

TABLE I

Complexes	Colour	M.P.* (°C)	% M		% S		% C		% H	
			Calcd.	Found	Calcd.	Found	Calcd.	Found	Calcd.	Found
H[Ag(C ₁₄ H ₈ O ₆ S)].2H ₂ O	.. White	190	24.05	23.80	7.12	7.28	37.41	37.50	2.89	2.40
[Hg(C ₁₄ H ₈ O ₆ S)(H ₂ O) ₂]	.. "	285	37.10	36.40	5.94	5.82
[Th(C ₁₄ H ₈ O ₆ S) ₂ (H ₂ O) ₄]	.. Yellow	280	25.43	24.81	7.01	6.82	36.84	37.10	2.63	2.10
[UO ₂ (C ₁₄ H ₈ O ₆ S)(H ₂ O) ₂].3H ₂ O	Orange	300	35.84	35.90	4.82	5.01	25.30	25.31	2.71	2.80

*Complexes decomposed on heating above the temperature mentioned.

(II) tetrathiocyanatocobaltate (II) ($X_p = 16.44 \times 10^{-6}$ c.g.s. units) as calibrating agent. Silver, mercury and uranyl complexes showed a diamagnetic nature (susceptibilities being -1.21×10^{-6} , -5.60×10^{-6} and -1.64×10^{-6} respectively in c.g.s. units) as expected for the filled d^{10} electron-configuration. The thorium complex was found to be slightly paramagnetic ($X_{Meff} = 286.7 \times 10^{-6}$ c.g.s. units). For several reasons⁷, the interpretation of magnetic data in actinides is rather difficult. However, the observed paramagnetism does not seem to have much significance.

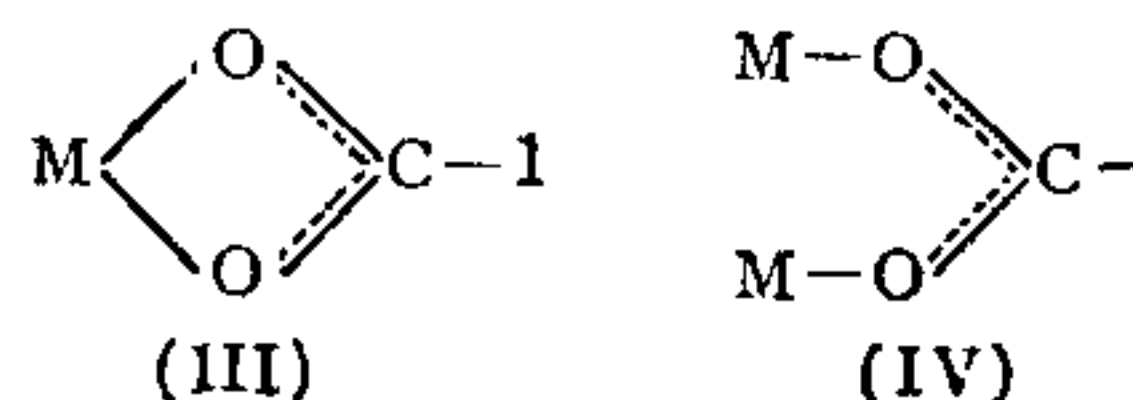
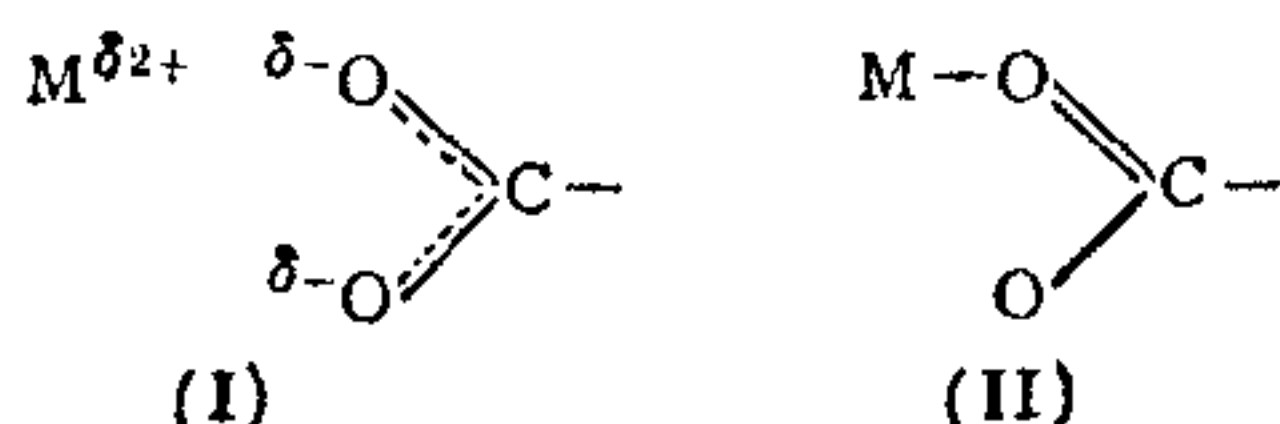
The infrared spectra of the ligand and the complexes under investigation were recorded from their KBr-pellets on a 'Perkin Elmer-521' spectrophotometer in the range 4000 cm^{-1} — 250 cm^{-1} . The absorption bands of diagnostic value and their tentative assignments are given in Table II. Infrared spectral data indicate co-ordination through the carboxylic group only.

