

## Subject Index

### $\alpha$ -Arbutine

Transglucosylation of hydroquinone catalysed by  $\alpha$ -glucosidase from baker's yeast 142

### 1-Acetonaphthone

Biocatalytic synthesis of *S*(-)-1-(1'-naphthyl) ethanol by a novel isolate of *Candida viswanathii* 1

### Activity

Effect of salts on activity, stability and enantioselectivity of *Candida rugosa* lipase in isooctane 28

A GFP-based assay for the determination of hydrolytic activity and substrate specificity of subtilisins under washing conditions 74

### Acylation

Two-step sequential synthesis of pyrimidine derivatives containing a sugar branch via combining of enzymatic Michael addition/acylation 122

### Aminated supports

Immobilization and stabilization of glutaryl acylase on aminated sepa-beads supports by the glutaraldehyde crosslinking method 57

### Anticancer compound

Microbial transformation of methyl protodioscin by *Cunninghamella elegans* 33

### Antioxidant

Biocatalytic synthesis of monocyclic arene-dihydrodiols and -diols by *Escherichia coli* cells expressing hybrid toluene/biphenyl dioxygenase and dihydrodiol dehydrogenase genes 134

### AOT

Kinetics of lipase-catalyzed hydrolysis of olive oil in AOT/isooctane reversed micelles 108

### Apparent activation energy

Enzymatic esterification between *n*-alcohol homologs and *n*-caprylic acid in non-aqueous medium under microwave irradiation 113

### Assay

A GFP-based assay for the determination of hydrolytic activity and substrate specificity of subtilisins under washing conditions 74

### Asymmetric reduction

Biocatalytic synthesis of *S*(-)-1-(1'-naphthyl) ethanol by a novel isolate of *Candida viswanathii* 1

### *Bacillus subtilis* subsp. *chungkookjang*

Synthesis of super-high-molecular-weight poly- $\gamma$ -glutamic acid by *Bacillus subtilis* subsp. *chungkookjang* 128

### Biotransformation

Biotransformation of paeonol by *Panax ginseng* root and cell cultures 117

Biocatalytic synthesis of monocyclic arene-dihydrodiols and -diols by *Escherichia coli* cells expressing hybrid toluene/biphenyl dioxygenase and dihydrodiol dehydrogenase genes 134

### *Candida rugosa* lipase

Effect of salts on activity, stability and enantioselectivity of *Candida rugosa* lipase in isooctane 28

### *Candida viswanathii*

Biocatalytic synthesis of *S*(-)-1-(1'-naphthyl) ethanol by a novel isolate of *Candida viswanathii* 1

### Catalase

Supramolecular assembly of  $\beta$ -cyclodextrin-modified gold nanoparticles and Cu, Zn-superoxide dismutase on catalase 79

### Cephalexin

Synthesis of cephalexin in organic medium at high substrate concentrations and low enzyme to substrate ratio 45

### Chemical determination

Synthesis of super-high-molecular-weight poly- $\gamma$ -glutamic acid by *Bacillus subtilis* subsp. *chungkookjang* 128

### $\alpha$ -Chymotrypsin

On the activity loss of hydrolases in organic solvents. I. Rapid loss of activity of a variety of enzymes and formulations in a range of organic solvents 147

### Combined catalysis

Two-step sequential synthesis of pyrimidine derivatives containing a sugar branch via combining of enzymatic Michael addition/acylation 122

### Covalent immobilization

Activity and storage stability of immobilized glucose oxidase onto magnesium silicate 154

### Cross-coupling

Laccase-induced cross-coupling of 4-aminobenzoic acid with *para*-dihydroxylated compounds 2,5-dihydroxy-*N*-(2-hydroxyethyl)-benzamide and 2,5-dihydroxybenzoic acid methyl ester 86

### *Cunninghamella elegans*

Microbial transformation of methyl protodioscin by *Cunninghamella elegans* 33

### $\beta$ -Cyclodextrin

Supramolecular assembly of  $\beta$ -cyclodextrin-modified gold nanoparticles and Cu, Zn-superoxide dismutase on catalase 79

