Supplementary Information for Reconfigurable Assembly of Superparamagnetic Colloids Confined in Thermo-reversible Microtubes

Ping Liu, Julius W. J. de Folter, † Andrei V. Petukhov, and Albert P. Philipse*

Van 't Hoff Laboratory for Physical and Colloid Chemistry, Debye Institute for Nanomaterials Science, Utrecht University, Padualaan 8, 3584CH, The Netherlands.

E-mail: A.P.Philipse@uu.nl

1 Thermo-reversible process upon magnetic field for Dynabeads inside SDS/2 β -CD microtubes–Supplementary Movie 1

This movie shows thermo-reversible process of Dynabeads inside microtubes in the presence of magnetic field throughout. The field direction is along the long axis of microtubes in the horizontal plane at the beginning and fixed during recording this movie. One can clearly see the field direction from the orientation of chains of Dyanbeads after tubes melt. There are three stages of structure transformations. First, start with Dynabeads inside microtubes at room temperature. Secondly, increase temperature to melt the microtubes, and release confined Dynabeads. Finally decrease temperature to cool down the system, and encapsulate Dynabeads into microtubes again. The movie was acquired at 2 fr/s and it is displayed at 10 fr/s.

⁺ Present Address: Unilever Research and Development, Olivier van Noortlaan 120, 3133AT, Vlaardingen, The Netherlands.

^{*} To whom correspondence should be addressed