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# THE JOURNAL OF BIOLOGICAL CHEMISTRY

FOUNDED BY CHRISTIAN A. HERTER AND SUSTAINED IN PART BY THE CHRISTIAN A. HERTER  
MEMORIAL FUND

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AUTHORS, SUBJECTS, FORMULAS

VOLUMES 1-25

1905-1916

142734  
23/5/17

NEW YORK  
THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH

1917

QP

501

577

index

vol. 1-4

copy

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BY

THE JOURNAL OF BIOLOGICAL CHEMISTRY

PUBLISHED BY THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH  
FOR THE JOURNAL OF BIOLOGICAL CHEMISTRY, INC.

WAVERLY PRESS  
WILLIAMS & WILKINS COMPANY  
BALTIMORE, U. S. A.

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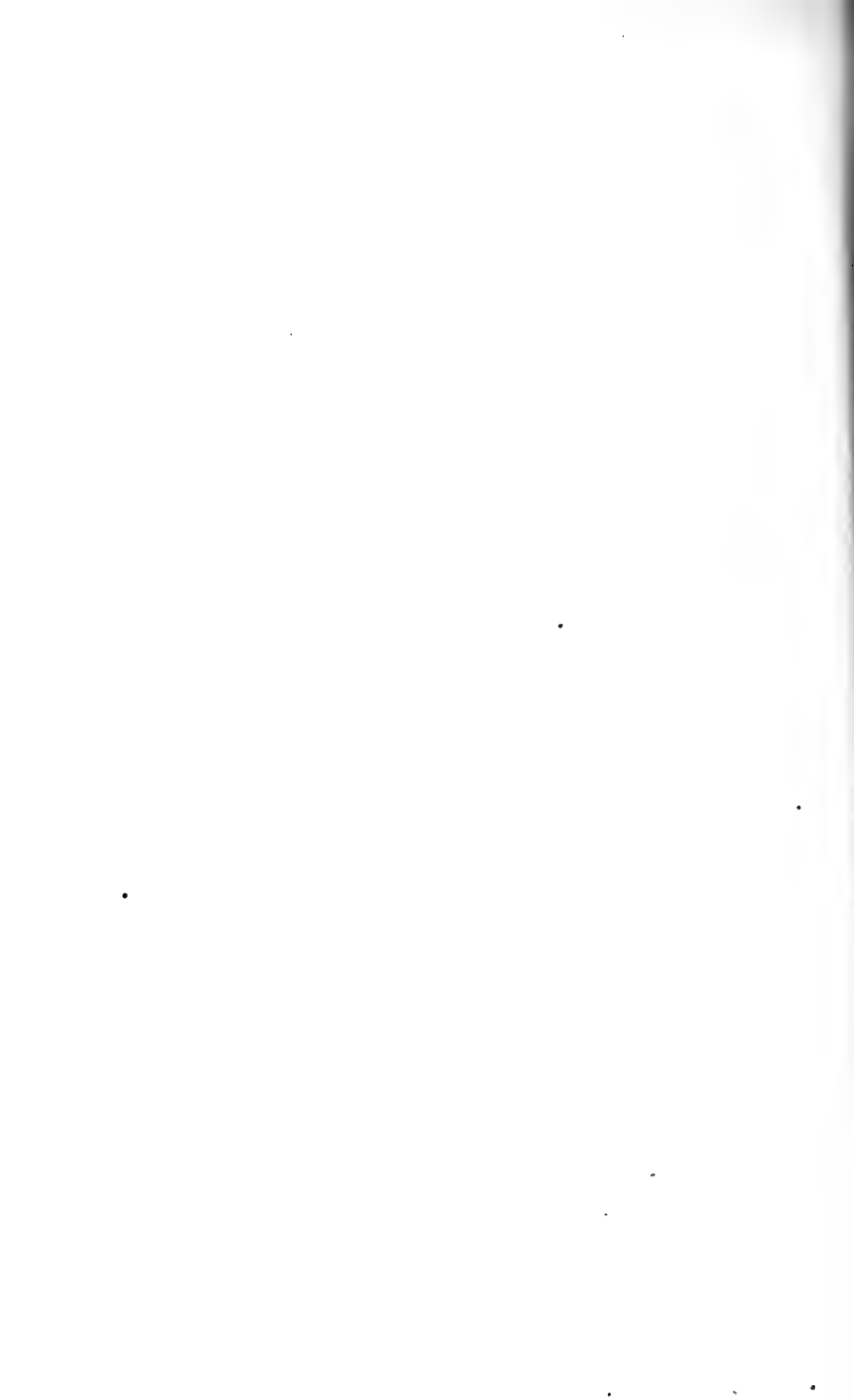
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1911, 9, x
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1905-06, 1, 321
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1914, 19, 431

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1912, 11, 503
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1914, 19, 505
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1912, 11, 260
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1915, 20, 431
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1912, 11, 347
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1915, 21, 661

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Eggs, autolysis of (LYON and SHACKELL)

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1911-12, 10, 50

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1911-12, 10, 69

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1912-13, 13, 288

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1911-12, 10, 45

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1915, 22, 260

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1911-12, 10, 48

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1911-12, 10, 51

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1911-12, 10, 53

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1905-06, 1, 57

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1908, 4, 123

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1912-13, 13, 283

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1908-09, 5, 198

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1907, 3, 225

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1908, 4, 123

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1913, 14, 327

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1913, 14, 539
- Muscle, action of (BAU-  
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1908, 4, 123
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1911, 9, 486
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1908-09, 5, 394
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1905-06, 1, 54
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1915, 22, 275
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1910-11, 8, 381
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1908, 4, 119
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1915, 22, 300
- Vicilin content (OSBORNE  
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1908-09, 5, 188
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1906-07, 2, 132

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1916, 24, 443

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1913-14, 16, 150
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1915, 22, 493
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1912, 11, xxv

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Absorption from small intestine (FOLIN and DENIS)

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1912, 12, 145

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1913-14, 16, 555

Tissue, kidney, action of (LEVENE and MEYER)

1913-14, 16, 555

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Albumin poison, presence in (WHEELER)

1909, 6, 549

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1911, 9, 340

Colon poison, presence in (WHEELER)

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1910-11, 8, 277

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1911-12, 10, 64

Heteroalbumose content (LEVENE)

1905-06, 1, 57

$\alpha$ -Ketonic aldehydes from (DAKIN and DUDLEY)

1913, 15, 139

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1910-11, 8, 285

Legumelin content (OSBORNE and HEYL)

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1908-09, 5, 409

Phenylalanine, separation from (LEVENE and VAN SLYKE)

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1912, 12, 131

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Sponges, occurrence in (WHEELER and MENDEL)

1909-10, 7, 8

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1909-10, 7, xx

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Vicilin content (OSBORNE and HEYL)

1908-09, 5, 188

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1906-07, 2, 131

Wheat gliadin content (OSBORNE and GUEST)

1911, 9, 426

**Aspergillus:**

*clavatus*, acids, dibasic unsaturated, behavior towards (DOX)

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- clavatus*, alcohols, polyatomic, action on (NEIDIG)  
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1911, 9, 268
- , phytase in (DOX and GOLDEN)  
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**Chloroacetyl- $\omega$ -anilinoacetophenone:**

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**Chloroacetyl-*o*-anisidine:**

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**Chloroacetyl-*p*-anisidine:**

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**Chloroacetyl- $\omega$ , *o*-anisidinoacetophenone:**

(JACOBS and HEIDELBERGER)  
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**Chloroacetylbenzylamine:**

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1915, 20, 686

Hexamethylenetetraminium salt (JACOBS and HEIDELBERGER)  
1915, 20, 686

**Chloroacetylbenzylurea:**

(JACOBS and HEIDELBERGER)  
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**Chloroacetylbis-(*p*-dimethylaminophenyl)-methylamine:**

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1915, 21, 473

**Chloroacetyl-*o*-chloroaniline:**

Hexamethylenetetraminium salt (JACOBS and HEIDELBERGER)  
1915, 21, 110

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**Chloroacetyldiphenylamine:**

Hexamethylenetetraminium salt (JACOBS and HEIDELBERGER)  
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**Chloroacetylethylaminoethanol:**

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**Chloroacetylethylaminoethyl *p*-nitrobenzoate:**

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- Utilization, cocaine, effect of (UNDERHILL and BLACK)  
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- , water drinking, effect of (MATTELL and HAWK)  
1911, 9, xx
- Vegetable, growth, effect on (McCOLLUM and DAVIS)  
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- Vitellin, production from (McCLENDON)  
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**Fat cells:**

- Omentum, staining by dyes (ROBERTSON)  
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**Fatigue:**

- (UNDERHILL and WOODRUFF)  
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**Fatty acid:**

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**Fatty infiltration:**

- Hepatic, in late pregnancy and early lactation (MOTTRAM)  
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**Fecal bacteria:**

- Allantoin, action on (GIVENS)  
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- Determination of (MATTELL and HAWK)  
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- Gas production of, grown on sugar bouillon (HERTER and WARD)  
1905-06, 1, 415
- Methyl mercaptan production, when grown on peptone medium (HERTER)  
1905-06, 1, 421

**Fecal nitrogen:**

- Origin (MENDEL and FINE)  
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**Feces:**

- Acids and bases of (HERTER)  
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- Advanced anemia (HERTER)  
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- Aluminium, determination of (SCHMIDT and HOAGLAND)  
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- Analysis of (OSBORNE and MENDEL)  
1914, 18, 177
- Bacteria, contribution of, to (OSBORNE and MENDEL)  
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- Boric acid, excretion of (WILEY)  
1907, 3, 15
- Calcium, determination of (McCRUDDEN)  
1909-10, 7, 83  
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1915, 21, 551
- Chlorides, excretion of, in diabetes (LEBENSOHN)  
1915, 23, 519
- Dimethylamidobenzaldehyde reaction of (HERTER)  
1906-07, 2, 10
- Fat content, changes in, when preserved by freezing (SMITH, MILLER, and HAWK)  
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- , determination of (FOLIN and WENTWORTH)  
1909-10, 7, 421  
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1914, 19, 521
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1912, 11, xxxii
- Indole, occurrence of (HERTER)  
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- Magnesium, determination of (McCRUDDEN)  
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— — and residual food nitrogen of (FINE)  
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- Nitrogen, diet, effect of, on (MENDEL and FINE)  
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- Purine excretion in (MENDEL and LYMAN)  
1910-11, 8, 137
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Salicylates, recovery of,  
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Amino-acid content (NOL-  
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1915, 21, 611

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BENTLEY)

1915, 22, 477

Phosphorus, acid-soluble,  
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Cane sugar, inversion of  
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trifaction, effect on  
(BALDWIN)

1909 10, 7, 37

Maltose, inversion of (TAY-  
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Nuclein, of embryo (JONES  
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**Ferment—continued:**

Proteolytic, method of  
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1911-12, 10, 9

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Yeast, nuclein ferment of  
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**Fermentation:**

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1911, 9, 169

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thin, effect of (EPSTEIN  
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1909, 6, 259

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1908-09, 5, 283

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**Ferric chloride:**

Cystine, oxidation of, ef-  
fect on (MATHEWS and  
WALKER)

1909, 6, 296



**Ferric hydroxide:**

Blood proteins, removal of, with (VAN SLYKE, VINOGRAD - VILLCHUR, and LOSEE)  
1915, 23, 380

Liver autolysis, effect on (BRADLEY and TAYLOR)  
1916, 25, 267

**Ferric thiocyanate:**

Microcolorimetric analysis, use in (HOWLAND, HAESSLER, and MARRIOTT)  
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**Fertilization:**

Autolysis, effect on (LYON and SHACKELL)  
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Catalytic activity, effect on (AMBERG and WINTERNITZ)  
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Eggs of sea urchin, by substance extracted from sperm of that species (ROBERTSON)  
1912, 12, 1

Oxidation in sea urchin's egg, effect on (McCLENDON and MITCHELL)  
1911-12, 10, 470

**Fertilizer:**

Nitrogenous (GREAVES)  
1909-10, 7, 287

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Salts as, plant enzymes, effect on (SULLIVAN)  
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**Fertilizing substance:**

Sperm, extraction from (ROBERTSON)  
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**Fetus:**

Human, adenase in (LONG)  
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**Fibrin:**

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1915, 20, 91

Cabbage crepsin, digestion by (BLOOD)  
1910-11, 8, 223

Compounds of (BOSWORTH)  
1915, 20, 92

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1915, 20, 333

Heteroalbumose (LEVENE, VAN SLYKE, and BIRCHARD)  
1910-11, 8, 269

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1915, 20, 94

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**Fibrin**—*continued*:

Papain, solution by (MENDEL and BLOOD)

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Pepsin digestion, acids, effect of (BERG and GIES)

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Protoalbumose (LEVENE, VAN SLYKE, and BIRCHARD)

1911-12, 10, 57

Putrefaction of (McCRUDEN)

1910-11, 8, 109

Swelling in basic solutions (BERG and GIES)

1906-07, 2, 541

— — isohydric solutions (BERG and GIES)

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Trypsin hydrolysis, bases, effect of (BERG and GIES)

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**Filter paper:**

Nitrogen elimination, effect on (MENDEL and LEWIS)

1913-14, 16, 28

**Fisetin:**

Poison ivy, isolation from (ACREE and SYME)

1906-07, 2, 554

**Fish:**

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**Fission:**

Planarian worms, pituitary body, effect of (WULZEN)

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**Flavor:**

Cheese, cause of (SUZUKI, HASTINGS, and HART)

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**Flesh:**

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1915, 20, 44

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1915, 23, 345

**Fluids:**

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Human, uric acid content of (FINE)

1915, 23, 472

Organic, iron, determination of (MARRIOTT and WOLF)

1905-06, 1, 459

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**Fluorides:**

Food products, detection  
in (AMBERG and LOE-  
VENHART)

1908, 4, 158

Lipase, inhibiting effect on  
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**Folin's method:**

Acetone and diacetic acid  
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1908, 4, 473

Ammonia (HOWE and  
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1908, 4, x;

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GIES)

1908-09, 5, 71

— — —, improvement of  
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1910-11, 8, 365

Creatine, meat, applica-  
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GRINDLEY)

1907, 3, 491

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1916, 24, 423

Creatinine, errors in (TAY-  
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1910-11, 8, 405

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Acid- and base-forming  
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1907, 3, 307

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1912, 11, 323

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1909-10, 7, 83

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1912, 12, 81

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Magnesium, determination of (McCrudden)  
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1915, 20, viii

Mineral content (Sherman and Gettler)

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Nitrates, determination of (Mitchell, Shonle, and Grindley)

1916, 24, 472

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1905-06, 1, 236

Phosphoric acid, determination of (Chapin and Powick)

1915, 20, 97

Phosphorus, determination of (Gill, Peterson, and Grindley)

1909, 6, xii

Urine composition, effect on (Blatherwick)

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Metabolism, effect on (Lusk)

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Specific dynamic action of (Lusk)

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**Formaldehyde:**

Determination, colorimetric (Collins and Hanzlik)

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**Formic acid:**

Fatty acids, product in catabolism of (Dakin and Wakeman)

1911, 9, 329

Metabolism of (Ringer)

1913, 14, 44

—, intermediary, product of (Dakin, Janney, and Wakeman)

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**Formyl-2-oxy-5,6-diaminopyrimidine:**

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1912, 11, 68

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**Fowl cholera:**

Urea nitrogen of (Kendall and Walker)

1913, 15, 282

**Freezing point:**

Autolysis, study by (Wells and Benson)

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1910-11, 8, 64

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*Fundulus* cell contents, surrounding solution, effect of (LOEB and WASTENEYS)

1915, 23, 158

Milk, changes in with age, at 0° (PENNINGTON, HEPBURN, ST. JOHN, WITMER, STAFFORD, and BURRELL)

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1915, 21, 224

Urine, dilute (MACALUM and BENSON)

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Water, depression by dissolved caseinates (ROBERTSON and BURNETT)

1909, 6, 105

**Fructose:**

Arrowhead tubers, occurrence in (MIYAKE)

1913, 15, 223

Heat, influence on (HENDERSON)

1911-12, 10, 6

*d*-Lactic acid formation from (LEVENE and MEYER)

1913, 15, 68

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Phlorhizin glycosuria, influence on (LUSK)

1915, 20, 606

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1915, 21, 505

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Tissue, kidney, action of (LEVENE and MEYER)

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**Fruit:**

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1909-10, 7, xl

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**Fucose:**

Marine algae, isolation from (HOAGLAND and LIEB)

1915, 23, 295

**Fumaric acid:**

Molds, behavior of, towards (DOX)

1910-11, 8, 266

**Fumes:**

Absorption of (FOLIN and DENIS)

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**Function:**

Lime requirements of animals, influence on (STEENBOCK and HART)

1913, 14, 59

**Functional variability:**

(RIETZ and MITCHELL)

1910-11, 8, 297

**Fundulus:**

Eggs, osmotic pressure, surrounding solutions, relation to (LOEB and WASTENEYS)

1915, 23, 157

*heteroclitus*, copper, absorption of (WHITE and THOMAS)

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1915, 21, 223

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- Potassium chloride, effect of (LOEB and CATTELL) 1915, 23, 41  
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- Enzymes (DOX) 1909, 6, xxiv  
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- Nutritive value (SWARTZ) 1909-10, 7, xlvi

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Tannase, influence on production of (KNUDSON)

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**Ganglia:**

Carbon dioxide output in *Limulus* (TASHIRO and ADAMS)

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Hydrochloric acid, recognition and determination of (KASTLE and AMOSS)

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1915, 20, 333

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1912-13, 13, 277

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1916, 25, 368

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1910-11, 8, 223

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1916, 24, 517

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**Gestation:**

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1916, 24, 367

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Amide nitrogen content (OSBORNE, VAN SLYKE, LEAVENWORTH, and VINOGRAD)

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- Sulfate, preparation (LEVENE and SENIOR)  
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- Urine after parathyroidectomy, isolation from (KOCH)  
1913, 15, 55

**Guanine:**

- Aralia cordata* shoots, presence in (MIYAKE)  
1915, 21, 507
- Guanylic acid of spleen, preparation from (JONES and ROWNTREE)  
1908, 4, 293
- Liver of *Python reticulatus*, isolation from (LYMAN)  
1908-09, 5, 127
- Metabolism (MENDEL and LYMAN)  
1910-11, 8, 121
- (HUNTER and GIVENS)  
1914, 17, 41

**Guanine—continued:**

- Monkey urine, content of (HUNTER)  
1914, 18, 112
- Muscle content (BENNETT)  
1912, 11, 221
- Pancreas, pig's, action of (JONES)  
1911, 9, 135
- Placenta content (WELLS and CORPER)  
1909, 6, 479
- Spleen content (CORPER)  
1912, 11, 32
- Thymus nucleic acid, content of (JONES and AUSTRIAN)  
1907, 3, 4
- Yeast nucleic acid, isolation from, on partial enzymatic hydrolysis (JONES and RICHARDS)  
1914, 17, 78
- Guanine cytosine dinucleotide:**  
(JONES and RICHARDS)  
1915, 20, 30
- Guanine hexoside:**  
Thymus nucleic acid, isolation from (LEVENE and JACOBS)  
1912, 12, 377
- Guanosine:**  
Nitrous acid, reaction with (VAN SLYKE)  
1911, 9, 195
- Yeast nucleic acid, formation from, by enzymes (AMBERG and JONES)  
1912-13, 13, 445
- (JONES and RICHARDS)  
1914, 17, 78
- Guanylase:**  
Spleen, ox, presence in (JONES)  
1911, 9, 129

**Guanylic acid:**

- (LEVENE and JACOBS)  
1912, 12, 421
- Barium salt (LEVENE and JACOBS)  
1912, 12, 425
- Brucine salt (LEVENE and JACOBS)  
1912, 12, 424
- Gastric juice, action of (LEVENE and MEDIGRECEANU)  
1911, 9, 382
- Intestinal juice, action of (LEVENE and MEDIGRECEANU)  
1911, 9, 383
- mucosa extract, action of (LEVENE and MEDIGRECEANU)  
1911, 9, 80, 397
- Kidney plasma, action of (LEVENE and MEDIGRECEANU)  
1911, 9, 81
- Liver plasma, action of (LEVENE and MEDIGRECEANU)  
1911, 9, 80
- Nucleases, action of (LEVENE and MEDIGRECEANU)  
1911, 9, 68
- , specific (JONES)  
1911, 9, xxviii
- Organism, distribution in (JONES and ROWNTREE)  
1908, 4, 295
- Ox spleen, action of (JONES)  
1911, 9, 134
- Pancreas, pig's, action of (JONES)  
1911, 9, 135
- Pancreatic juice, action of (LEVENE and MEDIGRECEANU)  
1911, 9, 382

**Guanylic acid—continued:**

- Pancreatic plasma, action of (LEVENE and MEDIGRECEANU)  
1911, 9, 80, 397
- Spleen, action of (JONES and ROWNTREE)  
1908, 4, 289
- Triphosphonucleinsäure*, identity with (JONES and GERMANN)  
1916, 25, 99
- Yeast nucleic acid, formation from (JONES)  
1912, 12, 31  
(JONES and RICHARDS)  
1914, 17, 78;  
1915, 20, 33
- d-Gulose osazone:*  
Mutarotation of (LEVENE and LA FORGE)  
1915, 20, 431
- Gum:**  
Invertase content (MATHEWS and GLENN)  
1911, 9, 47
- H**
- Hair:**  
Amino-acid content of (VAN SLYKE)  
1911-12, 10, 47  
Chemical composition of different races (RUTHERFORD and HAWK)  
1907, 3, 459
- Halogen:**  
Tissue enzyme action, accelerator of (MORSE)  
1915, 22, 125
- Handkäse:**  
Indole content (NELSON)  
1916, 24, 534
- Heart:**  
Growth, influence of feeding on (MCCOLLUM and DAVIS)  
1915, 21, 181



**Heart—continued:**

- Isolated mammalian, action of blood proteins on (GORHAM and MORRISON)  
1909-10, 7, xviii
- Muscle, lipid content (ROSENBLUM)  
1913, 14, 291
- plasma, guanylic acid, action on (LEVENE and MEDIGRECEANU)  
1911, 9, 68
- —, inosin, action on (LEVENE and MEDIGRECEANU)  
1911, 9, 67
- —, inosinic acid, action on (LEVENE and MEDIGRECEANU)  
1911, 9, 68
- —, pyrimidine nucleotide, action on (LEVENE and MEDIGRECEANU)  
1911, 9, 398
- —, thymus nucleic acid, action on (LEVENE and MEDIGRECEANU)  
1911, 9, 402
- —, yeast nucleic acid, action on (LEVENE and MEDIGRECEANU)  
1911, 9, 69, 400
- Tissue, urea content (MARSHALL and DAVIS)  
1914, 18, 60

**Heat:**

- Arabinose, effect on (HENDERSON)  
1911-12, 10, 6
- Bence-Jones protein, reaction of (TAYLOR and MILLER)  
1916, 25, 282
- Glucose, effect on (HENDERSON)  
1911-12, 10, 3

**Heat—continued:**

- Muscle, effect on (MEIGS)  
1909, 6, xviii
- Pancreas powder, effect on activity of (LOEVENHART)  
1906-07, 2, 451
- Peroxidase activity of milk, influence on (KASTLE and PORCH)  
1908, 4, 311
- Phytase, destruction by (ANDERSON)  
1915, 20, 490
- Reductase, action on (HARRIS and CREIGHTON)  
1915, 21, 303
- Yeast enzyme, effect on (KOELKER)  
1910-11, 8, 169
- Heat production:**
- Alanine, effect of (LUSK)  
1915, 20, 560
- Athletes (BENEDICT and SMITH)  
1915, 20, 246
- Body composition and (BENEDICT)  
1915, 20, 279
- surface and (BENEDICT)  
1915, 20, 274
- weight and (BENEDICT)  
1915, 20, 270
- Carbohydrate conversion into fat (LUSK)  
1915, 20, 581
- Depancreatized dog (MURLIN and KRAMER)  
1913, 15, 380
- Diabetes mellitus (LUSK)  
1915, 20, 600
- Glucose and alanine, effect of (LUSK)  
1915, 20, 584
- , effect of (LUSK)  
1915, 20, 575

**Heat production—continued:**

Glucose and glycocoll, effect of (Lusk)

1915, 20, 584

Glycocoll, and alanine, effect of (Lusk)

1915, 20, 560

—, effect of (Lusk)

1915, 20, 560

Hydrazine, effect of (UNDERHILL and MURLIN)

1915, 22, 499

Menstruation, effect of (Lusk)

1915, 20, 562

Non-vegetarians (BENEDICT and ROTH)

1915, 20, 233

Normal individuals (BENEDICT and EMMES)

1915, 20, 253

Vegetarians (BENEDICT and ROTH)

1915, 20, 233

**Heat of reaction:**

Direct determination (HENDERSON and RYDER)

1907, 3, xvii

**Hemagglutinin:**

Autolysis and (SCHNEIDER)

1912, 11, 53

Beans, hemagglutinating properties of (SCHNEIDER)

1912, 11, 47

Food for seedlings (SCHNEIDER)

1912, 11, 55

**Hemocyanin:**

Amino-acids of (VAN SLYKE)

1911-12, 10, 50

Amino nitrogen content (VAN SLYKE and BIRCHARD)

1913-14, 16, 544

**Hemocyanin—continued:**

Coagulation temperature (ALSBERG)

1914, 19, 81

*Limulus polyphemus* (ALSBERG and CLARK)

1910-11, 8, 1

(ALSBERG)

1914, 19, 77

— —, oxygen, solubility of, in solutions of (ALSBERG and CLARK)

1914, 19, 503

— —, potassium oxalate, action of (ALSBERG)

1915, 23, 501

**Hemoglobin:**

Amino-acids of (VAN SLYKE)

1911-12, 10, 52

Amino nitrogen of (VAN SLYKE and BIRCHARD)

1913-14, 16, 543

Blood content, dextrose, action of, on (FISHER and WISHART)

1912-13, 13, 58

— —, oxygen, influence of, on (KOLLS and LOEVENHART)

1914, 17, xxxviii

Liver enzymes, digestion by (BRADLEY and TAYLOR)

1916, 25, 273

Muscle, non-striated, content of (SAIKI)

1908, 4, 487

Specificity (BRADLEY and SANBURN)

1914, 17, xxviii;

1914, 18, 497

Tissue reductase, reduction by (HARRIS and CREIGHTON)

1915, 20, 179

**Hemoglobin**—*continued*:

Trypsin, action of (HOLLIS)

1908, 4, xxxiii

**Hemolysin:***Amanita phalloides*, glucoside nature of (ABEL and FORD)

1906-07, 2, 273

**Hemolysis:**

Analytical methods applied to (MANWARING)

1905-06, 1, 213

Fatty acids, power of (MCPHEDRAN)

1912, 11, x

**Hemolytic serum:***See* Serum.**Hemorrhage:**

Amino-acid content of blood, influence on (GYÖRGY and ZUNZ)

1915, 21, 518

Blood composition after repeated (TAYLOR and LEWIS)

1915, 22, 71

Hyperglycemia following (EPSTEIN and BAEHR)

1914, 18, 21

Protein metabolism, influence on (TAYLOR and LEWIS)

1915, 22, 71

Recuperation from, protein, effect of (FOSTER)

1909, 6, xlviii;

1909-10, 7, 379

**Hemp seed:**

Amino-acid content (NOLLAU)

1915, 21, 614

**Heptoses:**

(PEIRCE)

1914, 17, xxxv;

1915, 23, 327

**Heptylic acid:**

Glucose formation from (RINGER)

1913, 14, 43

Oxidation in the body (RINGER)

1913, 14, 47

— with hydrogen peroxide (DAKIN)

1908, 4, 229

**Herbivora:**

Acidosis in (HART and NELSON)

1914, 17, xlv

(STEENBOCK, NELSON, and HART)

1914, 19, 399

**Herter, Christian A.:**

Appreciation,

1910-11, 8, 437

Memorial fund,

1911-12, 10, 1

**Heteroalbumose:**

Amino nitrogen content (VAN SLYKE)

