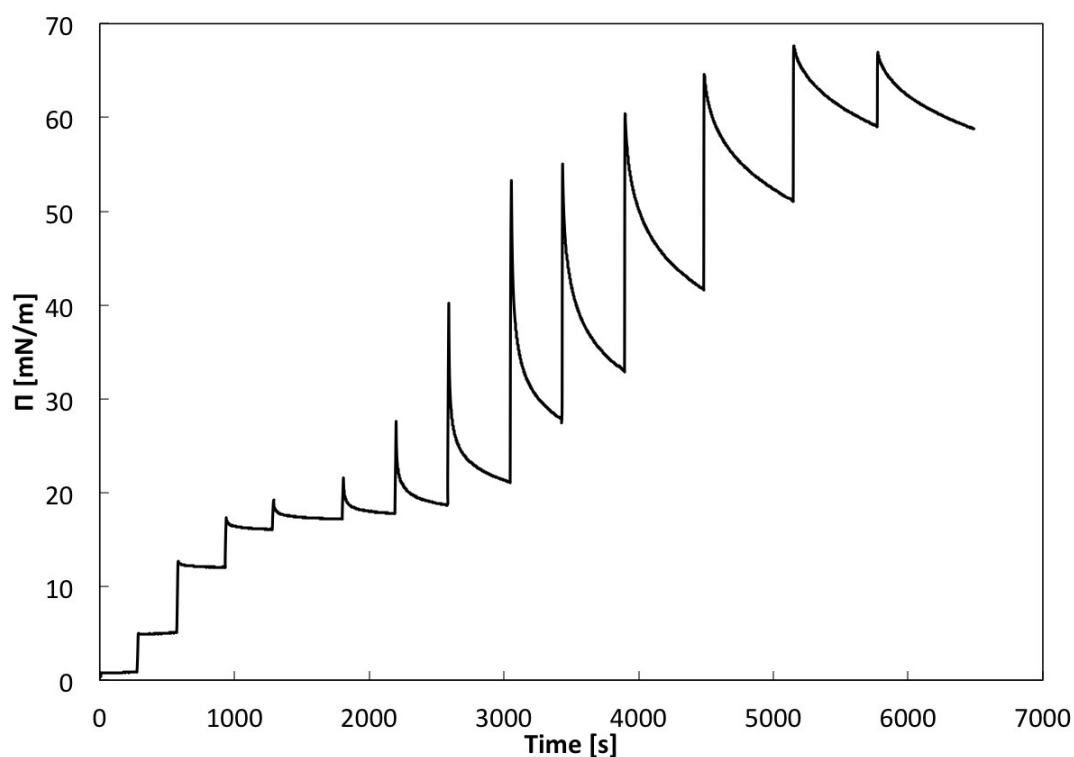Supporting information for
Characterization and modelling of Langmuir interfaces with finite elasticity

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Figure S.1. Stepwise compression measurement in the radial trough. The compression speed is 1.5 mm/min and at each stop the layer is allowed to relax for about 15 min and this decay has been fit in order to calculate a relaxation time. It is evident that until a surface pressure of 18 mN/m no relaxation has been reported. In the region where elasticity starts to play a role, the relaxation process becomes important.
