Supplementary Information for

Rheology and Dispensing of Real and Vegan Mayo: The Chickpea or Egg Problem

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Table S1: Parameters extracted from shear flow curve and the analysis of radius evolution of dripping analysis.

	τ_y [Pa]	K [-]	n [-]	Y_i	$n_{e,i}$	Y_{ter}	$n_{e,ter}$	t_f [ms]
Real								
Hellmann's	134.8 ± 11.5	27.4 ± 3.3	0.32 ± 0.04	5.9 ± 3.6	0.51 ± 0.17	84.5 ± 23.7	1 ± 0.07	58.7 ± 12.9
Sir Kensington's	151.2 ± 13.6	27.7 ± 11.9	0.43 ± 0.06	7.6 ± 2.9	0.62 ± 0.09	41.6 ± 13.7	1 ± 0.07	87.0 ± 30.9
Kraft	160.9 ± 4.6	15.0 ± 5.5	0.41 ± 0.06	6.4 ± 1.1	0.54 ± 0.03	44.7 ± 24.3	1 ± 0.14	60.8 ± 9.6
Vegan								
Hellmann's	57.8 ± 8.1	32.0 ± 12.4	0.42 ± 0.07	3.6 ± 0.5	0.44 ± 0.05	130.7 ± 77.1	1 ± 0.14	81.8 ± 11.1
Sir Kensington's	88.7 ± 13.5	41.0 ± 16.0	0.39 ± 0.07	8.4 ± 1.7	0.74 ± 0.09	2.4 ± 1.5	0.5 ± 0.08	74.6 ± 3.9
Chosen Foods	27.3 ± 11.4	2.1 ± 8.1	0.67 ± 0.12	3.7 ± 1.9	0.55 ± 0.05	9.2 ± 1.4	0.8 ± 0.07	73.6 ± 6.5
Follow Your Heart	161.0 ± 31.9	0.5 ± 0.8	1.00 ± 0.10	3.2 ± 0.1	0.36 ± 0.01	149.5 ± 82.5	1 ± 0.11	71.1 ± 26.6

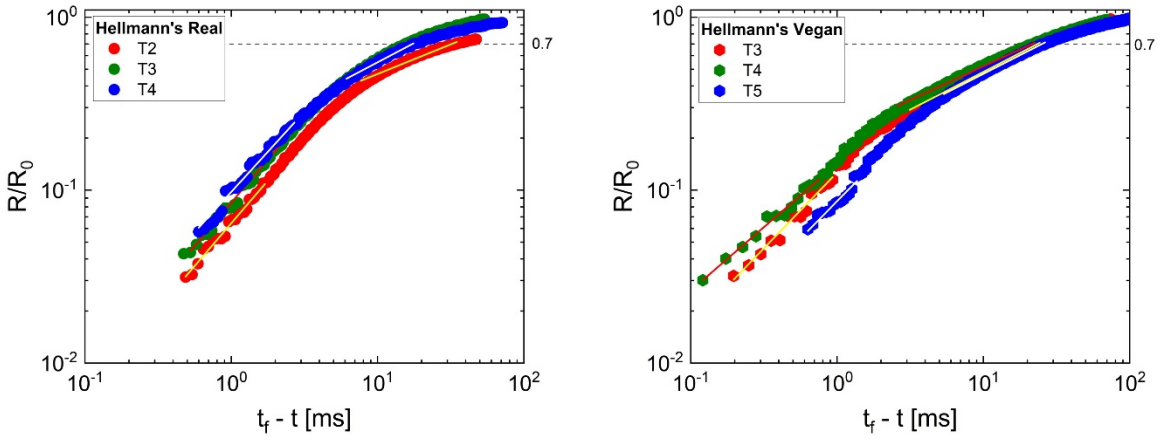

Figure S1: Radius evolution as a function of reverse time for dripping experiments of Hellmann's real (left) and vegan (right) mayos. Three trials are shown to display repeatability. Fits are shown in light colored lines in the intermediate and terminal pinching regimes.

