

## Supporting Information

*Rec. Nat. Prod.* 17:3 (2023) 484-500

### Analysis of Phenolic Compounds by LC-HRMS and Determination of Antioxidant and Enzyme Inhibitory Properties of *Verbascum speciosum* Schrad

Hatice Kızıldaş <sup>1</sup>, Zeynebe Bingöl <sup>2</sup>, Ahmet C. Gören <sup>3</sup>,

Saleh H. Alwaseel <sup>4</sup> and İlhami Gülçin <sup>5</sup>

<sup>1</sup>Vocational School of Health Services, Van Yuzuncu Yil University, 65080-Van, Türkiye

<sup>2</sup>Vocational School of Health Services, Tokat Gaziosmanpasa University, 60250-Tokat, Türkiye

<sup>3</sup>Department Chemistry, Faculty of Sciences, Gebze Technical University, 41400-Gebze-Kocaeli,  
Türkiye

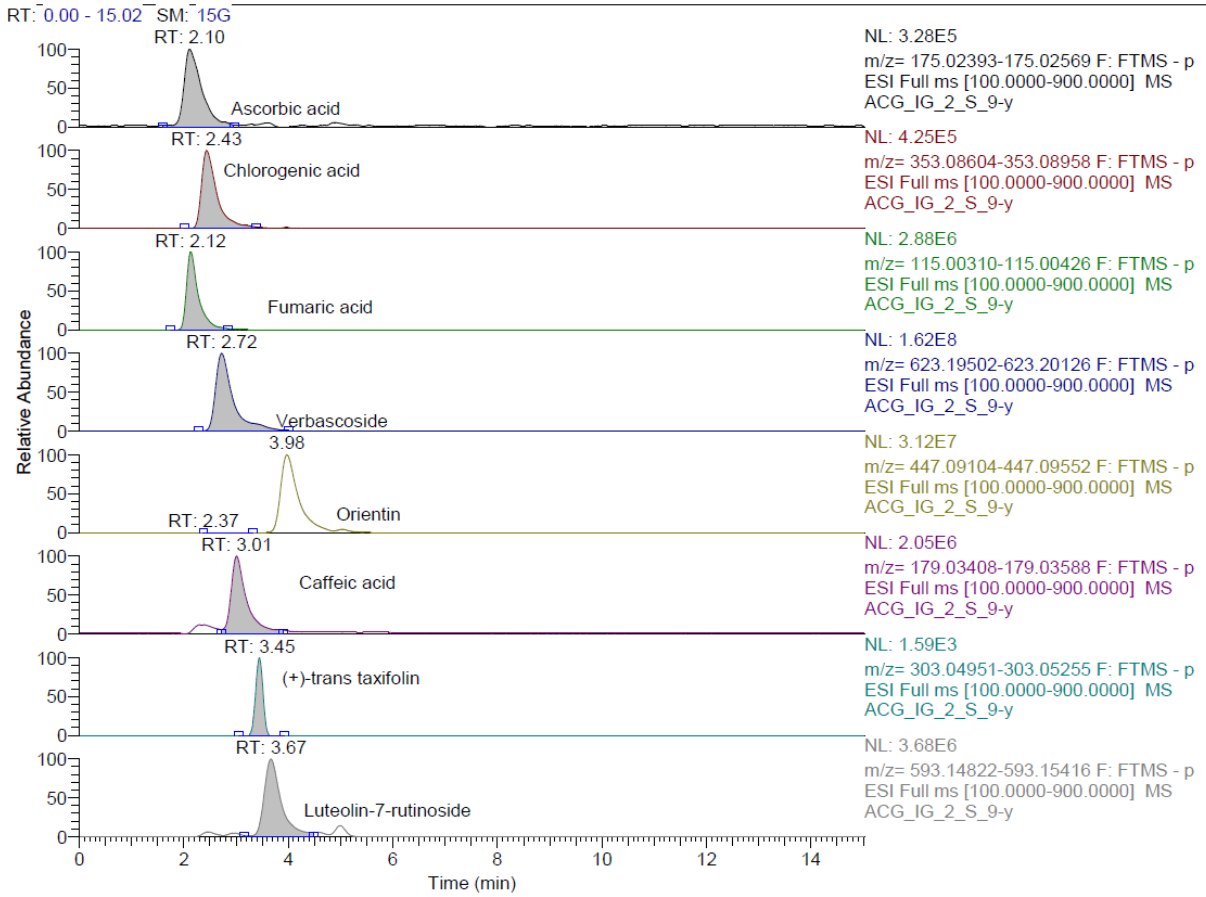
<sup>4</sup>Department of Zoology, College of Science, King Saud University, Riyadh, Saudi Arabia

