



ELSEVIER

Journal of Molecular Catalysis B: Enzymatic 11 (2001) 1089–1105

C JOURNAL OF
MOLECULAR
CATALYSIS
B: ENZYMATICAL

www.elsevier.com/locate/molcatb

Subject Index

Acetalization

The aNatural Strategyb for the glycosidase-assisted synthesis of simple glycosides 189

Acetate esters

Biosaccharification of cellulosic biomass in immiscible solvent–water mixtures 867

Acetolactate synthase

Novel biosynthetic routes to non-proteinogenic amino acids as chiral pharmaceutical intermediates 199

Acid catalysis

Catalytic specificity of *p*-sulfonatocalix[*n*]arenes on the alcoholysis of *N*-Ac-L-amino acids in methanol solution 985

Acidolysis

Immobilized lipase-mediated acidolysis of butteroil with conjugated linoleic acid: batch reactor and packed bed reactor studies 623

Acidovorax facilis

Chemoenzymatic production of 1,5-dimethyl-2-piperidone 295

Active site model.

Regioselective resolution of 1,*n*-diols catalysed by lipases: a rational explanation of the enzymatic selectivity 1013

Activity

Effect of various water-miscible solvents on enzymatic activity of fungal laccases 1

Cross-linked crystals of hydroxynitrile lyase as catalyst for the synthesis of optically active cyanohydrins 607

Acyl donor

Synthesis of designer lipids using papaya (*Carica papaya*) latex lipase 271

Influence of acyl chain length on the enantioselectivity of *Candida antarctica* lipase B and its thermodynamic components in kinetic resolution of *sec*-alcohols 1025

Acyl silanes

Biotransformations of organosilicon compounds: enantioselective reduction of acyl silanes by means of baker's yeast 279

Acyl transfer

Lipase catalysed acylation of hydroxylamine and hydrazine derivatives 315

Adsorbing resins

Bioreduction of aromatic ketones: preparation of chiral benzyl alcohols in both enantiomeric forms 415

Aggregates

Cross-linked aggregates of penicillin acylase: robust catalysts for the synthesis of β -lactam antibiotics 665

Alcalase

Enzymatic hydrolysis of proteins from yellowfin tuna (*Thunnus albacares*) wastes using Alcalase 1051

Alcohols

Nucleotide ester-forming alcoholic activities of nucleotide pyrophosphatases: implications for practical biotransformation, enzyme mechanisms and biological function 469

Alcohol-stabilising effect

Enantioselective properties of *Fusarium solani pisi* cutinase on transesterification of acyclic diols: activity and stability evaluation 613

Alcohololysis

Kinetics and modelling of an alcohololysis reaction catalyzed by cutinase immobilized on NaY zeolite 713

Catalytic specificity of *p*-sulfonatocalix[*n*]arenes on the alcoholysis of *N*-Ac-L-amino acids in methanol solution 985

Aldolase

Rabbit muscle aldolase (RAMA) as a catalyst in a new approach for the synthesis of 3-deoxy-D-manno-2-octulosonic acid and analogues 207

Aldose reductase

Enzymatic redox isomerization of 1,6-disaccharides by pyranose oxidase and NADH-dependent aldose reductase 407

Aldos-2-ulose

Enzymatic redox isomerization of 1,6-disaccharides by pyranose oxidase and NADH-dependent aldose reductase 407

Alfuzosin

One-pot biocatalyzed preparation of substituted amides as intermediates of pharmaceuticals 335

Alginate

Biocatalytic asymmetric hydroxylation of hydrocarbons by free and immobilized *Bacillus megaterium* cells 377

Alkyl glycoside

Synthesis of alkyl glycosides through β -glucosidase-catalyzed condensation in an aqueous–organic biphasic system and estimation of the equilibrium constants for their formation 13

Allolactose

Enzymatic redox isomerization of 1,6-disaccharides by pyranose oxidase and NADH-dependent aldose reductase 407

Almond meal

Optimized methods for the preparation of (*S*)-2-hydroxy-2-phenylpropanenitrile exploiting (*R*)-oxynitrilase in almond meal 37

- Amidase
Hydrolysis of D,L-phenylglycine nitrile by new bacterial cultures 249
- Amide synthesis
Activity of covalently immobilised PGA in water miscible solvents at controlled a_w 851
- Amine agarose gel
Stabilization of a β -glucosidase from *Aspergillus niger* by binding to an amine agarose gel 63
- Amino acid
Novel biosynthetic routes to non-proteinogenic amino acids as chiral pharmaceutical intermediates 199
Catalytic specificity of *p*-sulfonatocalix[*n*]arenes on the alcoholysis of *N*-Ac-L-amino acids in methanol solution 985
- L-amino acids
A novel *Pseudomonas putida* strain with high levels of hydantoin-converting activity, producing L-amino acids 397
- Amino acid deaminase
Purification and characterization of an L-amino acid deaminase used to prepare unnatural amino acids 795
- Aminooxy alcohols
Synthesis of optically active aminooxy alcohols 255
- Ammonium sulphate
Small water amounts increase the catalytic behaviour of polar organic solvents pre-treated *Candida rugosa* lipase 939
- Amorphous AlPO₄
Properties of a glucose oxidase covalently immobilized on amorphous AlPO₄ support 567
- Amphetamine
Enantioselective oxidation of amphetamine by copper-containing quinoprotein amine oxidases from *Escherichia coli* and *Klebsiella oxytoca* 81
- Ampicillin
Kinetically controlled synthesis of ampicillin with immobilized penicillin acylase in the presence of organic cosolvents 587
- Anions
Effect of several anions on the activity of mitochondrial malate dehydrogenase from pig heart 743
- Aqueous–organic biphasic system
Synthesis of alkyl glycosides through β -glucosidase-catalyzed condensation in an aqueous–organic biphasic system and estimation of the equilibrium constants for their formation 13
- Archaea
Glycosynthases: new enzymes for oligosaccharide synthesis 155
- Artificial cell-surface receptor
Dynamic behavior of a transmembrane molecular switch as an artificial cell-surface receptor 971
- Artificial enzyme microenvironment
Preparation of new lipases derivatives with high activity–stability in anhydrous media: adsorption on hydrophobic supports plus hydrophilization with polyethylenimine 817
- Artificial receptor
Control of enzymic activity by artificial cell-surface receptors 977
- Aspergillus oryzae*
Enzymatic rearrangement of chitine hydrolysates with β -*N*-acetylhexosaminidase from *Aspergillus oryzae* 225
- Aspergillus* species
Enantioselective transesterification of secondary alcohols mediated by aminoacylases from *Aspergillus* species 373
- Assymetric bioreductions
Asymmetric bioreductions: application to the synthesis of pharmaceuticals 503
- Assymmetric synthesis
Biotransformations of organosilicon compounds: enantioselective reduction of acyl silanes by means of baker's yeast 279
- Azobenzene derivative
Dynamic behavior of a transmembrane molecular switch as an artificial cell-surface receptor 971
- Bacillus megaterium*
Carbon dioxide fixation by reversible pyrrole-2-carboxylate decarboxylase and its application 179
Microbial hydroxylation of unsaturated, cyclic carboxylic acids protected as benzoxazoles 361
Biocatalytic asymmetric hydroxylation of hydrocarbons by free and immobilized *Bacillus megaterium* cells 377
- Bacillus stearothermophilus*
Stabilization of D-hydantoinase by intersubunit cross-linking 29
- Bacillus subtilis*
PVA-biocatalyst with entrapped viable *Bacillus subtilis* cells 671
- Baeyer-Villiger oxidation
Baeyer-Villiger oxidations of representative heterocyclic ketones by whole cells of engineered *Escherichia coli* expressing cyclohexanone monooxygenase 349
- Baker's yeast
Biotransformations of organosilicon compounds: enantioselective reduction of acyl silanes by means of baker's yeast 279
Baker's yeast mediated reduction of β -keto esters and β -keto amides in an organic solvent system 893
Baker's yeast-mediated reduction
The baker's yeast-mediated reduction of conjugated methylene groups in an organic solvent 905
- Benzoxazoles
Microbial hydroxylation of unsaturated, cyclic carboxylic acids protected as benzoxazoles 361
- Bile acid
Control of enzymic activity by artificial cell-surface receptors 977
- Biocatalysis
Preparative regio- and chemoselective functionalization of hydrocarbons catalyzed by cell free preparations of 2-hydroxybiphenyl 3-monooxygenase 455
Applications of mass spectrometry in screening for new biocatalysts 733
Characterization of a novel support for biocatalysis in supercritical carbon dioxide 825
Biocatalysis of lipoxygenase in selected organic solvent media 909
Biocatalysis of tyrosinase using catechin as substrate in selected organic solvent media 929
- Biocatalytic transformation
Preparative synthesis of chiral alcohols by enantioselective reduction with *Daucus carota* root as biocatalyst 55

