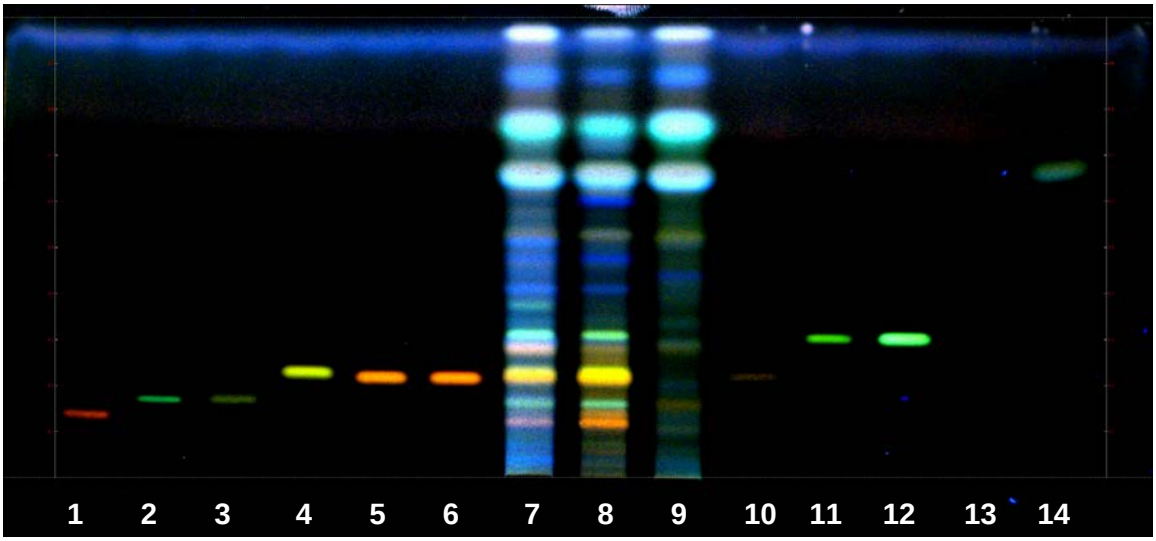
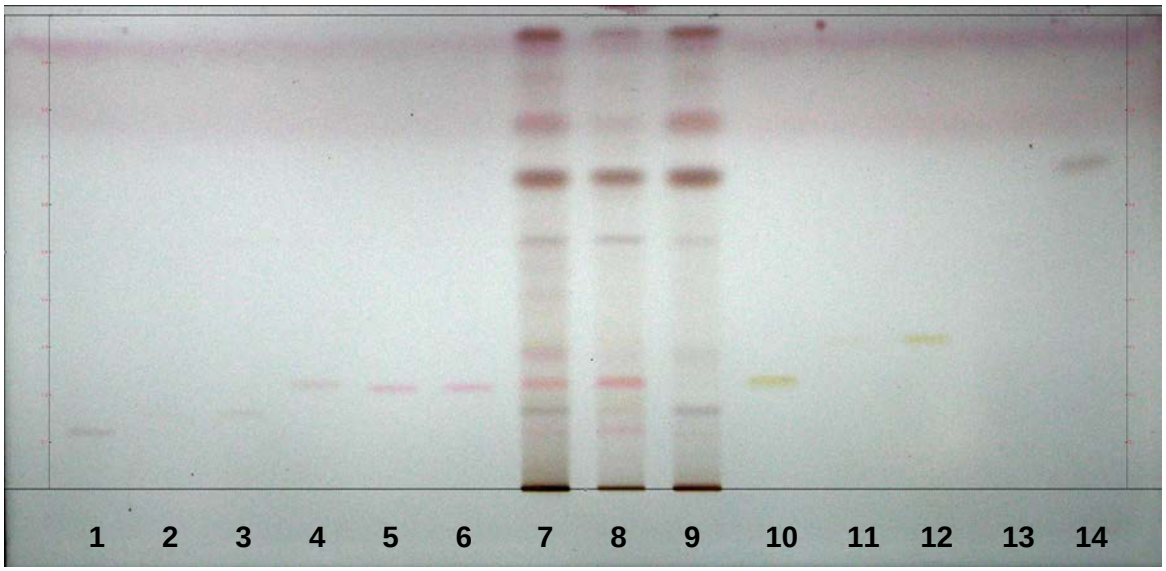
Ganoderma lucidum Fruiting Body — Identification

