This file serves as supplementary information for the paper:

“Nuclear Magnetic Resonance Diffusometry of Linear and Branched Wormlike Micelles"

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This supplementary material consists of 2 pages, 1 figure and 1 table.

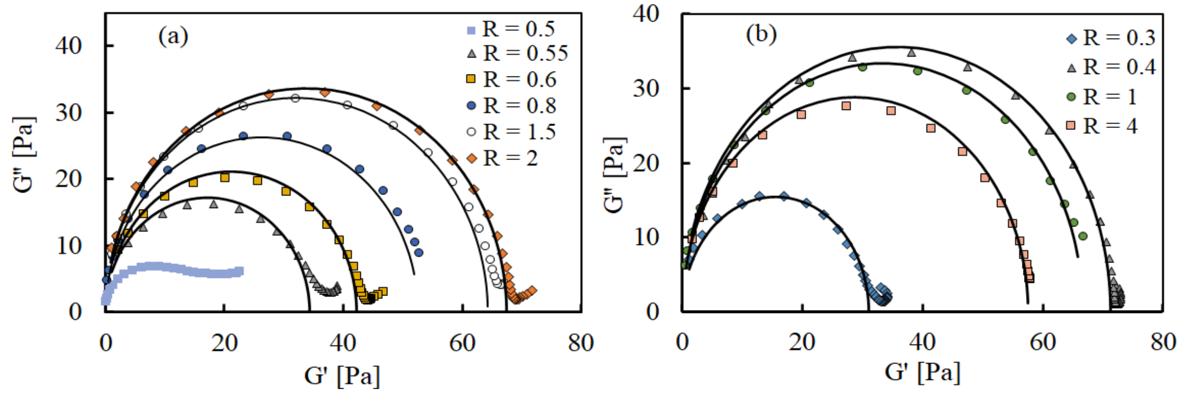

FIGURE S1. Cole-Cole plots for wormlike micellar solutions (a) CPCl/NaSal and (b) CTAB/NaSal. The continuous curves illustrate the fit to the single mode Maxwell model. A single mode Maxwell model is described as: $G'(\omega) = G_0 \frac{\omega^2\tau_R^2}{1+\omega^2\tau_R^2}$, $G''(\omega) = G_0 \frac{\omega\,\tau_R}{1+\omega^2\tau_R^2}$. G', G'', ω, τ_R are storage modulus, loss modulus, angular frequency and the longest relaxation time, respectively. The micellar breakage ratio is calculated by using the following relation $\tau_R = (\tau_{br}.\tau_{rep})^{1/2}$, where τ_b and τ_r denote the breakage time and the reptation time, respectively. The breakage time is estimated as the inverse of the frequency at which loss modulus shows a local minimum.

Fluid	Salt concentration (mM)	η_0 (Pa.s)	τ_R (s)	τ_b (s)
CTAB/NaSal	30	1300	33	0.149
	40	3900	92	0.227
	60	1560	39.5	0.18
	80	67	1.6	0.017
	100	10.09	0.24	0.011 [1]
	150	23	0.49	0.013 [1]
	200	98	1.9	0.017
	400	34	0.93	0.013
CPCl/NaSal	45	0.5	0.092	--
	50	16.5	1.2	--
	55	118	3.36	0.042
	60	230	5.82	0.045
	80	5.5	0.182	--
	90	0.8	0.12	--
	150	44	0.82	0.013
	200	320	5.5	0.056
	300	54	1.3	0.014
	400	1.9	0.041	--

Table S(1). Rheological properties of the micellar solutions used in this study.

[1] J. Galvan-Miyoshi, J. Delgado and R. Castillo, "Diffusing wave spectroscopy in maxwellian fluids," *The European Physical Journal E*, vol. 26, p. 369–377, 2008.