1911, 9, 194

(VAN SLYKE and BIRCHARD) 1913-14, 16, 544

Fibrin (LEVENE, VAN SLYKE, and BIRCHARD)

1910-11, 8, 269

Witte's peptone, hydrolysis of (LEVENE)

1905-06, 1, 54

— —, preparation of (LEVENE)

1905-06, 1, 46

**Hexacosane:**

Preparation (LEVENE, WEST, and VAN DER SCHEER)

1915, 20, 528

**Hexadecane:**

Preparation (LEVENE, WEST, and VAN DER SCHEER)

1915, 20, 523

**Hexamethylenamine:**

See Hexamethylenetetramine:

**Hexamethylenetetramine:**

Bile, excretion in (CROWE)  
1908, 4, xxxv

Determination, colorimetric (COLLINS and HANZLIK)

1916, 25, 231

Excretion (McGUIGAN)

1912, 11, xxxiii

Pancreatic juice, excretion in (CROWE)

1908, 4, xxxv

Salts of (JACOBS and HEIDELBERGER)

1915, 20, 659, 685;

1915, 21, 103, 145,

403, 439, 455, 465

**Hexamethylenetetraminium salts:<sup>1</sup>**

*o*-Acetaminobenzyl chloride, 1915, 20, 668

*p*-Acetaminobenzyl chloride,  
1915, 20, 668

1-Acetamino-4-ethoxychloroacetylbenzylamine,  
1915, 20, 691

*p*-Acetaminoiodoacetylbenzylamine,  
1915, 20, 687

3-Acetamino-4-methylphenacyl bromide,  
1915, 21, 461

*p*-Acetaminophenacyl bromide,  
1915, 21, 460

*o*-Acetaminophenoxyethyl bromide,  
1915, 21, 446

*p*-Acetaminophenoxyethyl bromide,  
1915, 21, 448

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

**Hexamethylenetetraminium salts<sup>1</sup>—continued:**

3-Acetamino-4-tolyl  $\omega$ -iodoethyl ketone,  
1915, 21, 462

$\beta$ -Acetoxy- $\alpha$ -chloroacetylnaphthobenzylamine,  
1915, 20, 689

2-Acetoxy-3,5-dibromobenzyl bromide,  
1915, 20, 671

4-Acetoxy-3,5-dibromobenzyl bromide,  
1915, 20, 671

2-Acetoxy-3,5-dimethylbenzyl chloride,  
1915, 20, 670

2-Acetoxy-3,5-dimethyl-4,6-dibromobenzyl bromide,  
1915, 20, 671

Acetoxyethyl bromide,  
1915, 21, 449

$\beta$ -Acetoxy- $\alpha$ -iodoacetylnaphthobenzylamine,  
1915, 20, 690

$\beta$ -Acetyl- $\alpha$ -chloroacetyl- $\alpha$ -phenylhydrazine,  
1915, 21, 474

3-Aldehyde-4-oxybenzyl chloride,  
1915, 20, 683

Aliphatic-aromatic ketones,  $\omega$ -halogen derivatives,  
1915, 21, 455

Amines, monohalogenacylated aromatic,  
1915, 21, 103

—, — simple,  
1915, 21, 145

Aminoalcohols, monohalogenacetyl derivatives,  
1915, 21, 403

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

Hexamethylenetetraminium salts<sup>1</sup>—*continued*:

- p*-Aminophenacyl chloride,  
1915, 21, 460
- p*-Aminophenyl chloromethyl ketone,  
1915, 21, 460
- p*-Anisyl bromomethyl ketone,  
1915, 21, 462
- Benzeneazo-*m*-chloroacetylaminophenol,  
1915, 21, 134
- Benzoyloxyethyl bromide,  
1915, 21, 450
- Benzyl halides,  
1915, 20, 659
- Bornyl bromoacetate,  
1915, 21, 468
- $\omega$ -Bromoacetophenoneoxime,  
1915, 21, 456
- Bromoacetylaniline,  
1915, 21, 104
- $\beta$ -( $\omega$ -Bromoacetyl)-quinoline,  
1915, 21, 464
- Bromoacetyl- $\omega$ -*o*-toluidinoacetophenone,  
1915, 21, 107
- o*-Bromobenzyl chloride,  
1915, 20, 665
- p*-Bromobenzyl chloride,  
1915, 20, 665
- p*-Bromochloroacetylaniline,  
1915, 21, 110
- Bromoethyl acetate,  
1915, 21, 449
- benzoate,  
1915, 21, 450
- esters,  
1915, 21, 449
- ethers,  
1915, 21, 440

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.Hexamethylenetetraminium salts<sup>1</sup>—*continued*:

- Bromoethyl *p*-nitrobenzoate,  
1915, 21, 450
- $\omega$ -Bromo-*m*-nitroacetophenone,  
1915, 21, 459
- p*-Bromophenoxyethyl bromide,  
1915, 21, 444
- m*-Carbethoxychloroacetylbenzylamine,  
1915, 20, 692
- 3-Carbomethoxy-4-oxybenzyl chloride,  
1915, 20, 681
- 3-Carboxy-4-oxybenzyl chloride,  
1915, 20, 681
- Cetyl iodide,  
1915, 21, 466
- Chloroacetdiethylamide,  
1915, 21, 149
- Chloroacetdimethylamide,  
1915, 21, 148
- Chloroacetethylamide,  
1915, 21, 149
- Chloroacetmethylamide,  
1915, 21, 148
- Chloroacetpiperidide,  
1915, 21, 150
- m*-Chloroacetylaminoacetophenone,  
1915, 21, 141
- $\omega$ -Chloroacetylaminoacetophenone,  
1915, 21, 472
- p*-Chloroacetylaminoazobenzene,  
1915, 21, 118
- Chloroacetylaminoazotoluene,  
1915, 21, 118
- p*-Chloroacetylaminoazobenzeneazodiethylaniline,  
1915, 21, 124

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

Hexamethylenetetraminium salts<sup>1</sup>—continued:

- p*-Chloroacetylaminobenzeneazodimethylaniline, 1915, 21, 123
- p*-Chloroacetylaminobenzeneazodipropylaniline, 1915, 21, 125
- p*-Chloroacetylaminobenzeneazoethylbenzylaniline, 1915, 21, 127
- p*-Chloroacetylaminobenzoic acid, diethylaminoethyl ester, 1915, 21, 140
- —, ethyl ester, 1915, 21, 139
- o*-Chloroacetylaminobenzyl alcohol, 1915, 21, 138
- o*-Chloroacetylaminobenzyl benzoate, 1915, 21, 139
- $\beta$ -Chloroacetylaminog $\gamma$ -butanol, 1915, 21, 429
- $\delta$ -Chloroacetylaminog $n$ -butanol, 1915, 21, 427
- $\beta$ -Chloroacetylaminog $\gamma$ -butyl *p*-nitrobenzoate, 1915, 21, 429
- $\delta$ -Chloroacetylaminobutyl *p*-nitrobenzoate, 1915, 21, 428
- p*-Chloroacetylaminodimethylaniline, 1915, 21, 115
- m*-Chloroacetylaminodimethylaniline, 1915, 21, 113
- p*-Chloroacetylaminodimethylaniline, 1915, 21, 114

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.Hexamethylenetetraminium salts<sup>1</sup>—continued:

- p*-Chloroacetylaminodipropylaniline, 1915, 21, 116
- Chloroacetylaminooethyl acetylsalicylate, 1915, 21, 414
- anisate, 1915, 21, 415
- (*p*-azodiethylalaniline)-benzoate, 1915, 21, 413
- benzoate, 1915, 21, 408
- ethyl ether, 1915, 21, 416
- *p*-methoxybenzoate, 1915, 21, 415
- $\beta$ -naphthoate, 1915, 21, 410
- *m*-nitrobenzoate, 1915, 21, 411
- *o*-nitrobenzoate, 1915, 21, 410
- *p*-nitrobenzoate, 1915, 21, 412
- *o*-toluate, 1915, 21, 409
- *o*-tolyl ether, 1915, 21, 417
- p*-Chloroacetylaminooethylbenzylaniline, 1915, 21, 117
- Chloroacetylaminoisopropanol, 1915, 21, 425
- Chloroacetylaminoisopropyl *p*-nitrobenzoate, 1915, 21, 425
- p*-Chloroacetylaminoleucomalachite green, 1915, 21, 141

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

Hexamethylenetetraminium salts<sup>1</sup>—*continued*:

- m*-Chloroacetylaminomethylbenzamide, 1915, 20, 694
- m*-Chloroacetylaminomethylbenzoic acid, diethylaminoethyl ester, 1915, 20, 694
- —, ethyl ester, 1915, 20, 692
- $\gamma$ -Chloroacetylaminomethyl- $\beta$ -butanol, 1915, 21, 431
- Chloroacetylaminomethylmethylethyl carbinol, 1915, 21, 430
- $\gamma$ -Chloroacetylaminomethyl- $\beta$ -pentanol, 1915, 21, 430
- m*-Chloroacetylaminophenol, 1915, 21, 133
- o*-Chloroacetylaminophenol, 1915, 21, 131
- o*-Chloroacetylaminophenyl benzoate, 1915, 21, 131
- *p*-nitrobenzoate, 1915, 21, 132
- $\gamma$ -Chloroacetylaminopropyl anisate, 1915, 21, 424
- *p*-nitrobenzoate, 1915, 21, 423
- 6-Chloroacetylaminquinoline, 1915, 21, 143
- o*-Chloroacetylaminomethyl-*p',p''*-tetraethyldiaminotriphenylmethane, 1915, 21, 142
- p*-Chloroacetylaminomethyl-*p',p''*-tetraethyldiaminotriphenylmethane, 1915, 21, 142

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

Hexamethylenetetraminium salts<sup>1</sup>—*continued*:

- Chloroacetylaniline, 1915, 21, 104
- Chloroacetyl- $\omega$ -anilinoacetophenone, 1915, 21, 107
- Chloroacetyl-*o*-anisidine, 1915, 21, 135
- Chloroacetyl-*p*-anisidine, 1915, 21, 138
- Chloroacetyl- $\omega$ -*o*-anisidinoacetophenone, 1915, 21, 137
- Chloroacetylbenzylamine, 1915, 20, 686
- Chloroacetylbenzylurea, 1915, 21, 152
- Chloroacetyl-*o*-chloroaniline, 1915, 21, 110
- Chloroacetyl- $\psi$ -cumidine, 1915, 21, 109
- Chloroacetyldiphenylamine, 1915, 21, 105
- Chloroacetylethylaminoethyl *p*-nitrobenzoate, 1915, 21, 418
- Chloroacetylleucoauramine, 1915, 21, 473
- Chloroacetylmethylaniline, 1915, 21, 105
- Chloroacetyl-*o*-methylbenzylamine, 1915, 20, 686
- Chloroacetylmethylurea, 1915, 21, 151
- Chloroacetyl- $\alpha$ -naphthylamine, 1915, 21, 109
- Chloroacetyl- $\beta$ -naphthylamine, 1915, 21, 109

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

**Hexamethylenetetraminium**salts<sup>1</sup>—*continued*:

- Chloroacetylnovocain,  
1915, 21, 140
- Chloroacetyloxyethyl ani-  
sate,  
1915, 21, 471
- Chloroacetylphenyl-  
aminoethyl *p*-nitroben-  
zoate,  
1915, 21, 419
- $\beta$ -Chloroacetyl- $\alpha$ - $\alpha$ -phe-  
nylbenzylhydrazine,  
1915, 21, 475
- Chloroacetylphenylglycin-  
anilide,  
1915, 21, 106
- Chloroacetyl-*m*-toluidine,  
1915, 21, 108
- Chloroacetyl-*o*-toluidine,  
1915, 21, 107
- Chloroacetyl-*p*-toluidine,  
1915, 21, 108
- Chloroacetyltriphenyl-  
amine,  
1915, 21, 474
- Chloroacetylurea,  
1915, 21, 151
- Chloroacetylurethane,  
1915, 21, 152
- Chloroacetyl-*m*-4-xyldine,  
1915, 21, 109
- o*-Chlorobenzyl chloride,  
1915, 20, 665
- p*-Chlorobenzyl chloride,  
1915, 20, 665
- Chloromethylanisic acid,  
1915, 20, 682
- —, methyl ester,  
1915, 20, 683
- Chloromethyl-*p*-cresotinic  
acid,  
1915, 20, 681
- 5-Chloromethylsalicyl-  
aldehyde,  
1915, 20, 683

<sup>1</sup>All of these salts were prepared  
by JACOBS and HEIDELBERGER.

**Hexamethylenetetraminium**salts<sup>1</sup>—*continued*:

- Chloromethylsalicylic  
acid,  
1915, 20, 681
- —, methyl ester,  
1915, 20, 681
- Chloromethylvanillin,  
1915, 20, 683
- o*-Cresoxyethyl bromide,  
1915, 21, 440
- o*-Cyanobenzyl chloride,  
1915, 20, 666
- p*-Cyanobenzyl chloride,  
1915, 20, 666
- 1, 2-Diacetoxychloro-  
acetylbenzylamine,  
1915, 20, 692
- 2,3-Dimethoxybenzyl chlo-  
ride,  
1915, 20, 678
- 3,4-Dimethoxybenzyl chlo-  
ride,  
1915, 20, 678
- 1, 2-Dimethoxychloro-  
acetylbenzylamine,  
1915, 20, 692
- 3,5-Dimethylbenzyl chlo-  
ride,  
1915, 20, 663
- 2,4-Dinitrobenzyl chloride,  
1915, 20, 667
- $\alpha$ , $\beta$ -Diphenylchloroacetyl-  
aminoethanol,  
1915, 21, 434
- Esters, halogenethyl,  
1915, 21, 439
- Ethers, halogenethyl,  
1915, 21, 439
- o*-Ethoxybenzyl chloride,  
1915, 20, 677
- p*-Ethoxyphenacyl bro-  
mide,  
1915, 21, 463
- p*-Ethylphenacyl bromide,  
1915, 21, 459

<sup>1</sup>All of these salts were prepared  
by JACOBS and HEIDELBERGER.



Hexamethylenetetraminium salts<sup>1</sup>—*continued*:

- Halogenacetyl benzyl amines, 1915, 20, 685
- Iodoacetyl aminoethanol, 1915, 21, 408
- o*-Iodobenzyl bromide, 1915, 21, 467
- p*-Iodobenzyl bromide, 1915, 20, 665
- m*-Iodochloroacetylamine, 1915, 21, 111
- 5-Iodochloroacetyl-*o*-toluidine, 1915, 21, 112
- Iodoethyl alcohol, 1915, 21, 465
- $\beta$ -Iodopropionamide, 1915, 21, 147
- $\beta$ -Iodopropionic acid, ethyl ester, 1915, 21, 467
- $\beta$ -Iodopropionyl-*o*-anisidine, 1915, 21, 136
- $\alpha,\beta$ -Isodiphenylchloroacetyl aminoethanol, 1915, 21, 435
- Ketones, aliphatic-aromatic,  $\omega$ -halogen derivatives, 1915, 21, 455
- Menthyl bromoacetate, 1915, 21, 468
- Mesitylene chloride, 1915, 20, 664
- o*-Methoxybenzyl chloride, 1915, 20, 673
- p*-Methoxybenzyl chloride, 1915, 20, 673
- 2-Methoxy-5-carbomethoxybenzyl chloride, 1915, 20, 683

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

Hexamethylenetetraminium salts<sup>1</sup>—*continued*:

- 2-Methoxy-5-carboxybenzyl bromide, 1915, 20, 682
- $\beta$ -Methoxy- $\alpha$ -chloroacetyl-naphthobenzylamine, 1915, 20, 690
- 3-Methoxy-4-ethoxybenzyl chloride, 1915, 20, 680
- $\beta$ -Methoxy- $\alpha$ -naphthobenzyl chloride, 1915, 20, 674
- 2-Methoxy-5-nitrobenzyl chloride, 1915, 20, 676
- p*-Methoxyphenacyl bromide, 1915, 21, 462
- 1-Methyl-4-acetaminochloroacetylbenzylamine, 1915, 20, 688
- m*-Methylbenzyl chloride, 1915, 20, 663
- o*-Methylbenzyl chloride, 1915, 20, 663
- p*-Methylbenzyl chloride, 1915, 20, 663
- 3,4-Methylenedioxybenzyl chloride, 1915, 20, 677
- p*-Methylphenacyl bromide, 1915, 21, 456
- iodide, 1915, 21, 457
- m*-Methylphenoxyethyl bromide, 1915, 21, 441
- o*-Methylphenoxyethyl bromide, 1915, 21, 440

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

**Hexamethylenetetraminium**salts<sup>1</sup>—*continued*:

- p*-Methylphenoxyethyl bromide, 1915, 21, 441
- $\beta$ -Naphthobenzyl chloride, 1915, 20, 664
- $\alpha$ -Naphthoxyethyl bromide, 1915, 21, 442
- $\beta$ -Naphthoxyethyl bromide, 1915, 21, 442
- 3-Nitro-4-acetoxybenzyl iodide, 1915, 20, 673
- p*-Nitrobenzoylaminoisopropyl chloroacetate, 1915, 21, 427
- p*-Nitrobenzoyloxyethyl bromide, 1915, 21, 450
- iodide, 1915, 21, 451
- m*-Nitrobenzyl chloride, 1915, 20, 666
- o*-Nitrobenzyl chloride, 1915, 20, 666
- p*-Nitrobenzyl chloride, 1915, 20, 666
- m*-Nitrochloroacetylamine, 1915, 21, 112
- m*-Nitrochloroacetyl-*p*-toluidine, 1915, 21, 112
- 2-Nitro-3,4-dimethoxybenzyl chloride, 1915, 20, 679
- 3-Nitro-4-methoxybenzyl chloride, 1915, 20, 676
- m*-Nitrophenacyl bromide, 1915, 21, 459
- o*-Nitrophenyl bromoacetate, 1915, 21, 470

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

**Hexamethylenetetraminium**salts<sup>1</sup>—*continued*:

- 2-Oxy-3-carbomethoxy-naphthobenzyl chloride, 1915, 20, 682
- 2-Oxy-3-carboxy-5-methylbenzyl chloride, 1915, 20, 681
- 2-Oxy-3,5-dibromobenzyl bromide, 1915, 20, 670
- Oxyethyl iodide, 1915, 21, 465
- 2-Oxy-3-methoxy-5-aldehydobenzyl chloride, 1915, 20, 683
- Oxymethylchloroacetamide, 1915, 21, 406
- 2-Oxy-5-nitrobenzyl chloride, 1915, 20, 671
- p*-Phenetyl bromoethyl ketone, 1915, 21, 463
- Phenoxyethyl bromide, 1915, 21, 440
- Phenyl bromoacetate, 1915, 21, 469
- Phenylethyl iodide, 1915, 21, 467
- $\alpha$ -Phenyl- $\alpha$ -oxy- $\beta$ -chloroacetylamineoethane, 1915, 21, 432
- $\beta$ -Phenyl- $\beta$ -oxy- $\alpha$ -chloroacetylaminopropane, 1915, 21, 436
- Piperonyl chloride, 1915, 20, 677
- o*-Tolueneazochloroacetyl-*o*-toluidine, 1915, 21, 118
- p*-Tolyliodomethyl ketone, 1915, 21, 456
- Tribromo-*p*-methylphenoxyethyl bromide, 1915, 21, 445

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

**Hexamethylenetetraminium salts**—*continued*

- Trimethylene chlorobromide,  
1915, 21, 465
- Trimethylene iodohydrin,  
1915, 21, 466
- Ureas, monohalogenacylated,  
1915, 21, 145
- Urethanes, monohalogenacylated,  
1915, 21, 145
- m*-Xylyl bromomethyl ketone,  
1915, 21, 458
- o*-Xylyl bromomethyl ketone,  
1915, 21, 458
- m*-Xylylene chloride,  
1915, 20, 664
- o*-Xylylene chloride,  
1915, 20, 663

**Hexatriacontane:**

- (LEVENE, WEST, and VAN DER SCHEER)  
1915, 20, 531

**Hexocytidine diphosphoric acid:**

- Thymus nucleic acid, isolation from (LEVENE and JACOBS)  
1912, 12, 419

**Hexone bases:**

- Autolysis of *Glomerella*, formation in (REED)  
1914, 19, 257
- Bacillus coli communis*, cell substance, content of (LEACH)  
1905-06, 1, 485
- Casein, content of (VAN SLYKE)  
1913-14, 16, 531

<sup>1</sup>All of these salts were prepared by JACOBS and HEIDELBERGER.

**Hexone bases**—*continued:*

- Fibrin heteroalbumose, content of (LEVENE, VAN SLYKE, and BIRCHARD)  
1910-11, 8, 280;  
1911-12, 10, 68
- protoalbumose, content of (LEVENE, VAN SLYKE, and BIRCHARD)  
1911-12, 10, 67
- Kidney, content of (WAKEMAN)  
1908, 4, 121
- Liver, content of (WAKEMAN)  
1908, 4, 121
- Muscle, content of (WAKEMAN)  
1908, 4, 121
- Tumors, malignant, content of (KOCHER)  
1915, 22, 295

**Hexonic acid:**

- Deamino chondrosamine, bromine oxidation of (LEVENE and LA FORGE)  
1914, 18, 130

**Hexosamine:**

- See Chondrosamine, Glucosamine.

**Hexosaminic acid:**

- Ribose, preparation from (LEVENE and LA FORGE)  
1915, 20, 441

**Hexose:**

- Leukocytes, action of (LEVENE and MEYER)  
1913, 14, 149, 551
- Phenylosazones, mutarotation of (LEVENE and LA FORGE)  
1915, 20, 429
- Tissue, kidney, action of (LEVENE and MEYER)  
1913, 15, 65
- Walden rearrangement in (LEVENE and LA FORGE)  
1915, 21, 345

**Hexothymidine diphosphoric acid:**

Thymus nucleic acid, isolation from (LEVENE and JACOBS)  
1912, 12, 417

**Hickory nut:**

Amino-acid content (NOLLAU)  
1915, 21, 614

**Hippuric acid:**

Benzoic acid, effect on excretion of (MCCOLLUM and HOAGLAND)  
1913-14, 16, 321  
(LEWIS)

1914, 18, 225  
— —, formation from (DAKIN)  
1909-10, 7, 103

Creatinine excretion, influence on (LEWIS and KARR)  
1916, 25, 20

Determination (DAKIN)  
1909-10, 7, 106  
(VAN SLYKE)  
1913-14, 16, 133

— in blood (KINGSBURY)  
1915, 21, 289

— — tissues (KINGSBURY)  
1915, 21, 289

— — urine (STEENBOCK)  
1912, 11, 201  
(FOLIN and FLANDERS)  
1912, 11, xxvii, 257  
(VAN SLYKE)

1913-14, 16, 133  
Diastase accelerator (ROCKWOOD)  
1916, 24, xxix

Diet, influence of, on synthesis of (RINGER)  
1911-12, 10, 327

Excretion in monkey (HUNTER and GIVENS)  
1914, 17, 55

**Hippuric acid—continued:**

Formation and elimination from animal body (RAIZISS, RAIZISS, and RINGER)  
1914, 17, 527

Glyoxylic acid from, on oxidation with hydrogen peroxide (DAKIN)  
1905-06, 1, 272

Maximum production (RINGER)  
1911-12, 10, 327

Molds, hydrolysis by (DOX)  
1909, 6, 465

Output, maximum (EPSTEIN and BOOKMAN)  
1912-13, 13, 117

Oxidation (DAKIN)  
1905-06, 1, 272

Phosphorus poisoning, influence on (EPSTEIN and BOOKMAN)  
1912-13, 13, 122

Sulfuric acid, reaction with (ERDMANN)  
1910-11, 8, 54

Synthesis, animal organism (LEWIS)  
1914, 17, 503;  
1914, 18, 225

(RAIZISS and DUBIN)  
1915, 21, 331  
(LEWIS and KARR)

1916, 25, 13  
—, experimental tartrate nephritis (KINGSBURY and BELL)

1915, 20, 73, xxxii  
—, glycocoll-free diet (LEWIS)

1914, 17, 503  
—, nephrectomized dogs (KINGSBURY and BELL)

1915, 21, 297

**Hippuric acid—continued:**

Synthesis, protein diet  
(RAIZISS and DUBIN)

1915, 21, 331

Uric acid determination in  
urine, effect on (LEWIS  
and KARR)

1916, 25, 14

— — excretion, effect on  
(LEWIS and KARR)

1916, 25, 19

Urine, alkaline decomposi-  
tion in (RAIZISS and  
DUBIN)

1915, 21, 334

**Hirudin:**

Immunization against anti-  
coagulating effect (VERA  
and LOEB)

1914, 17, xxv;

1914, 19, 305

Prothrombin, compound  
with (VERA and LOEB)

1914, 19, 320

**Histidine:**

Casein content (VAN  
SLYKE)

1913-14, 16, 531

Catabolism (DAKIN and  
WAKEMAN)

1911-12, 10, 499

Edestin content (VAN  
SLYKE)

1911-12, 10, 46

Fibrin content (VAN  
SLYKE)

1911-12, 10, 50

— heteroalbumose content  
(LEVENE, VAN SLYKE,  
and BIRCHARD)

1910-11, 8, 280;

1911-12, 10, 69

— protoalbumose content  
(LEVENE, VAN SLYKE,  
and BIRCHARD)

1911-12, 10, 68

**Histidine—continued:**

Gelatin content (VAN  
SLYKE)

1911-12, 10, 49

Gliadin content (VAN  
SLYKE)

1911-12, 10, 45

(OSBORNE, VAN SLYKE,  
LEAVENWORTH, and VIN-  
OGRAD)

1915, 22, 261

*Glomerella*, presence in  
(REED)

1914, 19, 260

Growth, influence on (Os-  
BORNE and MENDEL)

1914, 18, 11

Hair content (VAN SLYKE)

1911-12, 18, 47

Hemocyanin content (VAN  
SLYKE)

1911-12, 10, 51

Hemoglobin content (VAN  
SLYKE)

1911-12, 10, 53

Kidney content (WAKE-  
MAN)

1908, 4, 123

Legumelin content (Os-  
BORNE and HEYL)

1908-09, 5, 198

Legumin content (Os-  
BORNE and CLAPP)

1907, 3, 225

Liver content (WAKEMAN)

1908, 4, 123

— — after chloroform  
necrosis (WELLS)

1908-09, 5, 139

Metabolism of (DAKIN)

1913, 14, 328

Muscle content (WAKE-  
MAN)

1908, 4, 123

Nitrous acid, reaction with  
(VAN SLYKE)

1911, 9, 192

**Histidine—continued:**

Placenta content (KOELKER and SLEMONS)

1911, 9, 486

Proteins, determination in (VAN SLYKE)

1911-12, 10, 29;

1916, 23, 411

Rice kernel protein content (OSBORNE, VAN SLYKE, LEAVENWORTH, and VINOGRAD)

1915, 22, 275

Soils, presence in (SCHREINER and SHOREY)

1910-11, 8, 381

Thyreoglobulin, presence in (KOCH)

1911, 9, 121

Tissue, animal, determination in (WAKEMAN)

1908, 4, 119

Tumors, malignant, content (KOCHER)

1915, 22, 360

Vicilin content (OSBORNE and HEYL)

1908-09, 5, 188

Vitellin content (LEVENE and ALSBERG)

1906-07, 2, 132

**Hog cholera:**

Urea nitrogen of (KENDALL and WALKER)

1913, 15, 281

**Homogentisic acid:**

Tyrosine, rôle in metabolism of (DAKIN)

1910-11, 8, 11

Urine content in alcaptonuria (RAYOLD and WARREN)

1909-10, 7, 478

**Hordein:**

Heat of combustion (BENEDICT and OSBORNE)

1907, 3, 132

**Hordein—continued:**

Nutrition and (OSBORNE and MENDEL)

1912, 12, 484

**Hordeum sativum:**

Phytic acid from (HART and TOTTINGHAM)

1909, 6, 437

**Horse gram:**

Urease content (MATEER and MARSHALL)

1916, 25, 298

**Humin:**

Tryptophane, formation from (OSBORNE, VAN SLYKE, LEAVENWORTH, and VINOGRAD)

1915, 22, 269

(VAN SLYKE)

