

INDEX OF SUBJECTS.

TRANSACTIONS. 1893.

And also to such papers as appeared in the Proceedings during the Session 1892—1893 (Nos. 115—127, November, 1892, to July, 1893), but not in Transactions (marked *Proc.*).

A.

Acetaldoxime, modifications of, *Proc.*, 1893, 76.

Acetanhydrocitric acid, 699.

Acetic acid, chlor-, action of phosphoric anhydride on, 461.

— — — depression of the freezing point of, by dissolved substances, 1023.

— — — depression of the freezing point of sulphuric acid by, 1027.

— — — depression of the freezing point of water by, 1018.

— — — molecular weight of, in the liquid state, 1103.

Acetic anhydride, depression of the freezing point of acetic acid by, 1025.

— — — molecular weight of, in the liquid state, 1100.

Acetic chloride, molecular weight of, in the liquid state, 1100.

Acetoacetic acid, derivatives of, and ethylenediamine, condensation products from, 1310.

α -Acetonaphthalide, nitration of, *Proc.*, 1893, 8.

Acetone, molecular weight of, in the liquid state, 1104.

Acetophenone, orthochloro-, preparation of, 1353.

— orthochloronitro-, 1354.

Acetyltrifluorescein, 680.

Acetylene, preparation of, *Proc.*, 1893, 15.

Acetylortho-xylene, 81.

— brom-, 86.

— oxidation of, 90.

Acetylortho-xyleneacetoxime, 84.

Acetylortho-xylenehydrazone, 79.

Acetylortho-xylenehydroxime, 83.

— brom-, 89.

— intramolecular change of, 85.

Acetylxylenol, 110.

Acids, active, influence of metals on the specific rotation of, 296.

— and bases, distribution of, in a solution containing calcium, magnesium, and carbonic and sulphuric acids, 696.

— fatty, action of phosphoric anhydride on, 452.

— feeble, relative strengths or avidities of, *Proc.*, 1893, 144.

— unsaturated, formation of pyridine derivatives from, 874.

Aconite alkaloids, 443, 491, 991, 994.

Aconitine aurochloride, some modifications of, 994.

— α -aurochloride, 995.

— β -aurochloride, 996.

— γ -aurochloride, 997.

— composition of commercial specimens of, 491.

— conversion of, into isaconitine, 991.

Aldoximes, paraffinic, isomerism of, *Proc.*, 1893, 76.

Alizarin, methyl ether, 1164, 1174.

— preparation of, from chay root, 1162.

Alkali metals, method of obtaining persistent spectra of, 139.

Alkaloid from *Corydalis cava*, 485.

Alkaloids of aconite, 443, 491, 991, 994.

Alkylamines, compounds of, with water, 141.

Allylic alcohol, molecular weight of, in the liquid state, 1103.

— thiocarbimide, molecular weight of, in the liquid state, 1100.

Amines, benzenoid, relations between constitution and physical constants in the case of, *Proc.*, 1893, 41.

— molecular depression of the freezing point of water produced by, 135.

Ammonia, compounds of, with water, 141.
 — freezing points of aqueous solutions of, 181.
 Ammonium chloride, non-formation of, from dry ammonia and hydrogen chloride, *Proc.*, **1893**, 129, 165.
 — dextroethoxysuccinate, 236.
 — dextromethoxysuccinates, 225.
 — glycerate, active and inactive, 304.
 — hydrogen dextroethoxysuccinate, 231.
 — — lævomethoxysuccinate, 338.
 — hydrosulphide, *Proc.*, **1893**, 178.
 — sulphide, oxidation of solutions of, *Proc.*, **1893**, 178.
 — sulphides and polysulphides, *Proc.*, **1893**, 178.
 Amylamine, freezing point of aqueous solutions of, 179.
 Amylene, action of nitrosyl chloride on, 482.
 Amylic alcohol, active, preparation of, from fusel oil, 1130.
 — — specific volume and thermal expansion of, 282.
 — — inactive, specific volume and thermal expansion of, 281.
 — — molecular weight of, in the liquid state, 1102.
 Aniline and its homologues, relations between constitution and physical constants with, *Proc.*, **1893**, 41.
 — molecular weight of, in the liquid state, 1101.
 Anniversary meeting, 739.
 Anthragallol dimethyl ethers, 1163, 1168, 1172.
 — methyl ether, 1170.
 Arsenic acid, Fleitmann's test with, 884.
 Arsenic, improvements in Reinsch's test for, 886.
 Atomic weight determinations, collective discussions of, 37.
 — — — from the time of Berzelius to that of Stas, 22.
 — — — from 1860 to 1881, 37.
 — — — list of papers by Stas on, 36.
 — — — methods desirable to be pursued in, 46.
 — — — since 1882, list of papers on, 38.
 — — — of boron, 209.
 — — — of contained metals, and the magnitude of the angles of crystals of isomorphous series, connection between, 337.
 — weights of the elements, early history of investigation as to, 16.

Atomic weights, Stas' determinations of, 24.
 Atoms, the measurement of the relative masses of the, of the chemical elements, 1.
 Aurochlorocaffeine, 201.
 Avidities of some compounds of weak acid character, *Proc.*, **1893**, 144.
 Azines of the lapachol group, 1376.
 Azobenzene, origin of colour in, *Proc.*, **1892**, 194.
 Azo-compounds, meta-, *Proc.*, **1893**, 126.
 — — — of the ortho-series, 923.
 — — — ortho-, constitution of, 936.
p-Azotoluene, preparation of, 1398.

B.

Balance sheet of the Chemical Society, from March 18th, 1892, to March 16th, 1893, 748.
 — — — of the Research Fund, from March 18th, 1892, to March 16th, 1893, 749.
 Barium dextroethoxysuccinate, 235.
 — dextromethoxysuccinate, 226.
 — glycerate, active and inactive, 298.
 Bases and acids, distribution of, in a solution containing calcium, magnesium, and carbonic and sulphuric acids, 696.
 Benzaldehyde, molecular weight of, in the liquid state, 1101.
 — orthochloronitro-, hydrazone of, 1353.
 Benzaldehydemetachlorophenylhydrazone, 871.
 Benzaldehydeparachlorophenylhydrazone, 873.
 Benzaldoxime, orthochloronitro-, action of alkalis on, 1348.
 — — — preparation of, 1347.
 Benzene, chloro-, molecular weight of, in the liquid state, 1100.
 — depression of the freezing point of, by dissolved substances, 1019.
 — depression of the freezing point of naphthalene by, 1027.
 — molecular weight of, in the liquid state, 1100.
 — nitro-, molecular weight of, in the liquid state, 1101.
 Benzeneazo- β -naphthol, reduction of the acetyl derivative of, 930.
 — — — parachloro-, reduction of the acetyl derivative of, 933.
 Benzilam, 474.
 Benzile, reduction of, with hydriodic acid, 770.

