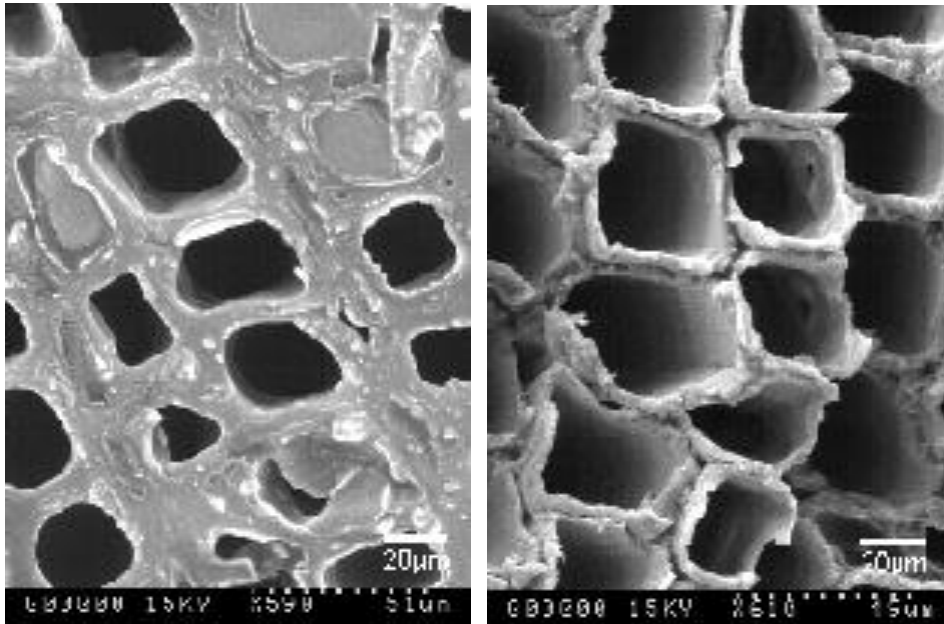


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## Improvement of wood and wood surface properties by chemical modifications with 100% bio-based treatments



The goal of the project is to provide a complete modification process for solid wood, including the synthesis of a treatment agent based on biopolymers from the biomass. The treatment will improve the wood properties, mostly dimensional stability, durability and hardness. It will be based on the association of lactic acid and other monomers like glycolic or succinic acids, respectively basis components of poly(lactic acid) (PLA), poly(glycolic acid) (PGA) and poly(butylene succinate) (PBS). Those biopolymers are nowadays well-known and more and more largely distributed on the market. As polar polyesters, they are expected to show a good affinity to wood. Furthermore, as carboxylic acids, they are able to be grafted on the hydroxyl groups of wood before polymerizing in the cell walls and lumens. Besides, the so-modified wood will be a completely green composite, since entirely based on agro-resources and fully biodegradable at the end of its life cycle.

**Title of project:** Improvement of wood and wood surface properties by chemical modifications with 100% bio-based treatments

**Support Program/Supported by/Sponsored by:** COST

**Duration:** 30 months

**Partner:** Bern University of Applied Sciences, Petru Poni Institute of macromolecular chemistry of Romanian academy

**Responsible for project/Project Leader/Contact:** Dr. Marion Noël, Dr. Thomas Volkmer