Molecular Aspects
Contents of Volume 153, No. 3, 1976

FULL PAPERS

Proteins
Purification and some properties of nitrate reductase (EC 1.7.99.4) from Escherichia coli K12.
By R. A. Clegg 533

Identification of N-terminal methionine in the precursor of immunoglobulin light chain. Initiation of translation of messenger ribonucleic acid in plants and animals.
By I. Schechter & Y. Burstein 543

Characterization of the extracellular haemoglobin of Haemopsis sanguisuga (L.).
By E. J. Wood, L. J. Mosby & M. S. Robinson 589

4-NN-dimethylaminobenzene 4'-isothiocyanate, a new chromophoric reagent for protein sequence analysis.
By J. Y. Chang, E. H. Creaser & K. W. Bentley 607

Formation of monoferric ovotransferrins in the presence of chelates.
By J. W. Donovan, R. A. Beardslee & K. D. Ross 631

Chemical and physical properties of the human urinary glycoprotein with gastric antisecretory activity.
By G. Lugaro, P. Pasta, M. M. Casellato, G. Mazzola & G. Carrea 641

The whey proteins of the milk of red deer (Cervus elaphus L.). A homologue of bovine \( \beta \)-lactoglobulin.
By E. I. McDougall & J. C. Stewart 647

Electron transfer between soluble and immobilized mammalian cytochrome c. Equilibrium and kinetic studies on immobilized cytochrome c.
By A. Colosimo, M. Brunori & E. Antonini 657

Mass-spectrometric identification and sequence location of the ten residues of the new amino acid (\( \gamma \)-carboxyglutamic acid) in the N-terminal region of prothrombin.
By H. R. Morris, A. Dell, T. E. Petersen, L. Sottrup-Jensen & S. Magnusson 663

Acyl and amino intermediates in reactions catalysed by pig pepsin. Analysis of transpeptidation products.
By T.-T. Wang & T. Hofmann 691

Effects of secondary binding by activator and inhibitor peptides on covalent intermediates of pig pepsin.
By T.-T. Wang & T. Hofmann 701

The interaction between \( \beta \)-lactoglobulin and sodium \( n \)-dodecyl sulphate.
By M. N. Jones & A. Wilkinson 713

Nucleic Acids
The occurrence in amino acid sequences of extensive informational symmetries based on possible codon–codon complementarity in the encoding polynucleotides.
By G. M. Polya & D. R. Phillips 681

Lipids
A study of the physicochemical interactions between biliary lipids and chlorpromazine hydrochloride. Bile-salt precipitation as a mechanism of phenothiazine-induced bile secretory failure.
By M. C. Carey, P. C. Hirom & D. M. Small 519

Small Molecules
Isolation of S-adenosyl-3-thiopropylamine from the eye of the sea catfish (Arius felis).
By S. Ito & J. A. C. Nicol 567

Enzymology
Hydroxylation of p-coumaric acid by horseradish peroxidase. The role of superoxide and hydroxyl radicals.
By B. Halliwell & S. Ahluwalia 513

Metal-replacement studies in Bacillus stearothermophilus aldolase and a comparison of the mechanisms of class I and class II aldolases.

Identity of brain alcohol dehydrogenase with liver alcohol dehydrogenase.
By R. J. S. Duncan, J. E. Kline & L. Sokoloff 561

The anomalous kinetics of coupled aspartate aminotransferase and malate dehydrogenase. Evidence for compartmentation of oxaloacetate.
By C. F. A. Bryce, D. C. Williams, R. A. John & P. Fasella 571
Characterization of human liver α-D-mannosidase purified by affinity chromatography.
By N. C. Phillips, D. Robinson & B. G. Winchester
579

The purification and properties of the glutamine synthetase from the cytosol of soya-bean root nodules.
597

Inhibition of spinach phosphoribulokinase by Dl-glyceraldehyde.
By A. R. Slabas & D. A. Walker
613

Physical and catalytic properties of α-amylase from Tenebrio molitor L. larvae.
By V. Buonocore, E. Poerio, V. Silano & M. Tomasi
621

The unreliability of estimates of group dissociation constants.
By H. B. F. Dixon
627

