

Supporting Information

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Phytochemical Changes in Aerial Parts of *Hypericum perforatum* at Different Harvest Stages

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Figure S1: Different harvest stages of *H. perforatum*

Standard solution of Hyp (56690; Sigma, USA) was prepared at the concentration of 2.0 mg/mL in a methanol and then diluted with methanol to six concentration points including: 1.0, 0.5, 0.1, 0.05, 0.01 and 0.005 mg/mL. A calibration curve was calculated for the quantification using the concentration as x -axis and the peak area as y -axis, the equation for the calibration curve using linear regression analysis was $y=18352x + 518.66$ ($R^2=0.998$). The lowest-concentration quantification (LOQ) that can be determined was 0.001 mg/mL at 254 nm with the injection volume 20 μ L.

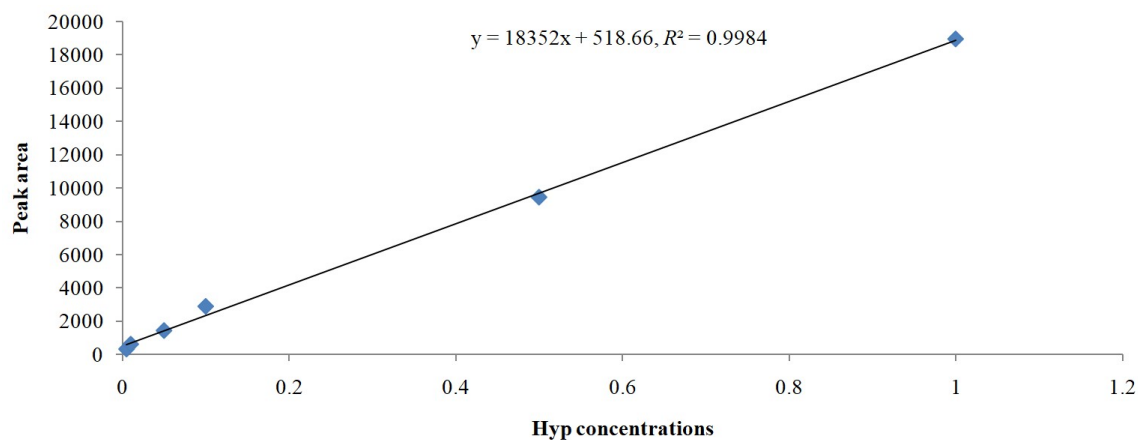


Figure S2: Calibration curve of linear regression of Hyp at different concentrations

Table S1: Antioxidant capacity of extracts from aerial parts of *H. perforatum* at different harvest stages, evaluated by DPPH and FRAP assays

Harvest stages	95% ethanol			15% ethanol		
	Stem	Leaf	Flower	Stem	Leaf	Flower
FBS	88.77±6.55 ^{Aa}	87.54±8.57 ^{Aa}	91.58±0.32 ^{Aa}	30.38±1.96 ^{Ba}	18.75±8.57 ^{Ba}	24.91±8.00 ^{Bb}
DPPH BS	87.69±4.20 ^{Aa}	91.47±0.29 ^{Aa}	92.30±0.16 ^{Aa}	23.90±4.76 ^{Ca}	18.86±7.79 ^{Ca}	37.04±1.40 ^{Ba}
FSS	79.91±14.20 ^{Aa}	53.96±3.62 ^{Bb}	55.72±3.46 ^{Bb}	24.98±8.26 ^{Ca}	11.81±1.08 ^{Ca}	17.17±7.43 ^{Cb}
FRAP FBS	13447.37 ±2580.96 ^{Ba}	20078.95 ±7769.71 ^{Aa}	20956.14 ±2276.94 ^{Aa}	3008.77 ±955.13 ^{Ca}	2622.81 ±1014.55 ^{Ca}	4736.84 ±1277.33 ^{Cab}
FRAP BS	13219.30 ±1243.36 ^{Ca}	16701.75 ±2013.52 ^{Bab}	21666.67 ±1093.40 ^{Aa}	2921.05 ±569.91 ^{Ea}	2570.18 ±66.23 ^{Ea}	5491.23 ±720.85 ^{Da}
FRAP FSS	11385.96 ±1488.96 ^{Aa}	10043.86 ±1548.91 ^{ABbc}	9482.46 ±478.29 ^{Bb}	2385.96 ±1012.50 ^{Ca}	1745.61 ±427.85 ^{Ca}	2228.07 ±226.89 ^{Ca}

