

sharp development of the indicator colour by a drop of 0.05 N vanadate solution at a temperature of 50°. In the following

TABLE I

Reduced uranium solution + excess Fe<sup>+++</sup> + 5.0 ml. of phosphoric acid (1.75 sp. gravity) + 1.0 ml. of 0.1% diphenyl benzidine. Total volume of solution 300 ml. (overall concentration of sulphuric acid above 1.0 N).

Milli equivalents of uranium	
Dichromate method	Vanadate method
0.5095	0.5120
0.4076	0.4076
0.2540	0.2540
0.2038	0.2036

experiments, the U<sup>+++</sup> solution was rapidly brought to 50° C. in two to three minutes after addition of 3.0 ml. of 1.0 N oxalic acid and 1.0 ml. of diphenyl benzidine and then quickly titrated with standard sodium vanadate solution to a blue violet colour. The results recorded in Table II show that this direct method also gives accurate results.

TABLE II

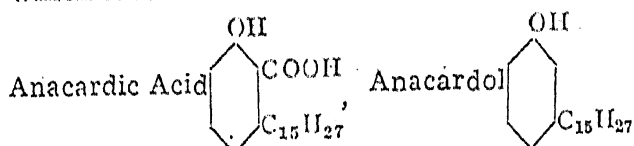
Amount of uranium found (in milli equivalents)

Ceric sulphate method	Vanadate method
0.9370	0.9340
0.4298	0.4303
0.3016	0.3009
0.7013	0.7030
0.3562	0.3557
0.6050	0.6046

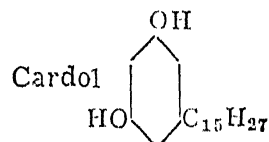
Andhra University, M. NARASIMHASASTRI.  
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August 25, 1949.

### DIELECTRIC CONSTANTS OF CASHEW SHELL OIL

The dielectric constants of commercial cashew shell oil, the main constituents of which are:—



(formed by the decarboxylation of anacardic acid during the initial heat treatment of the raw oil) and



have been studied. The investigations conducted on six commercial samples from various sources of different compositions reveal:—

(1) Cashew shell oil can be distinguished from cocoanut, linseed, olive, poppy seed, perilla, rape seed, sesame and tung oils (dielectric constants ranging from 3.0 to 3.6<sup>1-5</sup> at room temperature and audio frequency), by its decidedly higher dielectric constant (4.6). Castor oil has nearly the same dielectric constant as cashew shell oil.

(2) The dielectric constant of the bicarbonate soluble constituent increases continuously with temperature between 30 to 100° C. The neutrals which form a small portion of the oil have a low dielectric constant with a negative temperature coefficient. Temperature variation of the dielectric constant of the oils and their respective bicarbonate insolubles differs considerably. This is attributed to viscosity effects due to self-polymerized products and to the different proportions of anacardol in the two cases.

Complete experimental details are being published elsewhere.

Gen. Chem. Labs., B. R. Y. IYENGAR.  
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Bangalore 3,  
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### THE TEMPERATURE OF ZERO CONDUCTANCE OF CERTAIN DYESTUFFS

KOHLRAUSCH AND GROTRIAN explained the temperature effect on the conductivity of electrolytes by the following equation:

$$X_t = X_0 [ 1 + c(t-t_0) + c'(t-t_0)^2 ]$$

$t_0 = 0^\circ$  or  $18^\circ$  C.,  $c$  being always positive, whereas  $c'$  may for some substances become negative.

Using Kohlrausch's data, the equation

$$X_t = X_{18} [ 1 + c(t-18) - c'(t-18)^2 ]$$