

Development of **functional polymers** and their application in

Analytical chemistry: polymers as stationary phases (chromatography / extraction)

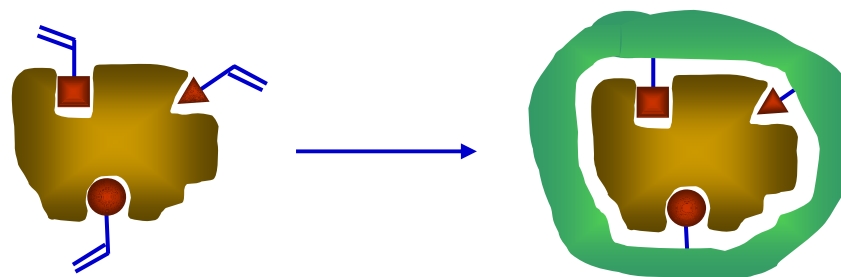
Catalysis / reaction engineering: polymers as catalysts

Medicine, food, agriculture, washing agents: controlled release of active agents from polymer matrices

Polymer modification

Surface modification

Functional coatings



Industrial aspects of polymers – optimisation of polymerisation processes

Additives – filler materials – chemical interaction in the polymer

Polymer degradation during processing

Bionics - Biomimetic materials

Mimicking biological surfaces

Biomimetic materials

Biopolymers, Composites



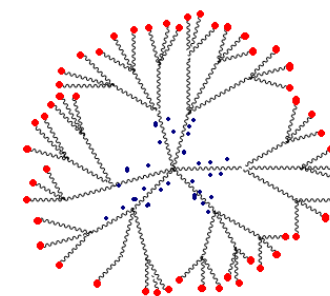
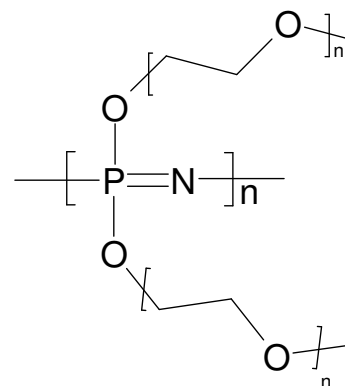
Development and syntheses of **new monomers and polymers**

based on **melamine und phenol**

based on **biotechnologically generated monomers**

based on **dendritic precursors**

new functional polyphosphazenes



Polymer characterization

Investigating surface properties of functional polymers

Catalysis on specific polymer surfaces and in molecular imprints

Adsorption and wetting behaviour of polymers

Degradation and thermal behaviour of polymers

Fundamental research

Modelling the synthesis of functional polymers

Investigating the kinetics of polymerisation reactions