Table 2 *Percentage inhibition of fungal growth induced by free metal salts, ligand and its metal complexes*

Name of the compound	Concentration	Name of the fungi		
		D. rostrata	*C. lunata*	*A. niger*
APACBA	0 01	41 8	27.4	40 6
	0.1	60.3	50.0	58.0
$Fe(NO_3)_39H_2O$	0 01	12.3	11 6	12.8
	0.1	31 9	30.0	28.3
Fe(III)-APACBA	0.01	45.2	40.7	43.5
	0 1	70.5	68.0	68.8
$Co(NO_3)_26H_2O$	0.01	10.7	19.1	15.7
	0.1	36.4	34.8	33.4
Co(II)-APACBA	0.01	42.0	38.2	40.1
	0.1	64.8	60.0	61.3
$Ni(No_3)_36H_2O$	0.01	15.2	9.4	12.5
	0.1	50.1	46.8	50.0
Ni(II)-APACBA	0.01	45.6	42.3	40.8
	0.1	79.0	70.8	73.5
$Cu(CH_3COO)_2H_2O$	0.01	12.4	10.6	12.0
	0.1	32.8	25.9	33.8
Cu(II)-APACBA	0.01	52.1	45.0	49.2
	0.1	85.3	78 0	78.5
$PdCl_2$	0.01	20.6	18.3	20.1
	0.1	58.4	52.5	56.0
Pd(II)-APACBA	0.01	76.7	41.8	71.3
	0.1	94.3	67.5	86.1

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CHEMICAL EXAMINATION OF THE BARK OF *FICUS HISPIDA* LINN

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FICUS HISPIDA Linn. (N. O. Urtricaceae) is used in indigenous medicine—the total extract is effective against jaundice, leprosy and anemia[1, 2]. Since the chemical examination of this plant seems to be not well investigated, the bark of this plant was worked out and the results are, now, reported.

The crude petroleum ether (60–80°) extract of the dried bark powder of *Ficus hispida* linn was chromotographed over neutral alumina using solvent systems of increasing polarity. Three compounds were isolated and designated as compound I, II and III. Elutions from pet. ether–benzene (1 : 1) yielded compound I, mp. 70° (Lit[3] mp. 69–70°) $C_{32}H_{64}O_2$, $M^{+\cdot}$ (m/z) 480 ν_{max} 1735 cm^{-1} (acetate carbonyl) while elutions from benzene–chloroform (10 : 1) yielded compound II, mp. 238–39° (Lit.[4] mp. 238–40°) $C_{32}H_{52}O_2$ $M^{+\cdot}$ (m/z) 468 ν_{max} 1730 cm^{-1} (acetate carbonyl). Compounds I and II were separately hydrolysed with 1 % alcoholic KOH to yield alcohols which were identified as *n*-triacontanol and *β*-amyrin by comparison[5] (mp, mmp, Co-tlc and superimposable IR) with authentic samples. Thus compounds I and II were found to be the acetates of *n*-triacontanol and *β*-amyrin respectively.

Elutions from pet. ether-benzene (1 : 2) yielded compound III mp. 196°, $C_{32}H_{52}O_2$ $M^{+\cdot}$ (m/z) 468, which gave Liebermann–Burchardt test[6] indicating triterpene nature. The IR spectrum (KBr) of III showed bands at 1730 cm^{-1} (acetate carbonyl), 1450 cm^{-1} (methylene group), 1380 and 1365 cm^{-1} (gem dimethyl group), 975 cm^{-1} (Δ^{22} trans double bond[7]). The ^{1}H-NMR spectrum (90 MHz; $CDCl_3$) of compound III showed 52 protons. An unresolved triplet at δ 5.0 (2H) indicated two vinylic protons with adjacent-CH_2-group; a triplet at δ 4.3 (1H) indicated C-3 proton; a singlet at δ 1.9 (3H) suggested an acetyl group while the methyl protons appeared between δ 0.7 to 1.0 (24H) suggested a tetracyclic triterpene[8]. The rest of the methylene and methine protons appeared between δ 1.2 and 1.6 (22H). In the mass spectrum of this compound the molecular ion $M^{+\cdot}$ appeared at m/z 468 while other important fragment ions at m/z 453 (M–CH_3); 425 (M–C_3H_7); 408 (M–CH_3COOH); 393 (M–CH_3COOH–CH_3); 357 (M–C_8H_{15}); 289 (M-179); 218 (M-250); 203 (M-265) were also observed.

Hydrolysis of compound III with 1% alcoholic KOH yielded an alcohol mp 176–8°; $C_{30}H_{50}O$ $M^{+\cdot}$ m/z 426. The alcohol gave positive Liebermann-Burchardt test[6] for triterpene and also indicated in its IR spectrum (KBr) a band for hydroxyl function at 3300 cm^{-1} and absence of the acetate carbonyl at 1730 cm^{-1}.

From the above analytical, spectral and chemical evidence compound III and the alcohol obtained from it were identical with gluanol acetate (acetate of 13α, 14β, 17β(H), 20α(H)-lanosta-8, 22-diene-3β-ol) and gluanol respectively. Gluanol acetate was previously isolated by Chowdhary and Sen[9] from *Ficus glomerata* Roxb. leaves while gluanol was isolated by Merchant *et al*[10] from *F. glomerata* Roxb. fruits. These compounds could not be directly compared due to non-availability of the respective authentic samples.

It is significant that this is the second report of isolation of gluanol acetate even though *n*-triacontranol, β-amyrin and their acetates are prolific in nature. The isolation of gluanol acetate from *F. hispida* Linn may be of chemotaxonomical interest.

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A TECHNIQUE FOR PRESERVATION OF MICROBIAL CULTURES SUITABLE FOR SMALL QUALITY CONTROL LABORATORIES

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LYOPHILIZATION; although the most reliable method for preservation of bacterial culture for a long time is not useful in small laboratories, especially as it is expensive. A method which elaborates the one suggested earlier by Lederberg (cited in Hunt *et al*[1]) is described in this note which could prove useful for small quality control laboratories. A suspending medium (composition: yeast extract 0.4%, lactose 2%, gelatin 1%, ascorbic acid 0.25% pH 6.2 ± 0.2; sterilised at 15 p.s.i for 15 min) has been developed which was not reported earlier. The survival of different microorganisms including lactobacilli and yeast has been studied after drying them on bead.

Porcelain beads (ht-4 mm × diam-3 mm approx; used for insulation of electrical wires) were boiled with concentrated HCl and washed till they were free from acid. The beads were heated to red heat for 1 hr in a porcelain basin to remove inhibitors and cooled. Five or ten such beads were introduced in 75 mm × 10 mm or 50 mm × 10 mm borosilicate test tubes respectively and cotton-plugged and sterilised at 160° for 2 hr.