

Table S1. Materials of four *Coptis* plants used in this study.

	Quantity	Producing area
<i>C. omeiensis</i>	10	Heishan, Hongya, Sichuan, China
<i>C. teeta</i>	10	Pihe, Fugong, Yunnan, China
<i>C. chinensis</i>	10	Heishan, Hongya, Sichuan, China
<i>C. deltoidea</i>	10	Heishan, Hongya, Sichuan, China

Table S2. The validation of HPLC-UV method.

Standard	Precision	Stability	Repeatability	Recovery (%)	RSD (%)
	RSD (%) (n=5)				n=3
Berberine	0.64	0.97	0.51	98.11	0.92
Palmatine	0.63	0.52	0.65	97.52	0.88
Jatrorrhizine	0.63	0.26	0.69	101.59	1.51
Coptisine	0.75	0.29	0.76	103.35	0.47
Columbamine	0.79	0.39	0.94	102.31	1.13
Epiberberine	0.51	0.84	0.79	101.12	2.16
Magnoflorine	0.37	0.46	0.78	102.38	1.12
Groenlandicine	0.95	1.09	1.95	100.65	0.69

Table S3. Statistical summary of MIDs, raw reads, filtered reads of each *Coptis* plants from RAD-seq

Species	MID	Raw reads			Clean reads		
		Raw reads	Raw data	GC	Clean reads	Clean data	GC
		count	(bp)	(%)	count	(bp)	(%)
<i>C. omeiensis</i>	TCCTTGCA	10872358	1630853700	39.13	10655424	1598180450	39.08
<i>C. teeta</i>	ACGTACCA	11100218	1665032700	39.41	10874838	1631074106	39.36
<i>C. chinensis</i>	GACTGAGA	11795008	1769251200	39.41	11548500	1732152482	39.35
<i>C. deltoidea</i>	ATATCCGG	10979432	1646914800	38.26	10793194	1618899904	38.22

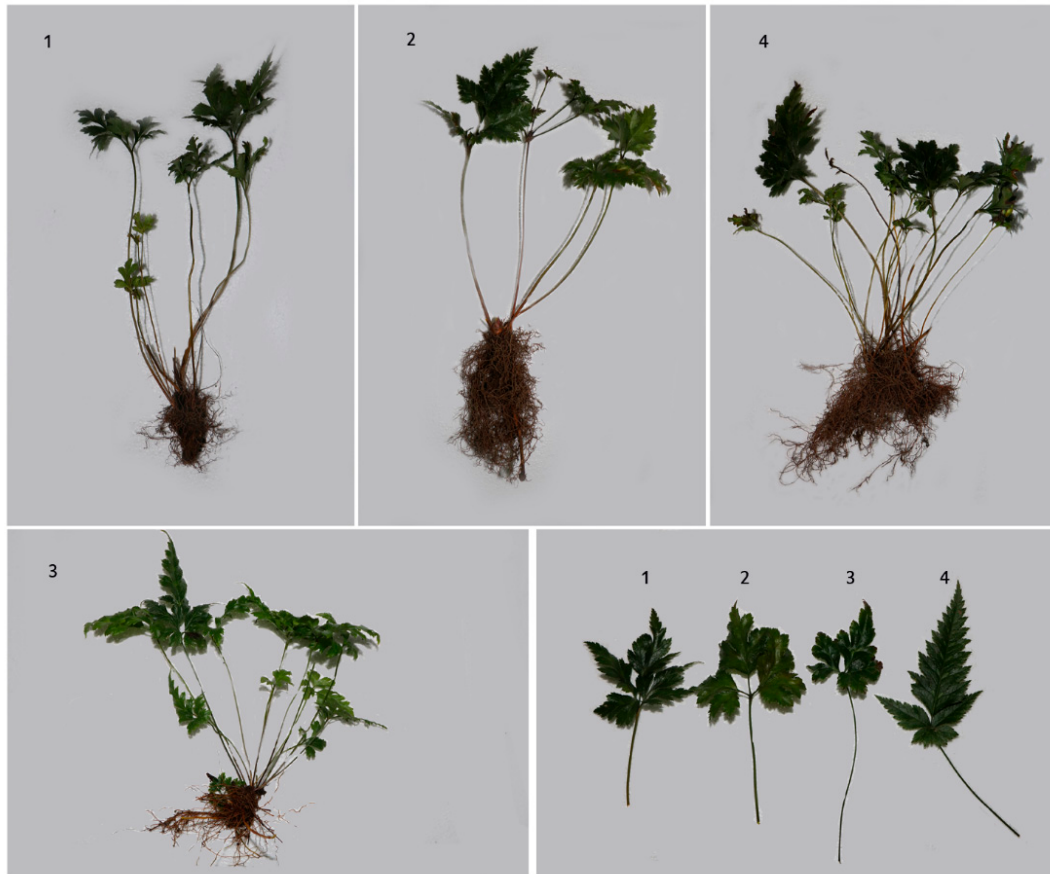


Figure S1. Plant morphology and leaf tissues of four *Coptis* plants (1: *C. chinensis*; 2: *C. deltoidea*; 3: *C. teeta*; 4: *C. omeiensis*).