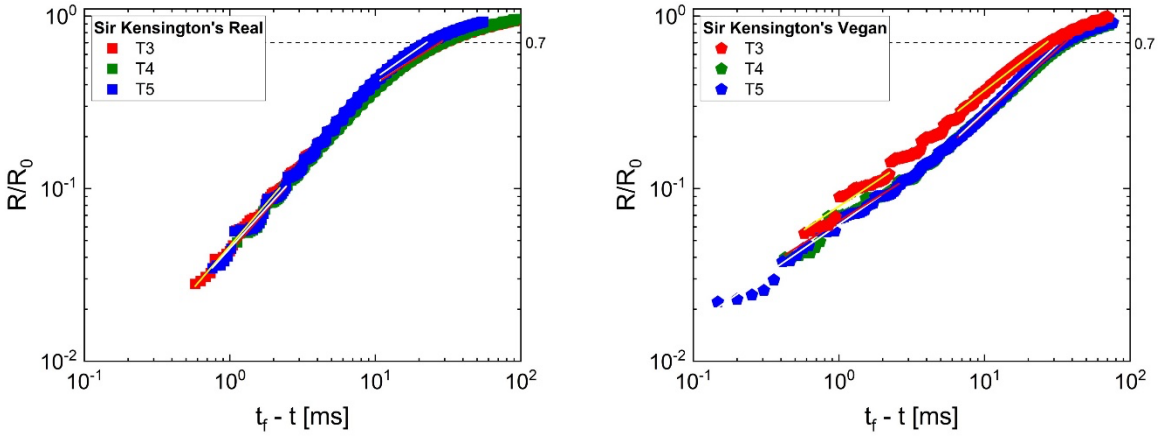

Figure S2: Radius evolution as a function of reverse time for dripping experiments of Sir Kensington's real (left) and vegan (right) mayos. Three trials are shown to display repeatability. Fits are shown in light colored lines in the intermediate and terminal pinching regimes.

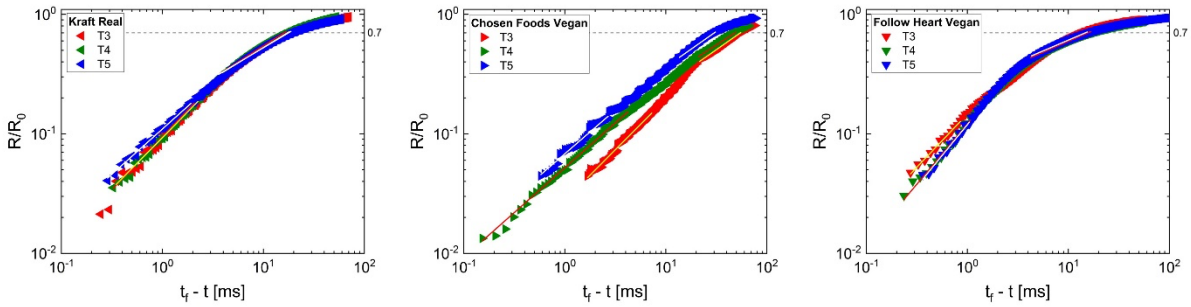

Figure S3: Radius evolution as a function of reverse time for dripping experiments of Kraft real (left), Chosen Foods vegan (center), and Follow Your Heart vegan (right) mayos. Three trials are shown to display repeatability. Fits are shown in light colored lines in the intermediate and terminal pinching regimes.