Benzonitrile, molecular weight of, in the liquid state, 1101.
 Benzylamine and phenacyl bromide, interaction of, 1355.
 — preparation of, 1311.
 Benzyl-dihydroxypyridine, 259.
 4-Benzyl-2 : 6-diphenylpiazine dihydride, 1366.
 — — hydrochloride, 1373.
 5-Benzyl-2 : 6-diphenylpiazine, 1372.
 Benzylideneperinitronaphthylamine, 1061.
 Benzylphenylbenzylthiourea, isomeric form of, 538.
 4-Benzyl-1 : 2 : 6-triphenylpiazine dihydride, 1374.
 Beryl, preparation of glucina from, 909.
 Beryllium oxide, preparation of, from beryl, 909.
 Bidiphenylethylene, *Proc.*, 1892, 192.
 Bismuth ammonium chlorobromides, 547.
 — haloïds, interaction of alkali haloïds with, 540.
 — potassium chlorobromides, 546.
 Boiling points of homologous compounds, *Proc.*, 1893, 145.
 Boron, atomic weight of, 207.
 Bromine, separation of iodine from, 1051.
 Burette for rapid titration, *Proc.*, 1893, 132.
 Butylamine, secondary, freezing points of aqueous solutions of, 176.
 Butylic alcohol, normal, molecular weight of, in the liquid state, 1102.
 — glycerate, active normal, 1411.
 — glycerates, active and inactive, 516.
 — (secondary), active, 519.
 — (tertiary), attempts to prepare, 521.
 Butyric acid, molecular weight of, in the liquid state, 1103.

C.

Cadmium alkali sulphates, crystallography of, 407.
 — glycerate, active and inactive, 303.
 Cæsium cadmium sulphates, crystallography of, 410.
 — cobaltous sulphate, crystallography of, 393.
 — copper sulphate, crystallography of, 403.
 — ferrous sulphate, crystallography of, 369.
 — magnesium sulphate, crystallography of, 349.

Cæsium manganous sulphate, crystallography of, 376.
 — method of obtaining a persistent spectrum of, 140.
 — nickelous sulphate, crystallography of, 384.
 — zinc sulphate, crystallography of, 361.
 Caffeine and theine, identity of, 195.
 — aurochloride, 198.
 — mercuric chloride, 199.
 — potassium aurochloride, 204.
 — reaction of, with auric chloride, 195.
 Calcium dextroethoxysuccinate, 233.
 — glycerate, active and inactive, 297.
 — lævomethoxysuccinate, 228.
 — magnesium, carbonic, and sulphuric acids, distribution of acids and bases in a solution containing, 697.
 — methoxysuccinate, dextro-, 335.
 — oxide, conditions of the absorption of carbonic anhydride by, 822.
 — — conditions of the absorption of sulphurous anhydride by, 829.
 — — inertness of, 821.
 Camphene, action of phosphorus pentachloride on, *Proc.*, 1893, 163.
 Camphenephosphonic acid, chloro-, *Proc.*, 1893, 164.
 α-Camphenephosphonic acid, *Proc.*, 1893, 164.
 β-Camphenephosphonic acid, *Proc.*, 1893, 164.
 Campholytic acid, 498.
 — dibromide, 500.
 Camphor, chloro-, *Proc.*, 1893, 130.
 — chlorobromo-, *Proc.*, 1893, 139.
 — constitution of the ketone obtained from, 93.
 — dichloro-, *Proc.*, 1893, 130.
 — formation of ketones by the action of sulphuric acid, zinc chloride, &c., on, 75.
 — sulphonation of, with anhydrosulphuric acid, 549.
 — sulphonation of, with chlorosulphonic acid, 552.
 — sulphonie derivatives of, 548.
 Camphoric acid, constitution of, 506.
 Camphoric anhydride, fluoresceïn of, 961.
 Camphorsulphonamide, inactive, 570.
 — bromo-, 583.
 — chloro-, 598.
 — dextrorotatory, 567.
 Camphorsulphonic acid and its salts, 573.
 — — bromo-, and its salts, 584.
 — — chloro-, and its salts, 599.

- Camphorsulphonic chloride, 551, 554.
 ——— action of heat on, *PROC.*,
1893, 130.
 ——— bromo-, 577.
 ——— chloro-, 594.
 ——— dextrorotatory, isolation of,
 554.
 ——— levorotatory, probable exist-
 ence of, 557.
 Camphothetic acid, 504.
 Camphren, oxidation of, **96**, **97**.
 ——— preparation of, 77.
 Camphylic acid, sulpho-, *PROC.*, **1893**,
 109.
 ——— distillation of, *PROC.*,
1893, 109.
 ——— oxidation of, *PROC.*,
1893, 110.
 Capillary separation of substances in
 solution, *PROC.*, **1893**, 123.
 Caproic acid, action of phosphoric an-
 hydride on, 460.
 Caprylone oxime, 454.
 ——— preparation of, 453.
 Carbanilide, hexanitro-, 1064, 1068.
 Carbon bisulphide, depression of the
 freezing point of acetic acid by, 1025.
 ——— depression of the freezing
 point of benzene by, 1022.
 ——— molecular weight of, in the
 liquid state, 1099.
 ——— tetrachloride, molecular weight of,
 in the liquid state, 1099.
 Carbonic acid, sulphuric acid, calcium
 and magnesium, distribution of acids
 and bases in a solution containing,
 696.
 ——— anhydride, condition of the absorp-
 tion of, by calcium oxide, 822.
 Cellulose, alkali, and carbon bisulphide,
 interaction of, 837.
 ——— benzoates, 838.
 ——— constitution of, **843**.
 ——— regenerated, 840.
 ——— thiocarbonates, 837.
 Cellulosethiosulphocarbonic acid, 839.
 Chay root, colouring and other princi-
 ples contained in, 1160.
 Chemical action, influence of moisture
 in promoting, *PROC.*, **1893**, 129.
 ——— change, conditions determinative
 of, *PROC.*, **1893**, 145.
 Chloral, molecular weight of, in the
 liquid state, 1100.
 Chlorine and mercury, interaction of,
PROC., **1893**, 38.
 ——— separation of iodine from, 1051.
 Chromium, detection of, in presence of
 iron and manganese, 1082.
 ——— estimation of, by aid of sodium
 peroxide, 1081.
 Chrysomethylpiazine, 1292.
 Chrysopiazine, 1290.
 ——— 1 : 4-dihydride, 1289.
 Cinnamene, action of nitrosyl chloride
 on, 483.
 Citraconfluorescein, 677,
 ——— action of bromine on, 682.
 ——— derivatives of, 677.
 ——— dinitro-, 683.
 Citrazinamide, preparation of, 1036.
 Citrazinic acid, 1035.
 ——— action of nitrous acid on,
 1043.
 ——— alkali salts of, 1040.
 ——— isonitroso-, 1047.
 ——— tribromo-, 1042.
 ——— trichloro-, 1041.
 Citrazinimide, alkali salts of, 1039.
 Cobalt, separation of, from manganese,
 1082.
 Cobaltous alkali sulphates, crystallo-
 graphy of, 388.
 Colour, change of, as indicative of
 change of structure, *PROC.*, **1893**, 55.
 ——— origin of, 243; *PROC.*, **1892**, 189,
 194; **1893**, 52, 55, 93.
 Colouring principles of chay root, 1160.
 ——— of morinda root, 1184.
 ——— of *Rubia sikkimensis*, 1157.
 ——— of wong-koudu, 1185.
 Copper alkali sulphates, crystallography
 of, 396.
Corydalis cava, a new alkaloid from,
 485.
 Corytuberine, 486.
 ——— methiodide, 487.
 ——— salts, 486.
 Critical constants of certain ethereal
 salts, 1191, 1243, 1257.
 ——— temperatures, new method of cal-
 culating, 1107.
 Crystallography of the potassium,
 rubidium, and cesium salts of the
 monoclinic series of double sulphates,
 $R_2M(SO_4)_2 \cdot 6H_2O$, 337.
 Crystals of isomorphous series, connec-
 tion between the atomic weight of
 contained metals and the magnitude
 of the angles of, 337.

