

Protein-Starch-Potassium Iodide Composite as a Sensor for Chlorine in Water

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Abstract : Two proteinic biopolymers; namely keratin and sericin, were extracted from their respective natural resources by simple appropriate methods. The said proteins were dissolved in the appropriate solvents followed by regeneration in a form of film polyvinyl alcohol. Protein-starch-potassium iodide (PSPI) composite was prepared by anchoring starch and potassium iodide mixture onto the film surface using appropriate polymeric material. The possibility of using PSPI composite for determination of the concentration of chlorine ions in domestic as well as industrial water was examined. The concentration of chlorine in water was determined spectrophotometrically by measuring the intensity of blue colour of formed between starch and the released iodine obtained by interaction of potassium iodide chlorine in the tested water sample.

Keywords : chlorine, protein, potassium iodide, water

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