



Supplementary Figure 1 A chromatographic profile of Jianpi Qingchang Bushen decoction. A: A chromatographic profile of Jianpi Qingchang Bushen decoction (JQBD) by UPLC-Q-TOF/MS in a negative ion mode; B: A chromatographic profile of JQBD by UPLC-Q-TOF/MS in a positive ion mode; C: A UPLC UV chromatogram of JQBD. UV at 254 nm

Supplementary Table 1 The identified compounds in Jianpi Qingchang Bushen decoction based on UPLC-Q-TOF/MS analysis

No.	Rt (min)	Adducts	Measured, m/z	Expected, m/z	Mass error (ppm)	Formula	Molecular weight	Compound identification	MS/MS spectra	Origins
1	1.45	[M-H] ⁻	331.0675	331.0671	1.3	C ₁₃ H ₁₆ O ₁₀	332.07	Glucogallin	331.0702;271.0452;211.0244;169.0147;125.0243	/
2	1.70	[M-H] ⁻	169.0153	169.0142	6.5	C ₇ H ₆ O ₅	170.02	Gallic acid	169.0153;125.0252;79.0189	<i>Sanguisorba officinalis</i> L.
3	4.68	[M-H] ⁻	345.0841	345.0827	4.1	C ₁₄ H ₁₈ O ₁₀	346.09	Methyl 6-O-galloyl-β-D-glucoside	345.0814;169.0137;124.0161	<i>Sanguisorba officinalis</i> L.
4	8.10	[M-H] ⁻	577.1388	577.1352	6.3	C ₃₀ H ₂₆ O ₁₂	578.14	Procyanidin B1	577.314;425.0894;407.0784;289.0710;245.0834	<i>Sanguisorba officinalis</i> L.
5	8.63	[M-H] ⁻	289.073	289.0718	4.2	C ₁₅ H ₁₄ O ₆	290.08	Catechin	289.0697;245.0815;203.0696	<i>Sanguisorba officinalis</i> L.
6	8.78	[M-H] ⁻	865.2028	865.1985	4.9	C ₄₅ H ₃₈ O ₁₈	866.21	Procyanidin C1	865.1890;739.1775;575.1182;407.0790;287.0608	<i>Sanguisorba officinalis</i> L.

7	9.28	[M-H] ⁻	483.08 07	483.078	5.5	C ₂₀ H ₂₀ O ₁₄	484.09	1,6-bis-O-galloyl-β -D-glucose	483.0779;313.0559;241.0352;1 69.0144;125.0251	<i>Sanguisorba officinalis</i> L.
8	11.0 2	[M-H] ⁻	277.00 19	277.002 4	-1.8	C ₉ H ₁₀ O ₈ S	278.01	Gallic Acid Ethyl Ester sulfate	277.0024;197.0448;182.0212;1 66.9976	<i>Sanguisorba officinalis</i> L.
9	11.8 3	[M-H] ⁻	289.07 25	289.071 8	2.4	C ₁₅ H ₁₄ O ₆	290.08	Epicatechin	289.0733;24.0805;137.0243	<i>Sanguisorba officinalis</i> L.
10	13.5 9	[M-H] ⁻	365.08 85	365.087 8	1.9	C ₁₇ H ₁₈ O ₉	366.10	Psoralenoside	203.0360;159.0462;130.0433	<i>Psoralea corylifolia</i> L.
11	14.9 4	[M-H] ⁻	365.08 79	365.087 8	0.3	C ₁₇ H ₁₈ O ₉	366.10	Isopsoralenoside	203.0345;159.0442	<i>Psoralea corylifolia</i> L.
12	17.6 0	[M-H] ⁻	563.14 29	563.140 6	4.0	C ₂₆ H ₂₈ O ₁₄	564.15	Schaftoside	563.1402;545.1172;503.1243;4 73.1046;443.0981	<i>Glycyrrhiza glabra</i> L.
13	19.5 0	[M-H] ⁻	417.12 15	417.119 1	5.8	C ₂₁ H ₂₂ O ₉	418.13	Liquiritin	417.1156;255.0655;135.0083;1 19.0495	<i>Glycyrrhiza glabra</i> L.
14	19.9 3	[M+H] +	447.12 68	447.128 6	-4.0	C ₂₂ H ₂₂ O ₁₀	446.12	Calycosin-7-O-β-D -glucoside	285.0743;270.0519;253.0486	<i>Astragalus</i> <i>mongholicus</i> Bunge
15	20.6	[M-H] ⁻	549.16	549.161	2.5	C ₂₆ H ₃₀	550.17	Liquiritinapioside	549.1616;417.1211;255.0667;1	<i>Glycyrrhiza glabra</i> L.

