

Electronic Supporting Information

Mediated rheological properties of emulsions stabilized by thread-like mesoporous silica nanoparticles in combination with CTAB

Danhua Xie, Yulong Jiang*

Fujian Provincial Key Laboratory of Featured Biochemical and Chemical Materials, College of Chemistry and Materials, Ningde Normal University, Ningde 352100, Fujian, China.

*Corresponding author. E-mail: yulongjiang@ndnu.edu.cn

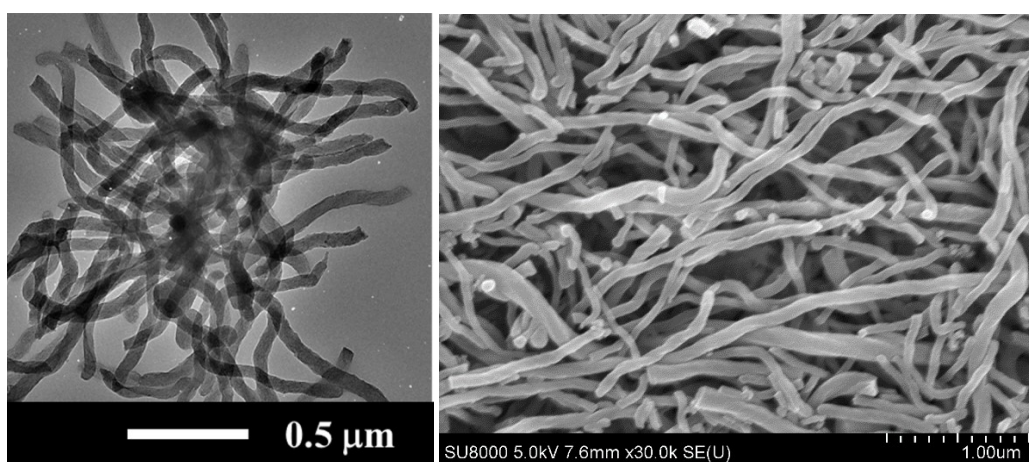


Fig. S1 TEM (left) and SEM (right) images of the TMSNPs.

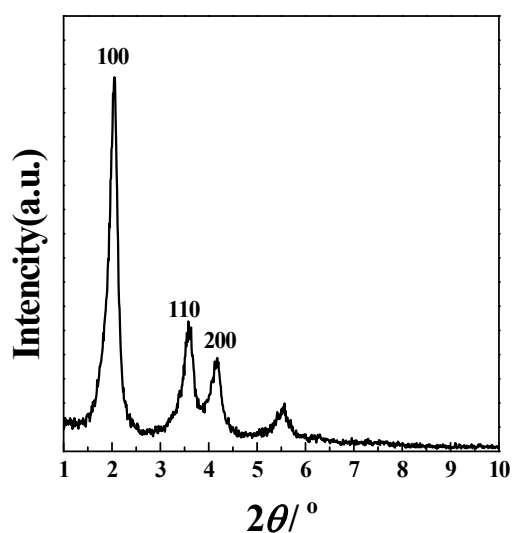


Fig. S2 Small-angle XRD pattern of the TMSNPs.

