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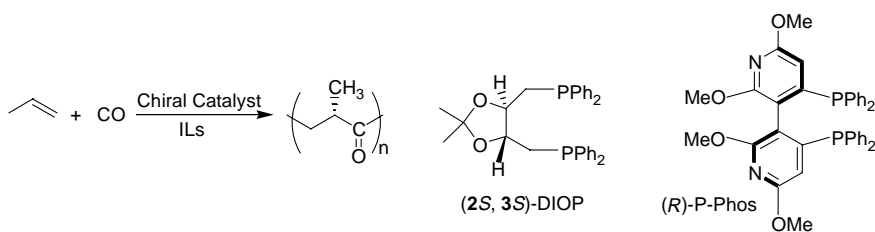
Ju-Cheun Kim, Kwang-Hyun Kim, Jae-Chul Jung and Oee-Sook Park*



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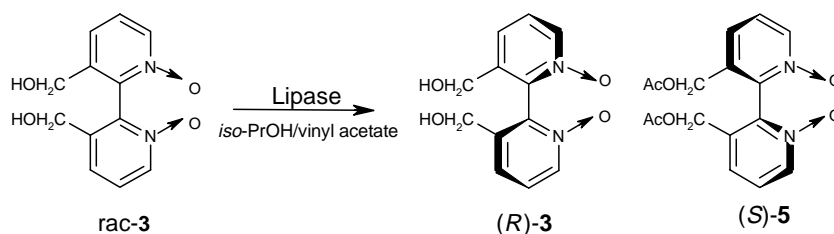
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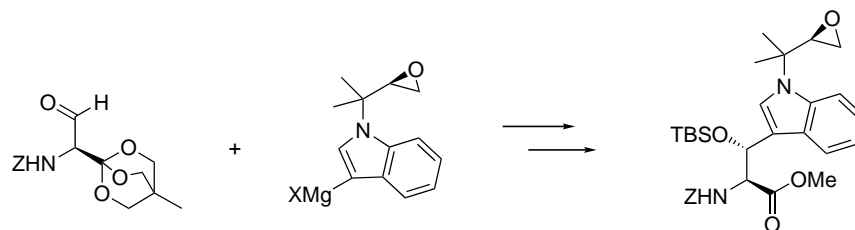
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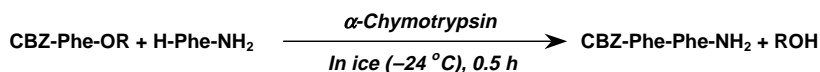
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α -Chymotrypsin-catalyzed peptide synthesis in frozen aqueous solution using *N*-protected amino acid carbamoylmethyl esters as acyl donors

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Sayed Mohiuddin Abdus Salam, Ken-ichi Kagawa and Katsuhiro Kawashiro*

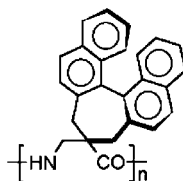
Peptide yield: R = CH₂CH₃, 67 %; R = CH₂CF₃, 48%;R = CH₂CN, 87 %; R = Cam (CH₂CONH₂), 88%.

In the α -chymotrypsin-catalyzed peptide synthesis in ice (-24°C), the carbamoylmethyl (Cam) ester was found to be a useful acyl donor. This approach was also applied to the synthesis of peptides containing *D*-amino acids. A high diastereoselectivity towards the *L*-*L* peptide was observed when the racemic Cam ester was used.

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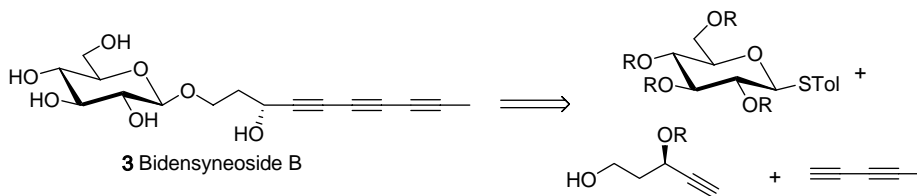
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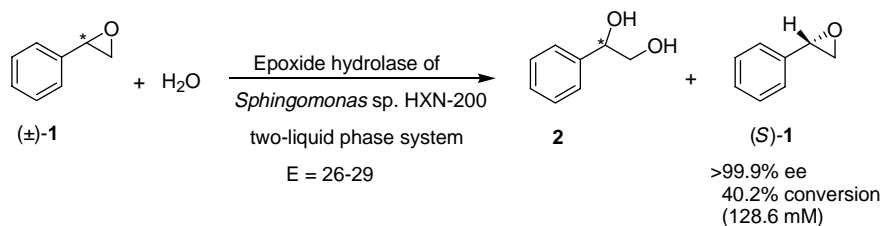
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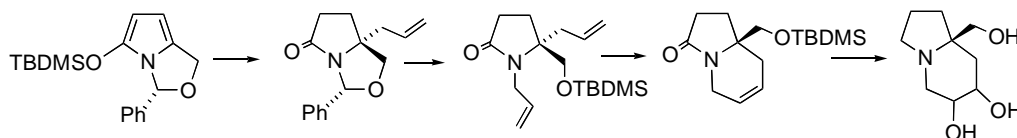
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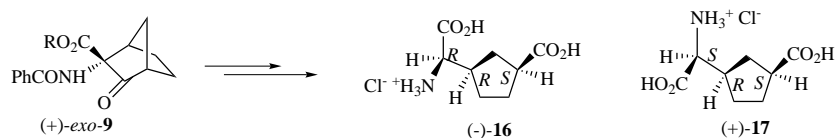
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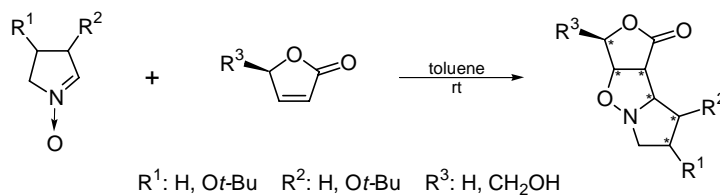
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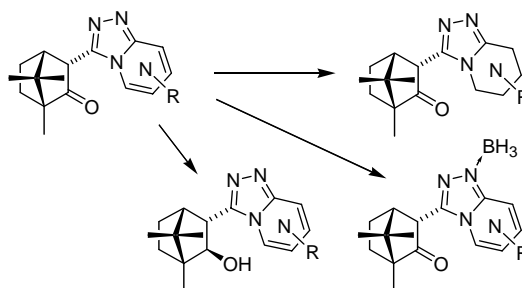
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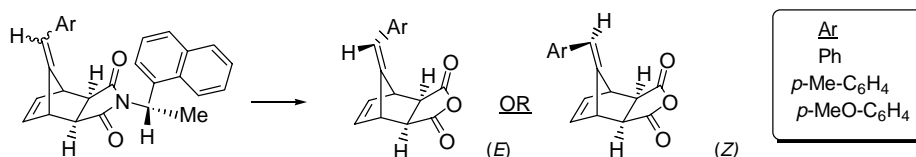
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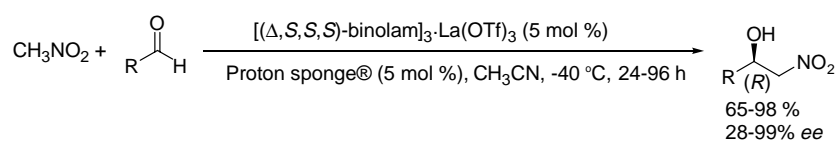
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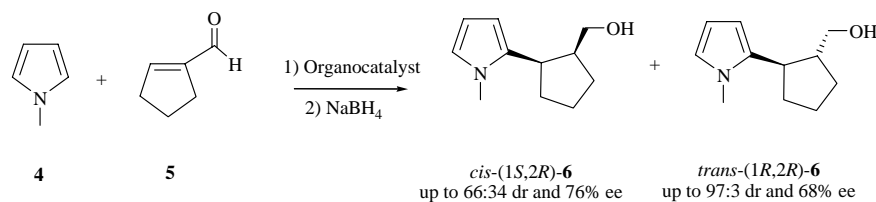
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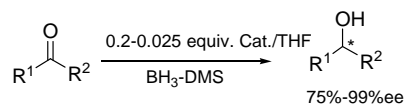
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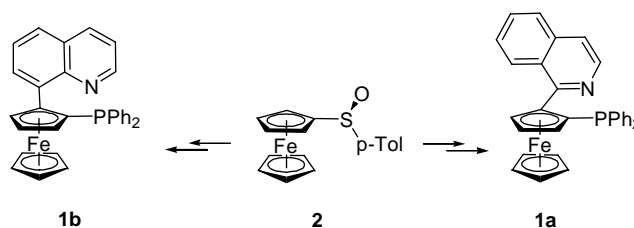
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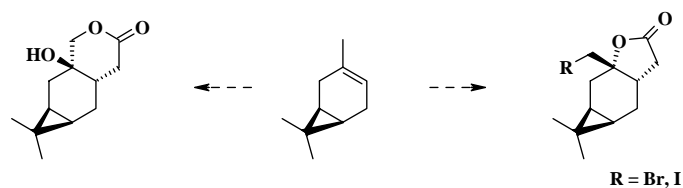
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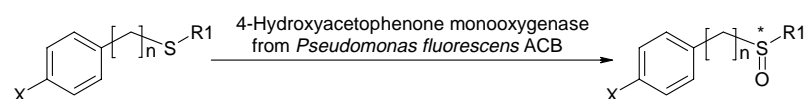
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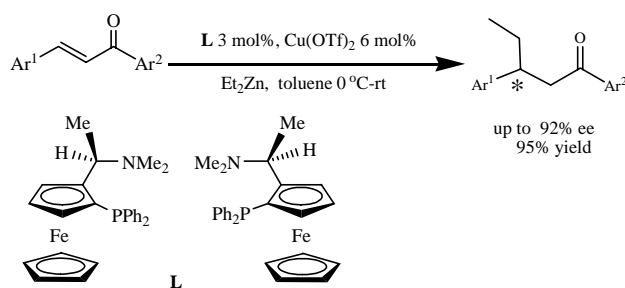
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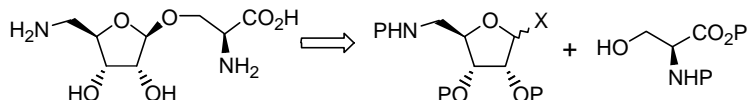
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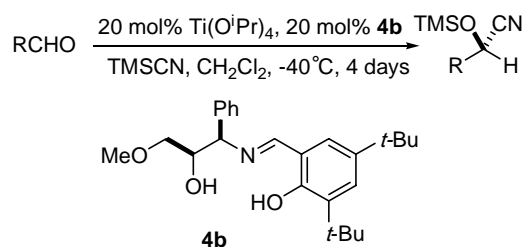
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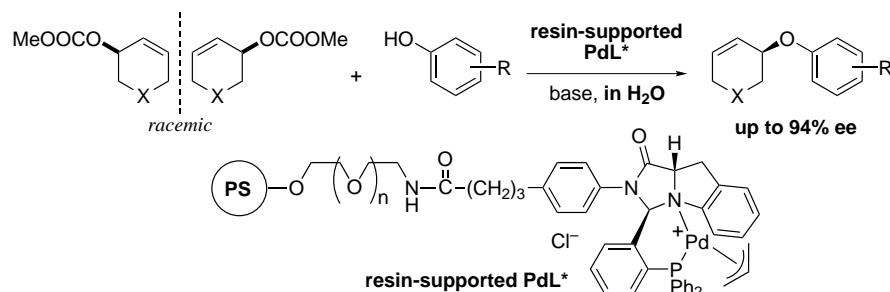
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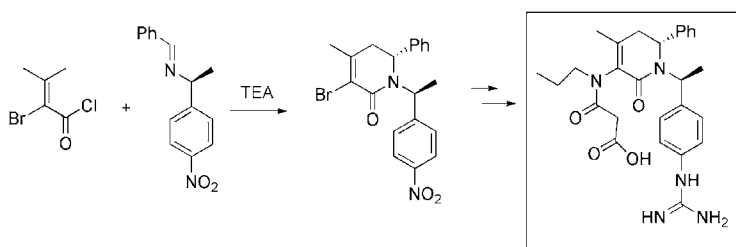
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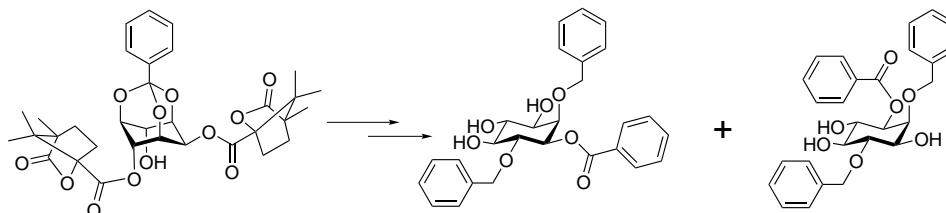
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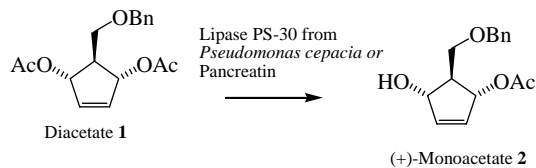
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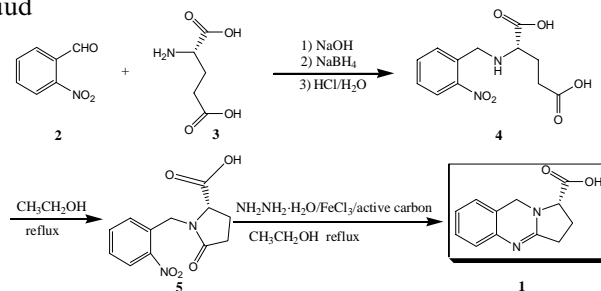
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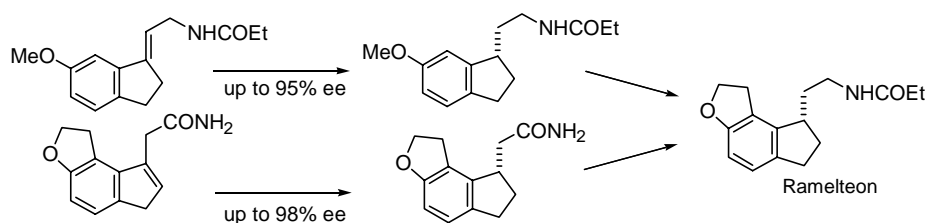
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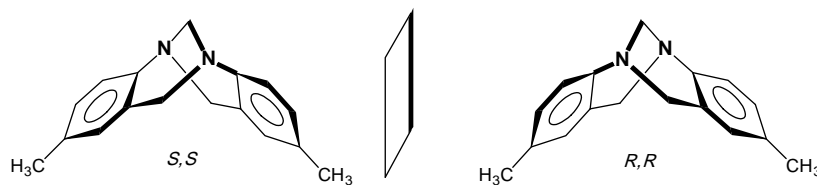
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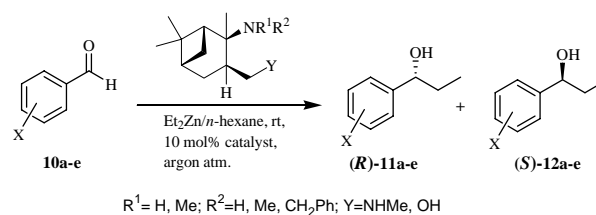
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Enantioselective addition of diethylzinc to aldehydes catalyzed by γ -amino alcohols derived from (+)- and (-)- α -pinene

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Zsolt Szakonyi, Árpád Balázs, Tamás A. Martinek and Ferenc Fülöp*

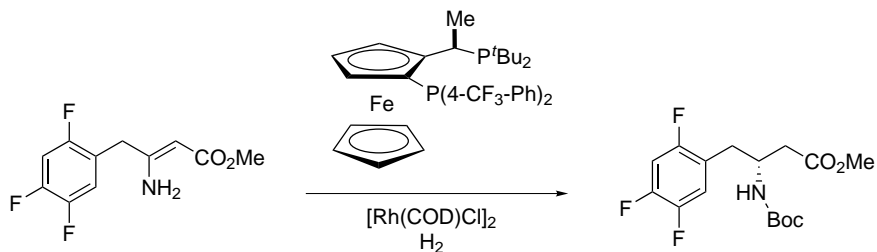


Primary, secondary and tertiary γ -amino alcohols and 1,3-diamine derived from (+)- and (-)- α -pinene were applied as chiral catalysts in the enantioselective addition of diethylzinc to aromatic aldehydes, resulting in chiral 1-aryl-1-propanols.

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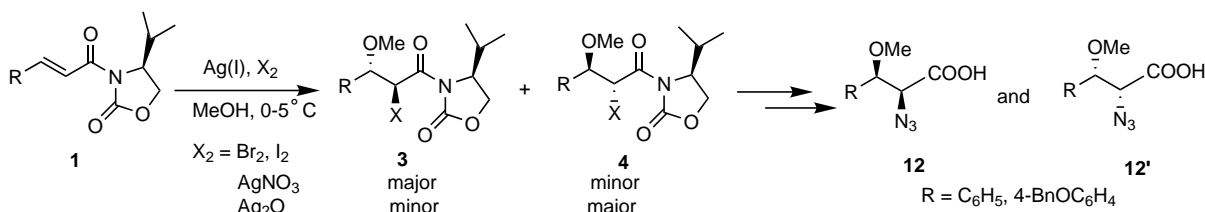
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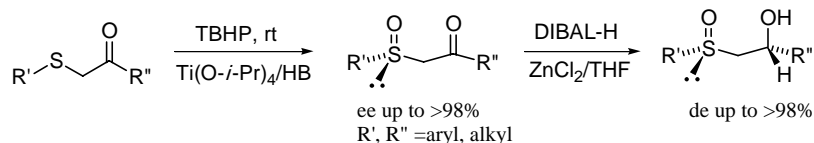
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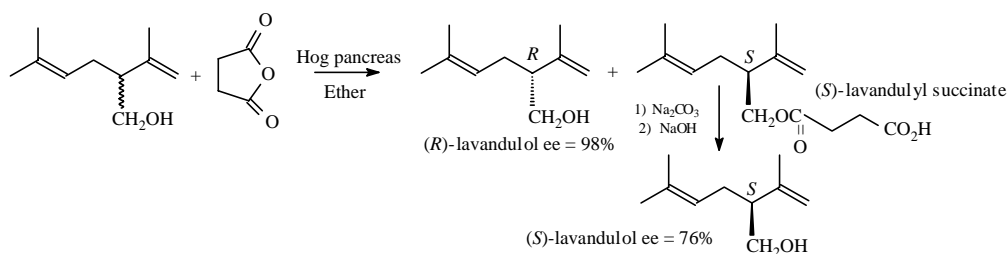
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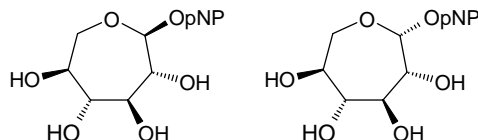
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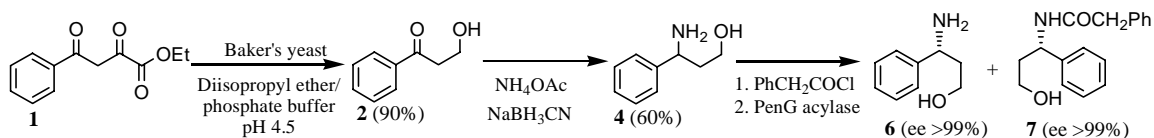
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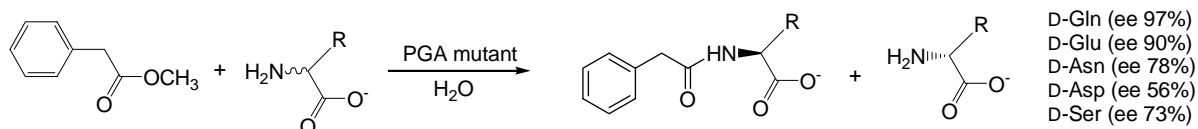
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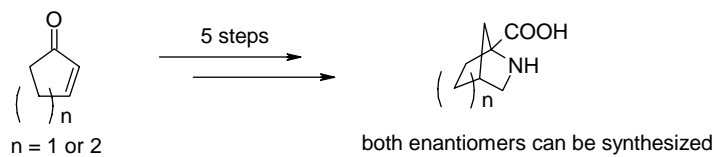
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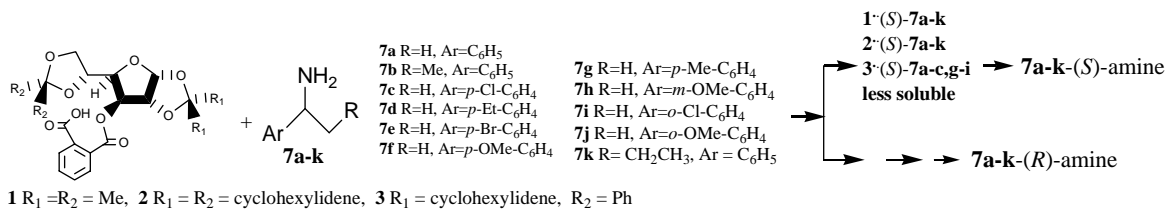
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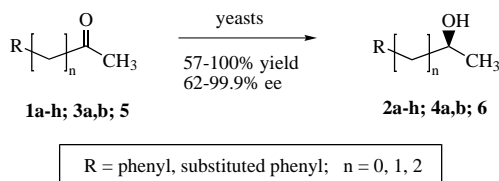
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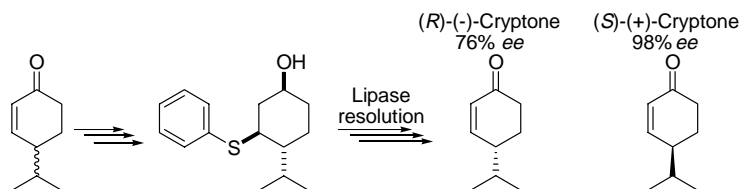
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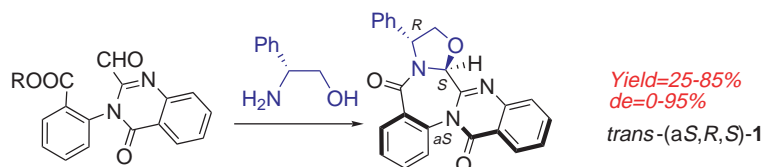
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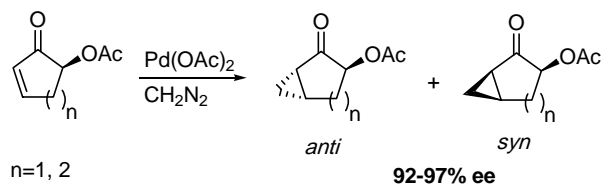
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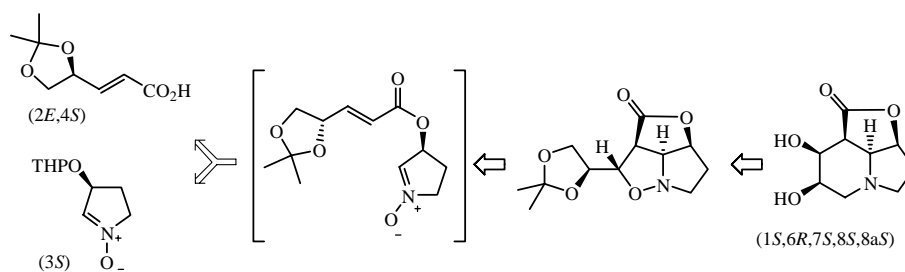
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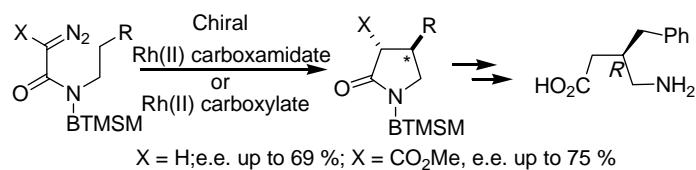
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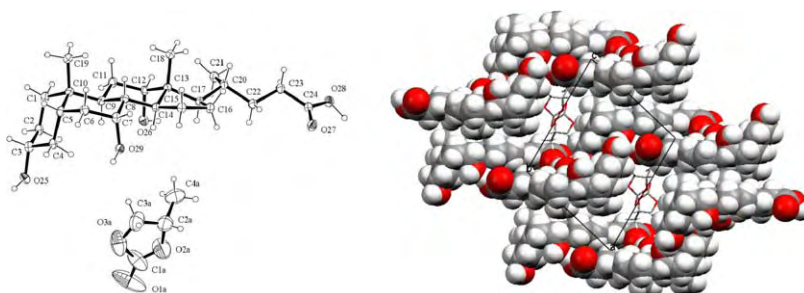
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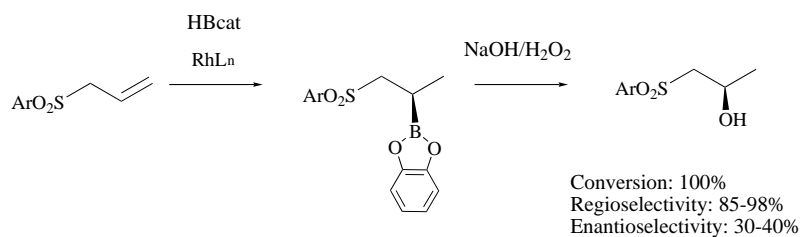
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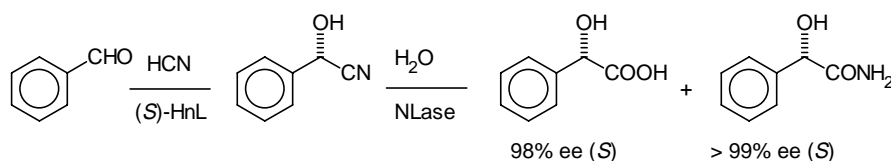
Vanesa Lillo and Elena Fernández*



Synthesis of enantiomerically pure (*S*)-mandelic acid using an oxynitrilase–nitrilase bienzymatic cascade: a nitrilase surprisingly shows nitrile hydratase activity

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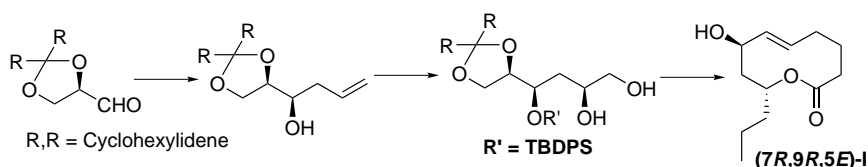


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An asymmetric synthesis of 7-hydroxy-9-propylnonolide (herbarumin III)

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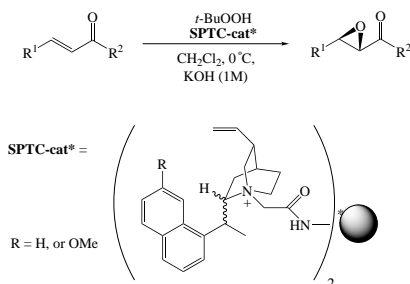
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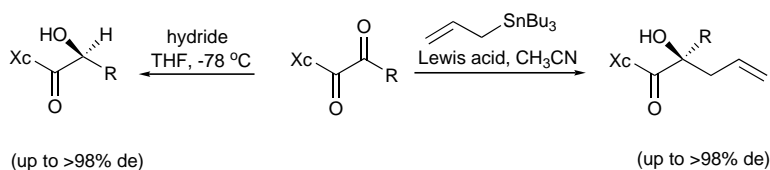
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Highly diastereoselective allylation and reduction of chiral camphor-derived α -ketoamides

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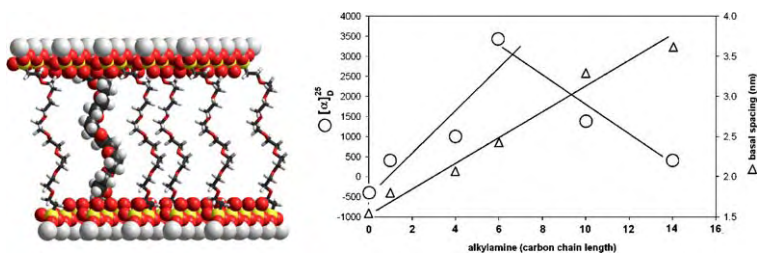


Solid-state reshaping of nanostructured crystals: supramolecular chirality of layered materials derived from polyethylenoxa-pillared zirconium phosphate

pp 347–354

Ernesto Brunet,* María José de la Mata, Olga Juanes, Hussein M.H. Alhendawi, Carlos Cerro and Juan Carlos Rodríguez-Ubis

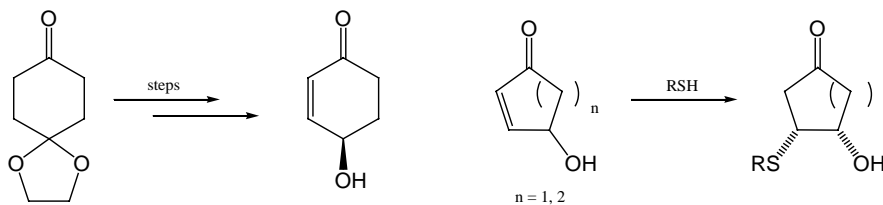
The pillaring of γ -zirconium phosphate with either dissymmetric or non-dissymmetric polyethylenoxa diphosphonates leads to organic-inorganic nanostructures in which the coiling of organic columns is the source of supramolecular chirality and chiral memory.



Novel preparation of (-)-4-hydroxycyclohex-2-enone: reaction of 4-hydroxycyclohex-2-enone and 4-hydroxycyclopent-2-enone with some thiols

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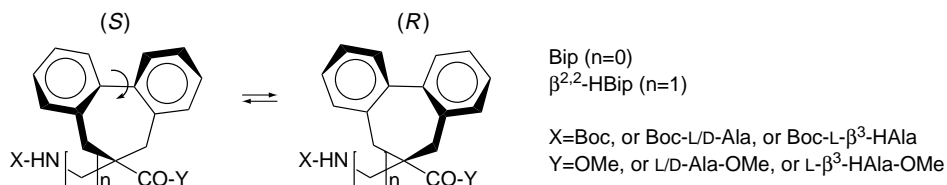
Jamie F. Bickley, Paul Evans, Alastair Meek, Ben S. Morgan and Stanley M. Roberts*



An extension of the 'Bip method': induced axial chirality in a series of dipeptides based on Bip/ $\beta^{2,2}$ -HBip combined with Ala/ β^3 -HAla

pp 363–371

Laurence Dutot, Anne Gaucher, Karen Wright, Michel Wakselman, Jean-Paul Mazaleyrat,*
Simona Oancea, Cristina Peggion, Fernando Formaggio and Claudio Toniolo*

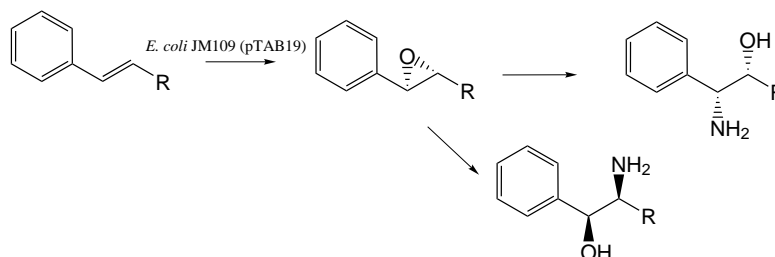


Dipeptides based on $\beta^{2,2}$ -HBip/L(D)-Ala, Bip/L- β^3 -HAla, and $\beta^{2,2}$ -HBip/L- β^3 -HAla have been synthesized in solution and the induced circular dichroism in their biphenyl core has been evaluated.

Synthesis of enantiopure 2-amino-1-phenyl and 2-amino-2-phenyl ethanols using enantioselective enzymatic epoxidation and regio- and diastereoselective chemical aminolysis

pp 372–376

Guido Sello,* Fulvia Orsini, Silvana Bernasconi and Patrizia Di Gennaro

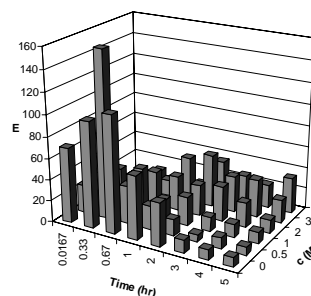


Hofmeister series of ionic liquids: kosmotropic effect of ionic liquids on the enzymatic hydrolysis of enantiomeric phenylalanine methyl ester

pp 377–383

Hua Zhao,* Sophia M. Campbell, Lee Jackson, Zhiyan Song and Olarongbe Olubajo

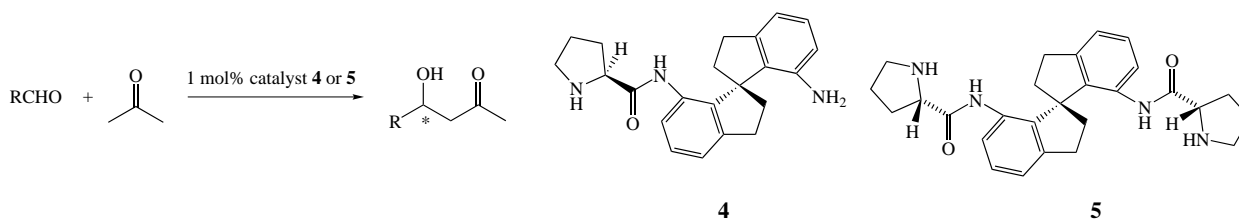
During hydrolysis of chiral phenylalanine, high enantiomeric ratios (*E*) of protease were observed in [EMIM][EtSO₄] solutions. L-Phenylalanine (98% ee) was obtained in 0.5M [EMIM][EtSO₄] at 20min reaction time.



Asymmetric aldol reactions catalyzed by new spiro diamine derivatives

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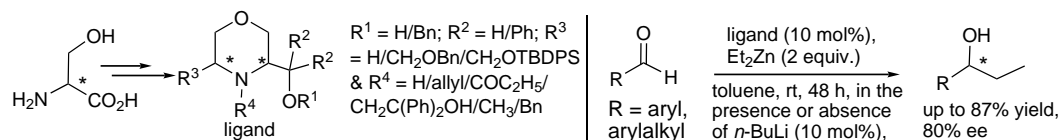
Man Jiang, Shou-Fei Zhu, Yun Yang, Liu-Zhu Gong, Xiang-Ge Zhou* and Qi-Lin Zhou*



Synthesis of chiral C/N-functionalized morpholine alcohols: study of their catalytic ability as ligand in asymmetric diethylzinc addition to aldehyde

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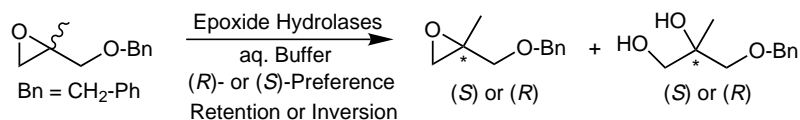
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Selectivity enhancement of enantio- and stereo-complementary epoxide hydrolases and chemo-enzymatic deracemization of (±)-2-methylglycidyl benzyl ether

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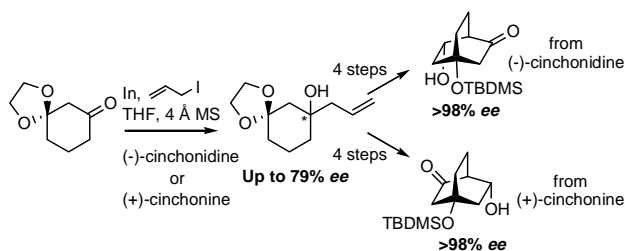
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Enantioselective synthesis of bridgehead hydroxyl bicyclo[2.2.2]octane derivatives via asymmetric allylindation

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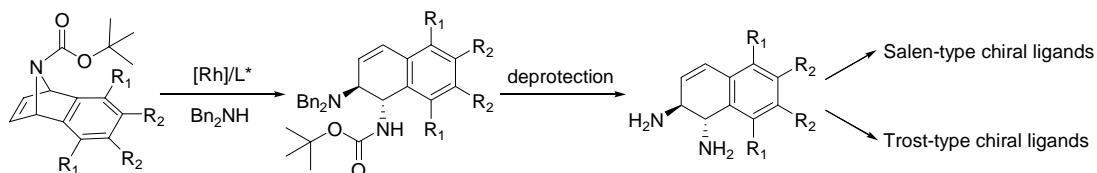
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Enantioselective synthesis of chiral 1,2-diamines by the catalytic ring opening of azabenzonorbornadienes: application in the preparation of new chiral ligands

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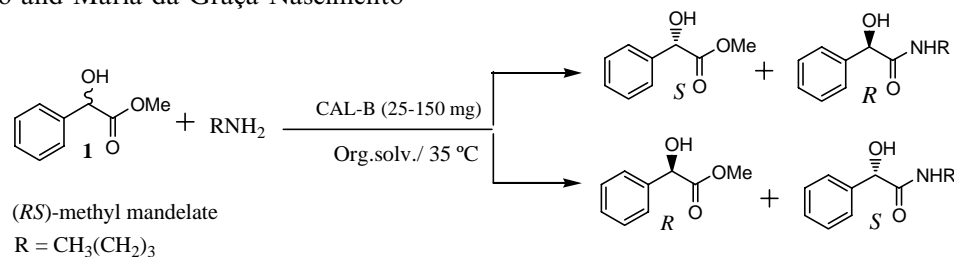
Yong-Hwan Cho, Aude Fayol and Mark Lautens*



Effects of organic solvents and ionic liquids on the aminolysis of (*RS*)-methyl mandelate catalyzed by lipases

pp 428–433

Cristiane Pilissão and Maria da Graça Nascimento*

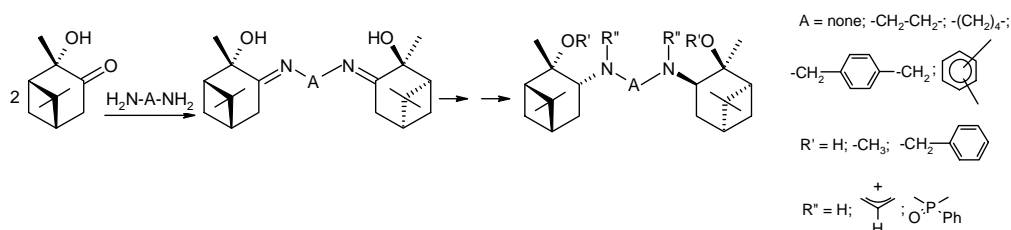


Solvents: *n*-hexane, chloroform, *tert*-butanol, [BMIm][BF₄], [BMIm][PF₆]; ee_p=10 >99%; ee_s=2–95%; *E*=2 >200%.

