

Subject Index

Acetylcholine

A fluorescent biosensor based on acetylcholinesterase and 5-oxazolone derivative immobilized in polyvinylchloride (PVC) matrix 111

Amphiphilic polysaccharides

pH-imprinted lipase catalyzed synthesis of dextran fatty acid ester 135

Anticancer agents

Convenient synthesis of β -galactosyl nucleosides using the marine β -galactosidase from *Aplysia fasciata* 28

Aspergillus aculeatus

Cellobiohydrolase I (Cel7A) from *Trichoderma reesei* has chitosanase activity 159

Binary mixture

Influence of ionic liquids as additives on sol–gel immobilized lipase 129

Biocatalysis

Transglycosylation reactions using glycosyl hydrolases from *Thermotoga neapolitana*, a marine hydrogen-producing bacterium 21

Biohydrogen

Transglycosylation reactions using glycosyl hydrolases from *Thermotoga neapolitana*, a marine hydrogen-producing bacterium 21

Biomolecular vessel

Calcined layered double hydroxides as a “biomolecular vessel” for bromelain: Immobilization, storage and release 58

Biotransformation

Biotransformation of prenol alcohols by cultured cells of *Cucurbita maxima* 33

Microbial hydroxylation of 16 α ,17 α -dimethyl-17 β -(1-oxopropyl)androsta-1,4-dien-3-one to rimexolone by *Curvularia lunata* AS 3.4381 155

Bitter gourd peroxidase

A peroxidase from bitter gourd (*Momordica charantia*) with enhanced stability against organic solvent and detergent: A comparison with horseradish peroxidase 66

Bromelain

Calcined layered double hydroxides as a “biomolecular vessel” for bromelain: Immobilization, storage and release 58

Burkholderia cepacia

Highly enantioselective hydrolysis of DL-menthyl acetate to L-menthol by whole-cell lipase from *Burkholderia cepacia* ATCC 25416 149

Calcination

Calcined layered double hydroxides as a “biomolecular vessel” for bromelain: Immobilization, storage and release 58

celEFG

Characterization of the recombinant cellobiase from *celG* gene in the beta-glucoside utilization gene operon of *Pectobacterium carotovorum* subsp. *carotovorum* LY34 91

Cellobiase

Characterization of the recombinant cellobiase from *celG* gene in the beta-glucoside utilization gene operon of *Pectobacterium carotovorum* subsp. *carotovorum* LY34 91

Cellobiohydrolase

Cellobiohydrolase I (Cel7A) from *Trichoderma reesei* has chitosanase activity 159

Cephalexin

Synthesis of cephalexin with immobilized penicillin acylase at very high substrate concentrations in fully aqueous medium 72

Chiral resolution

Overexpression of *Serratia marcescens* lipase in *Escherichia coli* for efficient bioresolution of racemic ketoprofen 105

Chitosanase

Cellobiohydrolase I (Cel7A) from *Trichoderma reesei* has chitosanase activity 159

Circular dichroism

A peroxidase from bitter gourd (*Momordica charantia*) with enhanced stability against organic solvent and detergent: A comparison with horseradish peroxidase 66

Co-immobilization

Influence of ionic liquids as additives on sol–gel immobilized lipase 129

Cosmid library

Characterization of the recombinant cellobiase from *celG* gene in the beta-glucoside utilization gene operon of *Pectobacterium carotovorum* subsp. *carotovorum* LY34 91

Cosolvent effect

Chemoenzymatic synthesis of enantiomerically enriched α -hydroxyamides 125

Cucurbita maxima

Biotransformation of prenol alcohols by cultured cells of *Cucurbita maxima* 33

Curvularia lunata AS 3.4381

Microbial hydroxylation of 16 α ,17 α -dimethyl-17 β -(1-oxopropyl)androsta-1,4-dien-3-one to rimexolone by *Curvularia lunata* AS 3.4381 155

Cyclodextrins

Kinetic characterization of diphenolase activity from *Streptomyces antibioticus* tyrosinase in the presence and absence of cyclodextrins 143

Dextran

pH-imprinted lipase catalyzed synthesis of dextran fatty acid ester 135

Diphenolase activity

Kinetic characterization of diphenolase activity from *Streptomyces antibioticus* tyrosinase in the presence and absence of cyclodextrins 143

Donepezil

A fluorescent biosensor based on acetylcholinesterase and 5-oxazolone derivative immobilized in polyvinylchloride (PVC) matrix 111

Electrospinning

Electrospun polyacrylonitrile nanofibrous membranes for lipase immobilization 117

Enantioselective hydrolysis

Highly enantioselective hydrolysis of DL-menthyl acetate to L-menthol by whole-cell lipase from *Burkholderia cepacia* ATCC 25416 149

Enantioselectivity

The study on efficient hydrolases immobilization for the kinetic resolution of the α -acetoxyamides 51