- Bioconversion**
Biotransformation of terpenes by fungi Study of the pathways involved 265
- Bioconversion process**
An enzymatic process for the production of the pharmacologically active glycoside desglucodesrhamnoscin from *Ruscus aculeatus* L. 307
- Biodegradation**
Biodegradation of an *s*-triazine herbicide, simazine 1073
- Bioprocess**
Preparative regio- and chemoselective functionalization of hydrocarbons catalyzed by cell free preparations of 2-hydroxybiphenyl 3-monoxygenase 455
- Bioreduction**
Biotransformations of organosilicon compounds: enantioselective reduction of acyl silanes by means of baker's yeast 279
Asymmetric bioreduction of racemic 5,6,7,8-tetrahydro-8-methyl-1,3-dimethoxynaphthalen-6-one to the corresponding chiral β -tetralols 367
- Bioscouring**
Biotreatment of desized cotton fabric by commercial cellulase and xylanase enzymes 1065
- Biotransformation**
Novel biosynthetic routes to non-proteinogenic amino acids as chiral pharmaceutical intermediates 199
Lactones 7 1. Enantioselective lactonization of racemic ethyl (5,5-dimethyl-2,3-epoxycyclohex-1-yl)acetate 243
Biotransformation of terpenes by fungi Study of the pathways involved 265
Biotransformation of the fungistatic sesquiterpenoids patchoulol, ginsenosol, cedrol and globulol by *Botrytis cinerea* 329
Studies on the continuous production of (*R*)-(-)-phenylacetylcarbinol in an enzyme-membrane reactor 387
Development of a reaction system for the selective conversion of (-)-*trans*-carveol to (-)-carvone with whole cells of *Rhodococcus erythropolis* DCL14 719
Applications of mass spectrometry in screening for new biocatalysts 733
Purification and characterization of an L-amino acid deaminase used to prepare unnatural amino acids 795
- Bi-phasic media**
Biosaccharification of cellulosic biomass in immiscible solvent–water mixtures 867
- Biphasic system**
Development of a reaction system for the selective conversion of (-)-*trans*-carveol to (-)-carvone with whole cells of *Rhodococcus erythropolis* DCL14 719
Mathematical modelling of ester synthesis by lipase in biphasic system 1043
- Bis-phenoxyacetates**
Bis-phenacetyl and phenoxyacetyl groups as substrates for penG and penV amidases 487
- Bis-phenylacetates**
Bis-phenacetyl and phenoxyacetyl groups as substrates for penG and penV amidases 487
- Botrytis cinerea***
Biotransformation of the fungistatic sesquiterpenoids patchoulol, ginsenosol, cedrol and globulol by *Botrytis cinerea* 329
- Brevibacterium imperialis***
Operational stability of *Brevibacterium imperialis* CBS 489-74 nitrile hydratase 687
- β -tetralols**
Asymmetric bioreduction of racemic 5,6,7,8-tetrahydro-8-methyl-1,3-dimethoxynaphthalen-6-one to the corresponding chiral β -tetralols 367
- β -thujaplicin**
High production of β -thujaplicin with *Thuja dolabrata* var. *hondai* cells in a semi-continuous culture system 59
- (*R*)-1,3-Butanediol**
Industrial production of (*R*)-1,3-butanediol by new biocatalysts 513
- (*S*)-1,3-Butanediol dehydrogenase**
Industrial production of (*R*)-1,3-butanediol by new biocatalysts 513
- Butteroil**
Immobilized lipase-mediated acidolysis of butteroil with conjugated linoleic acid: batch reactor and packed bed reactor studies 623
- CALB**
Influence of acyl chain length on the enantioselectivity of *Candida antarctica* lipase B and its thermodynamic components in kinetic resolution of *sec*-alcohols 1025
- Calixarene**
Catalytic specificity of *p*-sulfonatocalix[*n*]arenes on the alcoholysis of *N*-Ac-L-amino acids in methanol solution 985
- Candida antarctica***
Enzymatic synthesis of triicosapentaenoylglycerol in a solvent-free medium 835
- Candida antarctica* lipase**
Effect of acyl donor chain length and sugar/acyl donor molar ratio on enzymatic synthesis of fatty acid fructose esters 725
- Candida antarctica* lipase B**
Enzymatic formation and esterification of (*S*)-mandelonitrile 213
- Candida cylindracea* lipase**
Different phyllosilicates as supports for lipase immobilisation 657
- Candida parapsilosis***
Industrial production of (*R*)-1,3-butanediol by new biocatalysts 513
- Candida rugosa* lipase**
Small water amounts increase the catalytic behaviour of polar organic solvents pre-treated *Candida rugosa* lipase 939
- Candida rugosa* lipase**
Binding site of acyl moiety in ester hydrolysis by *Candida rugosa* lipase 1029
- Carbon–carbon bond formation**
Rabbit muscle aldolase (RAMA) as a catalyst in a new approach for the synthesis of 3-deoxy-D-*manno*-2-octulosonic acid and analogues 207
- Carbon dioxide fixation**
Carbon dioxide fixation by reversible pyrrole-2-carboxylate decarboxylase and its application 179

- Carrot root
Preparative synthesis of chiral alcohols by enantioselective reduction with *Daucus carota* root as biocatalyst 55
- Carvone
Development of a reaction system for the selective conversion of (–)-*trans*-carveol to (–)-carvone with whole cells of *Rhodococcus erythropolis* DCL14 719
- Catalytic membranes
The process of thermodialysis and the efficiency increase of bioreactors operating under non-isothermal conditions 97
Influence of the non-isothermal conditions on the activity of enzymes immobilized on nylon grafted membranes 113
- Catechin
Biocatalysis of tyrosinase using catechin as substrate in selected organic solvent media 929
- Cedrol
Biotransformation of the fungistatic sesquiterpenoids patchoulol, ginsenosol, cedrol and globulol by *Botrytis cinerea* 329
- Celite
Conversion of β -sitosterol by *Mycobacterium* sp. NRRL B-3805 cells immobilized on Celite supports 523
- Cell culture
High production of β -thujaplicin with *Thuja dolabrata* var. *hondai* cells in a semi-continuous culture system 59
- Cell free biotransformation
Preparative regio- and chemoselective functionalization of hydrocarbons catalyzed by cell free preparations of 2-hydroxybiphenyl 3-monooxygenase 455
- Cellobiose dehydrogenase
Continuous enzymatic regeneration of redox mediators used in biotransformation reactions employing flavoproteins 541
- Cellulase
Biotreatment of desized cotton fabric by commercial cellulase and xylanase enzymes 1065
- C-glycopeptides
Enzymatic galactosylation of C-glycosides analogues en route to C-glycopeptides 343
- C-glycosides
Enzymatic galactosylation of C-glycosides analogues en route to C-glycopeptides 343
- Chemo-enzymatic enantiomerization
One-pot chemo-enzymatic enantiomerization of racemates 149
- Chemoselective oxidation
Baeyer-Villiger oxidations of representative heterocyclic ketones by whole cells of engineered *Escherichia coli* expressing cyclohexanone monooxygenase 349
- Chimeric enzyme
Improving enzyme characteristics by gene shuffling; application to β -glucosidase 811
- Chiral alcohols
Preparative synthesis of chiral alcohols by enantioselective reduction with *Daucus carota* root as biocatalyst 55
- Chitoooligosaccharides
Enzymatic rearrangement of chitine hydrolysates with β -*N*-acetylhexosaminidase from *Aspergillus oryzae* 225
- Chlorella*
Enantioselective oxidation of thiafatty acids by an algal Δ 12-desaturase 1007
- Chloroacetophenone
Bioreduction of aromatic ketones: preparation of chiral benzyl alcohols in both enantiomeric forms 415
- Chloroperoxidase
Engineering chloroperoxidase for activity and stability 765
- Chromobacterium violaceum*
Violacein transformation by peroxidases and oxidases: implications on its biological properties 463
- Chum salmon trypsin
Chum salmon trypsin-catalyzed peptide synthesis with inverse substrates as acyl donor components at low temperature 23
- α -Chymotrypsin
Studies on the mechanism of crown-ether-induced activation of enzymes in non-aqueous media. 877
- Cinnamic acids
Enzymatic synthesis of hydrophilic and hydrophobic derivatives of natural phenolic acids in organic media 323
- Citral
Biotransformation of terpenes by fungi Study of the pathways involved 265
- Cofactor regeneration
Development of a reaction system for the selective conversion of (–)-*trans*-carveol to (–)-carvone with whole cells of *Rhodococcus erythropolis* DCL14 719
- Conformational changes
Interfacial catalysis by lipases 165
- Conjugated linoleic acid
Immobilized lipase-mediated acidolysis of butteroil with conjugated linoleic acid: batch reactor and packed bed reactor studies 623
- Conjugated methylene groups
The baker's yeast-mediated reduction of conjugated methylene groups in an organic solvent 905
- Copper-containing quinoprotein amine oxidase
Enantioselective oxidation of amphetamine by copper-containing quinoprotein amine oxidases from *Escherichia coli* and *Klebsiella oxytoca* 81
- Cotton
Biotreatment of desized cotton fabric by commercial cellulase and xylanase enzymes 1065
- Covalent bonding
Immobilization of glucoamylase onto spacer-arm attached magnetic poly(methylmethacrylate) microspheres: characterization and application to a continuous flow reactor 127
- Covalent flavoprotein
Vanillyl-alcohol oxidase, a tasteful biocatalyst 185
- Covalent immobilization
Properties of a glucose oxidase covalently immobilized on amorphous AlPO_4 support 567
- Cross-linking
Cross-linked crystals of hydroxynitrile lyase as catalyst for the synthesis of optically active cyanohydrins 607
- Crown ethers
Studies on the mechanism of crown-ether-induced activation of enzymes in non-aqueous media. 877
- Crystal
Cross-linked crystals of hydroxynitrile lyase as catalyst for the synthesis of optically active cyanohydrins 607