D.

- Dehydracetic acid, amido-, 128.
 ——— formation of orcinol and
 other condensation products from,
 122.
 ——— production of naphthalene
 derivatives from, 329.
 Depolarisers, nature of, *PROC.*, **1893**,
 148, 188.

- Dextroethoxysuccinic acid, 234.
 Dextromethoxysuccinic acid, 223.
 Diacethydroxamic acid, *Proc.*, **1893**, 77.
 Diacetylcitrazinamide, 1038.
 Diacetyl glyceric acid, ethereal salts of, and their relation to optical activity, 1419.
 Diacetylheptane [2 : 6], reduction products of, 111.
 Diastase of leaves, 604.
 ——— action of, on soluble starch, 651.
 ——— ——— periodic variations of the, 644.
 ——— ——— products of the transformation of starch by, 634.
 ——— occurrence of, in the leaf, 633.
 Diastatic activity of leaves, determination of, 637.
 Dibenzoyldihydroxybenzylpyridine, 261.
 Dibenzylamine, preparation of, 1311.
 1 : 4-Dibenzyl-2 : 5-diphenylpiazine dihydride, 1362.
 1 : 4-Dibenzyl-2 : 6-diphenylpiazine dihydride, 1366.
 ——— action of ferric chloride on, 1373.
 1 : 4-Dibenzyl-2 : 6-diphenylpiazine dihydride, molecular transpositions of, 1371.
 3 : 5-Dibenzyl-2 : 6-diphenylpiazine, 1371.
 Dicaprylcarbinol, 455.
 Diethyl ketone, specific volume and thermal expansion of, 285.
 Diethylamine, depression of the freezing point of benzene by, 1021.
 ——— freezing points of aqueous solutions of, 158.
 ——— hydrates of, 160.
 Dihydroxybenzylpyridine, 259.
 Dihydroxyhydrolapachol, bromo-, 428.
 Dihydroxypyridines, 874.
 Diisomylthiourea, 322.
 Diisobutylthiourea, symmetrical, 319.
 α -Diketones, reduction of, 770.
 Dilatometers, construction of, 263.
 2 : 3-Dimethoxyphenyl-1 : 4-dibenzoylpiazine dihydride, 1303.
 2 : 3-Dimethoxyphenylpiazine, 1303.
 ——— 5 : 6-dihydride, 1300.
 2 : 3-Dimethoxyphenylpiazinecarboxylamide, 1308.
 2 : 3-Dimethoxyphenylpiazinecarboxylic acid and its salts, 1308.
 3 : 3'-Dimethyl-2-aceto-1 : 1'-dinaphthol, 334.
 Dimethylamine, freezing points of aqueous solutions of, 151.
 ——— hydrates of, 150.
 3 : 7-Dimethyl-2 : 8-diacetoxynonane, 120.
 3 : 7-Dimethyl-2 : 8-dihydroxynonane, 119.
 Dimethylethylcarbinol, specific volume and thermal expansion of, 280.
 Dimethylethylmethane, specific volume and thermal expansion of, 275.
 Dimethylketoexamethylene, formation of, from dimethylpimelic acid, *Proc.*, **1893**, 68.
 Dimethylketohehexaphane [2 : 6 : 1], formation of, from dimethylpimelic acid, *Proc.*, **1893**, 68.
 Dimethylpimelic acid, formation of the ketone 2 : 6-dimethyl-1-ketohehexaphane from, *Proc.*, **1893**, 68.
 Dimethylpropylmethane, specific volume and thermal expansion of, 276.
 Dimyristylcarbinol, 459.
 Dimyristylcarbinyl acetate, 459.
 Dinonylcarbinol, 457.
 Dipentene dihydrochloride, hydrocarbons derived from, 292.
 ——— oxidation of, 294.
 Diphenacylbenzylamine, 1365.
 ——— amido-, 1365.
 ——— preparation of, 1359.
 ——— salts of, 1364.
 Diphenyl, magnesium compound of, *Proc.*, **1893**, 80, 111.
 2 : 3-Diphenyl 1 : 4-dihydride, 1293.
 2 : 3-Diphenyl-1 : 4-diacetylpiazine dihydride, 1296.
 2 : 3-Diphenyl-1 : 4-dibenzylpiazine dihydride, 1294.
 $\alpha\beta$ -Diphenyl- μ -ethylloxazole, 473.
 $\alpha\beta$ -Diphenyl- μ -methyloxazole, 472.
 2 : 3-Diphenyl-3-methylpiazine, 1285.
 ——— picrate, 1286.
 $\alpha\beta$ -Diphenyloxazole, 470.
 2 : 4-Diphenylpiazine, 1297.
 2 : 5-Diphenylpiazine, 1363.
 2 : 6-Diphenylpiazine, 1368.
 2 : 3-Diphenylpiazinecarboxylamide, 1304.
 2 : 3-Diphenylpiazinecarboxylic acid and its salts, 1305.
 Dipropylamine, freezing points of aqueous solutions of, 171.
 ——— hydrate of, 171.
 Dispersions of sulphuric acid solutions, 99.
p-Ditolylparatolylenediamine, 1408.
p-Ditolyltriamidotoluene, 1402.
 Dextrose, fermentation of, by a lævo-lactic ferment, 1265.
Drosera Whittakeri, colouring matters of, 1083.
 Dyeing properties of chay root, 1183.

