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ANALYTICAL STUDY OF DASHAMOOLA TAILA AND DASHAMOOLA GHRITA

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ABSTRACT

BACKGROUND: *Snehakalpana* (medicated oil & ghee) is an integral part of Ayurvedic treatment that are used in both *bahya* and *abhyantara Chikitsa* (internal and external therapies). *Dashamoola Taila* and *Dashmoolighrita* are used in the management of *Badhirya*. *Dashamoola Taila* is prepared out of *Dashamoola* and *tilataila* as described in *Chakradatta* and *Dashmoola ghrita* is prepared out of *Dashamoola* and *go ghrita*. **AIM**: Analytical study of *dashamoola taila* and *dashamoola ghrita*. **METHODOLOGY**: *Dashamoola taila* and *Dashamoola ghrita* were prepared and subjected to analytical studies like refractive index, specific gravity, viscosity, acid value, saponification value, Iodine value**,** unsaponifiable matter, peroxide value, and HPTCL. **RESULTS**: Quantitative chemical analysis shows that in *Dashmoola Taila*, Refractive index-1.47006, specific gravity-0.9182, viscosity- 84.45, Acid value- 6.52, Peroxide value-0.0, Saponification value- 116.87, Iodine value- 101.75, unsaponifiable value (%)-0.59. Quantitative chemical analysis shows that in *Dashmoola Ghrita*, Refractive index-1.46906, specific gravity-0.9198, Acid value- 4.44, Peroxide value-0.2, Saponification value- 206.74, Iodine value-23.07, unsaponifiable value(%)-3.00. **CONCLUSION**: Prepared oil and ghee are physically and chemically stable. TLC fingerprint and values of analytical study shall be used as a monograph of *Dashmoola Taila* and *Dashmoola ghrita* in the future.

Keywords: *Dashamoola taila, Dashamoola ghrita*, standardization, *Badhirya*, sensorineural hearing

INTRODUCTION

Snehakalpana is the preparation prepared by using one part of *kalka dravyas*, 4 parts of *sneha dravya*, and 16 parts of *drava dravya*. The Aim of *Snehakalpana* is to extract lipid soluble active principles from the drugs, to make use of therapeutic values of oil/ghee, to enhance the shelf life of *Sneha* preparations, to enhance drug absorption, and to make the preparation more palatable and pleasing with good odour.[1]

Ghrita and *taila* are indicated for *nasya* and *karnapurana*[2]. Among the different *tailas* used in the management of *badhirya, Dashamoola taila* is mentioned to be the *vatahara* and *badhirye paramoushadham* (supreme medicine in the management of deafness) in *chakradatta*.[3] The ingredients of this taila are Dashamoola[4](*Aegle marmelos- Bilva, Premna obtusifolia -Agnimantha, Gmelina arborea-Gambhari, Oroxylum indicum- Shyonak, Stereospermum suaveolens- Patala, Desmodium gangeticum- Shalparni, Uraria picta - Prishniparni, Solanum indica- Brihati, Solanum xanthocarpum- Kantakari, Tribulus terrestris - Gokshura*)[5] and *tila taila* (sesame oil). The common treatment principle for all *Karnarog*[6] includes *Ghritapana and* the use of *Rasayana*, with this concept *Dashamoola ghrita* is prepared using *dashamoola* and *go ghrita* in standard *Snehapaka vidhi*. On *Snehapaka*, the medicinal properties and potency of *Dashamoola* get transferred in into the *Taila/ghrita.*

. *Dashamoola* has *vaatashamana* property and hence can be used in the management of *badhirya* that is caused by *vatadushti*. *Ghrita* is *rasayana* and *indriya pushtikara* in nature; hence *ghrita* processed with *Dashamoola* is used as oral medicine in the management of *badhirya*. *Dashmoola Taila* and *Dashamoola ghrita* were prepared using *Tila Taila* and *go ghrita* as per the general guidelines and procedure of *Snehapaka* in the *sharangadhara samhita*[7] i.e. till *phenodgama* in *tailapaka* and *phenashanti* in *ghritapaka*, formation of *varti* when *kalka* is rubbed between thumb and index finger, absence of sound when the *sneha* is subjected to fire (indicative of the absence of water content) and the end products were having a color, taste, and smell similar to that of *Dashamoola kwatha*. Then *taila* and *ghrita* were packed in bottles in a sterile environment. In the present study, *taila* and *ghrita* were prepared and subjected to different standardization and analytical studies and the results of different parameters are discussed in the article.

Particulars of the sample submitted

Sample received: *Dashamoola taila* and *Dashamoola ghritha*.