1915, 22, 285

**Hydantoic acid:**

Ethyl ester, metabolism of (LEWIS)

1912-13, 13, 347

**Hydantoin:**

(BRAUTLECHT)

1911-12, 10, 139

(WHEELER, HOFFMAN, and JOHNSON)

1911-12, 10, 147

(JOHNSON)

1912, 11, 97

(JOHNSON and BRAUTLECHT)

1912, 12, 175

(JOHNSON and O'BRIEN)

1912, 12, 205

Derivatives, metabolism of (LEWIS)

1912-13, 13, 347;

1913, 14, 245;

1915, 23, 281

—, phenol reagent, reaction with (LEWIS and NICOLET)

1913-14, 16, 369

**Hydantoin—continued:**

Derivatives, uric acid reagent, reaction with (LEWIS and NICOLET)

1913-14, 16, 369

Metabolism (LEWIS)

1912-13, 13, 347

Racemization of (DAKIN)

1910-11, 8, 31

Resolution of (DAKIN and DUDLEY)

1914, 17, 29

**Hydrastine:**

Picolonate (WARREN and WEISS)

1907, 3, 337

**Hydrazine:**

Adrenalin, effect on secretion of (UNDERHILL and FINE)

1911-12, 10, 283

Blood ammonia content, effect of liver poisoned with hydrazine on (FISKE and KARSNER)

1914, 18, 381

— composition, influence on (UNDERHILL)

1914, 17, 293

— pressure, influence on (UNDERHILL)

1911-12, 10, 168

— sugar content, influence on (UNDERHILL)

1911-12, 10, 159

Dextrose utilization, effect on (UNDERHILL and HOGAN)

1915, 20, 203

Glycogen, influence on (UNDERHILL)

1911-12, 10, 162

— storage, influence on (UNDERHILL)

1914, 17, 293

**Hydrazine—continued:**

Glyoxalase activity, influence on (UNDERHILL and HOGAN)

1915, 20, 211

Heat production, influence on (UNDERHILL and MURLIN)

1915, 22, 499

Histological study of action of (UNDERHILL and KLEINER)

1908, 4, 177

Hypoglycemia in rabbits (UNDERHILL and HOGAN)

1915, 20, 205

—, rôle of muscle in (UNDERHILL and PRINCE)

1914, 17, 299

Lethal dose (UNDERHILL)

1911-12, 10, 161

Metabolism, intermediary, influence on (UNDERHILL and PRINCE)

1914, 17, 299

Nitrogen distribution in urine, effect on (UNDERHILL and KLEINER)

1908, 4, 171

Organism, influence on (UNDERHILL)

1911-12, 10, 159

Pancreatic diabetes, prevention by (UNDERHILL and FINE)

1911-12, 10, 273

Respiratory quotient, influence on (UNDERHILL and MURLIN)

1915, 22, 499

Sugar disappearance from solutions perfused through heart, influence on (UNDERHILL and PRINCE)

1914, 17, 299

**Hydrazine—continued:**

Sugar metabolism, action on (UNDERHILL and FINE)

1911-12, 10, 280

Sulfur distribution in urine, effect on (UNDERHILL and KLEINER)

1908, 4, 171

**Hydrobilirubin:**

Extraintestinal origin of (AUSTIN and ORDWAY)

1908, 4, xxxii

Reaction of feces in advanced anemia (HERTER)

1906-07, 2, 15

**Hydrocarbon:**

Aliphatic, preparation (LEVENE, WEST, and VAN DER SCHEER)

1915, 20, 521

Oil, absorption of (BLOOR)

1913, 15, 107

**Hydrocephalin:**

Preparation (LEVENE and WEST)

1916, 24, 52

**Hydrochloric acid:**

Autolysis, influence on (BRADLEY)

1915, 22, 116

Barium sulfate precipitation, influence on (FOLIN)

1905-06, 1, 146

Gastric contents, recognition and determination in (KASTLE and AMOSS)

1907, 3, xi

Magnesium sulfate anesthesia, influence on (UNDERHILL)

1916, 25, 477

Metabolism, effect on (McCOLLUM and HOAGLAND)

1913-14, 16, 309

**Hydrochloric acid—continued:**

Metabolism, effect on (STEENBOCK, NELSON, and HART)

1914, 19, 405

Morphological changes induced by chloroform, relation to (GRAHAM)

1915, 20, xxv

Osmotic pressure of lecithin suspensions, influence on (THOMAS)

1915, 23, 365

Permeability, effect on (OSTERHOUT)

1914, 19, 493

Phytase, action on (ANDERSON)

1915, 20, 490

Rice plant, influence on growth of (MIYAKE)

1916, 25, 26

Sodium chloride in, chemical and physiological properties (PETERS)

1908, 4, xxviii

Tetany, effect on (WILSON, STEARNS, and JANNEY)

1915, 21, 171

(WILSON, STEARNS, and THURLOW)

1915, 23, 95

Urease, action on (MARSHALL)

1914, 17, 356

Viscosity of lecithin suspensions, influence on (THOMAS)

1915, 23, 369

**Hydrocyanic acid:**

Bacteria, production by (CLAWSON and YOUNG)

1913, 15, 419

Burley tobacco, growth of, influence on (OOSTHUIZEN and SHEDD)

1913-14, 16, 448



**Hydrocyanic acid—continued:**

Grasses, content of (ALSBERG and BLACK)

1915, 21, 601;

1916, 25, 133

(VIEHOEVER, JOHNS, and ALSBERG)

1916, 25, 141

Liver autolysis, effect on (BRADLEY and TAYLOR)

1916, 25, 262

Plant tissues, disappearance from, during maceration (ALSBERG and BLACK)

1916, 25, 133

— —, separation from (ALSBERG and BLACK)

1916, 25, 133

Proteins, formation from (EMERSON, CADY, and BAILEY)

1913, 15, 415

Proteolysis, acceleration of (MENDEL and BLOOD)

1910-11, 8, 179

Test for (EMERSON, CADY, and BAILEY)

1913, 15, 415

Thyroid feeding, influence of, on poisoning by (HUNT)

1905-06, 1, 42

*Tridens flavus*, content of (VIEHOEVER, JOHNS, and ALSBERG)

1916, 25, 141

**Hydrogen:**

Hair, content of (RUTHERFORD and HAWK)

1907, 3, 462

Urine, content of (BRAMAN)

1914, 19, 108

**Hydrogen electrode:**

(McCLENDON)

1916, 24, 521

**Hydrogen electrode—continued:**

Potentials, barometer corrections (CLARK and LUBS)

1916, 25, 486

— of phthalate, phosphate, and borate buffer mixtures (CLARK and LUBS)

1916, 25, 479

Tonometer and (McCLENDON and MAGOON)

1916, 25, 675

Two compartment (McCLENDON and MAGOON)

1916, 25, 669

Vessel (CLARK)

1915, 23, 475

**Hydrogen ion:**

Concentration, aluminium chloride solutions (MIYAKE)

1916, 25, 27

—, during autolysis (MORSE)

1916, 24, xxvii

—, *Bacillus coli* cultures (CLARK)

1915, 22, 87

—, blood (GETTLER and BAKER)

1916, 25, 221

(McCLENDON and MAGOON)

1916, 25, 672

—, —, improved gas chain method for determining (McCLENDON)

1916, 24, 519

—, — after parathyroidectomy (WILSON, STEARNS, and THURLOW)

1915, 23, 97, 105

—, comparison solutions for colorimetric method (CLARK and LUBS)

1916, 25, 479

**Hydrogen ion—continued:**

- Concentration, fecal extracts (HOWE and HAWK)  
1912, 11, xxxii
- , feces (HOWE and HAWK)  
1912, 11, 129
- , gastric juice (MERTEN)  
1915, 22, 341
- , indicators for (HENDERSON and PALMER)  
1912-13, 13, 394
- , measurement of (SCHMIDT)  
1916, 25, 66
- , millivolts, calculation from (McCLENDON)  
1916, 24, 524
- , optimum for liver autolysis (BRADLEY and TAYLOR)  
1916, 25, 264
- , protein compounds, formation of, changes in, during (SCHMIDT)  
1916, 25, 63
- , serum (McCLENDON and MAGOON)  
1916, 25, 672
- , — proteins, solutions of (ROBERTSON)  
1909-10, 7, 352
- , stomach contents, indicator method for (McCLENDON and MAGOON)  
1916, 25, 680
- , tissue enzymes, action on (MORSE)  
1915, 22, 125
- , urease, action on (VAN SLYKE and ZACHARIAS)  
1914, 19, 181
- , urine (HENDERSON)  
1911, 9, 406

**Hydrogen ion—continued:**

- Concentration, urine (HENDERSON and PALMER)  
1912-13, 13, 393;  
1913, 14, xxv;  
1914, 17, 306
- , —, extremes of variations of (HENDERSON and PALMER)  
1913, 14, 81
- , — during fast (HOWE and HAWK)  
1914, 17, xlviii
- , — during nephritis (HENDERSON and PALMER)  
1915, 21, 39, 57
- , — after parathyroidectomy (WILSON, STEARNS, and JANNEY)  
1915, 23, 123
- , — during tartrate nephritis (UNDERHILL and BLATHERWICK)  
1914, 19, 43
- Hydrogen peroxide:**
- Acetophenone, oxidation of (DAKIN)  
1908, 4, 422
- Alanine, oxidation of (DAKIN)  
1905-06, 1, 174
- o*-Aminobenzoic acid, oxidation of (DAKIN and HERTER)  
1907, 3, 433
- $\alpha$ -Aminoisovaleric acid, oxidation of (DAKIN)  
1908, 4, 73
- $\alpha$ -Amino-*n*-valeric acid, oxidation of (DAKIN)  
1908, 4, 73
- Aspartic acid, oxidation of (DAKIN)  
1908-09, 5, 409
- Benzoic acid, oxidation of (DAKIN and HERTER)  
1907, 3, 419

**Hydrogen peroxide—continued:**

- Betaine, oxidation of (DAKIN) 1905-06, 1, 272
- p*-Bromobenzoic acid, oxidation of (DAKIN and HERTER) 1907, 3, 433
- Butyric acid, oxidation of (DAKIN) 1908, 4, 77
- o*-Chlorobenzoic acid, oxidation of (DAKIN and HERTER) 1907, 3, 433
- Creatine, oxidation of (DAKIN) 1905-06, 1, 271
- Creatinine, oxidation of (DAKIN) 1905-06, 1, 271
- m*-Dinitrobenzoic acid, oxidation of (DAKIN and HERTER) 1907, 3, 433
- Fatty acids, oxidation of (HERTER) 1908, 4, 227
- Glutamic acid, oxidation of (DAKIN) 1908-09; 5, 409
- Glycocoll, oxidation of (DAKIN) 1905-06, 1, 173
- Glycollic acid, oxidation of (DAKIN) 1905-06, 1, 273; 1908, 4, 95
- Hippuric acid, oxidation of (DAKIN) 1905-06, 1, 272
- m*-Hydroxybenzoic acid, oxidation of (DAKIN and HERTER) 1907, 3, 432
- o*-Hydroxybenzoic acid, oxidation of (DAKIN and HERTER) 1907, 3, 432

**Hydrogen peroxide—continued:**

- p*-Hydroxybenzoic acid, oxidation of (DAKIN and HERTER) 1907, 3, 431
- $\alpha$ -Hydroxybutyric acid, oxidation of (DAKIN) 1908, 4, 96
- $\beta$ -Hydroxybutyric acid, oxidation of (DAKIN) 1908, 4, 97
- $\alpha$ -Hydroxyisobutyric acid, oxidation of (DAKIN) 1908, 4, 98
- $\alpha$ -Hydroxyisovaleric acid, oxidation of (DAKIN) 1908, 4, 98
- Lactic acid, oxidation of (DAKIN) 1908, 4, 96
- Leucic acid, oxidation of (DAKIN) 1908, 4, 99
- Leucine, oxidation of (DAKIN) 1905-06, 1, 176; 1908, 4, 63
- Milk, determination in (AMBERG) 1905-06, 1, 219
- , preservation of, with (AMBERG) 1905-06, 1, 219
- p*-Nitrobenzoic acid, oxidation of (DAKIN and HERTER) 1907, 3, 433
- $\beta$ -Phenyl- $\beta$ -hydroxypropionic acid, oxidation of (DAKIN) 1908, 4, 422
- $\beta$ -Phenylpropionic acid, oxidation of (DAKIN) 1908, 4, 422
- Sarcosine, oxidation of (DAKIN) 1905-06, 1, 273

## Hydrolysis:

- Casein (OSBORNE and GUEST)  
1911, 9, 333
- with barium hydroxide (HOMER)  
1915, 22, 378
- Diastase, critical hydroxyl ion concentration for (QUINAN)  
1909, 6, 53
- Esters, fatty acids, influence of (AMBERG and LOEVENHART)  
1908, 4, 154
- Gliadin, products of (OSBORNE, VAN SLYKE, LEAVENWORTH, and VINOGRAD)  
1915, 22, 259
- Heteroalbumose (LEVENE)  
1905-06, 1, 54
- Lactalbumin, products of (OSBORNE, VAN SLYKE, LEAVENWORTH, and VINOGRAD)  
1915, 22, 259
- Legumelin (OSBORNE and HEYL)  
1908-09, 5, 197
- Legumin of pea (OSBORNE and CLAPP)  
1907, 3, 219
- Maltose, by muscle plasma and pancreas extract (LEVENE and MEYER)  
1911, 9, 99
- Organic phosphoric acid of wheat bran (ANDERSON)  
1915, 20, 483
- Phytin, by phytase (ANDERSON)  
1915, 20, 475
- Proteins, conditions for complete (VAN SLYKE)  
1912, 12, 295

## Hydrolysis—continued:

- Proteins, by enzymes, mechanism of (ROBERTSON)  
1908-09, 5, 493
- , kyriines from partial hydrolysis of (LEVENE and BIRCHARD)  
1912-13, 13, 277  
(LEVENE and VAN DER SCHEER)  
1915, 22, 425
- by pancreatic enzymes (HARDING and MACLEAN)  
1916, 24, 503
- , partial (LEVENE, VAN SLYKE, and BIRCHARD)  
1910-11, 8, 269;
- , by pepsin-acid solutions (BERG)  
1908, 4, xlv
- by trypsin, rôle of alkali in (ROBERTSON)  
1908-09, 5, 31  
1911-12, 10, 57
- Protoalbumose (LEVENE)  
1905-06, 1, 47
- Rice kernel protein, products of hydrolysis of (OSBORNE, VAN SLYKE, LEAVENWORTH, and VINOGRAD)  
1915, 22, 259
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Creatinine metabolism (TOWLES and VOEGTLIN)

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BURRES)

1909, 6, 66

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TLE and PORCH)

1908, 4, 305

**Perspiration:**

Boric acid excretion in  
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1907, 3, 15

**Petroleum ether:**

Extraction, use for (MAR-  
SHALL)

1907, 3, xx

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Adzuki bean, heat of com-  
bustion (BENEDICT and  
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1907, 3, 129

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1914, 18, 14

Kidney bean, heat of com-  
bustion (BENEDICT and  
OSBORNE)

1907, 3, 129

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TON)

1916, 25, 168, 228

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FINE)

1911-12, 10, 454

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1916, 24, xxx

*angularis*, urease, ab-  
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MARSHALL)

1916, 24, xxx

*aureus*, urease content  
(MATEER and MAR-  
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1916, 24, xxx;

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*calcaratus*, urease, ab-  
sence of (MATEER and  
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1916, 24, xxx

*mungo*, urease, absence of  
(MATEER and MAR-  
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1916, 24, xxx

**Phenaceturic acid:**

Phenyl derivatives of fatty  
acids, formation from,  
in body (DAKIN)

1908-09, 5, 180

Urine, determination in  
(STEENBOCK)

1912, 11, 201

**p-Phenetyl bromoethyl ketone:**

Hexamethylenetetramin-  
ium salt (JACOBS and  
HEIDELBERGER)

1915, 21, 463

**Phenol:**

Alcohol, antagonism to  
(TAYLOR)

1908-09, 5, 319

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- Benzene, production from (FOLIN and DENIS)  
1915, 22, 314
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1912, 11, 265
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1912, 12, 240
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1915, 22, 305
- Feces, occurrence in, in advanced anemia (HERTER)  
1906-07, 2, 2
- Formation in organism (DAKIN and HERTER)  
1907, 3, 419
- Free and conjugated, excretion of (FOLIN and DENIS)  
1915, 22, 309
- Glutin, precipitation of (HANZLIK)  
1915, 20, 16
- Limburger cheese, occurrence in (NELSON)  
1916, 24, 534
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1908, 4, 305
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1913-14, 16, 369

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1915, 22, 227
- Phenolsulfonephthalein**:
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1914, 19, 39
- Phenoxyethyl bromide**:
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1915, 21, 440
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- Catabolism (DAKIN)  
1909, 6, 242
- Phenylacetic acid**:
- Catabolism (DAKIN)  
1908, 4, 424



**Phenylacetone:**

Fate in animal organism  
(DAKIN)

1908-09, 5, 183

**Phenylacetyl- $\gamma$ -homocholine chloride:**

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1912-13, 13, 100

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Acetoacetic acid from  
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1913, 14, 329

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1909, 6, 549

Aspartic acid, separation  
from (LEVENE and VAN  
SLYKE)

1912, 12, 138

Casein content (OSBORNE  
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1911, 9, 340

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1909, 6, 240

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1911, 9, 139

Colon poison, presence in  
(WHEELER)

1909, 6, 549

Fibrin heteroalbumose  
content (LEVENE, VAN  
SLYKE, and BIRCHARD)

1910-11, 8, 277

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1911, 9, 46

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1907, 3, 225

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1913, 14, 329

*l*-Phenyllactic acid, con-  
version into (DAKIN and  
DUDLEY)

1914, 18, 46

$\beta$ -Phenyl- $\alpha$ -uramidopropi-  
onic acid, preparation  
from (DAKIN and DUD-  
LEY)

1914, 17, 35

Picrolonate (LEVENE and  
VAN SLYKE)

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KER and SLEMONS)

1911, 9, 485

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(LEVENE)

1905-06, 1, 51

Synthesis (JOHNSON and  
O'BRIEN)

1912, 12, 205

Tuberculosis poison, pres-  
ence in (WHEELER)

1909, 6, 549

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in (WHEELER)

1909, 6, 549

Vicilin content (OSBORNE  
and HEYL)

1908-09, 5, 188

Vitellin content (LEVENE  
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1906-07, 2, 130

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BORNE and GUEST)

1911, 9, 426

***dl*-Phenylalanine:**

Picrolonate (LEVENE and  
VAN SLYKE)

1912, 12, 136

- Phenyl- $\beta$ -alanine:**  
 Catabolism (DAKIN)  
 1909, 6, 241;  
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 1912, 12, 184  
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 1912, 12, 185
- $\alpha$ -Phenyl- $\alpha$ -benzoyloxy- $\beta$ -ben-  
 zoylaminopropane:**  
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 GER)  
 1915, 21, 436
- 1-Phenyl-4-benzyl-2-thiohy-  
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 (BRAUTLECHT)  
 1911-12, 10, 144
- Phenyl bromoacetate:**  
 Hexamethylenetetramin-  
 ium salt (JACOBS and  
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 1915, 21, 469
- Phenyl- $\alpha$ -bromo- $\beta$ -chloropro-  
 pionylglycocoll:**  
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 1908-09, 5, 308
- Phenyl- $\alpha$ -bromo- $\beta$ -hydroxy-  
 propionylglycocoll:**  
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 1908-09, 5, 307
- Phenylbutyric acid:**  
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 1908-09, 5, 180  
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 1908-09, 5, 307
- Phenyldihydrouracil:**  
 Formation after feeding  
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 KIN)  
 1910-11, 8, 37  
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 1910-11, 8, 38
- Phenyl- $\beta,\gamma$ -dihydroxybutyric  
 acid:**  
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 1908-09, 5, 183
- p*-Phenylenediamine:**  
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 1908, 4, 303
- Phenylethyl iodide:**  
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 1915, 21, 467
- 1-Phenyl-2-ethylmercapto-4-  
*p*-nitrobenzalhydantoin:**  
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 1912, 12, 183
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 toin:**  
 (BRAUTLECHT)  
 1911-12, 10, 143
- Phenylglyceric acid:**  
 Catabolism (DAKIN)  
 1909, 6, 242
- Phenylglyoxal:**  
*d*- $\alpha$ -Aminophenylacetic  
 acid formation from, in  
 liver (DAKIN and DUD-  
 LEY)  
 1914, 18, 47  
 Benzoylcarbinol forma-  
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 ing yeast (DAKIN)  
 1914, 18, 91

**Phenylglyoxal**—*continued*:

Dinitrophenylhydrazone  
(DAKIN and DUDLEY)

1913, 15, 138

Fate in animal body (DAKIN and DUDLEY)

1913, 14, 155

Glyoxalase, action of (DAKIN and DUDLEY)

1913, 14, 155, 427

*l*-Mandelic acid from, by action of yeast (DAKIN)

1914, 18, 92

—, preparation of, from (DAKIN and DUDLEY)

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Perfusion through liver (DAKIN and DUDLEY)

1913, 15, 141;

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Tissues, action of (DAKIN and DUDLEY)

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**Phenylglyoxylic acid:**

*d*- $\alpha$ -Aminophenylacetic acid, formation of, from, in liver (DAKIN and DUDLEY)

1914, 18, 47

Mandelic acid, preparation of, from (DAKIN and DUDLEY)

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*p*-Nitrophenylhydrazone (DAKIN and DUDLEY)

1913, 15, 139

Perfusion through liver (DAKIN and DUDLEY)

1914, 18, 47

Phenylglyoxal formation from, in liver (DAKIN and DUDLEY)

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**Phenylhydantoin:**

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1914, 18, 49

**Phenylhydrazine:**

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1914, 17, 297

**1-Phenyl-4-*p*-hydroxybenzyl-2-thiohydantoin:**

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1911-12, 10, 144

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Fate in organism (DAKIN)

1908-09, 5, 182

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1908, 4, 428

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1909, 6, 212

Phenylvaleric acid, formation from, in body (DAKIN)

1909, 6, 229

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1909, 6, 210

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***l*-Phenyl- $\beta$ -hydroxypropionic acid:**

Excretion of, after administration of benzoylacetic acid (DAKIN)

1911, 9, 126

**Phenyl- $\beta$ -hydroxypropionyl-glycocoll:**

Catabolism (DAKIN)

1909, 6, 215

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1908-09, 5, 308

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1908-09, 5, 417

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- Phenyl- $\gamma$ -hydroxyvaleric acid: Catabolism (DAKIN) 1909, 6, 232
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- l*-Phenyllactic acid: *l*-Phenylalanine, preparation from (DAKIN and DUDLEY) 1914, 18, 46
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- $\beta$ -Phenyl- $\beta$ -oxy- $\alpha$ -chloroacetylaminopropane: (JACOBS and HEIDELBERGER) 1915, 21, 436
- Hexamethylenetetraminium salt (JACOBS and HEIDELBERGER) 1915, 21, 436
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- Phenyl- $\beta, \gamma$ -pentenic acid: Catabolism (DAKIN) 1909, 6, 231
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- 1-Phenyl-2-thiohydantoin: (BRAUTLECHT) 1911-12, 10, 143
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Cell division, effect on (LILLIE)  
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1916, 25, 519
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Cell division, effect on (LILLIE)  
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1909, 6, 221
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Blood ammonia content, effect of liver poisoned with, on (FISKE and KARSNER)  
1914, 18, 381
- Creatine excretion, effect on (MENDEL and ROSE)  
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- Eck's fistula in dog, effect on (SWEET and RINGER)  
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- Phlorhization:  
Acetoacetic acid, action on (MARRIOTT)  
1914, 18, 258
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1916, 24, 23
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- Hydroxybutyric acid, action on (MARRIOTT)  
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- Metabolism, effect on (LUSK)  
1915, 20, 601
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1915, 20, 541
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*californicum*, *p*-hydroxyphenylethylamine, occurrence in (CRAWFORD and WATANABE)  
1916, 24, 171

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1916, 24, 171

*villosum*, *p*-hydroxyphenylethylamine, occurrence in (CRAWFORD and WATANABE)

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**Phosphate:**

Buffer mixture, potentials of (CLARK and LUBS)

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1909-10, 7, 83;

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Insoluble, effect of soluble salts on (GREAVES)

1909-10, 7, 287

Magnesium, determination of, in presence of (McCRUDDEN)

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1916, 24, 188

Soil and (GREAVES)

1909-10, 7, 309

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1914, 19, 185

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1914, 19, 225

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1913, 15, 423

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**Phospholipoids:**

*See* Phosphatides.

**Phosphoric acid:**

Ammonium magnesium phosphate as form to weigh (JONES)

1916, 25, 87

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1915, 20, 112

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1915, 20, 97

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1912, 11, 471

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- Liver autolysis, effect on  
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1916, 25, 263
- Organic, of cottonseed  
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1916, 24, vii

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1909, 6, 431
- — serum, determina-  
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1913, 14, 369
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1913, 14, 369
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(KOCH and KOCH)  
1913, 15, 437
- Butter fat, absence in (OS-  
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1915, 21, 91
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- , potassium cyanide, effect of (RICHARDS and WALLACE)  
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- Food content (SHERMAN and GETTLER)  
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1912 13, 13, 122
- Inorganic, milk content (BOSWORTH and VAN SLYKE)  
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- , plant substances, determination in (COLLISSON)  
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- , separation from organic (CHAPIN and POWICK)  
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- Lipoid, serum, determination in (GREENWALD)  
1915, 21, 29
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1906-07, 2, 203
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1905-06, 1, 390
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1906-07, 2, 203
- , separation from inorganic (CHAPIN and POWICK)  
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1907, 3, 339
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1907, 3, 49
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1915, 21, 35
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1912, 11, 30
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1916, 25, 189
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- Amino nitrogen content (VAN SLYKE and BIRCHARD)  
1913-14, 16, 544
- Bacteria in feces after feeding (OSBORNE and MENDEL)  
1914, 18, 180
- Casein and, growth with (OSBORNE and MENDEL)  
1914, 17, 349
- Edestin and, growth with (OSBORNE and MENDEL)  
1914, 17, 343
- Feeding experiments with (OSBORNE and MENDEL)  
1912-13, 13, 233, 273;  
1914, 17, 336;  
1915, 25, 4

**Zein**—*continued*:

- Glucose from, in diabetic organism (JANNEY) 1915, 20, 333
- Growth with (OSBORNE and MENDEL) 1912, 12, 502
- Lactalbumin and, growth with (OSBORNE and MENDEL) 1914, 17, 343, 348
- Lysine content (OSBORNE and LEAVENWORTH) 1913, 14, 481
- Maintenance with (OSBORNE and MENDEL) 1912-13, 13, 274
- Poison, crude soluble, from, physiological action of (UNDERHILL and HENDRIX) 1915, 22, 467
- Proteoses of, physiological action of (UNDERHILL and HENDRIX) 1915, 22, 443
- Racemized, physiological action of (UNDERHILL and HENDRIX) 1915, 22, 456
- Tryptophane, lysine, arginine, and, growth on (OSBORNE and MENDEL) 1914, 18, 11

**Zein**—*continued*:

- Tryptophane, lysine, and, necessary for growth (OSBORNE and MENDEL) 1914, 17, 341
- and, in maintenance (OSBORNE and MENDEL) 1914, 17, 338

**Zeose**:

- Physiological action (UNDERHILL and HENDRIX) 1915, 22, 447
- Racemized, physiological action (UNDERHILL and HENDRIX) 1915, 22, 463

**Zinc**:

- Amalgam, use in synthetic chemistry (JOHNSON and CHERNOFF) 1913, 14, 315
- Cysteine, spontaneous oxidation, influence on (MATHEWS and WALKER) 1909, 6, 303

**Zinc oxide**:

- Liver autolysis, effect on (BRADLEY and TAYLOR) 1916, 25, 267

**Zinc salt**:

- Uric acid (MORRIS) 1916, 25, 205

**Zymolyte**:

- (LOEVENHART and PEIRCE) 1906-07, 2, 413

## FORMULA INDEX.

The following index of *new* compounds of known empirical formula is arranged according to Richter's system (*Lexikon der Kohlenstoff Verbindungen*).