- Crystal structure
Vanillyl-alcohol oxidase, a tasteful biocatalyst 185
Structure and mechanism of the epoxide hydrolase from *Agrobacterium radiobacter* AD1 1035
- Cultured cells
Enantioselective hydrolyses of α -methylated cyclohexyl acetates by the cultured cells of *Marchantia polymorpha* 439
Cunninghamella blakesleeana
Microbial hydroxylation of unsaturated, cyclic carboxylic acids protected as benzoxazoles 361
- Cutinase
Enantioselective properties of *Fusarium solani pisi* cutinase on transesterification of acyclic diols: activity and stability evaluation 613
Kinetics and modelling of an alcoholysis reaction catalyzed by cutinase immobilized on NaY zeolite 713
- (S)-Cyanohydrin
Enzymatic formation and esterification of (S)-mandelonitrile 213
- Cyclic-imide
Enzymatic production of pyruvate from fumarate — an application of microbial cyclic-imide-transforming pathway 355
- Cyclohexanone monooxygenase
Baeyer-Villiger oxidations of representative heterocyclic ketones by whole cells of engineered *Escherichia coli* expressing cyclohexanone monooxygenase 349
- Cyclohexanones
Microbial reduction of cyclohexanones 233
- Cyclohexyl acetate
Enantioselective hydrolyses of α -methylated cyclohexyl acetates by the cultured cells of *Marchantia polymorpha* 439
- Cytochrome *c*
Catalytic oxidation of *o*-phenylenediamine by cytochrome *c* encapsulated in reversed micelles 955
- Degradation
Biotreatment of desized cotton fabric by commercial cellulase and xylanase enzymes 1065
- Desaturase
Enantioselective oxidation of thiafatty acids by an algal Δ 12-desaturase 1007
- Desglucodesrhamnoruscin
An enzymatic process for the production of the pharmacologically active glycoside desglucodesrhamnoruscin from *Ruscus aculeatus* L. 307
- Desulfurization
Purification and characterization of enzymes involved in desulfurization of dibenzothiophene in fossil fuels 1061
- Diastereo- and enantioselective reductions
Microbial reduction of cyclohexanones 233
- Dibenzothiophene
Purification and characterization of enzymes involved in desulfurization of dibenzothiophene in fossil fuels 1061
- Diglycerides
Contribution of response surface design to the development of glycerolysis systems catalyzed by commercial immobilized lipases 699
- 1,5-Dimethyl-2-piperidone
Chemoenzymatic production of 1,5-dimethyl-2-piperidone 295
- Direct esterification
Effect of acyl donor chain length and sugar/acyl donor molar ratio on enzymatic synthesis of fatty acid fructose esters 725
- Drug discovery
Cloning, expression, purification and characterization of the alternate splice Src variants for drug discovery 805
- E. coli*
Recombinant thermophilic enzymes for trehalose and trehalosyl dextrins production 777
- EDC (1-ethyl-3-(3-dimethylaminopropyl) carbodiimide, hydrochloride)
Stabilization of D-hydantoinase by intersubunit cross-linking 29
- Electron transfer
Influence of biologically relevant ligands on oxidation of reduced glucose oxidase by electrochemically generated [Ru^{III}(bpy)₂XY] complexes 139
- Emulsifier
Emulsifiers from solid and liquid polyols: different strategies for obtaining optimum conversions and selectivities 883
- Enantiomeric purity
Asymmetric bioreduction of racemic 5,6,7,8-tetrahydro-8-methyl-1,3-dimethoxynaphthalen-6-one to the corresponding chiral β -tetralols 367
- Enantiomeric ratio
Enantioselective oxidation of amphetamine by copper-containing quinoprotein amine oxidases from *Escherichia coli* and *Klebsiella oxytoca* 81
- Enantiomers separation
Synthesis of optically active aminoalcohols 255
- Enantioselective hydrolyses
Enantioselective enzymatic hydrolysis of racemic glycidyl esters by using immobilized porcine pancreas lipase with improved catalytic properties 757
- Enantioselective hydrolysis
Enantioselective hydrolyses of α -methylated cyclohexyl acetates by the cultured cells of *Marchantia polymorpha* 439
- Enantioselective lactonization
Lactones 7.1. Enantioselective lactonization of racemic ethyl (5,5-dimethyl-2,3-epoxycyclohex-1-yl)acetate 243
- Enantioselective reactions
Lipase-catalyzed optical resolution of trifluoro(aryl)ethanols 287
- Enantioselective reduction
Preparative synthesis of chiral alcohols by enantioselective reduction with *Daucus carota* root as biocatalyst 55
- Enantioselective transesterification
Enantioselective transesterification of secondary alcohols mediated by aminoacylases from *Aspergillus* species 373
- Enantioselectivity
Vanillyl-alcohol oxidase, a tasteful biocatalyst 185
- Endoxylanase
Catalytic properties of the endoxylanase I from *Thermoascus aurantiacus* 491
- Enthalpy
Influence of acyl chain length on the enantioselectivity of *Candida antarctica* lipase B and its thermodynamic components in kinetic resolution of *sec*-alcohols 1025

- Entropy
Influence of acyl chain length on the enantioselectivity of *Candida antarctica* lipase B and its thermodynamic components in kinetic resolution of *sec*-alcohols 1025
- Enzymatically removable protecting group
Bis-phenacetyl and phenoxyacetyl groups as substrates for penG and penV amidases 487
- Enzymatic catalysis
Kinetics and modelling of an alcoholysis reaction catalyzed by cutinase immobilized on NaY zeolite 713
- Enzymatic conversion
Enzymatic conversions of polar lipids. Principles, problems and solutions 173
- Enzymatic galactosylation
Enzymatic galactosylation of C-glycosides analogues en route to C-glycopeptides 343
- Enzymatic hydrolysis
The aNatural Strategyb for the glycosidase-assisted synthesis of simple glycosides 189
Biosaccharification of cellulosic biomass in immiscible solvent–water mixtures 867
Enzymatic hydrolysis of proteins from yellowfin tuna (*Thunnus albacares*) wastes using Alcalase 1051
- Enzymatic peptide synthesis
Chum salmon trypsin-catalyzed peptide synthesis with inverse substrates as acyl donor components at low temperature 23
Stability and catalytic properties of subtilisin in acetonitrile/dimethylformamide mixtures with low water content 89
- Enzymatic regeneration
Continuous enzymatic regeneration of redox mediators used in biotransformation reactions employing flavoproteins 541
- Enzymatic synthesis
Enzymatic synthesis of disaccharides by β -galactosidase-catalyzed glycosylation of a glycocluster 71
Kinetically controlled synthesis of ampicillin with immobilized penicillin acylase in the presence of organic cosolvents 587
Cross-linked aggregates of penicillin acylase: robust catalysts for the synthesis of β -lactam antibiotics 665
- Enzymatic synthesis of ampicillin
Stabilization of a tetrameric enzyme (α -amino acid ester hydrolase from *Acetobacter turbidans*) enables a very improved performance of ampicillin synthesis 633
- Enzymatic transglycosylation
Enzymatic rearrangement of chitine hydrolysates with β -N-acetylhexosaminidase from *Aspergillus oryzae* 225
- Enzyme
Applications of mass spectrometry in screening for new biocatalysts 733
- Enzyme immobilization
Immobilization of glucoamylase onto spacer-arm attached magnetic poly(methylmethacrylate) microspheres: characterization and application to a continuous flow reactor 127
Cross-linked aggregates of penicillin acylase: robust catalysts for the synthesis of β -lactam antibiotics 665
Kinetics and modelling of an alcoholysis reaction catalyzed by cutinase immobilized on NaY zeolite 713
- Enzyme inactivation
Effect of modulation of enzyme inactivation on temperature optimization for reactor operation with chitin-immobilized lactase 531
Lysozyme inactivation and aggregation in stirred-reactor 559
- Enzyme inhibition and activation
Effect of several anions on the activity of mitochondrial malate dehydrogenase from pig heart 743
- Enzyme mechanism
Nucleotide ester-forming alcoholic activities of nucleotide pyrophosphatases: implications for practical biotransformation, enzyme mechanisms and biological function 469
- Enzyme–membrane reactor
Studies on the continuous production of (*R*)-(-)-phenylacetylcarbinol in an enzyme-membrane reactor 387
- Enzyme purification
Properties of the recombinant α -glucosidase from *Sulfolobus solfataricus* in relation to starch processing 787
- Enzyme reactor
Immobilization of glucoamylase onto spacer-arm attached magnetic poly(methylmethacrylate) microspheres: characterization and application to a continuous flow reactor 127
Preparative regio- and chemoselective functionalization of hydrocarbons catalyzed by cell free preparations of 2-hydroxybiphenyl 3-monoxygenase 455
- Enzyme reactors
Effect of modulation of enzyme inactivation on temperature optimization for reactor operation with chitin-immobilized lactase 531
- Enzymes in organic medium
Preparation of new lipases derivatives with high activity–stability in anhydrous media: adsorption on hydrophobic supports plus hydrophilization with polyethylenimine 817
- Enzyme specificity
Stabilization of a tetrameric enzyme (α -amino acid ester hydrolase from *Acetobacter turbidans*) enables a very improved performance of ampicillin synthesis 633
- Enzyme stabilization
Stabilization of a β -glucosidase from *Aspergillus niger* by binding to an amine agarose gel 63
Influence of the immobilization chemistry on the properties of immobilized β -galactosidases 597
- Epoxide hydrolase
Structure and mechanism of the epoxide hydrolase from *Agrobacterium radiobacter* AD1 1035
- Erwinia* L-asparaginase
Stabilization of anti-leukemic enzyme L-asparaginase by immobilization on polysaccharide levan 551
- Escherichia coli*
Enantioselective oxidation of amphetamine by copper-containing quinoprotein amine oxidases from *Escherichia coli* and *Klebsiella oxytoca* 81
- Essential metal ions
Cloning, expression, purification and characterization of the alternate splice Src variants for drug discovery 805
- Esterification
Enzymatic synthesis of hydrophilic and hydrophobic derivatives of natural phenolic acids in organic media 323

