Herbal Medicines Compendium

U.S. Pharmacopeial Convention

Citrus reticulata Peel — Identification

Thin-Layer Chromatography (Identification)

Plate A

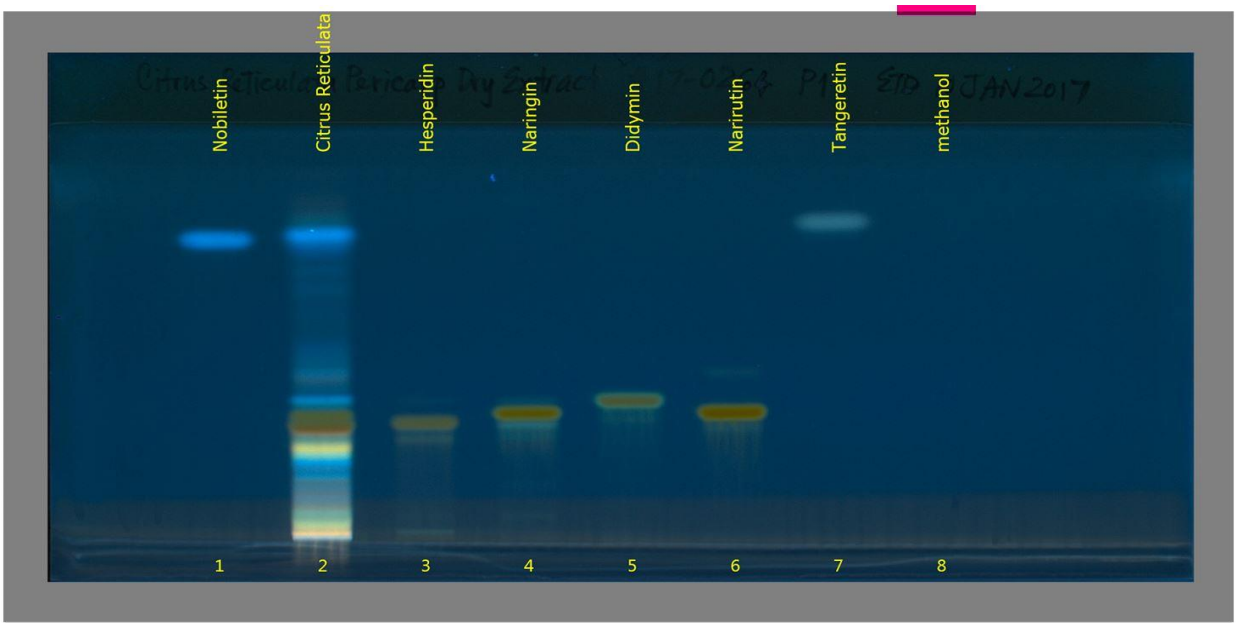
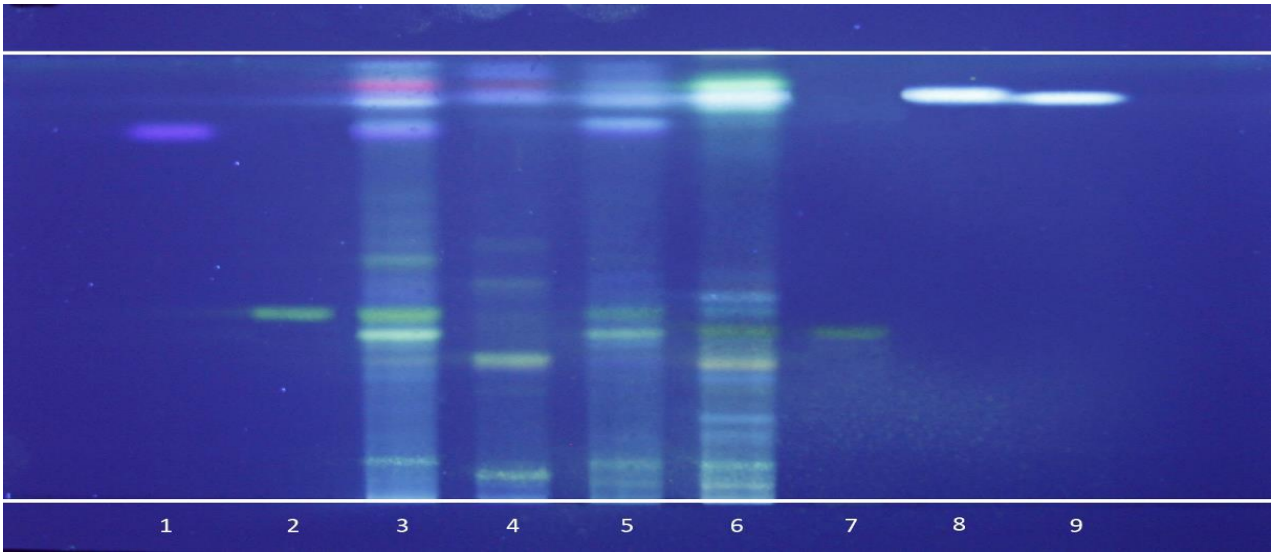