The elements are given in the order C, H, O, N, Cl, Br, I, F, S, P, and the remainder alphabetically.

The compounds are arranged in groups according to the number of carbon atoms (thus, C<sub>1</sub> group, C<sub>2</sub> group, etc.); according to the number of other elements besides carbon contained in the molecule (thus, C<sub>5</sub> IV indicates that the molecule contains five carbon atoms and four other elements); according to the nature of the elements present in the molecule (given in the above order); and according to the number of atoms of each single element (except carbon) present in the molecule.

Salts are placed with the compounds from which they are derived. The chlorides, bromides, iodides, and cyanides of quaternary ammonium bases, however, are registered as group substances.

### C<sub>2</sub> Group

#### C<sub>2</sub> II

C<sub>2</sub>H<sub>7</sub>N<sub>3</sub> Methylguanidine, picrolonate (WHEELER and JAMIESON) 1908, 4, 115

#### C<sub>2</sub> III

C<sub>2</sub>H<sub>5</sub>O<sub>2</sub>N Glycocoll, picrate (LEVENE) 1905-06, 1, 413  
 (LEVENE and VAN SLYKE) 1912, 12, 287  
 —, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 132

### C<sub>3</sub> Group

#### C<sub>3</sub> II

C<sub>3</sub>H<sub>9</sub>N<sub>3</sub> 1,2-Dimethylguanidine, picrate (WHEELER and JAMIESON) 1908, 4, 116  
 2,2-Dimethylguanidine, picrate, picrolonate (WHEELER and JAMIESON) 1908, 4, 115

C<sub>3</sub> III

C <sub>3</sub> H <sub>7</sub> O <sub>2</sub> N	<i>d</i> -Alanine, picrolonate (LEVENE and VAN SLYKE)	1912, 12, 131
	<i>dl</i> -Alanine, picrolonate (LEVENE and VAN SLYKE)	1912, 12, 131
	Sarcosine (BAUMANN)	1915, 21, 563
C <sub>3</sub> H <sub>7</sub> O <sub>3</sub> N	<i>dl</i> -Serine, picrolonate (LEVENE and VAN SLYKE)	1912, 12, 136
C <sub>3</sub> H <sub>8</sub> N <sub>2</sub> S	2-Ethylpseudothiourea, picrate, picrolonate (WHEELER and JAMIESON)	1908, 4, 117

C<sub>3</sub> IV

C <sub>3</sub> H <sub>4</sub> OClI	$\beta$ -Iodopropionyl chloride (JACOBS and HEIDELBERGER)	1915, 21, 136
C <sub>3</sub> H <sub>6</sub> ONCl	Chloroacetmethylamide (JACOBS and HEIDELBERGER)	1915, 21, 147
C <sub>3</sub> H <sub>6</sub> ONI	$\alpha$ -Iodopropionamide (JACOBS and HEIDELBERGER)	1915, 21, 146
	$\beta$ -Iodopropionamide (JACOBS and HEIDELBERGER)	1915, 21, 146

C<sub>4</sub> GroupC<sub>4</sub> II

C <sub>4</sub> H <sub>5</sub> N <sub>3</sub>	6-Aminopyrimidine (WHEELER and JOHNSON)	1907, 3, 189
	—, hydrochloride, picrate, sulfate (WHEELER)	1907, 3, 292
	—, picrolonate (WHEELER and JAMIESON)	1908, 4, 114

C<sub>4</sub> III

C <sub>4</sub> H <sub>2</sub> N <sub>2</sub> Cl	2,6-Dichloropyrimidine (JOHNSON and MENGE)	1906-07, 2, 114
C <sub>4</sub> H <sub>4</sub> ON <sub>2</sub>	6-Oxypyrimidine, hydrochloride, picrate, sulfate (WHEELER)	1907, 3, 288
	—, picrolonate (WHEELER and JAMIESON)	1908, 4, 114
C <sub>4</sub> H <sub>4</sub> O <sub>2</sub> N <sub>2</sub>	Uracil, potassium salt (JOHNSON and CLAPP)	1908-09, 5, 60
	—, lead, mercury, potassium, and sodium salts (MYERS)	1909-10, 7, 253
C <sub>4</sub> H <sub>5</sub> ON <sub>3</sub>	Cytosine, acid phosphate, acid sulfate, basic sulfate, hydrochloride, sulfate (WHEELER)	1907, 3, 293
	—, picrolonate (WHEELER and JAMIESON)	1908, 4, 113



- $C_4H_5ON_3$ —*continued*:  
 2-Amino-6-oxypyrimidine (isocytosine), hydrochloride, sulfate (WHEELER) 1907, 3, 293  
 —, picrolonate (WHEELER and JAMIESON) 1908, 4, 114
- $C_4H_5O_2N_3$  2,5-Dioxy-6-aminopyrimidine (5-oxycytosine), picrate (JOHNSON and McCOLLUM) 1905-06, 1, 446
- $C_4H_5O_2N_2$  Methylhydantoin (BAUMANN) 1915, 21, 565
- $C_4H_6N_2S_2$  Dithiopiperazine (JOHNSON and BURNHAM) 1911, 9, 455
- $C_4H_7O_4N$  *dl*-Aspartic acid, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 131
- $C_4H_8O_3N_2$  Methylureidoacetic acid (BAUMANN) 1915, 21, 565
- $C_4H_9N_3S_2$  Thioglycylglycinethioamide (JOHNSON and BURNHAM) 1911, 9, 457

C<sub>4</sub> IV

- $C_4H_3O_2N_2I$  2,6-Dioxy-5-iodopyrimidine (5-iodouracil) (JOHNSON and JOHNS) 1905-06, 1, 310
- $C_4H_4ON_3I$  5-Iodocytosine, picrate, acetic acid salt (JOHNSON and JOHNS) 1905-06, 1, 311
- $C_4H_4O_3N_2Br_2$  Dibromooxyhydrouracil (WHEELER and JOHNSON) 1907, 3, 187
- $C_4H_5ON_2S$  2-Thio-4-methylhydantoin (JOHNSON) 1912, 11, 100
- $C_4H_5ONCl$  Chloroacetdimethylamide (JACOBS and HEIDELBERGER) 1915, 21, 148  
 Chloroacetethylamide (JACOBS and HEIDELBERGER) 1915, 21, 149
- $C_4H_8O_2NCl$  Chloroacetyl aminoethanol (JACOBS and HEIDELBERGER) 1915, 21, 407

C<sub>5</sub> GroupC<sub>5</sub> II

- $C_5H_{14}N_4$  Base from urine, picrolonate (KOCH) 1913, 15, 53

C<sub>5</sub> III

- $C_5H_4ON_4$  2-Oxypurine, hydrochloride, nitrate, picrate (JOHNS) 1912, 11, 69
- $C_5H_4O_2N_4$  2,6-Dioxypurine (xanthine) (JOHNS and HOGAN) 1913, 14, 304

$C_5H_5O_4N_3$	2,6-Dioxy-3-methyl-5-nitropyrimidine (JOHNS) 1912, 11, 76; 1913, 14, 4 (JOHNS and BAUMANN) 1913-14, 16, 139
$C_5H_6O_2N_2$	Thymine, potassium salt (JOHNSON and CLAPP) 1908-09, 5, 59 —, sodium, lead, mercury, and potassium salts (MYERS) 1909-10, 7, 251
$C_5H_6O_2N_4$	Formyl-2-oxy-5,6-diaminopyrimidine (JOHNS) 1912, 11, 68
$C_5H_6O_3N_4$	2-Oxy-3-methyl-5-nitro-6-aminopurine (JOHNS) 1912, 11, 75 2-Oxy-5-nitro-6-methylaminopyrimidine (JOHNS) 1911, 9, 164
$C_5H_7O_2N_5$	4-Imidopseudouric acid (LEVENE and SENIOR) 1916, 25, 618
$C_5H_7O_3N$	2-Oxy-3-methyl-6-aminopyrimidine (3-methylcyto- sine), picrate (JOHNSON and CLAPP) 1908-09, 5, 62 2-Oxy-6-methylaminopyrimidine (JOHNS) 1911, 9, 163
$C_5H_7O_3N_3$	$\alpha$ -Oxynitrohydrothymine (JOHNSON) 1908, 4, 410 $\beta$ -Oxynitrohydrothymine (JOHNSON) 1908, 4, 414
$C_5H_8ON_4$	2-Oxy-5-amino-6-methylaminopyrimidine (JOHNS) 1911, 9, 165 2-Oxy-3-methyl-5,6-diaminopyrimidine (JOHNS) 1912, 11, 77
$C_5H_9O_4N$	<i>d</i> -Glutaminic acid, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 132 <i>dl</i> -Glutaminic acid, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 132
$C_5H_{11}O_2N$	<i>d</i> -Valine, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 136 <i>dl</i> -Valine, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 137
$C_5H_{11}O_4N$	<i>d</i> -Lyxosimine (LEVENE and LA FORGE) 1915, 22, 333 Ribosimine (LEVENE and LA FORGE) 1915, 20, 440

C<sub>5</sub> IV

$C_5H_3ON_4S$	2-Oxy-8-thiopurine (JOHNS) 1915, 21, 321
$C_5H_4ON_4S_2$	2,8-Dithio-6-oxypurine (JOHNS and HOGAN) 1913, 14, 305
$C_5H_4O_2N_4S$	2-Thio-6,8-dioxypurine (JOHNS and HOGAN) 1913, 14, 302

$C_5H_5O_2N_2Br$	3-Methyl-5-bromouracil (JOHNSON and CLAPP)	1908-09, 5, 64
$C_5H_6O_2N_4S$	2-Methylmercapto-4-amino-5-nitroso-6-oxypyrimidine (JOHNS and BAUMANN)	1913, 14, 384
$C_5H_8ON_4S$	2-Methylmercapto-4,5-diamino-6-oxypyrimidine (JOHNS and BAUMANN)	1913, 14, 385
$C_5H_8O_2N_2I_2$	Methylene bisiodoacetamide (JACOBS and HEIDELBERGER)	1915, 21, 150
$C_5H_{10}O_2NCl$	Chloroacetylaminoisopropanol (JACOBS and HEIDELBERGER)	1915, 21, 424

C<sub>6</sub> GroupC<sub>6</sub> II

$C_6H_8O_7$	$\alpha, \alpha_1$ -Anhydro-idosaccharic acid (LEVENE and LA FORGE)	1915, 21, 357
	$\alpha, \alpha_1$ -Anhydromucic acid (LEVENE and LA FORGE)	1915, 22, 334
	$\alpha, \alpha_1$ - <i>l</i> -Anhydrosaccharic acid (LEVENE and LA FORGE)	1915, 21, 358
	Chondrosic acid (LEVENE and LA FORGE)	1914, 18, 128; 1915, 20, 438
	Epichondrosic acid (LEVENE and LA FORGE)	1915, 20, 439
	<i>l</i> -Epi-isosaccharic acid (LEVENE and LA FORGE)	1915, 20, 442; 1915, 21, 358
$C_6H_{10}O_5$	Mycodextran (DOX and NEIDIG)	1914, 18, 172
	Mycogalactan (DOX and NEIDIG)	1914, 19, 235
$C_6H_{10}O_5$	Acid from oxidation of chondrosin (LEVENE and LA FORGE)	1913, 15, 78

C<sub>6</sub> III

$C_6H_6ON_4$	2-Oxy-1-methylpurine, picrate (JOHNS)	1912, 11, 78
	2-Oxy-8-methylpurine, picrate (JOHNS)	1912, 11, 71
	2-Oxy-9-methylpurine (JOHNS)	1911, 9, 166
$C_6H_6O_2N_2$	"Urocanic acid" ( $\beta$ -imidazole-4(5)-acrylic acid), picrate, and pierolonate (HUNTER)	1912, 11, 537
$C_6H_6O_2N_4$	2,8-Dioxy-1-methylpurine (JOHNS)	1912, 11, 398
	2,6-Dioxy-9-methylpurine (JOHNS)	1911, 9, 167

- $C_6H_6O_4N_2$  Thymine-4-carboxylic acid (JOHNSON) 1907, 3, 304  
 —, lead, barium, and potassium salts (JOHNSON) 1907, 3, 304
- $C_6H_7ON_3$  Acetyl-6-aminopyrimidine (WHEELER) 1907, 3, 291
- $C_6H_7O_4N_3$  2,6-Dioxy-3,4-dimethyl-5-nitropyrimidine (JOHNS and BAUMANN) 1913-14, 16, 139
- $C_6H_8O_2N_2$  1,5-Dimethyl-2,6-dioxypyrimidine (1-methylthymine) (JOHNSON and CLAPP) 1908-09, 5, 56  
 3,5-Dimethyl-2,6-dioxypyrimidine (3-methylthymine) (JOHNSON and CLAPP) 1908-09, 5, 56  
 1,3-Dimethyluracil (JOHNSON and CLAPP) 1908-09, 5, 61
- 2,6-Dioxy-5-ethylpyrimidine (5-ethyluracil) (JOHNSON and MENGE) 1906-07, 2, 111
- $C_6H_8O_2N_4$  Acetyl-2-oxy-5,6-diaminopyrimidine (JOHNS) 1912, 11, 71  
 Formyl-2-oxy-3-methyl-5,6-diaminopyrimidine (JOHNS) 1912, 11, 77
- $C_6H_8O_3N_2$  Acetylformamide acrylic acid (WHEELER) 1907, 3, 291  
 2,6-Dioxy-5-ethoxypyrimidine (JOHNSON and McCOLLUM) 1905-06, 1, 445  
 2,6-Dioxy-4-hydroxymethyl-5-methylpyrimidine (JOHNSON and CHERNOFF) 1913, 14, 319
- $C_6H_8O_3N_4$  2-Oxy-3,4-dimethyl-5-nitro-6-aminopyrimidine (JOHNS and BAUMANN) 1913-14, 16, 137  
 2-Oxy-3-methyl-5-nitro-6-methylaminopyrimidine (JOHNS) 1913, 14, 3; 1914, 17, 4  
 2-Oxy-4-methyl-5-nitro-6-methylaminopyrimidine (JOHNS) 1912, 11, 396  
 2-Oxy-5-nitro-6-ethylaminopyrimidine (JOHNS and HENDRIX) 1914, 19, 28
- $C_6H_9ON_3$  2-Oxy-3,5-dimethyl-6-aminopyrimidine (JOHNSON and CLAPP) 1908-09, 5, 65  
 2-Oxy-6-ethylaminopyrimidine (JOHNS and HENDRIX) 1914, 19, 27  
 2-Oxy-5-ethyl-6-aminopyrimidine (5-ethylcytosine) (JOHNSON and MENGE) 1906-07, 2, 112  
 —, chloroplatinate, hydrobromide, hydrochloride, nitrate, picrate (JOHNSON and MENGE) 1906-07, 2, 112  
 2-Oxy-4-methyl-6-methylaminopyrimidine (JOHNS) 1912, 11, 395

- $C_6H_9O_2N_3$  2-Amino-5-ethoxy-6-oxypyrimidine (JOHNSON and McCOLLUM) 1905-06, 1, 448  
 $\alpha$ -Cyanobutyrylurea (JOHNSON and JOHNS) 1905-06, 1, 317  
 2,4-Dioxy-5-ethyl-6-aminopyrimidine (JOHNSON and JOHNS) 1905-06, 1, 317  
 2-Oxy-5-ethoxy-6-aminopyrimidine (5-ethoxycytosine) (JOHNSON and McCOLLUM) 1905-06, 1, 445
- $C_6H_9O_5N_3$  1-Methyl-5-nitro-4-oxyhydrothymine (JOHNSON and CLAPP) 1908-09, 5, 58  
 3-Methyl-5-nitro-4-oxyhydrothymine (JOHNSON and CLAPP) 1908-09, 5, 58
- $C_6H_{10}ON_4$  2-Oxy-5-amino-6-ethylaminopyrimidine (JOHNS and HENDRIX) 1914, 19, 28  
 2-Oxy-3,4-dimethyl-5,6-diaminopyrimidine (JOHNS and BAUMANN) 1913-14, 16, 140  
 2-Oxy-3-methyl-5-amino-6-methylaminopyrimidine (JOHNS) 1913, 14, 4  
 2-Oxy-4-methyl-5-amino-6-methylaminopyrimidine (JOHNS) 1912, 11, 397
- $C_6H_{13}O_2N$  *d*-Isoleucine, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 133  
*d*-Leucine, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 134  
*l*-Leucine, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 133  
*dl*-Leucine, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 134
- $C_6H_{13}O_3N$  Chondrosaminic acid, reduction product (LEVENE and LA FORGE) 1915, 20, 437
- $C_6H_{13}O_5N$  Chondrosamine (LEVENE and LA FORGE) 1913, 15, 158; 1914, 18, 126, 240
- $C_6H_{13}O_6N$  Chondrosaminic acid (LEVENE and LA FORGE) 1915, 20, 436  
 Hexosaminic acid from ribose (LEVENE and LA FORGE) 1915, 20, 441  
*d*-Lyxohexosaminic acid (LEVENE and LA FORGE) 1915, 22, 333  
 Xylohexosaminic acid (LEVENE and LA FORGE) 1915, 21, 354
- $C_6HO_9P_1$  Inosite monophosphate, barium salt (ANDERSON) 1914, 18, 444
- $C_6H_{15}O_{15}P_3$  Inosite triphosphate, barium salts, strychnine salt (ANDERSON) 1915, 20, 470
- $C_6H_{15}O_{15}P_4$  Inosite dipyrophosphoric acid ester, barium salt (ANDERSON) 1912, 12, 109

- $C_6H_{16}O_{18}P_4$  Inosite tetraphosphoric acid ester, barium salt  
(ANDERSON) 1912, 11, 484
- $C_6H_{24}O_{27}P_6$  Phytic acid (ANDERSON)  
1912, 11, 478; 1912, 12, 103;  
1912-13, 13, 316; 1914, 17, 144,  
154, 166, 175; 1915, 20, 496
- , tribarium, pentabarium, pentabarium am-  
monium, pentamagnesium ammonium, tetracupric  
dicalcium salts (ANDERSON) 1912, 11, 478
- , calcium magnesium potassium, pentacalcium,  
pentamagnesium, hexacopper, heptasilver, octasilver  
salts (ANDERSON) 1912, 12, 103

C<sub>6</sub> IV

- $C_6H_6ON_4S$  2-Oxy-8-methylmercaptapurine (JOHNS)  
1915, 21, 322
- $C_6H_6ON_4S_2$  2-Methylmercapto-6-oxy-8-thiopurine (JOHNS and  
BAUMANN) 1913, 15, 521
- $C_6H_6O_2N_4S$  2-Methylmercapto-6,8-dioxypurine (JOHNS and  
BAUMANN) 1913, 14, 386
- $C_6H_7ON_5S$  2-Methylmercapto-6-oxy-8-aminopurine (JOHNS and  
BAUMANN) 1913, 14, 387
- 2-Oxy-8-methylaminopurine (JOHNS)  
1915, 21, 322
- $C_6H_7O_2N_2Cl$  2,6-Dioxy-4-chloromethyl-5-methylpyrimidine  
(JOHNSON and CHERNOFF) 1913, 14, 318
- $C_6H_7O_2N_2Br$  1,3-Dimethyl-5-bromouracil (JOHNSON and CLAPP)  
1908-09, 5, 62
- $C_6H_7O_5N_2Br$  Oxybromohydrothymine-4-carboxylic acid (JOHN-  
SON) 1907, 3, 306
- $C_6H_8ON_2S$  2-Thio-3,5-dimethyl-6-oxypyrimidine (JOHNSON and  
CLAPP) 1908-09, 5, 56
- $C_6H_8O_2N_2S$  2-Thio-3-acetyl-4-methylhydantoin (JOHNSON)  
1912, 11, 99
- $C_6H_8O_2N_4S$  1-Methyl-2-methylmercapto-4-amino-5-nitroso-6-  
oxypyrimidine (JOHNS and HENDRIX)  
1915, 20, 158
- $C_6H_8O_3N_2Br_2$  1,3-Dimethyldibromooxyhydrouracil (JOHNSON  
and CLAPP) 1908-09, 5, 61
- $C_6H_8N_3SI$  2-Ethylmercapto-5-iodo-6-aminopyrimidine (JOHN-  
SON and JOHNS) 1905-06, 1, 313
- $C_6H_9ON_3S$  2-Methylmercapto-4-amino-6-methoxypyrimidine  
(JOHNS and HENDRIX) 1915, 20, 156
- 1-Methyl-2-methylmercapto-4-amino-6-oxypyrim-  
idine (JOHNS and HENDRIX) 1915, 20, 157
- $C_6H_9O_3N_2Br$  1-Methyl-5-bromo-4-oxyhydrothymine (JOHNSON  
and CLAPP) 1908-09, 5, 57

- $C_6H_{10}ON_4S$  1-Methyl-2-methylmercapto-4,5-diamino-6-oxypyrimidine (JOHNS and HENDRIX) 1915, 20, 159
- $C_6H_{10}O_2N_2Cl$  Ethylenbischloroacetamide (JACOBS and HEIDELBERGER) 1915, 21, 151
- $C_6H_{12}ONCl$  Chloroacetdiethylamide (JACOBS and HEIDELBERGER) 1915, 21, 149
- $C_6H_{12}O_2NCl$   $\beta$ -Chloroacetyl-amino- $\gamma$ -butanol (JACOBS and HEIDELBERGER) 1915, 21, 428
- $\delta$ -Chloroacetyl-amino- $n$ -butanol (JACOBS and HEIDELBERGER) 1915, 21, 427
- Chloroacetyl-ethylaminoethanol (JACOBS and HEIDELBERGER) 1915, 21, 417
- Chloroacetyl-aminoethyl ethyl ether (JACOBS and HEIDELBERGER) 1915, 21, 415
- $C_6H_{12}O_5NCl$  Xylohexosaminic acid lactone hydrochloride (LEVENE and LA FORGE) 1915, 21, 355
- $C_6H_{16}ONCl$   $\alpha$ -Methylcholine chloride, chloroplatinate, chloraurate (MENGE) 1911-12, 10, 400
- $C_6H_{18}O_{24}P_6$  Inosite hexaphosphate, tribarium and pentabarium salts (ANDERSON) 1914, 17, 147, 160, 167, 178

C<sub>6</sub> V

- $C_6H_6N_2SClI$  2-Ethylmercapto-5-iodo-6-chloropyrimidine (JOHNSON and JOHNS) 1905-06, 1, 313
- $C_6H_7ON_2SI$  2-Ethylmercapto-5-iodo-6-oxypyrimidine (JOHNSON and JOHNS) 1905-06, 1, 310

C<sub>7</sub> GroupC<sub>7</sub> II

- $C_7H_{16}O_7$  *d*- $\beta$ -Galaheptite (PEIRCE) 1915, 23, 335
- d*- $\beta$ -Mannoheptite (PEIRCE) 1915, 23, 334

C<sub>7</sub> III

- $C_7H_6ClBr$  *o*-Bromobenzyl chloride (JACOBS and HEIDELBERGER) 1915, 20, 665
- $C_7H_8ON_4$  2-Oxy-6,8-dimethylpurine (JOHNS) 1913, 14, 6
- 2-Oxy-6,9-dimethylpurine, picrate (JOHNS) 1912, 12, 94
- 2-Oxy-8,9-dimethylpurine, picrate (JOHNS) 1912, 12, 95
- $C_7H_8O_2N_4$  2,8-Dioxy-1,6-dimethylpurine (JOHNS and BAUMANN) 1913-14, 16, 141
- 2,8-Dioxy-1,7-dimethylpurine (JOHNS) 1914, 17, 6

$C_7H_8O_2N_4$ —*continued*:

- 2,8-Dioxy-1,9-dimethylpurine (JOHNS)  
1913, 14, 5; 1914, 17, 7
- 2,8-Dioxy-6,9-dimethylpurine (JOHNS)  
1912, 11, 397
- 2,8-Dioxy-9-ethylpurine (JOHNS and HENDRIX)  
1914, 19, 29
- $C_7H_{10}O_2N_2$  1,3-Dimethylthymine (JOHNSON and CLAPP)  
1908-09, 5, 59
- $C_7H_{10}O_3N_4$  2-Oxy-4-methyl-5-nitro-6-ethylaminopyrimidine  
(JOHNS and BAUMANN) 1913, 15, 122
- $C_7H_{11}ON_3$  2-Oxy-4-methyl-6-ethylaminopyrimidine and hydro-  
chloride (JOHNS and BAUMANN) 1913, 15, 121
- $C_7H_{11}N_3S$  2-Ethylmercapto-6-methylaminopyrimidine (JOHNS)  
1911, 9, 163
- $C_7H_{12}ON_4$  2-Oxy-4-methyl-5-amino-6-ethylaminopyrimidine  
(JOHNS and BAUMANN) 1913, 15, 123

#### $C_7$ IV

- $C_7H_6O_3N_4S$  Hypoxanthine-2-thioglycollic acid (JOHNS and HO-  
GAN) 1913, 14, 304
- $C_7H_6O_4N_4S$  6,8-Dioxypurine-2-thioglycollic acid (JOHNS and  
HOGAN) 1913, 14, 302
- $C_7H_8ON_4S$  2-Oxy-6,9-dimethyl-8-thiopurine (JOHNS)  
1915, 21, 323
- $C_7H_8O_2N_4S$  1-Methyl-2-methylmercapto-6,8-dioxypurine  
(JOHNS and HENDRIX) 1915, 20, 159
- $C_7H_8O_3N_2S$  2-Methylmercapto-4-carboxyl-5-methyl-6-oxypyri-  
midine (JOHNSON) 1907, 3, 302
- $C_7H_{10}O_2N_2S$  2-Methylmercapto-5-ethoxy-6-oxypyrimidine  
(JOHNSON and MCCOLLUM) 1905-06, 1, 447
- $C_7H_{11}O_2N_2Br$  1,3-Dimethyl-5-bromo-4-oxyhydrothymine  
(JOHNSON and CLAPP) 1908-09, 5, 60
- $C_7H_{12}ONCl$  Chloroacetyl piperidide (JACOBS and HEIDELBERGER)  
1915, 21, 150
- $C_7H_{13}O_2NCl$   $\gamma$ -Chloroacetyl amino- $\beta$ -methyl- $\beta$ -butanol (JACOBS  
and HEIDELBERGER) 1915, 21, 431
- Chloroacetylaminomethylmethylethylcarbinol  
( $\alpha$ -chloroacetyl amino- $\beta$ -methyl- $\beta$ -butanol) (JACOBS  
and HEIDELBERGER) 1915, 21, 430
- $\gamma$ -Chloroacetyl amino- $\beta$ -pentanol (JACOBS and  
HEIDELBERGER) 1915, 21, 429
- $C_7H_{17}O_2N_2I$  Iodoacetyl aminoethanol trimethylamine salt (JA-  
COBS and HEIDELBERGER) 1915, 21, 408
- $C_7H_{17}ONCl$   $\beta$ -Dimethylcholine chloride, chloroplatinate  
(MENGE) 1911-12, 10, 404



C<sub>8</sub> GroupC<sub>8</sub> II

- C<sub>8</sub>H<sub>10</sub>O<sub>8</sub> *d*- $\alpha,\alpha$ -Mannooctaric acid double lactone (PEIRCE)  
1915, 23, 337
- C<sub>8</sub>H<sub>17</sub>N Coniine, picrolonate (WARREN and WEISS)  
1907, 3, 333