- Evaluation of regioselectivity of lipases based on synthesis reaction conducted with propyl alcohol, isopropyl alcohol and propylene glycol 445
- Small water amounts increase the catalytic behaviour of polar organic solvents pre-treated *Candida rugosa* lipase 939
- Influence of water activity and water content on sugar esters lipase-catalyzed synthesis in organic media 949
- Enzymatic esterification of ethanol and oleic acid — a kinetic study 999
- Esterification reactions
- Influence of the porous texture of silica gels on the enzymatic activity of lipases in esterification reactions 639
- Ester synthesis
- Mathematical modelling of ester synthesis by lipase in biphasic system 1043
- Ethyl ester
- Synthesis of designer lipids using papaya (*Carica papaya*) latex lipase 271
- Experimental design
- Effect of acyl donor chain length and sugar/acyl donor molar ratio on enzymatic synthesis of fatty acid fructose esters 725
- Extremophiles
- Recombinant thermophilic enzymes for trehalose and trehalosyl dextrins production 777
- Family 10
- Catalytic properties of the endoxylanase I from *Thermoascus aurantiacus* 491
- Fatty acid binding protein
- Converting a fatty acid binding protein to an artificial transaminase: novel catalysts by chemical and genetic modification of a protein cavity 967
- Fatty acid chain length
- Effect of acyl donor chain length and sugar/acyl donor molar ratio on enzymatic synthesis of fatty acid fructose esters 725
- Fermentation
- Biosaccharification of cellulosic biomass in immiscible solvent–water mixtures 867
- Filamentous Fungi
- Enzymatic synthesis of three *p*NP- α -galactobiopyranosides: application of the library of fungal α -galactosidases 219
- Fischer glycosidation
- The aNatural Strategyb for the glycosidase-assisted synthesis of simple glycosides 189
- Flavin reductase
- Purification and characterization of enzymes involved in desulfurization of dibenzothiophene in fossil fuels 1061
- Fluidised bed
- A new experimental layout for non-aqueous enzymatic syntheses 961
- Folding
- Improving enzyme characteristics by gene shuffling; application to β -glucosidase 811
- Fumarate
- Enzymatic production of pyruvate from fumarate — an application of microbial cyclic-imide-transforming pathway 355
- Fungal spores
- Biotransformation of terpenes by fungi Study of the pathways involved 265
- Fusarium semitectum*
- Lactones 7 1. Enantioselective lactonization of racemic ethyl (5,5-dimethyl-2,3-epoxycyclohex-1-yl)acetate 243
- Galactobiose
- Enzymatic synthesis of three *p*NP- α -galactobiopyranosides: application of the library of fungal α -galactosidases 219
- α -Galactosidase
- Enzymatic synthesis of three *p*NP- α -galactobiopyranosides: application of the library of fungal α -galactosidases 219
- β -Galactosidase
- Influence of the non-isothermal conditions on the activity of enzymes immobilized on nylon grafted membranes 113
- β -galactosidase
- Enzymatic synthesis of disaccharides by β -galactosidase-catalyzed glycosylation of a glycocluster 71
 - The process of thermodialysis and the efficiency increase of bioreactors operating under non-isothermal conditions 97
- β -Galactosidases
- Influence of the immobilization chemistry on the properties of immobilized β -galactosidases 597
- Galbonolide B
- Microbial hydroxylation of rustmicin (galbonolide A) and galbonolide B, two antifungal products produced by *Micromonospora* sp. 237
- Gas bubbling
- A new experimental layout for non-aqueous enzymatic syntheses 961
- Gene shuffling
- Improving enzyme characteristics by gene shuffling; application to β -glucosidase 811
- Geraniol
- Biotransformation of terpenes by fungi Study of the pathways involved 265
- Ginsenos
- Biotransformation of the fungistatic sesquiterpenoids patchoulol, ginsenos, cedrol and globulol by *Botrytis cinerea* 329
- Globulol
- Biotransformation of the fungistatic sesquiterpenoids patchoulol, ginsenos, cedrol and globulol by *Botrytis cinerea* 329
- Glucoamylase
- Immobilization of glucoamylase onto spacer-arm attached magnetic poly(methylmethacrylate) microspheres: characterization and application to a continuous flow reactor 127
- Glucose oxidase
- Influence of biologically relevant ligands on oxidation of reduced glucose oxidase by electrochemically generated [Ru^{III}(bpy)₂XY] complexes 139
 - Properties of a glucose oxidase covalently immobilized on amorphous AlPO₄ support 567
- α -Glucosidase
- Properties of the recombinant α -glucosidase from *Sulfolobus solfataricus* in relation to starch processing 787
- β -Glucosidase
- Improving enzyme characteristics by gene shuffling; application to β -glucosidase 811

- β -glucosidase
Stabilization of a β -glucosidase from *Aspergillus niger* by binding to an amine agarose gel 63
- β -Glucosidase-catalyzed condensation
Synthesis of alkyl glycosides through β -glucosidase-catalyzed condensation in an aqueous–organic biphasic system and estimation of the equilibrium constants for their formation 13
- Glycerolysis
Contribution of response surface design to the development of glycerolysis systems catalyzed by commercial immobilized lipases 699
- Glycidyl butyrate
Enantioselective enzymatic hydrolysis of racemic glycidyl esters by using immobilized porcine pancreas lipase with improved catalytic properties 757
- Glycocluster
Enzymatic synthesis of disaccharides by β -galactosidase-catalyzed glycosylation of a glycocluster 71
- Glycosidase catalyzed transglycosylation
Enzymatic synthesis of disaccharides by β -galactosidase-catalyzed glycosylation of a glycocluster 71
- Glycosidases
The aNatural Strategyb for the glycosidase-assisted synthesis of simple glycosides 189
- Glycosylation
Microbiological transformation of mycophenolic acid 423
Stabilization of anti-leukemic enzyme L-asparaginase by immobilization on polysaccharide levan 551
- Glycosynthase
Glycosynthases: new enzymes for oligosaccharide synthesis 155
- Grafting
The process of thermodialysis and the efficiency increase of bioreactors operating under non-isothermal conditions 97
Influence of the non-isothermal conditions on the activity of enzymes immobilized on nylon grafted membranes 113
- GroEL/ES
Improving enzyme characteristics by gene shuffling: application to β -glucosidase 811
- Glycosyl hydrolase
Glycosynthases: new enzymes for oligosaccharide synthesis 155
- Hemicellulase
Biotreatment of desized cotton fabric by commercial cellulase and xylanase enzymes 1065
- Heterocyclic ketones
Baeyer-Villiger oxidations of representative heterocyclic ketones by whole cells of engineered *Escherichia coli* expressing cyclohexanone monooxygenase 349
- Hevea brasiliensis*
Enzymatic formation and esterification of (*S*)-mandelonitrile 213
- High throughput
Applications of mass spectrometry in screening for new biocatalysts 733
- Hinokitiol
High production of β -thujaplicin with *Thuja dolabrata* var. *hondai* cells in a semi-continuous culture system 59
- Hydantoinase
A novel *Pseudomonas putida* strain with high levels of hydantoin-converting activity, producing L-amino acids 397
- D-hydantoinase
Stabilization of D-hydantoinase by intersubunit cross-linking 29
- Hydrazine
Lipase catalysed acylation of hydroxylamine and hydrazine derivatives 315
- Hydrocarbons
Biocatalytic asymmetric hydroxylation of hydrocarbons by free and immobilized *Bacillus megaterium* cells 377
- α / β hydrolase fold
Structure and mechanism of the epoxide hydrolase from *Agrobacterium radiobacter* AD1 1035
- Hydrolysis
The substrate requirements of phospholipase D 433
Binding site of acyl moiety in ester hydrolysis by *Candida rugosa* lipase 1029
- Hydrophobic adsorption
Enantioselective enzymatic hydrolysis of racemic glycidyl esters by using immobilized porcine pancreas lipase with improved catalytic properties 757
- 2-Hydroxybiphenyl 3-monooxygenase
Preparative regio- and chemoselective functionalization of hydrocarbons catalyzed by cell free preparations of 2-hydroxybiphenyl 3-monooxygenase 455
- Hydroxyisoxazolidine
Synthesis of optically active aminoxy alcohols 255
- Hydroxy lactones
Lactones 7 1. Enantioselective lactonization of racemic ethyl (5,5-dimethyl-2,3-epoxycyclohex-1-yl)acetate 243
- Hydroxylamine
Lipase catalysed acylation of hydroxylamine and hydrazine derivatives 315
- Hydroxylamine derivatives
Synthesis of optically active aminoxy alcohols 255
- Hydroxylation
Biocatalytic asymmetric hydroxylation of hydrocarbons by free and immobilized *Bacillus megaterium* cells 377
- Hydroxynitrile lyase
Enzymatic formation and esterification of (*S*)-mandelonitrile 213
Cross-linked crystals of hydroxynitrile lyase as catalyst for the synthesis of optically active cyanohydrins 607
- 2-Hydroxy-2-phenylpropanenitrile
Optimized methods for the preparation of (*S*)-2-hydroxy-2-phenylpropanenitrile exploiting (*R*)-oxynitrilase in almond meal 37
- α -Hydroxy silanes
Biotransformations of organosilicon compounds: enantioselective reduction of acyl silanes by means of baker's yeast 279
- Ibuprofen
Lipase catalysed acylation of hydroxylamine and hydrazine derivatives 315
- Immobilisation
Engineering chloroperoxidase for activity and stability 765
Enzymatic esterification of ethanol and oleic acid — a kinetic study 999

