

alcohol, however, gave pure *s*-bis(*o*-carboxyphenyl)ethane (V), melting at 226–228°. It formed in clusters of delicate feather-like needles. Analysis showed that the compound contained no nitrogen.

Anal. Calcd. for $C_{16}H_{14}O_4$: C, 71.7; H, 5.2. Found: C, 71.2; H, 5.5.

The other reaction product was not isolated but was presumably the intermediate compound, 1-*o*-amidophenyl-2-*o*-carboxyphenylethane.

Summary

The coupling action of the Grignard reagent on certain *o*- and *p*-cyanobenzyl halides has been studied.

The *p*-cyanobenzyl halides yielded amorphous substances which contained halogen but no nitrogen.

The *o*-cyanobenzyl halides gave approximately 40% yields of the coupling product, *s*-bis(*o*-cyanophenyl)ethane, showing that in these cases the coupling reaction takes precedence over other possible reactions.

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NOTES

Dyes from the Alkaloids of Ipecacuanha.—From the fact that the non-phenolic alkaloids of ipecacuanha couple with *p*-nitrodiazobenzene, whereas emetine does not, Palkin and Wales¹ deduce that emetamine does so, and publish curves showing the absorption spectra of the supposed *p*-nitrobenzene-azo-emetamine. Their deduction is incorrect. Experiments with the pure alkaloids show that neither emetine nor *O*-methylpsychotrine nor emetamine couples with *p*-nitro diazobenzene, but psychotrine does so, the dye giving a purple solution in aqueous sodium hydroxide similar to that given by the dye from cephaeline. Incidentally, I have nowhere stated that "emetamine is probably an amine," and perusal of my paper² will show that I regard emetamine as a ditertiary base and psychotrine as a secondary-tertiary base.

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Dyes from the Alkaloids of Ipecacuanha. A Reply.—Professor Pyman's experiments with pure emetamine prove that our assumption regarding the identity of the constituent of the non-phenolic fraction of ipecac alkaloids which forms an azo dye is untenable. It would seem, therefore, that ipecac contains a hitherto undetected alkaloid which either

¹ Palkin and Wales, *THIS JOURNAL*, **47**, 2005 (1925).

² Pyman, *J. Chem. Soc.*, 111, 419 (1917).

is an amine or, if a phenol, is not removed from its solution in ether by alkali solution.

We note with interest Professor Pyman's statement that psychotrine did yield a dye and that in aqueous alkaline solution it was similar to that given by cephaeline, although apparently he has not examined this psychotrine dye spectrophotometrically. No pure psychotrine was available to us and, as stated in our paper, the psychotrine obtained by us from ipecac fluid extract by the method of Hesse yielded a dye apparently identical with that from cephaeline. We, therefore, assumed that the "psychotrine" obtained by us was contaminated with cephaeline and that the dye yielded by psychotrine, if any, was completely masked by that produced from the contaminating cephaeline.

We regret our misstatement regarding Carr and Pyman's conclusion as to the constitution of emetamine.

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NEW BOOKS

The Structure of Matter. By J. A. CRANSTON, D.Sc., Lecturer in Physical Chemistry, Royal Technical College, Glasgow. D. Van Nostrand Company, 8 Warren Street, New York, 1925. xvi + 196 pp. 70 figs. 22.5 × 15 cm. Price \$4.50.

This is in part an elementary account, for the benefit of somewhat advanced students of chemistry, of some of the most important recent work in radioactivity, crystal structure and X-rays. In addition, about half of the book is devoted to atomic structure theory. The overwhelming majority of this section is devoted to Langmuir's exposition and extension of Lewis' views, with the somewhat surprising result that the whole of optical spectroscopy is dismissed in two pages and the entire Bohr theory in fourteen, while the accounts of static models fill sixty pages. This policy is defended in the preface on the ground that whether "true" or not, the octet theory gives great aid to the chemist "in visualizing chemical combination and in giving in simple form the reason of chemical changes."

The order of subjects is well suited to the purpose of the book and the "scheme" which serves as frontispiece gives a good key to the whole. The reviewer, in presenting essentially the same material to university students, is accustomed to give less space, relatively, to the properties of free electrons and much more space to spectroscopy, but that is a matter of individual taste. Considering the amount of attention given to X-ray crystal analysis, some account of the ion-lattice theory of polar crystals might well be included in a subsequent edition. The "Wembley" chart