Table 1. STABILITY CONSTANTS OF SOME METAL COMPLEXES, IN AQUEOUS SOLUTION AT 20° C.

Unless otherwise indicated, ligand concentrations were 0.05 M and metal ion concentrations were 0.005 M

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Cation	Ligand	$\log K_1$	Log K_2
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Mn++	Salicylic acid	5.90	3.94
$\begin{array}{ccccc} C0^{++} & Salicylic acid & 6.75 & 4.7a \\ Salicylic acid & 6.95 & 4.84 \\ Cu^{++} & Salicylic acid & 6.95 & 4.84 \\ Cu^{++} & Salicylic acid & 6.95 & 4.84 \\ Cu^{++} & Salicylic acid & 6.95 & pptn. \\ Salicylic acid & 6.85 & pptn. \\ Salicylic acid & 6.85 & pptn. \\ Salicylic acid & 6.85 & pptn. \\ Salicylic acid & 6.95 & 11.90 \\ Salicylic acid & 6.90 & 4.0 \\ Salicylic acid & 5.90 & <4.0 \\ Co^{++} & 5.8ulphosalicylic acid & 5.90 & <4.0 \\ Co^{++} & 5.8ulphosalicylic acid & 6.00 & 3.60 \\ Ni^{++} & 5.8ulphosalicylic acid & 6.00 & 3.60 \\ Ni^{++} & 5.8ulphosalicylic acid & 0.55 & 6.80 \\ Ca^{++} & 5.8ulphosalicylic acid & 4.65 & pptn. \\ Salicylic acid & 0.05 & 6.80 \\ Ca^{++} & 5.8ulphosalicylic acid & 4.65 & pptn. \\ Fe^{++} & (0.0025 M) & 2.Hydroxyacetophenone \\ Cu^{++} & (0.0025 M) & Salicylamide (0.005 M) & -3.40c \\ Cu^{++} & Glycine (for comparison) & 4.8^{4} & 3.5^{4} \\ Cu^{++} & Glycine (for comparison) & 8.0^{6} & 7.0^{6} \\ Fe^{++} & Glycine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^{++} & Oxine (for comparison) & 8.0^{6} & 7.0^{6} \\ Cu^$				4.74
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				4.70
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Salicylic acid	6.95	4.84
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Salicylic acid	10.60	7.85
$\begin{array}{ccccc} {\rm Cd}^{++} & {\rm Sallcylic\ acid} & {\rm (5\cdot55} & {\rm pptn.} \\ {\rm Sallcylic\ acid} & {\rm (0\cdot01\ M)} & {\rm I6\cdot35} & {\rm I1\cdot90} \\ {\rm Mn^{++}} & {\rm Sallcylic\ acid} & {\rm (5\cdot10} & {\rm 2\cdot90} \\ {\rm 5-Sulphosalicylic\ acid} & {\rm 5\cdot50} & {\rm (2\cdot90} \\ {\rm 5-Sulphosalicylic\ acid} & {\rm 5\cdot90} & {\rm (4\cdot0)} \\ {\rm Co^{++}} & {\rm 5-Sulphosalicylic\ acid} & {\rm 6\cdot90} & {\rm (4\cdot0)} \\ {\rm Sallcylic\ acid} & {\rm 6\cdot90} & {\rm (3\cdot6)} & {\rm 3\cdot90} \\ {\rm Cu^{++}} & {\rm 5-Sulphosalicylic\ acid} & {\rm 6\cdot05} & {\rm (4\cdot6)} \\ {\rm Fe^{++}} & {\rm 5-Sulphosalicylic\ acid} & {\rm 6\cdot05} & {\rm (4\cdot6)} \\ {\rm Fe^{+++}} & {\rm (0\cdot001\ M)} & {\rm 5-Sulphosalicylic\ acid} & {\rm (0\cdot05\ M)} & {\rm (0\cdot005\ M)} & {\rm (0\cdot005\ M)} & {\rm (6\cdot75} & {\rm 5\cdot70} \\ {\rm Cu^{++}} & {\rm (0\cdot0025\ M)} & {\rm 2-Hydroxyacetophenone} & {\rm (0\cdot005\ M)} & {\rm (6\cdot75} & {\rm 5\cdot70} \\ {\rm Cu^{++}} & {\rm (0\cdot0025\ M)} & {\rm Sallcylaldehyde\ (0\cdot02\ M)} & {\rm 5\cdot76} & {\rm pptn.