Studies on thermal gelation of fish muscle pastes by ultrasonication and its desalting-aggregation properties

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Summery

The ultrasonication in the phosphate buffer (pH 6.0 and 5.7) at 30℃ prompted the thermal gelation of flying fish muscle pastes. During ultrasonication the desalting from the pastes was observed. The thermal gelation of fish muscle actomyosins was affected remarkably by ionic strength. A low ionic strength gave higher values for the gel-strength (in order: flying fish ＞walleye pollock＞sardine). The n-butanol-added myofibrils from yellowfin tuna muscle also showed the enhancing effect by ultrasonication. It was found that the actomyosin aggregation at low ionic strength was heightened by the addition of n-butanol. The thermal gelation of fish muscle proteins in low ionic strength was discussed in connection with the desalting-aggregation properties of protein.