

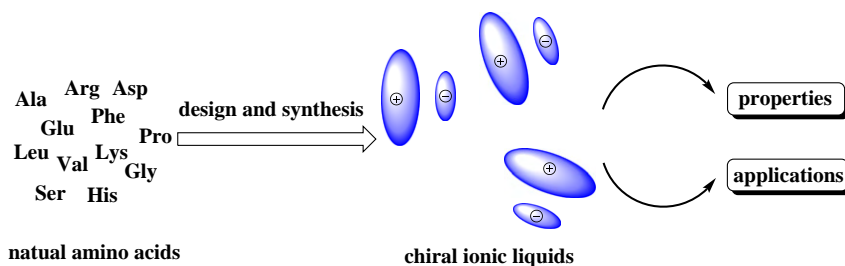
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REPORT

Advances in chiral ionic liquids derived from natural amino acids

pp 1–14

Xuewei Chen, Xuehui Li,\* Aixi Hu\* and Furong Wang

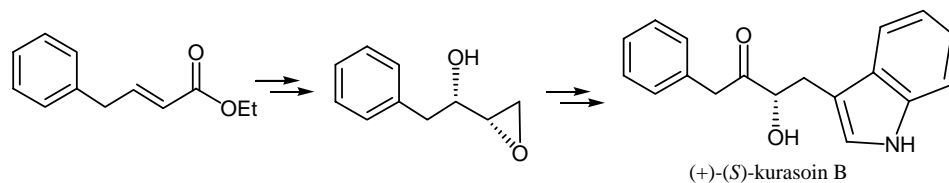


ARTICLES

A short synthesis of (+)-(*S*)-kurasoin B

pp 15–18

Rodney A. Fernandes

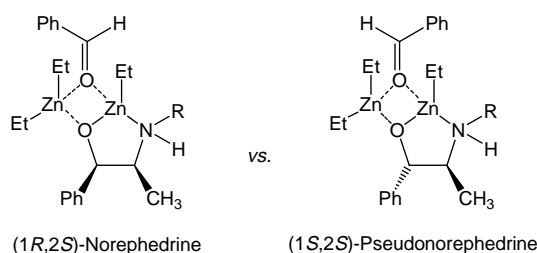


An efficient short enantioselective synthesis leading directly to (+)-(*S*)-kurasoin B has been achieved in 5 steps and 25% overall yield from (*2E*)-ethyl-4-phenylbut-2-enoate using Sharpless asymmetric dihydroxylation and  $\text{CH}_3\text{NO}_2$ -assisted or  $\text{Yb}(\text{OTf})_3$ -catalyzed regioselective C-3 coupling of indole as the key steps.

$\beta$ -Amino alcohols derived from (1*R*,2*S*)-norephedrine and (1*S*,2*S*)-pseudonorephedrine as catalysts in the asymmetric addition of diethylzinc to aldehydes

pp 19–26

Raleigh W. Parrott, II and Shawn R. Hitchcock\*

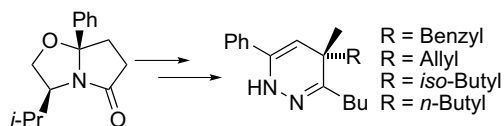


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**Synthesis of chiral 4,4-disubstituted-dihydropyridazines**

pp 27–30

Paul T. Buonora,\* Qun Zhang, Jennifer Sawko and Larry J. Westrum

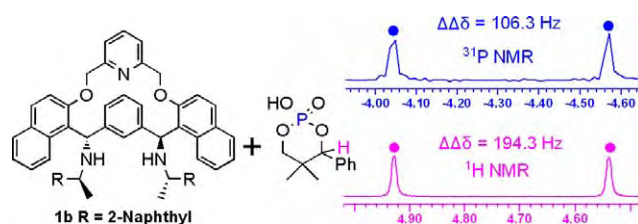


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**Macrocyclic compounds as chiral solvating agents for phosphinic, phosphonic, and phosphoric acids**

pp 31–37

Fengnian Ma, Xiumin Shen, Jie Ou-Yang, Zhiwei Deng and Cong Zhang\*

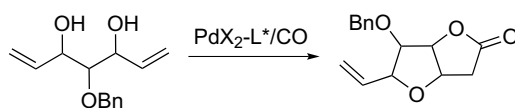


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Peter Kapitán and Tibor Gracza\*

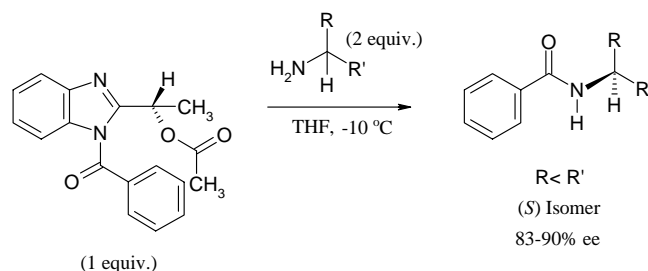


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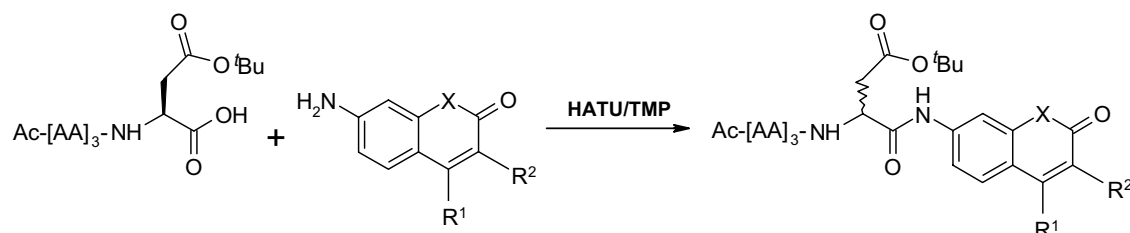
Anil V. Karnik\* and Suchitra S. Kamath



**Control of aspartate epimerization during the coupling of caspase specific tetrapeptides with aromatic amines by using *N*-[[dimethylamino)-1*H*-1,2,3-triazolo[4,5-*b*]-pyridin-1-yl]methylene]-*N*-methylmethanaminium hexafluorophosphate *N*-oxide (HATU) as a coupling reagent**

pp 49–59

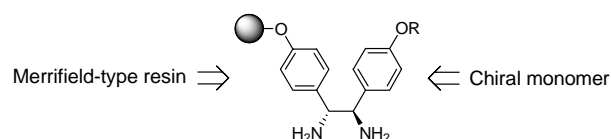
Przemysław Reszka, Karen Methling, Michael Lalk, Zhou Xiao, Klaus Weisz and Patrick J. Bednarski\*



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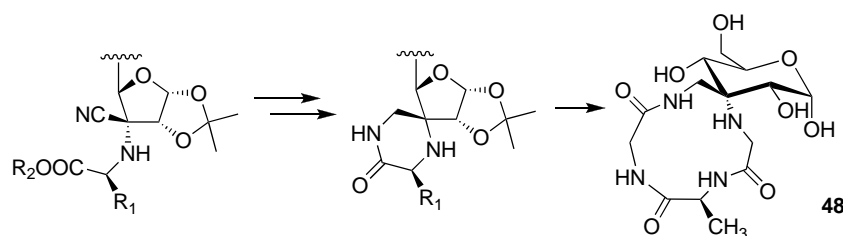
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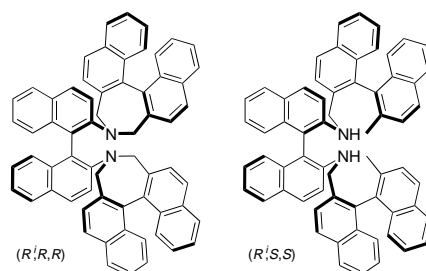
Hélène Ducatel, Albert Nguyen Van Nhien and Denis Postel\*



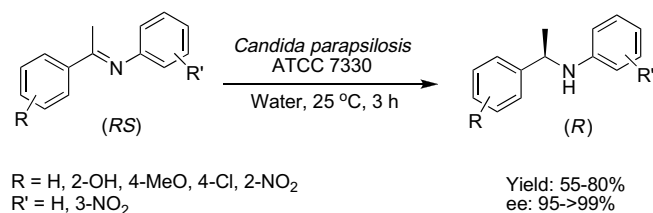
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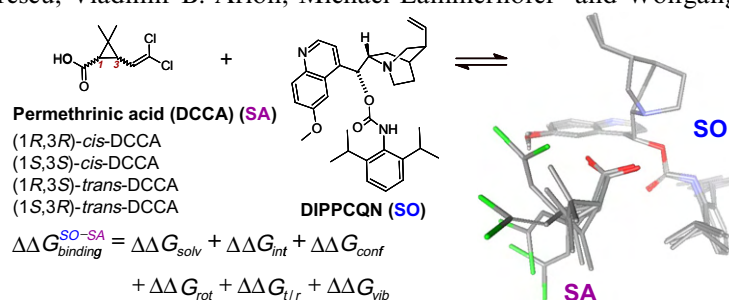
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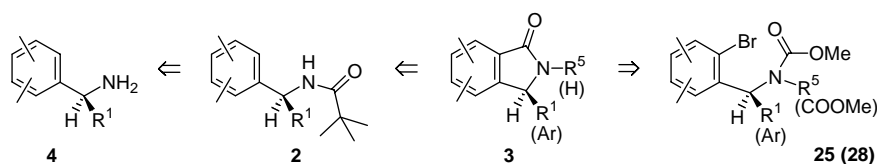
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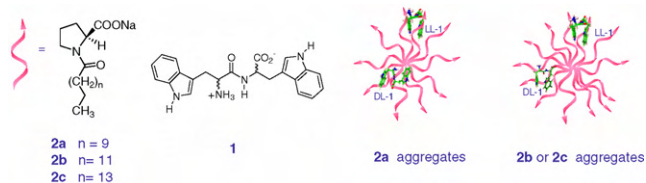
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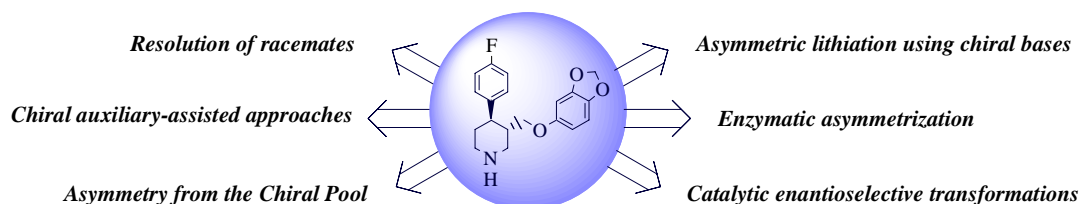
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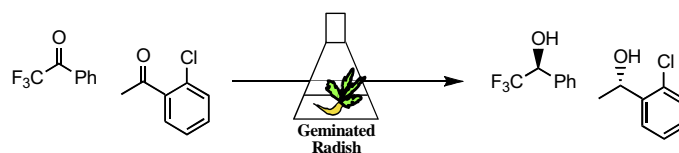
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COMMUNICATION

Asymmetric reduction of ketones with a germinated plant pp 157–159

Kiyoko Matsuo, Sei-ichiro Kawabe,\* Yosuke Tokuda, Takashi Eguchi, Rio Yamanaka and Kaoru Nakamura\*

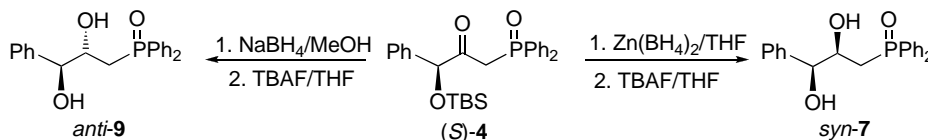


A germinated radish sprout from commercially available vegetable seeds was used as a novel type of biocatalyst for asymmetric reduction of ketones.

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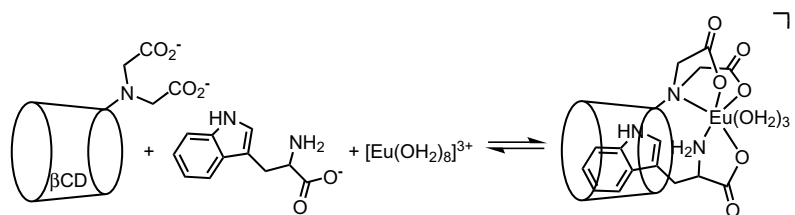
Haydée Rojas-Cabrera, Julio M. Hernández-Pérez, Minhuy Hô, Eugenio Hernández-Fernández and Mario Ordóñez\*



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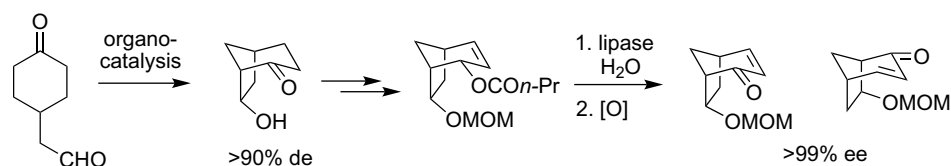
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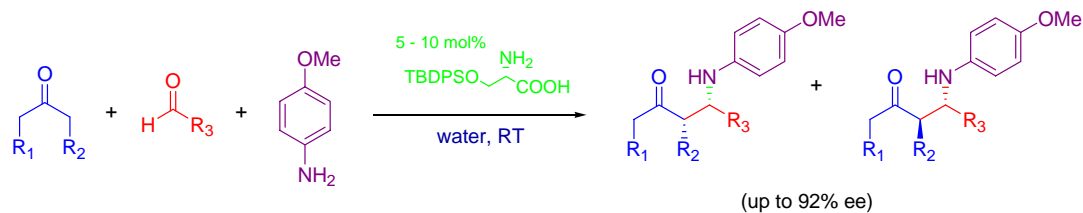
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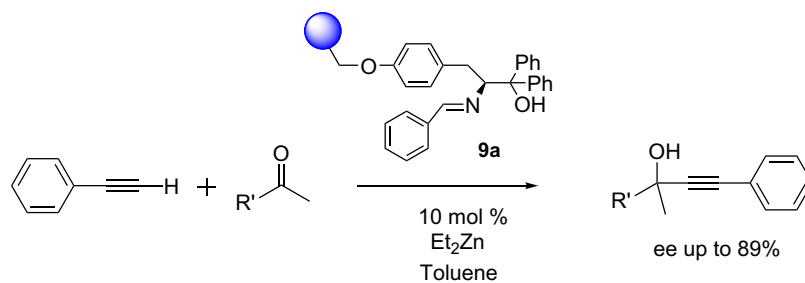
Yong-Chua Teo,\* Jun-Jie Lau and Man-Chao Wu



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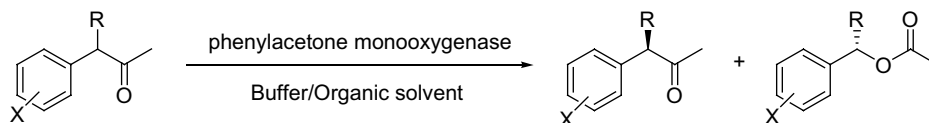
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Chao Chen, Liang Hong, Bangzhi Zhang and Rui Wang\*



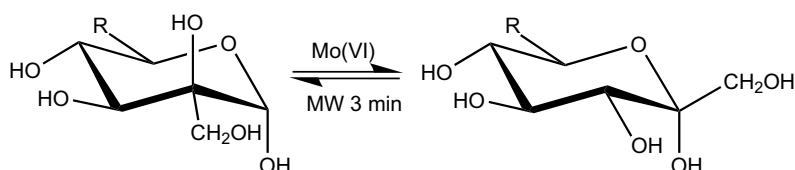
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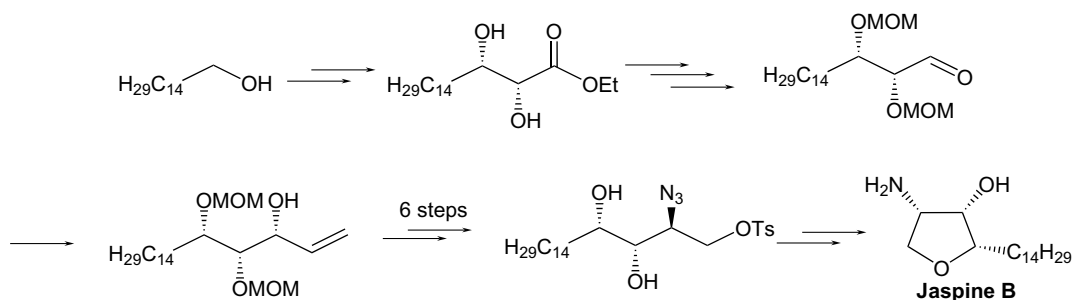
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Zuzana Hricovíniová



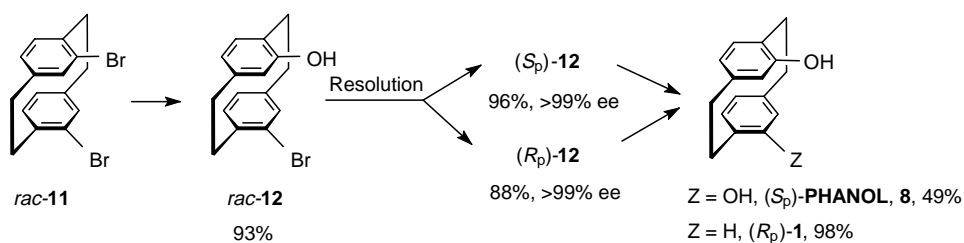
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K. Venkatesan and K. V. Srinivasan\*

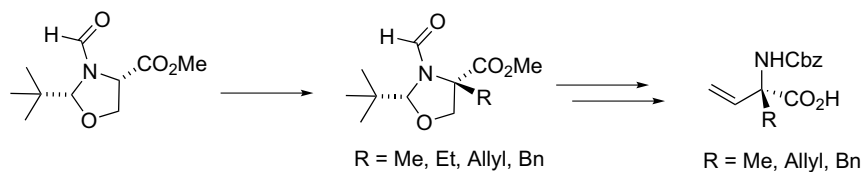
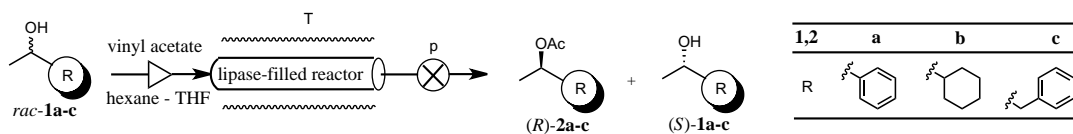
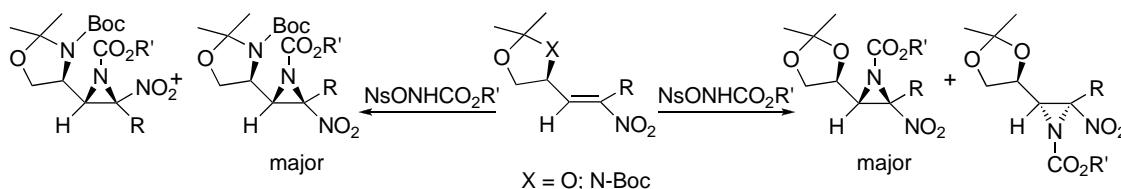
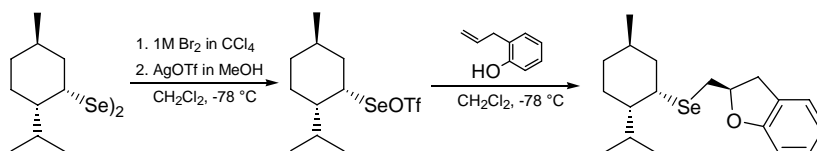


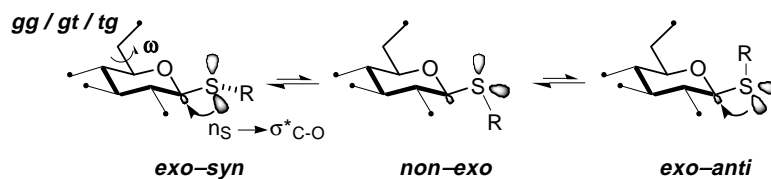
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Roman Zhuravsky, Zoya Starikova, Evgenii Vorontsov and Valeria Rozenberg\*









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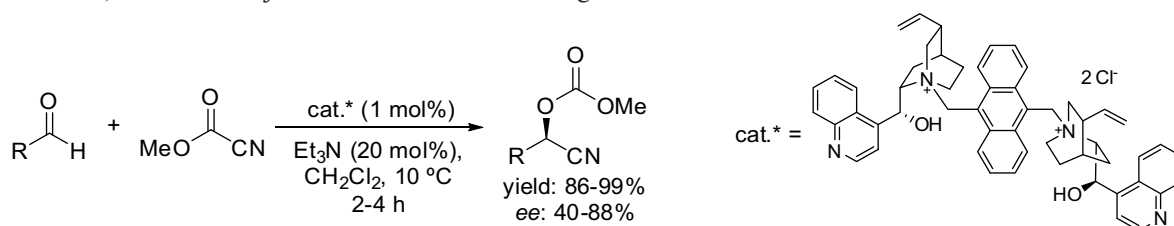
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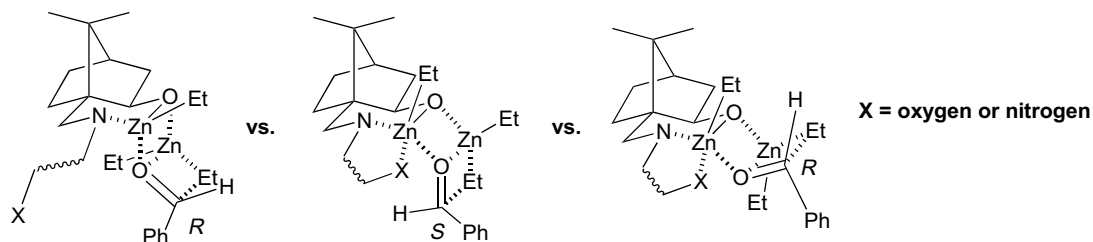
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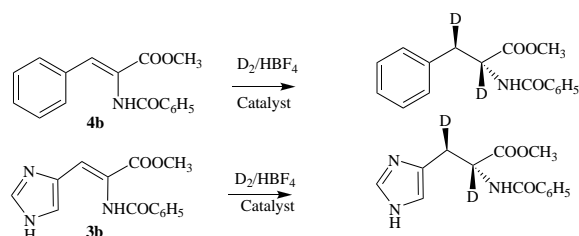
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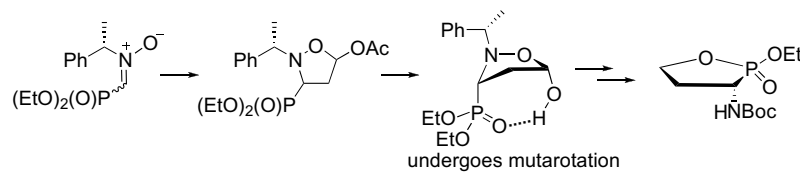
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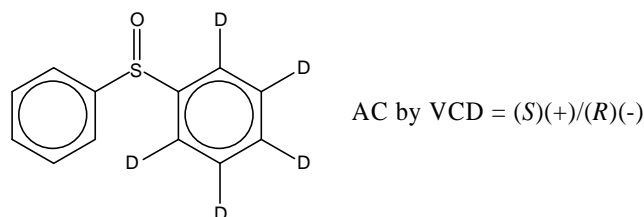
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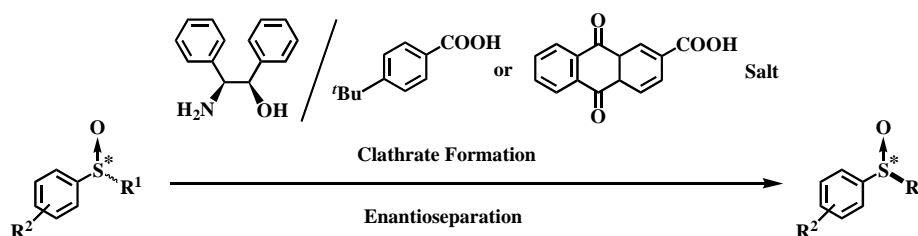
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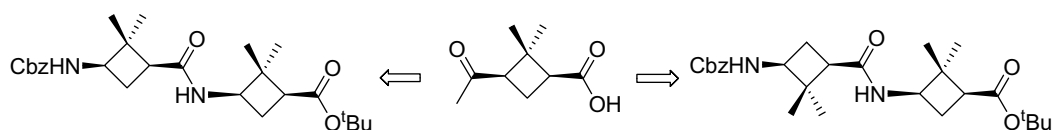
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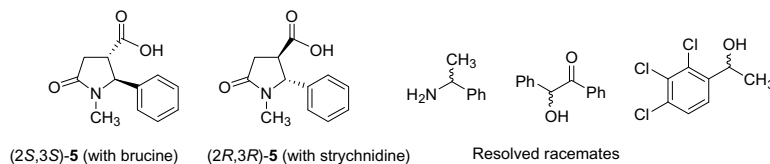
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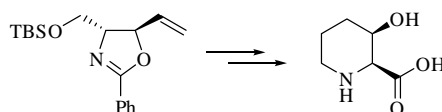
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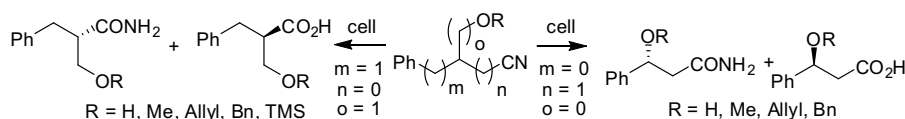
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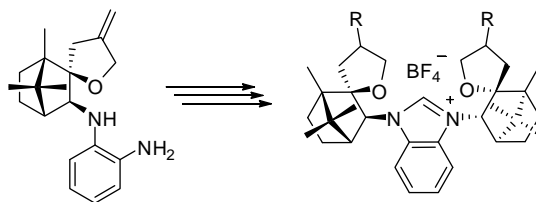
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pp 330–342

