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POSTER SESSION
POLYMERS SCIENCE S14

S_{14}-PP1	**Preliminary studies concerning polyaniline embedded lanthanide complexes as emissive layers for electroluminescent devices** V. Musat, M. Popa, C.S. Stan *"Gheorghe Asachi" Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection,* 73 Prof.dr.docent Dimitrie Mangeron, 700050, Iasi, Romania,
S_{14}-PP2	**Biodegradability Study on New Polymers Derived from D-glucose** A.M. Pană[a], L.M. Ştefan[b], G. Bandur[b], P. Sfîrloagă[c], V. Gherman[b], L.M. Rusnac[b], M. Popa[a] *[a] Gheorghe Asachi Technical University, Faculty of Chemical Engineering and Environmental Protection, 73 Prof. dr. docent Dimitrie Mangeron, 700050, Iaşi, Romania* *[b] Politehnica University of Timişoara, Faculty of Industrial Chemistry and Environmental Engineering, 6 Carol Telbisz, 300001, Timişoara, Romania* *[c] The Institute of Research for Condensed Matter, 1 P. Andronescu Str., 300224, Timişoara, Romania*
S_{14}-PP3	**Effects of Feeding Type on the Properties of Emulsion Copolymers** A. Kahraman, D. Maşalı, B. Poyrazoğlu, A. Saraç *Department of Chemistry, Yildiz Technical University, 34220 Esenler, İstanbul, TURKEY*
S_{14}-PP4	**Preparation of Conductive Polyaniline/ Chlorosulfonated Polyethylene Blend via Solution Mixing and Study of Their Properties** Elaheh Bakhtiarian[a,b,c] , Peter Foot[c] *(a) Islamic Azad University, Oxford Branch, Oxford, United Kingdom* *(b) Dept. of Chem., Islamic Azad University, South Tehran Branch, Tehran, Iran,* *(c) Materials Research Group, Faculty of Science, Engineering and Computing, Kingston University, Penrhyn Road, Kingston upon Thames, Surrey KT1 2EE, United Kingdom*
S_{14}-PP5	**Biodegradation of polyglucanurethane networks based on xanthan and blocked poluisocyanate** A.V. Hubina, N.V. Kozak, E.V. Lobko *Institute of Macromolecular Chemistry NAS of Ukraine, Kharkivske chaussee, 48, Kyiv, Ukraine*
S_{14}-PP6	**Self-Healing Coatings For Concrete Protection** *Ye-Ji Lim, Young-Kyu Song, Hwan-Chul Yu and Chan-Moon Chung* *Department of Chemistry, Yonsei University, Wonju, Gangwon-do 220-710, South-Korea*
S_{14}-PP7	**Crack Healing in a PFCB-type polymer by microwave irradiation** Mina Park, Mi-Ran Yu, Hwan-Chul Yu and Chan-Moon Chung *Department of Chemistry, Yonsei University, 1 Yonseidae-gil, Wonju, Republic of Korea*
S_{14}-PP8	**Characterization of dextrins obtained by different conditions of starch hydrolysis** Iva Vukićević,[a] Tina Kamčeva,[a] Maja Radisavljević,[a] Vladimir Pavlović,[b] Zoran Vujčić,[c] Marijana Petković,[a] *[a] Institute of Nuclear Sciences „Vinča", University of Belgrade, Mike Petrovića Alasa 12-14, Belgrade, Serbia* *[b] Faculty of Agriculture, University of Belgrade, Nemanjina 6, Belgrade, Serbia* *[c] Faculty of Chemistry, University of Belgrade, Studentski trg12-16, Belgrade, Serbia,*
S_{14}-PP9	**Synthesis, Dielectric And Swelling Characterization Of Novel Chitosan-Poly((N,N-Dimethylamino)Ethyl Methacrylate) Semi-Ipn Gel Films** Gökçen Yenici[a,*], Shokat Sarmad[a], Koray Gürkan[b], Gönül Keçeli[c], Gülten Gürdağ[a] *a. Department of Chemical Engineering, Faculty of Engineering, Istanbul University, 34320, Avcilar, Istanbul, Turkey.* *b. Department of Electrical and Electronics Engineering, Faculty of Engineering, Istanbul University, 34320, Avcilar, Istanbul, Turkey.* *c. Department of Chemistry, Faculty of Engineering, Istanbul University, 34320, Avcilar, Istanbul, Turkey.*

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Preliminary studies concerning polyaniline embedded lanthanide complexes as emissive layers for electroluminescent devices

V. Musat, M. Popa, C.S. Stan

"Gheorghe Asachi" Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection,

73 Prof.dr.docent Dimitrie Mangeron, 700050, Iasi, Romania, marpopa2001@yahoo.fr

Scop: The paper reports some preliminary studies regarding the posibility of embedding of some new highly luminescent lanthanide complexes in polyaniline (PANI) for further developing of electroemissive layers. Beside the preparation of the Eu and Tb complexes using succinimide and n-hidroxisuccinimide as ligands, following the procedure described elsewhere [2] the present study investigates the embedding of these complexes in polyaniline for further obtaining of thin layers. To achieve the required excited states followed by the radiative transitions in the lanthanide central atom, efficient energy transfer from the coordination site is required. Since this condition was achieved in case of the studied complexes according to the previous studies [2] the main concern in order to trigger electroluminescence, is the efficient transport of charge carriers through the emissive layers. PANI is known to be an effective hole transport medium [3]. By embedding the lanthanide complexes in a PANI matrix, hole transport through emissive layer could be achieved.

Methods: First, the lanthanide complexes were prepared in aqueous medium at 1:3 molar ratio (central atom: ligand) followed by purification and drying at room temperature. The prepared complexes were introduced in the reaction medium in the early stage of the amonium persulphated asisted, oxidative polymerization of aniline.
The prepared PANI embedded complexes thin films were investigated through X-ray diffraction and SEM. The XRD patterns were recorded in the 10 - 30º 2 Theta range on a Panalytical X'Pert Pro diffractometer provided with a Cu-Kα radiation source (λ = 0,154060 nm). SEM micrographs were recorded with a Hitachi TM-3000, working at 15 KV accelerating voltage. The electrical conductivity of the prepared films was also investigated with a Novocontrol Alpha-A Broadband Dielectric Spectrometer.

Results and Discussion: From morphologic point of view the characterization of the obtained films revealed a compact homogeneous structure for both investigated samples: polyaniline matrix and also for the polyaniline embedded lanthanide complexes. The dielectric measurements were carried out at room temperature, both samples presenting relatively high conductivity, in the range of $10^{-2} \div 10^{-4}$S/cm.
Electroluminescence was observed under a moderate electric potential applied on a thin layer of PANI embedded lanthanide complex deposited between two ITO coated glass substrates.

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