Figure S2. Rhizomes of different *Coptis* plants (1: *C. chinensis*; 2: *C. deltoidea*; 3: *C. teeta*; 4: *C. omeiensis*).

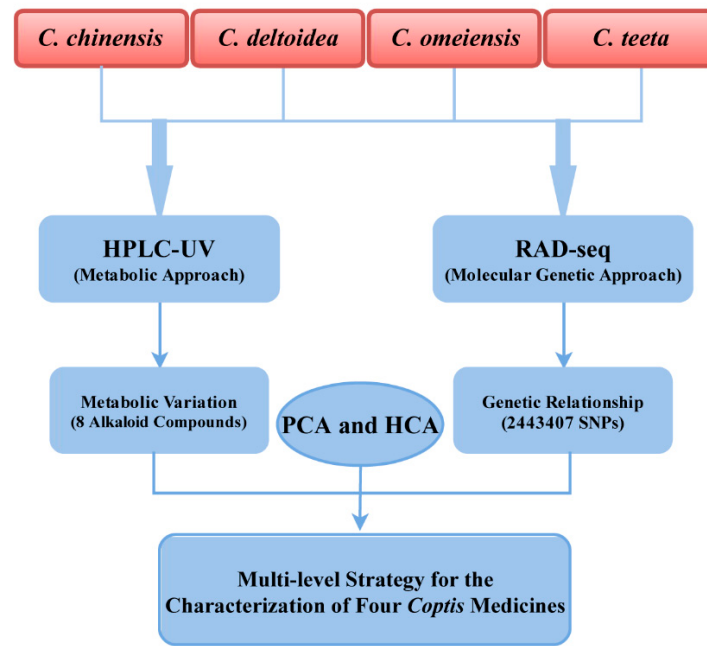


Figure S3. Data analysis flow chart of this study.

