benzole and alcohol solutions, was found to be the most serviceable for effecting the separation of the constituents of the product under examination. Upon decomposing the picric acid compounds, thus separated, they obtained at least two distinct hydrocarbons, one fusing at 280° C., the other at 178° C. The quinones of these compounds were prepared, and from the hydrocarbon fusing at 280° C., the alizarine was also obtained, analyses of which indicate that this hydrocarbon has the composition $C_{16}H_{14}$, and is a dimethyl-anthracene, although not identical with the dimethyl-anthracene of Van Dorp. The other hydrocarbon is apparently monomethyl-anthracene. The authors are at present engaged in the study of this subject, and defer further discussion thereof until the completion of the same.

On the Oxidation of Substitution Products of Aromatic Hydrocarbons, by Prof. IRA REMSEN.—The author, in a report of a former investigation on para-sulphobenzoic acid,[*] referring to the oxidation products of ortho and para-toluenesulphonic acids and sulphamides, expressed the opinion that the ortho compounds are less easily oxidized than the para compounds. His view was corroborated upon treating a mixture of the two isomeric sulphonic acids with an oxidizing agent (chromic acid), and fusing the product obtained with potassium hydrate, when salicylic acid, but no ortho-sulphobenzoic acid was formed ; also, on separately treating the potassium salts of the two sulphotoluenic acids with an oxidizing agent under similar conditions ; and on submitting the two toluene-sulphamides to the same process. He is led by these results to the enquiry, whether the influence of a substituting group in the ortho position is such as to prevent the conversion of the hydrocarbon residue into carboxyl, and notes the investigations of Beilstein and Kreusler[†] on the oxidation of nitroxylene (by which monobasic nitro-toluic acid is formed), as indicating that the action of the chromic acid is limited to a single methyl group ; and the experiments of Vollrath,[‡] showing that para-chlorxylene behaves like the analogous nitro-derivative. The researches of Fittig, Ahrens and Mattheides [§] on bromxylene are also mentioned as affording similar results, and it is remarked that the entrance of a substituting group into xylene greatly affects its behavior towards chromic acid, one of the methyl group being protected

---

[*] Amer. Jour. Sci., vol. v., 179, 274, 354. Ann. der Chem., 178, 275.

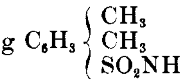
[†] Ann. der Chem., 144, 168.

[‡] Ibid, 144, 266.

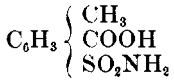
[§] Ibid, 147, 32.

against oxidation, the other remaining at least comparatively unaffected. In regard to the position occupied by the protecting group, the author's experiments with the sulpho derivatives of toluene indicate that the protected methyl group occupies the ortho position. Fittig* states that all ortho compounds are completely decomposed on treatment with chromic acid, and remarks that the experiments of Beilstein likewise show that the ortho substitution products of toluol are affected in the same manner, which would indicate that ortho compounds are *less* stable than those of the other series, a view which is of no assistance in the explanation of the *increased* stability of these compounds. The author regards as very probable the conclusion "that in all cases now on record, in which hydrocarbon residues are shown to be protected from oxidation by the presence of negative groups, the latter are in the ortho position with reference to the former; whereas, oxidizable residues, situated either in the meta or para position with reference to the negative groups, are, under the same circumstances, transformed, just as if the negative groups were not present," and proceeds to describe the investigations which lead him to this opinion.

On the Oxidation of Xylenesulphamides, by IRA REMSEN and M. W. ILES.—In this unfinished communication, which is a notice of the investigations upon which the deductions mentioned in the preceeding article are based, the authors describe the preparation of the sulphamides of xylene, and the oxidation products obtained therefrom. The xylene was first converted into sulphonic acids, and the corresponding amides were then prepared. Of these, three distinct modifications were obtained, two of which were divided from metaxylene, the third from paraxylene. The former, which are designated as α and β xylenesulphamides, fuse respectively at 137° and 97°; the latter at 143°. On several occasions a compound corresponding to ortho-xylenesulphamide was was also obtained. Upon oxidation, the amide is converted into a monobasic acid, fusing at 247.5°; the β amide giving under the same circumstances very small quantities of an acid which was not further examined. The acid obtained from the α amide has the composition $C_8H_9SNO_4$, and is derived from the amide by the oxidation of one of the methyl groups,

The amide being 

$$C_6H_3\left\{\begin{array}{l}CH_3\\CH_3\\SO_2NH_2\end{array}\right.$$

The acid is 

$$C_6H_3\left\{\begin{array}{l}CH_3\\COOH\\SO_2NH_2\end{array}\right.$$

and, as the amide is derived from metaxylene, the acid which would be formed from it by the oxidation of one methyl group, would be

---

[*] Zeitschr. f. Chem. N. F., vii, 179.