

## Comparative Study Between the Chemical Structure of Carrageenans from *Solieria filiformis* (Rhodophyceae) and Comercial Iota-Carrageenan

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Carrageenans represent one of the major texturising ingredients in the food industry. Thus, *Solieria filiformis* (Rhodophyceae) was submitted to aqueous extraction of carrageenan ( $\iota$ -CAR) that presented a yield of 1.4% in the cold extraction (Sf25), 98.2% at 90°C (Sf90) e 0.4% at 120°C (Sf120). A comercial  $\iota$ -carrageenan ( $\iota$ -CARc) was utilized to compare the chemical structure of the Sf90. The sulfate, protein and carbohydrates contents in the Sf90 and  $\iota$ -CAR were 32.2; 5.5 and 61.7% and 31.4; 0.3 and 50.3%, respectively. In general, the FTIR spectra of Sf90 e  $\iota$ -CAR were similar and typical absorption peaks were present at 1250  $\text{cm}^{-1}$  (ester sulfate), 930  $\text{cm}^{-1}$  (3.6-anhydro-galactose), 850  $\text{cm}^{-1}$  (D-galactose-4-sulfate) and 805  $\text{cm}^{-1}$  from 3.6-anhydro-galactose-2-sulfate (DA2S). The  $^{13}\text{C}$  RMN spectra of Sf90 and  $\iota$ -CARc also showed anomeric signals corresponding at chemical structure of a  $\iota$ -CAR, constituted mainly of G4S (51.9 and 57.1%, respectively) and DA2S (48.1 and 42.9%, respectively). However, the  $^1\text{H}$  RMN spectrum of Sf90 presented an intense signal at 3.41 ppm corresponding to substitutions in C-6 of G4S for groups *o*-methyl, small amounts of  $\kappa$ -carrageenan and precursors of  $\iota$ -CAR. The samples Sf90 and  $\iota$ -CAR were desulfated and their spectras of HMQC confirmed your sulfate patterns. Therefore, these results showed that the carrageenans from *S. filiformis* and  $\iota$ -CARc have a very similar quimical structure suggesting that the species can be harvested and addressed to the industrial extraction processes without any previous sorting. Supported: CNPq and UFC. Key words: carrageenans, chemical structure, *Solieria filiformis*.

