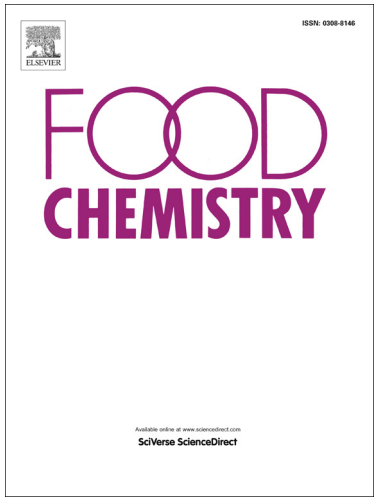

Analytical Methods

Suitability of antioxidant capacity, flavonoids and phenolic acids for floral authentication of honey. Impact of industrial thermal treatment

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PII: S0308-8146(13)00961-8
DOI: http://dx.doi.org/10.1016/j.foodchem.2013.07.033
Reference: FOCH 14377

To appear in: *Food Chemistry*

Received Date: 1 April 2012
Revised Date: 20 September 2012
Accepted Date: 7 July 2013

Please cite this article as: Escriche, I., Kadar, M., Juan-Borrás, M., Domenech, E., Suitability of antioxidant capacity, flavonoids and phenolic acids for floral authentication of honey. Impact of industrial thermal treatment, *Food Chemistry* (2013), doi: http://dx.doi.org/10.1016/j.foodchem.2013.07.033

Suitability of antioxidant capacity, flavonoids and phenolic acids for floral authentication of honey. Impact of industrial thermal treatment.

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ABSTRACT

Total antioxidant activity, physicochemical parameters, and the profile of flavonoids and phenolic acid compounds were evaluated for: their ability to distinguish between the botanical origins of four types of Spanish honey, the impact of industrial thermal treatment, and the effect of the year of collection. Citrus honey had the lowest levels of all the analysed variables, then rosemary and polyfloral, and honeydew the highest ones. Botanical origin affects the profile of flavonoids and phenolic compounds sufficiently to permit discrimination thanks to the predominance of particular compounds such as: hesperetin (in citrus honey); kaempferol, chrysin, pinocembrin, caffeic acid and naringenin (in rosemary honey) and myricetin, quercetin, galangin and particularly *p*-coumaric acid (in honeydew honey). The impact of industrial thermal treatments is lower than the expected variability as a consequence of the year of collection, though neither factor has enough influence to alter these constituent compounds to the point of affecting the discrimination of honey by botanical origin.