

Table S1 Retention (%) of bioactives depending on the applied wall material and the plant part used for juice extraction.

Materials	Sample abbreviation	Parameters						
		TPC	TPAC	TFC	TF3C	DPPH [•]	ABTS ^{•+}	RP
Horseradish leaf (L) juice								
Maltodextrin (MD)	L20M80	69.65 ^{e,f,g}	58.30 ^{g,h}	82.60 ^{a,b,c,d}	98.75 ^a	60.45 ^c	67.12 ^{e,f,g}	45.01 ^{i,j,k}
	L50M50	66.01 ^{e,f,g,h,i}	51.23 ^{h,i}	88.59 ^{a,b}	89.35 ^{a,b,c}	47.75 ^{d,e}	58.52 ^{g,h,i,j}	31.97 ^m
	L80M20	65.49 ^{g,h,i}	47.45 ^{h,i,j}	94.27 ^a	61.85 ^{f,g,h}	47.77 ^{d,e}	56.83 ^{g,h,i,j}	34.80 ^{l,m}
Maltodextrin/gum Arabic (MG)	L20MG80	76.63 ^{d,e,f}	90.32 ^{a,b,c}	87.13 ^{a,b,c}	61.98 ^{f,g,h}	57.38 ^{c,d}	60.74 ^{f,g,h,i}	65.89 ^{e,f}
	L50MG50	66.86 ^{f,g,h,i}	74.52 ^{d,e}	86.77 ^{a,b,c}	46.37 ^{j,k,l}	48.19 ^{d,e}	60.14 ^{g,h,i}	56.04 ^{f,g,h}
	L80MG20	62.10 ^{g,h,i,j}	57.73 ^{g,h,i}	90.07 ^{a,b}	58.48 ^{f,g,h,i}	45.24 ^e	55.12 ^{h,i,j}	49.95 ^{h,i,j}
Soy protein isolate (SPI)	L20P80	43.62 ^k	22.70 ^l	69.10 ^{e,f,g,h}	94.94 ^a	47.14 ^{d,e}	48.23 ^{j,k}	43.71 ^{j,k,l}
	L50P50	51.53 ^{j,k}	27.74 ^{k,l}	90.25 ^{a,b}	68.12 ^{e,f}	48.93 ^{d,e}	53.96 ^{h,i,j}	32.08 ^m
	L80P20	57.77 ^{h,i,j}	38.28 ^{j,k}	94.85 ^a	55.09 ^{g,h,i,j}	48.56 ^{d,e}	52.35 ^{ij}	31.78 ^m
Starch (S)	L20S80	65.65 ^{g,h,i}	84.74 ^{c,d}	83.74 ^{a,b,c,d}	80.90 ^{b,c,d}	45.08 ^e	55.54 ^{h,i,j}	54.76 ^{g,h,i}
	L50S50	66.14 ^{f,g,h,i}	64.94 ^{e,f,g}	92.78 ^{a,b}	58.16 ^{f,g,h,i}	47.63 ^{d,e}	57.05 ^{g,h,i,j}	42.98 ^{j,k,l}
	L80S20	61.74 ^{g,h,i,j}	57.72 ^{g,h,i}	88.39 ^{a,b}	52.82 ^{h,i,j}	47.20 ^{d,e}	57.13 ^{g,h,i,j}	39.56 ^{k,l,m}
Horseradish root (R) juice								
Maltodextrin (MD)	R20M80	88.60 ^{b,c}	87.56 ^{b,c}	80.94 ^{b,c,d,e}	97.11 ^a	77.64 ^b	88.64 ^{a,b,c}	39.92 ^{k,l,m}
	R50M50	80.71 ^{c,d}	94.07 ^{a,b,c}	54.01 ^{ij}	80.08 ^{c,d}	82.91 ^b	91.30 ^{a,b}	64.52 ^{e,f,g}
	R80M20	79.12 ^{c,d,e}	96.79 ^{a,b}	41.84 ^j	74.05 ^{d,e}	97.92 ^a	95.89 ^a	95.64 ^b
Maltodextrin/gum Arabic (MG)	R20MG80	81.98 ^{b,c,d}	51.44 ^{h,i}	60.59 ^{g,h,j}	51.19 ^{ij,k}	76.46 ^b	38.65 ^k	61.18 ^{f,g}
	R50MG50	92.44 ^{a,b}	72.87 ^{f,g}	76.08 ^{c,d,e,f}	39.88 ^l	80.48 ^b	64.93 ^{f,g,h}	79.73 ^{c,d}
	R80MG20	99.61 ^a	99.21 ^a	72.40 ^{d,e,f,g}	37.40 ^l	95.16 ^a	98.55 ^a	97.43 ^a
Soy protein	R20P80	61.20 ^{g,h,i,j}	54.35 ^{g,h,i}	45.08 ^j	91.52 ^{a,b}	53.69 ^{c,d,e}	77.86 ^{c,d,e}	73.89 ^{d,e}

