

# BRITISH CHEMICAL ABSTRACTS

## Foreword.

The "A" section of the abstracts, dealing with pure chemistry, will be issued to Fellows of the Chemical Society and other subscribers at the end of each month, whilst the "B" section, covering applied chemistry, will appear each week, and will be circulated along with the *Journal of the Society of Chemical Industry* to members of that Society and to special subscribers.

The price of the "A" and the "B" sections is £3 14s. each per annum, post free (including joint Index), but Fellows of the Chemical Society may obtain the "B" abstracts for £1 10s. 0d., whilst Members of the Society of Chemical Industry may obtain the "A" abstracts for £2 0s. 0d. [The yearly membership subscriptions are £3 0s. 0d. in the case of the Chemical Society and £2 10s. 0d. in the case of the Society of Chemical Industry.] Copies of "A" or "B" abstracts printed on one side of the paper, and suitable for filing purposes, may be obtained at reasonable charges.

The general basis of classification adopted in the two sections is printed below. For the guidance of readers of "A" abstracts, it should be pointed out that abstracts of analytical papers may be found not only at the end of each section as tabulated below, but sometimes also, when the analytical method described has a very specialised object, in the body of the section, according to the material with which the analytical method deals.

In order to facilitate reference to the "A" abstracts, the appropriate number and letter (I c, IV d, etc.), as shown in the accompanying statement, will be printed at the top of each page on which the respective abstracts appear.

It has been decided that, in future, when ml. or mil is used in original papers to denote the thousandth part of a litre, ml. shall be used in the abstracts; c.c. will be used only in abstracts of those papers where volumes are given as c.c. or some variant (ccm., cmc., etc.). The difference is very small (of the order of 3 parts in  $10^5$ ), but may be significant in very precise work.

### A.—PURE CHEMISTRY.

#### General, Physical, and Inorganic Chemistry.

##### I. Sub-atomics.

- (a) Atomic spectra. Infra-red, visible, ultra-violet, X-ray emission and absorption spectra, Zeeman and Stark effects, Compton effect.
- (b) Electrical properties: Ionisation potentials of atoms, photo-electric and thermionic effects.
- (c) Properties of electrons, positrons, and gaseous ions. Magnetic properties.
- (d) Isotopes—atomic weights.
- (e) Radioactive processes. Neutrons.
- (f) Other sub-atomic processes. Artificial radioactivity. Nuclear chemistry. Cosmic rays.
- (g) Theories of atomic structure and sub-atomic mechanism.
- (h) Atomic dimensions (except in solid state).

##### II. Molecular Structure.

- (a) Molecular spectra: Emission and absorption spectra of organic and inorganic substances. Fluorescence, luminescence, and phosphorescence. Raman effect.
- (b) Ionisation potentials. Photo-electric effect with compounds. Rectifiers.
- (c) Conductivity. Dielectric constants. Dipole moment.
- (d) Molecular volumes.
- (e) Optical properties: Molecular refraction, dispersion, rotatory dispersion, optical activity, magnetic rotation, Kerr effect.
- (f) Theories of molecular structure. Valency, secondary valency, including co-ordination, electronic and magnetic theories, constitutional formulæ of inorganic substances. Deuterium and its compounds.
- (g) Molecular sizes and forces. Surface tension.

##### III. Crystal Structure.

- (a) X-Ray examination.
- (b) Crystal models. X-Ray results for elements and compounds. Electron diffraction.
- (c) Magnetic and electrical properties of crystals: Piezo-electricity; magnetostriction.
- (d) Optical properties. Rotatory dispersion.
- (e) Compressibility. Tensile strength. Plasticity.
- (f) Mesomorphic state.

##### IV. Physical Properties of Pure Substances (not included above).

- (a) Molecular weights.
- (b) Electrical constants: Conductance, superconductivity, thermoelectric power, light-sensitivity, etc. Magnetic susceptibility. Sonic properties.
- (c) Optical constants.
- (d) Thermal constants: Specific heats, heat of change of state, boiling points, freezing points, transition points.
- (e) Chemical constants.
- (f) Pressures and volumes: Density, vapour pressure, coefficient of expansion, equations of state, theory of corresponding states. Heat-conductivity. Joule-Thomson effect.
- (g) Compressibility.
- (h) Viscosity; fluidity; plasticity.
- (i) Diffusion.

##### V. Solutions and Mixtures.

- (a) Gaseous mixtures, liquid mixtures (excluding dilute solutions), solid solutions (including alloys), property-composition curves.
- (b) Miscibility of liquids and of solids. Solubility of gases and solids in liquids.



- (c) Distribution phenomena: Partition, absorption, adsorption, surface films, surface energy, membrane effects.
- (d) Dilute solutions: (i) Non-electrolytic solutions; (ii) Solutions of electrolytes. Colligative properties; non-colligative properties.
- (e) Disperse systems. Preparation and properties of suspensions, emulsions, smokes, foams, sols, gels, jellies. Coagulation, peptisation, ageing, cataphoresis, imbibition, etc.
- VI. *Kinetic Theory. Thermodynamics.*
- (a) Equilibrium in homogeneous systems; equilibrium, dissociation, ionisation constants, activity coefficients, etc.
- (b) Equilibrium in heterogeneous systems; uni- and multi-component systems; phase rule.
- (c) Thermochemistry.
- VII. *Electrochemistry.*
- (a) Electrical conductance.
- (b) Transport phenomena.
- (c) Electrode and diffusion potentials; e.m.f., concentration cells, etc.
- (d) Polarisation, overvoltage, passivity, etc.
- (e) Application of electrochemical methods.
- VIII. *Reactions.*
- (a) Velocity studies in (i) Homogeneous systems; (ii) Heterogeneous systems.
- (b) Catalysed reactions: (i) and (ii) as above.
- (c) Electrode reactions.
- (d) Photochemical reactions.
- (e) Irradiated reactions.
- IX. *New or Improved Methods of Preparing Substances* (arranged according to periodic table) etc.
- X. *Analysis.*
- XI. *Apparatus.*
- XII. *Lecture Experiments and Historical.*