E.

- Electrolysis of sodic ethylic camphorate, *Proc.*, **1893**, 43.
- Elements, chemical, the measurement of the relative masses of the atoms of the, 1.
- new diagram and periodic table of, 852.
- Erythrophene, *Proc.*, **1892**, 192.
- Ethane, nitro-, molecular weight of, in the liquid state, 1104.
- Ethenyldiparatolyltriamidotoluene, 1405.
- Ethers, simple and mixed, boiling points of, *Proc.*, **1893**, 145.
- Ethoxysuccinic acid, optically active, 229.
- Ethylamine, freezing points of aqueous solutions of, 154.
- hydrates of, 156.
- Ethylbutylthiourea, secondary, 322.
- Ethyldihydroxypyridine, 882.
- oxidation of, 883.
- Ethylene, action of nitrosyl chloride on, 479.
- Ethylenediamine and derivatives of acetoacetic acid, condensation products from, 1310.
- Ethylenic oxide, magnetic rotation and refractive power of, 488.
- Ethylic acetate, molecular weight of, in the liquid state, 1100.
- vapour pressure, molecular volume, and critical constants of, 1216.
- acetoacetate, molecular weight of, in the liquid state, 1100.
- alcohol, depression of the freezing point of acetic acid by, 1023.
- depression of the freezing point of benzene by, 1019.
- depression of the freezing point of water by, 1015.
- molecular weight of, in the liquid state, 1102.
- benzylglutaconate, 259.
- campholyate, 498.
- chloro-formate, molecular weight of, in the liquid state, 1100.
- diacetylglycerate, 1422.
- 2 : 3-diphenylpiazinecarboxylate, 1307.
- ether, depression of the freezing point of acetic acid by, 1024.
- depression of the freezing point of benzene by, 1021.
- molecular weight of, in the liquid state, 1100.
- ethyldicarboxyglutaconate, 881.
- ethylenedi- β -amido- α -ethylcrotonate, 1310.

- Ethylic ethylenedi- β -amido- α -methylcrotonate, 1310.
- ethylglutaconate, 882.
- formate, vapour pressure, molecular volume, and critical constants of, 1202.
- glycerate, active, 512.
- — inactive, 511.
- iodide, molecular weight of, in the liquid state, 1099.
- isobutylidenemalonate, preparation of, 1344.
- action of ethylic sodiomalonate on, 1344.
- methyldicarboxyglutaconate, 877.
- methylglutaconate, 880.
- oxide, molecular weight in the liquid state, 1100.
- phenylpyrazolonecarboxylate, 879.
- propionate, vapour pressure, molecular volume and critical constants of, 1226.
- pyruvate, *m*-chlorophenylhydrazone, 872.
- *o*-chlorophenylhydrazone, 868.
- *p*-chlorophenylhydrazone, 873.
- sodium camphorate, ortho-, electrolysis of, 495.
- thiocarbimide, molecular weight of, in the liquid state, 1100.
- thiocyanate, molecular weight of, in the liquid state, 1100.
- Ethylisoamylthiourea, 323.
- Ethylisobutylthiourea, 320.
- Expansion, thermal, of certain paraffins and paraffin derivatives, 273.
- of liquids, determination of, 262.

F.

- Ferment, lœvulactic, of the pear, morphology of, 1263.
- Fermentation of dextrose, rhamnose, and mannitol by a lœvulactic ferment, 1263.
- Ferrous alkali sulphates, crystallography of, 365.
- Fluoresceïn of camphoric anhydride, 961.
- Fluoresceïns, origin of colour in, *Proc.*, **1893**, 53.
- Fluorescence, origin of, 243; *Proc.*, **1892**, 189; **1893**, 52.
- Formic acid, molecular weight of, in the liquid state, 1103.
- Formonaphthalide, nitration of, *Proc.*, **1893**, 8.

Freezing point of solvents, lowering of, in strong solutions, 999.

Fusel oil, preparation of active amyl alcohol and active valeric acid from, 1130.

G.

Gases, dry, combination of, *Proc.*, **1893**, 165.

Glucina, preparation of, from beryl, 909.

Glyceric acid, active, densities, molecular volumes, and molecular rotations of ethereal salts of, 526.

— — active, normal butyl, heptyl, and octyl salts of, 1410.

— — active and inactive, salts of, 296, 511.

— — rotatory power of ethereal salts of, 1414.

Glycol, molecular weight of, in the liquid state, 1103.

Gold bullion assay, limits of accuracy attained in, 700.

— dissolution of, in a solution of potassium cyanide, 724.

— effect of other metals on the volatility of, 722.

— losses of, in bullion assaying, 710.

— metallic, volatilisation of, 714.

Griess-Sandmeyer reaction, *Proc.*, **1892**, 199.

Guaiacol, molecular weight of, in the liquid state, 1101.

H.

Heptolactone, 1332.

— constitution of, 1330.

— preparation of, 1337.

— synthesis of, 1336.

Heptylic glycerate, active, 1412.

Hexyl palmityl ketone, 463.

— — oxime, 463.

Hofmann Memorial addresses, *Proc.*, **1893**, 132.

Homologous compounds, boiling points of, *Proc.*, **1893**, 145.

Hops, essential oil of, *Proc.*, **1893**, 177.

Hydrindone, new synthesis of, *Proc.*, **1892**, 216.

— nitro-, *Proc.*, **1892**, 216.

Hydrindoneoxime, *Proc.*, **1892**, 216.

Hydrocarbons, coloured, *Proc.*, **1892**, 189.

— combinations of, with picric acid and other nitro-compounds, 1388.

— derived from dipentene dihydrochloride, 292.

Hydrogen chloride, hydrates of, *Proc.*, **1893**, 45.

— peroxide, action of light in inducing the formation of, in organic liquids, 1109.

— — conditions which influence the formation of, in urine, 1115.

— — detection of, 1110.

— — estimation of, 1110.

Hydroxyacetylaldoxime, *Proc.*, **1893**, 77.

Hydroxy- β -lapachone, bromo-, 430.

Hydroxymetaxylene-carboxylic acid, *Proc.*, **1893**, 110.

I.

Indoxazen reaction, 1346.

Iodine, separation of, from bromine and chlorine, 1051.

Isaconitine, 443.

— aurochlor-, 447.

— conversion of aconitine into, 991.

— hydrolysis of, 448.

— physiological action of, 451.

— reaction of, with auric chloride, 447.

— salts of, 446.