RAPID PAPERS

Proteins
The effect of detergents on bovine adrenal ferredoxin.
By S. S. Mardanyan, N. A. Grigoryan & R. M. Nalbandyan
725

The prediction of the conformation of membrane proteins from the sequence of amino acids.
By N. M. Green & M. T. Flanagan
729

Enzymology
Chromatin-bound and free forms of poly-(adenylic acid) polymerase in rat hepatic nuclei.
By S. T. Jacob, F. J. Roe & K. M. Rose
733

Inactivation of cathepsin D by dithiophosgene and by 2,2-dichloro-1,3-dithiacyclobutanone.
By E. T. Rakitzis & T. B. Malliopoulou
737

Inhibition of glycolytic enzymes by 2-phospho-tartronate.
By M. K. Thomas & T. G. Spring
741

Enzymic formation of glycerol 1:2-cyclic phosphate.
By N. Clarke & R. M. C. Dawson
745

Isolation of the liver N-aspartyl-β-glucosaminidase in aspartylglucosaminuria.
By H. Savolainen
749

General Methods
Modified methods of dialysis.
By J. G. Feinberg
721

INDEXES

Author Index
751

Subject Index
755
The following papers appeared in the last issue of the Biochemical Journal

Cellular Aspects
Contents of Volume 154, No. 2, 1976

FULL PAPERS

Biosynthesis and Degradation
Biosynthesis of prostaglandins in rabbit kidney medulla. Properties of prostaglandin synthase.
By H.-H. Tai, C. L. Tai & C. S. Hollander 257

An unusual precursor of 50S ribosomes in a mutant of Escherichia coli.
By F. Markey & D. G. Wild 311

Regulation of enzyme turnover during tissue differentiation. Interactions of insulin, prolactin and cortisol in controlling the turnover of fatty acid synthetase in rabbit mammary gland in organ culture.
By B. K. Speake, R. Dils & R. J. Mayer 359

By J. A. Summerfield, B. H. Billing & C. H. L. Shackleton 507

Bioenergetics
The influence of adenine nucleotides and oxidizable substrates on triethyltin-mediated chloride uptake by rat liver mitochondria in potassium chloride media.
By D. N. Skilleter 271

A stopped-flow dual-wavelength spectrophotometer suitable for the study of respiratory chains.
By P. B. Garland, S. J. Littleford & B. A. Haddock 277

Kinetic characterization of the membrane-bound cytochromes of Escherichia coli grown under a variety of conditions by using a stopped-flow dual-wavelength spectrophotometer.
By B. A. Haddock, J. A. Downie & P. B. Garland 285

The structure and subunit composition of the particulate NADH-ubiquinone reductase of bovine heart mitochondria.
By C. I. Ragan 295

Interactions of some acceptors with superoxide anion radicals formed by the NADPH-specific flavoprotein in rat liver microsomal fractions.
By V. Mishin, A. Pokrovsky & V. V. Lyakhovich 307

Subcellular Structures
Preparation and properties of mitochondria derived from synaptosomes.
By J. C. K. Lai & J. B. Clark 423

Similarities in the polypeptide composition of glyoxysomal and endoplasmic-reticulum membranes from castor-bean endosperm.
By L. Bowden & J. M. Lord 491

The cellular origin of glyoxysomal proteins in germinating castor-bean endosperm.
By L. Bowden & J. M. Lord 501

Cellular Interactions and Control Processes
Effect of hyperphenylalaninaemia on lipid synthesis from ketone bodies by rat brain.
By M. S. Patel & O. E. Owen 319

Regulation of pyruvate dehydrogenase in rat heart. Mechanism of regulation of proportions of dephosphorylated and phosphorylated enzyme by oxidation of fatty acids and ketone bodies and of effects of diabetes: role of coenzyme A, acetyl-coenzyme A and reduced and oxidized nicotinamide-adenine dinucleotide.
By A. L. Kerbey, P. J. Randle, R. H. Cooper, S. Whitehouse, H. T. Pask & R. M. Denton 327

Insulin-like actions of nickel and other transition-metal ions in rat fat-cells.
By E. D. Saggerson, S. R. Sooranna & C. J. Evans 349

Protein kinase activity in rat testis interstitial tissue. Effect of luteinizing hormone and other factors.
By B. A. Cooke & A. J. W. C. M. van der Kemp 371

