

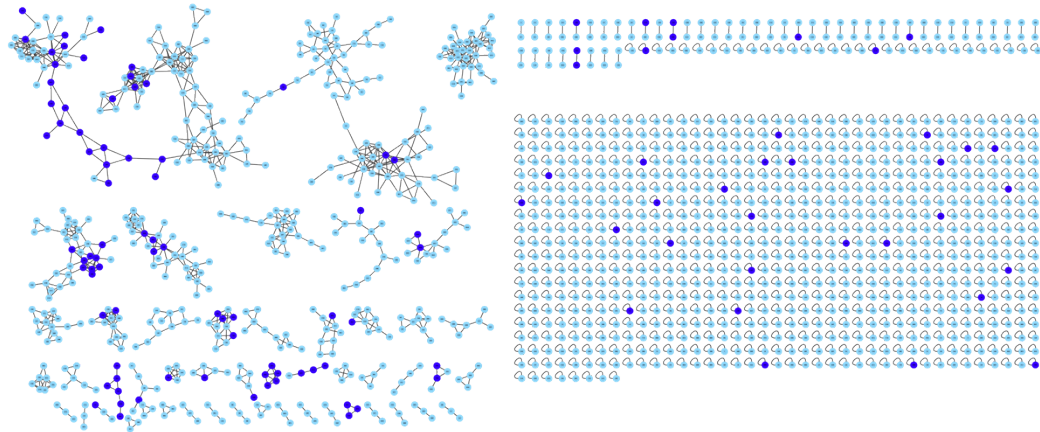
### Supplementary materials:

#### Comprehensive phytochemical analysis of lingonberry (*Vaccinium vitis-idaea* L.) from different regions of China and their potential antioxidant and antiproliferative activities

