



# Subject index

### 2-Acetamido-2-deoxy-3,6-di-O-acetylglucopyranose

Enzymatic regioselective deprotection of peracetylated monoand disaccharides 89

#### Acetic acid bacteria

Production of 5-keto-D-gluconate by acetic acid bacteria is catalyzed by pyrroloquinoline quinone (PQQ)-dependent membrane-bound D-gluconate dehydrogenase 341

#### Acetylcholinesterase

Probing the acyl binding site of acetylcholinesterase by protein engineering 287

#### Acid-inducible enzyme

Acidic condition-inducible polygalacturonase of *Aspergillus kawachii* 351

## Acid phosphatase

Covalent immobilization of acid phosphatase on amorphous  $AlPO_4$  support 473

## Acyloin condensations

Synthetic potential of thiamin diphosphate-dependent enzymes 145

#### Adenine arabinoside (ara-A)

Enzymatic preparation of nucleoside antibiotics 215

#### Aerobic oxidation

Selective oxidations with molecular oxygen, catalyzed by chloroperoxidase in the presence of a reductant 453

#### Agrobacterium

Production of L-carnitine from D-carnitine by dried cells of Agrobacterium sp. 525a 235

#### Alcoholysis

Modelling the alcoholysis reaction of  $\beta$ -galactosidase with butanol in reverse micelles 1

Lipase-catalyzed enantioselective deacetylation of *ortho*-substituted phenyl acetates with 1-butanol in organic solvents 447 Aldehyde reductase

# Purification and characterization of new aldehyde reductases from *Sporobolomyces salmonicolor* AKU4429 305

Purification and characterization of an aldehyde reductase from Candida magnoliae 333

#### Aldoxime

A new enzymatic method of nitrile synthesis by *Rhodococcus* sp. strain YH3-3 249

## Alkaline D-peptidase

Synthesis of D-phenylalanine oligopeptides catalyzed by alkaline D-peptidase from *Bacillus cereus* DF4-B 379

#### (S)-2-Alkanol

Production of chiral alcohols by enantioselective reduction with NADH-dependent phenylacetaldehyde reductase from *Corynebacterium* strain, ST-10 41

#### Alkoxycarbonylation

Lipase-catalysed alkoxycarbonylation of thymidine: influence of the carbonate on the regioselectivity of the process 407

#### Alkyl esters

Studies on synthesis of short chain alkyl esters catalyzed by goat pregastric lipase 411

#### Amidinohydrolase

Production of D-proline from L-arginine using *Pseudomonas* aeruginosa 359

## Amino acid

A D-specific hydantoin amidohydrolase: properties of the metalloenzyme purified from  $\it Arthrobacter\ crystallopoietes\ 387$ 

## D-Amino acid aminotransferase

Production of aromatic D-amino acids from  $\alpha$ -keto acids and ammonia by coupling of four enzyme reactions 241

#### Amino acid substitutions

Amino acid substitutions affecting protein solubility: high level expression of *Streptomyces clavuligerus* isopenicillin N synthase in *Escherichia coli* 133

## (S)-5-Amino-2-chloropentanoic acid

Production of D-proline from L-arginine using *Pseudomonas* aeruginosa 359

## (S)-5-[(Amino-iminomethyl) amino]-2-chloropentanoic acid

Production of D-proline from L-arginine using *Pseudomonas* aeruginosa 359

## Aminopeptidase

Glutathione metabolism in Escherichia coli 175

#### Amplification

Kinetic study of a substrate cycle involving a chemical step: highly amplified determination of phenolic compounds 429

#### Aqueous-acetonitrile mixtures

 $\alpha$ -Chymotrypsin stability in aqueous-acetonitrile mixtures: is the native enzyme thermodynamically or kinetically stable under low water conditions? 11

#### Aromatic p-amino acid

Production of aromatic D-amino acids from  $\alpha$ -keto acids and ammonia by coupling of four enzyme reactions 241

## Arthromyces ramosus

Fungal peroxidase: its structure, function, and application 185

#### Arvl alkyl sulfides

Stereoselective oxidation of sulfides by cloned naphthalene dioxygenase 59

## Aspergillus kawachii

Acidic condition-inducible polygalacturonase of Aspergillus kawachii 351

#### Asperilligus niger lipase

Enzymatic regioselective deprotection of peracetylated monoand disaccharides 89

## Aspergillus ochraceus

Microbial hydroxylation of 2-oxatestosterone 83

#### Asymmetric reduction

Purification and characterization of new aldehyde reductases from *Sporobolomyces salmonicolor* AKU4429 305

#### Axial chiral allene esters

On the kinetics of the enzyme-catalyzed hydrolysis of axial chiral alkyl allenecarboxylates: preparation of optically active R-(-)-2-ethyl-4-phenyl-2,3-hexadiene-carboxylic acid and its optically pure S-(+)-methylester 51

