Single microgels in core/shell equilibrium: A novel method for limited volume studies

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We have developed a method for introducing limited amounts of surfactant and/or protein in single micro gels held in a small aqueous volume. This makes investigating core/shell formations in equilibrium possible in a way not previously explored. Dodecyltrimethylamoniumbromide (DTAB) and cytochrome c has been used with results in line with theoretical predictions and core/shell formations with cytochrome c with Cetyltrimethylamoniumbromide (CTAB) has been achieved. The simplicity of the method makes experiments quick and opens up for studying expensive or hard-to-obtain substances due to the small amounts of material required.



Figure 1. DTAB with Rhodamin B fluorescence marker absorbed into a single microgel displaying a stable core/shell formation after 24 hours.



Figure 2. Cytochrome c and CTAB with Rhodamin B fluorescence marker absorbed into a single microgel displaying a stable core/shell formation after 3.5 hours with CTAB in the shell encapsulating the core with cytochrome c.

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