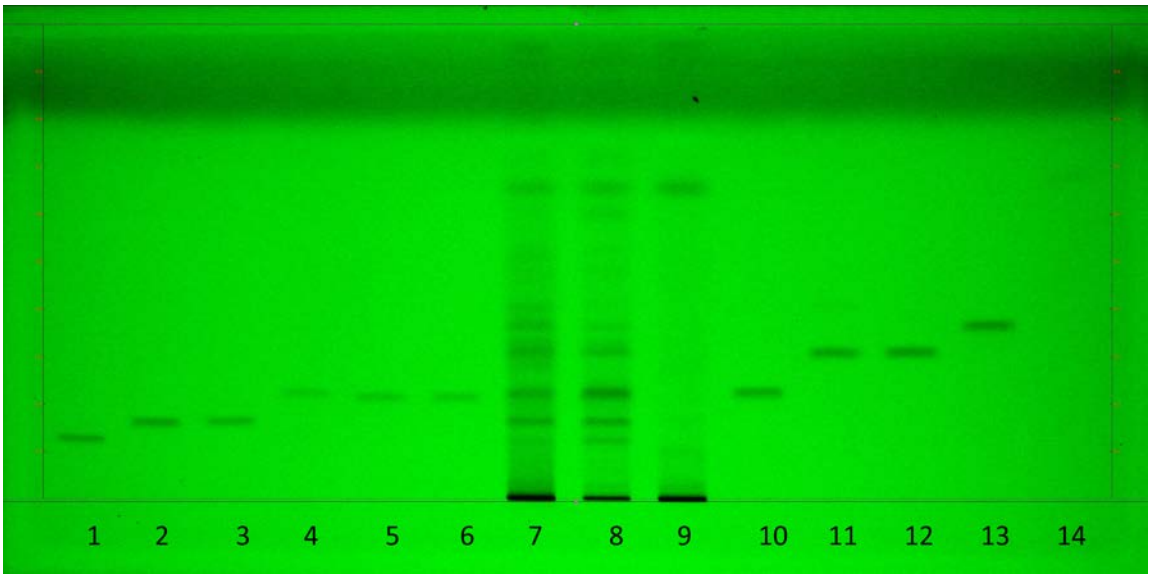
Thin-Layer Chromatography



A



B



C

Typical HPTLC Chromatograms

These chromatograms are supplied for information only

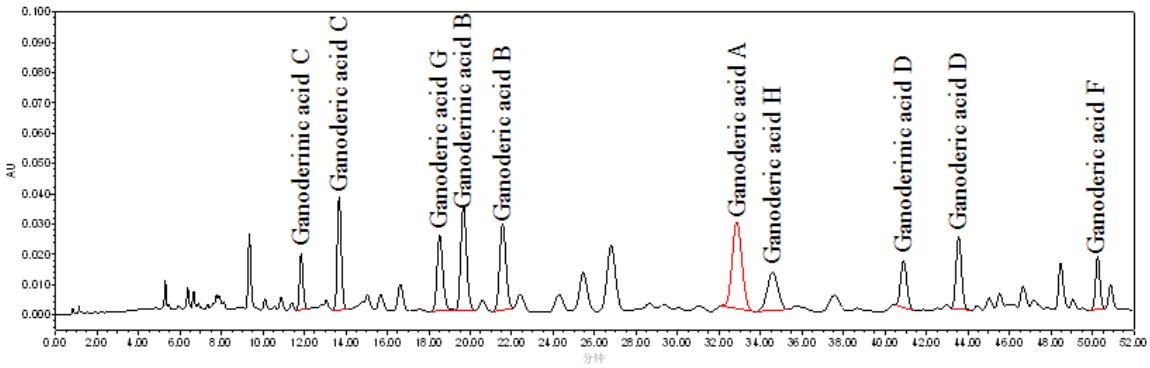
Track assignment: 1) ganoderic acid C_2 (0.9 mg/mL); 2) USP Ganoderic acid A RS (0.9 mg/mL); 3) ganoderenic acid A (0.4 mg/mL); 4) ganoderic acid G (0.5 mg/mL); 5) ganoderenic acid B (0.5 mg/mL); 6) ganoderic acid B (0.2 mg/mL); 7-8) *Ganoderma lucidum* Fruiting Body, commercial sample ; 9) *Ganoderma sinense* Fruiting Body, commercial sample; 10) ganoderic acid H (1.8 mg/mL); 11) ganoderenic acid D (0.5 mg/mL); 12) ganoderic acid D (1.2 mg/mL); 13) ganoderic acid F (1.8 mg/mL); 14) USP Ergosterol RS (0.3 mg/mL)

