MOLECULAR MECHANISMS OF WATER DIFFUSION IN COLLAGEN-LIKE STRUCTURES

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S u m m a r y

We experimentally investigate the process of swelling of collagen-like structures in water at various temperatures by the example of gelatin. The diffusion coefficients for water in gelatin are obtained. The existence of the characteristic temperature $T_0 = 291$ K separating the temperature intervals with different diffusion patterns is established. At $T < T_0$, water molecules move in disordered regions of collagen-like structures; at $T > T_0$, they penetrate into ordered regions, which is accompanied by the break of transverse bonds between peptide chains.