

**Table S1.** Identified compounds in the ethanolic extract from *R. rosea* “Mattmark”.

No.	tR (min)	[M-H] <sup>-</sup> (m/z)	MS <sup>n</sup> [parent ion], m/z	UV λ <sub>max</sub>	Identified compounds	Compound group
1	1.60	169	MS <sup>2</sup> [169]: 125	215, 272	Gallic acid	Benzoic acid
2	3.06	331	/	/**	Galloyl glucose	Phenolic glycoside
3	3.11	258	MS <sup>2</sup> [304]*: 258, 179, 161 MS <sup>3</sup> [179]: 161, 143, 131, 119, 89	209	Rhodiocyanoside A	Cyanogenic glycoside
4	4.17	260	MS <sup>2</sup> [306]*: 260, 188, 161 MS <sup>3</sup> [260]: 188, 161	/**	Lotaustralin	Cyanogenic glycoside
5	4.61	297	MS <sup>2</sup> [343]*: 297, 135	266	Phenolic hexoside	Phenolic hexoside
6	4.90	299	MS <sup>2</sup> [345]*: 299 MS <sup>3</sup> [299]: 179, 161, 143, 131, 119, 113, 101	221, 276	Salidroside	Phenylethyl glycoside
7	5.51	761	MS <sup>2</sup> [761]: 635, 609, 593, 591, 473, 483, 423 MS <sup>3</sup> [423]: 379, 297, 283, 243	207, 273	Epigallocatechin-epigallocatechin gallate (EGC-EGCG)	Proanthocyanidin dimer
8	7.27	913	MS <sup>2</sup> [913]: 761, 743, 591, 573, 423 MS <sup>3</sup> [761]: 379	205, 275	Epigallocatechin gallate-epigallocatechin gallate (EGCG-EGCG)	Proanthocyanidin dimer
9	7.73	457	MS <sup>2</sup> [457]: 331, 305, 169 MS <sup>3</sup> [169]: 125	207, 274	Epigallocatechin-3-O-gallate	Flavanol (Catechin)
10	8.92	415	MS <sup>2</sup> [461]*: 415 MS <sup>3</sup> [415]: 191, 149, 131	/**	2-Phenylethyl-vicianoside	Phenylethyl glycoside
11	10.52	427	MS <sup>2</sup> [473]*: 427, 293 MS <sup>3</sup> [427]: 293, 149	251	Rosarin	Cinnamyl alcohol glycoside
12	10.77	465	MS <sup>2</sup> [511]*: 465 MS <sup>3</sup> [465]: 333, 293, 191, 149	/**	Rhodiolide E	Acyclic alcohol glycoside
13	10.88	427	MS <sup>2</sup> [473]*: 427, 293 MS <sup>3</sup> [427]: 293, 149	251	Rosavin	Cinnamyl alcohol glycoside
14	11.18	427	MS <sup>2</sup> [473]*: 427, 293 MS <sup>3</sup> [427]: 293, 149	252	Cinnamyl-pentosyl-hexoside	Cinnamyl alcohol glycoside
15	11.47	331	MS <sup>2</sup> [377]*: 331, 179 MS <sup>3</sup> [179]: 161, 143, 131, 119, 113, 89	193, 262	Rosiridin	Acyclic alcohol glycoside
16	14.76	609	MS <sup>2</sup> [609]: 463, 301 MS <sup>3</sup> [301]: 301, 283, 255, 229, 211, 201	276, 332, 384	Rhodosin (herbacetin-7-O-glucorhamnoside)	Flavanol glycoside
17	15.10	447	MS <sup>2</sup> [447]: 301 MS <sup>3</sup> [301]: 301, 283, 255, 229, 211, 201	276, 329, 384	Rhodonin (herbacetin-7-O-α-L-rhamnopyranoside)	Flavanol glycoside
18	18.66	479	/	280, 330, 338	Rhodiolin	Flavolignan

