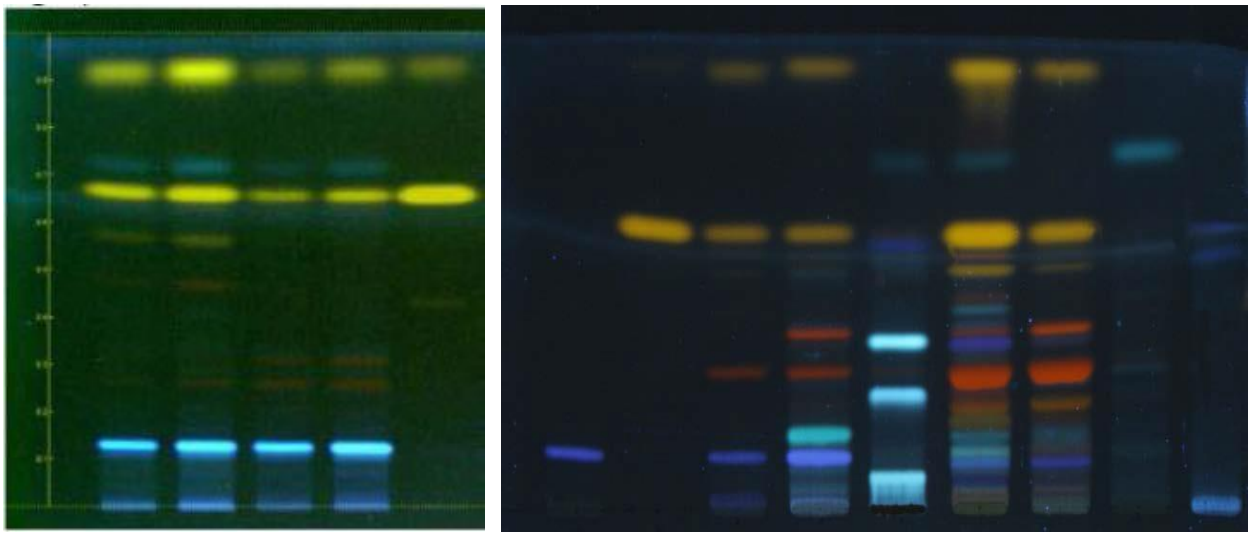
Polygonum multiflorum Root — Identification

Thin-Layer Chromatography



1 2 3 4 5 6 7 8 9 10 11 12 13 14

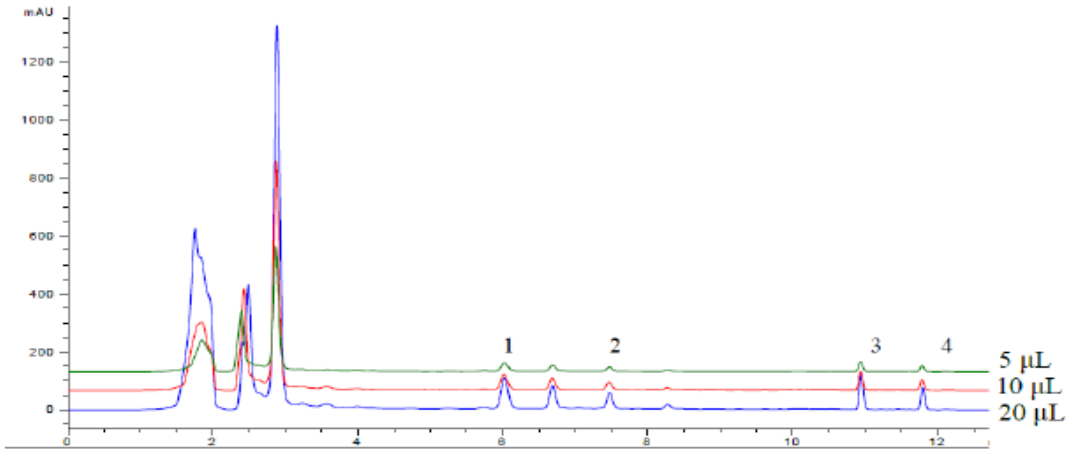
Typical HPTLC Chromatograms

These chromatograms are supplied for information only

Track assignment: **1-4**) *Polygonum multiflorum* Root (100 mg/mL); **5**) Emodin (0.3 mg/mL); **6**) 2,3,5,4'-Tetrahydroxystilbene-2-*O*-β-D-glucoside (TSG); **7**) Emodin; **8**) Mixed refence standards: Physcion, Emodin, Emoding-8-*O*-β-D-glucoside, TSG (decreasing *Rf* order); **9**) *Polygonum multiflorum* root; **10**) *Pteroxygonum giraldii* root; **11**) *Polygonum cillinerve* root; **12**) *Polygonum cuspidatum* root; **13**) *Fagopyrum esculentum* root; **14**) *Cynanchum auriculatum* root

