

Supporting Information

Adsorption of microgels at an oil/water interface: correlation between packing and 2D elasticity†

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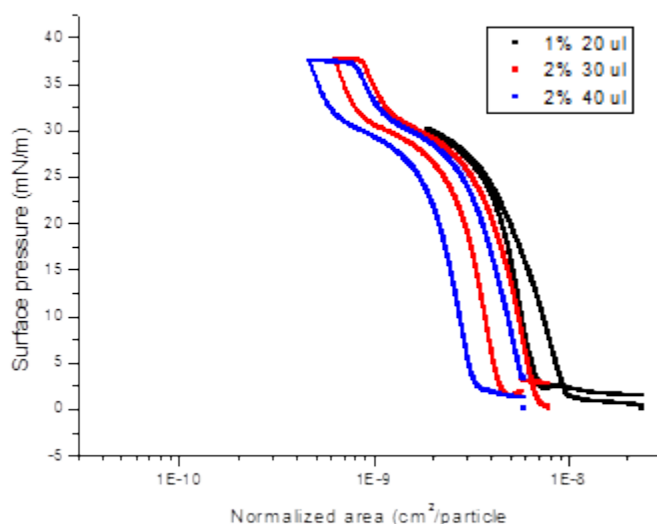


Figure S1. Influence of the amount of microgels deposited at the oil-water interface on the Langmuir film. Various volumes of microgel suspension (5mol.% BIS) with different concentrations are deposited at the interface. The initial pressure is zero in any case. For the lowest amount (black curve), the final surface pressure 30 mN/m (state III). For higher amounts, the final surface pressure is 37 mN/m and the collapsed state is reached (state V). The curves can superimpose on a single master curve. The compression-decompression cycles allow assessing the stability of the film in the final state. The hysteresis is large for the two highest concentrations, meaning that the state V is not stable. Part of the microgels are not surface-active during the decompression cycle, which indicates that part of them have sunk into the aqueous subphase, or are highly compressed and do not expand back anymore.

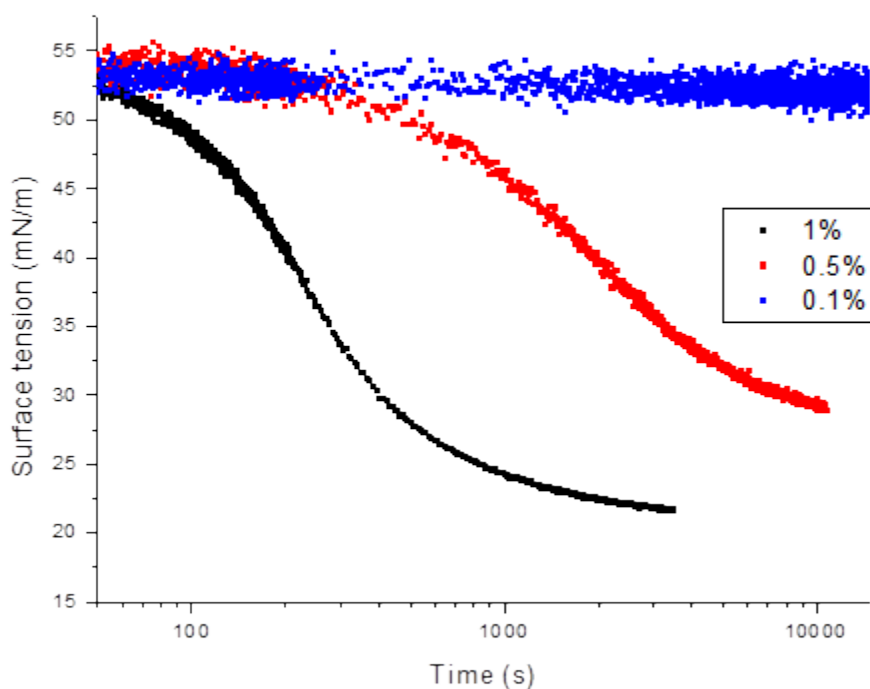


Figure S2. Influence of the microgel concentration on the dynamic surface tension for a given cross-linking density (5mol.%BIS).