	9		28	4		O ₁₃			35.0095	
16	22.5	[M+H]	504.15	504.150	0.7	C ₂₄ H ₂₅	503.14	Oleracein A	342.1031;178.0554;147.0442	<i>Portulaca oleracea</i> L.
	0	+	04	0		NO ₁₁				
17	25.0	[M+H]	534.16	534.160	-0.4	C ₂₅ H ₂₇	533.15	Oleracein B	177.0537;145.0294	<i>Portulaca oleracea</i> L.
	9	+	04	6		NO ₁₂				
18	29.0	[M+FA-	441.17	441.176	2.0	C ₂₀ H ₂₈	396.18	Lobetyolin	185.0952;143.0729	<i>Codonopsis pilosula</i>
	3	H] ⁻	75	6		O ₈				(Franch.) Nannf.
19	30.5	[M+FA-	475.12	475.124	2.1	C ₂₂ H ₂₂	430.13	Ononin	267.0667;252.0405	<i>Glycyrrhiza glabra</i> L./
	0	H] ⁻	56	6		O ₉				<i>Astragalus mongholicus</i> Bunge
20	30.5	[M-H] ⁻	549.16	549.161	6.0	C ₂₆ H ₃₀	550.17	Isoliquiritin	549.1642;255.0668;135.0093	<i>Glycyrrhiza glabra</i> L.
	9		47	4		O ₁₃		apioside		
21	30.9	[M-H] ⁻	417.12	417.119	4.8	C ₂₁ H ₂₂	418.13	Isoliquiritin	417.1208;255.0656;148.0162;1	<i>Glycyrrhiza glabra</i> L.
	2		11	1		O ₉			19.0512	
22	31.4	[M-H] ⁻	255.06	255.066	3.5	C ₁₅ H ₁₂	256.07	Liquiritigenin	255.0691;135.0096;119.0508	<i>Glycyrrhiza glabra</i> L.
	9		72	3		O ₄				
23	31.9	[M+H]	314.13	314.138	-1.9	C ₁₈ H ₁₉	343.13	N-trans-Feruloylty	177.0543;145.0295	<i>Portulaca oleracea</i> L.

	3	+	81	7		NO ₄		ramine		
24	33.5	[M+H]	187.03	187.039	0.2	C ₁₁ H ₆	188.04	Psoralen	187.0383;143.0491;131.0477;1	<i>Cullen corylifolium</i> (L.)
	2	+	9			O ₃			15.0533	Medik.
25	33.7	[M-H] ⁻	283.06	283.061	7.4	C ₁₆ H ₁₂	284.07	Acacetin	283.0594;268.0358;240.0406;2	<i>Aucklandia costus</i> Falc.
	6		33	2		O ₅			11.0402	
26	34.5	[M-H] ⁻	423.00	423.002	0.2	C ₁₇ H ₁₂	424.01	2,3,8-Tri-O-methyl	423.0046;343.0447;328.0199;3	<i>Sanguisorba officinalis</i>
	6		29	8		O ₁₁ S		ellagic acid Sulfate	12.9949;297.9730	L.
27	34.8	[M+H]	187.03	187.039	-0.4	C ₁₁ H ₆	188.04	Psoralen	187.0389;131.0485	<i>Cullen corylifolium</i> (L.)
	7	+	89			O ₃				Medik.
28	37.8	[M+FA-	577.28	577.286	3.9	C ₂₆ H ₄₄	532.29	Verbenaside A	577.2909;531.2844;399.2401;3	<i>Sanguisorba officinalis</i>
	0	H] ⁻	88	6		O ₁₁			11.1015;221.0773	L.
29	38.8	[M-H] ⁻	983.45	983.449	3.3	C ₄₈ H ₇₂	984.46	Licorice saponin	983.4453;821.3977	<i>Glycyrrhiza glabra</i> L.
	5		25	3		O ₂₁		A3		
30	40.0	[M-H] ⁻	837.39	837.391	0.1	C ₄₂ H ₆₂	838.40	LicoricesaponinG2	837.3905;351.0561	<i>Glycyrrhiza glabra</i> L.
	5		15	4		O ₁₇				
31	40.8	[M-H] ⁻	267.06	267.066	-2.6	C ₁₆ H ₁₂	268.07	Techtochrysin	267.0651;252.0402;223.0359	<i>Alpinia oxyphylla</i> Miq.
	8		56	3		O ₄				

