

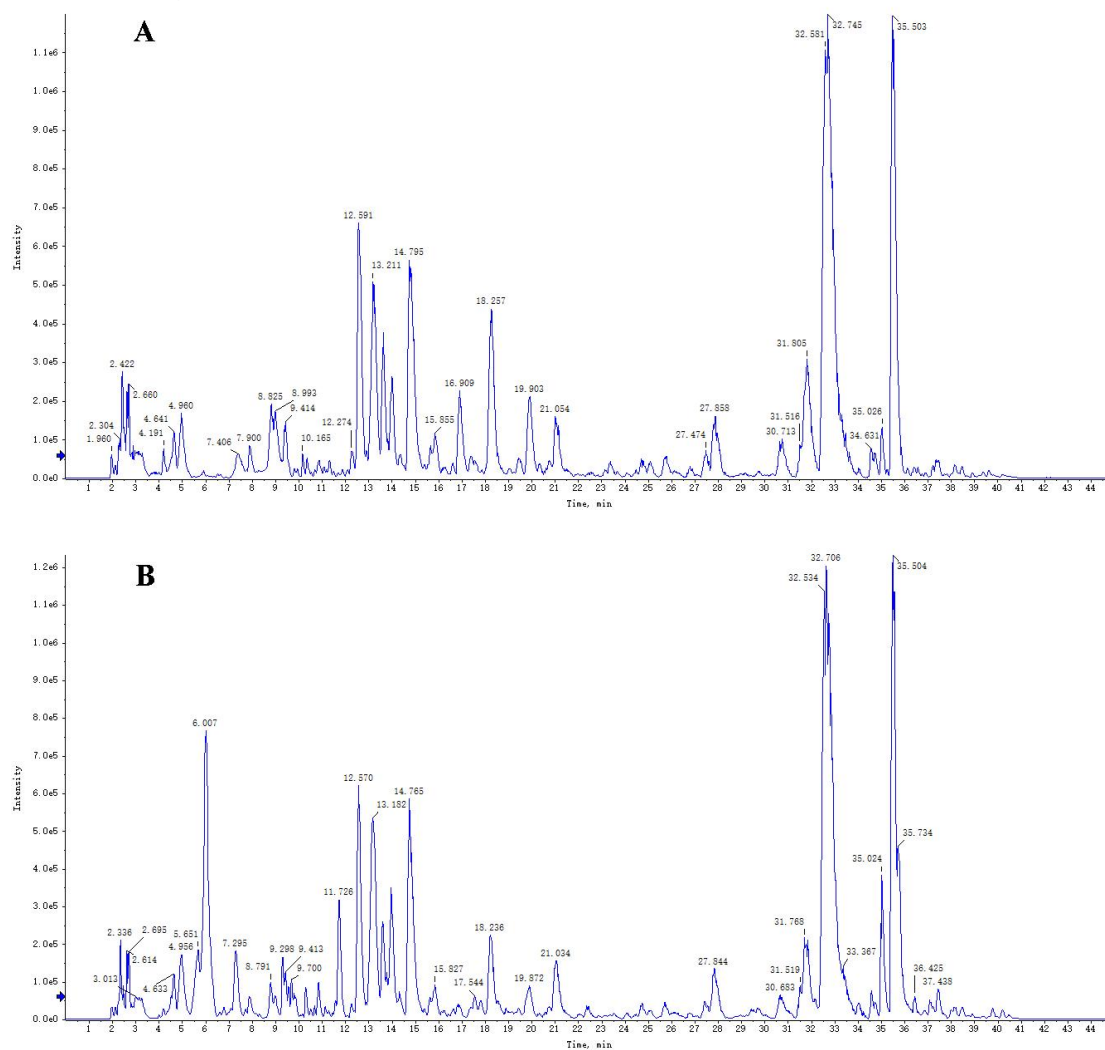


Fig. S1 **A** UFLC-Triple TOF-MS/MS base peak chromatograms of TH samples from *Morus alba* L. under negative ion mode. **B** UFLC-Triple TOF-MS/MS base peak chromatograms of TH samples from *Liquidambar formosana* Hance (B) under negative ion mode.

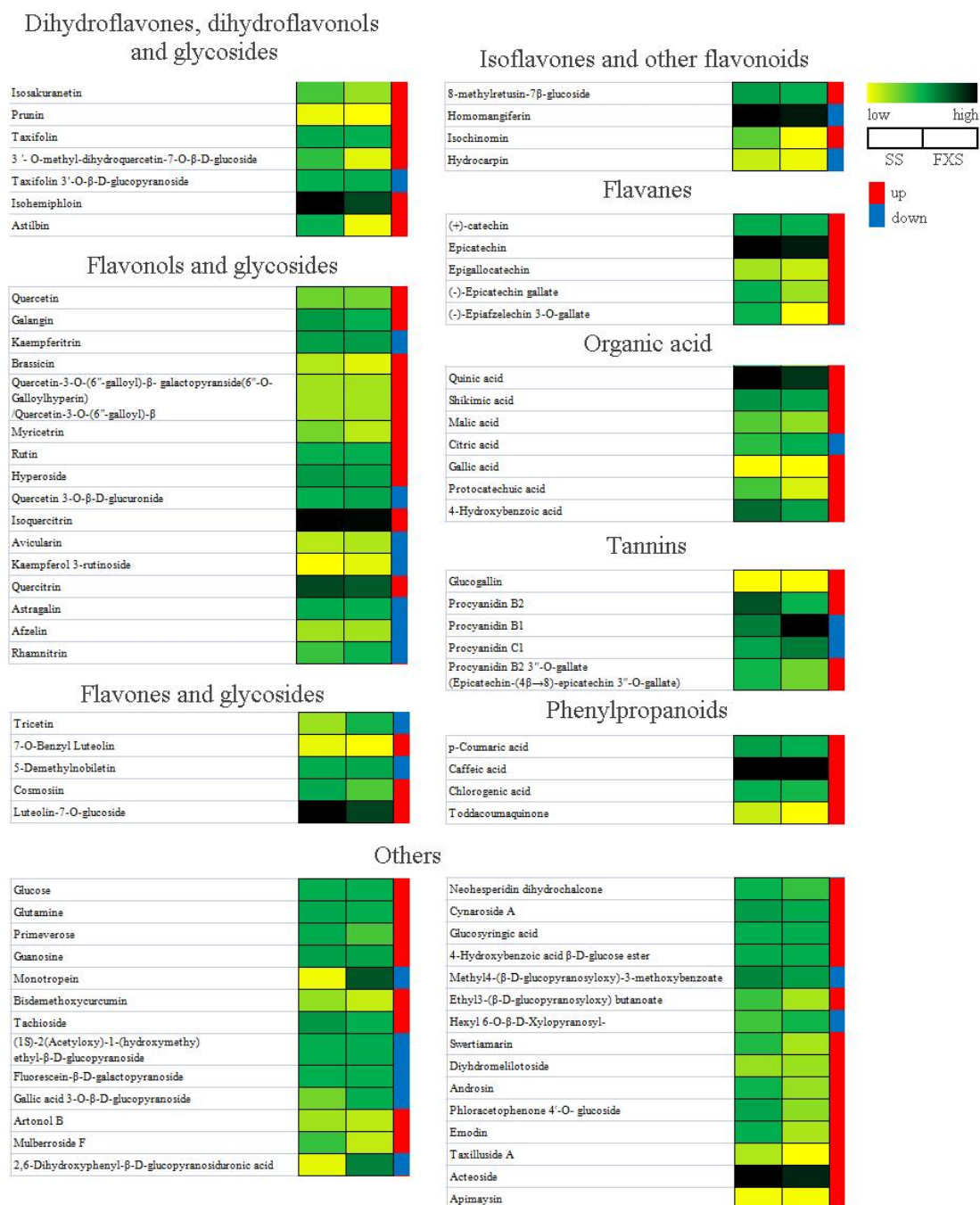


Fig. S2 Heatmap of metabolite profile for 81 compounds identified in two groups of TH.