Sample code: 20072801-02

Performed Investigations: Refractive index, specific gravity, viscosity, Acid value, Saponification value, Iodine value, Peroxide value, HPTLC

Methodology

Refractive index

Placed a drop of water on the prism and adjusted the drive knob in such a way that the boundary line intersects the separatrix exactly at the centre. Noted the reading. Distilled water has a refractive index of 1.33217 at 28˚C. The difference between the reading and1.3320 gives the error of the instrument. If the reading is less than 1.3320, the error is minus (-) then the correction is plus (+) if the reading is more, the error is plus (+), and the correction is minus (-). The refractive index of oil is determined using 1 drop of the sample. The correction if any should be applied to the measured reading to get the accurate refractive index. The refractive index of the test samples was measured at 28˚C.[8]

Specific gravity

Cleaned a specific gravity bottle by shaking with acetone and then with ether. Dried the bottle and noted the weight. Cooled the sample solution to room temperature. Carefully filled the specific gravity bottle with the test liquid, inserted the stopper, and removed the surplus liquid. Noted the weight. Repeated the procedure using distilled water in place of the sample solution.[9]

Viscosity

The given sample is filled in a U-tube viscometer in accordance with the expected viscosity of the liquid so that the fluid level stands within 0.2 mm of the filling mark of the viscometer when the capillary is vertical, and the specified temperature is attained by the test liquid. The liquid is sucked or blown to the specified height of the viscometer and the time taken

for the sample to pass the two marks is measured. Viscosity is measured using the formula.[10]

$$\eta 1 = \frac{\rho 1 t 1 \text{ X } \eta 2}{\rho 2 t 2}$$

η1 – Viscosity of sample

η2 - Viscosity of water

t1 and t 2- time taken for the sample and water to pass the meniscus

ρ1 and ρ2 – Density of sample and water

X= Specific gravity of sample x 0.9961/specific gravity of water

Π= Xx Time for samplex1.004/specific gravity of waterx70sec

Acid value

Weighed 2- 10g of Dashamoola taila and Dashamoola ghritha in a conical flask. Added 50 ml of the acid-free alcohol-ether mixture (25 +25ml) previously neutralized with the 0.1M potassium hydroxide solution and shaken well. Added One ml of Phenolphthalein solution and titrated against 0.1M Potassium hydroxide solution. The end point is the appearance of pale pink color. Repeated the experiment twice to get concordant values.[11]

Saponification value

Weighed 2g of the Dashamoola taila and Dashamoola ghritha into a 250 ml RB flask fitted with a reflux condenser. Added 25ml of 0.5M alcoholic potash. Refluxed on a water bath for 30 minutes. Cooled and added 1 ml of Phenolphthalein solution and titrated immediately with 0.5 M Hydrochloric acid (an ml). Repeated the operation omitting the substance being examined (blank) (b ml). Repeated the experiment twice to get concordant values.[12]

Iodine value

About 0.1g of the Dashamoola taila and Dashamoola ghritha was accurately weighed in a dry iodine flask. Dissolved with 10ml of CCl_4, 20ml of iodine monochloride solution was added. The stopper was inserted, which was previously moistened with a solution of potassium iodide, and the flask was kept in a dark place at a temperature of about 17^0C for 30 min. 15ml of potassium iodide and 100ml of water were added and shaken well. This was titrated with 0.1N Sodium thiosulphate, starch was used as an indicator. The number of ml of 0.1N sodium thiosulphate required (a) was noted. The experiment was repeated with the same quantities of reagents, in the same manner, omitting the substance. The number of ml of 0.1N sodium thiosulphate required (b) was noted. The experiment was repeated twice to get concordant values.[13]

Determination of Unsaponifiable matter

Weighed 5g of the Dashamoola taila and Dashamoola ghritha into the flask. Added 50ml alcoholic KOH into the sample. Boiled gently but steadily under a reflux condenser for one hour. The condenser was washed with 10ml of ethyl alcohol and the mixture was collected and transferred to a separating funnel. The transfer was completed by washing the sample with ethyl alcohol and cold water. Altogether, 50ml of water was added to the separating funnel followed by an addition of 50ml petroleum ether. The stopper was inserted and shaken vigorously for 1 minute and allowed to settle until both layers were clear. The lower layer containing the soap solution was transferred to another separating funnel and repeated the ether extraction six times more using 50ml of petroleum ether for each extraction. All the extracts were collected in a separating funnel. The combined extracts were washed in the funnel 3 times with 25ml of aqueous alcohol and Shaked vigorously. And drawing off the alcohol-water layer after each washing. The ether layer was again washed repeatedly with 25ml of water until the water no longer turns pink with the addition of a few drops of Phenolphthalein indicator solution. The ether layer was transferred to a tarred flask containing a few pieces of pumice stone and evaporated to dryness in a water bath. Placed the flask in an air oven at 85°c for about 1 hour to remove the last traces of ether. A few ml of acetone was added and evaporated to dryness in a water bath. Cooled in a desiccator to remove the last traces of moisture and then weighed.[14]