<sup>5</sup>Department of Chemistry, Faculty of Sciences, Atatürk University, 25240-Erzurum, Türkiye

Table of Contents	Page
<b>Table S1:</b> Method validation parameters of reported compounds	2
<b>Figure S1:</b> LC-HRMS chromatogram of EEVS extract	3

**Table S1:** Method validation parameters of reported compounds

Compound	Molecular Formula	<i>m/z</i>	Ionization Mode	Linear Range	Linear regression equation	LOD/LOQ	R <sup>2</sup>	Recovery
Ascorbic acid	C <sub>6</sub> H <sub>8</sub> O <sub>6</sub>	175.0248	Negative	0.5-10	y=0.00347x-0.00137	0.39/1.29	0.9988	96.20
Epigallocatechin	C <sub>15</sub> H <sub>14</sub> O <sub>7</sub>	307.0812	Positive	0.3-5	y=0.00317x+0.000443	0.17/0.57	0.9947	102.22
Epigallocatechin gallate	C <sub>22</sub> H <sub>18</sub> O <sub>11</sub>	459.0922	Positive	0.3-7	y=0.00182x+0.000026	0.1/0.33	0.9989	94.76
Chlorogenic acid	C <sub>16</sub> H <sub>18</sub> O <sub>9</sub>	353.0878	Negative	0.05-10	y=0.00817x+0.000163	0.02/0.06	0.9994	96.68
Fumaric acid	C <sub>4</sub> H <sub>4</sub> O <sub>4</sub>	115.0037	Negative	0.1-10	y=0.00061x-0.0000329	0.05/0.17	0.9991	97.13
Verbascoside	C <sub>15</sub> H <sub>14</sub> O <sub>6</sub>	289.0718	Negative	0.05-10	y=0.0172x+0.0002269	0.01/0.03	0.9993	95.66
Orientin	C <sub>22</sub> H <sub>18</sub> O <sub>10</sub>	441.0827	Negative	0.05-10	y=0.00788x-0.0001875	0.01/0.03	0.9995	96.54
Caffeic acid	C <sub>29</sub> H <sub>36</sub> O <sub>15</sub>	623.1981	Negative	0.1-10	y=0.00758x+0.000563	0.03/0.1	0.9995	96.19
<i>trans</i> taxifolin	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	447.0933	Negative	0.1-10	y=0.00757x+0.000347	0.01/0.03	0.9993	96.22
Luteolin-7-O-rutinoside	C <sub>9</sub> H <sub>8</sub> O <sub>4</sub>	179.0350	Negative	0.3-10	y=0.0304x+0.00366	0.08/0.27	0.9993	94.51
Naringin	C <sub>27</sub> H <sub>30</sub> O <sub>15</sub>	593.1512	Negative	0.1-10	y=0.00879x+0.000739	0.01/0.03	0.9988	93.05
Luteolin 7-O-lucoside	C <sub>8</sub> H <sub>8</sub> O <sub>4</sub>	167.0350	Negative	0.3-10	y=0.00133x+0.0003456	0.1/0.33	0.9997	98.66
<i>p</i> -Coumaric acid	C <sub>27</sub> H <sub>32</sub> O <sub>14</sub>	579.1719	Negative	0.05-10	y=0.00576x-0.000284	0.01/0.03	0.9991	101.91
Hesperidin	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	447.0933	Negative	0.1-7	y=0.0162x+0.00226	0.01/0.03	0.9961	96.31
Rutin	C <sub>9</sub> H <sub>8</sub> O <sub>3</sub>	163.0401	Negative	1-10	y=0.000324x-0.0000641	0.32/1.02	0.9988	117.01
Syringic acid	C <sub>28</sub> H <sub>34</sub> O <sub>15</sub>	609.1825	Negative	0.05-10	y=0.00423x+0.0000138	0.01/0.03	0.9994	96.14
