Lattice parameters:

1. Feldspar, space group $C\bar{1}$

$a_o=8.564(1)$; $b_o=13.274(1)$; $c_o=7.289(1)$Å;
$\alpha=91.28(1)$; $\beta=115.19(1)$; $\gamma=90.78(1)°$

2. New compound, space group *Fddd*

$a_o=15.4898(7)$; $b_o=26.5558(13)$; $c_o=7.2823(5)$Å;
$\alpha=90.0$; $\beta=90.0$; $\gamma=90.0°$

The estimated standard errors are given in parenthesis and refer to the last decimal place.

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The Triterpenoid Constituents of the Leaves of *Ficus nitida* L.

Constituents of Local Plants, XXII

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Ficus nitida L. is a common Egyptian tree, the leaves of which have not been previously investigated. Examination of the coumarin fraction led to the isolation of angelicin (in 0.004% yield, dry weight basis) which is the first angular furocoumarin [1, 2] to be encountered in *Ficus* plants (identity established by m.p. and mixed m.p. (140–141 °C), UV, IR and MS spectra). The unsaponifiable matter was fractionated by column chromatography to give three distinct triterpenoids and a mixture of sterols. One terpenoid was identified as friedelin (0.06% yield, m.p. 262–264 °C, $[\alpha]_D-31.7°$, oxime, m.p. 290–293 °C, 2,4-dinitrophenyl hydrazone, m.p. 296–298 °C) and another as epifriedelanol (0.08% yield, m.p. and mixed m.p. 278–282 °C, $[\alpha]_D+32.9°$, acetate, m.p. 288–291 °C, $[\alpha]_D+39°$).

The third component was a new triterpenoid (I), m.p. 250–253 °C, $[\alpha]_D+88.9°$ for which the name "nitidol" is proposed. Its composition as $CO_{30}H_{50}O$ was evidenced by MS (MW 426) and elemental analysis. The oxygen function, as an easily acylable hydroxyl group, was revealed by IR of I and its acetate (II, $C_{32}H_{52}O_2$, MS), m.p. 216–221 °C, $[\alpha]_D+63°$. I was easily oxidized to afford a ketone (III, $C_{30}H_{48}O$, MS), m.p. 205–208 °C, $[\alpha]_D+51°$. The existence of 3β-hydroxyl group and a 4,4-gem-dimethyl system was supported by retro-pinacolic dehydration reaction which excludes a friedelane type of structure. Nitidol (I) contains one ethenoid bond (low-intensity UV at 203 nm) which could readily be hydrogenated to give a dihydro derivative (IV), m.p. 228–230 °C, $[\alpha]_D+64°$ (MW 428 for $C_{30}H_{52}O$, MS). Inspection of the IR spectra of I–IV in the 1392–1355 cm^{-1} and 1330–1245 cm^{-1} regions [3] revealed that the compound does not belong to the oleanaene or ursane types of triterpenoids. The negative TNM reaction and the IR bands near 1650 and 890 cm^{-1} together with the observed facility of saturation are all in favor of an exocyclic double bond. Moreover, a selenium dioxide oxidation of II affords a product which gives a strong UV peak at 214 nm attributable to an α,β-unsaturated aldehyde system [4] which could result from the allyl oxidation of an isopropenyl side chain.

The data collected so far indicate that I has a pentacyclic triterpenoid skeleton carrying a hydroxyl group, most probably at C-3, and an isopropenyl side chain. The mass spectra of I–IV show fragmentation data which are reconcilable with this assumption. Apart from M^+ and the usual simple-group expulsions, all spectra exhibited losses of 43 (C_3H_7) mass units with the resulting fragment being markedly more abundant in IV than I–III. This type of expulsion is common in lupane series [5] and presumably involves hydrogen-ion transfer. The base-peak ion, presumably resulting from the fission across ring C, showing at m/e 189 (I–III) and m/e 191 (IV), comprises the "right-hand" side portion of the molecule. A characteristic cleavage due to loss of 69 (C_5H_9) mass units is observed in the spectra of I and II. The fragmentation patterns of nitidol (I) and its derivatives (II–IV) appear to be typical of those expected [6] from the lupane and hopane types. Further study to establish its structure is in progress.

The sterol mixture was shown to comprise two components as evidenced by TLC and GLC and by mass spectrometry; the latter revealing that each is a mono-unsaturated $C_{29}H_{50}O$ compound—one containing a nuclear double bond not located in ring A and the other having its unsaturation in the side chain beyond C-23.

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The Role of Phytoalexin as the Inhibitor of Infection Establishment in Plant Disease

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Despite many investigations, the exact role of phytoalexin in the mechanism of resistance in plant disease or in determinating host-parasite specificity remains undetermined. Discussions on this point have been based mainly on the antifungal activity of phytoalexins in relation to their concentration accumulating in infected plant tissues.

In this communication the authors present evidence that the role of phytoalexin in host-parasite specificity should not be considered only with regard to its antifungal activity, but also as to how it prevents the infectivity of an invading parasite.

In a previous paper [1] the authors reported that pisatin, a phytoalexin of the pea plant *Pisum sativum* L., was produced at a high level in its leaves when they were infected with *Erysiphe pisi* DC., a typical obligate parasite; this pathogen was characterized both by its delayed induction (48 h after inoculation) of pisatin and by its high tolerance (ED_{50} for conidial germination was 530 ppm) to pisatin, in contrast to a nonpathogen, *E. graminis* DC. f. sp. *hordei* Marchal (15 h and 40 ppm, respectively). If one assumes that the parasitic ability of *E. pisi* on the pea plant is solely responsible for its tolerance to pisatin, it should not be necessary to inhibit the pisatin induction in the early stage of infection. Therefore,