} \\ {\rm Cu^{++}} & {\rm Caytandie} & {\rm (0\cdot005\ M)} & {\rm -3\cdot40c} & {\rm -4\cdot50d} \\ {\rm Cu^{++}} & {\rm Clycine\ (for\ comparison)} & {\rm 3\cdot5^6} & {\rm 3\cdot5^6} \\ {\rm Fe^{++}} & {\rm Clycine\ (for\ comparison)} & {\rm 8\cdot5^6} & {\rm 6\cdot9^5} \\ {\rm Fe^{++}} & {\rm Clycine\ (for\ comparison)} & {\rm 8\cdot9^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot9^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot9^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot9^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot9^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot9^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot0^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot0^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot0^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot0^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot0^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot0^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot0^6} & {\rm 7\cdot0^6} \\ {\rm Cu^{++}} & {\rm Oxine\ (for\ comparison)} & {\rm 8\cdot0^6}$		Salicylic acid	6.85	pptn.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			5.55	pptn.
$ \begin{array}{llllllllllllllllllllllllllllllllllll$		Salicylic acid $(0.01 M)$	16.35	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			5.10	2.90
$\begin{array}{c cccccc} Ni^{++} & 5-Sulphosalicylic acid & 6.30 & 3.90 \\ Cu^{++} & 5-Sulphosalicylic acid & 9.50 & 6.80 \\ Cd^{++} & 5-Sulphosalicylic acid & 9.50 & 6.80 \\ Cd^{++} & 5-Sulphosalicylic acid & 4.65 & pptn. \\ Fe^{++} & (0.001\ M) & 2-Hydroxyacetophenone & (0.005\ M) & 2-Hydroxyacetophenone & 6.75 & 5.70 \\ Cu^{++} & (0.0025\ M) & Methyl salicylate & 5.90 \\ Cu^{++} & (0.0025\ M) & Salicylaldehyde & (0.02\ M) & 5.75 & pptn. \\ Cu^{++} & Glycine (for comparison) & 4.3^8 & 3.5^8 \\ Fe^{++} & Glycine (for comparison) & 8.5^8 & 6.9^8 \\ Fe^{++} & Glycine (for comparison) & 8.0^8 & 7.0^8 \\ Fe^{++} & Oxine (for comparison) & 8.0^8 & 7.0^8 \\ Cu^{++} & Oxine (for comparison) & 12.2^9 & 11.2^8 \end{array}$			5.90	< 4.0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			6.00	3.60
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		5-Sulphosalicylic acid	6.30	3.90