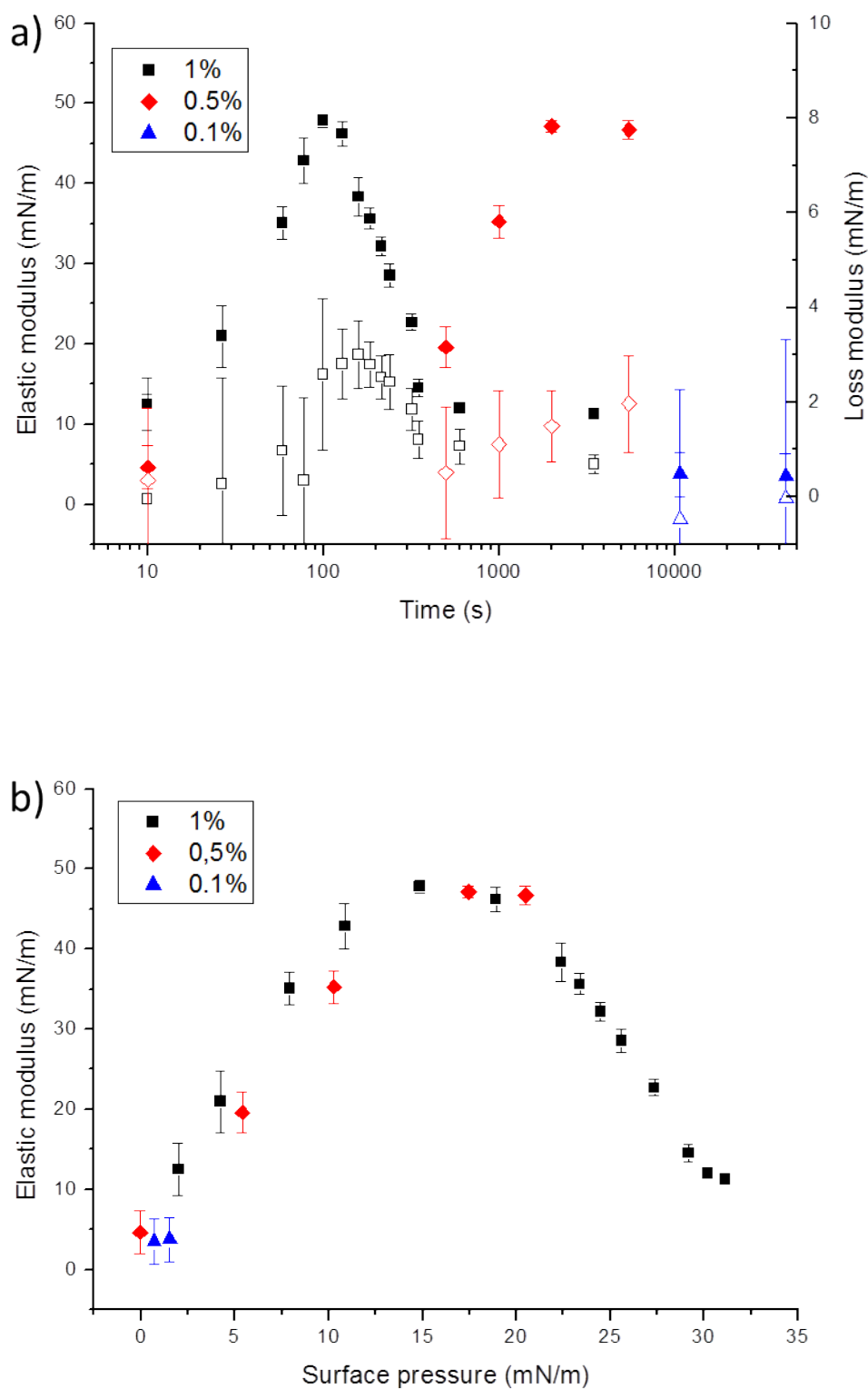


Figure S3. a) Elastic (full symbols) and loss (open symbols) moduli as a function of time; b) Elastic modulus as a function of surface pressure for a given microgel (5mol.% BIS) at various concentrations (0.1 blue triangles, 0.5 red diamonds, 1 wt.% black squares).

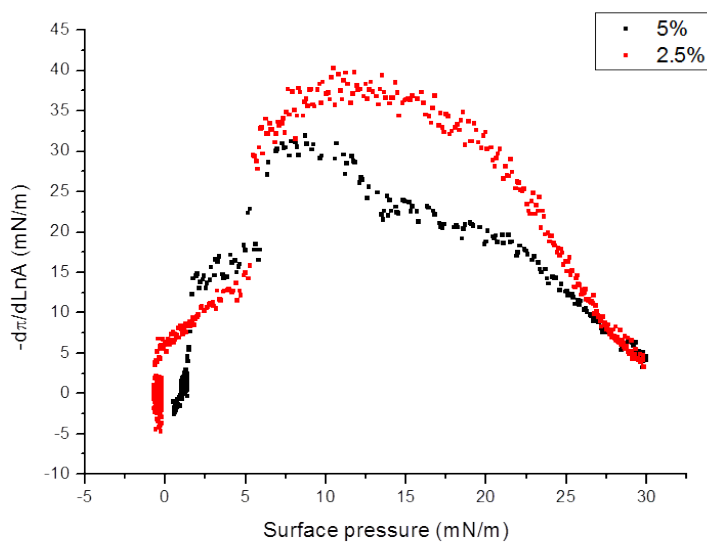


Figure S4. Surface elasticity deduced from the compression isotherms (Microgels contain 2.5 mol.% (red) and 5mol.% (black) of BIS) using the Gibbs elasticity definition: $E_G = -d\pi/d\ln(A)$. Note the good correlation between elasticity obtained from the compression isotherms and from the pendant drop method.