TABLE II

Silver complex (cm ⁻¹)	Mercury complex (cm ⁻¹)	Thorium complex (cm ⁻¹)	Uranyl complex (cm ⁻¹)	TDSA (cm ⁻¹)	Assignments
1540	1560	1500	1550	1660	$\nu \text{C}=\text{O}$ (asym.)
1600	1600	1610	1600	1600	$\nu \text{C}=\text{O}$ (sym.)
1150	1165	1150	1150	1200	$\delta \text{C}=\text{O} + \nu \text{C}-\text{O}$
*	*	435	400	..	$\nu \text{M}-\text{O}$

* The range could not be covered in these cases.

Out of the following possible modes⁸ of co-ordination for carboxylic group,



the data obviously favours structure (II) for the complexes under study.

Thanks are due to The Atomic Energy Commission, Government of India, for awarding a Senior Research Fellowship to one of the authors (K. B. P.).

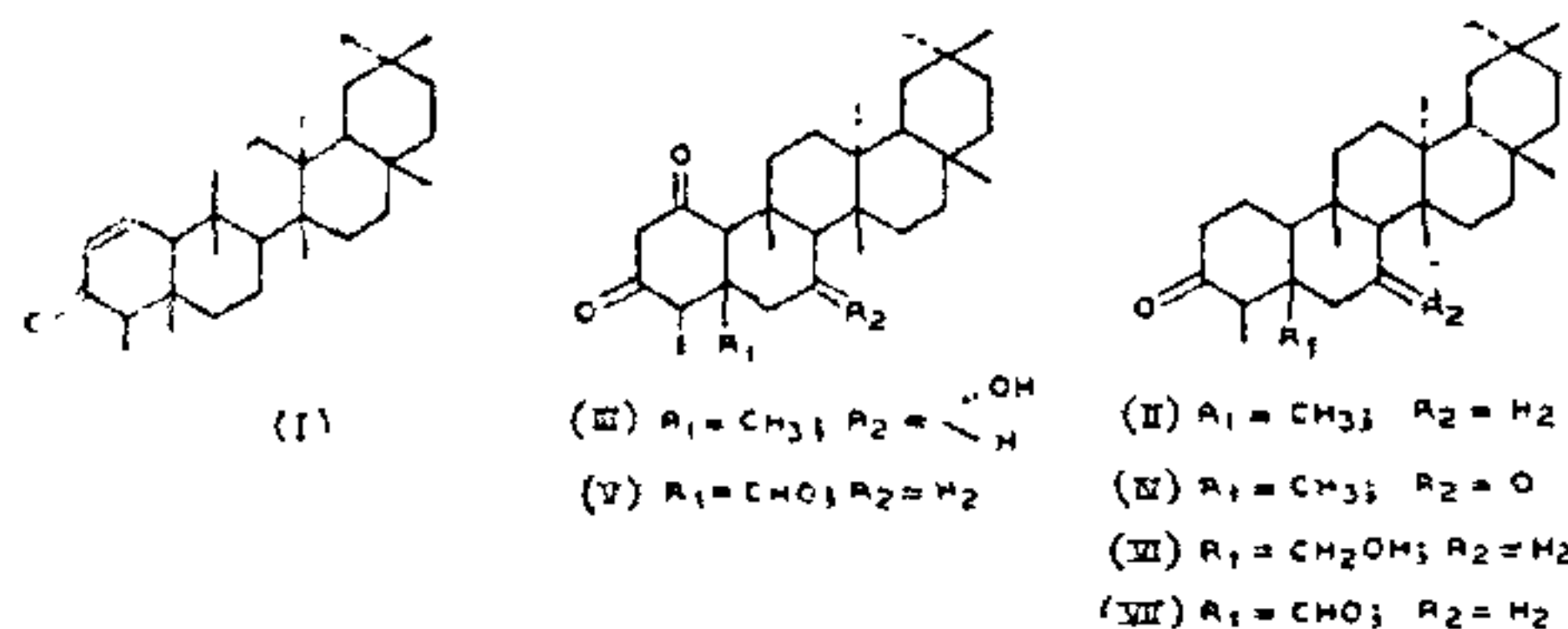
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STRUCTURE OF SOME CRYSTALLINE COMPONENTS OF SALACIA PRENOIDES

