

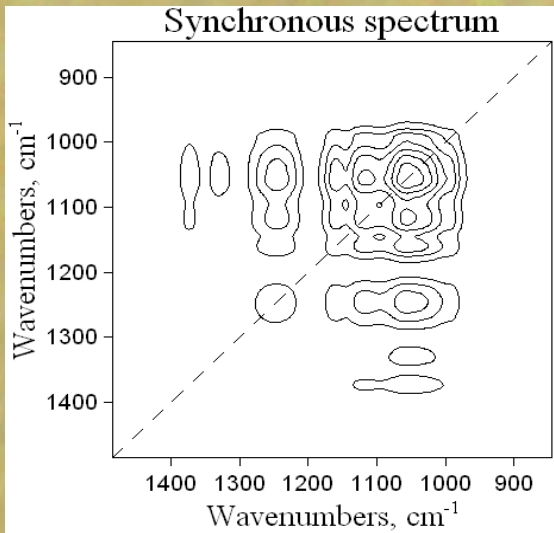
Different spectral techniques used to identify the state of wood degradation by soft rot fungi

Maria-Cristina Popescu¹, Petronela Gradinariu², Carmen-Mihaela Popescu¹

¹“P. Poni” Institute of Macromolecular Chemistry of Romanian Academy, Iasi, Romania,

²Biological Research Institute, Iasi, Romania

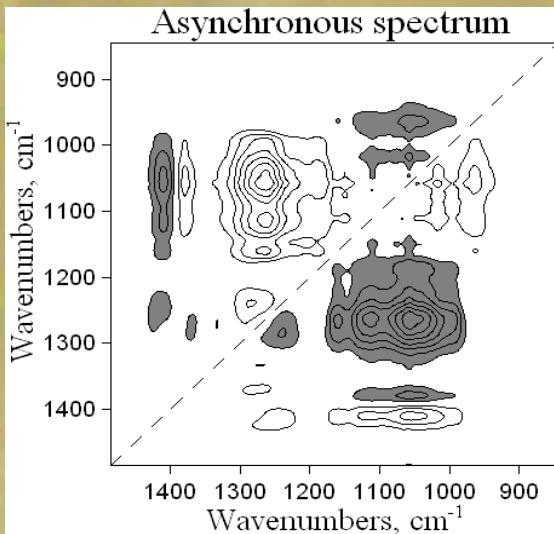
Evaluation of the structural modifications in lime wood appearing in time during exposure to soft rot fungus



Lime wood blocks (50×50×3 mm)

The samples were exposed to *C. globosum* for 133 days.

Methods: CP/MAS ¹³C-NMR Spectroscopy, IR and 2D IR Correlation Spectroscopy



➤ The results indicate an enzymatic oxidation and hydrolysis reactions on hemicelluloses and cellulose, resulting oligomers and oxidized structures. Finally small fragments containing carboxyl or carbonyl groups are formed, which are lost or remain in wood structures.

➤ A preferential depletion of carbohydrates, with partial delignification and splitting of the lignin/carbohydrate association, was also observed.

Thank you!