

Supplementary Materials.

A pH-Responsive Foam Formulated with PAA/Gemini 12-2-12 Complexes.

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Additional Results

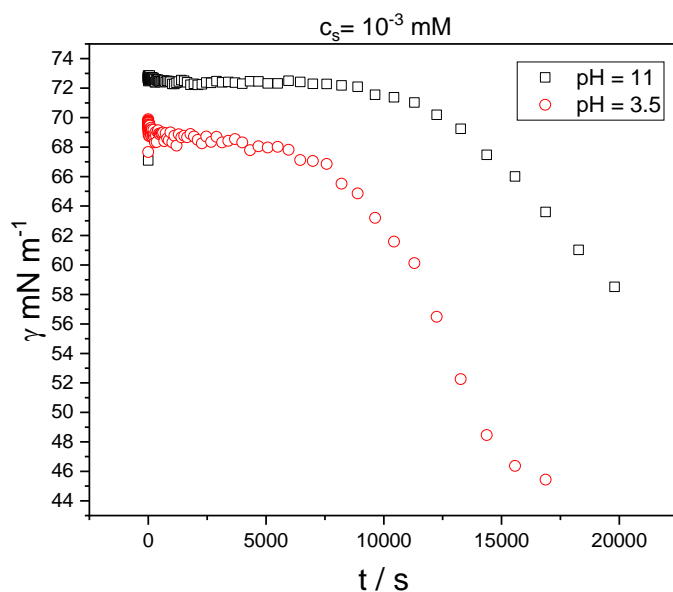


Figure S 1: Dynamic surface tension for PAA/G12, $c_p = 1 \text{ mg. ml}^{-1}$, $c_s = 10^{-3} \text{ mM}$.

pH = 3.5 (red circles); pH = 11 (black squares)

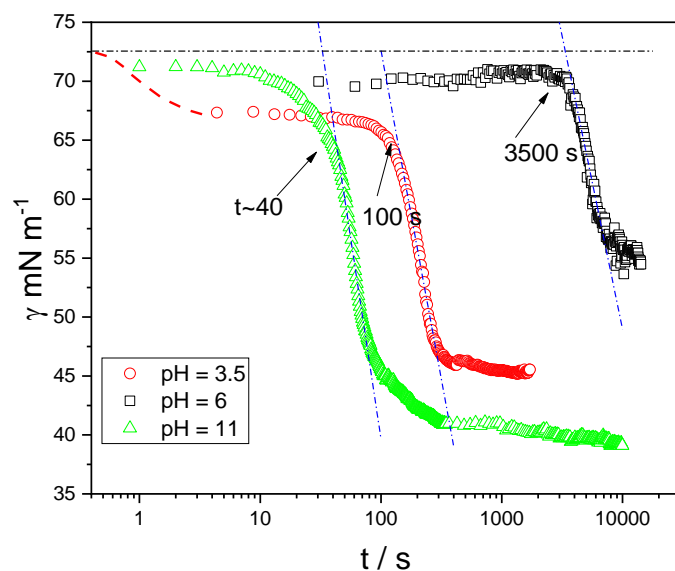


Figure S 2: Dynamic surface tension for PAA/G12, $c_p = 1 \text{ mg. ml}^{-1}$, $c_s = 4 \times 10^{-2} \text{ mM}$.

$\text{pH}=3.5$ (red circles); $\text{pH} = 6$ (black squares); $\text{pH} = 11$ (green triangles). The lines are fittings with exponentials.

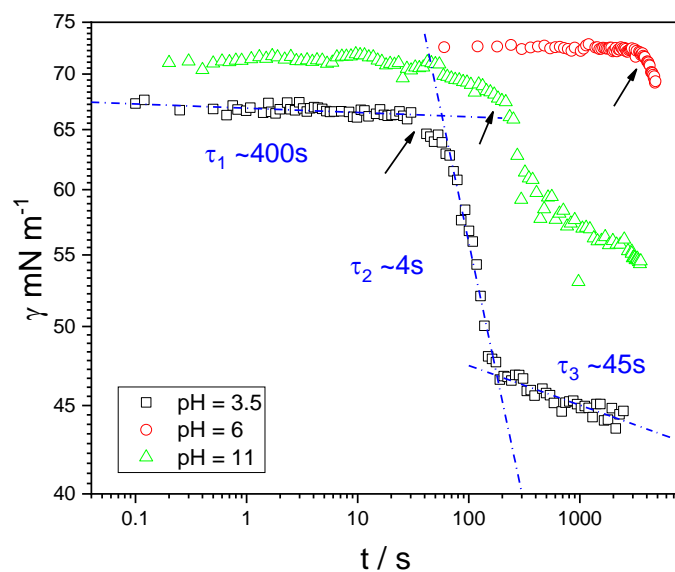


Figure S 3: Dynamic surface tension, $c_p = 1 \text{ mg. ml}^{-1}$, $c_s = 0.1 \text{ mM}$. $\text{pH} = 3.5$ (squares), $\text{pH} = 6$ (circles), and $\text{pH} = 11$ (triangles). The arrows indicate the induction time at which the surface tension starts to decrease appreciably. The lines superimposed to the curve at $\text{pH} = 3.5$ are fittings with exponentials. We identified at least three processes with distinct characteristic times: $\tau_1 \sim 400\text{s}$, $\tau_2 \sim 4\text{s}$ and $\tau_3 \sim 45\text{s}$.

