Supporting Information

A Rheological Study of Parameters that Influence the Formation of Cyclopentane Hydrates

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To investigate the effect of the temperature on the emulsion stability, we did some tests using $T_f = 5$ ℃. The mean droplet diameter of the sample was measured before the test, at 20 ℃, during the cooling rate (step 2 of the pretreatment temperature), at the temperature of 5 ℃, and as soon as the experiment ended (and no hydrate formation occurred). It was observed that the emulsion remained stable at the beginning of the experiment and during the cooling, but it destabilized at the end of the experiment. This destabilization was visually identified, and due to phase separation, it was not possible to determine the mean droplets diameter, since the droplets (not only of water) spread in the suspension, as observed in Fig. S3. The mean droplets diameter measured for the emulsion before the test (Fig. S1) and during the cooling ramp at 5 ℃ (Fig. S2) were 10.0 ±7.9 and 12.8 ±8.9 µm, respectively. These results showed that the emulsion was destabilized during the sub-zero pre-treatment temperature.

Notwithstanding, the degree of destabilization is lower when hydrates formation occurs, as shown in Fig. 4 of the article.

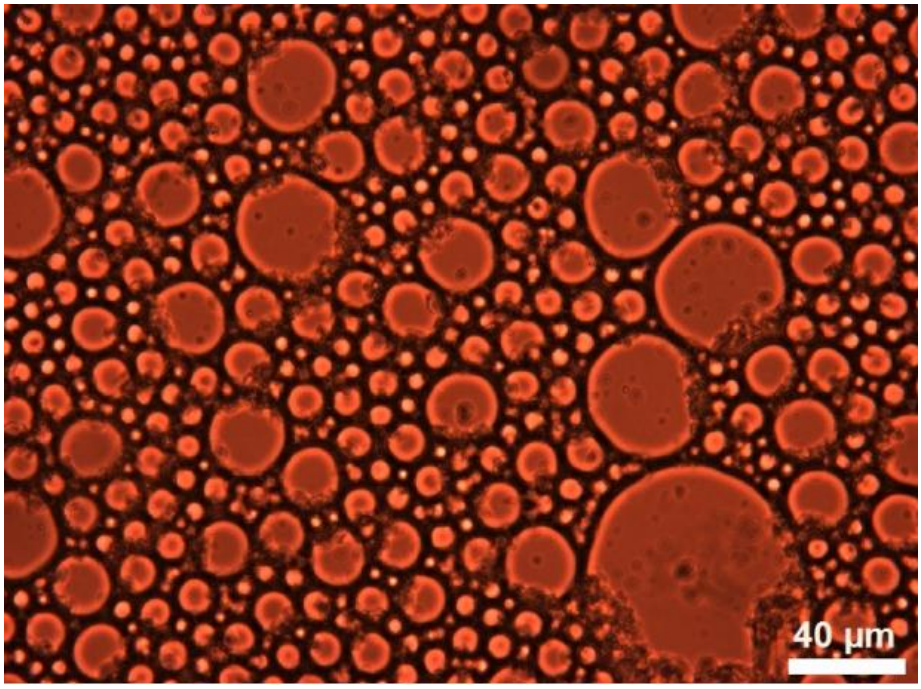

Figure S1. Micrograph of the emulsion before the experiment at 20 °C.

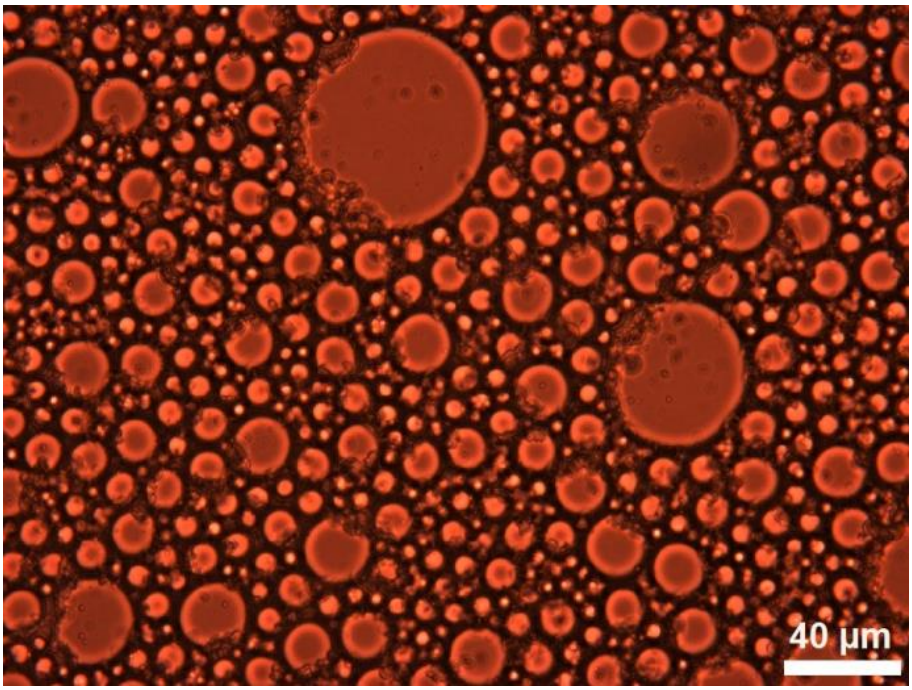

Figure S2. Micrograph of the emulsion during the cooling at 5 °C.

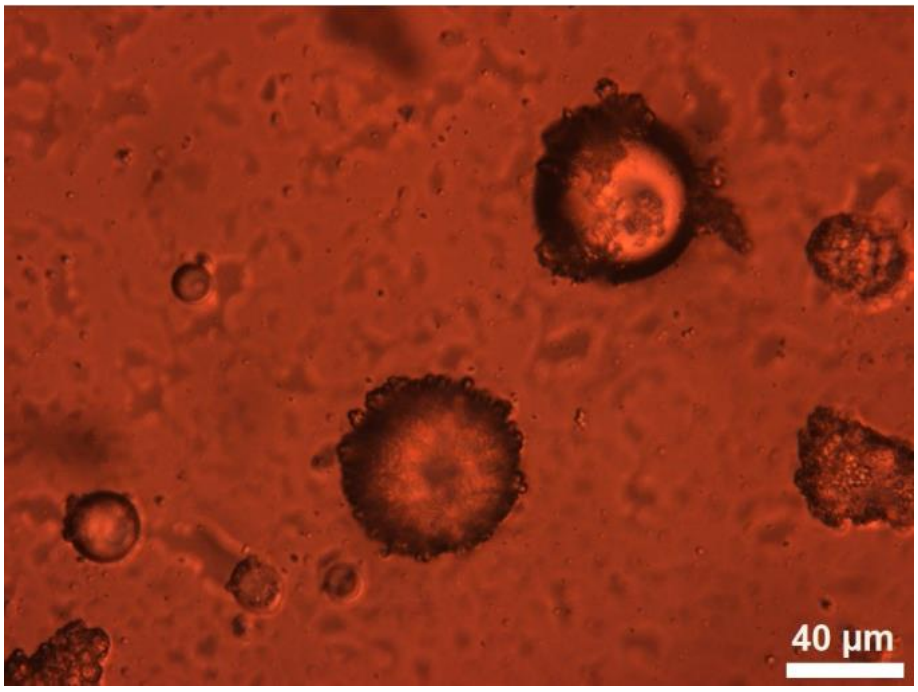

Figure S3. Micrograph of the emulsion after the test at 5 °C.