**Examination of Collagen by IR spectroscopy**

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Collagen is one of the most abundant proteins in the human and animal body: it makes up 25% of the total mass of proteins. Currently, collagen is often chosen as the “ideal” biomaterial for wound healing dressings, mainly due to the fact, that under certain conditions, it can accelerate healing wounds, treatment of burns, accelerates hemostasis, eliminates hernia, restores damaged bone and cartilage tissue.

Collagen processing technologies are organized as a series of different stages of chemical, physical and enzymatic processing. Such stages are combined in various ways to obtain structurally versatile materials with desired physicochemical, rheological and physiological properties for subsequent use in various industries. An important aspect of collagen processing is to control the state of the secondary structure of protein molecules, which determines their suitability for fiber reassembly. Fiber reassembly and shaping allows the creation of new structures for further use in medical and pharmaceutical applications, as well as for the fabrication of 2D or 3D structures.

In this work, the secondary structure of collagen II samples of connective tissue was studied by IR spectroscopy.

The objects of research were hydrolysates from beef split, obtained by hydrolysis in the presence of an alkaline reagent. A comparative analysis of the IR absorption spectra of collagen hydrolysates into components was carried out and an analytical comparison of them with functional groups was carried out. Based on the analysis of the IR absorption spectra, the secondary structures of collagen in various samples were determined.

This work can be continued for a more detailed study of changes in the secondary structure of collagen-containing bioactive complexes with the prospect of their application in the food, industrial and medical industries.

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