#### Bacillus megaterium

Microbial hydroxylation of 2-oxatestosterone 83

#### Benzovlformate decarboxvlase: 1-deoxvxvlulose 5-phosphate

Synthetic potential of thiamin diphosphate-dependent enzymes 145

#### Biocatalysis

On the kinetics of the enzyme-catalyzed hydrolysis of axial chiral alkyl allenecarboxylates: preparation of optically active R-(-)-2-ethyl-4-phenyl-2,3-hexadiene-carboxylic acid and its optically pure S-(+)-methylester 51

Microbial hydroxylation of 2-oxatestosterone 83

Biocatalysis using microemulsion-based polymer gels containing lipase 399

Kinetic characterization of chiral biocatalysis of cycloarenes by the camphor 5-monooxygenase enzyme system 533

## Bioconversion

Production of L-carnitine from D-carnitine by dried cells of *Agrobacterium* sp. 525a 235

Enzymatic dehydrogenation of cyclo(L-Phe-L-Leu) to a bioactive derivative, albonoursin 265

## Biomimetic coenzyme

The interactions of artificial coenzymes with alcohol dehydrogenase and other NAD(P)(H) dependent enzymes 111

## Biotechnology

Biotechnological application of cellular functions of the methylotrophic yeast 161

#### Biotransformation

Microbial hydroxylation of 2-oxatestosterone 83

Biotransformation of organic sulfides. Part. 10. Formation of chiral *ortho-* and *meta-*substituted benzyl methyl sulfoxides by biotransformation using *Helminthosporium* species NRRL 4671 463

## Butyl caproate

Studies on synthesis of short chain alkyl esters catalyzed by goat pregastric lipase 411

#### Camphor 5-monooxygenase

Kinetic characterization of chiral biocatalysis of cycloarenes by the camphor 5-monooxygenase enzyme system 533

#### Candida antarctica

Lipase-catalyzed solid-phase synthesis of sugar esters. Influence of immobilization on productivity and stability of the enzyme 279

#### Candida magnoliae

Purification and characterization of an aldehyde reductase from *Candida magnoliae* 333

#### N-Carbamyl-D-amino acid amidohydrolase

Immobilization of thermotolerant N-carbamyl-D-amino acid amidohydrolase 257

#### D-Carnitine

Production of L-carnitine from D-carnitine by dried cells of *Agrobacterium* sp. 525a 235

#### -Carnitine

Production of L-carnitine from D-carnitine by dried cells of *Agrobacterium* sp. 525a 235

#### Carnitine dehydrogenase

Production of L-carnitine from D-carnitine by dried cells of Agrobacterium sp. 525a 235

#### Catharanthus roseus

Glucosylation of benzyl alcohols by the cultured suspension cells of *Nicotiana tabacum* and *Catharanthus roseus* 67

#### Cationic surfactants

 $\alpha\text{-}Chymotrypsin}$  superactivity in aqueous solutions of cationic surfactants 99

## Celite R 640

Penicillin G amidase in low-water media: immobilisation and control of water activity by means of celite rods 437

#### Cellular functions

Biotechnological application of cellular functions of the methylotrophic yeast 161

## Cerrena unicolor

Immobilization of laccase from *Cerrena unicolor* on controlled porosity glass 29

#### Chiral alcohol

Production of chiral alcohols by enantioselective reduction with NADH-dependent phenylacetaldehyde reductase from *Corynebacterium* strain, ST-10 41

## Chiral discrimination

Glucosylation of benzyl alcohols by the cultured suspension cells of *Nicotiana tabacum* and *Catharanthus roseus* 67

## Chloroperoxidase

Selective oxidations with molecular oxygen, catalyzed by chloroperoxidase in the presence of a reductant 453

## $\alpha\text{-Chymotrypsin}$

 $\alpha\text{-Chymotrypsin}$  stability in aqueous-acetonitrile mixtures: is the native enzyme thermodynamically or kinetically stable under low water conditions? 11

 $\alpha\text{-}Chymotrypsin}$  superactivity in aqueous solutions of cationic surfactants 99

## Cloning

Cloning and expression of (R)-hydroxynitrile lyase from Linum usitatissimum (flax) 315

#### Coenzyme analogue

The interactions of artificial coenzymes with alcohol dehydrogenase and other NAD(P)(H) dependent enzymes 111

#### Coenzyme binding

The interactions of artificial coenzymes with alcohol dehydrogenase and other NAD(P)(H) dependent enzymes 111

#### Condensation

Lipase-catalyzed condensation of erythritol and medium-chain fatty acids in acetonitrile with low water content 21

## Controlled porosity glass

Immobilization of laccase from *Cerrena unicolor* on controlled porosity glass 29

#### Control of water activity

Penicillin G amidase in low-water media: immobilisation and control of water activity by means of celite rods 437

#### Coprinus cinereus

Fungal peroxidase: its structure, function, and application 185 *Corvnebacterium* sp.