β -Isoamylene, specific volume and thermal expansion of, 276.

Isobutylamine, freezing points of aqueous solutions of, 174.

Isobutylene, action of nitrosyl chloride on, 481.

Isobutylenic bromide, specific volume and thermal expansion of, 288.

Isobutylic alcohol, molecular weight of, in the liquid state, 1102.

Isobutylic diacetyl glycerate, 1425.

— glycerate (primary), active and inactive, 517.

Isobutyric acid, action of phosphoric anhydride on, 460.

— — molecular weight of, in the liquid state, 1103.

— aldoxime, *Proc.*, **1893**, 78.

Isocaproic acid, molecular weight of, in the liquid state, 1104.

Isoheptolactone, 1331.

Isohexane, specific volume and thermal expansion of, 276.

Isomeric change, *Proc.*, **1892**, 213, 214.

Isomorphous series, connection between the atomic weight of the contained metals and the magnitude of the angles of crystals of, 337.

Isopentane, specific volume and thermal expansion of, 275.

Isoprene, specific volume and thermal expansion of, 277.

Isopropylamine, freezing points of aqueous solutions of, 167.

— hydrates of, 169.

β -Isopropylglutaric acid, synthesis of, 1344.

Isopropyl alcohol, molecular weight of, in the liquid state, 1102.

— diacetyl glycerate, 1424.

— glycerate, active and inactive, 514.

Isorotlerin, 988.

Isovaleraldehyde, action of malonic acid on, 1334.

J.

Jute fibre produced in England, composition of, 964.

K.

Kamala, constituents of, 975.

— resins from, 985, 989.

— sugar from, 990.

— wax from, 987.

— yellow, crystalline colouring matter from, 986.

Ketone obtained from camphor, constitution of, 93.

Ketones, fatty, preparation of, 452.

— formation of, by the action of agents such as sulphuric acid and zinc chloride on camphor, 75.

Kopp Memorial Lecture, 775.

L.

Lactic acid, inactive, preparation of sarcolactic acid from, 1028.

— — resolution of, into its optically active components, 1143.

Lævolactic fermentation of dextrose, rhamnose, and mannitol, 1263.

Lævolimonene, oxidation of, 293.

Lævomethoxysuccinic acid, 227.

Lapachol and its derivatives, constitution, 1376.

β -Lapachone, dibromo-, 424.

Lead ammonium iodide, 542.

— bromide, 545.

— chlorides, 544.

— haloids, interaction of alkali haloids with, 540.

— potassium iodide, 542.

— tetracetate, 1136.

— tetrapropionate, 1136.

Leaf, determination of the starch of the, 622.

Leaf, occurrence of diastase in the, 632.

— sugars of the, 659.

Leaves, determination of the diastatic activity of, 637.

— dried, relative diastatic activity of, 641, 674.

— foliage, chemistry and physiology of, 604.

— periodic variation of the diastase of, 614.

— starch and diastase of, 604.

p-Leucotoluidine, 1396, 1402.

Light, action of, in inducing the formation of hydrogen peroxide in organic liquids, 1109.

— action of, in preventing putrefaction, 1109.

— cause of the sterilisation of urine by, 1119.

Lime, inertness of, 821.

Linseed oil, supposed saponification of, by Dutch white lead, *Proc.*, 1893, 122.

Liquids, determination of the thermal expansion of, 262.

— molecular complexity of, 1089.

Lithium glycerate, active and inactive, 301.

— hydroxide, hydrates of, 899.

— nitrate, magnetic rotation of solutions of, 67.

M.

Magnesium alkali sulphates, crystallography of, 344.

— calcium, carbonic and sulphuric acids, distribution of acids and bases in a solution containing, 696.

— diphenyl, *Proc.*, 1893, 81, 111.

— glycerate, active and inactive, 306.

Magnetic rotation of ethylenic oxide, 488.

— — of mixed solutions of nitric acid and lithium nitrate, 73.

— — of mixed solutions of sulphuric acid and sodium sulphate, 69.

— — of nitric acid and its aqueous solutions, 57, 65.

— — of solutions of lithium nitrate, 67.

— — of solutions of sodium sulphate, 64.

— — of sulphuric acid and its aqueous solutions, 57, 59.

— rotations of sulphuric acid solutions, 99.

Malonic acid, action of isovaleraldehyde on, 1334.

Manganese borate, constitution of, 131.

— — preparation of, 129, 133.

- Manganese**, separation of, from nickel, cobalt, and zinc, 1082.
Manganous alkali sulphates, crystallography of, 373.
Mannitol, fermentation of, with a lævo-lactic ferment, 1274.
Masses, relative, of the atoms of the chemical elements, measurement of the, 1.
Melting points of compounds of similar constitution, 465.
Memorial Addresses—A. W. HOFMANN, *Proc.*, 1893, 132.
 — Lecture—HERMANN KOPP, 779.
 — JEAN-SERVAIS STAS, 1.
Mercaptan, molecular weight of, in the liquid state, 1100.
Mercury, action of chlorine on, *Proc.*, 1893, 38.
Metals, easily volatile, method of observing the spectra of, 138.
Methenyldiparatolyltriamidotoluene, 1405.
Methoxyamidodimethylbenzene [1 : 2 : 4 : 6] and its derivatives, 104.
Methoxydimethylhydroxyquinoline [1 : 2 : 4 : 4'], 108.
Methoxyhydroxydimethylbenzene [1 : 2 : 3 : 5], 107.
Methoxynitrodimethylbenzene [1 : 2 : 4 : 6], 106.
Methoxynitroxyline, 106.
Methoxysuccinic acid, resolution of, into its optically active components, 217.
Methyl ethyl ketone, specific volume and thermal expansion of, 283.
 — isopropyl ketone, 1336.
 — propyl ketone, molecular weight of, in the liquid state, 1101.
 — — specific volume and thermal expansion of, 284.
Methylallylisopropylcarbinol, preparation of, 1336.
Methylamidobenzenes, relations between constitution and physical constants in the case of, *Proc.*, 1893, 41.
Methylamine, freezing points of aqueous solutions of, 149.
 — hydrate of, 148.
Methylbromolapazine, 1382.
Methylbutylthiourea, secondary, 321.
Methylchloronaphthethurhodone, 1386.
 β -Methyl- $\alpha\alpha'$ -dihydroxypyridine, 880.
Methylglutaconic acid, 879.
Methylhydroxyhydrolapeurhodone, 1384.
Methylic acetate, vapour pressure, molecular volume, and critical constants of, 1207.
 — alcohol, depression of the freezing point of acetic acid by, 1023.
Methylic alcohol, depression of the freezing point of benzene by, 1019.
 — — depression of the freezing point of water by, 1015.
 — — molecular weight of, in the liquid state, 1102.
 — butyrate, vapour pressure, molecular volume, and critical constants of, 1229.
 — diacetylglycerate, active, 1421.
 — — inactive, 1420.
 — 2 : 3-diphenylpiazinecarboxylate, 1307.
 — ethylenedi- β -amidocrotonate, 1311.
 — formate, molecular weight of, in the liquid state, 1100.
 — — vapour pressure, molecular volume, and critical constants of, 1195.
 — glycerate, active and inactive, 513.
 — isobutyrate, vapour pressure, molecular volume, and critical constants of, 1234.
 — propionate, vapour pressure, molecular volume, and critical constants of, 1219.
 — sulphide, specific volume and thermal expansion of, 287.
Methylindoxazen, nitro-, attempts to prepare, 1353.
Methylisoamylthiourea, 323.
Methylisobutylthiourea, 320.
 β -Methylisopropyl- β -lactic acid, preparation of, 1337.
Methylisopropylphenanthramethylpiazine, 1291.
 — 1 : 4-dihydride, 1291.
Methylisopropylphenanthrapiazine, 1288.
 — 1 : 4 dihydride, 1288.
Methylapazine, 1381.
Methylapeurhodone, 1383.
Methyl- α -naphthethurhodol, 1385.
Methylpurpuroxanthin, synthesis of, 1142.
Methylthiohydantoin, 819.
Molecular complexity of liquids, 1089.
 — volume of sulphuric acid in solution, 102.
 — volumes of certain ethereal salts, 1191, 1246, 1247.
Morinda root, colouring principles of, 1184.
Munjistin from *Rubia sikkimensis*, 1159.
Myristone, preparation of, 458.
Myristoneoxime, 458.