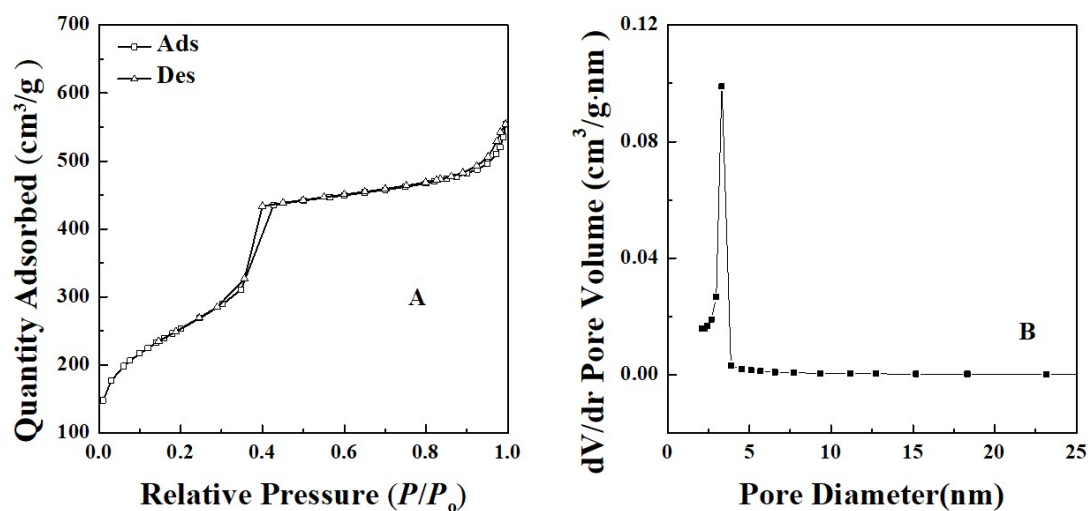


Fig. S3 (A) N₂ adsorption–desorption isotherms and (B) Barrett–Joyner–Halenda pore size distribution of the TMSNPs.



Fig. S4 Digital photographs of Pickering emulsions prepared with (A) *n*-heptane, (B) ethylacetate and (C) olive oil as oil phase, stabilizing by the 1 wt % TMSNPs in combination with various concentration of CTAB (mmol·L⁻¹) as indicated. The photographs were taken 1 h after emulsion preparation.

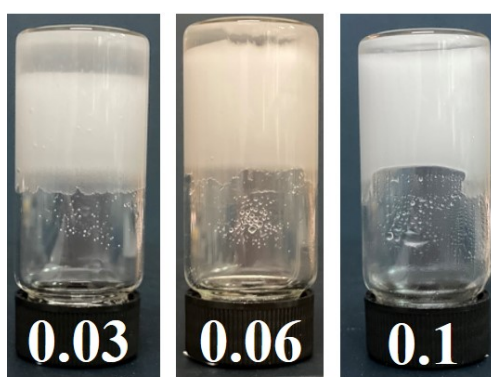


Fig. S5 Digital photographs of emulsions stabilized by 1 wt % of the TMSNPs and various concentrations of CTAB (mmol·L⁻¹) as indicated. The photographs were taken 1 h after emulsion preparation.

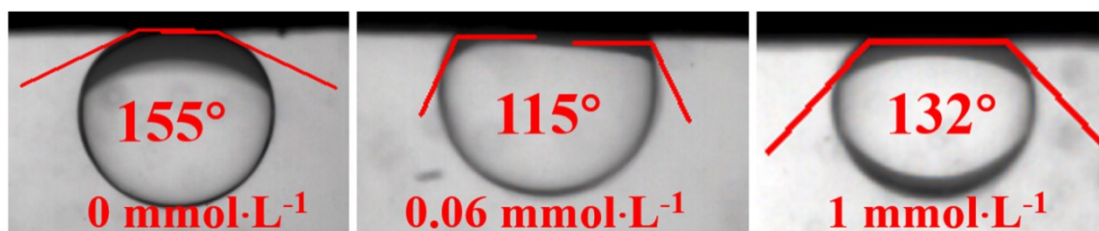


Fig. S6 Photographs of the oil-in-water contact angle (θ_{ow}) measurements taken by attaching an *n*-octane drop to TMSNP tablets immersed in CTAB solutions of various concentrations as indicated.