Note: Different lowercase letters indicate significant difference at $P < 0.05$ for different harvest stages within the same tissue component. Different uppercase letters indicate significant difference at $P < 0.05$ for different tissue components and solvents within the same harvest stage. The same as below.

Table S2: Aerial parts dry weight of *H. perforatum* at different harvest stages

Harvest stages	Stem	Leaf	Flower
FBS	8.92±0.28 ^a	5.61±0.15 ^a	0.43±0.03 ^b
BS	8.57±0.22 ^a	5.34±0.19 ^a	1.06±0.03 ^a
FSS	7.94±0.19 ^b	4.52±0.12 ^b	0.08±0.01 ^c

Table S3: Hypericin (Hyp) content in aerial parts at different harvest stages

Harvest stages	Stem	Leaf	Flower
mg/g dry weight FBS	0.088 ± 0.004 ^a	0.881 ± 0.016 ^a	3.204 ± 0.095 ^b
mg/g dry weight BS	0.080 ± 0.002 ^a	0.453 ± 0.018 ^b	3.440 ± 0.081 ^a
mg/g dry weight FSS	0.035 ± 0.011 ^b	0.227 ± 0.008 ^c	2.846 ± 0.978 ^c
mg/ plant FBS	0.781 ± 0.038 ^a	4.944 ± 0.091 ^a	1.378 ± 0.041 ^b
mg/ plant BS	0.690 ± 0.017 ^b	2.418 ± 0.099 ^b	3.646 ± 0.086 ^a
mg/ plant FSS	0.278 ± 0.083 ^c	1.025 ± 0.035 ^c	0.228 ± 0.008 ^c

Table S4: Flavonoids content in aerial parts at different harvest stages

Harvest stages	Stem	Leaf	Flower
mg/g dry weight FBS	34.70 ± 2.00 ^a	39.32 ± 1.65 ^a	49.80 ± 0.33 ^b
mg/g dry weight BS	31.65 ± 1.71 ^b	34.63 ± 1.34 ^b	56.68 ± 1.97 ^a
mg/g dry weight FSS	29.63 ± 0.65 ^b	19.00 ± 1.65 ^c	25.87 ± 0.67 ^c
mg/ plant FBS	309.52 ± 17.82 ^a	202.83 ± 24.74 ^a	21.41 ± 0.14 ^b
mg/ plant BS	271.24 ± 14.64 ^b	184.94 ± 7.14 ^{ab}	60.08 ± 2.09 ^a
mg/ plant FSS	235.29 ± 5.18 ^c	85.88 ± 7.47 ^b	2.07 ± 0.05 ^c

Table S5: Polyphenols content in aerial parts at different harvest stages

Harvest stages	Stem	Leaf	Flower
mg/g dry weight FBS	63.40 ± 3.09 ^a	83.77 ± 3.65 ^a	91.45 ± 2.61 ^b
mg/g dry weight BS	56.09 ± 1.30 ^b	69.99 ± 3.47 ^b	97.03 ± 1.58 ^a
mg/g dry weight FSS	51.54 ± 1.12 ^c	44.80 ± 0.83 ^c	52.8 ± 0.73 ^c
mg/ plant FBS	565.51 ± 27.53 ^a	469.94 ± 20.46 ^a	39.32 ± 1.12 ^b
mg/ plant BS	480.71 ± 11.18 ^b	373.73 ± 18.55 ^b	102.85 ± 1.67 ^a
mg/ plant FSS	409.20 ± 8.91 ^c	202.51 ± 3.73 ^c	4.22 ± 0.06 ^c