XVI LATIN-AMERICAN CONGRESS ON CHROMATOGRAPHY

&

9th NATIONAL MEETING ON CHROMATOGRAPHY

FACULTY OF SCIENCES OF THE UNIVERSITY OF LISBON

Lisbon, PORTUGAL

January 05 - 09, 2016

ABSTRACT BOOK

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Edited by: J.M.F. Nogueira (FCUL)

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9th ENC

5th - 9th January, 2016

Faculty of Sciences of the University of Lisbon

Lisbon, Portugal

P-178 ANALYSIS OF PHENOLIC COMPOUNDS IN *CYNARA SCOLYMUS* L. AND *SILYBUM MARIANUM* (L.) GAERTN. BY HPLC-DAD-ESI/MS

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Cynara scolymus L. (artichoke) and *Silybum marianum* (L.) Gaertn. (milk thistle) are medicinal plants native to the Mediterranean Basin that belong to the Asteraceae family. The flowers and leaves of milk thistle are used in the treatment of liver, spleen and gallbladder disorders [1] and artichoke leaves are used for their cholagogue, choleretic and choliokinetic actions, and also for treatment of dyspepsia and as anti-diabetics [2]. The beneficial properties of medicinal plants can be related to their large diversity of phytochemicals, among which phenolic compounds are outstanding. Thereby, the aim of the present work was to obtain and compare the phenolic profiles of artichoke and milk thistle aqueous (prepared by infusion) and hydromethanolic (maceration in methanol: water 80:20, v/v) extracts, using HPLC-DAD-ESI/MS.

The aqueous extract of artichoke presented higher concentration in total phenolic compounds (15.29 mg/g extract) than the hydromethanolic extract (4.37 mg/g) with slight differences between the respective profiles; the major flavonoid found in the aqueous and hydromethanolic extract was luteolin-7-*O*-glucuronide (5.64 and 0.70 mg/g, respectively), followed by luteolin-7-*O*-glucoside (2.88 and 0.49 mg/g, respectively). Monocaffeoylquinic acid derivatives were only present in the hydromethanolic extract, being 5-*O*-caffeoylquinic acid (0.49 mg/g) the most abundant one, while dicaffeoylquinic acid derivatives were mostly identified in the aqueous extract; 1,3-*O*-dicaffeoylquinic acid was the most abundant one in both extracts (0.90 and 0.37 mg/g in the aqueous and hydromethanolic extract, respectively). Regarding to milk thistle preparations, similar phenolic profiles were observed, with only

quantitative differences between them. The aqueous extract revealed a higher phenolic compounds concentration (5.57 mg/g) than the hydromethanolic extract (3.56 mg/g), with apigenin-7-*O*-glucuronide as the major compound in both preparations (3.14 mg/g in the aqueous extract, and 0.58 mg/g in the hydromethanolic extract). Total flavonoids were higher in the aqueous extract (4.66 mg/g), with apigenin-7-*O*-glucuronide, luteolin-7-*O*-glucuronide (1.17 mg/g), and apigenin-*O*-deoxyhexosyl-glucuronide (0.36 mg/g) as the main constituents. The phenolic acids found in the hydromethanolic extract (total content 1.65 mg/g), included 5-*O*-caffeolyquinic and protocatechuic acids (0.56 and 0.44 mg/g, respectively). Besides these phenolic acids, the hydromethanolic extract also revealed high levels of luteolin-7-*O*-glucuronide (0.58 mg/g).

Overall, aqueous extracts presented higher phenolic contents than their hydromethanolic extracts in both species, which could be related with the heat treatment to which infusions were subjected.

Acknowledgements:
The authors are grateful to FCT (Portugal) for financial support (PEst-OE/AGR/UI0690/2014_BI/CIMO/14/dietsuppl).

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