Peroxide value

5g of the Dashamoola taila and Dashamoola ghritha was weighed accurately into a conical flask, added 30 ml of a mixture of 3volumes of glacial acetic acid, and 2 volumes of chloroform, added 0.5ml of potas-

sium iodide, allowed to stand for 1 minute, add 30ml of water titrate gradually with vigorous shaking with 0.1M sodium thiosulphate until the yellow color disappears. Add 0.5ml of starch indicator and continued the titration until the blue color disappears.[15]

Peroxide value= 10(a-b)/W

Where W= weight in g of the substance

Sample preparation for HPTLC:

The sample obtained in the procedure for the determination of the unsaponifiable matter is dissolved in 10 ml of chloroform this was followed for all the samples of *oil*, and the chloroform soluble portion was used for HPTLC.

HPTLC: n

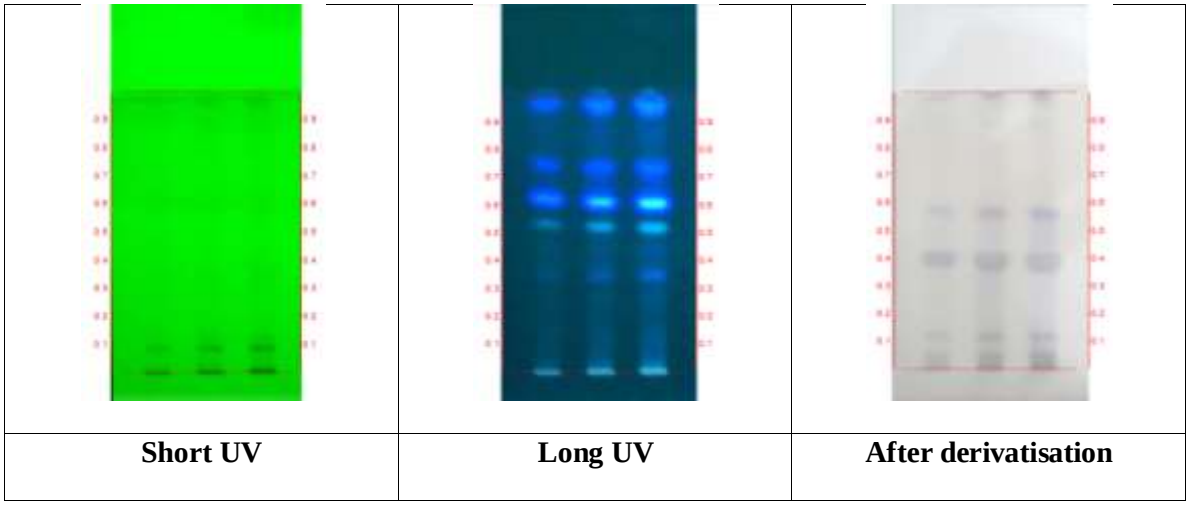
4, 8, and 12µl of the chloroform fraction of samples of **Dashamoola taila and Dashamoola ghritha** were applied on a precoated silica gel F_{254} on aluminum plates to a band width of 8 mm using Linomat 5 TLC applicator. The plate was developed in Toluene – Ethyl acetate (9:1) and the developed plates were visualized under short UV, long UV, and after derivatization in vanillin-sulphuric acid spray reagent and scanned under UV 254nm, 366 nm, and 620nm (Post derivatization). R_f, the color of the spots, and the densitometric scan were recorded.[16]

Part C: Results

Table 1: Standardization parameter of Dashamoola taila and Dashamoola ghritha

Parameter	*Results n = 3 %w/w*	
	Dashamoola taila	**Dashamoola ghritha**
Refractive index	1.47006	1.46906
Specific gravity	0.9182	0.9198
Viscosity	84.45	-
Acid value	6.52	4.44
Saponification value	116.87	206.74
Iodine value	101.75	23.07
Unsaponifiable matter (%)	0.59	3.00
Peroxide value	0.0	0.2

Figure 1: HPTLC Photo documentation of sample of Alcoholic extract of Dashamoola taila



