

[Type here]

18
19
20
21

Supplementary Table S2: Assigned compounds detected in the 70% methanol extract of *Scutellaria barbata* leaves and the aqueous BZL decoction by LC-PDA-MSn analysis.

Assigned compound (or isomer)	Retent-ion time (min)	Molecular formula	<i>m/z</i>	Ion	<i>S. barbata</i> 70% methanol extract ppm*	<i>S. barbata</i> aqueous decoction ppm*
Sucrose or isomer	1.6	C ₁₂ H ₂₂ O ₁₁	387.1141	[M + HCOO] ⁻	2.358	2.901
Pentahydroxyflavone	11.5	C ₁₅ H ₁₀ O ₇	303.0505	[M + H] ⁺	1.719	Nd
Pentahydroxyflavanone	11.5	C ₁₅ H ₁₂ O ₇	305.0662	[M + H] ⁺	Nd	1.904
Pentahydroxyflavanone	14.2	C ₁₅ H ₁₂ O ₇	305.0661	[M + H] ⁺	1.707	1.806
Pentahydroxyflavanone	14.4	C ₁₅ H ₁₂ O ₇	305.0661	[M + H] ⁺	1.806	1.609
Pentahydroxyflavanone	14.9	C ₁₅ H ₁₂ O ₇	305.0660	[M + H] ⁺	Nd	1.511
Tetrahydroxyflavone	15.4	C ₁₅ H ₁₀ O ₆	287.0556	[M + H] ⁺	1.517	2.353
Pentahydroxyflavanone	16.2	C ₁₅ H ₁₂ O ₇	305.0661	[M + H] ⁺	Nd	1.707
Pentahydroxyflavanone	16.4	C ₁₅ H ₁₂ O ₇	305.0661	[M + H] ⁺	Nd	1.806
6-Hydroxyluteolin 7-hexuronide	16.7	C ₂₁ H ₁₈ O ₁₃	479.0827	[M + H] ⁺	2.574	1.363
Tetrahydroxyflavanone	17.2	C ₁₅ H ₁₂ O ₆	289.0711	[M + H] ⁺	1.541	2.267
Tetrahydroxyflavone	17.5	C ₁₅ H ₁₀ O ₆	287.0555	[M + H] ⁺	Nd	1.726
Tetrahydroxyflavanone	18.1	C ₁₅ H ₁₂ O ₆	289.0710	[M + H] ⁺	0.780	1.541
Tetrahydroxyflavanone hexuronide	18.2	C ₂₁ H ₂₀ O ₁₂	465.1030	[M + H] ⁺	0.403	1.973
Trihydroxyflavone hexoside	18.9	C ₂₁ H ₂₀ O ₁₀	433.1140	[M + H] ⁺	Nd	2.094
6-Hydroxyluteolin 4'-hexuronide	19.2	C ₂₁ H ₁₈ O ₁₃	479.0832	[M + H] ⁺	Nd	2.386
Scutellarein 7-hexoside	19.5	C ₂₁ H ₂₀ O ₁₁	449.1083	[M + H] ⁺	1.051	1.319
Tetrahydroxyflavanone	19.9	C ₁₅ H ₁₂ O ₆	289.0709	[M + H] ⁺	0.572	0.884
Tetrahydroxyflavanone	20.1	C ₁₅ H ₁₂ O ₆	289.0710	[M + H] ⁺	1.195	1.299
Scutellarein 7-hexuronide	20.4	C ₂₁ H ₁₈ O ₁₂	463.0874	[M + H] ⁺	0.707	0.837
2',5,7-Trihydroxyflavone	21.4	C ₁₅ H ₁₀ O ₅	271.0605	[M + H] ⁺	1.328	1.328
Tetrahydroxyflavanone	22.5	C ₁₆ H ₁₄ O ₆	303.0867	[M + H] ⁺	0.875	1.370
Tetrahydroxyflavone	22.5	C ₁₅ H ₁₀ O ₆	287.0555	[M + H] ⁺	1.517	Nd
Trihydroxyflavanone hexuronide	22.7	C ₂₁ H ₂₀ O ₁₁	449.1082	[M + H] ⁺	0.762	1.385
Hydroxyapigenin	22.9	C ₁₅ H ₁₀ O ₆	287.0553	[M + H] ⁺	0.994	1.831
Isoscutellarein 7-hexuronide	23.0	C ₂₁ H ₁₈ O ₁₂	463.0876	[M + H] ⁺	1.571	2.219
Scutellarein 6-hexuronide	23.6	C ₂₁ H ₁₈ O ₁₂	463.0874	[M + H] ⁺	0.578	1.377
Apigenin hexuronide	24.1	C ₂₁ H ₁₈ O ₁₁	447.0928	[M + H] ⁺	0.301	0.900
Tetrahydroxyflavone	24.4	C ₁₅ H ₁₀ O ₆	287.0555	[M + H] ⁺	1.622	Nd
Trihydroxyflavone hexuronide	24.8	C ₂₁ H ₁₈ O ₁₁	447.0929	[M + H] ⁺	Nd	1.660
Tetrahydroxyflavone methyl ether hexuronide	25.1	C ₂₂ H ₂₀ O ₁₂	477.1030	[M + H] ⁺	0.456	0.770
1-Octen-3-ol pentosyl dihexoside	25.5	C ₂₄ H ₂₂ O ₁₃	602.3024	[M + NH ₄] ⁺	Nd	0.970
6-Methoxyapigenin (hispidulin) 7-hexuronide	25.8	C ₂₂ H ₂₀ O ₁₂	477.1033	[M + H] ⁺	1.336	1.672
Trihydroxyflavone malonyl-hexoside	25.9	C ₂₄ H ₂₂ O ₁₃	519.1141	[M + H] ⁺	1.585	Nd
Pentahydroxyflavone 7-hexuronide	26.0	C ₂₁ H ₁₈ O ₁₃	479.0831	[M + H] ⁺	Nd	2.261
Tetrahydroxyflavanone methyl ether	26.0	C ₁₆ H ₁₄ O ₆	303.0867	[M + H] ⁺	1.271	Nd
Scutellarein	27.0	C ₁₅ H ₁₀ O ₆	287.0554	[M + H] ⁺	1.308	1.935

