



Introduction:

This work is dedicated to basic research on medicinal vegetal products. In addition to the exploitation of the leaves of plants and their fruits, our research shows the enormous possibilities offered by chemistry in the treatment of the generated dyes of seasonal or annual plants. The treatment based on the example of the dye from the beet showed important medical and cosmetic characteristics, given its qualities of adsorption and diffusion of photons.

Results & Discussion:

The viscous and dense structure as well as the colored surface of the ultrafiltration membrane (UF) was characterized by IR spectroscopy, X ray and SEM analyses.

In the IR spectrum of the membrane UF. Several absorption bands are noted. The most important are those relating to nitrogen bonds around 1800 cm⁻¹, present in betacyanin, as well as the OH bonds, and those of C-H, present successively in the PVA as well as the PEG around 1700 and 3200 cm⁻¹.

For the particles of UF in second spectra are very nanocrystalline and we can appreciate the important amount of reactive particles of Betacyanin in UF.

Materials & Methods:

B-1 Preparation of PVA and PEG Mixture

In a 100 ml beaker, hot water is introduced at 60°C, to which 20g powder is added, of poly (vinyl alcohol) with highly hydrophilic properties as a membrane material [3]. Leave the solution under agitation for 30 minutes. Once the solution is homogeneous, 10g of poly(ethylene glycol) (PEG) is added as an additive. The solution is left a second time under agitation for 15 minutes.

B-2 Preparation of Betacyanin, ultrafiltration (UF) membrane

The betacyanin dye extracted with ethanol was obtained by the following steps,
Fresh beetroot were washed with water and vacuum dried at 60°C. After crushing, these materials were immersed in absolute ethanol at room temperature in the dark for one week. Then the solids were filtered out, and the filtrates were concentrated in rotavapor at 40°C and these ethanolic extracts were refined by chromatogram method. The column was packed with sephadex G-25 and an eluent of methanol in dichloromethane was required for maximum separation.

Conclusions:

Our research on new materials intended for the field of cosmetics, allowed us to present a new natural molecule based on betacyanin, as an energy dye and high light absorption index; which allows it to protect the skin from any waste from the body or from the external environment.

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References:

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