\* Fragmentation of [M-H+HCOOH]<sup>-</sup> as parent ion in MS<sup>2</sup> is indicated by an asterisk, in all other cases fragment ions of [M-H]<sup>-</sup> as parent ion are presented;

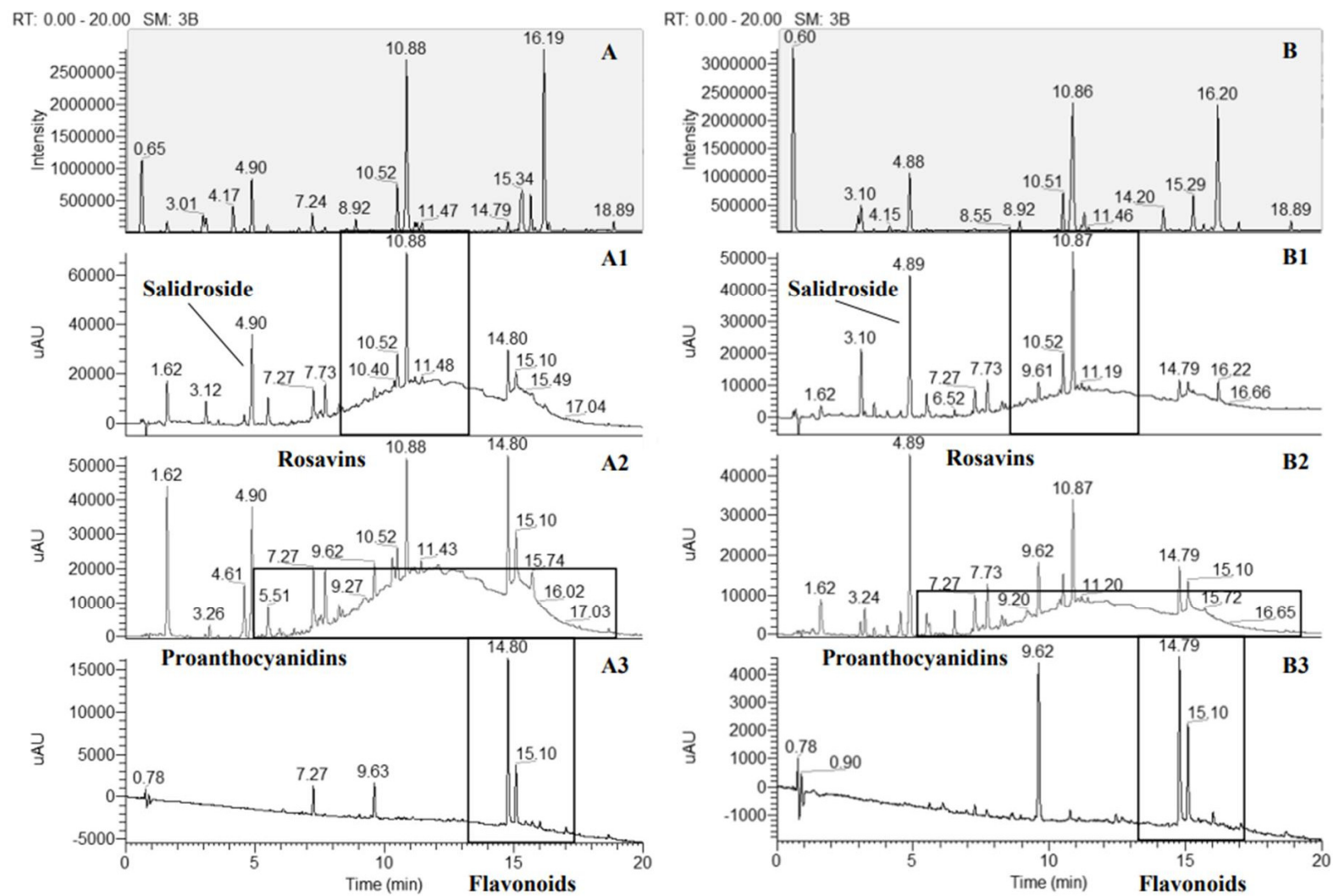
\*\* Not detected in the UV chromatogram due to the low concentration; / no further fragment ions observed (low concentration)

