

## Abstracts from American and Foreign Journals.

### American Chemical Journal.

ABSTRACTOR, J. P. BATTERSHALL, PH. D.

*On the Synthesis of Helicin and Phenolglucoside*, ARTHUR MICHAEL (I, 305).

*Action of acetochlorhydrose on an alcoholic solution of potassium phenate.*—Acetochlorhydrose mixed with absolute alcohol, was added to an alcoholic solution of potassium phenate, the mixture allowed to stand a few hours, and the crystalline precipitate formed (potassium chloride), removed by filtration. On evaporating the filtrate, clusters of needles were obtained, which, when purified by re-crystallization, fused at 171–172°. This compound turns the plane of polarized light to the right, and, on treatment with dilute acids, potassium hydrate or emulsin, is decomposed into glucose and phenol. The analysis gave results corresponding to the formula  $C_{12}H_{16}O_6 [= C_6H_5(OC_6H_5)(OH)_4CHO]$ , and the author assigns to the new body the name *phenolglucoside*.

*Action of Acetochlorhydrose on an alcoholic solution of potassium salicylite.*—The result of this reaction was the synthesis of a crystalline compound which fuses at 175–176°, has the composition  $C_{13}H_{16}O_7 [= C_5H_6(OC_6H_4CHO)(OH)_4CHO]$ , and is evidently identical with helicin. It is decomposed into glucose and salicylic aldehyde by treatment with dilute acids, emulsin or hot alkaline solutions. The foregoing reactions will, it is hoped, indicate the synthesis of many of the glucosides, and assist in explaining the constitution of these compounds.

*On a new formation of Stilbene, and some of its Derivatives*, ARTHUR MICHAEL (I, 312).

Sodium acetate was allowed to act on benzoic aldehyde and phenylacetic acid, the mixture being heated in a closed tube for twelve hours. On treating the contents of the tube with hot water, a residue remains which, when purified, possesses the empirical formula of stilbene ( $C_{14}H_{12}$ ), and coincides in its properties with this hydrocarbon. Its formation is expressed by the equation:  $C_6H_5CHO + C_6H_5 - CH_2 - COOH = C_6H_5 - CH = CH - C_6H_5 + CO_2 + H_2O$ . A mixture of equal parts of cinnic aldehyde and phenylacetic acid, with sodium acetate, when treated in a similar manner, gave a substance which crystallizes in fine scales, fuses at 83–84°, and has the composition  $C_{17}H_{18}$ . To this body the author gives the name *isopropylstilbene*.

On substituting salicylic for cumic aldehyde, although the reaction does not take place in so satisfactory a manner as in the preceding case, a crystalline body was obtained, which fuses at 135-136°, has the composition  $C_{14}H_{12}O$ , and is probably *orthooxystilbene*.

**On a New Method for the Separation and Subsequent Treatment of Precipitates in Chemical Analysis**, F. A. GOOCH (I, 317). See this JOURNAL, I, 582.

**On several Spanish Minerals**. F. A. GENTH, JR. (I, 323).

*Cobaltiferous gersdorffite*, from Benahanis, Province of Malaga, is found associated with large, white, crystalline masses of calcite; H = 5; sp. gr. = 5.856; color, grey. The pure mineral is not affected by HCl, but is decomposed by treatment with  $HNO_3$ . The analysis gave:

S .....	22.01
As .....	39.71
Fe .....	1.12
Ni .....	24.83
Co .....	12.54
Cu .....	0.25
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	100.46

corresponding to  $R(SAs)_2$ , in which the Ni and Co are as 2 : 1, and the S : As as 14 : 11. Associated with the gersdorffite and calcite, were found chalcopyrite, erythrite, pharmacolite, lavendulite, olivenite and arragonite.

*Jamesonite*, from the Province of Huelva, is massive; H = 2.5; sp. gr. = 5.467; color, steel grey. It is dissolved by HCl, with evolution of  $H_2S$ , plumbic chloride separating; and by  $HNO_3$ , with separation of antimonious oxide, plumbic sulphate and sulphur. Analysis:

Fe .....	5.95
AgCl .....	0.28
Pb .....	38.29
Sb .....	33.15
S .....	23.60
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	101.27

which, on deducting the pyrite, gives the formula:  $(PbFe)_2Sb_2S_5$ .

**A Method for Estimating Bismuth Volumetrically**, M. KUHARA (I, 326). Noticed elsewhere.

**New Results in Electrolysis**, EDGAR F. SMITH (I, 329). Noticed elsewhere.

**Nitrosulphobenzoic Acids and some Derivatives**, EDWARD HART (I, 340).

*Metanitroparasulphobenzoic acid*,  $C_6H_3CO_2H + 2H_2O$ , is prepared in the following manner: Toluene is dissolved in the smallest possible quantity of fuming sulphuric acid, the solution diluted, neutralized with chalk, and evaporated to a small bulk. A solution of potassium permanganate is then added, the mixture diluted, heated until it becomes colorless, filtered, and the filtrate supersaturated with hydrochloric acid. The acid barium salt of parasulphobenzoic acid is next thrown down by adding barium chloride, and from this metanitroparasulphobenzoic acid is prepared by treating it with a mixture of equal parts of fuming nitric and sulphuric acids. The Ba salt is first prepared by neutralization with basic carbonate, and the acid, by exact precipitation of the barium salt with sulphuric acid. Metanitroparasulphobenzoic acid is very soluble in water, from which it crystallizes in short prisms; in a hydrated state, it fuses at  $130-131^\circ$ . The Ba, Cu, K, Ca and Ag salts of this acid were prepared and investigated.

*Metamidoparasulphobenzoic acid*,  $C_6H_3CO_2H$ , is obtained by treating the potassium or ammonium salt of the preceding acid with an excess of ammonium sulphide, evaporating, filtering, and adding HCl. It forms warty masses, which are with difficulty soluble in boiling water. The Ba salt was made and examined. The author regards this acid as identical with that prepared by Griess from metamidobenzoic acid.

*Paranitroorthosulphobenzoic acid*.—The Ka salt of this acid was obtained by oxidizing the Ca salt of tolueneparanitroorthosulphonic acid with potassium permanganate. The neutral and acid Ka, and the Ca salts, were prepared.

*Paranidoorthosulphobenzoic acid* was made by treating the potassium salt of the above acid with ammonium sulphide, evaporating, and precipitating with HCl. It forms long delicate needles, which are slightly soluble in cold water. The Ba salt was examined.

*Orthonitroparasulphobenzoic acid* was prepared by treating ortho-nitrotoluene with fuming sulphuric acid, neutralizing with chalk, evaporating the filtrate, and oxidizing the product with potassium permanganate. The solution is then filtered, and the acid thrown down by adding HCl. The Ka and Ba salts were prepared.

*Orthoamidoparasulphobenzoic acid*, made from the nitro acid by treating the potassium salt with ammonium sulphide, crystallizes in rhombic plates, which dissolve in hot water. Dilute solutions of the acid show a fine blue fluorescence.