ing—CSNH—which evidently exists also in the tautomeric form C—SH—N—. This was shown by the fact that the methylene substitution products S—CSHN—COC = CHX, where X is an aryl
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or NH aryl, easily formed thio ethers with alkyl or benzyl halides, which have the constitution, S—C—SRNCOC = CHX. This is in harmony with
: :
the behavior of the thio-imidazolones, previously described.

Production of imido thiol esters by the condensation of thio cyanides with resorcinol or phloroglucinol: R. J. KAUFMAN and ROGER ADAMS. Many reactions have appeared in the literature tending to show that the cyano grouping in organic thiocyanates reacts similarly to the cyan grouping in nitrites. This similarity has been shown to exist also in the condensation of thiocyanates with resorcinol and phloroglucinol in the presence of hydrogen chloride and zinc chloride. Whereas the nitriles yield imido-hydrochlorides which hydrolyze to ketones, the thiocyanates yield imido thiol ester hydrochlorides having the following general formula: 1.3—$(HO)_2C_6H_3(4)C(=NH—HCl)SR$. The reaction takes place with both aryl and alkyl thiocyanates. The imido thiol ester hydrochlorides, by the action of sodium bicarbonate, yield the imido thiol esters. These latter substances, upon treatment with alcohols, are converted into the corresponding imido oxygen esters, which in turn may be hydrolyzed to carboxylic esters. The imido thiol ester hydrochlorides may be hydrolyzed to thiol esters which, upon saponification, yield carboxylic acids.

The preparation of alkylguanidines: ROSS PHILLIPS and H. T. CLARKE. Methyl iso-thiourea sulfate, a reagent recently diescribed by Arndt for the preparation of methyl mercaptan, reacts readily with aliphatic primary and secondary amines to yield the sulfates of mono and dialkyl guanidines in almost theoretical yield. This reaction does not take place with aromatic amines. Methylguanidine sulfate and dimethylguanidine sulfate form colorless crystals readily soluble in water but insoluble in alcohol.

The influence of sulphur on the color of azo dyes: D. G. FOSTER and E. EMMET REID. A series of azo dyes has been prepared by coupling various alkyl ethers of o. amino-thio-phenol with standard intermediates with a view to contrasting the dyes containing sulphur and the sulphone group with the corresponding oxygen dyes. The colors of the dyes are related in the same way as in the corresponding para compounds, though the ortho are lighter. The methoxy group deepens the color more than methyl and the methyl-thio ether still more, while this effect is lost by oxidation to the sulphone.

A study of irreversible organic reductions: J. B. CONANT and R. E. LUTZ. The irreversible reduction of certain unsaturated compounds, aromatic nitro compounds and azo compounds has been studied in aqueous, alcoholic and acetone solutions. Each compound was tested with reducing agent of known potential, an electrochemical method being employed to determine whether or not reduction had occurred. The potential at which the irreversible reduction first occurred at an appreciable rate was thus estimated within fifty millivolts. The "apparent reduction potentials" thus determined for a series of compounds in acetone-hydrochloric acid were: $C_6H_5COCH = CHCOC_6H_5 = +0.270$, $C_6H_5COCH = CHCOOH = +0.080$, $HOOCCH = CHCOOH$ below -0.130; $C_6H_5N = NC_6H_5 = +0.360$, $C_6H_3(NO_2)_3 = +0.270$, $C_6H_4(NO_2)_2 = +0.162$; $C_6H_5NO_2 = +0.080$. The change in apparent reduction potential with change in P_H is approximately parallel to the change in potential of the quinones under similar conditions.

Diplumbic hexæthide, a new organometallic compound: THOMAS MIDGLEY, JR., CARROLL A. HOCHWALT and GEORGE CALINGAERT. On heating any alloy of lead and sodium with ethyl iodide no reaction takes place unless water be present, when lead tetraethyl is formed. On treating this successively with hydrochloric acid and sodium hydroxide, first triethyl lead chloride and then triethyl lead hydroxide are produced. When this last compound is electrolyzed in alcoholic solution, a good yield is formed of an oil whose properties agree closely with the formula $Pb_2(C_2H_5)_6$. This compound is entirely different from that of Klippel, whose description indicates that he had undoubtedly produced lead tetraethyl.

CHARLES L. PARSONS,
Secretary

THE AMERICAN MATHEMATICAL SOCIETY

THE two hundred and twenty-ninth regular meeting of the American Mathematical Society was held at Columbia University, New York City, on Saturday, April 28. The attendance included fifty-seven members of the society.