Nature of the facilitated messenger ribonucleic acid transport from isolated nuclei.
By A. Yannarell, D. E. Schumm & T. E. Webb 379

Poly(adenosine diphosphate ribose) polymerase activity and nicotinamide-adenine dinucleotide in differentiating cardiac muscle.
By W. C. Claycomb 387

(continued overleaf)
Deoxycytidine transport and pyrimidine deoxynucleotide metabolism in phytohaemagglutinin-stimulated pig lymphocytes.
   By S. D. Barlow 395

L-Lactate transport in Ehrlich ascites-tumour cells.
   By T. L. Spencer & A. L. Lehninger 405

The regulation of carbamoyl phosphate synthase activity in rat liver mitochondria.
   By J. D. McGivan, N. M. Bradford & J. Mendes-Mourão 415

Growth hormone and drug metabolism. Acute effects on microsomal mixed-function oxidase activities in rat liver.
   By J. T. Wilson & T. C. Spelsberg 433

Growth hormone and drug metabolism. Acute effects on nuclear ribonucleic acid polymerase activity and chromatin.
   By T. C. Spelsberg & J. T. Wilson 439

The regulatory principles of glycolysis in erythrocytes in vivo and in vitro. A minimal comprehensive model describing steady states, quasi-steady states and time-dependent processes.
   By T. A. Rapoport, R. Heinrich & S. M. Rapoport 449

Turnover as a control of ribonucleic acid accumulation in bacteria undergoing stepdown.
   By J. E. M. Midgley 541

Development

Accumulation and turnover of the classical Folch-Lees proteolipid proteins in developing and adult rat brain.
   By H. C. Agrawal, K. Fujimoto & R. M. Burton 265

A deoxyribonucleic acid-replication intermediate in the growing mosquito.
   By P. C. Kao, C. F. Beyer & C. A. Lang 471

The biosynthesis of deoxyribonucleic acid during the life-span of the mosquito.
   By B. J. Mills & C. A. Lang 481

The metabolism of high-molecular-weight ribonucleic acid, including polyadenylated species, in the developing rat brain.
   By W. Berthold & L. Lim 517

Nucleo-cytoplasmic relationships of high-molecular-weight ribonucleic acid, including polyadenylated species, in the developing rat brain.
   By W. Berthold & L. Lim 529

RAPID PAPERS

Cellular Interactions and Control Processes

The formation of alanine from amino acids in diaphragm muscle of the rat.
   By L. Goldstein & E. A. Newsholme 555

Development

Activity of 3-hydroxy-3-methylglutaryl-coenzyme A reductase in brains of adult and 7-day-old rats.
   By M. M. Sudjic & R. Booth 559
## Contents of Volume 153, No. 1

### INSTRUCTIONS TO AUTHORS

Policy of the Journal and Instructions to Authors

### NOMENCLATURE DOCUMENT


### FULL PAPERS

<table>
<thead>
<tr>
<th>Proteins</th>
<th>Enzymology</th>
</tr>
</thead>
<tbody>
<tr>
<td>The <em>N</em>-terminal amino acid sequence of plastocyanin from <em>Stellaria media</em> L. An exercise to establish criteria for the identification of residues from a sequenator. <em>By</em> B. G. Haslett &amp; D. Boulter</td>
<td>A phospholipid-deacylating system of bacteria active in a frozen medium. <em>By</em> G. P. Hazlewood &amp; R. M. C. Dawson</td>
</tr>
<tr>
<td>Isolation, properties and amino acid sequences of three neurotoxins from the venom of a sea snake, <em>Aipysurus laevis</em>. <em>By</em> N. Maeda &amp; N. Tamiya</td>
<td>The quantitative analysis of ligand binding and initial-rate data for allosteric and other complex enzyme mechanisms. <em>By</em> W. G. Bardsley</td>
</tr>
</tbody>
</table>

### Carbohydrates


### Enzymology

<table>
<thead>
<tr>
<th>Enzymology</th>
</tr>
</thead>
<tbody>
<tr>
<td>A phospholipid-deacylating system of bacteria active in a frozen medium. <em>By</em> G. P. Hazlewood &amp; R. M. C. Dawson</td>
</tr>
<tr>
<td>Substrate-binding ability of <em>Escherichia coli</em> ribonucleic acid polymerase in relation to its protein composition. <em>By</em> A. Rognes &amp; K. A. Abraham</td>
</tr>
<tr>
<td>The quantitative analysis of ligand binding and initial-rate data for allosteric and other complex enzyme mechanisms. <em>By</em> W. G. Bardsley</td>
</tr>
</tbody>
</table>

