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The effect of high pressure processing on polyphenol oxidase activity, phytochemicals and proximate composition of Irish potato cultivars

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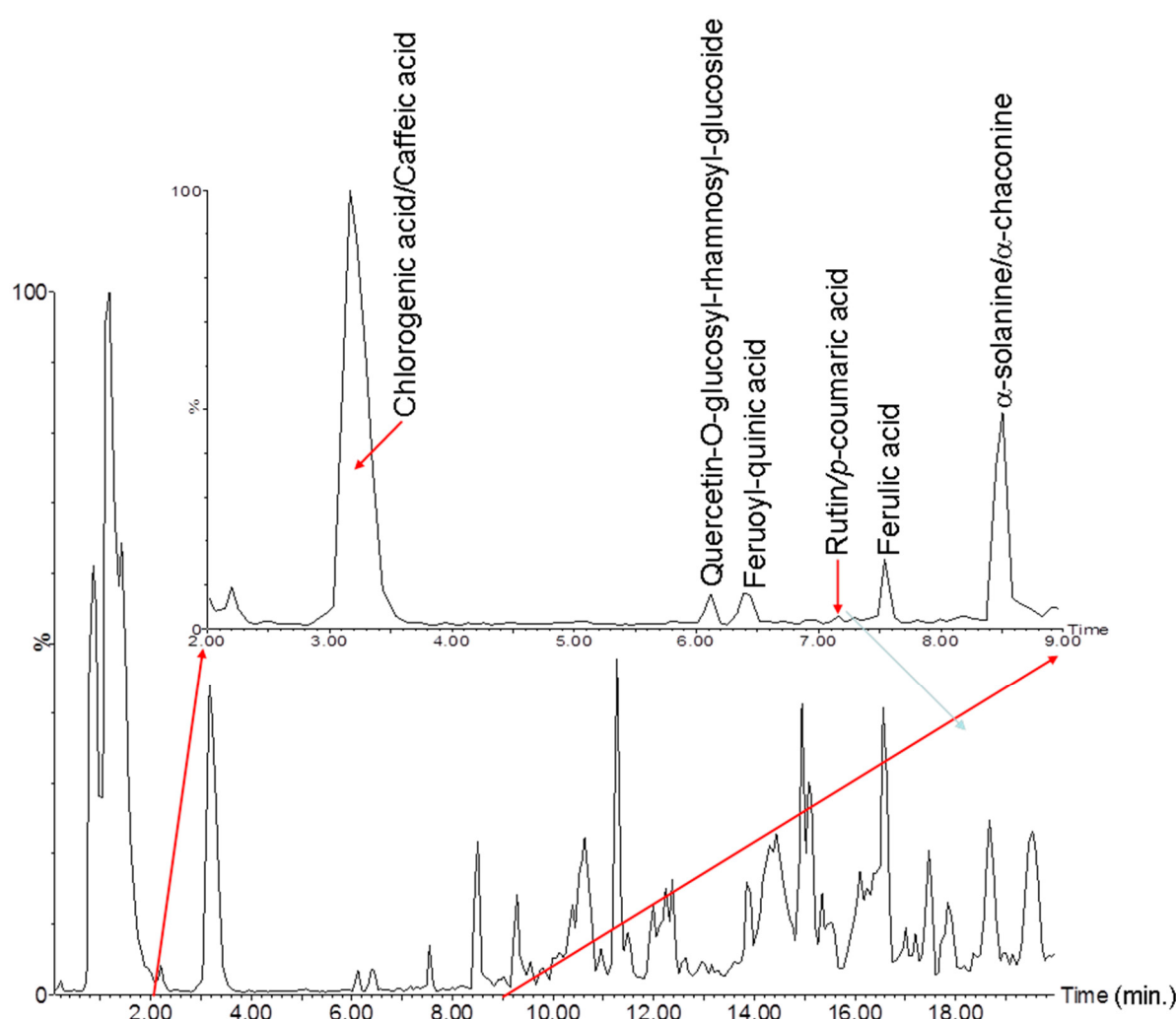


Figure S1: HPLC-Q-ToF-MS profiling of the phytochemicals in the potato (Saxon) extract. Shown in the inset is the LC chromatogram where the polyphenols and glycoalkaloids elute between 2-9 minutes.