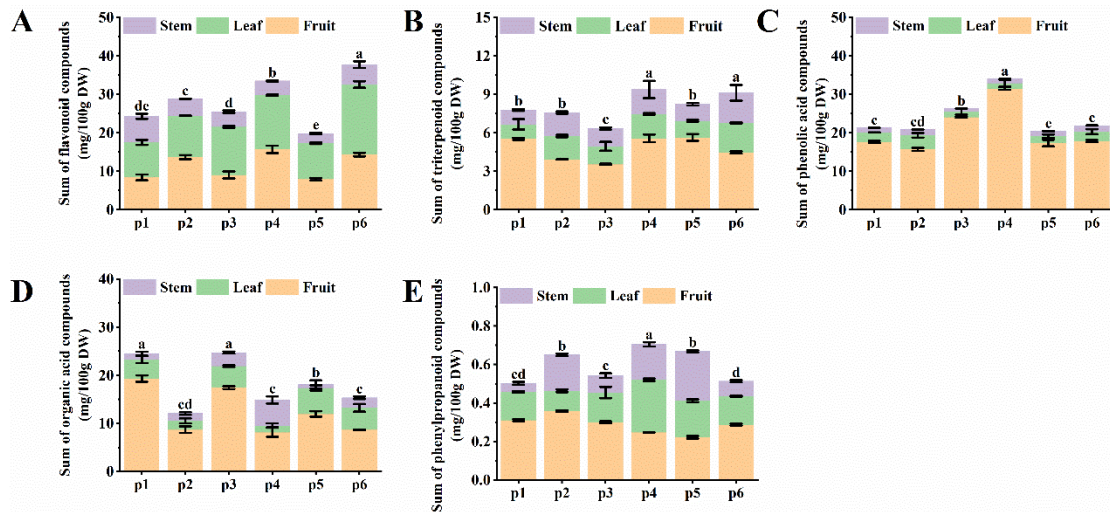
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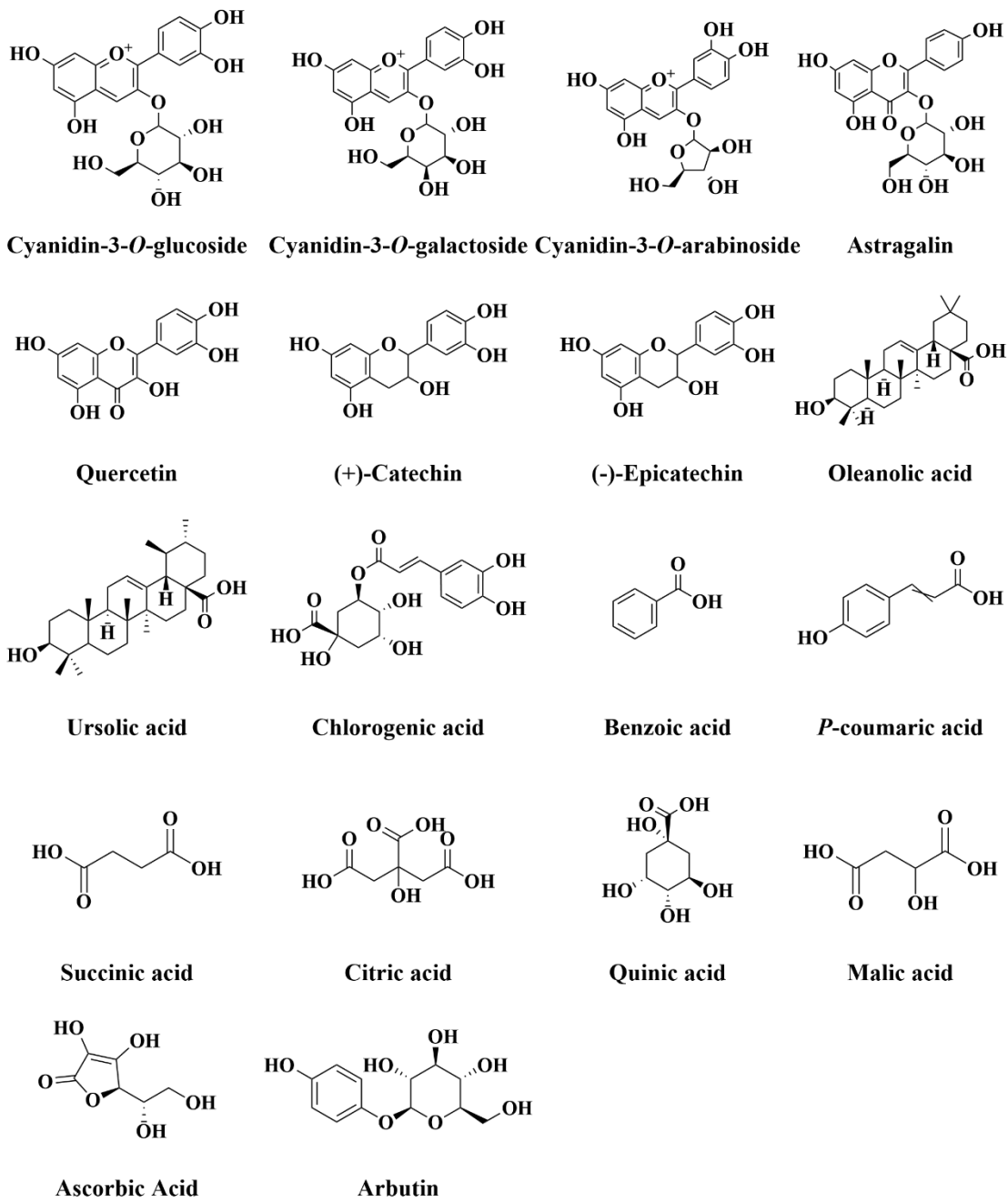
Fig. S1 Lingonberry (*Vaccinium vitis-idaea* L.)-related materials: (A) plant, (B) fruits, (C) stems, (D) leaves.



1  
 2 **Fig. S2** The molecular network of metabolites in lingonberry constructed based on MS/MS similarity. Nodes in blue  
 3 are the identified metabolites in GNPS platform  
 4 (<https://gnps.ucsd.edu/ProteoSAFe/status.jsp?task=19607c33ecb2444780b575354ab39f5b>).



5  
 6 **Fig. S3** Distribution of the sum of various classes of compounds in lingonberries of different origins. (A) Sum of  
 7 flavonoid compounds; (B) Sum of triterpene compounds; (C) Sum of phenolic acid compounds; (D) Sum of organic  
 8 acid compounds; (E) Sum of phenylpropanoid compounds.



10 **Fig. S4** Identified metabolites in lingonberry (fruits, leaves and stems) and chemical marker selection

11 **Table S1** Identified metabolites in lingonberry.