- Different phyllosilicates as supports for lipase immobilisation 657
- Immobilised PGA
Activity of covalently immobilised PGA in water miscible solvents at controlled a_w 851
- Immobilization
A new support for the immobilization of penicillin acylase 45
Chemoenzymatic production of 1,5-dimethyl-2-piperidone 295
Biocatalytic asymmetric hydroxylation of hydrocarbons by free and immobilized *Bacillus megaterium* cells 377
Stabilization of anti-leukemic enzyme L-asparaginase by immobilization on polysaccharide levan 551
Influence of the immobilization chemistry on the properties of immobilized β -galactosidases 597
Enantioselective enzymatic hydrolysis of racemic glycidyl esters by using immobilized porcine pancreas lipase with improved catalytic properties 757
- Immobilized cells
PVA-biocatalyst with entrapped viable *Bacillus subtilis* cells 671
- Immobilized enzyme
Properties of a glucose oxidase covalently immobilized on amorphous $AlPO_4$ support 567
- Immobilized glucose oxidase
Properties of a glucose oxidase covalently immobilized on amorphous $AlPO_4$ support 567
- Immobilized lactase
Effect of modulation of enzyme inactivation on temperature optimization for reactor operation with chitin-immobilized lactase 531
- Immobilized lipases
Biocatalyst engineering exerts a dramatic effect on selectivity of hydrolysis catalyzed by immobilized lipases in aqueous medium 649
- Inclusion complex
Catalytic specificity of *p*-sulfonatocalix[n]arenes on the alcoholysis of *N*-Ac-L-amino acids in methanol solution 985
- Inhibition
Effect of various water-miscible solvents on enzymatic activity of fungal laccases 1
Development of a computer program for analysis of enzyme kinetics by progress curve fitting 991
- Initial rate
Modeling the performance of immobilized α -chymotrypsin catalyzed peptide synthesis in acetonitrile medium 841
- Inorganic support
Properties of a glucose oxidase covalently immobilized on amorphous $AlPO_4$ support 567
- Interesterification
Synthesis of designer lipids using papaya (*Carica papaya*) latex lipase 271
Immobilized lipase-mediated acidolysis of butteroil with conjugated linoleic acid: batch reactor and packed bed reactor studies 623
- Interfacial adsorption
Preparation of new lipases derivatives with high activity–stability in anhydrous media: adsorption on hydrophobic supports plus hydrophilization with polyethylenimine 817
- Interfacial catalysis
Interfacial catalysis by lipases 165
- Internal diffusion and reaction
Modeling the performance of immobilized α -chymotrypsin catalyzed peptide synthesis in acetonitrile medium 841
- Intersubunit cross-linking
Stabilization of D-hydantoinase by intersubunit cross-linking 29
- Inverse substrate
Chum salmon trypsin-catalyzed peptide synthesis with inverse substrates as acyl donor components at low temperature 23
- Isomaltulose
Enzymatic redox isomerization of 1,6-disaccharides by pyranose oxidase and NADH-dependent aldose reductase 407
- KDO
Rabbit muscle aldolase (RAMA) as a catalyst in a new approach for the synthesis of 3-deoxy-D-manno-2-octulosonic acid and analogues 207
- KDO analogues
Rabbit muscle aldolase (RAMA) as a catalyst in a new approach for the synthesis of 3-deoxy-D-manno-2-octulosonic acid and analogues 207
- Ketoconazole
A biocatalytic resolution of chiral ketals, intermediates in the synthesis ofazole drugs 427
- β -Keto esters
Baker's yeast mediated reduction of β -keto esters and β -keto amides in an organic solvent system 893
- Ketones
Asymmetric bioreductions: application to the synthesis of pharmaceuticals 503
- Ketoprofen
Small water amounts increase the catalytic behaviour of polar organic solvents pre-treated *Candida rugosa* lipase 939
- Ketose
Enzymatic syntheses of ketoses: study and modification of the substrate specificity of the transketolase from *Saccharomyces cerevisiae* 771
- Kinetically controlled peptide synthesis
Modeling the performance of immobilized α -chymotrypsin catalyzed peptide synthesis in acetonitrile medium 841
- Kinetic constants
Enzymatic esterification of ethanol and oleic acid — a kinetic study 999
- Kinetic mechanism
Effect of several anions on the activity of mitochondrial malate dehydrogenase from pig heart 743
- Kinetic resolution
Enantioselective oxidation of amphetamine by copper-containing quinoprotein amine oxidases from *Escherichia coli* and *Klebsiella oxytoca* 81
- Kinetics
Influence of biologically relevant ligands on oxidation of reduced glucose oxidase by electrochemically generated $[Ru^{III}(bpy)_2XY]$ complexes 139
Lysozyme inactivation and aggregation in stirred-reactor 559

- Micellar catalysis of polyphenol oxidase in AOT/cyclohexane 857
- Development of a computer program for analysis of enzyme kinetics by progress curve fitting 991
- Klebsiella oxytoca*
- Enantioselective oxidation of amphetamine by copper-containing quinoprotein amine oxidases from *Escherichia coli* and *Klebsiella oxytoca* 81
- Laccase
- Effect of various water-miscible solvents on enzymatic activity of fungal laccases 1
- Continuous enzymatic regeneration of redox mediators used in biotransformation reactions employing flavoproteins 541
- β -Lactam antibiotics
- Kinetically controlled synthesis of ampicillin with immobilized penicillin acylase in the presence of organic cosolvents 587
- β -lactam antibiotics
- Cross-linked aggregates of penicillin acylase: robust catalysts for the synthesis of β -lactam antibiotics 665
- Lactate dehydrogenase
- Control of enzymic activity by artificial cell-surface receptors 977
- Levan
- Stabilization of anti-leukemic enzyme L-asparaginase by immobilization on polysaccharide levan 551
- Lignocellulosic biomass
- Biosaccharification of cellulosic biomass in immiscible solvent–water mixtures 867
- Lipase
- Synthesis of designer lipids using papaya (*Carica papaya*) latex lipase 271
- Lipase-catalyzed optical resolution of trifluoro(aryl)ethanols 287
- Lipase catalysed acylation of hydroxylamine and hydrazine derivatives 315
- Enzymatic synthesis of hydrophilic and hydrophobic derivatives of natural phenolic acids in organic media 323
- One-pot biocatalyzed preparation of substituted amides as intermediates of pharmaceuticals 335
- A biocatalytic resolution of chiral ketals, intermediates in the synthesis ofazole drugs 427
- Evaluation of regioselectivity of lipases based on synthesis reaction conducted with propyl alcohol, isopropyl alcohol and propylene glycol 445
- Immobilized lipase-mediated acidolysis of butteroil with conjugated linoleic acid: batch reactor and packed bed reactor studies 623
- Response surface modelling of the production of ω -3 polyunsaturated fatty acids-enriched fats by a commercial immobilized lipase 677
- Contribution of response surface design to the development of glycerolysis systems catalyzed by commercial immobilized lipases 699
- Enzymatic synthesis of tricicosapentaenoylglycerol in a solvent-free medium 835
- Emulsifiers from solid and liquid polyols: different strategies for obtaining optimum conversions and selectivities 883
- Influence of water activity and water content on sugar esters lipase-catalyzed synthesis in organic media 949
- A new experimental layout for non-aqueous enzymatic syntheses 961
- Mathematical modelling of ester synthesis by lipase in biphasic system 1043
- Lipase assay
- Interfacial catalysis by lipases 165
- Lipase-catalyzed acetylation
- Synthesis of optically active aminoxy alcohols 255
- Lipase-catalyzed esterification
- Kinetic characterisation of enzymatic esterification in a solvent system: adsorptive control of water with molecular sieves 921
- Lipases
- Enzymatic conversions of polar lipids. Principles, problems and solutions 173
- Enantioselective enzymatic hydrolysis of racemic glycidyl esters by using immobilized porcine pancreas lipase with improved catalytic properties 757
- Preparation of new lipases derivatives with high activity–stability in anhydrous media: adsorption on hydrophobic supports plus hydrophilization with polyethylenimine 817
- Lipid bilayer
- Dynamic behavior of a transmembrane molecular switch as an artificial cell-surface receptor 971
- Lipoxygenase
- Biocatalysis of lipoxygenase in selected organic solvent media 909
- Liquid-phase synthesis
- Enzymatic synthesis of disaccharides by β -galactosidase-catalyzed glycosylation of a glycocluster 71
- Long-chain fatty acid esters
- Kinetic characterisation of enzymatic esterification in a solvent system: adsorptive control of water with molecular sieves 921
- Low water media
- Stability and catalytic properties of subtilisin in acetonitrile/dimethylformamide mixtures with low water content 89
- Low-water system
- A new experimental layout for non-aqueous enzymatic syntheses 961
- Lysine aminotransferase
- Novel biosynthetic routes to non-proteinogenic amino acids as chiral pharmaceutical intermediates 199
- Lysozyme
- Lysozyme inactivation and aggregation in stirred-reactor 559
- Magnetic microspheres
- Immobilization of glucoamylase onto spacer-arm attached magnetic poly(methylmethacrylate) microspheres: characterization and application to a continuous flow reactor 127
- Mandelic acid
- Biocatalyst engineering exerts a dramatic effect on selectivity of hydrolysis catalyzed by immobilized lipases in aqueous medium 649

