Asian Journal of Chemistry Vol. 1, No. 3 (1989), 307–308

NOTES

Analysis of the Fixed Oil from the Roots of Ixora Coccinea Linn

R. N. YADAVA

Department of Chemistry, Dr. H. S. Gour Vishwavidyalaya, Sagar–470 003, India.

Isolation and analysis of the fixed oil from the roots *Ixora coccinea* Linn has been described.

Ixora coccinea Linn.[1] belongs to the natural order Rubiaceae and is widely distributed throughout India. The Ayurvedics ystem of medicine describes it as astringent and antiseptic, applied to sores and chronic ulcers, useful in diarrhoea and in the treatment of dysentery, and leucorrhoea.

About 2 kg of air dried and finely powdered roots of *Ixora coccinea* were extracted with petroleum ether (40–60°) in a soxhlet extracter for 70 hrs. The petroleum ether (2 litres) was concentrated under reduced pressure to 100 ml and kept in the frigidaire overnight when a brown colour deposit separated out at the bottom of the flask. It was separated by filtration and its study is in progress.

The fat (25 gm) obtained from the petroleum ether (40–60°) extract was saponified by a solution of potassium hydroxide (15 gm) in 95% alcohol (500 ml) by boiling under reflux for 3 hrs. and the excess of alcohol distilled off. The soap formed was cooled and dissolved in water. The unsaponified matter was separated by shaking (soap solution) continuously with ether in a separating funnel. The solvent was distilled off when a pale yellow colour compound was obtained. Study of this compound is in progress and will be communicated separately.

The fatty acids were liberated from soap solution by addition of concentrated sulphuric acid and extraction with ether. The ethereal extract was washed with distilled water to remove the excess of acid and dried over anhydrous sodium sulphate. The mixed fatty acids (15.75 gm), S.V., 210. 4; S.E., 242.5; I.V., 20.50 obtained by distillation of ether, were separated into solid and liquid fatty acids by Twitchell's lead salt alcohol process[2], as modified by Hilditch and co-worker[3]. The methyl esters of solid acids (10.60 gm) I.V., 2.85; S.V., 173.00; S.E., 168.56 and liquid acids (5.10 gm) I.V., 52.46; S.V., 170.26; S.E., 285.43 were prepared in the usual way. Methyl esters were fractionally distilled and identified by their saponification values and iodine values. The identities of these methyl esters were further confirmed by their co-paper, co-thin layer chromatography and co-GLC. with authentic samples. The observation and results are recorded in Table-1.

TABLE 1

Acid	Weight of methyl esters	R_f values of methyl esters	Weight of acid	% of acid in mixed acids
Palmitic	3.56	0.41	4.35	23.30
Stearic	6.60	0.29	6.26	39.50
Oleic	0.64	0.48	0.285	2.10
Linoleic	4.85	0.57	4.64	25.40

REFERENCES

1. R. N. Chopra, S. L. Nayar and I. C. Chopra, "Glossary of Indian Medicinal Plants", Supplement C.S.I.R. Publication, p. 48 (1956).
2. E. J. Twitchell, *Indust. Eng. Chem.*, **13**, 806 (1921).
3. J. P. Hilditch, "The Chemical Constitution of Natural Fats" (Chapman and Hall), III Ed., 577 (1956).

[*Received*: 7 February 1989: *Accepted*: 10 March 1989]. AJC—50