### Intermolecular Organization

Adsorption of glyceraldehyde 3-phosphate dehydrogenase on condensed monolayers of phospholipid. *By* M. S. Wooster & J. M. Wrigglesworth

### RAPID PAPERS

<table>
<thead>
<tr>
<th>Proteins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative determination of <em>N</em>-terminal amino acids of peptides and proteins with cobalt(III) chelates. <em>By</em> K. W. Bentley</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enzymology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion of pepsinogen into pepsin is not a one-step process. <em>By</em> C. W. Dykes &amp; J. Kay</td>
</tr>
</tbody>
</table>
Contents of Volume 153, No. 2

FULL PAPERS

Proteins

Yeast phosphoglycerate mutase. Cyanogen bromide cleavage and amino acid sequence of an active-site peptide.
By L. A. Fothergill & G. I. Hodgson 145

An investigation of protein conformation of cytochrome c by using cytochrome c insolubilized on to agarose gel.
By C. Greenwood & T. A. Moore 159

Chemical nature and sequence of alamethicin.
By D. R. Martin & R. J. P. Williams 181

Mobility of sodium dodecyl sulphate–protein complexes.
By A. K. Dunker & A. J. Kenyon 191

Chemistry of the collagen cross-links. Nature of the cross-links in the polymorphic forms of dermal collagen during development.
By A. J. Bailey & T. J. Sims 211

Preparation and activity of guanidinated or acetylated erabutoxins.
By H. Hori & N. Tamiya 217

A method for the direct demonstration of the lectin-binding components of the human erythrocyte membrane.
By M. J. A. Tanner & D. J. Anstee 265

The membrane change in En(a−) human erythrocytes. Absence of the major erythrocyte sialoglycoprotein.
By M. J. A. Tanner & D. J. Anstee 271

The relationship between biological activity and primary structure of troponin I from white skeletal muscle of the rabbit.
By H. Syska, J. M. Wilkinson, R. J. A. Grand & S. V. Perry 375

Purification and properties of a kininogenin from the venom of Vipera ammodytes ammodytes.
By G. S. Bailey & R. A. Shipoloni 409

The association of yeast phosphoglycerate kinase (EC 2.7.2.3).
By S. P. Spragg, J. K. Wilcox, J. J. Roche & W. A. Barnett 423

Nucleic Acids

The theory of the deoxyribonucleic acid–ribonucleic acid hybridization reaction.
By H. Thomou & N. A. Katsanos 241

The extraction and purification of a cysteine transfer ribonucleic acid from baker’s yeast.
By N. J. Holness & G. Atfield 429

The nucleotide sequence of cysteine transfer ribonucleic acid from baker’s yeast. Products of complete digestion with pancreatic ribonuclease and ribonuclease T1.
By N. J. Holness & G. Atfield 437

The nucleotide sequence of cysteine transfer ribonucleic acid from baker’s yeast. Identification of the products from partial degradation of the molecule and derivation of the complete sequence.
By N. J. Holness & G. Atfield 447

Lipids

Triterpenoid carotenoids and related lipids. Triterpenoid carotenoid aldehydes from Streptococcus faecium UNH 564P.
By R. F. Taylor & B. H. Davies 233

Carbohydrates

β-Amylase-resistant amylose. Effect of urea on the limited hydrolysis of amylose by β-amylase.
By N. B. Patil 339

Small Molecules

Equilibrium and kinetic studies of the aggregation of porphyrins in aqueous solution.
By S. B. Brown, M. Shilcock & P. Jones 279

Bile acids of snakes of the subfamily Viperinae and the biosynthesis of C-23-hydroxylated bile acids in liver homogenate fractions from the adder, Vipera berus (Linn.).
By S. Ikawa & A. R. Tammar 343

The structure of haem in pyridine/water mixtures and its implication in studies of haem catabolism.
By S. B. Brown & R. F. G. J. King 479
Enzymology