Enantiomerically pure α -pinene derivatives from material of 65% enantiomeric purity. Part 2: C₂-symmetric *N,N'*-3-(2 α -hydroxy)pinane diimines and diamines

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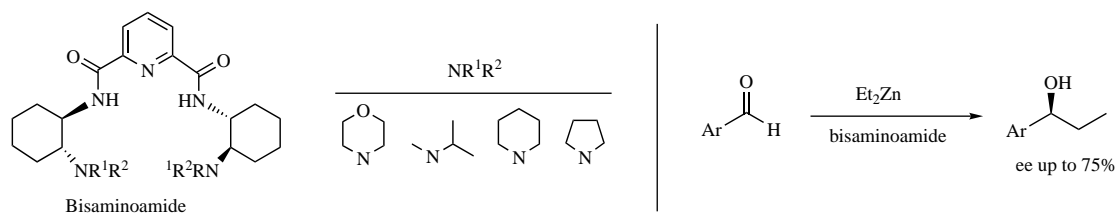
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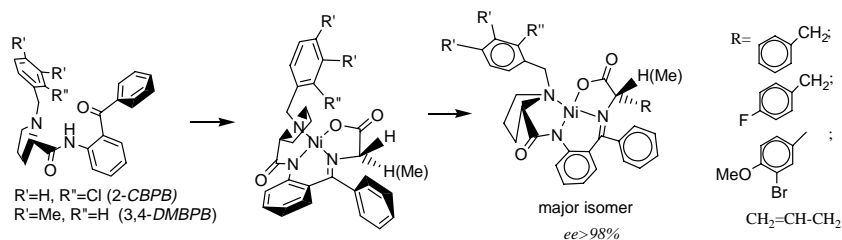
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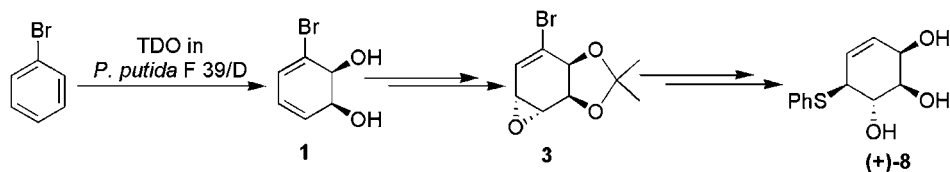
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Special Issue

Asymmetric Catalysis

Guest editors:
Albert S. C. Chan

Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University, Hong Kong

Tamio Hayashi

Department of Chemistry, Faculty of Science, Kyoto University, Japan

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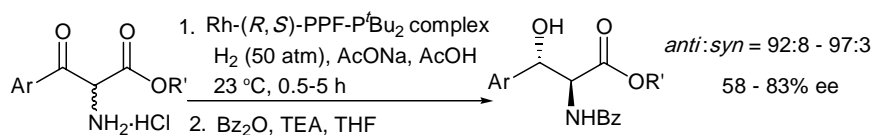
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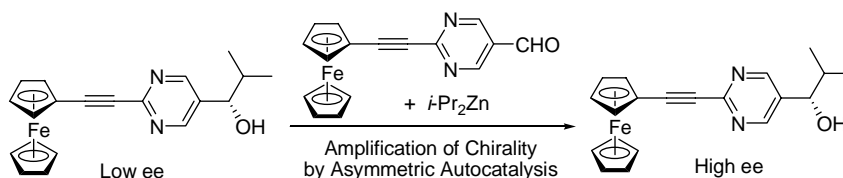
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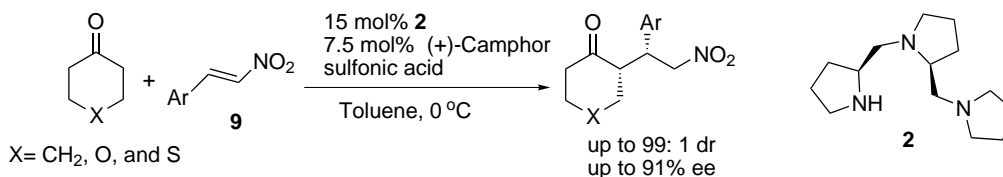
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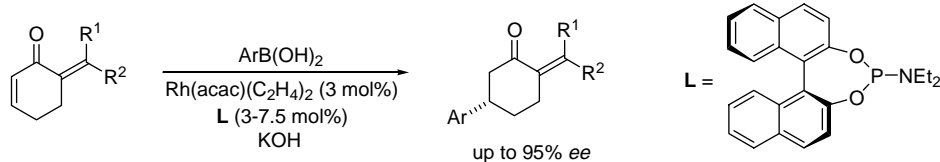
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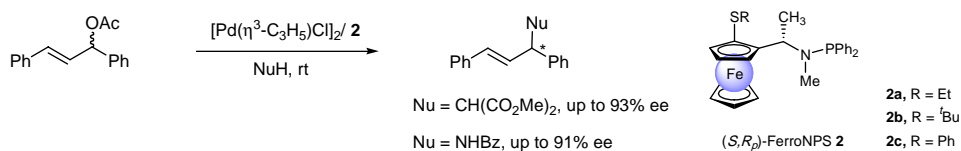
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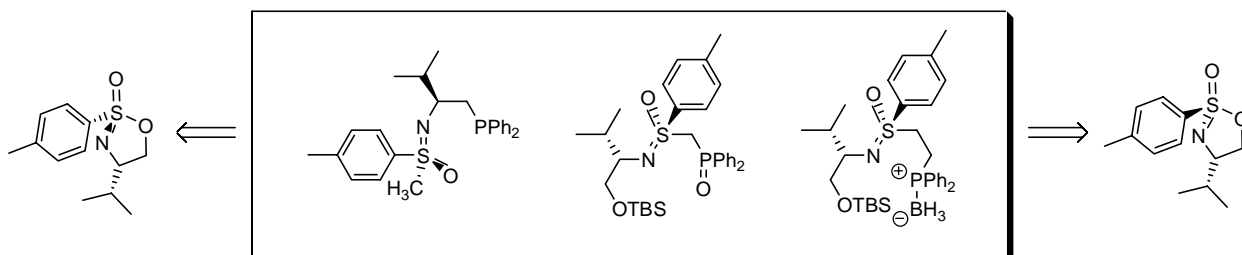
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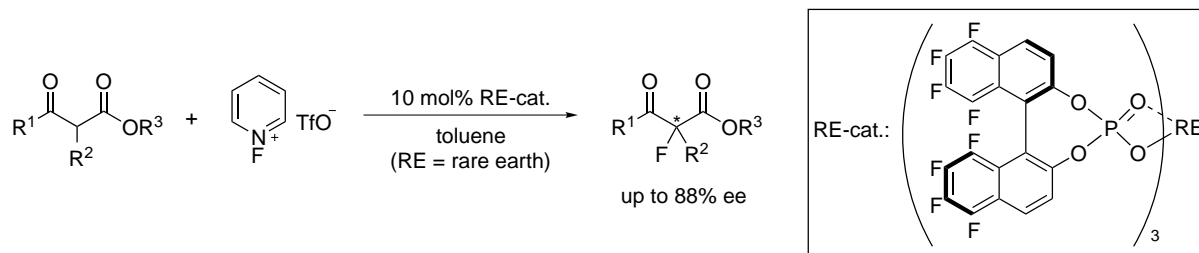


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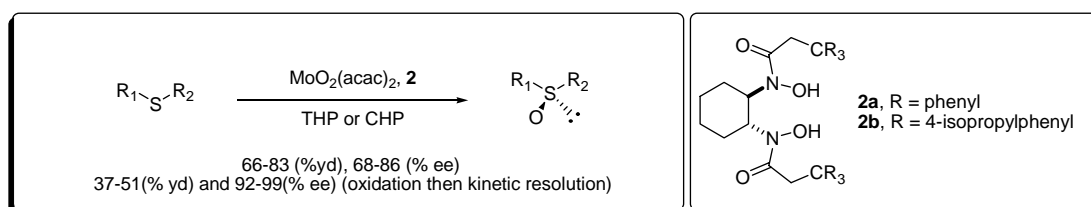
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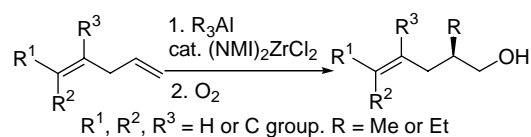
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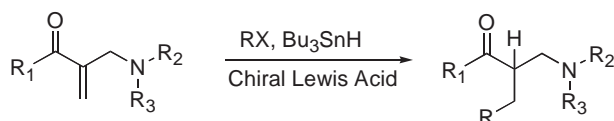
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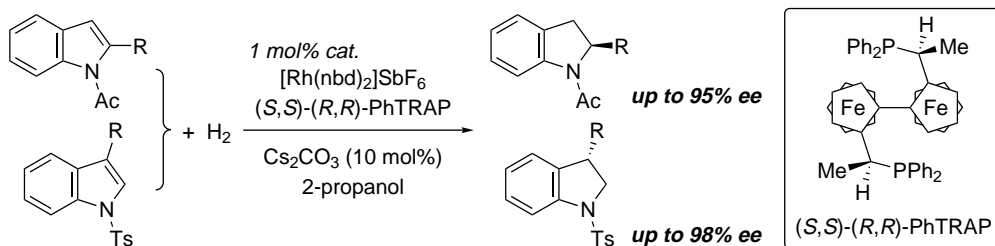
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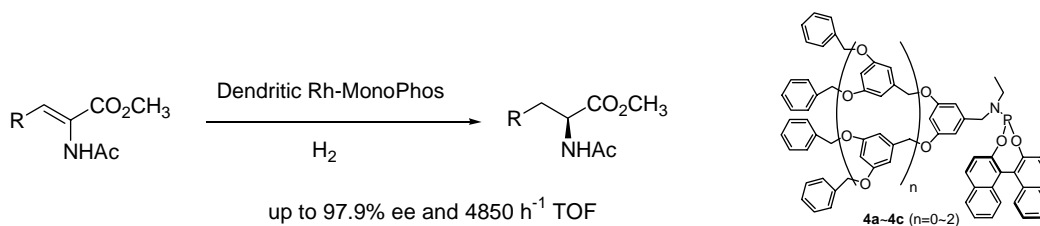
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Ryoichi Kuwano,* Manabu Kashiwabara, Koji Sato, Takashi Ito, Kohei Kaneda and Yoshihiko Ito


Dendritic MonoPhos: synthesis and application in Rh-catalyzed asymmetric hydrogenation

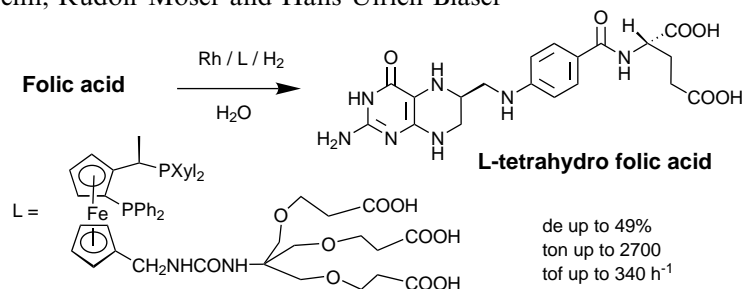
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Wei-Jun Tang, Yi-Yong Huang, Yan-Mei He and Qing-Hua Fan*


Aqueous diastereoselective hydrogenation of folic acid to tetrahydrofolic acid in the presence of water-soluble Rh and Ir diphosphine complexes

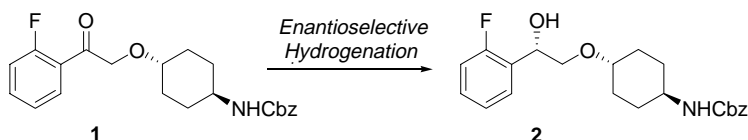
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Benoît Pugin,* Viola Groehn, Rudolf Moser and Hans-Ulrich Blaser


Enantioselective hydrogenation of an α -alkoxy substituted ketone with chiral ruthenium (phosphinoferrocenyl)oxazoline complexes

pp 550–553

David M. Tellers,* Matthew Bio, Zhiguo J. Song, J. Christopher McWilliams and Yongkui Sun

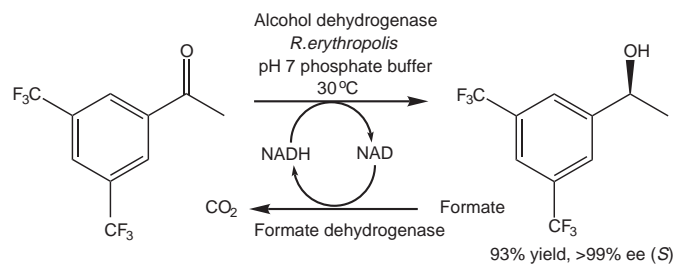


The discovery and optimization of the highly enantioselective asymmetric hydrogenation of an α -alkoxy substituted ketone is described. The use of a ruthenium (phosphinoferrocenyl)oxazoline catalyst and the appropriate choice of a solvent and a base is the key to the success of this transformation.

Effective synthesis of (S)-3,5-bis(trifluoromethyl)phenyl ethanol by asymmetric enzymatic reduction

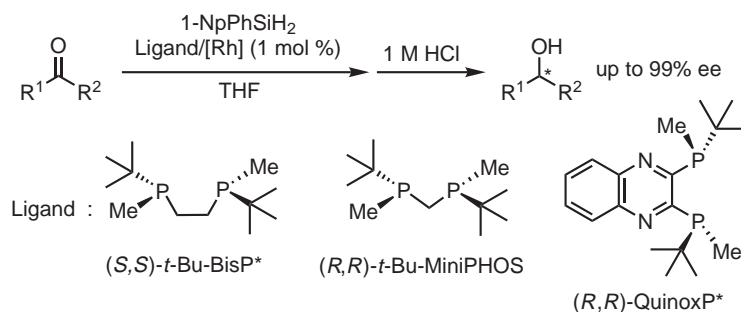
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David Pollard,* Matthew Truppo, Jennifer Pollard, Cheng-yi Chen and Jeffrey Moore

**Highly enantioselective hydrosilylation of simple ketones catalyzed by rhodium complexes of P-chiral diphosphine ligands bearing *tert*-butylmethylphosphino groups**

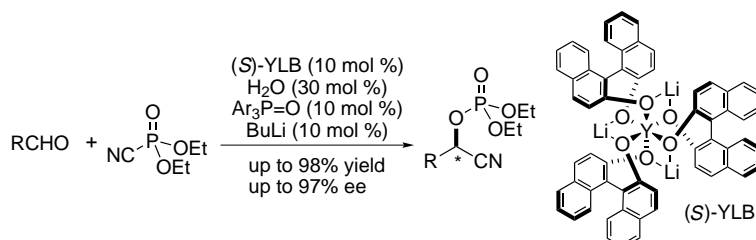
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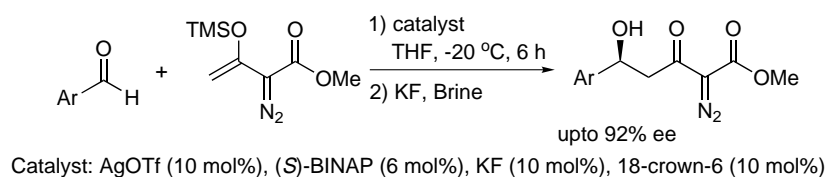
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**Constructing chiral diazoacetates by enantioselective catalytic Mukaiyama aldol reactions**

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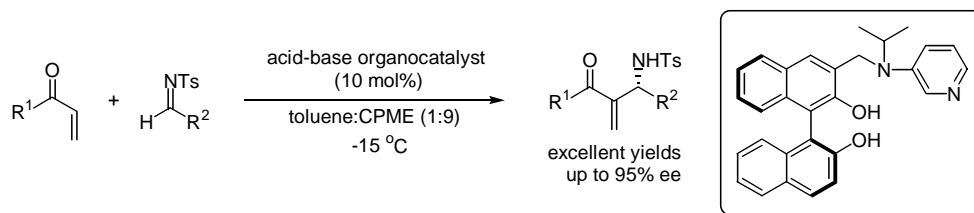
Kousik Kundu and Michael P. Doyle*



Conformational lock in a Brønsted acid–Lewis base organocatalyst for the aza-Morita–Baylis–Hillman reaction

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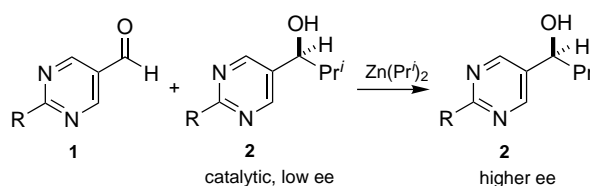
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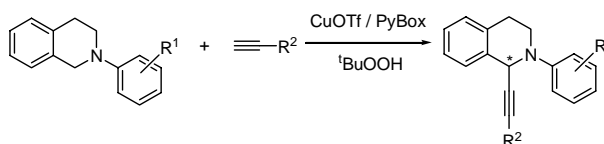
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Studies on Cu-catalyzed asymmetric alkynylation of tetrahydroisoquinoline derivatives

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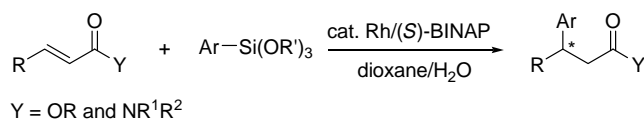
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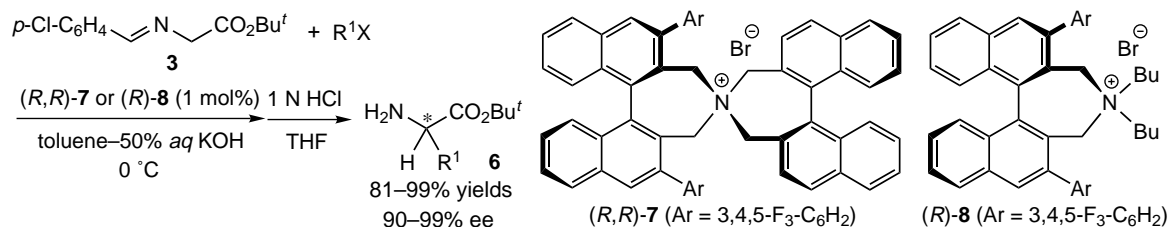
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Highly enantioselective monoalkylation of *p*-chlorobenzaldehyde imine of glycine *tert*-butyl ester under mild phase-transfer conditions

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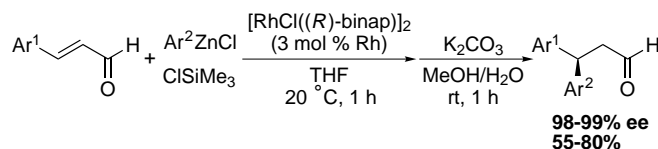
Takashi Ooi, Yuichiro Arimura, Yukihiro Hiraiwa, Lin Ming Yuan, Taichi Kano, Toru Inoue, Jun Matsumoto and Keiji Maruoka*



Highly enantioselective 1,4-addition of arylzinc reagents to 3-arylpropenals catalyzed by a rhodium–binap complex in the presence of chlorotrimethylsilane

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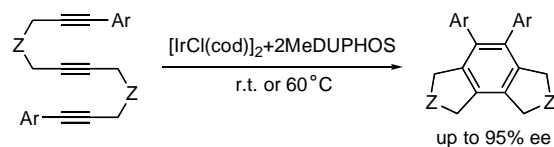
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Enantioselective intramolecular [2+2+2] cycloaddition of triynes for the synthesis of atropisomeric chiral *ortho*-diarylbenzene derivatives

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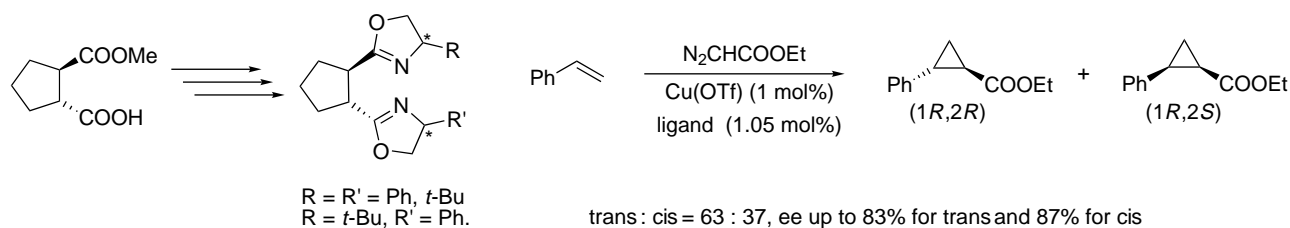
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Asymmetric synthesis of chiral bisoxazolines and their use as ligands in metal catalysis

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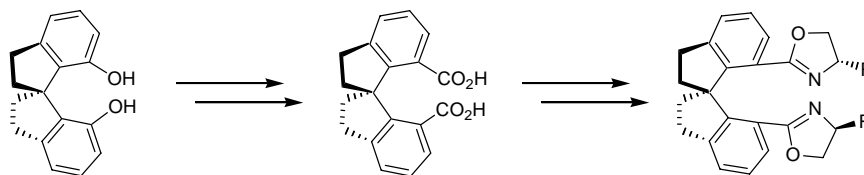
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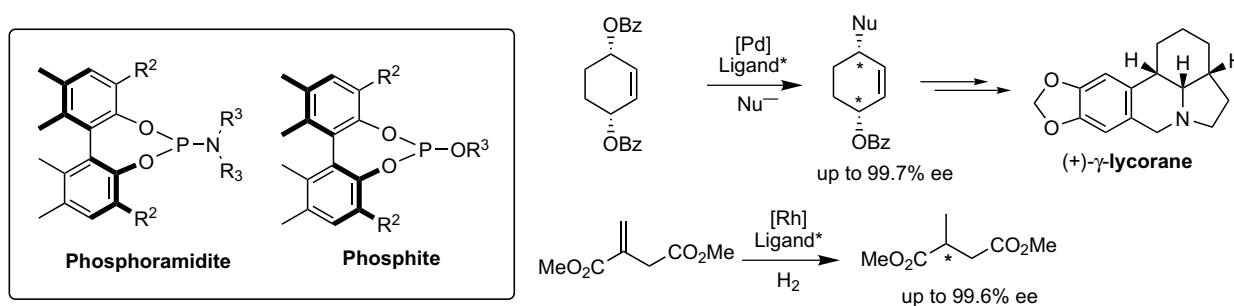
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Catalytic asymmetric transformations with fine-tunable biphenol-based monodentate ligands

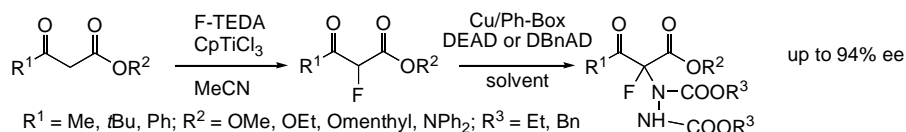
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Bruno D. Chapsal, Zihao Hua and Iwao Ojima*



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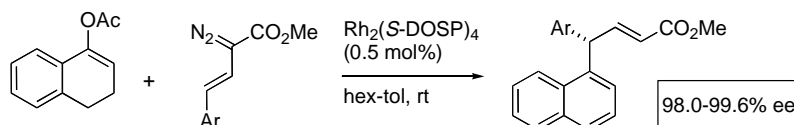
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Direct synthesis of methyl 2-diazo-4-aryl-3-butenates and their application to the enantioselective synthesis of 4-aryl-4-(1-naphthyl)-2-butenates

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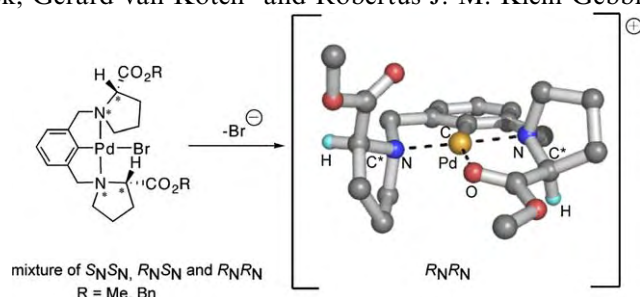
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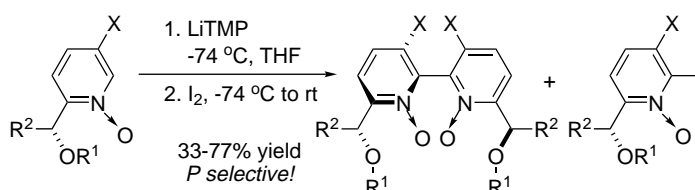
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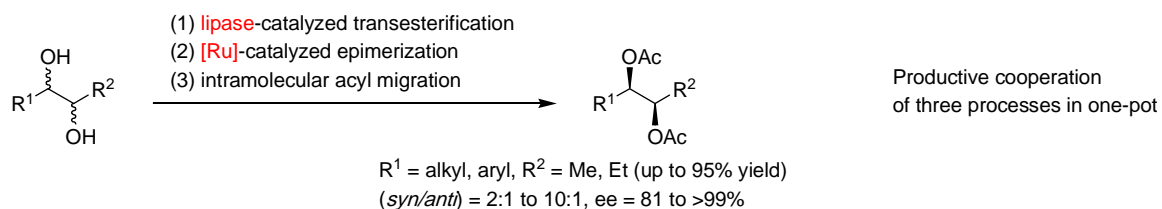
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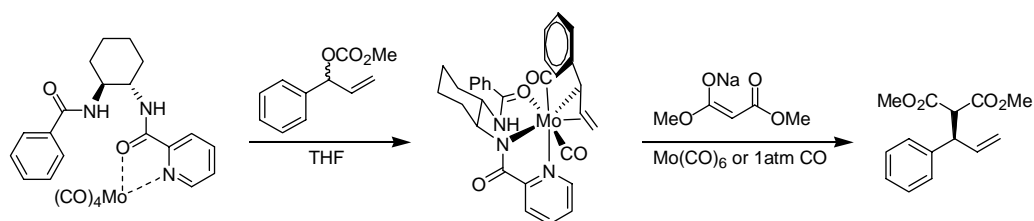
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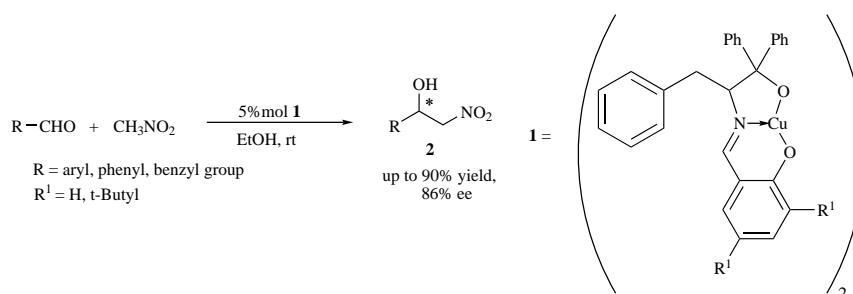
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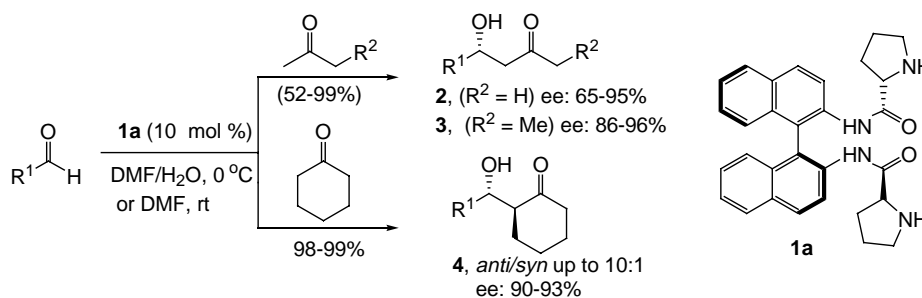
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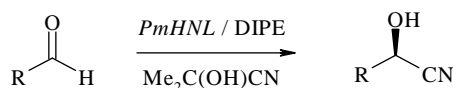


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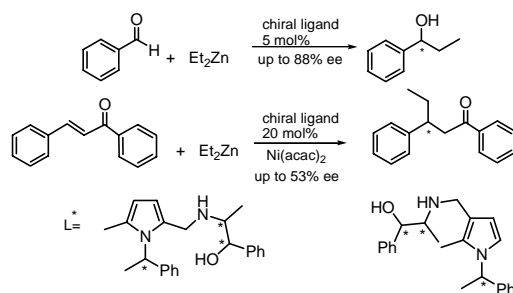


A series of saturated, unsaturated, and cyclic aliphatic aldehydes were subjected to (*R*)-HNL (*Prunus mume*) catalyzed asymmetric cyanohydrin synthesis.

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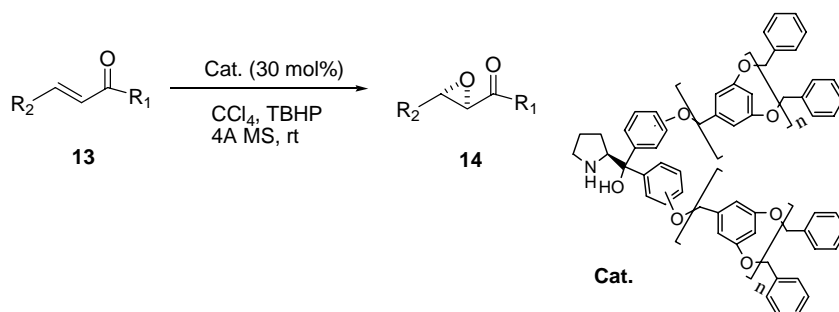
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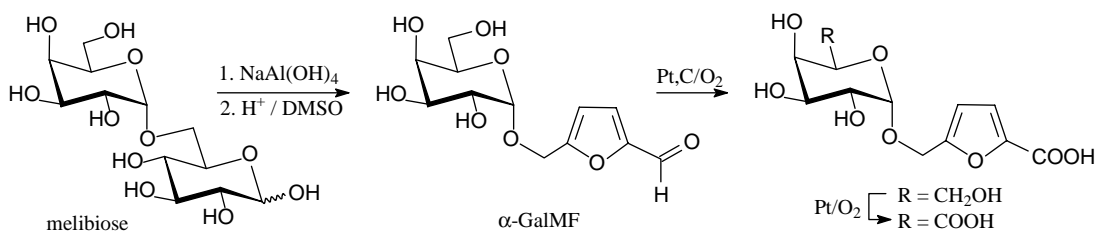
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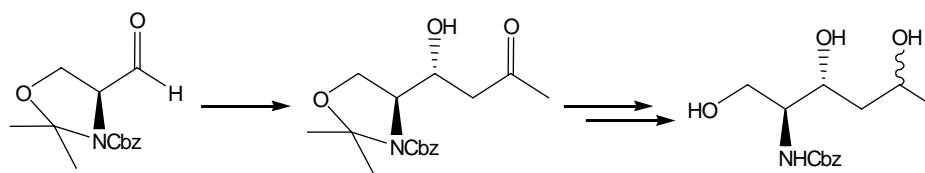
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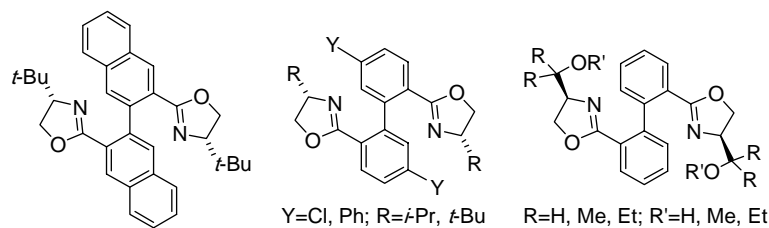
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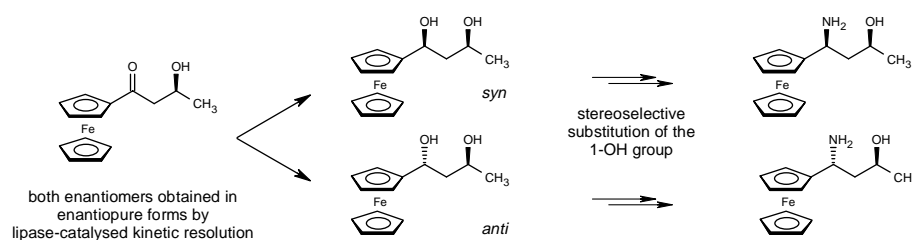
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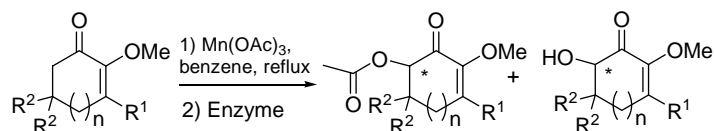
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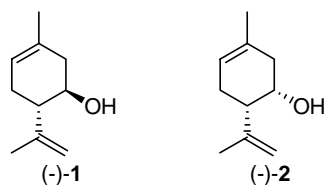
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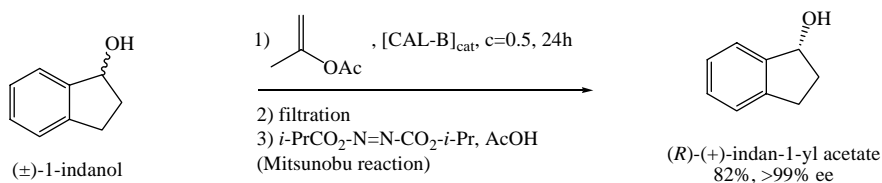
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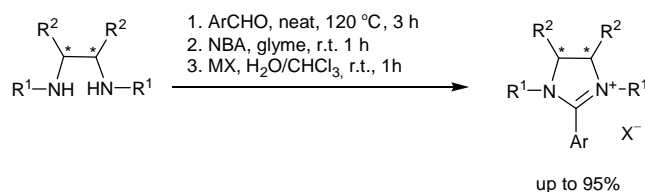


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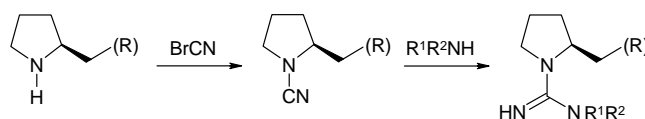
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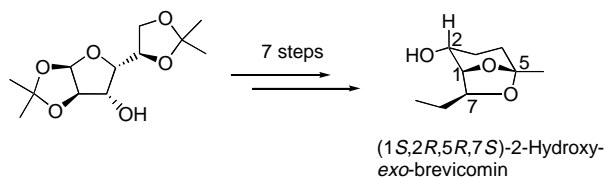
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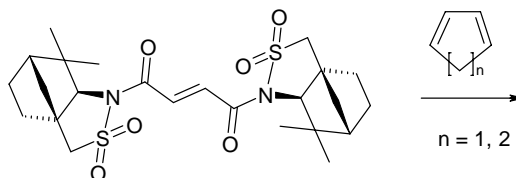
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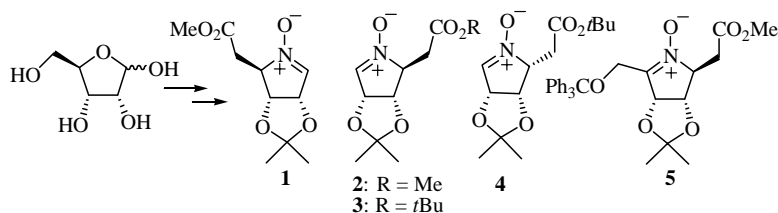
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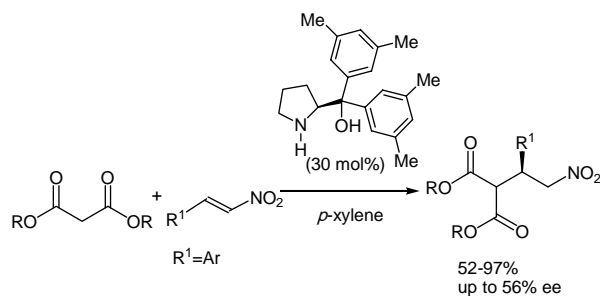
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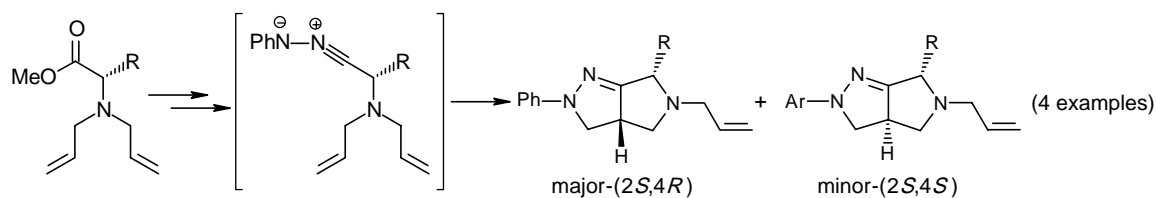
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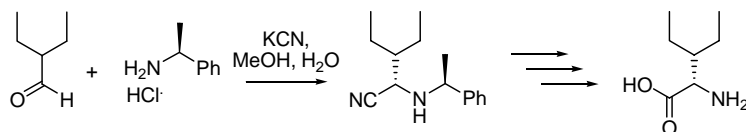
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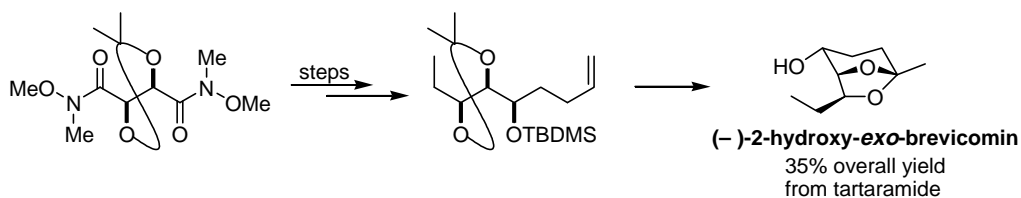
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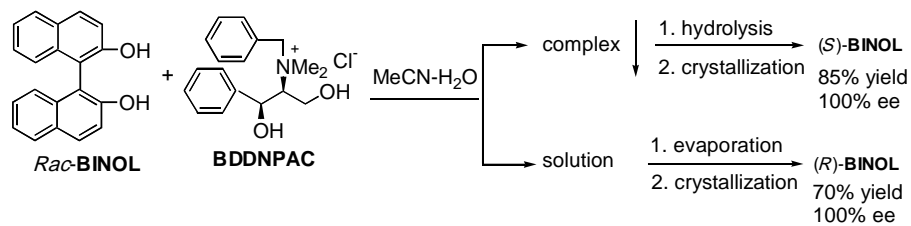
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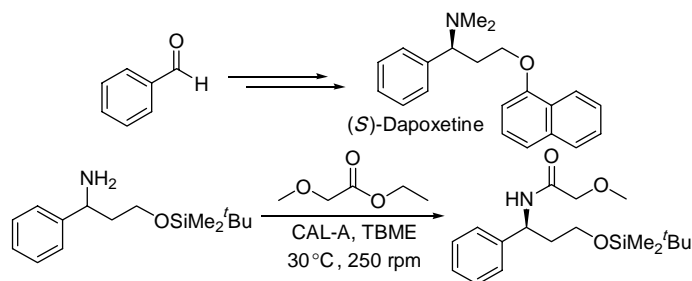
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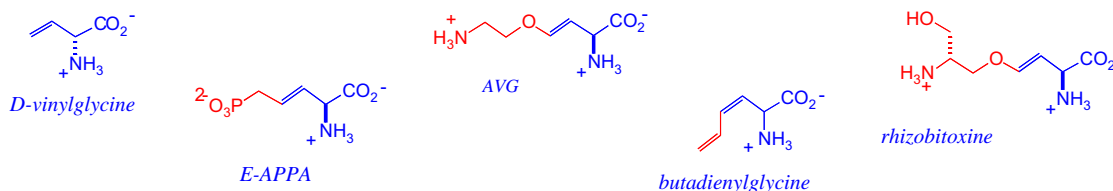
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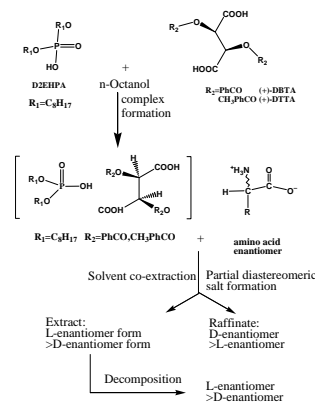


