

Chemical fingerprinting and quantification of bioactive metabolites in *Pueraria tuberosa* (Willd.) DC. and its marketed samples: Implications for quality control in herbal medicine

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Received 07 January 2025; revised 16 September 2025; accepted 07 November 2025

Supplementary Data

Supplementary Table S1 — Physicochemical parameters of *Pueraria tuberosa* (Willd.) DC. collected and marketed samples

S. No.	Sample code	Physicochemical parameters*						
		Moisture content	Total ash content	Acid-insoluble ash	Water soluble ash	Water soluble extractive	Ethanol soluble extractive	Hexane soluble extractive
1	PT-1	6.56±0.10	10.52±0.08	0.375±0.07	8.79±0.07	14.2±0.14	3.76±0.24	0.26±0.009
2	PT-2	4.98±0.05	12.19±0.27	0.96±0.16	7.96±1.15	15.69 ±0.36	5.73±0.16	0.54±0.01
3	PT-3	6.61±0.27	17.98±1.01	0.56±0.01	14.86±0.09	23.22±0.23	3.05±0.04	0.36±0.02
4	PT-4	3.11±0.20	2.87±0.06	0.34±0.007	1.93±0.01	7.97±0.36	1.2±0.03	0.23±0.02
5	PT-5	4.16±0.74	2.33±0.08	0.08±0.007	1.80±0.1	6.64±0.08	4.09±0.15	0.22±0.04
6	PT-6	3.85±0.24	2.77±0.08	0.035±0.01	1.82±0.02	13.38±0.40	0.78±0.14	0.54±0.20
7	PT-7	4.25±0.14	2.65±0.21	0.15±0.05	2.11±0.1	13.48±0.68	0.48±0.03	0.23±0.08
8	PT-8	9.75±0.08	4.48±0.24	0.33±0.04	2.51±0.15	16.08±0.01	8.56±0.09	1.71±0.25
9	PT-9	5.10±0.22	4.27±0.04	0.39±0.21	3.08±0.05	11.05±0.10	0.90±0.08	0.45±0.05
10	PT-10	5.10±0.29	4.29±0.23	0.70±0.24	3.13±0.22	8.05±0.52	1.19±0.32	0.39±0.02
11	PT-11	4.83±0.03	3.04±0.049	0.295±0.15	2.13±0.0002	7.67±0.34	1.34±0.41	0.25±0.02
12	PT-12	5.91±0.44	3.21±0.27	0.57±0.06	2.09±0.26	6.26±0.10	1.81±0.14	0.10±0.03
13	PT-13	5.74±0.11	4.10±0.09	0.52±0.001	3.22±0.001	6.88±0.34	1.56±0.24	0.38±0.04
14	PT-14	6.18±0.76	5.66±0.12	0.37±0.003	4.16±0.35	10.50±0.40	2.15±0.06	0.16±0.03
15	PT-15	5.64±0.15	4.55±0.10	0.50±0.05	3.30±0.03	8.75±0.16	0.94±0.09	0.40±0.02

* n =3, ±standard deviation (SD)

Supplementary Table S2 — Phytochemical parameters of *Pueraria tuberosa* (Willd.) DC. collected and marketed samples

S.N.	Sample code	Phytochemical parameters*			
		Total phenolic content (%)	Total flavonoid content (%)	Total sugar (%)	Total starch (%)
1	PT-1	0.24±0.009	0.033±0.009	0.50±0.02	0.23±0.03
2	PT-2	0.45±0.02	0.019±0.01	0.22±0.05	0.10±0.04
3	PT-3	0.75±0.00	0.05±0.00	0.44±0.03	0.09±0.03
4	PT-4	0.027±0.01	Nd	0.46±0.03	0.11±0.009
5	PT-5	0.02±0.005	0.007±0.00	0.49±0.13	0.09±0.01
6	PT-6	0.04±0.00	Nd	0.40±0.02	0.16±0.01
7	PT-7	0.01±0.00	Nd	0.28±0.03	0.13±0.01

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Supplementary Table S2 — Phytochemical parameters of *Pueraria tuberosa* (Willd.) DC. collected and marketed samples (Contd.)

S.N.	Sample code	Phytochemical parameters*			
		Total phenolic content (%)	Total flavonoid content (%)	Total sugar (%)	Total starch (%)
8	PT-8	0.22±0.01	0.01±0.00	0.48±0.08	0.31±0.05
9	PT-9	0.051±0.001	0.043±0.007	0.109±0.001	0.752±0.008
10	PT-10	0.036±0.002	0.039±0.001	0.189±0.001	0.82±0.020
11	PT-11	0.042±0.020	0.032±0.008	0.246±0.004	0.86±0.040
12	PT-12	0.047±0.003	0.033±0.007	0.241±0.009	0.81±0.090
13	PT-13	0.052±0.008	0.047±0.003	0.225±0.005	0.87±0.030
14	PT-14	0.054±0.016	0.045±0.03	0.334±0.006	1.22±0.180
15	PT-15	0.068±0.002	0.036±0.004	0.504±0.006	0.72±0.080

* n =3, ±standard deviation (SD), Nd: not detected

Supplementary Table S3 — Number of chemical compound peaks present in *Pueraria tuberosa* (Willd.) DC. collected and marketed samples

Peak No.	Retention time (R _i)	PT-1	PT-2	PT-3	PT-4	PT-5	PT-6	PT-7	PT-8	PT-9	PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
1	4.16	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+
2	4.42 (gallic acid)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3	4.65	+	+	+	+	-	-	-	+	-	-	-	-	-	-	-
4	4.95	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
5	5.23	+	+	+	-	-	-	-	+	-	-	-	-	-	-	-
6	5.81 (p-coumaric acid)	+	+	+	+	-	+	-	+	+	+	-	+	+	+	+
7	6.36 (puerarin)	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-
8	6.64	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-
9	6.94	+	+	+	-	-	-	-	+	-	-	-	-	-	-	-
10	7.73 (biochanin A)	+	+	+	-	-	-	-	+	-	-	-	-	-	-	-
11	8.74 (daidzein)	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-
12	9.39	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-
13	14.21	-	-	-	+	+	+	+	-	+	+	+	+	+	+	+
14	15.69 (genistein)	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-

+ denotes presence, - denotes absence.

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Supplementary Fig. S1 — Morphological appearance of *Pueraria tuberosa* DC. collected and marketed samples, Collected tuber (a), procured from Kerala market (b), Kota market (c), Lucknow market (d), Delhi market (e), Trivandrum market (f), Dehradun market (g), Jaipur market (h), Guwahati market (i), Indore market (j), Amritsar market (k), Chennai market (l) and Odisha market (m)