Rosmarinic acid	C <sub>27</sub> H <sub>30</sub> O <sub>16</sub>	609.1461	Negative	0.05-10	y=0.00329x-0.00005576	0.01/0.03	0.999	96.97
Hyperoside	C <sub>9</sub> H <sub>10</sub> O <sub>5</sub>	197.0456	Negative	0.5-10	y=0.0000831x+0.000024	0.1/0.3	0.9991	97.29
Dihydrokaempferol	C <sub>18</sub> H <sub>16</sub> O <sub>8</sub>	359.0772	Negative	0.05-10	y=0.00717x-0.0003067	0.01/0.03	0.9992	99.85
Apigenin 7-glucoside	C <sub>21</sub> H <sub>20</sub> O <sub>12</sub>	463.0882	Negative	0.05-10	y=0.0072x-0.00003096	0.01/0.03	0.9995	96.62
Ellagic acid	C <sub>15</sub> H <sub>12</sub> O <sub>6</sub>	287.0561	Negative	0.3-7	y=0.0756x+0.0118	0.01/0.03	0.995	95.37
Quercitrin	C <sub>21</sub> H <sub>20</sub> O <sub>10</sub>	431.0984	Negative	0.3-7	y=0.0246x+0.00306	0.01/0.03	0.9962	96.07
Myricetin	C <sub>14</sub> H <sub>6</sub> O <sub>8</sub>	300.9990	Negative	0.05-10	y=0.0085x-0.000612	0.03/1	0.9994	101.49
Quercetin	C <sub>15</sub> H <sub>10</sub> O <sub>8</sub>	317.0303	Negative	0.1-10	y=0.0202x+0.00165	0.01/0.03	0.9993	100.1
Salicylic acid	C <sub>22</sub> H <sub>22</sub> O <sub>12</sub>	479.1184	Positive	0.05-10	y=0.00629x-0.0001951	0.01/0.03	0.9997	102.18
Naringenin	C <sub>15</sub> H <sub>10</sub> O <sub>7</sub>	301.0354	Negative	0.1-10	y=0.0509x+0.00467	0.01/0.03	0.9978	96.41
Luteolin	C <sub>7</sub> H <sub>6</sub> O <sub>3</sub>	137.0244	Negative	0.3-10	y=0.0361x+0.00245	0.01/0.03	0.9982	92.88
Nepetin	C <sub>15</sub> H <sub>12</sub> O <sub>5</sub>	271.0612	Negative	0.1-10	y=0.0281x+0.00182	0.01/0.03	0.9995	86.65
Apigenin	C <sub>15</sub> H <sub>10</sub> O <sub>6</sub>	285.0405	Negative	0.1-10	y=0.117x+0.00848	0.01/0.03	0.9981	96.98
Hispidulin	C <sub>16</sub> H <sub>12</sub> O <sub>7</sub>	315.0510	Negative	0.05-10	y=0.0853x+0.00269	0.01/0.03	0.9992	97.76
Isosakuranetin	C <sub>15</sub> H <sub>10</sub> O <sub>5</sub>	269.0456	Negative	0.3-10	y=0.104x+0.0199	0.01/0.03	0.9998	81.55
Penduletin	C <sub>16</sub> H <sub>12</sub> O <sub>6</sub>	301.0707	Positive	0.05-10	y=0.02614x+0.0003114	0.01/0.03	0.9993	98.36
CAPE	C <sub>16</sub> H <sub>14</sub> O <sub>5</sub>	285.0769	Negative	0.05-10	y=0.0235x+0.000561	0.01/0.03	0.9992	96.56
Chrysin	C <sub>18</sub> H <sub>16</sub> O <sub>7</sub>	343.0823	Negative	0.3-10	y=0.0258x+0.00253	0.01/0.03	0.9991	83.43
Acacetin	C <sub>17</sub> H <sub>16</sub> O <sub>4</sub>	283.0976	Negative	0.3-7	y=0.255x+0.0477	0.01/0.03	0.9964	94.42
Hederagenin	C <sub>16</sub> H <sub>12</sub> O <sub>5</sub>	283.0612	Negative	0.05-7	y=0.046x+0.0001875	0.01/0.03	0.9995	87.52