Uroš Grošelj, Anton Meden, Branko Stanovnik and Jurij Svete\*

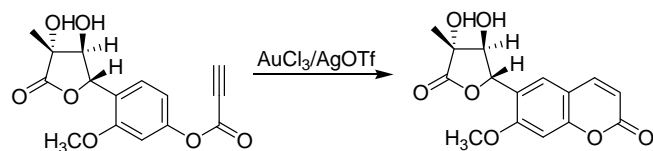


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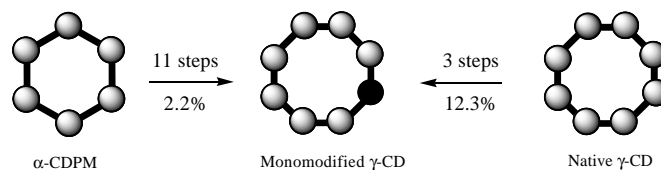


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Thomas Chaise, Pascal Cardinael, Séverine Tisse, Jean-Claude Combret and Jean-Philippe Bouillon\*

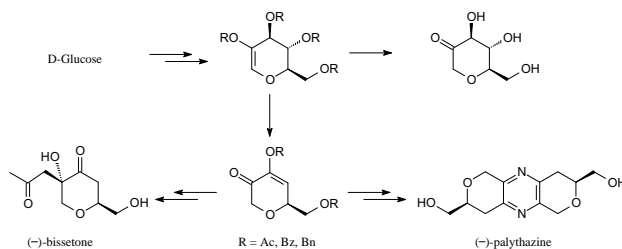


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**Expedient conversion of D-glucose into 1,5-anhydro-D-fructose and into single stereogenic-center dihydropyranones, suitable six-carbon scaffolds for concise syntheses of the soft-coral constituents (–)-bisetone and (–)-palythazine**

pp 358–373

Manfred Brehm, Volker H. Göckel, Pan Jarglis and Frieder W. Lichtenthaler\*

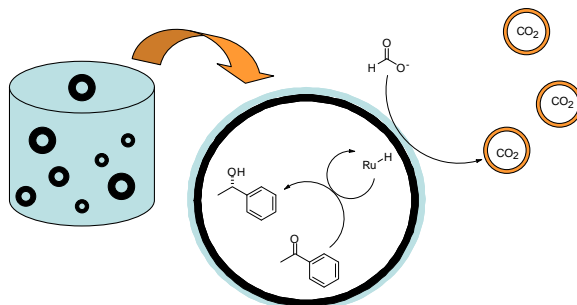


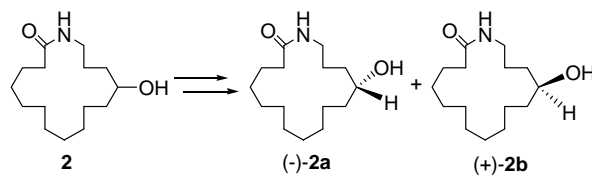
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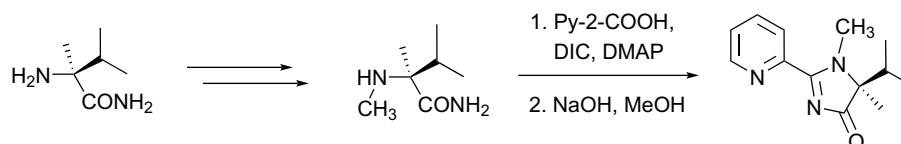
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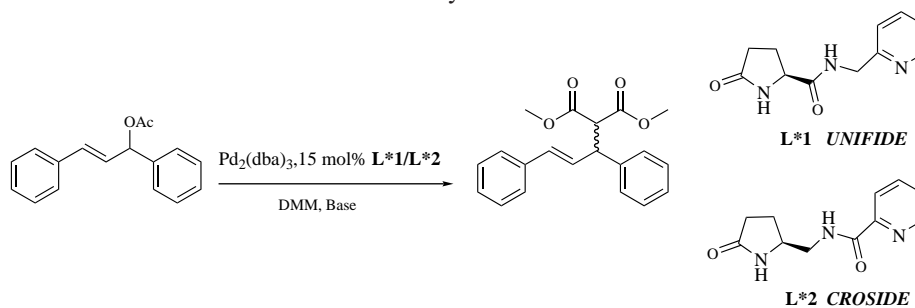




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Lorraine Bateman, Simon W. Breeden and Patrick O'Leary\*



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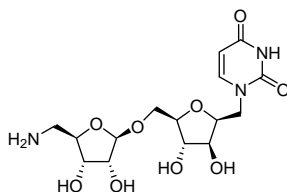
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Efficient synthesis of a bacterial translocase *MraY* inhibitor

pp 397–400

Anthony Clouet, Christine Gravier-Pelletier,\* Bayan Al-Dabbag, Ahmed Bouhss and Yves Le Merrer\*

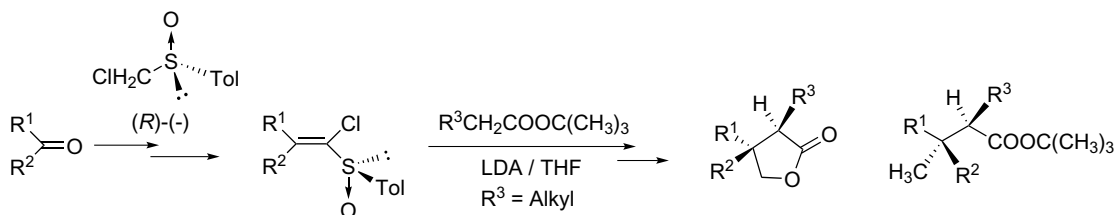


The synthesis of a powerful inhibitor of the bacterial translocase *MraY* (81% inhibition at 2 mM) is described.

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Shimpei Sugiyama, Nobuhito Nakaya and Tsuyoshi Satoh\*

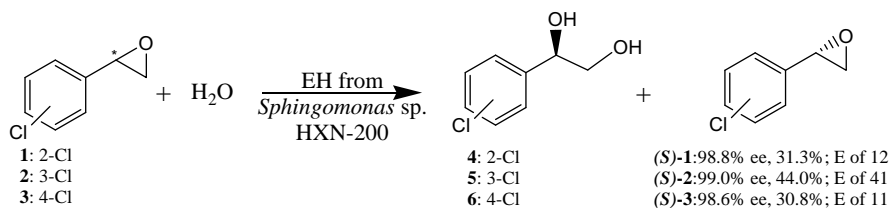


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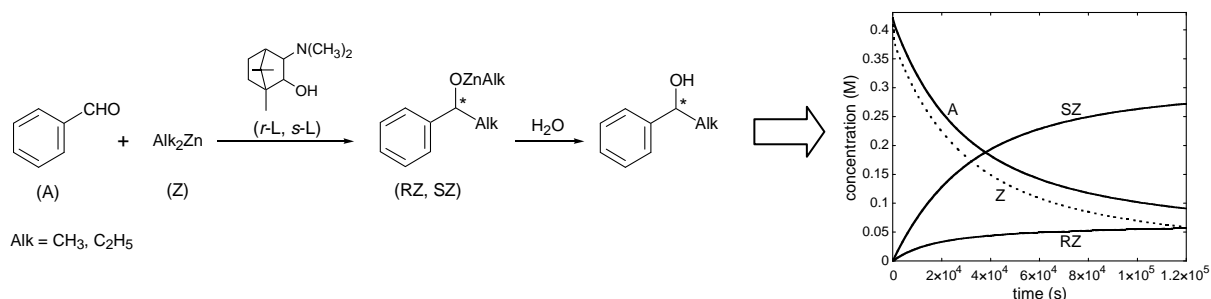
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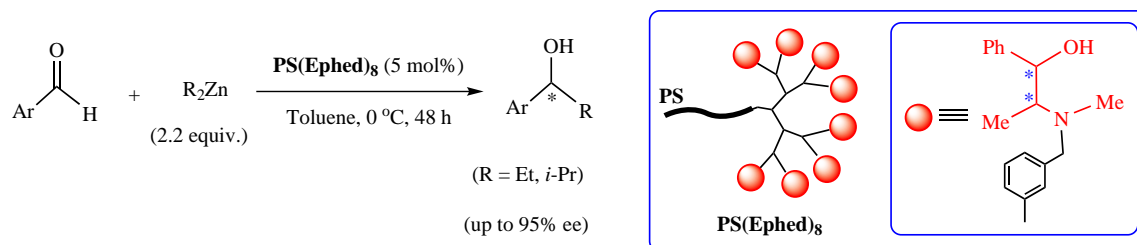
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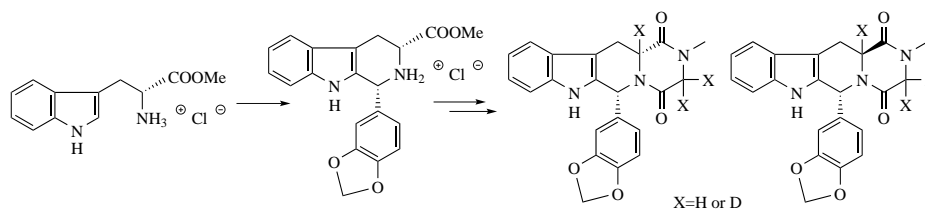
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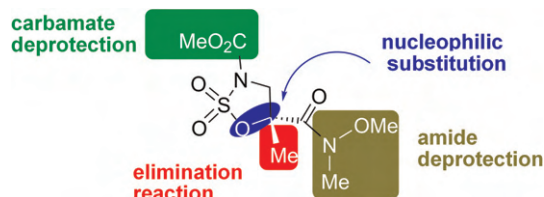
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Gonzalo Jiménez-Osés, Alberto Avenoz, Jesús H. Busto\* and Jesús M. Peregrina\*

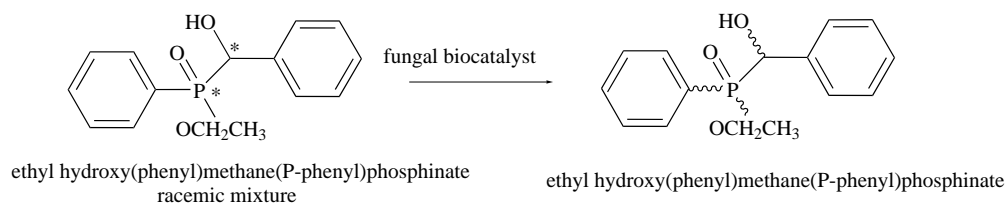


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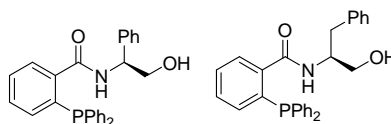


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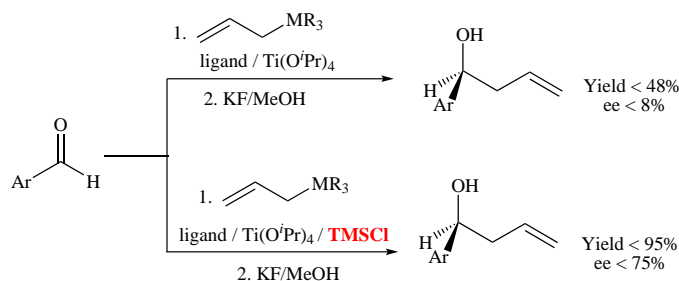


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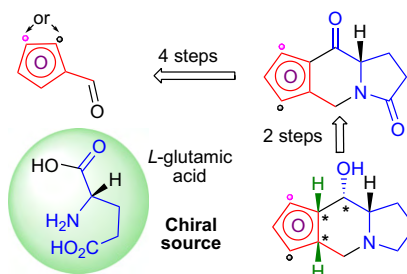


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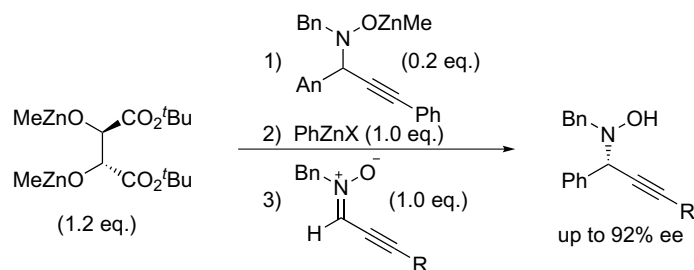
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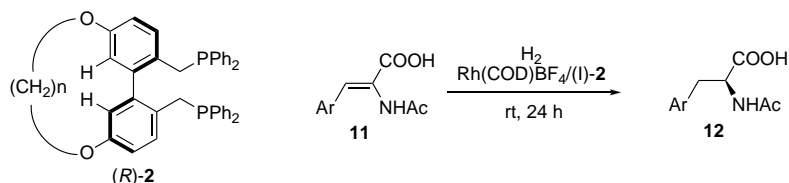
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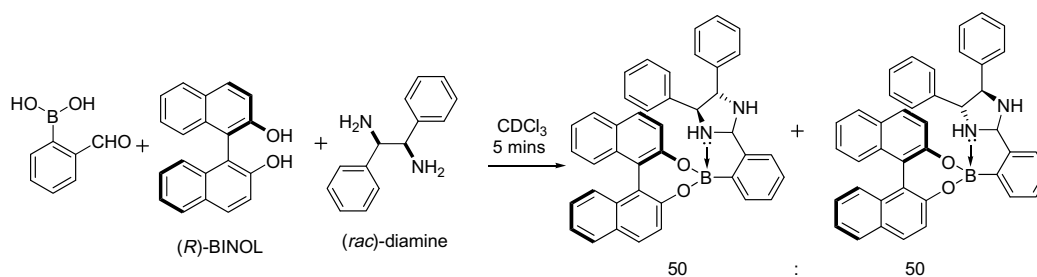
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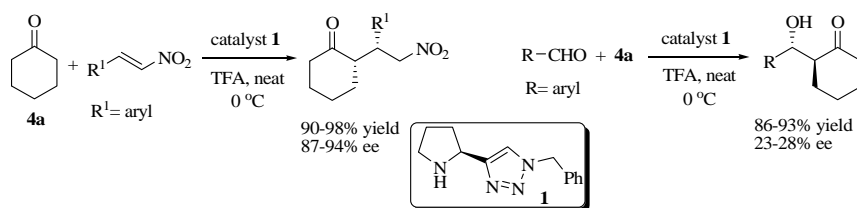
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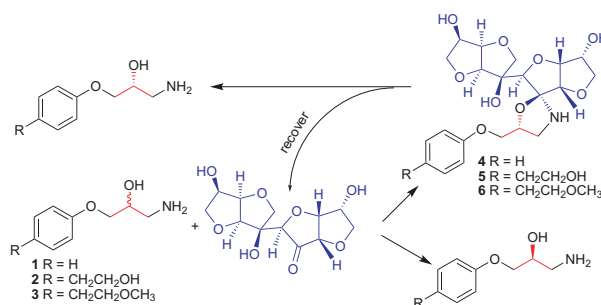
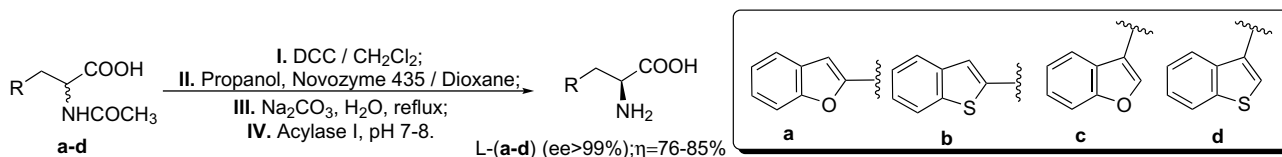


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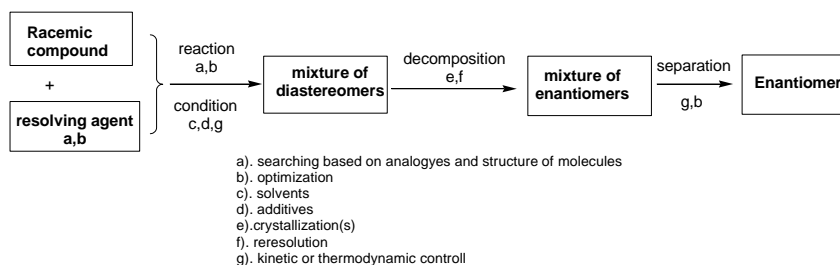
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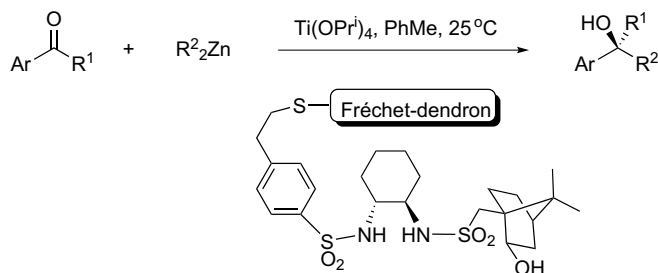


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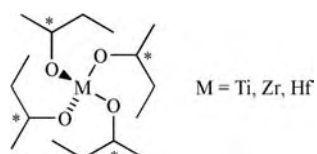


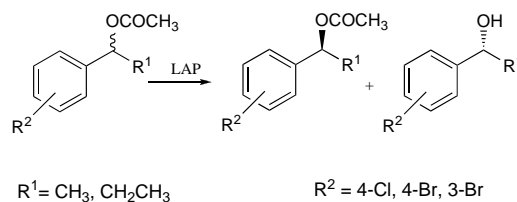
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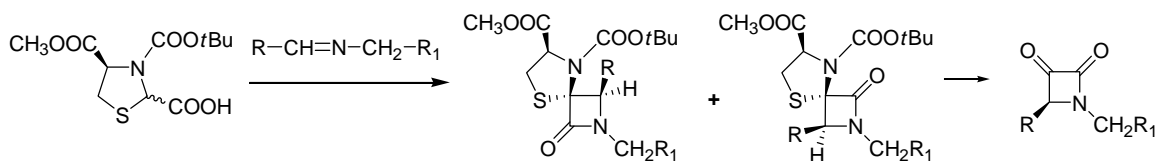
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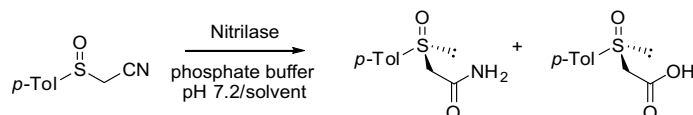
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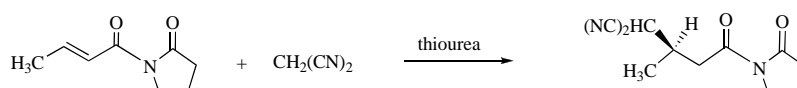
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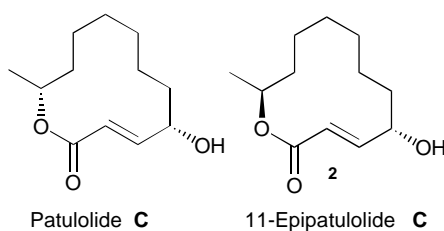
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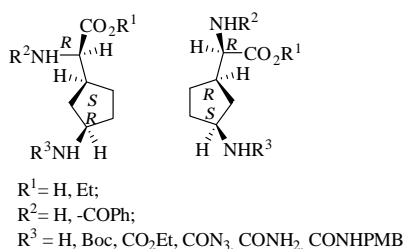
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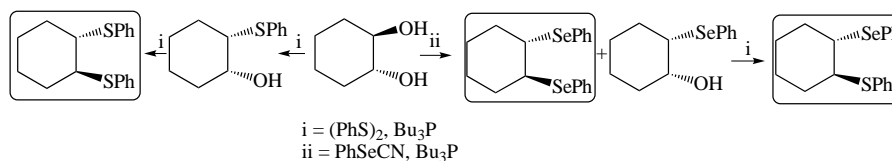




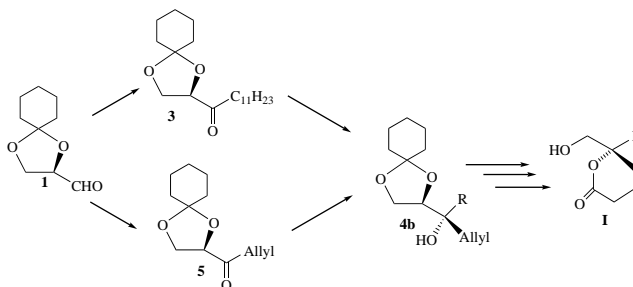
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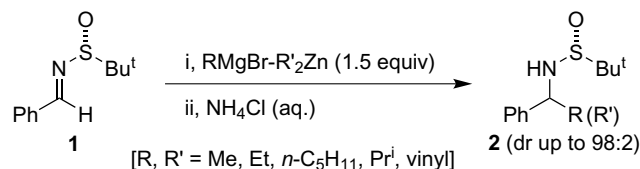


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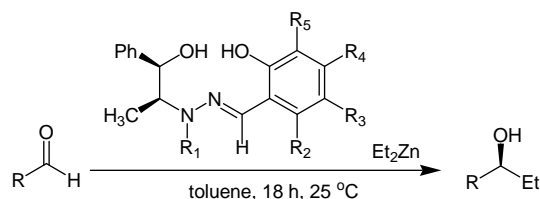