- Marchantia polymorpha*
Enantioselective hydrolyses of α -methylated cyclohexyl acetates by the cultured cells of *Marchantia polymorpha* 439
- Mass spectrometry
Applications of mass spectrometry in screening for new biocatalysts 733
- Mathematical modelling
Mathematical modelling of ester synthesis by lipase in biphasic system 1043
- MCM-41
A new support for the immobilization of penicillin acylase 45
- 6-Methyl-5-hepten-2-one
Biotransformation of terpenes by fungi Study of the pathways involved 265
- Michaelis–Menten equation
Properties of a glucose oxidase covalently immobilized on amorphous AlPO_4 support 567
- Microbial hydroxylation
Microbial hydroxylation of unsaturated, cyclic carboxylic acids protected as benzoxazoles 361
- Microbial oxidation
Microbiological transformation of mycophenolic acid 423
- Microbial screening
Asymmetric bioreduction of racemic 5,6,7,8-tetrahydro-8-methyl-1,3-dimethoxynaphthalen-6-one to the corresponding chiral β -tetralols 367
- Micromonospora* sp.
Microbial hydroxylation of rustmicin (galbonolide A) and galbonolide B, two antifungal products produced by *Micromonospora* sp. 237
- Milkfat
Immobilized lipase-mediated acidolysis of butteroil with conjugated linoleic acid: batch reactor and packed bed reactor studies 623
- Mitochondrial malate dehydrogenase (mMDH)
Effect of several anions on the activity of mitochondrial malate dehydrogenase from pig heart 743
- Modulation factors
Effect of modulation of enzyme inactivation on temperature optimization for reactor operation with chitin-immobilized lactase 531
- Modulation of selectivity of lipases
Biocatalyst engineering exerts a dramatic effect on selectivity of hydrolysis catalyzed by immobilized lipases in aqueous medium 649
- Molecular sieves
Kinetic characterisation of enzymatic esterification in a solvent system: adsorptive control of water with molecular sieves 921
- Molecular switch
Dynamic behavior of a transmembrane molecular switch as an artificial cell-surface receptor 971
- Monoglycerides
Contribution of response surface design to the development of glycerolysis systems catalyzed by commercial immobilized lipases 699
- Monomer–dimer equilibrium
Effect of several anions on the activity of mitochondrial malate dehydrogenase from pig heart 743
- Monooxygenase
Enantioselective oxidation of thiafatty acids by an algal $\Delta 12$ -desaturase 1007
- Moraxella (Branhamella) ovis*
Biodegradation of an *s*-triazine herbicide, simazine 1073
- Mycobacterium* sp.
Conversion of β -sitosterol by *Mycobacterium* sp. NRRL B-3805 cells immobilized on Celite supports 523
- Mycobacterium* sp.
Whole-cell bioconversion of β -sitosterol in aqueous–organic two-phase systems 579
- Mycophenolic acid
Microbiological transformation of mycophenolic acid 423
- NaY zeolite
Kinetics and modelling of an alcoholysis reaction catalyzed by cutinase immobilized on NaY zeolite 713
- β -*N*-Acetylhexosaminidase
Enzymatic rearrangement of chitine hydrolysates with β -*N*-acetylhexosaminidase from *Aspergillus oryzae* 225
- Nerol
Biotransformation of terpenes by fungi Study of the pathways involved 265
- N* ^{α} -(*tert*-Butyloxycarbonyl)amino acid *p*-amidinophenyl ester
Chum salmon trypsin-catalyzed peptide synthesis with inverse substrates as acyl donor components at low temperature 23
- n*-Hexane
Kinetic characterisation of enzymatic esterification in a solvent system: adsorptive control of water with molecular sieves 921
- Nifenalol
Bioreduction of aromatic ketones: preparation of chiral benzyl alcohols in both enantiomeric forms 415
- Nitrilase
Chemoenzymatic production of 1,5-dimethyl-2-piperidone 295
- Nitrile hydratase
Hydrolysis of *D,L*-phenylglycine nitrile by new bacterial cultures 249
Chemoenzymatic production of 1,5-dimethyl-2-piperidone 295
Operational stability of *Brevibacterium imperialis* CBS 489-74 nitrile hydratase 687
- Nitrile hydrolysis
Hydrolysis of *D,L*-phenylglycine nitrile by new bacterial cultures 249
- Non-isothermal bioreactors
The process of thermodialysis and the efficiency increase of bioreactors operating under non-isothermal conditions 97
Influence of the non-isothermal conditions on the activity of enzymes immobilized on nylon grafted membranes 113
- Non-oxidative decarboxylation
Carbon dioxide fixation by reversible pyrrole-2-carboxylate decarboxylase and its application 179
- Nucleophile
Structure and mechanism of the epoxide hydrolase from *Agrobacterium radiobacter* AD1 1035
- Nucleophile selectivity
Modeling the performance of immobilized α -chymotrypsin catalyzed peptide synthesis in acetonitrile medium 841

- Nucleotide esters
 Nucleotide ester-forming alcoholic activities of nucleotide pyrophosphatases: implications for practical biotransformation, enzyme mechanisms and biological function 469
- Nucleotide pyrophosphatase
 Nucleotide ester-forming alcoholic activities of nucleotide pyrophosphatases: implications for practical biotransformation, enzyme mechanisms and biological function 469
- Numerical model
 Modeling the performance of immobilized α -chymotrypsin catalyzed peptide synthesis in acetonitrile medium 841
- Oligopeptide
 Chum salmon trypsin-catalyzed peptide synthesis with inverse substrates as acyl donor components at low temperature 23
- Oligosaccharides
 Glycosynthases: new enzymes for oligosaccharide synthesis 155
- Omega-3 polyunsaturated fatty acid
 Response surface modelling of the production of ω -3 polyunsaturated fatty acids-enriched fats by a commercial immobilized lipase 677
- One-pot
 One-pot chemo-enzymatic enantiomerization of racemates 149
- One-pot synthesis
 One-pot biocatalyzed preparation of substituted amides as intermediates of pharmaceuticals 335
- Operational stability
 Operational stability of *Brevibacterium imperialis* CBS 489-74 nitrile hydratase 687
- Optical resolution
 Lipase-catalyzed optical resolution of trifluoro(aryl)ethanols 287
- Organic acid
 Carbon dioxide fixation by reversible pyrrole-2-carboxylate decarboxylase and its application 179
- Organic media
 Enzymatic synthesis of hydrophilic and hydrophobic derivatives of natural phenolic acids in organic media 323
 Conversion of β -sitosterol by *Mycobacterium* sp. NRRL B-3805 cells immobilized on Celite supports 523
- Organic solvent
 The baker's yeast-mediated reduction of conjugated methylene groups in an organic solvent 905
- Organic solvents
 Effect of various water-miscible solvents on enzymatic activity of fungal laccases 1
 Stability and catalytic properties of subtilisin in acetonitrile/dimethylformamide mixtures with low water content 89
 Whole-cell bioconversion of β -sitosterol in aqueous-organic two-phase systems 579
 Kinetically controlled synthesis of ampicillin with immobilized penicillin acylase in the presence of organic cosolvents 587
 Influence of the immobilization chemistry on the properties of immobilized β -galactosidases 597
 Engineering chloroperoxidase for activity and stability 765
- Studies on the mechanism of crown-ether-induced activation of enzymes in non-aqueous media. 877
- Biocatalysis of tyrosinase using catechin as substrate in selected organic solvent media 929
 Small water amounts increase the catalytic behaviour of polar organic solvents pre-treated *Candida rugosa* lipase 939
- Organic solvent system
 Baker's yeast mediated reduction of β -keto esters and β -keto amides in an organic solvent system 893
- Organic synthesis
 A new experimental layout for non-aqueous enzymatic syntheses 961
- Oxidase
 Violacein transformation by peroxidases and oxidases: implications on its biological properties 463
- Oxidation
 Catalytic oxidation of *o*-phenylenediamine by cytochrome *c* encapsulated in reversed micelles 955
- Oxygenase
 Purification and characterization of enzymes involved in desulfurization of dibenzothiophene in fossil fuels 1061
- Oxynitrilase
 Optimized methods for the preparation of (*S*)-2-hydroxy-2-phenylpropanenitrile exploiting (*R*)-oxynitrilase in almond meal 37
 Enzymatic formation and esterification of (*S*)-mandelonitrile 213
- Papaya
 Synthesis of designer lipids using papaya (*Carica papaya*) latex lipase 271
- Parameter estimation
 Development of a computer program for analysis of enzyme kinetics by progress curve fitting 991
- Patchoulol
 Biotransformation of the fungistatic sesquiterpenoids patchoulol, ginsenosol, cedrol and globulol by *Botrytis cinerea* 329
- Pathway
 Biotransformation of terpenes by fungi Study of the pathways involved 265
- Penicillin acylase
 A new support for the immobilization of penicillin acylase 45
 Kinetically controlled synthesis of ampicillin with immobilized penicillin acylase in the presence of organic cosolvents 587
 Cross-linked aggregates of penicillin acylase: robust catalysts for the synthesis of β -lactam antibiotics 665
- Penicillin G amidase
 Bis-phenacetyl and phenoxyacetyl groups as substrates for penG and penV amidases 487
- Penicillin V amidase
 Bis-phenacetyl and phenoxyacetyl groups as substrates for penG and penV amidases 487
- Penicillium digitatum*
 Biotransformation of terpenes by fungi Study of the pathways involved 265
- Penicillium steckii*
 Biodegradation of an *s*-triazine herbicide, simazine 1073