Short UV	**Long UV**	**After derivatisation**

Track 1: Alcoholic extract of Dashamoola Taila - 4µl

Track 2: Alcoholic extract of Dashamoola Taila - 8µl

Track 3: Alcoholic extract of Dashamoola Taila - 12µl

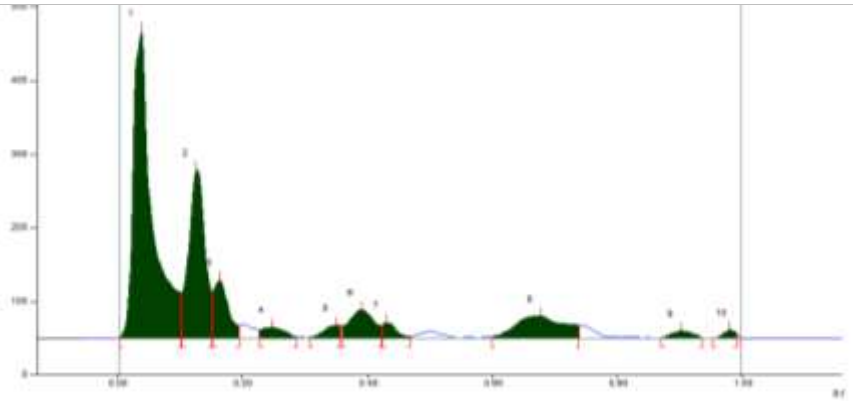
Solvent system: Toluene: Ethyl acetate(9:1)

Table 2: Rf values of Dashamoola taila

Short UV	Long UV	After derivatisation
-	-	0.06 (Purple)
0.09 (Green)	-	-
0.12 (Green)	-	0.12 (Purple)
-	0.35 (F. blue)	-
-	-	0.39 (Purple)
-	0.46 (F. blue)	-
-	0.52 (F. blue)	-
0.56 (Green)	-	0.56 (Purple)
-	0.60 (F. blue)	-
-	0.72 (F. blue)	-
0.86 (Green)	0.86 (F. blue)	-
-	-	0.89 (Purple)

- **F - fluorescent**

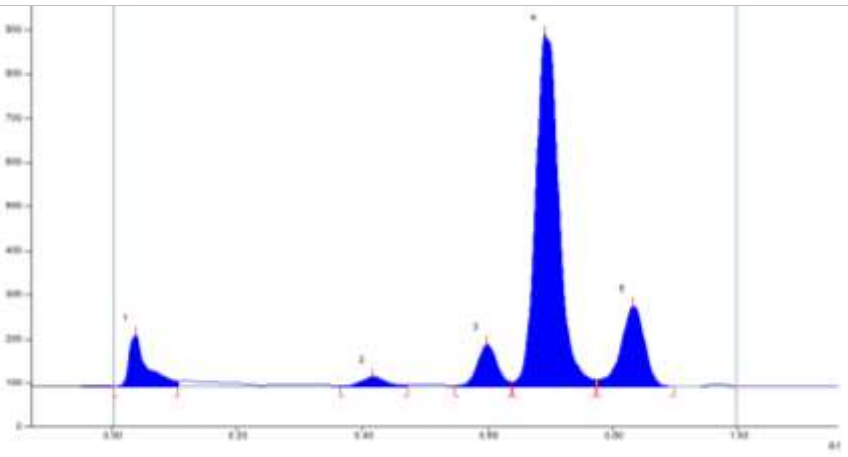
Figure 2: Densitometric scan of the sample of Dashamoola taila



Track 3, ID: Dashamoola taila

Peak	Start Position	Start Height	Max Position	Max Height	Max %	End Position	End Height	Area	Area %
1	0.00 Rf	0.3 AU	0.04 Rf	418.3 AU	48.10 %	0.10 Rf	62.0 AU	9187.4 AU	48.26 %
2	0.10 Rf	62.3 AU	0.13 Rf	228.4 AU	26.26 %	0.15 Rf	63.1 AU	4271.2 AU	22.44 %
3	0.15 Rf	63.1 AU	0.16 Rf	78.9 AU	9.07 %	0.20 Rf	16.9 AU	1338.6 AU	7.03 %
4	0.23 Rf	11.3 AU	0.25 Rf	14.7 AU	1.69 %	0.29 Rf	1.6 AU	391.8 AU	2.06 %
5	0.31 Rf	1.0 AU	0.35 Rf	17.8 AU	2.05 %	0.36 Rf	16.8 AU	334.2 AU	1.76 %
6	0.36 Rf	16.9 AU	0.39 Rf	39.0 AU	4.48 %	0.42 Rf	17.3 AU	1092.0 AU	5.74 %
7	0.42 Rf	17.8 AU	0.43 Rf	21.2 AU	2.43 %	0.47 Rf	2.0 AU	338.5 AU	1.78 %
8	0.60 Rf	0.9 AU	0.68 Rf	29.7 AU	3.41 %	0.74 Rf	17.2 AU	1693.1 AU	8.89 %
9	0.87 Rf	0.4 AU	0.90 Rf	10.1 AU	1.17 %	0.94 Rf	0.3 AU	239.3 AU	1.26 %
10	0.95 Rf	0.0 AU	0.98 Rf	11.5 AU	1.32 %	0.99 Rf	6.8 AU	149.3 AU	0.78 %

