SUPPORTING INFORMATION

Preparation of TiO_2 nanoparticle aggregates and capsules by the "two-emulsion method"

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Table S1.
Surfactants tested for stabilizing W/O emulsion with Hexadecane and Heavy mineral oil.

Surfactant commercial name	Surfactant type	Hydrophobic tail		Number of EO-groups	HLB
		Type	C atoms		
Lutensol A8	Fatty-alcohol ethoxylates	Linear	12-14	8	≈ 13
Lutensol TO8	Oxo-alcohol ethoxylates	Linear	13-15		
Lutensol TO2		Branched	13	2	≈ 7
Brij 30	Oxo-alcohol ethoxylates	Linear	16	20	≈ 16
Brij 52				2	≈ 5.3
Brij 72			18	2	≈ 4.9

Span 20	Sorbitane esters of long-chain fatty acids	Saturated	12	Not appropriate	≈ 8.6
Span 40			16		≈ 6.7
Span 60			18		≈ 4.7
Span 80		1 double bond	18		≈ 4.3
Span 65		Saturated	3x18		≈ 2.1

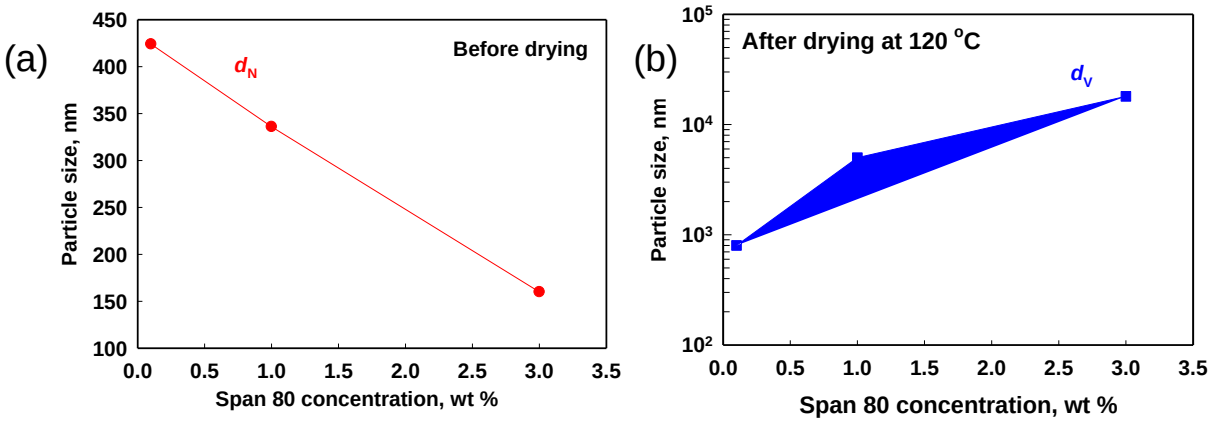

Figure S1. Mean diameter by number, d_N, and by volume, d_V, of the particles aggregates (a) before and (b) after drying at 120 ℃ as a function of concentration of Span 80 dissolved in Hexadecane. The measurements are performed by DLS method for particles obtained by two-emulsion method using Ultra Turrax at 13 500 rpm.

