SUMMARY

Theoretical part of this thesis describes biodegradation process of polymers, this part concerns also aliphatic hydroxyacids polyesters and implants in situ. In the experimental part interactions of the oligoesters with branched constitution of molecules with hydrophilic media were studied. These compounds have been differring by branching agent; pentaerytritol, dipentaerytritol, and tripentaerytritol ; having potentially of four, six or eight hydroxyl groups able to make ester bonds.

Interactions were studied in the form of swelling and erosion characteristics time course. There was revealed, that the swelling process reflects very sensible the changes of the molecular structure. It is influenced by the composition of hydrophilic medium, its ionic force and actual acidity, it is in the relation with the ester bonds hydrolytic scission. Many oligoesters swelling parameters changes with extremes (pics of maximas and minimas). Swelling process extent is proportionally changed with branching degree. Oligoester and polyester erosion is greatly influenced by molecular weight of oligoester, its branching degree, and media composition.