

Chemical Profile and Biological Activity of *Casimiroa edulis* Non-Edible Fruit's Parts

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Abstract

Purpose: the non-edible fruit parts of *Casimiroa edulis* Llave et were evaluated for their active constituents and their potential as antioxidants, anti-inflammatory and antitumor activity.

Methods: Fruits peel (FP) and seeds kernel (SK) of *Casimiroa edulis* Llave et Lex. were extracted successively with hexane and then methanol. Fatty acids were prepared from hexane extracts and identified by GC. Total flavonoid, phenolic acids and tannins contents in methanol extracts were determined by UV spectrophotometer and identified by HPLC.

Antioxidant, invitro anti-inflammatory activity and antitumor effect against Caco-2 cell line were determined .

Results: GC analysis of hexane extracts showed that oleic acid (47.00%) was the major unsaturated fatty acids in both extracts while lignoceric acid (15.49%) is the most abundant saturated fatty acid in (FP). Total phenolic, flavonoid and tannin contents in (FP) & (SK) methanol extracts were; 37.5 ± 1.5 , 10.79 ± 0.66 and 22.28 ± 0.23 for (FP); 53.5 ± 1.5 mg/g, 14.44 ± 0.32 mg/g; and 53.73 ± 3.58 mg/g for (SK) respectively. HPLC analysis of methanol extract revealed that; the major phenolic compound was pyrogallol in (FP) and phydroxybenzoic acid in (SK), the major flavonoid was luteolin 6-arabinose-8-glucose in (FP) and acacetin in (SK).

Conclusion: This study showed that non-edible parts of *C. edulis* fruit is a rich source of different phenolic compounds and fatty acids which has great antioxidant, anti-inflammatory and antitumor activities; that could be used as a natural source in pharmaceutical industry.