C<sub>8</sub> III

- C<sub>8</sub>H<sub>7</sub>O<sub>4</sub>N<sub>3</sub> Glyoxylic acid *p*-nitrophenylhydrazone (DAKIN)  
1908, 4, 237
- C<sub>8</sub>H<sub>8</sub>OBr<sub>2</sub> *p*-Bromophenoxyethyl bromide (JACOBS and HEI-  
DELBERGER) 1915, 21, 444
- C<sub>8</sub>H<sub>9</sub>O<sub>4</sub>N 2-Methoxy-5-nitrobenzyl alcohol (JACOBS and HEI-  
DELBERGER) 1915, 20, 675
- C<sub>8</sub>H<sub>10</sub>ON<sub>4</sub> 2-Oxy-6-methyl-9-ethylpurine (JOHNS and BAU-  
MANN) 1913, 15, 517  
2-Oxy-6,8,9-trimethylpurine (JOHNS) 1912, 12, 93
- C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>N<sub>4</sub> 2,8-Dioxy-6-methyl-9-ethylpurine (JOHNS and BAU-  
MANN) 1913, 15, 124  
2,8-Dioxy-1,7,9-trimethylpurine (JOHNS) 1914, 17, 4
- C<sub>8</sub>H<sub>10</sub>O<sub>4</sub>N<sub>2</sub> 2,6-Dioxy-4-hydroxymethyl-5-methylpyrimidine  
acetate (JOHNSON and CHERNOFF) 1913, 14, 318  
Thymine-4-ethyl carboxylate (JOHNSON) 1907, 3, 306
- C<sub>8</sub>H<sub>12</sub>O<sub>2</sub>N<sub>4</sub> Acetyl-2-oxy-4-methyl-5-amino-6-methylaminopyr-  
imidine (JOHNS) 1912, 12, 92
- C<sub>8</sub>H<sub>12</sub>O<sub>3</sub>N<sub>2</sub> 2,6-Dioxy-4-ethoxymethyl-5-methylpyrimidine  
(JOHNSON and CHERNOFF) 1913, 14, 317
- C<sub>8</sub>H<sub>13</sub>N<sub>3</sub>S 2-Ethylmercapto-5-ethyl-6-aminopyrimidine (JOHN-  
SON and MENGE) 1906-07, 2, 111  
2-Ethylmercapto-6-ethylaminopyrimidine (JOHNS  
and HENDRIX) 1914, 19, 27  
2-Ethylmercapto-4-methyl-6-methylaminopyrimi-  
dine (JOHNS) 1912, 11, 395
- C<sub>8</sub>H<sub>22</sub>O<sub>2</sub>P<sub>6</sub> Dimethylphytate (ANDERSON) 1914, 17, 188

C<sub>8</sub> IV

- C<sub>8</sub>H<sub>6</sub>OCl<sub>3</sub>Br 2,4,6-Trichlorophenoxyethyl bromide (JACOBS and  
HEIDELBERGER) 1915, 21, 442
- C<sub>8</sub>H<sub>6</sub>O<sub>4</sub>NBr *o*-Nitrophenyl bromoacetate (JACOBS and HEIDEL-  
BERGER) 1915, 21, 469
- C<sub>8</sub>H<sub>7</sub>O<sub>3</sub>N<sub>2</sub>Cl *p*-Nitrochloroacetylaniline (JACOBS and HEIDEL-  
BERGER) 1915, 21, 112

- $C_8H_5O_2NCl$  *m*-Chloroacetylaminophenol (JACOBS and HEIDELBERGER) 1915, 21, 132
- $C_8H_5O_3NCl$  2-Methoxy-5-nitrobenzyl chloride (JACOBS and HEIDELBERGER) 1915, 20, 675
- 3-Nitro-4-methoxybenzyl chloride (JACOBS and HEIDELBERGER) 1915, 20, 676
- $C_8H_{10}ONBr$  *o*-Aminophenoxyethyl bromide and hydrobromide (JACOBS and HEIDELBERGER) 1915, 21, 447
- $C_8H_{10}ON_4S$  2-Oxy-6-methyl-8-thio-9-ethylpurine (JOHNS and BAUMANN) 1913, 15, 519
- $C_8H_{11}N_2SCl$  2-Ethylmercapto-5-ethyl-6-chloropyrimidine (JOHNSON and MENGE) 1906-07, 2, 110
- $C_8H_{12}ON_2S$  1-Ethylmercapto-1,5-dimethyl-6-oxypyrimidine (JOHNSON and CLAPP) 1908-09, 5, 54
- 2-Ethylmercapto-3,5-dimethyl-6-oxypyrimidine (JOHNSON and CLAPP) 1908-09, 5, 55
- 2-Ethylmercapto-5-ethyl-6-oxypyrimidine (JOHNSON and MENGE) 1906-07, 2, 109
- $C_8H_{12}O_2N_2S$  2-Ethylmercapto-5-ethoxy-6-oxypyrimidine (JOHNSON and McCOLLUM) 1905-06, 1, 441
- 2-Thio-4-ethoxymethyl-5-methyl-6-oxypyrimidine (JOHNSON and CHERNOFF) 1913, 14, 316
- $C_8H_{13}ON_3S$  2-Ethylmercapto-5-ethoxy-6-aminopyrimidine (JOHNSON and McCOLLUM) 1905-06, 1, 444
- $C_8H_{14}O_2N_2S$   $\alpha$ -Ethyl- $\beta$ -pseudoethylthioacrylic acid (JOHNSON and MENGE) 1906-07, 2, 110
- $C_8H_{16}ON_6S$  2-Oxy-4-methyl-5-amino-6-ethylaminopyrimidine thiourea addition product (JOHNS and BAUMANN) 1913, 15, 519
- $C_8H_{17}ON_4I$  Oxyethylhexamethylenetetraminium iodide (JACOBS and HEIDELBERGER) 1915, 21, 465
- $C_8H_{15}O_2NCl$  Acetyl- $\alpha$ -methylcholine chloride (acetyl- $\beta$ -methylethoxytrimethylammonium chloride), chloroplatinate, and chloroaurate (MENGE) 1912-13, 13, 98
- $C_8H_{20}ONCl$   $\beta,\beta$ -Methylethylcholine chloride, chloroplatinate (MENGE) 1911-12, 10, 405

C<sub>8</sub> V

- $C_8H_5ONClBr_3$  2,4,6-Tribromochloroacetylaniline (JACOBS and HEIDELBERGER) 1915, 21, 111
- $C_8H_7ONClI$  *m*-Iodochloroacetylaniline (JACOBS and HEIDELBERGER) 1915, 21, 111
- $C_8H_{11}ON_2SCl$  2-Ethylmercapto-5-ethoxy-6-chloropyrimidine (JOHNSON and McCOLLUM) 1905-06, 1, 443

C<sub>9</sub> GroupC<sub>9</sub> II

- C<sub>9</sub>H<sub>8</sub>O<sub>2</sub> Benzylglyoxal (DAKIN and DUDLEY) 1914, 18, 43  
 C<sub>9</sub>H<sub>12</sub>O<sub>3</sub> 2,4-Dimethoxybenzyl alcohol (JACOBS and HEIDELBERGER) 1915, 20, 678  
 C<sub>9</sub>H<sub>16</sub>O<sub>4</sub> Ethyl methylethoxyacetoacetate (JOHNSON and CHERNOFF) 1913, 14, 315

C<sub>9</sub> III

- C<sub>9</sub>H<sub>6</sub>O<sub>2</sub>Br<sub>4</sub> Tribromo-*p*-cresyl bromoacetate (JACOBS and HEIDELBERGER) 1915, 21, 469  
 C<sub>9</sub>H<sub>7</sub>OBr<sub>5</sub> Tetrabromo-*p*-methylphenoxyethyl bromide (JACOBS and HEIDELBERGER) 1915, 21, 445  
 C<sub>9</sub>H<sub>8</sub>OBr<sub>4</sub> Tribromo-*p*-methylphenoxyethyl bromide (tribromo-*p*-cresoxyethyl bromide) (JACOBS and HEIDELBERGER) 1915, 21, 444  
 C<sub>9</sub>H<sub>8</sub>OS 1-Phenyl-2-thiohydantoin (BRAUTLECHT) 1911-12, 10, 143  
 C<sub>9</sub>H<sub>9</sub>OI *p*-Methylphenacyl iodide (JACOBS and HEIDELBERGER) 1915, 21, 456  
   *p*-Tolyl iodomethyl ketone (JACOBS and HEIDELBERGER) 1915, 21, 456  
 C<sub>9</sub>H<sub>11</sub>OBr *m*-Methylphenoxyethyl bromide (JACOBS and HEIDELBERGER) 1915, 21, 440  
 C<sub>9</sub>H<sub>11</sub>O<sub>2</sub>N Phenylalanine (JOHNSON and O'BRIEN) 1912, 12, 212  
   —, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 136  
   *l*-Phenylalanine, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 135  
 C<sub>9</sub>H<sub>11</sub>O<sub>2</sub>N<sub>3</sub> Propionic aldehyde *p*-nitrophenylhydrazone (DAKIN) 1908, 4, 236  
 C<sub>9</sub>H<sub>11</sub>O<sub>2</sub>Cl 2,3-Dimethoxybenzyl chloride (JACOBS and HEIDELBERGER) 1915, 20, 677  
 C<sub>9</sub>H<sub>11</sub>O<sub>3</sub>N Tyrosine, picrolonate (LEVENE and VAN SLYKE) 1912, 12, 136  
 C<sub>9</sub>H<sub>12</sub>ON<sub>4</sub> 2-Oxy-6,8-dimethyl-9-ethylpurine (JOHNS and BAUMANN) 1913, 15, 518  
 C<sub>9</sub>H<sub>13</sub>ON Aminoethyl *o*-tolyl ether (*o*-methylphenoxyethylamine) (JACOBS and HEIDELBERGER) 1915, 21, 416  
   α-*p*-Tolyl-α-oxyethylamine (JACOBS and HEIDELBERGER) 1915, 21, 432  
 C<sub>9</sub>H<sub>15</sub>N<sub>3</sub>S 2-Ethylmercapto-4-methyl-6-ethylaminopyrimidine (JOHNS and BAUMANN) 1913, 15, 121

C<sub>9</sub> IV

- $C_9H_8O_4NCl$  3-Nitro-4-acetoxybenzyl chloride (JACOBS and HEIDELBERGER) 1915, 20, 672  
 3-Nitro-6-acetoxybenzyl chloride (JACOBS and HEIDELBERGER) 1915, 20, 673  
 $C_9H_8O_4NBr$  Bromoethyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 450  
 $C_9H_8O_4NI$  3-Nitro-4-acetoxybenzyl iodide (JACOBS and HEIDELBERGER) 1915, 20, 672  
 $C_9H_8O_5N_4S_2$  6-Oxypurine-2,8-dithioglycollic acid (JOHNS and HOGAN) 1913, 14, 306  
 $C_9H_9O_3NCl_2$  3,5-Dichlorotyrosine (WHEELER, HOFFMAN, and JOHNSON) 1911-12, 10, 153  
 $C_9H_{10}ONCl$  Chloroacetylbenzylamine (JACOBS and HEIDELBERGER) 1915, 20, 686  
 Chloroacetyl-*m*-toluidine (JACOBS and HEIDELBERGER) 1915, 21, 108  
 $C_9H_{10}O_2NCl$  *o*-Chloroacetylaminobenzyl alcohol (JACOBS and HEIDELBERGER) 1915, 21, 138  
 Chloroacetyl-*o*-anisidine (JACOBS and HEIDELBERGER) 1915, 21, 134  
 Chloroacetyl-*p*-anisidine (JACOBS and HEIDELBERGER) 1915, 21, 137  
 $C_9H_{11}O_2NBr$  2-Bromoethoxybenzamide (JACOBS and HEIDELBERGER) 1915, 21, 449  
 $C_9H_{11}O_3N_2Hg$  *p*-Methylnitrosoaminophenylmercuric acetate (JACOBS and HEIDELBERGER) 1915, 20, 519  
 $C_9H_{11}O_2NS$  Thietyrosine and hydrochloride (JOHNSON and BRAUTLECHT) 1912, 12, 194  
 $C_9H_{11}O_2NHg$  3-Methyl-4-aminophenylmercuric acetate (JACOBS and HEIDELBERGER) 1915, 20, 519  
 $C_9H_{12}O_3N_2S$  2-Methylmercapto-4-carbethoxy-5-methyl-6-oxypyrimidine (JOHNSON) 1907, 3, 302  
 $C_9H_{17}O_2N_6Cl$  Chloroacetylurea and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 151  
 $C_9H_{15}ON_5Cl$  Chloroacetmethylamide and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 148  
 $C_9H_{15}ON_5I$   $\beta$ -Iodopropionamide and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 147  
 $C_9H_{15}O_2N_5Cl$  Oxymethylchloroacetamide and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 406  
 $C_9H_{15}N_4ClBr$   $\gamma$ -Chloropropylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 465

- $C_9H_{19}ON_4I$   $\gamma$ -Oxypropylhexamethylenetetraminium iodide (JACOBS and HEIDELBERGER) 1915, 21, 466
- $C_9H_{20}O_2NCl$  Propionyl- $\alpha$ -methylcholine chloride (propionyl- $\beta$ -methyllethoxytrimethylammonium chloride), chloroplatinate, and chloroaurate (MENGE) 1912-13, 13, 105

**C<sub>9</sub> V**

- $C_9H_9ONCl$  5-Iodochloroacetyl-*o*-toluidine (JACOBS and HEIDELBERGER) 1915, 21, 111

**C<sub>10</sub> Group****C<sub>10</sub> II**

- $C_{10}H_{10}O_3$  *p*-Methylphenylpyruvic acid (WAKEMAN and DAKIN) 1911, 9, 149
- $C_{10}H_{10}O_4$  *p*-Methoxyphenylpyruvic acid (WAKEMAN and DAKIN) 1911, 9, 150
- $C_{10}H_{12}O_4$  Oxyethyl anisate (JACOBS and HEIDELBERGER) 1915, 21, 470
- $C_{10}H_{12}N_2$  Nicotine, picrolonate (WARREN and WEISS) 1907, 3, 333

**C<sub>10</sub> III**

- $C_{10}H_7O_3N$   $\gamma$ -Hydroxy- $\beta$ -carboxyquinoline (HOMER) 1914, 17, 514
- $C_{10}H_9ON_3$  2-Anilino-6-oxypyrimidine (JOHNSON and JOHNS) 1905-06, 1, 314
- $C_{10}H_9O_4N_3$  4-*p*-Nitrobenzylhydantoin (JOHNSON and BRAUTLECHT) 1912, 12, 188
- $C_{10}H_{10}O_2N_2$  *d*-Benzylhydantoin (DAKIN and DUDLEY) 1914, 17, 35
- l*-Benzylhydantoin (DAKIN and DUDLEY) 1914, 17, 36
- Phenyldihydrouracil (DAKIN) 1910-11, 8, 38
- $C_{10}H_{10}O_3N_2$  Tyrosinehydantoin (JOHNSON and BRAUTLECHT) 1912, 12, 187
- d-p*-Hydroxybenzylhydantoin (DAKIN) 1910-11, 8, 28
- l-p*-Hydroxybenzylhydantoin (DAKIN) 1910-11, 8, 31
- dl-p*-Hydroxybenzylhydantoin (DAKIN) 1910-11, 8, 30

- $C_{10}H_{11}OBr$  *p*-Ethylphenyl bromomethyl ketone (*p*-ethylphenacyl bromide) (JACOBS and HEIDELBERGER) 1915, 21, 458
- m*-Xylyl bromomethyl ketone (JACOBS and HEIDELBERGER) 1915, 21, 458
- o*-Xylyl bromomethyl ketone (JACOBS and HEIDELBERGER) 1915, 21, 457
- $C_{10}H_{11}O_2N_3$  4-*p*-Aminobenzylhydantoin, hydrochloride, and hydroiodide (JOHNSON and BRAUTLECHT) 1912, 12, 186
- $C_{10}H_{11}O_3Br$  Bromoethyl anisate (JACOBS and HEIDELBERGER) 1915, 21, 452
- o*-Carbomethoxyphenoxyethyl bromide (methyl 2-bromoethoxybenzoate) (JACOBS and HEIDELBERGER) 1915, 21, 448
- $C_{10}H_{12}O_3N_2$  *l*- $\beta$ -Phenyl- $\alpha$ -uramidopropionic acid and strychnine salt (DAKIN and DUDLEY) 1914, 17, 33
- d*- $\beta$ -Phenyl- $\alpha$ -uramidopropionic acid (DAKIN and DUDLEY) 1914, 17, 34
- dl*- $\beta$ -Phenyl- $\alpha$ -uramidopropionic acid (DAKIN) 1909, 6, 241
- Phenyl- $\beta$ -uramidopropionic acid (DAKIN) 1910-11, 8, 38
- $C_{10}H_{12}O_4N_2$  Aminoisopropyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 425
- $\gamma$ -Aminopropyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 421
- Oxyisopropyl *p*-nitrobenzamide (JACOBS and HEIDELBERGER) 1915, 21, 426
- $\gamma$ -Oxypropyl *p*-nitrobenzamide (JACOBS and HEIDELBERGER) 1915, 21, 422
- $C_{10}H_{13}O_2N$  *p*-Methylphenylalanine (DAKIN) 1911, 9, 155
- $C_{10}H_{13}O_2N_3$  *n*-Butyric aldehyde *p*-nitrophenylhydrazone (DAKIN) 1908, 4, 237
- Isobutyric aldehyde *p*-nitrophenylhydrazone (DAKIN) 1908, 4, 237
- Methylethyl ketone *p*-nitrophenylhydrazone (DAKIN) 1908, 4, 238
- $C_{10}H_{13}O_2Cl$  3-Methoxy-4-ethoxybenzyl chloride (JACOBS and HEIDELBERGER) 1915, 20, 680
- $C_{10}H_{13}O_3N$  *p*-Methoxyphenylalanine (methyltyrosine) (DAKIN) 1910-11, 8, 20
- $C_{10}H_{14}NBr$  *m*-Bromodiethylaniline (JACOBS and HEIDELBERGER) 1915, 21, 127
- $C_{10}H_{16}ON_2$  *p*-Dimethylaminophenylaminoethanol (JACOBS and HEIDELBERGER) 1915, 21, 420

$C_{10}H_{16}O_7N_4$	Vicine (LEVENE and SENIOR)	1916, 25, 611
$C_{10}H_{19}O_2Br$	<i>sec.</i> -Octyl bromoacetate (JACOBS and HEIDELBERGER)	1915, 21, 468

C<sub>10</sub> IV

$C_{10}H_7O_2N_2Cl$	$\alpha$ -Chlorobenzalhydantoin (WHEELER, HOFFMAN, and JOHNSON)	1911-12, 10, 156
$C_{10}H_7O_2N_2Br$	$\alpha$ -Bromobenzalhydantoin (WHEELER, HOFFMAN, and JOHNSON)	1911-12, 10, 154
$C_{10}H_8O_2N_2S$	$\alpha$ -Mercaptobenzalhydantoin (WHEELER, HOFFMAN, and JOHNSON)	1911-12, 10, 155
$C_{10}H_8O_3N_2Cl_2$	3,5-Dichlorotyrosinehydantoin (WHEELER, HOFFMAN, and JOHNSON)	1911-12, 10, 152
$C_{10}H_9O_2NCl_2$	<i>m</i> -Chloroacetylaminomethylbenzoyl chloride (JACOBS and HEIDELBERGER)	1915, 20, 693
$C_{10}H_9O_3NCl_2$	<i>p</i> -Chloroacetylaminophenyl chloroacetate (JACOBS and HEIDELBERGER)	1915, 21, 134
$C_{10}H_{10}ON_2S$	2-Thio-4-benzylhydantoin (JOHNSON and O'BRIEN)	1912, 12, 211
$C_{10}H_{10}O_2NCl$	<i>m</i> -Chloroacetylaminacetophenone (JACOBS and HEIDELBERGER)	1915, 21, 140
	$\omega$ -Chloroacetylaminacetophenone (JACOBS and HEIDELBERGER)	1915, 21, 472
$C_{10}H_{10}O_2NBr$	<i>p</i> -Acetaminophenyl bromomethyl ketone ( <i>p</i> -acetaminophenacyl bromide) (JACOBS and HEIDELBERGER)	1915, 21, 459
$C_{10}H_{10}O_2N_2S$	Thietyrosinehydantoin (JOHNSON and BRAUTLECHT)	1912, 12, 190
$C_{10}H_{10}O_3NCl$	Chloroacetylaminomethyl benzoate (JACOBS and HEIDELBERGER)	1915, 21, 406
$C_{10}H_{11}O_2N_2Cl$	Chloroacetylbenzylurea (JACOBS and HEIDELBERGER)	1915, 21, 152
	<i>m</i> -Chloroacetylaminomethylbenzamide (JACOBS and HEIDELBERGER)	1915, 20, 694
$C_{10}H_{11}O_3N_2Br$	$\gamma$ -Bromopropyl- <i>p</i> -nitrobenzamide (JACOBS and HEIDELBERGER)	1915, 21, 421
$C_{10}H_{11}O_4N_2Cl$	2-Methoxy-5-nitrochloroacetylbenzylamine (JACOBS and HEIDELBERGER)	1915, 20, 691
$C_{10}H_{12}ONCl$	Chloroacetyl- <i>o</i> -methylbenzylamine (JACOBS and HEIDELBERGER)	1915, 20, 686
$C_{10}H_{12}ONCl_3$	2,4,6-Trichlorophenoxyethyl-dimethylamine (JACOBS and HEIDELBERGER)	1915, 21, 443
$C_{10}H_{12}O_2NCl$	Chloroacetylphenylaminoethanol (JACOBS and HEIDELBERGER)	1915, 21, 418
	$\alpha$ -Phenyl- $\alpha$ -oxy- $\beta$ -chloroacetylaminooethane (JACOBS and HEIDELBERGER)	1915, 21, 431

- $C_{10}H_{12}O_2NBr$  *o*-Acetaminophenoxyethyl bromide (JACOBS and HEIDELBERGER) 1915, 21, 446  
 Bromoacetylphenylaminoethanol (JACOBS and HEIDELBERGER) 1915, 21, 419
- $C_{10}H_{12}O_2NI$   $\alpha$ -Iodopropionyl-*o*-anisidine (JACOBS and HEIDELBERGER) 1915, 21, 135  
 $\beta$ -Iodopropionyl-*o*-anisidine (JACOBS and HEIDELBERGER) 1915, 21, 136
- $C_{10}H_{12}O_3N_4S$  2-Oxy-6-methyl-9-ethylpurine-8-thioglycollic acid (JOHNS and BAUMANN) 1913, 15, 520
- $C_{10}H_{13}ON_2Cl$  *m*-Chloroacetylaminodimethylaniline (JACOBS and HEIDELBERGER) 1915, 21, 113
- $C_{10}H_{14}O_5N_3P$  Guanylic acid, barium and brucine salts (LEVENE and JACOBS) 1912, 12, 424  
 (JONES and RICHARDS) 1915, 20, 33
- $C_{10}H_{17}O_{12}N_3P_2$  Hexocytidine diphosphoric acid, barium and brucine salts (LEVENE and JACOBS) 1912, 12, 419
- $C_{10}H_{19}O_2N_4Br$  Acetoxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 449
- $C_{10}H_{19}O_2N_6Cl$  Chloroacetylmethylurea and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 151
- $C_{17}H_{20}ON_5Cl$  Chloroacetdimethylamide and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 148  
 Chloroacetethylamide and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 149
- $C_{10}H_{20}O_2N_5I$  Iodoacetylaminethanol and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 408

### C<sub>11</sub> Group

#### C<sub>11</sub> II

- $C_{11}H_{23}I$  Undecylic iodide (LEVENE, WEST, ALLEN, and VAN DER SCHEER) 1915, 23, 72

#### C<sub>11</sub> III

- $C_{11}H_{11}ON_3$  2-Oxy-6-methylphenylaminopyrimidine (JOHNSON and CLAPP) 1908-09, 5, 64
- $C_{11}H_{11}O_3N$  Cinnamoylglycocoll (DAKIN) 1908-09, 5, 305
- $C_{11}H_{11}O_4Br$  Bromoethyl acetylsalicylate (JACOBS and HEIDELBERGER) 1915, 21, 451



- $C_{11}H_{12}O_3N_2$  *p*-Methoxybenzylhydantoin (WHEELER, HOFFMAN, and JOHNSON) 1911-12, 10, 156
- $C_{11}H_{13}OBr$  Mesityl bromomethyl ketone (2,4,6-trimethylphenyl bromide) (JACOBS and HEIDELBERGER) 1915, 21, 459
- $C_{11}H_{13}O_2Cl$  2-Acetoxy-3,5-dimethylbenzyl chloride (*o*-acetoxy-mesityl pseudochloride) (JACOBS and HEIDELBERGER) 1915, 20, 670
- $C_{11}H_{13}O_3N$  Phenylpropionylglycocoll (DAKIN) 1908, 4, 431
- $C_{11}H_{13}O_4N$  Phenyl- $\beta$ -oxypropionylglycocoll (DAKIN) 1908-09, 5, 308
- $C_{11}H_{14}O_3N$  *p*-Methyl- $\alpha$ -uramidophenylpropionic acid (DAKIN) 1911, 9, 159
- $C_{11}H_{15}O_2N_3$  Isovaleric aldehyde *p*-nitrophenylhydrazine (DAKIN) 1908, 4, 237
- Methylisopropyl ketone *p*-nitrophenylhydrazine (DAKIN) 1908, 4, 238
- $C_{11}H_{15}O_5N_5$  Adenine hexose compound (MANDEL and DUNHAM) 1912, 11, 85
- $C_{11}H_{15}O_6N_3$  *d*-Lyxose *p*-nitrophenylhydrazone (LEVENE and LA FORGE) 1914, 18, 326
- $C_{11}H_{15}O_6N_5$  Guanine hexoside from thymus nucleic acid (LEVENE and JACOBS) 1912, 12, 378
- $C_{11}H_{21}N_5O_5$  Arginine-glutaminic acid dipeptide from gelatin (LEVENE and BIRCHARD) 1912-13, 13, 285

C<sub>11</sub> IV

- $C_{11}H_8O_3N_2S$  2-Thio-4-piperonalhydantoin (JOHNSON and O'BRIEN) 1912, 12, 213
- $C_{11}H_9ON_2Cl$  6-Chloroacetyl aminoquinoline and hydrochloride (JACOBS and HEIDELBERGER) 1915, 21, 143
- $C_{11}H_{10}O_2N_2S$  2-Thio-4-anisalhydantoin (JOHNSON and O'BRIEN) 1912, 12, 212
- $C_{11}H_{10}O_3N_2S$  1-Phenyl-2-thiohydantoin-4-acetic acid (BRAUTLECHT) 1911-12, 10, 145
- $C_{11}H_{11}O_2N_3S$  1-Phenyl-2-thiohydantoin-4-acetamide (BRAUTLECHT) 1911-12, 10, 145
- $C_{11}H_{11}O_3NBr_2$  Phenyl- $\alpha$ ,  $\beta$ -dibromopropionylglycocoll (DAKIN) 1908-09, 5, 307
- $C_{11}H_{11}O_5N_2Cl$  2-Acetoxy-5-nitrochloroacetylbenzylamine (JACOBS and HEIDELBERGER) 1915, 20, 690
- Chloroacetyl aminoethyl *m*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 411
- Chloroacetyl aminoethyl *o*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 410
- Chloroacetyl aminoethyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 411