Chemoenzymatic synthesis of enantiomerically enriched α -hydroxyamides 125

- Enzymatic alcoholysis
Preparation of potential 3-deazauridine and 6-azauridine prodrugs through an enzymatic alcoholysis 86
- Enzymatic kinetic resolution
The study on efficient hydrolases immobilization for the kinetic resolution of the α -acetoxyamides 51
- Enzyme catalysis
Convenient synthesis of β -galactosyl nucleosides using the marine β -galactosidase from *Aplysia fasciata* 28
- Enzyme immobilization
Ethanol improves lipase immobilization on a hydrophobic support 13
Electrospun polyacrylonitrile nanofibrous membranes for lipase immobilization 117
- Enzymes
Lipase-catalysed resolution of *N*-(3-cyano-2-hydroxy propan-1-yl) phthalimide. Synthesis of (*R*)-GABOB and (*R*)-carnitine 1
- Erythorbic acid
Purification and characterization of 2-keto-D-galactonate reductase from *Pseudomonas fluorescens* 43
- Farnesol
Biotransformation of prenol alcohols by cultured cells of *Cucurbita maxima* 33
- Floxuridine
Regioselective synthesis of 3'-*O*-caproyl-floxuridine catalyzed by *Pseudomonas cepacia* lipase 6
- Fluorescence emission
A fluorescent biosensor based on acetylcholinesterase and 5-oxazolone derivative immobilized in polyvinylchloride (PVC) matrix 111
- Geranylgeraniol
Biotransformation of prenol alcohols by cultured cells of *Cucurbita maxima* 33
- Geranylgeranoic acid
Biotransformation of prenol alcohols by cultured cells of *Cucurbita maxima* 33
- Glucuronate-6-P
Purification and characterization of 2-keto-D-galactonate reductase from *Pseudomonas fluorescens* 43
- Glucose 6-phosphate dehydrogenase
Dual modulation of glucose 6-phosphate metabolism to increase NADPH-dependent xylitol production in recombinant *Saccharomyces cerevisiae* 37
- Glycoside hydrolase family (GHF) 7
Cellulohydrolase I (Cel7A) from *Trichoderma reesei* has chitosanase activity 159
- Glycosides
Convenient synthesis of β -galactosyl nucleosides using the marine β -galactosidase from *Aplysia fasciata* 28
- Glycosyl hydrolases
Transglycosylation reactions using glycosyl hydrolases from *Thermotoga neapolitana*, a marine hydrogen-producing bacterium 21
- Hexestrol
Kinetic characterization of diphenolase activity from *Streptomyces antibioticus* tyrosinase in the presence and absence of cyclodextrins 143
- Hinokitiol
Kinetic characterization of diphenolase activity from *Streptomyces antibioticus* tyrosinase in the presence and absence of cyclodextrins 143
- Horseradish peroxidase
A peroxidase from bitter melon (*Momordica charantia*) with enhanced stability against organic solvent and detergent: A comparison with horseradish peroxidase 66
- Hydrophobic supports
Ethanol improves lipase immobilization on a hydrophobic support 13
- Hydrophobicity
Ethanol improves lipase immobilization on a hydrophobic support 13
- α -Hydroxyamides
Chemoenzymatic synthesis of enantiomerically enriched α -hydroxyamides 125
- Hyperactivation by detergents
Effect of the immobilization protocol in the activity, stability, and enantioselectivity of Lecitase® Ultra 99
- Immobilization
The study on efficient hydrolases immobilization for the kinetic resolution of the α -acetoxyamides 51
- Immobilized enzymes
Synthesis of cephalixin with immobilized penicillin acylase at very high substrate concentrations in fully aqueous medium 72
- Inhibitors
Kinetic characterization of diphenolase activity from *Streptomyces antibioticus* tyrosinase in the presence and absence of cyclodextrins 143
- Interfacial adsorption
Effect of the immobilization protocol in the activity, stability, and enantioselectivity of Lecitase® Ultra 99
- Ionic liquid
Influence of ionic liquids as additives on sol-gel immobilized lipase 129
- Ionic surfactant
Effect of ionic and non-ionic surfactants on the activity and stability of mushroom tyrosinase 79
- 2-Keto-D-aldonate reductase
Purification and characterization of 2-keto-D-galactonate reductase from *Pseudomonas fluorescens* 43
- 2-Keto-D-galactonate
Purification and characterization of 2-keto-D-galactonate reductase from *Pseudomonas fluorescens* 43
- Ketoprofen
Overexpression of *Serratia marcescens* lipase in *Escherichia coli* for efficient bioreduction of racemic ketoprofen 105
- Kinetic resolution
Lipase-catalysed resolution of *N*-(3-cyano-2-hydroxy propan-1-yl) phthalimide. Synthesis of (*R*)-GABOB and (*R*)-carnitine 1
- Kinetically controlled synthesis
Synthesis of cephalixin with immobilized penicillin acylase at very high substrate concentrations in fully aqueous medium 72
- β -lactam antibiotics
Synthesis of cephalixin with immobilized penicillin acylase at very high substrate concentrations in fully aqueous medium 72
- Layered double hydroxide
Calcined layered double hydroxides as a "biomolecular vessel" for bromelain: Immobilization, storage and release 58
- Layered double oxides
Calcined layered double hydroxides as a "biomolecular vessel" for bromelain: Immobilization, storage and release 58
- Lipase
Ethanol improves lipase immobilization on a hydrophobic support 13
Preparation of potential 3-deazauridine and 6-azauridine prodrugs through an enzymatic alcoholysis 86
Electrospun polyacrylonitrile nanofibrous membranes for lipase immobilization 117
Influence of ionic liquids as additives on sol-gel immobilized lipase 129
- Lipases
The study on efficient hydrolases immobilization for the kinetic resolution of the α -acetoxyamides 51
Effect of the immobilization protocol in the activity, stability, and enantioselectivity of Lecitase® Ultra 99
Chemoenzymatic synthesis of enantiomerically enriched α -hydroxyamides 125
pH-imprinted lipase catalyzed synthesis of dextran fatty acid ester 135
- Mandelic acid
Effect of the immobilization protocol in the activity, stability, and enantioselectivity of Lecitase® Ultra 99