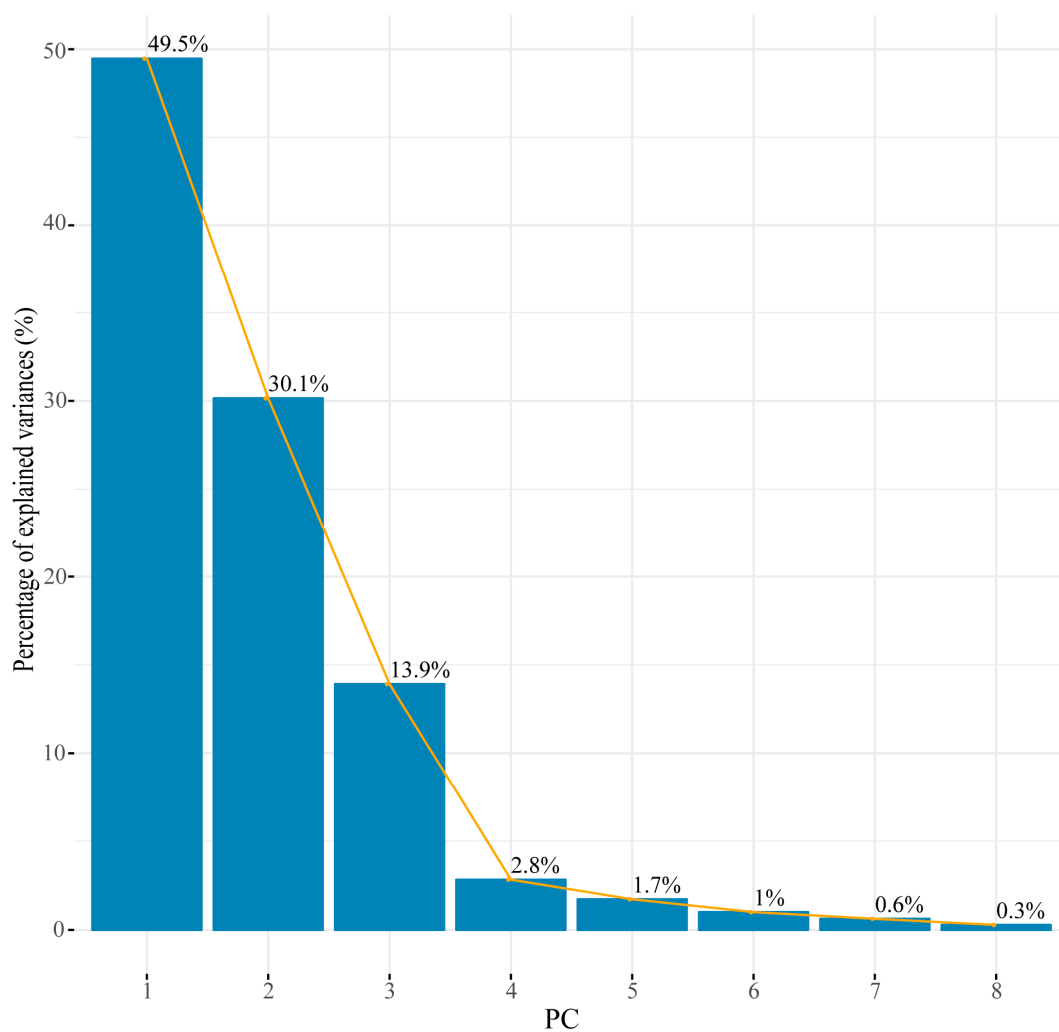


Figure S4. Principal components explaining variances used in PCA according to quantitative determination of alkaloid compounds.

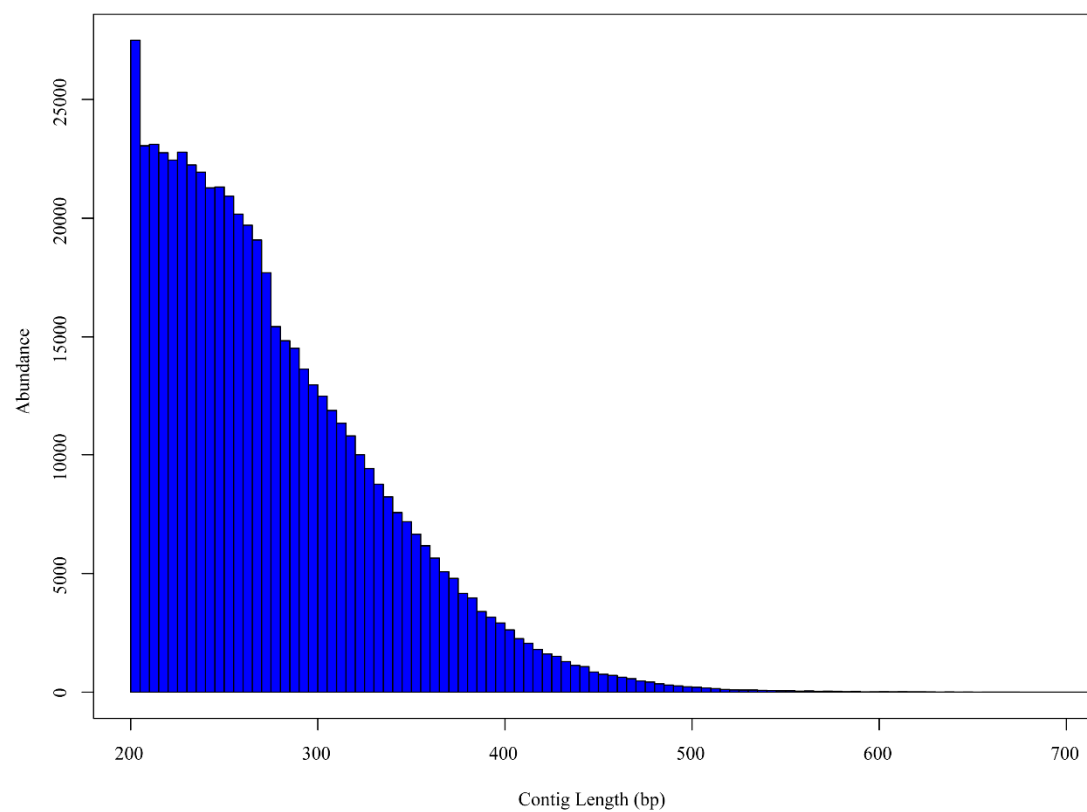


Figure S5. Length distribution of RAD-seq contigs.