Supporting Information

Isolation and characterization of monodisperse core-shell nanoparticle fractions

Antoni Sánchez-Ferrer, Randy P. Carney, Francesco Stellacci, Raffaele Mezzenga and Lucio Isa

\(^a^{Laboratory of Food and Soft Matter, Department of Health Sciences and Technology, ETH Zurich, Schmelzbergstrasse 9, CH-8092, Zurich, Switzerland. \\
\(^b^{Institute of Materials, Ecole Polytechnique Fédérale de Lausanne, CH-1015, Lausanne, Switzerland. \\
\(^c^{Laboratory for Interface, Soft matter and Assembly, Department of Materials, ETH Zurich, Vladimir-Prelog-Weg 5, CH-8093, Zurich, Switzerland. Email: lucio.isa@mat.ethz.ch}
**Figure SI-1.** Scattering intensity vs volume fraction calibration curve at $q = 0.10 \text{ nm}^{-1}$ from the four reference dispersions ($\phi = 4.58 \times 10^{-4}$, $2.11 \times 10^{-4}$, $1.14 \times 10^{-4}$ and $4.59 \times 10^{-5}$), and the estimated concentrations for the seven fractions (A to G).

**Figure SI-2.** a) Scattering intensity profile for the four reference dispersions (0.24, 0.11, 0.059 and 0.024 wt-%). b) Form factor for the four reference dispersions (0.24, 0.11, 0.059 and 0.024 wt-%) showing that at these concentrations there is no interaction between the particles: $S(q) = 1$. 

$m = 13928 \pm 185$

$R = 0.9996$
Figure SI-3. Scattering intensity profile (empty black symbols) and the form factor fitting curve (blue curve) following the polydisperse core-shell spherical particle model with a fix shell thickness ($t_{\text{shell}} = 3.3 \pm 0.2$ nm), and the fluctuation effect from the adsorbed polymer layer as a power-law model (green line) for the seven collected fractions (A to G).