NOTE

Estimation of Different Values in Dasmula Tail

R.B. SAXENA
Drug Standardisation Research Project
C.C.R.A. and S., 3rd Floor, P.G. Hospital, Gujarat Ayurved University
Jamnagar-361 008, India

In the present investigation, the author has estimated the saturated and unsaturated acids, iodine, refractive index, bromide number and thiocyanogen values of Dasmula tail.

Dasmula tail (DT) is a well known tail preparation in Ayurvedic pharmacopoeia. Few physico-chemical values cannot prove the correct co-relationship between Dasmula tial and bio-sciences. Commonly occurring mathematical expressions applicable in various bio-science problems are emphasized. The study of Dasmula tail has also been done,[1] but the accurate identity of this tail is still unclear. The present study was undertaken to investigate the estimation of saturated and unsaturated acids, iodine, thiocyanogen, bromide number and refractive index values of Dasmula tail.

Iodine (I) values of Dasmula tail, in different months, have been taken from our previous paper. The direct estimation of approximate values from (I) values of Dasmula tail has been determined by the following equations:[2,3]

Saturated acids (S.A.) $\quad\% = -0.1030(I) + 28.9$ $\qquad$ (1)

Linolinic acid (L.N.A.) $\quad\% = 0.5521(I) - 49.1$ $\qquad$ (2)

Linoleic acid (L.A.) $\quad\% = -0.0670(I) + 28.8$ $\qquad$ (3)

Oleic acid (O.A.) $\quad\% = -0.382(I) + 91.4$ $\qquad$ (4)

Calculated iodine values of unsaturated acids (I_{cal}) $\quad = 2.737(L.N.A.) + 1.182(L.A.) + 0.899(O.A.)$ $\qquad$ (5)

Thiocyanogen number (T.C.N.) $\quad = 1.671(L.N.A.) + 0.967(L.A.) + 0.893(O.A.)$ $\qquad$ (6)

Refractive index (n) $\quad = ((I) + 12513.83)/8584.97$ $\qquad$ (7)

Polybromide number of mixed acids (P.N.M.A.) $\quad = $ Unsaturated acids (U.A.) $\times 0.84$ $\qquad$ (8)

Octa bromide number of mixed acids (O.N.M.A.) $\quad = $ Arachidonic acid (A.A.) $\times 0.804$ $\qquad$ (9)

Hexa bromide number of mixed acids (H.N.M.A.) $\quad = $ (L.N.A.) $\times 0.92$ $\qquad$ (10)

Tetra bromide number of mixed acids (T.N.M.A.) $\quad = $ (L.A.) $\times 0.906$ $\qquad$ (11)

Higher (n) and (I) values of unsaturated acids from the values of Dasmula tail

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*Present address: Indian Institute of Ayurved for Drug Research, *Tarikhet* (Ranikhet)-263 663, India.

TABLE-1
ESTIMATION OF DIFFERENT VALUES OF DASMULA TAIL

Month	Type of packing	(I)* value	(n)	% (S.A.)	% (U.S.A)	% (L.N. A.)	% (L.A.)	% (O.A.)	(I_cal)
Initial	Initial	109.23	1.47019	17.65	82.35	11.20	21.48	49.67	114.23
04	GL	108.25	1.47008	17.75	82.25	10.65	21.55	50.05	113.19
	GD	108.00	1.47022	17.78	82.22	10.52	21.56	50.14	112.94
	PD	108.12	1.47023	17.76	82.24	10.59	21.56	50.09	113.08
	PL	108.92	1.47033	17.68	82.63	11.54	21.54	49.79	114.76
08	GL	108.29	1.47026	17.75	82.26	10.69	21.54	50.03	113.27
	GD	108.01	1.47023	17.77	82.23	10.53	21.56	50.14	112.96
	PD	108.07	1.47023	17.76	82.23	10.56	21.56	50.11	113.02
	PL	105.32	1.46991	18.05	81.98	09.05	21.74	51.17	110.16
12	GL	108.21	1.47025	17.75	82.25	10.64	21.55	50.06	113.27
	GD	107.89	1.47021	17.78	82.22	10.47	21.57	50.18	112.85
	PD	107.97	1.47022	17.78	82.22	10.51	21.56	50.15	112.92
	PL	104.52	1.46982	18.13	81.86	08.60	21.79	50.47	109.29
16	GL	107.92	1.47022	17.78	82.21	10.48	21.56	50.17	112.85
	GD	107.90	1.47021	17.78	82.22	10.47	21.57	50.18	112.85
	PD	107.57	1.47017	17.82	82.17	10.28	21.59	50.30	112.47
	PL	100.20	1.46932	18.57	81.42	06.22	22.08	53.12	104.79

(I)* = iodine values taken from reference 1, (n) = refractive index, (S.A.) = saturated acid, (U.S.A.) = unsaturated acids, (L.N.A) = Linolinic acid, (L.A.) = linoleic acid, (O.A.) = oleic acid, (I_cal) = calculated iodine value of unsaturated acids, GL = glass light, GD = glass dark, PD = plastic dark, PL = plastic light.

(n)cal	(T.C.N.)	(D.E.)	Bromide number of mixed acids			
			Poly	Octa	Hexa	Tetra
1.47095	83.84	0.00076	69.74	66.27	10.30	19.46
1.47083	83.33	0.00075	69.09	66.13	9.79	19.52
1.47079	83.20	0.00057	69.06	66.10	9.68	19.53
1.47082	83.27	0.00059	69.08	66.12	9.74	19.53
1.47101	84.20	0.00068	69.41	66.43	10.43	19.51
1.47084	83.37	0.00058	69.10	66.14	9.83	19.51
1.47080	83.22	0.00057	69.07	66.11	9.68	19.53
1.47081	83.24	0.00058	69.07	66.11	9.71	19.53
1.47048	81.84	0.00056	68.86	65.91	8.33	19.69
1.47083	83.32	0.00058	69.09	66.13	9.79	19.52
1.47079	83.16	0.00058	69.08	66.10	9.63	19.54
1.47079	83.20	0.00057	69.08	66.10	9.67	19.53
1.47037	81.40	0.00055	68.76	65.82	7.91	19.74
1.47079	83.16	0.00057	69.06	66.09	9.64	19.53
1.47079	83.16	0.00058	69.08	66.10	9.63	19.54
1.47075	82.97	0.00058	69.02	66.09	9.46	19.54
1.46985	79.18	0.00053	68.39	65.46	5.72	20.00

$(n)_{cal}$ = calculated refractive index of unsaturated acids, (T.C.N.) = thiocyanogen nummbrer of unsaturated acids, (D.E.) = difference between refractive index of unsaturated acids and Dasmula Tail.

support these values which increase with unsaturation.[4] In Dasmula tail, some unsaturated acids are formed complexes with other compounds, supporting the PL packing's value which is decreasing as time increases, Table 1. Saturated acid, and unsaturated acid values are found approximately constant in GL, GD and PD packings up to 16 months. The variable values of PL packings may prove their anti-relation to the bio-sciences or special diseases and also support the decreasing values of (T.C.N.) as time increases. In different months, the calculated bromide values of polyenoid acids are found constant and lower than the individual unsaturated acids, which prove that Dasmula tail is a prepared tail and has less properties of hydrogenated, positional and stereo-isomers.[3]

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