Materials	Sample abbreviation	Parameters						
		TPC	TPAC	TFC	TF3C	DPPH [•]	ABTS ^{•+}	RP
isolate (SPI)	R50P50	56.26 ^{ij}	47.17 ^{ij}	64.68 ^{g,h,i}	66.97 ^{e,f}	61.71 ^c	71.23 ^{d,e,f}	84.09 ^c
	R80P20	67.99 ^{f,g,h}	96.11 ^{a,b}	93.41 ^a	51.01 ^{ijk}	98.54 ^a	92.78 ^a	97.02 ^b
Starch (S)	R20S80	79.33 ^{c,d,e}	49.66 ^{h,i}	75.27 ^{c,d,e,f}	63.60 ^{e,f,g}	51.95 ^{c,d,e}	52.70 ^{ij}	33.96 ^{l,m}
	R50S50	91.95 ^{a,b}	62.56 ^{f,g}	67.94 ^{g,h}	41.76 ^{k,l}	73.42 ^b	80.67 ^{b,c,d}	62.71 ^{f,g}
	R80S20	99.78 ^a	99.09 ^a	59.67 ^{h,i}	38.36 ^l	96.94 ^a	98.07 ^a	97.41 ^a

All data are means $\pm$ standard deviation (n = 3). ^{a–m} Values with different superscript letters in the same column are significantly different ($p < 0.05$) on the basis of Tukey's multiple comparison test. TPC: total phenolic content. TPAC: total phenolic acids content. TFC: total flavonoid content. TF3C: total flavan-3-ol content. DPPH[•]: 2,2-diphenyl-1-picrylhydrazyl radical activity. ABTS^{•+}: 2,2'-azino-bis(3-ethylbenzo-thiazoline-6-sulfonic) acid radical activity. RP: Reducing power.

Table S2 Bioactives and antioxidant activity in the microencapsulated horseradish juice, after four-month storage at room temperature in the dark.

Materials	Sample abbreviation	Parameters						
		TPC	TPAC	TFC	TF3C	DPPH [•]	ABTS ^{•+}	RP
Horseradish leaf (L) juice								
Juice (blank)	LB	6547±207 ^a	2511±62 ^a	11342±246 ^a	3277±81 ^f	121±4 ^a	1067±37 ^a	1097±44 ^a
Maltodextrin (MD)	L20M80	1741±52 ⁱ	1484±47 ^h	2602±79 ^h	6637±191 ^b	75±2 ^{f,g,h}	300±8 ^j	919±21 ^b
	L50M50	3730±145 ^f	2198±64 ^c	6149±167 ^f	5643±167 ^c	81±2 ^f	596±19 ^g	100±3 ^m
	L80M20	5374±216 ^{c,d}	2417±100 ^{a,b}	9638±344 ^c	3754±119 ^{d,e}	106±3 ^{c,d}	792±22 ^d	151±3 ^l
Maltodextrin/gu m Arabic (MG)	L20MG80	1750±52 ⁱ	1898±47 ^{d,e,f}	2632±79 ^h	417±13 ^{l,m,n,o}	64±2 ^{j,k,l,m,n}	261±8 ^j	238±4 ⁱ
	L50MG50	3691±94 ^f	1927±61 ^{d,e}	6057±244 ^f	541±19 ^{l,m,n}	79±2 ^{f,g}	592±19 ^g	308±4 ^h
	L80MG20	5265±115 ^d	2204±47 ^c	9021±348 ^d	643±13 ^{k,l,m}	101±4 ^{d,e}	858±21 ^c	436±11 ^f
Soy protein isolate (SPI)	L20P80	2780±88 ^g	1735±60 ^{f,g}	2778±96 ^{g,h}	3216±104 ^f	81±3 ^f	509±13 ^h	51±1 ^{n,o}
	L50P50	4115±89 ^e	2020±42 ^d	6498±167 ^f	3583±72 ^e	99±3 ^{d,e}	740±23 ^e	61±2 ^{m,n,o}
	L80P20	5764±180 ^{a,b}	2396±76 ^b	9476±191 ^{c,d}	4022±127 ^d	116±4 ^{a,b}	923±24 ^b	102±3 ^m
Starch (S)	L20S80	2152±68 ^h	1790±63 ^{e,f}	3214±96 ^g	259±9 ^o	74±3 ^{f,g,h,i}	350±14 ⁱ	215±6 ^{ij,k}
	L50S50	4161±165 ^e	1988±59 ^d	7321±234 ^e	345±12 ^{n,o}	95±2 ^e	679±13 ^f	304± ^a h9
	L80S20	5659±119 ^{b,c}	2395±8b	10462±420 ^b	388±12 ^{m,n,o}	110±6 ^{b,c}	946±38 ^b	364±11 ^g
Horseradish root (R) juice								
Juice (blank)	RB	878±31 ^{k,l}	957±24 ^{k,l}	427±19 ⁱ	1252±38 ^j	68±2 ^{h,i,j,k,l}	92±2 ^{l,m}	175±5 ^{k,l}
Maltodextrin (MD)	R20M80	255±7 ^p	828±22 ^{l,m}	232±5 ⁱ	7109±221 ^a	56±2 ⁿ	35±1 ^{n,o}	149±4 ^l
	R50M50	377±11 ^{n,o,p}	1197±36 ^{ij}	243±6 ⁱ	3773±97 ^{d,e}	61±1 ^{l,m,n}	54±1 ^{m,n,o}	219±7 ^{ij}
	R80M20	646±26 ^{l,m,n}	1556±46 ^h	360±10 ⁱ	826±20 ^k	76±2 ^{f,g,h}	71±2 ^{m,n}	430±1 ^{af5}
Maltodextrin/gu m Arabic (MG)	R20MG80	294±12 ^{o,p}	769±22 ^m	154±5 ⁱ	338±8 ^{n,o}	59±3 ^{m,n}	20±1 ^o	182±6 ^{j,k,l}
	R50MG50	581±17 ^{l,m,n,o}	1040±29 ^{jk}	409±13 ⁱ	446±16 ^{l,m,n,o}	62±2 ^{k,l,m,n}	36±1 ^{n,o}	535±17 ^d
	R80MG20	780±23 ^{k,l,m}	1286±32 ⁱ	486±16 ⁱ	687±28 ^{k,l}	70±3 ^{h,l,j,k}	61±2 ^{m,n,o}	699±24 ^c