**Table S2.** Identified compounds in the ethanolic extract from *R. rosea* “Rosavine”.

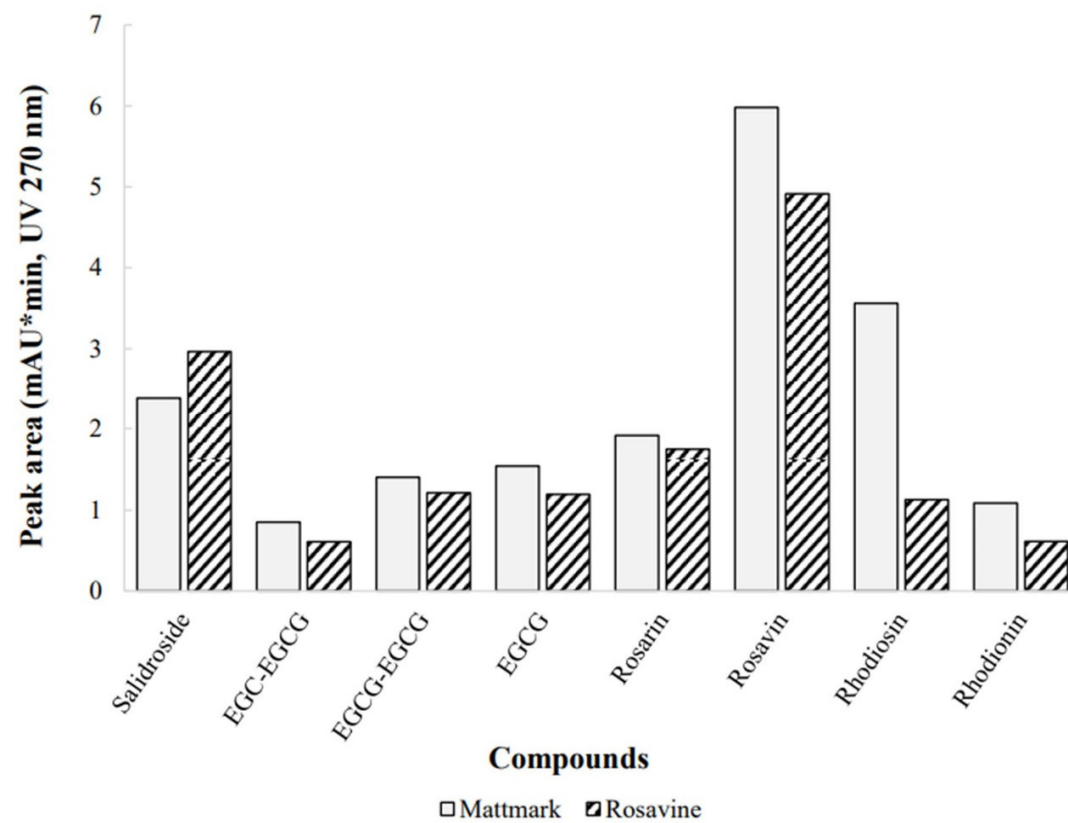
No.	tR (min)	[M-H] (m/z)	MS <sup>n</sup> (m/z)	UV $\lambda_{\text{max}}$	Identified compounds	Compound group
1	1.62	169	MS <sup>2</sup> [169]: 125	215, 269	Gallic acid	Benzoic acid
2	3.07	331	/	209	Galloyl glucose	Phenolic glycoside
3	3.10	258	MS <sup>2</sup> [304]*: 258, 179, 161 MS <sup>3</sup> [179]: 161, 143, 131, 119, 89	209	Rhodiocyanoside A	Cyanogenic glycoside
4	4.15	260	MS <sup>2</sup> [306]*: 260, 188, 161 MS <sup>3</sup> [260]: 188, 161	/**	Lotaustralin	Cyanogenic glycoside
5	4.88	299	MS <sup>2</sup> [345]*: 299 MS <sup>3</sup> [299]: 179, 161, 143, 131, 119, 113, 101, 89	221, 276	Salidroside	Phenylethyl glycoside
6	5.51	761	MS <sup>2</sup> [761]: 635, 609, 593, 575, 483, 423 MS <sup>3</sup> [423]: 379, 297, 283, 243	207, 276	Epigallocatechin-epigallocatechin gallate (EGC-EGCG)	Proanthocyanidin dimer
7	7.27	913	MS <sup>2</sup> [913]: 761, 743, 591, 573, 423 MS <sup>3</sup> [761]: 379	205, 276	Epigallocatechin gallate-epigallocatechin gallate (EGCG-EGCG)	Proanthocyanidin dimer
8	7.72	457	MS <sup>2</sup> [457]: 331, 305, 169 MS <sup>3</sup> [169]: 125	207, 275	Epigallocatechin-3-O-gallate	Flavanol (Catechin)
