



FINGERPRINT PROFILES OF THREE PLUMERIA L. BY CHROMATOGRAPHY MASS SPECTROMETRY

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Plumerias L. is a genus of the family of Apocináceas belonging to Magnoliophyta division in Magnoliopsidas class or dicots, and the order of the Gentianales. The species known are: *P. alba*, *inodora*, *obtusata*, *pudica*, *rubra*. *P. alba* has a specific characteristic to be preferred food source of *Pseudosphinx tetrio* (Linnaeus), a common moth in the Americas tropics and subtropics. Fresh leaves of *P. alba*, *P. rubra* and *P. obtusata* were collected. After drying the leaves in greenhouses, they were extracted in ethanol. The extracted material was filtered and concentrated under reduced pressure. The dried extract was purified on silica gel chromatography column using the following solvents: hexane, dichloromethane, ethyl acetate, methanol and water, in mixtures with increasing polarity order. Fractions of hexane, dichloromethane and ethyl acetate were analyzed in GC-MS Shimadzu QP 5050 The model equipped with an SE-54 column (94% methyl / 5% phenyl), with 30 meters in length and an internal diameter of 0.25 mm (Supelco). The identification of compounds was based on mass spectra comparison with NiST11 and Wiley. The hexane fractions were identified in all three plumerias compounds: tetracontane, dotriacontane. The hexane fraction of *P. alba* showed a smaller number of compounds, and the *P. obtusata* the one with a larger number of compounds in the fraction extracted with hexane. The fraction with dichloromethane the acid ethyl hexadecanoate, squalene and heptadecanoic acid were identified in the three plumerias. Both fractions showed close amounts of compounds of nearby structures and similar chemical groups. In fractions extracted with ethyl acetate compounds: fitol, methyl Comate and stigmaterol were identified in three species. *P. alba* had a larger number of compounds (ethyl hexadecanoate, ethyl linoleate, ethyl octadecanoate, ethyl heptadecanoate, alpha tocopherol acetate and beta-sitosterol. From the *P. obtusata* ethyl acetate fraction were found the compounds: tetradecanal, octadecanal and 3-*O*-acetyl-lupeol. The amount of compounds found in *P. rubra* fraction of ethyl acetate was small, but the same compounds present in the other two species in the same fraction. The chromatographic profile shows a slight variation of compounds found in different plumeria species, but with a structural similarity and with the same functional groups. These factors suggest that the three species have a similarity in their metabolic pathways, with minor differences in their fractions. These metabolites differences may help in understanding the formation of flowers with different colors and the feeding preference of *P. tetrio* (Linnaeus) on *P. rubra*. The results are inconclusive, requiring further study.

[1] C.A. Zini, F Augusto, E. Christensen, B.P. Smith, E.B Caramao, J. Pawliszyn, Anal. Chem. 73. 2001.

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