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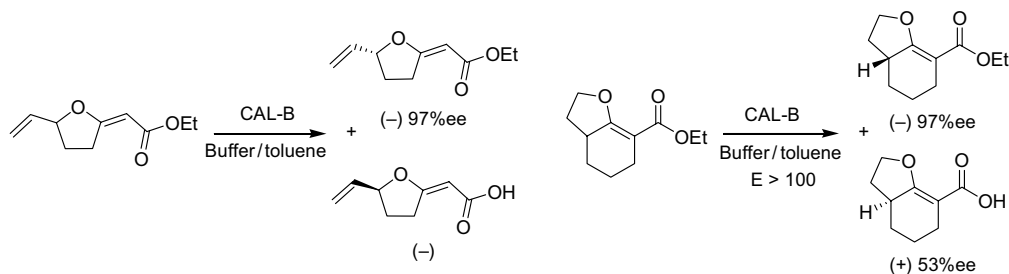
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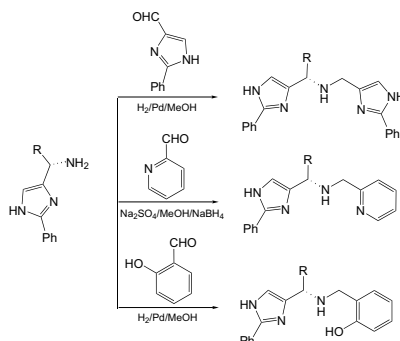
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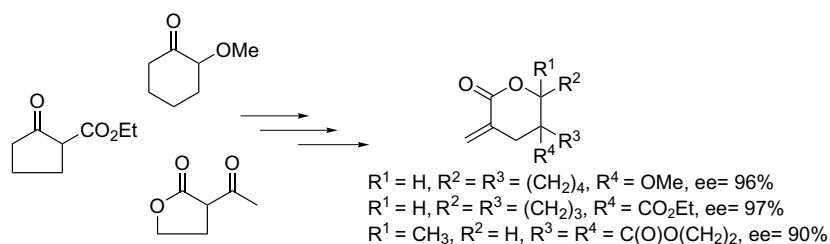


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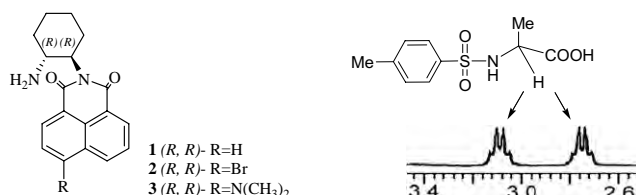
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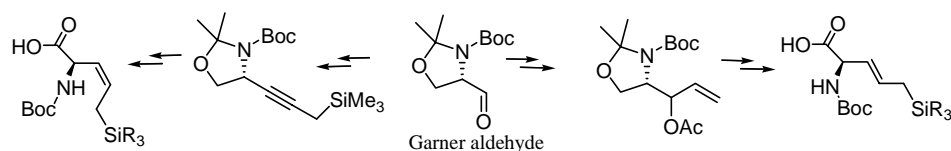
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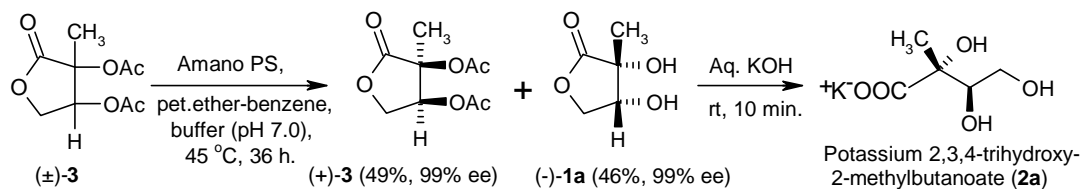
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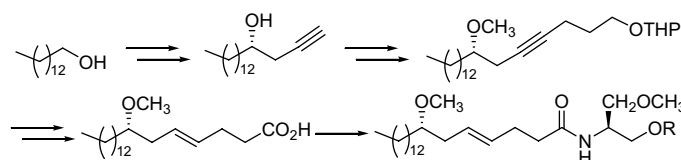
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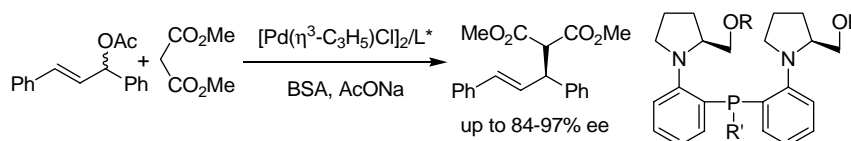
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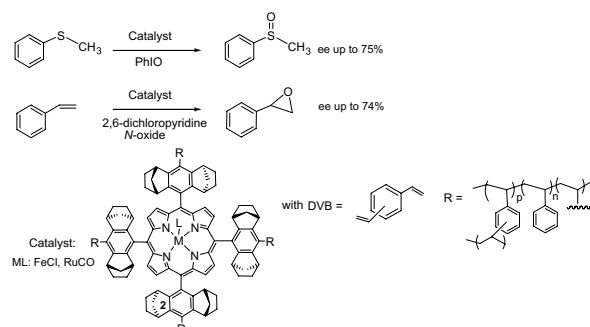
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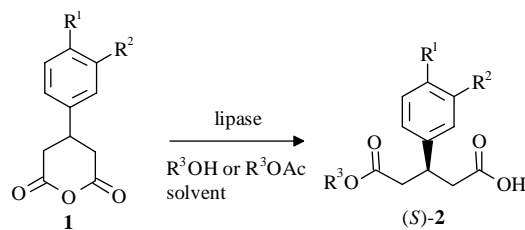


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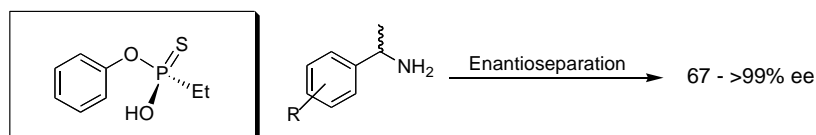
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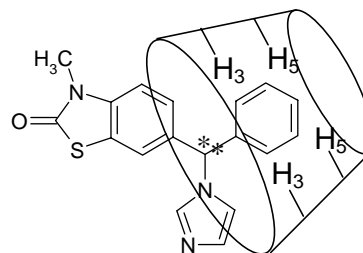


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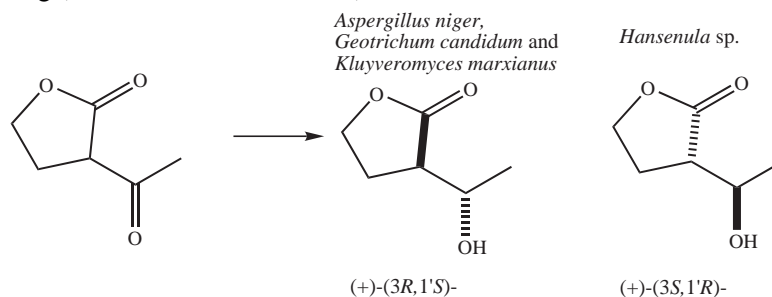


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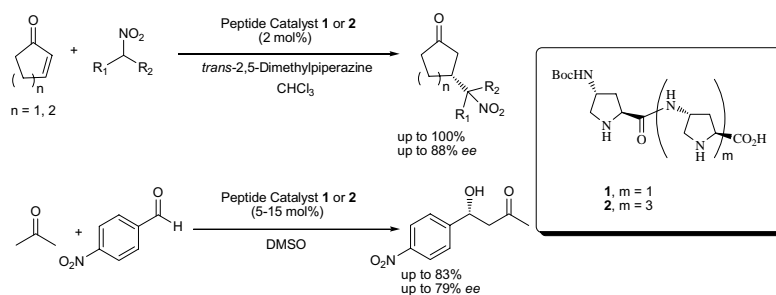
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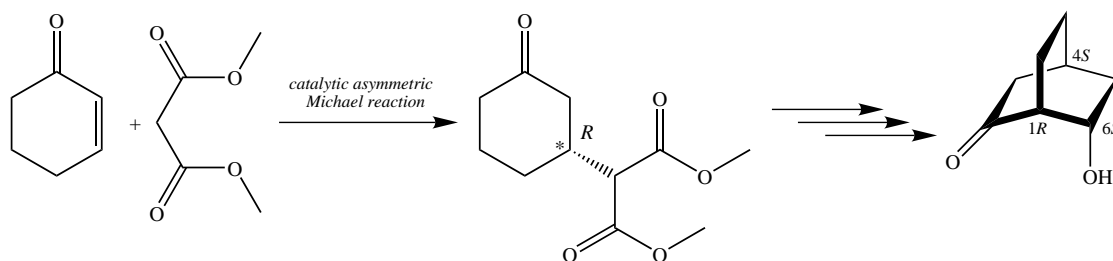
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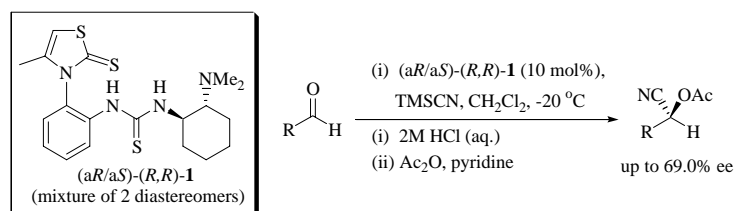
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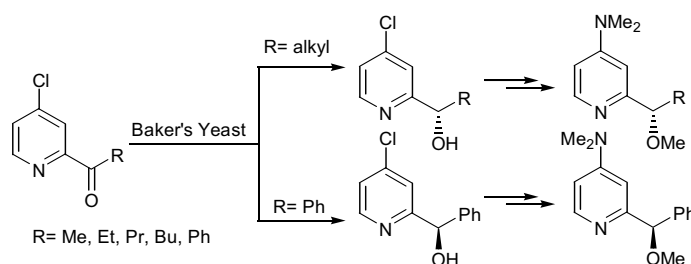
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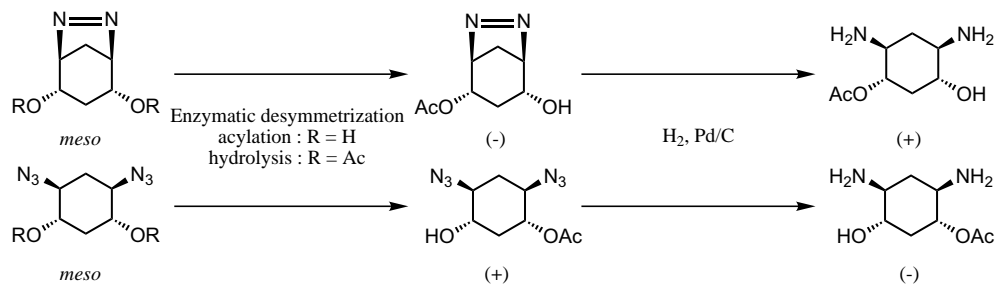


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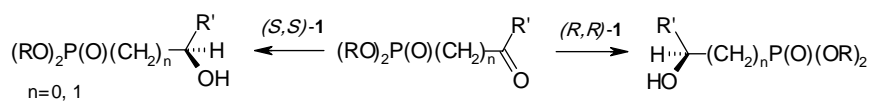
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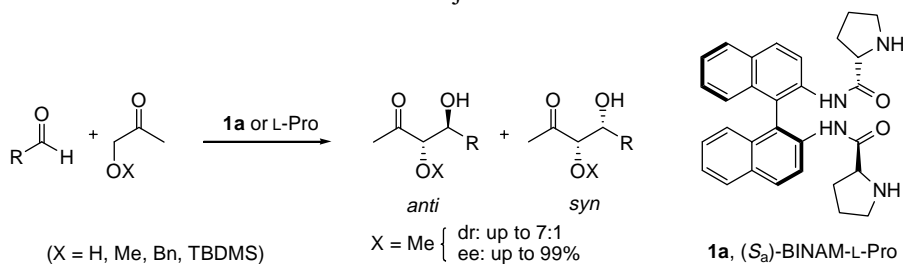
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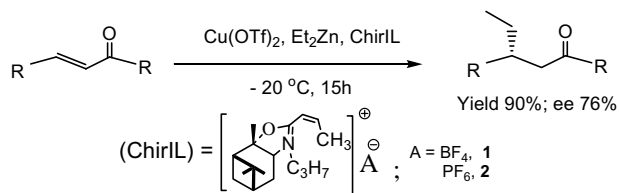
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Gabriela Guillena, María del Carmen Hita and Carmen Nájera*



- Application of chiral ionic liquids in the copper catalyzed enantioselective 1,4-addition of diethylzinc to enones** pp 1032–1035

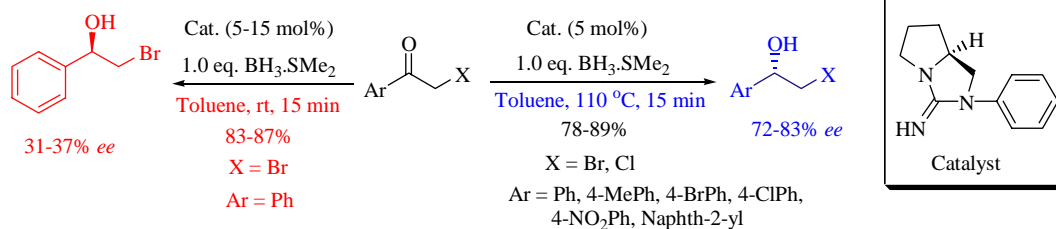
Sanjay V. Malhotra* and Yun Wang



(5S)-1,3-Diaza-2-imino-3-phenylbicyclo[3.3.0]octane: first example of guanidine based in situ recyclable chiral catalytic source for borane-mediated asymmetric reduction of prochiral ketones

pp 1036–1040

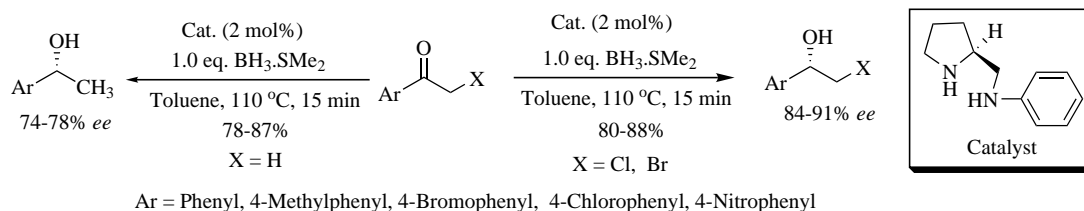
Deevi Basavaiah,* Kalapala Venkateswara Rao and Bhavanam Sekhara Reddy



(2S)-2-Anilinomethylpyrrolidine: an efficient in situ recyclable chiral catalytic source for the borane-mediated asymmetric reduction of prochiral ketones in refluxing toluene

pp 1041–1044

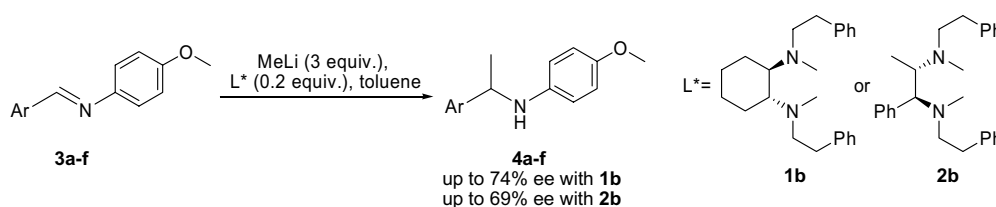
Deevi Basavaiah,* Kalapala Venkateswara Rao and Bhavanam Sekhara Reddy



A new pseudo C_2 -symmetric tertiary diamine for the enantioselective addition of MeLi to aromatic imines

pp 1045–1047

Ségolène Gille, Noemi Cabello, Jean-Claude Kizirian and Alexandre Alexakis*



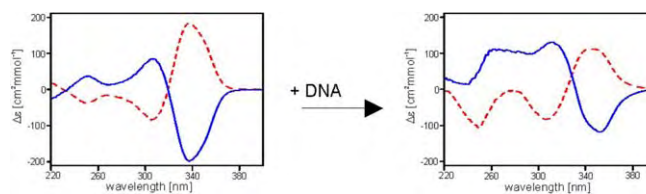
New tertiary pseudo C_2 -symmetric 1,2-diamine **2b** was synthesized and compared to **1b** in the enantioselective addition of MeLi to imines **3a-f**. Comparable selectivity and better reactivity were observed with this novel diamine.

ARTICLES

Interaction of chiral bis-distamycin derivatives with DNAs: electronic circular dichroism study

pp 1049–1055

Lukáš Palivec, Martin Valík, Vladimír Král and Marie Urbanová*

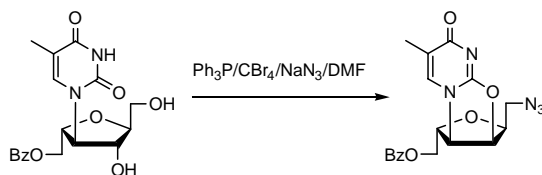


(4*R*,9*R*)- and (4*S*,9*S*)-enantiomers of bis-distamycin derivatives linked by Trögers base scaffold show mirror opposite ECD spectra. After addition of DNA the new diastereomeric complexes providing different asymmetrical ECD are formed.

One-step synthesis of novel tricyclic isomeric azidonucleosides

pp 1056–1061

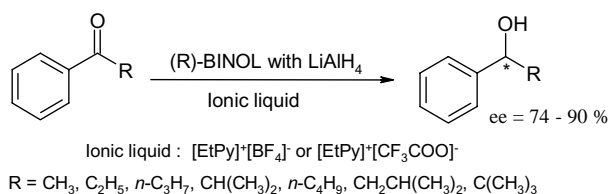
Zong-Sheng Li, Ren-Ping Qiao, Zhen-Jun Yang, Liang-Ren Zhang and Li-He Zhang*



Asymmetric reduction of aromatic ketones in pyridinium-based ionic liquids

pp 1062–1065

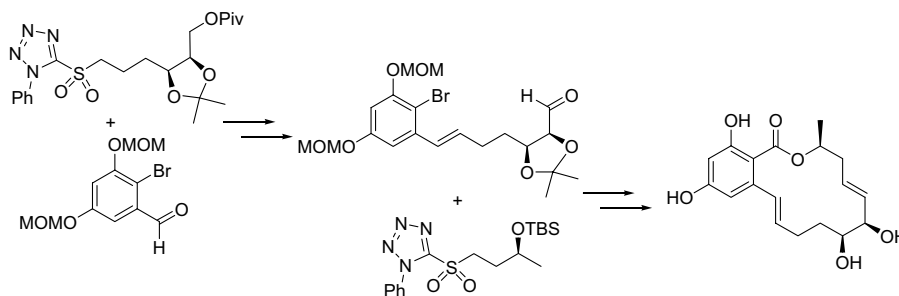
Ying Xiao and Sanjay V. Malhotra*



Enantioselective total synthesis of aigialomycin D

pp 1066–1073

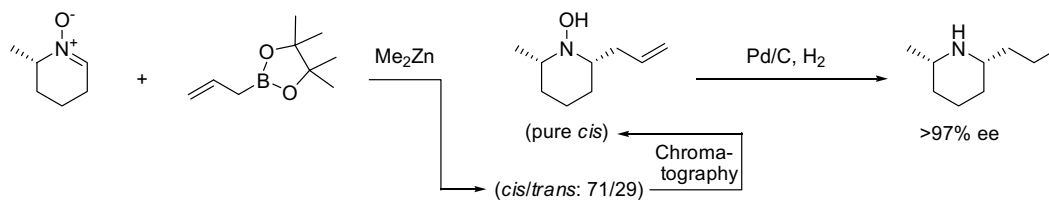
Jiangping Lu, Junying Ma, Xingang Xie, Bo Chen, Xuegong She* and Xinfu Pan*

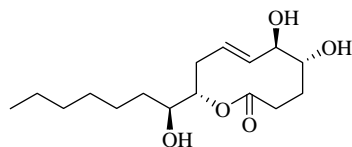


Synthesis of (+)- and (-)-dihydropinidine by diastereoselective dimethylzinc promoted allylation of 2-methyltetrahydropyridine-N-oxide with an allylboronic ester

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Carina Eriksson,* Kristina Sjödin, Fredrik Schlyter and Hans-Erik Högberg

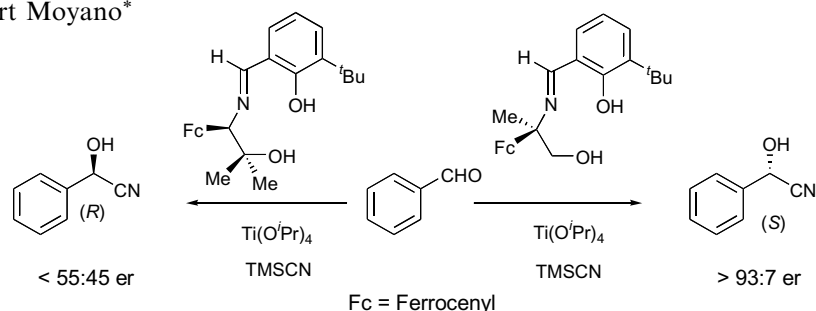




Salicylaldehyde Schiff bases derived from 2-ferrocenyl-2-amino alcohols. Part 1: New chiral ligands for the titanium-catalyzed enantioselective cyanation of aldehydes

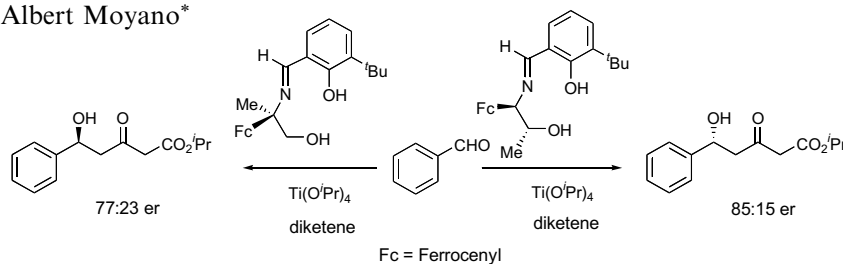
Rosa M^a Moreno, Malgorzata Rosol and Albert Moyano*

Chiral Schiff base–alkoxytitanium complexes derived from salicylaldehydes and from a set of diversely substituted (*S*)-2-amino-2-ferrocenylethanols have been prepared and tested as catalysts for the asymmetric addition of trimethylsilyl cyanide to aldehydes.



Salicylaldehyde Schiff bases derived from 2-ferrocenyl-2-amino alcohols. Part 2: Stereochemical divergence in the titanium-promoted enantioselective diketene addition to benzaldehyde

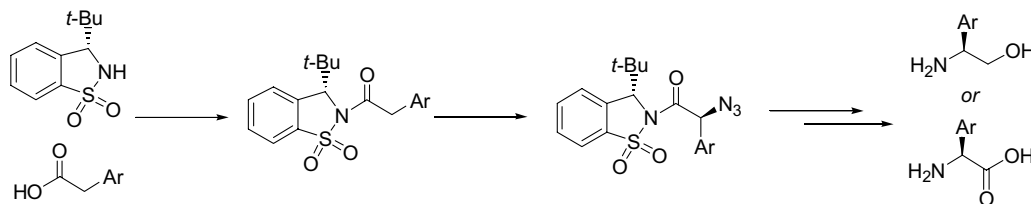
Rosa M^a Moreno and Albert Moyano*



Chiral Schiff base ligands derived from salicylaldehydes and from a set of diversely substituted (*S*)-2-amino-2-ferrocenylethanols show an unprecedented stereodivergence in the titanium-promoted asymmetric addition of diketene to benzaldehyde.

An efficient synthesis of enantiomerically pure unnatural aryl glycinols and aryl glycines

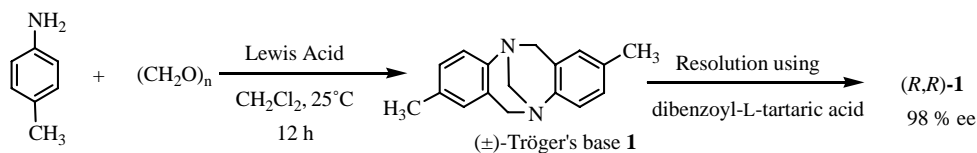
Hui-Young Ku, Junyang Jung, Soo-Hyun Kim, Hee Yeon Kim, Kyo Han Ahn* and Sung-Gon Kim*



A convenient method for the synthesis and resolution of Tröger base

pp 1116–1119

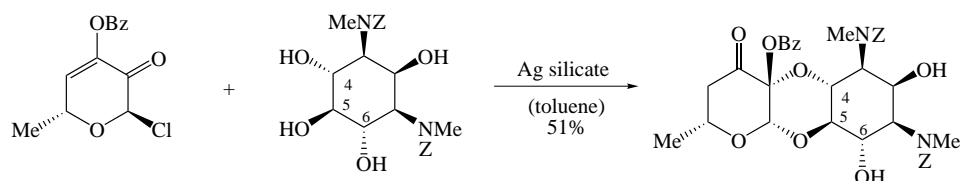
Sakilam Satishkumar and Mariappan Periasamy*



A concise, stereocontrolled synthesis of spectinomycin

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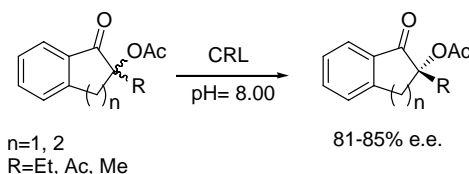
Eckehard Cuny and Frieder W. Lichtenthaler*



The first enzymatic resolution of quaternary α -acetoxy α -substituted cyclic ketones

pp 1125–1128

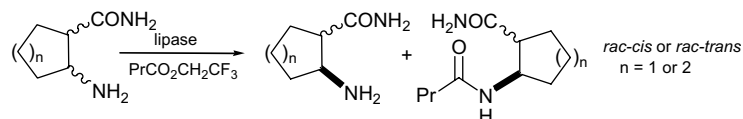
Cihangir Tanyeli,* İdris M. Akhmedov and Çiğdem İyigün



Lipase-catalyzed kinetic resolution of 2-aminocyclopentane- and 2-aminocyclohexancarboxamides

pp 1129–1134

Mónika Fitz, Katri Lundell, Ferenc Fülöp and Liisa T. Kanerva*

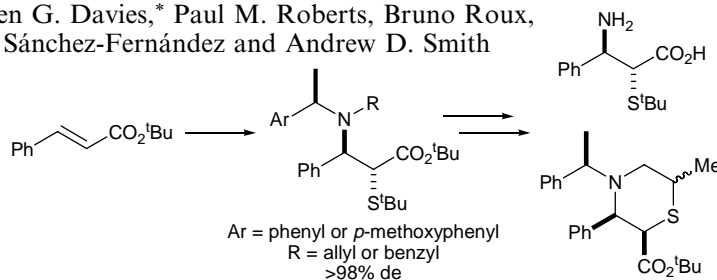


Alicyclic β -aminoamides were resolved through lipase-catalyzed asymmetric *N*-acylation at the $2R$ stereocentre.

Asymmetric synthesis of α -mercapto- β -amino acid derivatives: application to the synthesis of polysubstituted thiomorpholines

pp 1135–1145

José I. Candela-Lena, Stephen G. Davies,* Paul M. Roberts, Bruno Roux, Angela J. Russell, Elena M. Sánchez-Fernández and Andrew D. Smith

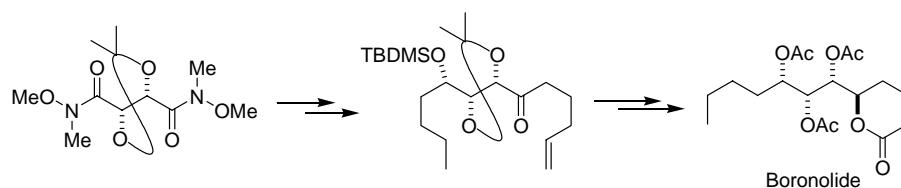


Tandem conjugate addition of a homochiral lithium amide to *tert*-butyl cinnamate and quenching with TsS*t*Bu gives access to homochiral *anti*- α -mercapto- β -amino acid and polysubstituted thiomorpholine derivatives.

Stereoselective synthesis of (+)-boronolide and (-)-5-*epi*-boronolide

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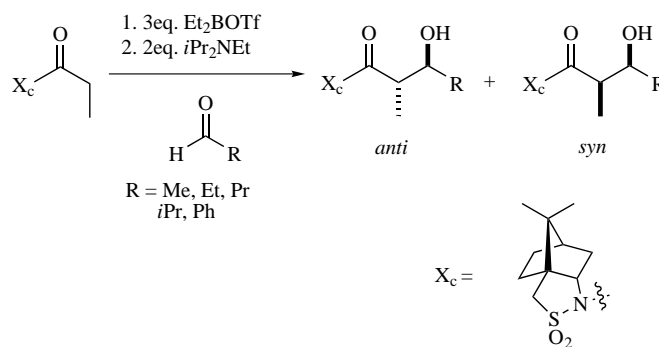
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Benjamin H. Fraser, Danny M. Gelman, Patrick Perlmutter* and Filisaty Vounatsos



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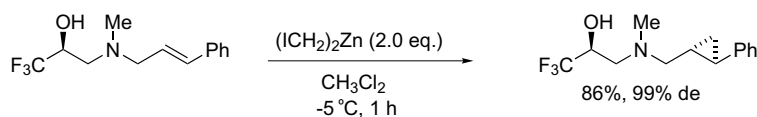
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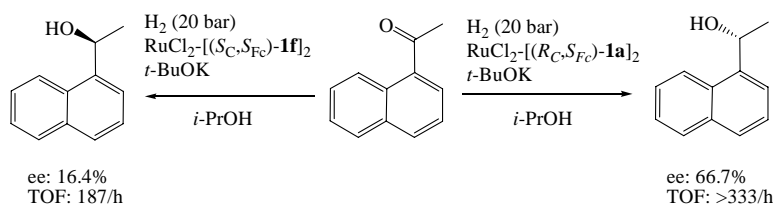
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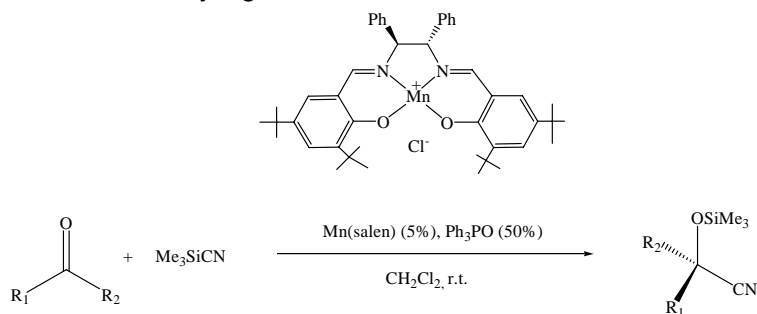