9	8.92	415	MS <sup>2</sup> [461]*: 415 MS <sup>3</sup> [415]: 191, 149, 131	/**	2-Phenylethyl-vicianoside	Phenylethyl glycoside
10	9.63	609	MS <sup>2</sup> [609]*: 463 MS <sup>3</sup> [463]: 301, 300	275, 326, ?	Rhodonidin (herbacetin-7-O-rhamnosyl-8-O-glucoside)	Flavonol glycoside
11	10.51	427	MS <sup>2</sup> [473]*: 427, 293 MS <sup>3</sup> [427]: 293, 149	251	Rosarian	Cinnamyl alcohol glycoside
12	10.80	465	MS <sup>2</sup> [511]*: 465 MS <sup>3</sup> [465]: 333, 293, 191, 149	/**	Rhodioloid E	Acyclic alcohol glycoside
13	10.88	427	MS <sup>2</sup> [473]*: 427, 293 MS <sup>3</sup> [427]: 239, 149	251	Rosavin	Cinnamyl alcohol glycoside
14	11.18	427	MS <sup>2</sup> [473]*: 427, 293 MS <sup>3</sup> [427]: 239, 149	251	Cinnamyl-pentosyl-hexoside	Cinnamyl alcohol glycoside
15	11.46	331	MS <sup>2</sup> [377]*: 331, 179 MS <sup>3</sup> [179]: 161, 143, 131, 119, 89	193, 262	Rosiridin	Acyclic alcohol glycoside
16	14.76	609	MS <sup>2</sup> [609]: 463, 301 MS <sup>3</sup> [301]: 301, 283, 255, 229, 211, 201	276, 332, 384	Rhodosin (herbacetin-7-O-glucorhamnoside)	Flavonol glycoside
17	15.10	447	/	276, 330, 384	Rhodonin (herbacetin-7-O- $\alpha$ -L-rhamnopyranoside)	Flavonol glycoside