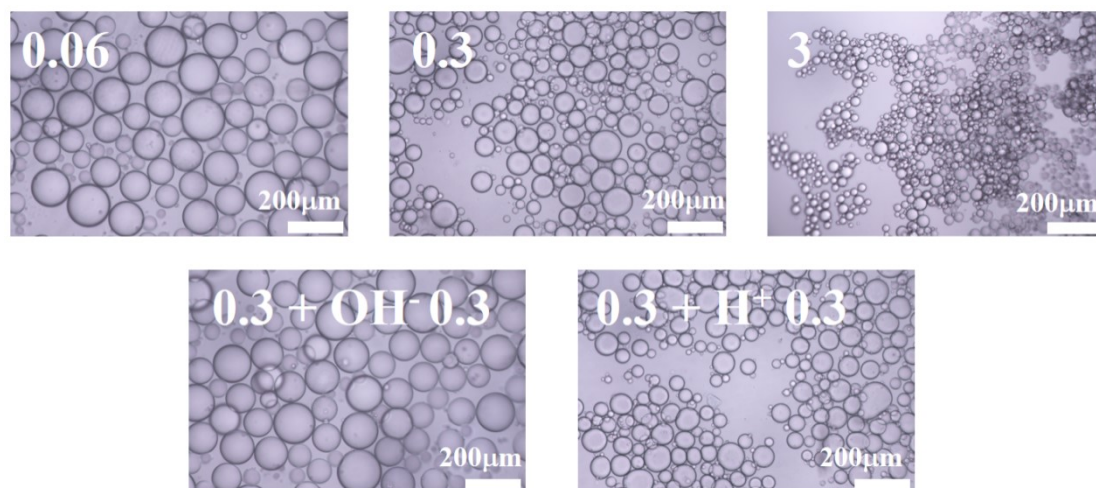


Fig. S7 Optical microscopy images of emulsions stabilized by 1 wt % of the TMSNPs in combination with various concentrations of CTAB in the presence of NaOH or HCl as indicated (mmol·L⁻¹).

