## Supplementary Information

# Synthesis of Fluorescent Monodisperse Non-Spherical

## Dumbell-Like Model Colloids

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#### **Electric Field**

Fluorescently labeled non-spherical particles were dispersed in formamide (~0.5 wt%) with the help of sonication, aligned by an AC field in a electric capillary cell of 0.1 mm  $\times$  1.0 mm (VitroCom, UK) cross section with a desired length. A 50 V root-mean-square sinusoidal signal with a frequency of 1 MHz was applied to polarize the particles but not the double layer. [1-3] When the electric field was maintained for five minutes, straight and stiff strings made of non-spherical particles were obtained, shown in supplementary figure 1. Upon increasing this time, the length of the strings increased. After switching off the electric field, the strings were still preserved and began to deform and move by thermal fluctuations. During the on-time of the electric field, the capillary cell was heated up, which probably resulted in a slight melting of the non-spherical particles causing them to connect each other.



Supplementary Figure 1. Optical micrographs of polymer stings made of snowman like particles ( $\alpha = 0.73$ ). a) Electric field maintained for 5 minutes, b) electric field kept on for 110 minutes, c) electric field was off for 10 minutes.

Supplementary Movie 1 (Movements of semi-flexible colloidal chains made of dumbbell PMMA particles.  $\alpha = 1.00$ , playing with 2 × of speed)

Supplementary Movie 2 (Movements of semi-flexible colloidal chains made of snowman shaped PMMA particles.  $\alpha = 0.83$ , playing with 2 × speed)

Supplementary Movie 3 (Movements of semi-flexible colloidal chains made of snowman shaped

PMMA particles.  $\alpha = 0.73$ , playing with 2 × speed)

### References

- (1) A. Yethiraj, A. van Blaaderen, A. *Nature* 2003, **421**, 513.
- (2) M. E. Leunissen, H. R. Vutukuri, A. van Blaaderen, *Adv. Mater.* 2009, **21**, 3116.
- (3) H. R. Vutukuri, A. F. Demirors, B. Peng, P, D. J. van Oostrum, A. Imhof, A. van Blaaderen, DOI: 10.1002/anie.201202592.