Supporting information

The Influence of Organic Intercalation Montmorillonites on the Interfacial Tension and Structure of Oil-in-Water Nanoemulsions

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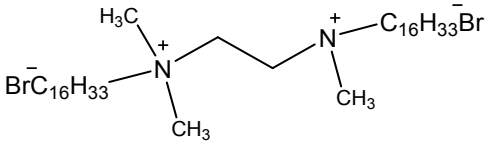
Molecular Structure of Brij 30 and G16-2-16,

Brij 30 : $CH_3(CH_2)_{10}CH_2(OCH_2CH_2)nOH$

G16-2-16:



Tab.S1 Zeta potential of nanoemulsions measured by DLS method

G16-2-16 %w/v	OMt %w/v	Brij 30 %w/v	Paraffin oil %w/v	0.01 M NaCl solution %w/v	Zeta potential mV
0.15	0	2.56	3.2	94	18.8
	1.7×10^{-3}	2.56	3.2	94	43.4
	3.4×10^{-3}	2.56	3.2	94	38.2
	5.1×10^{-3}	2.56	3.2	94	26.8
	6.8×10^{-3}	2.56	3.2	94	28.5

0.20	0	2.56	3.2	94	21.3
	1.7×10^{-3}	2.56	3.2	94	46.5
	3.4×10^{-3}	2.56	3.2	94	45.1
	5.1×10^{-3}	2.56	3.2	94	28.8
	6.8×10^{-3}	2.56	3.2	94	34.2

Tab.S2 Interfacial tension of crude oil/ nanoemulsions at equilibrium time (45 °C)

OMt %w/v	0.15 %w/v G16-2-16	0.20 %w/v G16-2-16
Equilibrium time	1800s	2000s
0	0.021	0.07
$3.4*10^{-3}$	0.006	0.225
$6.8*10^{-3}$	0.01	0.016

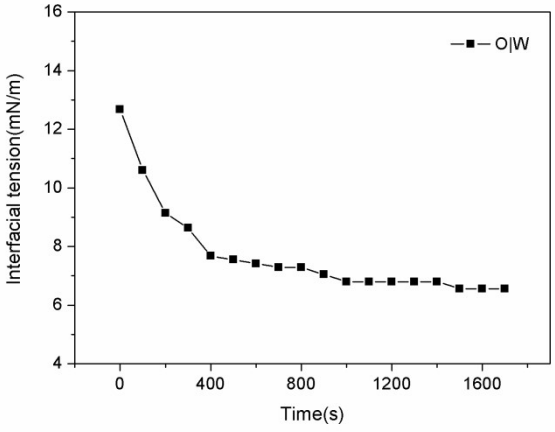


Fig. S1 Interfacial tension of crude oil/ water as a function of time at 45 °C

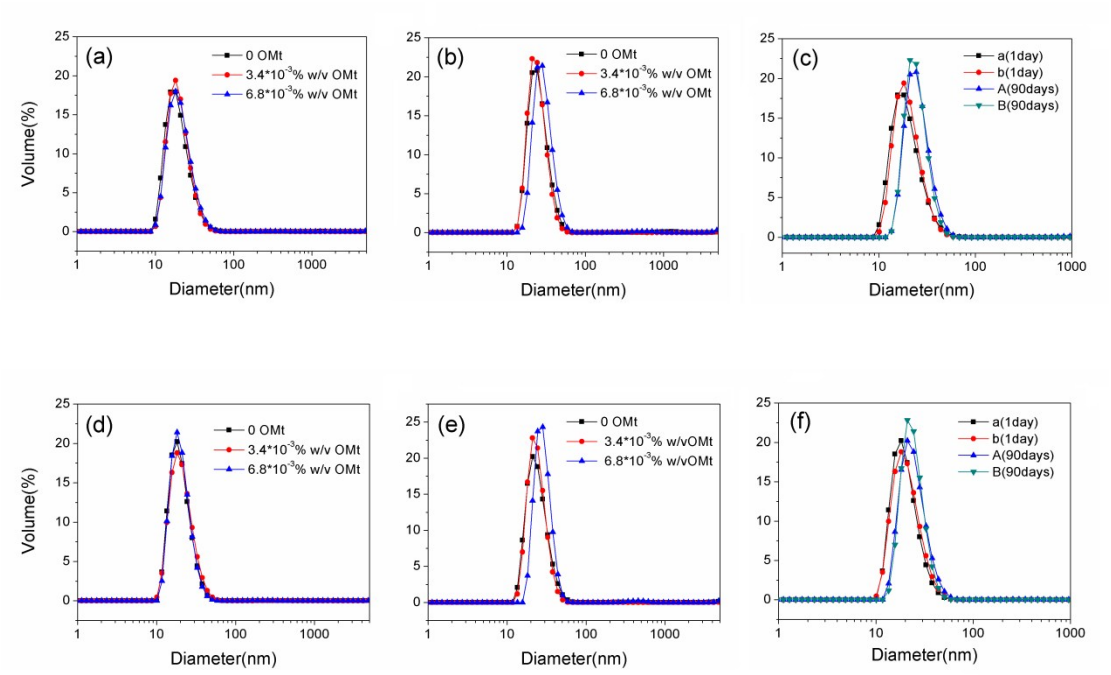


Fig.5 Nanoemulsion droplet sizes measured by DLS

Nanoemulsions with 0.15%w/v G16-2-16 (1 day); (b) G16-2-16 nanoemulsions with 0.15wt%(90 days)；(c) Size variation of nanoemulsions with 0.15%w/v G16-2-16 storing for 1 day and 90 days (a, A: without OMt; b, B: with 3.4×10^{-3}%w/v OMt); (d) nanoemulsions with 0.20%w/v G16-2-16 (1 day); (e) nanoemulsions with 0.20%w/v G16-2-16 (90 days)；(f) Size variation of nanoemulsions with 0.20%w/v G16-2-16 storing for 1 day and 90 days (a, A: without OMt; b, B: with 3.4×10^{-3}%w/v OMt).

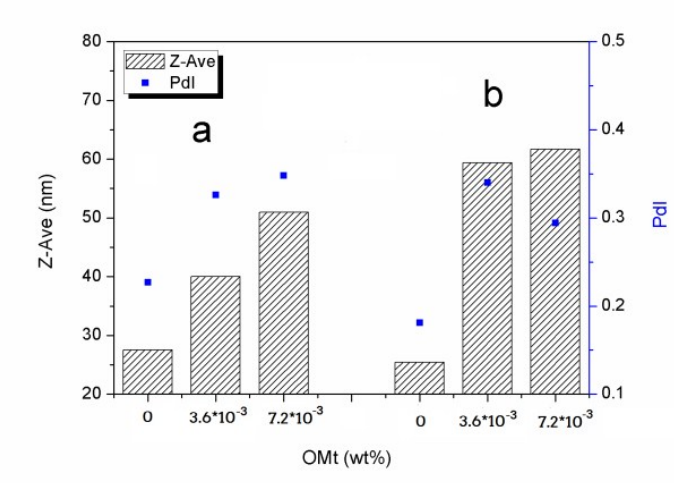


Fig. S3 Z-average diameter and the Polydispersity Index(PDI) of Nano-emulsion measured by DLS method