Supplementary Material

Water/oil emulsion and asphaltene instability in different formations during low-salinity waterflooding: an experimental study

Scientia Iranica

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A) X-ray diffraction (XRD) analysis

The mineral composition of the sandstone sample used in this study was evaluated by X-ray diffraction (XRD) analysis. The XRD results, presented in Figure S.1, reveal that the sandstone sample comprises 98.5% quartz and 1.5% calcite.

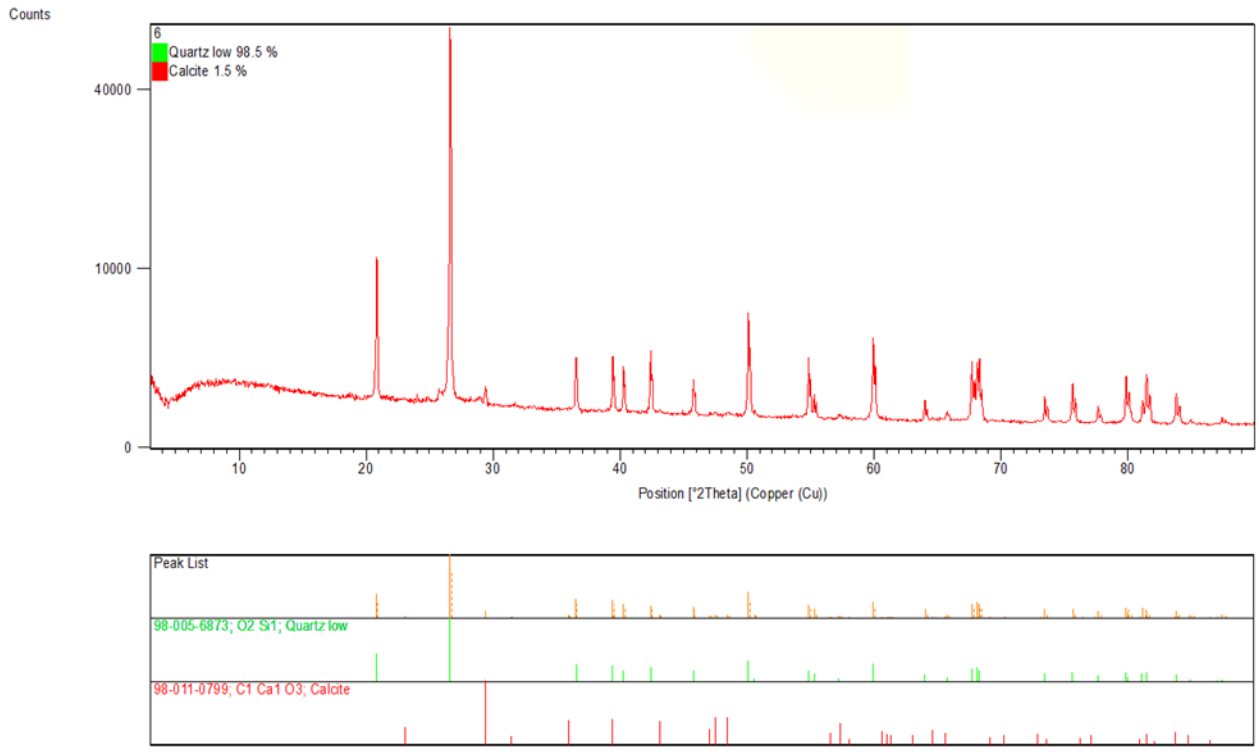

Fig. S.1. Mineral composition of the sandstone sample from X-ray diffraction (XRD) analysis

B) Microscopic images (micrographs) of water-in-oil emulsions in different brines

