

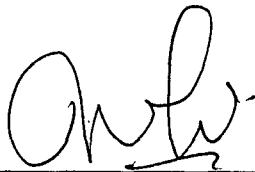
**EXTRACTION OF GELATIN FROM SILVER CATFISH (*Pangasius
sutchi*) SKIN AND DETERMINATION OF ITS
PHYSICOCHEMICAL PROPERTIES**

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ABSTRACT

EXTRACTION OF GELATIN FROM SILVER CATFISH (*Pangasius sutchi*) SKIN AND DETERMINATION OF ITS PHYSICO-CHEMICAL PROPERTIES

Silver catfish skin gelatin was extracted at different time by washing with sodium chloride, NaCl (0.8N); sodium hydroxide, NaOH (0.19N) and acetic acid, CH₃COOH (0.12N) solution prior to gelatin extraction using hot distilled water at 50 °C at 6, 8, 10, and 12 hours. The extracted gelatin was dried using a freeze-drier and ground into a powdered form. Silver catfish skin gelatins obtained was compared with commercial bovine gelatin. The gelatins were analysed for gel strength; melting point, setting point, setting time, colour, mineral, Pb, Al, moisture, fat and protein content. The highest gel strength was obtained in gelatin extracted at 12 hours followed by 10, 8 and 6 hours which were 585.62 g, 564.88 g, 512.65 g and 451.69 g, respectively. Commercial bovine gelatin had the lowest gel strength which is 364.13 g. Melting points for silver catfish skin gelatins increased when the extraction time increased ranging from 31.5 °C to 36.8 °C while commercial bovine gelatin melted 33.7 °C. Setting point of silver catfish skin gelatin decreased when extraction time increased while commercial gelatin showed the highest setting point which was at 33.7 °C. Setting time of silver catfish gelatin was determined at 10 °C and 4 °C. Setting time at both temperatures decreased with longer extraction time ranging from 8.2 °C to 3.7°C (10 °C) and 5.5 °C to 4.1 °C (4 °C). Commercial bovine gelatin required longer time, as compared to silver catfish skin gelatin. There was no significant different ($p>0.05$) in lightness, redness and yellowness between all the silver catfish skin gelatin and commercial gelatin. K content was the highest in 6 hours extracted gelatin (14.72 mg/L). Ca was the highest in 12 hours extracted gelatin (3.94 mg/L). Mg, Co, Cu, Fe and Zn resulted in lower content ranging between 0.01 to 0.45 mg/L. Pb was highest in 6 hours extracted gelatin (0.17 mg/L) and Al was the highest in 12 hours extracted gelatin (0.41 mg/L). The protein content ranged from 47.10% to 50.44% and the highest was in 10 hours extracted silver catfish skin gelatin. Fat content ranged from 0.14% to 1.27% and the highest was in 12 hours extracted silver catfish skin gelatin. Moisture content was from 5.50% to 7.79%. 10 hours extracted silver catfish skin gelatin exhibit the lowest moisture content. Silver catfish skin gelatin obtained has the potential to be used as stabilizing, foaming, clarifying, thickening, emulsifying, and gelling agents.