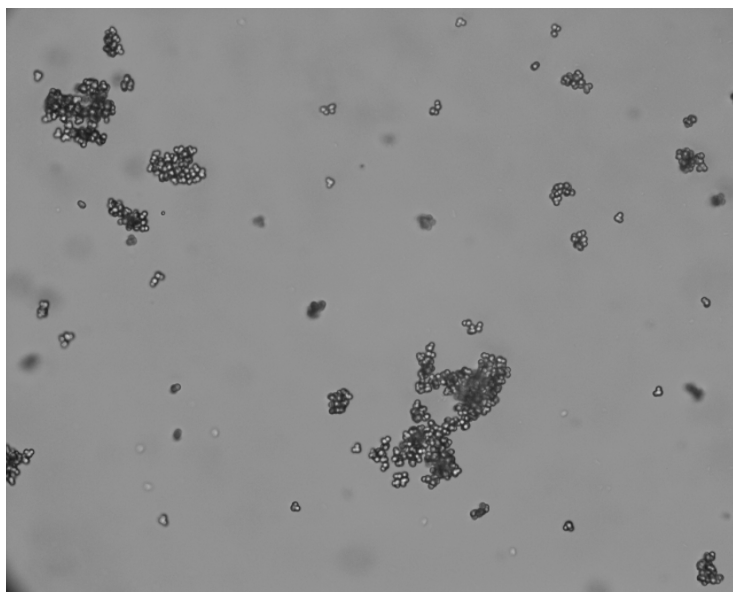


Fig. S 1: Optical micrograph using a  $40\times$  air objective of a sample with  $\phi_{\text{particles}} = 0.003$  and  $\phi_d = 0.40$  ( $\varepsilon \approx -17 k_B T$ ) showing aspecific binding and amorphous aggregates

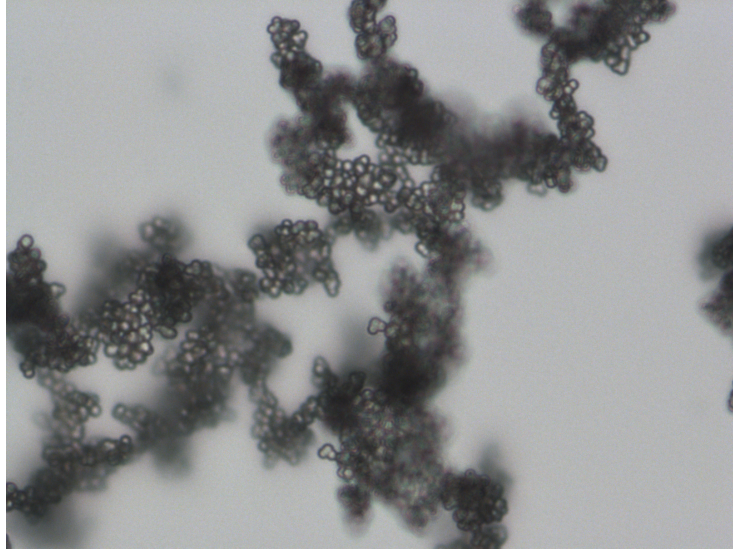


Fig. S 2: Optical micrograph using a  $60\times$  air objective of a sample with  $\phi_{\text{particles}} = 0.01$  and  $\phi_d = 0.32$  ( $\varepsilon \approx -13 k_B T$ ) showing aspecific binding into big percolated clusters of particles

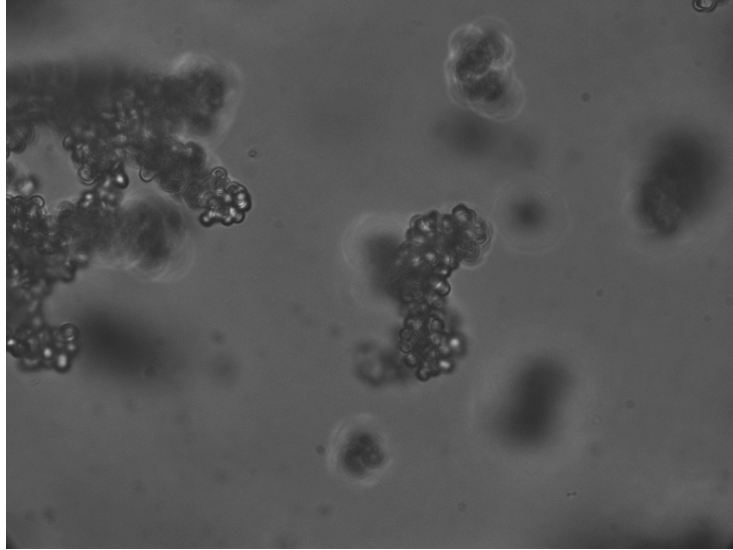


Fig. S 3: Optical micrograph of a sample with  $\phi_{\text{particles}} = 0.01$  and  $\phi_d = 0.21$  ( $\varepsilon \approx -7 k_B T$ ) showing elongated clusters of a well-defined diameter and different lengths moving in and out of the focal plane. A full scan through this field of view in the  $z$ -direction is provided in Supplementary Movie 1