Production of chiral alcohols by enantioselective reduction with NADH-dependent phenylacetaldehyde reductase from *Corynebacterium* strain, ST-10 41

#### Counterion

The effect of counterion, water concentration, and stirring on the stability of subtilisin BPN' in organic solvents 297

#### Covalent immobilization

Covalent immobilization of acid phosphatase on amorphous  $AIPO_4$  support 473

#### Cultured cells

Glucosylation of benzyl alcohols by the cultured suspension cells of *Nicotiana tabacum* and *Catharanthus roseus* 67

#### Curvularia lunata

Microbial hydroxylation of 2-oxatestosterone 83

#### Cyclic amidase

A D-specific hydantoin amidohydrolase: properties of the metalloenzyme purified from *Arthrobacter crystallopoietes* 387

Cyclic dipeptide
Enzymatic dehydrogenation of cyclo(L-Phe-L-Leu) to a bioactive derivative, albonoursin 265

#### Cysteinylglycinase

Glutathione metabolism in Escherichia coli 175

## Cytochrome P-450<sub>cam</sub> hydroxylase

Kinetic characterization of chiral biocatalysis of cycloarenes by the camphor 5-monooxygenase enzyme system 533

#### Deacetylation

Lipase-catalyzed enantioselective deacetylation of *ortho*-substituted phenyl acetates with 1-butanol in organic solvents 447 Decalin

Kinetic characterization of chiral biocatalysis of cycloarenes by the camphor 5-monooxygenase enzyme system 533

#### Dehydrodiketopiprazines

Enzymatic dehydrogenation of cyclo(L-Phe-L-Leu) to a bioactive derivative, albonoursin 265

#### Dehydrogenase

The interactions of artificial coenzymes with alcohol dehydrogenase and other NAD(P)(H) dependent enzymes 111

Cloning and expression of (R)-hydroxynitrile lyase from Linum usitatissimum (flax) 315

## Diacylglycerols

Phospholipids hydrolysis in organic solvents catalysed by immobilised phospholipase C 125

#### Dichlorprop

Stereospecific degradation of the phenoxypropionate herbicide dichlorprop 421

## Dideoxvinosine (ddI)

Enzymatic preparation of nucleoside antibiotics 215

#### Dihydropyrimidinase

A D-specific hydantoin amidohydrolase: properties of the metalloenzyme purified from *Arthrobacter crystallopoietes* 387 Dioxopiperazine

Enzymatic dehydrogenation of cyclo(L-Phe-L-Leu) to a bioactive derivative, albonoursin 265

Disaccharide 1-hydroxy-hepta- and 1,2-dihydroxy-hexa-acetates Enzymatic regioselective deprotection of peracetylated monoand disaccharides 89

#### Disaccharide octaacetates

Enzymatic regioselective deprotection of peracetylated monoand disaccharides 89

#### Dye-transfer inhibition

Fungal peroxidase: its structure, function, and application 185

#### Enantioselective

Epoxide hydrolases from yeasts and other sources: versatile tools in biocatalysis 199

Lipase-catalyzed enantioselective deacetylation of *ortho*-substituted phenyl acetates with 1-butanol in organic solvents 447

#### Enzymatic glycosylation

Glycosidases—a great synthetic tool 483

## Enzymatic reduction

Production of chiral alcohols by enantioselective reduction with NADH-dependent phenylacetaldehyde reductase from *Corynebacterium* strain, ST-10 41

#### Enzymatic synthesis

A new enzymatic method of nitrile synthesis by *Rhodococcus* sp. strain YH3-3 249

Enzymatic synthesis of [7-<sup>14</sup>C, 7-<sup>3</sup>H]- and [1-<sup>13</sup>C]sedoheptulose 7-phosphate and [1-<sup>13</sup>C]*ido*-heptulose 7-phosphate 369 Studies on synthesis of short chain alkyl esters catalyzed by goat pregastric lipase 411

#### Enzymatic system

Trehalose production with a new enzymatic system from Sulfolobus solfataricus KM1 223

## Enzyme denaturation/renaturation

 $\alpha$ -Chymotrypsin stability in aqueous-acetonitrile mixtures: is the native enzyme thermodynamically or kinetically stable under low water conditions? 11

## Enzyme immobilisation

Phospholipids hydrolysis in organic solvents catalysed by immobilised phospholipase C 125

#### Enzyme kinetics

Kinetic study of a substrate cycle involving a chemical step: highly amplified determination of phenolic compounds 429

## Enzymes

Lipase-catalysed alkoxycarbonylation of thymidine: influence of the carbonate on the regioselectivity of the process 407

### Epoxide hydrolase characteristics

Epoxide hydrolases from yeasts and other sources: versatile tools in biocatalysis 199