[Type here]

[Type here]

Hydroxyapigenin	27.5	C ₁₅ H ₁₀ O ₆	287.0553	[M + H] ⁺	1.099	1.308
Tetrahydroxyflavone	28.0	C ₁₅ H ₁₀ O ₆	287.0555	[M + H] ⁺	1.517	Nd
Isoscutellarein 8-hexuronide	28.3	C ₂₁ H ₁₈ O ₁₂	463.0877	[M + H] ⁺	0.049	0.448
Dihydroxy-methoxyflavone rhamnosyl hexoside	30.0	C ₂₈ H ₃₂ O ₁₄	593.1867	[M + H] ⁺	0.384	0.384
Scutalbin A (= 19-Deacetyljudrellin A)	30.0	C ₂₂ H ₃₀ O ₇	407.2072	[M + H] ⁺	1.990	Nd
Tetrahydroxyflavone	30.4	C ₁₅ H ₁₀ O ₆	287.0555	[M + H] ⁺	1.517	1.203
6 α ,19-Di-O-acetyl-2,19:4,18:11,16:15,16-tetraepoxyneoclerodane-6,15,19-triol	30.6	C ₂₄ H ₃₄ O ₉	484.2548	[M + NH ₄] ⁺	Nd	1.470
11-Episcutecolumnin C or Scutecolumnin C	31.6	C ₂₂ H ₃₂ O ₇	426.2493	[M + NH ₄] ⁺	1.504	1.504
Scupolin H or isomer	31.9	C ₂₃ H ₃₂ O ₇	421.2229	[M + H] ⁺	1.520	Nd
Wogonoside	32.1	C ₂₂ H ₂₀ O ₁₁	461.1083	[M + H] ⁺	-3.002	1.024
Scutebata I (= 6-Acetoxybarbatin C)	32.3	C ₂₂ H ₃₀ O ₆	391.2121	[M + H] ⁺	Nd	1.418
Scutebata C or Barbatin G	32.5	C ₂₈ H ₃₅ NO ₉	530.2394	[M + H] ⁺	Nd	1.739
Scutellarein Me ether	32.7	C ₁₆ H ₁₂ O ₆	301.0711	[M + H] ⁺	1.247	1.679
Scutebata A1 or Scutebata Z	33.4	C ₂₈ H ₃₃ NO ₈	512.2289	[M + H] ⁺	Nd	1.926
Scutellarein Me ether	33.7	C ₁₆ H ₁₂ O ₆	301.0712	[M + H] ⁺	1.778	1.479
2',5,7-Trihydroxyflavone	34.0	C ₁₅ H ₁₀ O ₅	271.0604	[M + H] ⁺	1.070	1.550
Jodrellin A	34.2	C ₂₄ H ₃₂ O ₈	466.2441	[M + NH ₄] ⁺	Nd	1.344
8-Hydroxyflavone methyl ether	34.3	C ₁₆ H ₁₂ O ₆	301.0710	[M + H] ⁺	1.247	1.380
Cirsiliol	34.4	C ₁₇ H ₁₄ O ₇	331.0816	[M + H] ⁺	1.120	1.694
Scutellone J	34.5	C ₂₄ H ₃₄ O ₈	468.2598	[M + H] ⁺	Nd	1.359
Tetrahydroxyflavone	35.1	C ₁₅ H ₁₀ O ₆	287.0555	[M + H] ⁺	Nd	1.517
Tetrahydroxyflavone Me ether	35.5	C ₁₆ H ₁₂ O ₆	301.0712	[M + H] ⁺	Nd	1.778
Deacetyl scuterulein C or Scutorientalin D	35.7	C ₂₈ H ₄₀ O ₁₀	554.2970	[M + H] ⁺	1.402	2.069
Tetrahydroxyflavone Me ether	35.8	C ₁₆ H ₁₂ O ₆	301.0711	[M + H] ⁺	Nd	1.579
Scutebarbatine G or Scutelinquanine D	36.3	C ₂₆ H ₃₃ NO ₇	472.2335	[M + H] ⁺	1.019	1.337
Barbatin C or isomer	36.6	C ₂₀ H ₂₈ O ₅	366.2281	[M + NH ₄] ⁺	Nd	1.612
11-Episcutecolumnin C or Scutecolumnin C	37.3	C ₂₂ H ₃₂ O ₇	426.2496	[M + NH ₄] ⁺	2.654	1.926
2 α -Hydroxydeacetylajugarin V	37.4	C ₂₀ H ₃₀ O ₅	351.2149	[M + H] ⁺	Nd	-4.927
Dihydroxy-tetramethoxyflavone	37.7	C ₁₉ H ₁₈ O ₈	375.1079	[M + H] ⁺	1.162	1.722
Barbatin C or isomer	37.8	C ₂₀ H ₂₈ O ₅	349.2015	[M + H] ⁺	Nd	1.516
Dihydroxy-trimethoxyflavone	37.9	C ₁₈ H ₁₆ O ₇	345.0974	[M + H] ⁺	1.538	1.886
Barbatellarine C or Barbatellarine D	38.3	C ₃₀ H ₃₇ NO ₁₀	572.2501	[M + H] ⁺	1.498	1.393
Dihydroxy-dimethoxyflavone	38.5	C ₁₇ H ₁₄ O ₆	315.0871	[M + H] ⁺	Nd	2.112
Scutebata C or Barbatin G	38.7	C ₂₈ H ₃₅ NO ₉	530.2394	[M + H] ⁺	1.852	Nd
Dihydroxy-dimethoxyflavone	39.1	C ₁₇ H ₁₄ O ₆	315.0867	[M + H] ⁺	1.794	1.318
6-O-Nicotinoylscutebarbatine G or isomer	39.3	C ₃₂ H ₃₆ N ₂ O ₈	577.2551	[M + H] ⁺	0.966	1.503
11-Episcutecolumnin C or Scutecolumnin C	39.4	C ₂₂ H ₃₂ O ₇	426.2494	[M + NH ₄] ⁺	1.129	1.856
6-O-Nicotinoylscutebarbatine G or isomer	39.5	C ₃₂ H ₃₆ N ₂ O ₈	577.2548	[M + H] ⁺	0.654	Nd
Scutolide I or isomer	39.6	C ₂₆ H ₃₆ O ₉	510.2703	[M + NH ₄] ⁺	1.297	1.101

[Type here]

[Type here]