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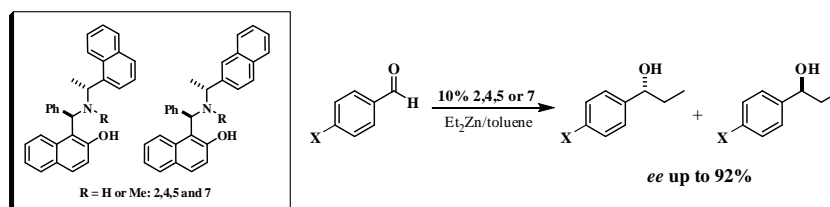
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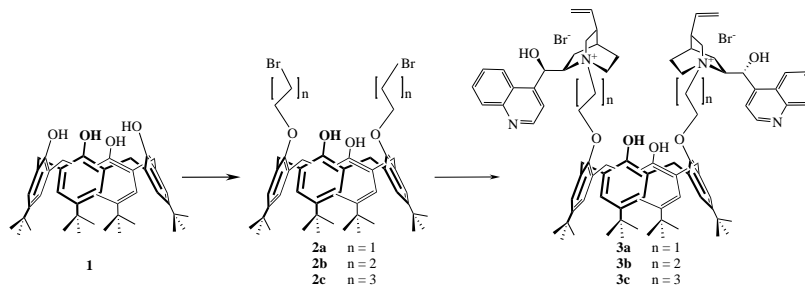
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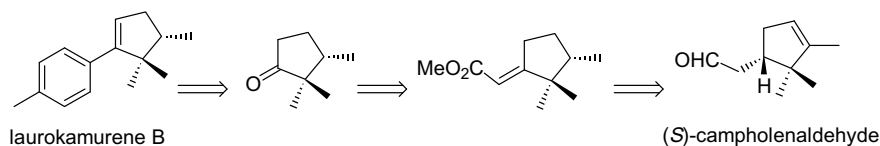
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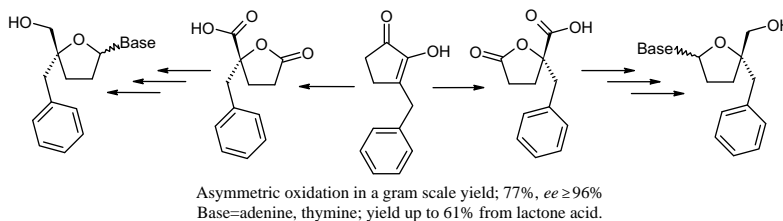
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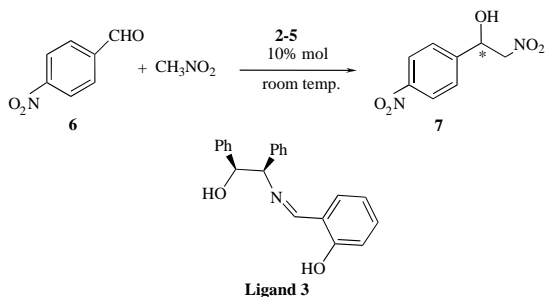
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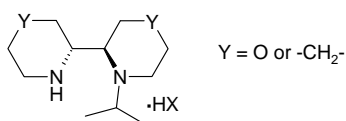
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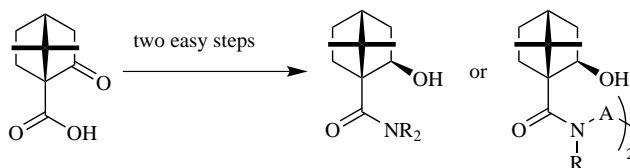
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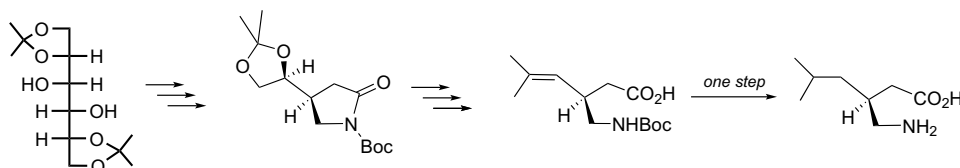
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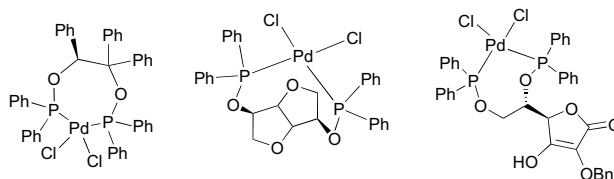
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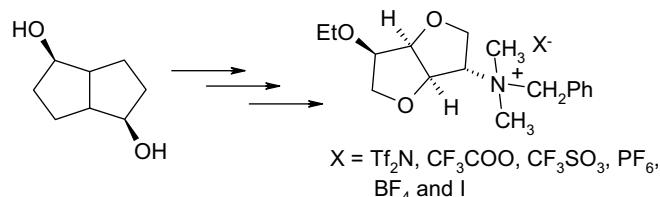
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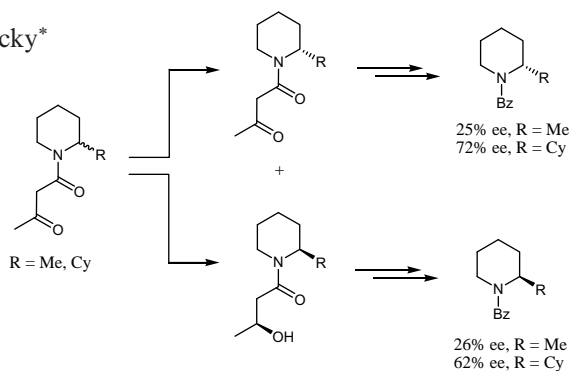
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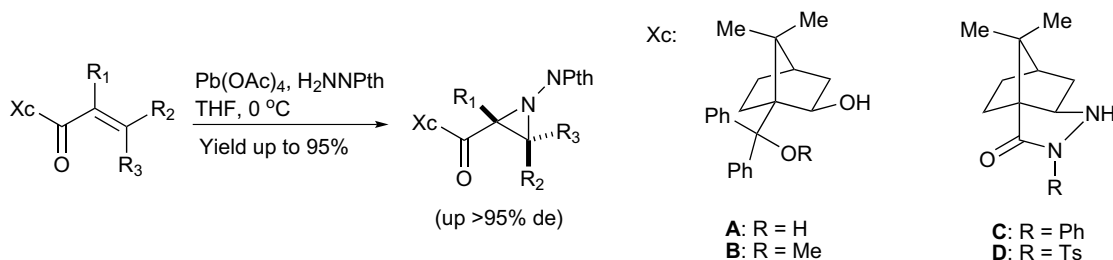
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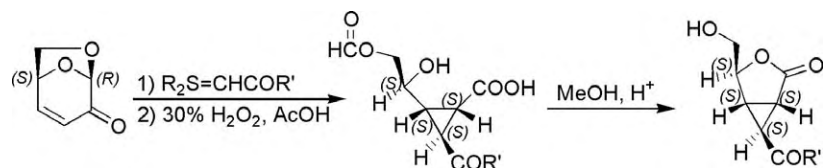
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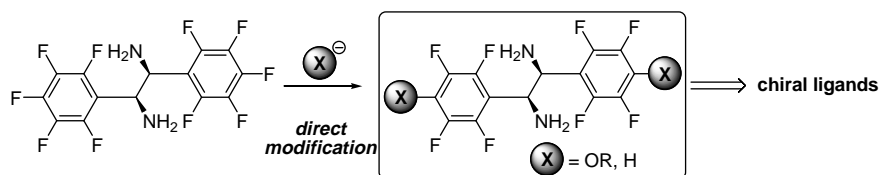
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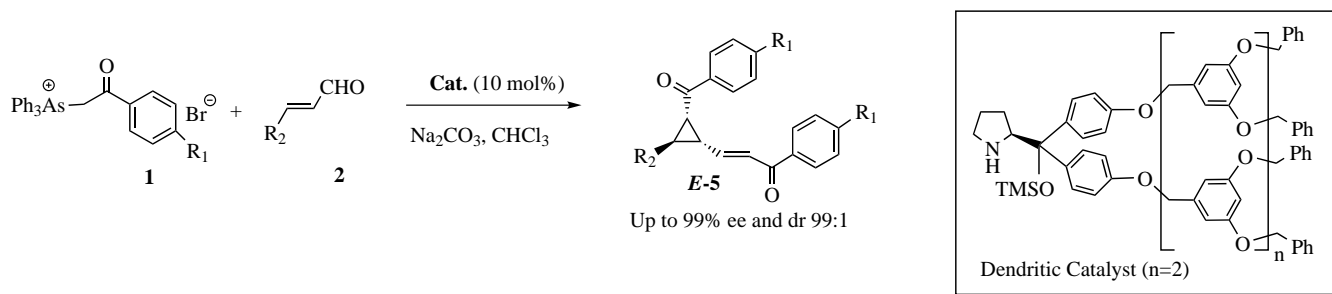
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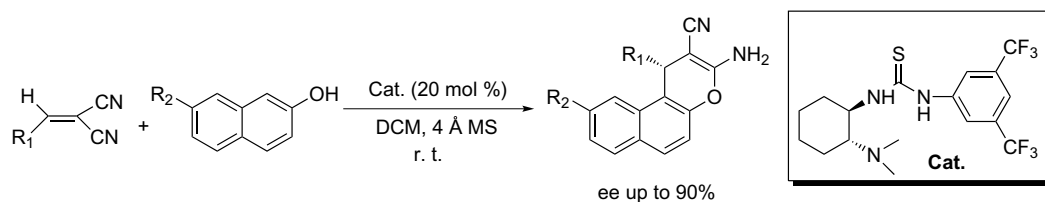
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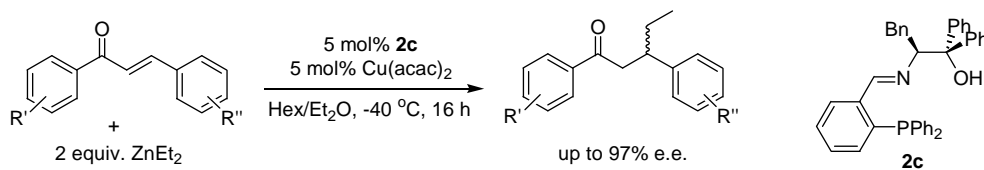
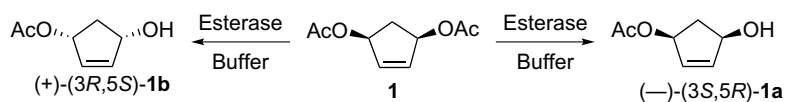
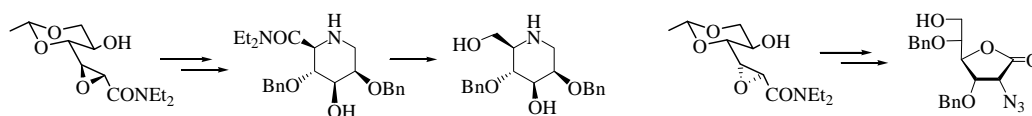
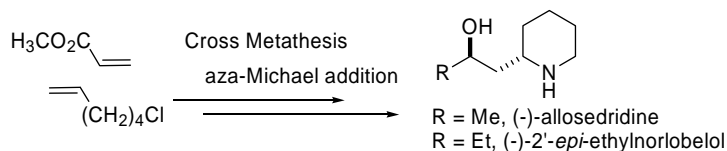


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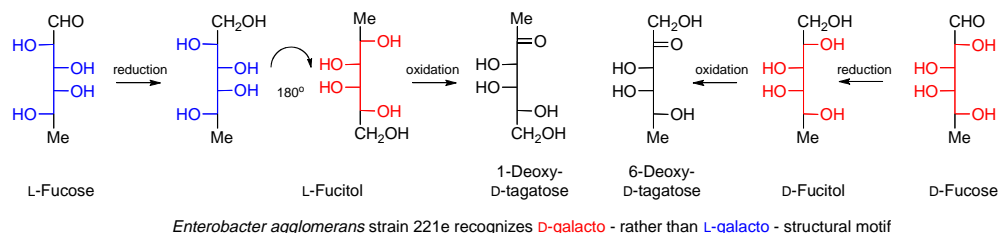




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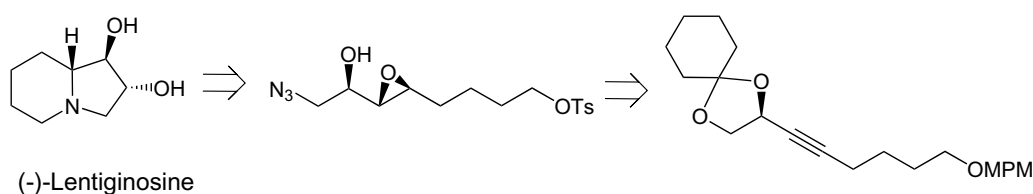
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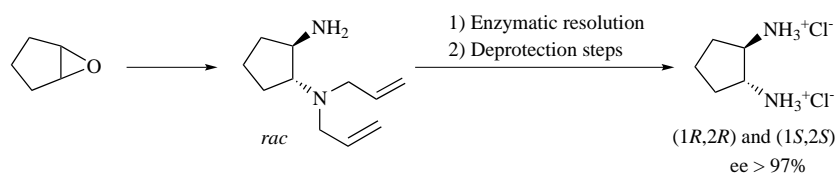
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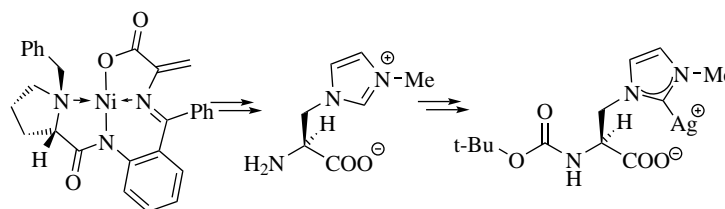
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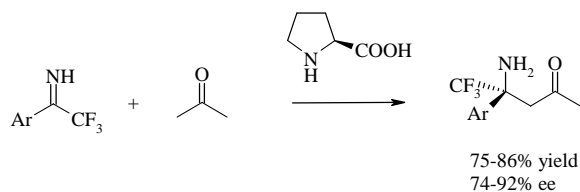




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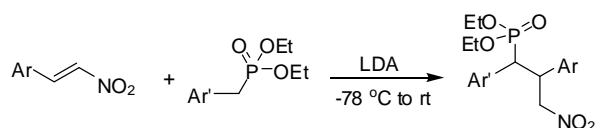
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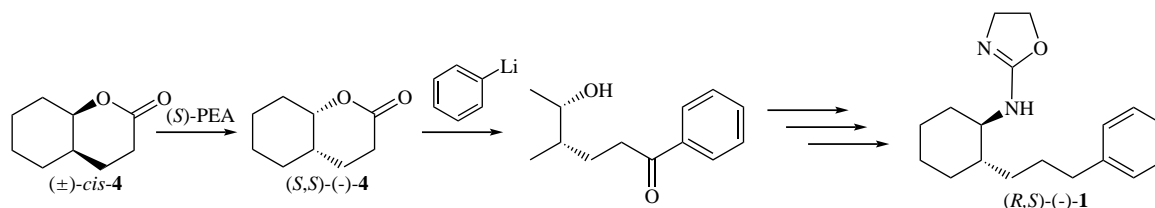


Method 1: cinchonine (50 mol %), THF, high dr and er (lit)  
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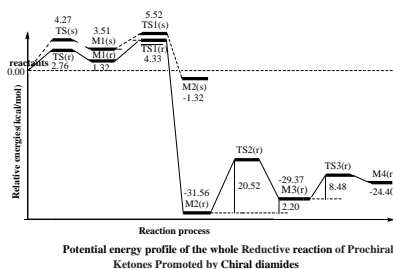
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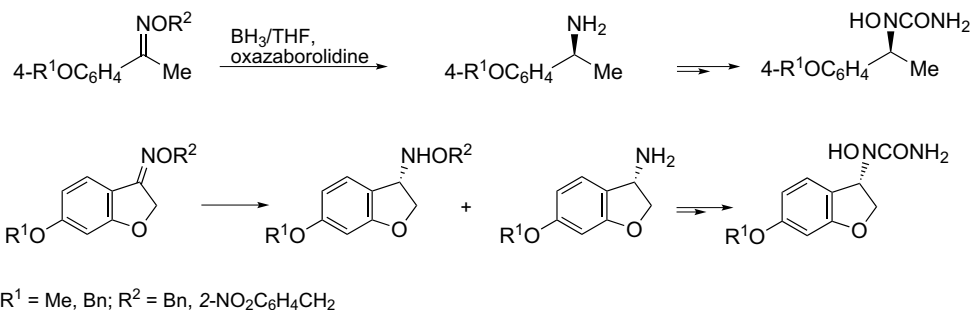
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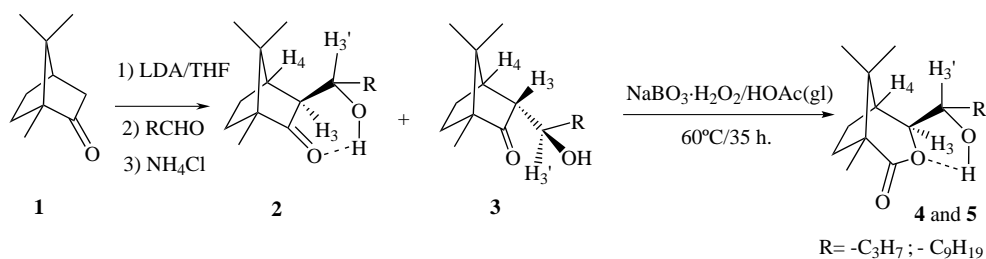
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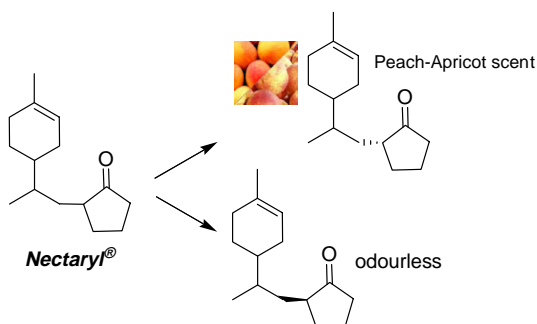
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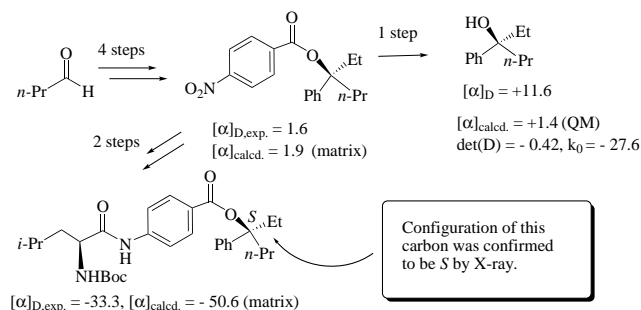
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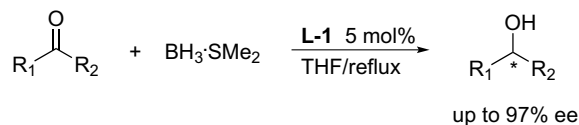
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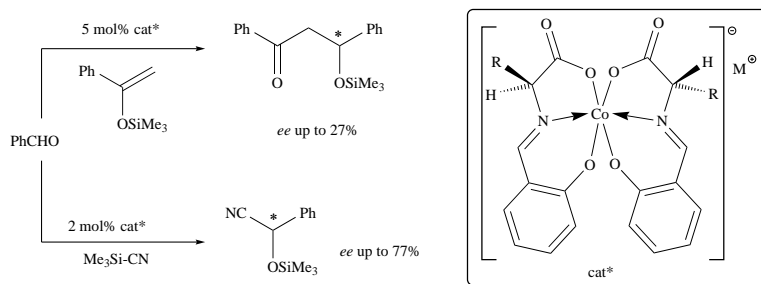
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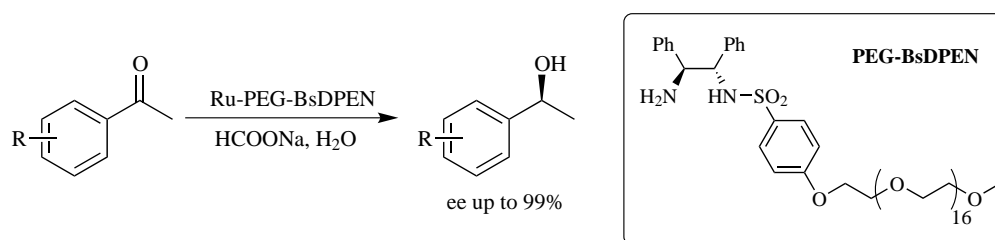
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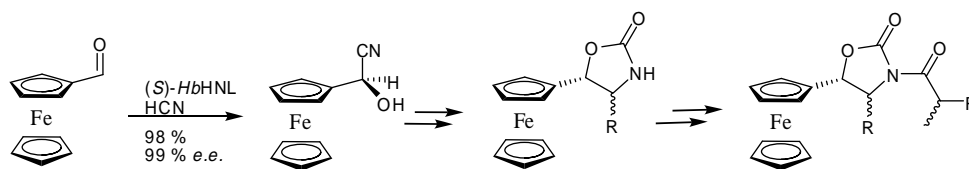
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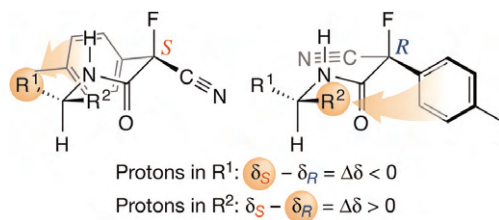
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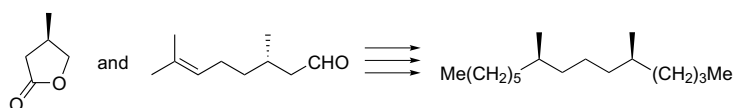
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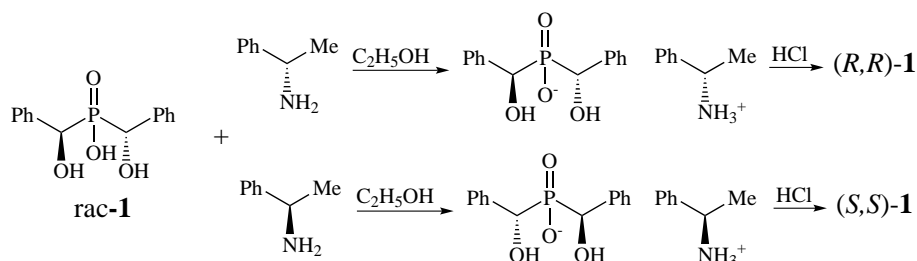
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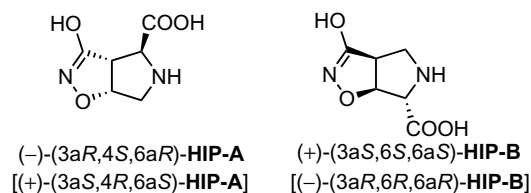
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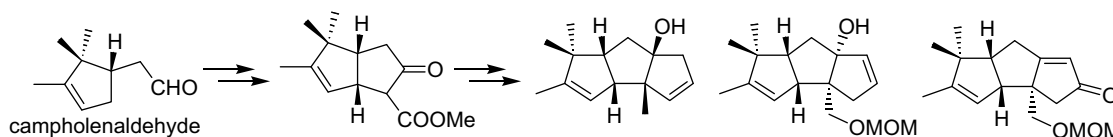
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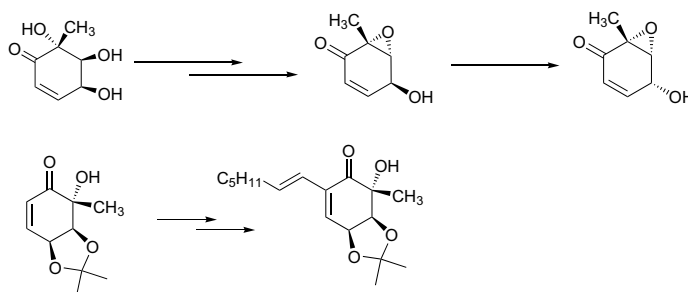
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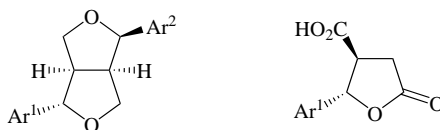
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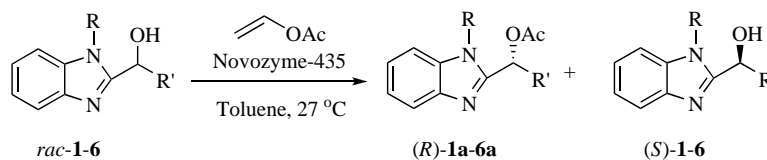


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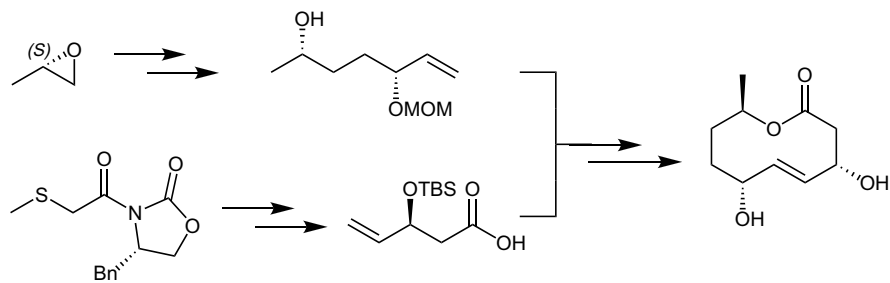


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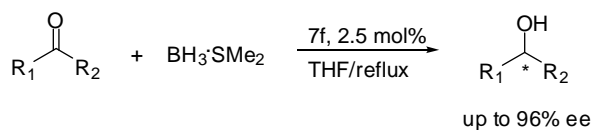


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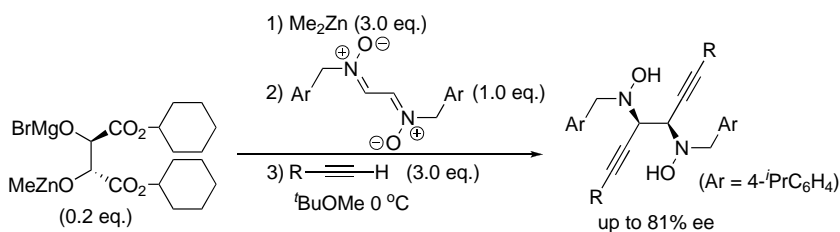


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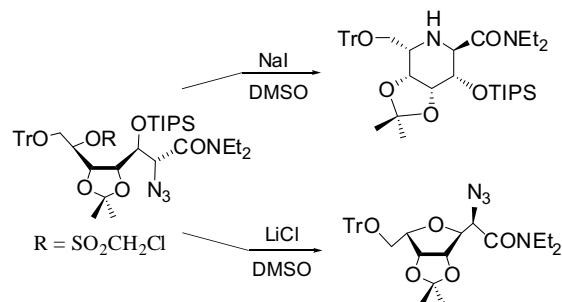


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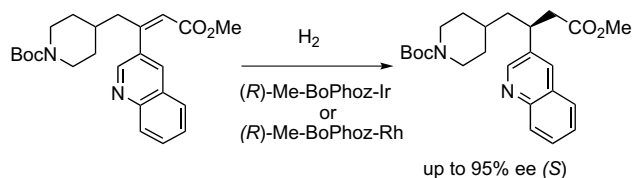