### Cytochrome *c*

Electron-balance during the oxidative self-inactivation of cytochrome *c* 41

### Cytotoxicity

Microbial transformation of methyl protodioscin by *Cunninghamella elegans* 33

### D-Amino acid oxidase

Evidence of *p*-quinoid enamine formation during the oxidative desamination of *p*-hydroxy-D-phenylglycine catalyzed by D-amino acid oxidase 7

### Deacetylation

Deprotection of peracetylated methyl D-ribosides through enzymatic alcoholysis: Different recognition of the anomers 70

### Dicarboxylic acid

Formation of a new ester compound between triglyceride and dicarboxylic acid catalyzed by lipase 52

### Dihydrodiol dehydrogenase

Biocatalytic synthesis of monocyclic arene-dihydrodiols and -diols by *Escherichia coli* cells expressing hybrid toluene/biphenyl dioxygenase and dihydrodiol dehydrogenase genes 134

- 1-(3,4-Dimethoxyphenyl)-2-(2-methoxyphenoxy)-1,3-propanediol  
Product profiles in enzymic and non-enzymic oxidations of the lignin model compound *erythro*-1-(3,4-dimethoxyphenyl)-2-(2-methoxyphenoxy)-1,3-propanediol 100
- Emulsion  
Generation of lipase-containing static emulsions in silicone spheres for synthesis in organic media 93
- Enamine  
Evidence of *p*-quinoid enamine formation during the oxidative desamination of *p*-hydroxy-D-phenylglycine catalyzed by D-amino acid oxidase 7
- Enantioselectivity  
Effect of salts on activity, stability and enantioselectivity of *Candida rugosa* lipase in isooctane 28
- Enzymatic alcoholysis  
Deprotection of peracetylated methyl D-ribosides through enzymatic alcoholysis: Different recognition of the anomers 70
- Enzymatic esterification  
Enzymatic esterification between *n*-alcohol homologs and *n*-caprylic acid in non-aqueous medium under microwave irradiation 113
- Enzymatic synthesis  
Synthesis of cephalixin in organic medium at high substrate concentrations and low enzyme to substrate ratio 45  
Two-step sequential synthesis of pyrimidine derivatives containing a sugar branch via combining of enzymatic Michael addition/acylation 122
- Enzyme immobilization  
Evidence of *p*-quinoid enamine formation during the oxidative desamination of *p*-hydroxy-D-phenylglycine catalyzed by D-amino acid oxidase 7  
Supramolecular assembly of  $\beta$ -cyclodextrin-modified gold nanoparticles and Cu, Zn-superoxide dismutase on catalase 79
- Enzyme stability  
On the activity loss of hydrolases in organic solvents. I. Rapid loss of activity of a variety of enzymes and formulations in a range of organic solvents 147
- Enzyme stabilization  
Immobilization and stabilization of glutaryl acylase on aminated sephabeads supports by the glutaraldehyde crosslinking method 57
- Escherichia coli*  
Biocatalytic synthesis of monocyclic arene-dihydrodiols and -diols by *Escherichia coli* cells expressing hybrid toluene/biphenyl dioxygenase and dihydrodiol dehydrogenase genes 134
- Ester synthesis  
Generation of lipase-containing static emulsions in silicone spheres for synthesis in organic media 93
- $\beta$ -Fructofuranosidase  
Immobilisation of fructosyltransferase from *Aspergillus aculeatus* on epoxy-activated Sepabeads EC for the synthesis of fructo-oligosaccharides 19
- GFP  
A GFP-based assay for the determination of hydrolytic activity and substrate specificity of subtilisins under washing conditions 74