N.

Napelline, 443.

Naphthalene, action of nitric peroxide on, 1393.
 — action of nitro-compounds on, 1392.
 — depression of the freezing point of benzene by, 1022.
 — ortho-, para-, and peri-disulphonic derivatives of, *Proc.*, **1893**, 166.
 — orthodibromo-, 1054.
 — peri-derivatives of, 1054.
 — peridibromo-, 1059.
 — perinitrobromo-, 1057.
 Naphthalene-derivatives, production of, from dehydracetic acid, 329.
 1 : 2-Naphthalenedisulphonic acid, *Proc.*, **1893**, 168.
 1 : 4-Naphthalenedisulphonic acid, *Proc.*, **1893**, 168.
 1 : 1'-Naphthalenedisulphonic acid, *Proc.*, **1893**, 168.
 2 : 2' : 3'-Naphthalenetrisulphonic acid, *Proc.*, **1893**, 168.
 β -Naphthaquinone, reduction of, with hydriodic acid, 774.
 α -Naphthol, peribromo-, 1058.
 β -Naphthol, α -amido-, action of nitrous acid on, *Proc.*, **1892**, 218.
 α -Naphthylamine, 2 : 4-dinitro-, preparation of, from its acetyl and valeryl derivatives, *Proc.*, **1893**, 7.
 — peribromo-, 1057.
 — perinitro-, preparation of, 1055.
 Nickel, separation of manganese from, 1082.
 — tetracarbonyl, molecular weight of, in the liquid state, 1099.
 Nickelous alkali sulphates, crystallography of, 379.
 Nitric acid and its aqueous solutions, magnetic rotation of, 57, 65.
 — — freezing points of aqueous solutions of, 440.
 — — isolation of two predicted hydrates of, 436.
 — — products of the action of, on tin, 846.
 Nitro-compounds, combinations of, with hydrocarbons 1388.
 Nitrogen compounds, stereoisomerism of, 1069.
 — peroxide, action of, on naphthalene, 1393.
 — — action of, on olefines, 479.
 — — action of, on phenanthrene, 1393.
 — — molecular weight of, in the liquid state, 1099.
 Nitrosyl chloride, action of, on olefines, 479.
 Nitrous oxide, boiling point of, at atmospheric pressure, 833, 836.

Nitrous oxide, solid, melting point of, 836.
 Nonylone, preparation of, 455.
 Nonyloneoxime, 457.

O.

Octane, normal, molecular weight of, in the liquid state, 1099.
 Octylic glycerate, active, 1413.
 Oil, essential, of hops, *Proc.*, **1893**, 177.
 — linseed, supposed saponification of, by Dutch white lead, *Proc.*, **1893**, 122.
 — of turpentine, French, action of picric acid on, 1388.
 — — oxidation products of, 1327.
Oldenlandia umbellata, colouring and other principles of, 1160.
 Olefines, action of nitrosyl chloride and of nitric peroxide on, 479.
 Optical activity, relation of the ethereal salts of diacetylglyceric acid to, 1419.
 Orcinol, formation of, from dehydracetic acid, 122.
 Oxalic acid, anhydrous, *Proc.*, **1892**, 186.
 Oxalparatoluidide, tetranitro-, action of nitric and sulphuric acids on, 1068.
 Oxanil, trinitro-, 1066.
 Oxanilide, hexanitro-, 1063.
 — — action of ammonia on, 1065.
 — — decomposition of, with nitric and sulphuric acids, 1067.
 Oxazoles, synthesis of, from benzoïn and nitriles, 469.
 Oxygen, formation of ozone from, 938.
 Ozone, formation of, from oxygen, 938.

P.

Paraldehyde, molecular weight of, in the liquid state, 1100.
 Pear, morphology of the lævovlactic ferment of the, 1263.
 Pentane, specific volume and thermal expansion of, 274.
 Pentine, specific volume and thermal expansion of, 277.
 Periodic table of the elements, 852.
 Phenacyl bromide and benzylamine, interaction of, 1355.
 Phenacylbenzylamine, 1362.
 — preparation of, 1359.
 — salts of, 1360.
 Phenanthrapiazine 1 : 4-dihydride, 1286.
 Phenanthraquinone, reduction and simultaneous acetylation of, 771.