#### Erythritol

Lipase-catalyzed condensation of erythritol and medium-chain fatty acids in acetonitrile with low water content 21

#### Erythritol-fatty acid ester

Lipase-catalyzed condensation of erythritol and medium-chain fatty acids in acetonitrile with low water content 21

#### Escherichia coli

Glutathione metabolism in Escherichia coli 175

#### Esterification

Biocatalysis using microemulsion-based polymer gels containing lipase 399

#### Expression

Cloning and expression of (R)-hydroxynitrile lyase from Linum usitatissimum (flax) 315

#### Folding

Amino acid substitutions affecting protein solubility: high level expression of *Streptomyces clavuligerus* isopenicillin N synthase in *Escherichia coli* 133

#### Frozen aqueous system

Enzyme-catalyzed preparative peptide synthesis in frozen aqueous systems 95

#### **B**-Galactosidase

Modelling the alcoholysis reaction of  $\beta$ -galactosidase with butanol in reverse micelles 1

### Gluconobacter suboxydans

Production of 5-keto-D-gluconate by acetic acid bacteria is catalyzed by pyrroloquinoline quinone (PQQ)-dependent membrane-bound D-gluconate dehydrogenase 341

## Glucosylation

Glucosylation of benzyl alcohols by the cultured suspension cells of *Nicotiana tabacum* and *Catharanthus roseus* 67

#### Glutamate racemase

Production of aromatic D-amino acids from  $\alpha$ -keto acids and ammonia by coupling of four enzyme reactions 241

#### γ-Glutamyltranspeptidase

Glutathione metabolism in Escherichia coli 175

#### Glutathione

Glutathione metabolism in Escherichia coli 175

## Glycosidase

Glycosidases—a great synthetic tool 483

Glycosidase-catalysed synthesis of alkyl glycosides 511

#### Goat

Studies on synthesis of short chain alkyl esters catalyzed by goat pregastric lipase 411

## Helminthosporium

Biotransformation of organic sulfides. Part. 10. Formation of chiral *ortho-* and *meta-*substituted benzyl methyl sulfoxides by biotransformation using *Helminthosporium* species NRRL 4671 463

## ido-Heptulose 7-phosphate

Enzymatic synthesis of [7-<sup>14</sup>C, 7-<sup>3</sup>H]- and [1-<sup>13</sup>C]sedoheptulose 7-phosphate and [1-<sup>13</sup>C]*ido*-heptulose 7-phosphate 369

#### Herbicide

Stereospecific degradation of the phenoxypropionate herbicide dichlorprop 421

#### His-tag

Cloning and expression of (R)-hydroxynitrile lyase from Linum usitatissimum (flax) 315

## Horse liver alcohol dehydrogenase

The interactions of artificial coenzymes with alcohol dehydrogenase and other NAD(P)(H) dependent enzymes 111

#### Hydantoin

A D-specific hydantoin amidohydrolase: properties of the metalloenzyme purified from  $\it Arthrobacter\ crystallopoietes\ 387$ 

### Hydantoinase

A D-specific hydantoin amidohydrolase: properties of the metalloenzyme purified from *Arthrobacter crystallopoietes* 387 Hydroxyl radicals

Selective oxidations with molecular oxygen, catalyzed by chloroperoxidase in the presence of a reductant 453

#### Hydroxybenzyl alcohol

Glucosylation of benzyl alcohols by the cultured suspension cells of *Nicotiana tabacum* and *Catharanthus roseus* 67

#### α-Hydroxyketones

Synthetic potential of thiamin diphosphate-dependent enzymes 145

## Hydroxylation

Microbial hydroxylation of 2-oxatestosterone 83

## Hydroxynitrile lyase

Cloning and expression of (R)-hydroxynitrile lyase from Linum usitatissimum (flax) 315

#### Hydroxypyruvate

Enzymatic synthesis of [7-<sup>14</sup>C, 7-<sup>3</sup>H]- and [1-<sup>13</sup>C]sedoheptulose 7-phosphate and [1-<sup>13</sup>C]*ido*-heptulose 7-phosphate 369

#### Immobilization

On the kinetics of the enzyme-catalyzed hydrolysis of axial chiral alkyl allenecarboxylates: preparation of optically active R-(-)-2-ethyl-4-phenyl-2,3-hexadiene-carboxylic acid and its optically pure S-(+)-methylester 51

Immobilization of thermotolerant *N*-carbamyl-D-amino acid amidohydrolase 257

Polyaniline as a support for urease immobilization 549

#### Immobilized acid phosphatase

Covalent immobilization of acid phosphatase on amorphous  $AlPO_4$  support 473

## Immobilized enzyme

Covalent immobilization of acid phosphatase on amorphous AlPO<sub>4</sub> support 473

### Inclusion bodies

Cloning and expression of (R)-hydroxynitrile lyase from Linum usitatissimum (flax) 315

