Putting Thrills Into Laboratory Experiments

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ABSTRACT

Solution of Unknowns.—Numbered vials containing unknowns are handed out. Coded numbers are used so that the student can be informed of the success of his work at the time of report. The use of coded numbers enables the instructor to hand out a subsequent unknown with one or more of the same ions contained in the previous unknown in case of failure to detect these ions. Findings cannot be reported until vial has been turned in. A student may work as many unknowns as he can in a given period. The competition is keen and the satisfaction great from having solved a large number successfully.

Electroplating.—Silver, chromium, copper (alkaline cyanide), and nickel plating solutions are provided in four liter beakers arranged with buss bar, so that articles to be plated can be hooked on without having to make other electrical contact. Students bring buckles, paper weights, metal hair pins, metal horn mouthpieces to be plated.

Preparation of Ink.—The formula for the Government Standard Writing Ink is used. In a portion of the ink prepared the soluble blue is omitted. The use of this portion shows the oxidation of the ferrous gallo-tannate to the ferric state. Students are urged to make use of the ink they have prepared.

Preparation of Soap.—Sodium soap is prepared from cottonseed oil. This soap is moulded into cakes in aluminum milk test pans or dissolved in alcohol to make a liquid soap. It is used in all laboratory cleaning requiring the use of soap.

Preparation of Edible Jelly.—100 ml. of water, 1 g. pectin, 0.5 g. tartaric acid, and 60 g. cane sugar are boiled until the temperature of the mixture reaches 104° C. When the mixture cools it gives a good grade of edible jelly without flavor. A grapelike flavor can be added by putting about ten drops of a one per cent solution of methyl anthranilate in pure alcohol into the mixture before cooking.