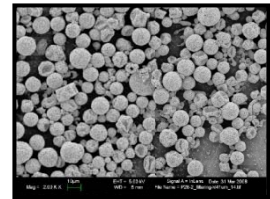
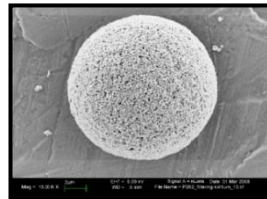
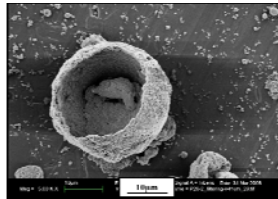
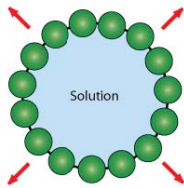


**PROJECT I / II - (OR)  
MASTER-THESIS****Production and Characterization of particle-stabilized Micro-Capsules****Introduction**

Micro-capsules hold the potential to overcome a number of challenges in technology ranging from targeted administration of chemicals over controlled release to screening active agents from environmental influence. Although a considerable amount of surfactant and polymer based encapsulation methods were already developed to solve specific problems, a platform technology for micro-encapsulation does still not exist. Due to the great freedom in the selection of materials and their outstanding properties, particle-stabilized systems are potential candidates to provide new solutions in the field of micro-encapsulation.

**Aim**

Aim of this thesis is to study the formation of particle-stabilized micro capsules and to analyze their properties like capsule size and size distribution, morphology of the particle shell and mechanical capsule stability. A further goal is to investigate the release kinetics of encapsulated substances like dyes through the capsule shell.

**Approach**

Particle-stabilized micro capsules are fabricated by adsorbing colloidal ceramic particles onto the interface of micron sized emulsion drops. By means of optical and electron microscopy, capsule morphology can be examined. Mechanical stability of capsules can be estimated by observing the capsule shells during evaporation of the solvents. Release rates of dyes are assessed by measuring the increase of dye concentration in the capsule surrounding solvent with the help of UV-VIS-spectroscopy.

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