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Formation of Uniform Hollow Silica microcapsules HUAN YAN, CHANJOONG KIM, Liquid Crystal Institute, Kent State University — Microcapsules are small containers with diameters in the range of 0.1 – 100 μm. Mesoporous microcapsules with hollow morphologies possess unique properties such as low-density and high encapsulation capacity, while allowing controlled release by permeating substances with a specific size and chemistry. Our process is a one-step fabrication of monodisperse hollow silica capsules with a hierarchical pore structure and high size uniformity using double emulsion templates obtained by the glass-capillary microfluidic technique to encapsulate various active ingredients. These hollow silica microcapsules can be used as biomedical applications such as drug delivery and controlled release.

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