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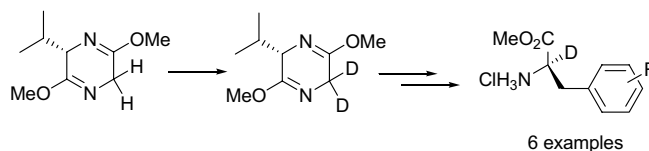
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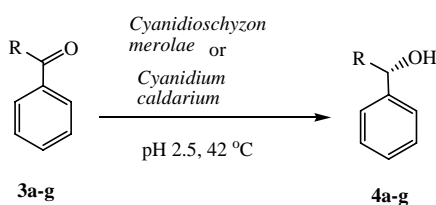
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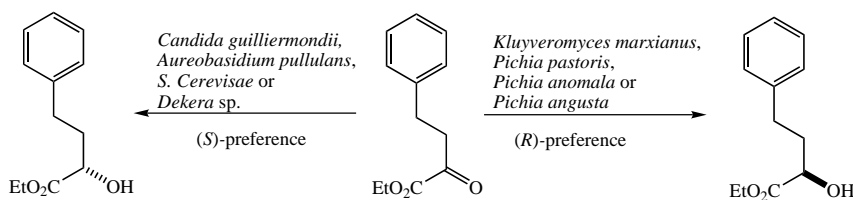
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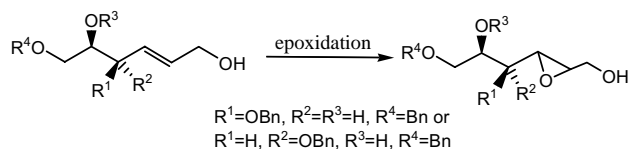
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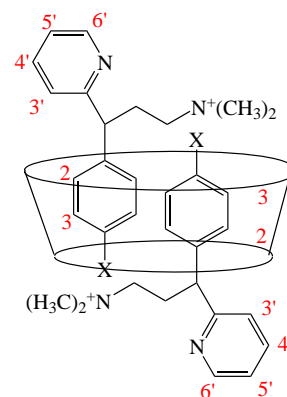
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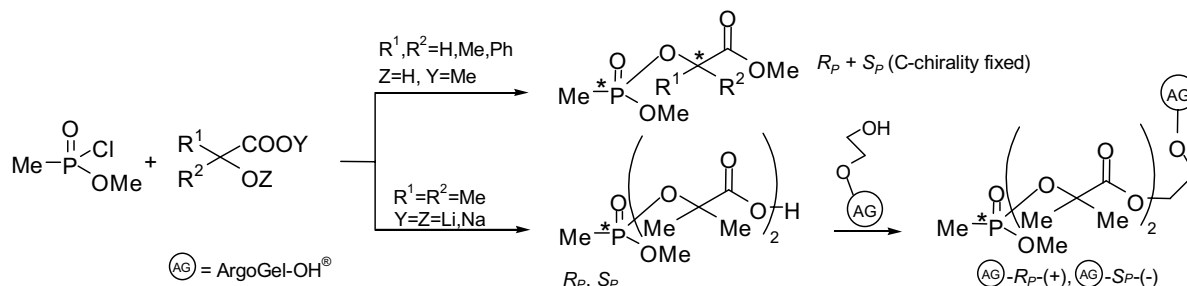
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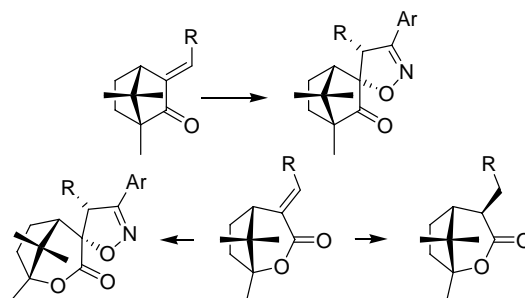
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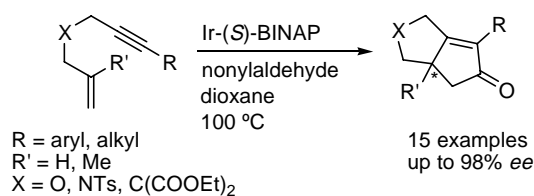
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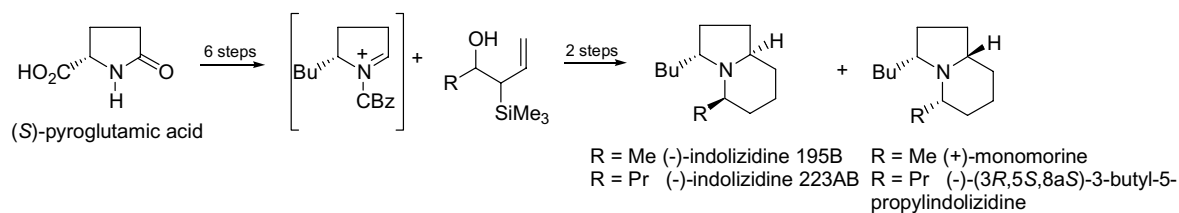
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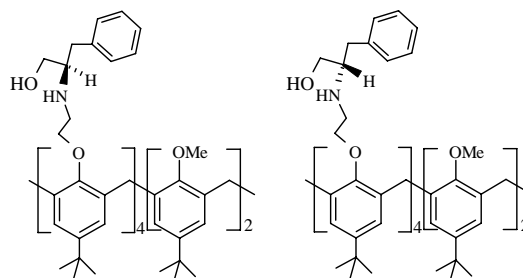
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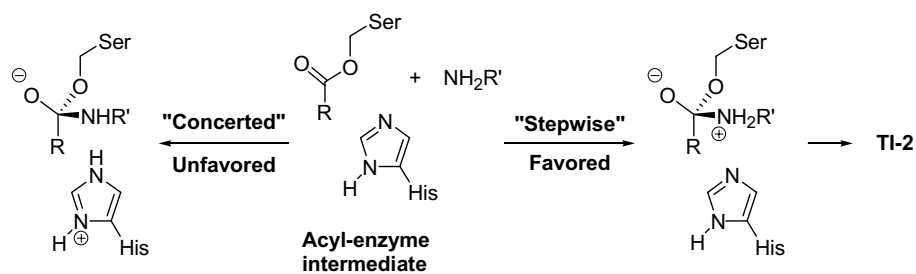
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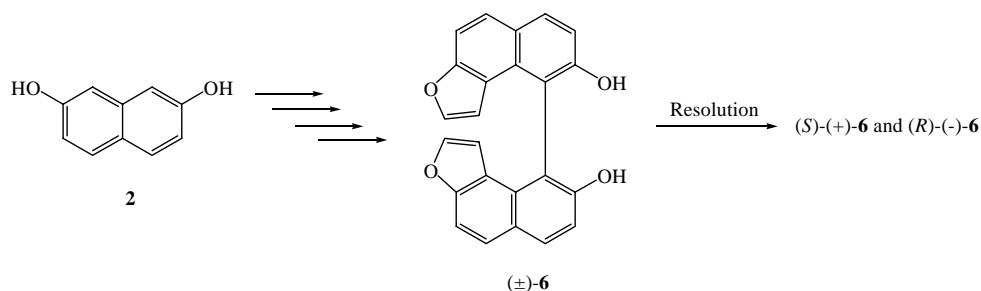
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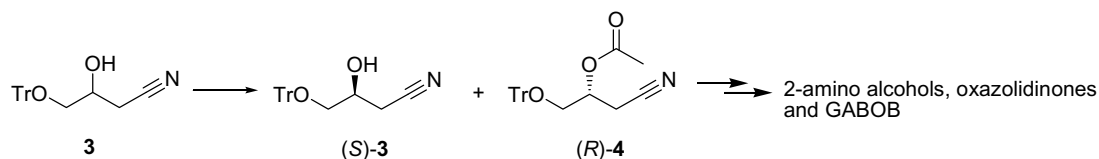
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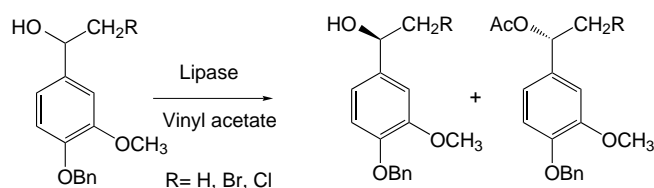
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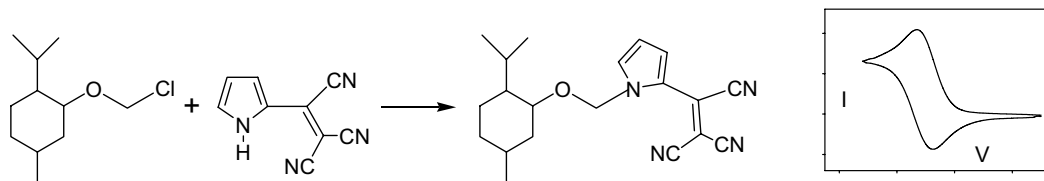
Erik Fuglseth, Thorleif Anthonsen and Bård Helge Hoff*



Synthesis of enantiomeric menthol derivatives for forming and probing chiral surfaces. X-ray crystal and molecular structures of (+)-(1*S*,2*R*,5*S*)-1-(2-tricyanovinyl-1*H*-pyrrol-1-yl-methoxy)-2-isopropyl-5-methylcyclohexane

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Fabrizio Cattaruzza, Vincenzo Fares,* Alberto Flamini* and Tommaso Prosperi

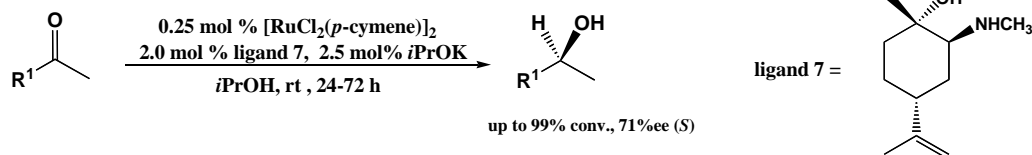


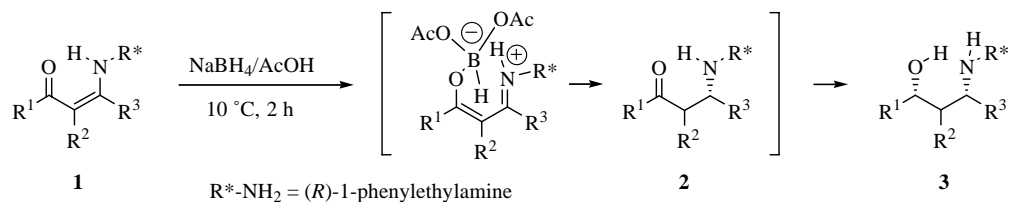
The product is both homochiral and electroactive showing a quasi-reversible cyclic voltammetry.

Catalytic asymmetric transfer hydrogenation of ketones using terpene-based chiral β -amino alcohols

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Cian Christopher Watts, Praveen Thoniyot, Frank Cappuccio, Joelle Verhagen, Brain Gallagher and Bakthan Singaram*





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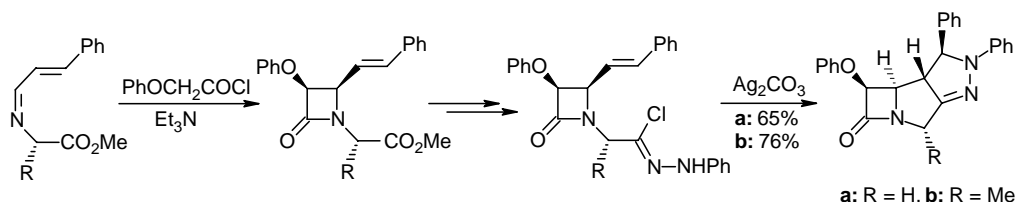
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Paola Del Buttero* and Giorgio Molteni

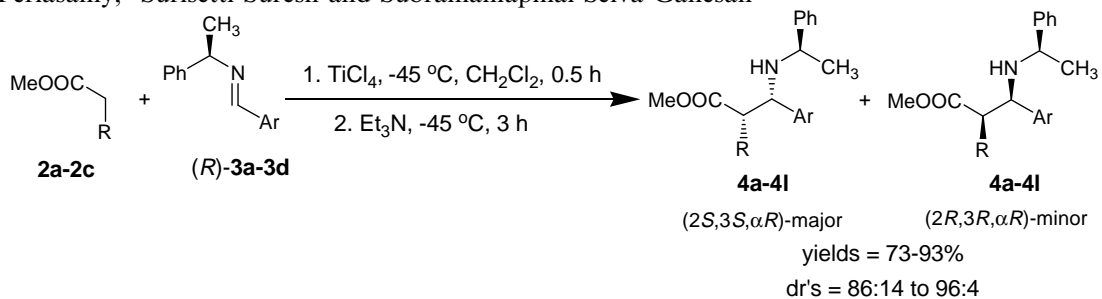


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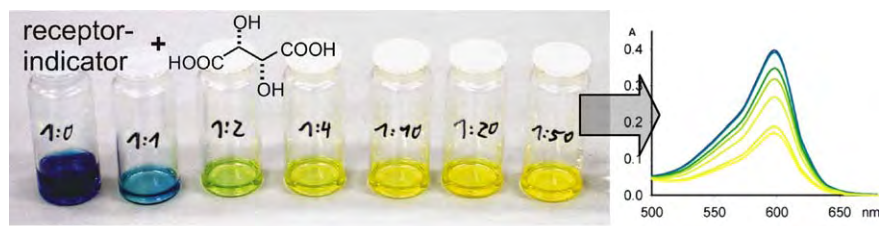
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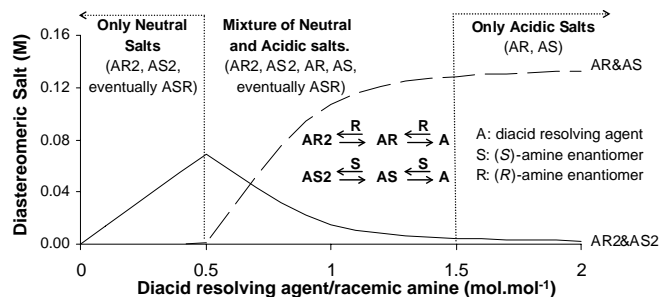
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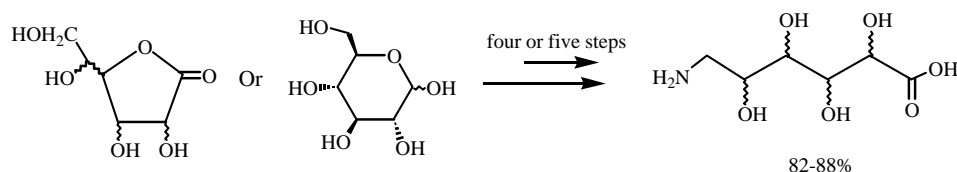
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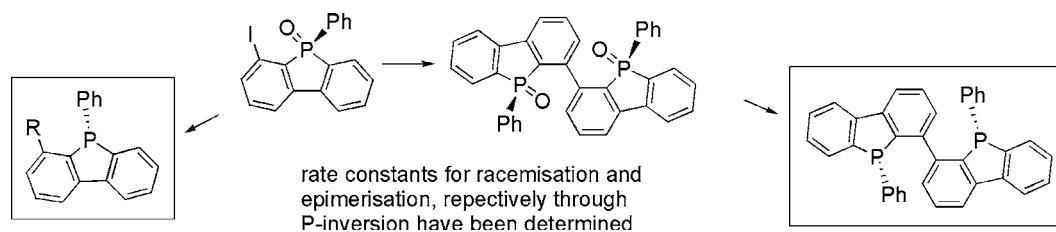
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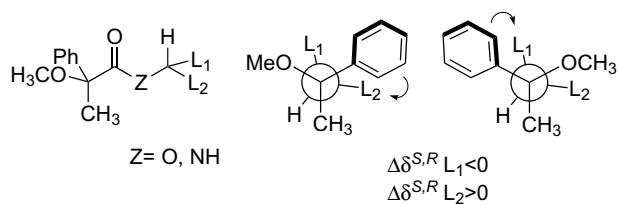
Michael Widhalm,* Lothar Brecker and Kurt Mereiter

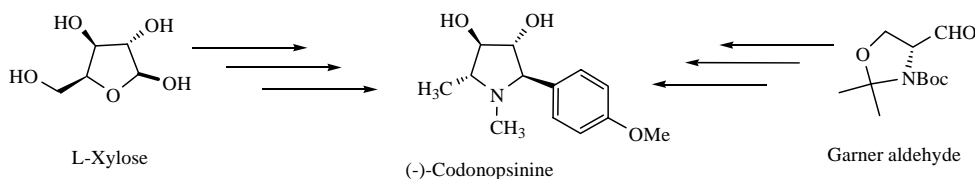


O-Methylatrolactic acid as a new reagent for determination of the enantiomeric purity and absolute configuration of chiral alcohols and amines

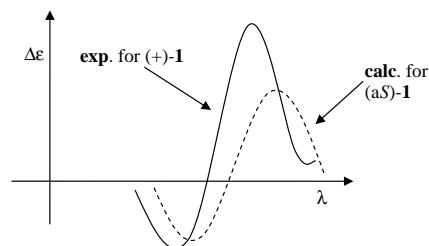
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Rafał Kowalczyk and Jacek Skarzewski*



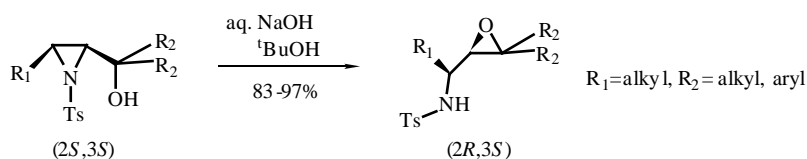


Michele Claps, Nunziatina Parrinello, Carlos Saá, Jesús A. Varela, Salvatore Caccamese* and Carlo Rosini*

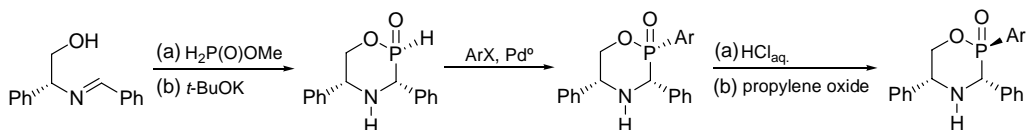


Compound (+)-1 has an (aS)-absolute configuration.

Feng Xichun,* Qiu Guofu, Liang Shucui, Teng Hanbing, Wu Lamei and Hu Xianming*

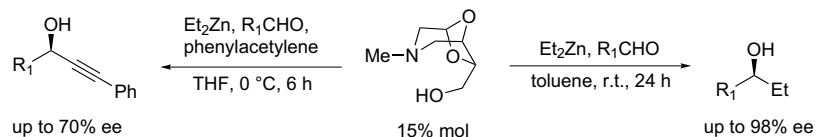


Jean-Noël Volle,* David Virieux, Matthieu Starck, Jérôme Monbrun, Ludovic Clarion and Jean-Luc Pirat*



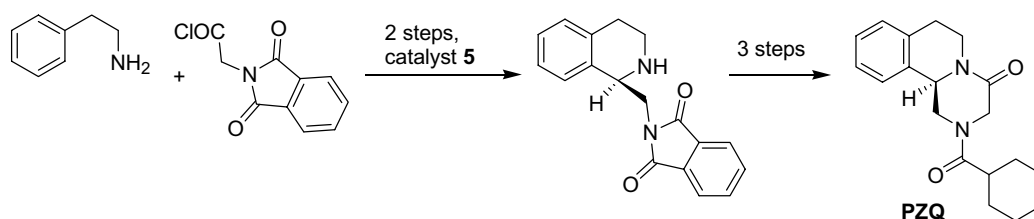
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Piotr Roszkowski, Jan K. Maurin and Zbigniew Czarnocki*



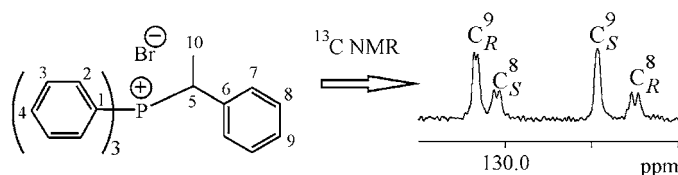
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Robert Kawęcki



Enantiodifferentiation of acyclic phosphonium salts in chiral liquid crystalline solutions pp 1424–1429

Abdelkrim Meddour,* Jacques Uziel, Jacques Courtieu and Sylvain Jugé*

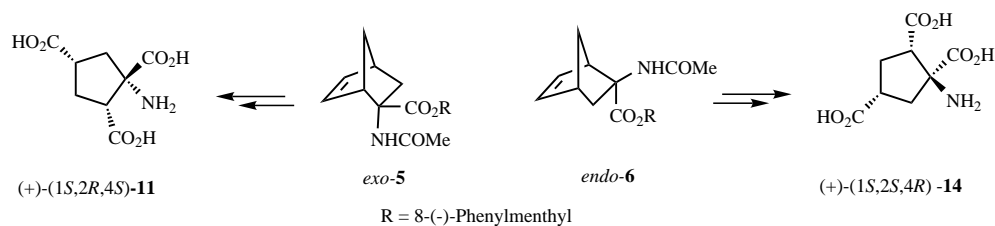


Enantiodifferentiation of acyclic phosphonium salts was investigated by ²H-¹H and ¹³C-¹H NMR in commercially available chiral liquid crystals. Good to excellent separations allow the determination of ee.

An efficient synthesis of new diastereomeric enantiopure 1-aminocyclopentane-1,2,4-tricarboxylic acids

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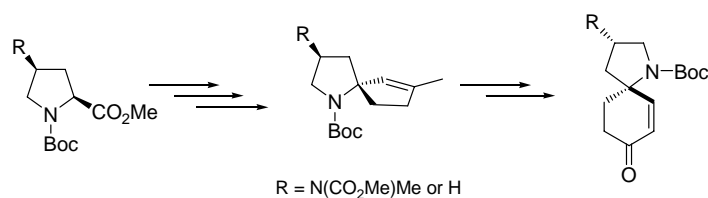
Francesco Caputo, Francesca Clerici, Maria Luisa Gelmi,* Sara Pellegrino and Donato Pocar



Synthesis of enantiopure 1-azaspiro[4.5]dec-6-en-8-ones from L-proline derivatives

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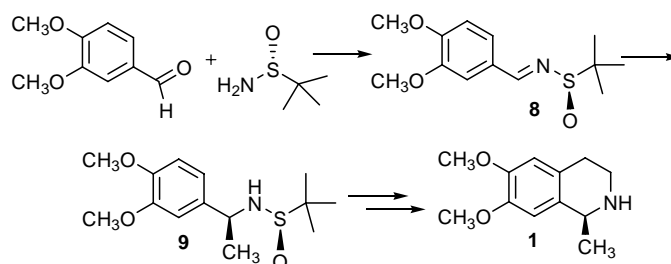
Faïza Diaba, Eva Ricou and Josep Bonjoch*



Diastereoselective Pomeranz–Fritsch–Bobbitt synthesis of (*S*)-(-)-salsolidine using (*R*)-*N*-*tert*-butanesulfinylimine as a substrate

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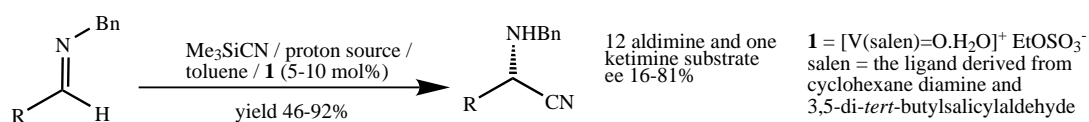
Agnieszka Kościółowicz and Maria D. Rozwadowska*

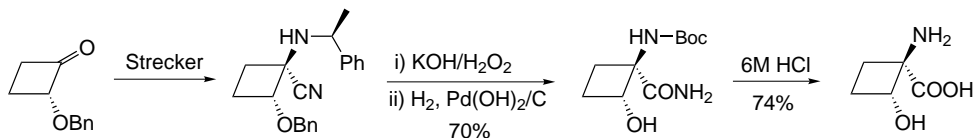


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John Blacker, Lisa A. Clutterbuck, Michael R. Crampton,* Christophe Grosjean and Michael North*





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*Corresponding author



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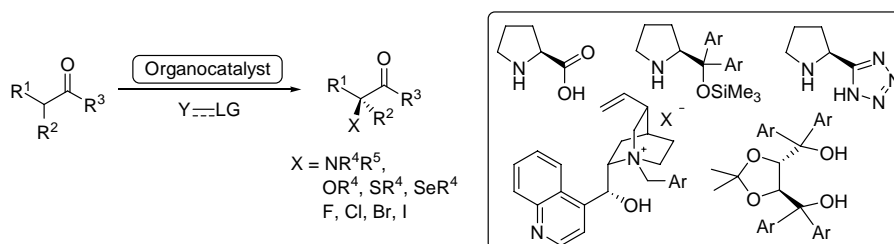


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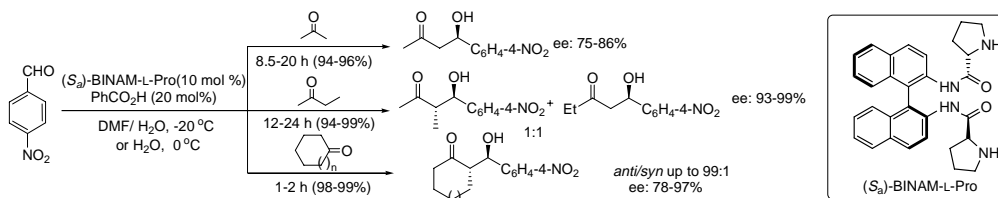
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Enantioselective α -heterofunctionalisation of carbonyl compounds: organocatalysis is the simplest approach pp 1465–1492
Gabriela Guillena* and Diego J. Ramón*



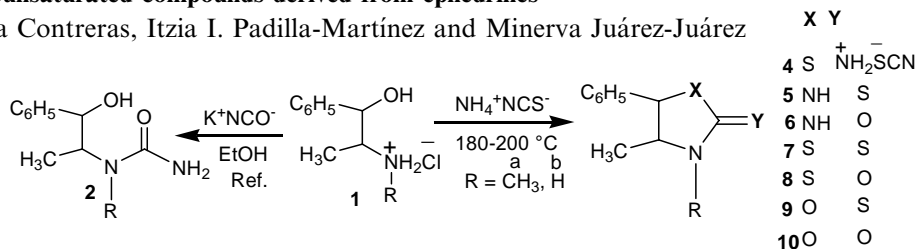
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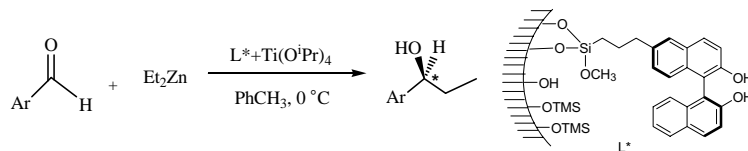


Ephedrines **1a,b**-(*e,t*) with potassium cyanate in refluxing ethanol, produce ephedrineureas **2a,b**-(*e,t*). When ephedrines **1a,b**-(*e,t*) are heated with ammonium thiocyanate under solvent free conditions, they produce thiazolidine-2-imine hydrothiocyanate **4a-t**, imidazolidinethione **5a-c**, thiazolidinone **8b-t** and thiazolidine-2-amine hydrothiocyanate **4b-c** in 40–50% yield.

Enantioselective addition of diethylzinc to aldehydes using immobilized chiral BINOL–Ti complex on ordered mesoporous silicas

pp 1506–1513

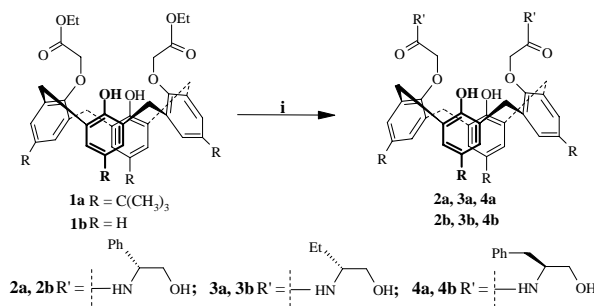
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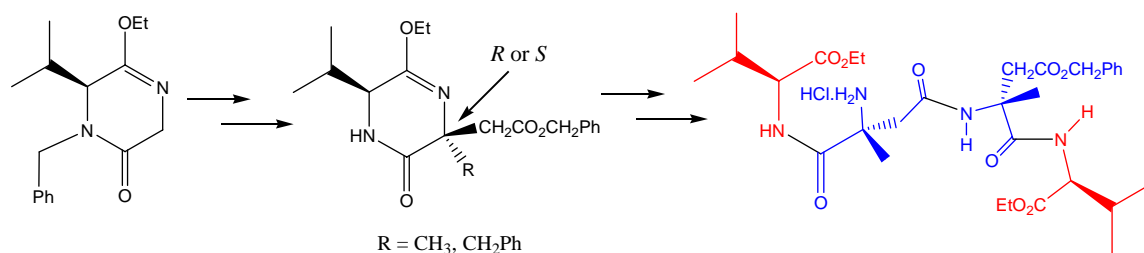
Erdal Kocabas, Aysegul Karakucuk, Abdulkadir Sirit and Mustafa Yilmaz*



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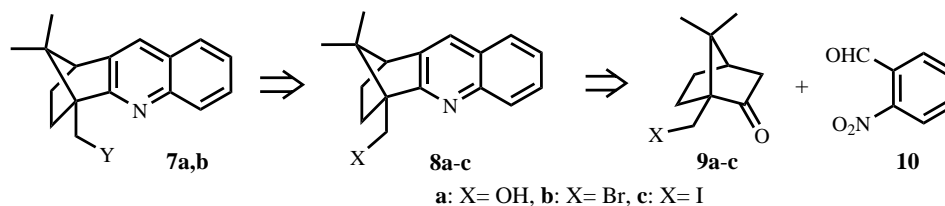
Daniele Balducci, Alessandro Grandi, Gianni Porzi* and Sergio Sandri*



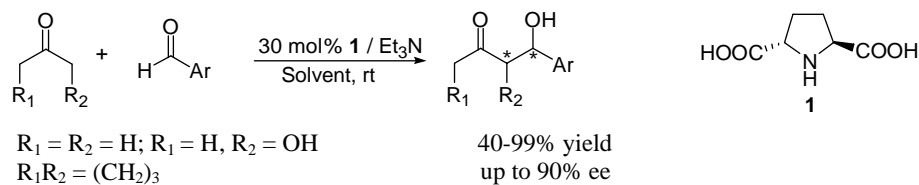
Synthesis of 4-diphenylphosphanylmethyl- and 4-phenylthiomethyl-1,4-methano-11,11-dimethyl-1,2,3,4-tetrahydroacridine: new N–P and N–S camphor-derived chiral ligands for asymmetric catalysis

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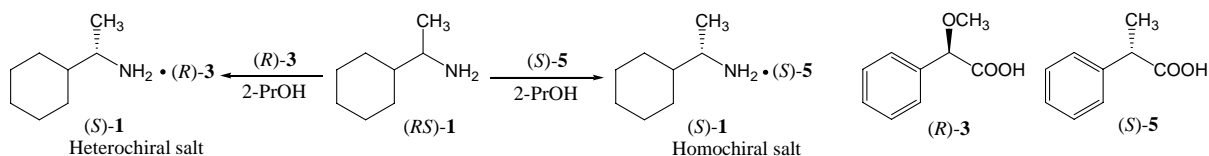


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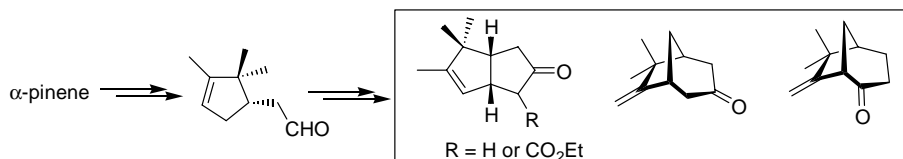
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Kenichi Sakai,* Masami Yokoyama, Rumiko Sakurai and Noriaki Hirayama*



Chiral synthons from α -pinene: enantioselective syntheses of bicyclo[3.3.0] and [3.2.1]octanones

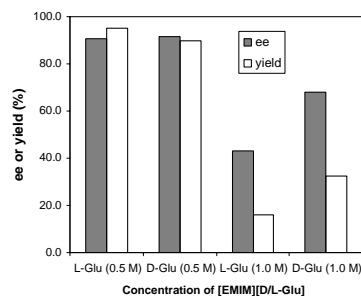
Adusumilli Srikrishna,* B. Beeraiah and Gedo Satyanarayana



Enhancing protease enantioselectivity by ionic liquids based on chiral- or ω -amino acids

Hua Zhao,* Lee Jackson, Zhiyan Song and Olarongbe Olubajo

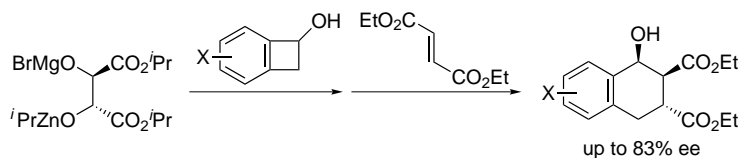
Novel ionic liquids (ILs) carrying anions of chiral- or ω -amino acids were prepared. Interestingly, higher ees and yields were generally observed in ILs based on D-amino acids rather than in those derived from L-amino acids, especially when these ILs were used in a higher concentration.



Enantioselective Diels–Alder reaction of *o*-quinodimethanes by utilizing tartaric acid ester as a chiral auxiliary

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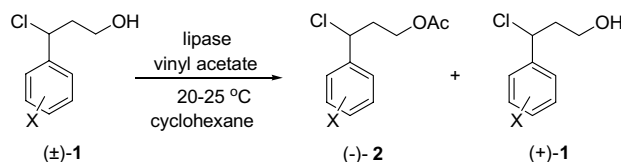
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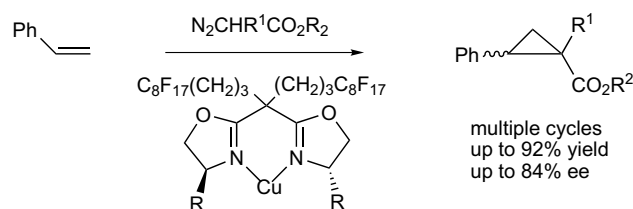
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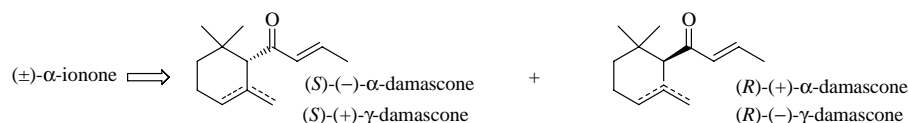
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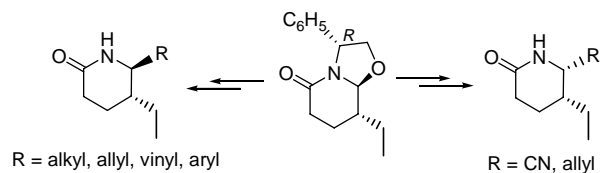
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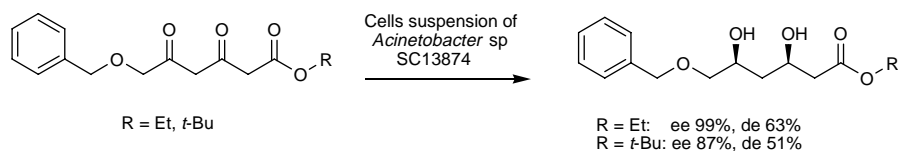
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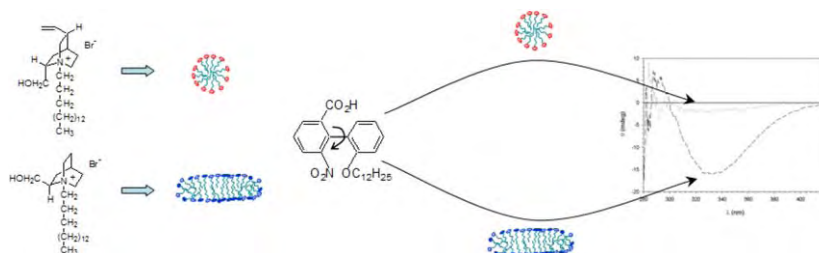
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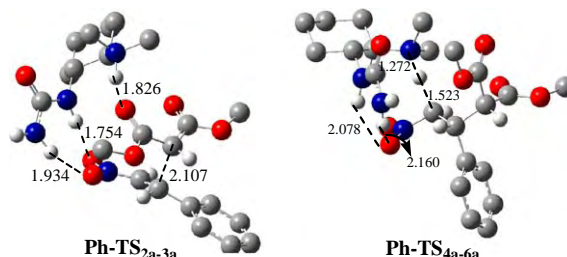
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Theoretical study of the bifunctional-urea catalyzed Michael reaction of 1,3-dicarbonyl compounds and nitroolefins: reaction mechanism and enantioselectivity

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Rongxiu Zhu, Dongju Zhang, Jian Wu and Chengbu Liu*

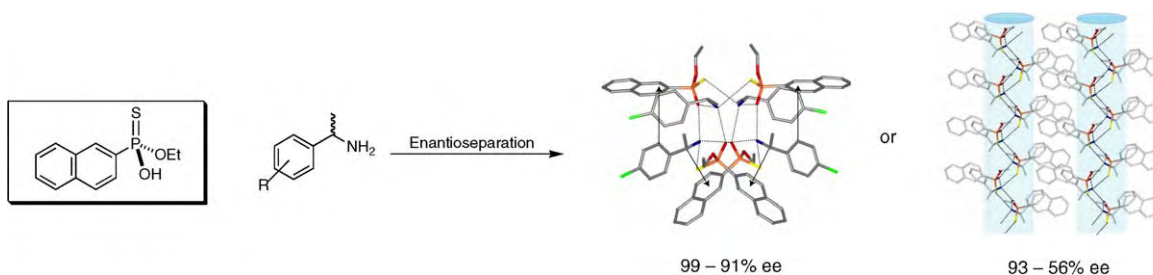
The rate determining step of the Michael reaction of nitroalkenes catalyzed by bifunctional-urea is found to be proton transfer from the amino group of the catalyst to the α -carbon of the nitronate, and the enantioselectivity is controlled by the steps involved in carbon–carbon bond formation.



