

BOOK OF  
ABSTRACTS

5TH MEETING  
OF YOUNG RESEARCHERS  
OF UNIVERSITY OF PORTO

IJUP'12

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# Antioxidant capacity and related parameters of commercial fruit smoothies

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Smoothies are blends of fruits, fruit purées, pulps and/or fruit juices without additives. Nutritional and organoleptic characteristics of fruits are preserved through a minor thermal processing. The result is a minimally processed fresh-like product with a short storage life. Smoothies are, therefore, beverages with a high concentration of nutrients, namely antioxidants, and low energy content [1].

The complex composition of smoothies (mixture of different fruits and therefore, antioxidants with complementary mechanisms of action), seems to provide a greater protection against free radical injury than other commercial fruit juices.

Antioxidant capacity is related to compounds able to protect the biological systems against deleterious effects caused by free radicals reactions or processes [2].

The aim of this work was to analyze antioxidant activity (by DPPH assay) and related determinations as total phenolics content (by Folin-Ciocalteu method), flavonoids and vitamin C (by colorimetric assays). Some representative commercial smoothies of the Portuguese market (n=8) were sampled.

In what concerns to the analyzed parameters, a great variability was found, probably due to the different fruits used to prepare each smoothie.

## References:

[1] Derek, F.K., Brunton, N.B., Gormley, R. and Butler, F. (2011), *Effects of thermal and high hydrostatic pressure processing and storage on the content of polyphenols and some quality attributes of fruit smoothies*, J. Agric. Food Chem., 59, 601–607.

[2] Kwon, Y., Choi, K. H., Kim, S. J., Choi, D. W., Kim, Y. S. and Kim, Y. C. (2009), *Comparison of peroxyl radical scavenging capacity of commonly consumed beverages*, Arch. Pharm. Res., 32, 283-287.

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