

Supplementary Information

Effect of formulation parameters and process on the structural properties of concentrated Pickering emulsions

Diego M Ramos ¹, Mohammad Mahdi Assaf ¹, Véronique Sadtler ^{1,*}, Philippe Marchal ¹, Cécile Lemaitre ¹, Tayssir Hamieh ^{2,*}, Lazhar Benyahia ³, Thibault Roques-Carmes ^{1,*}

¹ Université de Lorraine, CNRS, LRGP, F-54000 Nancy, France

² Faculty of Science and Engineering, Maastricht University, P.O. Box 616, 6200 MD Maastricht, The Netherlands;

³ Institut des Molécules et Matériaux du Mans (IMMM), UMR 6283 CNRS – Le Mans Université. 1, Avenue Olivier Messiaen, 72085 Le Mans cedex 9, France

* Correspondence: t.hamieh@maastrichtuniversity.nl, veronique.sadtler@univ-lorraine.fr and thibault.roques-carmes@univ-lorraine.fr

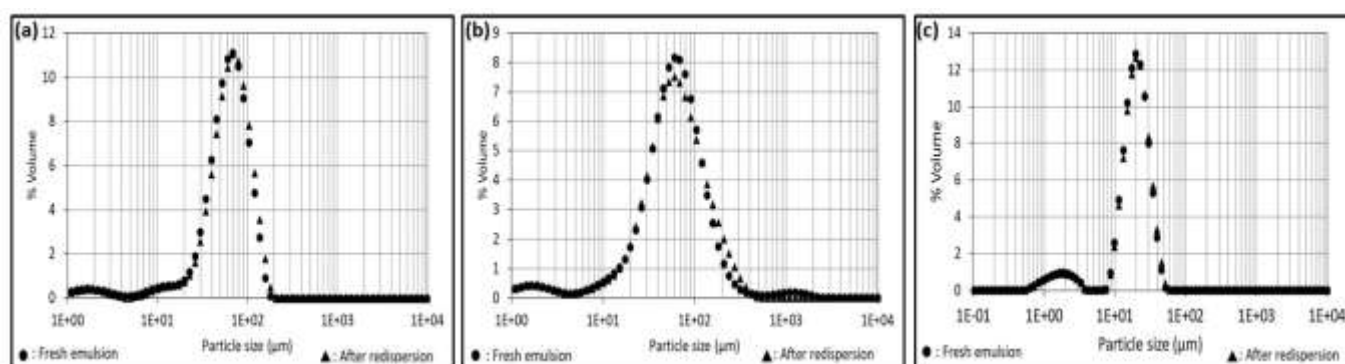


Figure S1. Droplet size distributions of fresh emulsions (“Fresh emulsion”) and of redispersed creams in silica-free continuous phases (“After redispersion”). (a,b) Rotor-stator emulsions with 50 vol.% paraffin oil stabilized by (a) 1 wt.% silica particles and (b) 4 wt.% silica particles. (c) Sonicator emulsion with 50 vol.% paraffin oil stabilized with 1 wt.% silica particles.