## Inhibition

The effect of phosphate buffer in the range of pH 5.80-8.07 on jack bean urease activity 75

## Inhibitors

Probing the acyl binding site of acetylcholinesterase by protein engineering 287

## $\alpha$ -Keto acid

Production of aromatic p-amino acids from  $\alpha$ -keto acids and ammonia by coupling of four enzyme reactions 241

## 5-Keto-D-gluconate

Production of 5-keto-D-gluconate by acetic acid bacteria is catalyzed by pyrroloquinoline quinone (PQQ)-dependent membrane-bound D-gluconate dehydrogenase 341

#### α-Ketoglutarate

Stereospecific degradation of the phenoxypropionate herbicide dichlorprop 421

#### Kinetic resolution

On the kinetics of the enzyme-catalyzed hydrolysis of axial chiral alkyl allenecarboxylates: preparation of optically active R-(-)-2-ethyl-4-phenyl-2,3-hexadiene-carboxylic acid and its optically pure S-(+)-methylester 51

#### Kinetic stability

 $\alpha$ -Chymotrypsin stability in aqueous-acetonitrile mixtures: is the native enzyme thermodynamically or kinetically stable under low water conditions? 11

## Labeled compounds

Enzymatic synthesis of [7-14C, 7-3H]- and [1-13C]sedoheptulose 7-phosphate and [1-13C]ido-heptulose 7-phosphate 369

Immobilization of laccase from Cerrena unicolor on controlled porosity glass 29

#### Linum usitatissimum

Cloning and expression of (R)-hydroxynitrile lyase from Linum usitatissimum (flax) 315

#### Lipase

Lipase-catalyzed condensation of erythritol and medium-chain fatty acids in acetonitrile with low water content 21

Lipase-catalyzed solid-phase synthesis of sugar esters. Influence of immobilization on productivity and stability of the enzyme 279

Biocatalysis using microemulsion-based polymer gels containing lipase 399

Lipase-catalyzed enantioselective deacetylation of ortho-substituted phenyl acetates with 1-butanol in organic solvents 447 High yield and optical purity in biocatalysed acylation of trans-2-phenyl-1-cyclohexanol with Candida rugosa lipase in non-conventional media 495

#### Mechanism

Lipase-catalysed alkoxycarbonylation of thymidine: influence of the carbonate on the regioselectivity of the process 407

## Methylotrophic yeast

Biotechnological application of cellular functions of the methylotrophic yeast 161

## Micellar aggregates

α-Chymotrypsin superactivity in aqueous solutions of cationic surfactants 99

#### Michaelis-Menten kinetics

Kinetic characterization of chiral biocatalysis of cycloarenes by the camphor 5-monooxygenase enzyme system 533

#### Microemulsion

Biocatalysis using microemulsion-based polymer gels containing lipase 399

## Modelling

Modelling the alcoholysis reaction of  $\beta$ -galactosidase with butanol in reverse micelles 1

### Morganella morganii

A new enzymatic method of selective phosphorylation of nucleosides 271

## Multi-enzyme system

Production of aromatic D-amino acids from  $\alpha$ -keto acids and ammonia by coupling of four enzyme reactions 241

Probing the acyl binding site of acetylcholinesterase by protein engineering 287

#### NAD(P)(H)

The interactions of artificial coenzymes with alcohol dehydrogenase and other NAD(P)(H) dependent enzymes 111

#### Nanostructure

An ESR and PGSE-NMR evaluation of the molecular accessibility of poly(vinyl alcohol) hydrogels 505

#### Naphthalene

Kinetic characterization of chiral biocatalysis of cycloarenes by the camphor 5-monooxygenase enzyme system 533

## Naphthalene dioxygenase

Stereoselective oxidation of sulfides by cloned naphthalene dioxygenase 59

#### Nicotiana tahacum

Glucosvlation of benzyl alcohols by the cultured suspension cells of Nicotiana tabacum and Catharanthus roseus 67

Large-scale preparation of a nitrile-hydrolysing biocatalyst: Rhodococcus R 312 (CBS 717.73) 555

### Nitrile

A new enzymatic method of nitrile synthesis by Rhodococcus sp. strain YH3-3 249

#### Nitrile hydratase

Large-scale preparation of a nitrile-hydrolysing biocatalyst: Rhodococcus R 312 (CBS 717.73) 555

### Nitrile hydrolysis

Large-scale preparation of a nitrile-hydrolysing biocatalyst: Rhodococcus R 312 (CBS 717.73) 555

#### Non-natural substrates

Glycosidase-catalysed synthesis of alkyl glycosides 511 NRRL 4671

Biotransformation of organic sulfides, Part. 10, Formation of chiral ortho- and meta-substituted benzyl methyl sulfoxides by biotransformation using Helminthosporium species NRRL 4671 463