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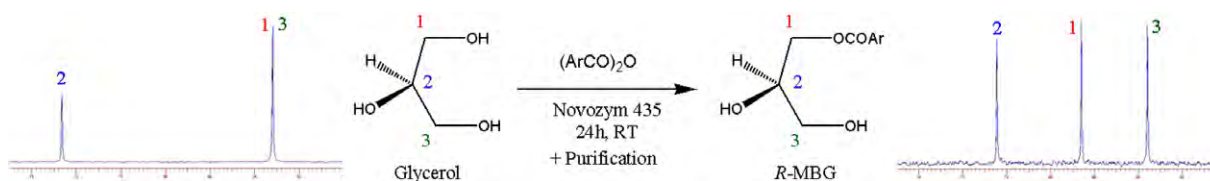
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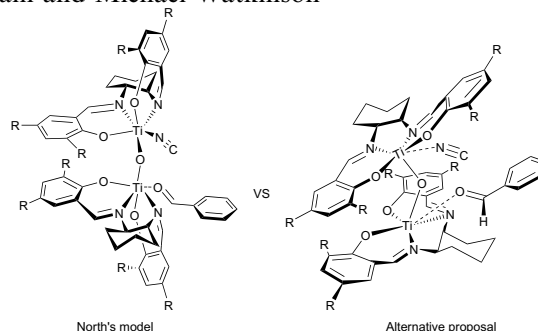
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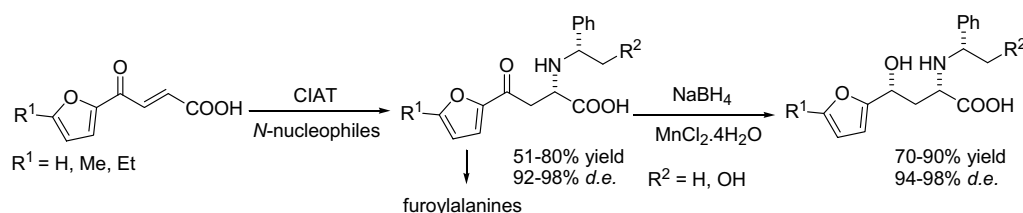


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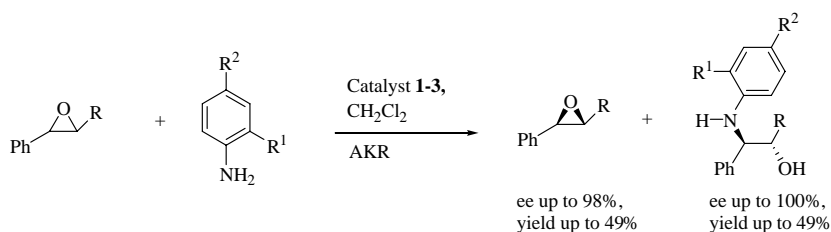
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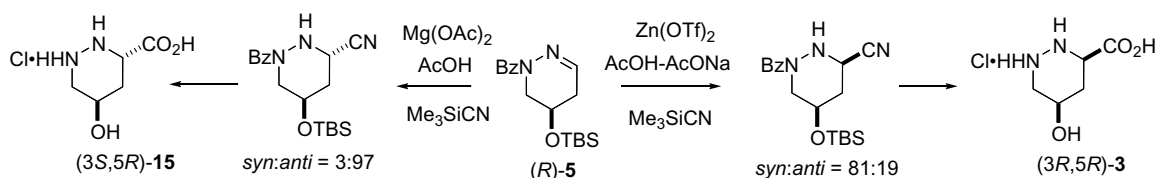
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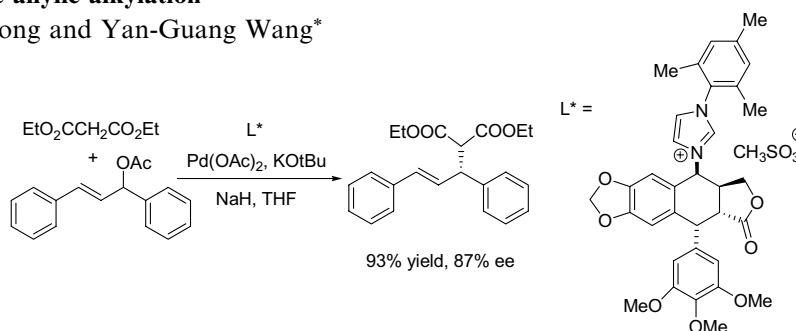
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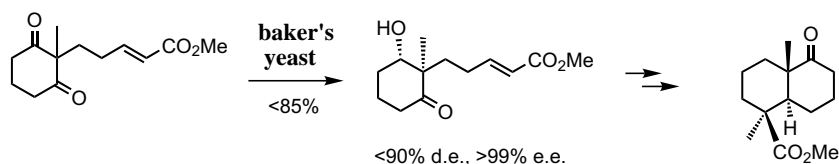
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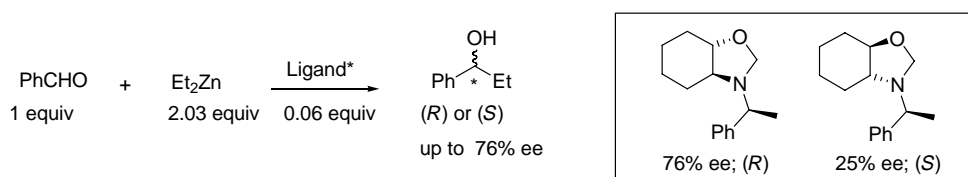
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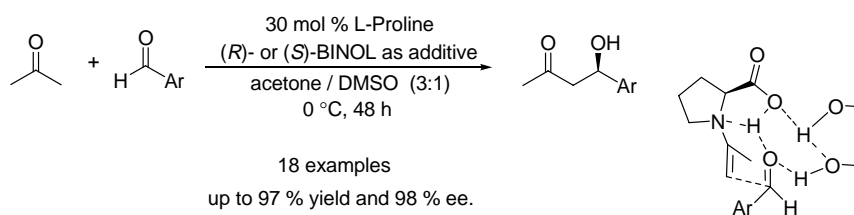
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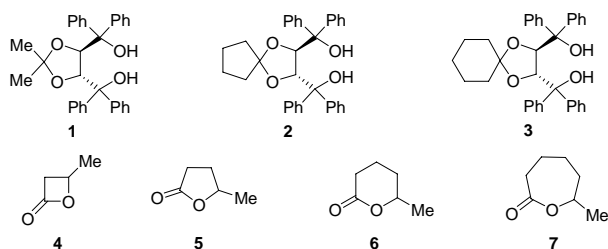
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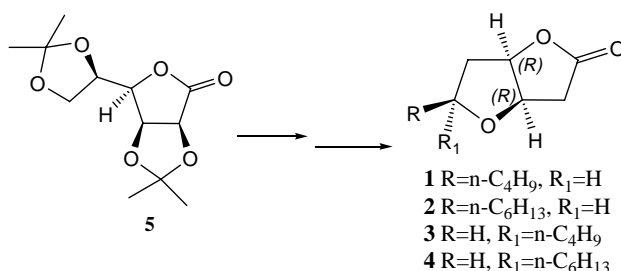
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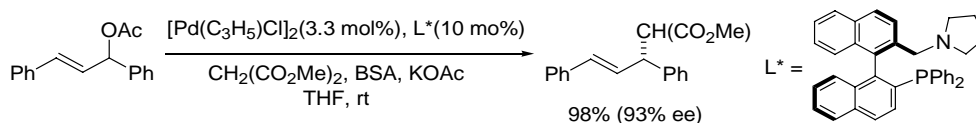
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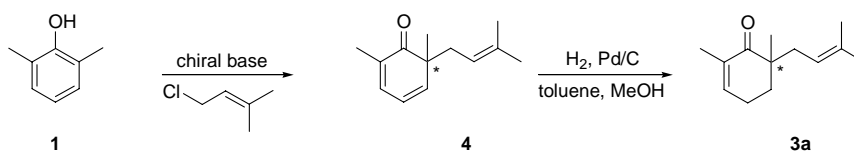
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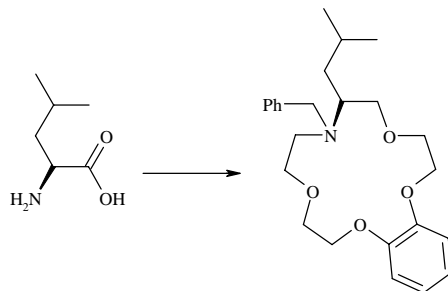
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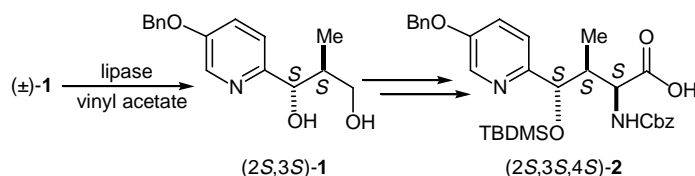
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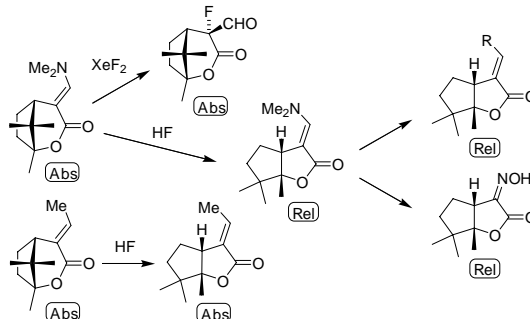
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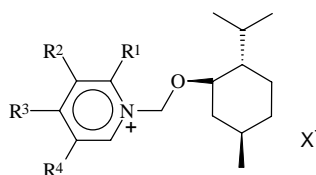
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Chiral pyridinium-based ionic liquids containing the (1R,2S,5R)-(-)-menthyl group

pp 1728–1737

Juliusz Pernak* and Joanna Feder-Kubis



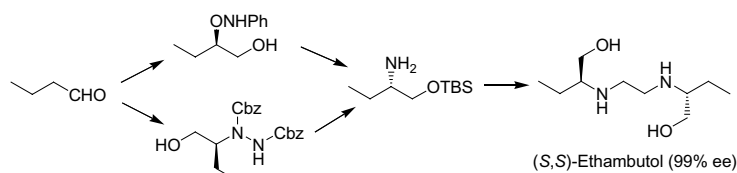
X = Cl, BF₄, ClO₄, I, PF₆, NTf₂
1-[(1R,2S,5R)-(-)-Menthoxymethyl]pyridinium salts

A novel class of chiral pyridinium salts in which the chirality resided in the cation have been prepared and characterized. The physicochemical and anti-microbial properties have been determined. The group of prepared salts contained chiral ionic liquids and decomposable chiral pyridinium chlorides.

Enantioselective synthesis of (*S,S*)-ethambutol using proline-catalyzed asymmetric α -aminooxylation and α -amination

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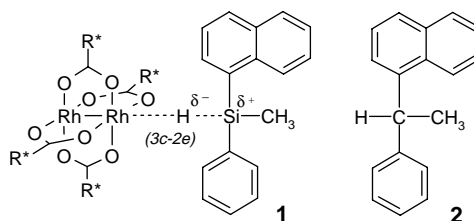
Shriram P. Kotkar and Arumugam Sudalai*



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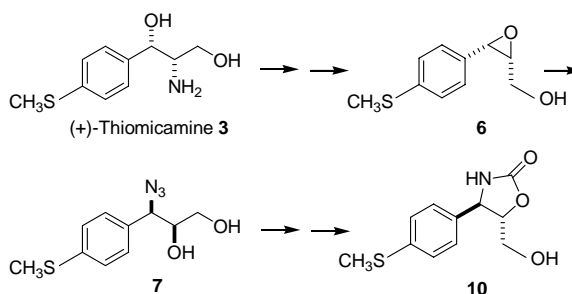
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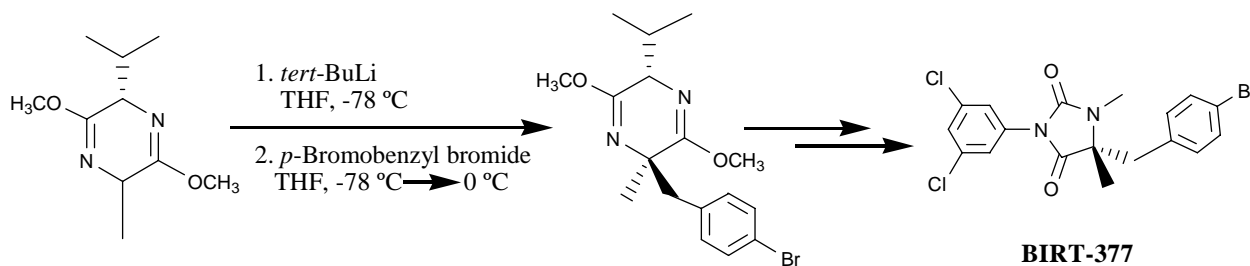
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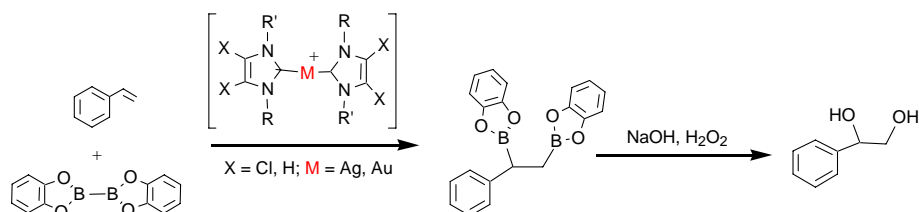
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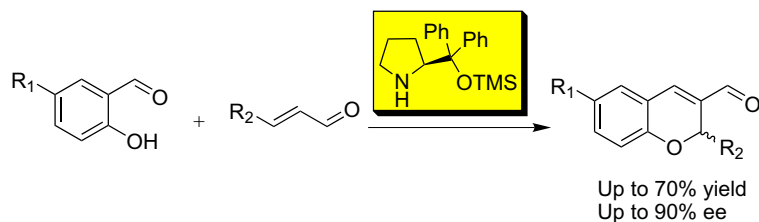
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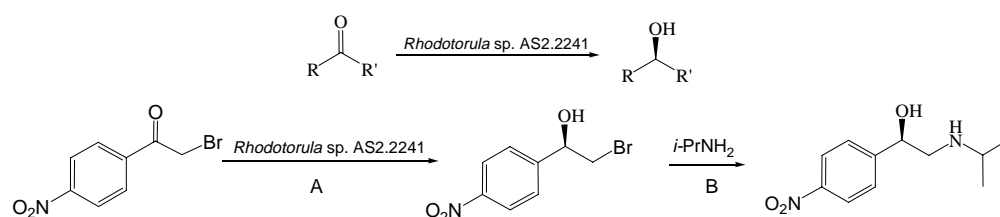


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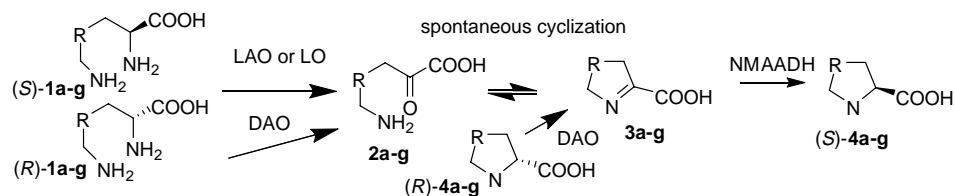


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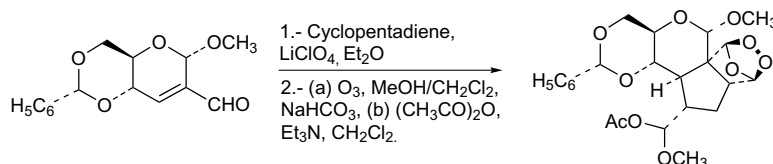
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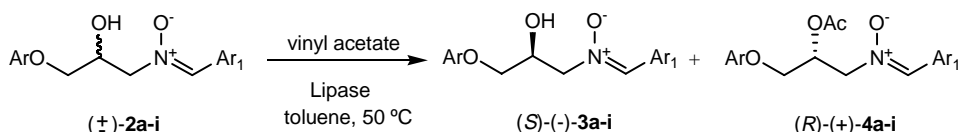
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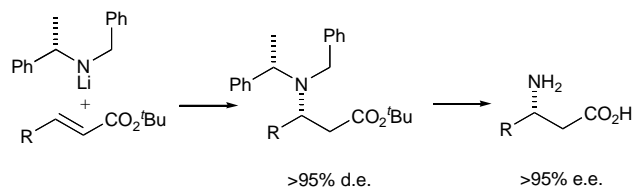
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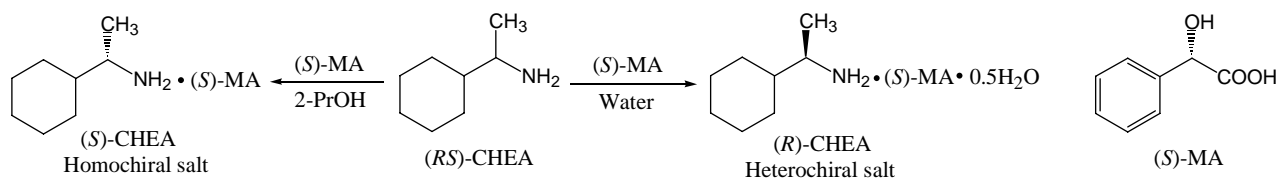


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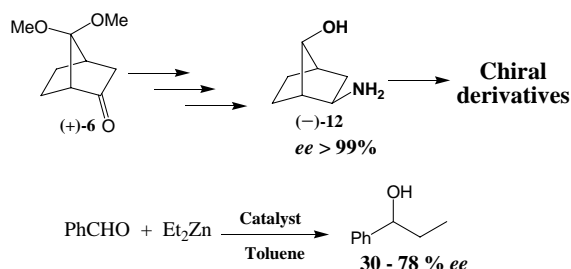
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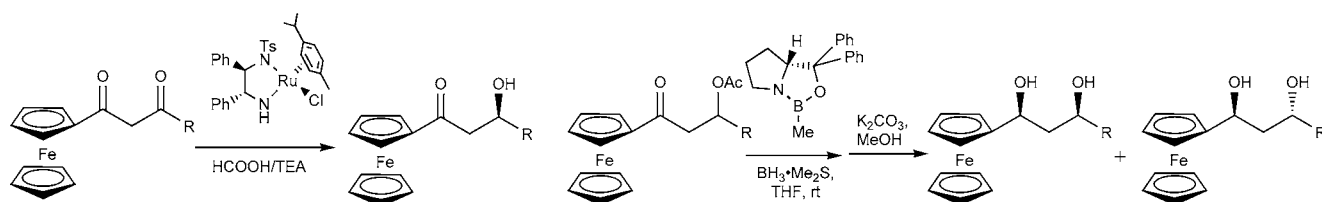
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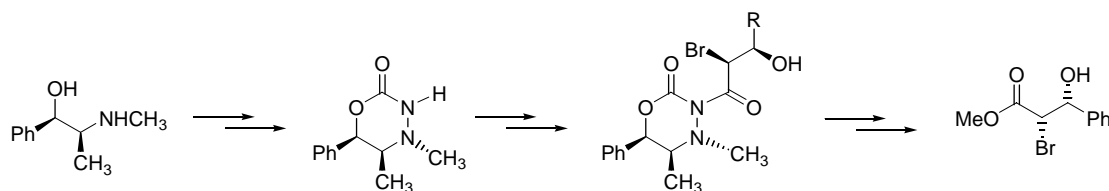
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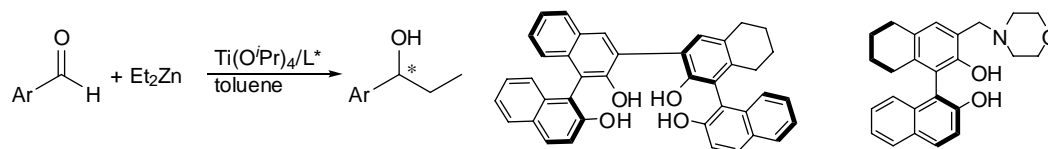
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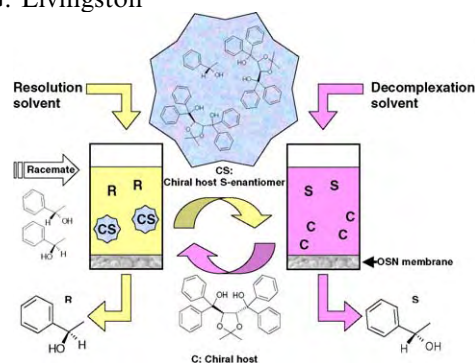


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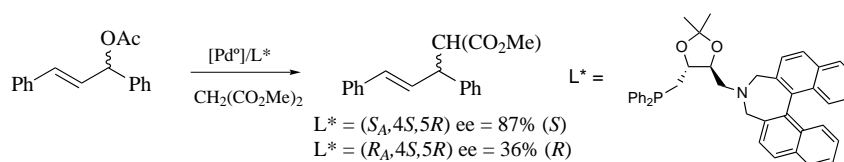
Coupling of enantioselective inclusion complexation (EIC) with organic solvent nanofiltration (OSN) enables the separation of enantiomers. This expands the applications of EIC from the resolution of volatile to practically any racemates and allows facile large-scale application. A decomplexation solvent is employed to dissociate enantiomers from the enantioenriched solid complex and subsequent separation of enantiomers from the chiral host is achieved via OSN.



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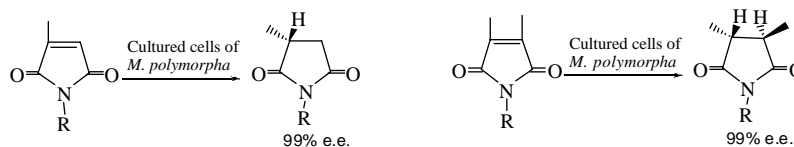
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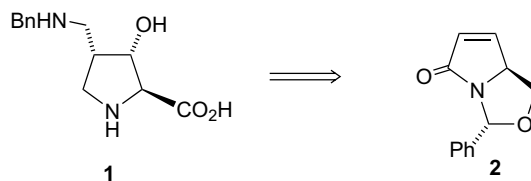
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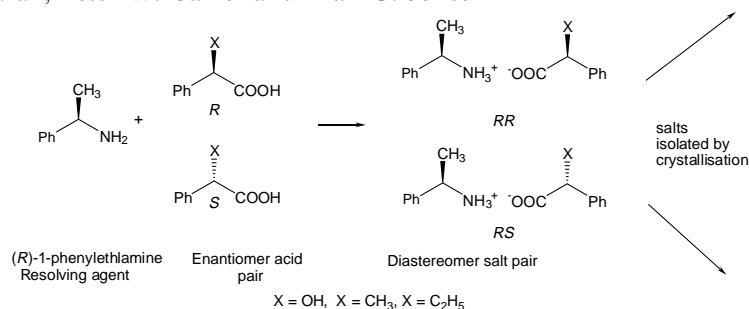
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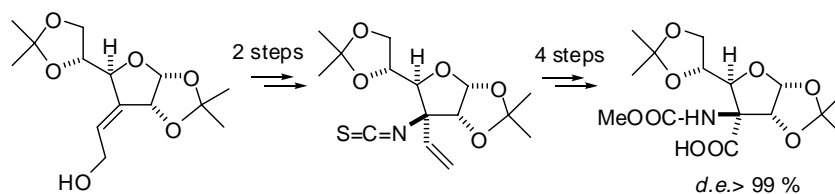
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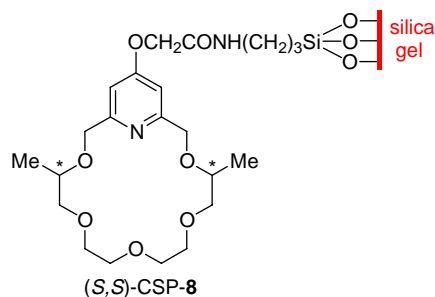
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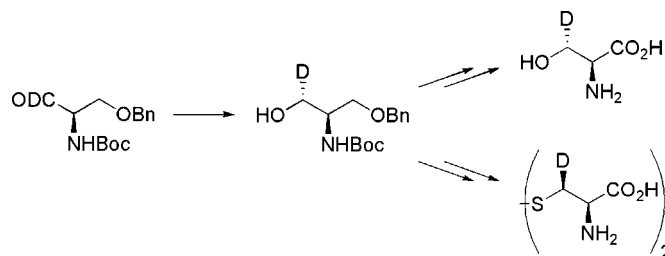
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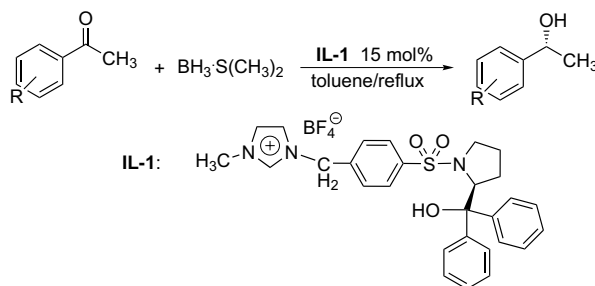
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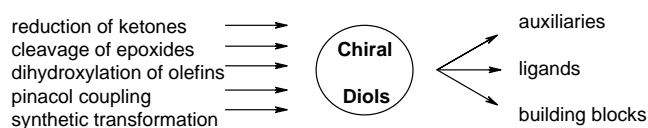
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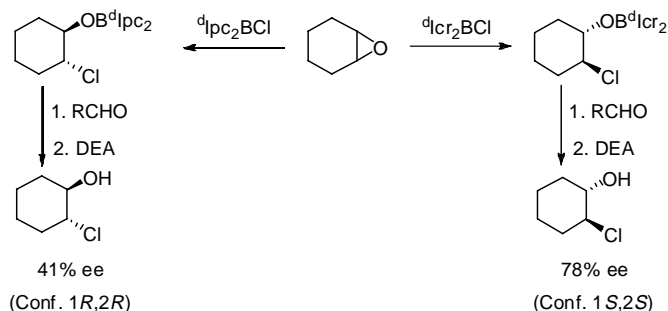


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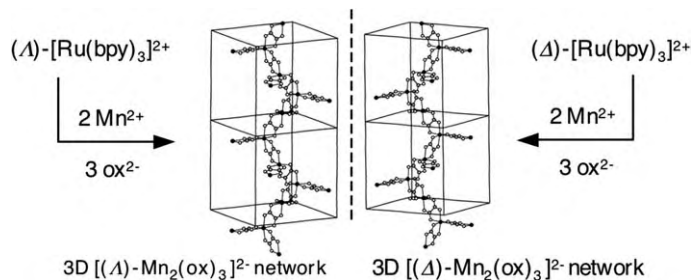


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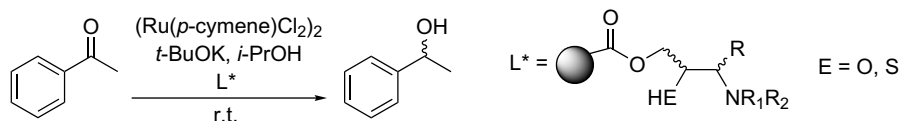
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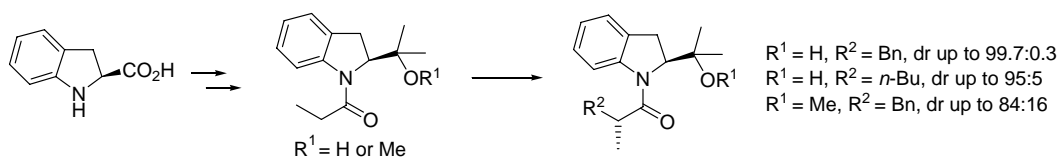


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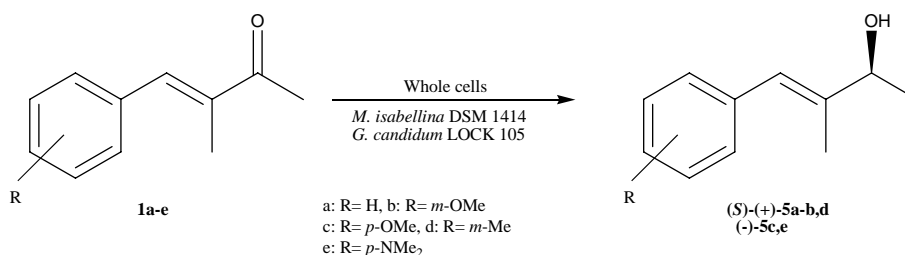
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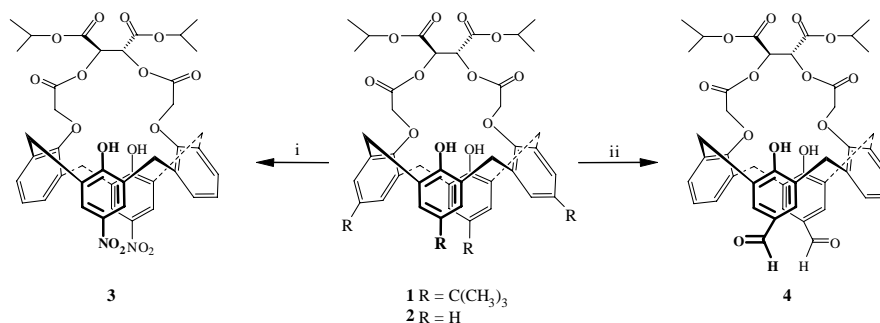
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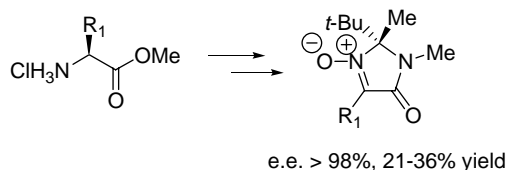
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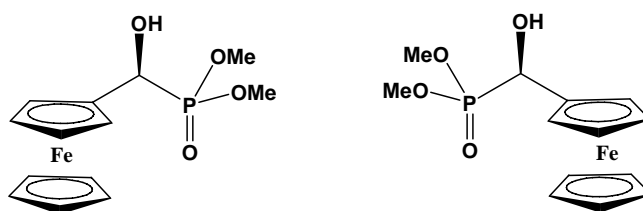
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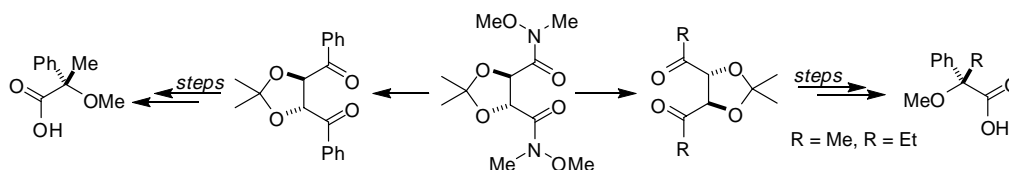
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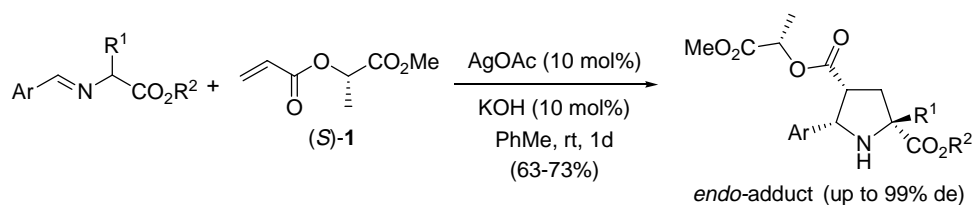
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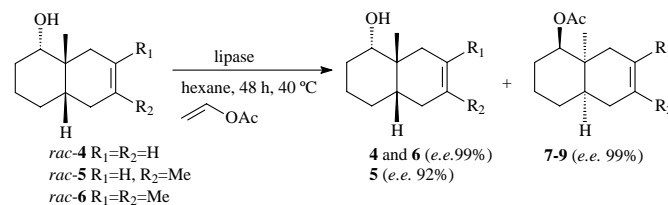
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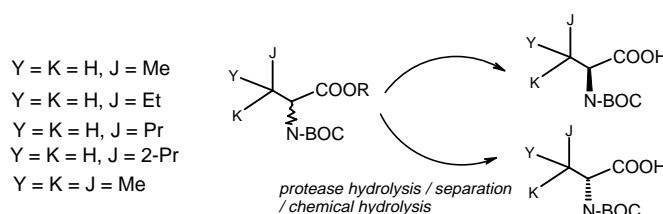
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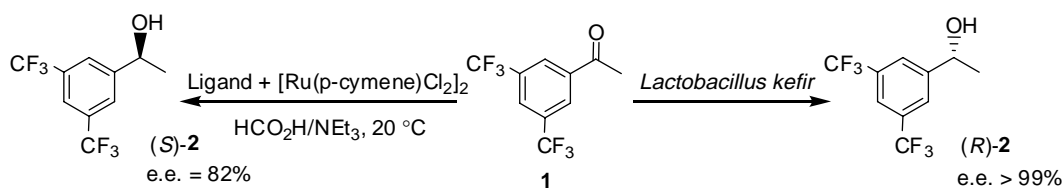
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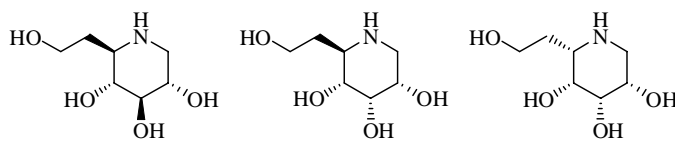
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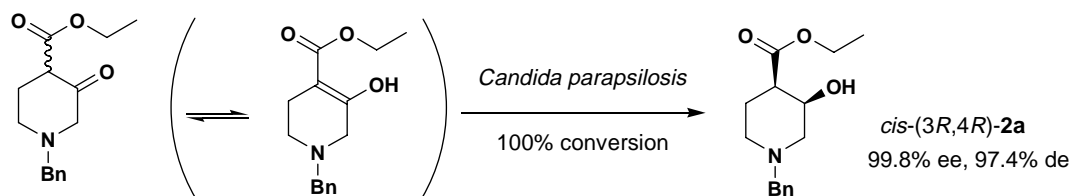
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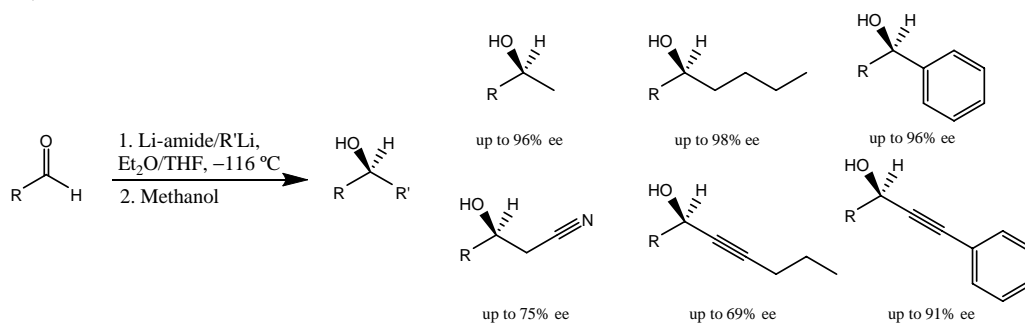
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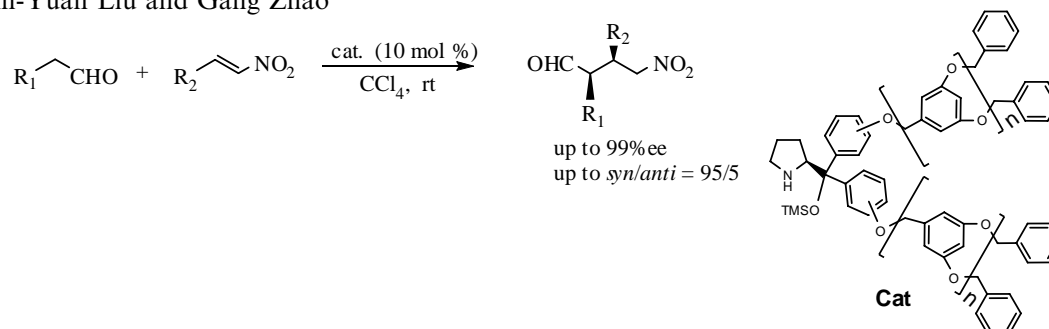
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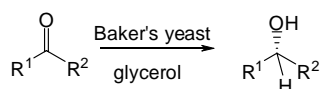
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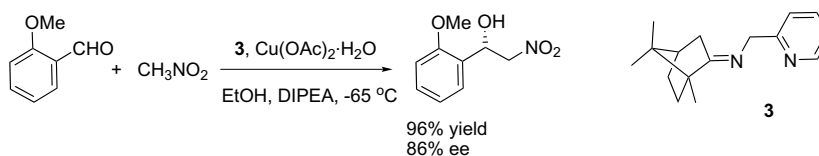
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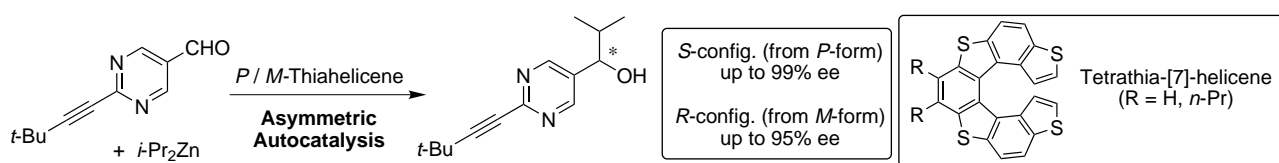
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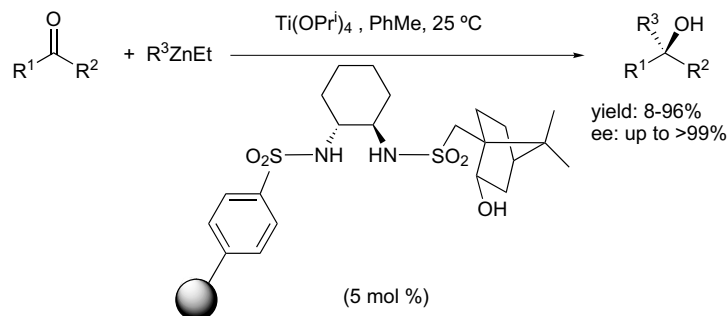
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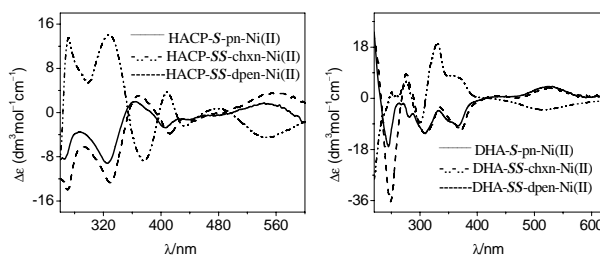


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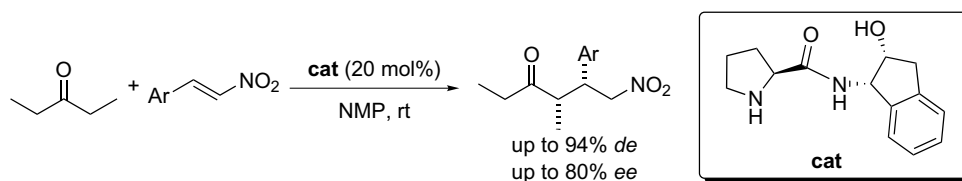
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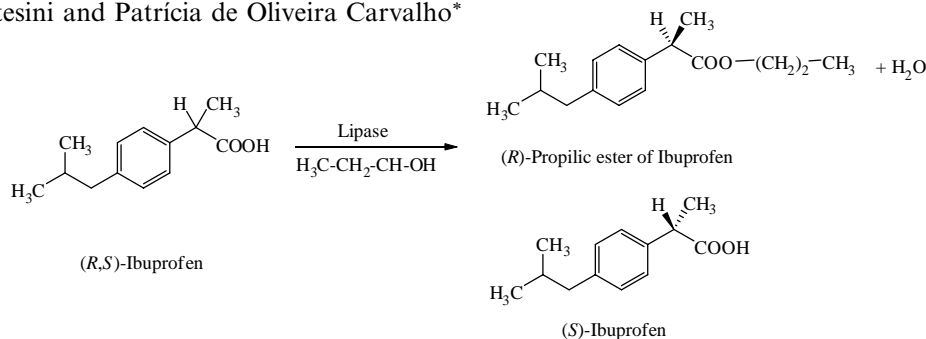
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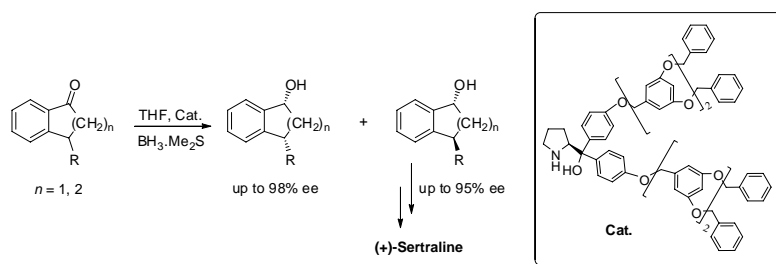
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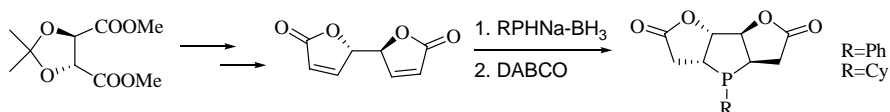
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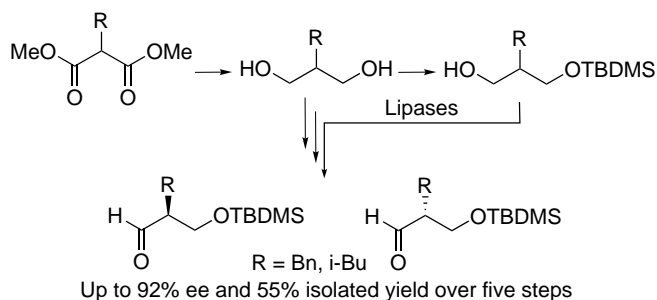
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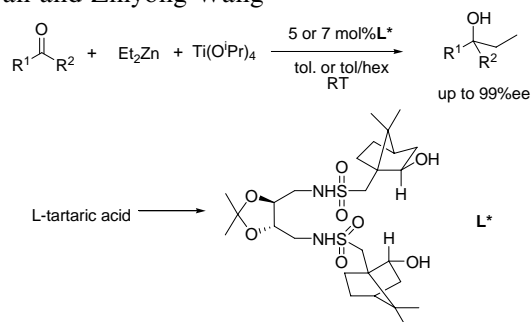
Daniel Wikteliu, Emma K. Larsson and Kristina Luthman*