- Peptides
Enzymatic hydrolysis of proteins from yellowfin tuna (*Thunnus albacares*) wastes using Alcalase 1051
- Peptone
Enzymatic hydrolysis of proteins from yellowfin tuna (*Thunnus albacares*) wastes using Alcalase 1051
- Peroxidase
Catalytic oxidation of *o*-phenylenediamine by cytochrome *c* encapsulated in reversed micelles 955
- Peroxidases
Violacein transformation by peroxidases and oxidases: implications on its biological properties 463
- Pharmaceutical intermediates
One-pot biocatalyzed preparation of substituted amides as intermediates of pharmaceuticals 335
- Phenolic antioxidants
Enzymatic synthesis of hydrophilic and hydrophobic derivatives of natural phenolic acids in organic media 323
- (*R*)-(-)-phenylacetylcarbinol
Studies on the continuous production of (*R*)-(-)-phenylacetylcarbinol in an enzyme-membrane reactor 387
- Phenylalkane diols
Enantioselective properties of *Fusarium solani pisi* cutinase on transesterification of acyclic diols: activity and stability evaluation 613
Regioselective resolution of 1,*n*-diols catalysed by lipases: a rational explanation of the enzymatic selectivity 1013
- (*R,S*)-1-phenyl-2-aminopropane
Enantioselective oxidation of amphetamine by copper-containing quinoprotein amine oxidases from *Escherichia coli* and *Klebsiella oxytoca* 81
- Phenylenediamine
Catalytic oxidation of *o*-phenylenediamine by cytochrome *c* encapsulated in reversed micelles 955
- D-Phenylglycine amide
Hydrolysis of D,L-phenylglycine nitrile by new bacterial cultures 249
- Phosphodiesterase
Nucleotide ester-forming alcoholic activities of nucleotide pyrophosphatases: implications for practical biotransformation, enzyme mechanisms and biological function 469
- pH stability
Micellar catalysis of polyphenol oxidase in AOT/cyclohexane 857
- Phospholipase D
The substrate requirements of phospholipase D 433
- Phyllosilicates
Different phyllosilicates as supports for lipase immobilisation 657
- p*-Nitrophenyl ester
Binding site of acyl moiety in ester hydrolysis by *Candida rugosa* lipase 1029
- Polar lipids
Enzymatic conversions of polar lipids. Principles, problems and solutions 173
- Poly(methylmethacrylate)
Immobilization of glucoamylase onto spacer-arm attached magnetic poly(methylmethacrylate) microspheres: characterization and application to a continuous flow reactor 127
- Polyol
Emulsifiers from solid and liquid polyols: different strategies for obtaining optimum conversions and selectivities 883
- Polyphenol oxidase
Micellar catalysis of polyphenol oxidase in AOT/cyclohexane 857
- Porcine pancreatic lipase
Regioselective resolution of 1,*n*-diols catalysed by lipases: a rational explanation of the enzymatic selectivity 1013
- Process development, fermentation
Asymmetric bioreductions: application to the synthesis of pharmaceuticals 503
- Progress curve fitting
Development of a computer program for analysis of enzyme kinetics by progress curve fitting 991
- Protein aggregation
Lysozyme inactivation and aggregation in stirred-reactor 559
- Protein engineering
Vanillyl-alcohol oxidase, a tasteful biocatalyst 185
- Protein–lipid interaction
Control of enzymic activity by artificial cell-surface receptors 977
- Protein surface hydrophilization
Preparation of new lipase derivatives with high activity–stability in anhydrous media: adsorption on hydrophobic supports plus hydrophilization with polyethylenimine 817
- Protein tyrosine kinases
Cloning, expression, purification and characterization of the alternate splice Src variants for drug discovery 805
- Proteolytic activity
PVA-biocatalyst with entrapped viable *Bacillus subtilis* cells 671
- Proteus*
Purification and characterization of an L-amino acid deaminase used to prepare unnatural amino acids 795
- Pseudomonas Cepacia*
Influence of the porous texture of silica gels on the enzymatic activity of lipases in esterification reactions 639
- Pseudomonas putida*
A novel *Pseudomonas putida* strain with high levels of hydantoin-converting activity, producing L-amino acids 397
- PVA-cryogel
PVA-biocatalyst with entrapped viable *Bacillus subtilis* cells 671
- Pyranose oxidase
Enzymatic redox isomerization of 1,6-disaccharides by pyranose oxidase and NADH-dependent aldose reductase 407
Continuous enzymatic regeneration of redox mediators used in biotransformation reactions employing flavoproteins 541
- Pyridoxamine
Converting a fatty acid binding protein to an artificial transaminase: novel catalysts by chemical and genetic modification of a protein cavity 967
- Pyrrrole-2-carboxylate
Carbon dioxide fixation by reversible pyrrole-2-carboxylate decarboxylase and its application 179
- Pyruvate
Enzymatic production of pyruvate from fumarate — an application of microbial cyclic-imide-transforming pathway 355

- Pyruvate decarboxylase
 Studies on the continuous production of (*R*)-(-)-phenyl-acetylcarbinol in an enzyme-membrane reactor 387
- Quinone electron acceptors
 Continuous enzymatic regeneration of redox mediators used in biotransformation reactions employing flavoproteins 541
- Racemates
 One-pot chemo-enzymatic enantiomerization of racemates 149
- Random mutagenesis
 Engineering chloroperoxidase for activity and stability 765
- Reaction equilibrium
 Carbon dioxide fixation by reversible pyrrole-2-carboxylate decarboxylase and its application 179
- Reaction kinetics
 Kinetic characterisation of enzymatic esterification in a solvent system: adsorptive control of water with molecular sieves 921
- Recombinant enzymes
 Cloning, expression, purification and characterization of the alternate splice Src variants for drug discovery 805
- Redox mediators
 Continuous enzymatic regeneration of redox mediators used in biotransformation reactions employing flavoproteins 541
- Regioselectivity
 Enzymatic synthesis of three *p*NP- α -galactobiopyranosides: application of the library of fungal α -galactosidases 219
 Evaluation of regioselectivity of lipases based on synthesis reaction conducted with propyl alcohol, isopropyl alcohol and propylene glycol 445
- Resolution
 Optimized methods for the preparation of (*S*)-2-hydroxy-2-phenylpropanenitrile exploiting (*R*)-oxynitrilase in almond meal 37
 A biocatalytic resolution of chiral ketals, intermediates in the synthesis ofazole drugs 427
- Response surface design
 Response surface modelling of the production of ω -3 polyunsaturated fatty acids-enriched fats by a commercial immobilized lipase 677
 Contribution of response surface design to the development of glycerolysis systems catalyzed by commercial immobilized lipases 699
- Reversed micelles
 Catalytic oxidation of *o*-phenylenediamine by cytochrome *c* encapsulated in reversed micelles 955
- Reverse micelles
 Micellar catalysis of polyphenol oxidase in AOT/cyclohexane 857
- Reversibility
 Carbon dioxide fixation by reversible pyrrole-2-carboxylate decarboxylase and its application 179
- Rhizomucor miehei*
 Characterization of a novel support for biocatalysis in supercritical carbon dioxide 825
- Rhizomucor miehei* lipase
 Enzymatic esterification of ethanol and oleic acid — a kinetic study 999
- Different phyllosilicates as supports for lipase immobilisation 657
- Rhodococcus erythropolis* DCL14
 Development of a reaction system for the selective conversion of (-)-*trans*-carveol to (-)-carvone with whole cells of *Rhodococcus erythropolis* DCL14 719
- Rhodotorula rubra*
 Lactones 7 1. Enantioselective lactonization of racemic ethyl (5,5-dimethyl-2,3-epoxycyclohex-1-yl)acetate 243
- Ruscoides
 An enzymatic process for the production of the pharmacologically active glycoside desglucodesrhamnoruscin from *Ruscus aculeatus* L. 307
- Ruscus aculeatus*
 An enzymatic process for the production of the pharmacologically active glycoside desglucodesrhamnoruscin from *Ruscus aculeatus* L. 307
- Ruscus* glycosides
 An enzymatic process for the production of the pharmacologically active glycoside desglucodesrhamnoruscin from *Ruscus aculeatus* L. 307
- Rustmicin (galbonolide A)
 Microbial hydroxylation of rustmicin (galbonolide A) and galbonolide B, two antifungal products produced by *Micromonospora* sp. 237
- Ruthenium complexes
 Influence of biologically relevant ligands on oxidation of reduced glucose oxidase by electrochemically generated [Ru^{III}(bpy)₂XY] complexes 139
- Screening
 Applications of mass spectrometry in screening for new biocatalysts 733
- Secondary alcohol dehydrogenase
 Industrial production of (*R*)-1,3-butanediol by new biocatalysts 513
- Secondary alcohols
 Synthesis of optically active aminoxy alcohols 255
 Enantioselective transesterification of secondary alcohols mediated by aminoacylases from *Aspergillus* species 373
- Selective hydrolysis
 Biocatalyst engineering exerts a dramatic effect on selectivity of hydrolysis catalyzed by immobilized lipases in aqueous medium 649
- Selectivity
 Influence of water activity and water content on sugar esters lipase-catalyzed synthesis in organic media 949
- Semi-continuous culture system
 High production of β -thujaplicin with *Thuja dolabrata* var. *hondai* cells in a semi-continuous culture system 59
- Semisynthetic enzyme
 Converting a fatty acid binding protein to an artificial transaminase: novel catalysts by chemical and genetic modification of a protein cavity 967
- Sepabeads
 Preparation of new lipases derivatives with high activity–stability in anhydrous media: adsorption on hydrophobic supports plus hydrophilization with polyethylenimine 817

