Lithii Citras Effervescens.

Should be granulated. Beringer (A. J. Ph. 93, 600).

Macis.

Distinction between Bombay and Banda mace. The behavior of the ethereal extract, after previous extraction with benzin:—Bombay mace leaves 30 p. c., while Banda mace leaves only 3 p. c. Soltsien (Ph. Ztg. 93, 467. A. J. Ph. 93, 457. Proc. 94, 917).——Apply a solution of potassium chromate to a section of the mace, and warm slowly. Banda mace keeps its yellow color unchanged, Bombay mace turns a deep reddish-brown. Waage (Ph. Centralh. 93, 133. Proc. 94, 917).——Bussy especially recommends the baryta test. Dip strips of filtering paper for a half hour into the alcoholic tincture, and, after drying them, dip them into boiling baryta water. Let dry. Pure mace gives a brownish-yellow stain, while Bombay mace gives a brick-red one. (Ph. Ztg. 96, 328).

Ash. Should not be over 2 p. c., and not more than ½ p. c. should be insoluble in HCl. (Ph. Centralh. 93, 238.)

Magnesii Carbonas.

The basic character of this salt should be indicated in the title. A. P. A. Comm. (A. J. Ph. 95, 485. Proc. 95, 240).

Chemical Formula. It is marked "approximately," because it is not of constant composition, though it generally agrees quite closely with the formula given. "The residue should not weigh less than 0.4 Gm." (= 40 p. c.); the theoretical yield of MgO from a salt of the assigned composition is 41.5 p. c. Power (Circ. No. 112, p. 682).

Magnesii Citras Effervescens.

The former term "Granulatus" would imply that it consisted only of citrate of magnesia in a granulated form, which, of course, is incorrect. This remark applies as well to all the other effervescent salts, often mis-named "Granulatus." Power (Circ. No. 112, p. 683).

There is no necessity for directing "distilled" water.

Commercial. Examination. Scoville (Ph. Rec. 92, 267. Proc. 93, 782).

The fine particles, which invariably will be formed, should be separated by a No. 20 or 30 sieve. Caspari (Pharmacy, p. 367).

Magnesii Sulphas.

"Rhombic prisms" refers to the large crystals, which one seldom sees; "small, colorless prismatic needles" would be a more correct

description of the commercial article which is obtained by disturbed crystallization. "Acicular needles" is tautological, meaning literally "needle-shaped needles." Power (Circ. No. 112, p. 685).

Solubility. Authorities differ, probably because of the ready formation of supersaturated solutions. The various statements may be seen from the following:

	At 15° C.	At 100° C.
U. S. Ph.	0.8	0.15
Ph. Germ., III.	1.0	0.30
" II.	0.8	0.15
" I.	3.0	1.0
Mulder	1.443	0.661

(The last from Hirsch & Schneider, p. 442.)

Flueckiger (Ph. Chemie) the same as Ph. Germ. II.

It has been thought best to give Mulder's figures, rounded off, as they have been carefully determined for various temperatures. Power (Ibid.).

Mangani Dioxidum.

This oxide is not infrequently prescribed for internal use, but since it contains only 66 p. c. of the pure dioxide, a pure dioxide should be introduced, which, of course, would necessitate a caution under the present official dioxide, that the latter is not intended for internal use. Beringer (A. J. Ph. 93, 600).

Estimation. $MnO_2 + 4HCl = MnCl_2 + Cl_2 + 2H_2O$.

86.72 145.48

1 Gm. requires for its decomposition 1.6775 Gm. of absolute HCl, or 5.25 Gm. of official HCl (31.9 p. c.), which = 4.52 Cc. The impurities present may be of such a nature as to combine with some of the HCl, therefore the amount of HCl has been increased to 5 Cc. One molecule of MnO_2 (86.72) will afford sufficientchlorine to oxidize 2 molecules of $FeSO_4.7H_2O$ (2×277.42) = 554.84.

1 Gm. of pure MnO_2 would therefore oxidize 6.398 Gm. of $FeSO_4.7H_2O$, and 1 Gm. of 66 p. c. dioxide would oxidize 4.2226 Gm. Power (Circ. No. 112, p. 687).

Pure Dioxide, preparation. A solution of manganous sulphate in water is mixed with a solution of chlorinated soda, and the precipitate washed. Curtman (Ph. Era. 94, xii. 151).

Marrubium.

A fluid extract is wanted. Beringer (A. J. Ph. 93, 470).

Massa Copaibæ.

Addition of 1 p. c. of sodic hydrate, dissolved in a little water, will improve solidification. Beringer (A. J. Ph. 93, 600).

Massa Hydrargyri.

Caspari states that it would be an improvement in consistence, if the amount of glycyrrhiza be doubled, and the althæa correspondingly decreased. (Pharmacy, p. 334.)

Quingnaud & Porte recommend oleate of mercury for pills. (Nat. Dr. 94, 41. Proc. 94, 600).

Massa Ferri Carbonatis.