Kinetics of alkaline phosphatase from pig kidney. Influence of complexing agents on stability and activity. 
By B. P. Ackermann & J. Ahlers 151

Properties of the testicular lactate dehydrogenase isoenzyme. 
By A. Blanco, C. Burgos, N. M. Gerez de Burgos & E. E. Montamat 165

Factors affecting the activity of citrate synthase of Acetobacter xylinum and its possible regulatory role. 
By M. Swissa & M. Benziman 173

Bovine spleen cathepsin B1 and collagenolytic cathepsin. A comparative study of the properties of the two enzymes in the degradation of native collagen. 
By D. J. Etherington 199

γ-Glutamyltransferase of rat kidney. Simultaneous assay of the hydrolysis and transfer reactions with [glutamate-14C]glutathione. 
By J. S. Elce & B. Broxmeyer 223

A new subunit of horse liver alcohol dehydrogenase and subunit composition of the polymorphic form. 
By R. Pietruszko & C. N. Ryzewski 249

Studies by electron-paramagnetic-resonance spectroscopy on the mechanism of action of xanthine dehydrogenase from Veillonella alcalescens. 
By H. Dalton, D. J. Lowe, R. T. Pawlik & R. C. Bray 287

Studies by electron-paramagnetic-resonance spectroscopy and stopped-flow spectrophotometry on the mechanism of action of turkey liver xanthine dehydrogenase. 
By M. J. Barber, R. C. Bray, D. J. Lowe & M. P. Coughlan 297

Some properties of an alcohol dehydrogenase partially purified from baker’s yeast grown without added zinc. 
By C. J. Dickenson & F. M. Dickinson 309

Kinetic studies on glucoamylase of rabbit small intestine. 
By S. Sivakami & A. N. Radhakrishnan 321

Further evidence for an allosteric model for ribonuclease. 
By E. J. Walker, G. B. Ralston & I. G. Darvey 329

Studies on the use of Sepharose–N-(6-amino-hexanoyl)-2-amino-2-deoxy-p-glucopyranose for the large-scale purification of hepatic glucokinase. 

The purification in high yield and characterization of rat hepatic glucokinase. 

Isolation and some molecular parameters of elastase-like neutral proteinases from horse blood leucocytes. 
By A. Dubin, A. Koj & J. Chudzik 389

Substrate specificity and modification of the active centre of elastase-like neutral proteinases from horse blood leucocytes. 
By A. Koj, J. Chudzik & A. Dubin 397

A study of the supposed hydroxylation of tyrosine catalysed by peroxidase. 
By P. I. Smith & G. A. Swan 403

Purification and properties of arylsulphatase B of human liver. 
By S. I. O. Agogbua & C. H. Wynn 415

Estimation of the dissociation constants of enzyme–substrate complexes from steady-state measurements. Interpretation of pH-independence of Kₐ. 
By A. Cornish-Bowden 455

Purification and some properties of acetylcoenzyme A carboxylase from rabbit mammary gland. 
By R. Manning, R. Dils & R. J. Mayer 463

The heterogenenity of arginases in rat tissues. 
By A. Herzfeld & S. M. Raper 469

Intermolecular Organization

Interaction between proteoglycan subunit and type II collagen from bovine nasal cartilage, and the preferential binding of proteoglycan subunit to type I collagen. 
By V. Lee-Own & J. C. Anderson 259
### RAPID PAPERS

#### Proteins

- **α-1 Anti-trypsin, an inhibitor of renin.**
  
  *By S. Scharpé, M. Eid, W. Cooreman & A. Lauwers*  

- **Nucleic Acids**
  
  - Artifacts in the centrifugation of ribosomal and heterogeneous ribonucleic acid in '99%'-dimethyl sulphoxide' gradients.
    *By I. H. Maxwell*  

- **Enzymology**
  
  - Chiral recognition of prochiral centres and general acid-base catalysis. Necessarily interrelated manifestations of active-site structure.
    *By J. Südi*  

