

The presence of D-2-hydroxy acids in the fatty acid fraction was indicated by infrared spectroscopy and by a slightly negative rotation in chloroform.<sup>12</sup> The fatty acids were esterified with methanol and separated on thin layer plates into normal esters and hydroxy esters. These were analyzed by gas chromatography, the hydroxy esters after conversion to trimethylsilyl or trifluoroacetyl derivatives. The acetyl bases were hydrolyzed in alkali<sup>13</sup> and the freed bases were isolated and characterized as dinitrophenyl derivatives<sup>14</sup> and also analyzed by gas chromatography as trimethylsilyl<sup>1,2</sup> and trifluoroacetyl<sup>15</sup> derivatives. As can be seen from Table 1 there is a correspondence between the fatty acids (except for oleic acid) and the bases. Although this may be a coincidence the fatty acid-base relationship<sup>9</sup> should be further elucidated.

Table 1. Fatty acid and base composition of *Hansenula ciferrii*. (See text for further details.)

Fatty acid	Relative amounts	Base	Relative amounts
18:1	42	—	—
h16:0	40	t18:0	89
16:0	13	d18:0	7
h18:0	1.2	t20:0	0.5
18:0	1	d20:0	0.4
h17:0	1.5	t19:0	0.1
17:0	0.2	d19:0	0.5
h15:0	0.2	t17:0	0.5
15:0	0.5	d17:0	1
14:0	0.1	d16:0	0.5

The configuration at carbon atom 4 of the trihydroxy bases of different human sphingolipid fractions<sup>15</sup> has not yet been established. These bases may well have another origin than the corresponding bases of plant tissues. For example, the allylic bases, not yet found in plant tissues, may be catabolized through trihydroxy bases by addition of water to the double bond (personal communication from M. Proštenik).

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## Crystal Data of Some $\alpha$ -Hydroxyquinones Containing Intramolecular Hydrogen Bonds

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As a part of an investigation of molecules containing intramolecular hydrogen bonds and of intermolecular packing in polymorphous systems, the following crystallographic data have been obtained.

The unit cell parameters have been determined with estimated uncertainties of 0.1–0.2 % for the axes and 0.2° for the angles. The molecular structures of these compounds are being studied.

## 2-Chloro-juglone:

Yellow-brown, flat prisms from ethyl alcohol solution.

<i>a</i>	7.17 Å	$\rho_0$	1.55
<i>b</i>	7.79 Å	$\rho_x$	1.58
<i>c</i>	8.02 Å		
$\alpha$	100.0°	<i>Z</i>	2
$\beta$	101.4°	Space group	$\bar{1}$
$\gamma$	88.7°		

## 2,3,8-Tribromo-juglone:

<i>a</i>	18.21 Å	$\rho_0$	2.475
<i>b</i>	4.75 Å	$\rho_x$	2.465
<i>c</i>	25.58 Å	<i>Z</i>	8
		Space group	<i>Pna2</i> <sub>1</sub>

## 1,4-Dihydroxy-anthraquinone I:

Red-orange leaves from ethyl alcohol solution.

<i>a</i>	10.40 Å	$\rho_0$	1.52
<i>b</i>	6.04 Å	$\rho_x$	1.53
<i>c</i>	16.65 Å	<i>Z</i>	4
$\beta$	95.2°	Space group	<i>P2</i> <sub>1</sub> / <i>n</i>

## 1,4-Dihydroxy-anthraquinone II:

Dark red crystals formed by slow cooling of the melt. Some crystals revert to modification I at room temperature.

<i>a</i>	3.77 Å	$\rho_0$	1.50
<i>b</i>	9.49 Å	$\rho_x$	1.51
<i>c</i>	14.80 Å	<i>Z</i>	2
$\beta$	93.0°	Space group	<i>Pc</i>

## 1,5-Dihydroxy-anthraquinone:

Yellow needles from acetic acid solution.

<i>a</i>	6.02 Å	$\rho_0$	1.56
<i>b</i>	5.30 Å	$\rho_x$	1.60
<i>c</i>	15.70 Å	<i>Z</i>	2
$\beta$	94.0°	Space group	<i>P2</i> <sub>1</sub> / <i>c</i>
		Molecular symmetry	$\bar{1}$

## 1,4,5,8-Tetrahydroxy-2,3,6,7-dibenzanthraquinone:

Dark red prisms of metallic lustre from hot nitrobenzene solution.

<i>a</i>	17.52 Å	$\rho_0$	1.51
<i>b</i>	3.83 Å	$\rho_x$	1.54
<i>c</i>	23.9 Å	<i>Z</i>	4
$\beta$	90.0°	Space group	<i>P2</i> <sub>1</sub> / <i>c</i>

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## The Crystal Structure of Potassium Nickel (IV) Hexaoxidoiodate(VII)

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A tentative structure of  $\text{KNiIO}_6$  has previously been published in this journal by Vannerberg and Blockhammar.<sup>1</sup> Eddy has reached the same result independently, also from powder data, but using a considerably larger number of reflexions. It was thus thought worthwhile to try to refine the structure by least squares methods.

In those cases where there was considerable overlap between two or more reflexions, the measured intensities were distributed according to the previously calculated intensities. The structure was

Table 1. Atomic and thermal parameters for  $\text{KNiIO}_6$ .

Atom	X	Y	Z	B
K	0	0	0	4.4
Ni	1/3	2/3	1/2	3.2
I	2/3	1/3	1/2	1.2
O <sub>1</sub>	0.671	0.039	0.312	1.7
O <sub>2</sub>	0.961	0.329	0.688	1.7
O <sub>3</sub>	0.961	0.631	0.312	1.7
O <sub>4</sub>	0.671	0.631	0.688	1.7
O <sub>5</sub>	0.369	0.329	0.312	1.7
O <sub>6</sub>	0.369	0.039	0.688	1.7

regarded as being triclinic with space-group *P1*. The least squares refinement was based on the observed structure factors, and convergence was obtained after only four cycles. The oxygen atomic parameters did not deviate much from those expected for hexagonal symmetry. Both space-groups *P3*, No. 143 and *P312*, No. 149 were, however, possible. The former gave an *R* factor of 0.108 while the latter gave an *R* factor of 0.120. In spite of this, the space-group *P312* must be considered to be most probable since it gives a coordination