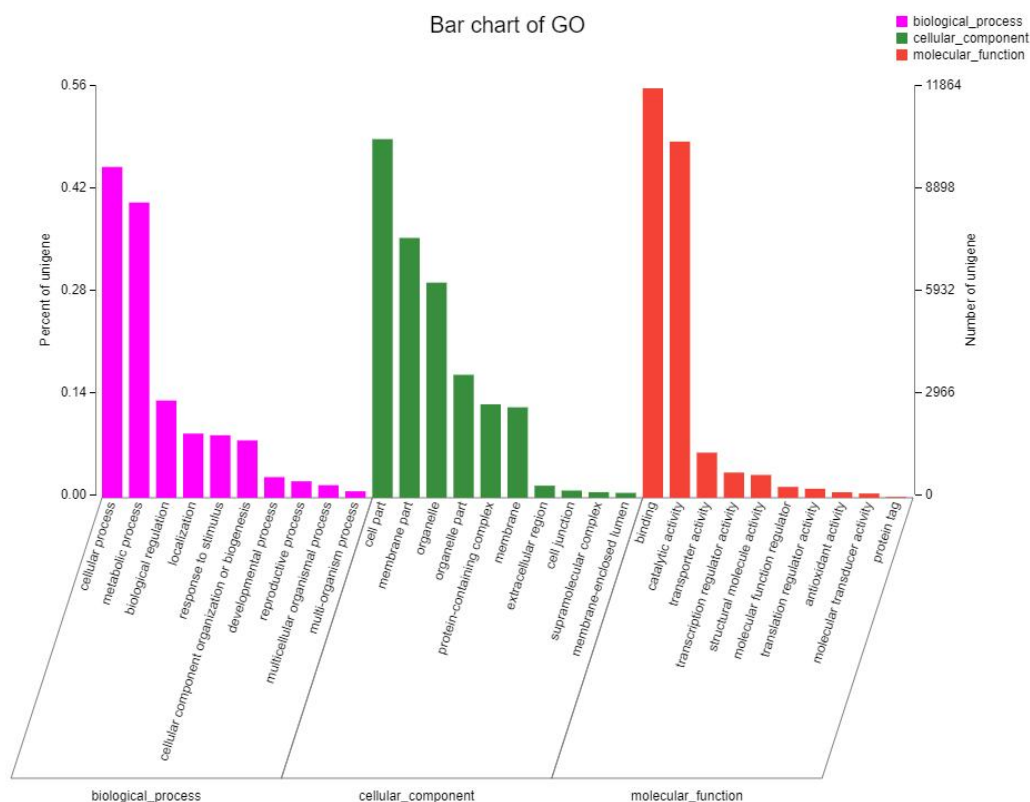


Fig. S3 GO classification of all unigenes in Taxilli Herba.

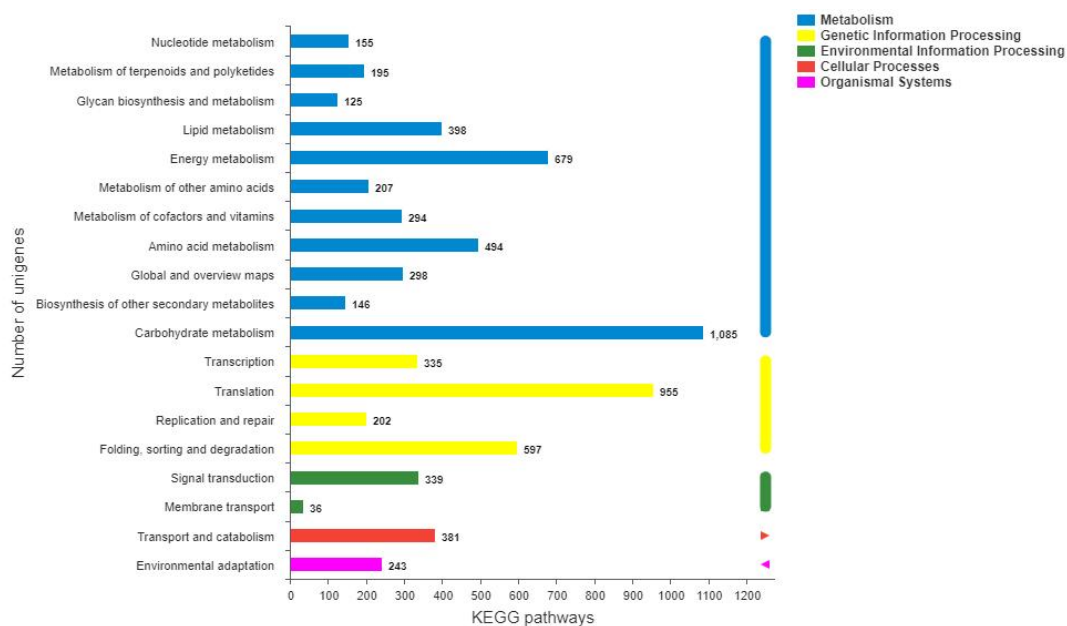


Fig. S4 Pathways classification of KEGG analysis of all unigenes in TH.

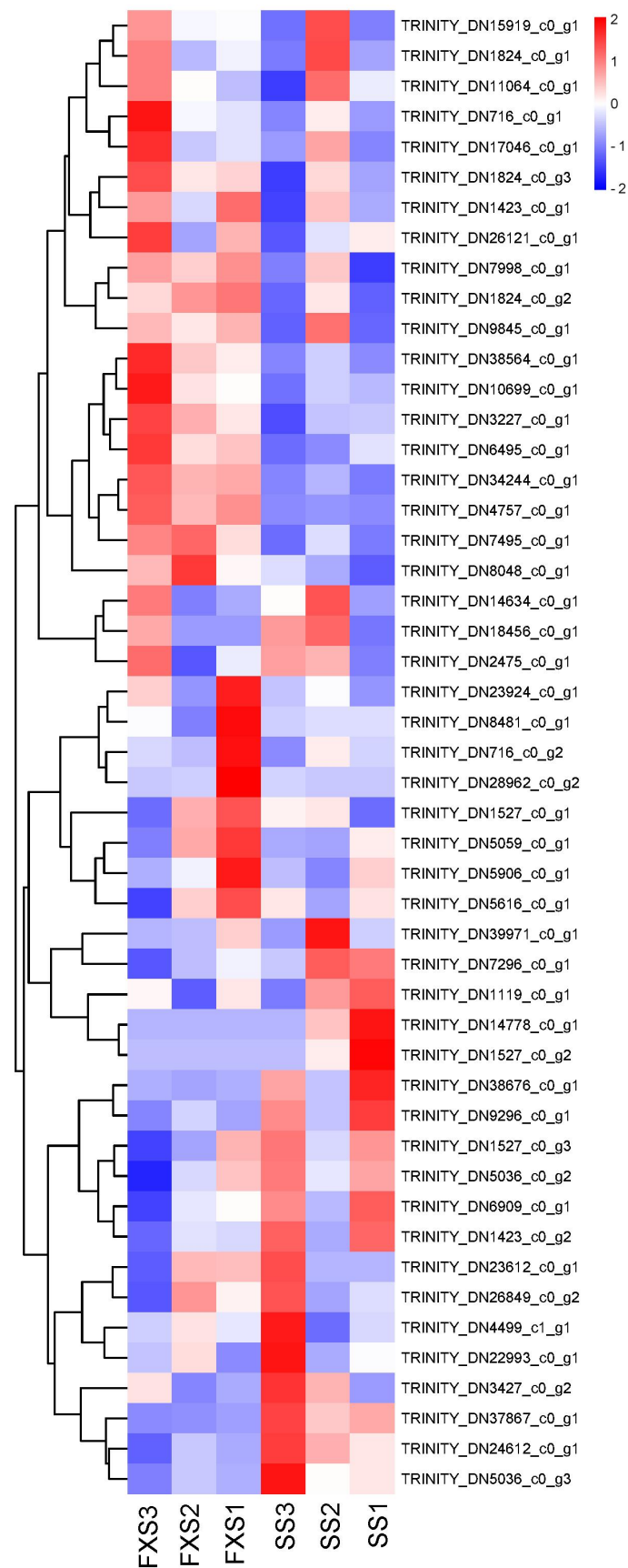


Fig. S5 Cluster analysis heat map of all annotated genes between two groups.

Table S1 Primers for qRT-PCR

Target gene	Primer	5'----3'
CYP98A	CYP98A-F	TCTACGGTCCCATCATTTCG
	CYP98A-R	GCGGTGACTTCATCTTCCCT
bglB	bglB-F	TGCTGCTTATTCTGCTCG
	bglB-R	GGTCCACTGAAACCTCCC
CAD	CAD-F	GCGTCATTAACCAGCCTCTA
	CAD-R	ATCTCCTCTGCCTCCTTCA
CSE	CSE-F	TATCCTGGGTTTGGTCTTT
	CSE-R	GTCATCTCCTAGCCTCTTG
CCoAOMT	CCoAOMT-F	ATGACTACATCTGCGGACGAG
	CCoAOMT-R	CCAGCCTTCTTGATTACGG
HCT	HCT-F	GATGCGGCGGCGATGAAGA
	HCT-R	GGGCGAAGTCACCGAAGT
FLS	FLS-F	CTGTTGTCCTGCCTGTCGG
	FLS-R	AGTCCCTGGATTTCGTTGG
4CL	4CL-F	CGTCGGTTCGGATGGTGTT
	4CL-R	CAATCTTCATTTACAGCGTTTC
F3H	F3H-F	AGCCTTCGTTGTCAATCTC
	F3H-R	ATGCTGCTGCTACTATCCA
Actin	actin-Fw	GGCTGTGTTTCCCAGTATTGT
	actin-Rv	CATAACCCTCATAGATTGGCAC

