



Aalto University  
School of Chemical  
Technology

## KE-100.4810 BIOPOLYMERS (3 cr)

Exam 23.5.2012

1. Answer the following

- What are barrier properties and which are the most important for polymer films used for food packaging?
- Requirements for polymers used in medical applications-list and explain.

2. The structure of native starch and how it changes when heated with water

3. Describe the life cycle of a biodegradable polymer based on a renewable raw material. Draw a diagram.

4. Preparation of lactic acid based polymers

5. In the figure below you can see two different drug release mechanisms which are dependent on the hydrolytic degradation mechanisms of the polymers used in these devices. Describe the hydrolytic degradation mechanisms of the polymers used in these devices and what would the release curves from the devices look like.