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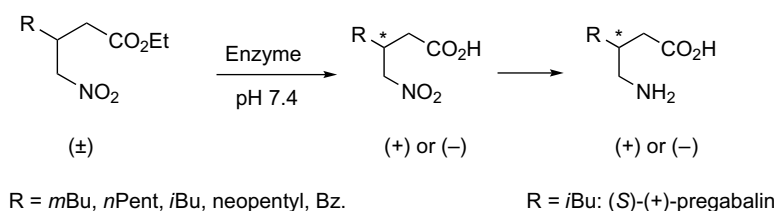
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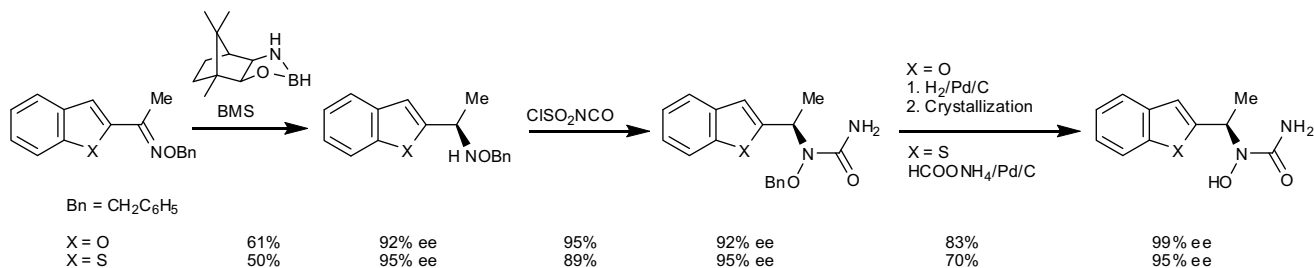
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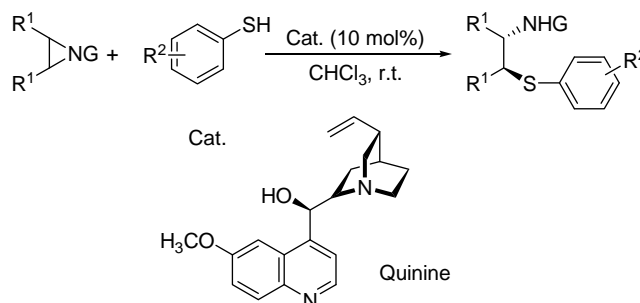
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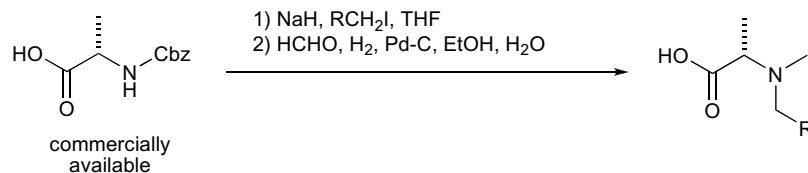
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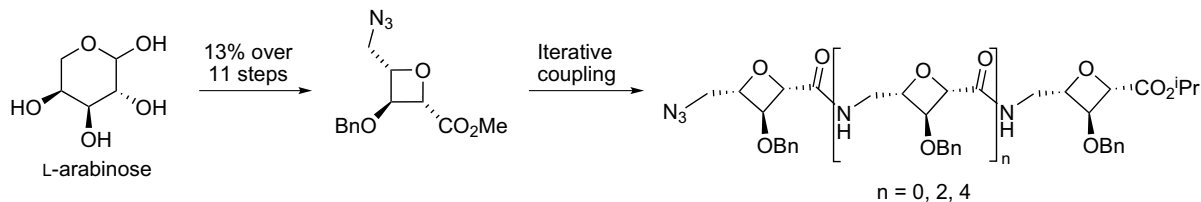
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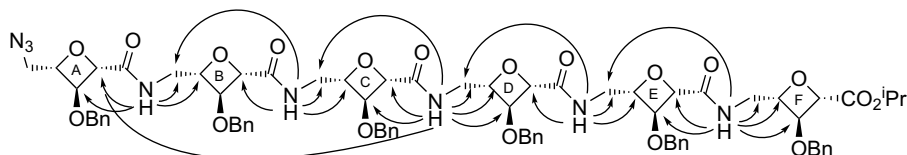
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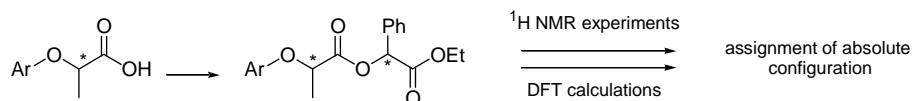


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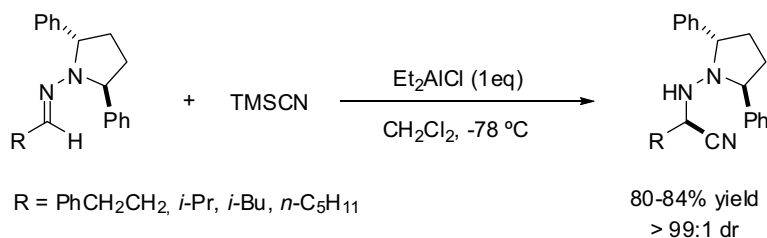


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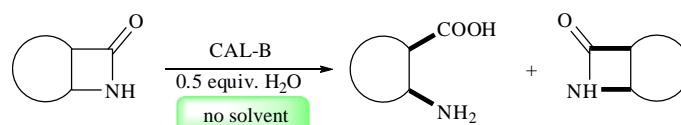


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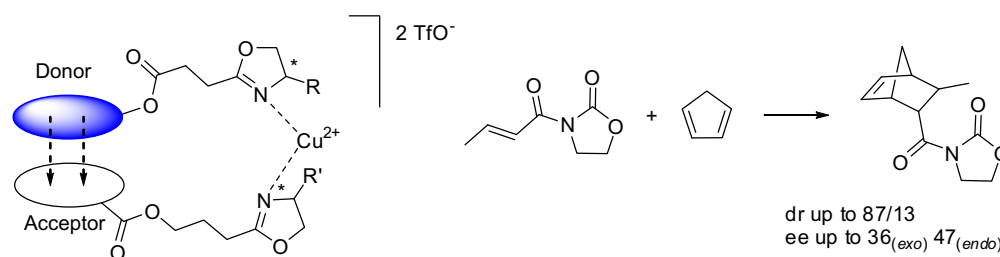


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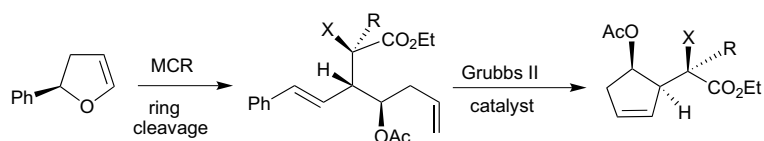


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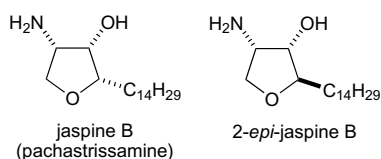
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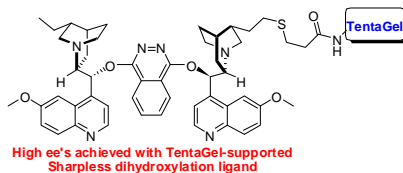
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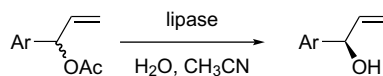
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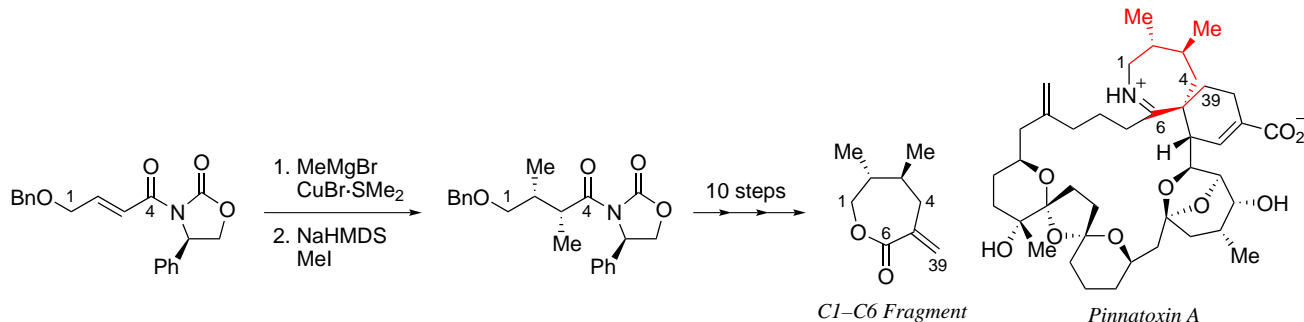


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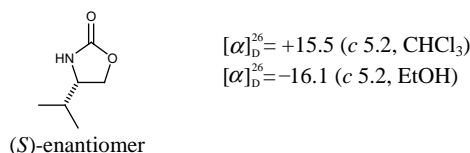
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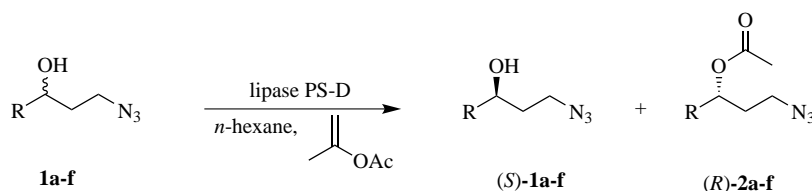
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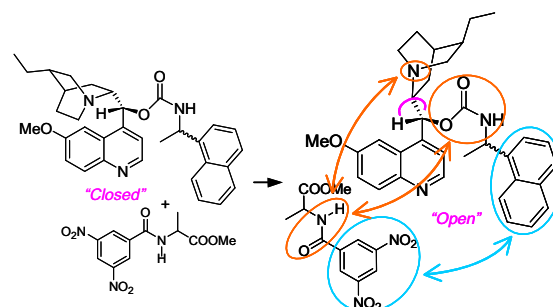
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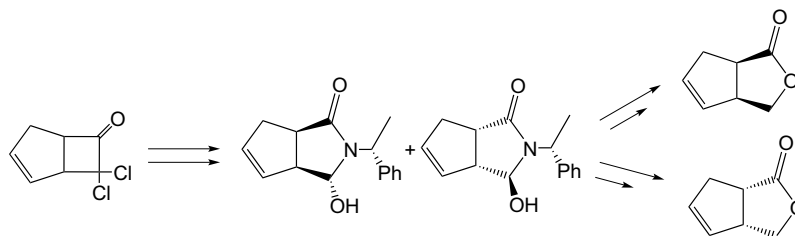
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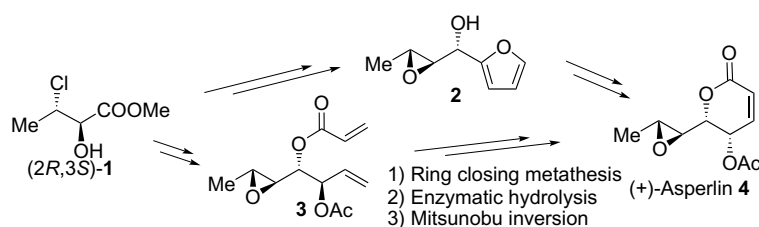
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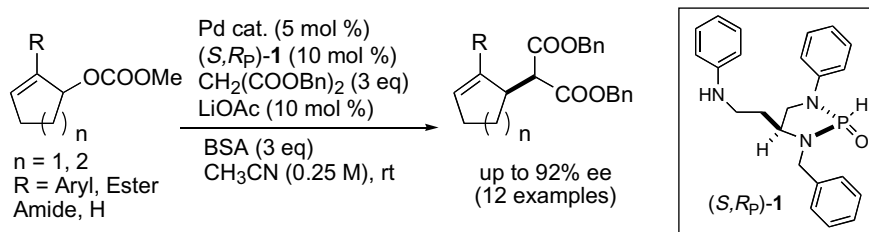
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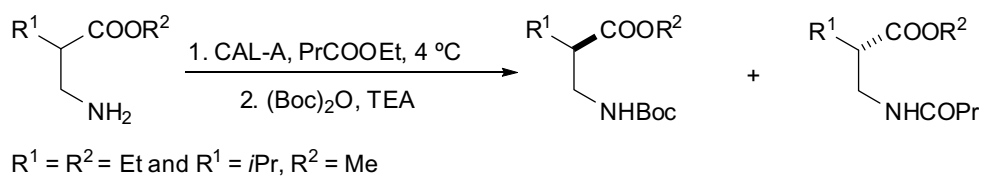
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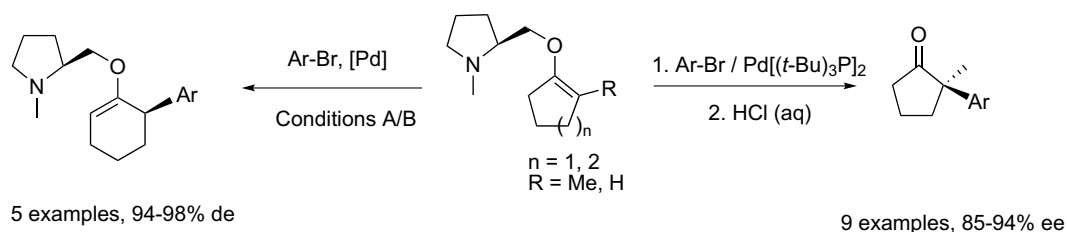
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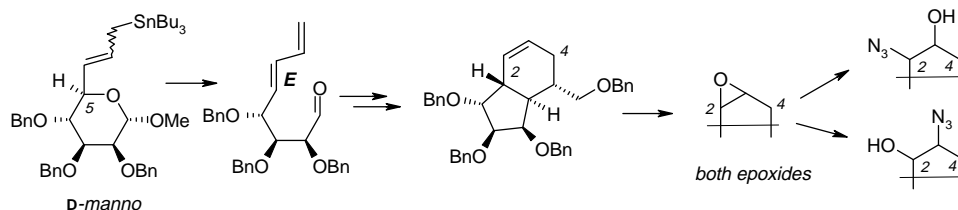
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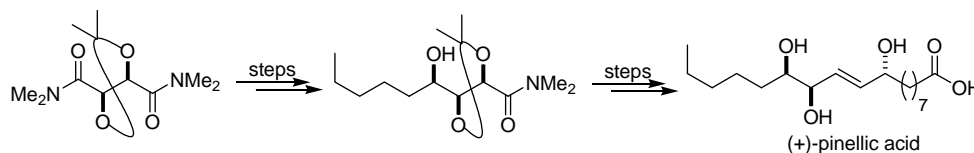
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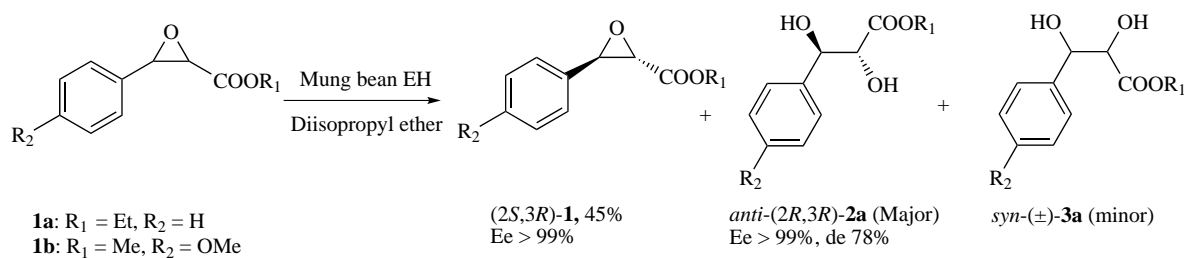
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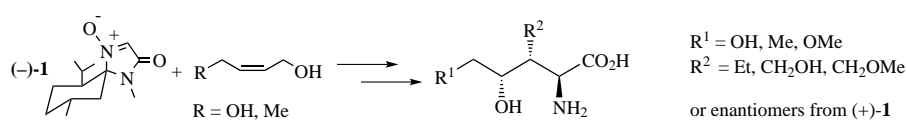




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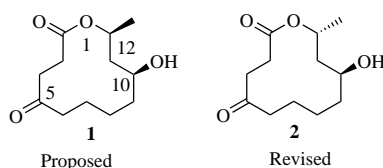
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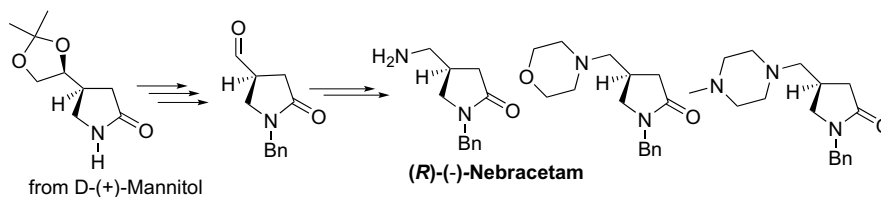
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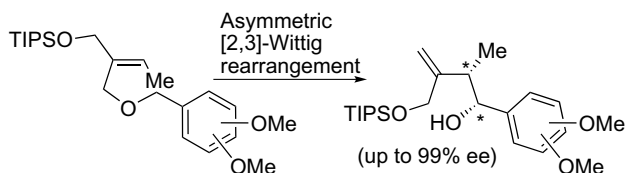
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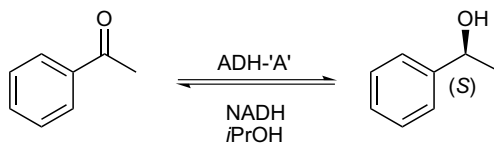
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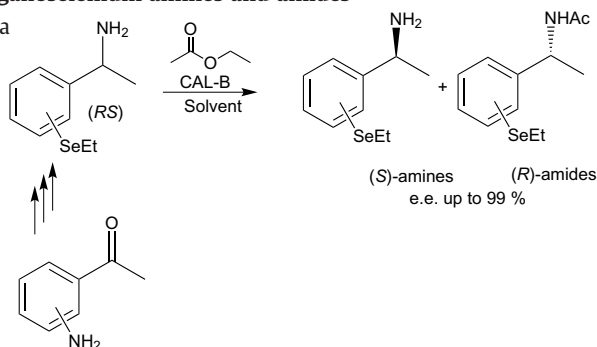


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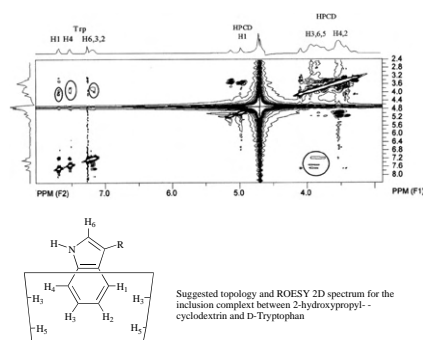
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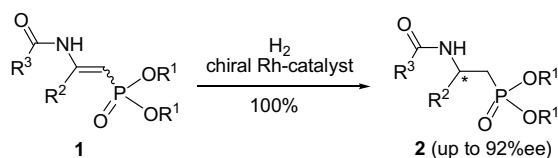
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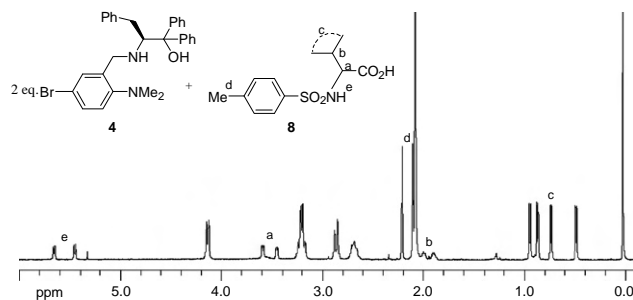
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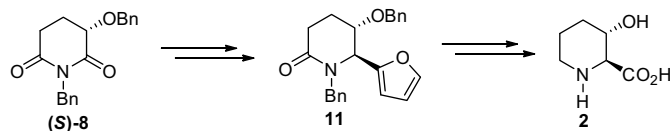
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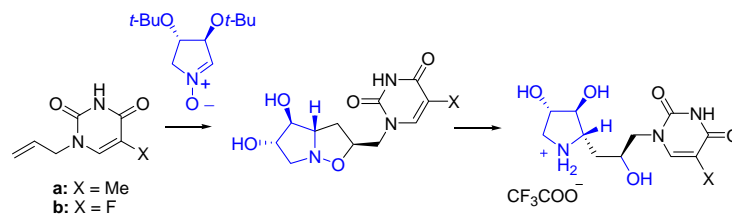
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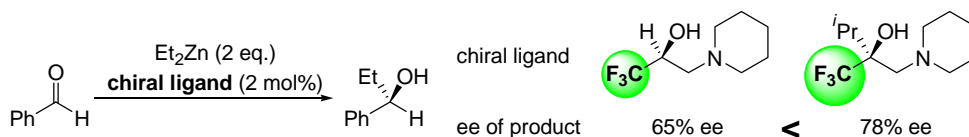
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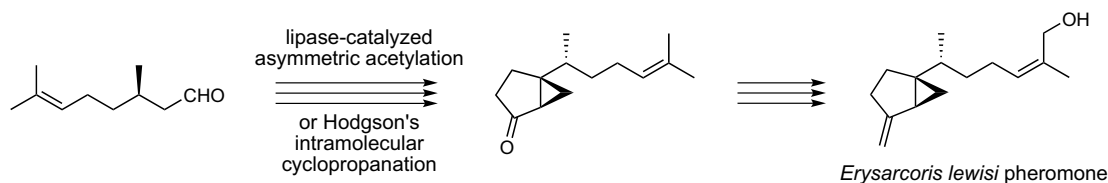
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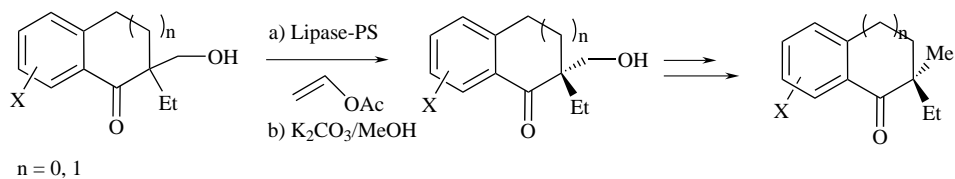
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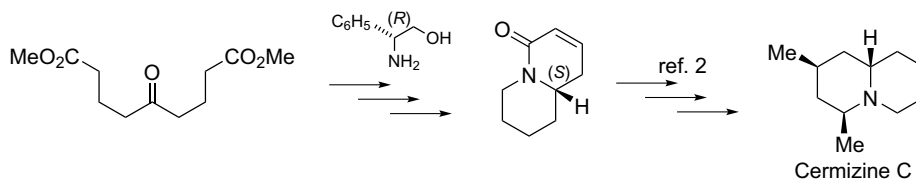
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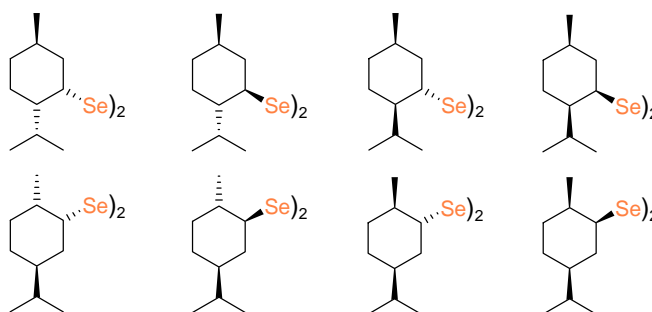
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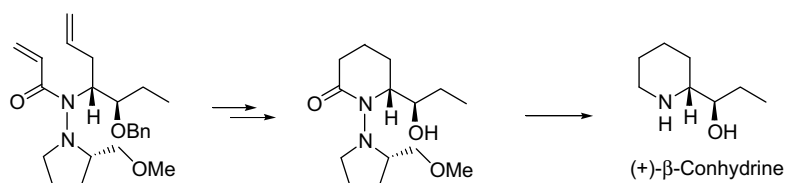
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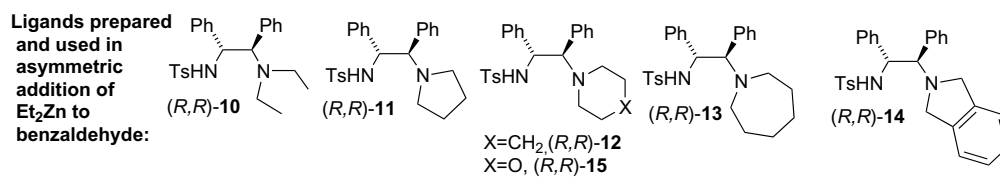
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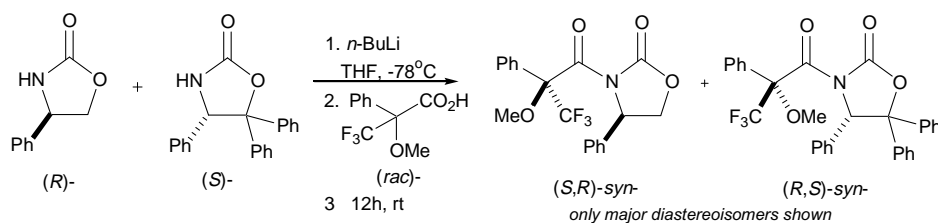
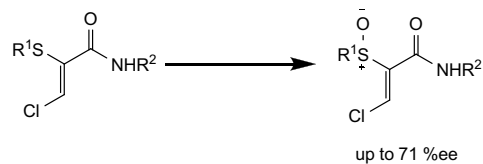


