

## SUPPLEMENTARY INFORMATION

**TITLE:** (Poly)phenol characterization in white and red cardoon stalks: could the *sous-vide* technique improve their bioaccessibility?

**AUTHORS:** Estíbaliz Huarte<sup>1\$</sup>, Marta Trius-Soler<sup>1\$</sup>, Maite Domínguez-Fernández<sup>1</sup>, María-Paz De Peña<sup>1,2\*</sup>, and Concepción Cid<sup>1,2</sup>

<sup>1</sup>Universidad de Navarra, Facultad de Farmacia y Nutrición, Departamento de Ciencias de la Alimentación y Fisiología, C/ Irunlarrea 1, E-31008 Pamplona, Spain

<sup>2</sup>IdiSNA, Navarra Institute for Health Research, C/ Irunlarrea 1, E-31008 Pamplona, Spain

<sup>\$</sup>Equal contribution

\*Corresponding author: María-Paz de Peña. Tel: +34 948 425600 (806580); Fax: +34 948 425740. E-mail address: [mpdepena@unav.es](mailto:mpdepena@unav.es)

**Table S1.** Mass spectrometric characteristics of (poly)phenolic compounds identified in this study.

Nº	(Poly)phenolic compound	R <sub>t</sub> (min)	[M-H] <sup>-</sup> (m/z)	Fragment ions (m/z)	Reference
<b>MonoCQAs and derivatives</b>					
1	1-CQA	0.93	353	191, 179	Ramos et al. (2014)
2	3-CQA	1.45	353	191, 179	Juániz et al. (2017), Petropoulos et al. (2018), and Ramos et al. (2014)
3	4-CQA <sup>a</sup>	3.60	353	179, 173	-
4	5-CQA <sup>a</sup>	3.19	353	191, 179	-
5	<i>cis</i> 5-CQA <sup>a</sup>	6.09	353	191, 179	-
6	Caffeoylquinic acid derivative I	6.62	631	353, 191	Ramos et al. (2014)
7	Caffeoylquinic acid derivative II	7.35	631	353, 191	Ramos et al. (2014)
8	Caffeoylquinic acid derivative III	8.80	793	353, 191	Ramos et al. (2014)
9	Caffeoylquinic acid derivative IV	9.00	793	353, 191	Ramos et al. (2014)
<b>DiCQAs and derivatives</b>					
10	1,3-diCQA <sup>a</sup>	5.04	515	191, 353, 179	-
11	1,4-diCQA	6.31	515	353, 173	Juániz et al. (2016b), and Ramos et al. (2014)
12	3,4-diCQA <sup>a</sup>	6.45	515	353, 173	-
13	1,5-diCQA <sup>a</sup>	6.70	515	191, 353	-
14	3,5-diCQA <sup>a</sup>	6.77	515	353, 191	-
15	4,5-diCQA <sup>a</sup>	7.68	515	353, 173	-
16	diCQA glucoside I	6.10	677	323, 191	Abu-Reidah et al. (2013)
17	diCQA glucoside II	6.17	677	515, 323	Abu-Reidah et al. (2013)
18	Succinyl-diCQA I	7.45	615	353, 191, 453	Juániz et al. (2016b, 2017), Petropoulos et al. (2018), and Ramos et al. (2014)
19	Succinyl-diCQA II	8.26	615	353, 191, 453	Juániz et al. (2016b, 2017), Petropoulos et al. (2018), and Ramos et al. (2014)
<b>Other hydroxycinnamic acids</b>					
20	Caffeic acid <sup>a</sup>	3.22	179	135	Juániz et al. (2017)
21	Caffeic acid isomer	4.00	179	135	Juániz et al. (2017)
22	Caffeic acid derivative I	5.56	367	179, 135, 161	Juániz et al. (2017)
23	Caffeoyl-hexoside	2.81	341	179, 135	Juániz et al. (2017)
24	p-Coumaroylquinic acid I	4.32	337	191, 163	Juániz et al. (2017)
<b>Flavonoids</b>					
25	Apigenin <sup>a</sup>	10.45	269	117, 155	-
26	Luteolin <sup>a</sup>	9.13	285	133	-
27	Luteolin acetylglucoside	7.65	489	285	Juániz et al. (2017) and Ramos et al. (2014)
28	Luteolin 7-O-glucoside <sup>a</sup>	6.10	447	285	-
29	Luteolin 7-O-rutinoside	5.97	593	285	Abu-Reidah et al. (2013), Petropoulos et al. (2018), and Ramos et al. (2014)

**Others**

30	Pinoresinol–acetylhexoside	8.14	561	357	Abu-Reidah et al. (2013)
31	Pinoresinol glucoside I	6.41	519	191, 357	Abu-Reidah et al. (2013), and Petropoulos et al. (2018)

R<sub>t</sub>, retention time; *m/z*, mass-to-charge ratio; [M–H]<sup>−</sup>, Negatively charged molecular ion.

<sup>a</sup> Compounds identified with pure reference standards