- Serratia rubidaea*
Microbial reduction of cyclohexanones 233
- Sertraline
Bioreduction of aromatic ketones: preparation of chiral benzyl alcohols in both enantiomeric forms 415
- Side-chain cleavage
Conversion of β -sitosterol by *Mycobacterium* sp. NRRL B-3805 cells immobilized on Celite supports 523
- Signal transduction
Dynamic behavior of a transmembrane molecular switch as an artificial cell-surface receptor 971
Control of enzymic activity by artificial cell-surface receptors 977
- Silica gels
Influence of the porous texture of silica gels on the enzymatic activity of lipases in esterification reactions 639
- Simazine
Biodegradation of an *s*-triazine herbicide, simazine 1073
- Simple glycosides
The aNatural Strategyb for the glycosidase-assisted synthesis of simple glycosides 189
- Site-directed mutagenesis
Studies on the continuous production of (*R*)-(-)-phenyl-acetylcarbinol in an enzyme-membrane reactor 387
Enzymatic syntheses of ketoses: study and modification of the substrate specificity of the transketolase from *Saccharomyces cerevisiae* 771
- Sitosterol
Conversion of β -sitosterol by *Mycobacterium* sp. NRRL B-3805 cells immobilized on Celite supports 523
- β -Sitosterol
Whole-cell bioconversion of β -sitosterol in aqueous–organic two-phase systems 579
- Solvent-free medium
Enzymatic synthesis of triecosapentaenoylglycerol in a solvent-free medium 835
- Solvent polarity
Evaluation of regioselectivity of lipases based on synthesis reaction conducted with propyl alcohol, isopropyl alcohol and propylene glycol 445
- Solvent stability
Influence of the immobilization chemistry on the properties of immobilized β -galactosidases 597
- Sorbitol
Emulsifiers from solid and liquid polyols: different strategies for obtaining optimum conversions and selectivities 883
- Spacer-arm
Immobilization of glucoamylase onto spacer-arm attached magnetic poly(methylmethacrylate) microspheres: characterization and application to a continuous flow reactor 127
- Specific activity
Binding site of acyl moiety in ester hydrolysis by *Candida rugosa* lipase 1029
- Src
Cloning, expression, purification and characterization of the alternate splice Src variants for drug discovery 805
- Stability
Cross-linked crystals of hydroxynitrile lyase as catalyst for the synthesis of optically active cyanohydrins 607
- Stabilization
Stabilization of anti-leukemic enzyme L-asparaginase by immobilization on polysaccharide levan 551
- Stabilization and cross-linking
Cross-linked aggregates of penicillin acylase: robust catalysts for the synthesis of β -lactam antibiotics 665
- Stabilization of multimeric enzymes
Stabilization of a tetrameric enzyme (α -amino acid ester hydrolase from *Acetobacter turbidans*) enables a very improved performance of ampicillin synthesis 633
- Starch
Recombinant thermophilic enzymes for trehalose and trehalosyl dextrins production 777
- Starch process
Properties of the recombinant α -glucosidase from *Sulfolobus solfataricus* in relation to starch processing 787
- Stereochemistry
Microbial hydroxylation of unsaturated, cyclic carboxylic acids protected as benzoxazoles 361
- Stereospecificity
Enzymatic syntheses of ketoses: study and modification of the substrate specificity of the transketolase from *Saccharomyces cerevisiae* 771
- Stereospecific synthesis
Stabilization of a tetrameric enzyme (α -amino acid ester hydrolase from *Acetobacter turbidans*) enables a very improved performance of ampicillin synthesis 633
- Stirring
Lysozyme inactivation and aggregation in stirred-reactor 559
- Structured lipids
Synthesis of designer lipids using papaya (*Carica papaya*) latex lipase 271
- Substituted amides
One-pot biocatalyzed preparation of substituted amides as intermediates of pharmaceuticals 335
- Substrate
The substrate requirements of phospholipase D 433
- Substrate recognition
Enantioselective properties of *Fusarium solani pisi* cutinase on transesterification of acyclic diols: activity and stability evaluation 613
- Substrate specificity
Bis-phenacetyl and phenoxyacetyl groups as substrates for penG and penV amidases 487
Enzymatic syntheses of ketoses: study and modification of the substrate specificity of the transketolase from *Saccharomyces cerevisiae* 771
- Subtilisin
Stability and catalytic properties of subtilisin in acetonitrile/dimethylformamide mixtures with low water content 89
- Sugar
Emulsifiers from solid and liquid polyols: different strategies for obtaining optimum conversions and selectivities 883
- Sugar/acyl donor molar ratio
Effect of acyl donor chain length and sugar/acyl donor molar ratio on enzymatic synthesis of fatty acid fructose esters 725
- Sugar esters
Effect of acyl donor chain length and sugar/acyl donor molar ratio on enzymatic synthesis of fatty acid fructose esters 725

- Influence of water activity and water content on sugar esters lipase-catalyzed synthesis in organic media 949
- Sulfoxidation
Engineering chloroperoxidase for activity and stability 765
- Sulfoxide
Enantioselective oxidation of thiafatty acids by an algal Δ 12-desaturase 1007
- Supercritical carbon dioxide
Characterization of a novel support for biocatalysis in supercritical carbon dioxide 825
- TCA cycle
Enzymatic production of pyruvate from fumarate — an application of microbial cyclic-imide-transforming pathway 355
- Temperature
Influence of acyl chain length on the enantioselectivity of *Candida antarctica* lipase B and its thermodynamic components in kinetic resolution of *sec*-alcohols 1025
- Temperature optimization
Effect of modulation of enzyme inactivation on temperature optimization for reactor operation with chitin-immobilized lactase 531
- Terconazole
A biocatalytic resolution of chiral ketals, intermediates in the synthesis ofazole drugs 427
- Ternary complex mechanism
Enzymatic esterification of ethanol and oleic acid — a kinetic study 999
- Ternary micellar system
Biocatalysis of lipoyxygenase in selected organic solvent media 909
- Terpenes
Development of a reaction system for the selective conversion of (–)-*trans*-carveol to (–)-carvone with whole cells of *Rhodococcus erythropolis* DCL14 719
- Thermoascus aurantiacus*
Catalytic properties of the endoxylanase I from *Thermoascus aurantiacus* 491
- Thermodialysis
The process of thermodialysis and the efficiency increase of bioreactors operating under non-isothermal conditions 97
Influence of the non-isothermal conditions on the activity of enzymes immobilized on nylon grafted membranes 113
- Thermostable enzymes
Glycosynthases: new enzymes for oligosaccharide synthesis 155
- Thermozymes
Properties of the recombinant α -glucosidase from *Sulfolobus solfataricus* in relation to starch processing 787
- Thiafatty acid
Enantioselective oxidation of thiafatty acids by an algal Δ 12-desaturase 1007
- Thuja dolabrata* var. *hondai*
High production of β -thujaplicin with *Thuja dolabrata* var. *hondai* cells in a semi-continuous culture system 59
- Transaminase
Novel biosynthetic routes to non-proteinogenic amino acids as chiral pharmaceutical intermediates 199
- Transamination
Converting a fatty acid binding protein to an artificial transaminase: novel catalysts by chemical and genetic modification of a protein cavity 967
- Transcyanation
Enzymatic formation and esterification of (*S*)-mandelonitrile 213
- Trans*-cyanohydrin reaction
Enzymatic formation and esterification of (*S*)-mandelonitrile 213
- Transesterification
Enantioselective properties of *Fusarium solani pisi* cutinase on transesterification of acyclic diols: activity and stability evaluation 613
Response surface modelling of the production of ω -3 polyunsaturated fatty acids-enriched fats by a commercial immobilized lipase 677
Enzymatic synthesis of triicosapentaenoylglycerol in a solvent-free medium 835
Regioselective resolution of 1,*n*-diols catalysed by lipases: a rational explanation of the enzymatic selectivity 1013
- Transformation
Violacein transformation by peroxidases and oxidases: implications on its biological properties 463
- Transglycosylation
Enzymatic synthesis of three *p*NP- α -galactobiopyranosides: application of the library of fungal α -galactosidases 219
- Transhydrocyanation
Optimized methods for the preparation of (*S*)-2-hydroxy-2-phenylpropanenitrile exploiting (*R*)-oxynitrilase in almond meal 37
- Transketolase
Enzymatic syntheses of ketoses: study and modification of the substrate specificity of the transketolase from *Saccharomyces cerevisiae* 771
- Trehalose
Recombinant thermophilic enzymes for trehalose and trehalosyl dextrins production 777
- Trehalose producing enzymes
Recombinant thermophilic enzymes for trehalose and trehalosyl dextrins production 777
- Triazine herbicide
Biodegradation of an *s*-triazine herbicide, simazine 1073
- Triicosapentaenoylglycerol
Enzymatic synthesis of triicosapentaenoylglycerol in a solvent-free medium 835
- Trifluoro(aryl)ethanols
Lipase-catalyzed optical resolution of trifluoro(aryl)ethanols 287
- Tuna wastes
Enzymatic hydrolysis of proteins from yellowfin tuna (*Thunnus albacares*) wastes using Alcalase 1051
- Tunnel structure
Binding site of acyl moiety in ester hydrolysis by *Candida rugosa* lipase 1029
- Two-phase systems
Whole-cell bioconversion of β -sitosterol in aqueous–organic two-phase systems 579

- Tyrosinase
 Micellar catalysis of polyphenol oxidase in AOT/cyclohexane 857
 Biocatalysis of tyrosinase using catechin as substrate in selected organic solvent media 929
- UF-membrane reactor
 Operational stability of *Brevibacterium imperialis* CBS 489-74 nitrile hydratase 687
- Unnatural amino acid
 Purification and characterization of an L-amino acid deaminase used to prepare unnatural amino acids 795
- Vanillin
 Vanillyl-alcohol oxidase, a tasteful biocatalyst 185
- Violacein
 Violacein transformation by peroxidases and oxidases: implications on its biological properties 463
- Water activity
 Activity of covalently immobilised PGA in water miscible solvents at controlled a_w 851
- Small water amounts increase the catalytic behaviour of polar organic solvents pre-treated *Candida rugosa* lipase 939
 Influence of water activity and water content on sugar esters lipase-catalyzed synthesis in organic media 949
- Water content
 Influence of water activity and water content on sugar esters lipase-catalyzed synthesis in organic media 949
- Water miscible solvents
 Activity of covalently immobilised PGA in water miscible solvents at controlled a_w 851
- Whole-cell biotransformation
 Baeyer-Villiger oxidations of representative heterocyclic ketones by whole cells of engineered *Escherichia coli* expressing cyclohexanone monooxygenase 349
- Whole-cell biotransformations
 Bioreduction of aromatic ketones: preparation of chiral benzyl alcohols in both enantiomeric forms 415
- Whole-cells
 Whole-cell bioconversion of β -sitosterol in aqueous–organic two-phase systems 579