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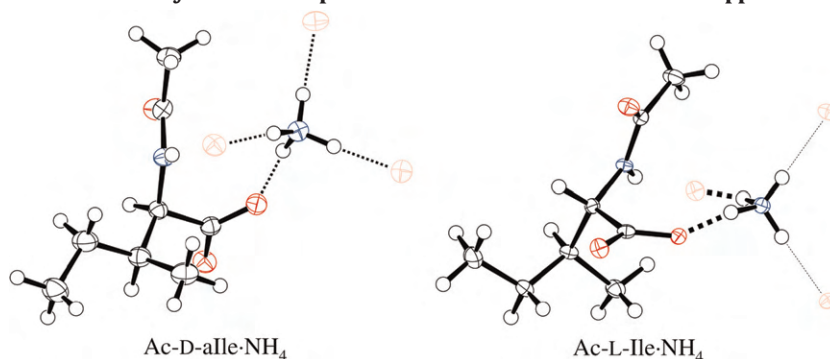
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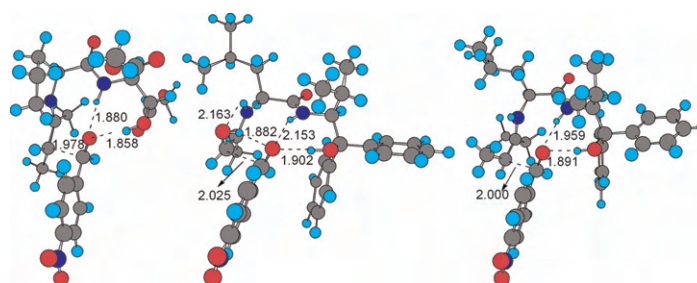
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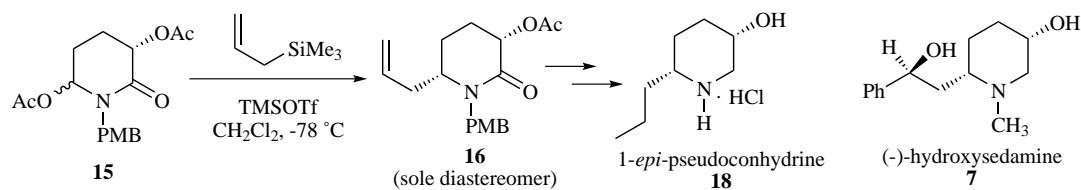
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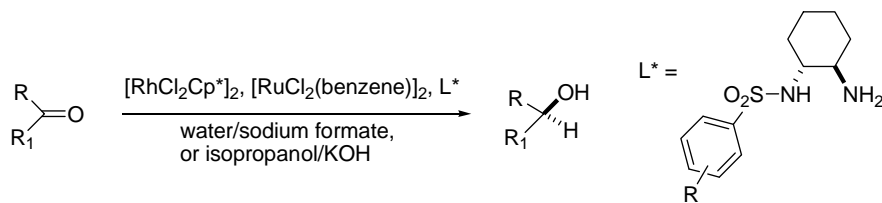
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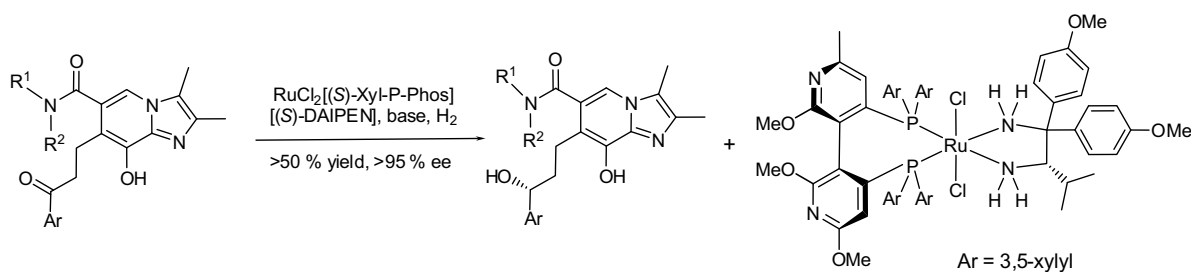
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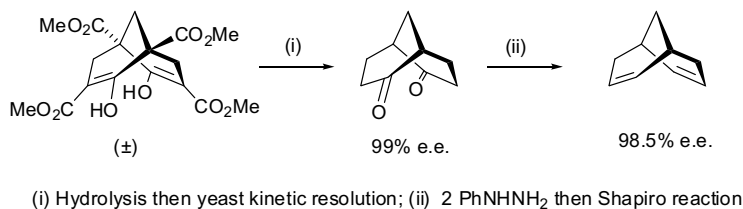
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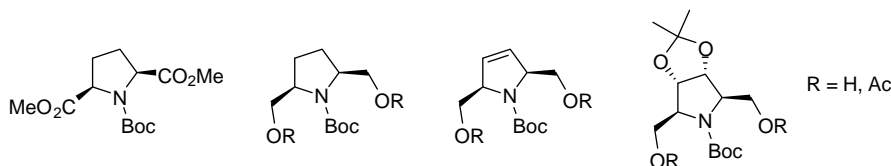
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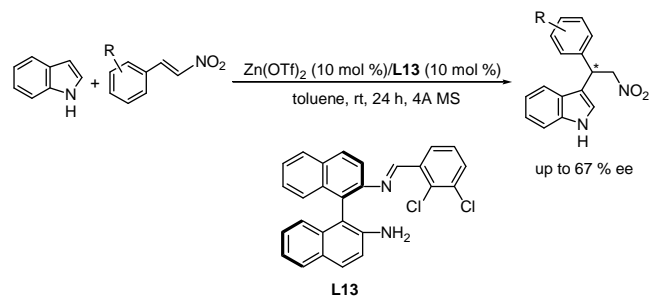


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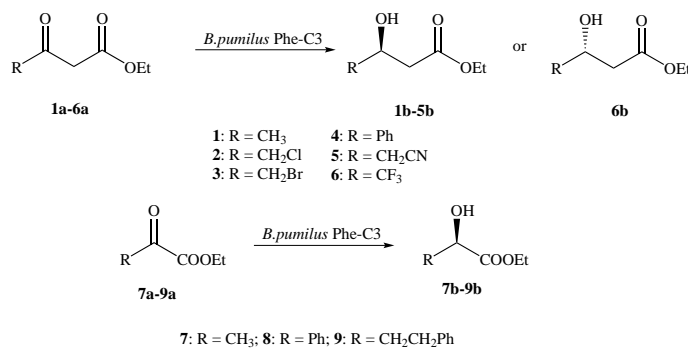
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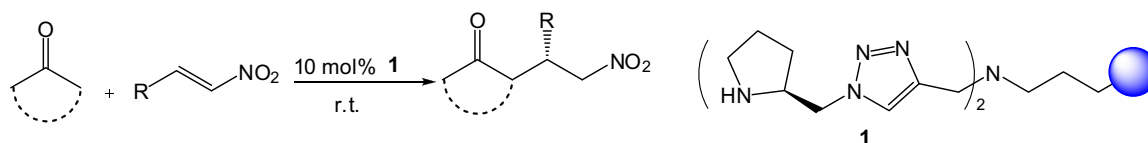
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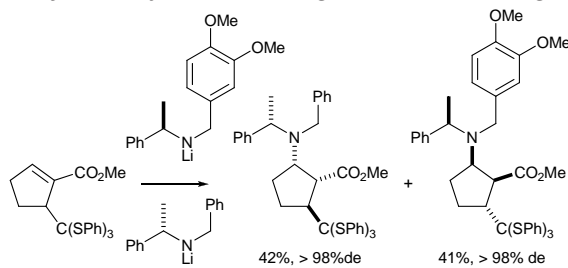
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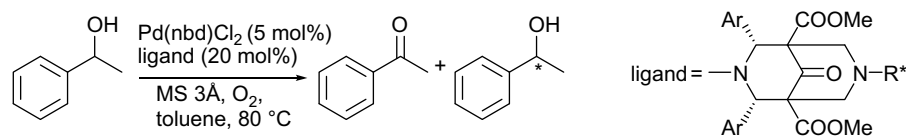


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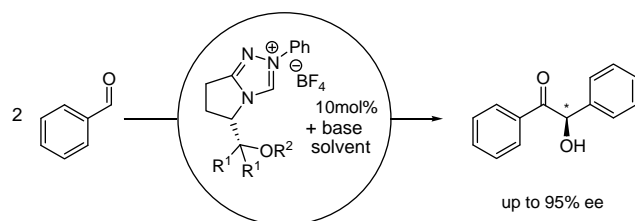
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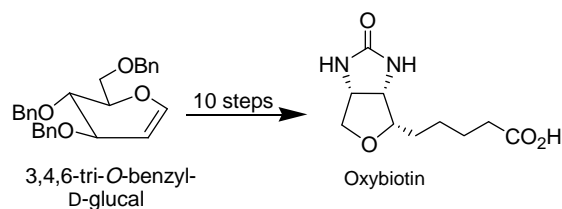
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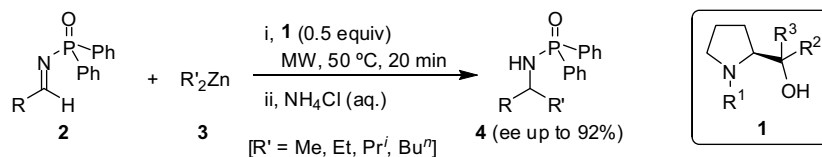
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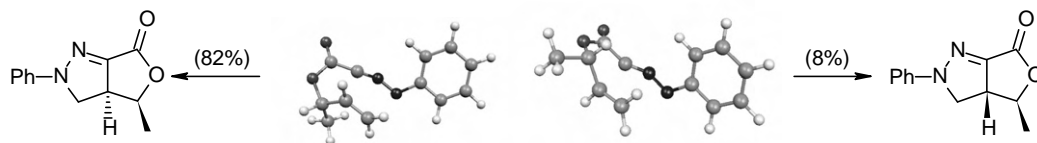
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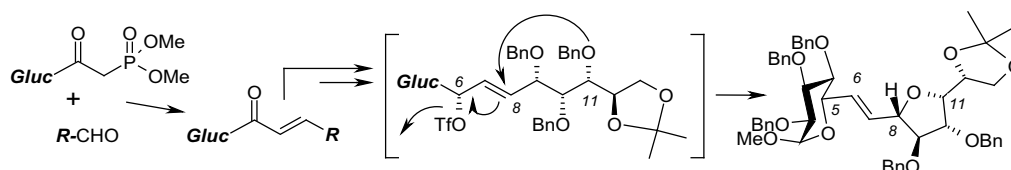
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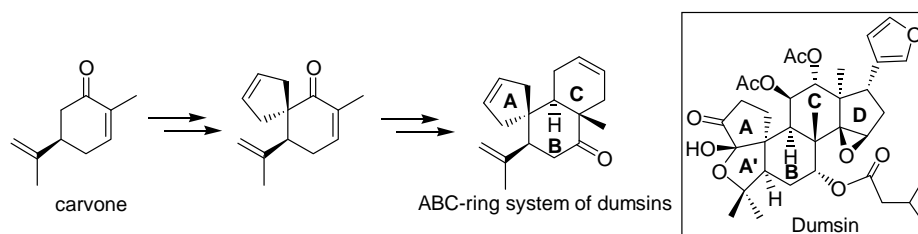
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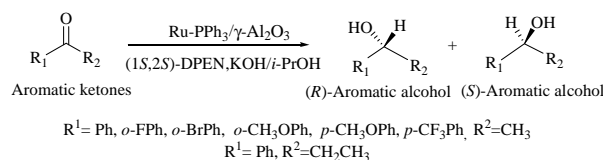
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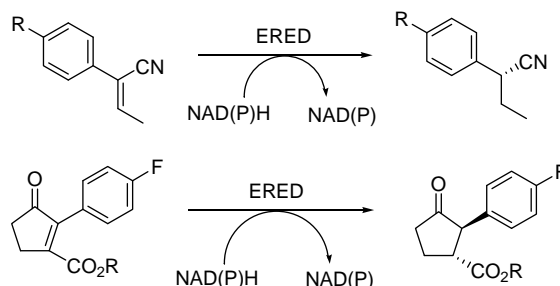
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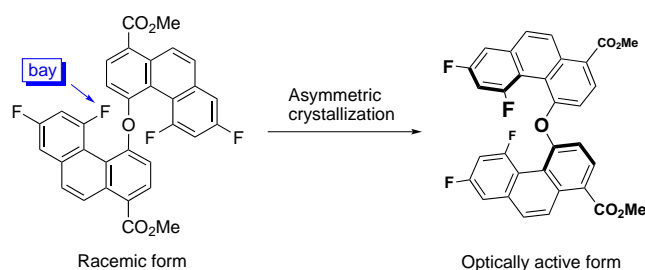
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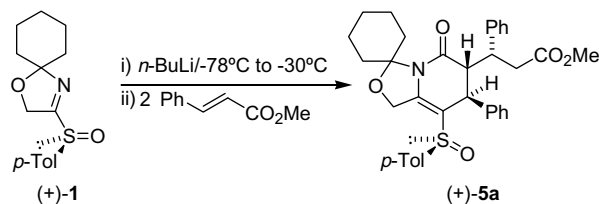
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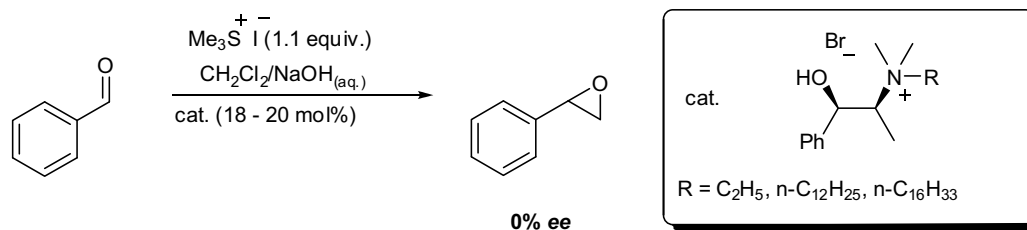
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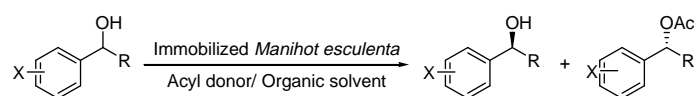


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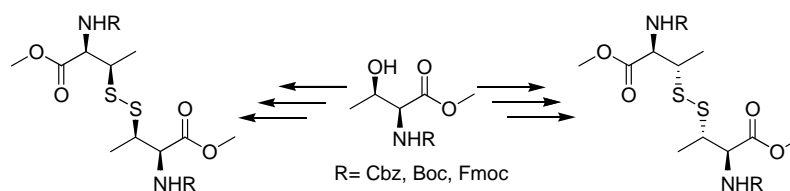
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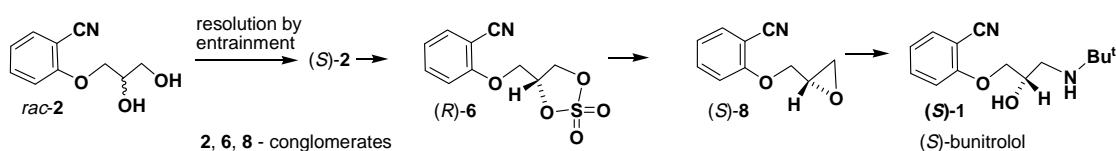
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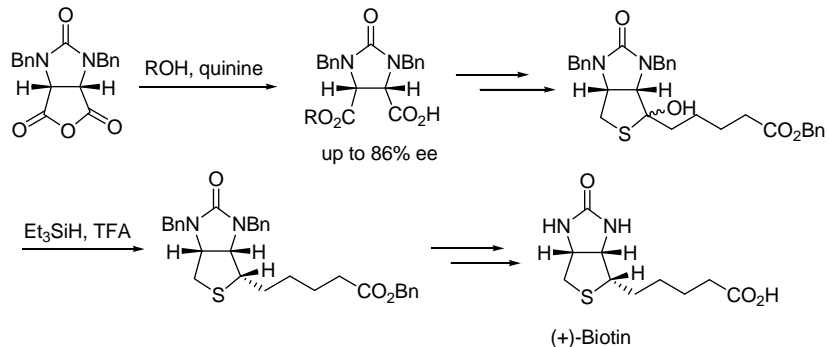
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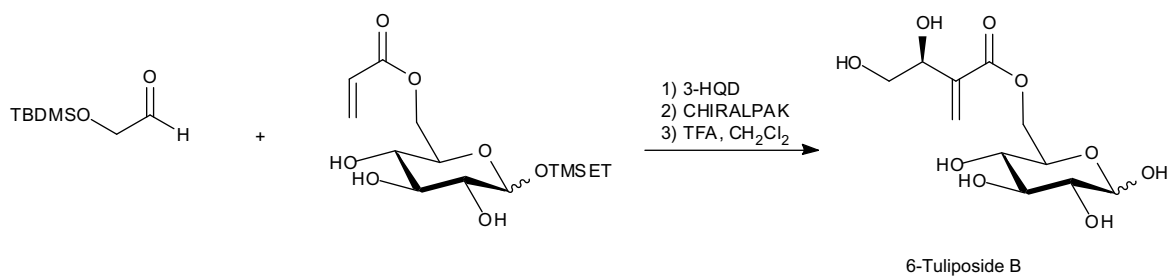
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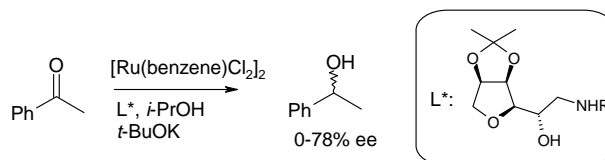
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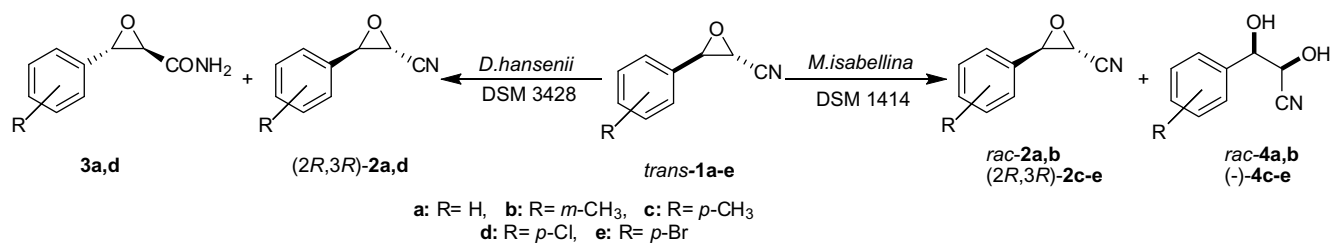
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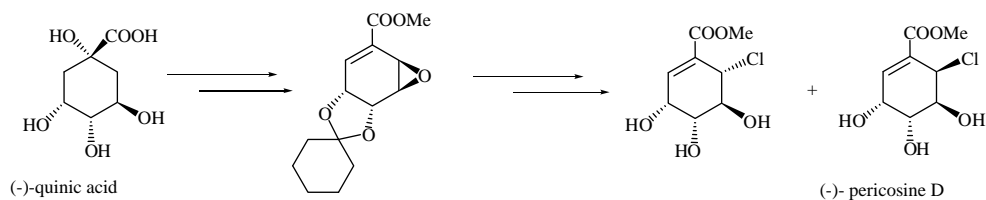




