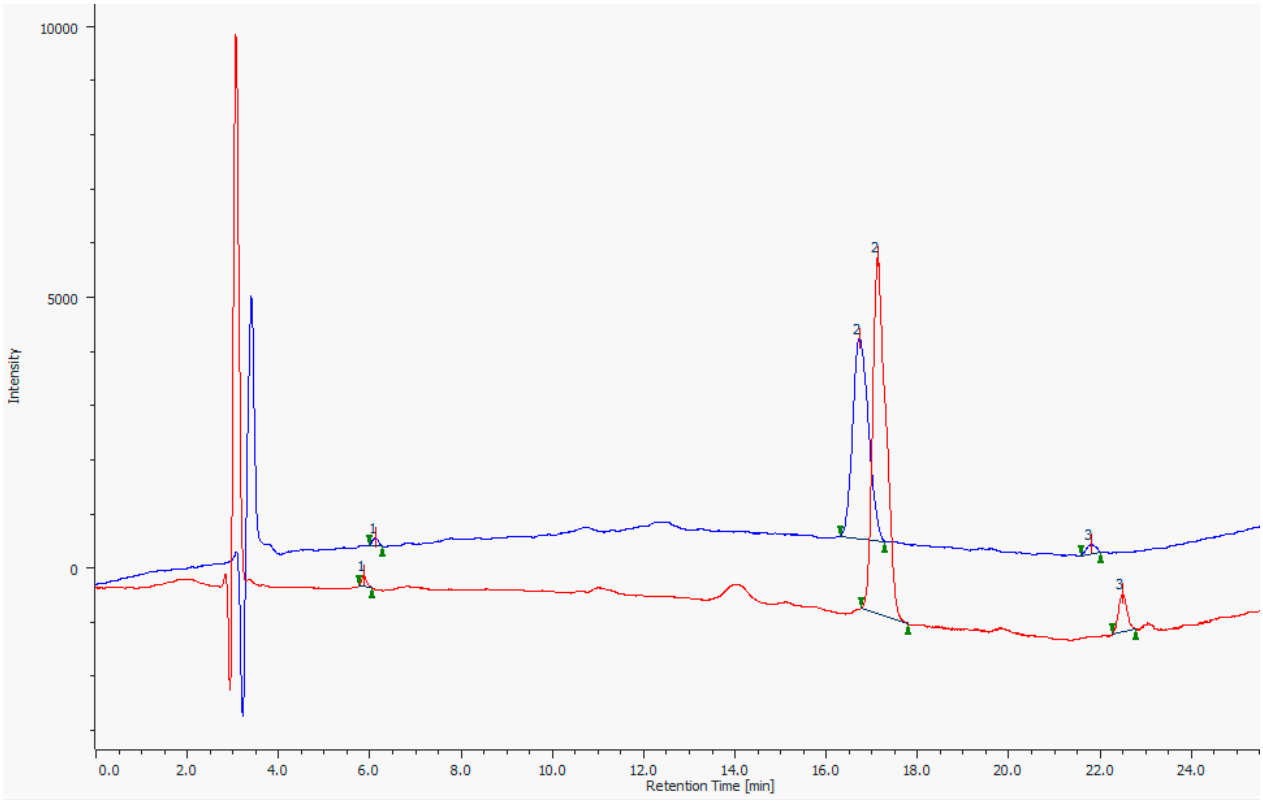

Figure S1. Comparison from carotenoids profile of tomato sauce and cherry tomato: peak 1 (lutein), peak 2 (lycopene), peak 3 (β-carotene).