NO.	Compound	Molecular formula	Expected m/z	Measured m/z	Error (ppm)	MS <sup>2</sup>	Reference Ion	Class	Matching Score (MzCloud)	Identifacati on
1	※Cyanidin-3- <i>O</i> -arabinoside	C <sub>20</sub> H <sub>19</sub> O <sub>10</sub>	419.81	421.20	1.39	364.60, 287.00	[M+H] <sup>+</sup>	Anthocyanins		TCM
2	※Cyanidin-3- <i>O</i> -galactoside	C <sub>21</sub> H <sub>21</sub> O <sub>11</sub>	448.09	449.10	1.01	287.00	[M+H] <sup>+</sup>	Anthocyanins		TCM
3	※Cyanidin-3- <i>O</i> -glucoside	C <sub>21</sub> H <sub>21</sub> O <sub>11</sub>	448.05	449.06	1.01	287.00	[M+H] <sup>+</sup>	Anthocyanins		TCM
4	Psoralidin	C <sub>20</sub> H <sub>16</sub> O <sub>5</sub>	336.10	337.11	1.01	203.58	[M+H] <sup>+</sup>	Coumarin	83.5	MzCloud <sup>1</sup>
5	Fraxetin	C <sub>10</sub> H <sub>8</sub> O <sub>5</sub>	208.03	207.03	1.01	194.02, 166.02	[M-H] <sup>-</sup>	Coumarin	94.1	MzCloud
6	Esculin	C <sub>15</sub> H <sub>16</sub> O <sub>9</sub>	340.07	339.07	1.01	177.02	[M-H] <sup>-</sup>	Coumarin	88.2	MzCloud <sup>2</sup>
7	15-OxoEDE	C <sub>20</sub> H <sub>34</sub> O <sub>3</sub>	305.24	305.25	0.00	135.12, 93.07	[M+H] <sup>+</sup>	Fatty acids		GNPS
8	Tetradecyldiethanolamine	C <sub>18</sub> H <sub>39</sub> NO <sub>2</sub>	302.31	301.20	1.11	106.08, 70.06	[M-H] <sup>-</sup>	Fatty acids		GNPS
9	13S-hydroxy-6Z,9Z,11E-octadecatrienoic acid	C <sub>18</sub> H <sub>30</sub> O <sub>3</sub>	293.17	293.21	0.04	221.1, 192.11	[M-H] <sup>-</sup>	Fatty acids		GNPS
10	Chaulmoogric acid	C <sub>18</sub> H <sub>32</sub> O <sub>2</sub>	280.09	281.25	1.16	81.07, 67.05	[M+H] <sup>+</sup>	Fatty acids		GNPS
11	9-hydroxy-10,12-octadecadienoic acid	C <sub>18</sub> H <sub>32</sub> O <sub>3</sub>	295.22	295.23	0.00	277.21, 195.14, 171.10	[M-H] <sup>-</sup>	Fatty acids		GNPS
12	Hydroxyoctadecanoic acid	C <sub>18</sub> H <sub>36</sub> O <sub>3</sub>	299.25	299.26	0.00	253.25, 169.16, 113.00	[M-H] <sup>-</sup>	Fatty acids		GNPS
13	Linolenic acid ethyl ester	C <sub>20</sub> H <sub>34</sub> O <sub>2</sub>	306.25	307.26	1.01	95.08	[M+H] <sup>+</sup>	Fatty acids	74.6	MzCloud
14	Cis-5,8,11,14,17-Eicosapentaenoic acid	C <sub>20</sub> H <sub>30</sub> O <sub>2</sub>	302.22	301.21	1.01	269.19	[M-H] <sup>-</sup>	Fatty acids	77.8	MzCloud
15	Docosaheptaenoic acid	C <sub>22</sub> H <sub>32</sub> O <sub>2</sub>	318.27	319.28	1.01	225.19	[M+H] <sup>+</sup>	Fatty acids	79.2	MzCloud <sup>3</sup>
16	Eicosapentaenoic acid	C <sub>20</sub> H <sub>30</sub> O <sub>2</sub>	302.22	303.23	1.01	119.09	[M+H] <sup>+</sup>	Fatty acids	81.3	MzCloud
17	18-β-Glycyrrhetic acid	C <sub>30</sub> H <sub>46</sub> O <sub>4</sub>	470.33	469.33	1.01	141.03	[M-H] <sup>-</sup>	Fatty acids	80.9	MzCloud