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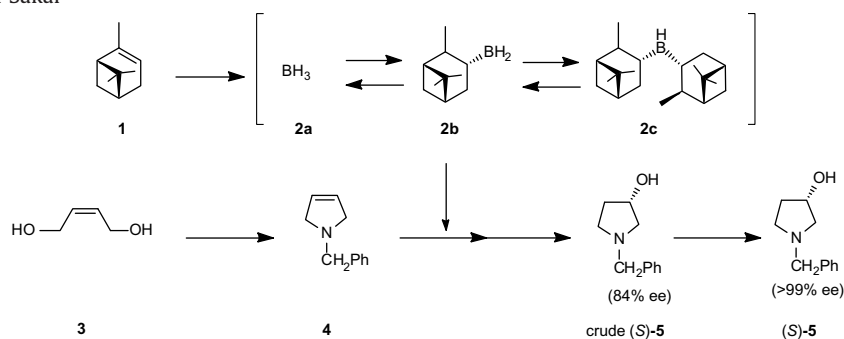
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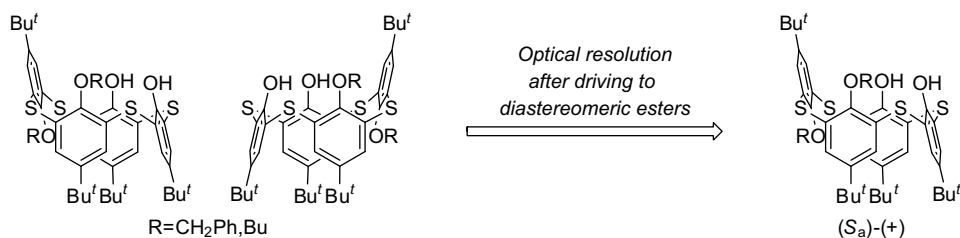
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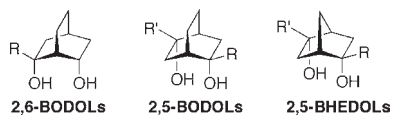
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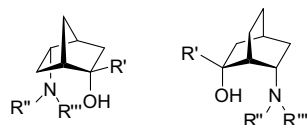
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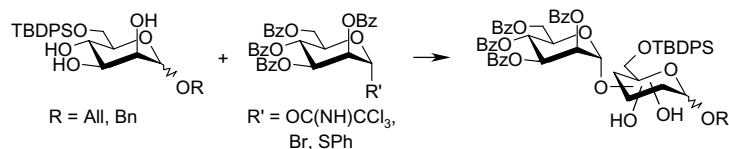
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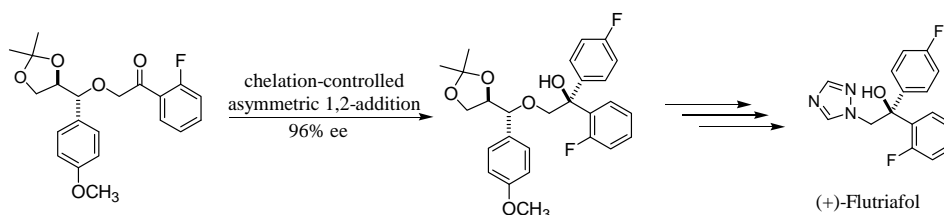
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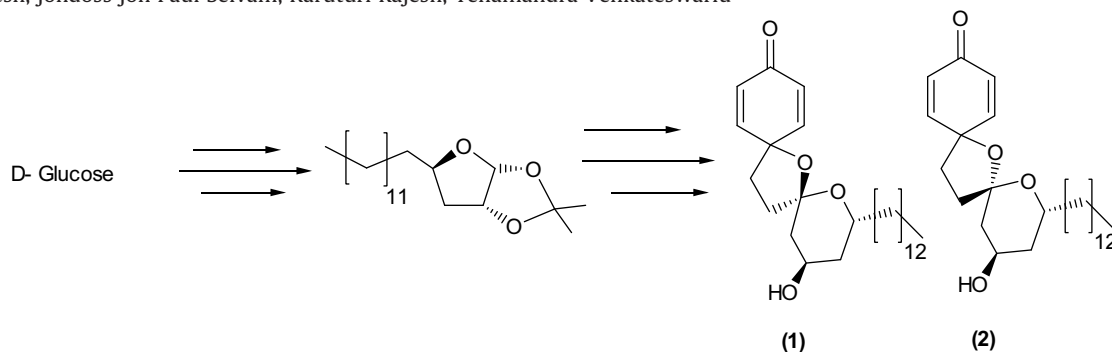
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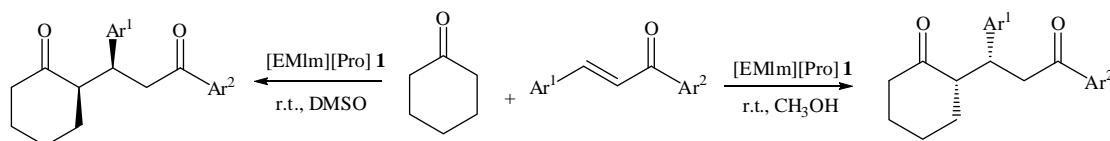
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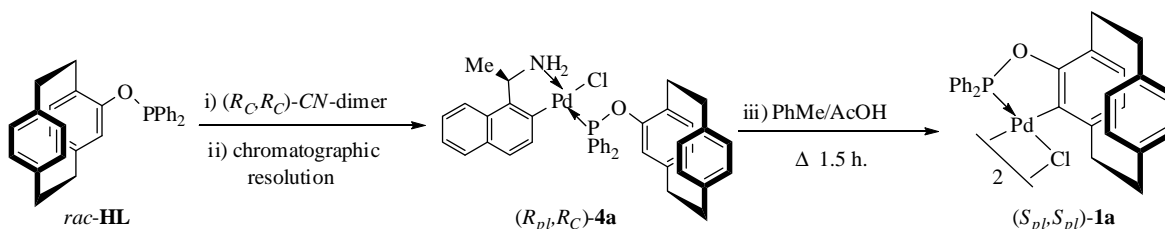
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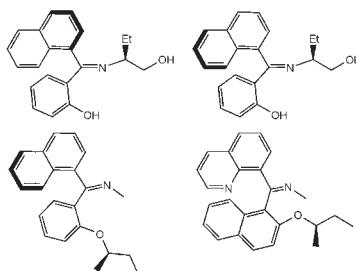
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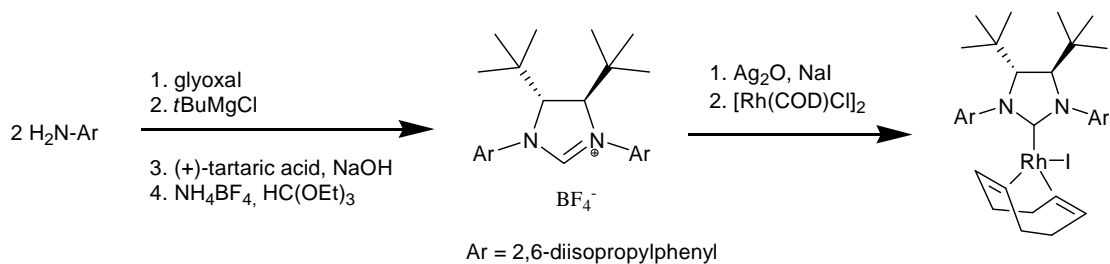
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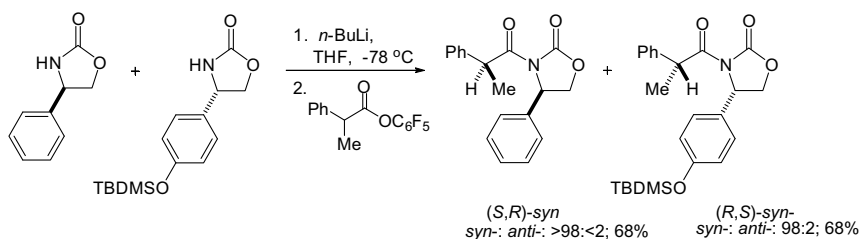
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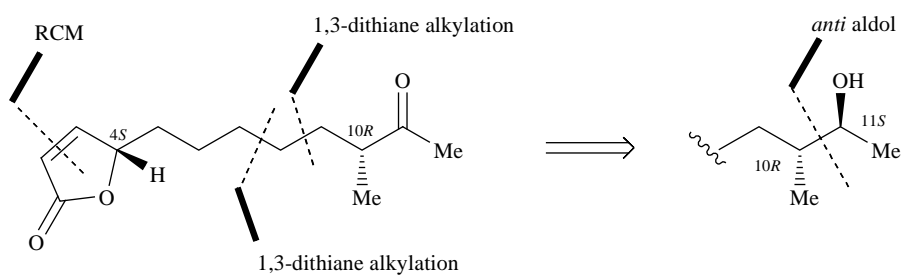
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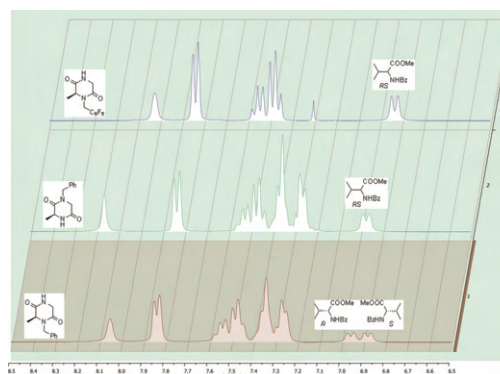
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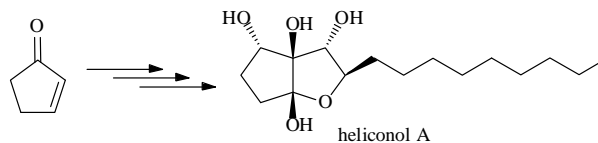
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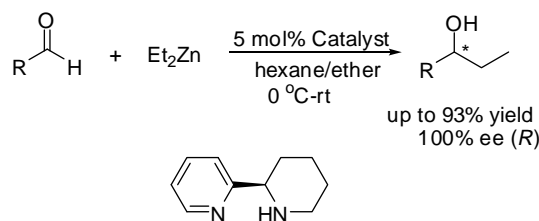
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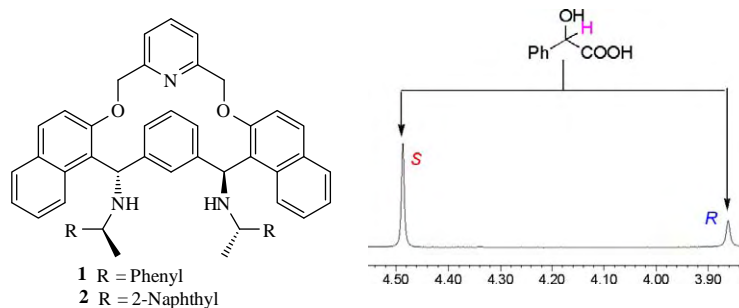
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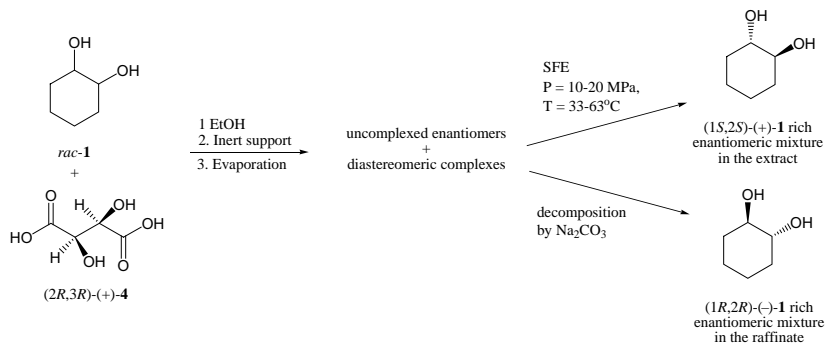
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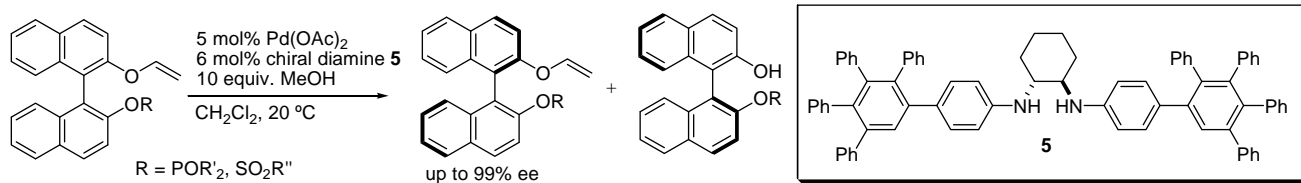
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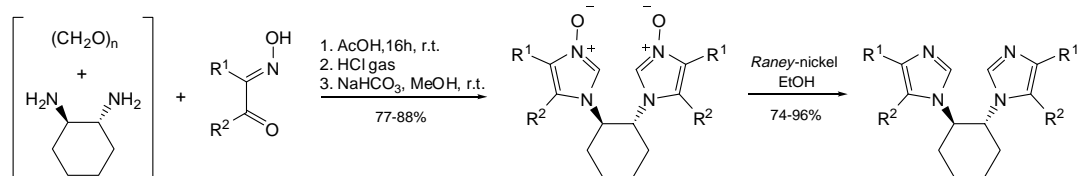
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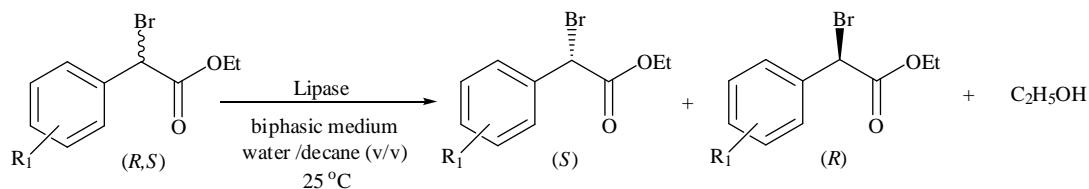
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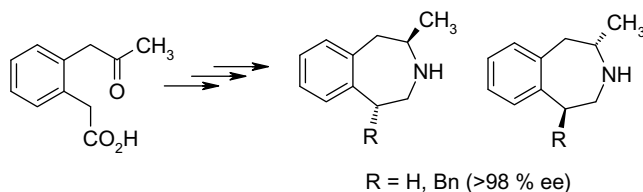


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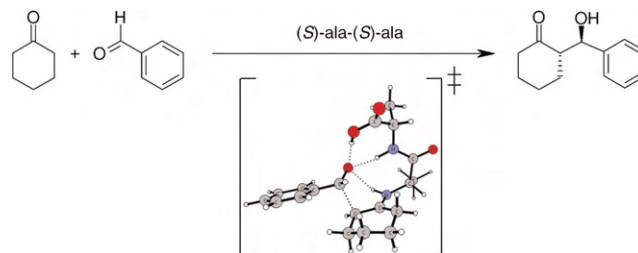
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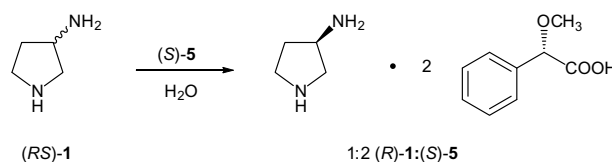
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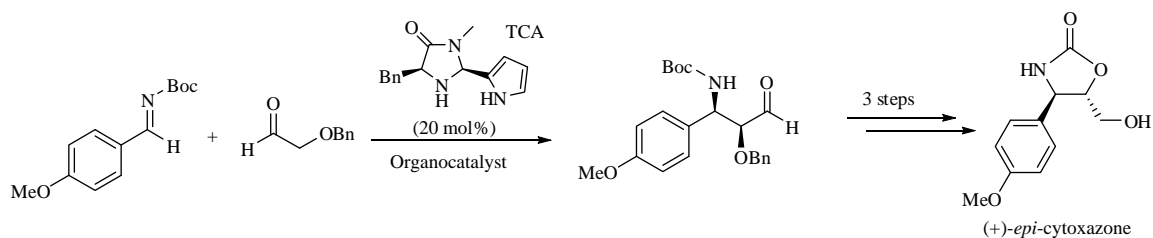
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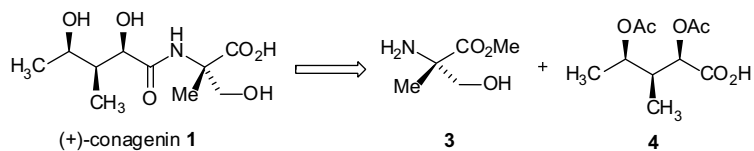
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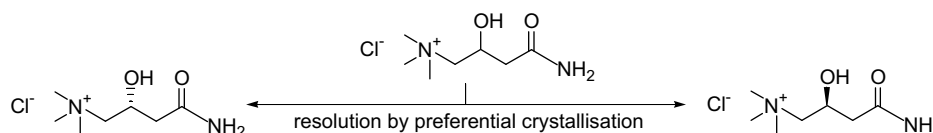
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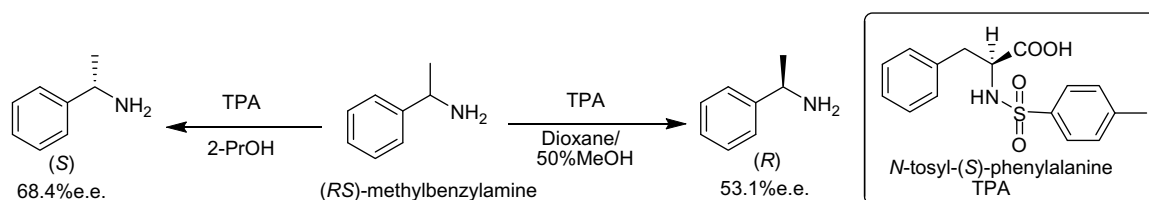


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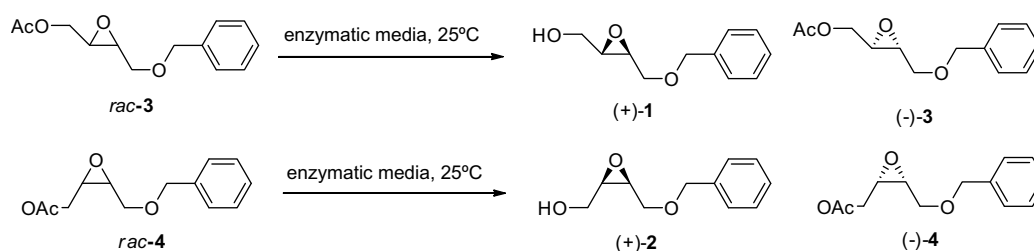
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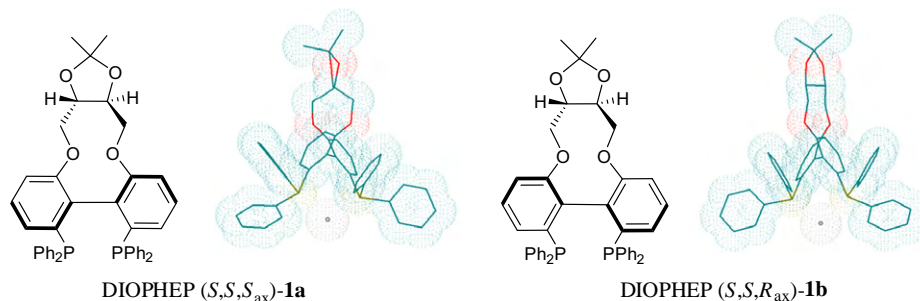
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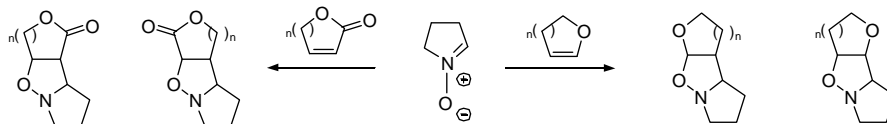
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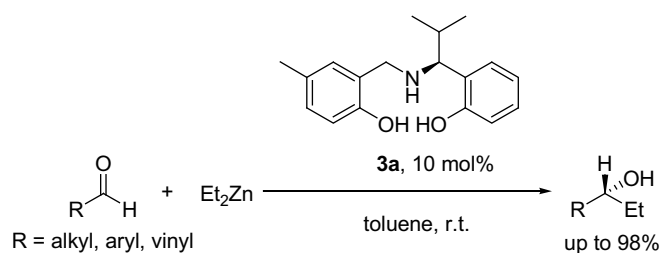
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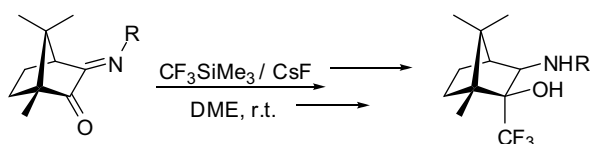
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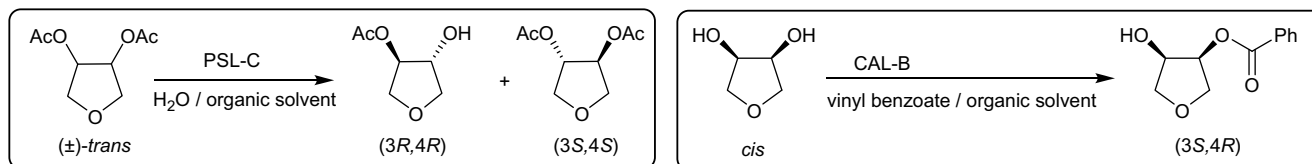
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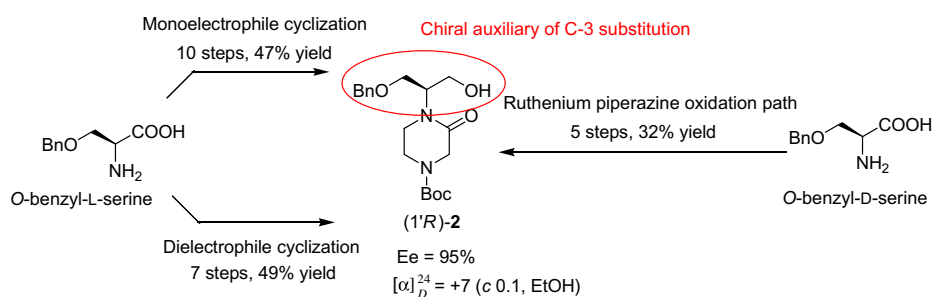


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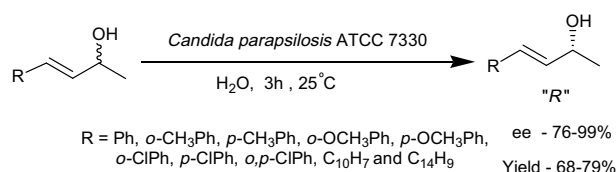


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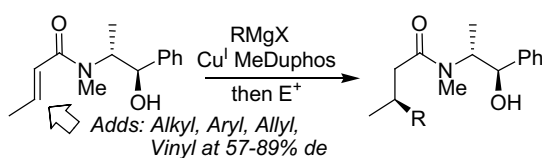
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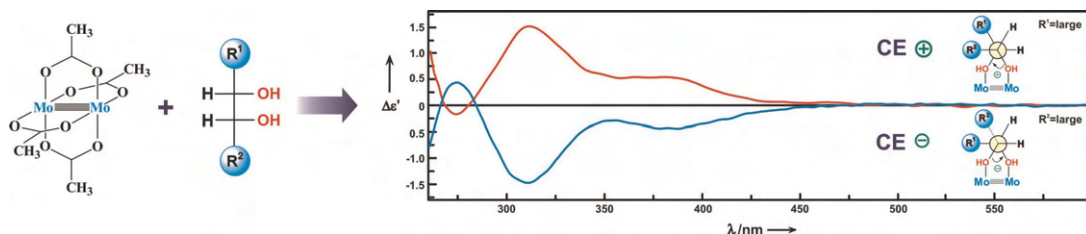
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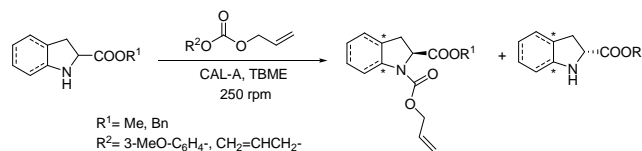
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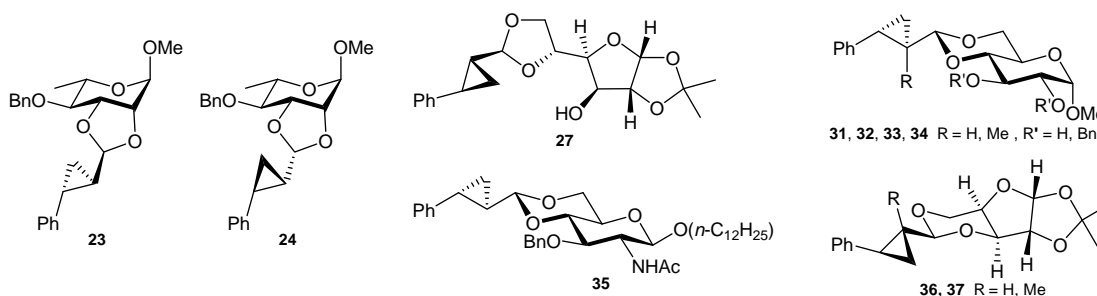
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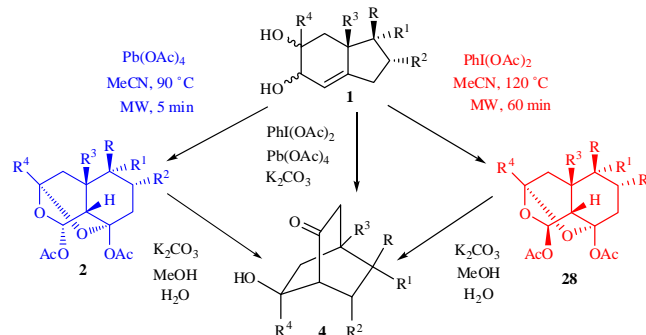
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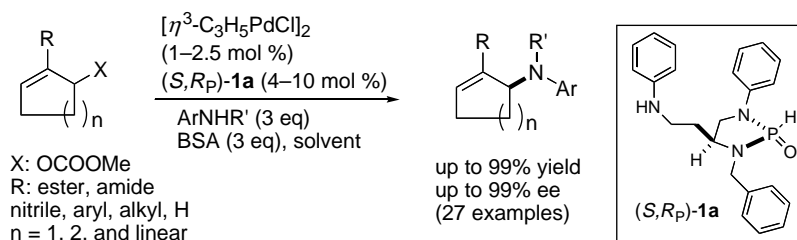
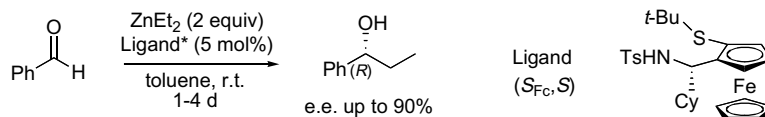


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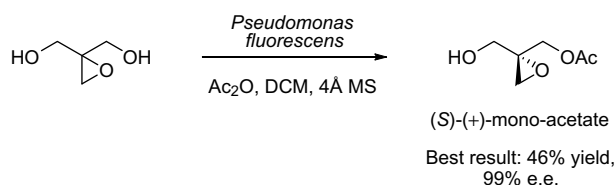
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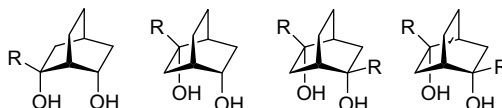


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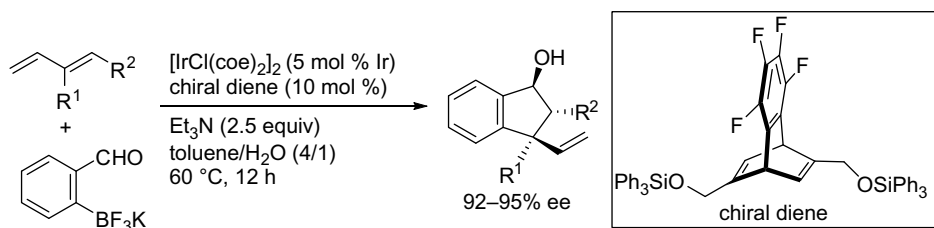


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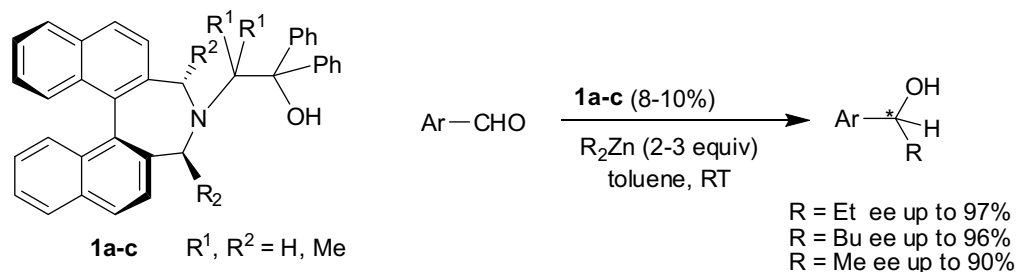
Takahiro Nishimura \*, Yuichi Yasuhara, Makoto Nagaosa, Tamio Hayashi \*



## 1,1'-Binaphthylazepine-based ligands for the enantioselective dialkylzinc addition to aromatic aldehydes

pp 1784–1789

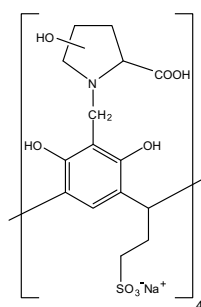
Laura Pisani, Stefano Superchi \*



## Water-soluble calix[4]resorcinarenes as chiral NMR solvating agents for phenyl-containing compounds

pp 1790–1796

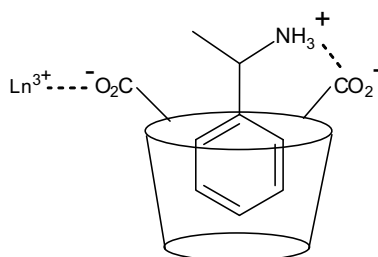
Courtney M. O'Farrell, Thomas J. Wenzel \*



## Carboxymethylated cyclodextrins and their paramagnetic lanthanide complexes as water-soluble chiral NMR solvating agents

pp 1797–1803

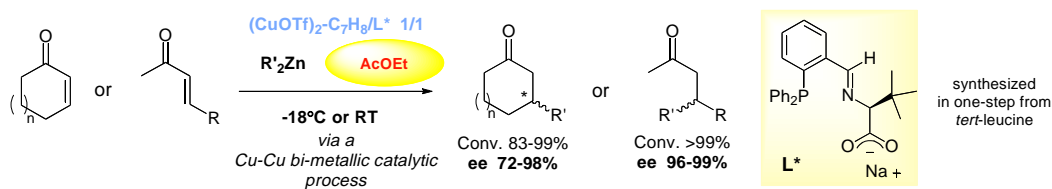
Katelyn A. Provencher, Thomas J. Wenzel \*