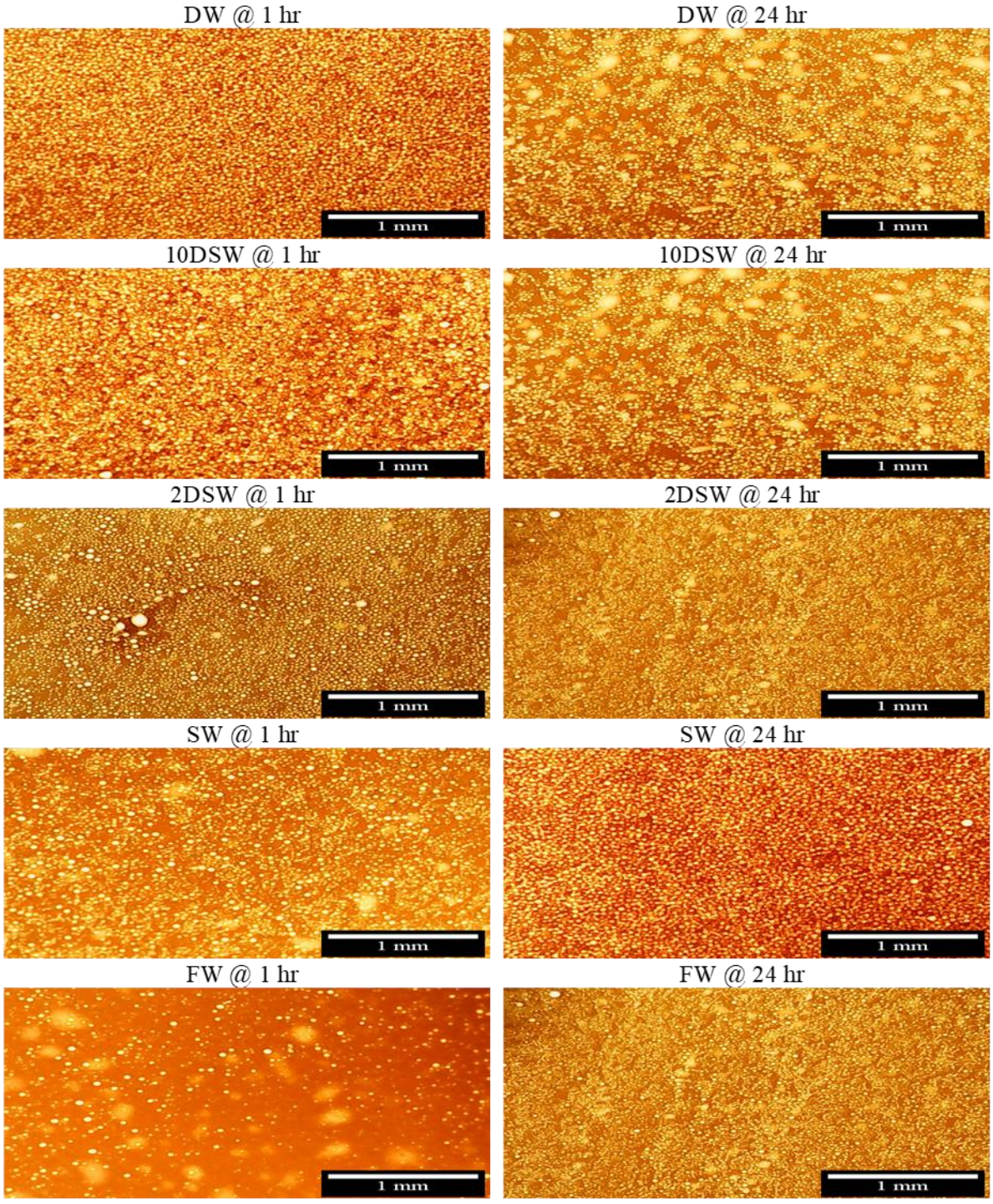

Fig. S.2. Microscopic images of water-in-oil emulsions after 1 and 24 hours of mixing/stirring for "no-rock" experiments