Table S1. UHPLC operative setting

<table>
<tr><th colspan="3">UHPLC
Ultra-High-Performance Liquid Chromatography, Thermo Fisher Scientific, Waltham</th><th colspan="4">Mass operative setting
Orbitrap LC-MS/MS (Q Exactive, Waltham, MA, USA)</th></tr>
<tr><th>Stationary phase</th><th colspan="2">Mobile phase</th><th colspan="2">Ion source parameters
HESI II (Thermo Fisher Scientific, Waltham, MA, USA)</th><th colspan="2">Analyzer Target SIM</th></tr>
<tr><td rowspan="7">Accucore aQ 2.6 μm 100 × 2.1 mm column (Thermo Scientific, Waltham, USA) in a thermostat column compartment (T = 30 °C)</td><td>Minutes</td><td>Phase A%
acetic acid (0.1%)</td><td>Phase B%
100% ACN</td><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td>0-5</td><td>95</td><td>5</td><td>Spray voltage</td><td>-3.0 kV</td><td>automatic gain control (AGC)</td><td>1×10^5 ions</td></tr>
<tr><td>6-25</td><td>60</td><td>40</td><td>Sheath gas</td><td>(N_2 > 95%)</td><td>Scan rate</td><td>$2s^{-1}$</td></tr>
<tr><td>25.1-27</td><td>0</td><td>100</td><td>Auxiliary gas</td><td>(N_2 > 95%)</td><td>Scan range</td><td>100-1500 m/z</td></tr>
<tr><td>27.1-35</td><td>95</td><td>5</td><td>Capillary temperature</td><td>200 °C</td><td>mass resolving power</td><td>35,000 full width at half maximum (at m/z 200);</td></tr>
<tr><td>35.1-45</td><td>100</td><td>0</td><td>S-lens
Auxiliary gas heater temperature</td><td>RF level 50
305°C.</td><td>Maximum injection</td><td>200 ms</td></tr>
<tr><td colspan="4"></td><td colspan="2">The SIM (selected ion monitoring acquisition) parameters were: 35,000 full widths and half maximum (at m/z 200) (resolution power); 15s (time window); 1.2 m/z (quadrupole isolation window</td></tr>
</table>

Table S2. Analytical parameters of phenolics identification

	Phenolics	RT (min)	Formula	Theoretical m/z of deprotonated molecular ions [M-H]$^-$	Experimental m/z [M-H]$^-$	Calculated errors Δppm	Fragments	Collision energy (eV)
Phenolic acids	Vanillic acid	4.26	$C_8H_8O_4$	167.03498	167.03522	1.44	152.01143	20
	p-Coumaric acid	9.69	$C_9H_{10}O_5$	163.04007	163.04028	1.29	119.05023	20
	Cinnamic acid	11.39	$C_9H_8O_2$	147.04515	147.04536	1.43	103.04501	20
	Ferulic acid	12.36	$C_{10}H_{10}O_4$	193.05063	193.05084	1.09	178.02685	20
	4-Hydroxybenzoic acid	2.58	$C_7H_6O_3$	137.02442	137.02456	1.02	93.03431	12
	3-Hydroxybenzoic acid	2.88	$C_7H_6O_3$	137.02442	137.02458	1.17	93.03431	12
Flavonoids	Apigenin	19.11	$C_{15}H_{10}O_5$	269.04555	269.04597	1.56	225.05592	35
	Luteolin	19.07	$C_{15}H_{10}O_6$	285.04046	285.04106	2.10	133.02940	30
Lignans	(+) Pinoresinol	17.00	$C_{20}H_{22}O_6$	357.13436	357.13487	1.43	151.03961	40
	(+) 1-Acetoxypinoresinol	18.86	$C_{22}H_{24}O_8$	415.13984	415.14007	0.55	415.13821	40
Phenolic alcohols	Hydroxytyrosol (3,4 DHPEA)	1.58	$C_8H_{10}O_3$	153.05572	153.05580	0.52	123.04561	12
	Tyrosol (*p*-HPEA)	2.57	$C_8H_{10}O_2$	137.06080	137.06096	1.17	119.05022	12
Secoiridoids	Elenaic acid	13.11	$C_{11}H_{14}O_6$	241.07176	241.07212	1.49	209.04573	10
	Oleacein (3.4 DHPEA-EDA)	16.12	$C_{17}H_{20}O_6$	319.11871	319.11898	0.85	301.1082	15
	Oleuropein	16.74	$C_{25}H_{32}O_{13}$	539.17701	539.17767	1.22	377.12393	20
	Ligstroside	18.37	$C_{25}H_{32}O_{12}$	523.18210	523.18279	1.32	361.12914	12
	Ligstroside-aglycone dialdehyde (*p*-HPEA-EDA)	18.61	$C_{17}H_{20}O_5$	303.12380	303.12441	2.01	301.1082	12
	Secologanoside	19.49	$C_{16}H_{21}O_{11}$	389.1092	389.109258	0.59	345.1195	12
	Oleuropein-aglycone mono-aldehyde (3.4 DHPEA-EA)	21.24	$C_{19}H_{22}O_8$	377.12419	377.12442	0.61	345.09790	12