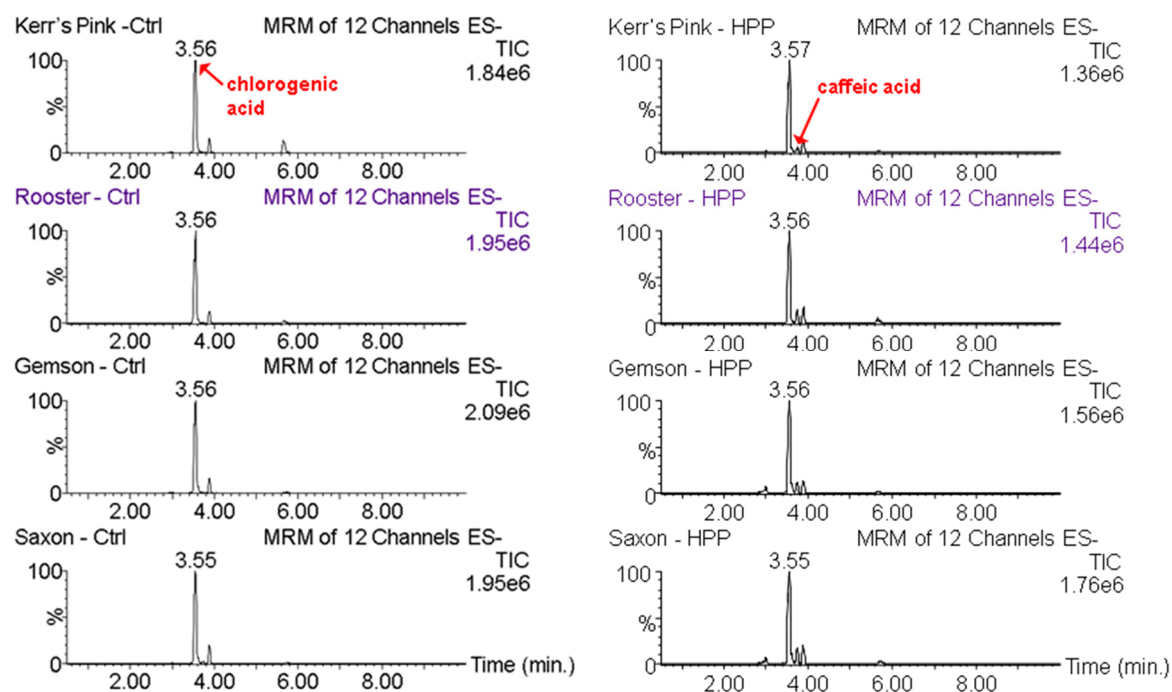


Figure S2: UPLC-TQD-MS quantification of polyphenols in the different potato cultivars prior to (left column) and post-HPP (right column). As evident from the total ion chromatograms (TIC) that chlorogenic acid is the most abundant polyphenol in potatoes, which is reduced in the post-HPP samples with an increase in caffeic acid.

Table S1. Tentative identification of phytochemicals from the potato (Saxon) extract using accurate mass measurement and MS/MS fragment ions

RT (min.)	Observed [M-H] ⁺ (m/z)	Calculated [M-H] ⁺ (m/z)	Molecular formula	MS/MS ions (m/z)	Tentative Identification
0.88	158.9764	158.9752	C ₅ H ₄ O ₄ S	130.99, 115.00	Dihydroxythiophene-carboxylic acid
0.98	191.0541	191.0556	C ₇ H ₁₂ O ₆	147.05	Quinic acid
2.17	203.8050	203.0821	C ₁₁ H ₁₂ N ₂ O ₂	159.09	Tryptophan
3.17	353.0858	353.0873	C ₁₆ H ₁₈ O ₉	191.08, 173.06, 135.06	Chlorogenic acid
3.46	179.0341	179.0344	C ₉ H ₈ O ₄	135.04	Caffeic acid
6.12	771.1978	771.1984	C ₃₃ H ₄₀ O ₂₁	300.03	Quercetin-O-glucosyl-rhamnosyl-glucoside
6.39	367.1015	367.1029	C ₁₇ H ₂₀ O ₉	193.04, 191.05, 173.05	Feruloyl-quinic acid
6.44	625.1384	625.1405	C ₂₇ H ₃₀ O ₁₇	300.03, 191.05	Quercetin- O-di-glucoside
7.16	609.1442	609.1456	C ₂₇ H ₃₀ O ₁₆	301.03	Rutin
7.19	163.0387	163.0395	C ₉ H ₈ O ₃	119.05	<i>p</i> -coumaric acid
7.51	193.0488	193.0501	C ₁₀ H ₁₀ O ₄	134.04, 117.04	Ferulic acid
8.42	866.4885	866.4902	C ₄₅ H ₇₃ NO ₁₅	704.51, 701.32, 558.47	α-solanine
8.48	850.4915	850.4953	C ₄₅ H ₇₃ NO ₁₄	704.41, 422.14	α-chaconine