## Nucleoside

A new enzymatic method of selective phosphorylation of nucleosides 271

### Nucleoside phosphorylase

Enzymatic preparation of nucleoside antibiotics 215

## Nucleoside transformation

Enzymatic preparation of nucleoside antibiotics 215 5'-Nucleotide

A new enzymatic method of selective phosphorylation of nucleosides 271

## Oligosaccharide synthesis

Glycosidases—a great synthetic tool 483

## Organic media

High yield and optical purity in biocatalysed acylation of trans-2-phenyl-1-cyclohexanol with Candida rugosa lipase in non-conventional media 495

#### Organic solvent

 $\alpha$ -Chymotrypsin stability in aqueous-acetonitrile mixtures: is the native enzyme thermodynamically or kinetically stable under low water conditions? 11

Immobilization of laccase from Cerrena unicolor on controlled porosity glass 29

Phospholipids hydrolysis in organic solvents catalysed by immobilised phospholipase C 125

Lipase-catalysed alkoxycarbonylation of thymidine: influence of the carbonate on the regioselectivity of the process 407

Penicillin G amidase in low-water media: immobilisation and control of water activity by means of celite rods 437

#### Oxasteroid

Microbial hydroxylation of 2-oxatestosterone 83

#### Oxidative fermentation

Production of 5-keto-p-gluconate by acetic acid bacteria is catalyzed by pyrroloquinoline quinone (PQQ)-dependent membrane-bound p-gluconate dehydrogenase 341

#### Oxime dehydratase

A new enzymatic method of nitrile synthesis by *Rhodococcus* sp. strain YH3-3 249

#### Oxvnitrilase

Cloning and expression of (*R*)-hydroxynitrile lyase from *Linum usitatissimum* (flax) 315

#### Penicillin amidase

Penicillin G amidase in low-water media: immobilisation and control of water activity by means of celite rods 437

#### N-Pentose transfer

Enzymatic preparation of nucleoside antibiotics 215

#### Peptidase B

Glutathione metabolism in Escherichia coli 175

#### Peptide

Synthesis of D-phenylalanine oligopeptides catalyzed by alkaline D-peptidase from *Bacillus cereus* DF4-B 379

#### Peroxidase

Fungal peroxidase: its structure, function, and application 185 Phenolics

Kinetic study of a substrate cycle involving a chemical step: highly amplified determination of phenolic compounds 429 Phenols

Lipase-catalyzed enantioselective deacetylation of *ortho*-substituted phenyl acetates with 1-butanol in organic solvents 447 Phenylacetaldehyde reductase (NADH)

Production of chiral alcohols by enantioselective reduction with NADH-dependent phenylacetaldehyde reductase from *Corynebacterium* strain, ST-10 41

#### Phenylacetyl carbinol

Synthetic potential of thiamin diphosphate-dependent enzymes 145

## D-Phenylalanine

Synthesis of D-phenylalanine oligopeptides catalyzed by alkaline D-peptidase from *Bacillus cereus* DF4-B 379

## trans-2-Phenyl-1-cyclohexanol

High yield and optical purity in biocatalysed acylation of *trans*-2-phenyl-1-cyclohexanol with *Candida rugosa* lipase in non-conventional media 495

## 1-Phenylethanol

Glucosylation of benzyl alcohols by the cultured suspension cells of *Nicotiana tabacum* and *Catharanthus roseus* 67

## (S)-1-Phenylethanol

Production of chiral alcohols by enantioselective reduction with NADH-dependent phenylacetaldehyde reductase from *Corynebacterium* strain, ST-10 41

## Phosphate buffer

The effect of phosphate buffer in the range of pH 5.80-8.07 on jack bean urease activity 75

#### Phospholipase C

Phospholipids hydrolysis in organic solvents catalysed by immobilised phospholipase C 125

#### Phosphorylation

A new enzymatic method of selective phosphorylation of nucleosides 271

## pH-regulated gene expression

Acidic condition-inducible polygalacturonase of *Aspergillus kawachii* 351

#### Pig liver esterase

On the kinetics of the enzyme-catalyzed hydrolysis of axial chiral alkyl allenecarboxylates: preparation of optically active R-(-)-2-ethyl-4-phenyl-2,3-hexadiene-carboxylic acid and its optically pure S-(+)-methylester 51

#### Piprazinedione

Enzymatic dehydrogenation of cyclo(L-Phe-L-Leu) to a bioactive derivative, albonoursin 265

#### Polvaniline

Polyaniline as a support for urease immobilization 549

### Polygalacturonase

Acidic condition-inducible polygalacturonase of Aspergillus kawachii 351

## Polymer gel

Biocatalysis using microemulsion-based polymer gels containing lipase 399

## PQQ-dependent dehydrogenase

Production of 5-keto-p-gluconate by acetic acid bacteria is catalyzed by pyrroloquinoline quinone (PQQ)-dependent membrane-bound p-gluconate dehydrogenase 341