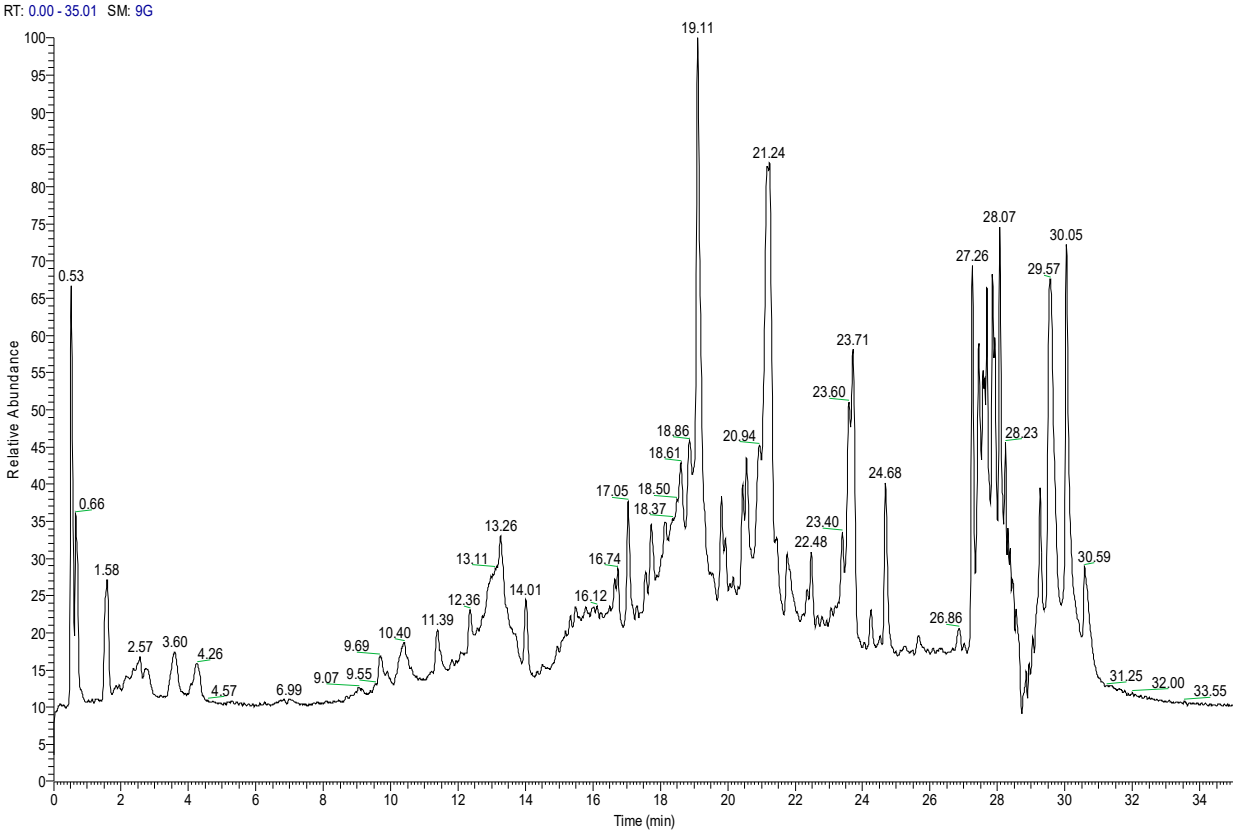

Figure S2: TIC of EVOOT polyphenols after UHPLC-Q-Orbitrap analysis in negative ESI mode