



Supplementary Materials

Citrus sinensis and Vitis vinifera protect cardiomyocytes from doxorubicin-induced oxidative stress: evaluation of onconutraceutical potential of vegetable smoothies

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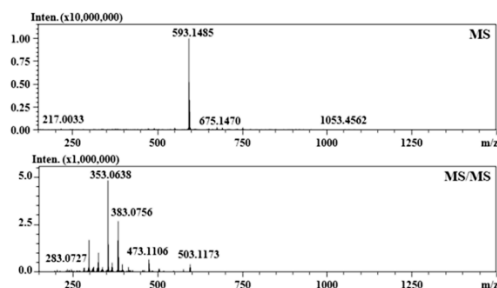
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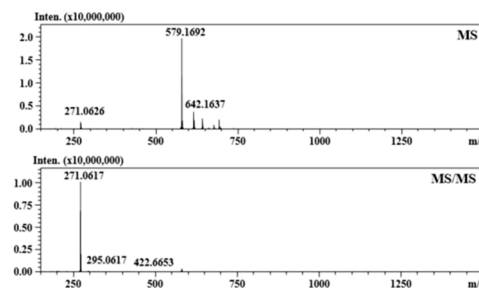
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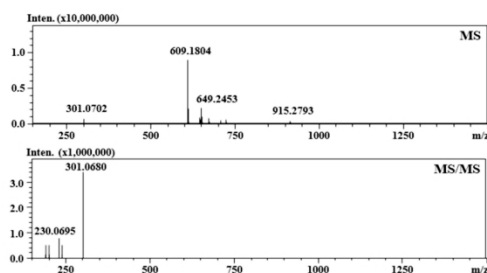
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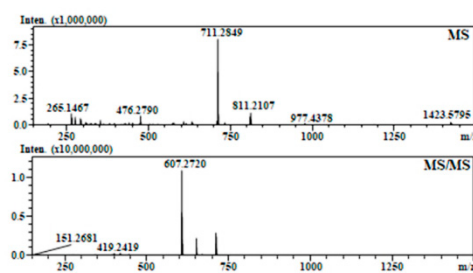
(a)



(b)



(c)



(d)

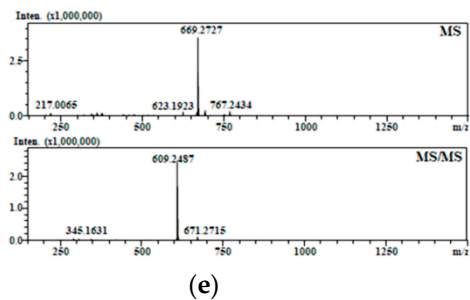


Figure S1. MS (top) and MS/MS (bottom) spectra of (a) apigenin 6,8-C-β-D-glucopyranoside, (b) narirutin, (c) hesperidin, (d) nomilinic acid glycoside and (e) deacetyl-nomilinic acid glycoside.