In continuation of our earlier¹ brief note on some terpenoid components from *Salacia prenoides* D.C., we report now on the structures of three more components from the same source. One of these has been proved to be friedel-1-ene-3-one (I) by means of a two-way correlation with friedelin (friedelane-3-one) (II). Another has been proved to be friedelane-1, 3-dione-7 α -ol (III) by transforming it into friedelane-3, 7-dione (IV) which is already known as a natural product under the name putranjivadione². The third compound has been shown to be friedelane-1, 3-dione-24-al (V)

by its transformation into friedelane-3-one-24-ol (VI) and friedelane-3-one-24-al (VII).



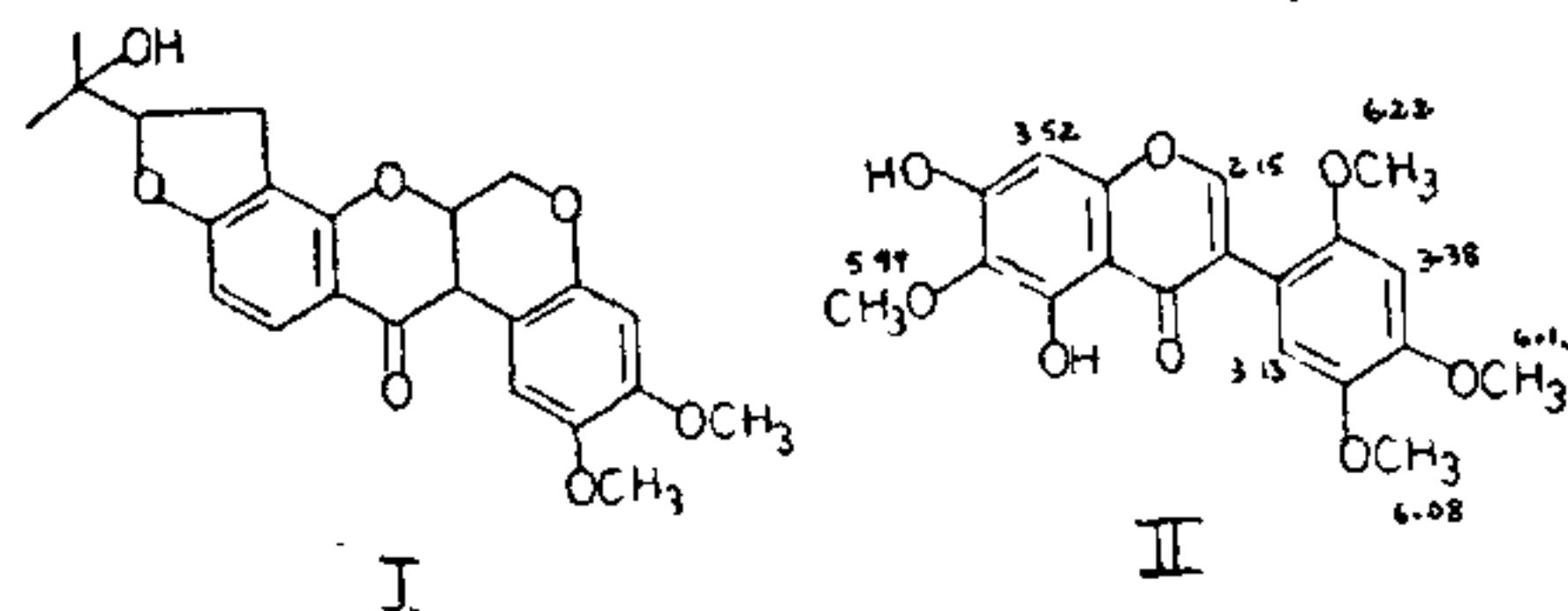
The authors thank the Central Council for Research in Indian Medicine and Homoeopathy for financial assistance, Dr. M. L. Dhar, Director and Dr. Nitya Anand, Scientist, Central Drug Research Institute, Lucknow, for NMR and mass spectra and Prof. T. R. Seshadri, F.R.S., for his kind interest.

