Electronic Supplementary Material (ESI) for Soft Matter

Supporting information

Tuneable thickness barriers for composite o/w and w/o capsules, films, and their decoration with particles

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S1)

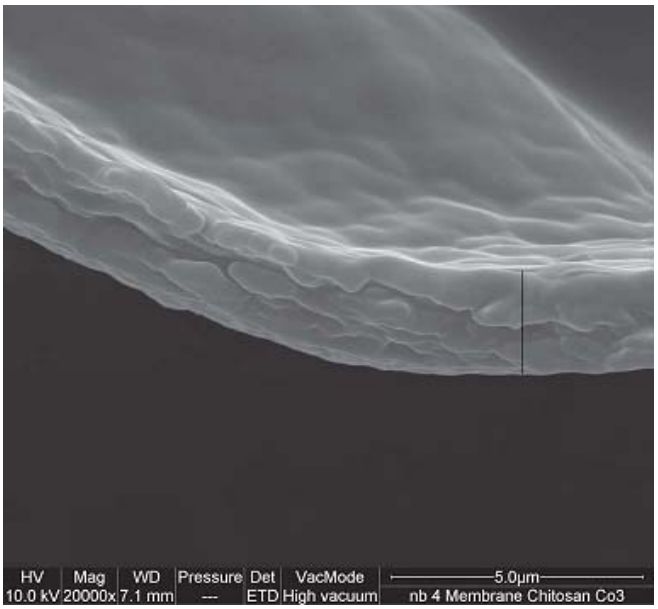

Figure S1. Illustration of the use of SEM technique to determine the thickness of a dry membrane. The black straight line corresponds to an estimate of the membrane thickness.

S2)

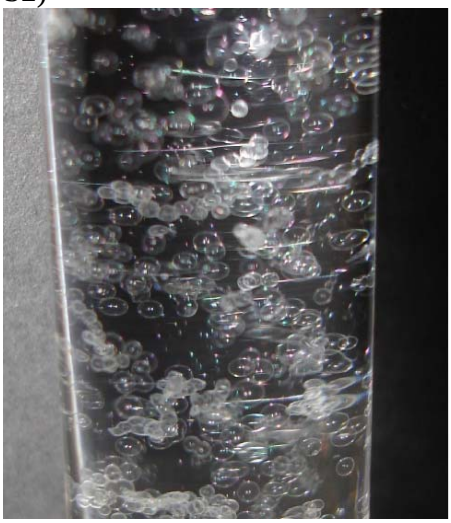

Figure S2. Monodisperse capsules formed using microfluidic methods (initially water-in-oil, diameter 700 μm), floating in ethanol (after washing away the oil phase).

S3)

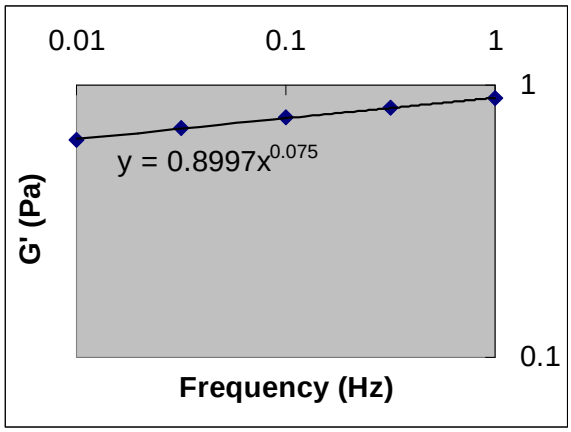

Figure S3. Frequency dependence of the linear interfacial elastic modulus of the interfacial membrane of chitosan/PFacidCN formed with the standard concentrations cited. Measurements were carried out in the same conditions as for other rheology data shown in this paper, and at a formation time of about 16 hours. The fit is to a power-law, with a resulting exponent of 0.075.

S4) We state in this paper that the chitosan/PFacidYN membranes could be formed in the presence of non-ionic emulsifiers. To be more specific, the tests were conducted e.g. with polyoxyethylene sorbitan monolaurate (often referred to as Tween). One implication of this result is that it allows decoupling the shell formation from an emulsification step that can be carried out with a non-ionic emulsifier, while giving the freedom to choose e.g. low complexant concentrations (be in also in a batch process or in microfluidics).