#### Pregastric lipase

Studies on synthesis of short chain alkyl esters catalyzed by goat pregastric lipase 411

### Preparative peptide synthesis

Enzyme-catalyzed preparative peptide synthesis in frozen aqueous systems  $95\,$ 

## D-Proline

Production of D-proline from L-arginine using *Pseudomonas* aeruginosa 359

## Protease

Enzyme-catalyzed preparative peptide synthesis in frozen aqueous systems  $95\,$ 

#### Protein engineering

Probing the acyl binding site of acetylcholinesterase by protein engineering 287

## Protein purification

Cloning and expression of (R)-hydroxynitrile lyase from Linum usitatissimum (flax) 315

A D-specific hydantoin amidohydrolase: properties of the metalloenzyme purified from *Arthrobacter crystallopoietes* 387

## Pseudomonas aeruginosa

Production of D-proline from L-arginine using *Pseudomonas* aeruginosa 359

## Pseudomonas sp. NCIB 9816-4

Stereoselective oxidation of sulfides by cloned naphthalene dioxygenase 59

## PVA hydrogel

An ESR and PGSE-NMR evaluation of the molecular accessibility of poly(vinyl alcohol) hydrogels 505

#### Pyrophosphate

A new enzymatic method of selective phosphorylation of nucleosides 271

## Pvruvate decarboxylase

Synthetic potential of thiamin diphosphate-dependent enzymes 145

#### RACE

Cloning and expression of (R)-hydroxynitrile lyase from Linum usitatissimum (flax) 315

#### Reaction mechanism

Fungal peroxidase: its structure, function, and application 185 Regioselectivity

Lipase-catalysed alkoxycarbonylation of thymidine: influence of the carbonate on the regioselectivity of the process 407

Regioselective deacetylation

Enzymatic regioselective deprotection of peracetylated mono-

## Resolution

High yield and optical purity in biocatalysed acylation of *trans*-2-phenyl-1-cyclohexanol with *Candida rugosa* lipase in non-conventional media 495

#### Response to acidity

and disaccharides 89

Acidic condition-inducible polygalacturonase of Aspergillus kawachii 351

## Reversed hydrolysis

Glycosidase-catalysed synthesis of alkyl glycosides 511

#### Reverse micelles

Modelling the alcoholysis reaction of  $\beta$ -galactosidase with butanol in reverse micelles 1

Studies on synthesis of short chain alkyl esters catalyzed by goat pregastric lipase 411

## Rhizopus arrhizus

Microbial hydroxylation of 2-oxatestosterone 83

### Rhodococcus sp.

A new enzymatic method of nitrile synthesis by *Rhodococcus* sp. strain YH3-3 249

Large-scale preparation of a nitrile-hydrolysing biocatalyst: *Rhodococcus* R 312 (CBS 717.73) 555

#### Rhodotorula glutinis

Epoxide hydrolases from yeasts and other sources: versatile tools in biocatalysis 199

### Ribavirin

Enzymatic preparation of nucleoside antibiotics 215

## Screening

Epoxide hydrolases from yeasts and other sources: versatile tools in biocatalysis 199

A new enzymatic method of nitrile synthesis by *Rhodococcus* sp. strain YH3-3 249

A new enzymatic method of selective phosphorylation of nucleosides 271

Glycosidases—a great synthetic tool 483

## Secondary Structure

Amino acid substitutions affecting protein solubility: high level expression of *Streptomyces clavuligerus* isopenicillin N synthase in *Escherichia coli* 133

#### Sedoheptulose 7-phosphate

Enzymatic synthesis of [7-<sup>14</sup>C, 7-<sup>3</sup>H]- and [1-<sup>13</sup>C]sedoheptulose 7-phosphate and [1-<sup>13</sup>C]*ido*-heptulose 7-phosphate 369

#### Selectivity

Glycosidase-catalysed synthesis of alkyl glycosides 511

#### Site-directed mutagenesis

Synthetic potential of thiamin diphosphate-dependent enzymes 145

#### Solid phase

Lipase-catalyzed solid-phase synthesis of sugar esters. Influence of immobilization on productivity and stability of the enzyme 279

#### Solubility

Amino acid substitutions affecting protein solubility: high level expression of *Streptomyces clavuligerus* isopenicillin N synthase in *Escherichia coli* 133

#### Solvent accessibility profiles

Amino acid substitutions affecting protein solubility: high level expression of *Streptomyces clavuligerus* isopenicillin N synthase in *Escherichia coli* 133

#### Solvent effect

Lipase-catalyzed enantioselective deacetylation of *ortho*-substituted phenyl acetates with 1-butanol in organic solvents 447

## Sporobolomyces salmonicolor

Purification and characterization of new aldehyde reductases from *Sporobolomyces salmonicolor* AKU4429 305

