

PHYSALINS ISOLATED FROM THE ETHANOLIC EXTRACT OF *Physalis angulata* Lin. (CAMAPU) BY PREPARATIVE-HPLC

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Abstract: *Physalis angulata* (Solanaceae) is an herbaceous plant native to Tropical America, which is now pantropically distributed, including in Amazon region. There are relates of traditional using of this plant since analgesic and anti-inflammatory to digestive¹. Studies with the aqueous extract from roots of *P. angulata* have proven effectiveness as anti-leishmanial and anti-inflammatory^{2,3}. In addition to, studies have correlated anti-inflammatory activity with the capacity to restore or even improve neurogenesis after cranial injury⁴. According to Lindvall & Kokaia (2006), plants with anti-inflammatory activity should represent a potential as phytoterapic drug for the treatment of some neurodegenerative diseases such as Alzheimer's and Parkinson's⁵. *P. angulata* presents a seco-steroid group known as physalins considered of great medicinal value. This work deals with isolation and identification of four physalins from ethanolic extract of aerial parts using the HPLC-UV techniques. The dried and powdered aerial parts of *P. angulata* were extracted with EtOH using Soxhlet extraction. The ethanolic extract (29 g) was fractionated by silica gel CC affording four fractions, among which, F3 (eluted in Ethyl acetate) was selected to be richer on physalins. Fraction F3 was fractionated on silica gel CC, obtaining twelve groups. Among them, F3-A (342 mg), F3-B (97.7 mg) and F3-C (138.6 mg) groups were carried out in a preparative system using a Phenomenex Gemini C18 column (250 mm × 10 mm, 5µm) and a flow rate of 4.7 mL.min⁻¹ at 223 nm. The mobile phase was consisted of water/acetonitrile varying according to each fraction, illustrated on figure 1. Chromatographic separation of F3 sub-fractions by semi-preparative HPLC led to the purification of four pure substances. Their structures were elucidated by 1D and 2D NMR data and comparison with literature. The four compounds were identified as physalin B, isophysalin B, physalin D and physalin G.

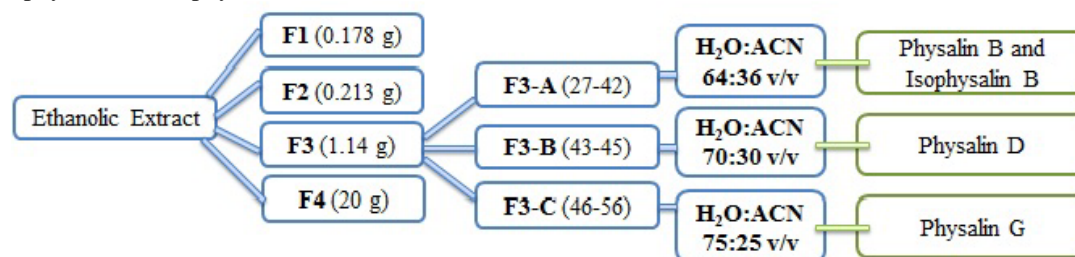


Figure 1 - Flowchart of physalins isolation from the ethanolic extract of *P. angulata* Lin.

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