

Polysaccharides from *Laurencia* Complex: Chemical and Spectroscopic Analyses

Wosch, L.¹, Souza, D.C.¹, Ferreira, L.G.¹, Fujii, M.T.², Duarte, M.E.R.¹, Nosedá, M.D.¹

¹Departamento de Bioquímica e Biologia Molecular-UFPR, Curitiba-PR

²Instituto de Botânica, Seção de Ficologia, São Paulo-SP

The red seaweeds from *Laurencia* complex, that includes more than 150 species, are separated into three genera: *Laurencia*, *Chondrophycus* and *Osmundea*. Many species which have been placed in this complex require critical studies in the context of this revised generic delineation. We have studied seaweeds from genus *Chondrophycus* and in the present work we describe the chemical structure of the polysaccharides extracted from two species of *Laurencia*. The dry and milled algae were extracted with water at 90°C. From *L. aldingensis* and *L. filiformis* were obtained AH and LH polysaccharidic fractions, respectively. After 2.0 M KCl treatment, purified soluble fractions were obtained (AHs and LHs, 70% and 84% yield, respectively) constituted by sulfated galactans (SO₃Na 21.0%). Sugar analysis showed that they are constituted by galactose (63.5-70%), 6-O-methylgalactose (13.2-13.3%), 3,6-anhydrogalactose (7.9-13.6%) and xylose (3.8-5.3%). Small amounts of mannose (1.0-1.5%), 3/4-O-methylgalactose (1.2% in LHs) and glucose (1.0-1.8%) were also detected. The ¹³C NMR spectra of these polysaccharides showed anomeric signals at 100.9-100.7 and 98.1-97.9 ppm corresponding to the diad β-D-galactose-2-sulfate? 3,6-anhydro-α-L-galactose, at 103.0 ppm corresponding to β-D-galactose? α-L-galactose (100.7 ppm) and at 102.0 ppm corresponding to β-D-galactose? 3,6-anhydro-α-L-galactose (98.1-97.9 ppm). Therefore, our results show that both *Laurencia* species produce a sulfated agaran 2-sulfated partially 6-O-methylated that could be considered as a fingerprint of this genus and aid in the taxonomy of the *Laurencia* complex. Supported by PIBIC-CNPq and PRONEX-CARBOIDRATOS.