**Figure S1:** LC-HRMS chromatogram of EEVS extract

RT: 0.00 - 15.02 SM: 15G

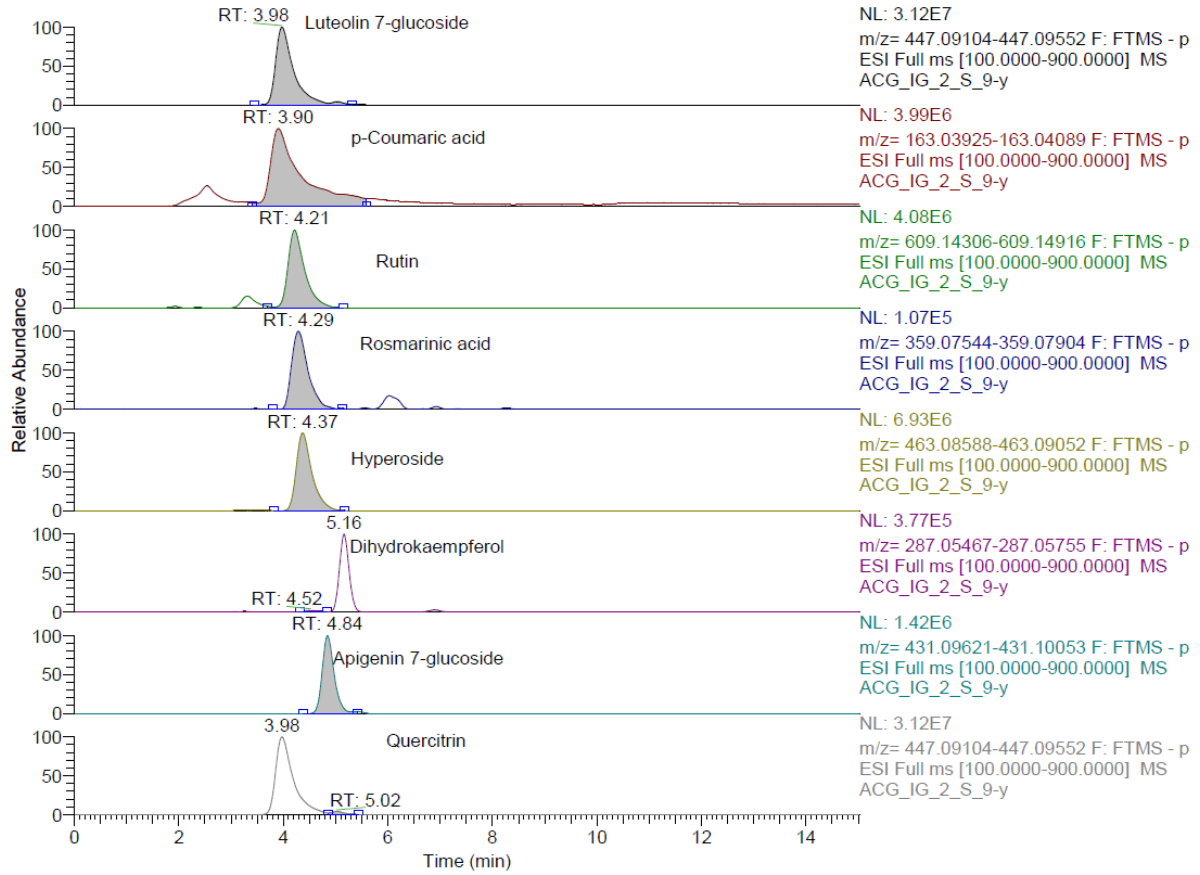


Figure S1: LC-HRMS chromatogram of