Electronic Supplementary Material (ESI) for RSC Advances.

Quantitative analysis of biosurfactants in water samples by a modified oil spreading technique

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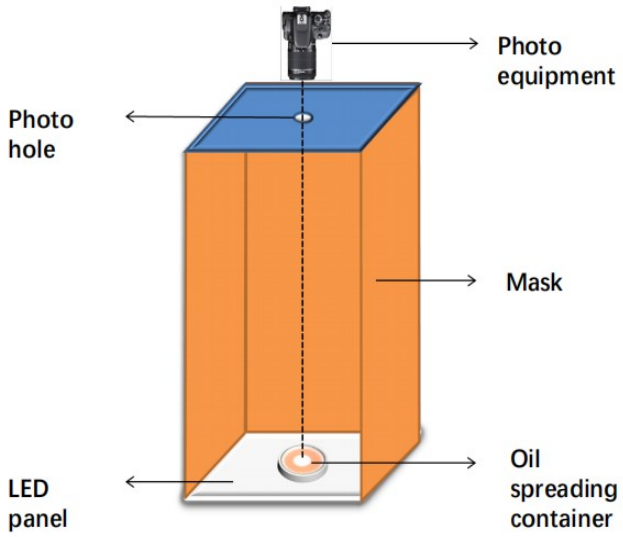

Figure S1. Improved image acquisition device for oil spreading technique

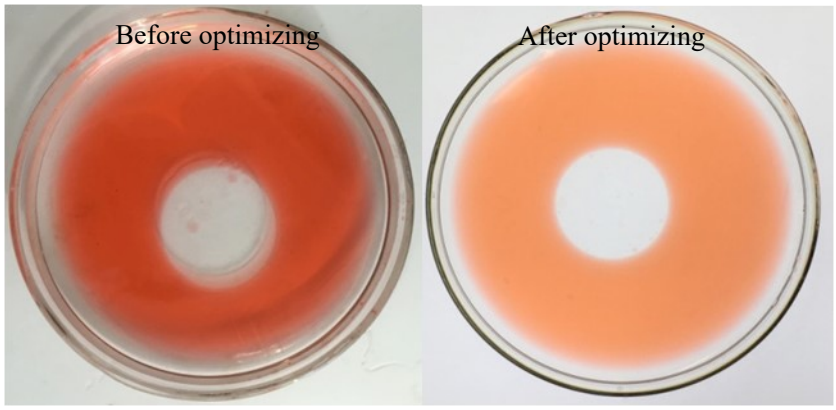

Figure S2. Before and after the optimization of the oil spreading image

Table S1 Molecular weights of different components in standard lipopeptide solution

Retention time /min	6.1	6.8	7.4	8.1	8.5	9.3	10.0	10.8	11.2
Molecular weight /D	993	1007	993	1021	1021	1035	1021	1035	1049

Table S2 The area of oil spreading formed by oilfield produced and injection water and oilfield produced and injectionwater with standard biosurfactants

Oilfield water samples	Parallel sample 1 (cm^2)	Parallel sample 2 (cm^2)	Parallel sample 3 (cm^2)	Standard deviation between parallel samples	Oilfield water+100 mg/L rhamnolipid standard	Oilfield water+100 mg/L lipopeptide standard

					solution (cm^2)	solution (cm^2)
Oilfield produced water samples area	101.6	83.8	71.1	12.5	1223.7	738.8
Oilfield injection water samples area	229.6	204.3	212.7	10.5	1613.4	1013.6