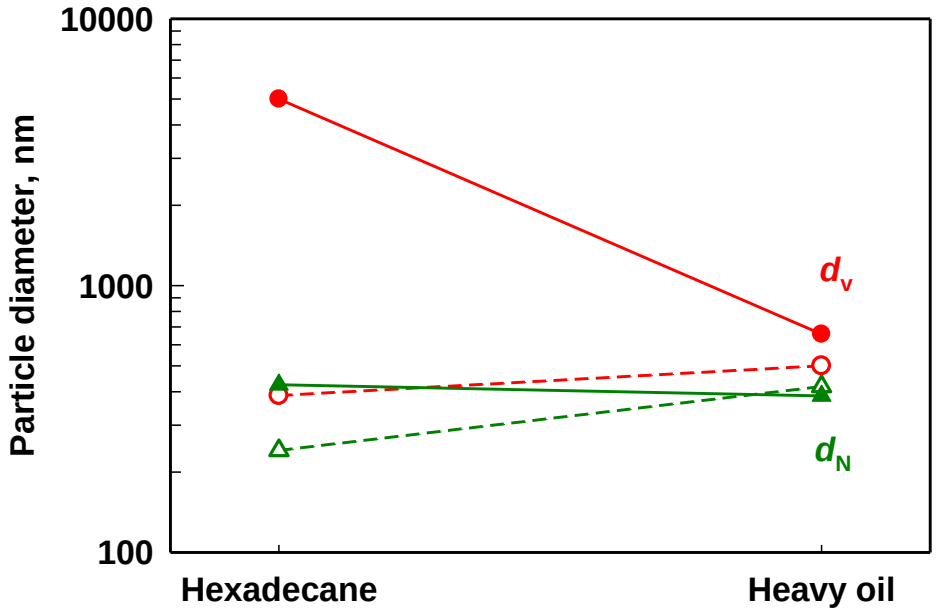

Figure S2. Mean diameters by volume, d_V, and by number, d_N, as measured by DLS obtained from emulsions with Hexadecane and Heavy oil. Empty symbols and dashed lines correspond to measurements before drying of the particles and the full symbols and straight lines – after drying. The concentration of the surfactant with respect to the oil was 1 wt. % Span 80. The emulsification was performed with Ultra Turrax at 20 500 rpm for 5 minutes for the initial emulsions and for 10 minutes for the mixed ones.

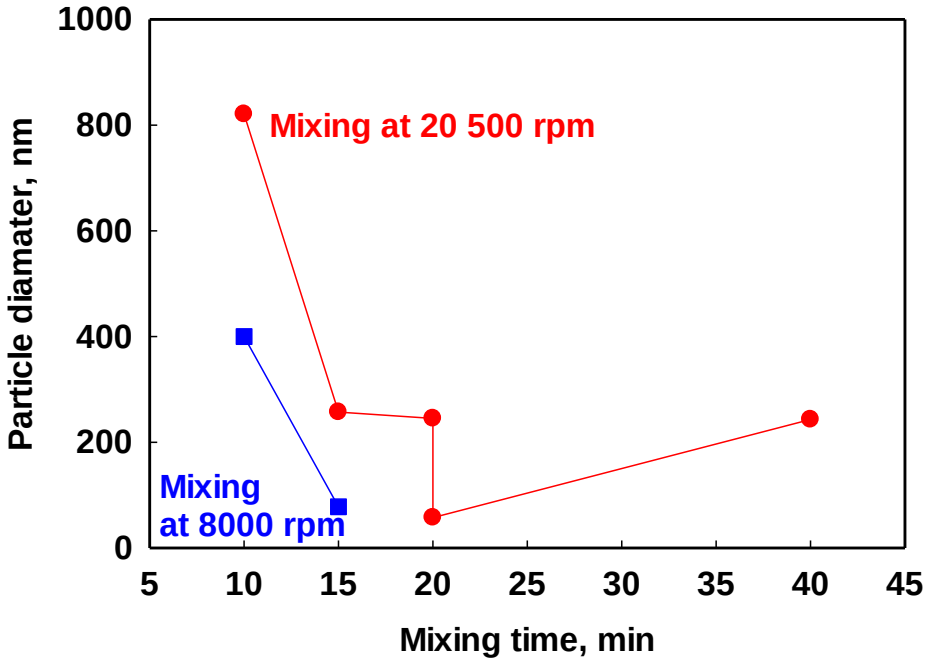

Figure S3. Dependence of the particles' diameter as a function of mixing time for two different fixed rpms. The homogenization of the initial emulsions was performed for 5 minutes at 20 500 rpm. 1 wt. % Span 80 in Hexadecane was used as oily phase.