$\begin{array}{cccc} Cd^{++} & 5-Sulphosalicylic acid & 4\cdot85 & pptn. \\ Fe^{+++} & (0\cdot001 \ M) & 5-Sulphosalicylic acid & (0\cdot01 \ M) & 5-Sulphosalicylic acid & (0\cdot01 \ M) & 2-Hydroxyacetophenone & (0\cdot005 \ M) & 2-Hydroxyacetophenone & (0\cdot005 \ M) & 2-Hydroxyacetophenone & (0\cdot005 \ M) & 6\cdot75 & 5\cdot70 & (0\cdot005 \ M) & 6itylaldehyde & (0\cdot02 \ M) & 5\cdot90 & 5itylaldehyde & (0\cdot02 \ M) & 5itylaldehyde & (0\cdot02 \ M) & 5\cdot75 & pptn. \\ Cu^{++} & (0\cdot0025 \ M) & Salicylanide & (0\cdot005 \ M) & -3\cdot40c & -4\cdot50d & \\ Cu^{++} & Glycine & (for comparison) & 4\cdot8^{is} & 3\cdot5^{is} & \\ Cu^{++} & Glycine & (for comparison) & 8\cdot5^{is} & 6\cdot9^{is} & \\ Cu^{++} & Glycine & (for comparison) & 8\cdot0^{is} & 7\cdot0^{is} & \\ Cu^{++} & Glycine & (for comparison) & 8\cdot0^{is} & 7\cdot0^{is} & \\ Cu^{++} & Oxine & (for comparison) & 8\cdot0^{is} & 7\cdot0^{is} & \\ Fe^{++} & Oxine & (for comparison) & 8\cdot0^{is} & 7\cdot0^{is} & \\ Cu^{++} & Oxine & (for comparison) & 8\cdot0^{is} & 7\cdot0^{is} & \\ \end{array}$			9.50	6.80
$\begin{array}{c c} \mathbf{F}e^{++} & (0 \cdot 001 \ \ M) & 5-Sulphosalicylic acid & (0 \cdot 01 \ \ M) & (0 \cdot 01 \$				
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			4.65	pptn.
$ \begin{array}{c} {\rm Cu}^{++} & (0 \cdot 0025 \ M) & 2 \cdot Hydroxyacetophenone \\ (0 \cdot 005 \ M) & 0 \cdot 005 \ M) & 6 \cdot 75 & 5 \cdot 70 \\ {\rm Cu}^{++} & (0 \cdot 0025 \ M) & {\rm Methyl \ salicylate} \\ (0 \cdot 003 \ M) & 5 \cdot 75 & 90 \\ {\rm Salicylaldehyde} & (0 \cdot 02 \ M) & 5 \cdot 75 & 90 \\ {\rm Salicylaldehyde} & (0 \cdot 002 \ M) & 5 \cdot 75 & 90 \\ {\rm Salicylaldehyde} & (0 \cdot 002 \ M) & 5 \cdot 75 & 90 \\ {\rm Salicylaldehyde} & (0 \cdot 005 \ M) & -3 \cdot 40^c & -4 \cdot 50d \\ {\rm Cu}^{++} & {\rm Glycine} & ({\rm for \ comparison}) & 4 \cdot 3^s & 3 \cdot 5^s \\ {\rm Cu}^{++} & {\rm Glycine} & ({\rm for \ comparison}) & 8 \cdot 5^s & 6 \cdot 9^s \\ {\rm Fe}^{++} & {\rm Glycine} & ({\rm for \ comparison}) & 10 \cdot 0^d \\ {\rm Fe}^{++} & {\rm Oxine} & ({\rm for \ comparison}) & 12 \cdot 2^s & 11 \cdot 2^s \\ {\rm Oxine} & ({\rm for \ comparison}) & 12 \cdot 2^s & 11 \cdot 2^s \\ {\rm Substack} & {\rm Substack}$	$Fe^{+++} (0.001 M)$	5-Sulphosalicylic acid		
$ \begin{array}{c} (0 - 005 \ M) & (0 - 005 \ M) \\ \text{Cu}^{++} & (0 - 0025 \ M) \\ \text{Cu}^{++} & \text{Salicylaldehyde} & (0 - 02 \ M) \\ \text{Cu}^{++} & \text{Salicylaldehyde} & (0 - 02 \ M) \\ \text{Cu}^{++} & (0 - 0025 \ M) \\ \text{Cu}^{++} & (0 - 0025 \ M) \\ \text{Cu}^{++} & \text{Glycine} & (\text{for comparison}) \\ \text{Cu}^{++} & \text{Glycine} & (\text{for comparison}) \\ \text{Cu}^{++} & \text{Glycine} & (\text{for comparison}) \\ \text{Fe}^{++} & \text{Oxine} & (\text{for comparison}) \\ \text{Cu}^{++} & \text{Oxine} & (\text{for comparison}) \\ \text{Fe}^{++} & \text{Oxine} & (\text{for comparison}) \\ \text{Substance} & \text{Substance} \\ \text{Substance} \\ \text{Substance} & \text{Substance} \\ \text{Substance}$			14.60	10.55