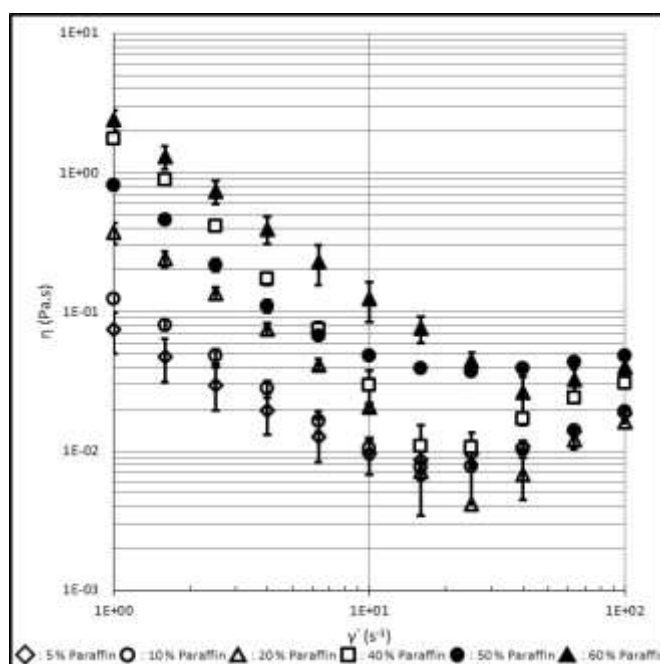


Figure S2. Flow curves of Rotor-stator emulsions prepared at 1 wt.% of silica for various paraffin oil dispersed-phase contents.

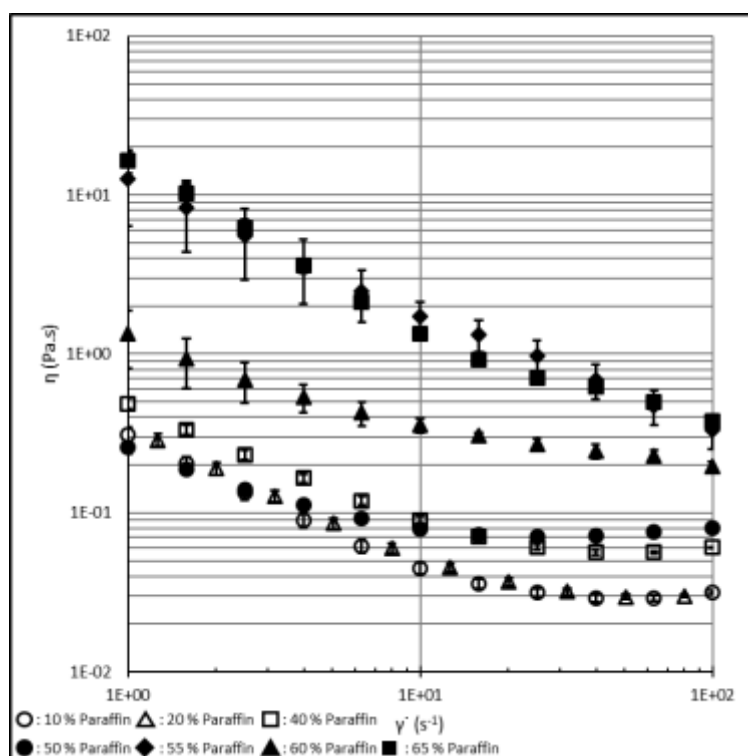


Figure S3. Flow curves of Sonicator emulsions prepared at 1 wt.% of silica for various paraffin oil dispersed-phase contents.

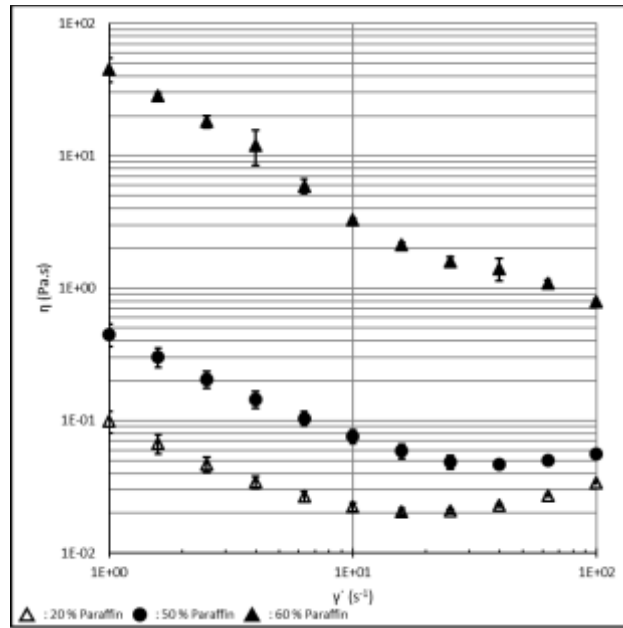


Figure S4. Flow curves of Rotor-stator emulsions prepared at 4 wt.% of silica for various paraffin oil dispersed-phase contents.

