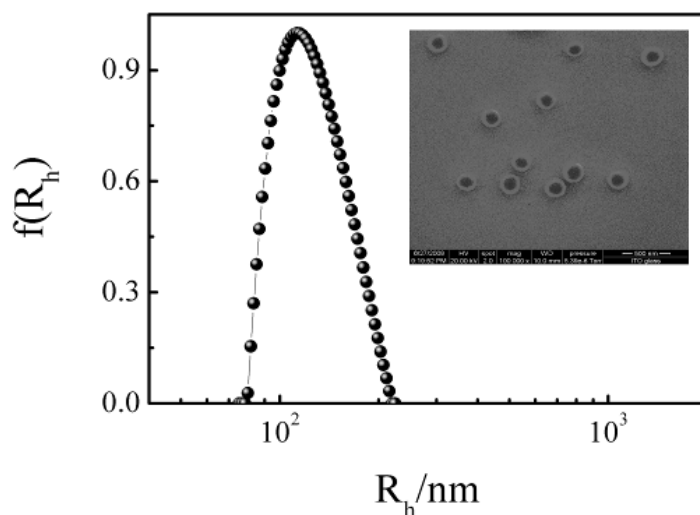


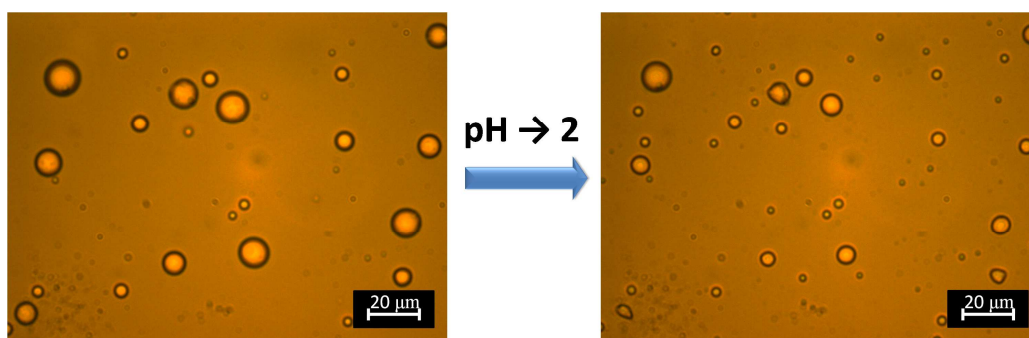
Supporting Information (SI):

Emulsion-templated liquid core-polymer shell microcapsules formation

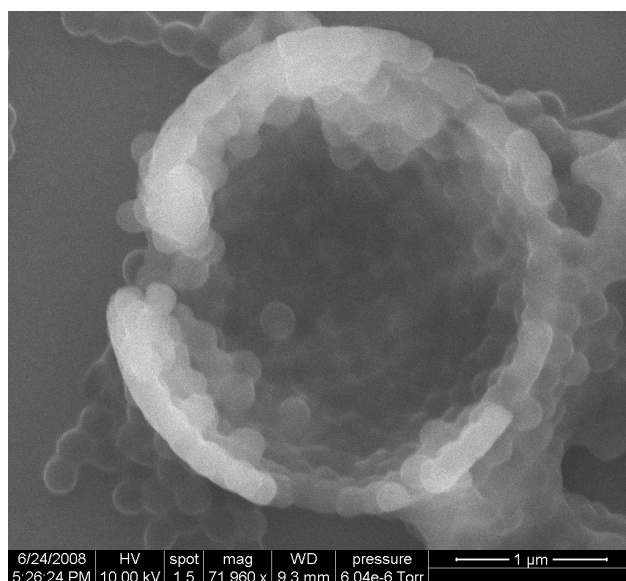
Zhuo Ao, Zhi Yang, Jianfang Wang, Guangzhao Zhang, and To Ngai*



S1. Typical hydrodynamic radius distribution $f(R_h)$ of the polystyrene latex particle prepared by surfactant-free emulsion polymerization. The inset shows the SEM micrograph of the polystyrene latex particle.



S2. The time dependence of the stability of the particle-stabilized emulsion at pH 2. Left image: the emulsion was first prepared by homogenizing the n-octanol oil (0.6 mL), EA (0.4 mL), and PLGA (1.1mg) in an aqueous solution which was saturated with EA and contained 0.13 wt% polystyrene latex particles at a solution pH of 11. The optical micrograph was obtained by dilution the prepared emulsion with 20 mL pure water in order to extract the EA. Right image: optical image of the same emulsion taken under the same region when the solution pH was decreased to 2. After 1 hour, spherical oil droplet were still been observed, indicating that they were stable at the acidic medium.



S3. A ruptured emulsion droplet clearly shows that the interior of this droplet is hollow. The inner surface also comprised close-packed integrated latex particles. Furthermore, it provides strong evidence that the adsorbed latex particle at the droplet surface is a single monolayer, rather than multilayers.