

with other aspects are being published elsewhere in a separate paper.

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Royal Institute of Science,
Bombay,
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¹ *Dictionary of Applied Chemistry*, 3, pp. 206-15.

² *Proc. Roy. Soc.*, (A), 1932, 137, 575.

³ *Ind. and Eng. Chem. Journ.*, 1928, 20, 1004.

Rottlerin.

ROTTLERIN has been investigated by numerous authors. Perkin¹ advocated the formula $C_{33}H_{30}O_9$. Telle² confirmed that the empirical formula was $C_{11}H_{10}O_3$ but found M.W. to be 496 instead of 570 required for $C_{33}H_{30}O_9$. We have now found that rottlerin can be easily methylated if rottlerin (2 g.), dry potassium bicarbonate (16 g.), dimethyl sulphate (8 c.c.) and acetone (50 c.c.) are refluxed for 4 hrs. and then potassium carbonate (8 g.) introduced and the heating continued for 45 minutes. The product isolated by dilution with water and keeping overnight crystallises from alcohol, m.p. 144°. This substance is not further acetylated indicating complete absence of any alcoholic groups, etc. Therefore, it serves for an exact molecular weight determination. Found: C, 71.71; H, 6.65; MeO, 24.13; M.W. (micro Rast) 524; $C_{27}H_{22}O_3$ (OCH_3)₄ requires C, 71.81; H, 6.56; MeO, 23.94; M.W. 518. These data cannot be explained on the basis of C_{33} formula for rottlerin. Again tetrahydro-rottlerin, formed by catalytic hydrogenation of rottlerin gives an acetyl derivative m.p. 178° which gave M.W. 630, 641, 642 respectively in benzene, agreeing with the C_{27} formula. It analysed as C, 65.92; H, 5.69; whilst the C_{33} formula would not accommodate these data. The tetramethyl ether of tetrahydro-rottlerin, m.p. 108°, prepared in the manner described above also gave M.W. and analytical values only agreeing with the C_{27} formula.

When rottlerin tetramethyl ether is oxidised by alkaline hydrogen peroxide, it is quantitatively converted into a substance $C_{31}H_{36}O_8$, m.p. 128° (decomp.). This substance on catalytic reduction is transformed into tetramethyl ether of tetrahydro-rottlerin.

Rottlerin tetramethyl ether gave a substance $C_{19}H_{21}O_6N$ (?) with sodium nitrite and acetic acid which can be catalytically reduced to $C_{19}H_{23}O_6N$. The substance

$C_{19}H_{21}O_6N$ decomposes into benzaldehyde with alkali.

These various derivatives of rottlerin are being further studied.

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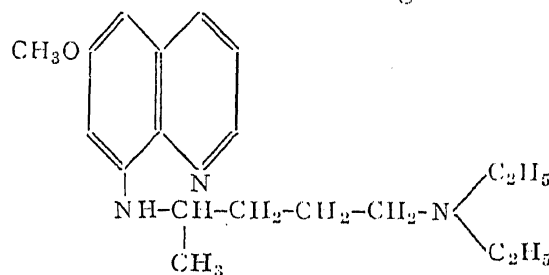
University Chemical Laboratory,
Lahore,
October 4, 1937.

¹ Perkin, *J.*, 1895, 67, 230.

² Telle, *Arch. Pharm.*, 1906, 244, 441.

A New Colour Test for Chromates and Dichromates.

WHILE investigating to find out a suitable colour test for the newly discovered anti-malarial drug 6-methoxy-8-(α -methyl- δ -diethyl amino butyl) amino quinoline, (Plasmoquine), it was noticed that chromates and dichromates gave rise to a



beautiful rich purple colour with plasmoquine in presence of oxalic acid at a pH below 6.5. Although the colour fades quickly and disappears gradually giving finally a colourless solution, it gives an excellent qualitative test for all chromates and dichromates at a dilution upto 1 in 100,000. Whilst investigations are in progress to stabilise the colour for a basis of quantitative colourimetric determination of plasmoquine at high dilutions (1 in 500,000) in the animal tissues, blood and urine, it is worthwhile mentioning here that the colour is specific for chromates and dichromates and so far as can be roughly ascertained, the intensity of the colour seems to be directly proportional to the concentrations of plasmoquine and the chromates or the dichromates. Incidentally, however, the stabilisation of the colour will also give a very simple colourimetric method for analytical estimations of chromates and dichromates at high dilutions.

A spectrum of the colour shows a characteristic selective absorption in the visible. The colour is discharged very quickly on warming, but remains for a considerable