

PHYSICAL MECHANISM OF KERATIN SWELLING

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S u m m a r y

The mechanism of swelling of keratin in an aqueous solution of thioglycolic acid has been studied. X-ray diffractograms, IR-spectra, and the dependence of the acoustic modulus on the static tension in nonswollen and swollen keratin fibers are obtained. Based on experimental data, we found that the molecules of thioglycolic acid are arranged in unordered intrafibrillar regions at the swelling of keratin, which stimulates the orientation of spiral segments. Disulfide bonds between oriented segments appear to fix the newly formed structure.