- $C_{11}H_{12}ON_2S$  1-Phenyl-4-ethyl-2-thiohydantoin (BRAUTLECHT)  
1911-12, 10, 143
- $C_{11}H_{12}O_2NBr$  3-Acetamino-4-tolyl bromomethyl ketone (3-acetamino-4-methylphenacyl bromide) (JACOBS and HEIDELBERGER)  
1915, 21, 460
- $C_{11}H_{12}O_3NCl$  Chloroacetylaminoethyl benzoate (JACOBS and HEIDELBERGER)  
1915, 21, 408
- $C_{11}H_{12}O_4NCl$  Chloroacetylaminoethyl anisate (JACOBS and HEIDELBERGER)  
1915, 21, 406
- $C_{11}H_{12}O_4NBr$  Phenyl- $\alpha$ -bromo- $\beta$ -oxypropionylglycocoll (DAKIN)  
1908-09, 5, 307
- $C_{11}H_{13}O_2N_2I$  *p*-Acetaminoiodoacetylbenzylamine (JACOBS and HEIDELBERGER)  
1915, 20, 687
- $C_{11}H_{13}O_3N_2Cl$  Chloroacetylaminoethyl *p*-aminobenzoate (JACOBS and HEIDELBERGER)  
1915, 21, 412
- $C_{11}H_{13}O_3N_3S$  Hydantoic acid,  $C_6H_5NHCSNHCH(COOH)CH_2CONH_2$ , and potassium salt (BRAUTLECHT)  
1911-12, 10, 145
- $C_{11}H_{14}O_2NCl$  Chloroacetylaminoethyl *o*-tolyl ether (JACOBS and HEIDELBERGER)  
1915, 21, 416
- $\alpha$ -*p*-Tolyl- $\alpha$ -oxy- $\beta$ -chloroacetylaminoethane (JACOBS and HEIDELBERGER)  
1915, 21, 433
- $C_{11}H_{14}O_3NCl$  1,2-Dimethylchloroacetylbenzylamine (JACOBS and HEIDELBERGER)  
1915, 20, 692
- $C_{11}H_{15}O_4N_2Br$  *d*-Lyxose *p*-bromophenylhydrazone (LEVENE and LA FORGE)  
1914, 18, 325
- Urine pentose *p*-bromophenylhydrazone (LEVENE and LA FORGE)  
1914, 18, 322
- $C_{11}H_{18}O_{13}N_2P_2$  Hexothymidine diphosphoric acid, barium and brucine salts (LEVENE and JACOBS)  
1912, 12, 417
- $C_{11}H_{20}O_3N_5Cl$  Chloroacetylurethane and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 152
- $C_{11}H_{21}O_2N_4I$  Carbethoxyethylhexamethylenetetraminium iodide (JACOBS and HEIDELBERGER)  
1915, 21, 467
- $C_{11}H_{22}O_2N_5Cl$  Chloroacetylaminoisopropanol and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 425
- $C_{11}H_{24}O_2NCl$  Valeryl- $\alpha$ -methylcholine chloride (valeryl- $\beta$ -methylethoxytrimethylammonium chloride), chloroplatinate, and chloraurate (MENGE)  
1912-13, 13, 106

C<sub>11</sub> V

- $C_{11}H_{11}O_3NClBr$  Phenyl- $\alpha$ -bromo- $\beta$ -chloropropionylglycocoll (DAKIN)  
1908-09, 5, 308

**C<sub>12</sub> Group****C<sub>12</sub> II**

- C<sub>12</sub>H<sub>12</sub>O<sub>2</sub>**  $\beta$ -Methoxy- $\alpha$ -naphthobenzyl alcohol (JACOBS and HEIDELBERGER) 1915, 20, 674  
**C<sub>12</sub>H<sub>20</sub>N<sub>2</sub>** *p*-Aminodipropylaniline (JACOBS and HEIDELBERGER) 1915, 21, 116  
**C<sub>12</sub>H<sub>25</sub>I** Dodecyl iodide (LEVENE and WEST) 1914, 18, 478

**C<sub>12</sub> III**

- C<sub>12</sub>H<sub>11</sub>OBr**  $\alpha$ -Naphthyl bromoethyl ether ( $\alpha$ -naphthoxyethyl bromide) (JACOBS and HEIDELBERGER) 1915, 21, 441  
**C<sub>12</sub>H<sub>13</sub>ON<sub>3</sub>** 2-Oxy-3-methyl-6-methylphenylaminopyrimidine (JOHNSON and CLAPP) 1908-09, 5, 65  
**C<sub>12</sub>H<sub>13</sub>O<sub>4</sub>Br** Bromoethyl acetyl-*p*-cresotinate (JACOBS and HEIDELBERGER) 1915, 21, 452  
**C<sub>12</sub>H<sub>13</sub>O<sub>5</sub>Cl** Chloroacetyloxyethyl anisate (JACOBS and HEIDELBERGER) 1915, 21, 471  
**C<sub>12</sub>H<sub>15</sub>O<sub>3</sub>N** Acetyl-*p*-methylphenylalanine (DAKIN) 1911, 9, 158  
**C<sub>12</sub>H<sub>16</sub>O<sub>3</sub>N<sub>2</sub>** 3-Nitro-4-oxybenzylpiperidine (JACOBS and HEIDELBERGER) 1915, 20, 669  
**C<sub>12</sub>H<sub>18</sub>ON<sub>2</sub>** 3-Amino-4-oxybenzylpiperidine and hydrochloride (JACOBS and HEIDELBERGER) 1915, 20, 669  
*p*-Nitrosodipropylaniline (JACOBS and HEIDELBERGER) 1915, 21, 115  
**C<sub>12</sub>H<sub>21</sub>NO<sub>11</sub>** Chondrosin (LEVENE and LA FORGE) 1913, 15, 73; 1914, 18, 239  
**C<sub>12</sub>H<sub>32</sub>O<sub>41</sub>P<sub>10</sub>** Di-inosite triphosphoric acid ester and pentabarium salt (ANDERSON) 1912, 12, 112

**C<sub>12</sub> IV**

- C<sub>12</sub>H<sub>10</sub>ONBr**  $\beta$ -( $\omega$ -Bromoacetyl)-quinaldine (JACOBS and HEIDELBERGER) 1915, 21, 463  
**C<sub>12</sub>H<sub>11</sub>O<sub>2</sub>N<sub>2</sub>Cl** *p*-Nitrobenzylpyridinium chloride (JACOBS and HEIDELBERGER) 1915, 20, 667  
**C<sub>12</sub>H<sub>12</sub>O<sub>2</sub>N<sub>2</sub>S** 2-Thio-3-acetyl-4-benzylhydantoin (JOHNSON and O'BRIEN) 1912, 12, 211  
**C<sub>12</sub>H<sub>12</sub>O<sub>3</sub>N<sub>2</sub>S** 1-Phenyl-2-thiohydantoin-4-propionic acid (BRAUTLECHT) 1911-12, 10, 146  
**C<sub>12</sub>H<sub>12</sub>N<sub>3</sub>SI** 2-Ethylmercapto-5-iodo-6-anilinopyrimidine (JOHNSON and JOHNS) 1905-06, 1, 314

- $C_{12}H_{13}O_3N_2Cl$  Chloroacetylaminoisopropyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 425  
 $\gamma$ -Chloroacetylaminopropyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 423  
*p*-Nitrobenzoylaminoisopropyl chloroacetate (JACOBS and HEIDELBERGER) 1915, 21, 426  
 $\gamma$ -*p*-Nitrobenzoylaminopropyl chloroacetate (JACOBS and HEIDELBERGER) 1915, 21, 422
- $C_{12}H_{14}ON_2S$  1-Phenyl-4-isopropyl-2-thiohydantoin (BRAUTLECHT) 1911-12, 10, 144
- $C_{12}H_{14}O_2NI$  3-Acetamino-4-tolyl  $\omega$ -iodoethyl ketone (3-acetamino-4-methyl- $\omega$ -iodopropiophenone) (JACOBS and HEIDELBERGER) 1915, 21, 461
- $C_{12}H_{14}O_3NCl$  Chloroacetylaminethyl *o*-toluate (JACOBS and HEIDELBERGER) 1915, 21, 409  
 Chloroacetylaminethyl *p*-toluate (JACOBS and HEIDELBERGER) 1915, 21, 409
- $C_{12}H_{14}O_3NI$  *m*-Iodoacetylaminomethylbenzoic acid ethyl ester (JACOBS and HEIDELBERGER) 1915, 20, 693
- $C_{12}H_{14}O_4NCl$  Chloroacetylaminethyl anisate (JACOBS and HEIDELBERGER) 1915, 21, 414
- $C_{12}H_{15}O_2N_2Cl$  1-Methyl-2-acetaminochloroacetylbenzylamine (JACOBS and HEIDELBERGER) 1915, 20, 688  
 1-Methyl-4-acetaminochloroacetylbenzylamine (JACOBS and HEIDELBERGER) 1915, 20, 688
- $C_{12}H_{17}ON_2Cl$  *p*-Chloroacetylaminodiethylaniline (JACOBS and HEIDELBERGER) 1915, 21, 115
- $C_{12}H_{15}O_2N_2Cl$  Chloroacetyl-*p*-dimethylaminophenylaminoethanol (JACOBS and HEIDELBERGER) 1915, 21, 420
- $C_{12}H_{24}ON_5Cl$  Chloroacetdiethylamide and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 149
- $C_{12}H_{24}O_2N_5Cl$   $\beta$ -Chloroacetylaminogamma-butanol and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 429  
 $\delta$ -Chloroacetylaminogamma-butanol and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 427  
 Chloroacetylaminethyl ethyl ether and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 416

C<sub>12</sub> V

- C<sub>12</sub>H<sub>13</sub>O<sub>3</sub>NCIBr Bromoethyl *m*-chloroacetylaminooethylbenzoate  
(JACOBS and HEIDELBERGER) 1915, 21, 452
- C<sub>12</sub>H<sub>25</sub>O<sub>2</sub>NCIBr  $\alpha$ -Bromoisocapronyl- $\alpha$ -methylcholine chloride  
( $\alpha$ -bromoisocapronyl- $\beta$ -methylethoxytrimethylam-  
monium chloride) and chlorplatinate (MENGE)  
1912-13, 13, 107

C<sub>13</sub> GroupC<sub>13</sub> II

- C<sub>13</sub>H<sub>26</sub>O<sub>2</sub> Tridecylic acid (LEVENE and WEST)  
1914, 18, 465  
(LEVENE, WEST, ALLEN, and VAN DER SCHEER)  
1915, 23, 73
- C<sub>13</sub>H<sub>27</sub>I Tridecylic iodide (LEVENE, WEST, and VAN DER  
SCHEER) 1915, 20, 528

C<sub>13</sub> III

- C<sub>13</sub>H<sub>11</sub>O<sub>3</sub>Cl 2-Oxy-3-carbomethoxynaphthobenzyl chloride (JA-  
COBS and HEIDELBERGER) 1915, 20, 682
- C<sub>13</sub>H<sub>18</sub>N<sub>4</sub>Cl<sub>2</sub> *o*-Chlorobenzylhexamethylenetetraminium chlo-  
ride (JACOBS and HEIDELBERGER) 1915, 20, 665  
*p*-Chlorobenzylhexamethylenetetraminium chlo-  
ride (JACOBS and HEIDELBERGER) 1915, 20, 665
- C<sub>13</sub>H<sub>19</sub>O<sub>8</sub>N<sub>3</sub> *d*- $\beta$ -Mannoheptose *p*-nitrophenylhydrazone  
(PEIRCE) 1915, 23, 333
- C<sub>13</sub>H<sub>20</sub>ON<sub>2</sub> *o*-Aminophenoxyethylpiperidine and hydrochloro-  
ride (JACOBS and HEIDELBERGER) 1915, 21, 448
- C<sub>13</sub>H<sub>20</sub>O<sub>7</sub>N<sub>2</sub> *d*- $\beta$ -Mannoheptonic acid phenylhydrazide (PEIRCE)  
1915, 23, 331

C<sub>13</sub> IV

- C<sub>13</sub>H<sub>14</sub>O<sub>3</sub>NCl Chloroacetylaminooethyl cinnamate (JACOBS and  
HEIDELBERGER) 1915, 21, 415
- C<sub>13</sub>H<sub>14</sub>O<sub>3</sub>N<sub>2</sub>S<sub>2</sub> *p*-Ethylxanthogenate-4-benzylhydantoin (JOHN-  
SON and BRAUTLECHT) 1912, 12, 189
- C<sub>13</sub>H<sub>14</sub>O<sub>5</sub>NCl Chloroacetylaminooethyl acetylsalicylate (JACOBS  
and HEIDELBERGER) 1915, 21, 414  
1,2-Diacetoxychloroacetylbenzylamine (JACOBS  
and HEIDELBERGER) 1915, 20, 691

- $C_{13}H_{15}O_5N_2Cl$   $\beta$ -Chloroacetyl-amino- $\gamma$ -butyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 429
- $\delta$ -Chloroacetylaminobutyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 428
- Chloroacetyl-ethylaminoethyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 417
- $C_{13}H_{16}ONCl_3$  2,4,6-Trichlorophenoxyethylpiperidine and hydrochloride (JACOBS and HEIDELBERGER) 1915, 21, 443
- $C_1H_{17}ON_4Br_3$  2-Oxy-3,5-dibromobenzylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 20, 670
- $C_{13}H_{17}O_4N_6Cl$  2,4-Dinitrobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 667
- $C_{13}H_{18}O_2N_5Cl$  *m*-Nitrobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 666
- o*-Nitrobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 666
- p*-Nitrobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 666
- $C_{13}H_{18}O_3N_5Cl$  2-Oxy-5-nitrobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 671
- $C_{13}H_{18}O_4NCl$   $\gamma$ -Chloroacetylaminopropyl anisate ( $\gamma$ -chloroacetylaminopropyl *p*-methoxybenzoate) (JACOBS and HEIDELBERGER) 1915, 21, 423
- $C_{13}H_{18}N_4ClBr$  *o*-Bromobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 665
- p*-Bromobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 665
- $C_{15}H_{17}N_4BrI$  *o*-Iodobenzylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 467
- p*-Iodobenzylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 20, 665
- $C_{13}H_{20}O_2NCl$  Benzoyl- $\alpha$ -methylcholine chloride (benzoyl- $\beta$ -methyl-*o*-ethoxytrimethylammonium chloride), chloroplatinate, and chloroaurate (MENGE) 1912-13, 13, 99

- $C_{13}H_{24}ON_3Cl$  Chloroacetyl piperidide and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 150
- $C_{13}H_{26}O_2N_5Cl$   $\gamma$ -Chloroacetyl amino- $\beta$ -methyl- $\beta$ -butanol and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 431
- Chloroacetylaminomethylmethylethyl carbinol and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 430
- $\gamma$ -Chloroacetyl amino- $\beta$ -pentanol and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 430

**C<sub>14</sub> Group****C<sub>14</sub> II**

- $C_{14}H_{26}O_4$  Undecylmalonic acid (LEVENE, WEST, ALLEN, and VAN DER SCHEER) 1915, 23, 73

**C<sub>14</sub> III**

- $C_{14}H_{11}O_4N_3$  Phenylglyoxylic acid *p*-nitrophenylhydrazone (DAKIN and DUDLEY) 1913, 15, 139
- $C_{14}H_{18}O_4N_2$  3-Nitro-4-acetoxybenzylpiperidine and hydrochloride (JACOBS and HEIDELBERGER) 1915, 20, 669
- $C_{14}H_{18}N_5Cl$  *o*-Cyanobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 666
- p*-Cyanobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 666
- $C_{14}H_{21}N_4Cl$  *m*-Methylbenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 663
- o*-Methylbenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 663
- p*-Methylbenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 663
- $C_{14}H_{21}N_4I$  Phenylethylhexamethylenetetraminium iodide (JACOBS and HEIDELBERGER) 1915, 21, 467

**C<sub>14</sub> IV**

- $C_{14}H_{12}ON_3Cl$  *p*-Chloroacetyl aminoazobenzene (JACOBS and HEIDELBERGER) 1915, 21, 117
- $C_{14}H_{12}O_2N_3Cl$  Benzeneazo-*m*-chloroacetylaminophenol (JACOBS and HEIDELBERGER) 1915, 21, 133
- $C_{14}H_{12}O_3N_2Hg$  4-*p*-Oxybenzeneazophenylmercuric acetate (JACOBS and HEIDELBERGER) 1915, 20, 516

- $C_{14}H_{12}O_4N_2Hg$  4-*o,p*-Dioxybenzeneazophenylmercuric acetate  
 (JACOBS and HEIDELBERGER) 1915, 20, 517
- $C_{11}H_7ONBr_3$  Tribromo-*p*-methylphenoxyethylpiperidine (JA-  
 COBS and HEIDELBERGER) 1915, 21, 445
- $C_{14}H_{11}O_3N_5Br$  *m*-Nitrophenacylhexamethylenetetraminium  
 bromide (JACOBS and HEIDELBERGER) 1915, 21, 459
- $C_{14}H_{15}O_4N_5Br$  *o*-Nitrophenyl bromoacetate and hexamethyl-  
 enetetramine (JACOBS and HEIDELBERGER) 1915, 21, 470
- $C_{14}H_{19}ON_5Cl_2$  Chloroacetyl-*o*-chloroaniline and hexamethylene-  
 tetramine (JACOBS and HEIDELBERGER) 1915, 21, 110
- $C_{14}H_{19}O_2N_4Cl$  3-Aldehyde-4-oxybenzylhexamethylenetetramin-  
 ium chloride (JACOBS and HEIDELBERGER) 1915, 20, 683
- 3,4-Methylenedioxybenzylhexamethylenetetra-  
 minium chloride (JACOBS and HEIDELBERGER) 1915, 20, 677
- $C_{14}H_{19}O_2N_4Br$  Phenylbromoacetate and hexamethylenetetra-  
 mine (JACOBS and HEIDELBERGER) 1915, 21, 469
- $C_{14}H_{19}O_3N_4Cl$  3-Carboxy-4-oxybenzylhexamethylenetetramin-  
 ium chloride (JACOBS and HEIDELBERGER) 1915, 20, 681
- $C_{14}H_{19}O_3N_6Cl$  *m*-Nitrochloroacetylaniline and hexamethylene-  
 tetramine (JACOBS and HEIDELBERGER) 1915, 21, 112
- $C_{14}H_{20}ON_4Br_2$  *p*-Bromophenoxyethylhexamethylenetetramin-  
 ium bromide (JACOBS and HEIDELBERGER) 1915, 21, 444
- $C_{14}H_{20}ON_5Cl$  *p*-Aminophenacylhexamethylenetetraminium chlo-  
 ride (JACOBS and HEIDELBERGER) 1915, 21, 460
- Chloroacetylaniline and hexamethylenetetramine  
 (JACOBS and HEIDELBERGER) 1915, 21, 104
- $C_{14}H_{20}ON_5Br$   $\omega$ -Bromoacetophenoneoxime and hexamethylene-  
 tetramine (JACOBS and HEIDELBERGER) 1915, 21, 456
- Bromoacetylaniline and hexamethylenetetramine  
 (JACOBS and HEIDELBERGER) 1915, 21, 104
- $C_{14}H_{20}O_2N_5Cl$  *m*-Chloroacetylaminophenol and hexamethylene-  
 tetramine (JACOBS and HEIDELBERGER) 1915, 21, 133
- o*-Chloroacetylaminophenol and hexamethylene-  
 tetramine (JACOBS and HEIDELBERGER) 1915, 21, 131



- $C_{14}H_{20}O_3N_5Cl$  2-Methoxy-5-nitrobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER)  
1915, 20, 676
- 3-Nitro-4-methoxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER)  
1915, 20, 676
- $C_{14}H_{20}O_5N_3Cl$  Chloroacetyl aminoethyl *p*-nitrobenzoate and trimethylamine (JACOBS and HEIDELBERGER)  
1915, 21, 412
- $C_{14}H_{21}ON_2Cl$  *p*-Chloroacetylaminodipropylaniline (JACOBS and HEIDELBERGER)  
1915, 21, 116
- $C_{14}H_{21}ON_4Br$  Phenoxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER)  
1915, 21, 440
- $C_{14}H_{21}ON_4Cl$  *o*-Methoxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER)  
1915, 20, 673
- p*-Methoxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER)  
1915, 20, 673
- $C_{14}H_{22}O_2NCl$  Phenylacetyl- $\gamma$ -homocholine chloride, chloroplatinate, and chloroaurate (MENGE)  
1912-13, 13, 104
- Phenylacetyl- $\alpha$ -methylcholine chloride (phenylacetyl- $\beta$ -methylethoxytrimethylammonium chloride), chloroplatinate, and chloroaurate (MENGE)  
1912-13, 13, 101
- Phenylacetyl- $\beta$ -methylcholine chloride (phenylacetyl- $\beta$ -oxypropyltrimethylammonium chloride), chloroplatinate, and chloroaurate (MENGE)  
1912-13, 13, 102

 $C_{14}$  V

- $C_{14}H_{19}ON_5ClBr$  *p*-Bromochloroacetylaniline and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 110
- $C_{14}H_{19}ON_5ClI$  *m*-Iodochloroacetylaniline and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 111

 $C_{15}$  Group $C_{15}$  II

- $C_{15}H_{12}O_5$  Baptisol (CLARK) 1915, 21, 650

C<sub>15</sub> III

- C<sub>15</sub>H<sub>14</sub>O<sub>5</sub>N<sub>6</sub> Glyceric aldehyde *p*-nitrophenylhydrazone (DAKIN and DUDLEY) 1913, 15, 138
- C<sub>15</sub>H<sub>18</sub>O<sub>6</sub>N<sub>2</sub> Diazobenzalglucosaminic acid ethyl ester (LEVENE and LA FORGE) 1915, 21, 349
- C<sub>15</sub>H<sub>23</sub>N<sub>4</sub>Cl 3,5-Dimethylbenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 663

C<sub>15</sub> IV

- C<sub>15</sub>H<sub>11</sub>O<sub>5</sub>N<sub>2</sub>Cl *o*-Chloroacetylaminophenyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 132
- C<sub>15</sub>H<sub>12</sub>O<sub>3</sub>NCl *o*-Chloroacetylaminophenyl benzoate (JACOBS and HEIDELBERGER) 1915, 21, 131
- C<sub>15</sub>H<sub>13</sub>O<sub>3</sub>NHg 4-*o*-Oxybenzylideneaminophenylmercuric acetate (JACOBS and HEIDELBERGER) 1915, 20, 518
- C<sub>15</sub>H<sub>14</sub>O<sub>3</sub>NCl β-Acetoxy-α-chloroacetylnaphthobenzylamine (JACOBS and HEIDELBERGER) 1915, 20, 689
- Chloroacetylaminoethyl β-naphthoate (JACOBS and HEIDELBERGER) 1915, 21, 410
- C<sub>15</sub>H<sub>14</sub>O<sub>3</sub>NI β-Acetoxy-α-iodoacetylnaphthobenzylamine (JACOBS and HEIDELBERGER) 1915, 20, 689
- C<sub>15</sub>H<sub>14</sub>O<sub>3</sub>N<sub>2</sub>Hg 3-Methyl-4-*p*-oxybenzeneazophenylmercuric acetate (JACOBS and HEIDELBERGER) 1915, 20, 520
- C<sub>15</sub>H<sub>15</sub>ON<sub>2</sub>Cl β-Chloroacetyl-α,α-phenylbenzylhydrazine (JACOBS and HEIDELBERGER) 1915, 21, 474
- C<sub>15</sub>H<sub>19</sub>O<sub>2</sub>N<sub>4</sub>Br<sub>3</sub> 2-Acetoxy-3,5-dibromobenzylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 20, 671
- 4-Acetoxy-3,5-dibromobenzylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 20, 671
- C<sub>15</sub>H<sub>20</sub>ON<sub>4</sub>Br<sub>4</sub> Tribromo-*p*-methylphenoxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 445
- C<sub>15</sub>H<sub>20</sub>O<sub>4</sub>N<sub>5</sub>Br *p*-Nitrobenzoyloxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 450
- C<sub>15</sub>H<sub>20</sub>O<sub>4</sub>N<sub>5</sub>I 3-Nitro-4-acetoxybenzylhexamethylenetetraminium iodide (JACOBS and HEIDELBERGER) 1915, 20, 673
- p*-Nitrobenzoyloxyethylhexamethylenetetraminium iodide (JACOBS and HEIDELBERGER) 1915, 21, 451

- $C_{15}H_{21}ON_4Br$  *p*-Methylphenacylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 456
- $C_{15}H_{21}ON_4I$  *p*-Methylphenacylhexamethylenetetraminium iodide (JACOBS and HEIDELBERGER) 1915, 21, 457
- $C_{15}H_{21}O_2N_4Br$  Benzoyloxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 450
- p*-Methoxyphenacylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 462
- $C_{15}H_{21}O_3N_2Cl$  Diethylaminoethyl *p*-chloroacetylaminobenzoate (chloroacetyl novocain) (JACOBS and HEIDELBERGER) 1915, 21, 139
- $C_{15}H_{21}O_3N_4Cl$  3-Carbomethoxy-4-oxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 681
- 2-Methoxy-5-carboxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 682
- 2-Oxy-3-carboxy-5-methylbenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 681
- 2-Oxy-3-methoxy-5-aldehydobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 683
- $C_{15}H_{21}O_3N_6Cl$  *m*-Nitrochloroacetyl-*p*-toluidine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 112
- $C_{15}H_{22}ON_5Cl$  *o*-Acetaminobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 668
- p*-Acetaminobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 668
- Chloroacetylbenzylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 20, 686
- Chloroacetylmethylaniline and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 105
- Chloroacetyl-*m*-toluidine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 108

$C_{15}H_{22}ON_5Cl$ —*continued*:

Chloroacetyl-*o*-toluidine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 107

Chloroacetyl-*p*-toluidine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 108

$C_{15}H_{22}O_2N_5Cl$  *o*-Chloroacetylaminobenzyl alcohol and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 138

Chloroacetyl-*o*-anisidine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 135

Chloroacetyl-*p*-anisidine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 138

$C_{15}H_{22}O_4N_5Cl$  2-Nitro-3,4-dimethoxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 679

$C_{15}H_{22}O_6NCl$  Monobenzalglucosaminic acid ethyl ester hydrochloride (LEVENE and LA FORGE) 1915, 21, 348

$C_{15}H_{23}ON_4Cl$  *o*-Ethoxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 677

$C_{15}H_{23}ON_4Br$  *m*-Methylphenoxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 441

*o*-Methylphenoxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 440

*p*-Methylphenoxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 441

$C_{15}H_{23}O_2N_4Cl$  2,3-Dimethoxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 678

3,4-Dimethoxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 678

### $C_{15} V$

$C_{15}H_{21}ON_5ClI$  5-Iodochloroacetyl-*o*-toluidine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 112

**C<sub>16</sub> Group**

**C<sub>16</sub>H<sub>34</sub>** Hexadecane (LEVENE, WEST, and VAN DER SCHEER)  
1915, 20, 523

**C<sub>16</sub> II**

**C<sub>16</sub>H<sub>20</sub>N<sub>4</sub>** *p*-Aminobenzeneazodiethylaniline (JACOBS and HEIDELBERGER)  
1915, 21, 123

**C<sub>16</sub> III**

**C<sub>16</sub>H<sub>11</sub>O<sub>4</sub>N<sub>3</sub>** 1-Phenyl-4-*p*-nitrobenzalhydantoin (JOHNSON and BRAUTLECHT)  
1912, 12, 184

**C<sub>16</sub>H<sub>15</sub>O<sub>2</sub>N<sub>3</sub>** 1-Phenyl-4-*p*-aminobenzalhydantoin, hydrochloride, hydroiodide, nitrate, and sulfate (JOHNSON and BRAUTLECHT)  
1912, 12, 184

**C<sub>16</sub>H<sub>16</sub>O<sub>4</sub>N<sub>2</sub>** Salicylamide ethylene ether (JACOBS and HEIDELBERGER)  
1915, 21, 449

**C<sub>16</sub> IV**

**C<sub>16</sub>H<sub>11</sub>O<sub>3</sub>N<sub>3</sub>S** 1-Phenyl-2-thio-4-*p*-nitrobenzalhydantoin (JOHNSON and BRAUTLECHT)  
1912, 12, 182

**C<sub>16</sub>H<sub>14</sub>ON<sub>2</sub>S** 1-Phenyl-4-benzyl-2-thiohydantoin (BRAUTLECHT)  
1911-12, 10, 144

**C<sub>16</sub>H<sub>14</sub>O<sub>2</sub>NCl** Chloroacetyl- $\omega$ -anilinoacetophenone (JACOBS and HEIDELBERGER)  
1915, 21, 106

**C<sub>16</sub>H<sub>14</sub>O<sub>2</sub>N<sub>2</sub>S** 1-Phenyl-4-*p*-hydroxybenzyl-2-thiohydantoin (BRAUTLECHT)  
1911-12, 10, 144

**C<sub>16</sub>H<sub>14</sub>O<sub>3</sub>NCl** *o*-Chloroacetylaminobenzyl benzoate (JACOBS and HEIDELBERGER)  
1915, 21, 139

**C<sub>16</sub>H<sub>15</sub>O<sub>2</sub>N<sub>2</sub>Cl** Chloroacetylphenylglycineanilide (JACOBS and HEIDELBERGER)  
1915, 21, 106