Plate B



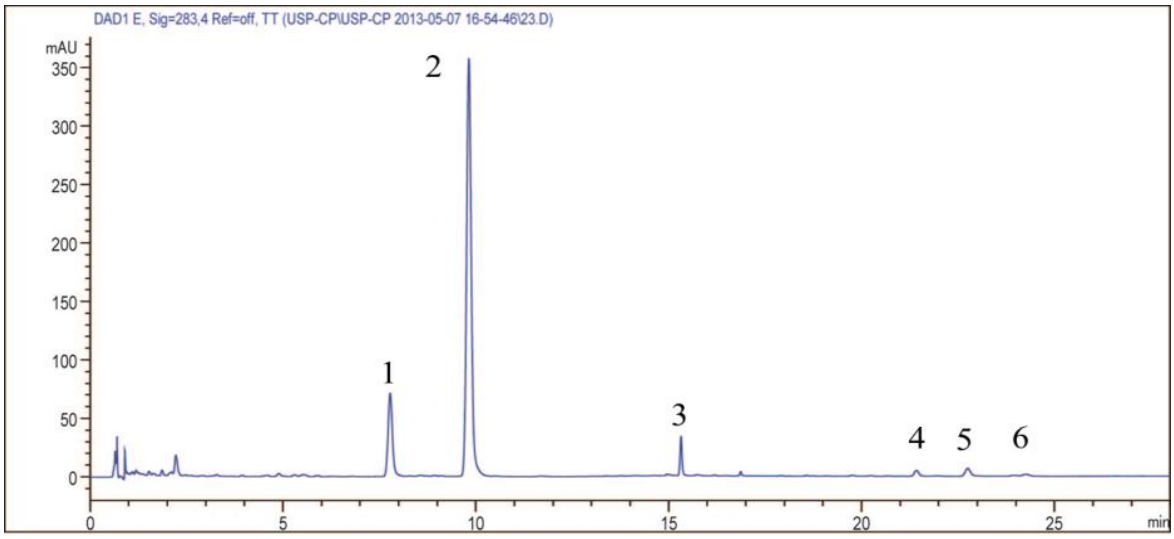
Typical HPTLC Chromatograms

These chromatograms are supplied for information only

Track assignment for Plate B, **1)** Meranzin hydrate; **2)** Narigin; **3)** *Citrus wilsonii* Fruit; **4)** *Citrus medica* Fruit; **5)** *Citrus maxima* Peel; **6)** *Citrus reticulata* Peel; **7)** Hesperidin; **8)** 3,5,6,7,8,3',4'-Heptamethoxyflavone; **9)** Nobiletin

Sample solutions:	according to the monograph
Plate:	HPTLC silica G F254, plate A: Merck; plate B: Macherey-Nagel
Application volume:	5 µL for samples and 10 µL for hesperidin, as 10-mm bands
Relative Humidity:	about 33%
Developing solvent system:	Ethyl acetate, formic acid, and water (100:15:13)
Developing distance:	plate A: 7 cm; plate B: 8 cm
Derivatization reagent A:	10 mg/mL of 2-aminoethyl diphenylborinate in methanol
Derivatization reagent B:	50 mg/mL of polyethylene glycol 4000 in alcohol
Visualization procedure:	plate A: according to monograph; plate B: did not dry the plate at 100° for 3 min before being treated by Derivatization reagent A

HPLC Chromatography



*__1)__ Narirutin; __2)__ Hesperidin; __3)__ Didymin; __4)__ Nobiletin; __5)__ 3,5,6,7,8,3',4'-heptamethoxyflavone; __6)__ Tangeretin

Representative chromatogram of *Content of Dihydroflavone Glycosides and Polymethoxylated Flavones* in *Citrus reticulata* Pericarp

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Solutions preparation: according to monograph

Detector: UV, at 283 nm (0-17 min) and 330 nm (17-28 min)

Column: 4.6-mm × 5-cm; 1.8-µm packing *L1* (Agilent Zorbax SB C18)

Column temperature: 25°

Flow rate: 0.7 mL/min

Injection volume: 2 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	85	15
8	81	19
10	81	19
17	60	40
28	56	44