the recovery experiments of the proposed method are between 100.6 to 101.5%.

Dopamine hydrochloride is converted into a nitroso derivative under the specified experimental conditions, and is converted to an azo red compound with the addition of sulphamic acid in presence of alkali. In the proposed method, the azo red dye is quantitatively estimated by a spectrophotometer. An antioxidant, sodium metabisulphate, and sodium chloride that is usually present in the dopamine HCl injection did not interfere in the proposed method. The results indicate that the proposed method is sensitive, accurate, precise and reproducible and can be employed as an alternative to the existing methods.

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Studies on lipids from two medicinal plant seed oils of Vidarbha region

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Physico-chemical characteristics and fatty acid composition of oils, phospholipids and glycolipids of Jatropha curcas and Solanum sisymbrifoliam seeds of Vidarbha region has been investigated. The fatty acid composition, as determined by GLC, revealed the major fatty acids to be palmitic, stearic, oleic and linoleic acids. The fatty acids showed variation quantitatively but not qualitatively.

VIDARBHA region (Maharashtra) is a rich source for plants such as **Jatropha curcas** and **Solanum sisymbrifoliam** which grow wildly. The seeds and oils have pharmaceutical applications in the treatment of skin diseases, paralysis, dropsy, rheumatism and stomach disorders.

Some work on the seed oils from this region earlier has been reported.[1-6] In the present investigation, the physical and chemical characteristics of seed oils such as acid value, iodine value, saponification value and unsaponifiable matter content along with the oil content of the seeds and fatty acid and phospholipid composition of the oils have been studied.

The seeds, collected from nearby forests, were decorticated, powdered and extracted with chloroform-methanol (2:1,v/v) by the method of Folch *et al*[7]. The characteristics were determined by standard procedures.[8,9]

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The oils were fractionated on a silicic acid column[10] (more than 200 mesh) using chloroform, methanol and acetone as eluents to obtain the total phospholipids and glycolipids. The oils and lipids were converted to their respective fatty acid methyl esters (FAME) by the method of Bhakare *et al*[11]. The FAME were analysed by Gas-Liquid Chromatography (GLC) unit having a flame ionization detector (FID) at 280°C on a 15% EGSS-X column packed on chromosorb-W (40-60 mesh). The chart speed was 60 cm/min. The temperatures were 300° and 200° at the injection port and column respectively. Nitrogen was used as a carrier gas . The fatty acids were identified by comparing their retention times with those of the standards (Analabs, USA), quantification being done by the triangulation method.

The physical and chemical characteristics of the seed oils (**Table 1**) shows that **Jatropha curcas** and **Solanum sisymbrifolium** seeds had oil contents of 35.4 and 21.4%. The seed oils had acid values 6.8 and 4.1, iodine values 95.2, 133.6; saponification values 190.1, 192.6 and unsaponifiable matter contents of 1.6 and 2.6% respectively.

The fatty acid composition of seed oils (**Table 2**) showed the presence of palmitic (19.0, 14.0%), stearic (9.8, 2.9%), oleic (36.7, 25.0%) and linolenic acids (29.0, 54.9%) along with myristic, arachidic, palmitoleic and linolenic acids (4.3, 5.5%). The fatty acid composition of Total phospholipids and Total glycolipids (Table 2) showed the preponderance of palmitic, oleic and linoleic acids.

Table 1: Physico-chemical Characteristics of Seed Oils*

Characteristic	Seed Oils	
	Jatropha curcas	Solanum sisymbrifolium
Oil content** in seeds(%)	35.4	21.8
Acid value	6.8	4.1
Iodine value	95.2	133.6
Saponification value	190.1	192.6
Unsaponifiable matter content(%)	1.6	2.6

*: Means of triplicate analysis
**: On wt. of seeds, dry basis.

Table 2: Fatty acid Composition* of Seed Oils

Seed Lipids		Fatty acids (wt.%)					
		Palmitic	Stearic	Oleic	Linolenic	Linolenic	Others
Jatropha curcas	Oil	19.0	9.8	39.6	29.0	0.3	2.3
	TPL	21.0	12.2	36.7	30.0	0.1	—
	TGL	20.5	11.0	38.1	30.3	0.1	—
Solanum sisymbrifolium	Oil	14.0	2.9	22.7	54.9	3.8	1.7
	TPL	16.3	4.6	25.0	53.9	0.2	—
	TGL	18.5	6.2	27.7	47.5	0.1	—

*: Means of duplicate analysis, TPL: Total phospholipids
TGL: Total glycolipids, Others include myristic, arachidic and palmitoleic acids.

Thus, it can be concluded that the overall fatty acid distribution profile of the seed oils and polar lipids differed widely, but the fatty acids remained the same. The phospholipids and glycolipids have several biological functions.[6] This study aims to understand these functions in a better way and to give a quantitative dimension to them. The study agrees well with earlier studies on Kenaf,[5] Ritha[2] and Palm[6] oils.

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Estimation of Solubility Parameter and Molar Volume Through Computer Programming

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A computer programme for calculation of solubility parameter and molar volume of liquids and solids is given. The programme written in BASIC is based on Fedors constants. It is user friendly and interactive.

SOLUBILITY parameter, δ, is an intrinsic physicochemical property of a substance. In pharmacy, it has been used to explain drug action,[1] structure-activity relationship,[2,3] drug transport kinetics[4] and *in situ* release of theophyline.[5] Solubility parameters are used in polarity index scales for the solubilization of drugs in solvents and their mixtures[6] and are extensively in the selection of solvents for elution of drugs in HPLC.[7]

Note :Programme Package can be obtained by contacting the authors.

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