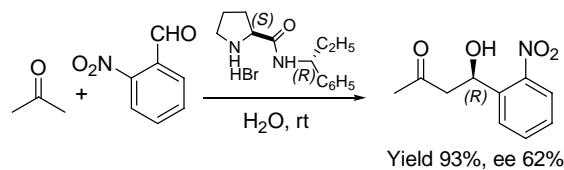
A new chiral sulfonamide ligand based on tartaric acid: synthesis and application in the enantioselective addition of diethylzinc to aldehydes and ketones

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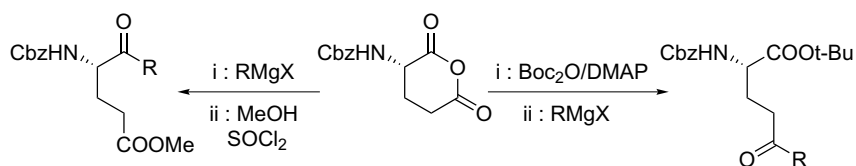
Ailing Hui, Jintang Zhang, Jinmin Fan and Zhiyong Wang*



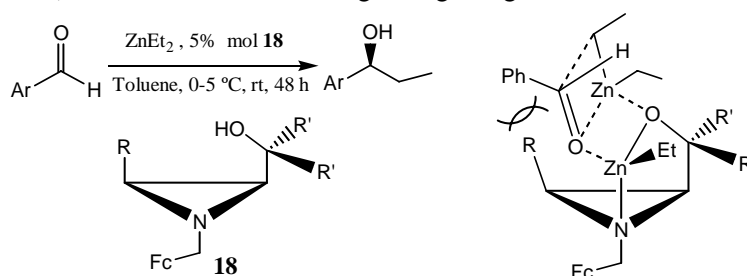
Swapandeep Singh Chimni* and Dinesh Mahajan



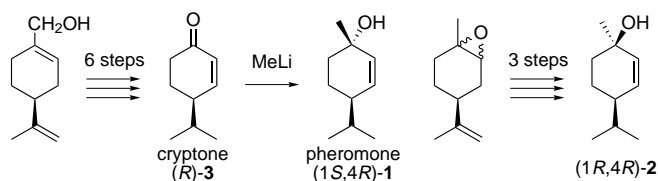
Geoffrey Deguest, Laurent Bischoff,* Corinne Fruit and Francis Marsais



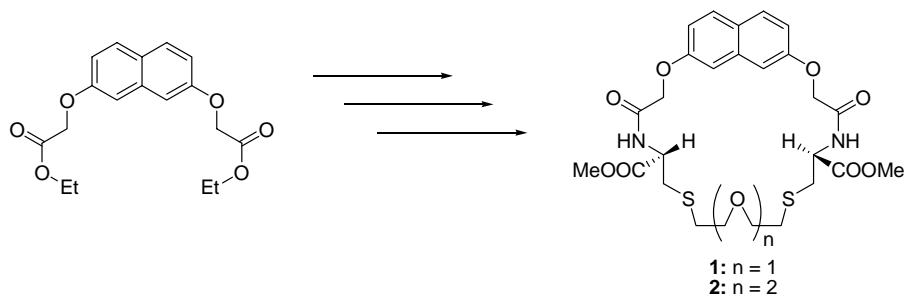
Min-Can Wang,* Xue-Hui Hou, Chao-Xian Chi and Ming-Sheng Tang*



Kenji Mori

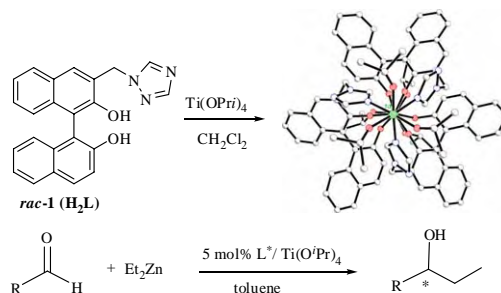


Haijuan Qin, Yongbing He,* Guangyan Qing, Chenguang Hu and Xi Yang



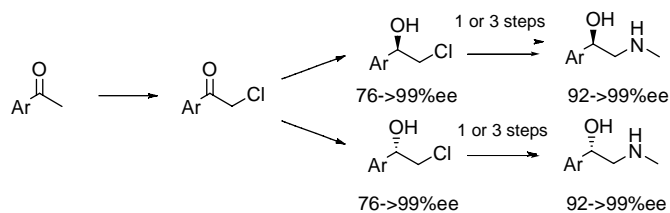
A novel trinuclear titanium(IV) complex with a C_3 axis along Ti1–Ti2–Ti3 containing 3-[(1*H*-1,2,4-triazol-1-yl)methyl]-BINOLate ligands: synthesis, structure, and reactivity

Bing Liu, Fu-Yong Jiang, Hai-Bin Song and Jin-Shan Li*



Solvent and in situ catalyst preparation impacts upon Noyori reductions of aryl-chloromethyl ketones: application to syntheses of chiral 2-amino-1-aryl-ethanols

Steven P. Tanis,* Bruce R. Evans, James A. Nieman, Timothy T. Parker, Wendy D. Taylor, Steven E. Heasley, Paul M. Herrinton,* William R. Perrault, Richard A. Hohler, Lester A. Dolak, Matthew R. Hester and Eric P. Seest



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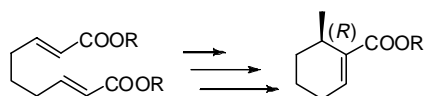
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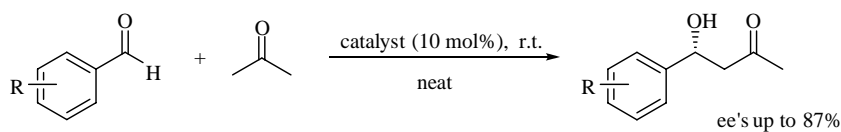
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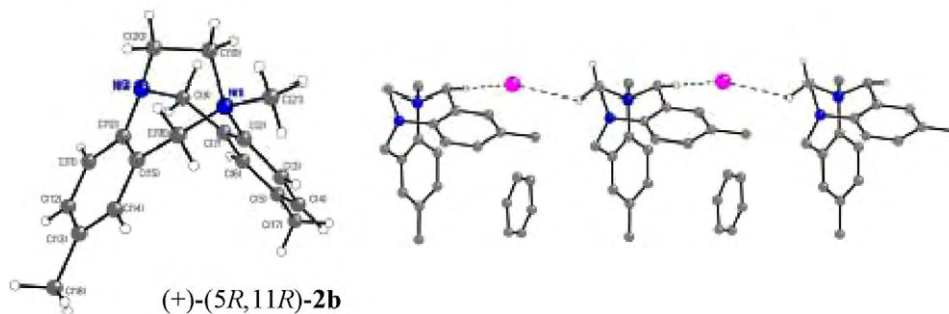
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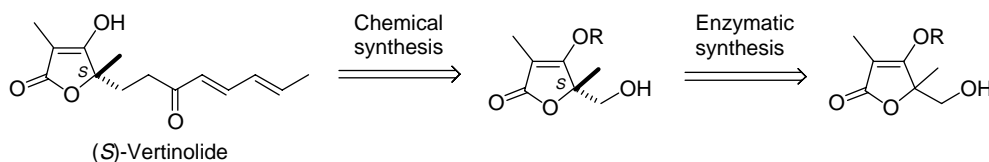
Denis A. Lenev,* Denis G. Golovanov, Konstantin A. Lyssenko and Remir G. Kostyanovsky



Lipase-catalyzed kinetic resolution of tetronic acid derivatives bearing a chiral quaternary carbon: total synthesis of (*S*)-(-)-vertinolide

pp 2195–2198

Tetsuo Tauchi, Hiroki Sakuma, Takahiro Ohno, Nobuyuki Mase, Hidemi Yoda and Kunihiko Takabe*



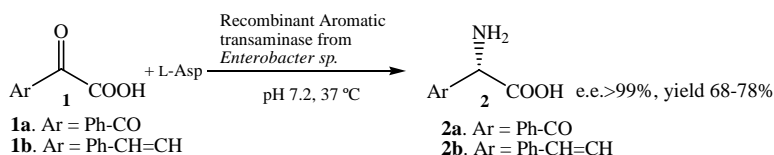
Both enantiomers were obtained with high enantiomeric excess by lipase-catalyzed kinetic resolution of tetronic acid derivatives. Total synthesis of (*S*)-vertinolide from (*S*)-alcohol was achieved in 33% yield in five steps.

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Asymmetric synthesis of nonproteinogenic amino acids with L-amino acid transaminase: synthesis of (2*S*)-2-amino-4-oxo-4-phenylbutyric and (3*E*,2*S*)-2-amino-4-phenylbutenoic acids

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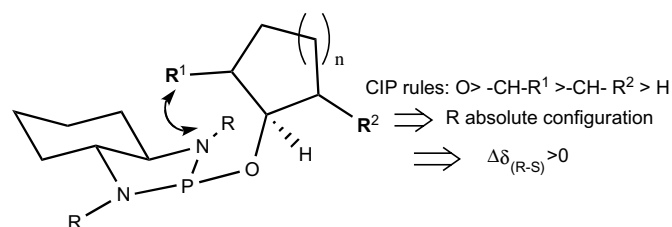
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Determination of the absolute configuration of chiral cyclic alcohols using diamine derivatizing agents by ³¹P NMR spectroscopy

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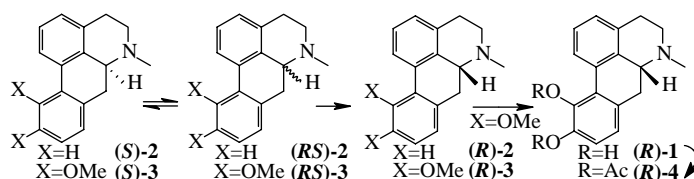
Anne-Sophie Chauvin, Gérald Bernardinelli and Alexandre Alexakis*



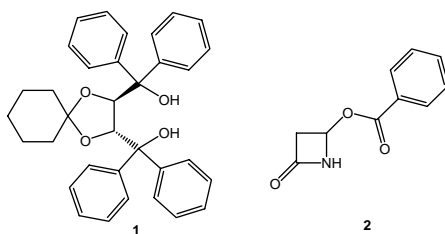
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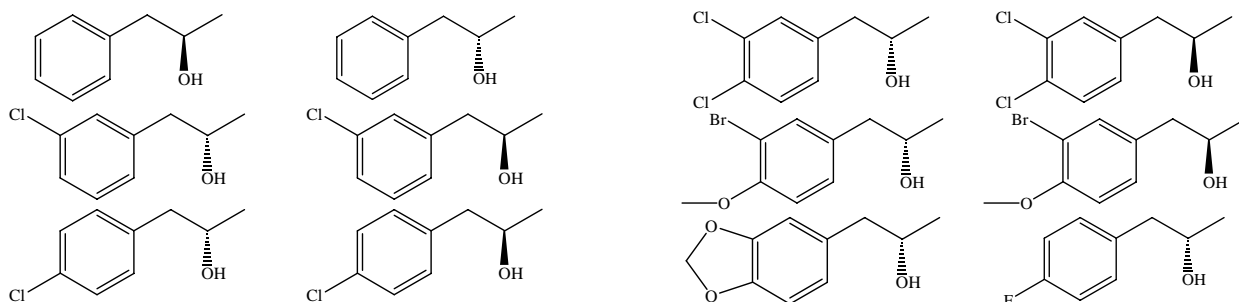
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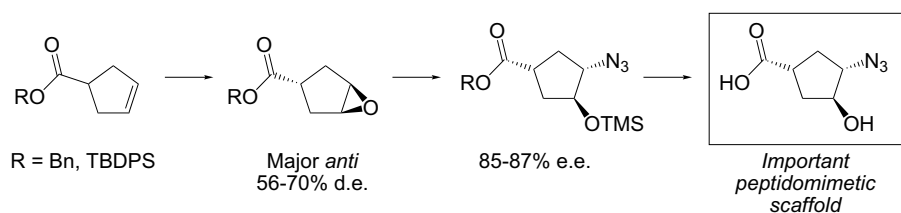
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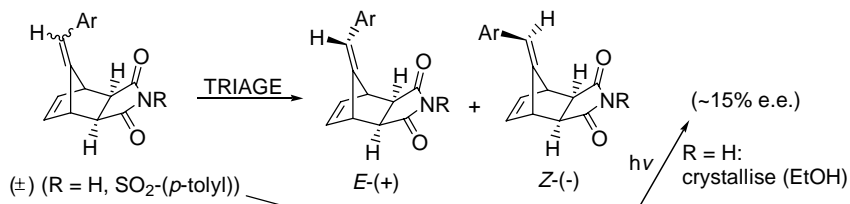
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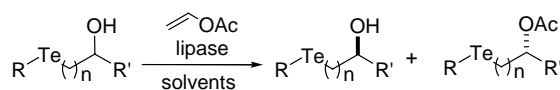
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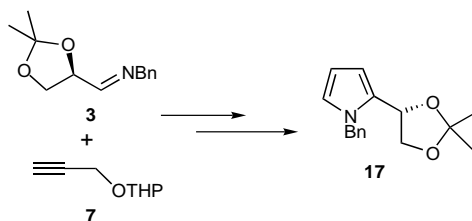
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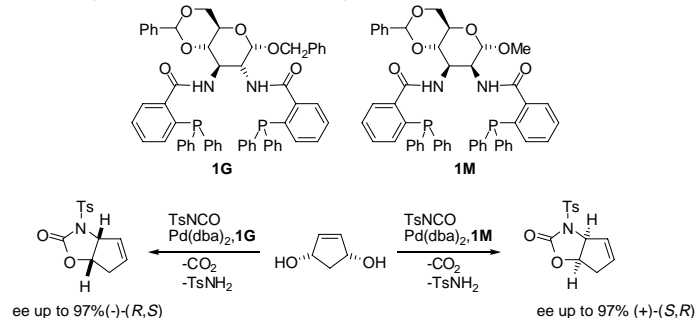
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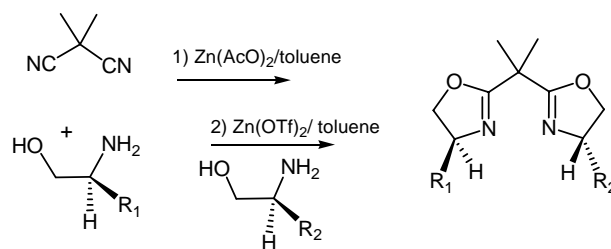
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Synthesis of non-symmetric bisoxazoline compounds. An easy way to reach tailored chiral ligands

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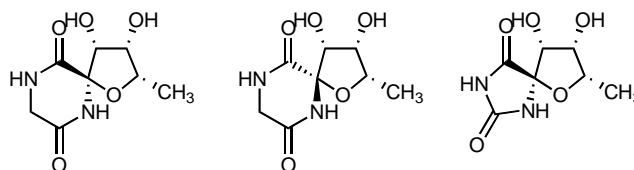
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Sugar amino acids at the anomeric position of carbohydrates: synthesis of spirocyclic amino acids of 6-deoxy-L-lyxofuranose

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Yves Blériot,* Michela I. Simone, Mark R. Wormald, Raymond A. Dwek, David J. Watkin and George W. J. Fleet*

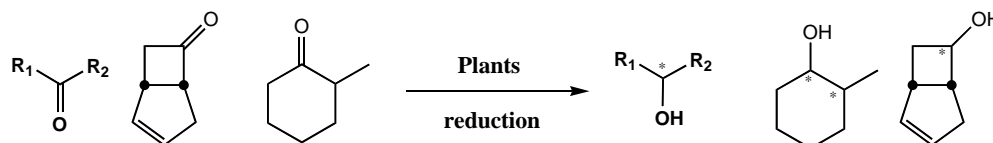


The anomeric spirodiketopiperazines and spirohydantoin of 6-deoxy-L-lyxofuranose have been prepared from L-fucose.

Plants-mediated reduction in the synthesis of homochiral secondary alcohols

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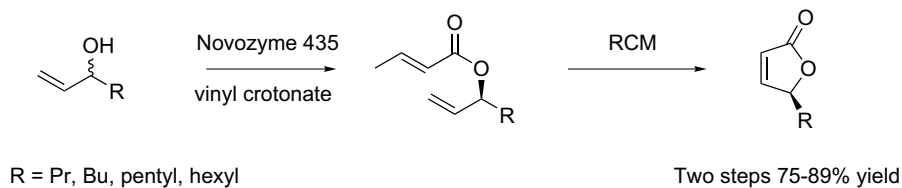
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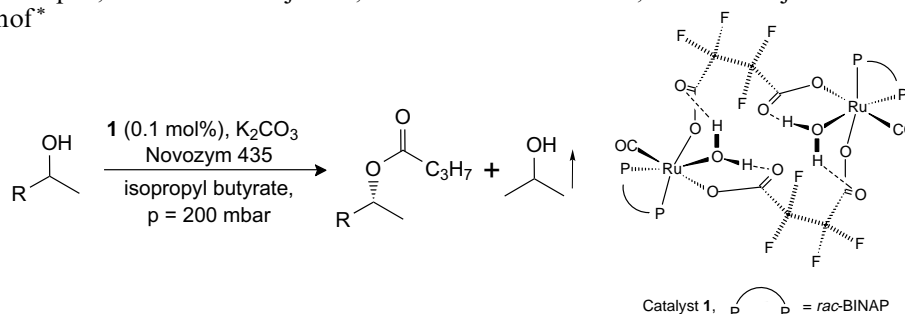
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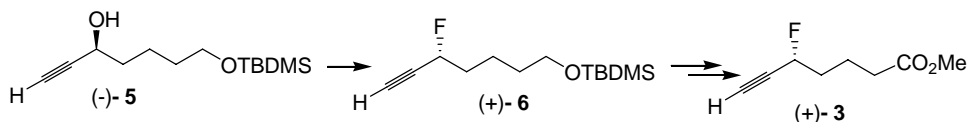
Sjoerd F. G. M. van Nispen, Jeroen van Buijtenen, Jef A. J. M. Vekemans, Jan Meuldijk and Lumbertus A. Hulshof*



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Vijaya Lingam Manthati, A. Sai Krishna Murthy, Frédéric Caijo, Delphine Drouin, Philippe Lesot, Danielle Grée and René Grée*



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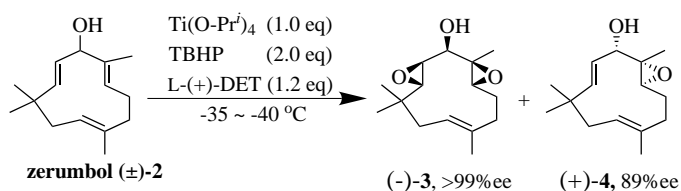
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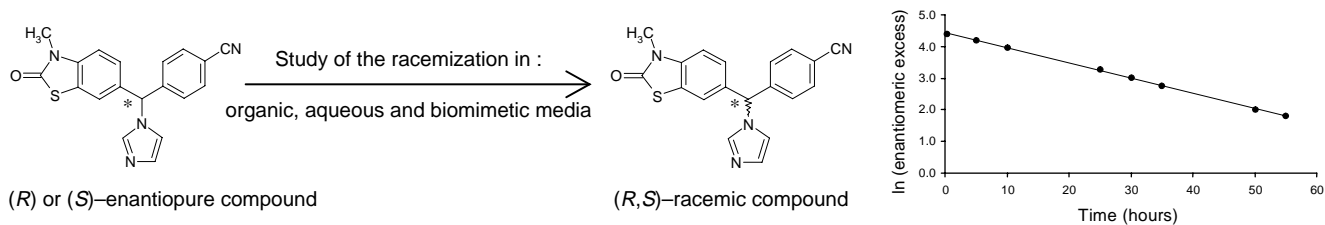
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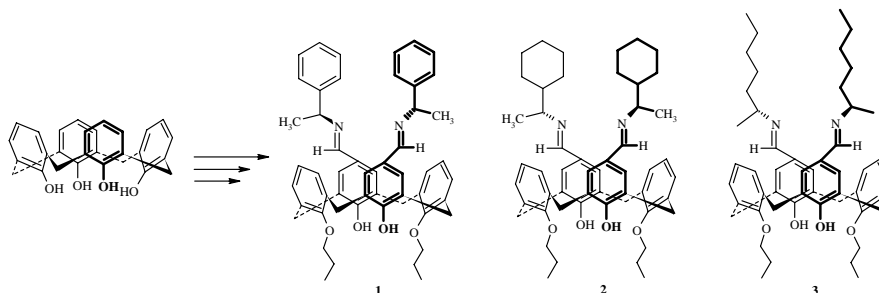
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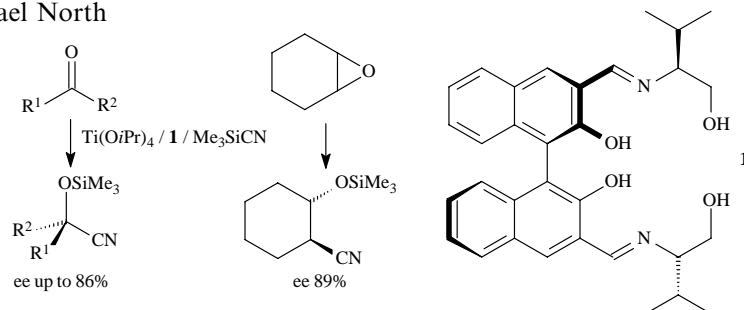
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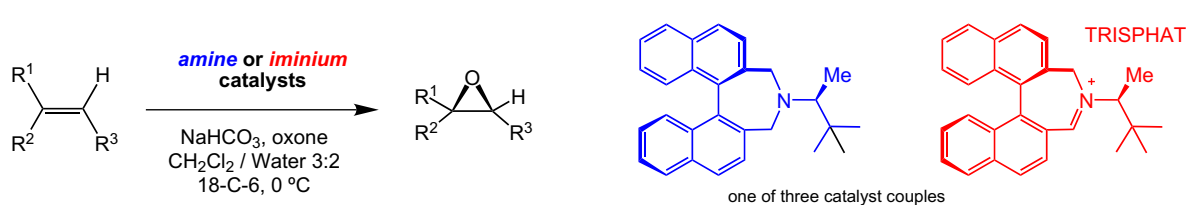
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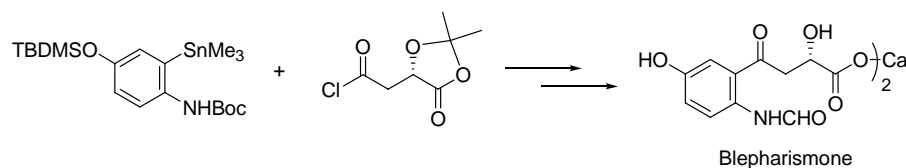
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Jérôme Vachon, Cédric Lauper, Klaus Ditrach and Jérôme Lacour*



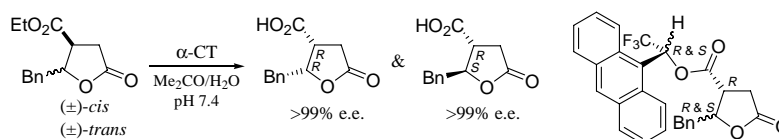
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Hisashi Takihiro, Yoshiyuki Uruma, Yoshinosuke Usuki, Akio Miyake and Hideo Iio*

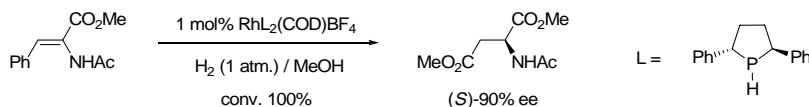


Chemoenzymatic synthesis of diastereomeric ethyl γ -benzyl paraconates and determination of the absolute configurations of their acids pp 2344–2353

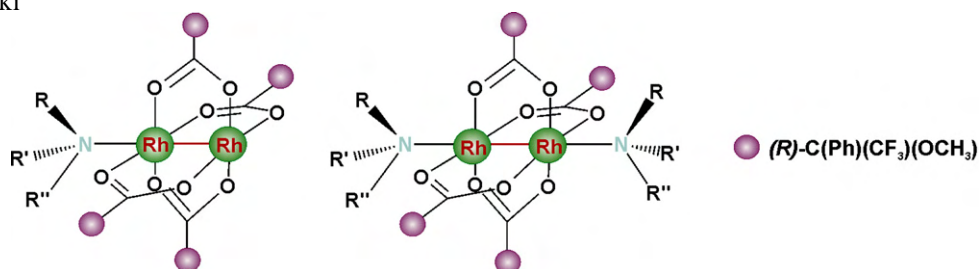
Federico Berti, Fulvia Felluga, Cristina Forzato,* Giada Furlan, Patrizia Nitti, Giuliana Pitacco and Ennio Valentin*



Aurore Galland, Cristian Dobrota, Martial Toffano* and Jean-Claude Fiaud*

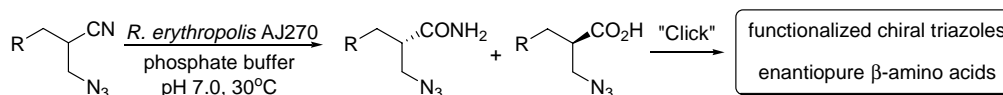


Jarosław Jazwiński

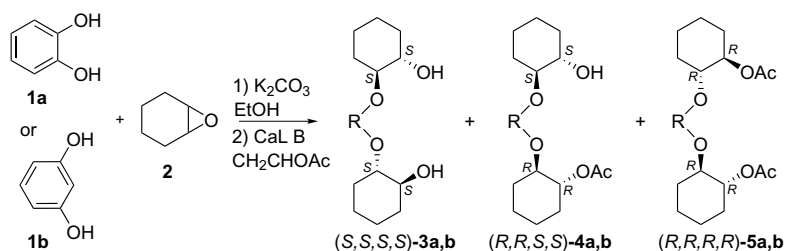


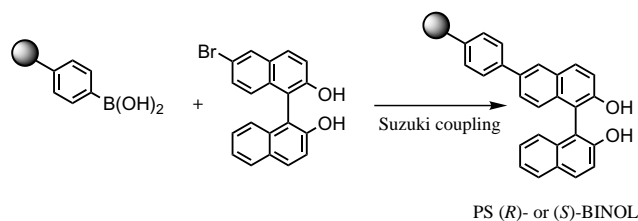
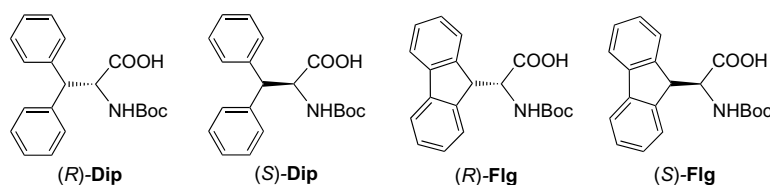
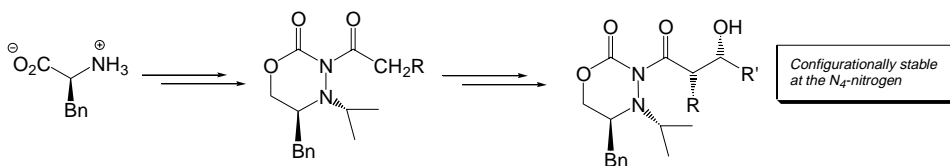
Amines $\text{NRR}'\text{R}''$ form with chiral dirhodium(II) tetracarboxylates the 1:1- and 1:2-adducts having nitrogenous chiral centers. Despite ligand exchange in the solution, the individual species are detectable by low temperature NMR.

Da-You Ma, De-Xian Wang, Qi-Yu Zheng and Mei-Xiang Wang*

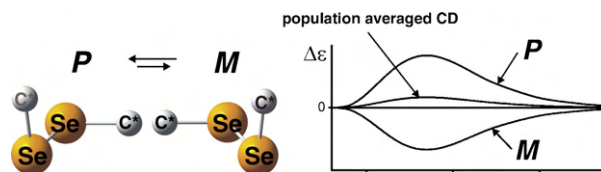


Enikő R. Tőke, Pál Kolonits, Lajos Novák and László Poppe*



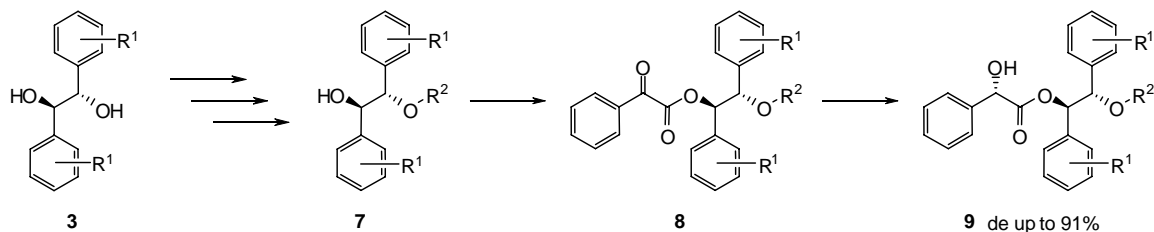


PS-BINOLs are easily prepared using the above reaction. The PS BINOLs react with titanium isopropoxide to give PS-species that catalyze the oxidation of aryl methyl thioethers by *tert*-butyl hydroperoxide in THF at 0 °C. These give the sulfoxides in up to 91% ee.



Chiral linker. Part 3: Synthesis and evaluation of aryl substituted *m*-hydrobenzoins as solid supported open chain chiral auxiliaries for the diastereoselective reduction of α -keto esters pp 2413–2429

Joachim Broeker, Max Knollmueller and Peter Gaertner*

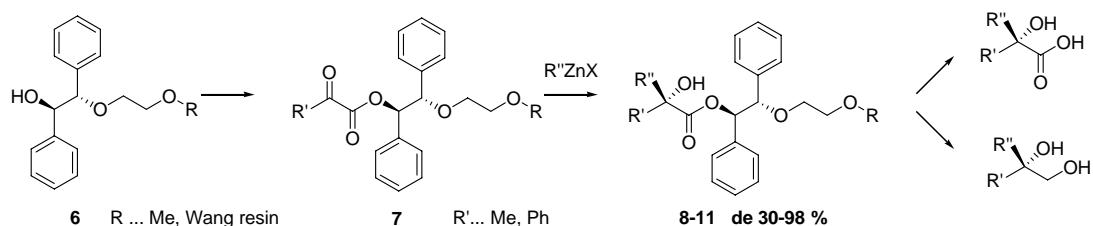


$R^1 = 2\text{-OCH}_3, 2\text{-CH}_3, 4\text{-OCH}_3, 2\text{-CF}_3$

$R^2 = \text{CH}_2\text{CH}(\text{CH}_3)_2, \text{CH}_2\text{CH}_2\text{OCH}_3, \text{Wang resin}, \text{CH}_2\text{CH}_2\text{O-Wang resin}$

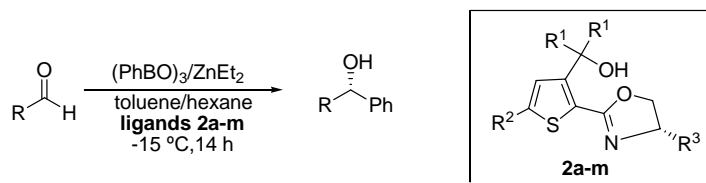
Chiral linker. Part 4: Diastereoselective addition of $R\text{ZnX}$ to α -keto esters using *m*-hydrobenzoin derived chiral auxiliaries in solution and on solid support and their application in the stereoselective synthesis of *frontalin* pp 2430–2441

Christian Schuster, Max Knollmueller and Peter Gaertner*



Synthesis of modular thiophene-oxazoline ligands and their application in the asymmetric phenyl transfer reaction to aldehydes pp 2442–2447

Zhuo Chai, Xin-Yuan Liu, Xiao-Yu Wu and Gang Zhao*



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*Corresponding author

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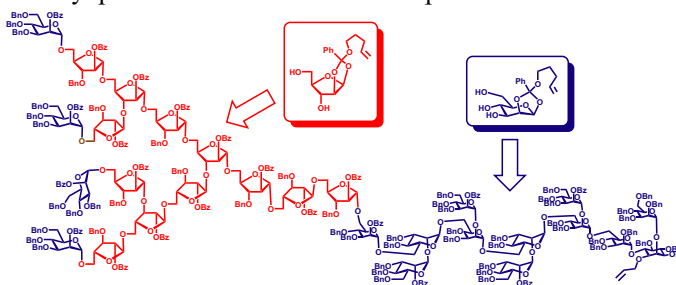
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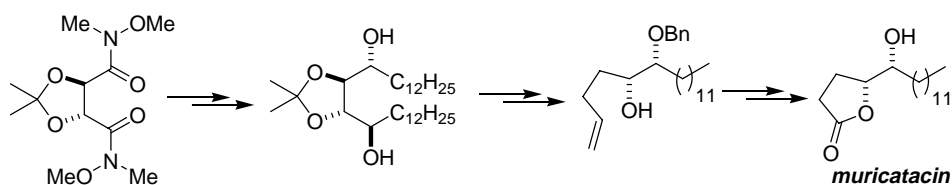
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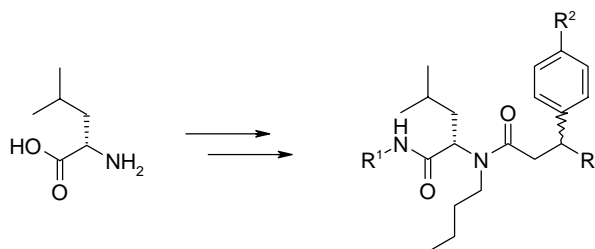
Kavirayani R. Prasad* and Pazhamalai Anbarasan



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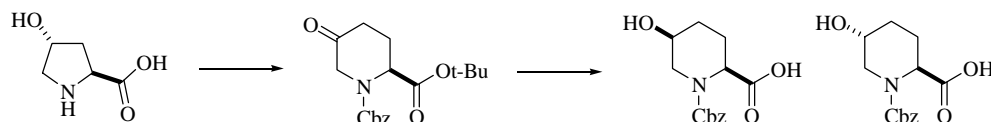
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Jadwiga Frelek,* Anna Fryszkowska, Marcin Kwit and Ryszard Ostaszewski*



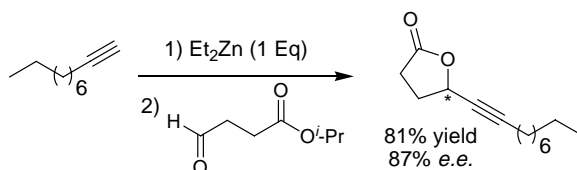
Diastereoselective synthesis of (2*S*,5*S*)- and (2*S*,5*R*)-*N*-benzyloxycarbonyl-5-hydroxypipercolic acids from *trans*-4-hydroxy-*L*-proline pp 2479–2486

Jae-Chul Jung and Mitchell A. Avery*



Convergent and enantioselective syntheses of both enantiomers of (5*Z*)-tetradecen-4-olide, scarab beetle pheromones pp 2487–2490

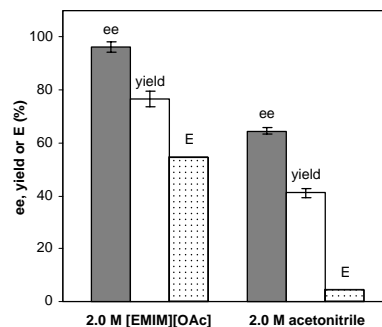
Alcindo A. Dos Santos* and Wittko Francke



Using ionic liquid [EMIM][CH₃COO] as an enzyme-‘friendly’ co-solvent for resolution of amino acids pp 2491–2498

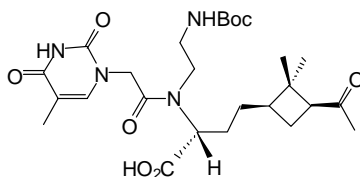
Hua Zhao,* Lee Jackson, Zhiyan Song and Olarongbe Olubajo

The kinetic resolution of *DL*-phenylalanine methyl ester catalyzed by lyophilized *Bacillus licheniformis* protease was carried out at 30 °C in 2.0 M [EMIM][CH₃COO] and 2.0 M acetonitrile, respectively. At 40 min reaction time, much higher ee and yield were obtained in the ionic liquid (IL) solution than those in the organic solution, suggesting that this IL stabilizes the enzyme while the organic solvent deactivates it.



