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ABSTRACTS
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amount of metal absorbed into the root when the plants were inoculated with *P. putida*. The results show that the ability of *P. putida* to form PC-Al^3 complexes decreases the availability of Al^{+3}, allowing a mitigation of its effect on the growth of *A. thaliana*.

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MICROWAVE-ASSISTED ENZYMATIC SYNTHESIS OF HOMOLOGOUS ESTERS OF 9-HYDROXYCINEOLE. STUDY OF ANTIMICROBIAL ACTIVITY.

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Previously we studied the differences between conventional heating and microwave radiation heating in esterification reactions. The results obtained then showed the efficiency of the latter by decreasing reactions times and costs. In this work the enzymatic esterification of 9-hydroxycineole with the homologous saturated monocarboxylic acid series (C2→C9) was performed and the antimicrobial activity of synthetized compounds was also evaluated. Experiments were carried out using a Philips MO-3446 household-type microwave oven at a power of 400 W. The immobilized enzyme Novozym 435®(CALB) was used as a catalyst. Synthesized compunds were identified by ^{1}H-NMR and ^{13}C-NMR. Antimicrobial activity was tested against:*Lactobacillus hilgardii* 5w, *L.plantarum*, *Saccharomyces cerevisiae, Kloeckera apiculata, Escherichia coli* ATCC 25922 and *Listeria innocua,* according to CLSI recommendations.

Eight homologous esters were obtained with yields of about 70% to 81%. Reaction times did not exceed 5 minutes, in contrast with reactions times obtained with conventinal heating, which varies between 48 and 75 hours.

Antimicrobial activity assays revealed that increasing carbon chain lenght produced an increment in the inhibitory effect against all microorganisms assayed, probably due to the enhanced lipophilicity of compounds, C-9 being the most active ester (MIC= 100 µg/ml). These derivatives could be used as new antimicrobial agents in the food industry.

A188
BIOCOMPATIBILITY EVALUATION OF *Sclerotium rolfsii* ATCC 201126 SCLEROGLUCAN IN SUBCUTANEOUS TISSUE OF RATS.

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Bone Tissue Engineering (BTE) combines three-dimensional scaffolds (3D), cells and signaling molecules to repair bone through ***mature engineered tissue***. Our objective was to evaluate the in vivo biological response of a natural polymer scleroglucan called S. rolfsii ATCC 201126 implanted into rat subcutaneous tissues (ST) in order to consider its use combined with rhPTH scaffold for BTE. Polymer and zinc oxide eugenol pellets were implanted into the ST of 30 Wistar rats (150 ± 50 g). Animals were sacrificed at 7 and 30 days, and samples from implanted material and surrounded tissues were fixed in 10% buffered formalin. They were included in paraffin, serial cut and stained with H&E stain. At 7 days the polymer surrounded and colonized by polymorphonuclear neutrophils (PMNn) was observed. A lympho-mononuclear infiltrate was also found. At the interface between polymer and ST granulation tissue, many fibroblasts and new vessels, surrounded by fibrous tissue were observed. Zinc oxide eugenol presented fibrin leukocyte exudation and coagulation necrosis, surrounded by loose connective tissue. At 30 days the polymer was resorbed and replaced by fibrous connective tissue. However, zinc oxide eugenol was surrounded by dense fibrous connective tissue-like capsule. The results demonstrated that scleroglucan S. rolfsii ATCC 201126 was biocompatible and bioresorbable in rat ST, supporting its application as a scaffold in BTE. In addition, the natural origin of this polymer makes it compatible with the environment.

A189
POPULATION BEHAVIOR OF LACTIC ACID BACTERIA DURING ALCOHOLIC FERMENTATION OF WINES FROM MENDOZA

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Lactic acid bacteria (LAB) such as *Oenococcus*, *Lactobacillus*, *Pediococcus* and *Leuconostoc* are present throughout winemaking. Oenological practices, physico-chemical and nutritional factors influence their number and proportion. These bacteria may be responsible for malolactic fermentation and "lactic bite". Our objective was to determine the population kinetics during the alcoholic fermentation of Malbec and Petit Verdot wine varietals from Valle de Uco, Mendoza. Twenty and 10 samples of both varieties were taken respectively, starting from day 0 of the fermentation process until day 33 (Malbec) and day 18 (Petit Verdot). The cultures were grown in MRS medium supplemented with tomato juice and natamycin. Colony counts and phenotypic testing were performed. The following results (CFU / mL) were obtained: 1) Malbec: the initial values were 10^3, followed by an increase of up to 10^5 on day 3, a