The secretary announced the election of twenty persons to membership and the entrance into the society since the February meeting of three additional members of the London Mathematical Society under the reciprocity agreement.

At the meeting of the Council, Professor Edward Kasner was elected a member of the

editorial committee of the *Transactions*, as successor to Professor L. P. Eisenhart. Professor Eisenhart was elected to complete the term of service of Professor C. N. Haskins as representative of the society in the division of physical sciences of the National Research Council, Professor Haskins having asked to be relieved on account of ill health.

The secretary announced that the Cole prize fund had been augmented to more than one thousand dollars. The following committee was appointed to set the first prize problem and arrange the conditions of award: Professors H. S. White (chairman), H. F. Blichfeldt, L. E. Dickson, T. S. Fiske and W. F. Osgood. The first award may be as early as the annual meeting of 1927.

The following papers were read before the society at this meeting:

The resemblance between the ordinate of the periodogram and the correlation coefficient: W. L. CRUM.

Birational transformations simplifying singularities of algebraic curves: G. A. BLISS.

Curvatures and the top: O. D. KELLOGG.

Simplified proof of l'Hospital's theorem on indeterminate forms: E. V. HUNTINGTON.

Tables of Lagrangean coefficients, for interpolating without differences: E. V. HUNTINGTON.

A remarkable class of entire functions: J. I. HUTCHINSON.

On Newton's formulas for the sums of the powers of the roots of an algebraic equation: C. N. HASKINS.

Invariants of the transformation of a differential form by analytic transformations. Preliminary report: O. E. GLENN.

Mutual induction of two square coils: T. H. GRONWALL.

On Dirichlet's series with complex exponents: E. HILLE.

Normal congruences and quadruply infinite families of curves in space. Second paper: J. DOUGLAS.

Determination of all families of ∞^4 curves in space in which the sum of the angles of every triangle is two right angles: J. DOUGLAS.

On the complete independence of the functional equations of involution: C. C. MACDUFFEE.

The Dirichlet problem for the sphere and its generalization; necessary and sufficient conditions: G. C. EVANS and H. E. BRAY.

Integro-differential invariants of one-parameter groups of Volterra transformations. Preliminary report: A. MICHAL.

A generalization of the Dirichlet problem: N. WIENER.

A new type of summability: N. WIENER.

On the location of the roots of Lamé's polynomials: J. L. WALSH.

Rods of constant or variable circular cross section: C. A. GARABEDIAN.

A pendulum of varying length: F. H. SAFFORD.

Note on a certain type of ruled surface: W. C. GRAUSTEIN.

On certain difference equations: N. E. NÖRLUND.

Orthogonal systems of hypersurfaces in a Riemann space: L. P. EISENHART.

Symmetric tensors of the second order whose first convariant derivatives are zero: L. P. EISENHART.

Geometry of curved space without coordinates: G. Y. RAINICH.

Normal congruences of curves in a Riemann space: H. LEVY.

Linear tensor equations: P. FRANKLIN.

A qualitative definition of the potential functions: P. FRANKLIN.

Riemann spaces conformal to Einstein spaces: H. W. BRINKMANN.

Einstein spaces mapped conformally on each other: H. W. BRINKMANN.

Surfaces with orthogonal loci of the centers of geodesic curvature of an orthogonal system: M. C. FOSTER.

Trajectory surfaces: J. LIPKA.

Geometric interpretation of the second differential parameter: J. LIPKA.

Formulas for the greatest and the least variate under general laws of frequency or error: E. L. DODD.

Singularities that may be added to those of curves of given order: T. R. HOLLCROFT.

On the quadratic ternary partial differential equations admitting Lie groups of orders 4 and 5: S. D. ZELDIN.

On the approximate solution in integers of a set of m linear non-homogeneous equations in $n > m$ unknowns, and the final form of Kronecker's theorem: H. F. BLICHFELDT.

Homogeneous first integrals of the geometry of paths: O. VEBLEN and T. Y. THOMAS.

Isothermal surfaces with spherical lines of curvature in one system: T. H. GRONWALL.

Extension of Tchebychef's statistical theorem: T. H. GRONWALL.

The summer meeting of the society will be held at Vassar College, Poughkeepsie, September 6-8.

R. G. D. RICHARDSON
Secretary