EEVS extract (continued..)

RT: 0.00 - 15.02 SM: 15G

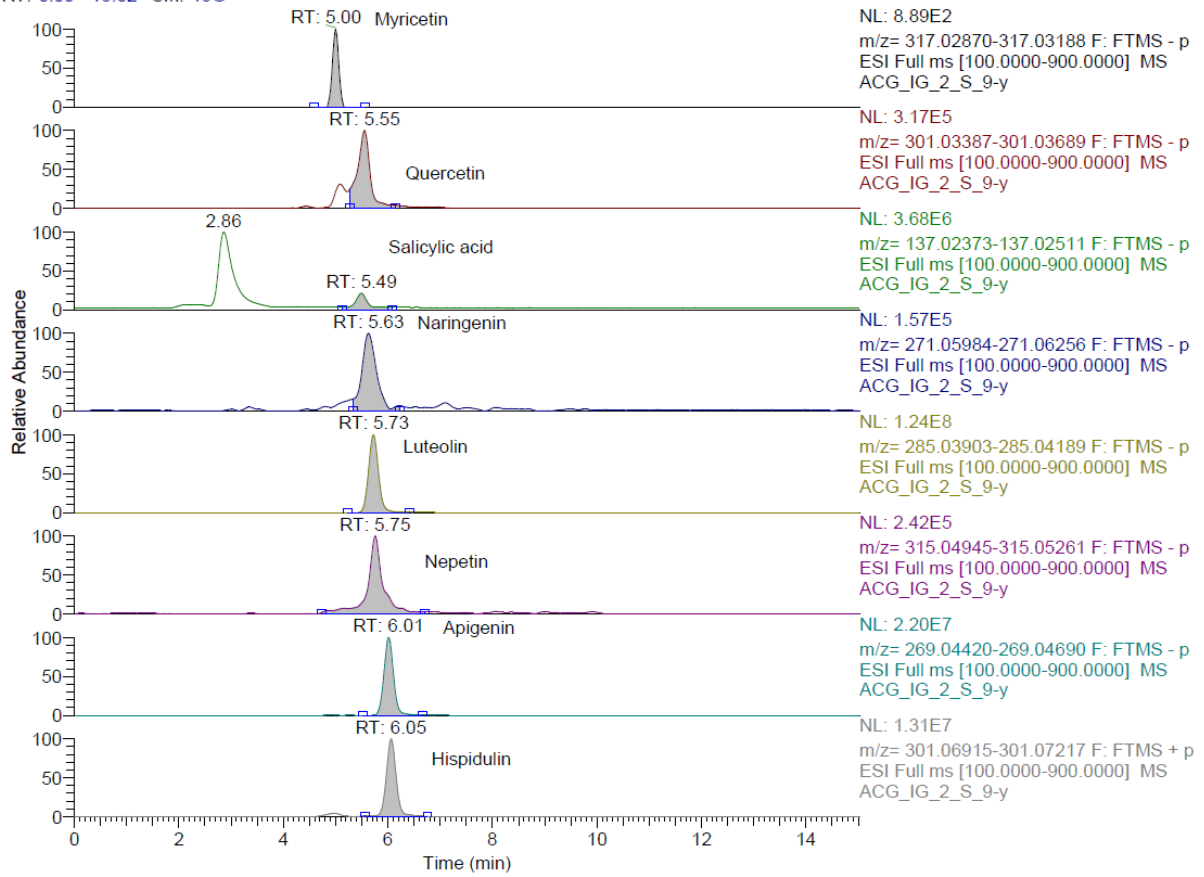


Figure S1: LC-HRMS chromatogram of EEVS extract (continued..)

