XLIX. A SIMPLIFIED METHOD OF PREPARATION OF THE BEZSSONOFF REAGENT FOR VITAMIN C AND SOME POLYPHENOLS.

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IN 1921, I described [1921] a blue coloration common to antiscorbutic extracts, to quinol and to catechol and obtained in acid medium with a phosphomolybdotungstic acid having the formula: $17 \text{ WO}_3 (\text{MoO}_3) (\text{P}_2\text{O}_5) 25 \text{ H}_2\text{O}$.

Concerning the reaction of this acid in the presence of antiscorbutic extracts, I noted the absence of a blue coloration with plum juice which is a juice devoid of any antiscorbutic action and on the contrary the presence of this coloration with the peach, though belonging to the same genus as the plum. I therefore concluded that the peach contained the antiscorbutic, although this fruit had not at that time been examined by animal tests. Since then Delf [1922] has verified the antiscorbutic action of the peach.

It seems then that this reagent is of value in the study of the antiscorbutic value of plants which have not been examined in the usual way.

It could equally serve to reveal the presence of polyphenols in different biological liquids (urines, etc.).

It seems useful to indicate a quick and simple method in order to obtain this reagent in a crystalline state and sufficiently pure: 36 g. of sodium tungstate and 4 g. of phosphomolybdic acid are dissolved in 200 cc. of distilled water at a temperature of about 50° ; then 5 cc. of 85 % phosphoric acid are added and 10 cc. of concentrated sulphuric acid are poured drop by drop into the above solution which should be stirred at the same time. The solution is evaporated slowly at a temperature of $40\text{--}42^\circ$. Slowly pale yellow monoclinic crystals are formed at the bottom and on the sides of the vessel. At the end of 20 to 24 hours, the solution being concentrated to about $1/3$, the liquid is poured off. In order to obtain a sufficiently pure reagent without proceeding to a new crystallisation, 2 to 3 cc. of distilled water are poured on the crystals. They are then stirred slowly and the liquid is immediately poured off. This operation is repeated until one drop of the water used for washing the crystals gives a blue coloration with a quinol solution or a brown-yellow with a pyrogallol solution (1 in 1000 in each case). The washed crystals are dried between filter paper, then 15 g. are dissolved in 100 cc. of 5 % (by volume) sulphuric acid.

Prepared in this way, the reagent can be preserved two months and more in coloured glass bottles using a ground glass or rubber stopper (avoid a cork stopper).

I recall [Bezssonoff, 1921, 1922] that this reagent must be employed in an acid medium. The sulphuric acid present in the solution generally suffices to secure this condition.

REFERENCES.

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