Table S2 Identification of 81 compounds in Taxilli Herba from two hosts

No	T _r /(min)	Putative compound	Molecular formula	ppm	MS ¹ (<i>m/z</i>)	MS ² fragments
1	2.2	Glucose	C ₆ H ₁₂ O ₆	0.1	179.0561[M-H] ⁻	161.0457[M-H-H ₂ O] ⁻ , 117.0207, 89.0248, 71.0158
2	2.3	Glutamine	C ₅ H ₁₀ N ₂ O ₃	0.7	145.0633[M-H] ⁻	128.0539[M-H-NH ₃] ⁻ , 127.0514[M-H-H ₂ O] ⁻ , 101.0725[M-H-CO ₂] ⁻ , 99.0560[M-H-HCOOH] ⁻
3	2.5	Primeverose	C ₁₁ H ₂₀ O ₁₀	1.9	311.0991[M-H] ⁻	233.0654[M-H-C ₂ H ₃ O ₂ -CHOH] ⁻ , 173.0446[M-H-C ₂ H ₃ O ₂ -CHOH-C ₂ H ₄ O ₂] ⁻ , 131.0341[M-H-C ₆ H ₁₁ O ₆] ⁻ , 99.0095[M-H-Xyl-C ₃ H ₆ O ₂] ⁻ , 71.0155[M-H-Xyl-C ₄ H ₈ O ₃] ⁻
4	2.6	Guanosine	C ₁₀ H ₁₃ N ₅ O ₅	4.9	282.0830[M-H] ⁻	150.0426[M-H-Rib] ⁻ , 133.0153[M-H-Rib-H ₂ O] ⁻
5	2.6	Quinic acid	C ₇ H ₁₂ O ₆	0.1	191.0057[M-H] ⁻	173.0454[M-H-H ₂ O] ⁻ , 127.0397[M-H-H ₂ O-HCOOH] ⁻ , 59.0160, 71.0161, 85.0304
6	2.9	Shikimic acid	C ₇ H ₁₀ O ₅	1.1	173.0472[M-H] ⁻	155.0407[M-H ₂ O] ⁻ , 137.0246[M-H-2H ₂ O] ⁻ , 129.0189[M-H-CO ₂] ⁻ , 111.0451[M-H-CO ₂ -H ₂ O] ⁻
7	3.1	Malic acid	C ₄ H ₆ O ₅	2.6	133.0146[M-H] ⁻	115.0041[M-H-H ₂ O] ⁻ , 71.0160[M-H-H ₂ O-CO ₂] ⁻
8	5.0	Citric acid	C ₆ H ₈ O ₇	0.0	191.0206[M-H] ⁻	173.0101[M-H-H ₂ O] ⁻ , 154.9982[M-H-2H ₂ O] ⁻ , 129.0187[M-H-H ₂ O-CO ₂] ⁻ , 103.0400[M-H-2CO ₂] ⁻
9	6.0	Monotropein	C ₁₆ H ₂₂ O ₁₁	0.9	389.1082[M-H] ⁻	227.0543[M-H-Glc] ⁻ , 165.0544[M-H-Glc-COOH] ⁻
10	7.9	Gallic acid	C ₇ H ₆ O ₅	2.6	169.0138[M-H] ⁻	125.0240[M-H-CO ₂] ⁻ , 107.0141[M-H-CO ₂ -H ₂ O] ⁻ , 97.0341[M-H-CO ₂ -CO] ⁻ , 69.0374[M-H-CO ₂ -2CO] ⁻
11	8.0	Bisdemethoxycurcumin	C ₁₉ H ₁₆ O ₄	2.6	307.1029[M-H] ⁻	145.0508, 127.0397
12	8.9	Glucogallin	C ₁₃ H ₁₆ O ₁₀	1.8	331.0673[M-H] ⁻	179.0137[M-H-G] ⁻ , 169.0253, 161.024[M-H-G-H ₂ O] ⁻
13	9.0	Tachioside	C ₁₃ H ₁₈ O ₈	1.7	301.0928[M-H] ⁻	139.0324[M-H-Glc] ⁻ , 123.0089[M-H-Glc-O] ⁻
14	9.3	(1S)-2(Acetyloxy)-1-(hydroxymethyl)ethyl-β-D-glucopyranoside	C ₁₁ H ₂₀ O ₉	0.3	295.1045[M-H] ⁻	131.0934[M-H-Glc] ⁻ , 113.0252[M-H-Glc-H ₂ O] ⁻ , 85.0306, 71.016, 59.0162
15	9.4	Homomangiferin	C ₂₀ H ₂₀ O ₁₁	2.5	435.1129[M-H] ⁻	271.0448[M-H-Glc] ⁻ , 313.0354, 151.0037, 125.0245
16	9.4	Isochinomin	C ₂₄ H ₂₀ O ₈	0.2	435.1124[M-H] ⁻	313.0509, 151.0025, 123.0085
17	9.6	Fluorescein-β-D-galactopyranoside	C ₂₆ H ₂₂ O ₁₀	1.4	493.1183[M-H] ⁻	331.0654[M-H-Gal] ⁻
18	10.2	Toddacoumaquinone	C ₂₃ H ₁₈ O ₇	4.9	405.1031[M-H] ⁻	169.0134, 71.0154
19	10.3	Gallic acid 3-O-β-D-glucopyranoside	C ₁₃ H ₁₆ O ₁₀	0.6	331.1061[M-H] ⁻	169.0134[M-H-Glc] ⁻ , 125.0240[M-H-Glc-CO ₂] ⁻
20	10.8	7-O-Benzyl Luteolin	C ₂₂ H ₁₆ O ₅	1.1	375.0927[M-H] ⁻	285.0437[M-H-Benzyl group] ⁻ , 151.0030[^{1,3} A] ⁻
21	11.1	Artonol B	C ₂₄ H ₂₀ O ₇	3.5	419.1177[M-H] ⁻	271.0421, 151.0033
22	11.1	Hydrocarpin	C ₂₅ H ₂₀ O ₉	0.0	463.0869[M-H] ⁻	435.0761[M-H-CO] ⁻ , 273.0364[M-H-C ₁₀ H ₁₁ O ₃] ⁻ , 151.0927[^{1,3} A] ⁻
23	11.3	Mulberroside F	C ₂₆ H ₃₀ O ₁₄	2.8	565.1547[M-H] ⁻	403.0473[M-H-Glc] ⁻ , 241.0241[M-H-2Glc] ⁻
24	11.4	Protocatechuic acid	C ₇ H ₆ O ₄	6.9	153.0194[M-H] ⁻	109.0303[M-H-CO ₂] ⁻ , 101.0314[M-H-CO ₂ -CO] ⁻ ,
25	11.7	2,6-Dihydroxyphenyl-β-D-glucopyranosiduronic acid	C ₁₂ H ₁₄ O ₉	0.0	301.0565[M-H] ⁻	283.0456[M-H-H ₂ O] ⁻ , 125.0241[M-H-Glc UA] ⁻ , 107.0144[M-H-Glc UA-H ₂ O] ⁻
26	12.2	p-Coumaric acid	C ₉ H ₈ O ₃	0.2	163.0401[M-H] ⁻	119.0482[M-H-CO ₂] ⁻ , 93.0316[M-H-CO ₂ -C ₂ H ₂] ⁻

