[d]*Rzeszow University of Technology, Rzeszow, Poland*

The features of catalyzed with homogeneous vanadyl(II) and cobalt(II) acetylacetonates and promote with glyoxal oxidation of cyclohexane at ambient conditions are reported. As revealed the oxidation rate and the aimed products yield are strongly depended on the nature of metal center of catalyst and presence of promoter. Based on the experimental data and quantum-chemical calculations the plausible mechanism of process is discussed.

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DEVELOPMENT OF NEW BIODEGRADABLE THERMOPLASTIC ELASTOMERS (BTPE) FOR MEDICAL APPLICATIONS

Vitali T. Lipik[1], Leonardo K. Widjaja[1], Sing S. Liow[1], Subramanian S. Venkatraman[1] & Marc J.M. Abadie[1, 2]

[1] *School of Materials Science & Engineering, Block N4.1, Level 1, Room # 15, 50 Nanyang Avenue, Nanyang Technological University, Singapore 639798, Singapore*

[2] *Laboratory of Polymer Science & Advanced Organic Materials LEMP/MAO, CC 021, Université Montpellier II, Sciences et Techniques du Languedoc, Place Eugène Bataillon, 34095 Montpellier cedex 05, France*

Biodegradable polymeric materials have a wide application in medicine, ecology and a number of other branches of industry. Overwhelming majority of such polymers is well exposed to the biodegradation, but they have mechanical properties which don't correspond to the requirements of application areas. As a rule, these materials possess low elasticity.

In this work, optimization of mechanical properties of biodegradable polymers and the search of structure of block polymer on the basis of ε-

caprolactone and L-lactide with the maximal elasticity are considered. The purpose of the work is to receive the diblock polymer with mechanical properties as close as possible to elastomer for medical devices. The task is reached due to application of design of experiment with the subsequent optimization of the received results.

Synthesis of polymers was realized in the melt and in the solvent with $Sn(Oct)_2$ as catalyst. Maximization of elongation at maximum load of received polymer is solved by the greatest possible reduction of crystallinity with a variation of molecular weight of both part of diblock: polycaprolactone and polylactide.

The approach to search optimum mechanical properties in this class of polymers at a variation of several factors was developed. Realized researches are used for further work to obtain biodegradable polymers with high elasticity.

SEPARATION OF MINOR MACROMOLECULAR ADMIXTURES FROM MULTICOMPONENT POLYMER SYSTEMS BY ADVANCED LIQUID CHROMATOGRAPHIC TECHIQUES

D. Berek

Polymer Institute, the Slovak Academy of Sciences, 84236 Bratislava, Slovakia

Polymer blends are to be separated to assess the molecular characteristics of their constituents. Size exclusion chromatography, SEC discriminates macromolecules according to their molecular size in eluent. Evidently, SEC cannot separate constituents of polymer blends possessing similar size in solution. Moreover, due to the limited detector sensitivity, it is practically impossible to identify the minor macromolecular constituents (<1%) in polymer blends even if well discriminated from the matrix. ***Liquid chromatography under limiting conditions of enthalpic interactions, LC LC***