## Chiral phosphinoazomethinylate salts as new 'one-step available' ligands for copper-catalyzed asymmetric conjugate addition

pp 1804–1809

Joanna Wencel, Diane Rix, Thomas Jennequin, Stéphane Labat, Christophe Crévisy \*, Marc Mauduit \*

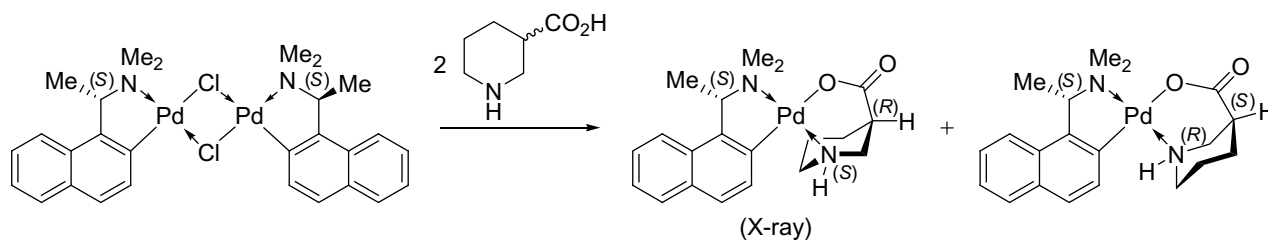




**Resolution of (±)-nipecotic acid ((±)-3-piperidinecarboxylic acid) by separation of palladium(II) diastereomers containing orthometallated (S)-(-)-1-[1-(dimethylamino)ethyl]naphthalene**

pp 1810–1812

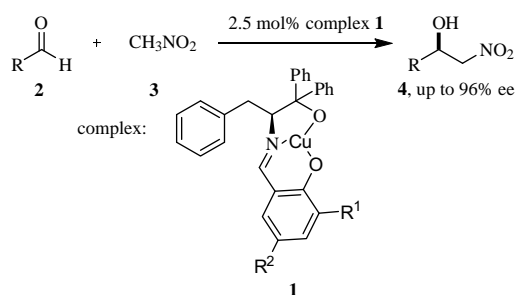
Paul A. Gugger, David C. R. Hockless, Nathan L. Kilah, Renuka C. Mayadunne, S. Bruce Wild \*



**Asymmetric Henry reaction catalyzed by a copper tridentate chiral schiff-base complex**

pp 1813–1819

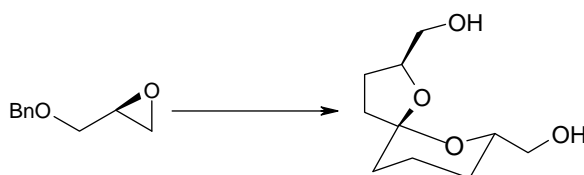
Guoyin Lai, Sujing Wang, Zhiyong Wang \*



**Stereoselective synthesis of 1,6-dioxaspiro[4.5]decane chiral spiroketal skeleton via C<sub>2</sub>-symmetric approach using crossmetathesis**

pp 1820–1823

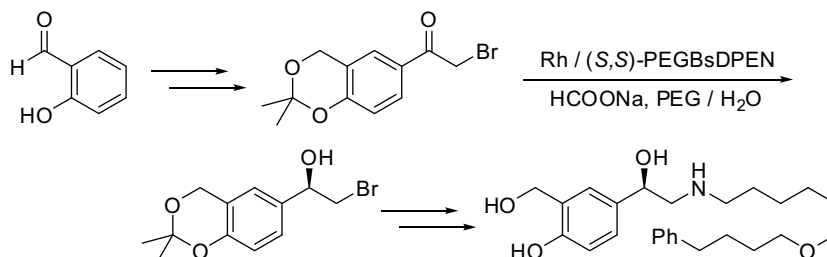
Errabelli Ramu, B. Venkateswara Rao \*



**A convenient synthesis of (R)-salmeterol via Rh-catalyzed asymmetric transfer hydrogenation**

pp 1824–1828

Juntao Liu, Di Zhou, Xian Jia, Ling Huang, Xingshu Li \*, Albert S. C. Chan

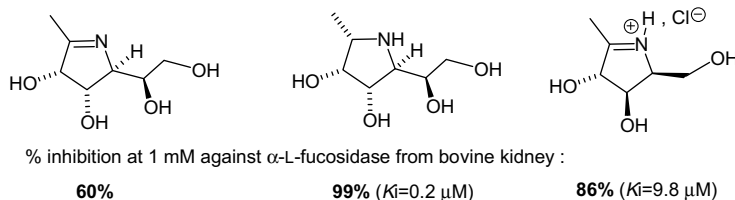


(R)-Salmeterol was synthesized in eight steps with salicylaldehyde as the starting material. The key chiral intermediate was prepared via Rh-catalyzed asymmetric transfer hydrogenation under mild conditions.

## Synthesis and $\alpha$ -fucosidase inhibitory potency of a cyclic sugar imine and its pyrrolidine analogue

pp 1829–1832

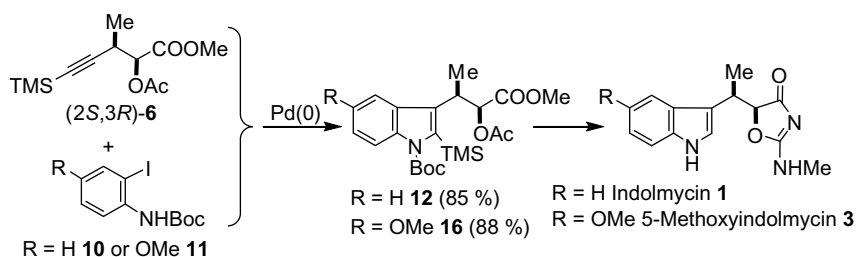
Jean-Bernard Behr\*, Morwenna S. M. Pearson, Claudia Bello, Pierre Vogel, Richard Plantier-Royon



## A concise synthesis of (–)-indolmycin and (–)-5-methoxyindolmycin

pp 1833–1838

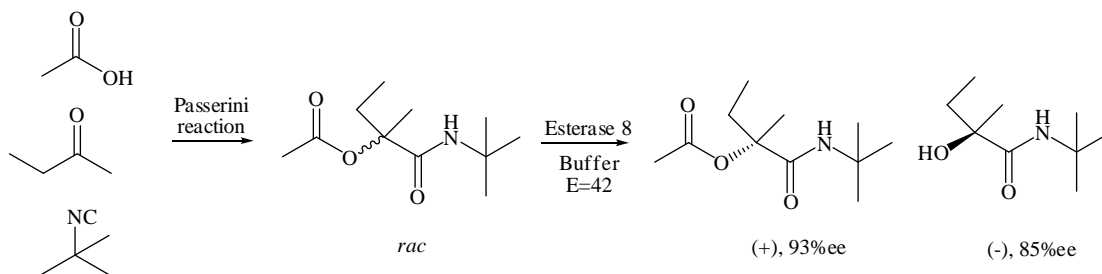
Noriyuki Sutou, Keisuke Kato, Hiroyuki Akita\*



## Hydrolase-catalyzed stereoselective preparation of protected $\alpha,\alpha$ -dialkyl- $\alpha$ -hydroxycarboxylic acids

pp 1839–1843

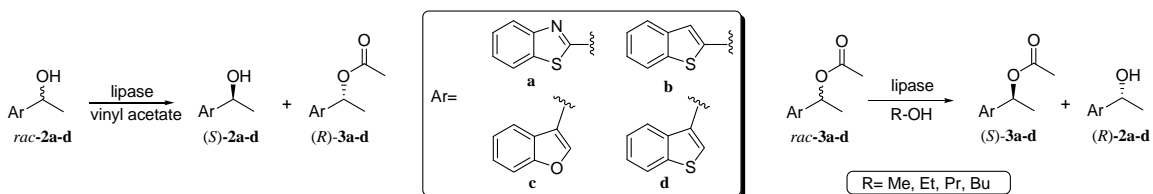
Robert Kourist, Giang-Son Nguyen, Dirk Strübing, Dominique Böttcher, Klaus Liebeton, Christian Naumer, Jürgen Eck, Uwe T. Bornscheuer\*

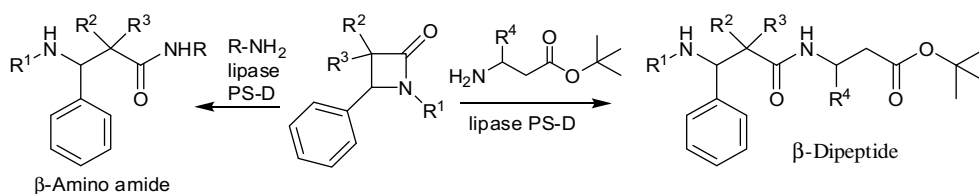
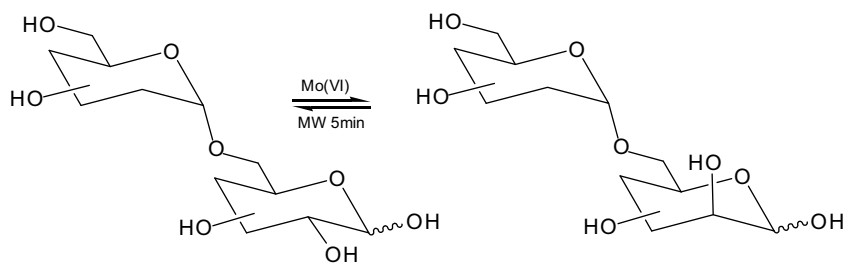


## Lipase-catalyzed kinetic resolution of racemic 1-heteroarylethanols—experimental and QM/MM study

pp 1844–1852

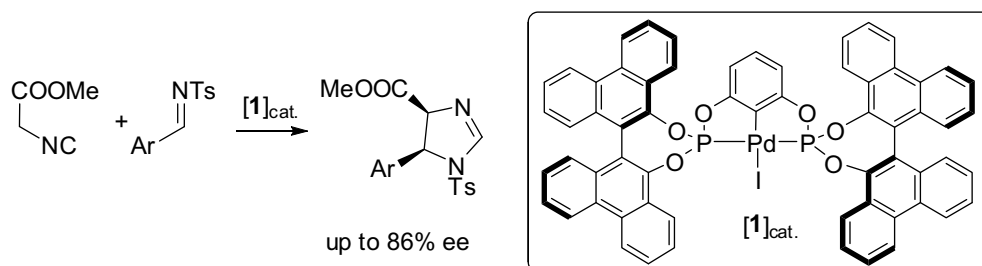
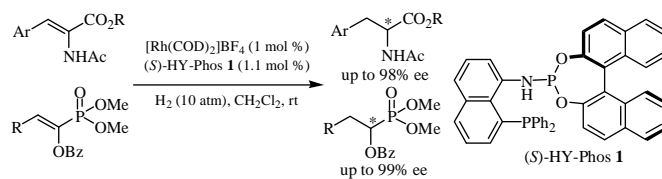
Monica Toşa, Sarolta Pilbák, Paula Moldovan, Csaba Paizs, Gábor Szatzker, György Szakács, Lajos Novák, Florin-Dan Irimie\*, László Poppe\*



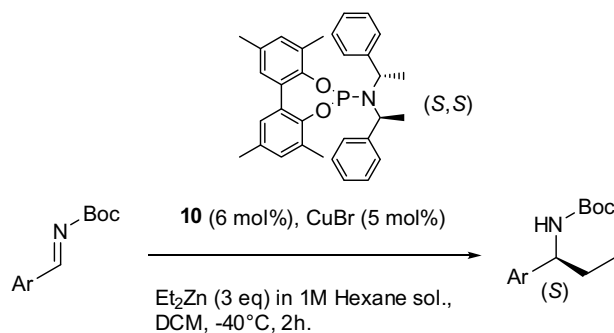


Lipase from *Burkholderia cepacia* was used for the preparation of enantiopure  $\beta$ -amino amides and  $\beta$ -dipeptides in dry organic solvent.

Sai-Bo Yu, Jia-Di Huang, Dao-Yong Wang, Xiang-Ping Hu \*, Jun Deng, Zheng-Chao Duan, Zhuo Zheng \*



Quentin Perron, Alexandre Alexakis \*



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ELSEVIER

ISSN 0957-4166

**Tetrahedron: *Asymmetry* Vol. 19, No. 16, 2008**

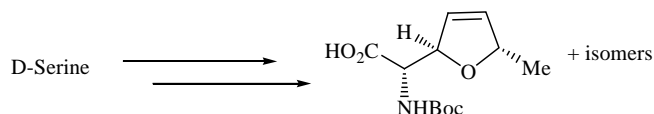
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pp 1875–1877

Ayan Bandyopadhyay, Benoy K. Pal, Shital K. Chattopadhyay \*

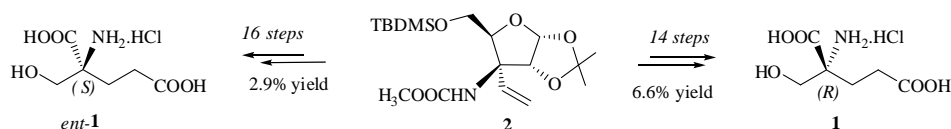


**ARTICLES**

**Stereoselective synthesis of both enantiomers of  $\alpha$ -(hydroxymethyl)glutamic acid**

pp 1879–1885

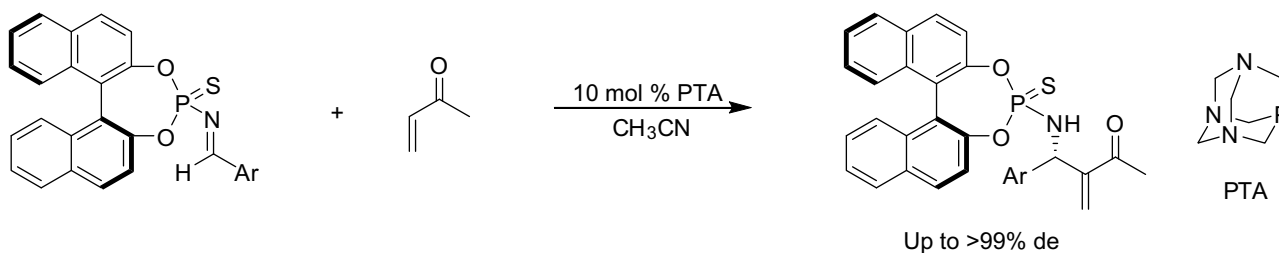
Miroslava Martinková \*, Jozef Gonda, Jana Raschmanová, Alena Uhríková



**Chiral N-thiophosphoryl imine-induced diastereoselective aza-Morita-Baylis-Hillman reaction**

pp 1886–1890

Aidang Lu, Xinyuan Xu, Peng Gao, Zhenghong Zhou \*, Haibin Song, Chuchi Tang

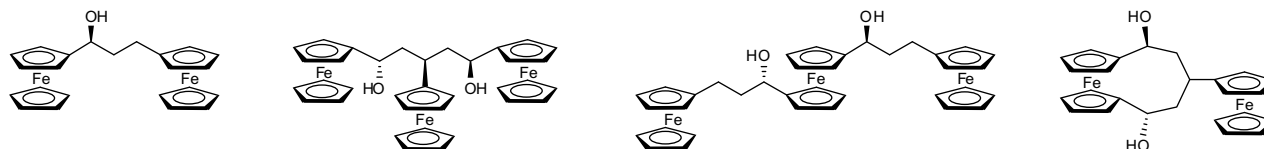


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**Synthesis of chiral alcohols containing the 1,3-diferrocenylpropane structural motif**

pp 1891–1897

Angela Patti \*, Sonia Pedotti

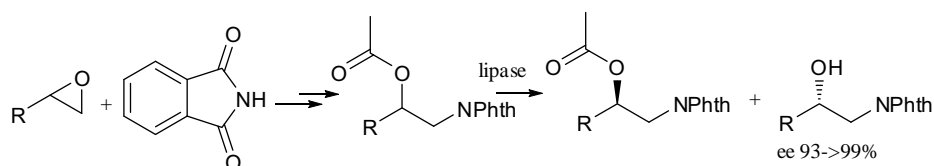


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**An expedient chemo-enzymatic method for the synthesis of optically active masked 1,2-amino alcohols**

pp 1898–1903

Pankaj Gupta, Subhash C. Taneja \*, Bhahwal A. Shah, Debaraj Mukherjee, Rajinder Parshad, Swapandeep S. Chimni, Ghulam N. Qazi

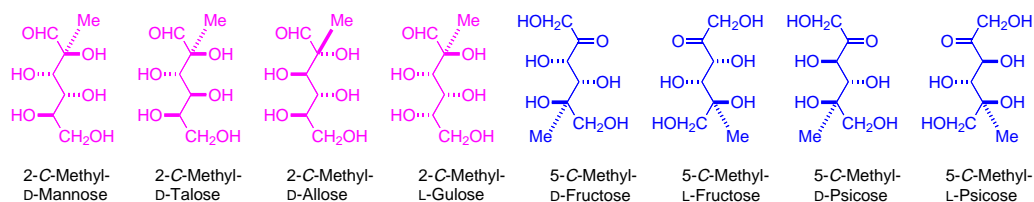


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**Green syntheses of new 2-C-methyl aldohexoses and 5-C-methyl ketohexoses: D-tagatose-3-epimerase (DTE)—a promiscuous enzyme**

pp 1904–1918

Nigel A. Jones, Devendar Rao, Akihide Yoshihara, Pushpakiran Gullapalli, Kenji Morimoto, Goro Takata, Stuart J. Hunter, Mark R. Wormald, Raymond A. Dwek, Ken Izumori \*, George W. J. Fleet \*

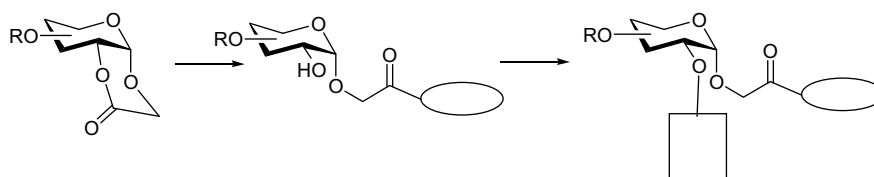


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**Synthesis of new mono- and disaccharidic carboxymethylglycoside lactones (CMGLs) and their use toward 1,2-bisfunctionalized carbohydrate synthons**

pp 1919–1933

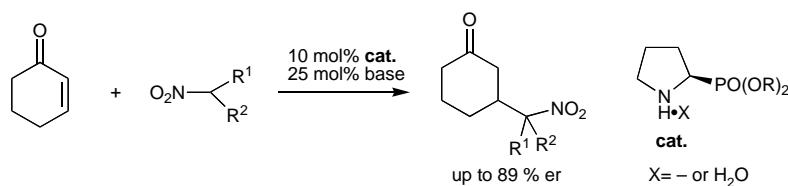
Rouba Cheaib, Arkadiusz Listkowski, Stéphane Chambert, Alain Doutheau, Yves Queneau \*



**Asymmetric conjugate addition of nitroalkanes to enones with a chiral  $\alpha$ -aminophosphonate catalyst**

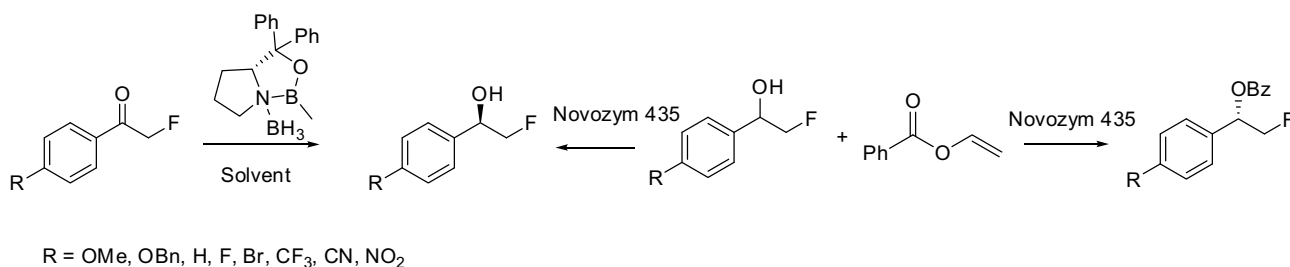
pp 1934–1940

Marcus Malmgren, Johan Granander, Mohamed Amedjkouh \*

**Asymmetric reduction using (*R*)-MeCBS and determination of absolute configuration of *para*-substituted 2-fluoroarylethanols**

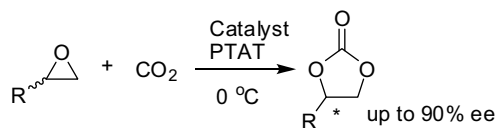
pp 1941–1946

Erik Fuglseth, Eirik Sundby, Per Bruheim, Bård Helge Hoff \*

**Chiral catalysts for the asymmetric cycloaddition of carbon dioxide with epoxides**

pp 1947–1953

Lili Jin, Yongzhong Huang, Huanwang Jing \*, Tao Chang, Peng Yan

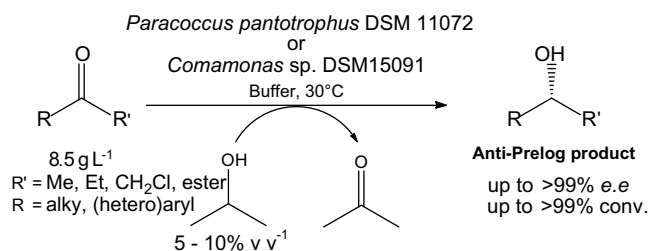


New catalysts of  $\text{BINADCo}(\text{III})\text{X}$  were synthesized and applied to the asymmetric cycloaddition of  $\text{CO}_2$  with epoxides to generate chiral cyclic carbonates with moderate to excellent yield under very mild conditions.