\* Fragmentation of [M-H+HCOOH]<sup>+</sup> as parent ion in MS<sup>2</sup> is indicated by an asterisk, in all other cases fragment ions of [M-H]<sup>+</sup> as parent ion are presented;

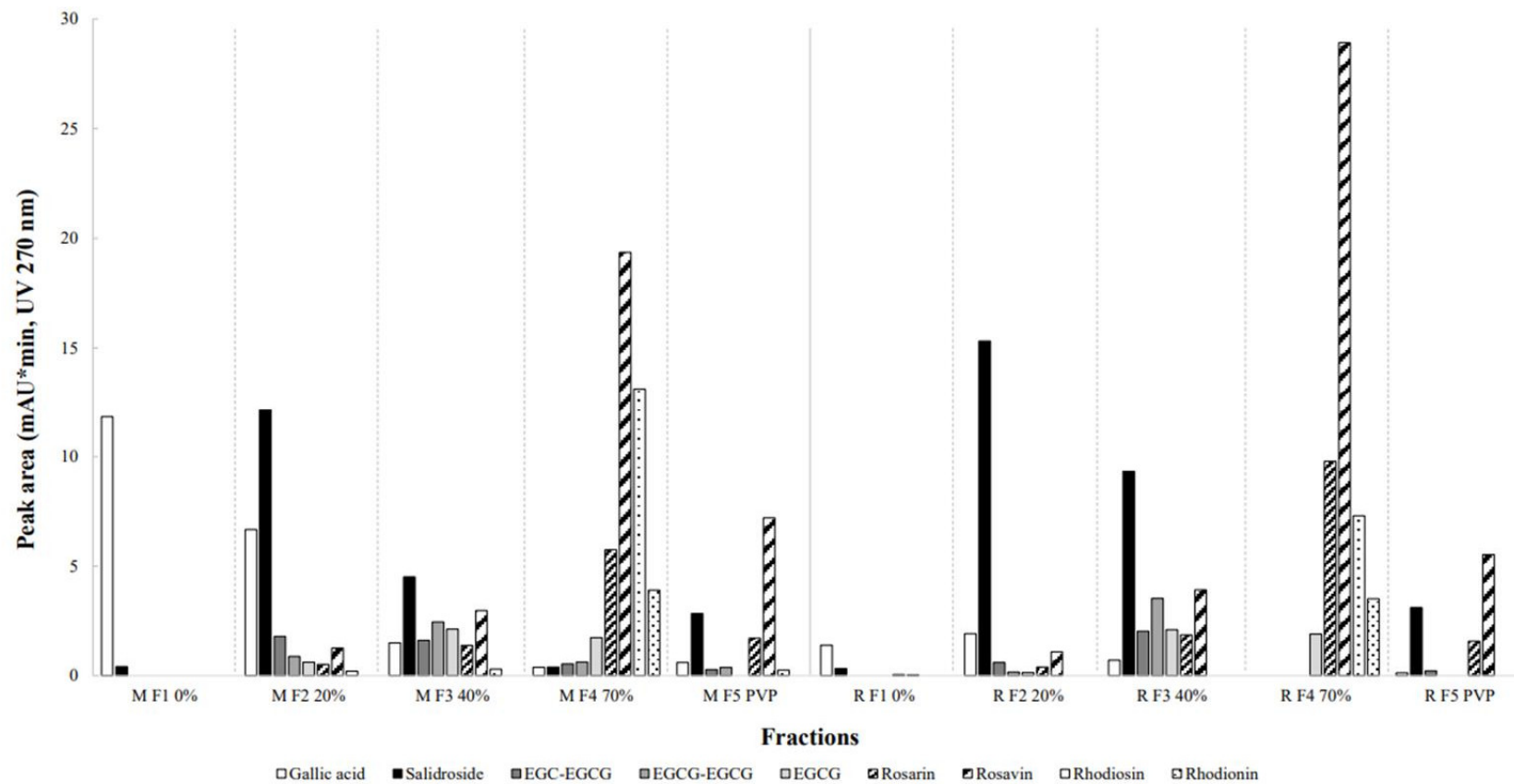
\*\* Not detected in the UV chromatogram due to the low concentration; / no further fragment ions observed (low concentration)



**Figure S1.** The base peak (A: "Mattmark"; B: "Rosavine") and UV chromatograms (A1; B1: total scan; A2; B2: 276 nm; A3; B3: 360 nm) from UHPLC-PDA-ESI-MS analysis of *R. rosea* ethanolic extracts.



**Figure S2.** Comparison of peak areas at UV 270 nm of the crude ethanolic extracts of *R. rosea* roots “Mattmark” and “Rosavine”. Samples were analyzed at a concentration of 5 mg/mL.



**Figure S3.** Comparison of peak areas at UV 270 nm of fractions F1 to F5 of "Mattmark" (M) and "Rosavine" (R). Samples were analyzed at a concentration of 5 mg/mL.