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THE OCCURRENCE OF CAVIUNIN IN DALBERGIA PANICULATA (N. O. LEGUMINOSAE)

BESIDES the isolation of dalpanol¹ (I) from the benzene extraction of the defatted ripe seeds of *D. paniculata*, we have also isolated from the mother liquors of the same extract a known isoflavone², caviunin (II) as a minor constituent by 2% aqueous sodium carbonate fractionation, followed by repeated column chromatography over deactivated neutral alumina. By adopting



the same isolation procedure we have also found the presence of caviunin in the root, wood and flowers of *D. paniculata*. The percentage of caviunin content varies between 0.005 to 0.01. In the case of flowers, however, caviunin is not in isolable amount and its presence is shown only by chromatography. [Paper (descending) BuOH : AcOH : H₂O, 4 : 1 : 5 v/v, R_f 0.91; t.l.c. silicagel G, Benzene : Dioxan : AcOH, 90 : 25 : 4 v/v, R_f 0.69; t.l.c. polyamide,

EtOH : H₂O, 3 : 2 v/v, R_f 0.55]. The elemental analysis and mass spectrum leads to the molecular formula C₁₉H₁₈O₈ and the fragmentation pattern agreed with that recorded earlier³. Identity of the compound with an authentic sample of caviunin (kindly provided by Prof. O. R. Gottlieb) is established by, m.p., m.m.p., co-chromatography, U.V. and I.R. spectra. Although the structure of caviunin has been confirmed by synthesis⁴, its NMR spectrum has not been studied. Its spectrum taken in CDCl₃ on a 60 McVarian instrument shows all the signals as singlets. The assignment of the chemical shifts (τ) is shown in (II). The higher value of 6.22 for 2'-methoxy is noteworthy, which is in agreement with the reported range 6.23-6.29⁵. This occurrence of caviunin along with dalpanol in a *Dalbergia* species illustrates the co-occurrence of a rotenoid and 2'-methoxy isoflavonoid, a feature of biogenetic significance met with in certain other genera⁶⁻⁹ belonging to *Fabaceae*.

Including the present report, the presence of caviunin has been shown only in three plants^{2,10} belonging to the genus *Dalbergia*. Consideration of this fact together with the presence of caviunin in almost all the parts of *D. paniculata* leads to its possible recognition as a 'taxonomic marker'.

We thank Prof. T. R. Seshadri, F.R.S. for NMR spectrum, Prof. O. R. Gottlieb for a sample of caviunin and the University Grants Commission for the award of Research Scholarship (J.R.R. and M.R.).

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