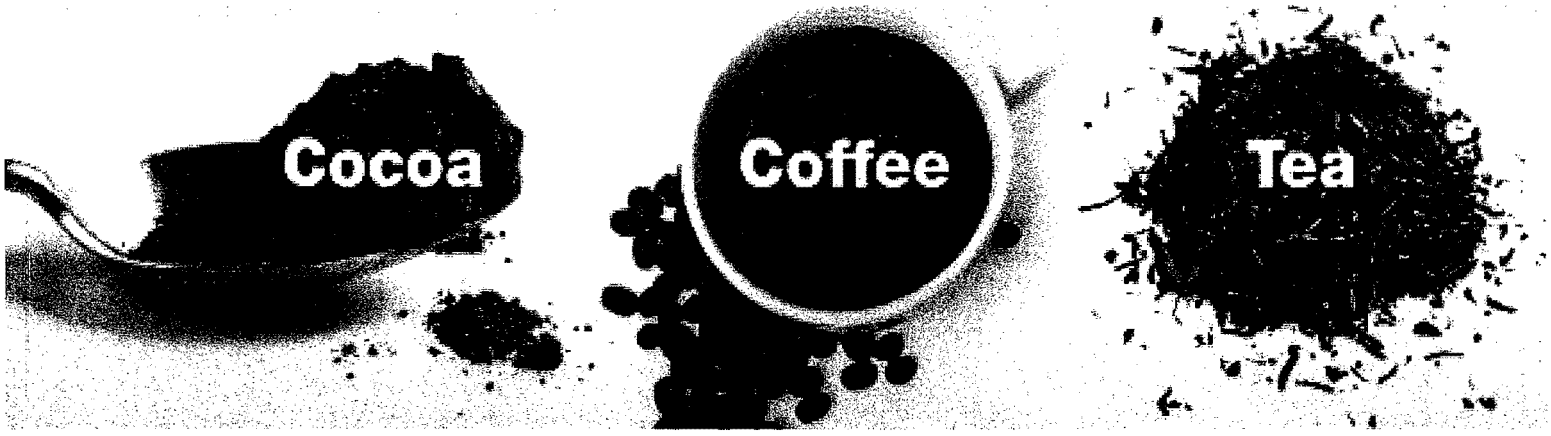

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BOOK OF ABSTRACTS

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BIOACTIVE COMPOUNDS IN SOLUBLE COCOA PRODUCTS: POLYPHENOLS, DIETARY FIBRE AND METHYLXANTHINES

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Abstract

Cocoa powder is a highly consumed food product that may confer health benefits such as cardiovascular protection [1], antitumor and antioxidant effects [2]. These health benefits have been widely attributed to its phenolic composition and dietary fibre content [3]. Other bioactive compounds naturally present in cocoa are methylxanthines, alkaloids that induce modulation of the central nervous system. In response to cocoa consumers' demands, the food industry produces new cocoa products aimed at providing additional health properties. The present study characterizes the polyphenolic fraction (flavanols), dietary fibre (DF) content, antioxidant capacity and methylxanthines (MX) fraction of an un-processed cocoa powder (cocoa R) and four new soluble cocoa products commercially available in Spain (cocoa A: low sugar, cocoa rich product; cocoa B: DF rich product; cocoa C: low sugar; cocoa D: rich in cocoa and MX).

The total flavanol content in products was R>A~D>B>C. Chromatographic analyses showed that epicatechin (EC) and procyanidin B2 (PB2) were the major flavanols followed by catechin (CA) and procyanidin B (PB1). EC ranged between 2.40-0.31 mg/g dm, CA 0.83-0.30 mg/g dm, PB2 2.04-0.36 mg/g dm and PB1 0.41-0 mg/g dm. The phenolic content showed a direct relationship with the antioxidant activity assessed using FRAP, ABTS and ORAC assays. DF content ranged from 30% to 15% in the order D>B>C>A~R. The MX identified were theobromine, the most abundant, followed by caffeine and traces of theophylline, being cocoa D the richest product followed by R>A>C~B (ranging from 9.6 to 5.4 mg/g dm).

As a conclusion, different manufactured cocoa products are available to offer different options following consumer's interests, providing a very interesting source of natural bioactive compounds that could help to enhance the health of population.

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