- Glucose oxidase  
Activity and storage stability of immobilized glucose oxidase onto magnesium silicate 154
- Glutaraldehyde  
Immobilization and stabilization of glutaryl acylase on aminated sephabeads supports by the glutaraldehyde crosslinking method 57  
Activity and storage stability of immobilized glucose oxidase onto magnesium silicate 154
- Glutaryl acylase  
Immobilization and stabilization of glutaryl acylase on aminated sephabeads supports by the glutaraldehyde crosslinking method 57
- Glycosylation  
Biotransformation of paeonol by *Panax ginseng* root and cell cultures 117
- Gold nanoparticles  
Supramolecular assembly of  $\beta$ -cyclodextrin-modified gold nanoparticles and Cu, Zn-superoxide dismutase on catalase 79
- Hybrid toluene/biphenyl dioxygenase  
Biocatalytic synthesis of monocyclic arene-dihydrodiols and -diols by *Escherichia coli* cells expressing hybrid toluene/biphenyl dioxygenase and dihydrodiol dehydrogenase genes 134
- Hydrolysis of olive oil  
Kinetics of lipase-catalyzed hydrolysis of olive oil in AOT/isooctane reversed micelles 108
- Hydroquinone  
Transglucosylation of hydroquinone catalysed by  $\alpha$ -glucosidase from baker's yeast 142
- Imino acid  
Evidence of *p*-quinoid enamine formation during the oxidative desamination of *p*-hydroxy-D-phenylglycine catalyzed by D-amino acid oxidase 7
- Immobilisation  
Generation of lipase-containing static emulsions in silicone spheres for synthesis in organic media 93
- Immobilized lipase  
Lipase-catalyzed regioselective synthesis of lipophilic inosine ester derivatives 14
- Inosine ester  
Lipase-catalyzed regioselective synthesis of lipophilic inosine ester derivatives 14
- Interesterification  
Formation of a new ester compound between triglyceride and dicarboxylic acid catalyzed by lipase 52
- Isomaltoside  
Transglucosylation of hydroquinone catalysed by  $\alpha$ -glucosidase from baker's yeast 142
- $\alpha$ -Keto acid  
Evidence of *p*-quinoid enamine formation during the oxidative desamination of *p*-hydroxy-D-phenylglycine catalyzed by D-amino acid oxidase 7
- Kinetics  
Kinetics of lipase-catalyzed hydrolysis of olive oil in AOT/isooctane reversed micelles 108
- Laccase  
Product profiles in enzymic and non-enzymic oxidations of the lignin model compound *erythro*-1-(3,4-dimethoxyphenyl)-2-(2-methoxyphenoxy)-1,3-propanediol 100  
Laccase-induced cross-coupling of 4-aminobenzoic acid with *para*-dihydroxylated compounds 2,5-dihydroxy-*N*-(2-hydroxyethyl)-benzamide and 2,5-dihydroxybenzoic acid methyl ester 86
- $\beta$ -Lactam antibiotics  
Synthesis of cephalixin in organic medium at high substrate concentrations and low enzyme to substrate ratio 45
- Lignin degradation  
Product profiles in enzymic and non-enzymic oxidations of the lignin model compound *erythro*-1-(3,4-dimethoxyphenyl)-2-(2-methoxyphenoxy)-1,3-propanediol 100
- Lignin peroxidase  
Product profiles in enzymic and non-enzymic oxidations of the lignin model compound *erythro*-1-(3,4-dimethoxyphenyl)-2-(2-methoxyphenoxy)-1,3-propanediol 100
- Lipase from *Candida rugosa*  
On the activity loss of hydrolases in organic solvents. I. Rapid loss of activity of a variety of enzymes and formulations in a range of organic solvents 147