27	12.6	Procyanidin B2	C ₃₀ H ₂₆ O ₁₂	0.4	577.1354[M-H] ⁻	451.0989[M-H-H ₂ O-C ₆ H ₅ O ₂] ⁻ , 425.0835[M-H-C ₈ H ₈ O ₃] ⁻ , 407.0733[M-H-C ₈ H ₈ O ₃ -H ₂ O] ⁻ , 289.0685[M-H-TOP] ⁻ , 245.0768[M-H-TOP-CO ₂] ⁻ , 179.0733[M-H-TOP-C ₆ H ₅ O ₂] ⁻ , 125.0231[1,4A] ⁻
28	12.9	Neohesperidin dihydrochalcone	C ₂₈ H ₃₆ O ₁₅	1.0	611.1235[M-H] ⁻	300.9969[M-H-Neo] ⁻ , 275.0183 451.0986[M-H-H ₂ O-C ₆ H ₅ O ₂] ⁻ , 425.0829[M-H-C ₈ H ₈ O ₃] ⁻ ,
29	13.2	Procyanidin B1	C ₃₀ H ₂₆ O ₁₂	0.3	577.1354[M-H] ⁻	407.0745[M-H-C ₈ H ₈ O ₃ -H ₂ O] ⁻ , 289.0698[M-H-TOP] ⁻ , 245.0743[M-H-TOP-CO ₂] ⁻ , 179.0721[M-H-TOP-C ₆ H ₅ O ₂] ⁻ , 125.0228[1,4A] ⁻ 739.1671[M-H-C ₆ H ₅ O ₂ -H ₂ O] ⁻ , 713.1887[M-C ₈ H ₈ O ₃] ⁻ ,
30	13.5	Procyanidin C1	C ₄₅ H ₃₈ O ₁₈	3.8	865.1952[M-H] ⁻	577.1301[M-H-TOP] ⁻ , 407.0782[M-H-TOP-C ₈ H ₈ O ₃ -H ₂ O] ⁻ , 289.0712[M-H-2TOP] ⁻ , 245.0800[M-H-2TOP-CO ₂] ⁻ , 125.0236[1,4A] ⁻
31	13.7	Cynaroside A	C ₂₁ H ₃₂ O ₁₀	1.1	443.1904[M-H] ⁻	425.1931[M-H-H ₂ O] ⁻ , 281.1394[M-H-Glc] ⁻ , 263.1289[M-H-Glc-H ₂ O] ⁻
32	14.0	Isosakuranetin*	C ₁₆ H ₁₄ O ₅	3.2	285.0620[M-H] ⁻	151.0184[^{1,3} A] ⁻ , 107.0291[^{1,3} A-CO ₂] ⁻
33	14.2	Glucosyringic acid	C ₁₅ H ₂₀ O ₁₀	1.9	359.0967[M-H] ⁻	197.0515[M-H-Glc] ⁻ , 153.0028[M-H-Glc-CO ₂] ⁻ , 127.0245[M-H-Glc-CO ₂ -C ₂ H ₂] ⁻ , 121.0081[M-H-Glc-CO ₂ -OCH ₃] ⁻
34	14.3	4-Hydroxybenzoic acid	C ₇ H ₆ O ₃	0.3	137.0224[M-H] ⁻	93.0334[M-H-CO ₂] ⁻
35	14.3	4-Hydroxybenzoic acid β-D-glucose ester	C ₁₃ H ₁₆ O ₈	1.2	299.0776[M-H] ⁻	137.0241[M-H-Glc] ⁻ , 93.0351[M-H-Glc-CO ₂] ⁻ 245.0235[M-H-CO ₂] ⁻ , 179.0341[M-H-B ring] ⁻ , 167.0339[^{1,2} A] ⁻ ,
36	14.7	(+)-Catechin*	C ₁₅ H ₁₄ O ₆	0.8	289.0724[M-H] ⁻	163.0385[M-H-H ₂ O-B ring] ⁻ , 149.0234[1,3B] ⁻ , 137.0237[1,3A] ⁻ , 125.0235[1,4A] ⁻ , 109.0289[B ring] ⁻ 245.0300[M-H-CO ₂] ⁻ , 179.0339[M-H-B ring] ⁻ , 167.0340[^{1,2} A] ⁻ ,
37	14.8	Epicatechin	C ₁₅ H ₁₄ O ₆	0.6	289.0722[M-H] ⁻	163.0379[M-H-H ₂ O-B ring] ⁻ , 149.0246[1,3B] ⁻ , 137.0237[1,3A] ⁻ , 125.0229[1,4A] ⁻ , 109.0199[B ring] ⁻
38	14.8	Caffeic acid	C ₉ H ₈ O ₄	3.5	179.0389[M-H] ⁻	135.0472[M-H-CO ₂] ⁻ , 109.0440[M-H-CO ₂ -CO] ⁻ , 89.0413[M-H-CO ₂ -CO-H ₂ O] ⁻
39	14.9	Methyl4-(β-D-glucopyranosyloxy) -3-methoxybenzoate	C ₁₅ H ₂₀ O ₉	2.0	343.1029[M-H] ⁻	181.0490[M-H-Glc] ⁻ , 135.0427[M-H-Glc-CH ₄ O ₂] ⁻ , 121.0286[M-H-Glc-COOCH] ⁻
40	15.3	Chlorogenic acid	C ₁₆ H ₁₈ O ₉	0.9	353.0875[M-H] ⁻	191.0554[M-H-caffeoyl] ⁻ , 179.0365[M-H-C ₇ H ₁₀ O ₅] ⁻
41	15.4	Epigallocatechin	C ₁₅ H ₁₄ O ₇	0.1	305.0667[M-H] ⁻	179.03325[M-H-B ring] ⁻ , 125.0245[^{1,4} A] ⁻
42	16.1	Ethyl3-(β-D-glucopyranosyloxy) butanoate	C ₁₂ H ₂₂ O ₈	0.7	293.1245[M-H] ⁻	131.0710[M-H-Glc] ⁻
43	16.2	Taxifolin	C ₁₅ H ₁₂ O ₇	2.5	303.0540[M-H] ⁻	151.0051[^{1,3} A] ⁻ , 152.0502[^{1,3} B] ⁻ , 175.0386[M-H-H ₂ O-B ring] ⁻
44	16.3	Cosmosiin	C ₂₁ H ₂₀ O ₁₀	1.5	431.1181[M-H] ⁻	269.0453[M-H-Glc] ⁻ , 225.0671[M-H-Glc-CO] ⁻ , 151.0033[^{1,3} A] ⁻ , 107.01[^{1,3} A-CO ₂] ⁻
45	17.6	Hexyl 6-O-β-D-Xylopyranosyl	C ₁₇ H ₃₂ O ₁₀	0.7	395.1919[M-H] ⁻	263.0437[M-H-Xyl] ⁻ , 101.0242[M-H-Xyl-Glc] ⁻
46	17.9	Swertiamarin	C ₁₆ H ₂₂ O ₁₀	0.3	373.1128[M-H] ⁻	193.0511[M-H-Glc] ⁻ , 149.0617[M-H-Glc-CO ₂] ⁻ ,

						123.0743[M-H-Glc-CO ₂ -C ₂ H ₂] ⁻ , 97.0547[M-H-Glc-CO ₂ -2C ₂ H ₂]-
47	18.2	Procyanidin B2 3"-O-gallate	C ₃₇ H ₃₀ O ₁₆	1.9	729.1441[M-H]-	577.1324[M-H-G] ⁻ , 441.0743[M-H-TOP] ⁻
48	18.7	Diyhdromelilotoside	C ₁₅ H ₂₀ O ₈	0.9	327.1085[M-H]-	165.0551[M-H-Glc] ⁻ , 147.0446[M-H-Glc-H ₂ O] ⁻ , 119.0498[M-H-Glc-H ₂ O-COOH] ⁻ ,
49	19.0	Androsin	C ₁₅ H ₂₀ O ₈	0.9	327.1088[M-H]-	165.0554[M-H-Glc] ⁻ , 147.0447[M-H-Glc-H ₂ O] ⁻
50	20.6	Phloracetophenone 4'-O- glucoside	C ₁₄ H ₁₈ O ₉	2.3	329.0877[M-H]-	167.0338[M-H-Glc] ⁻ , 123.0444[M-H-Glc-CO ₂] ⁻
51	21.0	Kaempferitrin	C ₂₇ H ₃₀ O ₁₄	4.3	577.1329[M-H]-	431.0985[M-H-Rha] ⁻ , 285.0244[M-H-2Rha] ⁻ , 256.0179[M-H-2Rha-CO] ⁻
52	23.6	Tricetin	C ₁₅ H ₁₀ O ₇	0.0	301.1189[M-H]-	283.1076[M-H-H ₂ O] ⁻ , 271.1089[M-H-CO ₂] ⁻ , 161.0470[M-H-B ring-H ₂ O] ⁻
53	24.4	Brassicin	C ₂₂ H ₂₂ O ₁₂	1.8	477.1014[M-H]-	315.0562[M-H-Glc] ⁻ , 300.0131[M-H-Glc-CH ₃] ⁻ , 151.0026[^{1,3} A] ⁻
54	24.8	Galangin	C ₅ H ₁₀ O ₅	0.7	269.0647[M-H]-	241.0466[M-H-CO] ⁻ , 226.0396[M-H-C ₂ H ₂ O] ⁻ , 197.0431[M-H-CO-CO ₂] ⁻
55	24.8	Emodin	C ₅ H ₁₀ O ₅	1.7	269.0650[M-H]-	241.0507[M-H-CO] ⁻ , 225.0538[M-H-CO ₂] ⁻ , 197.0582[M-H-CO ₂ -CO] ⁻ , 182.0574[M-H-CO-CO ₂ -CH ₃] ⁻
56	27.3	(-)-Epicatechin gallate	C ₂₂ H ₁₈ O ₁₀	2.3	441.0817[M-H]-	289.0713[M-H-G] ⁻ , 271.0630[M-H-G-H ₂ O] ⁻ , 179.0362[M-H-G-B ring] ⁻ , 135.0242[^{1,3} A] ⁻ , 125.0247, 109.0292[B ring]-
57	27.6	3 '- O-methyl-dihydroquercetin -7-O-β-D-glucoside	C ₂₂ H ₂₄ O ₁₂	0.6	479.1198[M-H]-	315.0564[M-H-Glc] ⁻ , 211.0523[^{0,4} B] ⁻ , 165.0558[^{1,3} B] ⁻ , 151.0542[^{1,3} A] ⁻ , 127.0244[B ring]-
58	28.2	Quercetin-3-O-(6"-galloyl)-β-galactopyranside/ Quercetin-3-O-(6"-galloyl)-β-glucopyranside*	C ₂₈ H ₂₄ O ₁₆	0.1	615.0991[M-H]-	463.0868[M-H-G] ⁻ , 301.3056[M-H-G-Glc/Gal] ⁻
59	29.7	Myricetrin	C ₂₁ H ₂₀ O ₁₂	3.4	463.0866[M-H]-	301.0347[M-H-Rha] ⁻ , 151.0022[^{1,2} A-CO] ⁻ , 107.0149[^{1,2} A-CO-CO ₂] ⁻ 329.0508[M-H-C ₅ H ₁₀] ⁻ , 169.0150[M-H-C ₅ H ₁₀ -Glc] ⁻ ,
60	29.9	Taxilluside A	C ₁₈ H ₂₄ O ₁₀	0.5	399.1298[M-H]-	151.0072[M-H-C ₅ H ₁₀ -Glc-H ₂ O] ⁻ , 125.0236[M-H-C ₅ H ₁₀ -Glc-CO ₂]-, 107.0142[M-H-C ₅ H ₁₀ -Glc-CO ₂ -H ₂ O]-
61	31.2	Rutin*	C ₂₇ H ₃₀ O ₁₆	1.3	609.1453[M-H]-	301.0354[M-H-RG] ⁻ , 151.0028[M-H-RG- ^{1,3} B] ⁻
62	31.3	Hyperoside	C ₂₁ H ₂₀ O ₁₂	3.4	463.0864[M-H]-	301.0341[M-H-Gal] ⁻ , 271.0233[M-H-Gal-CHO] ⁻ , 151.0025[^{1,3} A] ⁻ 431.0945[M-H-H ₂ O] ⁻ , 303.0478[M-H-Rha]-, 285.0380[M-H-Rha-H ₂ O] ⁻ ,
63	32.0	Astilbin	C ₂₁ H ₂₂ O ₁₁	0.2	449.1077[M-H]-	178.9977[M-H-Rha-H ₂ O-B ring]-, 151.0030, 125.0240
64	32.1	Quercetin 3-O-β-D-glucuronide*	C ₂₁ H ₁₈ O ₁₃	4.1	477.0655[M-H]-	301.6332[M-H-Glc UA] ⁻ , 283.0230[M-H-Glc UA-H ₂ O] ⁻ , 151.0027[^{1,3} A] ⁻ , 107.0140[^{0,4} A] ⁻
65	32.4	Acteoside	C ₂₉ H ₃₆ O ₁₅	0.2	623.1976[M-H]-	461.1651[M-H-C ₉ H ₆ O ₃] ⁻ , 315.1087[M-H-C ₉ H ₆ O ₃ -C ₆ H ₁₀ O ₄] ⁻ , 179.0340, 161.0232, 135.0444
66	32.5	Isoquercitrin*	C ₂₁ H ₂₀ O ₁₂	2.2	463.0872[M-H]-	301.0346[M-H-Glc] ⁻ , 151.0034[^{1,3} A] ⁻
67	34.4	Avicularin*	C ₂₀ H ₁₈ O ₁₁	0.1	433.0772[M-H]-	301.0354[M-H-Ara] ⁻ , 151.0037[^{1,3} A] ⁻ , 107.0139[^{0,4} A] ⁻
68	34.4	Taxifolin 3'-O-β-D-glucopyranoside	C ₂₁ H ₂₂ O ₁₂	0.8	465.1035[M-H]-	313.0140[^{1,3} B] ⁻ , 303.0570[M-H-Glc] ⁻ , 151.0391[^{1,3} A] ⁻ , 123.0085[^{1,4} A] ⁻
69	35.0	Kaempferol 3-rutinoside	C ₂₇ H ₃₀ O ₁₅	1.8	593.1501[M-H]-	285.0405[M-H-RG] ⁻
70	35.1	Luteolin-7-O-glucoside	C ₂₁ H ₂₀ O ₁₁	0.5	447.0935[M-H]-	285.0393[M-H-Glc] ⁻ , 243.0497[M-H-Glc-C ₂ H ₂ O] ⁻ , 241.0341[M-H-Glc-CO ₂] ⁻ , 151.0029[^{1,3} A] ⁻