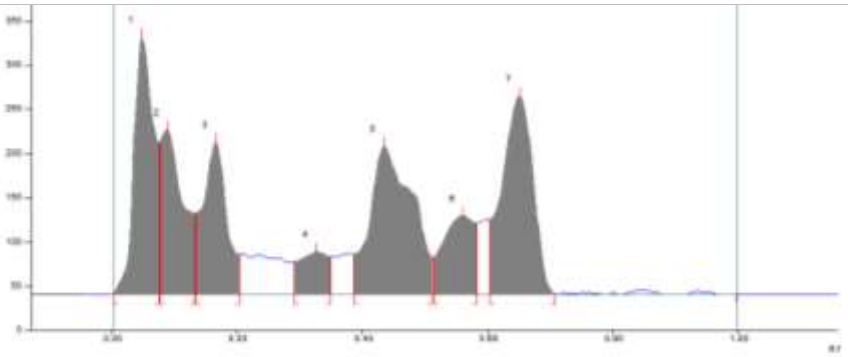
Fig 2a. At 254nm



Track 3, ID: Dashamoola taila

Peak	Start Position	Start Height	Max Position	Max Height	Max %	End Position	End Height	Area	Area %
1	0.00 Rf	0.2 AU	0.04 Rf	118.4 AU	9.70 %	0.11 Rf	12.9 AU	2519.0 AU	7.88 %
2	0.36 Rf	1.1 AU	0.42 Rf	23.7 AU	1.94 %	0.47 Rf	3.4 AU	682.6 AU	2.14 %
3	0.55 Rf	2.7 AU	0.60 Rf	96.5 AU	7.91 %	0.64 Rf	10.9 AU	2233.6 AU	6.99 %
4	0.64 Rf	11.0 AU	0.69 Rf	798.4 AU	65.44 %	0.77 Rf	16.2 AU	21517.8 AU	67.31 %
5	0.78 Rf	16.2 AU	0.83 Rf	183.1 AU	15.01 %	0.90 Rf	0.5 AU	5013.4 AU	15.68 %

Fig 2b. At 366nm

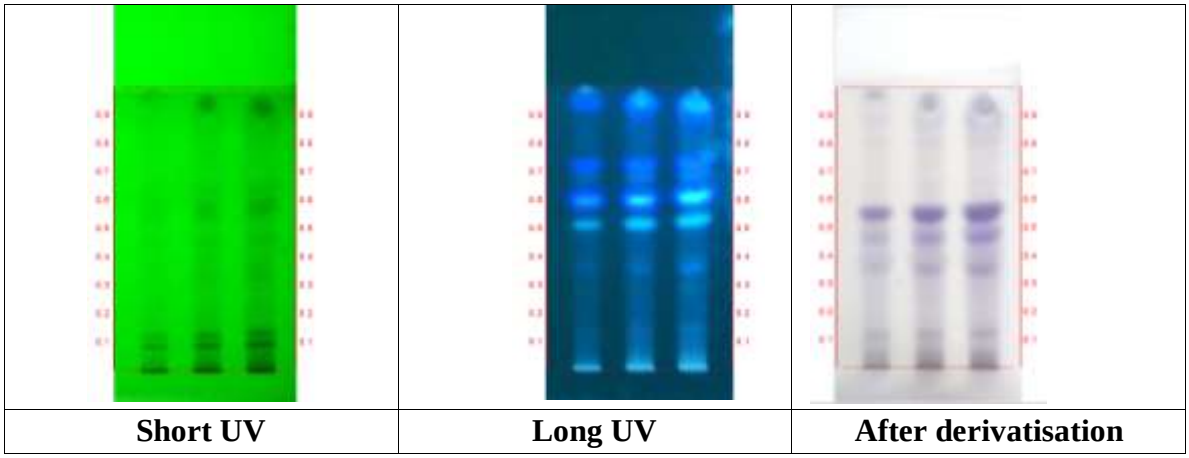


Track 3, ID: Dashamoola taila

Peak	Start Position	Start Height	Max Position	Max Height	Max %	End Position	End Height	Area	Area %
1	0.00 Rf	1.6 AU	0.05 Rf	291.3 AU	24.72 %	0.08 Rf	70.8 AU	6624.0 AU	17.84 %
2	0.08 Rf	172.1 AU	0.09 Rf	186.4 AU	15.82 %	0.13 Rf	91.3 AU	4759.0 AU	12.81 %
3	0.13 Rf	91.8 AU	0.17 Rf	172.6 AU	14.64 %	0.20 Rf	45.0 AU	4768.9 AU	12.84 %
4	0.29 Rf	36.7 AU	0.33 Rf	48.2 AU	4.09 %	0.35 Rf	41.9 AU	1607.1 AU	4.33 %
5	0.39 Rf	45.5 AU	0.44 Rf	166.9 AU	14.17 %	0.51 Rf	42.2 AU	8195.0 AU	22.07 %
6	0.51 Rf	42.2 AU	0.56 Rf	89.3 AU	7.58 %	0.58 Rf	80.7 AU	3251.3 AU	8.75 %
7	0.60 Rf	85.1 AU	0.65 Rf	223.7 AU	18.98 %	0.71 Rf	0.7 AU	7931.8 AU	21.36 %

