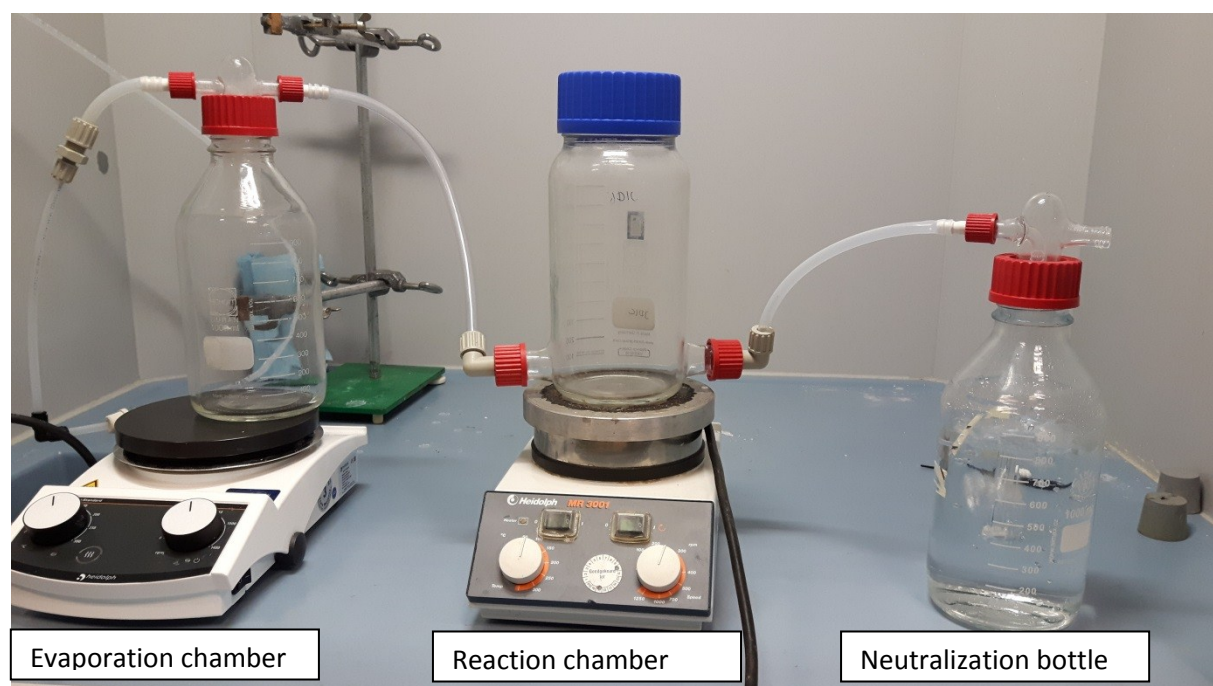


Supplementary information flow cell article

S.I. 1: Photograph of the vapor deposition system



The injection gate of this setup was created by placing a piece of silicon tubing just before the inlet of the reaction chamber, as can be seen in the picture.

S.I.2: Exact settings of flow cell and pump

The width of the flow cell channel is 15 mm.

Action	Duration (min)	Channel width cell (mm)	Pump speed (l/h)
Inject emulsion and settling	30	2.3	0
Flushing	30	2.3	1.5
Shearing	1	2.3	6
Shearing	1	2.0	6
Shearing	1	1.5	6
Shearing	1	1.0	6
Shearing	1	0.7	16.2
Shearing	1	0.7	25.3
Shearing	1	0.7	34.5

S.I.3: Contact angles after 30 minutes

		contact angle t=0	stdev t=0	contact angle t=30	stdev t=30
SDS 115 mg/L 10 mM NaCl	hydrophilic	164.45	1.9	R	x
	hydrophobic	59	1.4	57	0.3
SDS 231 mg/L 1 mM NaCl	hydrophilic	155.45	1.3	R	x
	hydrophobic	58.95	1.6	53.2	3.0
SDS 231 mg/L 10 mM NaCl	hydrophilic	155.1	0.3	R	x
	hydrophobic	67.1	10.2	59.15	5.9
SDS 231 mg/L 100 mM NaCl	hydrophilic	153	2.5	R	x
	hydrophobic	151	1.0	59.35	5.7
SDS 463 mg/L 10 mM NaCl	hydrophilic	150.35	0.9	R	x
	hydrophobic	59.6	7.8	53.3	3.1
CTAB 176 mg/L 10 mM NaCl	hydrophilic	140.5	3.5	R	x
	hydrophobic	141.5	2.1	R	x
TX-100 149 mg/L 10 mM NaCl	hydrophilic	150.15	0.2	R	x
	hydrophobic	154.2	2.7	94.95	10

