Table S1. Inter-day recoveries obtained from the proposed HPLC-PDA analysis method in three herbal medicines

Colorants	Spiked conc. (μg/ml)	Recovery (%) ± S.D (n=9)		
		Hawthroun fruit	Cornus fruit	Schisandra fruit
Tartrazine	5	116.0 ± 13.1	111.1 ± 1.5	115.6 ± 1.8
	10	121.4 ± 14.6	112.2 ± 4.4	110.8 ± 1.9
	25	117.4 ± 5.6	106.6 ± 0.8	110.9 ± 1.8
Auramine O	5	95.5 ± 2.8	81.7 ± 2.0	97.6 ± 1.1
	10	94.0 ± 2.5	78.4 ± 2.3	98.4 ± 0.6
	25	96.5 ± 0.3	86.2 ± 2.6	100.9 ± 1.9
Metanil yellow	5	101.8 ± 0.9	102.4 ± 1.2	101.0 ± 0.3
	10	99.5 ± 1.0	100.6 ± 0.7	100.4 ± 0.8
	25	100.7 ± 0.5	101.0 ± 0.9	101.0 ± 1.4
Amaranth	5	109.1 ± 1.5	95.4 ± 0.8	91.4 ± 1.2
	10	105.6 ± 1.9	93.5 ± 1.6	88.9 ± 1.2
	25	107.6 ± 1.4	95.2 ± 1.8	88.3 ± 1.5
New coccine	5	94.9 ± 3.6	94.1 ± 1.0	88.1 ± 1.1
	10	97.9 ± 3.8	92.9 ± 1.9	85.4 ± 1.0
	25	100.0 ± 2.9	93.9 ± 1.5	87.6 ± 1.7
Sunset yellow	5	100.0 ± 3.6	104.4 ± 1.1	97.8 ± 1.4
	10	100.2 ± 3.7	102.1 ± 2.4	96.3 ± 1.2
	25	101.0 ± 1.2	99.5 ± 0.6	98.1 ± 0.9
Azorubine	5	99.4 ± 0.3	100.3 ± 0.8	94.9 ± 1.1
	10	96.5 ± 0.2	97.4 ± 1.1	93.9 ± 1.4
	25	99.0 ± 0.7	98.2 ± 1.3	96.5 ± 0.9
Erythrosine B	5	92.6 ± 3.1	96.4 ± 0.6	75.6 ± 1.7
	10	93.0 ± 2.0	94.2 ± 0.2	74.9 ± 2.0
	25	97.2 ± 1.2	95.0 ± 1.3	80.3 ± 1.8
Acid red 73	5	98.2 ± 2.0	99.8 ± 1.9	91.6 ± 0.6
	10	98.3 ± 2.1	96.7 ± 1.7	90.7 ± 1.0
	25	100.2 ± 1.0	97.3 ± 1.3	94.4 ± 1.3
Orange II	5	101.4 ± 2.4	101.6 ± 0.7	100.6 ± 1.6
	10	100.9 ± 2.6	100.6 ± 1.6	100.3 ± 1.5
	25	102.6 ± 0.7	101.1 ± 1.3	101.6 ± 0.6

Table S2. LOD, LOQ, and linearity values of the proposed HPLC-PDA analysis in cross-t validation

Colorants	Wavelength (nm)	LOD (μg /g)	LOQ (μg /g)	Equation of calibration plot	Linearity (r^2)
Tartrazin	428	13.46	40.79	Y = 20614x-11533	0.999
Auramine O	428	9.13	27.67	Y = 52738x-47017	0.999
Metanil yellow	428	13.89	42.08	Y = 36571x-14178	0.999
Amaranth	500	14.44	43.76	Y = 16112x-6615	0.999
New coccine	500	19.58	59.34	Y = 18087x-2653	0.999
Sunset yellow	500	18.61	56.39	Y = 22166x-5785	0.999
Azorubine	500	15.16	45.94	Y = 14558x-5141	0.999
Erythrosine B	500	19.33	58.59	Y = 12312x-12334	0.999
Acid red 73	500	21.48	65.11	Y = 29332x-12126	0.999
Orange II	500	23.68	71.75	Y = 27902x-9310	0.999