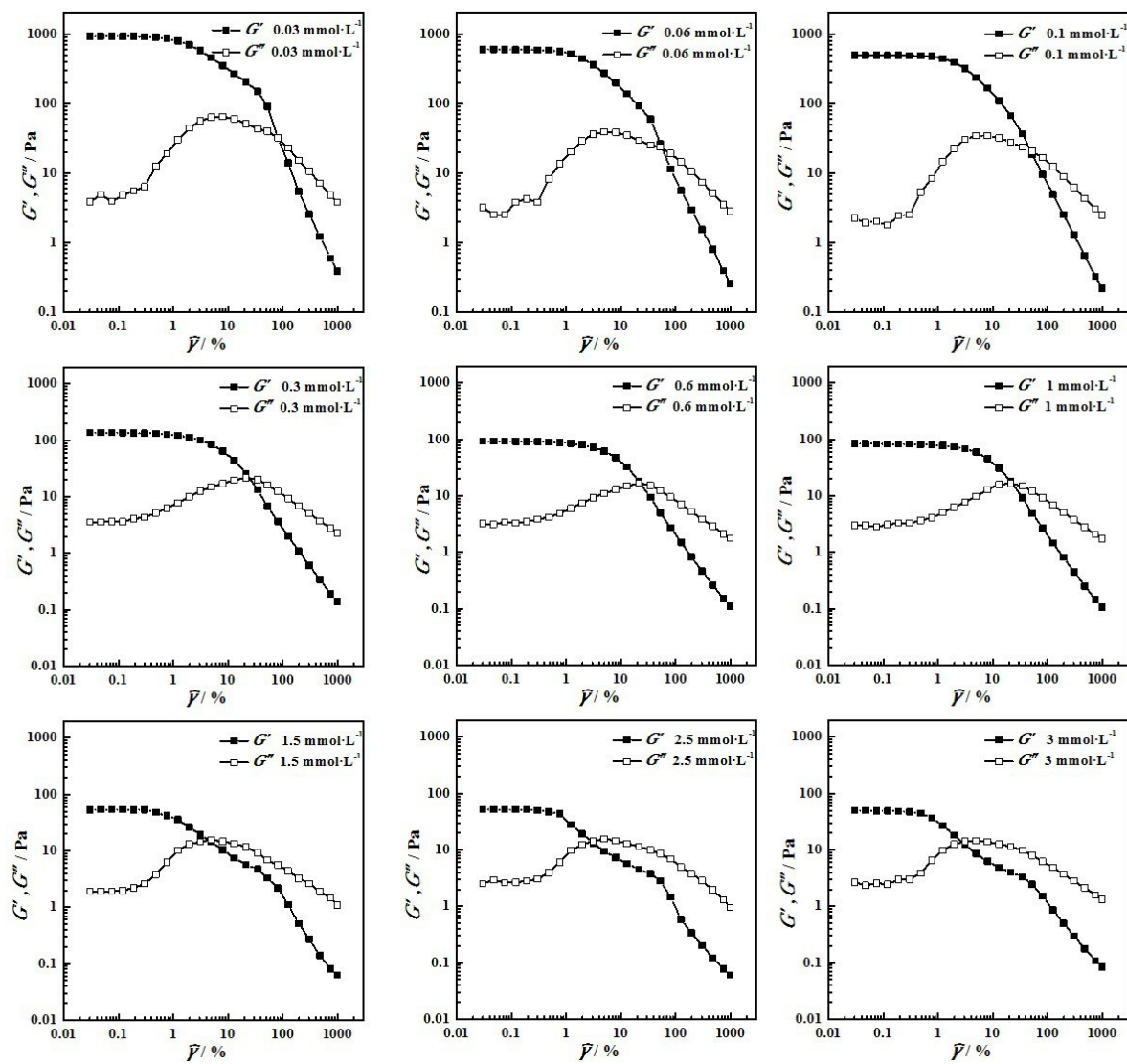


Fig. S8 Strain sweep curves of emulsions stabilized by 1 wt % of the TMSNPs and various concentrations of CTAB as indicated.

