Summary

Viscosity and interfacial tension of the solutions of polyesters and polyesteramides carriers of drugs.

Student: Mgr. Martina Šanderová

Tutor: Assoc. Prof. Dr. Milan Dittrich, PhD.

Depart od Pharmaceutical Technology, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Czech Republic

Surface activity and intrinsic viscosity of the solutions of various carriers of the type of polyesters and polyesteramides were studied. The theoretical part of the thesis is focused on the basic informations concerning viscosity as phenomenon, surface activity of the solutions of polymers, biodegradable polymers and their properties, and polyesters of aliphatic hydroxyacids. In the experimental part of the thesis was evaluated viscosity and interfacial tension of the solutions of various carriers in chloroform used as solvent. Interfacial tension was measured by Wilhelmy plate method, and intrinsic viscosity was calculated from kinematic viscosity, from their one-point values, by the Solomon-Ciuta method. All the studied oligomeric and polymeric carries were tensioactive. Interfacial tension between aqueous and chloroform phases was influenced by molecular weight of the used compounds, their degree of branching, by flexibility of their chains and their concentracion also. Calculated values of intrinsic viscosity by the Solomon-Ciuta method were not reliable because of their dependence on kinematic viscosity values measured in the whole complex of samples.