## 13 Continued

NO.	Compound	Molecular formula	Expected m/z	Measured m/z	Error (ppm)	MS2	Reference Ion	Class	Matching Score (MzCloud)	Identifacati on
18	Fisetin	C <sub>15</sub> H <sub>10</sub> O <sub>6</sub>	286.04	287.05	1.01	137.02	[M+H] <sup>+</sup>	Flavonoids	90.5	MzCloud
19	※ (-)-Epicatechin	C <sub>15</sub> H <sub>14</sub> O <sub>6</sub>	291.08	291.09	0.01	139.00	[M+H] <sup>+</sup>	Flavonoids		GNPS
20	Isoquercitrin	C <sub>21</sub> H <sub>20</sub> O <sub>12</sub>	463.08	463.09	0.01	300.00, 271.02	[M-H] <sup>-</sup>	Flavonoids		GNPS
21	Kaempferol-3- <i>O</i> -glucoside	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	447.09	447.09	0.01	284.00, 255.03	[M-H] <sup>-</sup>	Flavonoids		GNPS
22	※ (+)-Catechin	C <sub>15</sub> H <sub>14</sub> O <sub>6</sub>	291.07	289.07	0.00	123.04, 109.00, 97.03	[M-H] <sup>-</sup>	Flavonoids		GNPS
23	Epigallocatechin	C <sub>15</sub> H <sub>14</sub> O <sub>7</sub>	307.08	307.08	0.01	139.00	[M+H] <sup>+</sup>	Flavonoids		GNPS <sup>2</sup>
24	Plantaginin	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	447.09	447.09	0.00	284.00	[M-H] <sup>-</sup>	Flavonoids		GNPS <sup>4</sup>
25	Kaempferol-3- <i>O</i> -glucopyranoside	C <sub>21</sub> H <sub>20</sub> O <sub>12</sub>	449.10	449.11	0.01	287.00	[M+H] <sup>+</sup>	Flavonoids		GNPS <sup>5</sup>
26	Procyanidin B1	C <sub>30</sub> H <sub>26</sub> O <sub>12</sub>	577.13	577.13	0.01	407.07, 289.0	[M-H] <sup>-</sup>	Flavonoids		GNPS
27	Procyanidin B2	C <sub>30</sub> H <sub>26</sub> O <sub>12</sub>	579.14	579.15	0.01	409.08, 287.05, 127.0	[M+H] <sup>+</sup>	Flavonoids		GNPS
28	※ Quercitrin	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	449.10	449.11	0.01	303.00, 287.05, 85.03	[M+H] <sup>+</sup>	Flavonoids		GNPS
29	Avicularin	C <sub>20</sub> H <sub>18</sub> O <sub>11</sub>	435.02	435.09	0.07	303.00	[M+H] <sup>+</sup>	Flavonoids		GNPS <sup>6</sup>
30	Quercetin-3-glucuronide	C <sub>21</sub> H <sub>18</sub> O <sub>13</sub>	479.07	479.08	0.01	303.00	[M+H] <sup>+</sup>	Flavonoids		GNPS <sup>7</sup>
31	Eriodictyol-7- <i>O</i> -glucoside	C <sub>21</sub> H <sub>22</sub> O <sub>11</sub>	449.10	449.10	0.00	287.05, 151.0, 135.04	[M+H] <sup>+</sup>	Flavonoids		GNPS
32	5,6,2'-Trimethoxyflavone	C <sub>18</sub> H <sub>16</sub> O <sub>5</sub>	311.12	311.09	0.02	183.00	[M-H] <sup>-</sup>	Flavonoids		GNPS <sup>2</sup>
33	Quercetin 3- <i>O</i> -glucuronide	C <sub>21</sub> H <sub>18</sub> O <sub>13</sub>	477.07	477.07	0.00	301.00, 151.00	[M+H] <sup>+</sup>	Flavonoids		GNPS
34	※ Quercetrin	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	447.10	447.09	0.01	300.00	[M-H] <sup>-</sup>	Flavonoids		GNPS
35	Rutoside	C <sub>27</sub> H <sub>30</sub> O <sub>16</sub>	609.12	609.15	0.03	300.10, 151.10	[M+H] <sup>+</sup>	Flavonoids		GNPS