In Powder Form. Freshly precipitated iron carbonate is thoroughly washed, expressed, intimately mixed with sugar of milk and licorice root, and quickly evaporated to dryness on a water-bath. Gonnermann (Ph. Ztg. 93 . . . Proc. 94, 599).

The iron salt is in slight excess. Hirsch would rather have the sodium carbonate in excess.

Mel.

The test with absolute alcohol is too rigid; probably no commercially available honey will stand it. As to the presence of chlorides, true honey will occasionally be found to contain an excess of them. Kebler (A. J. Ph. 95, 27. Proc. 95, 811 & 896).

Dextrin. Spencer once found 4 p. c. of dextrin in an undoubtedly pure honey. (A. J. Ph. 95, 27.)——Honey from Coniferæ always contains dextrin. Haenle (Zts. analyt. Ch. 94, 99. Proc. 94, 962).

Glucose. The official test for glucose is rendered more severe by pouring the alcohol on top of the filtered dilute honey, and observing the zone of contact. (Merck Report, 95, 288.)

Mel Despumatum.

Dieterich recommends the following process: Mix the honey with sufficient water (the amount depending on the consistence), heat for about seven hours on a water-bath, and clarify it with 5 p. c. of its weight of talcum, neutralizing, if necessary, with magnesium carbonate; allow to deposit, filter, add a few drops of acetic acid, and evaporate to the proper specific gravity. (Ph. Ztg. 93, 712.)

Melissa.

Should be omitted. Beringer (A. J. Ph. 93, 470).

Mentha Piperita.

"Smith" as author is not permissible. According to the rules now in force, it should be "Linné." See Bentley in De Candolle's Prodromus, xii, p. 169 & 170. (Bull. Ph. 93, 497.)

Menthol.

Has been found adulterated with magnesium sulphate, which is best discovered by dissolving in chloroform. Sulzer (Ph. Rdsch. Prag. 93, 615).

Boiling Point. At 215.5° C., with the mercurial column of the thermometer entirely in the vapor, and with a barometric pressure of 758 Mm. Power, Fritsche (Catalogue, p. 93).

"Jap" menthol has an unmistakable odor of spearmint, but "Pharmacographia" (II, p. 483) states that by re-crystallization it assumes the pure flavor. It is not exactly correct to speak of "Jap" menthol and "Pip" menthol, for menthol, when pure, must always have the same chemical and physical properties, whatever its source. By analogy we should call thymol "Ajo" thymol, because most of the thymol is obtained from Ajowan oil, and not from oil of thyme, etc. Power (Circular, No. 109, p. 594).

Methyl Salicylas.

Beringer questions the advisability of introducing it, since it apparently possesses no advantage over the true oil of gaultheria. (A. J. Ph. 93, 600.)——Power gives the reason for introducing it, and states that it is much easier to detect adulterations in a chemically uniform body, than in a volatile oil. Fritsche (Catal. 94, p. 35).

Specific Gravity. When perfectly free from water, 1.187. Power (Ibid.).

(Although the following remarks apply quite as much to the oils of birch and gaultheria, it has been deemed best to give them here.) Very little natural oil of gaultheria is now to be found in commerce, and the small amounts now produced will doubtless continue to decrease in consequence of the cheaper production of the oil of sweet birch, which is sold as a substitute for it, and also on account of the competition of artificial methyl salicylate, which is now manufactured on a very large scale and of the highest degree of purity and excellence. With an estimated consumption in this country of about 100,000 pounds of the so-called oil of wintergreen, there is hardly 500 pounds of true oil of gaultheria made or used. The oils of birch

and of gaultheria are neither physically nor chemically identical, although the differences are comparatively slight. Oil of birch, like pure methyl salicylate, is optically inactive, while natural oil of gaultheria is slightly lævogyrate. Power (Circular No. 109, p. 613).

Mistura Ferri Composita.

A better emulsion is obtained by rubbing the myrrh with the potassium carbonate, leaving out the sugar, which is best added last. Johnson (Ph. J. & Tr. 96 . . . Am. Dr. 96, 182).

Mistura Glycyrrhizæ Composita.

There is no apparent necessity for using ready-made mucilage of acacia; as the extract of licorice has to be triturated, powdered acacia might be used.

A formula, producing a clear mixture, is proposed by Caspari, the main features of which are the use of the purified extract of licorice, and the filtering of the mixture, after allowing to settle for 12 to 24 hours, adding the mucilage and sugar last. (Pharmacy, p. 306.)

Mistura Rhei et Sodæ.

The addition of ipecac and 35 p. c. of glycerin is too radical a change. Beringer (A. J. Ph. 93, 601).

It might have been advisable to either change the name, or to retain the old mixture, and give the present one a different name.

Morphina.

Action of Heat. On boiling solutions containing morphine, oxygen is gradually absorbed, and oxymorphine is formed. The color changes to yellowish. Hager (Ph. Ztg. 93, 250. Proc. 93, 680).—— Welmans states, that merely by vigorously shaking the solution, the change is effected; probably induced by the warmth of the hand. (Ph. Ztg. 93, 375. Proc. 94, 584.)