- Lipase from *Mucor meihei*  
On the activity loss of hydrolases in organic solvents. I. Rapid loss of activity of a variety of enzymes and formulations in a range of organic solvents 147
- Lipase  
Formation of a new ester compound between triglyceride and dicarboxylic acid catalyzed by lipase 52  
Generation of lipase-containing static emulsions in silicone spheres for synthesis in organic media 93  
Kinetics of lipase-catalyzed hydrolysis of olive oil in AOT/isooctane reversed micelles 108
- Lipase-catalysed acetylation  
The modelling and kinetic investigation of the lipase-catalysed acetylation of stereoisomeric prostaglandins 62
- Lipases  
Deprotection of peracetylated methyl D-ribosides through enzymatic alcoholysis: Different recognition of the anomers 70
- Low-water media  
The modelling and kinetic investigation of the lipase-catalysed acetylation of stereoisomeric prostaglandins 62
- Lyophilization  
Effect of salts on activity, stability and enantioselectivity of *Candida rugosa* lipase in isooctane 28
- Magnesium silicate  
Activity and storage stability of immobilized glucose oxidase onto magnesium silicate 154
- Maltase  
Transglucosylation of hydroquinone catalysed by  $\alpha$ -glucosidase from baker's yeast 142
- Methyl protodioscin  
Microbial transformation of methyl protodioscin by *Cunninghamella elegans* 33
- Michael addition  
Two-step sequential synthesis of pyrimidine derivatives containing a sugar branch via combining of enzymatic Michael addition/acetylation 122
- Microbial transformation  
Microbial transformation of methyl protodioscin by *Cunninghamella elegans* 33
- Microwave irradiation  
Enzymatic esterification between *n*-alcohol homologs and *n*-caprylic acid in non-aqueous medium under microwave irradiation 113
- Modeling  
Electron-balance during the oxidative self-inactivation of cytochrome *c* 41
- Molecular dynamics simulations  
The modelling and kinetic investigation of the lipase-catalysed acetylation of stereoisomeric prostaglandins 62
- Molecular events  
Electron-balance during the oxidative self-inactivation of cytochrome *c* 41
- Molecular weight  
Synthesis of super-high-molecular-weight poly- $\gamma$ -glutamic acid by *Bacillus subtilis* subsp. *chungkookjang* 128
- Monitoring by  $^1\text{H}$  NMR  
The modelling and kinetic investigation of the lipase-catalysed acetylation of stereoisomeric prostaglandins 62
- Monocyclic arenes  
Biocatalytic synthesis of monocyclic arene-dihydrodiols and -diols by *Escherichia coli* cells expressing hybrid toluene/biphenyl dioxygenase and dihydrodiol dehydrogenase genes 134
- Nanocatalyst  
Supramolecular assembly of  $\beta$ -cyclodextrin-modified gold nanoparticles and Cu, Zn-superoxide dismutase on catalase 79
- Non-enzymic oxidants  
Product profiles in enzymic and non-enzymic oxidations of the lignin model compound *erythro*-1-(3,4-dimethoxyphenyl)-2-(2-methoxyphenoxy)-1,3-propanediol 100
- Novozym 435  
The modelling and kinetic investigation of the lipase-catalysed acetylation of stereoisomeric prostaglandins 62
- Organic cosolvents  
Synthesis of cephalexin in organic medium at high substrate concentrations and low enzyme to substrate ratio 45
- Oxidative inactivation  
Electron-balance during the oxidative self-inactivation of cytochrome *c* 41
- Paeonol  
Biotransformation of paeonol by *Panax ginseng* root and cell cultures 117
- Panax ginseng*  
Biotransformation of paeonol by *Panax ginseng* root and cell cultures 117
- Pectinex Ultra SP-L  
Immobilisation of fructosyltransferase from *Aspergillus aculeatus* on epoxy-activated Sepabeads EC for the synthesis of fructo-oligosaccharides 19
- Penicillin acylase  
Synthesis of cephalexin in organic medium at high substrate concentrations and low enzyme to substrate ratio 45
- Peroxidase activity  
Electron-balance during the oxidative self-inactivation of cytochrome *c* 41
- Pig-liver esterase  
On the activity loss of hydrolases in organic solvents. I. Rapid loss of activity of a variety of enzymes and formulations in a range of organic solvents 147
- Poly(ethylene glycol)-protein conjugates  
On the activity loss of hydrolases in organic solvents. I. Rapid loss of activity of a variety of enzymes and formulations in a range of organic solvents 147
- Poly- $\gamma$ -glutamic acid  
Synthesis of super-high-molecular-weight poly- $\gamma$ -glutamic acid by *Bacillus subtilis* subsp. *chungkookjang* 128
- Polymethacrylate  
Immobilisation of fructosyltransferase from *Aspergillus aculeatus* on epoxy-activated Sepabeads EC for the synthesis of fructo-oligosaccharides 19
- Prebiotics  
Immobilisation of fructosyltransferase from *Aspergillus aculeatus* on epoxy-activated Sepabeads EC for the synthesis of fructo-oligosaccharides 19
- Prostaglandin  
The modelling and kinetic investigation of the lipase-catalysed acetylation of stereoisomeric prostaglandins 62
- Protease  
A GFP-based assay for the determination of hydrolytic activity and substrate specificity of subtilisins under washing conditions 74
- Purification  
Synthesis of super-high-molecular-weight poly- $\gamma$ -glutamic acid by *Bacillus subtilis* subsp. *chungkookjang* 128
- Pyrimidine derivatives  
Two-step sequential synthesis of pyrimidine derivatives containing a sugar branch via combining of enzymatic Michael addition/acetylation 122
- Regioselectivity  
Lipase-catalyzed regioselective synthesis of lipophilic inosine ester derivatives 14

