

CEEC-TAC2

**BOOK
OF
ABSTRACTS**

Editors:
Andrei Rotaru
Daumantas Matulis

**2nd Central and Eastern European Conference
on Thermal Analysis and Calorimetry
27-30 August 2013
Vilnius, Lithuania**

METTLER TOLEDO



Instruments

NETZSCH

Thermal, morphological and mechanical properties of ethyl vanillin immobilized in polyvinyl alcohol by electrospinning process

**Steva LEVIĆ¹, Nina OBRADOVIĆ², Vladimir PAVLOVIĆ¹,
Bojana ISAILOVIĆ³, Ivana KOSTIĆ³, Branko BUGARSKI³,
Viktor NEDOVIĆ¹**

¹Faculty of Agriculture, University of Belgrade, Nemanjina 6, 11081 Belgrade-Zemun, Serbia

²Institute of Technical Sciences-SASA, Knez Mihajlova 35/IV, 11000 Belgrade, Serbia

³Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4,
11000 Belgrade, Serbia

In this study, polyvinyl alcohol (PVA) nanofibers with ethyl vanillin as active compound were prepared using electrospinning technique. The final products of electrospinning process were in the form of films consist of nanofibers. PVA/ethyl vanillin nanofibers, having fibers diameters in the range 100-1700 nm, were successfully electrospun from ethanol/water mixture of PVA and ethyl vanillin. The effects of immobilization process on ethyl vanillin thermal properties were investigated by differential scanning calorimetry (DSC). The results of DSC showed significant influence of immobilization process on thermal properties of ethyl vanillin. It was noticed that melting point of immobilized ethyl vanillin was lower (~55°C) compared to free flavor (~77°C). Our results showed that films based on PVA/ethyl vanillin nanofibers are mechanically stable.