Fig 2c. At 620nm

Figure 3: HPTLC Photo documentation of sample of Alcoholic extract of Dashamoola ghritha



Short UV	Long UV	After derivatisation

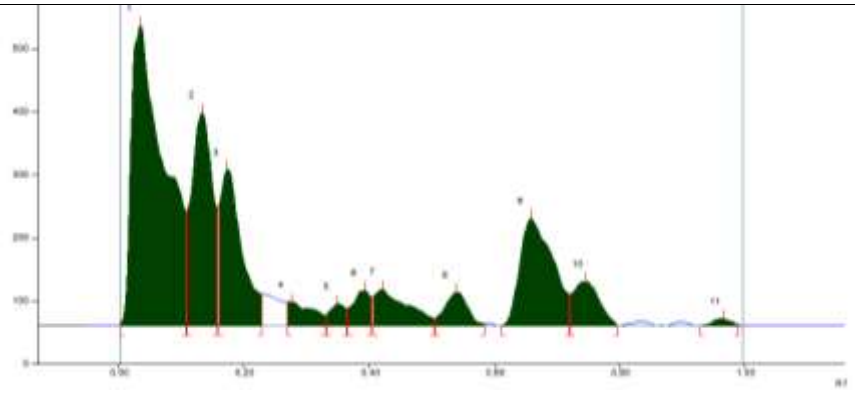
Track 1: Alcoholic extract of Dashamoola ghritha - 4µl
Track 2: Alcoholic extract of Dashamoola ghritha - 8µl
Track 3: Alcoholic extract of Dashamoola ghritha - 12µl
Solvent system: Toluene: Ethyl acetate (9:1)

Table 3: Rf values of Dashamoola ghritha

Short UV	Long UV	After derivatisation
0.09 (D. green)	-	-
-	-	0.12 (Purple)
0.15 (D. green)	0.15 (F. blue)	-
0.33 (Green)	-	-
-	0.35 (F. blue)	0.35 (Purple)
0.46 (Green)	-	0.46 (D. Purple)
-	0.52 (F. blue)	-
0.56 (Green)	-	0.56 (D. Purple)
0.58 (Green)	-	-
-	0.60 (F. blue)	-
-	0.66 (F. blue)	0.66 (Purple)
-	0.72 (F. blue)	-
-	-	0.80 (Purple)
-	-	0.86 (Purple)

- **F - fluorescent**

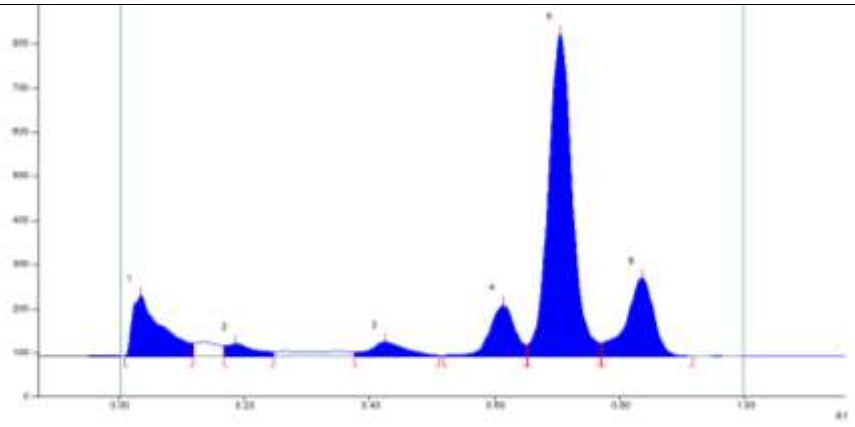
Figure 4: Densitometric scan of the sample of Dashamoola ghritha