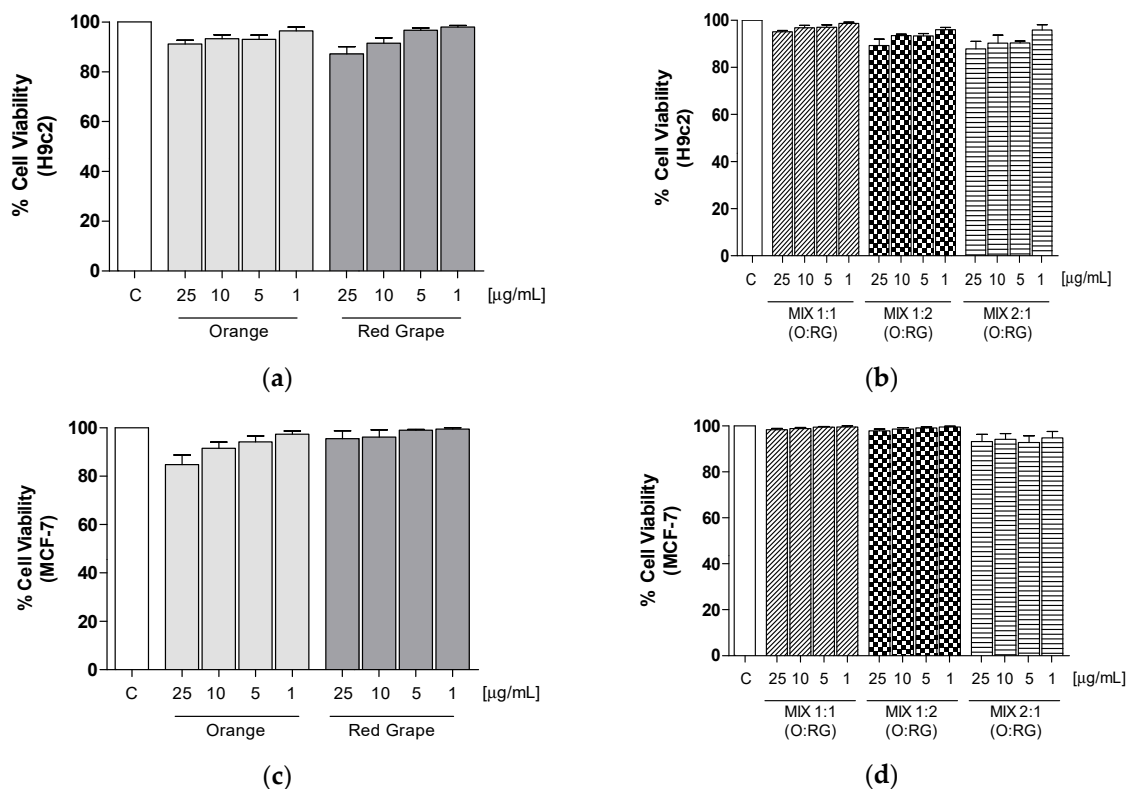


Figure S2. Effect of orange and red grapes extracts, and the 3 relative mixtures (25 – 1 μg/mL) alone on viability of H9c2 (a, b) and MCF-7 (c, d) cells. Data are expressed as mean ± S.E.M. of % of cell viability.

Table S1. Qualitative profile of polyphenols isolated in *Citrus sinensis* smoothie.

Peak	Rt (min)	Molecular Formula	Compound	[M-H] ⁻	MS/MS	Error (ppm)
1	1.20	C ₇ H ₁₂ O ₆	quinic acid	191.0241	173.0132	-5.76
2	1.21	C ₁₆ H ₁₉ O ₉	caffeoylquinic acid	353.0736	173.0147	-2.35
3	4.52	C ₁₅ H ₁₈ O ₈	5-p-coumaroyl-hexoside acid	325.0945	163.0311, 191.0570	-4.92
4	5.30	C ₁₆ H ₂₀ O ₉	ferulic acid 4-O-glucoside	355.1026	175.0549, 193.0527,	-2.53
5	5.55	C ₁₆ H ₁₈ O ₁₁	ferulic acid hexoside	385.0757	191.0102	-4.93
6	5.65	C ₃₃ H ₄₀ O ₂₁	quercetin 3-O-glucosyl-rhamnosyl-hexoside	771.2018	301.0359, 609.1374, 271.0196	-4.28
7	6.75	C ₂₇ H ₃₀ O ₁₅	vicenin II (qpigenin 6,8-C-β-D-glucopyranoside)	593.1466	503.1173, 473.1107, 353.0692,383.0805,	2.19
8	7.15	C ₂₁ H ₂₂ O ₁₀	naringenin hexoside	433.1130	271.0631,	-0.85
9	7.87	C ₂₈ H ₃₂ O ₁₆	lucenin 2-4'-methyl-ether	623.1581	383.0751, 312.0561	3.70
10	9.04	C ₂₇ H ₃₂ O ₁₅	eriocitrin	595.1631	287.0542	-1.96
11	9.29	C ₃₃ H ₄₀ O ₂₁	quercetin 3-O-glucosyl-rhamnosyl-hexoside	771.2360	301.0704, 463.1202	-4.28
12	9.32	C ₂₁ H ₂₀ O ₁₂	quercetin-3-O-hexoside	463.1342	301.0706	3.81
13	10.05	C ₂₆ H ₂₈ O ₁₄	apigenin 7-O-apiosyl-glucoside	563.1366	293.0344, 413.0874	-4.90
14	10.75	C ₂₇ H ₃₀ O ₁₆	rutin	609.1472	301.0335, 271.0237	-3.89
15	11.63	C ₂₇ H ₃₂ O ₁₄	narirutin	579.1703	271.0590	-4.19
16	12.25	C ₃₃ H ₄₀ O ₁₉	naringenin 3-O-glucosyl-rhamnosyl-hexoside	739.2122	433.1115, 577.1521, 271.0605	-2.22
17	12.76	C ₂₇ H ₃₂ O ₁₄	naringenin 7-O-neohesperidoside	579.1688	271.0669, 357.0802	-1.51
18	13.85	C ₂₈ H ₃₄ O ₁₅	hesperidin	609.1798	301.0679	-4.43
19	14.07	C ₃₂ H ₄₂ O ₁₄	limonin glucoside (limonin 17β-D-glucopyranoside)	649.2479	443.2036, 605.2564,651.2506	-1.45
20	14.44	C ₂₈ H ₃₂ O ₁₆	isorhamnetin 3-O-rutinoside	623.1591	315.0512, 311.0222, 271.0239	-2.35
21	15.19	C ₂₈ H ₃₄ O ₁₅	hesperidin isomer	609.1782	301.0702	-6.37
22	15.50	C ₂₈ H ₃₄ O ₁₅	hesperidin isomer	609.1798	301.0785	-6.37
23	17.70	C ₃₉ H ₄₂ O ₁₀	deacetyl-nomilinic acid glycoside	669.2720	609.2463	2.24
24	20.59	C ₂₈ H ₃₄ O ₁₄	didymin	593.1848	285.0772	2.72
25	21.90	C ₃₄ H ₄₆ O ₁₅	nomilin glucoside	693.2736	565.2589, 395.1648,445.2121	-4.04
26	21.92	C ₃₄ H ₄₈ O ₁₄	nomilinic acid-glycoside	711.2834	607.2710	-3.80