71	35.4	Quercitrin*	C ₂₁ H ₂₀ O ₁₁	2.7	447.0921[M-H] ⁻	301.0354[M-H-Rha] ⁻ , 283.0223[M-H-Rha-H ₂ O] ⁻ , 151.0024[^{1,3} A] ⁻
72	35.5	Isohemiphloin	C ₂₁ H ₂₂ O ₁₀	0.2	433.1131[M-H] ⁻	269.0442[M-H-Glc] ⁻ , 178.9977[M-H-Glc-B ring] ⁻ , 151.0028[^{1,3} A] ⁻
73	36.5	(-)-Epiafzelechin 3-O-gallate	C ₂₂ H ₁₈ O ₉	0.0	425.0874[M-H] ⁻	273.0478[M-H-C ₇ H ₄ O ₄] ⁻ , 151.0390[^{1,3} A] ⁻ , 137.0234, 125.0237[^{1,4} A] ⁻
74	36.5	8-methylretusin-7β-glucoside	C ₂₃ H ₂₄ O ₁₀	1.7	459.1288[M-H] ⁻	297.0762[M-H-Glc] ⁻ , 191.0342[M-H-Glc-B ring] ⁻
75	36.7	Astragalin	C ₂₁ H ₂₀ O ₁₁	1.5	447.0925[M-H] ⁻	285.0389[M-H-Glc] ⁻ , 151.0022[^{1,3} A] ⁻
76	36.8	Rhamnitrin	C ₂₂ H ₂₂ O ₁₁	0.7	461.0713[M-H] ⁻	312.9958[M-H-Rha] ⁻ , 285.0016[M-H-Rha-OCH ₃] ⁻
77	37.1	5-Demethylnobiletin	C ₂₀ H ₂₀ O ₈	1.3	387.1141[M-H] ⁻	341.1081[M-H-CH ₃ -OCH ₃] ⁻ , 218.8840[M-H-OCH ₃ -2OCH ₃ -B ring] ⁻ , 119.0350[M-H-C ₁₂ H ₁₁ O ₆ -CH ₃] ⁻
78	37.1	Prunin	C ₂₁ H ₂₂ O ₁₀	0.0	433.1131[M-H] ⁻	311.0641[^{1,3} A] ⁻ , 271.0641[M-H-Glc] ⁻ , 151.0031[^{1,3} A] ⁻ , 119.0511[^{1,3} B] ⁻ , 107.0135[B ring] ⁻
79	37.4	Afzelin	C ₂₁ H ₂₀ O ₁₀	0.6	431.0981[M-H] ⁻	285.0406[M-H-Rha] ⁻ , 227.0352[M-H-Rha-2CO] ⁻
80	38.9	Apimaysin	C ₂₇ H ₂₈ O ₁₃	0.1	559.158-[M-H] ⁻	397.0178[M-H-Rha] ⁻ , 280.4159[M-H-C ₁₂ H ₁₈ O ₈] ⁻
81	39.5	Quercetin*	C ₁₅ H ₁₀ O ₇	0.7	301.0354[M-H] ⁻	273.0376[M-H-CO] ⁻ , 178.9988[^{1,2} A] ⁻ , 151.0030[^{1,3} A] ⁻ , 121.0296[^{1,2} B] ⁻ , 107.0143[^{0,4} A] ⁻

Note: “*” compared with reference compound

Table S3 Peak area of 81 compounds in Taxilli Herba

No	Putative compound	SS	SD	FXS	SD	Structure types
1	Isosakuranetin	5141.930	228.301	3425.040	89.520	flavanone
2	Taxifolin	22674.667	672.460	9367.333	1701.791	flavanonol
3	3'-O-methyl-dihydroquercetin-7-O- β -D-glucoside	5681.804	95.244	1752.839	117.941	flavanonol glycosides
4	Astilbin	7618.103	766.107	1442.351	69.891	flavanonol glycosides
5	Taxifolin 3'-O- β -D-glucopyranoside	9436.766	315.327	11159.840	844.860	flavanonol glycosides
6	Isohemiphloin	400205.000	28068.392	244562.333	41806.025	flavanonol glycosides
7	Prunin	1577.509	127.996	1170.278	63.140	flavanone glycosides
8	7-O-Benzyl Luteolin	2985.414	35.593	1830.602	33.389	flavones
9	Tricetin	6588.000	729.653	13537.667	6002.376	flavones
10	5-Demethylnobiletin	14916.333	3575.114	15408.667	3212.666	flavones
11	Galangin	61524.000	8745.364	24954.000	3963.086	flavonols
12	Quercetin	13520.333	1246.503	13162.000	1252.550	flavonols
13	Kaempferitrin	51033.142	1703.877	54181.805	3803.374	flavonol glycosides
14	Brassicin	7252.205	812.177	3389.909	29.692	flavonol glycosides
15	Quercetin-3-O-(6''-galloyl)- β -galactopyranside/ Quercetin-3-O-(6''-galloyl)- β -glucopyranside	8849.000	628.858	8707.667	738.825	flavonol glycosides
16	Myricetrin	12886.000	1414.543	6735.000	1096.308	flavonol glycosides
17	Rutin	24578.887	591.881	23691.935	672.037	flavonol glycosides
18	Hyperoside	61868.703	1621.865	45492.121	872.756	flavonol glycosides
19	Quercetin 3-O- β -D-glucuronide	24761.744	247.680	44694.764	1928.671	flavonol glycosides
20	Isoquercitrin	318307.279	4606.268	308979.786	9086.644	flavonol glycosides
21	Avicularin	6888.852	290.477	7701.309	805.043	flavonol glycosides
22	Kaempferol 3-rutinoside	703.961	18.211	2995.957	76.690	flavonol glycosides
23	Quercitrin	198737.588	2170.272	166815.510	4799.689	flavonol glycosides
24	Astragalin	33056.333	3722.435	24033.333	3132.197	flavonol glycosides
25	Rhamnitrin	18460.333	8642.121	22588.333	1914.837	flavonol glycosides