Track 7, ID: Dashamoola Ghritha

Peak	Start Position	Start Height	Max Position	Max Height	Max %	End Position	End Height	Area	Area %
1	0.00 Rf	2.9 AU	0.04 Rf	476.5 AU	30.70 %	0.11 Rf	80.1 AU	17990.6 AU	37.83 %
2	0.11 Rf	180.8 AU	0.13 Rf	338.1 AU	21.79 %	0.16 Rf	87.9 AU	8092.5 AU	17.02 %
3	0.16 Rf	190.3 AU	0.17 Rf	247.3 AU	15.94 %	0.23 Rf	50.1 AU	6276.0 AU	13.20 %
4	0.27 Rf	36.9 AU	0.28 Rf	38.0 AU	2.45 %	0.33 Rf	15.4 AU	1098.1 AU	2.31 %
5	0.33 Rf	16.4 AU	0.35 Rf	34.4 AU	2.22 %	0.36 Rf	28.0 AU	601.5 AU	1.26 %
6	0.37 Rf	28.1 AU	0.39 Rf	55.8 AU	3.60 %	0.40 Rf	45.9 AU	1119.8 AU	2.35 %
7	0.41 Rf	46.3 AU	0.42 Rf	57.2 AU	3.69 %	0.50 Rf	11.4 AU	2188.8 AU	4.60 %
8	0.51 Rf	11.7 AU	0.54 Rf	53.1 AU	3.42 %	0.59 Rf	3.5 AU	1388.6 AU	2.92 %
9	0.61 Rf	0.2 AU	0.66 Rf	170.1 AU	10.96 %	0.72 Rf	49.8 AU	6459.4 AU	13.58 %
10	0.72 Rf	50.1 AU	0.75 Rf	70.3 AU	4.53 %	0.80 Rf	0.5 AU	2099.8 AU	4.42 %
11	0.93 Rf	0.1 AU	0.97 Rf	11.1 AU	0.71 %	0.99 Rf	2.0 AU	237.5 AU	0.50 %

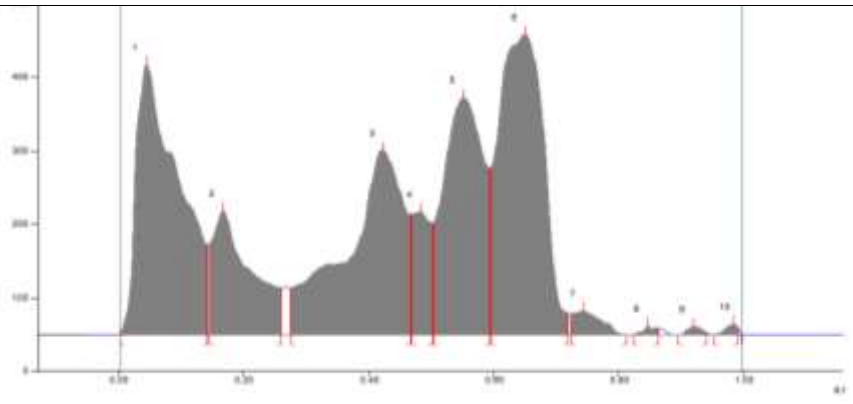
Fig 4a. At 254nm



Track 7, ID: Dashamoola Ghritha

Peak	Start Position	Start Height	Max Position	Max Height	Max %	End Position	End Height	Area	Area %
1	0.01 Rf	0.7 AU	0.04 Rf	138.4 AU	11.29 %	0.12 Rf	29.9 AU	4685.6 AU	12.97 %
2	0.17 Rf	24.4 AU	0.19 Rf	28.5 AU	2.32 %	0.25 Rf	11.0 AU	986.4 AU	2.73 %
3	0.38 Rf	10.2 AU	0.43 Rf	33.2 AU	2.70 %	0.51 Rf	2.9 AU	1406.9 AU	3.89 %
4	0.52 Rf	3.0 AU	0.61 Rf	116.8 AU	9.53 %	0.65 Rf	27.3 AU	3411.4 AU	9.44 %
5	0.65 Rf	27.6 AU	0.71 Rf	730.6 AU	59.60 %	0.77 Rf	31.2 AU	19963.0 AU	55.25 %
6	0.77 Rf	31.4 AU	0.84 Rf	178.3 AU	14.54 %	0.92 Rf	0.5 AU	5679.1 AU	15.72 %

Fig 4b. At 366nm



Track 7, ID: Dashamoola Ghritha

Peak	Start Position	Start Height	Max Position	Max Height	Max %	End Position	End Height	Area	Area %
1	0.00 Rf	2.3 AU	0.05 Rf	367.4 AU	20.93 %	0.14 Rf	22.3 AU	18227.4 AU	21.82 %
2	0.15 Rf	123.1 AU	0.17 Rf	168.9 AU	9.62 %	0.26 Rf	63.8 AU	7631.1 AU	9.14 %
3	0.28 Rf	63.4 AU	0.42 Rf	250.7 AU	14.28 %	0.47 Rf	63.7 AU	16511.6 AU	19.77 %
4	0.47 Rf	163.8 AU	0.48 Rf	167.5 AU	9.54 %	0.50 Rf	51.0 AU	3558.5 AU	4.26 %
5	0.50 Rf	151.6 AU	0.55 Rf	322.4 AU	18.36 %	0.60 Rf	26.2 AU	14769.2 AU	17.68 %
6	0.60 Rf	227.1 AU	0.65 Rf	407.8 AU	23.23 %	0.72 Rf	29.6 AU	21197.6 AU	25.38 %
7	0.73 Rf	28.7 AU	0.75 Rf	32.1 AU	1.83 %	0.81 Rf	0.0 AU	1069.0 AU	1.28 %
8	0.82 Rf	0.5 AU	0.85 Rf	12.7 AU	0.73 %	0.87 Rf	8.6 AU	179.5 AU	0.21 %
9	0.90 Rf	0.0 AU	0.92 Rf	11.6 AU	0.66 %	0.94 Rf	3.2 AU	200.0 AU	0.24 %
10	0.95 Rf	0.5 AU	0.99 Rf	14.5 AU	0.82 %	0.99 Rf	10.5 AU	192.2 AU	0.23 %