- Phenanthraquinone, reduction of, with hydriodic acid, 770.
 — reduction of, with zinc and hydrochloric acid, 772.
 Phenanthrene, action of nitric peroxide on, 1393.
 Phenetolsulphonic acids, isomeric change in, *Proc.*, **1892**, 214.
m-Phenolazo- α -naphthylamine, *Proc.*, **1893**, 127.
 Phenolphthaleïn, nitro-derivatives of, *Proc.*, **1893**, 14.
 Phenylacetic acid, action of phenylhydrazine on, *Proc.*, **1892**, 219.
 Phenylbutylthiourea, secondary, 322.
 Phenyl diazoinide, formation of, 256.
 — nitration of, 257.
 Phenyl dibenzylthiourea, 539.
 Phenylhydrazine, action of magnesium on, *Proc.*, **1893**, 80.
 — action of, on mono- and di-carboxylic acids at high temperatures, *Proc.*, **1892**, 219.
 — metachloro-, and its salts, 869.
 — orthochloro-, salts of, 868.
 — parachloro-, 872.
 Phenylhydrazines, chlorinated, 868.
 Phenylhydrazocitrazinic acid, 1042.
 Phenylisoamylthiourea, 324.
 Phenylisobutylthiourea, 320.
 Phenylloxamide, trinitro-, and its potassium derivative, 1065.
 α -Phenylnaphthylene, preparation of, 1185.
 — properties of, 1190.
 Phenylnaphthalenes, 1185.
 Phenylphenylthiosemicarbazide, metachloro-, 870.
 Phenylpropionic acid, action of phenylhydrazine on, *Proc.*, **1892**, 220.
 Phenylsemicarbazide, metachloro-, 870.
 — parachloro-, 872.
 Phenylurazole, metachloro-, 871.
 Phosphoric anhydride, preparation of, free from lower oxides of phosphorus, 473.
 Phosphorus oxychloride, molecular weight of, in the liquid state, 1099.
 — trichloride, molecular weight of, in the liquid state, 1099.
 Phthaleïns, origin of colour in, *Proc.*, **1893**, 52.
 Physiological action of isaconitine, 451.
 Piazine-derivatives, 1284, 1293.
 — — syntheses of, 1355.
 Picric acid, combinations of, with hydrocarbons, 1388.
 Pinene, picric acid compound of, 1388.
 Piperazine, *Proc.*, **1893**, 35.
 Piperidine, molecular weight of, in the liquid state, 1101.
 Platinous chloride, preparation of, *Proc.*, **1893**, 38.
 Potassium cobaltous sulphate, crystallography of, 388.
 — copper sulphate, crystallography of, 396.
 — dextromethoxysuccinate, 224.
 — ferrous sulphate, crystallography of, 365.
 — glycerate, active and inactive, 303.
 — hydrogen dextroethoxysuccinate, 236.
 — — dextromethoxysuccinate, 223.
 — — levomethoxysuccinate, 227.
 — hydroxide, hydrates of, 898.
 — magnesium sulphate, crystallography of, 344.
 — nickelous sulphate, crystallography of, 379.
 — zinc sulphate, crystallography of, 356.
 Pressures, corresponding, of certain ethereal salts, 1244.
 Propionylaldehyde, modifications of, *Proc.*, **1893**, 77.
 Propionic acid, molecular weight of, in the liquid state, 1103.
 — anhydride, specific volume and thermal expansion of, 286.
 Propionitrile, molecular weight of, in the liquid state, 1104.
 Propylamine, freezing points of aqueous solutions of, 165.
 — hydrates of, 167.
 Propylene, action of nitric peroxide on, 481.
 — action of nitrosyl chloride on, 480.
 Propylic acetate, vapour pressure, molecular volume, and critical constants of, 1222.
 — alcohol, depression of the freezing point of acetic acid by, 1024.
 — — depression of the freezing point of benzene by, 1020.
 — — depression of the freezing point of water by, 1016.
 — — molecular weight of, in the liquid state, 1102.
 — diacetyl glycerate, 1423.
 — formate, vapour pressure, molecular volume, and critical constants of, 1211.
 — glycerate, inactive and active, 513.
 Pseudocumeneazo- β -naphthol, 934.
 — — reduction of the acetyl derivative of, 934.
 Purpurin from *Rubia sikkimensis*, 1158.

Putrefaction, action of light in preventing, 1109.
 Pyrazine, derivatives of, 1284, 1293, 1355.
 Pyridine, depression of the freezing point of benzene by, 1020.
 — depression of the freezing point of water by, 1018.
 — molecular weight of, in the liquid state, 1101.
 Pyridine-derivatives, formation of, from unsaturated acids, 259, 874.
 Pyruvic acid, metachlorophenylhydrazone, 871.
 — parachlorophenylhydrazone, 873.

Q.

Quicklime, inertness of, 821.
 Quinhydrone, derivatives of, 1314.
 — dibromo-, 1325.
 — dichloro-, 1318.
 — dichlorodibromo-, from paradibromquinone and paradichloroquinol, 1327.
 — from paradichloroquinone and paradibromquinol, 1326.
 — hexachloro-, 1322.
 — octochloro-, 1323.
 — tetrabromo-, from paradibromquinone, 1326.
 — tetrachloro-, from paradichloroquinone, 1319.
 — from metadichloroquinone, 1321.
 Quinhydrone, monochloro-, attempts to prepare, 1316.
 Quinine, appearance of fluorescence in, *Proc.*, **1893**, 63.
 Quinoline, molecular weight of, in the liquid state, 1101.
 Quinoline-derivatives, appearance of colour in, *Proc.*, **1893**, 63.
 Quinone, halogen derivatives of, 1314.
 Quinone-derivatives, conversion of para- into ortho-, *Proc.*, **1893**, 13.
 Quinonoid compounds, limitation of colour to truly, *Proc.*, **1893**, 55.

R.

Refractive indices of sulphuric acid solutions, 99.
 — power of ethylene oxide, 488.
 Resins from kamala, 985, 989.
 Rhamnose, fermentation of, with a lævolactic ferment, 1279.
p-Rosotoluidine, 1396.

Rottlerin, 979.
 — action of acetic anhydride on, 980.
 — action of nitric acid on, 982.
 — decomposition of, with fused alkalis, 981.
 — oxidation of, by hydrogen peroxide, 982.
Rubia sikkimensis, colouring principles of, 1157.
 Rubiadin, 973.
 — constitution of, 1137, 1141.
 Rubiadinglucoside, 969.
 — behaviour of, towards phenylhydrazine, 1140.
 — constitution of, 1137, 1140.
 Rubidium cadmium sulphate, crystallography of, 407.
 — cobaltous sulphate, crystallography of, 390.
 — copper sulphate, crystallography of, 400.
 — ferrous sulphate, crystallography of, 367.
 — magnesium sulphate, crystallography of, 347.
 — manganous sulphate, crystallography of, 373.
 — nickel sulphate, crystallography of, 382.
 — zinc sulphate, crystallography of, 359.

S.

Salicylamidoxime, dinitro-, 1352.
 — nitro-, 1352.
 Salicylonitrile, dinitro-, 1351.
 — nitro-, 1351.
 — preparation and nitration of, 1350.
 Sandmeyer's reaction, *Proc.*, **1892**, 199.
 Sarcosolactic acid obtained by the fermentation of inactive lactic acid, 1028.
 Silicon tetrachloride, molecular weight of, in the liquid state, 1099.
 Silver glycerate, 309.
 Sodium dibromortho-xylenesulphonate, *Proc.*, **1892**, 213.
 — glycerate, active and inactive, 302.
 — hydroxide, hydrates of, 890.
 — peroxide, use of, in analysis, 1079.
 — sulphate, magnetic rotation of solutions of, 64.
 Solution, capillary separation of substances in, *Proc.*, **1893**, 123.