Sample solutions:	according to the monograph
Standard solutions:	in alcohol
Plate:	HPTLC, Si 60 F_{254}, 5 µm (pre-develop the plate in methanol and dry at 105º for 30 min)
Saturation time:	20 minutes
Application volume:	2 µL standard solutions, 4 µL sample solutions, as 8-mm bands
Relative Humidity:	about 33%
Temperature:	room temperature and not to exceed 30º
Developing solvent system:	toluene, ethyl formate, and formic acid (5:5:0.2)
Developing distance:	7 cm

Derivatization reagent: a solution of 10% sulfuric acid in alcohol.

Detection: derivatize, heat at 105-110º for 5 min, and examine under (A) UV light at 366 nm, (B) visible light, (C) UV light at 254 nm.

UHPLC (Triterpenoic Acids)



Representative chromatogram of *Content of Triterpenoic acids* in *Ganoderma lucidum* Fruiting Body

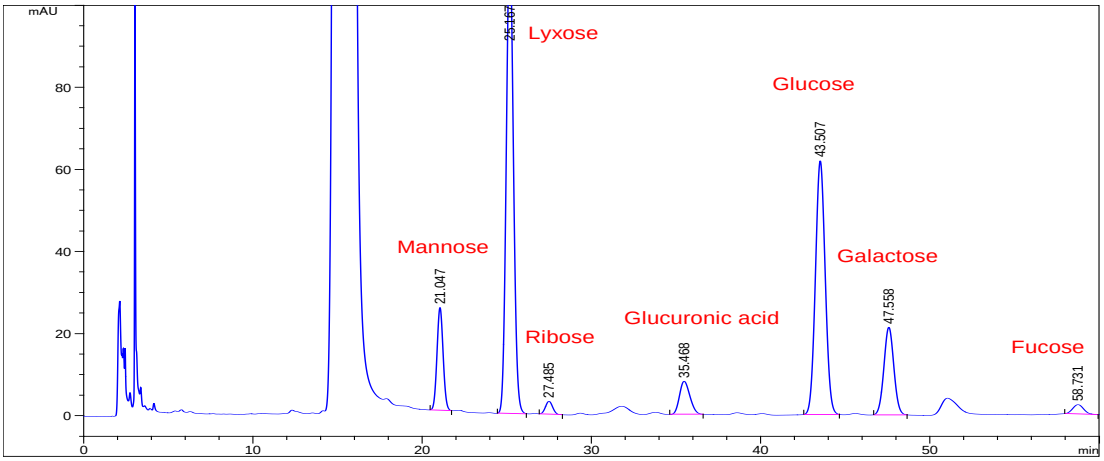
This chromatogram is supplied for information only

Solutions preparation:	according to the monograph
Detector:	UV, 257 nm
Column:	2.1-mm × 15-cm; 1.8 µm packing L1 (similar to ACQUITY UPLC HSS T3, Zorbax SB C-18, and Eclipse Plus C-18)
Column temperature:	25°±1
Flow rate:	0.4 mL/min
Injection volume:	5 µL
Solution A:	0.075% phosphoric acid in water
Solution B:	acetonitrile
Mobile phase:	see *Table 1*

Table 1

Time (min)	Solution A (%)	Solution B (%)
0	80	20
3	73.5	26.5
34	73.5	26.5
52	61.5	38.5
54	0	100
55	0	100
55.5	80	20

HPLC (Polysaccharides)



Representative chromatogram of *Content of Water-soluble Polysaccharides* in *Ganoderma lucidum* Fruiting Body

This chromatogram is supplied for information only

Solutions preparation: according to the monograph

Detector: UV, 250 nm

Column: 4.6-mm × 25-cm; 5 µm packing L1 (similar to ZORBAX XDB C18)

Column temperature: 35°±1

Flow rate: 1.0 mL/min

Injection volume: 10 µL

Solution A: 0.05 M phosphate buffer (pH 6.0)

Solution B: acetonitrile

Mobile phase: see *Table 2*

Table 2

Time (min)	Solution A (%)	Solution B (%)
0	84	16
30	82.5	17.5
55	81	19
60	81	19
61	84	16