- Deprotection of peracetylated methyl D-ribosides through enzymatic alcoholysis: Different recognition of the anomers 70
- Relative humidity  
Activity and storage stability of immobilized glucose oxidase onto magnesium silicate 154
- Reversed micelles  
Kinetics of lipase-catalyzed hydrolysis of olive oil in AOT/isooctane reversed micelles 108
- Ribosides  
Deprotection of peracetylated methyl D-ribosides through enzymatic alcoholysis: Different recognition of the anomers 70
- S*(-)-1-(1'-naphthyl) ethanol  
Biocatalytic synthesis of *S*(-)-1-(1'-naphthyl) ethanol by a novel isolate of *Candida viswanathii* 1
- Salt  
Effect of salts on activity, stability and enantioselectivity of *Candida rugosa* lipase in isooctane 28
- Sepabeads  
Immobilization and stabilization of glutaryl acylase on aminated sepabeads supports by the glutaraldehyde crosslinking method 57
- Silicone  
Generation of lipase-containing static emulsions in silicone spheres for synthesis in organic media 93
- Solvent effect  
Enzymatic esterification between *n*-alcohol homologs and *n*-caprylic acid in non-aqueous medium under microwave irradiation 113
- Stability  
Effect of salts on activity, stability and enantioselectivity of *Candida rugosa* lipase in isooctane 28
- Stereochemistry  
Synthesis of super-high-molecular-weight poly- $\gamma$ -glutamic acid by *Bacillus subtilis* subsp. *chungkookjang* 128
- Substrate specificity  
A GFP-based assay for the determination of hydrolytic activity and substrate specificity of subtilisins under washing conditions 74
- Subtilisin Carlsberg  
On the activity loss of hydrolases in organic solvents. I. Rapid loss of activity of a variety of enzymes and formulations in a range of organic solvents 147
- Subtilisin  
A GFP-based assay for the determination of hydrolytic activity and substrate specificity of subtilisins under washing conditions 74
- Superoxide dismutase  
Supramolecular assembly of  $\beta$ -cyclodextrin-modified gold nanoparticles and Cu, Zn-superoxide dismutase on catalase 79
- Trametes villosa*  
Laccase-induced cross-coupling of 4-aminobenzoic acid with *para*-dihydroxylated compounds 2,5-dihydroxy-*N*-(2-hydroxyethyl)-benzamide and 2,5-dihydroxybenzoic acid methyl ester 86
- Transformation  
Laccase-induced cross-coupling of 4-aminobenzoic acid with *para*-dihydroxylated compounds 2,5-dihydroxy-*N*-(2-hydroxyethyl)-benzamide and 2,5-dihydroxybenzoic acid methyl ester 86
- Transfructosylase  
Immobilisation of fructosyltransferase from *Aspergillus aculeatus* on epoxy-activated Sepabeads EC for the synthesis of fructo-oligosaccharides 19
- Transglucosylation  
Transglucosylation of hydroquinone catalysed by  $\alpha$ -glucosidase from baker's yeast 142
- Triglyceride  
Formation of a new ester compound between triglyceride and dicarboxylic acid catalyzed by lipase 52
- White rot fungi  
Laccase-induced cross-coupling of 4-aminobenzoic acid with *para*-dihydroxylated compounds 2,5-dihydroxy-*N*-(2-hydroxyethyl)-benzamide and 2,5-dihydroxybenzoic acid methyl ester 86