Scutolide I or isomer	39.8	C ₂₆ H ₃₆ O ₉	510.2706	[M + NH ₄] ⁺	0.572	0.565
6-O-Nicotinoylscutebarbatine G or isomer	40.3	C ₃₂ H ₃₆ N ₂ O ₈	577.2551	[M + H] ⁺	1.087	1.919
5-Hydroxy-2',6',7,8-tetramethoxyflavone	40.8	C ₁₉ H ₁₈ O ₇	359.1130	[M + H] ⁺	2.007	1.255
Scuteliquanine A	40.8	C ₂₈ H ₃₅ NO ₈	514.2443	[M + H] ⁺	1.627	1.393
6-O-Nicotinoylscutebarbatine G or isomer	41.1	C ₃₂ H ₃₆ N ₂ O ₈	577.2552	[M + H] ⁺	1.295	1.191
Deacetyl scuterulein C or Scutorientalin D	41.3	C ₂₈ H ₄₀ O ₁₀	554.2969	[M + NH ₄] ⁺	1.745	0.752
Scutebata F isomer	41.6	C ₃₀ H ₃₇ NO ₉	556.2549	[M + H] ⁺	Nd	1.388
Scutebata C or Barbatin G	41.8	C ₂₈ H ₃₅ NO ₉	530.2392	[M + H] ⁺	1.399	1.286
Scutebarbatine Z	41.9	C ₂₆ H ₃₃ NO ₅	440.2439	[M + H] ⁺	1.773	-0.993
Scutehenanine A or isomer	41.9	C ₂₆ H ₃₁ NO ₆	454.2231	[M + H] ⁺	Nd	1.598
Barbatin H or isomer	42.0	C ₃₄ H ₃₈ N ₂ O ₉	619.2654	[M + H] ⁺	1.200	0.602
Scutebata F	42.3	C ₃₀ H ₃₇ NO ₉	556.2547	[M + H] ⁺	1.064	0.291
6-O-Nicotinoylscutebarbatine G or isomer	42.3	C ₃₂ H ₃₆ N ₂ O ₈	577.2554	[M + H] ⁺	1.607	1.607
Scubartine E	42.6	C ₃₁ H ₃₉ NO ₉	570.2705	[M + H] ⁺	-1.132	Nd
6,7-Di-O-acetoxybarbatin A	42.6	C ₂₄ H ₃₂ O ₇	450.2495	[M + H] ⁺	Nd	1.957
Scutebarbatine A isomer	42.8	C ₃₂ H ₃₄ N ₂ O ₇	559.2444	[M + H] ⁺	0.898	Nd
Scutehenanine A or isomer	43.0	C ₂₆ H ₃₁ NO ₆	454.2230	[M + H] ⁺	1.400	1.334
6,7-Di-O-nicotinoylscutebarbatine G	43.2	C ₃₈ H ₃₉ N ₃ O ₉	682.2770	[M + H] ⁺	-0.306	1.838
Scutellone J	44.5	C ₂₄ H ₃₄ O ₈	468.2599	[M + NH ₄] ⁺	1.872	1.551
Scuteliquanine A	43.5	C ₂₈ H ₃₅ NO ₈	514.2441	[M + H] ⁺	1.160	1.627
Salvigenin	43.7	C ₁₈ H ₁₆ O ₆	329.1025	[M + H] ⁺	1.475	0.988
Scutebarbatine K or 6-O-Acetylscutehenanine A	44.0	C ₂₈ H ₃₃ NO ₇	496.2340	[M + H] ⁺	1.030	1.957
