

COMMUNICATIONS TO THE EDITOR

A CORRECTION

Sir:

In the note on the use of ammonium acetate as a buffer [THIS JOURNAL, 54, 1911 (1932)], the implication was made that an ordinary good grade product was suitable for this purpose. Unfortunately the matter was treated by us as a passing observation and no more experimental work was done than that reported. Subsequently we have tested other samples of ammonium acetate. An unopened Kahlbaum sample gave a P_H of 6.93, which is close to neutrality, but other samples were very much more acid. Ammonium acetate recrystallized by dissolving the dry salt in five times its weight of methanol, adding a slight excess of ammonia (using as little water as possible), then adding an equal volume of acid-free ether, is reasonably stable and has always in our hands yielded a solution nearly neutral. In one case, however, the P_H value of a solution of crystals prepared approximately in this way was 6.85. Our original supply of ammonium acetate was therefore, by coincidence, somewhat unique in possessing the theoretically anticipated neutrality. We have not had time for a thorough study, but hope others may carry out such studies. We are regretful that a fuller experimental study was not made previous to the publication of our note.

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A PROPOSAL TO ADOPT THE STEM "XEN" OF A. W. HOFMANN'S XENYL AS
BASIS FOR NOMENCLATURE OF BIPHENYL (DIPHENYL) AND ITS
DERIVATIVES

Sir:

The study of condensed nuclei involving benzene has been materially aided through the employment of generic names for each particular grouping. In those cases, however, where two or more benzene rings are singly linked we have encountered an increasing difficulty in finding suitable terminology that is both clear and brief.

The name biphenyl (or diphenyl) has long been in use to designate the first step in the condensation of two benzene rings. It is only when we come to the consideration of well-known derivatives of biphenyl that we encounter a growing cumbersomeness in nomenclature.

For hydroxylated biphenyl compounds, the designations of ortho, meta and para phenylphenol are now meeting with favor over the correctly formed yet less euphonious corresponding terms ortho, meta and para hydroxybiphenyl; yet there is no reason why we should continue in use such

long terms as phenylphenol when we refer to a group of compounds which are of growing worth in the chemical industry and, as far as we can discern, will be of far greater worth in the future than the simple, old-time phenol.

Xenylamine, later identified as *p*-aminobiphenyl, was isolated by A. W. Hofmann from the high-boiling bases (over 330°) found in commercial aniline. This same compound was called martylamine by the same author [*Proc. Roy. Soc. (London)*, 12, 389 (1862)] but only the former name seems to have persisted in the literature.

The confusion that arises today in the use of "biphenyl" or "biphenylyl" as a univalent group in contradistinction to "diphenyl" designating two phenyl groups is not easily dispelled. For example, *o*-aminobiphenyl—sometimes termed *o*-biphenylamine, must be readily discernible from diphenylamine and this notwithstanding that the hydrocarbon phenylbenzene remains "diphenyl" as well as "biphenyl." It would seem advisable, therefore, that we adopt some simpler means of representing a hydrocarbon base when made up of separate benzene rings singly linked.

For the present, it is hardly necessary to look beyond groupings containing more than two benzene rings singly linked, and for this reason the proposal by A. W. Hofmann [*Compt. rend.*, 55, 901 (1862); *Jahrest. Fort. Chem.*, 344 (1862)] of the name "xenyl" for the biphenylyl radical is here considered sufficient. Its meaning should be extended to include the ortho and meta as well as the para series. The hydrocarbon of which xenyl is the univalent radical naturally must become "xenene"; the hydroxyl derivative will become "xenol" or in abbreviated form "xenol."

The preparation of ortho and para xenylamines is reported in several articles by Morgan and Walls [*J. Soc. Chem. Ind.*, 49, 15T (1930); 50, 94 (1931)]. "Beilstein" has adopted this term in the new editions. *Chemical Abstracts* since 1917 has used the term "xenyl" as an equivalent for *p*-biphenylyl in the name xenylamine. Hurd, in the "Pyrolysis of Carbon Compounds," page 28, makes brief mention of "xenyl" in contradistinction to phenyl and other radicals.

The diamino derivatives of "xenene" now should be looked upon as "xenylenediamine" compounds and the well-known 4,4'-biphenylenediamine or benzidine, will become 4,4'-xenylenediamine. The monocarboxylated xenene derivative would become xenencarboxylic acid or *o*-, *m*- or *p*-xenoic acid (by analogy with benzoic, naphthoic, etc., acids).

The hydroxyl derivatives of xenene thus become xenyl hydroxides or xenols and of these *o*-xenol and *p*-xenol are now meeting with extensive use in the chemical industry. Among the halogen derivatives we would have, for example, *o*-, *m*- or *p*-chloroxenene and other halides similarly named.

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