RT: 0.00 - 15.02 SM: 15G

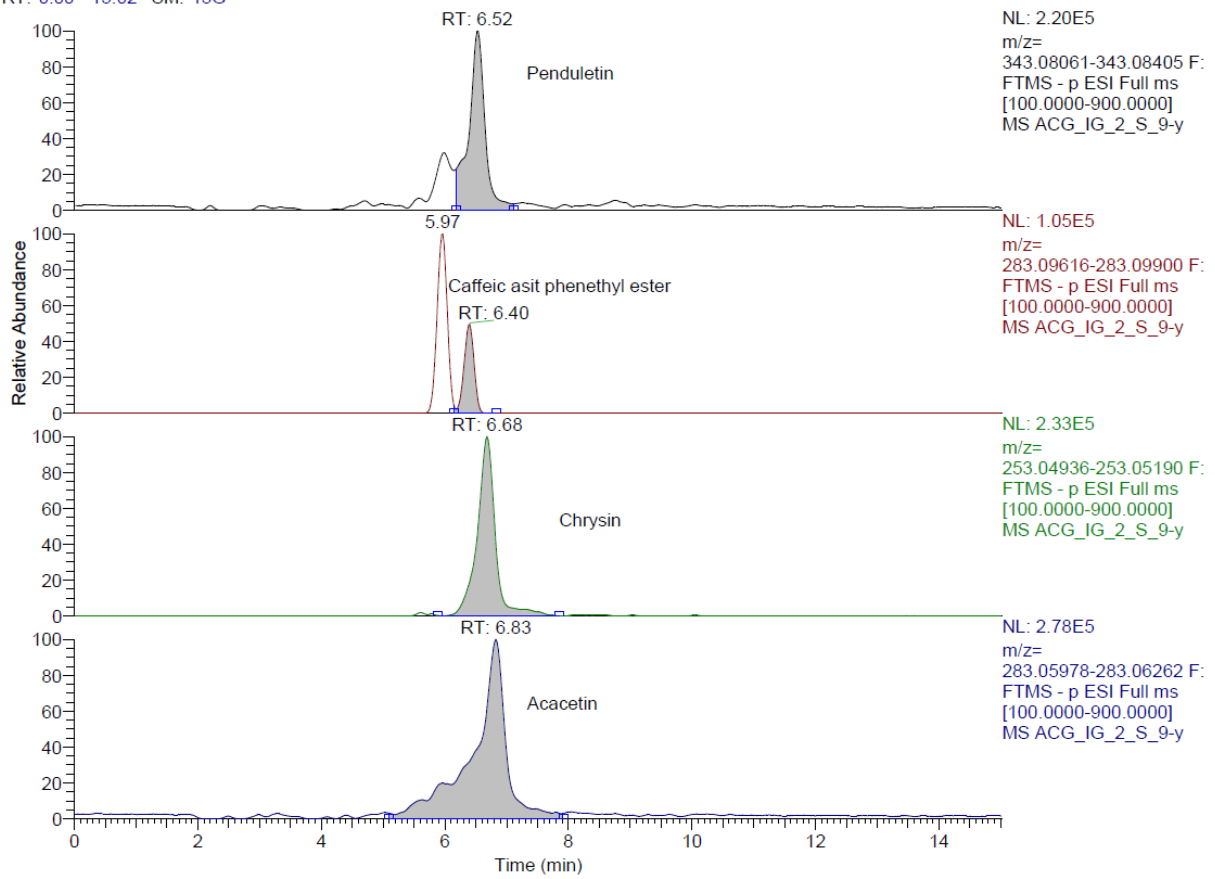


Figure S1: LC-HRMS chromatogram of EEVS extract (continued..)