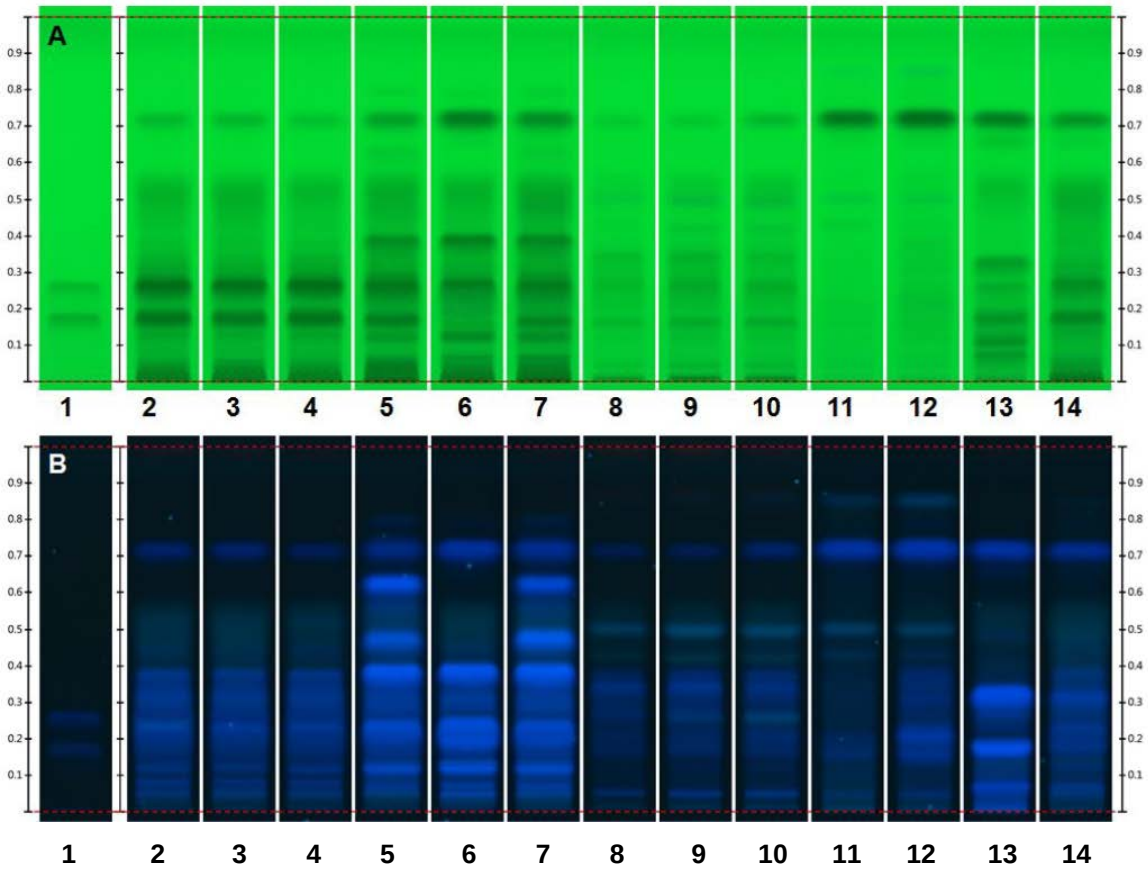
Terminalia chebula Fruit – Identification

Thin-Layer Chromatography



Typical HPTLC Chromatogram

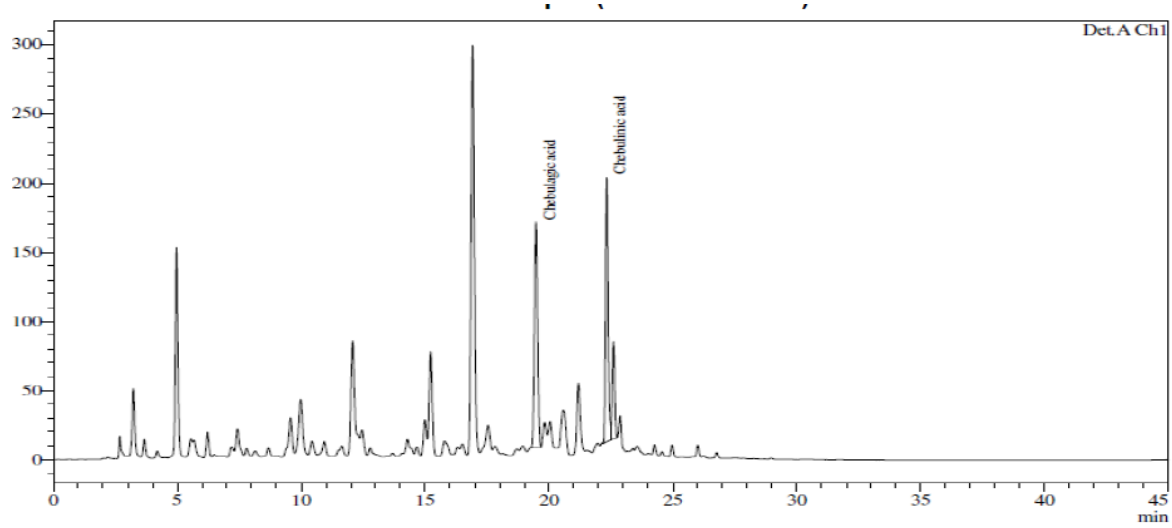
These chromatograms are supplied for information only

Track assignment: 1) Chebulagic acid and chebulinic acid, increasing order (0.1 mg/mL); 2-4) *Terminalia chebula* raw material; 5-7) *Terminalia chebula* dry extract; 8-10) *Terminalia bellerica* raw material; 11-12) *Terminalia bellerica* dry extract; 13) *Phyllanthus emblica* raw material; 14) Triphala powder (mix of *Terminalia chebula, Terminalia bellerica, Phyllanthus emblica*).

Sample solutions:	according to the monograph
Standard solutions:	in methanol
Plate:	HPTLC, Silica gel 60 F_{254}, 5 µm

Application volume:	5 µL for standard solution, 1 µL for sample solution, as 8-mm bands
Relative Humidity:	about 33%
Developing solvent system:	ethyl formate, toluene, formic acid, and water (30:1.5:4:3)
Developing distance:	7 cm
Derivatization reagent:	Natural products reagent (1 g of diphenylboric acid aminoethylester dissolved in 200 mL of ethyl acetate)
Detection:	examine under UV 365 nm (B) and 254 nm (A)

HPLC (Hydrolyzable Tannins)



Representative chromatogram of Content of Hydrolyzable Tannins in *Terminalia chebula* Fruit

This chromatogram is supplied for information only

Solution preparation:	according to the monograph
Mode:	HPLC
Detector:	UV, 270 nm
Column:	4.6-mm × 25-cm; 5 µm packing L1 (similar to Merch KGaA Purospher Star LP HPLC Column, RP-18)
Flow rate:	1.5 mL/min
Injection volume:	20 µL
Solution A:	dissolve 0.136 g of potassium phosphate monobasic in 900 mL of water, add 0.5 mL of *o*-phosphoric acid, dilute with water to 1 L
Solution B:	acetonitrile
Mobile phase:	see *Table 1*

Table 1

Time (min)	Solution A (%)	Solution B (%)
0	95	5
18	65	35
25	45	55
28	45	55
35	65	35
40	95	5
45	95	5