



## Proanthocyanidin Profile of açai seeds

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### Abstract:

*Euterpe oleracea* (açai) is a native palm tree (Arecaceae family) from the Amazon region with high nutritional and economic value [1]. The seed represents 90% of the berries' weight and is considered a waste, with no economic value. Nevertheless the annual production of açai juice generates 300 tons/year of seeds [1].

Our research group demonstrated the presence of proanthocyanidins in açai seeds in a previously published work [2]. Continuing this study, the characterization of the oligomeric/polymeric proanthocyanidins was performed using an aqueous extract (representing 95% mass of total extractables). The sample was analyzed by MALDI-TOF [3], by a HPLC-FLD on a HILIC stationary phase (diol column) to separate the proanthocyanidins by degree of polymerization [4] and by phloroglucinolysis to calculate the mean degree of polymerization (mDP) [5].

The HPLC/HILIC methodology enabled the separation of peaks corresponding to monomeric to decameric procyanidins. The mDP is an average of the degree of polymerization which was found to be 9,8 for the fraction and the MALDI-TOF has shown two major B-type proanthocyanidin sequences, one representing procyanidin oligomers/polymers (from trimer to undecamer) and a second set with a 16 mass units difference from the first sequence, displaying this difference in one single subunit. Additionally, 3-O-galloylated (152 mass units difference) procyanidin units were detected.

In conclusion, the results found by all the applied methodologies (MALDI-TOF, HPLC/HILIC-FLD, phloroglucinolysis) gave convergent responses. The açai seed extract was characterized as being composed of oligomeric/polymeric procyanidins of B-type.

### References:

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