- Marine organisms
 Convenient synthesis of β -galactosyl nucleosides using the marine β -galactosidase from *Aplysia fasciata* 28
- Menthol
 Highly enantioselective hydrolysis of DL-menthyl acetate to L-menthol by whole-cell lipase from *Burkholderia cepacia* ATCC 25416 149
- Menthyl acetate
 Highly enantioselective hydrolysis of DL-menthyl acetate to L-menthol by whole-cell lipase from *Burkholderia cepacia* ATCC 25416 149
- Mesoporous silica
 Ethanol improves lipase immobilization on a hydrophobic support 13
- Monolayer
 Ethanol improves lipase immobilization on a hydrophobic support 13
- NADPH
 Dual modulation of glucose 6-phosphate metabolism to increase NADPH-dependent xylitol production in recombinant *Saccharomyces cerevisiae* 37
 Purification and characterization of 2-keto-D-galactonate reductase from *Pseudomonas fluorescens* 43
- Nanofibers
 Electrospun polyacrylonitrile nanofibrous membranes for lipase immobilization 117
- Non-ionic surfactant
 Effect of ionic and non-ionic surfactants on the activity and stability of mushroom tyrosinase 79
- Nucleosides
 Preparation of potential 3-deazauridine and 6-azauridine prodrugs through an enzymatic alcoholysis 86
- Nucleotides
 Convenient synthesis of β -galactosyl nucleosides using the marine β -galactosidase from *Aplysia fasciata* 28
- 3'-O-Caproyl-floxuridine
 Regioselective synthesis of 3'-O-caproyl-floxuridine catalyzed by *Pseudomonas cepacia* lipase 6
- Overexpression
 Overexpression of *Serratia marcescens* lipase in *Escherichia coli* for efficient bioreolution of racemic ketoprofen 105
- 5-Oxazolone
 A fluorescent biosensor based on acetylcholinesterase and 5-oxazolone derivative immobilized in polyvinylchloride (PVC) matrix 111
- Passerini reaction
 The study on efficient hydrolases immobilization for the kinetic resolution of the α -acetoxyamides 51
 Chemoenzymatic synthesis of enantiomerically enriched α -hydroxyamides 125
- Pcc* LY34
 Characterization of the recombinant cellobiase from *celG* gene in the beta-glucoside utilization gene operon of *Pectobacterium carotovorum* subsp. *carotovorum* LY34 91
- Penicillin acylase
 Synthesis of cephalixin with immobilized penicillin acylase at very high substrate concentrations in fully aqueous medium 72
- Phosphoglucose isomerase
 Dual modulation of glucose 6-phosphate metabolism to increase NADPH-dependent xylitol production in recombinant *Saccharomyces cerevisiae* 37
- Phospholipases
 Effect of the immobilization protocol in the activity, stability, and enantioselectivity of Lecitase® Ultra 99
- Polyacrylonitrile
 Electrospun polyacrylonitrile nanofibrous membranes for lipase immobilization 117
- Polymer film
 A fluorescent biosensor based on acetylcholinesterase and 5-oxazolone derivative immobilized in polyvinylchloride (PVC) matrix 111
- Polyphenol oxidase
 Effect of ionic and non-ionic surfactants on the activity and stability of mushroom tyrosinase 79
- Prodrugs
 Preparation of potential 3-deazauridine and 6-azauridine prodrugs through an enzymatic alcoholysis 86
- Pseudomonas cepacia* lipase
 Regioselective synthesis of 3'-O-caproyl-floxuridine catalyzed by *Pseudomonas cepacia* lipase 6
- Pseudomonas fluorescens*
 Purification and characterization of 2-keto-D-galactonate reductase from *Pseudomonas fluorescens* 43
- (R)-carnitine
 Lipase-catalysed resolution of *N*-(3-cyano-2-hydroxy propan-1-yl) phthalimide. Synthesis of (R)-GABOB and (R)-carnitine 1
- Regioselective acylation
 Regioselective synthesis of 3'-O-caproyl-floxuridine catalyzed by *Pseudomonas cepacia* lipase 6
- Regioselective modification
 pH-imprinted lipase catalyzed synthesis of dextran fatty acid ester 135
- Regioselectivity
 Preparation of potential 3-deazauridine and 6-azauridine prodrugs through an enzymatic alcoholysis 86
- Resolution of racemic mixtures
 Effect of the immobilization protocol in the activity, stability, and enantioselectivity of Lecitase® Ultra 99
- (R)-GABOB
 Lipase-catalysed resolution of *N*-(3-cyano-2-hydroxy propan-1-yl) phthalimide. Synthesis of (R)-GABOB and (R)-carnitine 1
- Rimexolone
 Microbial hydroxylation of 16 α ,17 α -dimethyl-17 β -(1-oxopropyl) androsta-1,4-dien-3-one to rimexolone by *Curvularia lunata* AS 3.4381 155
- Saccharomyces cerevisiae*
 Dual modulation of glucose 6-phosphate metabolism to increase NADPH-dependent xylitol production in recombinant *Saccharomyces cerevisiae* 37
- Serratia marcescens* lipase
 Overexpression of *Serratia marcescens* lipase in *Escherichia coli* for efficient bioreolution of racemic ketoprofen 105
- Sol-gel
 Influence of ionic liquids as additives on sol-gel immobilized lipase 129
- Stabilization
 A peroxidase from bitter melon (*Momordica charantia*) with enhanced stability against organic solvent and detergent: A comparison with horseradish peroxidase 66
- Steroid 11 β -hydroxylation
 Microbial hydroxylation of 16 α ,17 α -dimethyl-17 β -(1-oxopropyl) androsta-1,4-dien-3-one to rimexolone by *Curvularia lunata* AS 3.4381 155
- Streptomyces antibioticus*
 Kinetic characterization of diphenolase activity from *Streptomyces antibioticus* tyrosinase in the presence and absence of cyclodextrins 143
- Surfactant
 Overexpression of *Serratia marcescens* lipase in *Escherichia coli* for efficient bioreolution of racemic ketoprofen 105
- Synthesis
 Lipase-catalysed resolution of *N*-(3-cyano-2-hydroxy propan-1-yl) phthalimide. Synthesis of (R)-GABOB and (R)-carnitine 1
- Thermotoga*
 Transglycosylation reactions using glycosyl hydrolases from *Thermotoga neapolitana*, a marine hydrogen-producing bacterium 21
- Transesterification
 pH-imprinted lipase catalyzed synthesis of dextran fatty acid ester 135
- Trichoderma reesei* (*Hypocrea jecorina*)
 Cellobiohydrolase I (Cel7A) from *Trichoderma reesei* has chitosanase activity 159