26	Afzelin	8942.208	601.734	8714.272	216.640	flavonol glycosides
27	Cosmosiin	15168.667	1227.504	10461.667	2902.792	flavone glycosides
28	Luteolin-7-O-glucoside	37752.667	7658.897	28868.667	2570.259	flavone glycosides
29	(+)-catechin	83888.029	489.039	69195.656	1023.744	flavan-3-ols
30	Epicatechin	711786.667	41678.406	613369.000	52607.638	flavan-3-ols
31	Epigallocatechin	33169.333	2950.922	26775.000	4490.250	flavan-3-ols
32	(-)-Epicatechin gallate	64017.000	3193.184	34708.000	8039.724	flavan-3-ols
33	(-)-Epiafzelechin 3-O-gallate	62293.667	9589.374	16690.333	2549.283	flavan-3-ols
34	Homomangiferin	150115.667	23229.484	132139.000	8620.830	other flavonoids
35	Isochinomin	6103.084	106.157	1289.780	70.960	other flavonoids
36	Hydrocarpin	2952.424	150.613	1832.723	10.567	other flavonoids
37	8-methylretusin-7 β -glucoside	25766.000	3414.012	11502.000	1977.242	isoflavone
38	p-Coumaric acid	93663.333	7036.049	23736.000	1335.121	phenylpropanoids
39	Caffeic acid	716603.000	70331.496	565802.333	54973.548	phenylpropanoids
40	Chlorogenic acid	28941.000	2081.097	25318.000	1191.374	phenylpropanoids
41	Toddacoumaquinone	6701.854	696.031	984.259	28.431	phenylpropanoids
42	Quinic acid	214363.667	4478.928	155625.000	25049.778	organic acids
43	Shikimic acid	49697.333	12957.093	33573.667	5995.448	organic acids
44	Malic acid	13517.791	129.597	9610.803	21.956	organic acids
45	Citric acid	16225.561	318.239	18841.549	185.227	organic acids
46	Gallic acid	2571.433	104.557	2314.916	130.927	organic acids
47	Protocatechuic acid	14551.333	732.985	5616.000	523.175	organic acids
48	4-Hydroxybenzoic acid	95509.333	1756.265	74050.000	12687.358	organic acids
49	Glucogallin	3172.080	17.849	2829.645	104.934	tannins
50	Procyanidin B2	135262.161	3640.037	114346.167	3771.614	tannins
51	Procyanidin B1	126965.294	3199.439	151684.671	573.506	tannins
52	Procyanidin C1	119357.685	6140.691	127196.507	19555.090	tannins
53	Procyanidin B2 3"-O-gallate	110869.451	1658.255	67132.780	5866.680	tannins
54	Glucose	61909.000	5440.253	56713.333	4047.460	others

55	Glutamine	95968.000	12167.874	75689.000	18437.608	others
56	Primeverose	88854.333	8189.305	38932.667	895.836	others
57	Guanosine	160573.667	16045.967	143842.667	44750.793	others
58	Monotropein	7440.000	672.583	615799.333	219940.148	others
59	Bisdemethoxycurcumin	24495.333	1698.304	15321.333	2639.243	others
60	Tachioside	209621.333	12374.639	53504.667	387.765	others
61	(1S)-2(Acetyloxy)-1-(hydroxymethyl)ethyl- β -D-glucopyranoside	65798.667	4530.059	78808.000	10704.247	others
62	Fluorescein- β -D-galactopyranoside	53246.000	13462.419	59868.000	4476.694	others
63	Gallic acid 3-O- β -D-glucopyranoside	30590.000	31794.604	63767.333	7435.080	others
64	Artonol B	22169.000	1829.046	17435.667	1274.526	others
65	Mulberroside F	42284.000	1692.224	15857.000	73.736	others
66	2,6-Dihydroxyphenyl- β -D-glucopyranosiduronic acid	9127.667	916.861	334799.333	10574.472	others
67	Neohesperidin dihydrochalcone	51080.667	791.141	42835.667	6306.798	others
68	Cynaroside A	166208.333	17371.795	87102.000	7192.290	others
69	Glucosyringic acid	75183.667	9841.563	67967.667	16360.070	others
70	4-Hydroxybenzoic acid β -D-glucose ester	84218.667	9835.092	69105.333	5272.504	others
71	Methyl4-(β -D-glucopyranosyloxy)-3-methoxybenzoate	323076.667	27715.330	167561.000	28869.026	others
72	Ethyl3-(β -D-glucopyranosyloxy) butanoate	41717.333	1668.265	20794.333	2664.274	others
73	Hexyl 6-O- β -D-Xylopyranosyl-	40372.667	886.063	49565.333	4981.910	others
74	Swertiamarin	46411.667	7423.251	20594.667	3778.688	others
75	Dihydromelilotoside	24011.667	2508.057	23147.000	383.853	others
76	Androsin	50545.667	6797.816	24163.000	1573.048	others
77	Phloracetophenone 4'-O- glucoside	124175.333	4653.190	25614.000	1124.896	others
78	Emodin	58303.667	2723.890	20482.333	981.724	others
79	Taxilluside A	19544.000	6520.679	4650.667	297.460	others
80	Acteoside	1141116.667	131331.570	912215.667	179535.016	others
81	Apimaysin	6300.963	1958.073	5985.667	210.391	others

Table S4 Summary statistics of RNA-seq results of Taxilli Herba

Sample	Raw reads	Raw bases	Clean reads	Clean bases	Error rate (%)	Q30 (%)	Q20 (%)	GC (%)	Mapped ratio (%)	Mapped reads	Mapped ratio (%)
SS1	55258322	8288748300	53532210	7673973684	0.0259	93.46	97.59	48.79	78.09	18958489	78.09
SS2	51805610	7770841500	50022130	7180125123	0.0257	93.64	97.67	48.42	78.02	17186271	78.02
SS3	57061100	8559165000	55502034	7990343765	0.0259	93.37	97.58	48.91	78.36	17915369	78.36
FXS1	47477516	7121627400	45723386	6638764901	0.0259	93.43	97.57	48.9	77.88	21612672	77.88
FXS2	45975326	6896298900	44058022	6318757930	0.0259	93.42	97.55	48.96	77.92	19489248	77.92
FXS3	50792870	7618930500	48557952	6946712801	0.0258	93.59	97.61	48.82	78.43	20993641	78.43

Table S5 Transcriptome annotation data of Taxilli Herba

	All_Unigene number (percent)	All_Transcript number (percent)	E cutoff	Software	Version
GO	21197 (0.3706)	54709 (0.5276)	1.00E-05	BLAST2GO	2.5.0
KEGG	10215 (0.1786)	28675 (0.2765)	1.00E-05	KOBAS	2.1.1
COG	21644 (0.3784)	57255 (0.5522)	1.00E-05	DIAMOND	v0.8.37.99
NR	25791 (0.4509)	64315 (0.6203)	1.00E-05	DIAMOND	v0.8.37.99
Swiss-Prot	17828 (0.3117)	48332 (0.4661)	1.00E-05	DIAMOND	v0.8.37.99
Pfam	17499 (0.3059)	46840 (0.4517)	1.00E-05	HMMER3	3.1b2
Total_anno	26447 (0.4623)	65280 (0.6296)			
Total	57203 (1)	103690 (1)			

Table S6 The noted pathways related with the synthesis of secondary metabolites

Biosynthesis of secondary metabolites	Gene numbers	Pathway ID
Phenylpropanoid biosynthesis	79	map00940
Stilbenoid, diarylheptanoid and gingerol biosynthesis	6	map00945
Flavonoid biosynthesis	17	map00941
Flavone and flavonol biosynthesis	3	map00944
Anthocyanin biosynthesis	2	map00942
Isoflavonoid biosynthesis	1	map00943
Indole alkaloid biosynthesis	3	map00901
Isoquinoline alkaloid biosynthesis	21	map00950
Tropane, piperidine and pyridine alkaloid biosynthesis	13	map00960
Caffeine metabolism	4	map00232
Betalain biosynthesis	11	map00965
Glucosinolate biosynthesis	4	map00966
Monobactam biosynthesis	12	map00261
Neomycin, kanamycin and gentamicin biosynthesis	3	map00524
Aflatoxin biosynthesis	1	map00254
Biosynthesis of various secondary metabolites - part 2	1	map00998
Terpenoid backbone biosynthesis	54	map00900
Monoterpenoid biosynthesis	12	map00902
Sesquiterpenoid and triterpenoid biosynthesis	26	map00909
Diterpenoid biosynthesis	15	map00904
Carotenoid biosynthesis	22	map00906
Brassinosteroid biosynthesis	12	map00905
Zeatin biosynthesis	26	map00908
Limonene and pinene degradation	28	map00903
Polyketide sugar unit biosynthesis	1	map00523
Thiamine metabolism	31	map00730
Riboflavin metabolism	19	map00740
Vitamin B6 metabolism	14	map00750
Nicotinate and nicotinamide metabolism	19	map00760
Pantothenate and CoA biosynthesis	61	map00770
Biotin metabolism	12	map00780
Lipoic acid metabolism	4	map00785
Folate biosynthesis	20	map00790
One carbon pool by folate	26	map00670
Porphyrin and chlorophyll metabolism	47	map00860
Ubiquinone and other terpenoid-quinone biosynthesis	47	map00130