Scutebarbatine X	44.2	C ₃₄ H ₃₈ N ₂ O ₁₀	635.2598	[M + H] ⁺	0.422	Nd
Scutolide I or isomer	44.3	C ₂₆ H ₃₆ O ₉	510.2695	[M + NH ₄] ⁺	Nd	0.513
Barbatin H or isomer	44.4	C ₃₄ H ₃₈ N ₂ O ₉	619.2660	[M + H] ⁺	1.587	2.088
Barbatellarine C or D	44.6	C ₃₀ H ₃₇ NO ₁₀	572.2497	[M + H] ⁺	Nd	1.166
Scutebata O	44.7	C ₂₈ H ₃₅ NO ₇	498.2494	[M + H] ⁺	Nd	1.588
Clerodin	44.8	C ₂₄ H ₃₄ O ₇	452.2648	[M + NH ₄] ⁺	Nd	1.152
Scutebarbatine A	44.9	C ₃₂ H ₃₄ N ₂ O ₇	559.2437	[M + H] ⁺	0.898	1.023
Scutebata E or R or Scutolide G	45.4	C ₂₈ H ₄₀ O ₉	538.3010	[M + NH ₄] ⁺	0.393	1.304
Scutebata E or R or Scutolide G	45.6	C ₂₈ H ₄₀ O ₉	538.3016	[M + NH ₄] ⁺	0.951	1.749
Scutebata F isomer	46.0	C ₃₀ H ₃₇ NO ₉	556.2552	[M + H] ⁺	1.701	1.729
Scutebartine A or isomer	46.0	C ₃₃ H ₃₇ NO ₈	576.2510	[M + H] ⁺	0.046	1.729
Scutebarbatine K or 6-O-Acetylscutehenanine A	46.1	C ₂₈ H ₃₃ NO ₇	496.2333	[M + H] ⁺	1.574	1.897
Scutolide B	46.5	C ₃₀ H ₃₇ NO ₇	524.2650	[M + H] ⁺	Nd	-1.157
Scutebatin A or Scutebatin B	46.5	C ₃₉ H ₄₀ N ₂ O ₉	681.2817	[M + H] ⁺	0.837	Nd
Scutolide H	46.6	C ₃₂ H ₄₁ NO ₉	584.2864	[M + H] ⁺	1.441	1.766
Scutebata O	46.8	C ₂₈ H ₃₅ NO ₇	498.2491	[M + H] ⁺	0.905	1.166
Scutebata B	47.0	C ₃₅ H ₃₉ NO ₁₀	634.2651	[M + H] ⁺	1.020	Nd
Scutebarbatine B or Y or Scutebartine F	47.4	C ₃₃ H ₃₅ NO ₇	558.2493	[M + H] ⁺	1.148	1.363
Scutebartine A or isomer	47.6	C ₃₃ H ₃₇ NO ₈	576.2597	[M + H] ⁺	0.671	2.059
Methylwogonin	47.7	C ₁₇ H ₁₄ O ₅	299.0919	[M + H] ⁺	Nd	1.538
Scutebata T (= Scutolide A)	47.9	C ₂₆ H ₃₆ O ₇	461.2540	[M + H] ⁺	Nd	1.409
Barbatellarine B	47.9	C ₃₅ H ₃₉ NO ₉	618.2705	[M + H] ⁺	1.216	Nd
Scutebarbatolide C or isomer	48.1	C ₃₁ H ₃₈ O ₉	572.2861	[M + NH ₄] ⁺	1.261	1.471
Scutebata M	48.2	C ₃₃ H ₄₃ NO ₉	598.3023	[M + H] ⁺	-0.244	Nd