Two-phase system

Kinetic characterization of diphenolase activity from *Streptomyces antibioticus* tyrosinase in the presence and absence of cyclodextrins 143

Tyrosinase

Effect of ionic and non-ionic surfactants on the activity and stability of mushroom tyrosinase 79

Kinetic characterization of diphenolase activity from *Streptomyces antibioticus* tyrosinase in the presence and absence of cyclodextrins 143

Urea

A peroxidase from bitter melon (*Momordica charantia*) with enhanced stability against organic solvent and detergent: A comparison with horseradish peroxidase 66

Vinyl caproate

Regioselective synthesis of 3'-O-caproyl-floxuridine catalyzed by *Pseudomonas cepacia* lipase 6

Vinyl decanoate

pH-imprinted lipase catalyzed synthesis of dextran fatty acid ester 135

Whole-cell lipase

Highly enantioselective hydrolysis of DL-menthyl acetate to L-menthol by whole-cell lipase from *Burkholderia cepacia* ATCC 25416 149

Xylitol

Dual modulation of glucose 6-phosphate metabolism to increase NADPH-dependent xylitol production in recombinant *Saccharomyces cerevisiae* 37

Xylose reductase

Dual modulation of glucose 6-phosphate metabolism to increase NADPH-dependent xylitol production in recombinant *Saccharomyces cerevisiae* 37

Xylosides

Transglycosylation reactions using glycosyl hydrolases from *Thermotoga neapolitana*, a marine hydrogen-producing bacterium 21