#### Stability

 $\alpha$ -Chymotrypsin superactivity in aqueous solutions of cationic surfactants 99

## Stereochemistry

Kinetic characterization of chiral biocatalysis of cycloarenes by the camphor 5-monooxygenase enzyme system 533

#### Stereoselective oxidation

Stereoselective oxidation of sulfides by cloned naphthalene dioxygenase 59

### Stereoselective reduction

Purification and characterization of an aldehyde reductase from *Candida magnoliae* 333

## Stereospecificity

Stereospecific degradation of the phenoxypropionate herbicide dichlorprop 421

## Steroid

Microbial hydroxylation of 2-oxatestosterone 83

## Stoichiometry

Kinetic characterization of chiral biocatalysis of cycloarenes by the camphor 5-monooxygenase enzyme system 533

#### Substrate cycle

Kinetic study of a substrate cycle involving a chemical step: highly amplified determination of phenolic compounds 429

#### Substrate specificity

Epoxide hydrolases from yeasts and other sources: versatile tools in biocatalysis 199

## Subtilisin BPN'

The effect of counterion, water concentration, and stirring on the stability of subtilisin BPN' in organic solvents 297

#### Sugar este

Lipase-catalyzed solid-phase synthesis of sugar esters. Influence of immobilization on productivity and stability of the enzyme 279

#### Sulfide

Biotransformation of organic sulfides. Part. 10. Formation of chiral *ortho-* and *meta-*substituted benzyl methyl sulfoxides by biotransformation using *Helminthosporium* species NRRL 4671 463

#### Sulfolobus solfataricus KM1

Trehalose production with a new enzymatic system from Sulfolobus solfataricus KM1 223

#### Sulfoxidation

Stereoselective oxidation of sulfides by cloned naphthalene dioxygenase 59

#### Sulfoxide

Biotransformation of organic sulfides. Part. 10. Formation of chiral *ortho-* and *meta-*substituted benzyl methyl sulfoxides by biotransformation using *Helminthosporium* species NRRL 4671 463

#### Superactivity

 $\alpha$ -Chymotrypsin superactivity in aqueous solutions of cationic surfactants 99

#### Supercritical fluids

High yield and optical purity in biocatalysed acylation of *trans*-2-phenyl-1-cyclohexanol with *Candida rugosa* lipase in non-conventional media 495

### Support-AlPO<sub>4</sub>

Covalent immobilization of acid phosphatase on amorphous  $AlPO_4$  support 473

#### Supported enzymatic catalysis

An ESR and PGSE-NMR evaluation of the molecular accessibility of poly(vinyl alcohol) hydrogels 505

#### Surfactant

Lipase-catalyzed condensation of erythritol and medium-chain fatty acids in acetonitrile with low water content 21

#### Synthesis of amide bond

Penicillin G amidase in low-water media: immobilisation and control of water activity by means of celite rods 437

#### Tetralin

Kinetic characterization of chiral biocatalysis of cycloarenes by the camphor 5-monooxygenase enzyme system 533

#### TfdA

Stereospecific degradation of the phenoxypropionate herbicide dichlorprop 421

## Thermotolerant

Immobilization of thermotolerant *N*-carbamyl-D-amino acid amidohydrolase 257

#### Thiamin diphosphate

Synthetic potential of thiamin diphosphate-dependent enzymes 145

### Thymidine

Lipase-catalysed alkoxycarbonylation of thymidine: influence of the carbonate on the regioselectivity of the process 407

#### Transesterification

High yield and optical purity in biocatalysed acylation of *trans*-2-phenyl-1-cyclohexanol with *Candida rugosa* lipase in non-conventional media 495

#### Transglycosylation

Glycosidase-catalysed synthesis of alkyl glycosides 511

#### Transketolase

Synthetic potential of thiamin diphosphate-dependent enzymes 145

Enzymatic synthesis of [7-<sup>14</sup>C, 7-<sup>3</sup>H]- and [1-<sup>13</sup>C]sedoheptulose 7-phosphate and [1-<sup>13</sup>C]*ido*-heptulose 7-phosphate 369
Trehalose productio

### Enaiose productio

Trehalose production with a new enzymatic system from Sulfolobus solfataricus KM1 223

#### Tyrosinase

Kinetic study of a substrate cycle involving a chemical step: highly amplified determination of phenolic compounds 429

#### Urease

The effect of phosphate buffer in the range of pH 5.80-8.07 on jack bean urease activity 75

A D-specific hydantoin amidohydrolase: properties of the metalloenzyme purified from *Arthrobacter crystallopoietes* 387 Polyaniline as a support for urease immobilization 549

#### Water concentration

The effect of counterion, water concentration, and stirring on the stability of subtilisin BPN' in organic solvents 297

#### Yeast epoxide hydrolase

Epoxide hydrolases from yeasts and other sources: versatile tools in biocatalysis 199