Fig 4c. At 620nm

DISCUSSION

The refractive index was noted by the abbes refractometer, the readings were 1.47006 for *Dashamoola taila* and 1.46906 for *Dashamoola ghritha*. The specific gravity of *Dashamoola taila*-was 0.9182 and *Dashamoola ghritha* was 0.9198, Viscosity of *Dashamoola Taila* was noted at 84.45. The saponification value is the number of KOH required to saponify 1 gm of KOH and it ranges from 188-196 mg/g for plant-origin oils.[17] In the present study the saponification value of *Dashamoola taila* was noted at 116.87mg/g, which slightly deviated from the normal range, the same was observed 206.74 in *Dashamoola ghritha*. The acid value indicates the presence of free fatty acids in the oil which is responsible for the rancidity of compounds, the higher the free fatty acids more is the rancidity of the compound, this helps to decide the shelf life of the oil. Pharmaceutical oils should not contain any acidity, according to the results the acid values of *Dashamoola taila* noted were 6.52mg KOH/g and *Dashamoola ghritha* 4.44mg KOH/g.

The peroxide value is a measure of the active oxygen in the oil and the potential to get rancidity, high starting levels of peroxide value are a bad sign. According to Srilanka standards, the upper limit of peroxide value is 10 milliequivalents/kg for fixed oils.[18] In this study peroxide value of *Dashamoola taila* was found to be 0.0 milliequivalent/kg and of Dashamoola ghritha was 0.2milliequiavialant/kg. Both are non-peroxide, that means taila and ghrita are stable with a longer shelf life.

The iodine value Indicates the degree of unsaturation in fat and oil. A higher iodine value highly unsaturated the given fat, iodine measures the degree of unsaturation in oil and could be used to quantify the number of double bonds present in the oils and fats, according to the present study the iodine value of Dashamoola taila is101.75 and *Dashamoola ghritha* is 23.07.

Tlc fingerprint profile consists of 6 prominent spots of *Dashamoola taila* under short UV Light 0.09 (D. green), 0.15 (D. green), 0.33 (Green), 0.46 (Green), 0.56 (Green), 0.58 (Green). In long UVTlc fingerprint profile consist of 6 prominent spots 0.35 (F.

blue), 0.46 (F. blue), 0.52 (F. blue), 0.60 (F. blue), 0.72 (F. blue), 0.86 (F. blue). Similarly, the Tlc fingerprint profile consists of 6 prominent spots of *Dashamoola ghrita* under short UV Light0.09 (D. green), 0.15 (D. green), 0.33 (Green), 0.46 (Green), 0.56 (Green) 0.58 (Green). In long UVTlc fingerprint profile consist of 6 prominent spots 0.15 (F. blue), 0.35 (F. blue), 0.52 (F. blue), 0.60 (F. blue), 0.66 (F. blue), 0.72 (F. blue).

CONCLUSION

Dashmoola Taila and *Dashamoola ghrita* are polyhedral formulation that contains the drug properties such as *Tridosha shamaka, balya, and rasayana* and oil nourishes the nerves and gives mental and physical strength. The physical test indicates *Dashmoola Taila* and *ghrita* is light yellow in color with a bitter taste and have a characteristic aroma. Quantitative chemical analysis shows that in *Dashmoola Taila*, Refractive index-1.47006, specific gravity-0.9182, viscosity- 84.45, Acid value- 6.52, Peroxide value-0.0, Saponification value- 116.87, Iodine value-101.75, unsaponifiable value(%)-0.59. Quantitative chemical analysis shows that in *Dashmoola Ghrita*, Refractive index-1.46906, specific gravity-0.9198, Acid value- 4.44, Peroxide value-0.2, Saponification value- 206.74, Iodine value- 23.07, unsaponifiable value(%)-3.00. Pharmaceutical and analytical results with TLC fingerprints are essential parameters for the quality and efficacy of prepared oil and ghee. TLC fingerprint and values of analytical study shall be used as a monograph of *Dashmoola Taila* and *Dashamoola ghrita* in the future.

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