

Uvaia (*Eugenia pyriformis*) fruit: a new source of phenolics compounds obtained by Pressurized Liquid Extraction (PLE)

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Uvaia (*Eugenia pyriformis*) is a Brazilian native fruit with great economic potential due to its excellent nutritional composition rich in phenolic compounds. Conventional extractions involve severe time-temperatures conditions and processing time resulting in partial bioactive compound degradation. In addition, the high amounts of solvents used makes this extraction not ecofriendly. Thus, alternative extraction methods, including pressurized liquid extraction (PLE), have been highlighted in obtaining bioactive compounds from plant matrices. This study aimed to obtain uvaia pulp extracts rich in phenolics and flavonoids compounds by PLE. The extraction was realized keeping the pressure constant at 10MPa. Extraction time was defined through extraction kinetics (100 °C, 1.71 mL.min⁻¹, 150 min). The best extraction condition was evaluated through a 2² rotational central composite design (DCCR). The effect of temperature (40 to 100 °C) and percentage of co-solvent (ethanol) (60 to 99.5 %) on the content of phenolic compounds and flavonoids were evaluated. Extraction kinetics showed that extraction yield remained almost constant after 60 minutes. The total of phenolics and flavonoids ranged from 4.91 to 17.00 (mg GA .g⁻¹ of dry uvaia pulp) and 2.19 to 7.91 (mg CAE.g⁻¹ of dry uvaia pulp), respectively. The predicted extraction model showed that both temperature and solvent influence the phenolic extraction and the optimized condition was observed at 55 °C and 70.0 % of ethanol. The presence of ethanol improves the extraction selectivity and the high temperature enable the breakdown of the linkages between bioactive and uvaia pulp matrix. Conversely, for flavonoids extraction high solvent concentrations and high temperature negatively affected the extraction. The antioxidant activity for extracts was 189,72 ± 10,34 µM Trolox.g⁻¹ of dry uvaia pulp and 231,41 ± 10,96 µM Trolox.g⁻¹ of dry uvaia pulp for phenolics and flavonoids, respectively. The results show that uvaia pulps is a rich bioactive source and PLE is an efficient method for its extraction.