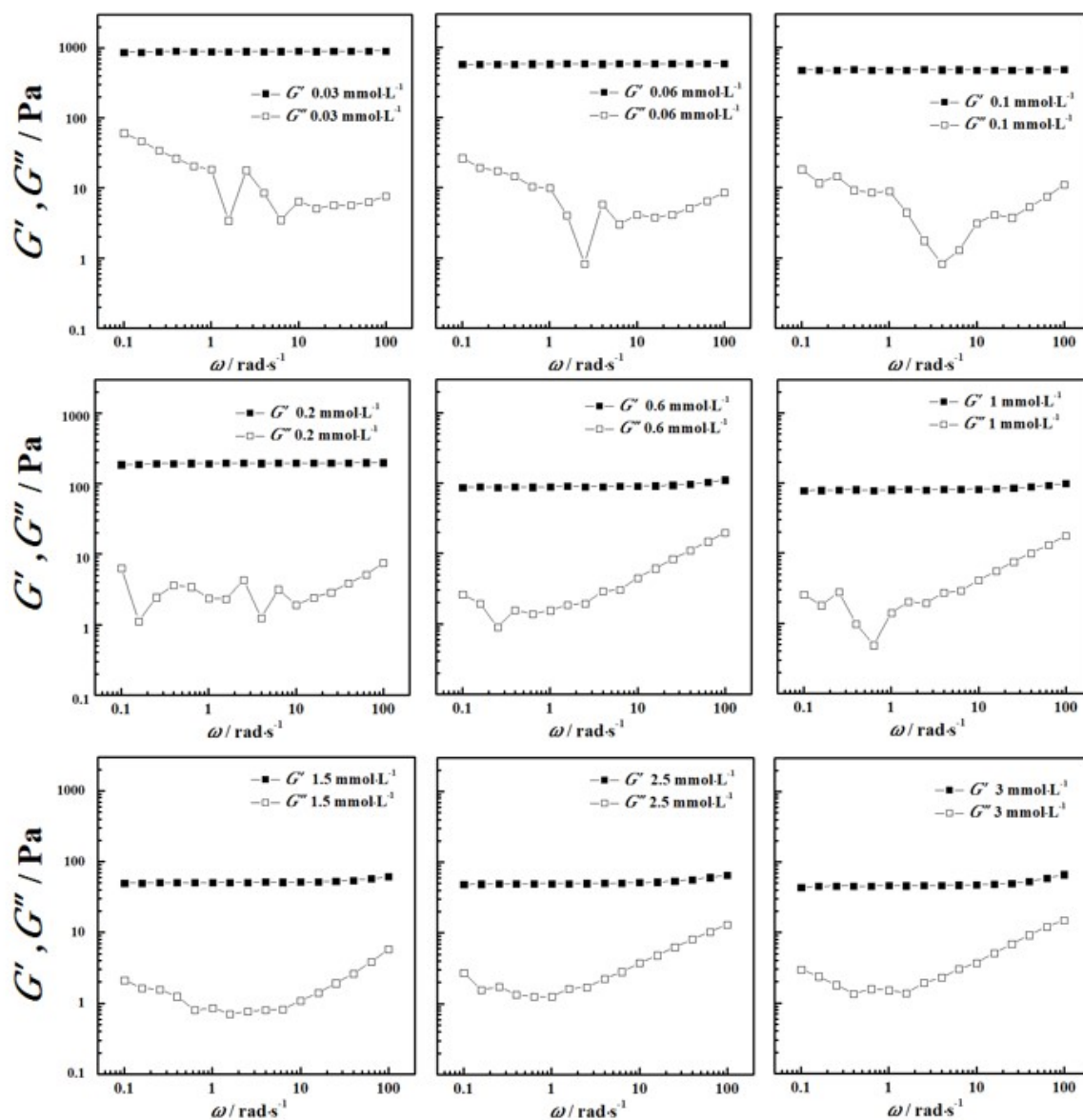


Fig. S9 Frequency sweep curves of emulsions stabilized by 1 wt % of the TMSNPs and various concentrations of CTAB as indicated.

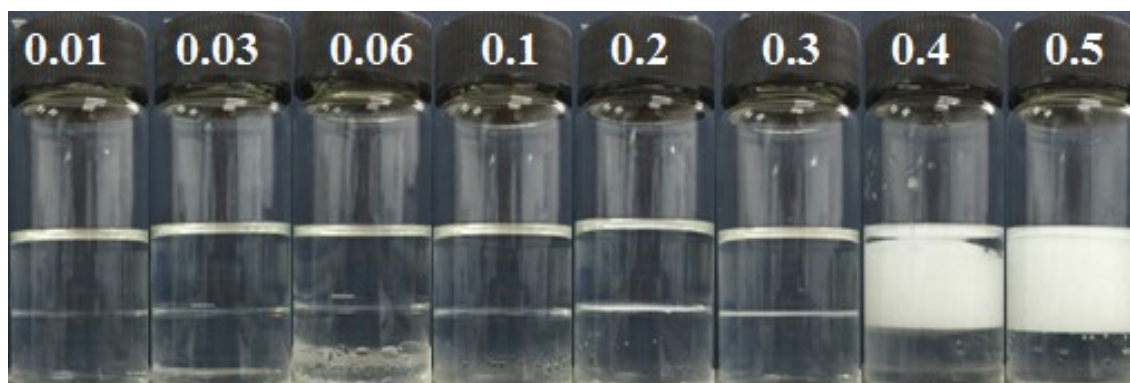


Fig. S10 Digital photographs of emulsions stabilized by various concentrations of CTAB ($\text{mmol}\cdot\text{L}^{-1}$) as indicated. The photographs were taken 1 h after emulsion preparation.

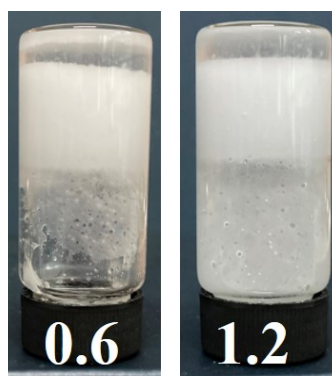


Fig. S11 Digital photographs of emulsions stabilized by 1 wt % of the TMSNPs and $0.3 \text{ mmol}\cdot\text{L}^{-1}$ of CTAB after the addition of various concentrations of NaOH ($\text{mmol}\cdot\text{L}^{-1}$) as indicated. The photographs were taken 1 h after emulsion preparation.