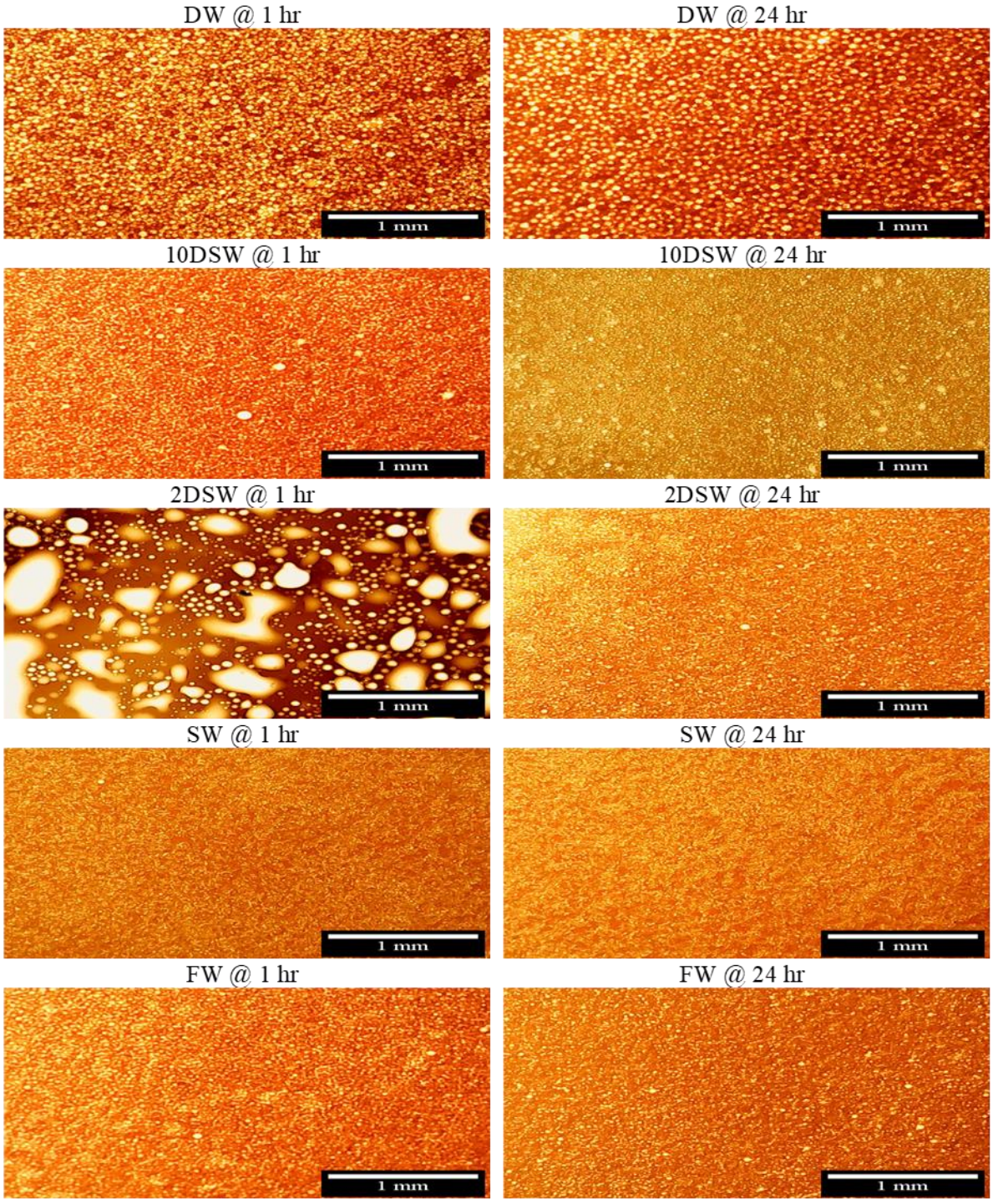

Fig. S.3. Microscopic images of water-in-oil emulsions after 1 and 24 hours of mixing/stirring for "dissolved calcite rock" experiments