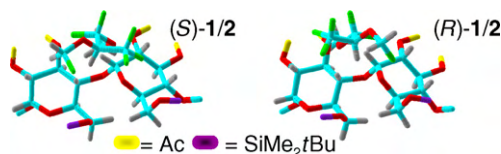
Cyclobutyl-carbonyl substituted PNA: synthesis and study of a novel PNA derivative pp 2499–2503

Gemma P. Aguado, Federico Rúa, Vicenç Branchadell, Peter E. Nielsen and Rosa M. Ortuño*



Highly efficient NMR enantiodiscrimination of 1,1,1,3,3-pentafluoro-2-(fluoromethoxy)-3-methoxypropane, a chiral degradation product of sevoflurane, by heptakis(2,3-di-*O*-acetyl-6-*O*-*tert*-butyldimethylsilyl)- β -cyclodextrin pp 2504–2510

Gloria Uccello-Barretta, Giuseppe Sicoli, Federica Balzano, Volker Schurig and Piero Salvadori*



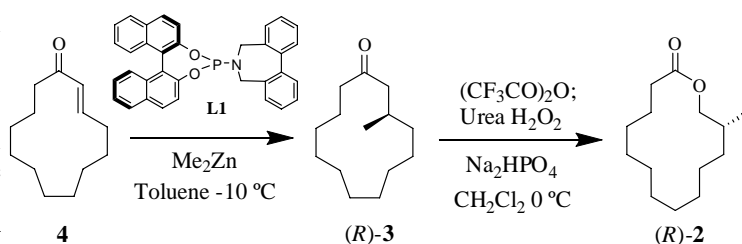
An alternative stereoselective synthesis of the macrocyclic fragrances (*R*)-12-methyltridecanolide and (*S*)-muscolide by means of an asymmetric catalytic conjugate addition/Baeyer–Villiger oxidation pp 2511–2515

Patrizia Scafato, Augusto Larocca and Carlo Rosini*

Compound (*R*)-2 is a natural constituent of angelica root oil (*Archangelica officinalis* Hoffm.).

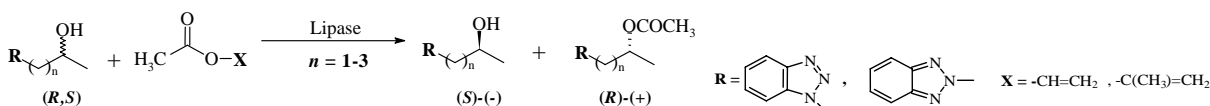
It's possesses a *musk note with a sandalwood tonality*. [Kraft, P.; Frater G. *Chirality*, **2001**, *13*, 388–394].

The precious macrocyclic fragrance (*R*)-2 has been obtained in good yield and high (92%) enantiomeric excess by asymmetric catalytic conjugate addition of dimethylzinc to the α,β -unsaturated ketone **4**, followed by a regioselective Baeyer–Villiger oxidation of (*R*)-3. Using the same procedure the structurally similar fragrance (*S*)-muscolide has been obtained.



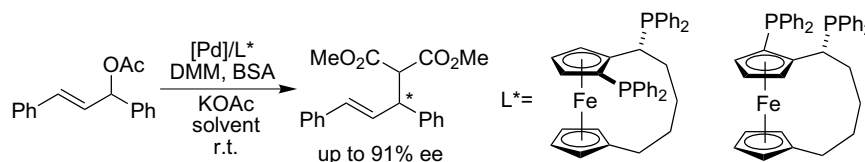
Preparation of various enantiomerically pure (benzotriazol-1-yl)- and (benzotriazol-2-yl)-alkan-2-ols pp 2516–2530

Beata K. Pchelka,* André Loupy and Alain Petit

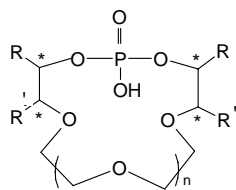


New [5]ferrocenophane diphosphine ligands for Pd-catalyzed allylic substitution pp 2531–2537

Radovan Šebesta,* Ambróz Almássy, Ivana Čiřařova and Štefan Toma

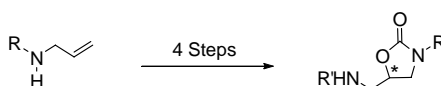


Synthesis of new enantiopure proton-ionizable crown ethers containing a dialkylhydrogenphosphate moiety pp 2538–2547
Ilona Kovács, Péter Huszthy,* Ferenc Bertha and Dénes Sziebert

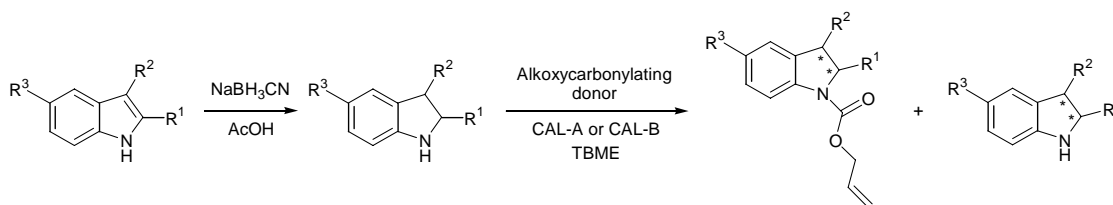


R = H, R' = *i*Bu, n = 1
R = H, R' = Me, *i*Bu, octyl, n = 2
R = Me, *i*Bu, octyl, R' = H, n = 2

Synthesis of enantiomerically pure (+)- and (-)-protected 5-aminomethyl-1,3-oxazolidin-2-one derivatives from allylamine and carbon dioxide pp 2548–2557
Isabelle Fernández and Luis Muñoz*



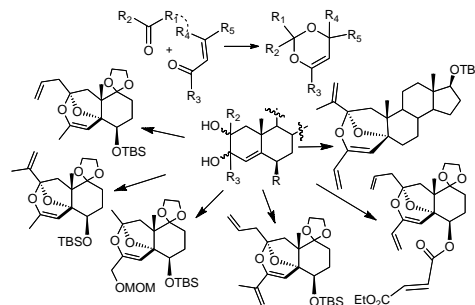
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Vicente Gotor-Fernández, Pedro Fernández-Torres and Vicente Gotor*



The domino chemistry approach to molecular complexity: high-yielding bis-hetero intramolecular Diels–Alder reactions with ketone components pp 2565–2591

Angeline Chanu, Isabel Castellote, Aurelien Commeureuc, Imad Safir and Siméon Arseniyadis*

The bis-ketone option of a domino generated intramolecular bis-hetero Diels–Alder reaction, allowing for a stereodefined construction of oxygen heterocycles is described.



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*Corresponding author

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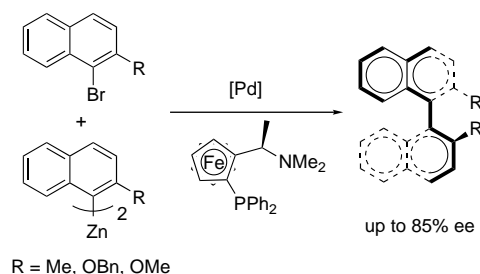
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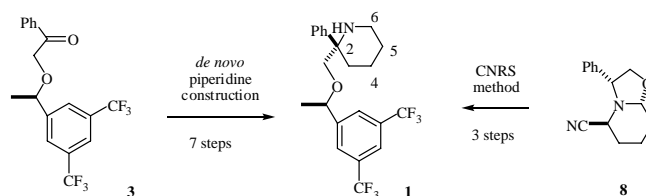
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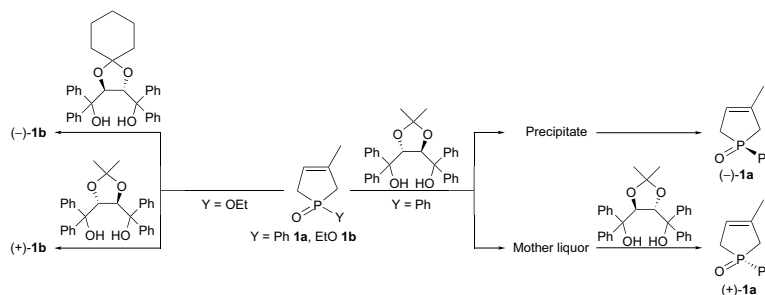
Dong Xiao,* Cheng Wang, Anandan Palani, Gregory Reichard, Robert Aslanian, Neng-Yang Shih and Alexei Buevich



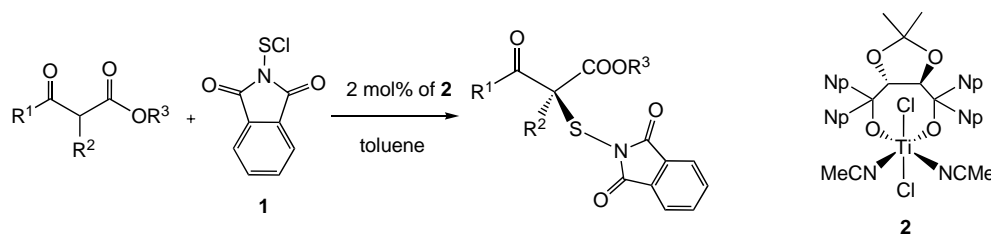
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Tibor Novák,* József Schindler, Viktória Ujj, Mátyás Czugler, Elemér Fogassy and György Keglevich



Shravan K. Srisailam and Antonio Togni*

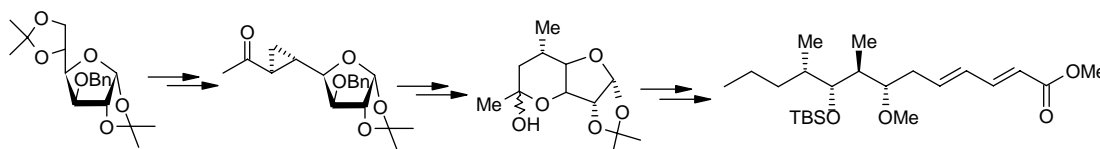


ARTICLES

Stereoselective synthesis of the polyketide chain of nagahamide A

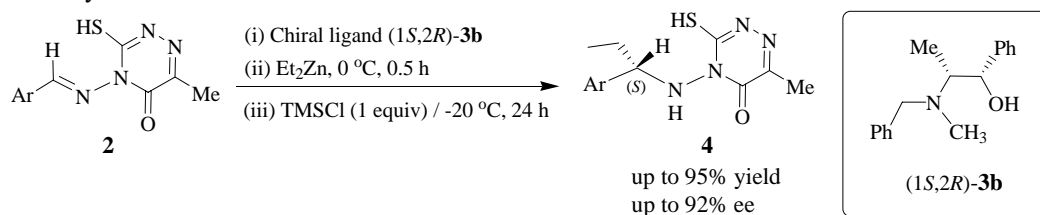
pp 2609–2616

Debendra K. Mohapatra,* Siddhartha Ray Chaudhuri, Gokarneswar Sahoo and Mukund K. Gurjar*

Enantioselective diethylzinc addition to the exocyclic C=N double bond of some 4-arylideneamino-3-mercapto-6-methyl-4*H*-1,2,4-triazin-5-one derivatives

pp 2617–2624

Ashraf A. El-Shehawy

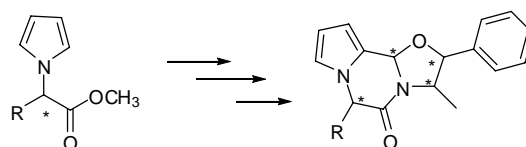


Chiral 4-(1-arylpropyl)amino-3-mercapto-6-methyl-4*H*-1,2,4-triazin-5-ones **4** were synthesized easily through the enantioselective diethylzinc addition to the exocyclic C=N double bond of 4-arylideneamino-3-mercapto-6-methyl-4*H*-1,2,4-triazin-5-ones **2**. Enantiomeric excess of up to 92% was obtained using (1*S*,2*R*)-*N*-methyl-*N*-benzylnorephedrine **3b** as chiral ligand and TIPSCl as activator.

Intermolecular one-pot cyclization of formyl-pyrroles of amino acid esters with norephedrine: stereoselective routes to new tricyclic pyrrole-pyrazine-oxazole fused structures

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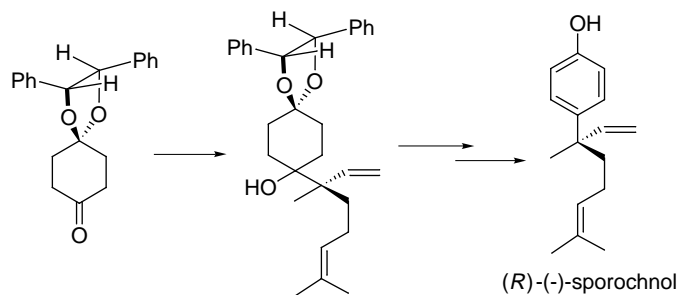
Ayhan S. Demir,* N. Tuna Subasi and Ertan Sahin



A short and efficient synthesis of (*R*)-(-)-sporochnol A

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Ramón Alibés, Félix Busqué,* Gisela G. Bardají, Pedro de March, Marta Figueredo and Josep Font

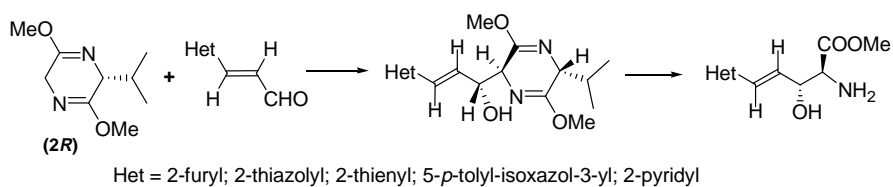


A short and efficient synthesis of (*R*)-(-)-sporochnol A in only five steps and 9% overall yield has been developed.

Stereoselective synthesis of δ -heteroaryl substituted β -hydroxy- γ,δ -unsaturated α -amino acids

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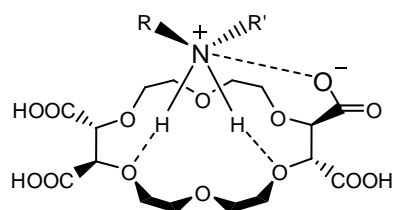
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Chiral NMR discrimination of pyrrolidines using (18-crown-6)-2,3,11,12-tetracarboxylic acid

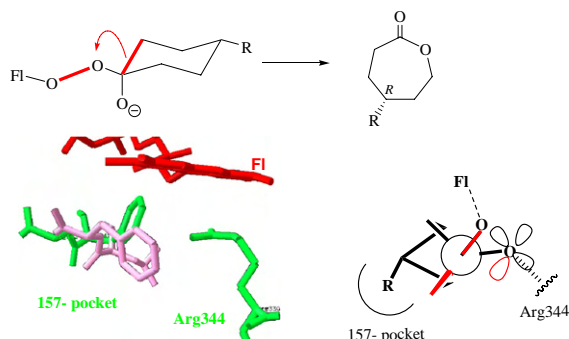
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Ann E. Lovely and Thomas J. Wenzel*



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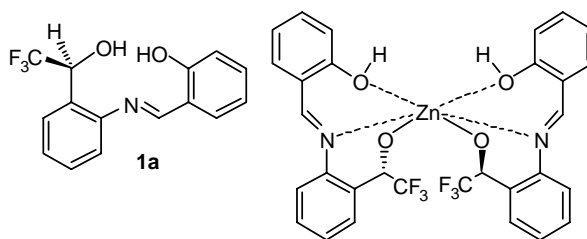
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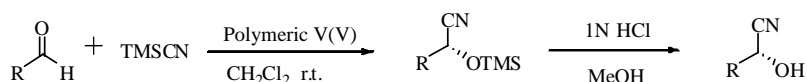
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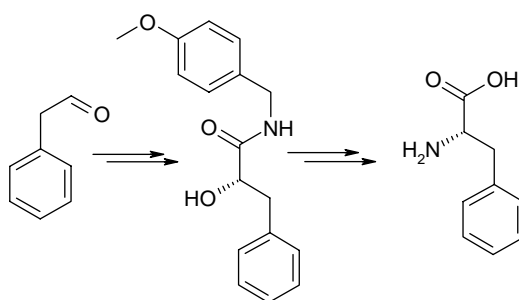
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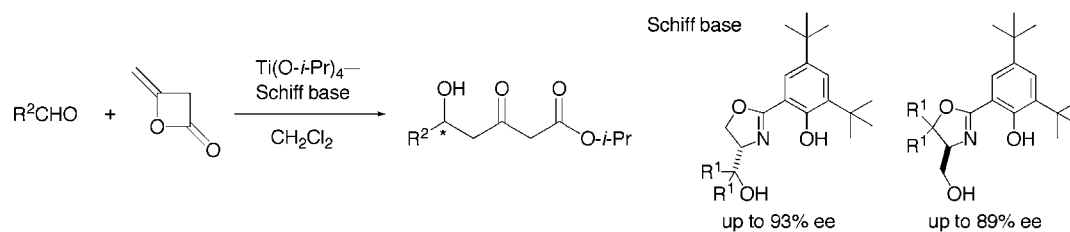
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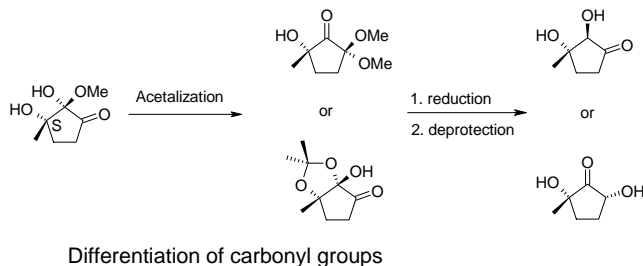
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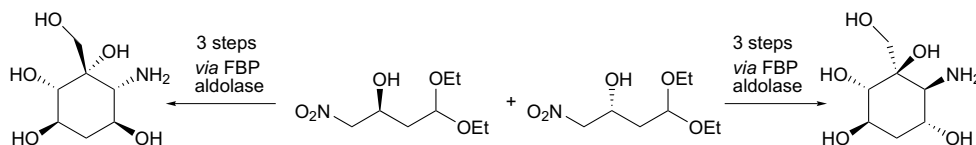
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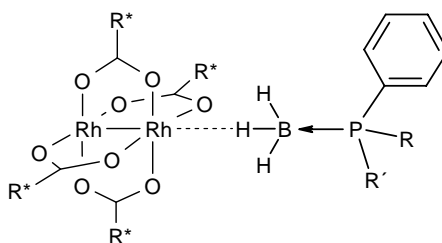
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Rh₂[(R)-(+)-MTPA]₄ as an NMR auxiliary for the enantiodifferentiation of chiral secondary and tertiary phosphine–borane complexes

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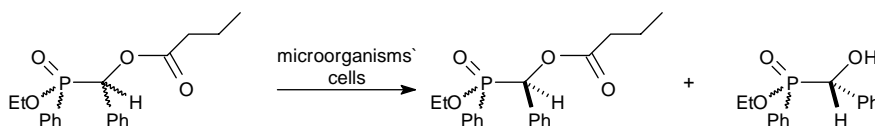
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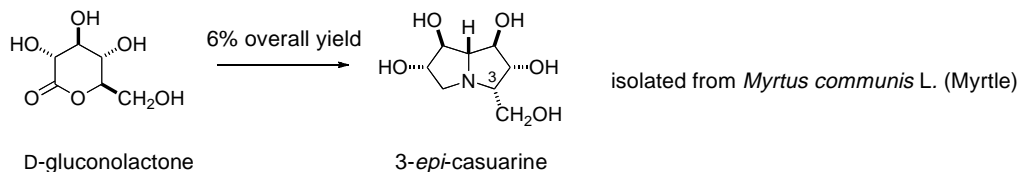
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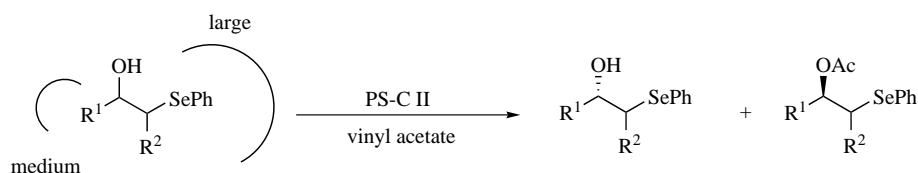
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Michelangelo Gruttadauria,* Paolo Lo Meo, Serena Riela, Francesca D'Anna and Renato Noto

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*Corresponding author

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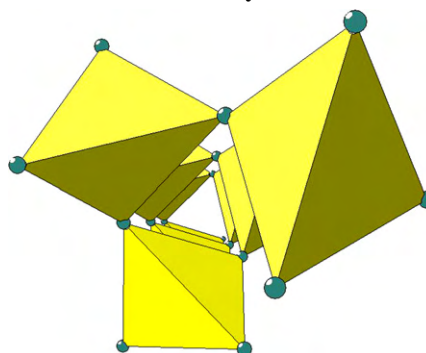
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The temperature-dependent optical activity of quartz: from Le Châtelier to chirality measures

pp 2723–2725

Dina Yogev-Einot and David Avnir*

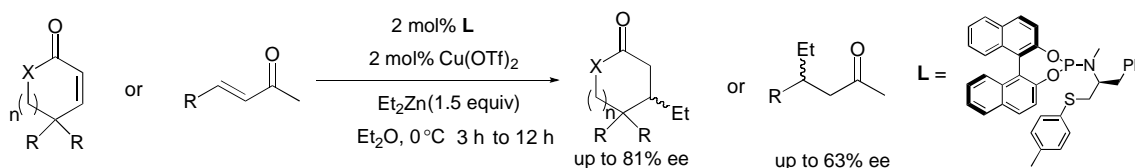
Le Châtelier's century-old observations of the effect of temperature changes on the optical rotation of quartz, are revisited with modern quantitative evaluation of the degree of chirality of the building blocks of this chiral material. A remarkable agreement between old and new is obtained, and interpreted.



Design and synthesis of new bidentate phosphoramidite ligands for enantioselective copper-catalyzed conjugate addition of diethylzinc to enones

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Fabien Boeda, Diane Rix, Hervé Clavier, Christophe Crévisy* and Marc Mauduit*

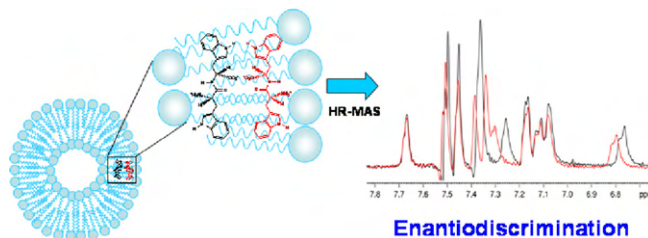


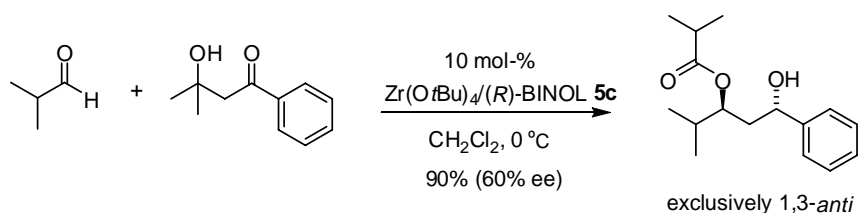
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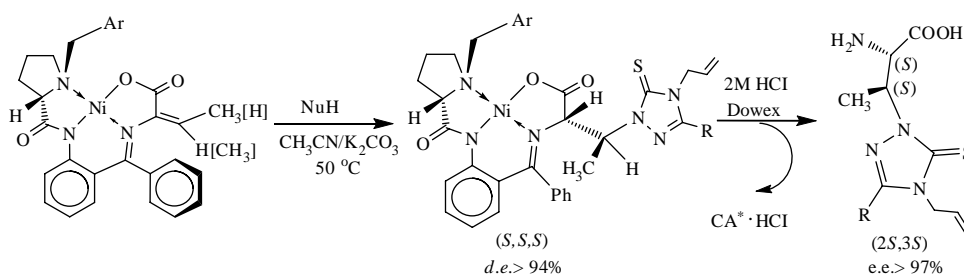
Oscar Cruciani, Stefano Borocci, Raffaele Lamanna, Giovanna Mancini* and Anna Laura Segre





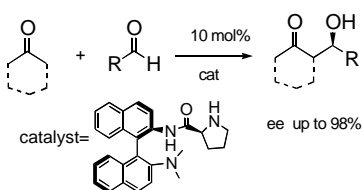
Asymmetric synthesis of *anti*-diastereoisomers of β -heterocycle substituted (*S*)- α -aminobutyric acids

Ashot S. Saghiyan,* Luisa L. Manasyan, Arpine V. Geolchanyan, Anahit M. Hovhannisyanyan,
Tariel V. Ghochikyan, Vilik S. Haroutunyan, Aida A. Avetisyan, Koryun S. Mirzoyan,
Victor I. Maleev and Victor N. Khrustalev



A multifunctional proline-based organic catalyst for enantioselective aldol reactions

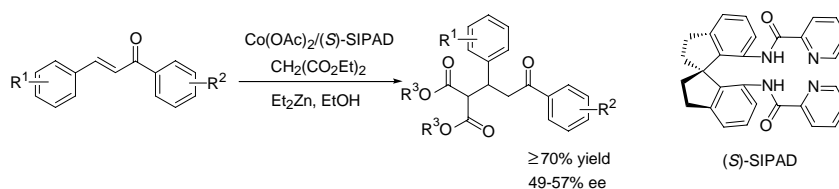
Stefania Guizzetti, Maurizio Benaglia,* Luca Pignataro and Alessandra Puglisi



Multifunctional binaphthyl diamine-based organocatalysts were shown to be able to promote the direct aldol condensation between acetone, methoxyacetone or cyclohexanone and different aldehydes in very good yields and high enantioselectivities.

Preparation and application of chiral spiro nitrogen-containing ligands for cobalt-catalyzed asymmetric Michael addition

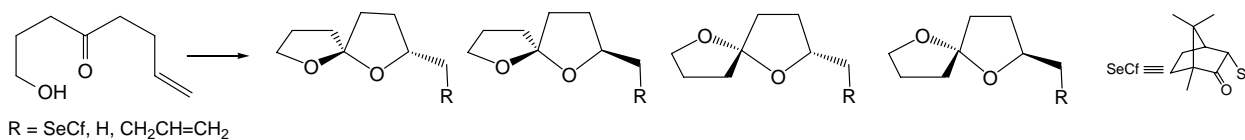
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Organoselenium mediated asymmetric cyclizations. Synthesis of enantiomerically pure 1,6-dioxaspiro[4.4]nonanes

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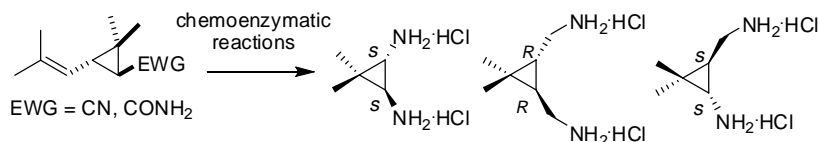
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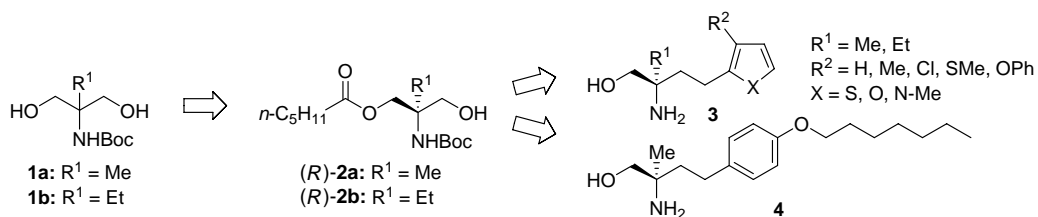
Guo-Qiang Feng, De-Xian Wang, Qi-Yu Zheng and Mei-Xiang Wang*



Asymmetric synthesis of α,α -disubstituted α -amino alcohol derivatives

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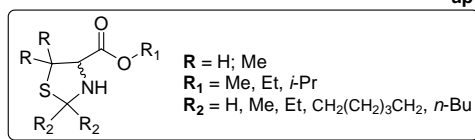
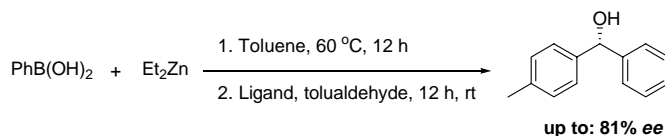
Tsuyoshi Nakamura, Takashi Tsuji, Yukiko Iio, Shojiro Miyazaki, Toshiyasu Takemoto and Takahide Nishi*



Modular chiral thiazolidine catalysts in asymmetric aryl transfer reactions

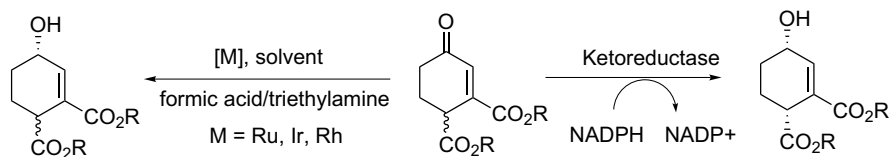
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Antonio Luiz Braga,* Priscila Milani, Fabrício Vargas, Márcio W. Paixão and Jasquer A. Sehnem



Biocatalytic and chemocatalytic approaches to the highly stereoselective 1,2-reduction of an α,β -unsaturated ketone pp 2798–2803

Birgit Kosjek,* David M. Tellers,* Mirlinda Biba, Roger Farr and Jeffrey C. Moore

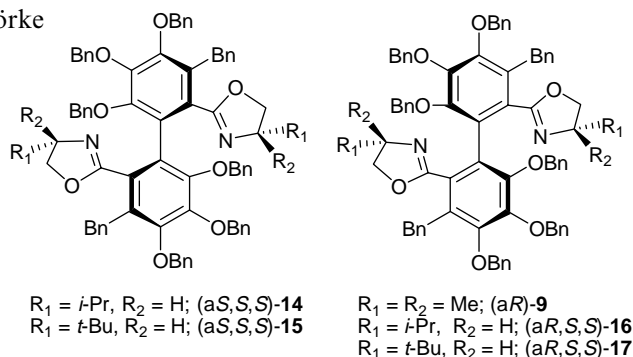


Transition metal-based transfer hydrogenation provides the allylic alcohol in high enantiomeric purity but low diastereomeric excess. In contrast, an enzymatic dynamic kinetic reduction proceeds with high diastereoselectivity and enantioselectivity.

Synthesis of novel chiral 6,6'-bis(oxazoly)-1,1'-biphenyls and their application as ligands in copper(I)-catalyzed asymmetric cyclopropanation pp 2804–2812

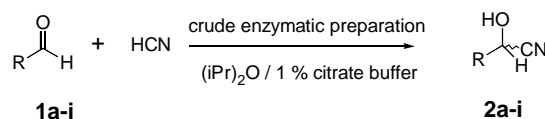
Karamali Khanbabaee,* Sinan Basceken and Ulrich Flörke

Synthesis of novel chiral ligands and their application in the copper(I)-catalyzed asymmetric cyclopropanation of styrene with ethyl diazoacetate.



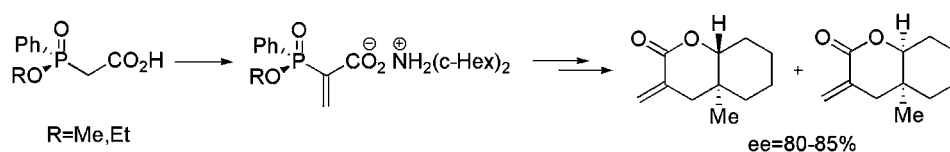
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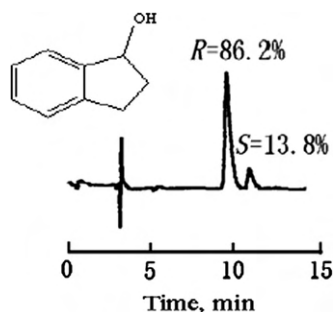
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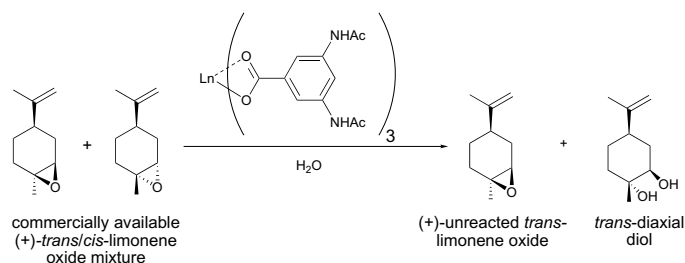


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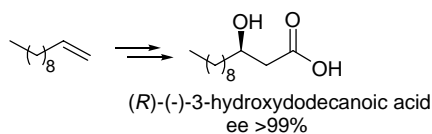


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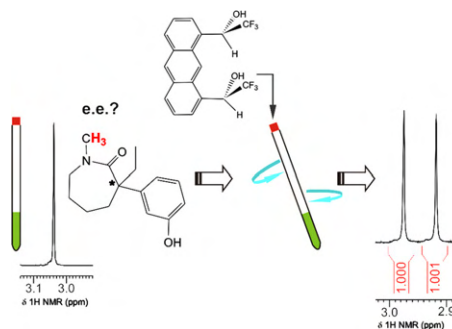
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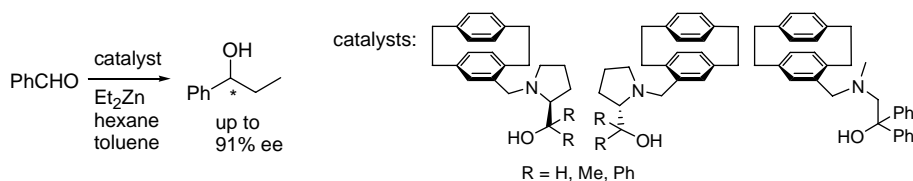


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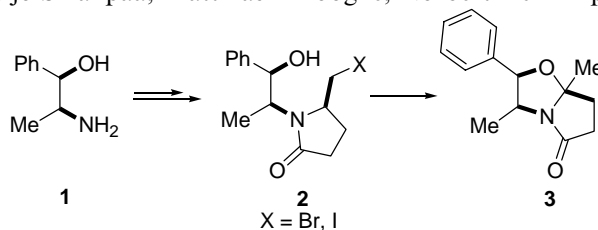
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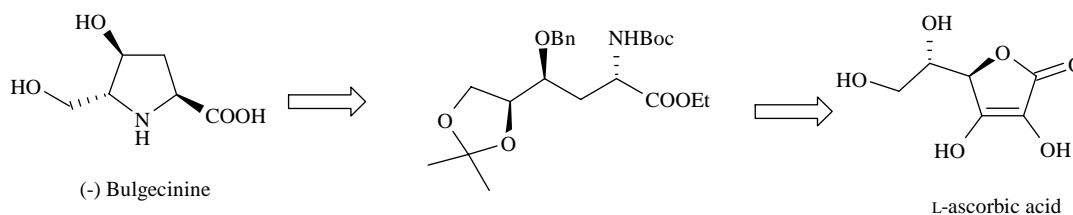