Solutions, strong, properties of, 998.
 — the hydrate theory of, 141.
 Specific rotation of active acids, influence of metals on, 296.
 — volumes of certain paraffins and paraffin derivatives, 273.
 Spectra of easily volatile metals, method of observing, 138.
 Starch of leaves, 604.
 — of the leaf, estimation of, 622.
 — products of the transformation of, by leaf-diaxase, 634.
 — soluble, action of leaf-diaxase on, 651.
 Stas Memorial Lecture, 1.
 Stereoisomerism of nitrogen compounds, 069.
 Sterilisation of urine by light, cause of, 1119.
 Stibiotantalite, 1076.
 Strontium glycerate, active and inactive, 299.
 Structure, change of colour as indicative of change of, *Proc.*, 1893, 55.
 — optical properties as indicative of, *Proc.*, 1893, 57.
 Sugars of the leaf, 659.
 Sulphocamphylic acid, *Proc.*, 1893, 109.
 Sulphonic chlorides, action of heat on, *Proc.*, 1893, 130.
 Sulphur chloride, molecular weight of, in the liquid state, 1099.
 — estimation of, in minerals by aid of sodium peroxide, 1080.
 Sulphuric acid and its aqueous solutions, magnetic rotation of, 57, 59.
 — carbonic acid, calcium, and magnesium, distribution of acids and bases in a solution containing, 696.
 — depression of the freezing point of acetic acid by, 1026.
 — molecular volume of, in solution, 102.
 — refractive indices and magnetic rotations of solutions of, 99.
 Sulphurous anhydride, conditions of the absorption of, by calcium oxide, 829.
 Sulphuryl chloride, molecular weight of, in the liquid state, 1099.

T.

Tartaric acid, molecular volumes and molecular rotations of ethereal salts of, 527.
 — oxidation of, in presence of iron, *Proc.*, 1893, 113.
 Temperatures, critical, new method of calculating, 1107.

Teracrylic acid, constitution of, 1330.
 Terpenes, *Proc.*, 1893, 163.
 — and allied compounds, 75.
 Terpenylic acid, constitution of, 1338.
 — reduction of, 1343.
 Terpinene, oxidation of, 294.
 Terpinol, oxidation of, 1329.
 Terpinolene, oxidation of, 295.
 Terpylonic acid, 1329.
 Tetramethoxyphenyldipiazine, 1304.
 Tetramethyldihydroxyheptamethylene, 117.
 Tetraphenyldipiazine, 1299.
 Tetraphenylenefurfuran, 772.
 Thallium, method of obtaining a persistent spectrum of, 139.
 Theine and caffeine, identity of, 195.
 Thermal expansion of certain paraffins and paraffin derivatives, 273.
 — of liquids, determination of, 262.
 Thionyl bromide, *Proc.*, 1893, 10.
 — chloride, molecular weight of, in the liquid state, 1099.
 Thiourea, action of α -bromopropionic acid on, 818.
 — action of dichloroacetic acid on, 816.
 — action of trichloroacetic acid on, 818.
 — and some haloïd derivatives of fatty acids, action between, 815.
 Thiourea, substituted, desulphurisation of, 318.
 Tin, products of the action of nitric acid on, 845.
o-Tolueneazo- β -naphthol, reduction of the acetyl-derivatives of, 929.
p-Tolueneazo- β -naphthol, reduction of the acetyl-derivatives of, 925.
o-Toluic acid, action of phenylhydrazine on, *Proc.*, 1892, 220.
p-Toluidine, oxidation of, 1395.
 Toluquinonedi-paratolylimide, 1409.
 Toluquinoneditolylimide, amido-, 1397, 1400, 1406.
 Toluquinoneparatolylimide, amido-, 1401.
 Tribenzylamine, preparation of, 1311.
 Triethylamine, freezing points of aqueous solutions of, 162.
 — hydrate of, 162.
 Trimethylamine, freezing point of aqueous solutions of, 152.
 — hydrates of, 154.
 Trimethylcarbinol, specific volume and thermal expansion of, 278.
 Trimethylethylene, action of nitrosyl chloride on, 482.
 Trimethylmethane, specific volume and thermal expansion of, 276.

- Triphenyloxazole, 474.
 Triparatoluylenetriamine, 1395.
Tropæolum majus, sugars of, 661.
 Turpentine, oil of, French, action of
 picric acid on, 1388.
 — oxidation of, 1327.

U.

- Urine, action of light on, 1112.
 — cause of the sterilisation of, by light,
 1119.
 — conditions which favour the form-
 ation of hydrogen peroxide in, 1115.
 — formation of hydrogen peroxide
 in urine exposed to light, 1110.

V.

- Valeric acid, active, preparation of, from
 fusel oil, 1130.
 — molecular weight of, in the
 liquid state, 1103.
 Valeronaphthalide, *Proc.*, 1893, 8.
 — dinitro-, *Proc.*, 1893, 9.
 Vapour pressures of certain ethereal
 salts, 1191.

W.

- Water, depression of the freezing point
 of acetic acid by, 1026,
 — depression of the freezing point
 of, by dissolved substances, 1015.
 — influence of, in promoting chem-
 ical action, *Proc.*, 1893, 129.
 — molecular weight of, in the liquid
 state, 1105.

- Waters, mineral, composition of, 696.
 — of Askern, in Yorkshire,
 685.
 Wax from chay root, 1166.
 — from kamala, 987.
 White lead, Dutch, supposed saponifi-
 cation of linseed oil by, *Proc.*, 1893,
 122.
 Wong koudu, colouring principles of,
 1184.

X.

- Xanthophene, *Proc.*, 1892, 192.
o-Xylenesulphonic acids, isomeric
 change in, *Proc.*, 1892, 213.
m-Xylenol, bromo-, 110.
 — nitro-, 105.
m-Xylenolsulphonic acid, 110.
p-Xylic acid, 90.
 Xylidinic acid, 92.
 Xylocatechol, 108.
 Xylocatechylic monomethylic ether, 107.

Z.

- Zinc alkali sulphates, crystallography
 of, 356.
 — ammonium lactate, inactive, 1154.
 — lactates, active, composition
 and properties of, 1151.
 — conversion of, into
 zinc lactates, 1153.
 — glycerates, active and inactive,
 307.
 — separation of manganese from,
 1082.