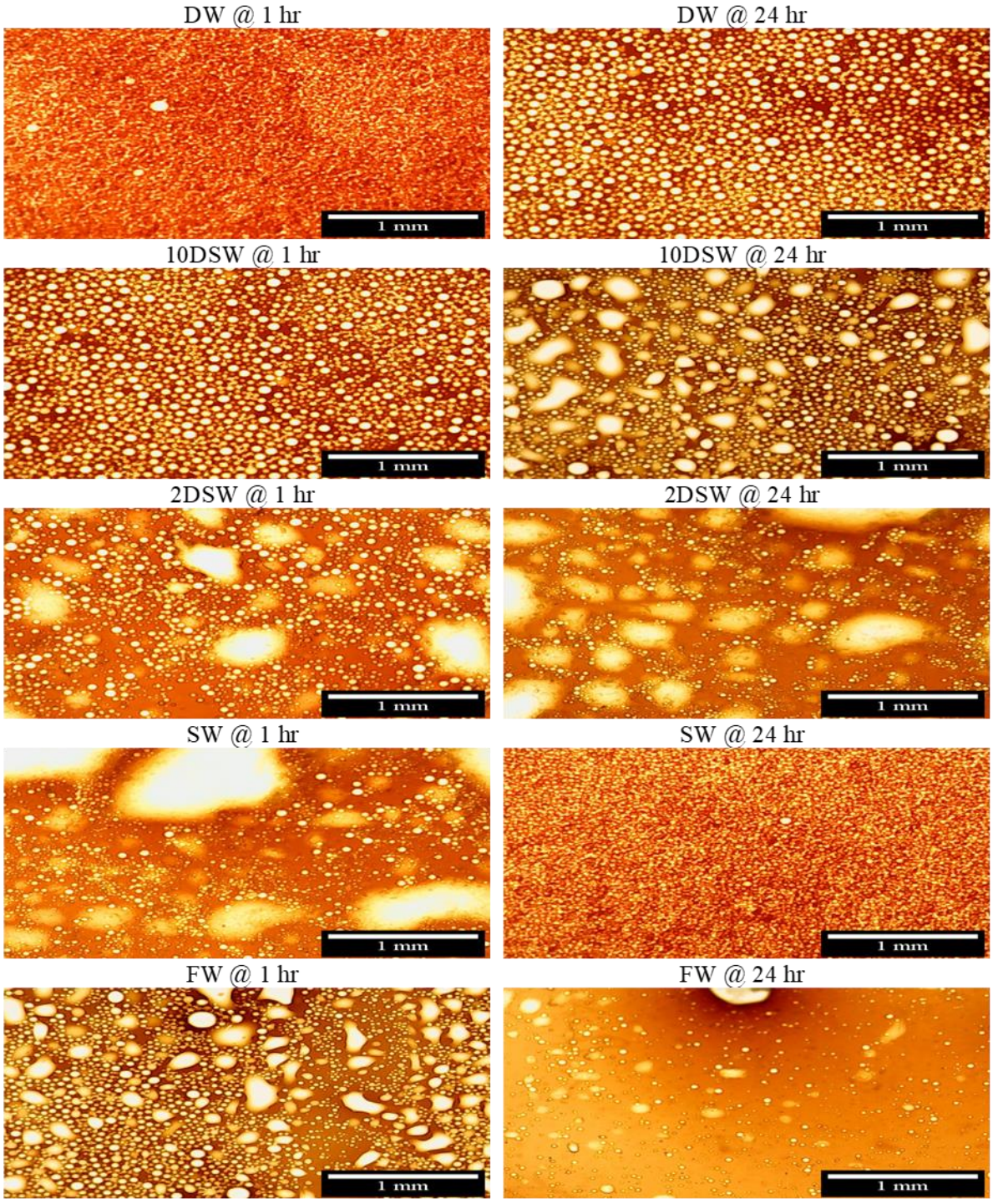

Fig. S.4. Microscopic images of water-in-oil emulsions after 1 and 24 hours of mixing/stirring for "solid calcite" experiments

