CHEMISTRY

Chairman: H. B. Burkett, DePauw University

Warren Brandt, Purdue University, was elected chairman for 1961

ABSTRACTS

Chemical Terms Derived from Greek. Ned Guthrie, Hanover College.—It has been the author's experience in the teaching of chemistry that students tend to memorize the meaning of scientific terms instead of reasoning the meaning from the meaning of familiar words derived from the same Greek root or prefix. Gerald R. Boezer published a list of Greek and Latin roots with one or two examples to illustrate each. This paper gives additional examples from the most widely used roots, mainly in the field of chemistry, some from other sciences and a few from non-scientific fields to make the student conscious of this method of building a useful vocabulary. This paper is confined to words derived from the Greek. From five to ten words are given as examples of each root or prefix. Following is a list of roots or prefixes. (A similar paper is being prepared from words derived from Latin.)

1. A, An. Without or Not.
2. Ana. Up or Upward.
3. Ampho, Amphia. Both, both sides, Around. (Latin is Ambi.)
4. Anti. Against.
5. Bar. Heavy.
6. Bio. Life.
7. Bole. Throw or Stroke.
8. Cata. Down.
9. Chol. Bile.
10. Chrom. Color.
11. Cline. Slope or Lean.
12. Cycle. Circle, Wheel, Ring.
13. Cyto. Cell.
14. Dia. Through, Across, Between.
15. Dys. Hard, Difficult, Ill.
16. Endo. Within, Into.
17. Epi. On, Upon, Beside, Over.
18. Erg. Work.
19. Erythro. Red.
20. Eu. Good, Well, Easily.
21. Ex, E. Out.
22. Gen. To produce or form.
23. Geo. Earth.
24. Glyco. Sweet.
25. Gon. Angle.
26. Graph. Write.
27. Hodes or Ode. Road or Way.
28. Homo. Same or Alike. (Homo from Latin means man.)
29. Hydro. Water.
30. Hypo. Under, Down, Beneath.
31. Iso. Equal or Same.
32. Leuco. Light or White.
33. Lith. Stone.
34. Lysis. Loosen, Split.
35. Mer. Part.
36. Meta. Between, Along with, After, Over.
37. Micro. Small.
38. Morph. Form.
39. Neo. New.
40. Ortho. Straight, Regular, Right, True, Correct.
41. Para. Beside, Beyond.
42. Peri. Around.
43. Petro. Rock or Stone.
44. Philo. Loving, Fond of.
45. Phos, Photo. Light.
46. Poly. Many.
47. Pyro. Fire, Heat.
48. Scope. View.
49. Stat. Standing or Stationary.
50. Stereo, Stere. Solid, Space.
51. Sym. Syn. With, Together.
52. Therm. Heat.
53. Tom, Otomy. To cut into.
54. Trope, Tropos. Turn or Change.

The Uultraviolet Absorption Spectra of Some Unsymmetrical Disulfides.[1,2] E. CAMPAIGNE, J. TSURUGI and W. W. MEYER, Indiana University.—The ultraviolet absorption curves of certain unsymmetrical diaryl disulfides, Ar-S-S-Ar', were calculated as one-half the sum of the absorption curves of the two symmetrical disulfides, ArSSAr and Ar'SSAr'. Slight deviations from the calculated values in the observed curves were consistent with inductive effects of groups attached to sulfur in the two halves of the molecule, ArS- and Ar'S-. No transmission of electronic effects through the sulfur-sulfur bond could be detected in the ultraviolet spectra of the diaryl disulfides.

The Spectra of Some Schiff Bases of p-Aminoazobenzene. JOHN A. RICKETTS and CHUNG SOOK CHO, DePauw University.—The spectra of the molecules, N,N-Dimethyl-p-phenylazoaniline, N,N'-Dibenzal-1,4-diaminobenzene, N-(p-dimethylaminobenzal)aniline, N-Benzal-p-phenylazoaniline, N-(p-dimethylaminobenzal)-p-phenylazoaniline, and 1-Methyl-4-carbostyrilcarboxaldehyde-p-phenylazoanilineanil, were determined in both dry ethanol and ethanol solutions of varying acid strengths in the region of 2200 to 6000 A°. In addition the infrared spectra of these molecules were determined in carbon tetrachloride. The first and second dissociation constants of the compounds were determined by applying the Lambert-Beer law.

Acid-Catalyzed Decarbonylation of 2,4,6-Trimethoxybenzaldehyde. An Accompanying Condensation Reaction. HOWARD BURKETT and JOHN CASSADY, DePauw University.—Normally under a wide variety of conditions of treatment with mineral acids and mineral acids with added salts 2,4,6-trimethoxybenzaldehyde at ca. 10^{-5} to 10^{-4} molar concentration yielded only 1,3,5-trimethoxybenzene or, at the higher acid concentrations, subsequently phloroglucinol by demethylation of the initial product. If the concentration of the 2,4,6-trimethoxybenzaldehyde was above ca. 10^{-3} molar, a red solution and a red precipitate were obtained from the reaction mixture in strong hydrochloric acid, hydrobromic acid or perchloric acid. Removal of acid from the red solid yielded a white solid, 2,4,6,2',4',6',2'',4'',-6''-nonamethoxytriphenylmethane, a new compound. Titration indicated the red solid to be a 1:1 adduct between this compound and the mineral acid used. A kinetic study demonstrated that the new compound was formed by reaction of the aldehyde with 1,3,5-trimethoxybenzene from the decarbonylation of the aldehyde.

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1. Contribution from the Chemistry Laboratories of Indiana University.
2. A technical report prepared for the Office of Ordnance Research, United States Army, Contract DA 33-008-ORD 1916.