**C<sub>16</sub>H<sub>16</sub>ON<sub>3</sub>Cl** Chloroacetylaminoazotoluene (*o*-tolueneazochloroacetyl-*o*-toluidine) (JACOBS and HEIDELBERGER)  
1915, 21, 118

**C<sub>16</sub>H<sub>16</sub>O<sub>2</sub>NCl**  $\alpha,\beta$ -Diphenylchloroacetylaminoethanol (JACOBS and HEIDELBERGER)  
1915, 21, 434

$\alpha,\beta$ -Isodiphenylchloroacetylaminoethanol (JACOBS and HEIDELBERGER)  
1915, 21, 435

**C<sub>16</sub>H<sub>16</sub>O<sub>3</sub>N<sub>5</sub>Cl** 4-Nitrobenzeneazo-2'-chloroacetylamino-4'-dimethylaminobenzene (JACOBS and HEIDELBERGER)  
1915, 21, 129

**C<sub>16</sub>H<sub>17</sub>ON<sub>4</sub>Cl** Benzeneazo-2'-chloroacetylamino-4'-dimethylaminobenzene (JACOBS and HEIDELBERGER)  
1915, 21, 128

*p*-Chloroacetylaminobenzeneazodimethylaniline (JACOBS and HEIDELBERGER)  
1915, 21, 122

- $C_{16}H_{17}O_2N_3Hg$  4-*p*-Dimethylaminobenzeneazophenylmercuric acetate (JACOBS and HEIDELBERGER) 1915, 20, 516
- $C_{16}H_{22}O_2N_5Cl$   $\omega$ -Chloroacetylaminacetophenone and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 472
- $C_{16}H_{22}O_2N_5Br$  *p*-Acetaminophenacylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 460
- $C_{16}H_{23}ON_4Br$  *p*-Ethylphenacylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 459
- m*-Xylyl bromomethyl ketone and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 458
- o*-Xylyl bromomethyl ketone and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 458
- $C_{16}H_{23}O_2N_4Br$  *p*-Ethoxyphenacylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 463
- $C_{16}H_{23}O_2N_5Cl$  *m*-Chloroacetylaminacetophenone and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 141
- $C_{16}H_{23}O_2N_6Cl$   $\beta$ -Acetyl- $\alpha$ -chloroacetyl- $\alpha$ -phenylhydrazine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 474
- m*-Chloroacetylaminomethylbenzamide and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 20, 694
- Chloroacetylbenzylurea and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 152
- $C_{16}H_{23}O_3N_2Cl$  *m*-Chloroacetylaminomethylbenzoic acid diethylaminoethyl ester (JACOBS and HEIDELBERGER) 1915, 20, 693
- $C_{16}H_{23}O_3N_4Cl$  2-Methoxy-5-carbomethoxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 683
- $C_{16}H_{24}ON_5Cl$  Chloroacetyl-*o*-methylbenzylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 20, 686
- Chloroacetyl-*m*-4-xylylidine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 109

- $C_{15}H_{24}O_2N_5Cl$   $\alpha$ -Phenyl- $\alpha$ -oxy- $\beta$ -chloroacetylaminooethane and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 432
- $C_{16}H_{24}O_2N_5Br$  *o*-Acetaminophenoxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 448
- p*-Acetaminophenoxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 446
- $C_{16}H_{24}O_2N_5I$   $\beta$ -Iodopropionyl-*o*-anisidine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 136
- $C_{16}H_{25}ON_6Cl$  *m*-Chloroacetylaminodimethylaniline and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 113
- p*-Chloroacetylaminodimethylaniline and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 114
- $C_{16}H_{25}O_2N_4Cl$  3-Methoxy-4-ethoxybenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 680
- $C_{16}H_{32}O_9N_4S$  Kytine sulfate (LEVENE and VAN DER SCHEER) 1915, 22, 427

C<sub>17</sub> GroupC<sub>17</sub> II

- $C_{17}H_{15}N_3$  *o*-Toluencazo- $\alpha$ -naphthylamine (JACOBS and HEIDELBERGER) 1915, 21, 121
- $C_{17}H_{24}O_{10}$  Cornin (MILLER) 1909-10, 7, xliii
- $C_{17}H_{34}O_3$  Methyl  $\alpha$ -hydroxypalmitate (LEVENE and WEST) 1914, 18, 466
- $C_{17}H_{35}N$  Sphingamine (LEVENE and JACOBS) 1912, 11, 553

C<sub>17</sub> III

- $C_{17}H_{13}O_2N$   $\alpha$ -Benzoylamino-*p*-methyleinmamic acid anhydride (DAKIN) 1911, 9, 154
- $C_{17}H_{13}O_2N_3$  Isobutylglyoxal semicarbazone (DAKIN and DUDLEY) 1914, 18, 38
- $C_{17}H_{13}O_3N$  Benzoylamino-*p*-methoxycinnamic acid anhydride (DAKIN) 1910-11, 8, 18
- $C_{17}H_{15}O_3N^*$   $\alpha$ -Benzoylamino-*p*-methyleinmamic acid (DAKIN) 1911, 9, 155
- $C_{17}H_{15}O_4N$  Benzoylamino-*p*-methoxycinnamic acid (DAKIN) 1910-11, 8, 19

- $C_{17}H_{17}O_4N$  Benzoyltyrosine methyl ether (DAKIN) 1910-11, 8, 19
- $C_{17}H_{19}O_3N$  Morphine, picrolonate (WARREN and WEISS) 1907, 3, 336
- $C_{17}H_{20}O_3N_4$  Urine pentose osazone (LEVENE and LA FORGE) 1913, 15, 484
- $C_{17}H_{21}N_4Cl$   $\beta$ -Naphthobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 664
- $C_{17}H_{23}O_3N$  Atropine, picrolonate (WARREN and WEISS) 1907, 3, 336
- $C_{17}H_{27}O_2N_3$  Methyl *n*-nonyl ketone *p*-nitrophenylhydrazone (DAKIN) 1908, 4, 224
- $C_{17}H_{33}O_2N$  Sphingosine, sulfate, diacetate (LEVENE and JACOBS) 1912, 11, 548
- , picrolonate (LEVENE and WEST) 1916, 24, 64
- $C_{17}H_{37}O_2N$  Dihydro-sphingosine, sulfate (LEVENE and JACOBS) 1912, 11, 550
- , picrate, picrolonate (LEVENE and WEST) 1916, 24, 66

C<sub>17</sub> IV

- $C_{17}H_{14}O_3N_2S$  Benzoylbenzalithiohydantoic acid and sodium salt (JOHNSON and O'BRIEN) 1912, 12, 210
- $C_{17}H_{15}O_3N_2Cl$  Chloroacetylphenylaminoethyl *p*-nitrobenzoate (JACOBS and HEIDELBERGER) 1915, 21, 418
- $C_{17}H_{16}O_2NBr$  Bromoacetyl- $\omega$ -*o*-toluidinoacetophenone (JACOBS and HEIDELBERGER) 1915, 21, 107
- $C_{17}H_{16}O_3NCl$  Chloroacetyl- $\omega$ -*o*-anisidinoacetophenone (JACOBS and HEIDELBERGER) 1915, 21, 137
- $C_{17}H_{19}ON_2Cl$  *p*-Chloroacetylaminioethylbenzylaniline (JACOBS and HEIDELBERGER) 1915, 21, 117
- $C_{17}H_{21}ON_6Cl$  6-Chloroacetylaminioquinoline and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 143
- $C_{17}H_{23}O_2N_4Br_3$  2-Acetoxy-3,5-dimethyl-4,6-dibromobenzylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 20, 671
- $C_{17}H_{23}O_2N_6Cl$  Chloroacetylaminioethyl *m*-nitrobenzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 411
- Chloroacetylaminioethyl *o*-nitrobenzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 410
- Chloroacetylaminioethyl *p*-nitrobenzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 412



- $C_{17}H_{24}O_2N_5Br$  3-Acetamino-4-methylphenacylhexamethylene-tetraminium bromide (JACOBS and HEIDELBERGER)  
1915, 21, 461
- $C_{17}H_{24}O_3N_5Cl$  Ethyl *p*-chloroacetylaminobenzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 139
- Chloroacetyl aminoethyl benzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 408
- $C_{17}H_{25}O_2N_4Cl$  2-Acetoxy-3,5-dimethylbenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER)  
1915, 20, 670
- $C_{17}H_{25}O_2N_6I$  *p*-Acetaminoiodoacetylbenzylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 20, 687
- $C_{17}H_{26}ON_5Cl$  Chloroacetyl- $\psi$ -cumidine and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 109
- $C_{17}H_{26}O_2N_5Cl$  Chloroacetyl amino *o*-tolyl ether and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 417
- $\beta$ -Phenyl- $\beta$ -oxy- $\alpha$ -chloroacetylaminopropane and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 436
- $C_{17}H_{26}O_3N_6Cl$  1,2-Dimethoxychloroacetylbenzylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 20, 692

**C<sub>18</sub> Group**

- $C_{18}H_{38}$  Octadecane (LEVENE, WEST, and VAN DER SCHEER)  
1915, 20, 524

**C<sub>18</sub> II**

- $C_{18}H_{18}O_6$  Ethylene anisate (JACOBS and HEIDELBERGER)  
1915, 21, 471
- $C_{18}H_{34}O_4$  Ethyl undecylmalonate (LEVENE, WEST, ALLEN, and VAN DER SCHEER)  
1915, 23, 73
- $C_{18}H_{36}O_3$  Ethyl  $\alpha$ -hydroxypalmitate (LEVENE and WEST)  
1914, 18, 466

**C<sub>18</sub> III**

- $C_{18}H_{20}O_4N_6$  Isobutylglyoxal dinitrophenylhydrazone (DAKIN and DUBLEY)  
1914, 18, 39
- $C_{18}H_{21}O_3N$  Codeine, picrate (WARREN and WEISS)  
1907, 3, 336

- $C_{18}H_{22}ON_4$  *p*-Acetaminobenzeneazodiethylaniline (JACOBS and HEIDELBERGER) 1915, 21, 123  
 $C_{18}H_{21}O_4N_4$  Deaminochondrosamine phenylosazone (LEVENE and LA FORGE) 1914, 18, 127

C<sub>18</sub> IV

- $C_{18}H_{13}O_2N_2Cl$  Benzeneazo- $\beta$ -naphthyl chloroacetate (JACOBS and HEIDELBERGER) 1915, 21, 470  
 $C_{18}H_{15}O_3N_3S$  1-Phenyl-2-ethylmercapto-4-*p*-nitrobenzaldiantoin (JOHNSON and BRAUTLECHT) 1912, 12, 183  
 $C_{18}H_{17}O_5N_4Br_2$  Glucuronic acid *p*-bromophenylhydrazone (LEVENE and LA FORGE) 1913, 15, 76  
 $C_{18}H_{20}O_4N_2S_2$  Thietyrosine disulfide (JOHNSON and BRAUTLECHT) 1912, 12, 190  
 $C_{18}H_{21}ON_4Cl$  *p*-Chloroacetylaminobenzeneazodiethylaniline (JACOBS and HEIDELBERGER) 1915, 21, 124  
 $C_{18}H_{21}ON_4Br$  *p*-Acetaminobenzeneazo-2'-bromo-4'-diethylaminobenzene (JACOBS and HEIDELBERGER) 1915, 21, 128  
 $C_{18}H_{21}O_2N_3Hg$  4-*p*-Diethylaminobenzeneazophenylmercuric acetate (JACOBS and HEIDELBERGER) 1915, 20, 516  
 $C_{18}H_{22}ON_5Cl$  Chloroacetyl- $\alpha$ -naphthylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 109  
     Chloroacetyl- $\beta$ -naphthylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 109  
 $C_{18}H_{22}ON_5Br$   $\beta$ -( $\omega$ -Bromoacetyl)-quinaldine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 464  
 $C_{18}H_{23}ON_4Cl$   $\beta$ -Methoxy- $\alpha$ -naphthobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 674  
 $C_{18}H_{23}ON_4Br$   $\alpha$ -Naphthoxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 442  
      $\beta$ -Naphthoxyethylhexamethylenetetraminium bromide (JACOBS and HEIDELBERGER) 1915, 21, 442  
 $C_{18}H_{23}O_3N_4Cl$  Chloroacetyloxyethyl anisate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 471  
 $C_{18}H_{23}O_3N_6Cl$  Chloroacetylaminoisopropyl *p*-nitrobenzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 425  
      $\gamma$ -Chloroacetylaminopropyl *p*-nitrobenzoate and

$C_{18}H_{25}O_5N_6Cl$ —*continued*:

hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 423

*p*-Nitrobenzoylaminoisopropyl chloroacetate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 427

$C_{18}H_{26}O_2N_5I$  3-Acetamino-4-tolyl  $\omega$ -iodoethyl ketone and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 462

$C_{18}H_{26}O_3N_5Cl$  *m*-Carbethoxychloroacetylbenzylamine (ethyl *m*-chloroacetylaminomethylbenzoate) (JACOBS and HEIDELBERGER) 1915, 20, 692

Chloroacetylaminoethyl *o*-toluate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 409

Chloroacetylaminoethyl *p*-toluate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1905, 21, 409

$C_{18}H_{26}O_4N_5Cl$  Chloroacetylaminoethyl anisate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 415

$C_{18}H_{27}O_2N_6Cl$  1-Methyl-4-acetaminochloroacetylbenzylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 20, 688

$C_{18}H_{27}O_{17}NS$  Chondroitin sulfuric acid (LEVENE and LA FORGE) 1913, 15, 72

$C_{18}H_{29}ON_6Cl$  *p*-Chloroacetylaminodiethylaniline and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 115

$C_{18}H_{31}O_2N_4Br$  Bornyl bromoacetate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 468

$C_{18}H_{33}O_2N_4Br$  Menthyl bromoacetate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 468

### $C_{18}$ V

$C_{18}H_{15}O_5N_3SHg$  1-Amino-2-(*p*-naphthaleneazophenylmercuric acetate)-5-sulfonic acid (JACOBS and HEIDELBERGER) 1915, 20, 517

### $C_{19}$ Group

#### $C_{19}$ III

$C_{19}H_{39}O_2N$  Dimethylsphingosine (LEVENE and JACOBS) 1912, 11, 552

C<sub>19</sub> IV

- C<sub>19</sub>H<sub>23</sub>O<sub>3</sub>N<sub>4</sub>Cl 2-Oxy-3-carbomethoxynaphthobenzylhexamethylenetetraminium chloride (JACOBS and HEIDELBERGER) 1915, 20, 682
- C<sub>19</sub>H<sub>24</sub>ON<sub>3</sub>Cl Chloroacetylbis-(*p*-dimethylaminophenyl)-methyamine (chloroacetylleucoauramine) (JACOBS and HEIDELBERGER) 1915, 21, 472
- C<sub>19</sub>H<sub>26</sub>O<sub>5</sub>N<sub>5</sub>Cl Chloroacetylaminoethyl acetylsalicylate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 414,  
1,2-Diacetoxychloroacetylbenzylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 20, 692
- C<sub>19</sub>H<sub>26</sub>O<sub>15</sub>N<sub>8</sub>P<sub>2</sub> Guanine-cytosine dinucleotide (JONES and RICHARDS) 1915, 20, 30
- C<sub>19</sub>H<sub>27</sub>O<sub>5</sub>N<sub>6</sub>Cl β-Chloroacetylamino-γ-butyl *p*-nitrobenzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 429  
δ-Chloroacetylaminobutyl *p*-nitrobenzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 428  
Chloroacetylethylaminoethyl *p*-nitrobenzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 418
- C<sub>19</sub>H<sub>29</sub>O<sub>3</sub>N<sub>6</sub>Cl 1-Acetamino-4-ethoxychloroacetylbenzylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 20, 691
- C<sub>19</sub>H<sub>30</sub>O<sub>4</sub>N<sub>5</sub>Cl γ-Chloroacetylaminopropyl anisate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 424

C<sub>20</sub> Group

- C<sub>20</sub>H<sub>42</sub> Eicosane (LEVENE, WEST, and VAN DER SCHEER) 1915, 20, 526

C<sub>20</sub> II

- C<sub>20</sub>H<sub>20</sub>N<sub>2</sub> Benzylphenylhydrazine derivative of reducing component of yeast nucleic acid (Boos) 1908-09, 5, 473
- C<sub>2</sub>H<sub>22</sub>N<sub>1</sub> *p*-Diethylaminobenzeneazo-β-naphthylamine (JACOBS and HEIDELBERGER) 1915, 21, 130
- C<sub>20</sub>H<sub>35</sub>O<sub>4</sub> α-Acetoxystearic acid (LEVENE and WEST) 1914, 16, 477
- C<sub>20</sub>H<sub>41</sub>I Eicosyl iodide (LEVENE, WEST, and VAN DER SCHEER) 1915, 20, 526

C<sub>20</sub> III

- C<sub>20</sub>H<sub>16</sub>O<sub>4</sub>N<sub>6</sub> Phenylglyoxal di-*p*-nitrophenylhydrazone (DAKIN and DUDLEY) 1913, 15, 138
- C<sub>20</sub>H<sub>24</sub>O<sub>2</sub>N<sub>2</sub> Quinine, picrolonate, (WARREN and WEISS) 1907, 3, 337
- C<sub>20</sub>H<sub>26</sub>ON<sub>4</sub> *p*-Acetaminobenzeneazodipropylaniline (JACOBS and HEIDELBERGER) 1915, 21, 124
- C<sub>20</sub>H<sub>32</sub>N<sub>8</sub>Cl<sub>2</sub> *m*-Xylylenedihexamethylenetetraminium dichloride (JACOBS and HEIDELBERGER) 1915, 20, 664
- o*-Xylylenedihexamethylenetetraminium dichloride (JACOBS and HEIDELBERGER) 1915, 20, 663
- C<sub>20</sub>H<sub>55</sub>O<sub>49</sub>P<sub>9</sub> Acid from wheat bran, barium and brucine salts (ANDERSON) 1912, 12, 457

C<sub>20</sub> IV

- C<sub>20</sub>H<sub>18</sub>O<sub>4</sub>N<sub>4</sub>S<sub>2</sub> Tyrosine disulfide hydantoin (JOHNSON and BRAUTLECHT) 1912, 12, 194
- C<sub>20</sub>H<sub>24</sub>ON<sub>5</sub>Cl Chloroacetyldiphenylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 105
- C<sub>20</sub>H<sub>24</sub>ON<sub>7</sub>Cl *p*-Chloroacetylaminoozobenzene and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 118
- C<sub>20</sub>H<sub>24</sub>O<sub>2</sub>N<sub>7</sub>Cl Benzeneazo-*m*-chloroacetylaminophenol and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 134
- C<sub>20</sub>H<sub>25</sub>ON<sub>4</sub>Cl *p*-Chloroacetylaminobenzeneazodipropylaniline (JACOBS and HEIDELBERGER) 1915, 21, 125
- C<sub>20</sub>H<sub>26</sub>O<sub>2</sub>N<sub>5</sub>Cl  $\beta$ -Methoxy- $\alpha$ -chloroacetylnaphthobenzylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 20, 690
- C<sub>20</sub>H<sub>33</sub>ON<sub>6</sub>Cl *p*-Chloroacetylaminodipropylaniline and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 116

C<sub>21</sub> GroupC<sub>21</sub> II

- C<sub>21</sub>H<sub>18</sub>O<sub>8</sub> Triacetyl baptisol (CLARK) 1915, 21, 654
- C<sub>21</sub>H<sub>27</sub>O<sub>20</sub> Algin (alginic acid) (HOAGLAND and LIEB) 1915, 23, 290

C<sub>21</sub> III

- C<sub>21</sub>H<sub>18</sub>O<sub>4</sub>N<sub>6</sub> Benzylglyoxal di-*p*-nitrophenylhydrazone (DAKIN and DUDLEY) 1914, 18, 43

- $C_{21}H_{21}O_6N$  Hydrastine, picrolonate (WARREN and WEISS) 1907, 3, 337
- $C_{21}H_{22}O_2N_2$  Strychnine, picrolonate (WARREN and WEISS) 1907, 3, 334
- $C_{21}H_{34}N_8Cl_2$  Mesityldihexamethylenetetraminium dichloride (JACOBS and HEIDELBERGER) 1915, 20, 664
- $C_{21}H_{39}O_4N$  Diacetyl sphingosine (LEVENE and JACOBS) 1912, 11, 551

 $C_{21}$  IV

- $C_{21}H_{18}ONCl$  Chloroacetyltriphenylmethylamine (JACOBS and HEIDELBERGER) 1915, 21, 473
- $C_{21}H_{23}O_5N_6Cl$  *o*-Chloroacetylaminophenyl *p*-nitrobenzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 132
- $C_{21}H_{24}O_3N_5Cl$  *o*-Chloroacetylaminophenyl benzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 131
- $C_{21}H_{25}O_3N_4Cl$  Chloroacetyl aminoethyl *p*-(azodiethylaniline)-benzoate (chloroacetyl aminoethyl ester of *p*-carboxybenzeneazo-*p'*-diethylaminobenzene) (JACOBS and HEIDELBERGER) 1915, 21, 413
- $C_{21}H_{26}O_3N_5Cl$   $\beta$ -Acetoxy- $\alpha$ -chloroacetylnaphthobenzylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 20, 689
- Chloroacetyl aminoethyl  $\beta$ -naphthoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 410
- $C_{21}H_{26}O_3N_5I$   $\beta$ -Acetoxy- $\alpha$ -iodoacetylnaphthobenzylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 20, 690
- $C_{21}H_{27}ON_6Cl$   $\beta$ -Chloroacetyl- $\alpha,\alpha$ -phenylbenzylhydrazine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 475
- $C_{21}H_{33}O_3N_6Cl$  Diethylaminoethyl *p*-chloroacetylaminobenzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 140

 $C_{22}$  Group

- $C_{22}H_{46}$  Docosane (LEVENE, WEST, and VAN DER SCHEER) 1915, 20, 528

 $C_{22}$  III

- $C_{22}H_{45}N_4I$  Cetylhexamethylenetetraminium iodide (JACOBS and HEIDELBERGER) 1915, 21, 466

C<sub>22</sub> IV

- C<sub>22</sub>H<sub>16</sub>ON<sub>3</sub>Cl  $\beta$ -Naphthaleneazochloroacetyl- $\beta$ -naphthylamine  
(JACOBS and HEIDELBERGER) 1915, 21, 119
- C<sub>22</sub>H<sub>23</sub>ON<sub>4</sub>Cl *p*-Diethylaminobenzeneazochloroacetyl- $\alpha$ -naphthylamine (JACOBS and HEIDELBERGER)  
1915, 21, 130
- C<sub>22</sub>H<sub>26</sub>O<sub>2</sub>N<sub>5</sub>Cl Chloroacetyl- $\omega$ -anilinoacetophenone and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 107
- C<sub>22</sub>H<sub>26</sub>O<sub>3</sub>N<sub>5</sub>Cl *o*-Chloroacetylaminobenzyl benzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 139
- C<sub>22</sub>H<sub>26</sub>O<sub>6</sub>NCl Dibenzalxylohexosaminic acid ester hydrochloride  
(LEVENE and LA FORGE) 1915, 21, 356
- C<sub>22</sub>H<sub>27</sub>O<sub>2</sub>N<sub>6</sub>Cl Chloroacetylphenylglycineanilide and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 106
- C<sub>22</sub>H<sub>25</sub>ON<sub>7</sub>Cl Chloroacetylaminoozotoluene and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 118
- C<sub>22</sub>H<sub>28</sub>O<sub>2</sub>N<sub>5</sub>Cl  $\alpha, \beta$ -Diphenylchloroacetylaminooethanol and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 434
- $\alpha, \beta$ -Isodiphenylchloroacetylaminooethanol and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 435
- C<sub>22</sub>H<sub>29</sub>ON<sub>7</sub>Cl *p*-Chloroacetylaminobenzeneazodimethylaniline and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 123
- C<sub>22</sub>H<sub>35</sub>O<sub>3</sub>N<sub>6</sub>Cl *m*-Chloroacetylaminomethylbenzoic acid diethylaminoethyl ester and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 20, 694
- C<sub>22</sub>H<sub>46</sub>O<sub>2</sub>NCl Palmityl- $\alpha$ -methylcholine chloride (palmityl- $\beta$ -methyl ethoxytrimethylammonium chloride) (MENGE)  
1912-13, 13, 108

C<sub>23</sub> GroupC<sub>23</sub> III

- C<sub>23</sub>H<sub>21</sub>O<sub>3</sub>N  $\alpha$ -Phenyl- $\alpha$ -benzoyloxy- $\beta$ -benzoylaminopropane  
(JACOBS and HEIDELBERGER) 1915, 21, 436
- C<sub>23</sub>H<sub>24</sub>ON<sub>4</sub> *p*-Acetaminobenzeneazoethylbenzylaniline (JACOBS and HEIDELBERGER)  
1915, 21, 126
- C<sub>23</sub>H<sub>26</sub>O<sub>1</sub>N<sub>2</sub> Brucine, picrolonate (WARREN and WEISS)  
1907, 3, 335
- C<sub>23</sub>H<sub>41</sub>O<sub>5</sub>N Triacetyl sphingosine (LEVENE and JACOBS)  
1912, 11, 551

C<sub>23</sub> IV

- C<sub>23</sub>H<sub>23</sub>ON<sub>4</sub>Cl *p*-Chloroacetylaminobenzeneazoethylbenzylani-  
line (JACOBS and HEIDELBERGER) 1915, 21, 126
- C<sub>23</sub>H<sub>27</sub>O<sub>5</sub>N<sub>6</sub>Cl Chloroacetylphenylaminoethyl *p*-nitrobenzoate  
and hexamethylenetetramine (JACOBS and HEIDEL-  
BERGER) 1915, 21, 419
- C<sub>23</sub>H<sub>28</sub>O<sub>2</sub>N<sub>5</sub>Br Bromoacetyl-*ω*-*o*-toluidinoacetophenone and hex-  
amethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 107
- C<sub>23</sub>H<sub>28</sub>O<sub>3</sub>N<sub>5</sub>Cl Chloroacetyl-*ω*-*o*-anisidinoacetophenone and hex-  
amethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 137
- C<sub>23</sub>H<sub>31</sub>ON<sub>6</sub>Cl *p*-Chloroacetylaminoethylbenzylaniline and hex-  
amethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 117

C<sub>24</sub> Group

- C<sub>24</sub>H<sub>50</sub> Isotetracosane from lignoceric acid (LEVENE and WEST)  
1913, 14, 265; 1914, 18, 480
- n*-Tetracosane (LEVENE and WEST) 1914, 18, 478

C<sub>24</sub> II

- C<sub>24</sub>H<sub>21</sub>N<sub>5</sub> *o*-Tolueneazo-*o*-tolueneazo-*β*-naphthylamine (JACOBS  
and HEIDELBERGER) 1915, 21, 120
- C<sub>24</sub>H<sub>48</sub>O<sub>2</sub> Carnaubic acid (DUNHAM) 1908, 4, 297
- Lignoceric acid (LEVENE and JACOBS) 1912, 12, 385
- (LEVENE and WEST) 1913, 14, 263
- (LEVENE) 1913, 15, 363
- Tetracosanic acid (LEVENE, WEST, ALLEN, and  
VAN DER SCHEER) 1915, 23, 75
- C<sub>24</sub>H<sub>49</sub>I Isotetracosyl iodide (LEVENE and WEST) 1914, 18, 480
- C<sub>24</sub>H<sub>50</sub>O Isotetracosyl alcohol (LEVENE and WEST)  
1914, 18, 479

C<sub>24</sub> III

- C<sub>24</sub>H<sub>26</sub>O<sub>4</sub>N<sub>6</sub> Glucuronic acid osazone hydrazide (LEVENE and  
LA FORGE) 1913, 15, 75; 1914, 18, 240

C<sub>24</sub> IV

- C<sub>24</sub>H<sub>15</sub>ON<sub>3</sub>Cl Benzeneazobenzeneazochloroacetyl-*β*-naphthyl-  
amine (JACOBS and HEIDELBERGER) 1915, 21, 119



- $C_{24}H_{33}ON_8Cl$  *p*-Chloroacetylaminobenzeneazodiethylaniline  
and hexamethylenetetramine (JACOBS and HEIDELBERGER)  
1915, 21, 124

