

Influence of Acetic Acid on the Separation of Iron, as Basic Acetate, from Manganese, Zinc, Cobalt and Nickel,
JOHN LEMETT.

These papers are noticed elsewhere.

On the action of Iodine Monochloride upon Aromatic Amines, A. MICHAEL and LEWIS M. NORTON.

Action of iodine chloride upon acetanilide.—Acetanilide was dissolved in a large excess of glacial acetic acid, and iodine chloride, in the form of vapor, passed into the solution. The iodacetanilide thus obtained has the composition, $C_6H_4INH(C_2H_3O)$, and forms white rhombic plates, which are slightly soluble in cold water, but readily soluble in alcohol, and fuse at $181\frac{1}{2}^\circ C$. Upon treatment with hydrochloric acid, this compound is converted into the chlorhydrate of para-iodaniline, which, on addition of ammonia, yields mono-iodaniline (fuses at $60^\circ C$). *Nitro-para-iodaniline* is prepared by heating para-iodacetanilide with nitric acid, and consists of yellow needles, insoluble in water, soluble in alcohol, having the composition, $C_6H_3IN_2O_2$, and melting at 122° . The action of iodine chloride upon acetanilide is limited to the formation of mono-iodo compounds—a distinction from the behavior of chlorine or bromine towards this body.

Action of two molecules of iodine chloride upon one molecule of aniline acetate.—Aniline, dissolved in an excess of glacial acetic acid, was treated with the calculated amount of iodine chloride. The di-iodaniline thus obtained forms long, white needles, which melt at 95° , and solidify at 64° . This compound has the formula, $C_6H_3I_2N$, and possesses weak basic properties.

Tri-iodaniline ($C_6H_3I_3N$) is formed by the action of three molecules of iodine chloride upon one molecule of aniline chlorhydrate. It also forms white needles, fusing at $185\frac{1}{2}^\circ$, and solidifying at 146° , and does not present basic properties. The authors consider this compound identical with that obtained by Stenhouse,* by the action of iodine monochloride upon aniline salts.

Di-iodometanitraniline ($C_6H_4I_2N_2O_2$) is prepared by the action of iodine chloride upon meta-nitraniline, no tri-iodo compound being formed. It consists of yellow needles, fusing at $145\frac{1}{2}^\circ$.

Mono-iodopara-nitraniline ($C_6H_4IN_2O_2$) is obtained by treating one molecule of nitraniline, dissolved in dilute chlorhydric acid, with two

* Journal Chemical Society, 2, 2, 327.

mols. of iodine chloride. It forms long yellow needles, soluble in hot water, melting at $105\frac{1}{2}^{\circ}$, and exhibiting feeble basic properties. Together with this compound, there is formed in the above reaction a small amount of *di-iodopara-nitraniline*, which is insoluble in water; forms yellow prisms, having a fine blue color by reflected light, and fuses at 244° . This body was also prepared by treating a chloroform solution of 1 mol. of para-nitraniline with 2 mols. of iodine chloride.

Di-iodopara-toluidine ($C_7H_7I_2N$) is formed upon treating 1 mol. of para-toluidine (in HCl sol.) with 1 mol. of iodine chloride—the treatment of acetpara-toluide with iodine chloride having given negative results. It crystallizes in white needles, which fuse at $124\frac{1}{2}^{\circ}$.

Di-iodopara-amidobenzoic acid ($C_7H_5O_2NI_2$) is prepared by treating para-amidobenzoic acid with iodine chloride, and consists of white plates, fusing above 300° . Several salts of this acid were obtained, and analyses made.

The result of the action of iodine chloride upon meta-amidobenzoic acid, is a mixture of di- and tri-iodometa-amidobenzoic acids, which the authors were unable to separate. Iodine chloride fails to act upon acetmeta-amidobenzoic acid. The authors remark that, on the whole, the power of iodine chloride as a substituting agent is less than that of bromine or chlorine, and incline to the belief that in the above described compounds, the second and third iodine atoms, entering the molecules, have taken the ortho position toward the amido group.

The action of Phthalic Anhydride on Naphthalene in the presence of Chloride of Aluminium, EMILE ADOR and JAMES M. CRAFTS.—The principal product of this action consists of a black, tarry mass, which, upon treatment with a dilute solution of caustic soda, yields phthalic and *naphtoylorthobenzoic* acids ($C_{18}H_{12}O_3$). This latter acid crystallizes, from its alcoholic solution, in rosettes of microscopic prisms, and is insoluble in water. The Ba-salts are pretty soluble in water. Upon subjecting the portion of the tarry mass that is insoluble in caustic soda, to distillation, a distillate is obtained, which, when dissolved in benzine, gives, on addition of alcohol, a small quantity of crystalline flakes, melting at $181-186^{\circ}$, and having the empirical composition: C = 94.18; H = 5.89. The authors regard this new hydrocarbon as an isomere of chrysene, $C_{18}H_{12}$.

Note on Para-Nitro and Para-Amido Phenetol, E. J. HALLOCK.—Phenetol, when treated with fuming nitric acid, yields a dark-red, viscous liquid, which, on distillation, is separated into a