## 14 Continued

NO.	Compound	Molecular formula	Expected m/z	Measured m/z	Error (ppm)	MS2	Reference Ion	Class	Matching Score (MzCloud)	Identifacati on
36	Procyanidin A2	C <sub>30</sub> H <sub>24</sub> O <sub>12</sub>	577.22	577.13	0.08	425.08, 287.0	[M+H] <sup>+</sup>	Flavonoids		GNPS
37	Quercetin-3- <i>O</i> -rhamnoside	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	471.08	471.09	0.01	325.00, 169.04	[M+H] <sup>+</sup>	Flavonoids		GNPS
38	Phlorhizin	C <sub>21</sub> H <sub>24</sub> O <sub>10</sub>	435.12	435.13	0.01	273.07, 167.00	[M-H] <sup>-</sup>	Flavonoids		GNPS
39	$\alpha$ -Eleostearic acid	C <sub>18</sub> H <sub>30</sub> O <sub>2</sub>	278.22	279.23	1.01	95.09, 67.09	[M+H] <sup>+</sup>	Flavonoids	88.6	MzCloud
40	Quercetin-3 $\beta$ -D-glucoside	C <sub>21</sub> H <sub>20</sub> O <sub>12</sub>	464.09	463.08	1.01	300.02	[M-H] <sup>-</sup>	Flavonoids	93.1	MzCloud <sup>5</sup>
41	※Quercetin	C <sub>15</sub> H <sub>10</sub> O <sub>7</sub>	302.04	303.04	1.01	151.00	[M+H] <sup>+</sup>	Flavonoids		TCM
42	※Epicatechin	C <sub>15</sub> H <sub>14</sub> O <sub>6</sub>	290.07	291.08	1.01	139.00	[M+H] <sup>+</sup>	Flavonoids		TCM
43	Eriodictyol	C <sub>15</sub> H <sub>12</sub> O <sub>6</sub>	288.06	289.07	1.01	153.02	[M+H] <sup>+</sup>	Flavonoids	90.8	MzCloud <sup>8</sup>
44	Afzelin	C <sub>21</sub> H <sub>20</sub> O <sub>10</sub>	432.10	431.09	1.01	285.04	[M-H] <sup>-</sup>	Flavonoids	89.4	MzCloud <sup>9</sup>
45	※Kaempferol	C <sub>15</sub> H <sub>10</sub> O <sub>6</sub>	304.05	305.06	1.01	187.00	[M+H] <sup>+</sup>	Flavonoids		TCM
46	Hyperoside	C <sub>21</sub> H <sub>20</sub> O <sub>12</sub>	464.09	465.10	1.01	303.04	[M+H] <sup>+</sup>	Flavonoids	80.1	MzCloud <sup>8</sup>
47	Cynaroside	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	448.09	449.10	1.01	285.04	[M+H] <sup>+</sup>	Flavonoids	79.4	MzCloud <sup>10</sup>
48	※Rutin	C <sub>27</sub> H <sub>30</sub> O <sub>16</sub>	610.14	611.15	1.01	300.00	[M+H] <sup>+</sup>	Flavonoids		TCM
49	Kaempferol 3- <i>O</i> -galactoside	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	448.09	449.10	1.01	285.21, 255.15	[M+H] <sup>+</sup>	Flavonoids		GNPS <sup>5</sup>
50	※Caffeic acid	C <sub>9</sub> H <sub>8</sub> O <sub>4</sub>	179.95	178.95	1.01	134.70	[M-H] <sup>-</sup>	Flavonoids		TCM
51	※Astragalin	C <sub>21</sub> H <sub>20</sub> O <sub>11</sub>	448.40	447.00	1.40	284.00	[M-H] <sup>-</sup>	Flavonoids		TCM
52	※Myricetin	C <sub>15</sub> H <sub>10</sub> O <sub>8</sub>	318.24	316.90	1.34	150.90	[M-H] <sup>-</sup>	Flavonoids		TCM
53	※Luteolin	C <sub>15</sub> H <sub>10</sub> O <sub>6</sub>	286.24	284.80	1.44	132.90	[M-H] <sup>-</sup>	Flavonoids		TCM