Materials	Sample abbreviation	Parameters						
		TPC	TPAC	TFC	TF3C	DPPH [•]	ABTS ^{•+}	RP
Soy protein isolate (SPI)	R20P80	1603±60 ⁱ	1615±56 ^{g,h}	548±22 ⁱ	1607±58 ⁱ	71±2 ^{g,h,i,j}	288±9 ⁱ	36±1 ^o
	R50P50	1209±40 ^j	1451±50 ^h	432±14 ⁱ	2204±65 ^h	73±2 ^{f,g,h,i}	198±6 ^k	47±2 ^o
	R80P20	1009±41 ^{j,k}	1034±39 ^{j,k}	489±17 ⁱ	2535±80 ^g	80±2 ^{f,g}	125±5 ^l	56±2 ^{n,o}
Starch (S)	R20S80	255±7 ^p	1096±33 ^{j,k}	160±4 ⁱ	244±9 ^o	57±1 ⁿ	30±1 ^{n,o}	488±14 ^e
	R50S50	555±17 ^{m,n,o,p}	717±26 ^{m,n}	332±13 ⁱ	264±8 ^o	66±2 ^{i,j,k,l,m}	67±2 ^{m,n,o}	248±6 ⁱ
	R80S20	748±26 ^{k,l,m}	583±15 ⁿ	420±12 ⁱ	189±4 ^o	69±2 ^{h,i,j,k,l}	89±2 ^{l,m}	90±3 ^{m,n}

All data are means ± standard deviation ($n = 3$). ^{a–p} Values with different superscript letters in the same column are significantly different ($p < 0.05$) on the basis of Tukey's multiple-comparison test. TPC: total phenolic content (mg gallic-acid equivalent (GAE)/100 g dry weight (DW)); TPAC: total phenolic-acid content (mg caffeic-acid equivalent (CAE)/100 g DW); TFC: total flavonoid content (mg (+)-catechin equivalent (CE)/100 g DW); TF3C: total flavan-3-ol content (mg (+)-catechin equivalent (CE)/100 g DW); DPPH[•]: 2,2-diphenyl-1-picrylhydrazyl radical activity (mmol 6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid (Trolox) equivalent (TE)/100 g DW); ABTS^{•+}: 2,2'-azino-bis(3-ethylbenzo-thiazoline-6-sulfonic) acid radical activity (mmol TE/100 g DW); RP: reducing power (mg ascorbic-acid equivalent (AAE)/100 g DW).