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Original Research Article

HPTLC FINGER PRINTING ANALYSIS OF THE PDM EXTRACT *SCOPARIA DULCIS* LINN.

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Abstract: *Scoparia dulcis linn* (family: Scrophulariaceae) is a glabrous under shrub with small white flowers commonly found on the waste lands and fallow fields. This plant was widely used in the indigenous system of medicine. Infusion of leaves is used in fever, cough, and bronchitis and as gargle for toothache. The PDM extract, active fractions and pure compounds were subjected to HPTLC analysis (CAMAG, Muttenz, Switzerland) using precoated TLC plate of silica gel 60 F_{254} (Merck, Darmstadt, Germany). 5 mg/ml solution of PDM extract was spotted using Linomat IV automatic spotter. TLC was developed using chloroform methanol (9:1) as solvent system. After development, TLC plate was dried and scanned using HPTLC analyzer and the peaks were recorded at wavelength of 254 nm and 366 nm. The plats were also sprayed with anisaldehyde sulphuric acid spraying reagent.

Key words: *Scoparia dulcis linn,* PDM extract, HPTLC analysis.

Introduction*:* Herbal drugs play major role in the treatment of hepatic disorders. In India a number of medicinal plants and their formulations are widely used for the treatment of these disorders. In addition to the already existing medicinal plants, there is several unexplored potential medicinal plants still need to be studied for their therapeutic potential against liver disorders. *Scoparia dulcis* linn (family: Scrophulariaceae) is a glabrous under shrub with small white flowers commonly found on the waste lands and fallow fields. This plant was widely used in the indigenous system of medicine. Infusion of leaves is used in fever, cough, and bronchitis and as gargle for toothache. Decoction of the plant is used for gravel and other renal troubles. The leaf juice is taken with youghurt for treating jaundice. Amellin-an, antidiabetic compound found in leaves is useful in anemia, albuminuria, ketonuria, retinitis and other diabetic complications.

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Modification of TLC- HPTLC: High performance thin layer chromatography is a advance technique than TLC. It works on the same principle of TLC. But the difference is automated sample application with known

volume of sample. Automated scanning, calculation of Rf, and densitometry is possible. Also the quantative analysis is possible with HPTLC.

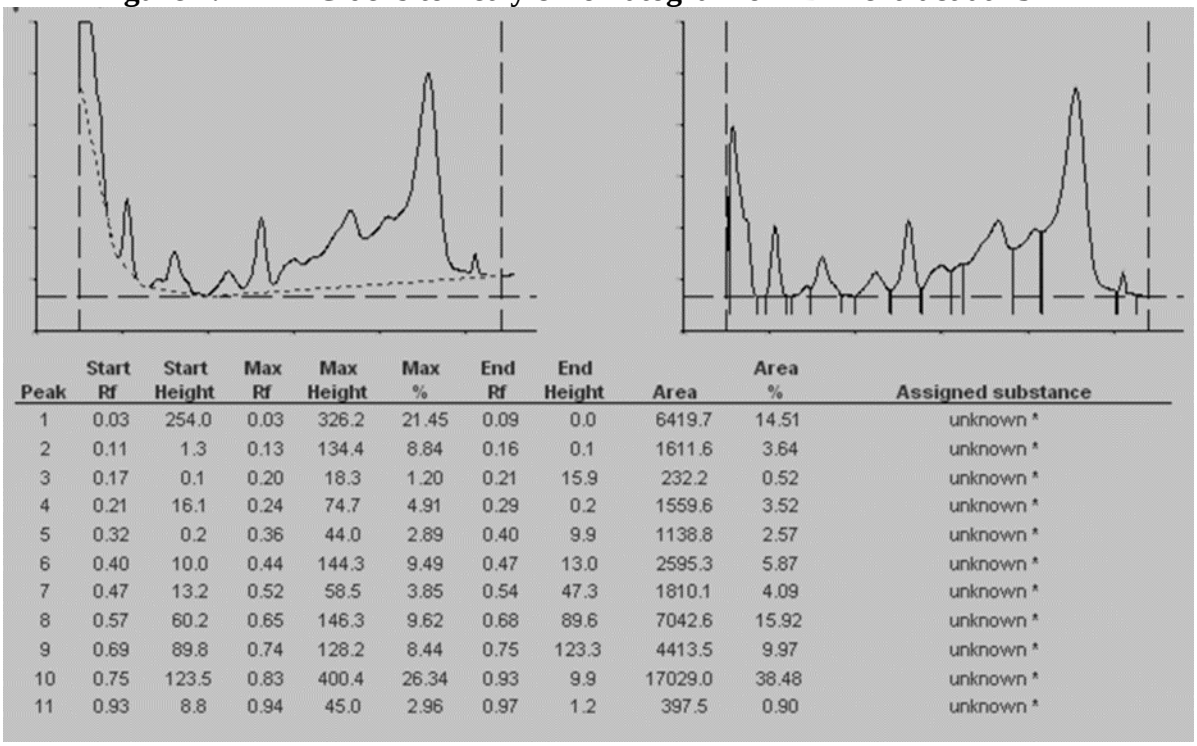
Uses of TLC

- To determine the number of components in a mixture.
- To determine the identity of two substances.
- To monitor the progress of a reaction.
- To determine the effectiveness of a purification.
- To determine the appropriate conditions for a column chromatographic separation.
- To monitor column chromatography.

HPTLC finger printing of PDM extract: The PDM extract were subjected to HPTLC analysis (CAMAG, Muttenz, Switzerland) using precoated TLC plate of silica gel 60 F_{254} (Merck, Darmstadt, Germany). 5 mg/ml solution of PDM extract was spotted using Linomat IV automatic spotter. TLC was developed using chloroform methanol (9:1) as solvent system. After development, TLC plate was dried and scanned using HPTLC analyzer and the peaks were recorded at wavelength of 254 nm and 366 nm. The plats were also sprayed with anisaldehyde sulphuric acid spraying reagent

HPTLC finger printing of PDM extract: The HPTLC densitometry chromatogram of PDM extract at 254 nm, shows eleven well resolved peaks, with Rf values of 0.03, 0.13, 0.20, 0.24, 0.36, 0.44, 0.52, 0.65, 0.74, 0.83, and 0.94. Figure 1. This peak corresponded to the peak number 9 of the PDM extract chromatogram (Rf value 0.74)

Figure 1: HPTLC densitometry chromatogram of PDM extract at 254 nm



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0.03	254.0	0.03	326.2	21.45	0.09	0.0	6419.7	14.51	unknown *
2	0.11	1.3	0.13	134.4	8.84	0.16	0.1	1611.6	3.64	unknown *
3	0.17	0.1	0.20	18.3	1.20	0.21	15.9	232.2	0.52	unknown *
4	0.21	16.1	0.24	74.7	4.91	0.29	0.2	1559.6	3.52	unknown *
5	0.32	0.2	0.36	44.0	2.89	0.40	9.9	1138.8	2.57	unknown *
6	0.40	10.0	0.44	144.3	9.49	0.47	13.0	2595.3	5.87	unknown *
7	0.47	13.2	0.52	58.5	3.85	0.54	47.3	1810.1	4.09	unknown *
8	0.57	60.2	0.65	146.3	9.62	0.68	89.6	7042.6	15.92	unknown *
9	0.69	89.8	0.74	128.2	8.44	0.75	123.3	4413.5	9.97	unknown *
10	0.75	123.5	0.83	400.4	26.34	0.93	9.9	17029.0	38.48	unknown *
11	0.93	8.8	0.94	45.0	2.96	0.97	1.2	397.5	0.90	unknown *

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