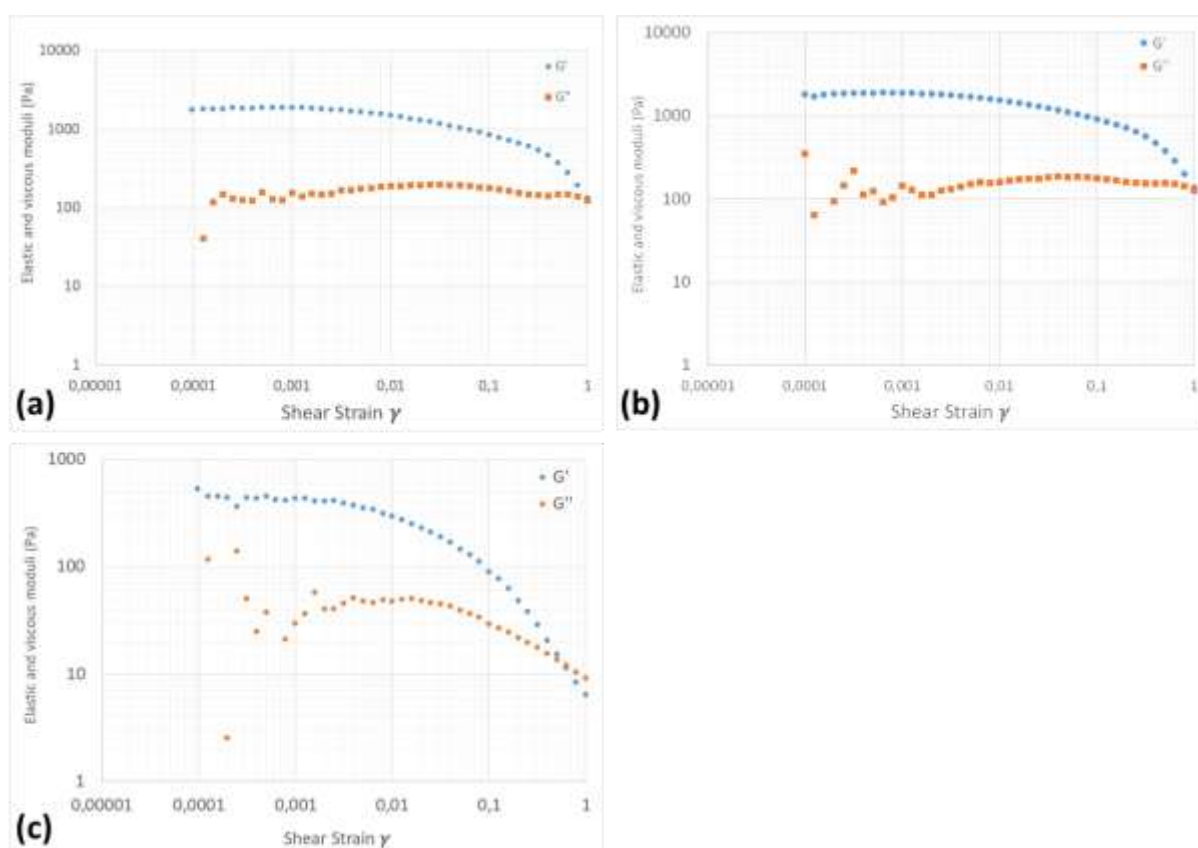


Figure S5. Elastic G' and viscous G'' modulus of Rotor-stator and Sonicator Pickering emulsions against oscillatory shear strain (γ). (a) Sonicator emulsion with 60 vol.% paraffin oil stabilized with 1 wt.% silica particles, (b,c) Rotor-stator emulsions with 60 vol.% paraffin oil stabilized by (b) 4 wt.% silica particles and (c) 1 wt.% silica particles.