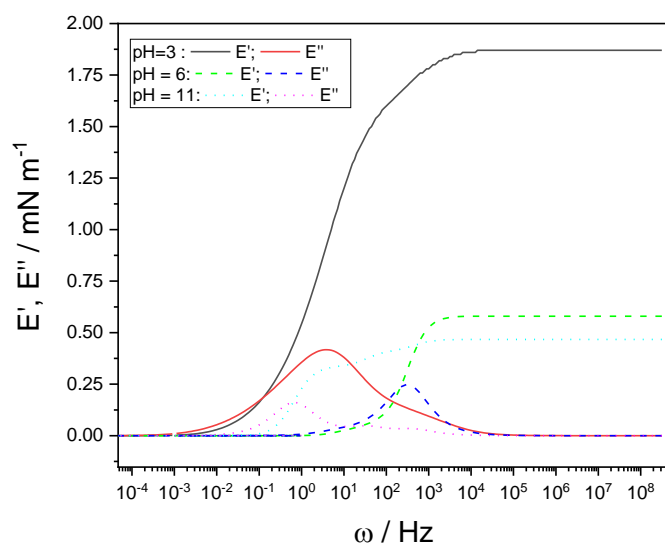


Figure S 4: storage, E' , and loss, E'' , moduli from step-compression experiments. $C_p = 1 \text{ mg ml}^{-1}$, $c_s = 0.5 \text{ mM}$

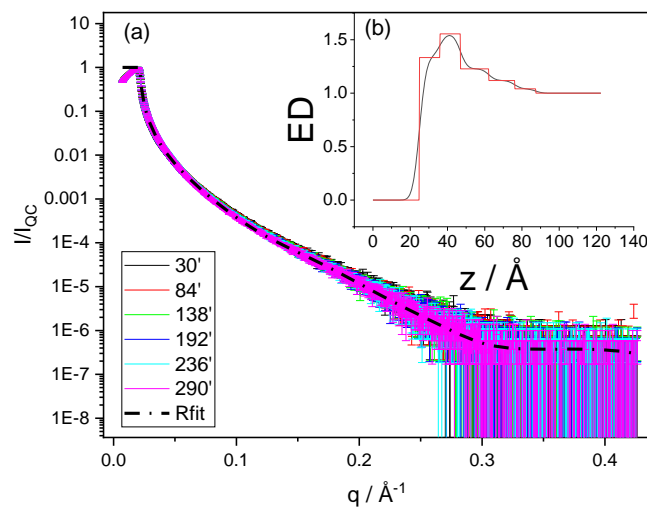


Figure S 5: PAA 1 mg ml^{-1} + GI2 $4 \times 10^{-2} \text{ mM}$ at $\text{pH} = 3.5$. (a) XRR as a function of time, expressed in min. (b) ED from fitting with StochFit

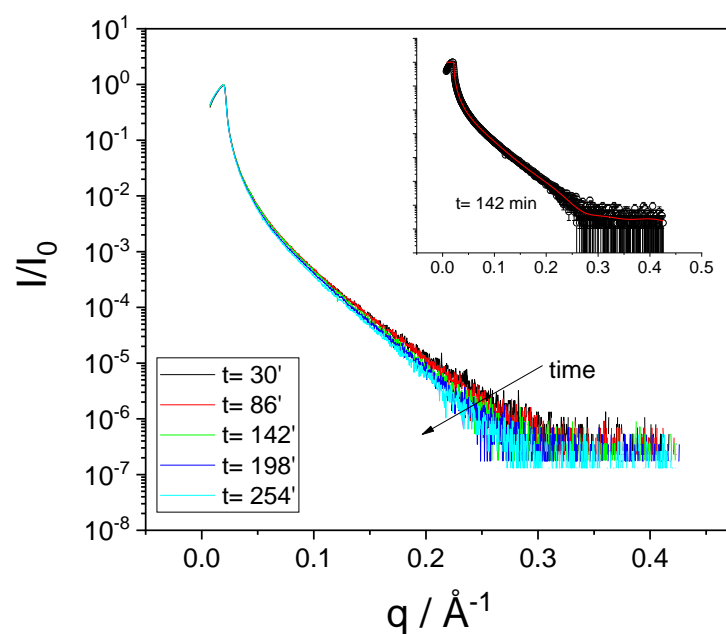


Figure S 6: XRR curves for PAA 1 mg ml^{-1} + G12 10^{-3} mM at pH 3, as a function of adsorption time. The inset shows a typical model-independent fitting result; in this case, the curve shown corresponds to an adsorption time of 142 min.

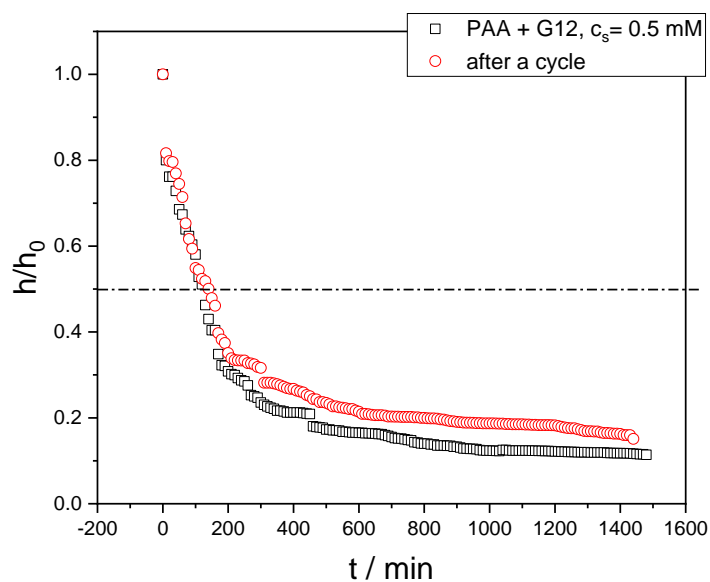


Figure S 7: Relative foam height, h/h_0 (h_0 is the initial foam height) as a function of time for the same sample before and after a NaOH – HCl cycle that takes the pH from 3 to 11 and then goes back to 3.