

palpably impossible. Neither is the difficulty removed by using phosphate of lime, made by double decomposition from chloride of calcium and phosphate of soda, and a smaller quantity of sugar. The phosphate readily dissolves in the acid, forming a strong solution; but immediately sugar or syrup is added, in spite of a liberal use of hydrochloric acid, a gelatinous precipitate is the result.

An elegant syrup, of definite composition, and which keeps fairly well, may be made by using tribasic acid. The method I adopt is as follows:—

Syr. Ferri Phosph. Co.

Sulphate of Iron	671 grains.
Phosphate of Soda	2503 "
Acetate of Soda	222 "
Chloride of Calcium	585 "
Carbonate of Soda	40 "
Carbonate of Potash	60 "
Cochineal	120 "
Phosphoric Acid syrupy sp gr 1.5	30 fl. drachms.
Sugar	24 ounces.
Orange Flower Water	1 "

Dissolve the sulphate of iron in 3 ozs. and the acetate and 600 grains of the phosphate soda in 8 ozs. warm distilled water. When quite cold, mix the two solutions, and, after careful stirring, wash the precipitate, by means of decantation, with distilled water, and collect on a filter. Dissolve the chloride of calcium in 1 oz., and the remainder of the phosphate in 17 ozs. warm distilled water. When cold mix the two solutions, wash by decantation, and collect on a calico filter. After draining submit the precipitate to strong pressure. Dissolve the two precipitates in the acid. To the solution add the carbonates, which should first be rubbed down in a mortar with a few drops of distilled water.

The cochineal having been reduced to a very fine powder, is mixed with the sugar and 13 ozs. of distilled water, and the whole raised to the boiling point. Strain through flannel, and when quite cold add the orange flower water, the solution of phosphates, and distilled water, if necessary, to make 36 fluid ounces.

By boiling the sugar and cochineal a bright syrup of rich colour is produced. It contains 1 gr. phosphate of iron, 2½ grs. phosphate of lime, and fractions of grains of phosphates of soda and potash and acid equal to about 35 min. acid. phos. dil. B.P. in each fluid drachm. Sp. gr. 1.308.

The difficulty of keeping unchanged syrup of phosphate iron, B.P., for any length of time has been recognized by all. Several chemists have at various times made experiments with a view of preventing this change, but to the present time no satisfactory result has been ascertained. Recognizing this, Mr. Carteighe, some time ago,* in

* *Pharmaceutical Journal*, 3rd series, i., 761.