cosmetics

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Article

In vitro Cell Culture of *Rhus coriaria* L.: A Standardized Phytocomplex Rich of Gallic Acid Derivatives with Antioxidant and Skin Repair Activity

Giovanna Pressi [1,*], Oriana Bertaiola [1], Chiara Guarnerio [1], Elisa Barbieri [1], Giovanna Rigillo [2], Paolo Governa [3], Marco Biagi [4], Flavia Guzzo [5] and Alessandra Semenzato [6]

Supplementary material

Table S1. *Rhus coriaria* putatively identified metabolites by means of UPLC-ESI-MS. rt (retention time), detected m/z (mass-to-charge ratio), calculated m/z, mass error (in PPM), elemental formula are reported.

rt	m/z(-) Detected	m/z(-) Calculated	Mass Error	Elemental Formula	Putative Identification
1.605	387.114	387.114	0.560	C12H22O11	Sucrose, formic adduct
2.439	331.067	331.066	−2.477	C13H16O10	Gallic acid hexose
2.940	331.067	331.066	−2.209	C13H16O10	Gallic acid hexose
3.451	331.066	331.066	−1.229	C13H16O10	Gallic acid hexose
3.606	329087	329.087	−0.259	C14H18O9	Vanillic acid glucoside
4.117	371.097	371.098	1.000	C15H18O8	Coumaric and hexose, formic adduct
4.306	341.087	341.087	0.024	C15H18O9	Caffeic acid hexose
4.492	355.103	355.103	0.611	C16H20O9	Ferulic acid hexoside
4.587	577.135	577.135	−0.192	C30H26O12	Procyanidin P2-type
4.702	865.197	865.197	−0.333	C45H38O18	Procyanidin P3-type
4.804	289.072	289.072	−1.890	C15H14O6	Catechin
4.930	325.092	325.092	−0.492	C15H18O8	Coumaric acid hexose
5.179	325.092	325.092	0.140	C15H18O8	Coumaric acid hexose
5.253	355.102	355.103	1.169	C16H20O9	Ferulic acid hexoside
5.347	635.088	635.088	0.038	C27H24O18	Trigalloyl hexose
5.879	447.092	447.092	−0.615	C21H20O11	Tetrahydroxyflavone-O- hexoside
6.265	447.092	447.092	−0.016	C21H20O11	Tetrahydroxyflavone-O-hexoside
6.640	449.108	449.108	0.305	C21H22O11	Tetrahydroxyflavone-O-hexoside
6.723	469.048	469.051	7.360	C41H32O26	Pentagalloyl hexose
7.036	545.054	545.057	5.758	C48H36O30	Hexagalloyl hexose, M/2-H+ adduct
7.452	621.059	621.062	5.408	C55H40O34	Heptagalloyl hexose, M/2-H+ adduct
7.712	697.064	697.068	5.243	C62H44O38	Octogalloyl hexose, M/2-H+ adduct

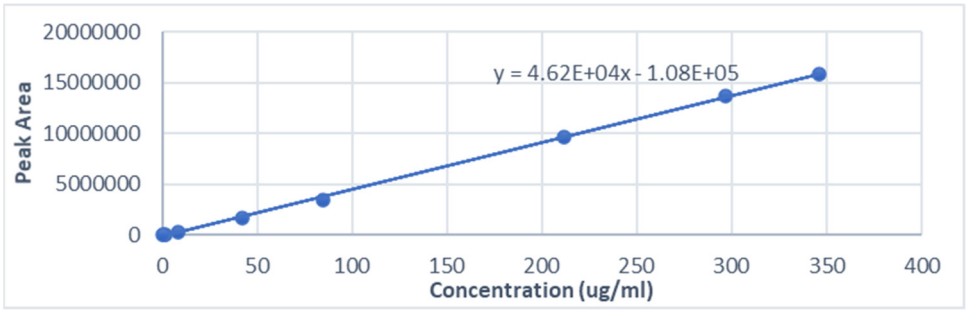

Figure S1. Calibration curve of gallic acid; values are mean of two independent measures. The linear regression equation is reported (R^2 = 0.9999).

Table S2. Results of linearity regression, correlation coefficient, LOD and LOQ for gallic acid standard.

Regression equation	R^2	Residual STD (σ)	Calibraton curve slop (S)	LOD (µg/mL)	LOQ (µg/mL)
y = 4.61E+04x – 2.21E+05	0.9999	2.24E+04	4.60E+04	1.5	4.9
y = 4.59E+04x – 1.43E+05	0.9999				
y = 4.59E+04x – 8.53E+05	0.9998				
y = 4.60E+04x – 1.50E+05	0.9998				

Table S3. Intra-day variability of gallic acid standard.

	Repeated measurements (n=3)
Concentration (µg/mL)	RDS (%)
136.0	0.71
228.0	0.59
319.0	0.11

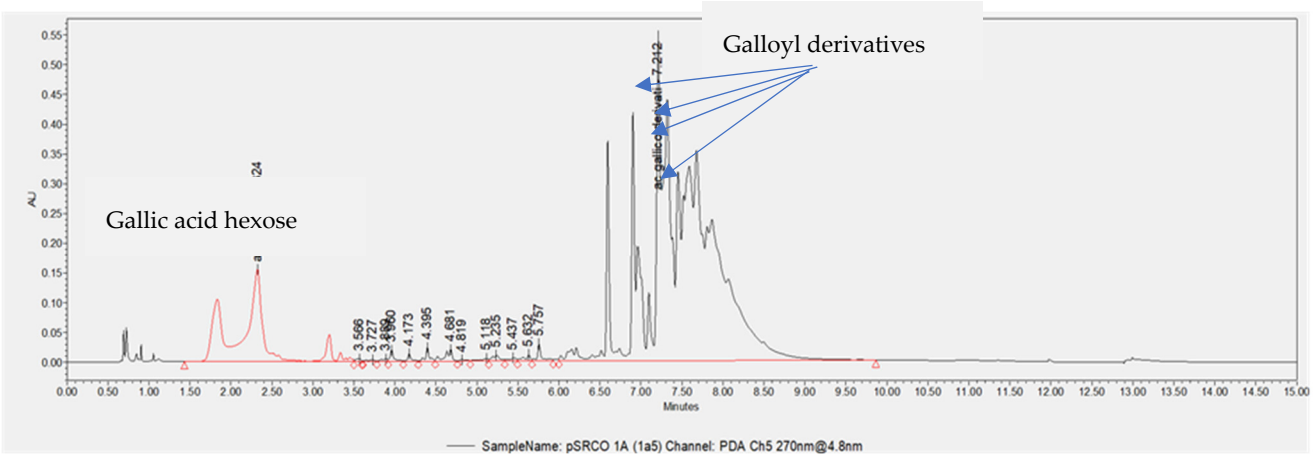

Figure S2. Chromatographic profile of RC-P extract at the wavelength of 270 nm, using the UPLC-DAD analysis, to estimate the content of gallic acid derivatives. Galloyl derivatives are identified by their characteristic spectrum with λmax at 270 nm.