citrate rabbit plasma. Clotting time is done in 10 mm. tubes. In each test 2 drops of citrate plasma plus optimal amount 1% $CaCl_2$ plus 1 drop of the coagulant plus sufficient .9% NaCl to make a total of 10 drops are used. In this way the concentration of fibrinogen is kept constant. Activation is carried out by adding 1 part of citrate plasma to 20 parts chick extract. Pipettes are calibrated to drop 0.05 cc. Determinations have been made between 30° C. and boiling at intervals of 10°. Extracts are held at the designated temperature for 10 min.

There is a marked decrease in the power of the unactivated extract in this range, the main decrease taking place below 60° C. After testing, each extract is then activated and retested as soon as the added plasma coagulates. It is found that the increase in the clotting power of heated extracts is at least as great as in the unheated. In a typical experiment the following data were obtained: Recalcification time for the citrate plasma 14 min.; with 1 drop of unactivated, unheated tissue extract 4 min.; 1 drop same extract activated 45 seconds; 1 drop unactivated heated (boiling bath 10 min.) extract 11 min. 15 sec.; 1 drop same extract activated 1 min. 30 sec.

When the degree of activation is calculated according to the method used by Mills[5] it is seen that the heated extract is at least as capable of activation as the fresh unheated extract.

These data suggest that cephalin is the factor present in tissue extract which renders it capable of activation. This conclusion is in accord with facts developed by previous workers.

6714

Notes on Ultra-Violet Transmission of New and Used Dyed Cellophane Light Filters.

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Withrow[1] has described a series of dyed cellophane light filters for securing several sharp cut-offs in the ultra-violet region, and states that 2 sheets of cellophane soaked in sodium benzoate will absorb all radiations shorter than 2890 A.U., 2 sheets soaked in potassium acid phthalate absorbing all radiations shorter than 3130 A.U.,

[1] Withrow, R. B., *Bull. Bas. Sci. Res.*, 1931, **3**, 82.

and 3 sheets soaked in potassium cinnamate absorbing all radiations shorter than 3340 A.U. In a later publication, however, the originator of the filters[2] states that the sodium benzoate filter excludes all radiations shorter than 2970 A.U.

To the investigator working with ultra-violet light, this discrepancy is important, since it means that 2 biologically active mercury lines, at 2894 and 2967 A.U., are either included or excluded in an irradiation, according to the cut-off of the filter. The author sent some new and used light filters that he had made up according to Withrow's directions to the DuPont Experimental Station at Buffalo, New York, and through their kindness was able to procure some very accurate transmission curves of both the new and used filters. It was found that the cut-off for the sodium benzoate filter was at 2890 A.U., but that there was an upward shifting of transmission amounting to 150 A.U. upon use, thus excluding 2 biologically active mercury lines. Summarizing the data obtained from the transmission curves of the filters: 1. Two thicknesses of a new sodium-benzoate soaked filter transmit the 2894 mercury line and exclude all shorter wave lengths; after more than 5 days of use this filter transmits only to 3024 A.U., thus excluding the extremely active 2894 and 2967 A.U. mercury lines. 2. Two thicknesses of a new potassium-acid-phthalate soaked filter transmit the 3132 A.U. mercury line and exclude all shorter radiations; there is no change in transmission in the filter in 5 days. 3. Three sheets of a new potassium cinnamate soaked filter transmit 3% of the energy of the 3132 A.U. mercury line, instead of entirely excluding all radiations shorter than 3340 A.U., as claimed by the originator of the filters. It transmits 38% of the 3342 A.U. mercury line, but since the 3132 line is much stronger than the 3342 line, 3% of the 3132 line is actually twice as much as 38% of the energy of the 3342 line. Thus the effect of this filter is much the same as that of the potassium acid phthalate filter; there is no shift in transmission upon use for 5 days.

It will be seen that in order to obtain the full effects of irradiation with a quartz-mercury lamp when using these filters to limit the wave length, it will be necessary to change the filters every 5 days in the case of the sodium benzoate filter, since the transmission of this filter shifts upwards at least 150 A.U. at that time. It is also seen that 3 sheets of a potassium cinnamate filter do not exclude all radiations shorter than 3340 A.U., as claimed by the originator of the filters, but also transmit the strong mercury line at 3132 A.U.

[2] Withrow, R. B., and Benedict, H. M., *Bull. Bas. Sci. Res.*, **1931**, **8**, 161.