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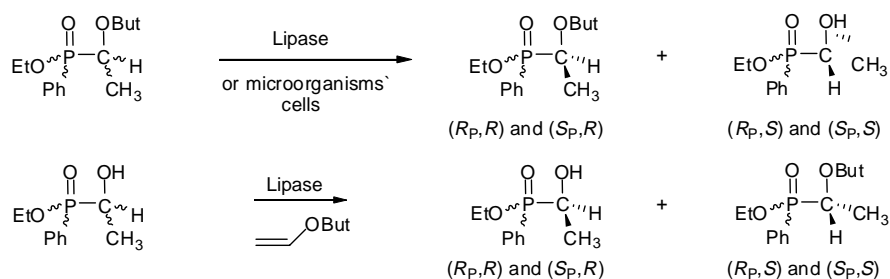
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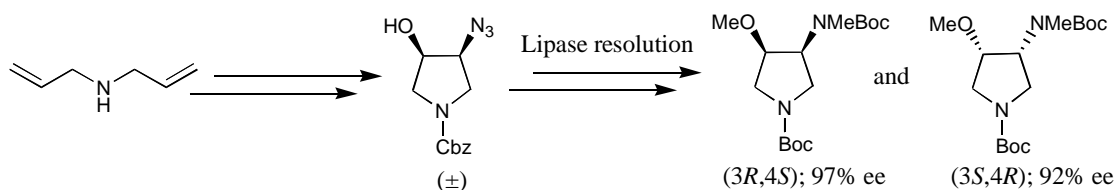
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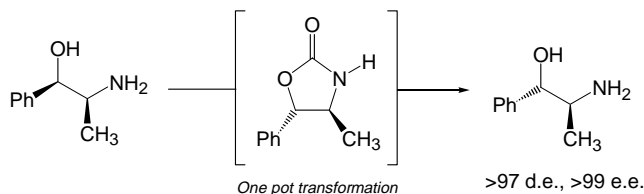
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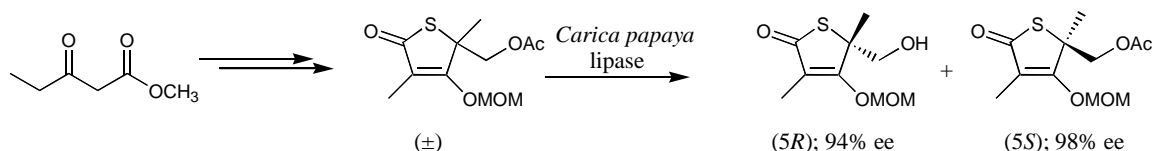
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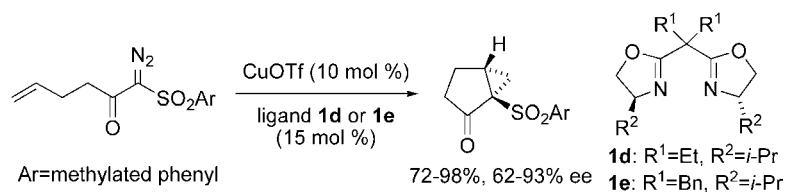
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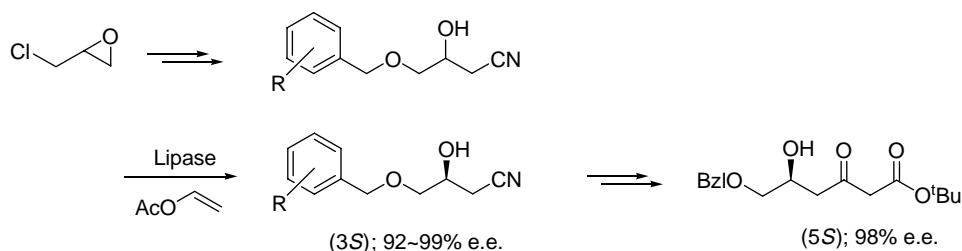
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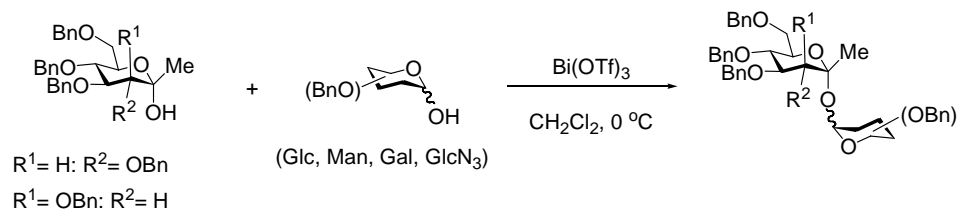
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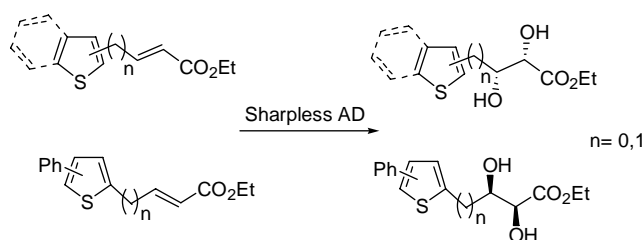
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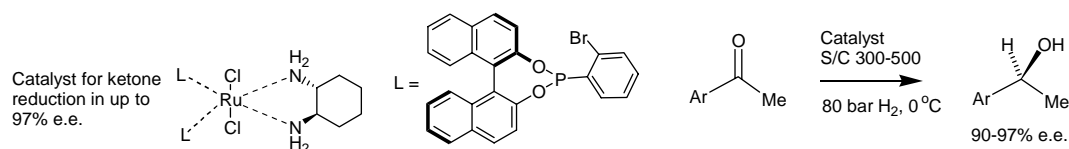
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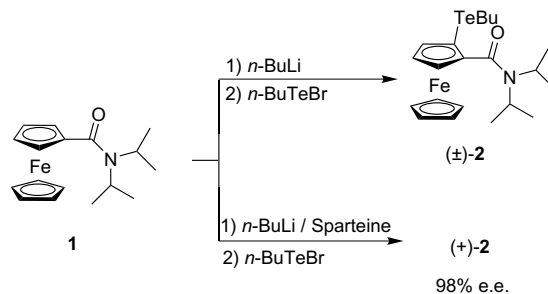
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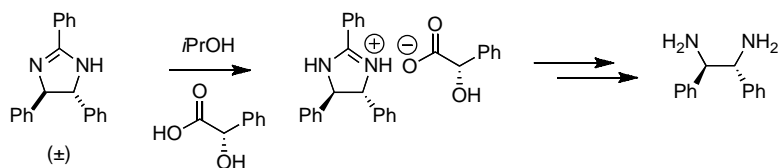
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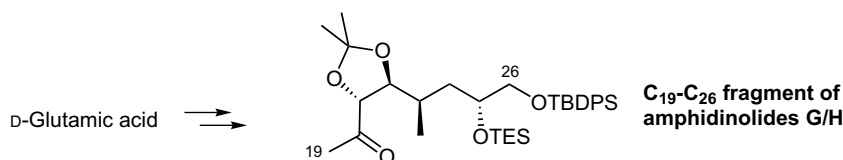


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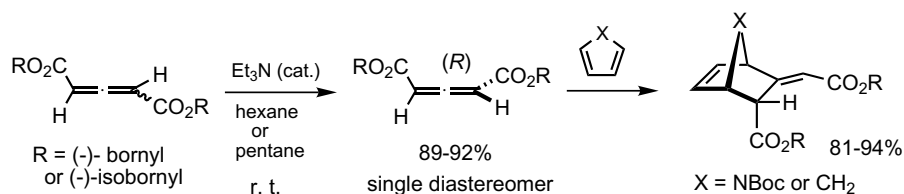
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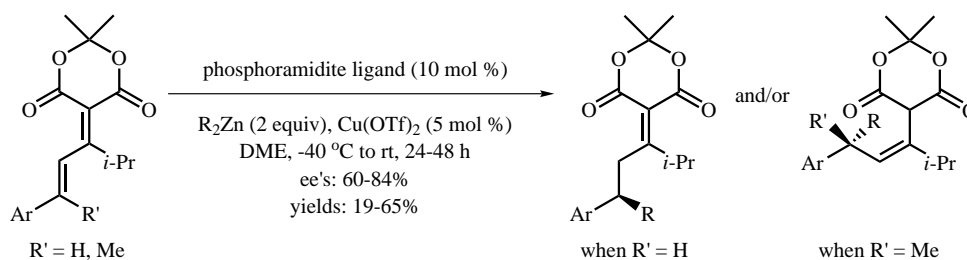
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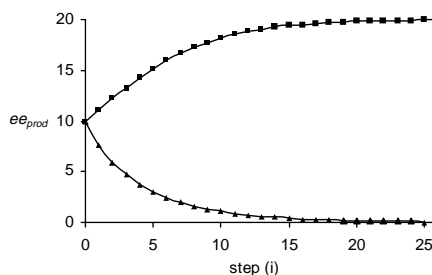


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$$ee_{\text{prod}(i+1)} = ee_{\text{max}} \frac{ee_{\text{prod},i}}{B + ee_{\text{prod},i}}$$

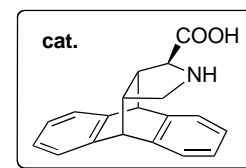
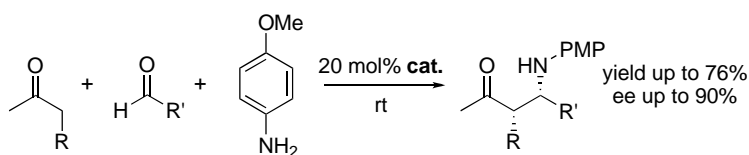


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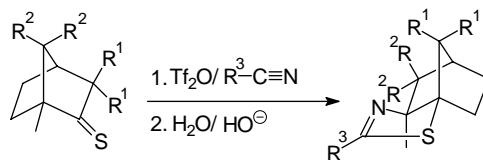
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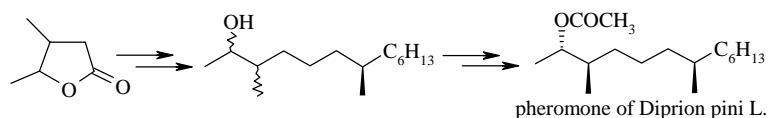
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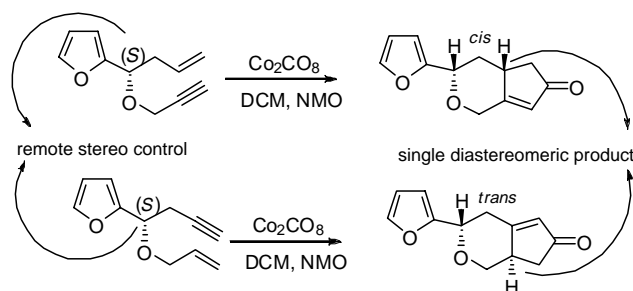
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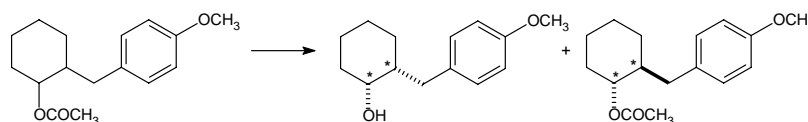
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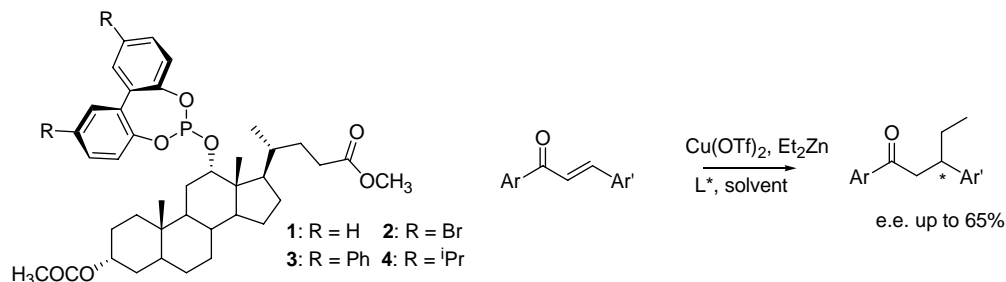
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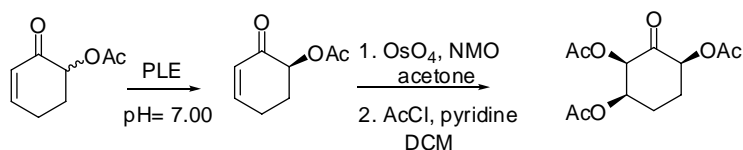
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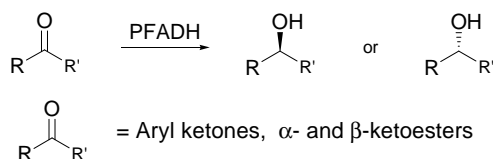
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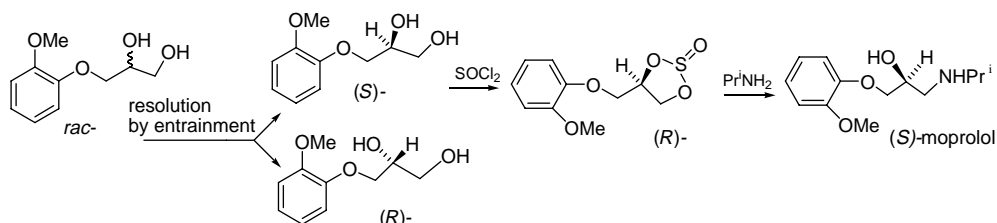
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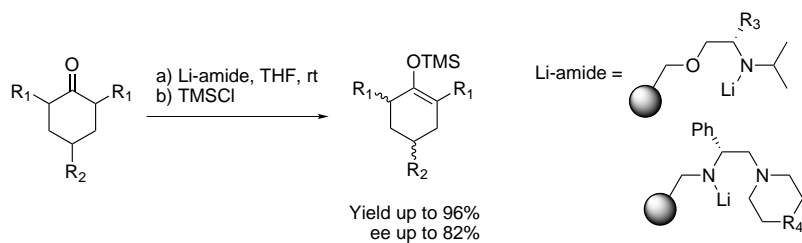
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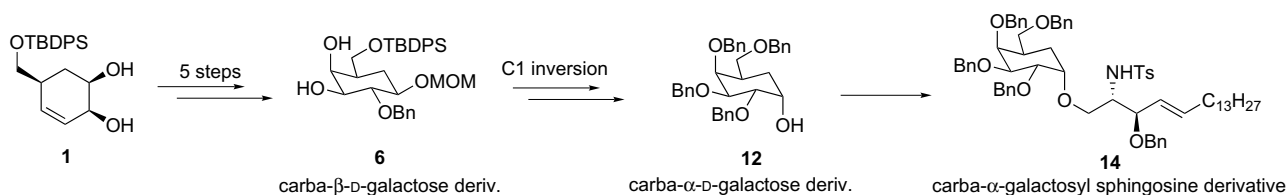
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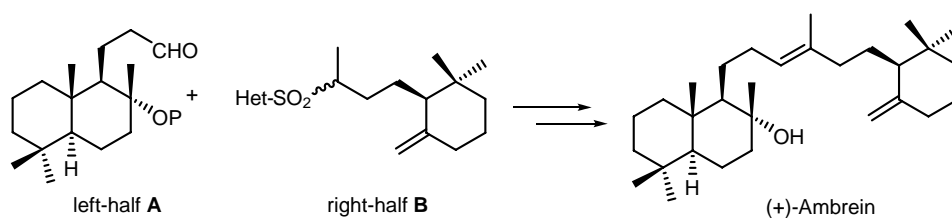
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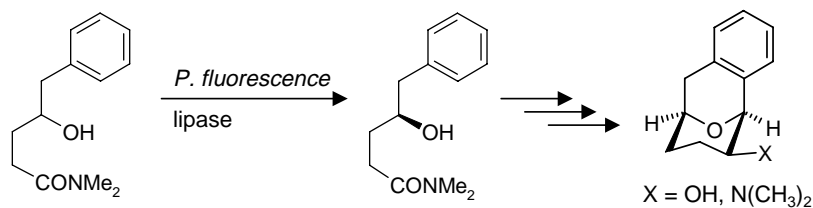
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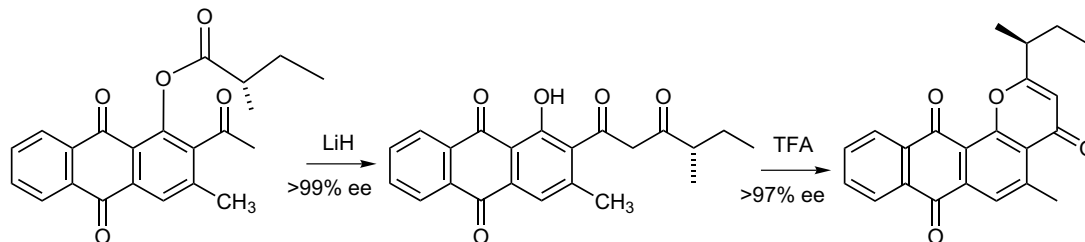
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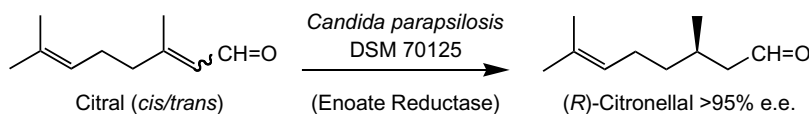
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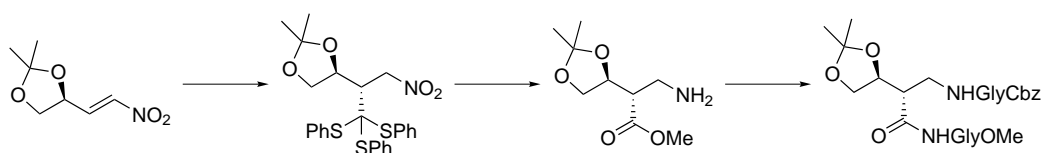
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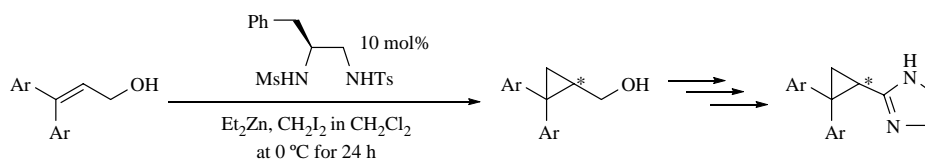
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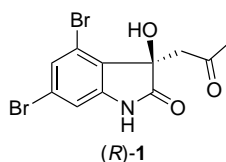
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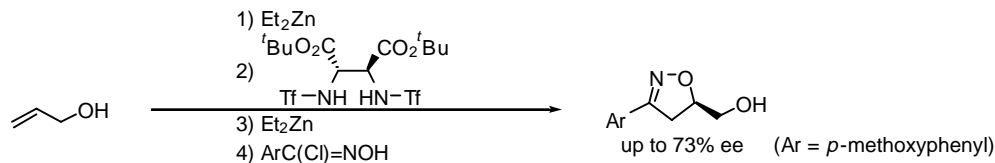
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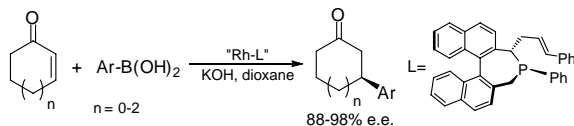
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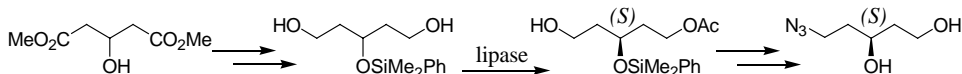
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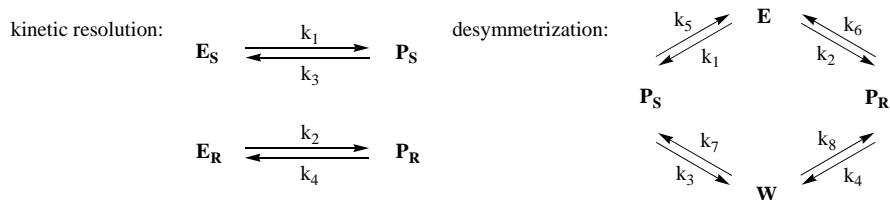
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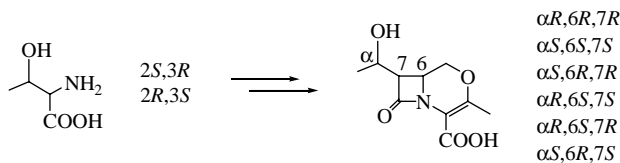
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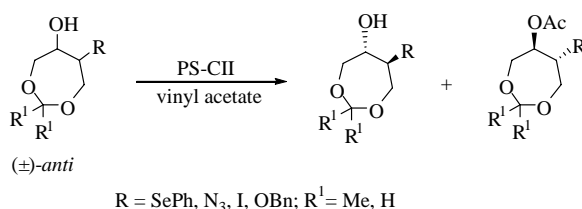
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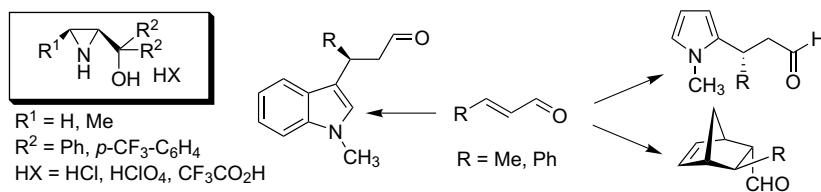
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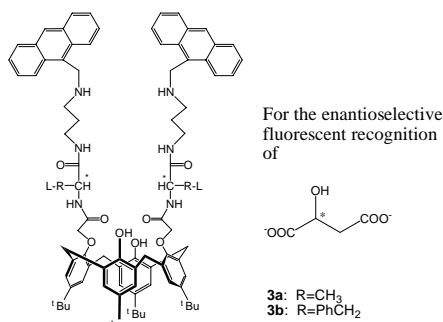
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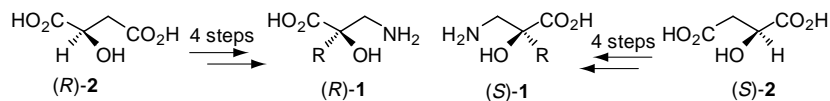
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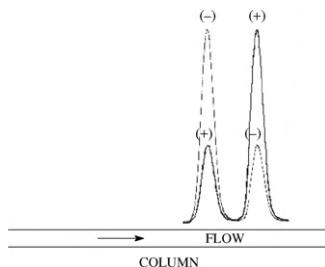
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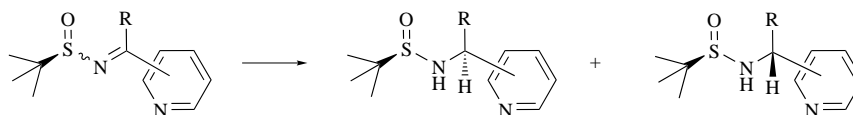


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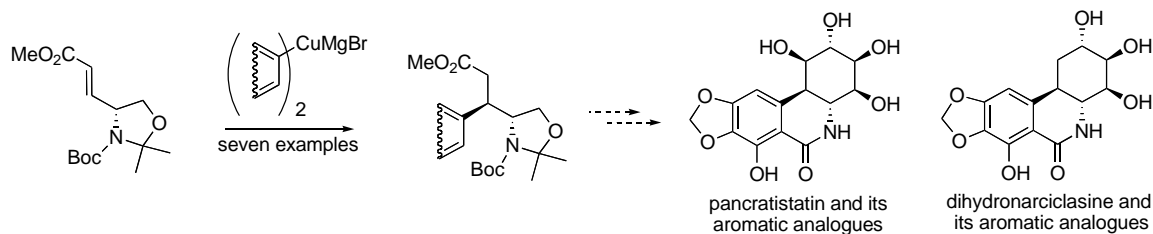


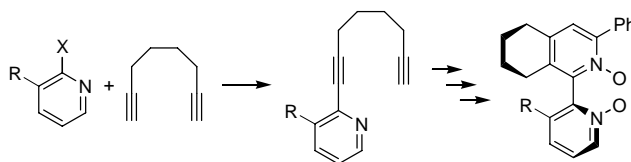
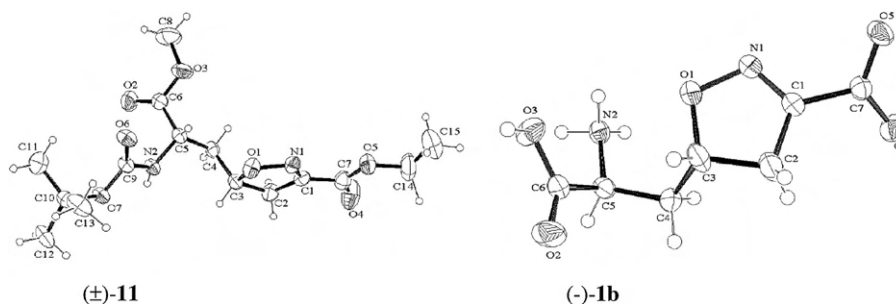
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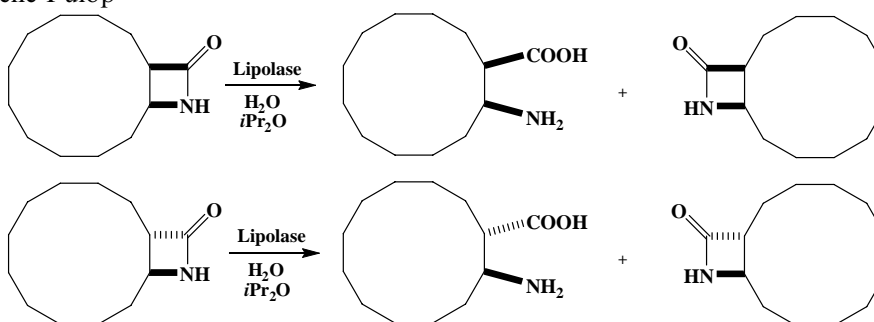
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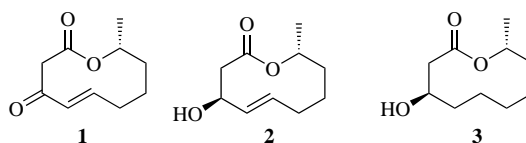
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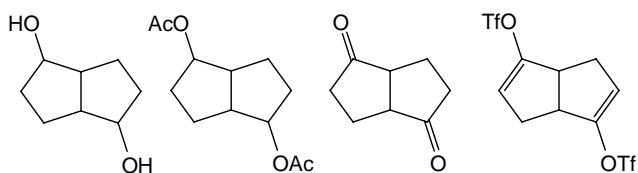


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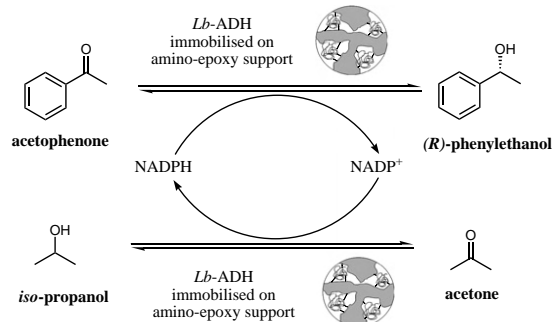
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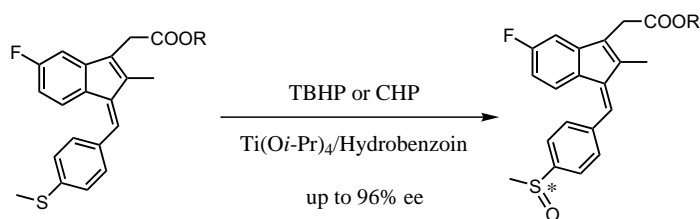
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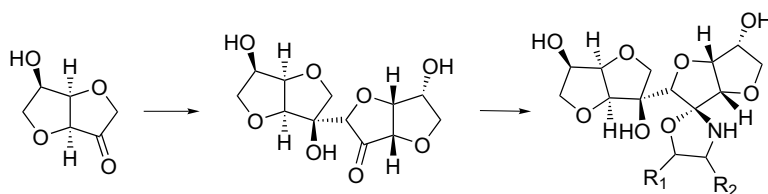
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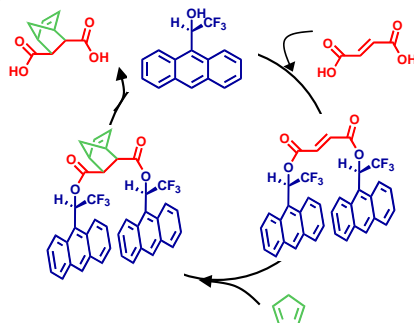
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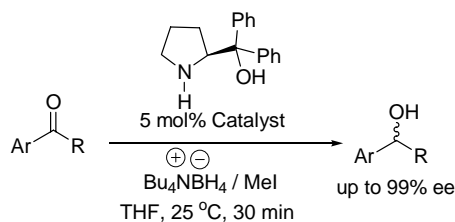
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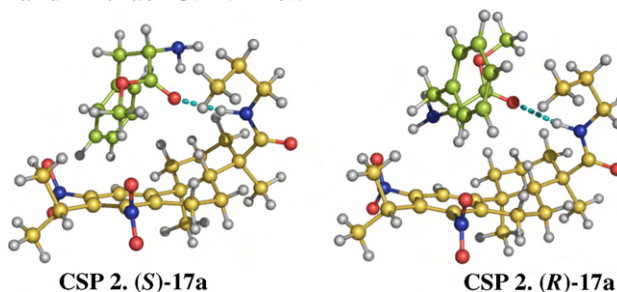
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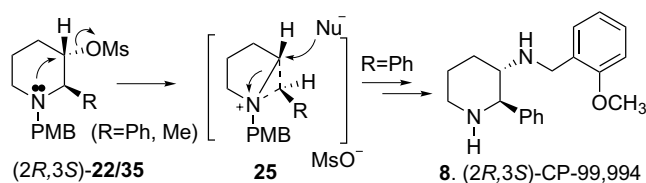
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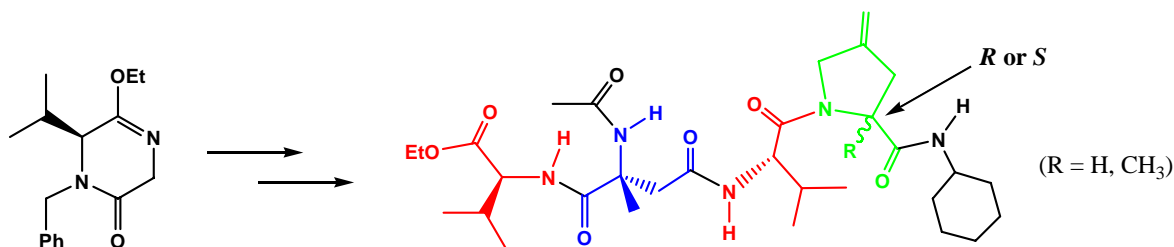
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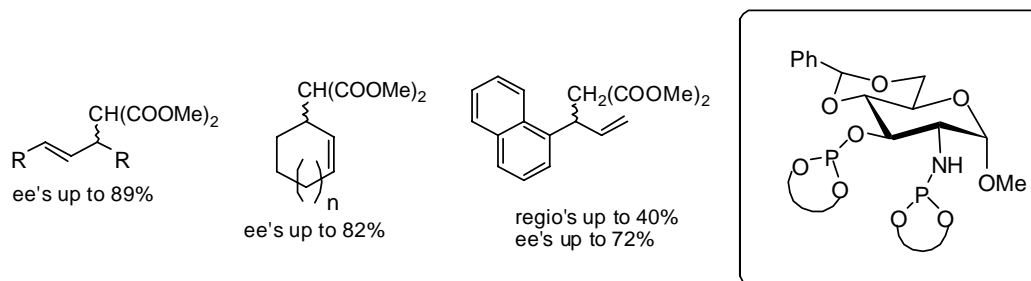
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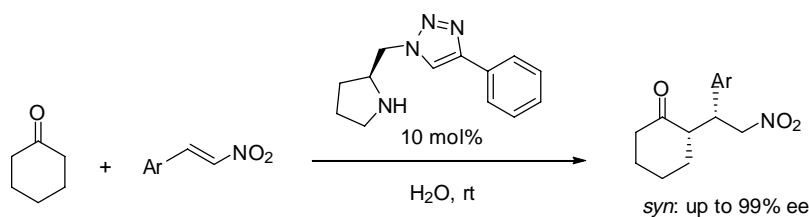
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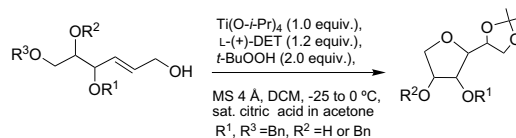
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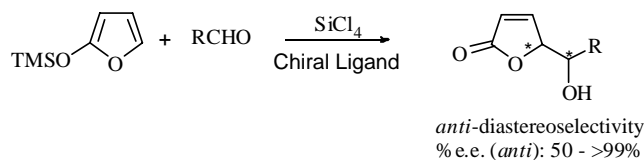
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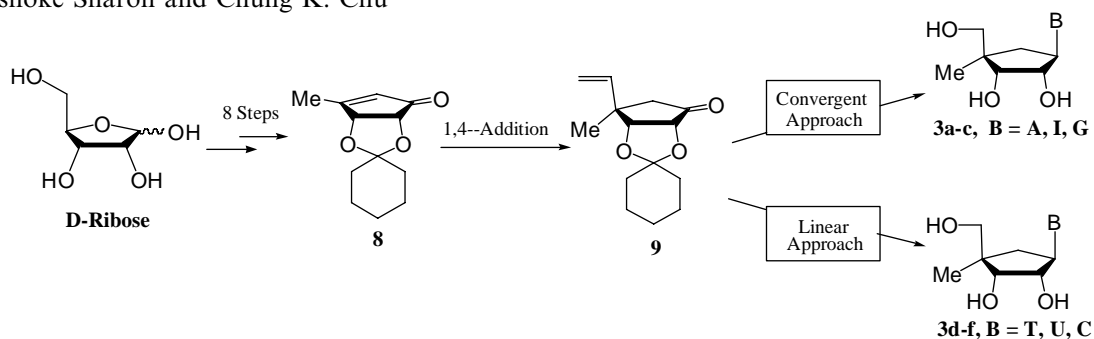


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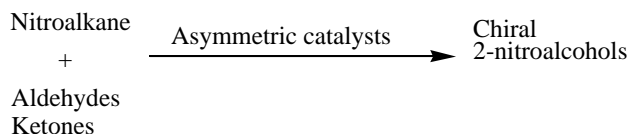
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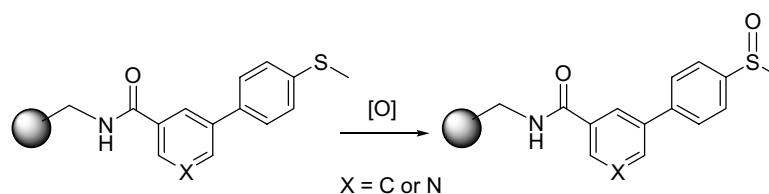


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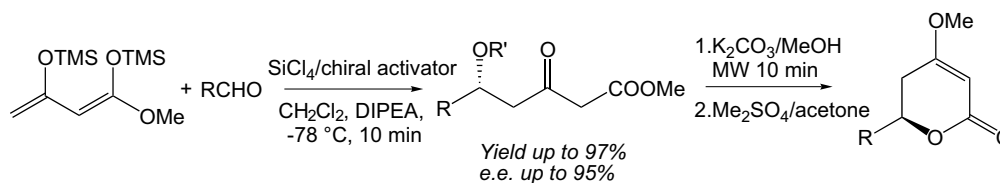


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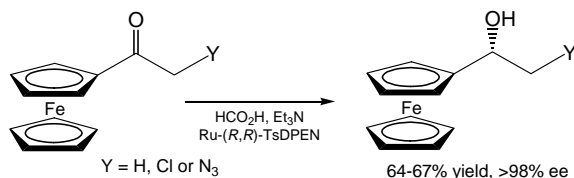
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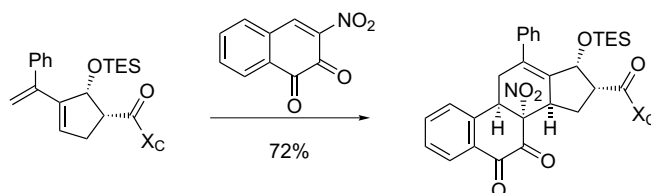
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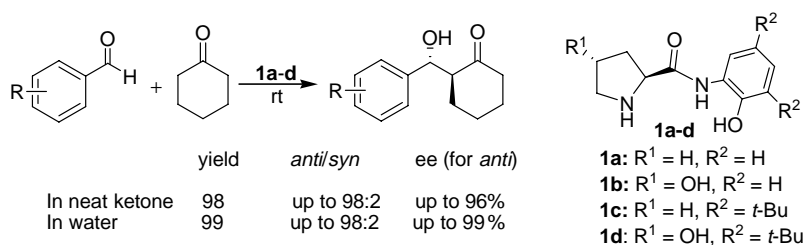
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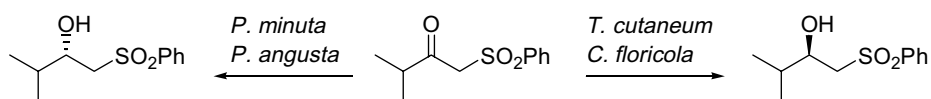
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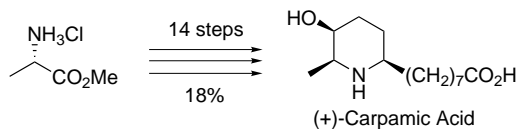
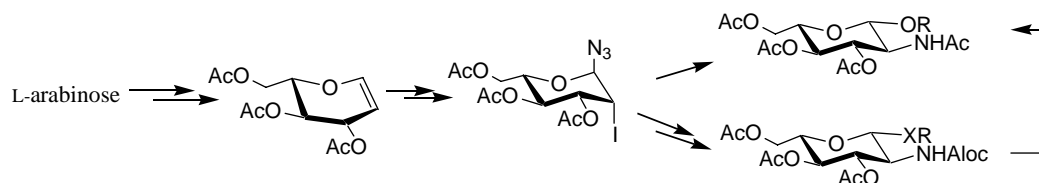
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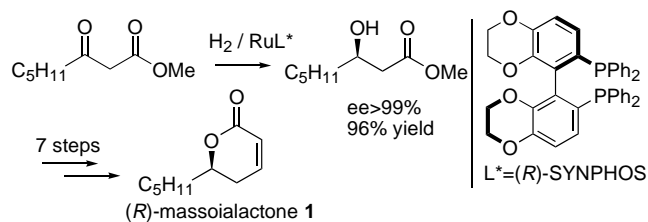
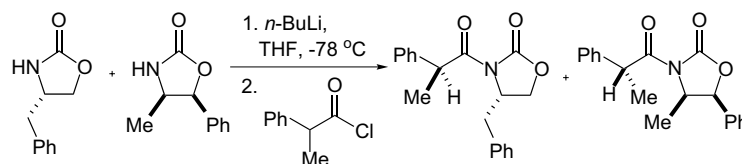
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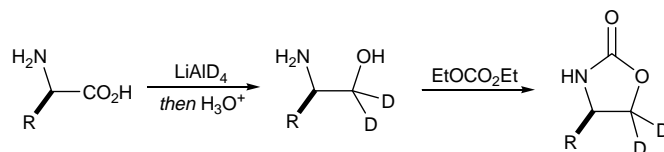


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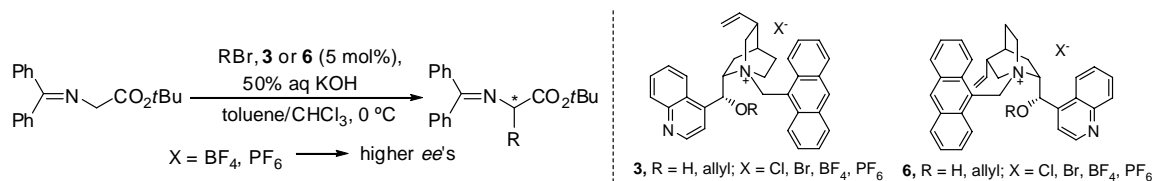
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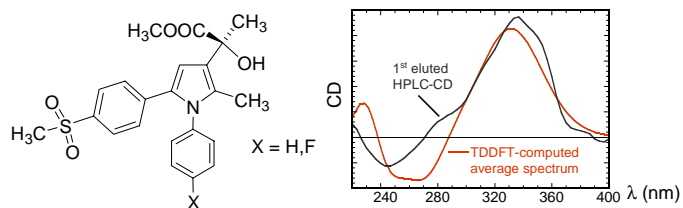
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