Solubility. In 5000 parts of water. Merck (Index, p. 165).

Melting Point. At 200° C. Merck (Ibid.).

Color Reactions, as compared with those of acetanilid. Schaer (Arch. Ph. 94, 256).

Identity. A mixture of solution of morphine and of a solution of uranium acetate (0.015 uranium acetate, 0.01 sodium acetate, 5 Cc. water) is evaporated on a water-bath to dryness. The "rings" on the porcelain capsule will be light-red or pink. This reaction is distinct with $\frac{1}{20}$ Mgm., and does not disappear for a long time. Lamal (Ap. Ztg. 94, 842. Ph. Era, 95, 302. Proc. 95, 1017).

Bruylants combines Froehde's test with that of Huseman. A trace of Froehde's reagent added to a solution of morphine in sulphuric acid, produces the well-known lilac tint; if the sulphuric acid solution be warmed, and treated in the same way, a green tint will be noticed. On dropping a particle of potassium nitrate into this green liquid, the color changes to red, and finally yellowish. The other opium alkaloids give different tints. (Ph. Centralh. 95, 284. Nat. Dr. 95, 359. Proc. 95, 1016.)

Indicators. Value. Kebler & La Wall (A. J. Ph. 95, 503 & 504. Proc. 95, 191).

Morphinæ Acetas.

Soluble in 5 parts of glycerin. Merck (Index, p. 165).

The melting point of this salt cannot be given with any degree of certainty, owing to the constant loss of acetic acid. Hirsch doubted whether this salt contained only $3H_2O$, and thought it would be found to contain $6H_2O$. Rice determined it in commercial samples, and found it 72 p. c.; the theory requires for $3H_2O$, 71.5 p. c., hence $3H_2O$ is correct. (Circular, No. 135, p. 835.)

Morphinæ Hydrochloras.

Should be "Hydrochloridum." A. P. A. Comm. (A. J. Ph. 95, 484. Proc. 95, 240).

Morphinæ Sulphas.

The crystals are needle-shaped. Hirsch says that the "cubes" are produced artificially by sawing the mass, to distinguish it from quinine hydrochlorate.

The statement, sometimes met with, that this salt loses all its water of crystallization at 100° C., is not correct. Three molecules of water may be expelled at this temperature by heating for some 20 hours, to drive off the remainder requires heating to 130° C. This salt contains only $5H_2O$ instead of $6H_2O$. Rice (Circular, No. 135, p. 836).

Mucilago Acaciæ.

In view of its being a rather unstable preparation, "distilled" water, or "water recently boiled and filtered after cooling," should be directed.

Oesch recommends an addition of 1 fluid drachm of alcohol for every ounce of acacia. (W. Dr. 92, 38. Proc. 93, 433.)——Widlund proposes to replace half of the water with lime water. (Proc. 93, 490.)——Lowe proposes the use of chloroform water. (A. J. Ph. 94, 353. Proc. 95, 654.)

Caspari states that circulatory displacement is the most sensible way in which to dissolve the acacia. (Pharmacy, p. 229.)

Mucilago Sassafras.

"Freshly made, when wanted," is practically impossible of fulfilment, in view of the directions to macerate for "three hours." It would be preferable to increase the proportion of pith, and thus shorten the time. England proposes to beat the pith with a small quantity of sterilized water until pasty, express, and repeat the operation. (A. J. Ph. 94, 350. Proc. 95, 587 & 651.)

Mucilago Tragacanthæ.

Raes recommends the addition of 30 Gm. of alcohol for every 12 Gm. of tragacanth. (Ch. Ztg. 92, 216. Proc. 93, 433.)

Mucilago Ulmi.

"Freshly made, when wanted," does not agree with the directions to digest during "one hour." Increase of the proportion of the bark would shorten the time.

Myristica.

The ash should not amount to over 5 p. c., of which only ½ p. c. should be insoluble in HCl. (Schweiz. Woch. 92 . . . Ph. Centralh. 93, 238.)

Myrrha.

Solubility in ether and in chloroform should be added.

(Second paragraph.) "Purple tint on addition of nitric acid" add: (distinction from bdellium). Gottschling (Proc. 93, 634).

Nux Vomica.

Alkaloids. Localization. Gerock & Skipperi. Principally within the endosperm cells, but not in the walls of the same. (Arch. Ph. 92, 555. Proc. 93, 866.)——Clautriau. Within the endosperm, and also within the embryo, but not in the hairs. (Ph. J. & Tr. 94, Nov. 355. Ph. Rdsch. N. Y. 94, 264. Proc. 95, 980.)——Sauvan. Strychnine and brucine do not exist in the same cells, but separately in adjoining anatomical elements. (J. de Ph. & Ch. 95, 497. Proc. 95, 988.)

Quantitative separation of strychnine and brucine by a modification of Gerock's method (see Digest on U. S. P. 1880, p. 328). Keller (Oest. Zts. 93, 563 & 586. A. J. Ph. 94, 45. Proc. 94, 531).

Assay. Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477), and Kebler (Am. Dr. 94, Sept. 179).