#### PAGE

<table>
<thead>
<tr>
<th>Title</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proteins</td>
<td></td>
</tr>
<tr>
<td>α-1 Anti-trypsin, an inhibitor of renin.</td>
<td>505</td>
</tr>
<tr>
<td>By S. Scharpé, M. Eid, W. Cooreman &amp; A. Lauwers</td>
<td></td>
</tr>
<tr>
<td>Nucleic Acids</td>
<td></td>
</tr>
<tr>
<td>Artifacts in the centrifugation of ribosomal and heterogeneous ribonucleic acid in '99%'-dimethyl sulphoxide' gradients.</td>
<td>509</td>
</tr>
<tr>
<td>By I. H. Maxwell</td>
<td></td>
</tr>
<tr>
<td>Enzymology</td>
<td></td>
</tr>
<tr>
<td>Chiral recognition of prochiral centres and general acid-base catalysis. Necessarily interrelated manifestations of active-site structure.</td>
<td>491</td>
</tr>
<tr>
<td>By J. Südi</td>
<td></td>
</tr>
</tbody>
</table>

### Contents of Volume 153, No. 3

#### FULL PAPERS

#### Proteins

- Purification and some properties of nitrate reductase (EC 1.7.99.4) from *Escherichia coli* K12.
  
  *By R. A. Clegg*  

- Identification of N-terminal methionine in the precursor of immunoglobulin light chain. Initiation of translation of messenger ribonucleic acid in plants and animals.
  
  *By I. Scheckter & Y. Burstein*  

- Characterization of the extracellular haemoglobin of *Haemopsis sanguisuga* (L.).
  
  *By E. J. Wood, L. J. Mosby & M. S. Robinson*  

- 4-NN-Dimethylaminoazobenzene 4'-isothiocyanate, a new chromophoric reagent for protein sequence analysis.
  
  *By J. Y. Chang, E. H. Creaser & K. W. Bentley*  

- Formation of monoferric ovotransferrins in the presence of chelates.
  
  *By J. W. Donovan, R. A. Beardslee & K. D. Ross*  

#### PAGE

<table>
<thead>
<tr>
<th>Title</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proteins</td>
<td></td>
</tr>
<tr>
<td>Purification and some properties of nitrate reductase (EC 1.7.99.4) from <em>Escherichia coli</em> K12.</td>
<td>533</td>
</tr>
<tr>
<td>By R. A. Clegg</td>
<td></td>
</tr>
<tr>
<td>Identification of N-terminal methionine in the precursor of immunoglobulin light chain. Initiation of translation of messenger ribonucleic acid in plants and animals.</td>
<td>543</td>
</tr>
<tr>
<td>By I. Scheckter &amp; Y. Burstein</td>
<td></td>
</tr>
<tr>
<td>Characterization of the extracellular haemoglobin of <em>Haemopsis sanguisuga</em> (L.).</td>
<td>589</td>
</tr>
<tr>
<td>By E. J. Wood, L. J. Mosby &amp; M. S. Robinson</td>
<td></td>
</tr>
<tr>
<td>4-NN-Dimethylaminoazobenzene 4'-isothiocyanate, a new chromophoric reagent for protein sequence analysis.</td>
<td>607</td>
</tr>
<tr>
<td>By J. Y. Chang, E. H. Creaser &amp; K. W. Bentley</td>
<td></td>
</tr>
<tr>
<td>Formation of monoferric ovotransferrins in the presence of chelates.</td>
<td>631</td>
</tr>
<tr>
<td>By J. W. Donovan, R. A. Beardslee &amp; K. D. Ross</td>
<td></td>
</tr>
</tbody>
</table>

#### Chemical and physical properties of the human urinary glycoprotein with gastric antisecretory activity.

*By G. Lugaro, P. Pasta, M. M. Casellato, G. Mazzolo & G. Carrea*  

#### The whey proteins of the milk of red deer (*Cerusus elaphus* L.). A homologue of bovine β-lactoglobulin.

*By E. I. McDougall & J. C. Stewart*  

#### Electron transfer between soluble and immobilized mammalian cytochrome c. Equilibrium and kinetic studies on immobilized cytochrome c.

*By A. Coloso, M. Brunori & E. Antonini*  

#### Mass-spectrometric identification and sequence location of the ten residues of the new amino acid (γ-carboxyglutamic acid) in the N-terminal region of prothrombin.

