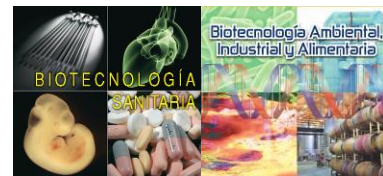


Poster

Characterization and deslignification of *Dictyota dichotoma*)



Ignacio Tomé Fdez.-Ladreda(1), Ana Moral Rama(1,*), Maria de la Menta Ballesteros Martin(1)

(1) Departamento de Biología Molecular e Ingeniería Bioquímica. Universidad Pablo de Olavide, Ctra. Utrera Km 1, 41013 Sevilla. *E-mail: amoram@upo.es

Keywords: *Dictyota dichotoma*; cellulose; characterization.

ABSTRACT

Motivation: Algae, with more than 27,000 species, includes a great variety of aquatic organisms with a high ecological importance. Every year thousands tons of sea waste are accumulated on the shore. Consequently some investigations are recently focused on its potential as raw material for animal food, bioethanol or cellulose extraction among others. Currently there are not many studies about the use of these wastes for cellulose extraction. The objective of this project is to characterize the algae *Dictyota dichotoma* and compare two different deslignification treatments.

Methods: The characterization of the specie *Dictyota dichotoma*, seaweed was carried out, in order to determine the composition of benzene ethanol extractables, ashes, hot water solubility, lignin, holocellulose and alfa-cellulose.

On the other hand, the difference between two chemical treatments for the delignification of *D. dichotoma* was studied using NaOH, antraquinone and H₂O₂ or NaCl₂O. Also an experimental design was carried out taking into account the effect of five independent variables (time, temperature, antraquinone, NaOH and H₂O₂ or NaCl₂O) on whiteness.

Results: The obtained results allow to conclude that *Dictyota dichotoma* presents a low content in lignin, with 16.07%.

Conclusions: The study demonstrates that *D. dichotoma* is an adequate alternative as raw material for papermaking due to its low content of lignin (16%) in comparison with other vegetables terrestrial species which facilitates cellulose extraction. Moreover this algae present elevated contents in cellulose (34,8% of holocellulose and 30,6% of alpha-cellulose) and its extraction can be carried out using clean technologies.

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