S.I. 4: Images of TX-100 in flow cell

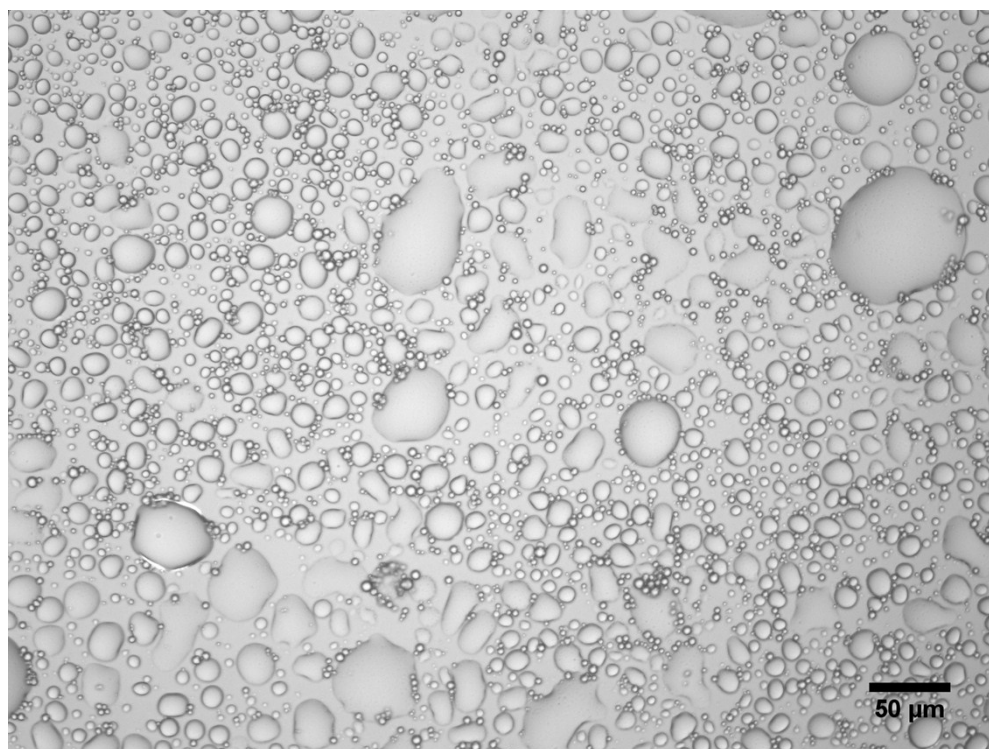


Image of oil droplets stabilized with TX-100 on a hydrophilic surface during flushing

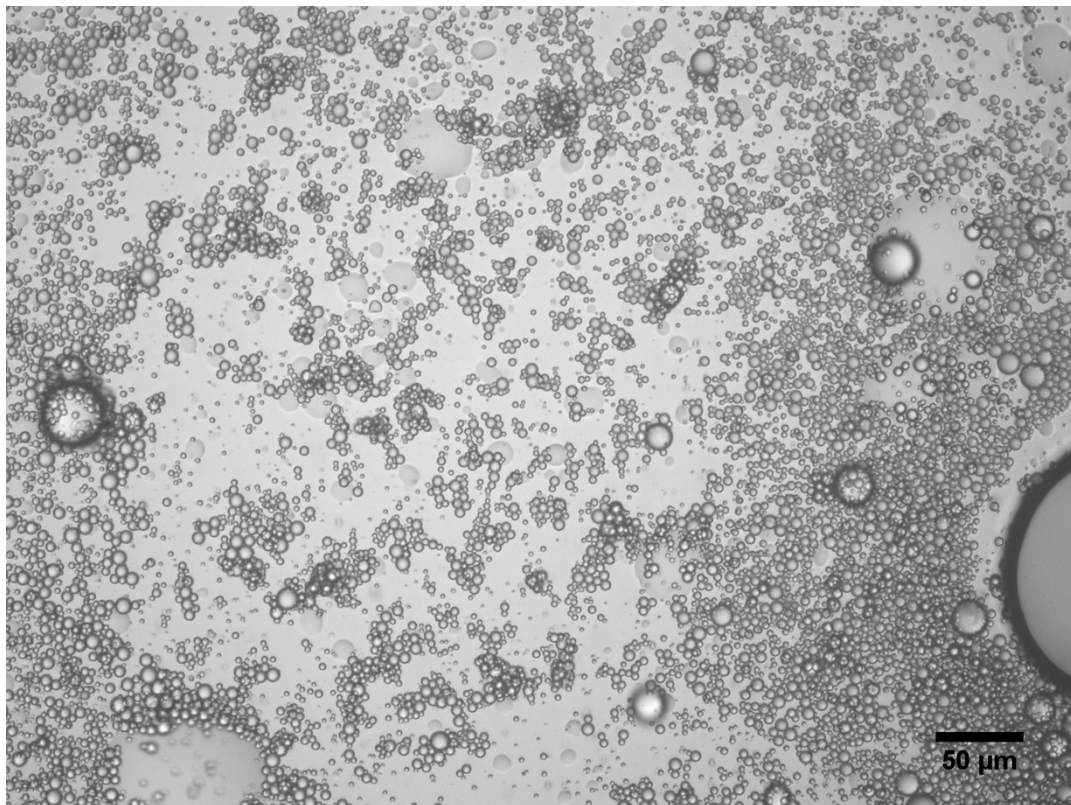


Image of oil droplets stabilized with TX-100 on a hydrophobic surface during flushing