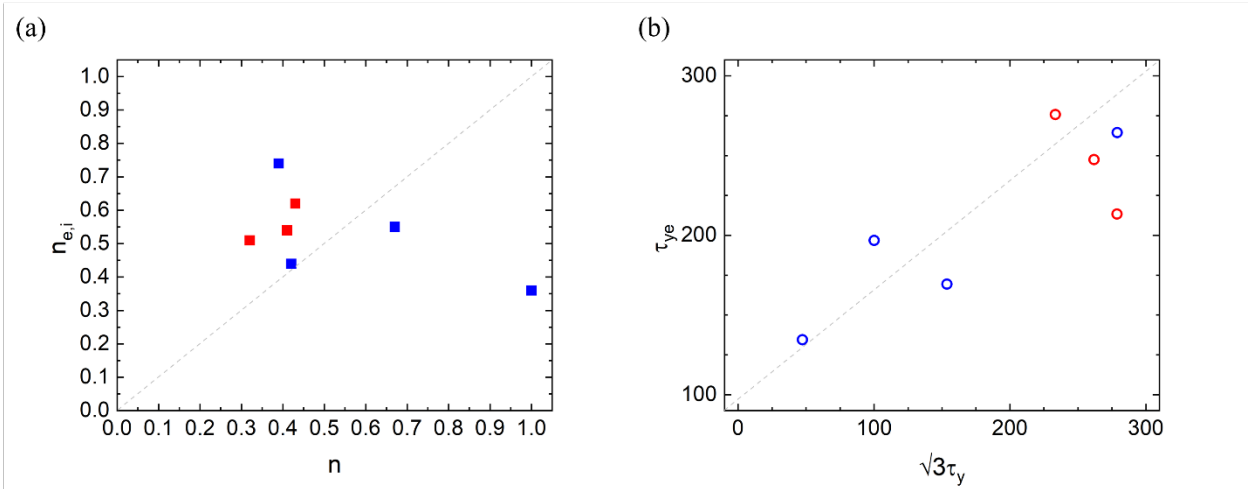

Figure S4: Comparison of power law exponents and yield stress values obtained from the shear and extensional rheology response. The AB or real mayonnaise is shown in red and PB or vegan mayo is shown in blue. The symbols used are consistent with those shown in Figure 6. (a) Plot of the intermediate exponent obtained from pinching dynamics versus power law exponent from the Herschel-Bulkley fit to shear flow curve. Gray dashed line shows slope of 1. (b) Plot of gravitationally estimated extensional yield stress versus shear Herschel-Bulkley model yield stress. Gray dashed line shows slope of 2/3.

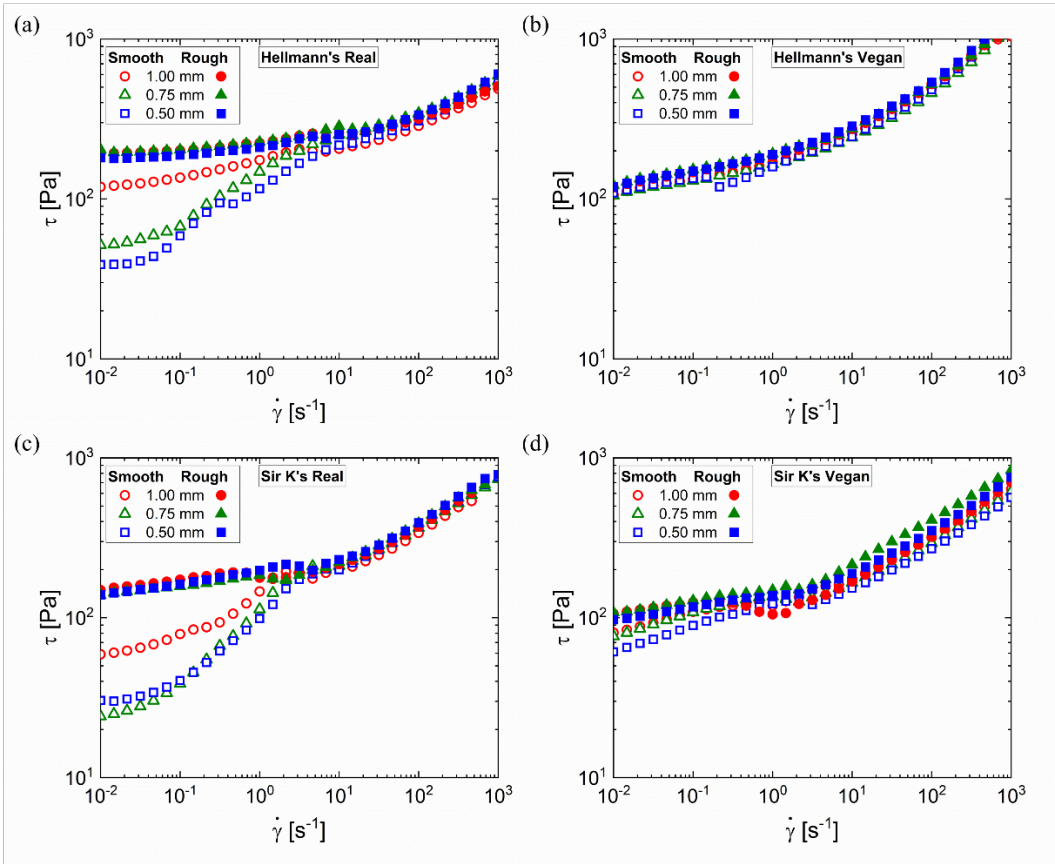

Figure S5: Comparison of flow curved obtained with smooth (unfilled symbols) and sandpaper-roughened (filled symbols) parallel plate geometry (diameter of 25mm) at different gap heights for four mayo emulsions: (a) Hellmann's Real (b) Hellmann's Vegan (c) Sir Kensington's Real (d) Sir Kensington's Classic Vegan. Wall slip effects are minimized or eliminated for both AB and PB mayo emulsions with roughened plates, and flow curves overlap for different gap heights tested. The PB mayo emulsions show less susceptibility to wall slip than AB mayonnaise.