ADVANCED COMPARATIVE STUDY OF CONTROLLED RELEASE OF FOOD COLORING IN POLYMERIC SURFACE BY MEANS OF CONDUCTIMETRIC TITRATION.

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Food dyes are responsible for checking, enhancing or restoring the color of food, ensuring a standardized elegant and flashy look, for the consumers, which commonly correlate the color to the quality of the food. However, the matrices used for this in most cases accumulate in the organism. Thus, this work aims to produce microcapsules of chitosan and study the anchoring and controlled release of organic dyes in colloidal array, to replace the inorganic synthetic dyes in their full implementation. For the production of microspheres a solution of chitosan 10% (w/v) with acetic acid 10% (v/v) was prepared, which was dripped in a solution of NaOH 10% coagulant, maintained under light stirring. The gelled microspheres were rinsed with deionized water to pH 7.0, added to the acetone and allowed to dry at room temperature. The anchoring of the dyes was made from a solution with concentration equal to $1.0 \times 10^{-5}$ mol.L$^{-1}$ by adding 1g of chitosan microcapsules. After reading the UV-vis, it was determined that chitosan microcapsules adsorbed 92% of the tartrazine yellow dye and 74% of sunset yellow. There was a conductimetric titration varying the pH from 1.0 to 12.00 to determine the pH range in which the dyes were released from the colloidal surface. Therefore, it is concluded that the chelating sites present in the molecular structure of high stability chitosan promote the interactions occurring between the links N=N and =O, allowing the locking of this dye and non-toxic organic matrix, a technological innovation in the science of foods.