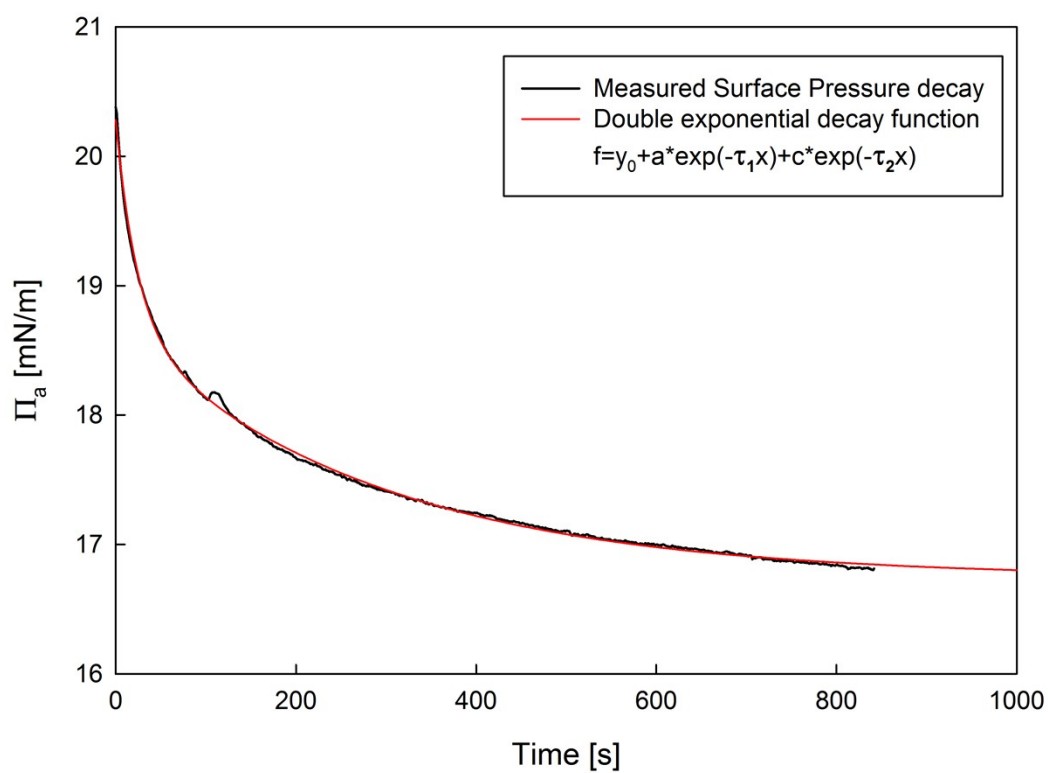
Figure S.2. Surface pressure relaxation subsequent to a step in compression. The compression speed is 1.5 mm/min and the layer was allowed to equilibrate for about 800 seconds. This protocol was repeated for increasing surface pressures. Each decay can be fitted by a double exponential decay giving two distinct relaxation times, short mode decay and long mode decay. For the purpose of calculating the equilibrium values of surface pressure after relaxation of the layer, the long mode decay was considered.
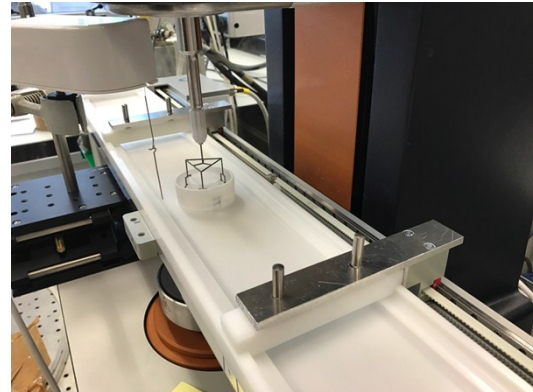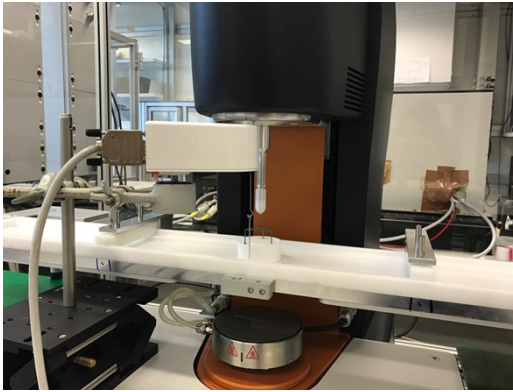
Figure S.3 Stressed controlled DHR-3 rheometer equipped with a double wall ring (DWR) accessory and an open Teflon cup to guarantee its functioning in a Langmuir trough. The Wilhelmy balance was positioned next to the Teflon cup and equipped with a Wilhelmy rod to avoid any influence of the standard rectangular Wilhelmy plate on the interfacial stress profile. Furthermore, the central position of the Wilhelmy rod compared to the compression barriers provides reliable measurements.