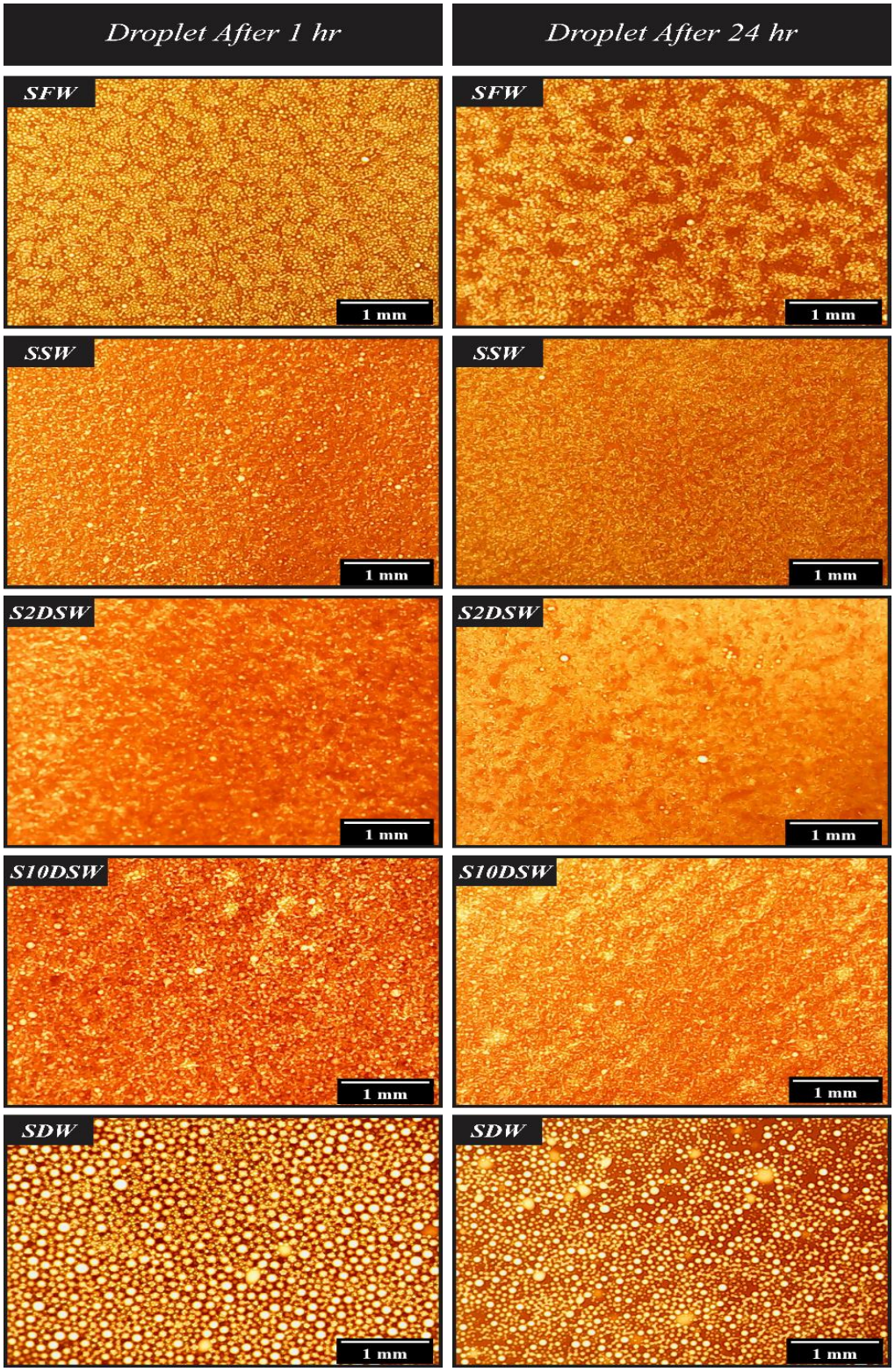

Fig. S.5. Microscopic images of water-in-oil emulsions after 1 and 24 hours of mixing/stirring for "dissolved sandstone rock" experiments