Sample solutions:	according to the monograph (**6-14**)
Standard solutions:	in methanol
Plate:	HPTLC, Si 60 F254 for **1-5**; Si G for **6-14**
Saturation Time:	saturated chamber
Application volume:	7 µL, as 8-mm bands for **6-14**
Relative Humidity:	about 33%
Developing solvent system:	toluene, ethanol, glacial acetic acid (8:2:0.5)
Developing distance:	6 cm for **6-14**; 7 cm for **1-5**
Detection:	Under UV at 366 nm

HPLC (Anthraquinones)



*1) Emoding-8-*O*-β-D-glucoside; 2) Physcion-8-*O*-β-D-glucoside; 3) Emodin; 4) Physcion

Representative chromatogram of *Content of anthraquinones* in *Polygonum multiflorum* Root

This chromatogram is supplied for information only

Solutions preparation: according to the monograph

Detector: UV, 280 nm

Column: 4.6-mm × 15-cm; 5-µm packing L1 (Similar to Shimadzu ODS C18, Agilent Zorbax Stable Bond C18, and Thermo Syncronis C18)

Column temperature: 30°±1

Flow rate: 1.0 mL/min

Injection volume: 5 µL, 10 µL, 20 µL

Solution A: 0.1% Formic acid in water

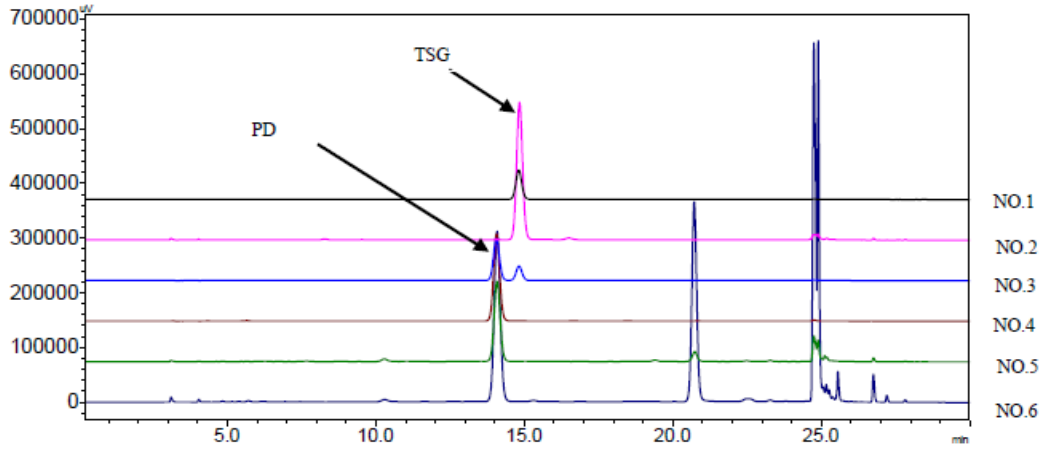
Solution B: Acetonitrile

Mobile phase: See *Table 1*

Table 1

Time (min)	Solution A (%)	Solution B (%)
0	70	30
3	70	30
8	50	50
10	0	100
13	0	100
14	70	30
19	70	30

HPLC (2,3,5,4'-Tetrahydroxystilbene-2-*O*-β-D-glucoside)



*NO.1 TSG (2,3,5,4'-Tetrahydroxystilbene-2-*O*-β-D-glucoside); NO.2 *Polygonum multiflorum* root; NO.3 TSG+PD (Polydatin); NO.4 PD; NO.5 *Polygonum cuspidatum* root; NO.6 *Polygonum cillinerve* root

Representative chromatogram of *Content of 2,3,5,4'-Tetrahydroxystilbene-2-O-β-D-glucoside* in *Polygonum multiflorum* Root, *This chromatogram is supplied for information only*

Solutions preparation: according to the monograph

Detector: UV, 320 nm

Column: 4.6-mm × 15-cm; 5-µm packing L1 (Similar to Shimadzu ODS C18, and Agilent Zorbax Stable Bond C18)

Column temperature: 35°±5

Flow rate: 1.0 mL/min

Injection volume: 10 µL

Solution A: 0.1% Formic acid in water

Solution B: Acetonitrile

Mobile phase: See *Table 2*

Table 2

Time (min)	Solution A (%)	Solution B (%)
0	83	17
10	80	20
18	72	28
20	0	100
25	0	100
26	83	17
35	83	17