$ \begin{array}{c} {\rm Cu}^{++} & (0 \cdot 0025 \ {\it M}) & {\rm Methyl salicylate} \\ {\rm (0} \cdot 003 \ {\it M}) & {\rm Salicylaldehyde} & (0 \cdot 02 \ {\it M}) \\ {\rm Cu}^{++} & {\rm (0} \cdot 0025 \ {\it M}) & {\rm Salicylaldehyde} & (0 \cdot 02 \ {\it M}) & {\rm 5} \cdot 75 \\ {\rm Salicylaldehyde} & (0 \cdot 005 \ {\it M}) & {\rm -3} \cdot 40^c & {\rm -4} \cdot 50d \\ {\rm Cu}^{++} & {\rm (0} \cdot 0025 \ {\it M}) & {\rm Salicylamide} & (0 \cdot 005 \ {\it M}) & {\rm -3} \cdot 40^c & {\rm -4} \cdot 50d \\ {\rm Fe}^{++} & {\rm (Catechol} & {\rm 1} \cdot 25c & {\rm 0} \cdot 65d \\ {\rm Fe}^{++} & {\rm (Clycine} \ ({\rm for \ comparison}) & {\rm 4} \cdot 8^s & {\rm 3} \cdot 5^s \\ {\rm Cu}^{++} & {\rm Glycine} \ ({\rm for \ comparison}) & {\rm 10} \cdot 0^4 \\ {\rm Fe}^{++} & {\rm Oxine} \ ({\rm for \ comparison}) & {\rm 8} \cdot 9^s & {\rm 7} \cdot 0^s \\ {\rm Cu}^{++} & {\rm Oxine} \ ({\rm for \ comparison}) & {\rm 8} \cdot 9^s & {\rm 7} \cdot 0^s \\ {\rm Oxine} \ ({\rm for \ comparison}) & {\rm 8} \cdot 9^s & {\rm 7} \cdot 12^s \\ {\rm 11} \cdot 2^s & {\rm 11} \cdot 2^s \end{array} $	$Cu^{++} (0.0025 M)$			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			6.75	5.70
$\begin{array}{cccc} Cu^{++} & Salicylaldehyde (0 \cdot 02 M) & 5 \cdot 75 & pptn. \\ Cu^{++} & (0 \cdot 0025 M) & Salicylamide (0 \cdot 005 M) & -3 \cdot 40^c & -4 \cdot 50d \\ Cu^{++} & Glycine (for comparison) & 4 \cdot 3^8 & 3 \cdot 5^8 \\ Fe^{+++} & Glycine (for comparison) & 8 \cdot 5^8 & 6 \cdot 9^5 \\ Fe^{++} & Glycine (for comparison) & 10 \cdot 0^4 \\ Fe^{++} & Oxine (for comparison) & 8 \cdot 0^8 & 7 \cdot 0^8 \\ Cu^{++} & Oxine (for comparison) & 12 \cdot 2^9 & 11 \cdot 2^3 \end{array}$	Cu^{++} (0.0025 M)	Methyl salicylate		
$\begin{array}{c} \mathrm{Cu}^{++} & (0 \cdot 0025 \ \ M) \\ \mathrm{Cu}^{++} & \mathrm{Catechol} \\ \mathrm{Cu}^{++} & \mathrm{Clycine} \ (\mathrm{for} \ \mathrm{comparison}) \\ \mathrm{Fe}^{++} & \mathrm{Glycine} \ (\mathrm{for} \ \mathrm{comparison}) \\ \mathrm{Cu}^{++} & \mathrm{Glycine} \ (\mathrm{for} \ \mathrm{comparison}) \\ \mathrm{Cu}^{++} & \mathrm{Glycine} \ (\mathrm{for} \ \mathrm{comparison}) \\ \mathrm{Cu}^{++} & \mathrm{Glycine} \ (\mathrm{for} \ \mathrm{comparison}) \\ \mathrm{Subs}^{0} & \mathrm{Fe}^{-1} \\ \mathrm{Subs}^{0} & \mathrm{Subs}^{0} \\ \mathrm{Subs}^{0} \\ \mathrm{Subs}^{0} & \mathrm{Subs}^{0} \\ \mathrm{Subs}^{0} & \mathrm{Subs}^{0} \\ \mathrm{Subs}^{0} & \mathrm{Subs}^{0} \\ \mathrm{Subs}^{0} \\ \mathrm{Subs}^{0} & \mathrm{Subs}^{0} \\ \mathrm{Subs}^{$				