**C<sub>25</sub> Group**

- $C_{25}H_{52}$  Pentacosane from cerebronic acid (LEVENE and JACOBS)  
1912, 12, 386  
(LEVENE and WEST) 1913, 14, 264

**C<sub>25</sub> II**

- $C_{25}H_{48}O_4$  Docosylmalonic acid (LEVENE, WEST, ALLEN, and  
VAN DER SCHEER) 1915, 23, 74  
 $C_{25}H_{50}O_3$  Cerebronic acid (LEVENE and JACOBS)  
1912, 12, 382  
(LEVENE and WEST) 1913, 14, 258

**C<sub>25</sub> IV**

- $C_{25}H_{28}ON_3Cl$  *p*-Chloroacetylaminoleucomalachite green (JA-  
COBS and HEIDELBERGER) 1915, 21, 141  
 $C_{25}H_{36}ON_7Cl$  Chloroacetylleucoauramine and hexamethylene-  
tetramine (JACOBS and HEIDELBERGER)  
1915, 21, 473  
 $C_{25}H_{55}O_{54}P_9Ba_5$  Barium salt of wheat bran acid (ANDERSON)  
1912, 12, 455

**C<sub>26</sub> Group**

- $C_{26}H_{54}$  Isohexacosane (cerane) (LEVENE, WEST, and VAN DER  
SCHEER) 1915, 20, 533  
Hexacosane (LEVENE, WEST, and VAN DER SCHEER)  
1915, 20, 529

**C<sub>26</sub> II**

- $C_{26}H_{52}O_2$  Ethyl carnaubate (DUNHAM) 1908, 4, 299  
Ethyl lignocerate (LEVENE) 1913, 15, 362  
(LEVENE and WEST) 1913, 15, 193  
Ethyl tetracosanate (LEVENE, WEST, ALLEN, and  
VAN DER SCHEER) 1915, 23, 75  
 $C_{26}H_{52}O_3$  Methyl cerebronate (LEVENE and WEST)  
1913, 14, 261

**C<sub>26</sub> IV**

- $C_{26}H_{22}ON_5Cl$  *o*-Tolueneazo-*o*-tolueneazoehloroacetyl- $\beta$ -naph-  
thylamine (JACOBS and HEIDELBERGER)  
1915, 21, 120

$C_{26}H_{37}ON_8Cl$  *p*-Chloroacetylaminobenzeneazodipropylaniline and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 125

### $C_{27}$ Group

#### $C_{27}$ II

$C_{27}H_{21}N_5$  *o*-Tolueneazo- $\alpha$ -naphthaleneazo- $\beta$ -naphthylamine (JACOBS and HEIDELBERGER) 1915, 21, 121

$C_{27}H_{52}O_4$  Acetylcerebronic acid (LEVENE and WEST) 1913, 14, 262

$C_{27}H_{54}O_3$  Ethyl cerebronate (LEVENE and WEST) 1913, 14, 260

#### $C_{27}$ IV

$C_{27}H_{30}ON_5Cl$  Chloroacetyltriphenylmethylamine and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 474

$C_{27}H_{37}O_3N_8Cl$  Chloroacetylaminoethyl *p*-(azodiethylaniline)-benzoate and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 413

### $C_{28}$ Group

$C_{28}H_{58}$  Octacosane (LEVENE, WEST, and VAN DER SCHEER) 1915, 20, 529

### $C_{29}$ Group

#### $C_{29}$ II

$C_{29}H_{56}O_4$  Acetate of ethyl cerebronate (LEVENE and WEST) 1913, 14, 261

Ethyl docosylmalonate (LEVENE, WEST, ALLEN, and VAN DER SCHEER) 1915, 23, 74

#### $C_{29}$ IV

$C_{29}H_{35}ON_8Cl$  *p*-Chloroacetylaminobenzeneazoethylbenzylaniline and hexamethylenetetramine (JACOBS and HEIDELBERGER) 1915, 21, 127

### $C_{30}$ Group

$C_{30}H_{62}$  Isotriacontane (melissane) (LEVENE, WEST, and VAN DER SCHEER) 1915, 20, 534

Triaccontane (LEVENE, WEST, and VAN DER SCHEER) 1915, 20, 530

**C<sub>30</sub> II**

<b>C<sub>30</sub>H<sub>54</sub>O<sub>6</sub></b>	Isomannid dilaurate (BLOOR)	1912, 11, 423
<b>C<sub>30</sub>H<sub>56</sub>O<sub>7</sub></b>	Mannite dilaurate (BLOOR)	1912, 11, 421

**C<sub>31</sub> Group****C<sub>31</sub> IV**

<b>C<sub>31</sub>H<sub>40</sub>ON<sub>7</sub>Cl</b>	<i>p</i> -Chloroacetylaminoleucomalachite green and hexamethylenetetramine (JACOBS and HEIDELBERGER)	1915, 21, 141
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**C<sub>32</sub> Group**

<b>C<sub>32</sub>H<sub>66</sub></b>	Dotriacontane (LEVENE, WEST, and VAN DER SCHEER)	1915, 20, 530
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**C<sub>32</sub> IV**

<b>C<sub>32</sub>H<sub>78</sub>O<sub>6</sub>N<sub>2</sub>S<sub>2</sub></b>	Thiotyrosine disulfide dibenzoate (JOHNSON and BRAUTLECHT)	1912, 12, 193
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**C<sub>34</sub> Group**

<b>C<sub>34</sub>H<sub>70</sub></b>	Tetratriacontane (LEVENE, WEST, and VAN DER SCHEER)	1915, 20, 531
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**C<sub>35</sub> Group****C<sub>35</sub> IV**

<b>C<sub>35</sub>H<sub>48</sub>ON<sub>7</sub>Cl</b>	<i>o</i> -Chloroacetyl-amino- <i>p'</i> , <i>p''</i> -tetraethyldiaminotriphenylmethane and hexamethylenetetramine (JACOBS and HEIDELBERGER)	1915, 21, 142
	<i>p</i> -Chloroacetyl-amino- <i>p'</i> , <i>p''</i> -tetraethyldiaminotriphenylmethane and hexamethylenetetramine (JACOBS and HEIDELBERGER)	1915, 21, 142

**C<sub>36</sub> Group**

<b>C<sub>36</sub>H<sub>74</sub></b>	Hexatriacontane (LEVENE, WEST, and VAN DER SCHEER)	1915, 20, 531
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**C<sub>36</sub> II**

<b>C<sub>36</sub>H<sub>24</sub>O<sub>8</sub></b>	Tribenzoylbaptisol (CLARK)	1915, 21, 655
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**C<sub>42</sub> Group****C<sub>42</sub> II**

<b>C<sub>42</sub>H<sub>78</sub>O<sub>6</sub></b>	Isomannid distearate (BLOOR)	1912, 11, 145
	Mannid distearate (BLOOR)	1909-10, 7, 427; 1912, 11, 143
<b>C<sub>42</sub>H<sub>80</sub>O<sub>7</sub></b>	Mannitan distearate (BLOOR)	1912, 11, 144

## SUGGESTIONS FOR THE PREPARATION OF MANUSCRIPTS.

### COPY.

All manuscripts should be copied with triple spacing and  $1\frac{1}{4}$  inch margins.

The original typewritten copy should be submitted for publication, not a carbon copy. It should be sent flat, not rolled or folded. All corrections on the manuscript should be clearly written in ink. Manuscripts should be consistent in style; a word should not be abbreviated in one line and written out a few lines below.

### TITLE.

The title should be written on a separate sheet. The author's name, the laboratory where the work was done, and the words, Received for publication, should be written on a separate sheet.

An abbreviated form of the title, not exceeding thirty-six letters in length, and the author's name and initials, to be used as running headlines, should be given, also on a separate sheet

### HEADINGS.

Major headings, such as INTRODUCTION, EXPERIMENTAL, DISCUSSION, SUMMARY, CONCLUSION, BIBLIOGRAPHY, EXPLANATION OF FIGURES, also TABLE in table headings, are printed in small capitals, and therefore should be underlined twice.

Minor headings, whether center or side, and descriptive matter in table headings, are printed in italics, and therefore underlined once in the manuscript. Capitalize the nouns, adjectives, pronouns, verbs, *Cc.*, *Gm.*, *per Cent*, etc.

Dates are not underlined, except when they occur in an italicized heading.

The form September 15, 1915, is preferred to IX-15-15.

## TEXT.

Begin every experiment, table, or quotation of over five lines on a new sheet. When the text is resumed start with another fresh sheet. This method brings the material of the entire manuscript in sequence, but permits, without mutilation of the manuscript, the separation in the Printer's office of tables, and all other small type, which are set up separately.

Number the sheets consecutively throughout. Mark in ink the place for each illustration.

## TABLES.

The form for table headings has already been given under "HEADINGS." Table column headings are written in small letters and followed by periods (see Table I).

Words like *gm.*, *cc.*, *per cent*,  $^{\circ}\text{C.}$ , etc., referring to an entire column in a table, are written in small letters at the top of the column, and underlined once.

In tables use ditto marks for words when possible, but not for figures.

TABLE I.

*Changes in the Blood of Rabbit 1 after Hemorrhage.*

Date.	Amount of blood re- moved.	Hemo- globin.	Red blood corpuscles.	Remarks.
<i>1915</i>	<i>cc.</i>	<i>per cent</i>		
Sept. 13	10	89	5,160,000	Weight 1,605 gm.
" 14	10	68	2,870,000	No nucleated red cells.
" 15	10	75	3,990,000	" " " "
" 16	10	58	3,070,000	" " " "

## FOOT-NOTES.

*Foot-Notes to Text.* Typewrite all foot-notes together at the end of the paper and number them consecutively from 1 up, to correspond with the reference numbers in the text.

Number all foot-note references consecutively throughout the paper; *i.e.*, if the foot-note references on the first page are 1, 2, 3, those on the second page should be 4, 5, 6, etc. Superior numerals (located as <sup>1</sup>, <sup>2</sup>, <sup>3</sup>) should be used in the text to indicate foot-notes.

Double spacing should be used in typewriting foot-notes.

*Foot-Notes to Tables.*—Foot-notes to tables are starred (\*, \*\*, †, ‡, etc.), not numbered, in order to distinguish them from foot-notes to text.

#### REFERENCES.

References are usually printed in the form of foot-notes, and as such are numbered and located with the other foot-notes. If a given article is referred to more than once, the foot-note is printed only with the first reference. The number of the foot-note is repeated at subsequent points in the text where the same article is referred to. Do not use *loc. cit.*

If the author prefers, the references may be printed in a bibliography at the end of the paper. In this case one of two systems is usually adopted: (a) The references in the bibliography are arranged and numbered in the order of their appearance in the text and independently of the foot-notes. (b) They are arranged alphabetically according to the names of the authors. In this case the text reference is the name of the author followed by the year of the publication referred to. If more than one article by the same author in a given year is referred to, the letters *a*, *b*, *c*, etc., may be used to differentiate them. This system is convenient because, among other reasons, of the ease with which new references can be inserted in the manuscript, and of the readiness with which a given reference can be located in the printed bibliography.

Text references to a bibliography are indicated by numbers in parentheses instead of the superior numbers used for foot-notes. Thus "Ehrlich<sup>1</sup>" indicates a foot-note; but "Ehrlich (1)" or "Ehrlich (1910, a)" or "(Ehrlich, 1910, a)" indicates a reference in the bibliography. Two separate series of numbers can thus be used in the same text to indicate respectively foot-notes and references in the bibliography.

The form for references is indicated by the following example,

the order of data being: author, initials, journal (underlined), year, volume (small Roman numerals), and page:

<sup>3</sup> Fischer, E., *Ber. chem. Ges.*, 1889, xxii, 87.

The abbreviations used by the *Journal* for the most commonly cited publications are listed below.

<i>Am. Chem. J.</i>	<i>Ergebn. allg. Path. u. path. Anat.</i>
<i>Am. J. Physiol.</i>	<i>Gazz. chim. ital.</i>
<i>Ann. Chem.</i>	<i>J. Agric. Research.</i>
<i>Ann. chim. phys.</i>	<i>J. Am. Chem. Soc.</i>
<i>Arch. exp. Path. u. Pharm.</i>	<i>J. Am. Med. Assn.</i>
<i>Arch. ges. Pathol.</i>	<i>J. Biol. Chem.</i>
<i>Arch. Int. Med.</i>	<i>J. Chem. Soc.</i>
[Arkansas] <i>Agric. Exp. Station, Bull.</i>	<i>J. Exp. Med.</i>
[5, 1915].	<i>J. Ind. and Eng. Chem.</i>
<i>Ber. chem. Ges.</i>	<i>J. Pharm. and Exp. Ther.</i>
<i>Berl. klin. Woch.</i>	<i>J. Physiol.</i>
<i>Biochem. J.</i>	<i>J. prakt. Chem.</i>
<i>Biochem. Z.</i>	<i>Monatschr. Chem.</i>
<i>Bull. Hyg. Lab., U. S. P. H.</i>	<i>Proc. Roy. Soc., Series B.</i>
<i>Bull. Soc. chim.</i>	<i>Proc. Soc. Exp. Biol. and Med.</i>
<i>Carnegie Institution of Washington,</i>	<i>Rec. trav. chim. Pays-Bas.</i>
<i>Publication No. [156, 1911].</i>	<i>U. S. Dept. Agric., Bureau of [Plant</i>
<i>Chem. Abstr.</i>	<i>Industry], Bull. [31, 1914].</i>
<i>Chem. Zentr.</i>	<i>Z. physik. Chem.</i>
<i>Compt. rend. Acad.</i>	<i>Z. physiol. Chem.</i>

In order to distinguish books from periodicals, titles of books are not underlined. The place of publication, the year, and the page should be given, and the edition when there is more than one.

References to books and journals should not be inserted in the text.

#### EXPLANATION OF FIGURES.

Typewrite explanations of the figures, whether for plates or text-figures, and number them to correspond with the figures to which they refer. The Bibliography precedes the Explanation of Figures.



FORMS AND ABBREVIATIONS.

Gram = gm.	a.m., p.m. (lower case).
Cubic centimeter = cc.	In both large and small type write 30 cc., 20 mg., 20 gm.
Centimeter = cm.	Always write 0.25; <i>i.e.</i> , with a zero before the decimal point.
Millimeter = mm.	
Milligram = mg.	
Kilogram = kilo or kg.	
per cent (without a period).	

Use the form 193–194.5°, placing the degree mark at the end only.

Use  $[\alpha]_D^{20}$  for specific rotation (for 20° and sodium light). The values for  $[\alpha]$  are best expressed in the following way:

$$[\alpha]_D^{25} = \frac{-0.25^\circ}{1} \times \frac{2.1662}{0.1505} = -3.58^\circ$$

For normal and molecular solutions the expressions 2.5 N and 0.5 M are preferred to 2½ N and  $\frac{M}{2}$ . In exceptional cases, however, as 3/16 M, the fractional form is more convenient.

Hydrated salts should be written as  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ .

Small numbers in the text are usually written out, large numbers expressed in numerals; thus seven, but 250.

In numbers of four figures or over use commas; as 1,000, 10,000.

SPELLING.

Words like hemorrhage, anesthetic, etc., are spelled with *e* (not *ae*).

Use *f* instead of *ph* for sulfur and sulfur derivatives.

Words serving as special names of definite objects, such as Experiment 8, Table I, Rabbit 1, are written with capital letters.

NOMENCLATURE.

The usage of the American Chemical Society is followed. The following rules cover most of the terms used in this *Journal*.

Hydroxyl derivatives of hydrocarbons are to be given names ending in *-ol*; as *glycerol*, *cholesterol*, *pinacol* (not *pinacone*). This applies also to alcohols of the sugar series, as *mannitol*, *heptitol*, etc.

Compounds which are not alcohols but have received names ending in *-ol* should be spelled *-ole*; as *anisole*, *indole*. (German hydrocarbon names, as *Benzol*, *Toluol*, etc., are to be written *benzene*, *toluene*, etc.)

Hydroxy- and not oxy- should be used in designating a hydroxyl compound; as *hydroxyacetic acid*,  $\text{CH}_2(\text{OH})\text{CO}_2\text{H}$ , (not *oxyacetic acid*).

As regards the endings *-in* and *-ine*, the latter should always be used for *basic* substances, and for them only; *-in* is used for glycerides, glucosides, bitter principles, proteins, etc.; thus *aniline*, *tyrosine*, *purine*, *morphine*; but *gelatin*, *palmitin*, *amygdalin*, *albumin*, *protein* (not *proteid*).

When a substituent is one of the groups  $\text{NH}_2$ ,  $\text{NHR}$ ,  $\text{NR}_2$ ,  $\text{NH}$ , or  $\text{NR}$ , its name should end in *-ino*; thus  $\text{NH}_2\text{CH}_2\text{CH}_2\text{CO}_2\text{H}$ ,  $\beta$ -*aminopropionic acid* (not *amidopropionic acid*);  $\text{C}_6\text{H}_5\text{NHCH}_2\text{CH}_2\text{CO}_2\text{H}$ ,  $\beta$ -*anilinopropionic acid*;  $\text{CH}_3\text{CH}_2\text{NH}_2\text{CO}_2\text{H}$ ,  $\alpha$ -*aminopropionic acid*.

The term *ether* must not be used for compounds which are properly called *esters*. Esters and metallic salts should be designated in the form, *diethyl phthalate*, *methyl hydrogen succinate*, *sodium propionate*, etc. (not as the *diethyl ester of phthalic acid*, the *monomethyl ester of succinic acid*, or the *sodium salt of propionic acid*).

Acid radicals, such as  $\text{C}_6\text{H}_5\text{C}'\text{O}$ , must have names ending in *-yl*, and their compounds with halogens, as  $\text{C}_6\text{H}_5\text{COCl}$ , are to be termed *chlorides*, *bromides*, etc. Thus, *benzoyl chloride* (not *chloride of benzoic acid* or *benzoic acid chloride*).

The connective *o* is to be used in such combining forms as *amino-*, *bromo-*, *chloro-*, *ciano-*, and *iodo-*; thus *bromobenzene*, *chloroacetic*, *nitroaniline*. A few exceptions to this rule are permitted on account of long established usage; as *acetamide*, *cyanamide*.

Substances containing the group  $\text{SO}_3\text{H}$  should, if possible, be called *sulfonic acids*; failing this, *sulfo compounds*; thus *phenylsulfonic acid*,  $\text{C}_6\text{H}_5\text{SO}_3\text{H}$ , and *sulfobenzoic acid*,  $\text{HO}_2\text{CC}_6\text{H}_4\text{SO}_3\text{H}$ .

Salts of organic bases with hydrochloric acid should be called *hydrochlorides* (not *hydrochlorates* or *chlorhydrates*).

Salts of chloroplatinic acid are called *chloroplatinates* (not *platinichlorides*), and the formulas should be written in the form

$(\text{CH}_3\text{NH}_2)_2\text{H}_2\text{PtCl}_6$ . Salts of thiocyanic acid,  $\text{HCNS}$ , should be called thiocyanates. Use sodium thiosulfate for  $\text{Na}_2\text{S}_2\text{O}_3$ .

The word hydroxide should be used for a compound with  $\text{OH}$ , and hydrate for a compound with  $\text{H}_2\text{O}$ ; thus, chlorine hydrate,  $\text{Cl}_2 \cdot 10\text{H}_2\text{O}$ ; barium hydroxide,  $\text{Ba}(\text{OH})_2$ .

Greek letters should be indicated by Gk. on the margin of the manuscript.

The following letters are italicized and should be underlined: *o*-, *m*-, *p*-, *d*-, and *l*-, for ortho, meta, para, dextro, and levo.

Use *dl*- (not *r*-) for racemic.

#### CHARTS.

*Ink*.—Charts should be drawn with black ink.<sup>1</sup> Blue-black ink and typewriting do not make good reproductions.

*Paper*.—Charts should be drawn on paper with a smooth surface. The cross-barred paper on page 593 is satisfactory for this purpose, as the blue lines do not reproduce. When it is desired to reproduce the finer lines, the blue lines may be inked in or the green-lined coordinate paper similar to the sample on page 595 may be used. The green lines reproduce in black.

*Reduction*.—Charts should be drawn large enough to stand a reduction of one-half or one-third. The amount of reduction must be taken into consideration when the chart is drawn, and the lines must be heavy enough, and the letters large enough to make clear reproductions when reduced. Letters and numbers should, when reduced, be not less than 2 mm. in height. The outside measurements for charts when reduced, including the legend, are 4 x 6½ inches. Authors must determine whether the chart is to be printed the long or the short way on the page.

*Margin*.—A margin of at least half an inch should be left around the chart.

The sample charts show the original size of the chart and the chart reduced to fit the page of the *Journal*.

#### DRAWINGS.

The above remarks concerning ink, paper, reduction, and margin apply also to drawings.

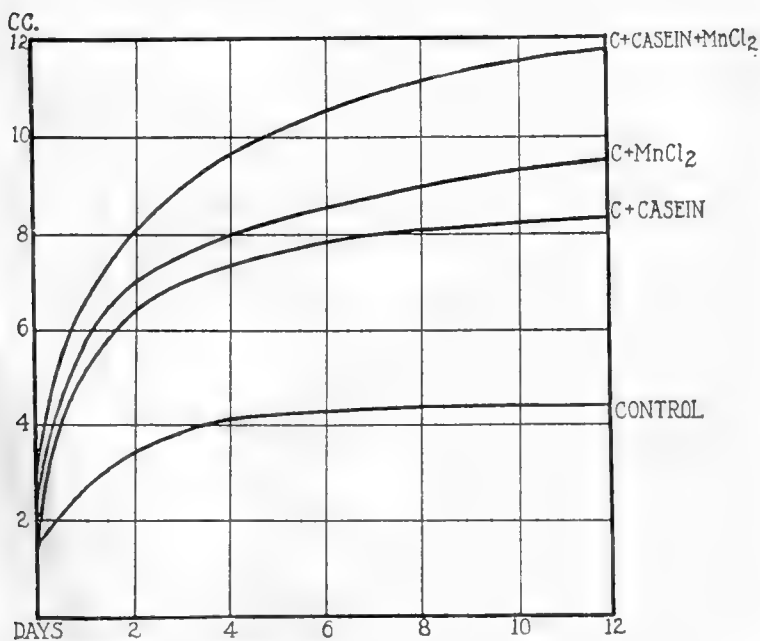
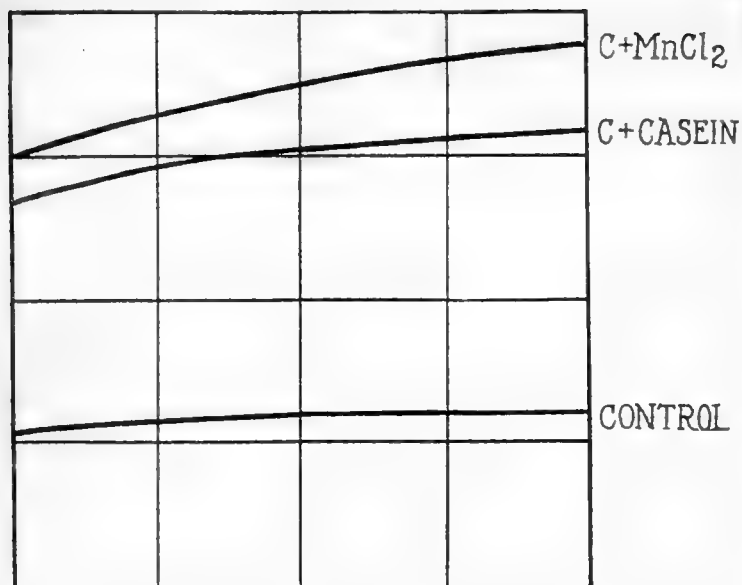
<sup>1</sup>Higgins' waterproof India ink.

## PHOTOGRAPHS.

Photographs should be carefully trimmed and mounted. If two or more are to appear on the same page they should be mounted together, and the size to which they are to be reduced must be considered.

Authors who have not the facilities for preparing photographs as described above should send them untrimmed and unmounted. The part to be reproduced should be marked either on the front or the back of the photograph, without scarring the surface. The top should always be indicated if there is a possibility of doubt as to which way the figure should be placed.

Figures should be numbered consecutively, in the order in which they are referred to in the text.



The lower chart shows the effect of reducing the upper chart to two-thirds of the original scale. The letters below are 2 mm. high.

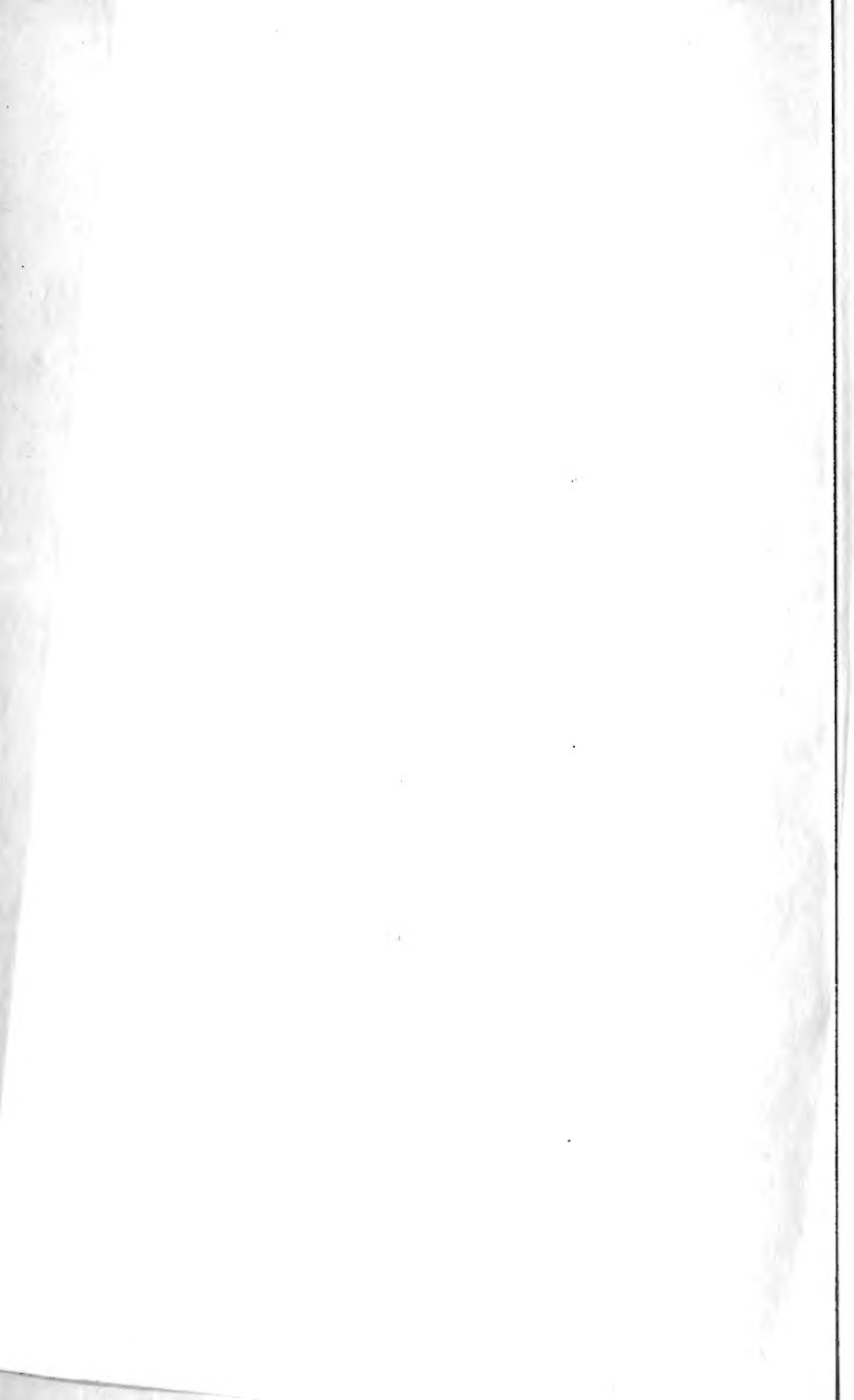












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