

Center for Applied Nanotechnology

Medical Applications

Encapsulation

CAN GmbH is developing systems based on polymers for the encapsulation of water-soluble and water-insoluble compounds. For this purpose CAN GmbH focuses on the formation of micellar structures of **amphiphilic block copolymers** and the preparation of colloiddally solved **homopolymer nanoparticles** and **nanocapsules**. Beside the development of carrier systems for drug delivery the encapsulation of magnetic and fluorescent nanoparticles for diagnostic applications is an important topic in this business field.

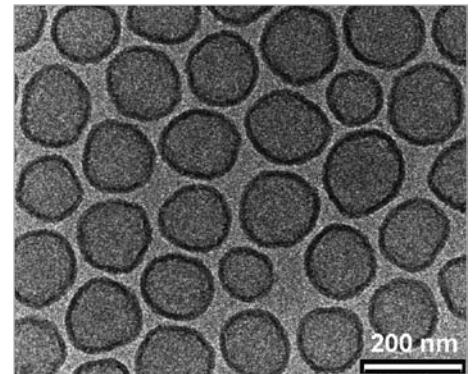
Amphiphilic block copolymers

- Formation of micelles or vesicles in aqueous solution via self aggregation
- Encapsulation of water-soluble and water-insoluble compounds
- Various polymers available: e.g. PLA-PEO, PCL-PEO, PI-PEO, PB-PEO, P2VP-PEO
- Functionalization of polymer end groups for further coupling reactions

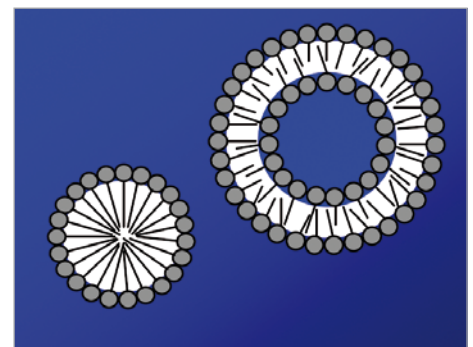
Homopolymer particles and capsules

- Stable dispersions of water-insoluble homopolymer particles with active ingredients embedded in the matrix
- Colloidal solved homopolymer capsules filled with liquid water-insoluble agents
- Various polymers obtainable: e.g. PCL, PLA, epoxides, acrylates
- Particle size <200 nm with narrow size distribution

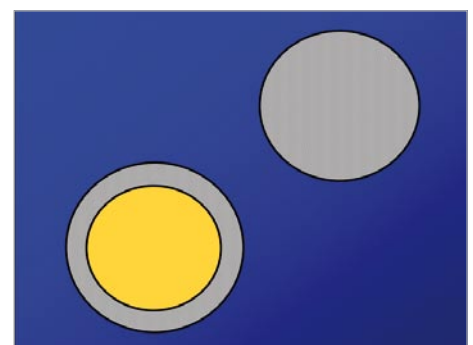
CAN GmbH offers companies and research institutions contract research and development services in the area of nanotechnology and participates in national and international research programs. The focus of activities is on the utilization of new findings made in chemical nanotechnology and analysis, particularly in the areas of consumables, special polymers and health care. The main areas of expertise include the production of numerous nanoparticulate materials, the encapsulation of active substances, the development of toxicity assays as well as the development of nanoparticle-based biological and medical markers.



Block copolymer vesicles (Polymersomes)



Amphiphilic block copolymer aggregates



Homopolymer capsules and particles

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