Table S3. Recoveries and RSD values of the colorants in the cross-validation

Colorants	Spiked conc (μg/ml)	Hawthroun fruit			Cornus fruit			Schisandra fruit		
		Recovery (%)	RSD (%)	RSDr (%)	Recovery (%)	RSD (%)	RSDr (%)	Recovery (%)	RSD (%)	RSDr (%)
Tartrazine	5	102.7	4.1	4.0	99.3	7.1	7.2	89.5	4.2	4.6
	10	100.4	4.0	3.9	100.1	1.6	1.6	92.3	5.7	6.2
	25	99.0	2.9	2.9	108.0	1.4	1.3	94.2	1.2	1.2
Auramine O	5	114.8	6.6	5.7	112.4	2.3	2.0	112.1	5.2	4.7
	10	114.4	3.3	2.9	108.8	1.0	0.9	104.2	1.0	0.9
	25	108.0	6.9	6.4	104.3	1.4	1.3	99.4	1.2	1.3
Metanil yellow	5	106.2	6.5	6.1	84.3	4.0	4.7	86.7	0.4	0.4
	10	102.7	5.8	5.7	80.5	1.2	1.4	85.0	1.4	1.7
	25	105.7	1.8	1.7	80.9	2.2	2.7	86.4	1.8	2.1
Amaranth	5	109.1	3.0	2.7	106.5	4.7	4.4	94.1	2.6	2.7
	10	97.4	5.7	5.9	109.2	3.4	3.1	91.4	4.0	4.4
	25	99.1	7.1	7.2	105.6	3.4	3.2	90.0	1.7	1.9
New coccine	5	110.4	4.1	3.7	108.3	4.8	4.4	95.4	3.0	3.1
	10	101.5	5.3	5.2	111.3	4.3	3.9	94.3	3.8	4.0
	25	103.9	7.9	7.6	109.2	3.1	2.8	92.7	1.5	1.7
Sunset yellow	5	108.1	3.7	3.4	103.0	5.1	4.9	100.9	2.0	2.0
	10	99.3	7.5	7.5	106.9	4.0	3.8	99.6	4.1	4.2
	25	101.6	7.6	7.5	105.9	3.0	2.8	98.4	1.7	1.8
Azorubine	5	113.8	7.1	6.2	105.8	2.1	2.0	114.7	3.2	3.6
	10	111.8	2.3	2.0	107.8	1.4	1.3	111.1	1.1	1.0
	25	114.8	6.8	6.0	109.9	1.7	1.6	114.4	1.9	1.7
Erythrosine B	5	113.0	1.7	1.5	82.5	4.8	5.9	84.9	3.1	3.6
	10	105.2	4.7	4.5	89.2	3.1	3.4	86.7	4.0	4.6
	25	111.0	2.5	2.2	87.1	2.4	2.8	87.3	1.5	1.8
Acid red 73	5	112.1	4.8	4.2	105.6	0.9	0.9	109.4	2.2	2.0
	10	108.6	8.0	7.3	109.3	2.7	2.5	107.3	4.7	4.3
	25	110.5	7.0	6.3	114.0	7.7	6.8	106.0	1.7	1.6
Orange II	5	94.1	2.3	2.5	97.7	5.0	5.1	92.4	2.3	2.5
	10	89.2	5.9	6.7	99.9	3.6	3.6	91.2	4.5	4.9
	25	92.3	7.1	7.6	98.5	2.4	2.5	90.2	1.5	1.5

RSD : relative standard deviation, intra-day presicion(n=3), RSDr : inter-day precision(n=9)