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SUPPLEMENTARY FILES

Bile amount affects both the degree of micellarization and the hydrolysis extent of carotenoid esters during *in vitro* digestion

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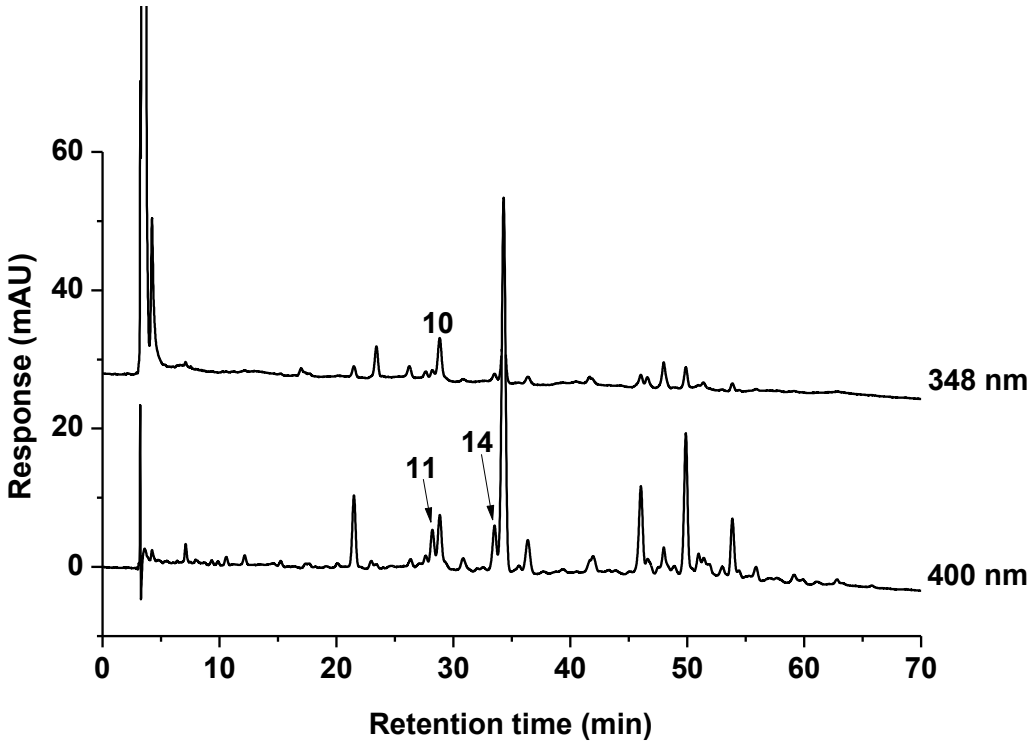

Figure S1. Chromatograms, obtained by HPLC-DAD, of carotenoid extracts from the mandarin pulp, processed ate 348 nm and 400 nm, for the detection of phytophluene (peak 10) and ξ-carotene isomers (peaks 11 and 14), respectively. Peak identification is given in Table 1 from the manuscript.

Table S1. Comparative of the carotenoid contents in the aqueous phase (supernatant) resultant from *in vitro* digestion of mandarin pulp before and after the application of a microfiltration step (bile extract/food ratio 0.045)

peak	carotenoid	supernatant before filtration	supernatant upon filtration (micellles)
1	not identified 1	10.6 ± 1.0	11.0 ± 1.0
2	not identified 2	9.2 ± 1.2	7.6 ± 0.4
3	mutatoxanthin epimer 1	11.4 ± 0.7	13.4 ± 0.1
4	lutein + mutatoxanthin 2	12.2 ± 1.0	13.3 ± 0.2
5	(all-*E*)-zeaxanthin	13.2 ± 1.3	14.7 ± 0.3
6	(13*Z*)- or (15*Z*)-β-cryptoxanthin	5.8 ± 0.5	5.5 ± 0.0
7	(9*Z*)-zeaxanthin	6.1 ± 0.3	5.9 ± 0.0
8	(all-*E*)-β-cryptoxanthin	46.0 ± 9.2	50.3 ± 3.4
9	(9Z)-β-cryptoxanthin	5.1 ± 0.2	5.9 ± 0.3
10	phytofluene	7.5 ± 0.6	6.2 ± 0.3
11	ζ-carotene 1	8.8 ± 0.9	6.9 ± 0.2
12	(13*Z*)- or (15*Z*)-β-carotene	17.1 ± 1.9	14.8 ± 1.7
13	not identified 3	9.1 ± 1.2	7.4 ± 0.4
14	ζ-carotene 2	8.4 ± 1.2	7.9 ± 0.5
15	(all-*E*)-β-carotene	143.7 ± 23.6	111.3 ± 15.3
16	(9*Z*)-β-carotene	17.4 ± 2.3	14.4 ± 1.4
17	(13*Z*)- or (15*Z*)-β-cryptoxanthin laurate + (all-E)-zeaxanthin myristate	7.0 ± 0.6	5.7 ± 0.1
18	(9*Z*)-β-cryptoxanthin caprate	8.2 ± 0.6	6.0 ± 0.7
19	(all-*E*)-β-cryptoxanthin laurate	30.8 ± 5.8	14.6 ± 1.8
20	(13*Z*)- or (15*Z*)- β-cryptoxanthin myristate	7.3 ± 1.1	6.0 ± 0.3
21	(all-*E*)-zeaxanthin palmitate	6.3 ± 0.6	5.2 ± 0.1

22	(*Z*)-β-cryptoxanthin palmitoleate	12.0 ± 1.9	6.4 ± 0.
23	mutatoxanthin laurate myristate 2	6.5 ± 0.7	7.0 ± 0.7
24	mutatoxanthin dilaurate 1	5.5 ± 0.5	5.0 ± 0.2
25	(all-*E*)-β-cryptoxanthin myristate	40.4 ± 8.1	16.6 ± 2.3
26	(9*Z*)-β-cryptoxanthin oleate	11.9 ± 1.9	10.2 ± 1.4
27	(13*Z*)- or (15*Z*)-β-cryptoxanthin palmitate + mutatoxanthin laurate palmitate 1	8.0 ± 1.2	5.6 ± 0.3
28	mutatoxanthin laurate palmitate 2+ mutatoxanthin dimyristate 1	6.6 ± 0.7	5.3 ± 0.2
29	(all-*E*)-zeaxanthin dilaurate	6.7 ± 0.7	5.3 ± 0.0
30	(all-*E*)-β-cryptoxanthin palmitate	20.4 ± 3.8	10.9 ± 1.0
31	mutatoxanthin dimyristate 2	5.7 ± 0.5	4.8 ± 0.0
32	zeaxanthin laurate myristate	7.5 ± 0.5	5.7± 0.1
33	(all-*E*)-zeaxanthin dimyristate	7.2 ± 0.4	5.8 ± 0.3
Total		529 ± 73	421 ± 30

Results are means and standard deviations of three replicates.