Table S7 Genes annotated to phenylpropanoid and flavonoid biosynthesis

Gene ID	SS1	SS2	SS3	FXS1	FXS2	FXS3	Log2FC(FXS/SS)	Significant	Regulate	KO_id	KO_name
TRINITY_DN1017_c0_g1	23.58	12.1	35.12	21.35	15.92	19.793	-0.253186169	no	down	K05349	bglX
TRINITY_DN10923_c0_g1	4.32	28.18	2.46	39.67	12.65	25.901	1.154135392	yes	up	K09755	CYP84A, F5H
TRINITY_DN11549_c0_g1	219.12	167.77	204.06	603.04	288.03	468.331	0.706675283	no	up	K13082	DFR
TRINITY_DN12086_c0_g1	12.39	15.09	7.32	15.14	13.97	13.745	0.210649997	no	up	K18368	CSE
TRINITY_DN12914_c0_g1	15.21	22.31	10.93	12.2	16.9	13.491	-0.194536428	no	down	K05350	bglB
TRINITY_DN13193_c0_g2	3.8	1.9	4.78	2.18	1.86	1.824	-0.798163293	no	down	K01904	4CL
TRINITY_DN13862_c0_g1	0.61	1.82	6.21	3.98	4.97	6.782	0.983859879	no	up	K22771;K13496	UGT73C6;UGT73C
TRINITY_DN14175_c0_g1	105.78	130.32	65.54	125.25	140.28	132.613	0.074385545	no	up	K13066	COMT
TRINITY_DN14175_c0_g2	0.16	0.76	0.08	0.28	4.52	3.632	3.089971807	yes	up	K13066	COMT
TRINITY_DN14516_c0_g1	1.89	3.88	0.77	3.55	2	2.385	0.06604325	no	up	K00430	E1.11.1.7
TRINITY_DN14641_c0_g1	9.32	17.54	10.42	13.03	10.95	11.877	-0.103999655	no	down	K18368	CSE
TRINITY_DN15348_c0_g1	9.51	6.12	23.79	14.07	17.96	21.745	-0.136964159	no	down	K00430	E1.11.1.7
TRINITY_DN15432_c0_g1	6.39	3.07	16.38	3.56	11.47	11.369	-0.759933331	no	down	K00430	E1.11.1.7
TRINITY_DN1563_c1_g1	155.87	121.98	126.91	41.22	122.93	69.79	-0.654169203	no	down	K13065	E2.3.1.133, HCT
TRINITY_DN15784_c0_g1	0	1.13	0	1.26	31.07	25.373	6.368765837	yes	up	K11188	PRDX6
TRINITY_DN16371_c0_g1	1.2	1.11	0.17	1.07	0.86	0.666	-0.11752374	no	down	K22395	K22395
TRINITY_DN16594_c0_g2	7.93	1.1	6.51	4.19	1.69	1.467	-1.431787954	yes	down	K00430	E1.11.1.7
TRINITY_DN16984_c0_g1	4.95	0	0	0	0	-1.98	-4.604001953	yes	down	K03782	katG
TRINITY_DN16984_c0_g2	9.39	0	0	0	0	-3.756	-4.411393123	yes	down	K03782	katG
TRINITY_DN16984_c0_g3	2.72	0	0	0	0	-1.088	-4.604001953	yes	down	K03782	katG
TRINITY_DN1730_c0_g1	383.5	142.83	365.33	295.63	164.4	184.718	-0.885166454	no	down	K05278	FLS
TRINITY_DN1765_c0_g1	381.39	214.54	314.78	559.23	269.16	383.889	-0.070834971	no	down	K05280	CYP75B1
TRINITY_DN1860_c0_g1	13.15	7.6	11.83	12.18	10.18	10.58	-0.210036321	no	down	K05349	bglX
TRINITY_DN192_c0_g1	71.55	73.24	74.06	54.05	56.88	51.397	-0.411111668	no	down	K18368;K01054	CSE;MGLL
TRINITY_DN20850_c0_g1	1.24	0	2.6	0	0	0.024	-2.190177642	yes	down	K09753	CCR
TRINITY_DN20850_c0_g2	1.48	2.63	2.93	0.33	1.01	0.704	-2.252857674	yes	down	K09753	CCR
TRINITY_DN21524_c0_g1	0	0	0	0	0	0	0	no	no change	K00430	E1.11.1.7
TRINITY_DN23702_c0_g1	0	3.97	0	0	0	-0.397	-2.248231548	yes	down	K03782	katG
TRINITY_DN23702_c0_g2	0	2.1	0	0	0	-0.21	-2.986623559	yes	down	K03782	katG
TRINITY_DN2662_c0_g2	7.59	17.47	9.49	12.29	14.15	14.58	0.251634973	no	up	K01188	E3.2.1.21

TRINITY_DN2763_c0_g1	1002.1	903.79	687.34	788.61	699.31	600.002	-0.351905317	no	down	K00430	E1.11.1.7
TRINITY_DN2763_c0_g2	6.05	11.25	10.1	4.52	13.6	11.615	-0.051149525	no	down	K00430	E1.11.1.7
TRINITY_DN29103_c0_g1	3.69	4.9	1.6	0.92	0.62	-0.69	-2.082268509	yes	down	K14288;K00430	XPOT;E1.11.1.7
TRINITY_DN29174_c0_g1	59.46	31.85	43.85	159.44	66.8	114.961	0.875515911	no	up	K01904	4CL
TRINITY_DN31463_c0_g1	1.8	0.79	1.57	0.16	0	-0.405	-4.720526854	yes	down	K00430	E1.11.1.7
TRINITY_DN3204_c0_g1	13.82	16.09	14.12	14.04	12.45	12.667	0.103730618	no	up	K01904	4CL
TRINITY_DN32506_c0_g1	168.83	205.53	260.78	307.15	191.39	270.758	0.167279035	no	up	K13081	LAR
TRINITY_DN32679_c0_g1	0	2.02	0	0	0	-0.202	-0.728666977	no	down	K00430	E1.11.1.7
TRINITY_DN32861_c0_g1	1.46	1.27	1.46	0.75	0.37	0.252	-1.987227883	yes	down	K00430	E1.11.1.7
TRINITY_DN32861_c0_g2	1.39	0.9	1.94	0.71	0.35	0.377	-1.091194935	yes	down	K00430	E1.11.1.7
TRINITY_DN34011_c0_g1	4.6	0	0	0	0	-1.84	-4.304513277	yes	down	K03782	katG
TRINITY_DN3405_c1_g1	70.69	31.28	59.91	70.8	67.47	69.954	0.259826311	no	up	K18368	CSE
TRINITY_DN34233_c0_g1	0	0	0	7.81	0	3.905	2.646755369	yes	up	K00430	E1.11.1.7
TRINITY_DN3430_c0_g2	81.18	193.82	117.9	204.14	314.05	325.036	1.038170082	yes	up	K00430	E1.11.1.7
TRINITY_DN3430_c0_g3	0.45	2.18	2.74	3.75	3.59	4.897	0.603327866	no	up	K00430	E1.11.1.7
TRINITY_DN3460_c0_g1	68.69	74.57	52.52	85.26	62.57	68.257	0.237322924	no	up	K12355	REF1
TRINITY_DN3507_c0_g1	0.61	30.32	5.84	8.99	6.67	7.723	0.50704691	no	up	K18368	CSE
TRINITY_DN35763_c0_g1	0	0	0	0	0	0	0	no	no change	K15283;K05350	SLC35E1;bglB
TRINITY_DN3782_c0_g1	93.58	102.71	70.05	82.56	58.79	54.619	-0.264483444	no	down	K00083	CAD
TRINITY_DN37921_c0_g1	1.09	0	0	0	2.09	1.236	0.892821424	no	up	K01904	4CL
TRINITY_DN3827_c0_g1	320.65	234.38	305.46	916.8	353.53	650.618	0.613310388	no	up	K00475	F3H
TRINITY_DN38731_c0_g1	9.77	5.82	16.07	4.65	7.96	7.417	-1.329479043	yes	down	K22395	K22395
TRINITY_DN3882_c0_g1	78.8	75.19	65.81	26.8	51.17	28.459	-0.833066318	yes	down	K13065	E2.3.1.133, HCT
TRINITY_DN38929_c0_g1	0	7.14	0.56	0.56	0	-0.322	-3.773597832	yes	down	K05278	FLS
TRINITY_DN39706_c0_g1	0	0	0	0	0	0	1.194886375	yes	up	K03782	katG
TRINITY_DN4088_c0_g3	10.39	13.34	8.99	14.86	11	12.538	0.586128437	no	up	K00430	E1.11.1.7
TRINITY_DN4113_c1_g1	19.19	6.29	41.81	118.29	38.5	90.002	0.404289313	no	up	K00430	E1.11.1.7
TRINITY_DN4249_c1_g1	6.97	3.28	3.58	2.77	3.35	1.665	-1.060510497	yes	down	K00430	E1.11.1.7
TRINITY_DN4314_c0_g1	2.38	1.02	1.91	2	0.91	1.056	-0.519585895	no	down	K01859	E5.5.1.6
TRINITY_DN4314_c0_g2	156.07	108.25	109.01	246.15	146.11	188.512	0.222830548	no	up	K01859	E5.5.1.6
TRINITY_DN4358_c0_g1	30.68	29.93	26.87	17.47	6.92	4.38	-0.792162468	no	down	K13260	CYP81E
TRINITY_DN4530_c0_g1	345.25	121.93	279.11	1091.94	343.5	726.299	0.948291342	no	up	K08695	ANR
TRINITY_DN4549_c0_g1	12.74	16.49	36.97	18.31	11.25	18.804	-0.979058908	no	down	K01188;K05349	E3.2.1.21;bglX

