Figure S.1 shows the pressure–area isotherm of the mixture hOA–hSA (1:1 mol). A shift on the second compression suggests loss of molecules. The shape of the first isotherm up to 32mNm⁻¹ is similar to the pure hOA film, and then a first small drop of the pressure is recorded before the pressure stays constant until 7 Å². Upon further compression, a steep increase and then a drop is recorded, this is a feature related to hSA. The second compression shows different features, which could be due to the presence of collapsed structures, which do not re-equilibrate during expansion.