

SUMMARY

Theoretic part deals with bioadhesion of peroral substances (concretely peptides and proteins), its limitations and improvement feasibilities. Next chapter describes today most used bioadhesives. Cytoadhesion is analysed in more detail; theoretic part is concluded with characterisation of endocytosis and transecytosis.

Experimental part of thesis investigates rheologic and adhesive properties of plasticized oligoesters of D,L-lactic acid and glycolic acid in ratio 1:1 branched with pentaerythritol or tripentaerythritol. Adhesivity was measured on the Material testing machine T1-FR050TH.A1K Zwick/Roell as maximal force F_{max} required to detach the polymer system from substrate. These values were converted to the size of the contact area and compared with values gained in diploma thesis. Viscosity of samples was measured using viscosimeter Brookfield DV-E with an adaptor for small sample amount by 37°C temperature with spindle 14. Measured values from both of the experiments were compared with values of plasticized linear oligoester formed by equimolar amount of L-lactic acid and glycolic acid measured during equal conditions.

From the outcomes of made experiments ensues that samples branched with tripentaerythritol have higher adhesive force than carriers branched with pentaerythritol, adhesive force grows with raising carrier molar weight. Adhesivity of mannitol branched carriers tested during diploma thesis was low order.

Except from 1P and 1T samples the viscosity value of the other carriers is constant, thus we can speak about newton systems. Dynamic viscosity of plasticized carriers grows with their raising molar weight. The relation between viscosity and branching degree is not definite. Dynamic viscosity of oligoester carriers branched with mannitol is comparable to the viscosity of pentaerythritol branched carriers.