TRINITY_DN4673_c0_g1	4.93	5.06	2.5	5.59	4.54	4.449	0.404289313	no	up	K00430	E1.11.1.7
TRINITY_DN4783_c0_g1	26.73	41.75	44.68	55.76	123.74	120.941	1.468460728	yes	up	K22395	K22395
TRINITY_DN5111_c0_g1	72.44	43.58	60.16	151.45	82.91	120.751	0.547979322	no	up	K01859	E5.5.1.6
TRINITY_DN5215_c0_g1	54.83	30.8	88.7	79.39	71.74	89.815	0.055557019	no	up	K00430	E1.11.1.7
TRINITY_DN5391_c0_g1	28.59	2.92	47.11	96.97	19.63	61.883	0.551907565	no	up	K05350	bglB
TRINITY_DN5631_c0_g1	28	32.87	19.51	24.16	30.13	25.599	-0.235717541	no	down	K01904	4CL
TRINITY_DN5734_c0_g1	2.42	2	3.05	2.27	1.57	1.833	-0.480156066	no	down	K01904	4CL
TRINITY_DN5837_c0_g1	44.48	77.99	32.55	47.75	41.55	38.034	-0.404769946	no	down	K09754	CYP98A, C3'H
TRINITY_DN5847_c0_g1	22.79	16.95	21.33	20.02	18.51	18.273	-0.236338691	no	down	K05349	bglX
TRINITY_DN5860_c0_g1	4.15	3.47	7.37	2.64	1.71	2.155	-1.033832508	yes	down	K01188	E3.2.1.21
TRINITY_DN5966_c0_g1	6.95	1.73	6.8	3.54	10.03	8.201	-0.404329684	no	down	K00430	E1.11.1.7
TRINITY_DN6008_c0_g1	7.58	5.77	3.15	7.87	6	5.756	0.356540531	no	up	K18368	CSE
TRINITY_DN6080_c0_g1	92.36	236.55	93.36	113.73	112.34	104.81	-0.581592117	no	down	K00588	E2.1.1.104
TRINITY_DN6468_c0_g1	39.31	60.59	96.29	53.59	64.94	76.222	0.130139215	no	up	K00083	CAD
TRINITY_DN6522_c0_g2	0	3.83	0	2.56	0.55	1.337	1.972452288	yes	up	K13066	COMT
TRINITY_DN6526_c0_g1	33.84	34.7	38.14	28.95	29.01	28.305	-0.260177378	no	down	K01904	4CL
TRINITY_DN6526_c0_g2	1.21	1.18	1.23	0.75	0.89	0.731	-0.473904025	no	down	K01904	4CL
TRINITY_DN6526_c0_g4	0.64	1.27	0.59	0.65	0.72	0.636	-0.394836808	no	down	K01904	4CL
TRINITY_DN6705_c0_g1	533.19	124.01	452.39	1804.44	305.04	1011.053	0.887331011	no	up	K05277	ANS
TRINITY_DN7053_c0_g1	11.23	10.07	14.96	11.97	11.33	12.542	-0.457738168	no	down	K10775	PAL
TRINITY_DN7053_c0_g2	272.13	157.04	194.44	533.08	233.69	367.824	0.348051537	no	up	K10775	PAL
TRINITY_DN7614_c0_g1	3.34	4.22	7.16	3.77	6.94	7.111	0.44366247	no	up	K22771;K13496	UGT73C6;UGT73C
TRINITY_DN7640_c0_g2	39.32	23.44	145.77	47.43	106.81	120.245	0.218806631	no	up	K00430	E1.11.1.7
TRINITY_DN7847_c0_g1	252.8	173.54	197.48	410.49	192.31	280.115	0.090047238	no	up	K00487	CYP73A
TRINITY_DN8102_c0_g1	803.85	386.8	1721.85	999.54	981.27	1268.936	-0.362366391	no	down	K00430	E1.11.1.7
TRINITY_DN8473_c0_g1	37.95	100.16	57.93	50.79	29.63	35.489	-0.754129146	no	down	K00430	E1.11.1.7
TRINITY_DN8569_c1_g1	54.45	71.4	45.05	45.49	51.31	43.883	-0.067138928	no	down	K09753	CCR
TRINITY_DN9022_c0_g1	22.31	9.35	51.21	42.59	12.92	32.014	-0.559805872	no	down	K05350	bglB
TRINITY_DN9062_c0_g2	1.61	0.38	1.04	0.89	0.68	0.515	-0.770307946	no	down	K00430	E1.11.1.7
TRINITY_DN9699_c0_g1	1.93	1.35	3.39	2.96	6.7	6.611	1.056262102	yes	up	K00487	CYP73A

Table S8 The information of annotated UDP-glycosyltransferases

Gene ID	length	KO_name	Pathway_id	Domain	Domain_description
TRINITY_DN10343_c0_g1	1751			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN10699_c0_g1	2117			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN11064_c0_g1	1215			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN1119_c0_g1	569			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN14634_c0_g1	1715			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN14778_c0_g1	452	UGT85A	map00908	UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN1527_c0_g1	1288	UGT73C	map00908	UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN1527_c0_g2	1807	UGT73C	map00908	UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN1527_c0_g3	1338	UGT73C	map00908	UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN15919_c0_g1	2063			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN17046_c0_g1	1449			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN1824_c0_g1	1815			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN1824_c0_g2	1747			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN1824_c0_g3	1900			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN18456_c0_g1	348	UGT85A	map00908	UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN22993_c0_g1	1680			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN23612_c0_g1	1549	BZ1	map00942	UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN23924_c0_g1	304			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN24612_c0_g1	1496			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN2475_c0_g1	3627	SGT1		UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN26121_c0_g1	2477	E2.4.1.173		Glyco_transf_28;UDPGT	Glycosyltransferase family 28 N-terminal domain;UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN26849_c0_g2	614			UDPGT;Glyco_tran_28_C;Glyco_trans_1_3	UDP-glucuronosyl and UDP-glucosyl transferase;Glycosyltransferase family 28 C-terminal domain;Glycosyl transferase family 1
TRINITY_DN3227_c0_g1	2145			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN34244_c0_g1	2415			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN3427_c0_g2	2106			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN37867_c0_g1	1795			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN38564_c0_g1	1685			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase

TRINITY_DN38676_c0_g1	1803			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN39971_c0_g1	1638			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN4499_c1_g1	1360			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN4757_c0_g1	2149			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN5036_c0_g2	2212	AOG	map00906	UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN5036_c0_g3	1692			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN5059_c0_g1	1873			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN5616_c0_g1	1712	BZ1	map00942	UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN5906_c0_g1	2740			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN6909_c0_g1	481			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN716_c0_g1	2001			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN716_c0_g2	1778	E2.4.1.218		UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN7296_c0_g1	2331			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN7495_c0_g1	1884	E2.4.1.218		UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN7998_c0_g1	1625	CISZOG	map00908	UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN8048_c0_g1	1886			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN8481_c0_g1	2258	UGT84A13		UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN9296_c0_g1	2008	CGT		UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN9845_c0_g1	1692			UDPGT	UDP-glucuronosyl and UDP-glucosyl transferase
TRINITY_DN1423_c0_g1	1613			Asp_Glu_race	Asp/Glu/Hydantoin racemase
TRINITY_DN1423_c0_g2	2617	MGD	map00561	MGDG_synth;Glyco_tran_28_C;Glyco_trans_1_4;Glycos_transf_1	Monogalactosyldiacylglycerol ;Glycosyltransferase family 28 C-terminal domain;Glycosyl transferases group 1;Glycosyl transferases group 1
TRINITY_DN28962_c0_g2	668	MGD	map00561	Glyco_tran_28_C;Glycos_transf_1	Glycosyltransferase family 28 C-terminal domain;Glycosyl transferases group 1
TRINITY_DN6495_c0_g1	2036	ALG13	map00510; map00513	Glyco_tran_28_C	Glycosyltransferase family 28 C-terminal domain