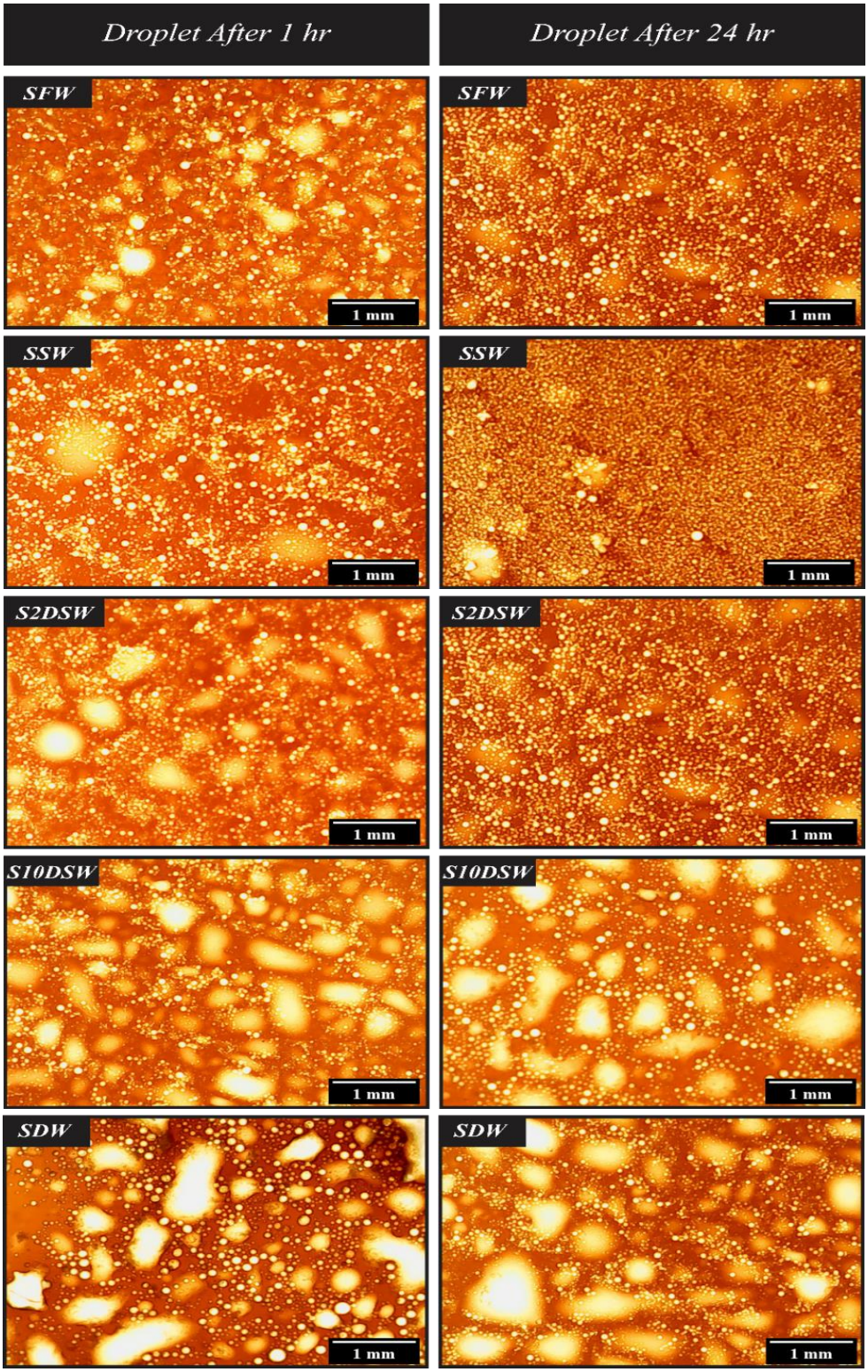

Fig. S.6. Microscopic images of water-in-oil emulsions after 1 and 24 hours of mixing/stirring for "Solid sandstone" experiments