[Type here]

[Type here]

6-O-(2-oxo-3-methylbutanoyl)scutehenanine A or isomer	49.5	C ₃₁ H ₃₇ NO ₈	552.2606	[M + H] ⁺	2.474	2.148
Scutellone G or isomer	49.6	C ₂₉ H ₃₆ O ₈	530.2756	[M + NH ₄] ⁺	Nd	1.483
Barbatellarine B	49.7	C ₃₅ H ₃₉ NO ₉	618.2709	[M + H] ⁺	1.911	1.119
6-O-(2-oxo-3-methylbutanoyl)scutehenanine A or isomer	50.0	C ₃₁ H ₃₇ NO ₈	552.2602	[M + H] ⁺	Nd	1.804
Scutebata B	50.2	C ₃₅ H ₃₉ NO ₁₀	634.2661	[M + H] ⁺	1.399	2.077
Scutebarbatine B or Y or Scutebartine F	50.6	C ₃₃ H ₃₅ NO ₇	558.2492	[M + H] ⁺	0.933	1.686
Scutebata S	51.0	C ₃₃ H ₄₂ O ₉	600.3177	[M + NH ₄] ⁺	1.635	1.435

22 All compounds assigned by comparison of accurate mass data (ppm⁻¹), and by interpretation of
23 available

24 MSn and/or UV spectra.

25 Nd: Not detected / below level of detection.

26

[Type here]