32	40.9	[M+FA-	811.45	811.448	7.0	C ₄₁ H ₆₆	766.45	Ziyuglycoside I	811.4549;765.4480;603.3912	<i>Sanguisorba officinalis</i>
	4	H] ⁻	42	5		O ₁₃				L.
33	41.7	[M-H] ⁻	837.39	837.391	1.8	C ₄₂ H ₆₂	838.40	LicoricesaponinG2	837.3972;351.0521	<i>Glycyrrhiza glabra</i> L.
	7		29	4		O ₁₇		Isomer		
34	42.4	[M-H] ⁻	837.39	837.391	2.6	C ₄₂ H ₆₂	838.40	Licoricesaponin P2	837.3920;351.0536	<i>Glycyrrhiza glabra</i> L.
	8		36	4		O ₁₇				
35	42.6	[M+FA-	829.46	829.459	6.4	C ₄₁ H ₆₈	784.46	Astragaloside A	829.4694;783.4546;489.3633;1	<i>Astragalus</i>
	5	H] ⁻	44	1		O ₁₄			61.0462	<i>mongholicus</i> Bunge
36	43.4	[M-H] ⁻	821.40	821.396	5.4	C ₄₂ H ₆₂	822.40	Glycyrrhizic acid	821.3927;351.0558	<i>Glycyrrhiza glabra</i> L.
	0		09	5		O ₁₆				
37	44.9	[M-H] ⁻	821.39	821.396	2.4	C ₄₂ H ₆₂	822.40	Uralsaponin B	821.3976;351.0566	<i>Glycyrrhiza glabra</i> L.
	1		85	5		O ₁₆				
38	46.3	[M-H] ⁻	321.11	321.113	3.3	C ₂₀ H ₁₈	322.12	Neobavaisoflavon	321.1139;277.0495;265.0501;2	<i>Cullen corylifolium</i> (L.)
	7		43	2		O ₄		e	374.0560	Medik.
39	49.1	[M-H] ⁻	319.09	319.097	1.0	C ₂₀ H ₁₆	320.10	Corylin	319.0964;303.0640;289.0500	<i>Cullen corylifolium</i> (L.)
	3		79	6		O ₄				Medik.
40	49.9	[M-H] ⁻	335.09	335.092	2.1	C ₂₀ H ₁₆	336.10	Psoralidin	335.0909;320.0712;280.0363	<i>Cullen corylifolium</i> (L.)

	3		32	5		O ₅					Medik.
41	50.1	[M+H]	233.15	233.153	5.1	C ₁₅ H ₂₀	232.15	Costunolide	233.1540;187.1474;145.1012;1		<i>Aucklandia costus</i> Falc.
	3	+	48	6		O ₂			31.0839;105.0683		
42	50.3	[M+H]	231.13	231.138	0.6	C ₁₅ H ₁₈	232.15	Dehydrocostus	231.1361;185.1321;143.0849;1		<i>Aucklandia costus</i> Falc.
	8	+	81			O ₂		Lactone	28.0612;105.0678		
43	50.7	[M-H] ⁻	337.14	337.144	2.6	C ₂₁ H ₂₂	338.15	4'-O-Methylbrouss	337.1442;119.0502		<i>Cullen corylifolium</i> (L.)
	1		54	5		O ₄		ochalcone B			Medik.
44	50.8	[M-H] ⁻	389.17	389.175	6.1	C ₂₅ H ₂₆	390.18	Corylifol A	389.1781;303.1033;277.0495;2		<i>Cullen corylifolium</i> (L.)
	6		82	8		O ₄			65.0520		Medik.
