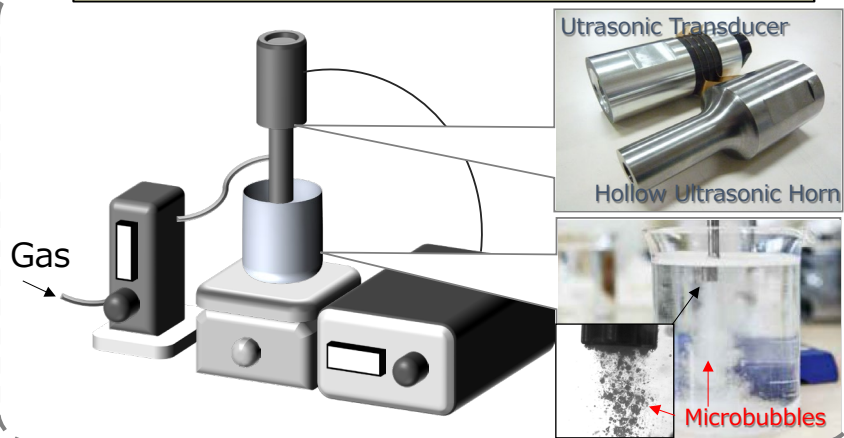


Development of Microbubble Generation Technology and its Application

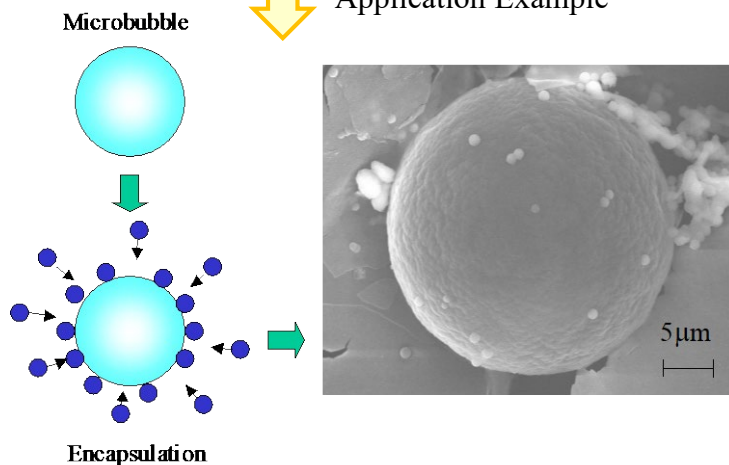
Professor Toshinori Makuta

Illustration

Microbubble Generation Device using Ultrasound



Application Example



Hollow Microcapsule from Microbubble Template

Content:

[Microbubble Generation Technology]

Bubbles with diameters less than $100\mu\text{m}$ (Microbubbles) are gaining significant attention owing to their properties; large surface area per unit volume, low buoyancy, self-pressurization and acoustical property. Our laboratory is developing novel microbubble generators using ultrasound. In addition, we are developing applications of microbubbles for disinfection, cleaning, and fabrication process of novel materials.

[Hollow Microcapsule from Microbubble Template]

We develop a fabrication method for hollow microcapsules from microbubble templates. The method is based on direct encapsulation of microbubbles, and thus does not require a liquid- or solid-core decomposition process. These microbubbles can be used as thermal and acoustic insulators as well as microbubble contrast agents.

Appealing point:

Our microbubble generation device using ultrasound is available for high-temperature and high-viscosity liquid in addition to water.

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