## 15 Continued

NO.	Compound	Molecular formula	Expected m/z	Measured m/z	Error (ppm)	MS2	Reference Ion	Class	Matching Score (MzCloud)	Identifacati on
54	※Isoquercitin	C <sub>21</sub> H <sub>20</sub> O <sub>12</sub>	463.26	465.10	1.84	301.20	[M+H] <sup>+</sup>	Flavonoids		GNPS
55	Phytosphingosine	C <sub>18</sub> H <sub>39</sub> NO <sub>3</sub>	318.39	318.30	0.09	60.04	[M-H] <sup>-</sup>	Lipids		GNPS <sup>11</sup>
56	(+)- $\alpha$ -Tocopherol	C <sub>29</sub> H <sub>50</sub> O <sub>2</sub>	433.36	431.38	1.98	167.00	[M+H] <sup>+</sup>	Lipids		GNPS <sup>12</sup>
57	※Ascorbic acid	C <sub>6</sub> H <sub>8</sub> O <sub>6</sub>	176.12	175.00	1.11	115.00	[M-H] <sup>-</sup>	Organic acid		TCM
58	※Citric acid	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	192.13	191.12	1.01	110.00	[M-H] <sup>-</sup>	Organic acid		TCM
59	※Succinic acid	C <sub>4</sub> H <sub>6</sub> O <sub>4</sub>	118.09	116.70	1.39	73.00	[M-H] <sup>-</sup>	Organic acid		TCM
60	※Malic acid	C <sub>4</sub> H <sub>6</sub> O <sub>5</sub>	134.09	132.90	1.19	115.00	[M-H] <sup>-</sup>	Organic acid		TCM
61	Iso Ferulic acid	C <sub>10</sub> H <sub>10</sub> O <sub>4</sub>	193.05	193.05	0.00	137.02, 106.40	[M+H] <sup>+</sup>	Organic acid		GNPS
62	$\beta$ -Tocopherol	C <sub>28</sub> H <sub>48</sub> O <sub>2</sub>	415.85	417.37	1.52	191.10, 151.00	[M-H] <sup>-</sup>	Other		GNPS
63	Cannabidiolic acid	C <sub>22</sub> H <sub>30</sub> O <sub>4</sub>	358.21	357.20	1.01	245.16	[M-H] <sup>-</sup>	Other	70.9	MzCloud <sup>13</sup>
64	Scropeanoside I	C <sub>31</sub> H <sub>40</sub> O <sub>16</sub>	668.21	669.22	1.01	323.12, 177.21	[M+H] <sup>+</sup>	Other	72.5	MzCloud
65	※Ferulic acid	C <sub>10</sub> H <sub>10</sub> O <sub>4</sub>	194.05	193.05	1.01	133.90	[M-H] <sup>-</sup>	Phenolic acids		TCM
66	※Benzoic acid	C <sub>7</sub> H <sub>6</sub> O <sub>2</sub>	122.03	121.03	1.01	76.90	[M-H] <sup>-</sup>	Phenolic acids		TCM
67	※Quinic acid	C <sub>7</sub> H <sub>12</sub> O <sub>6</sub>	191.99	193.00	1.01	84.90	[M+H] <sup>+</sup>	Phenolic acids		TCM
68	※ <i>P</i> -coumaric acid	C <sub>9</sub> H <sub>8</sub> O <sub>3</sub>	164.16	162.90	1.26	119.00	[M-H] <sup>-</sup>	Phenolic acids		TCM
69	Salicin	C <sub>13</sub> H <sub>18</sub> O <sub>7</sub>	288.29	287.11	1.17	106.08, 88.08, 70.06	[M+H] <sup>+</sup>	Phenolic acids		GNPS
70	Rhodioloside	C <sub>14</sub> H <sub>20</sub> O <sub>7</sub>	299.09	299.11	0.02	137.02, 89.02, 59.01	[M-H] <sup>-</sup>	Phenylethanoids		GNPS
71	Salidroside	C <sub>14</sub> H <sub>20</sub> O <sub>7</sub>	318.40	318.15	0.24	121.6, 85.03	[M+H] <sup>+</sup>	Phenylethanoids		GNPS