### XIII. Geochemistry.

#### Organic Chemistry.

#### XIV. Aliphatic.

- (a) Hydrocarbons and their halogen, nitro-, and nitroso-derivatives.
- (b) Alcohols. Ethers. Alkyl salts. Sulphur compounds, including sulphonic acids.
- (c) Acids. Thio- and sulfo-acids.
- (d) Aldehydes. Aldoximes.
- (e) Ketones and diketones. Ketoximes.
- (f) Sugars, glucosides, and carbohydrates.
- (g) Amines. Amino-alcohols. Amino-acids. Cyano-acids, thio-cyano-acids. Amino-aldehydes and -ketones.
- (h) Amides (including cyanic, cyanuric, and thiocyanic acids).
- (i) Nitriles, carbylamines, metallic cyanides.
- (j) Amidoximes, imino-ethers.
- (k) Diazo-compounds.

- (l) Phosphorus, arsenic, antimony, boron, silicon, etc. compounds.
- (m) Aliphatic organo-metallic compounds.

#### XV. Homocyclic.

- (a) Hydrocarbons  $C_nH_{2n}$  to  $C_nH_{2n-6}$ , and their halogen, nitroso-, and nitro-derivatives. Sulphonic acids.
- (b) Hydrocarbons  $C_nH_{2n-8}$  to  $C_nH_{2n-4}$  and derivatives.
- (c) Amines. Includes amides of aliphatic acids, carbamides, carbamates and sulphonic acids. Diamines and polyamines.
- (d) Azoxy-compounds.
- (e) Azo- "
- (f) Hydrazo- "
- (g) Diazo- "
- (h) Diazoamino- "
- (i) Phenols and their substitution products; phenol ethers; aminophenols; thiophenols; sulphides; sulphonic acids.
- (j) Alcohols; amino-alcohols; di- and tri-arylcarbinols and their derivatives; sterols.
- (k) Carboxylic acids; includes nitriles of the respective acids, amides and hydrazides; substitution products.
- (l) Aldehydes and their derivatives.
- (m) Ketones "
- (n) Quinones; benzoquinone, naphthaquinone, anthraquinone, and others; their substitution derivatives.
- (o) Terpenes.

#### XVI. Miscellaneous unclassifiable substances.

#### XVII. Heterocyclic etc.

- (a) Oxygen ring compounds.
- (b) Sulphur ring compounds.
- (c) Compounds containing both O and S rings.
- (d) Nitrogen ring compounds: one N.
- (e) " " " more than one N.
- (f) Rings containing O and N, S and N, etc.
- (g) Alkaloids.
- (h) Organo-metallic compounds.
- (i) Proteins.

#### XVIII. Analysis.

#### XIX. Biochemistry.

- (a) *Respiration* (other than tissue respiration).
- (b) *Blood*: Gases; constituents; reactions (hæmolysis, antibody formation, etc.).
- (c) *Organs and their Proximate Constituents*: Analytical data of constituents of organs; pure substances isolated from organs.
- (d) *Secretions*: Milk, lymph, etc.
- (e) *Excretions*; Urine; other excretions.
- (f) *Diseases*: Natural and experimental (in alphabetical order).
- (g) *Metabolism*: General; special (including tissue respiration); intermediary; fate of substances in the animal body.
- (h) *Physiological Action*: Variation of physiological conditions; action of drugs; toxicology.
- (i) *Enzymes*: General; specific.
- (j) *Micro-organisms*: Yeasts, moulds, protozoa, bacteria.
- (k) *Hormones*.
- (l) *Vitamins*.
- (m) *Vegetable Physiology*: General; reproduction and fertilisation; respiration; growth; diseases; poisons.
- (n) *Plant constituents*.
- (o) *Analysis*.

### B.—APPLIED CHEMISTRY.

- I. General; Plant; Machinery.
- II. Fuel; Gas; Mineral Oils.
- III. Organic Intermediates.
- IV. Dyestuffs.
- V. Fibres; Textiles; Cellulose; Paper.
- VI. Bleaching; Dyeing; Printing; Finishing.
- VII. Acids; Alkalis; Salts; Non-Metallic Elements.
- VIII. Glass; Ceramics.
- IX. Building Materials.
- X. Metals; Metallurgy, including Electrometallurgy.
- XI. Electrotechnics.
- XII. Fats; Oils; Waxes.

- XIII. Paints; Pigments; Varnishes; Resins.
- XIV. Indiarubber.
- XV. Leather and Glue.
- XVI. Agriculture.
- XVII. Sugars; Starches; Gums.
- XVIII. Fermentation Industries.
- XIX. Foods.
- XX. Medicinal Substances; Essential Oils.
- XXI. Photographic Materials and Processes.
- XXII. Explosives.
- XXIII. Sanitation; Water Purification.