*By H. R. Morris, A. Dell, T. E. Petersen, L. Sotrup-Jensen & S. Magnusson*  

#### Acyl and amino intermediates in reactions catalysed by pig pepsin. Analysis of transpeptidation products.

*By T.-T. Wang & T. Hofmann*
CONTENTS

Effects of secondary binding by activator and inhibitor peptides on covalent intermediates of pig pepsin.
By T.-T. Wang & T. Hofmann 701

The interaction between β-lactoglobulin and sodium n-dodecyl sulphate.
By M. N. Jones & A. Wilkinson 713

Nucleic Acids
The occurrence in amino acid sequences of extensive informational symmetries based on possible codon-codon complementarity in the encoding polynucleotides.
By G. M. Polya & D. R. Phillips 681

Lipids
A study of the physicochemical interactions between biliary lipids and chlorpromazine hydrochloride. Bile-salt precipitation as a mechanism of phenothiazine-induced bile secretory failure.
By M. C. Carey, P. C. Hirom & D. M. Small 519

Small Molecules
Isolation of S-adenosyl-3-thiopropylamine from the eye of the sea catfish (Arius felis).
By S. Ito & J. A. C. Nicol 567

Enzymology
Hydroxylation of p-coumaric acid by horseradish peroxidase. The role of superoxide and hydroxyl radicals.
By B. Halliwell & S. Ahluwalia 513

Metal-replacement studies in Bacillus stearothermophillus aldolase and a comparison of the mechanisms of class I and class II aldolases.

Identity of brain alcohol dehydrogenase with liver alcohol dehydrogenase.
By R. J. S. Duncan, J. E. Kline & L. Sokoloff 561

The anomalous kinetics of coupled aspartate aminotransferase and malate dehydrogenase. Evidence for compartmentation of oxaloacetate.
By C. F. A. Bryce, D. C. Williams, R. A. John & P. Fasella 571

Characterization of human liver α-D-mannosidase purified by affinity chromatography.
By N. C. Phillips, D. Robinson & B. G. Winchester 579

The purification and properties of the glutamine synthetase from the cytosol of soya-bean root nodules.

Inhibition of spinach phosphoribulokinase by DL-glyceraldehyde.
By A. R. Slabas & D. A. Walker 613

Physical and catalytic properties of α-amylase from Tenebrio molitor L. larvae.
By V. Buonocore, E. Poerio, V. Silano & M. Tomasi 621

The unreliability of estimates of group dissociation constants.
By H. B. F. Dixon 627

RAPID PAPERS

Proteins
The effect of detergents on bovine adrenal ferredoxin.
By S. S. Mardanyan, N. A. Grigoryan & R. M. Nalbandyan 725

The prediction of the conformation of membrane proteins from the sequence of amino acids.
By N. M. Green & M. T. Flanagan 729

Enzymology
Chromatin-bound and free forms of poly(adenylic acid) polymerase in rat hepatic nuclei.
By S. T. Jacob, F. J. Roe & K. M. Rose 733

Inactivation of cathepsin D by dithiophosgene and by 2,2-dichloro-1,3-dithiacyclobutanone.
By E. T. Rakitzis & T. B. Malliopoulou 737
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhibition of glycolytic enzymes by 2-phosphotartronate.</td>
<td>741</td>
</tr>
<tr>
<td>By M. K. Thomas &amp; T. G. Spring</td>
<td></td>
</tr>
<tr>
<td>Enzymic formation of glycerol 1:2-cyclic phosphate.</td>
<td>745</td>
</tr>
<tr>
<td>By N. Clarke &amp; R. M. C. Dawson</td>
<td></td>
</tr>
<tr>
<td>Isolation of the liver N-aspartyl-β-glucosaminidase in aspartylglucosaminuria.</td>
<td>749</td>
</tr>
<tr>
<td>By H. Savolainen</td>
<td></td>
</tr>
<tr>
<td>General Methods</td>
<td></td>
</tr>
<tr>
<td>Modified methods of dialysis.</td>
<td>721</td>
</tr>
<tr>
<td>By J. G. Feinberg</td>
<td></td>
</tr>
</tbody>
</table>

**INDEXES**

<table>
<thead>
<tr>
<th>INDEXES</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author Index</td>
<td>751</td>
</tr>
<tr>
<td>Subject Index</td>
<td>755</td>
</tr>
</tbody>
</table>