$\begin{array}{cccc} Cu^{++} & Catechol & 1 \cdot 25^{\circ} & 0 \cdot 65d \\ Fe^{++} & Glycine (for comparison) & 4 \cdot 3^8 & 3 \cdot 5^8 \\ Cu^{++} & Glycine (for comparison) & 8 \cdot 5^8 & 6 \cdot 9^5 \\ Fe^{+++} & Glycine (for comparison) & 10 \cdot 0^4 \\ Fe^{++} & Oxine (for comparison) & 8 \cdot 0^8 & 7 \cdot 0^8 \\ Cu^{++} & Oxine (for comparison) & 12 \cdot 2^8 & 11 \cdot 2^8 \end{array}$				
$\begin{array}{cccc} \mathbf{F}e^{++} & & \mathrm{Glycine}\left(\mathrm{for}\;\mathrm{comparison}\right) & \frac{4\cdot 3^{5}}{4\cdot 3^{5}} & \frac{3\cdot 5^{5}}{6\cdot 9^{5}} \\ \mathrm{Cu}^{++} & & \mathrm{Glycine}\left(\mathrm{for}\;\mathrm{comparison}\right) & 8\cdot 5^{6} & \frac{6\cdot 9^{5}}{6\cdot 9^{5}} \\ \mathrm{F}e^{++} & & \mathrm{Glycine}\left(\mathrm{for}\;\mathrm{comparison}\right) & 10\cdot 0^{4} \\ \mathrm{F}e^{++} & & \mathrm{Oxine}\left(\mathrm{for}\;\mathrm{comparison}\right) & 8\cdot 0^{8} & 7\cdot 0^{8} \\ \mathrm{Cu}^{++} & & \mathrm{Oxine}\left(\mathrm{for}\;\mathrm{comparison}\right) & 12\cdot 2^{9} & 11\cdot 2^{9} \\ \mathrm{Oxine}\left(\mathrm{for}\;\mathrm{comparison}\right) & 12\cdot 2^{9} &$				
$\begin{array}{cccc} Cu^{++} & Glycine (for comparison) & 8\cdot5^{\circ} & 6\cdot9^{\circ} \\ Fe^{++} & Glycine (for comparison) & 10\cdot0^{4} \\ Fe^{++} & Oxine (for comparison) & 8\cdot0^{\circ} & 7\cdot0^{\circ} \\ Cu^{++} & Oxine (for comparison) & 12\cdot2^{\circ} & 11\cdot2^{\circ} \end{array}$				
$\begin{array}{ccc} \mathbf{Fe^{++}} & & \mathbf{Glycine} \left(\mathbf{for} \ \mathbf{comparison} \right) & 10 \cdot \mathbf{0^4} \\ \mathbf{Fe^{++}} & & \mathbf{Oxine} \left(\mathbf{for} \ \mathbf{comparison} \right) & 8 \cdot \mathbf{0^8} \\ \mathbf{Cu^{++}} & & \mathbf{Oxine} \left(\mathbf{for} \ \mathbf{comparison} \right) & 12 \cdot \mathbf{2^8} \\ \mathbf{Oxine} \left(\mathbf{for} \ \mathbf{comparison} \right) & 12 \cdot \mathbf{2^8} \\ 11 \cdot \mathbf{2^8} \end{array}$		Glycine (for comparison)		
Fe^{++} Oxine (for comparison) $8 \cdot 0^6$ $7 \cdot 0^6$ Cu^{++} Oxine (for comparison) $12 \cdot 2^6$ $11 \cdot 2^6$				6.94
Cu ⁺⁺ Oxine (for comparison) 12.2 ^s 11.2 ^s				
		Oxine (for comparison)		
return (for comparison) 12-3' 11-3'	Fe+++	Oxine (for comparison)	12.37	11.37