Table S2. RP-UHPLC-UV/Vis-ESI-IT-TOF identification of anthocyanins isolated from *Vitis vinifera* L. cv. Aglianico N. smoothie.

Peak	Rt (min)	Molecular Formula	Compound	[M+H] ⁺	Error (ppm)
1	4.34	C ₂₁ H ₂₁ O ₁₂ ⁺	delphinidin 3 O-glucoside	465.1037	1.94
2	4.78	C ₂₁ H ₂₁ O ₁₁ ⁺	cyanidin 3 O-glucoside	449.1095	5.57
3	5.13	C ₂₂ H ₂₃ O ₁₂ ⁺	petunidin 3 O-glucoside	479.1202	3.76
4	5.58	C ₂₂ H ₂₂ O ₁₁ ⁺	peonidin 3 O-glucoside	463.1258	4.97
5	5.86	C ₂₃ H ₂₅ O ₁₂ ⁺	malvidin 3 O-glucoside	493.1349	2.50
6	7.32	C ₂₄ H ₂₄ O ₁₃ ⁺	petunidin 3 O-(6'' acetyl) glucoside	521.1238	3.75
7	7.29	C ₂₄ H ₂₄ O ₁₃ ⁺	peonidin 3 O-(6'' acetyl) glucoside	505.1365	4.07
8	7.77	C ₂₄ H ₂₄ O ₁₃ ⁺	malvidin 3 O-(6'' acetyl) glucoside	535.1493	1.96
9	8.29	C ₃₂ H ₃₀ O ₁₅ ⁺	malvidin 3 O-(6''-p-caffeoyl) glucoside	655.1943	3.78
10	8.60	C ₃₁ H ₂₈ O ₁₄ ⁺	petunidin 3-(6-coumaroyl) O-glucoside	625.1587	2.44
11	9.10	C ₃₁ H ₂₈ O ₁₃ ⁺	peonidin 3-(6-coumaroyl) O-glucoside	609.1658	3.89
12	9.19	C ₃₂ H ₃₀ O ₁₄ ⁺	malvidin 3 O-(6''-p-coumaroil) glucoside	639.1747	4.67