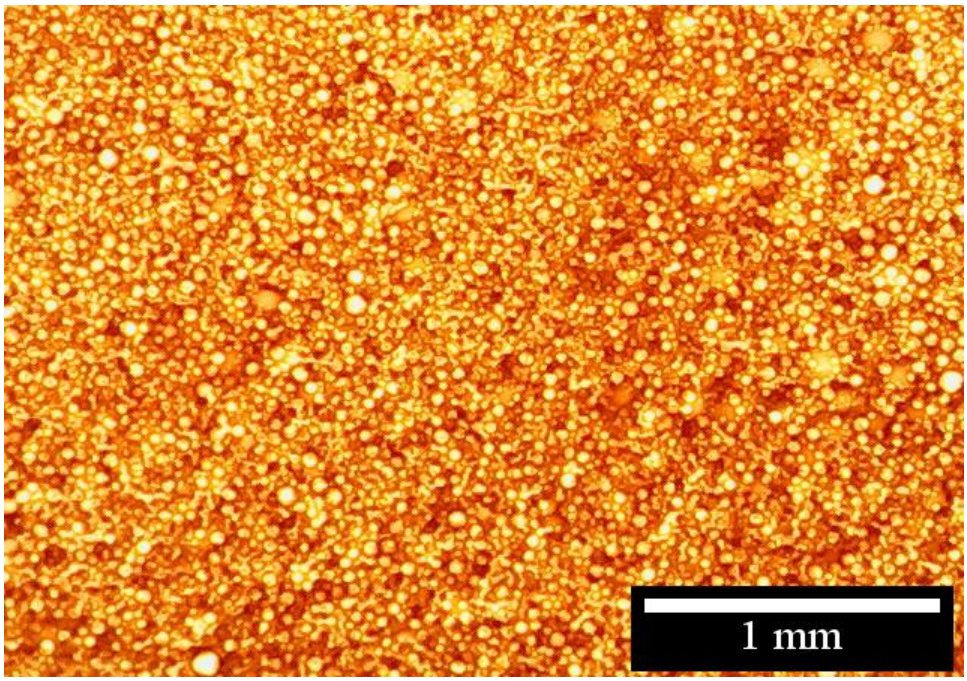

Fig. S.7. Microscopic color image of 10DSW/oil emulsions after 1 hour related to the first group of experiments

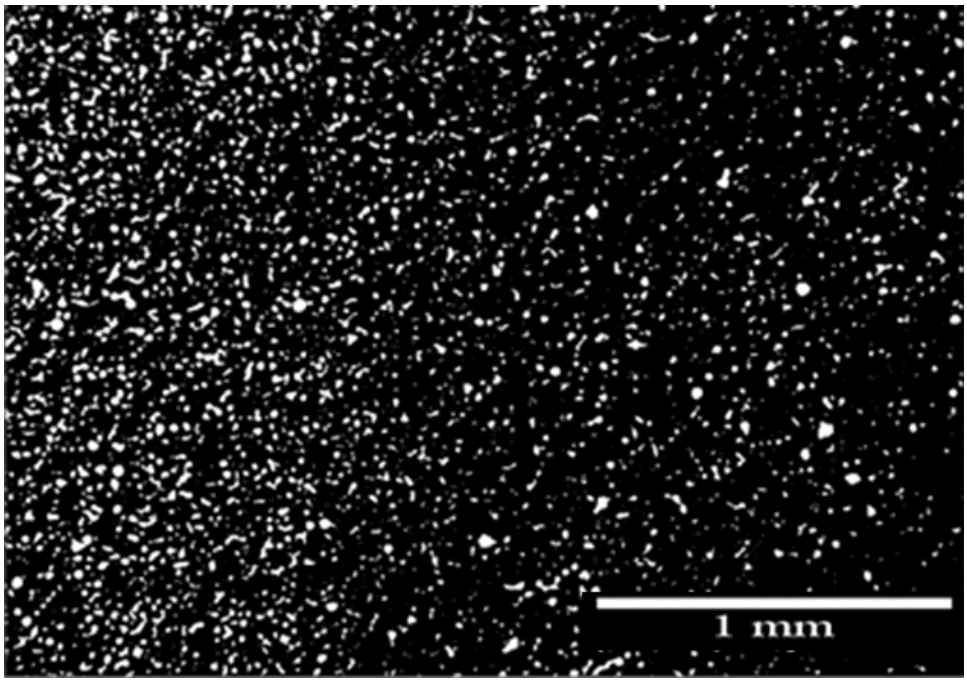

Fig. S.8. Microscopic grayscale image of 10DSW/oil emulsions after 1 hour related to the first group of experiments