## 16 Continued

NO.	Compound	Molecular formula	Expected m/z	Measured m/z	Error (ppm)	MS2	Reference Ion	Class	Matching Score (MzCloud)	Identifacati on
72	Amygdalin	C <sub>20</sub> H <sub>27</sub> NO <sub>11</sub>	454.32	456.15	1.83	161.04, 89.02	[M-H] <sup>-</sup>	Phenylpropanoids		GNPS
73	※Arbutin	C <sub>12</sub> H <sub>16</sub> O <sub>7</sub>	271.08	271.08	0.00	108.00	[M+H] <sup>+</sup>	Phenylpropanoids		GNPS
74	6,7-Dihydroxycoumarin-6-glucoside	C <sub>15</sub> H <sub>16</sub> O <sub>9</sub>	339.07	339.07	0.00	177.00	[M+H] <sup>+</sup>	Phenylpropanoids		GNPS
75	Fraxin	C <sub>16</sub> H <sub>18</sub> O <sub>10</sub>	369.08	369.08	0.01	207.00, 192.00	[M+H] <sup>+</sup>	Phenylpropanoids		GNPS
76	※Isochlorogenic acid	C <sub>16</sub> H <sub>18</sub> O <sub>9</sub>	353.02	353.00	0.02	191.00	[M-H] <sup>-</sup>	Phenylpropanoids		GNPS
77	Auraptene	C <sub>19</sub> H <sub>22</sub> O <sub>3</sub>	301.03	299.16	1.87	162.90	[M-H] <sup>-</sup>	Phenylpropanoids		GNPS <sup>12</sup>
78	Osmanthuside H	C <sub>19</sub> H <sub>28</sub> O <sub>11</sub>	429.94	431.16	1.21	149.04, 89.02, 59.01	[M+H] <sup>+</sup>	Phenylpropanoids		GNPS
79	Schisandrin A	C <sub>24</sub> H <sub>32</sub> O <sub>6</sub>	417.22	417.23	0.01	316.10, 301.00	[M-H] <sup>-</sup>	Phenylpropanoids		GNPS
80	Coumaroylquinic acid	C <sub>16</sub> H <sub>18</sub> O <sub>8</sub>	337.09	337.13	0.04	191.05,173.00	[M-H] <sup>-</sup>	Phenylpropanoids		GNPS
81	※Chlorogenic acid	C <sub>16</sub> H <sub>18</sub> O <sub>9</sub>	354.09	353.08	1.01	190.90	[M-H] <sup>-</sup>	Phenylpropanoids		TCM
82	β-Zearalanol	C <sub>18</sub> H <sub>26</sub> O <sub>5</sub>	323.22	323.19	0.03	305.20	[M+H] <sup>+</sup>	Polyketides		GNPS <sup>14</sup>
83	Trehalose	C <sub>12</sub> H <sub>22</sub> O <sub>11</sub>	341.10	341.11	0.01	113.02, 89.02, 59.01	[M-H] <sup>-</sup>	Saccharides		GNPS
84	Melezitose	C <sub>18</sub> H <sub>32</sub> O <sub>16</sub>	527.15	527.16	0.01	365.10	[M+H] <sup>+</sup>	Saccharides		GNPS <sup>14</sup>
85	Melibiose	C <sub>12</sub> H <sub>24</sub> O <sub>12</sub>	365.11	365.11	0.00	203.00	[M+H] <sup>+</sup>	Saccharides		GNPS <sup>14</sup>
86	D-Raffinose	C <sub>18</sub> H <sub>32</sub> O <sub>16</sub>	526.14	527.15	1.01	365.10	[M+H] <sup>+</sup>	Saccharides	73.5	MzCloud <sup>2</sup>
87	β-Amyrin	C <sub>30</sub> H <sub>50</sub> O	426.70	427.28	1.1	149.1, 109.10	[M+H] <sup>+</sup>	Terpenoids		GNPS
88	β-Tocopherol	C <sub>29</sub> H <sub>50</sub> O <sub>2</sub>	431.68	431.38	0.30	165.00	[M-H] <sup>-</sup>	Terpenoids		GNPS <sup>12</sup>
89	Delta4-Dafachronic acid	C <sub>27</sub> H <sub>42</sub> O <sub>3</sub>	413.37	415.32	1.95	109.00,97.06	[M+H] <sup>+</sup>	Terpenoids		GNPS



17 Continued

NO.	Compound	Molecular formula	Expected m/z	Measured m/z	Error (ppm)	MS2	Reference Ion	Class	Matching Score (MzCloud)	Identifacati on
90	$\beta$ -Sitosterol	C <sub>29</sub> H <sub>50</sub> O	397.38	397.60	0.22	257.22, 147.10, 109.10	[M-H] <sup>-</sup>	Terpenoids		GNPS
91	Sclareol	C <sub>20</sub> H <sub>36</sub> O <sub>2</sub>	309.17	307.26	1.91	96.96, 80.95	[M-H] <sup>-</sup>	Terpenoids		GNPS
92	Delta Tocopherol	C <sub>27</sub> H <sub>46</sub> O <sub>2</sub>	402.81	403.35	0.54	177.09, 137.0	[M+H] <sup>+</sup>	Terpenoids		GNPS
93	※Ursolic acid	C <sub>30</sub> H <sub>48</sub> O <sub>3</sub>	456.35	455.35	1.01	411.00	[M-H] <sup>-</sup>	Triterpene		TCM
94	※Oleanolic acid	C <sub>30</sub> H <sub>48</sub> O <sub>3</sub>	438.34	439.35	1.01	411.00	[M+H] <sup>+</sup>	Triterpene		TCM
95	Lupeol	C <sub>30</sub> H <sub>50</sub> O	426.73	417.20	1.01	137.2, 109.1	[M+H] <sup>+</sup>	Triterpene	76.1	MzCloud

