



KINETICS OF CHANGES IN THE GRANULOMETRIC COMPOSITION OF THERMODENATURED WHEY PROTEINS

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ABSTRACT

The study objective was to determine the optimal modes of temperature-induced denaturation of whey proteins under conditions of complete refolding to enhance the efficiency of subsequent enzymatic release of biologically active peptides. Whey samples obtained after acid, acid and rennet, and rennet coagulation were identified on the basis of physico-chemical parameters and thermal stability using multidirectional methods. The kinetics of denaturation and aggregation of particles, changes in their mean diameter depending on the physico-chemical whey composition, as well as heat treatment modes were studied. The temperature 95 °C with the exposure time of 120 minutes should be considered as the most optimal mode in terms of maximum protein denaturation and minimum mean particle diameter. At the same time, the rate of protein denaturation and the size of aggregated particles varied depending on the deviation of pH away from pI. For sweet whey, a slightly different mechanism of temperature-induced aggregation of whey protein was noted, characterized by the predominance of hydrophobic interactions.
