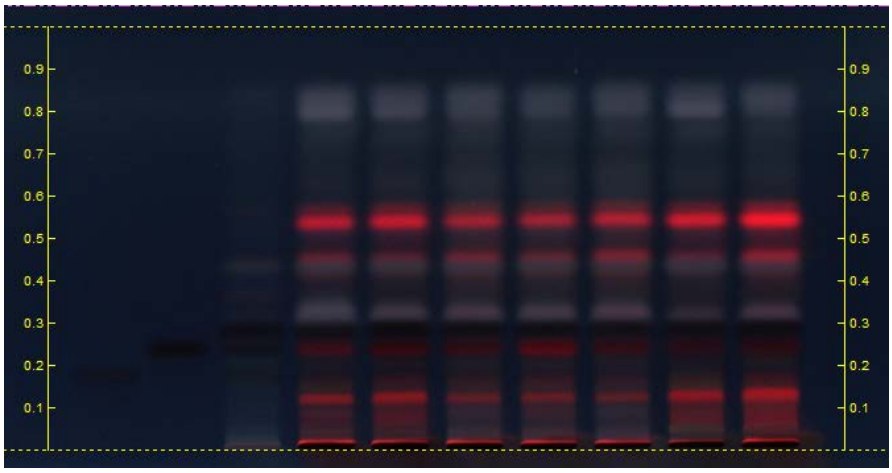
Herbal Medicines Compendium

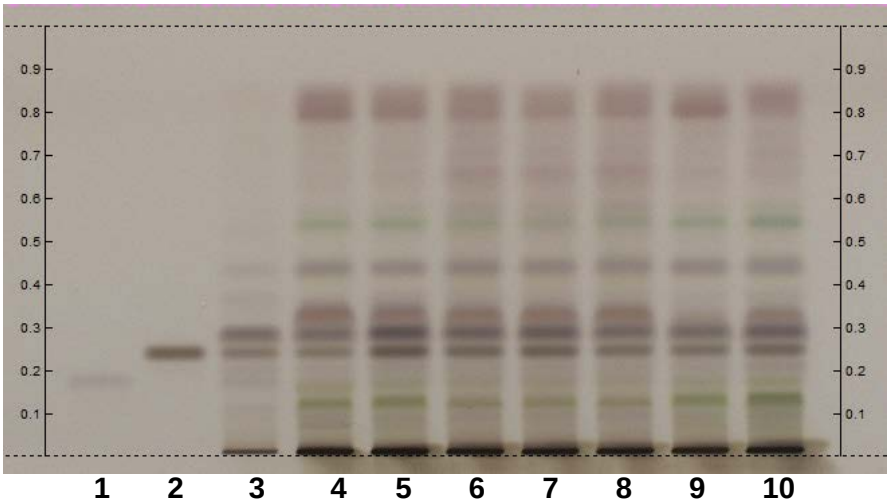
U.S. Pharmacopeial Convention

Phyllanthus amarus Aerial Parts — Identification

Thin-Layer Chromatography



A



B

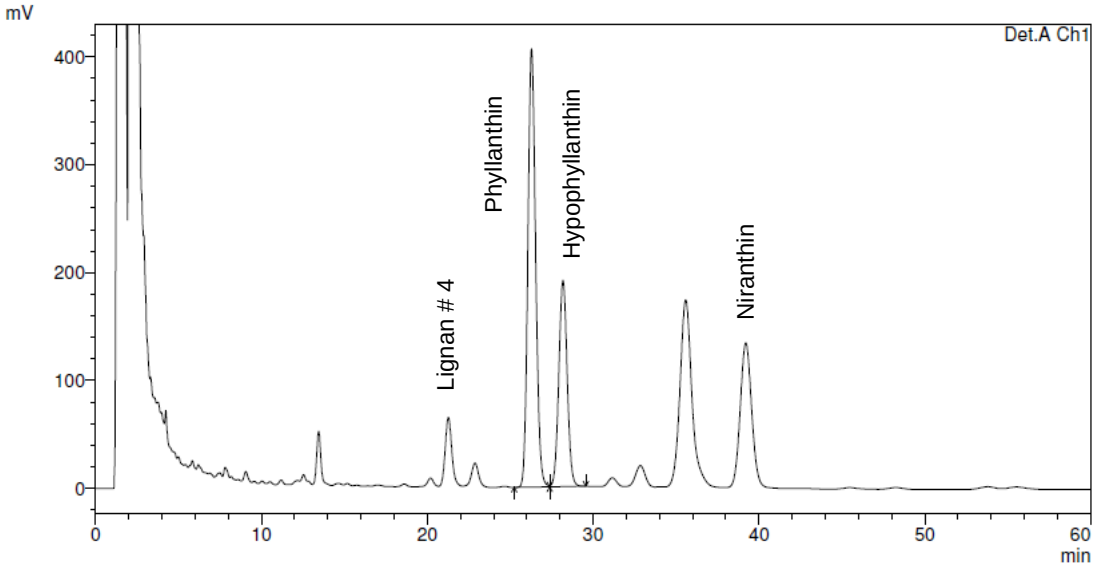
Typical HPTLC Chromatograms

These chromatograms are supplied for information only

Track assignment: 1) USP Phyllanthin RS (0.1 mg/mL); 2) hypophyllanthin (0.1 mg/mL); 3) USP *Phyllanthus amarus* Powdered Extract RS (10 mg/mL); 4-10) *Phyllanthus amarus* Aerial Parts, commercial samples

Sample solutions:	according to the monograph
Standard solutions:	in methanol
Plate:	HPTLC, Si 60 F_{254}
Saturation time:	20 minutes
Application volume:	8 µL standard solutions, 4 µL sample solutions, as 8-mm bands
Relative Humidity:	about 33%
Temperature:	25°
Developing solvent system:	hexane and ethyl acetate (2:1)
Developing distance:	6 cm
Derivatization reagent:	a solution of 10% sulfuric acid in alcohol.
Detection:	derivatize, heat at 120º for 3 min, examine under (A) UV light at 366 nm and (B) visible light

HPLC (Lignans)



Representative chromatogram of *Content of Lignans* in *Phyllanthus amarus* Aerial Parts

This chromatogram is supplied for information only

Solutions preparation:	according to the monograph
Detector:	UV, 230 nm
Column:	4.6-mm × 25-cm; 5-µm packing L1 (similar to Luna C18 and Inertsil ODS-3)
Column temperature:	25°±1
Flow rate:	1.5 mL/min
Injection size:	10 µL
Solution A:	dissolve 0.14 g of potassium dihydrogen phosphate in 900 mL of water, add 0.5 mL of phosphoric acid, dilute with water to 1000 mL, mix, and filter.
Mobile phase:	acetonitrile and *Solution A* (4:6)