18 ※Symbols represent reference standard chemicals. GNPS = Global Natural Products Social Molecular Networking platform; TCM = Traditional Chinese Medicine library;

19

20 **Table S2** Calibration experimental data of 18 dividual compounds.

NO	Compound	Calibration equation	R <sup>2</sup>	Linear range (µg/ml)	LOD (ng/mL)	LOQ (ng/mL)	Intra-day RSD (%) (n = 6)	Inter-day RSD (%) (n = 6)	Recovery and RSD (%) (mean, n = 6)	Stability (RSD, %, n = 6)	Recovery (%, n = 3)
1	Ascorbic acid	$y = 123.76x - 87.63$	0.9995	0.39-32.50	1.8	5.8	2.57	1.85	3.36	2.68	101.73
2	Malic acid	$y = 1295.80x + 493.91$	0.9993	0.39-31.25	1.5	4.9	2.37	2.44	2.58	2.93	104.28
3	Citric acid	$y = 377.70x - 1700$	0.9997	0.39-62.50	1.6	5.2	2.06	1.57	1.78	2.48	100.34
4	Succinic acid	$y = 55.48x + 55.96$	0.9990	0.39-31.25	1.1	3.6	1.67	1.73	4.02	3.28	99.29
5	Quinic acid	$y = 3255.00x - 292.29$	0.9993	0.39-31.25	0.7	2.4	1.27	2.16	2.54	2.64	103.85
6	Cyanidin-3- <i>O</i> - glucoside	$y = 21741x + 2670.70$	0.9996	0.078-12.5	0.7	2.2	1.36	1.26	1.23	2.23	100.29
7	Cyanidin-3- <i>O</i> - galactoside	$y = 28901x + 1701$	0.9988	0.39-62.5	2.2	4.0	2.34	3.54	2.13	3.54	99.85
8	Arbutin	$y = 15.31x + 1152.90$	0.9989	0.39-31.25	1.6	5.0	3.37	1.92	4.04	1.46	99.98
9	Cyanidin-3- <i>O</i> - arabinoside	$y = 74.63x + 152.01$	0.9995	0.39-12.5	0.5	1.7	0.95	2.65	3.25	3.56	101.42
10	Chlorogenic acid	$y = 2262.20x + 371.15$	0.9986	0.78-12.5	0.6	2.0	1.89	1.58	1.26	1.38	103.39
11	(+)-Catechin	$y = 22948.30x + 131.16$	0.9989	1.56-62.5	1.2	4.5	2.56	3.25	3.54	2.78	103.21
12	(-)-Epicatechin	$y = 9058.9x + 1844.50$	0.9994	0.31-15.63	1.3	4.2	1.23	1.25	2.45	1.25	102.38
13	Quercetin	$y = 1825.10x + 30.56$	0.9987	0.39-31.25	0.9	4.9	3.64	1.23	1.23	1.35	101.86
14	<i>P</i> -coumaric acid	$y = 2985.60x + 960.51$	0.9980	0.78-15.63	0.3	1.1	2.65	1.82	1.29	2.85	99.28
15	Astragalin	$y = 4003.20x + 890.29$	0.9985	0.78-32.5	0.8	3.0	1.76	1.59	1.73	0.85	100.23
16	Benzoic acid	$y = 19.15x - 29.08$	0.9986	1.56-31.25	0.6	2.2	0.99	0.99	1.96	0.65	103.27
17	Oleanolic acid	$y = 110.71x - 6.04$	0.9982	0.78-15.63	1.4	5.1	2.54	3.04	4.03	2.64	99.55
18	Ursolic acid	$y = 85.626x + 51.25$	0.9989	0.78-62.5	1.7	5.4	0.86	1.89	3.26	1.95	101.85

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