



## BIOACTIVE COMPOUNDS AND ANTIOXIDANT CAPACITY OF EXTRACTS OF PIQUIÁ PULP

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*Caryocar villosum* fruit (piquiá) was reported to be a potential source of bioactive compounds, such as phenolic compounds and carotenoids. In this study, the main purpose was to obtain extracts from the freeze-dried pulp of piquiá fruits using five solvents with different polarities (water, ethanol/water (1:1, v/v), ethanol, ethanol/ethyl acetate (1:1, v/v) and ethyl acetate). All extracts were characterised in relation to the contents of bioactive compounds (total phenolic compounds, total flavonoids, tannins, total carotenoids, tocopherols and tocotrienols). In addition, the colour parameters (CIELAB), the scavenging capacity against peroxy radical (ROO<sup>\*</sup>) through the Oxygen Radical Absorbance Capacity (ORAC) assay, as well as the quenching ability against singlet oxygen (<sup>1</sup>O<sub>2</sub>) were determined for all the extracts. The water and ethanol/water extracts presented the highest levels of total phenolic compounds (9.2 and 6.3 mg gallic acid equivalent/g, respectively), total flavonoids (3.8 and 2.5 mg catechin equivalent/g, respectively) and total tannins (7.6 and 2.4 mg tannic acid/g, respectively). The contents of  $\alpha$ -tocopherol in the extracts were below the limit of quantification of the applied methodology (0.13  $\mu$ g/mL) and none of the tocotrienols were detected. In addition, condensed tannins were not detected in the piquiá extracts since no precipitate was formed after the addition of bovine serum albumin in the condensed tannins assay. The water and ethanol/water extract also showed the highest scavenging capacity against ROO<sup>\*</sup> (0.15 and 0.28 mmol Trolox equivalent/g extract, respectively). The ethanol extract, which was classified as the most vivid and yellow one ( $C^*_{ab} = 13.7$  and  $b^* = 13.3$ ), presented the highest level of total carotenoids (0.1 mg/g) and the highest percentage of protection against <sup>1</sup>O<sub>2</sub> (10.6 %), but low scavenging capacity against ROO<sup>\*</sup> (0.01 mmol Trolox equivalent/g extract). Based on these results and depending on the applicability, the ethanol/water mixture, water and ethanol are the most promising solvents to obtain piquiá extracts with high contents of bioactive compounds and peroxy radical scavenging capacity (water and ethanol/water) or yellow colour properties and protection against singlet oxygen (ethanol).

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