

TLC of the product VII, in different solvents showed a single spot, however, the product VII can be assumed to be a mixture of products VIIa and VIIb. In 12-oxooctadecanoate, the keto group is midchain and provides approximately equal opportunity for enolization on either side of the keto function.

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## ♣ Cyclopropenoid Fatty Acids in Seed Oils of *Urena repanda* and *Thespesia lampas*

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#### ABSTRACT

Seed oils of *Urena repanda* and *Thespesia lampas* (Malvaceae) were found to contain malvalic (2.6, 0.6%) and sterculic (1.1, 2.1%) acids, respectively, besides the normal fatty acids. Cooccurrence of these two acids were established by gas chromatographic analysis of silver nitrate/methanol-treated methyl esters using *Sterculia foetida* esters as a reference standard.

#### INTRODUCTION

Publications on cyclopropenoid fatty acids (CPFA) are abundant but their characterization and estimation are relatively unexplored. The present paper describes the fatty acids composition of *Urena repanda* and *Thespesia lampas*.

#### EXPERIMENTAL PROCEDURES

The experimental procedure has already been detailed (1).

#### RESULTS AND DISCUSSION

The analytical values of oils and seeds is given in Table I (2). The gas chromatographic (GC) data of the two oils showed the presence of 3.7% and 2.7% by weight of CPFA, in addition to the conventional fatty acids (Table II). The

TABLE I

Analytical Data on *U. repanda* and *T. lampas* Seeds and Oils

	<i>U. repanda</i>	<i>T. lampas</i>
Seeds		
Oil content (%)	8.0	8.6
Protein content (%)	24.4	25.0
Moisture (%)	9.6	9.4
Seed oils		
Iodine value (Wijs)	134.6	108.3
Saponification value	163.6	188.3
Refractive index, n <sub>D</sub> <sup>40</sup>	1.4859	1.4820
Halphen test	Positive	Positive
HBr equiv.	3.5	2.4

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TABLE II

Component Methyl Esters (% wt) Derived from *U. repanda*, *T. lampas* and *S. foetida* Seed Oils

Fatty Acids	RRT	<i>U. repanda</i>	<i>T. lampas</i>	<i>S. foetida</i>
Lauric	0.17	2.3	—	—
Myristic	0.23	0.2	0.2	—
Myristoleic	0.41	1.9	—	—
Palmitic	0.47	28.7	18.4	26.0
Palmitoleic	0.75	0.3	—	1.0
Stearic	0.89	8.1	0.6	3.4
Oleic	1.00	16.5	14.5	9.4
Linoleic	1.20	37.9	63.6	1.3
Linolenic	1.38	0.4	—	0.6
Malvalic				
(ether deriv.)	2.31	1.8	0.5	6.5
Ketone deriv.	4.20	0.8	0.1	0.6
		2.6	0.6	7.1
Sterculic				
(ether deriv.)	3.18	0.9	1.8	48.8
Ketone deriv.	5.74	0.2	0.3	2.4
		1.1	2.1	51.2

GC data were found to be in close agreement with those obtained by the method of HBr titration (3).

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