Accepted Manuscript

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PII: S0963-9969(14)00308-1
DOI: doi: 10.1016/j.foodres.2014.05.003
Reference: FRIN 5245

To appear in: *Food Research International*

Received date: 17 June 2013
Revised date: 29 April 2014
Accepted date: 2 May 2014

Please cite this article as: Ribeiro, V.S., Leitão, A.E., Ramalho, J.C. & Lidon, F.C., Chemical characterization and antioxidant properties of a new coffee blend with cocoa, coffee silverskin and green coffee minimally processed, *Food Research International* (2014), doi: 10.1016/j.foodres.2014.05.003

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ACCEPTED MANUSCRIPT

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Chemical characterization and antioxidant properties of a new coffee blend with cocoa, coffee silverskin and green coffee minimally processed

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Abstract

The search for new technologies and ingredients with interesting characteristics and potential for incorporation into functional foods emerges in parallel with the demand for alternative sustainable and economically viable blends. Pursuing these aims, the formulation of a new coffee blend with 94% roasted coffee powder (*Coffea canephora cv.* Robusta and *Coffea arabica*, 70/30, w/w), 3% cocoa powder, 2% coffee silverskin and 1% golden coffee (green coffee minimally processed) was developed. The influence of the ingredients in the blend was compared with two other commercial coffee blends (in capsule and in a sealed package with one-way degassing valve), being characterized the formulation, the physicochemical parameters, as its innovation. It is concluded that the developed coffee blend shows an enriched content of bioactive compounds (chlorogenic acids, trigonelline, theobromine and caffeine), displays an important antioxidant capacity and was favorable appreciated by its sensory characteristics. Moreover, the addition of skin by-product becomes an additional valorization and the processing of green coffee and cocoa was minimized by adding innovation and an optimized extraction.

Keywords: Antioxidant, Bioactive compounds, Cocoa espresso, Coffee, Innovation.

Abbreviations: ABTS - 2,2-azinobis (3-ethylbenzo-thiazoline-6-sulphonic acid) diammonium salt; CGA, Chlorogenic acid; CQAtotal, Total caffeoylquinic acids; 3-CQA, 3-*O*-caffeoylquinic acid; 4-CQA, 4-*O*-caffeoylquinic acid; 5-CQA, 5-*O*-caffeoylquinic acid; diCQAtotal, Total dicaffeoylquinic acid; 3,4-diCQA, 3,4-*O*-dicaffeoylquinic acid; 3,5-diCQA, 3,5-*O*-dicaffeoylquinic acid; 4,5-diCQA,

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