(a) Obtained at ligand concentration 0.15 M.

(b) In 0.1 M KCl. (c) For $Cu^{++} + HL \rightleftharpoons CuL + H^+$. (d) For $\operatorname{Cu} L + \operatorname{H} L \rightleftharpoons \operatorname{Cu} L_2 + \operatorname{H}^+$.

Ionization Constants for Ionic Strengths of 0.10-0.15

Ligand	pK	
Salicylic acid	2.98, 2.62.	$13.61 \\ 11.95$
5-Sulphosalicylic acid 2-Hydroxyacetophenone	10.06	11.99
Methyl salicylate Salicylaldehyde	$9.87 \\ 8.34$	
Catechol	9·43. ~	
Glycine $(I = 0.01)$ (ref. 6) Oxine $(I = 0.01)$ (ref. 7)	2·24, 5·13,	$9.85 \\ 9.89$

Table 2. DISTRIBUTION OF CATIONS AMONG LIGANDS, IN NEUTRAL SOLUTION

	Salicylic acid	5-Sulphosallcylic acid	Glycine	Oxine
Cu++ Fe++ Fe+++	$1\\1\\400$	$\begin{array}{r}3.5\\10\\300\end{array}$	45 30 1	200,000 150,000 200

salicylic acid, glycine and oxine (8-hydroxyquinoline). Glycine is a typical amino-acid with which salicylic acid and its derivatives would have to compete for metals in the mammalian body, while oxine resembles salicylic acid in being a powerful fungicide.

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Canberra. June 5.

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Determination of Strychnine in Nux Vomica by Paper Chromatography

MOST methods used for the estimation of strychnine in nux vomica lead to gross inaccuracies due to brucine interference. Even oxidation of brucine with nitric acid under optimal condition (5 min. at 60° C.) leads to errors due to partial destruction of strychnine¹. Gravimetric estimations also require amounts greater than 0.1 gm. in the sample¹.

Paper chromatography has also been applied, but most of the methods have difficulty in separating brucine from strychnine. Dušinský and Tyllová²</sup> have overcome this difficulty by using nitric acid to oxidize brucine to o-brucichinone. This method probably suffers from errors outlined by de la Vega and Del Pozo¹.

These can be obviated by using a simplified method. The aqueous sample was made alkaline with sodium hydroxide and the alkaloids were extracted with The chloroform was then evaporated chloroform. in a water-bath. The resulting alkaloids were dissolved in a measured volume of chloroform and aliquots of this extract, containing 60-20 y strychnine, were spotted on to Whatman No. 1 chromatography paper and developed overnight with n-butanol/n-propanol/ 0.05 N hydrochloric acid (1:2:1 v/v) at 20° C. by the ascending technique. The paper was dried and photographed in the ultra-violet to reveal the spots. The paper was then cut and eluted with water. The strychnine hydrochloride was estimated using a Beckman spectrophotometer model DU at λ_{\max} . 255 mµ.³.

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Isolation of Piperonylic Acid from Ocotea pretiosa

As part of work on the chemical constituents of Brazilian Lauraceae¹, we examined the benzene extractives (2.4 per cent) of the wood of Ocotea pretiosa (Nees) Mez, the sassafras tree of the State of Santa Catarina producing essential oil (chiefly safrole). Through extraction with aqueous bicarbonate solution a solid (comprising 0.03 per cent of the wood) was isolated and purified by crystallization from chloroform and vacuum sublimation. White crystals were obtained, melting point 227-29°C. (Kofler block). Determination of the melting point of a mixture and infra-red spectral comparison with an authentic sample established its identity with piperonylic acid.

Piperonylic acid is, apparently, quite rare in Nature. Its known occurrence is restricted to the plant family Lauraceae, where traces of it have been found accompanying relatively much larger amounts of substances containing the piperonyl moiety. Only once before² has it been isolated by solvent extraction from a natural source, the coto barks, where it occurs along with 6-piperonyl-a-pyrone (Aniba coto Kostermans) and accompanying 6-piperonyl-α-pyrone, 2,4-dimethoxy - 6 - hydroxy - 3',4' - methylenedioxybenzo-