**Asymmetric anti-Prelog reduction of ketones catalysed by *Paracoccus pantotrophus* and *Comamonas* sp. cells via hydrogen transfer**

pp 1954–1958

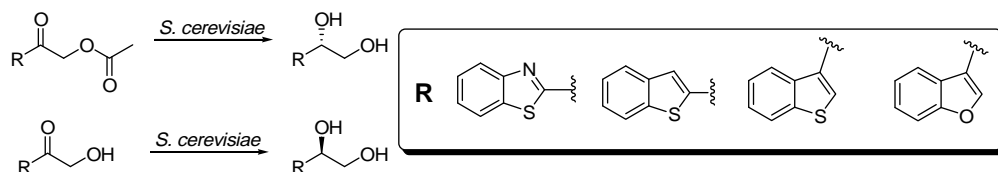
Iván Lavandera, Brigitte Höller, Alexander Kern, Ursula Ellmer, Anton Glieder, Stefaan de Wildeman, Wolfgang Kroutil \*



**Baker's yeast-mediated synthesis of (*R*)- and (*S*)-heteroaryl-ethane-1,2-diols**

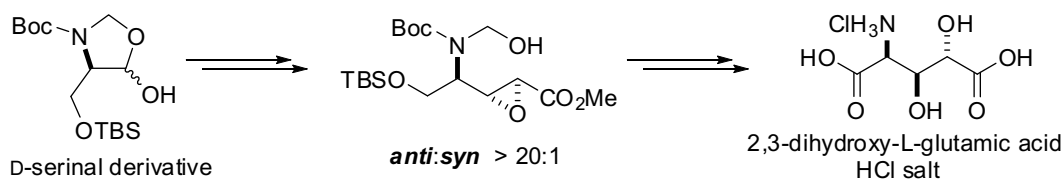
pp 1959–1964

Paula Veronica Podea, Csaba Paizs, Monica Ioana Toşa, Florin Dan Irimeu \*

**Efficient and stereoselective synthesis of (2*S*,3*S*,4*S*)-3,4-dihydroxyglutamic acid via intramolecular epoxidation**

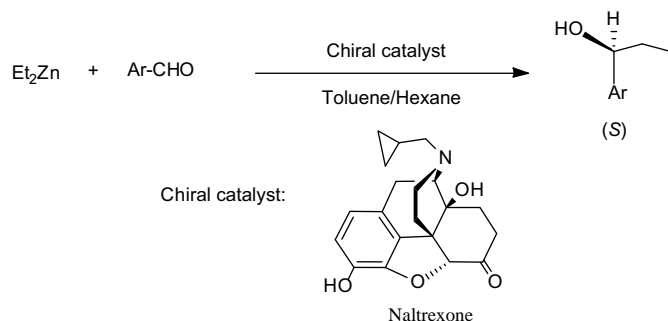
pp 1965–1969

Hyeonjeong Kim, Dongwon Yoo, Soo Young Choi, Young Keun Chung, Young Gyu Kim \*

**Enantioselective addition of diethylzinc to aromatic aldehydes catalyzed by 14-hydroxylsubstituted morphinans**

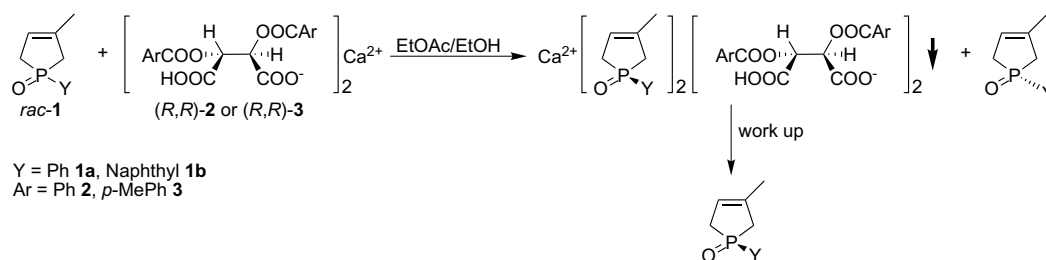
pp 1970–1972

Minoo Dabiri \*, Peyman Salehi \*, Gholamreza Kozehgary, Seddigheh Heydari, Akbar Heydari, Maryam Esfandyari

**Coordinative resolution of 1-phenyl- and 1-naphthyl-3-methyl-3-phospholene 1-oxides with calcium hydrogen *O,O'*-dibenzoyl-(2*R*,3*R*)-tartrate or calcium hydrogen *O,O'*-di-*p*-toluyl-(2*R*,3*R*)-tartrate**

pp 1973–1977

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

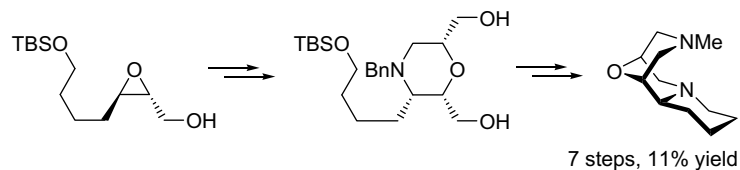




**Enantioselective total synthesis of the tricyclic 9-oxabispidine (1*R*,2*S*,9*S*)-11-methyl-13-oxa-7,11-diazatricyclo[7.3.1.0<sup>2,7</sup>]tridecane**

pp 1978–1983

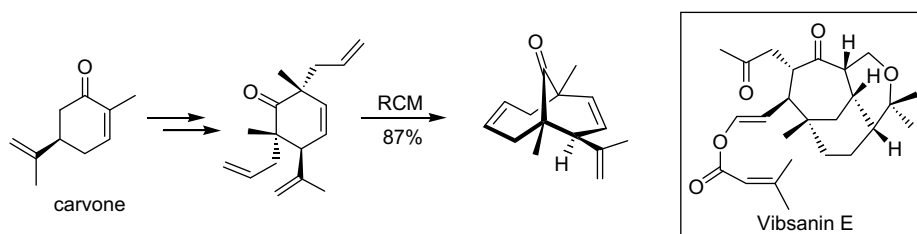
Matthias Breuning \*, Melanie Steiner



**Enantiospecific approaches to bicyclic vibsanes: a ring-closing metathesis reaction-based strategy to functionalized bicyclo[4.3.1]decanes**

pp 1984–1991

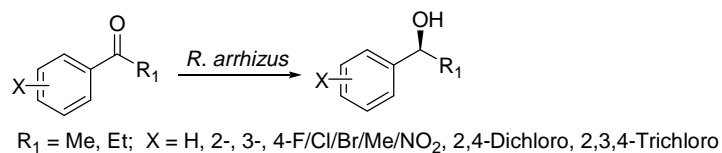
Adusumilli Srikrishna \*, Vijendra H. Pardeshi, Gedu Satyanarayana



**Asymmetric reduction of halo-substituted arylalkanones with *Rhizopus arrhizus***

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Neeta A. Salvi, Subrata Chattopadhyay \*



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\*Corresponding author

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**ELSEVIER**

ISSN 0957-4166

**Tetrahedron: *Asymmetry* Vol. 19, No. 17, 2008**

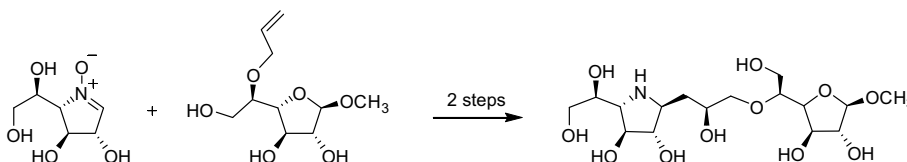
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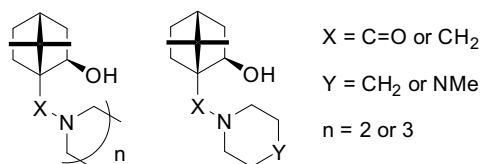
Virginie Liautard, Valérie Desvergnès, Olivier R. Martin \*



**Hydroxyamides versus amino alcohols in the enantioselective addition of diethylzinc to benzaldehyde**

pp 2003–2006

Tomás de las Casas Engel, Beatriz Lora Maroto, Antonio García Martínez, Santiago de la Moya Cerero \*



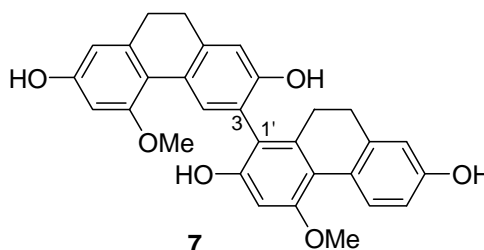
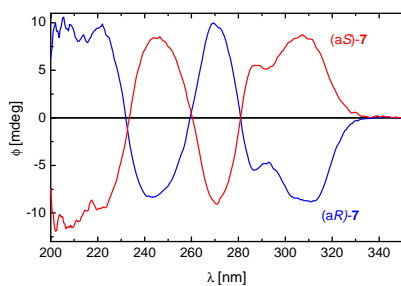
Structural factors exert different effects on the catalytic activity (enantioselective addition of diethylzinc to benzaldehyde) depending on the ligand type (functional grouping).

**ARTICLES**

**Stereochemistry of atropisomeric 9,10-dihydrophenanthrene dimers from *Pholidota chinensis***

pp 2007–2014

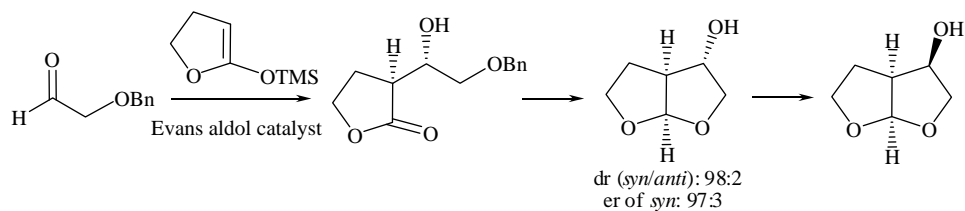
Sheng Yao, Chun-Ping Tang, Yang Ye \*, Tibor Kurtán, Attila Kiss-Szikszai, Sándor Antus, Gennaro Pescitelli, Piero Salvadori, Karsten Krohn \*



**Highly diastereo- and enantioselective catalytic synthesis of the bis-tetrahydrofuran alcohol of Brecanavir and Darunavir**

pp 2015–2019

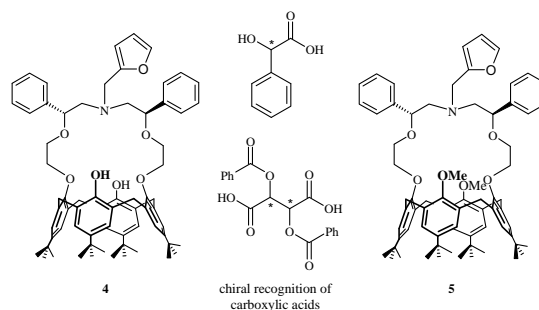
David M. Black, Roman Davis, Brian D. Doan, Tom C. Lovelace, Alan Millar, Jennifer F. Toczko, Shiping Xie \*



**Synthesis of new chiral calix[4]azacrowns for enantiomeric recognition of carboxylic acids**

pp 2020–2025

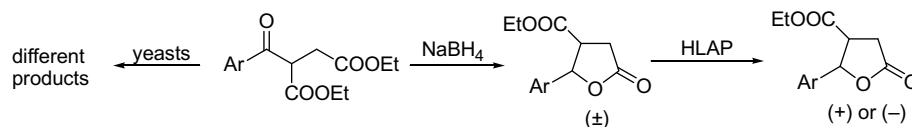
Havva Nur Demirtas, Selahattin Bozkurt, Mustafa Durmaz, Mustafa Yilmaz, Abdulkadir Sirit \*



**Chemoenzymatic and yeast-catalysed synthesis of diastereomeric ethyl  $\gamma$ -phenyl and  $\gamma$ -(*n*-pyridyl)paraconates**

pp 2026–2036

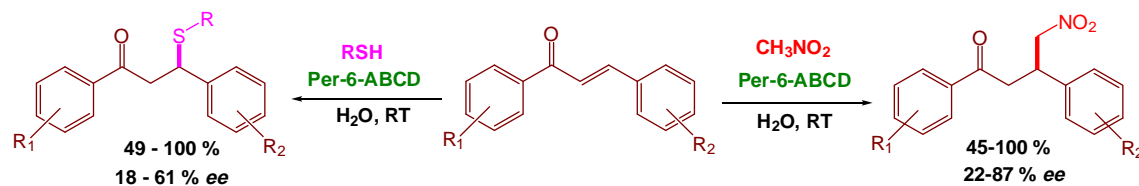
Cristina Forzato \*, Giada Furlan, Patrizia Nitti, Giuliana Pitacco, Ennio Valentin \*, Ennio Zangrando, Pietro Buzzini, Marta Goretti, Benedetta Turchetti



**Per-6-amino- $\beta$ -cyclodextrin catalyzed asymmetric Michael addition of nitromethane and thiols to chalcones in water**

pp 2037–2044

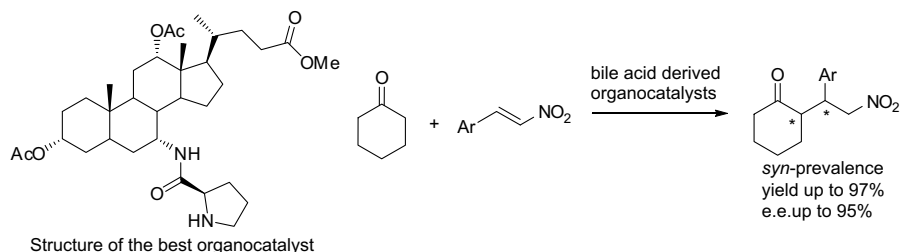
Palaniswamy Suresh, Kasi Pitchumani \*



**Substrate control by means of the chiral cavity of prolinamide derivatives of cholic acid in the organocatalyzed Michael addition of cyclohexanone to nitroolefins**

pp 2045–2050

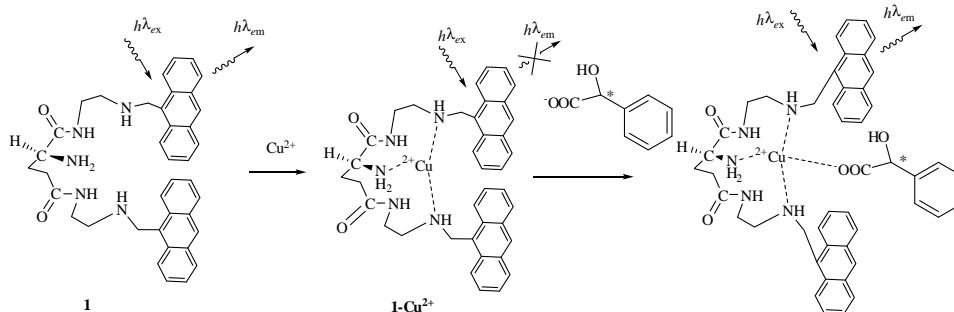
Gian Luigi Puleo, Anna Iuliano \*



**Preparation of a metal–ligand fluorescent chemosensor and enantioselective recognition of carboxylate anions in aqueous solution**

pp 2051–2057

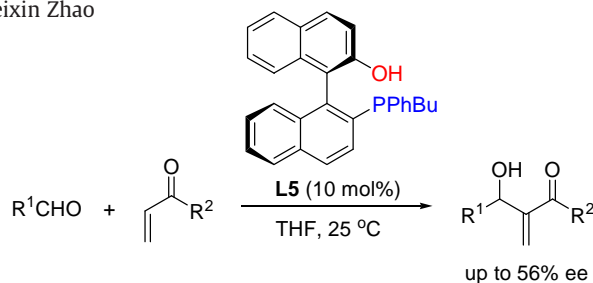
Zhi-hong Chen, Yong-bing He \*, Chen-Guang Hu, Xiao-huan Huang



**Bifunctional chiral phosphine-containing Lewis base catalyzed asymmetric Morita–Baylis–Hillman reaction of aldehydes with activated alkenes**

pp 2058–2062

Zhi-Yu Lei, Xu-Guang Liu, Min Shi \*, Meixin Zhao

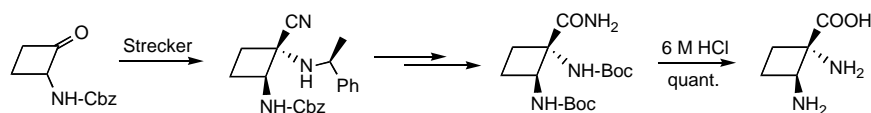


A series of novel bifunctional chiral phosphine-containing Lewis bases were synthesized and successfully applied to the asymmetric Morita–Baylis–Hillman reaction of aldehydes with methyl vinyl ketone (MVK) and ethyl vinyl ketone (EVK) to give the corresponding adducts in moderate yields and enantioselectivities under mild reaction conditions.

**First synthesis of enantiomerically pure (1*S*,2*S*)- and (1*R*,2*R*)-1,2-diaminocyclobutanecarboxylic acid–ornithine derivative–, from racemic 2-aminocyclobutanone**

pp 2063–2067

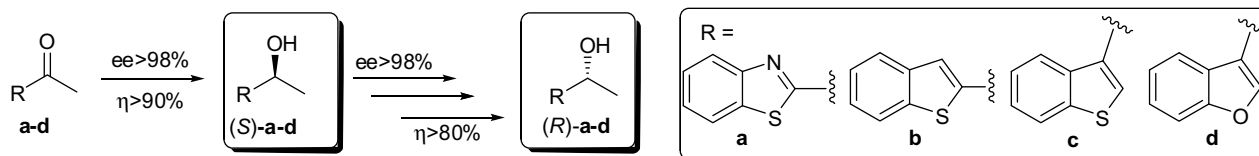
Damien Hazelard, Antoine Fadel \*, Régis Guillot



## Chemoenzymatic synthesis of (*R*)- and (*S*)-1-heteroarylethanols

pp 2068–2071

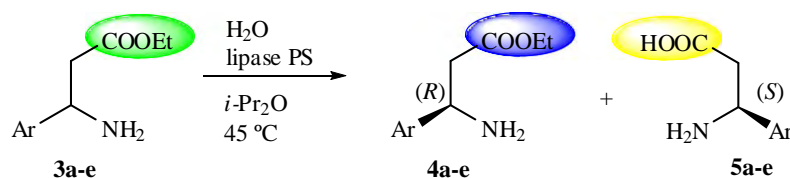
Monica Ioana Toşa, Paula Veronica Podea, Csaba Paizs, Florin Dan Irimescu \*



## An efficient new enzymatic method for the preparation of $\beta$ -aryl- $\beta$ -amino acid enantiomers

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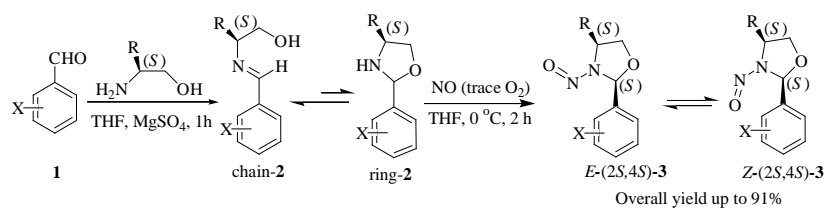
Gábor Tasnádi, Enikő Forró \*, Ferenc Fülöp \*



## Highly diastereoselective N-nitrosation of chiral (*E*)-2-(benzylidene-amino)ethanols with nitric oxide

pp 2078–2083

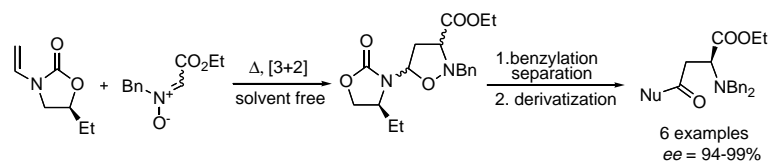
Lijun Peng, Jiantao Wang, Chuanmin Sun, Zhongquan Liu, Longmin Wu \*



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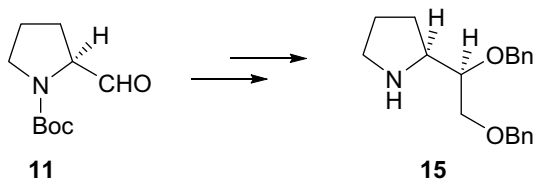
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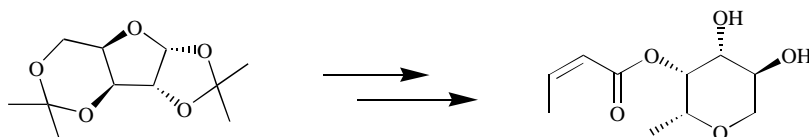
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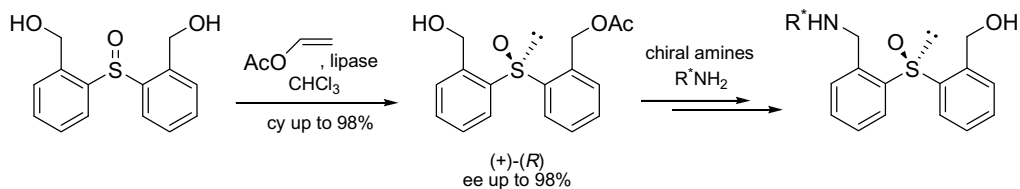
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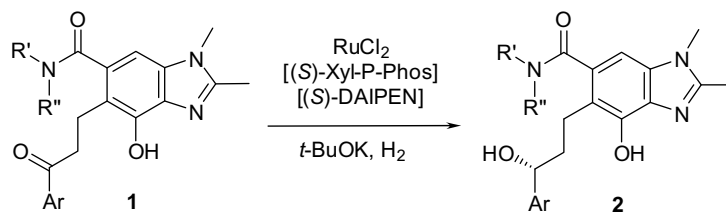
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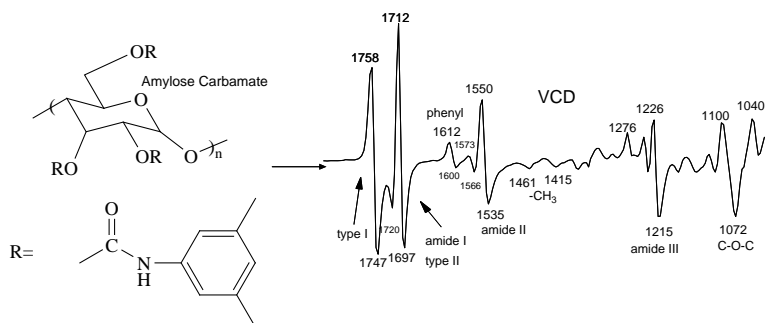


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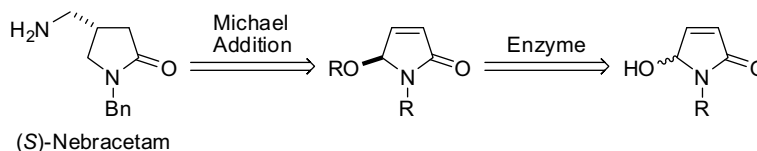
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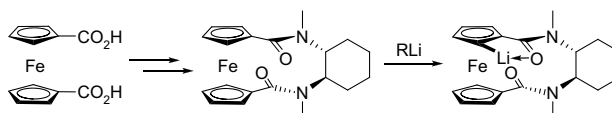
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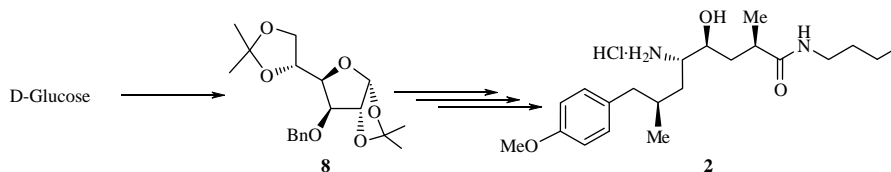
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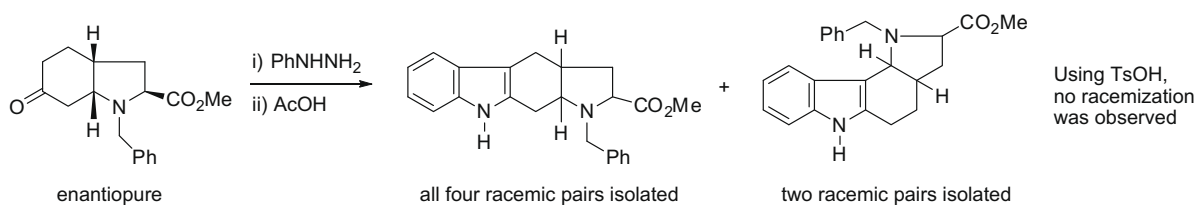
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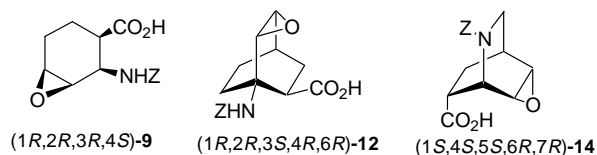
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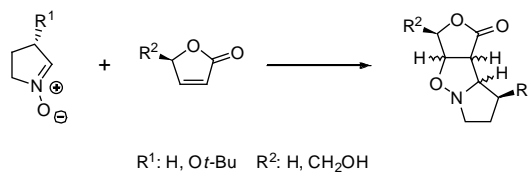
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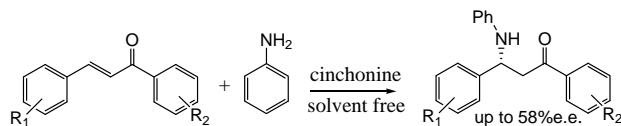
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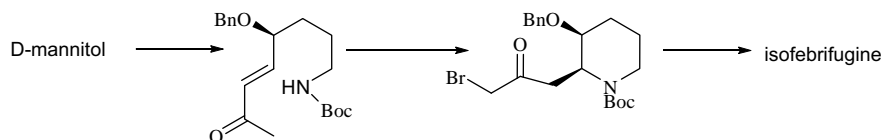
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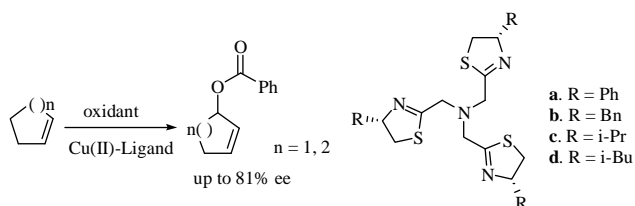
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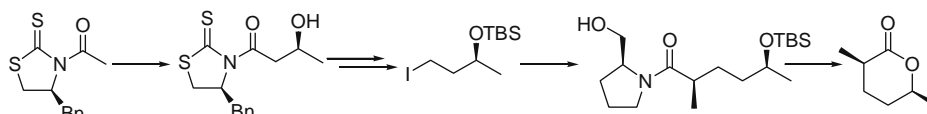
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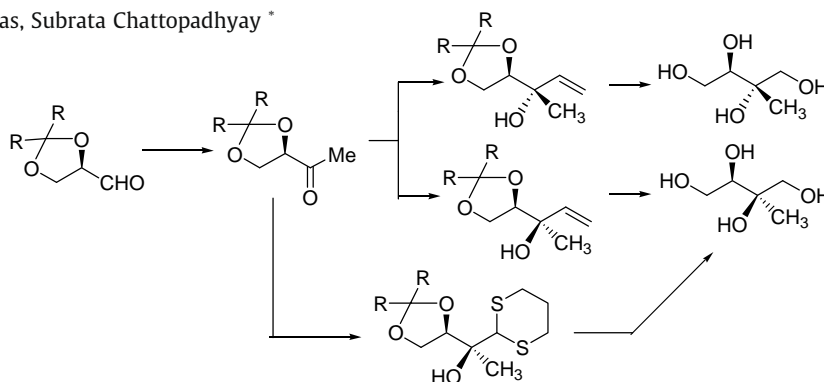
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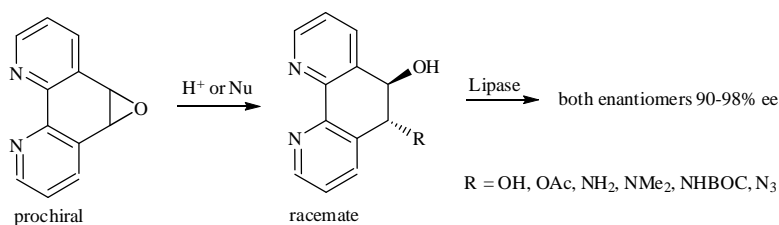


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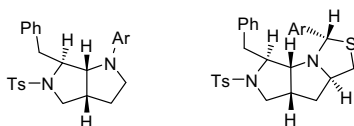


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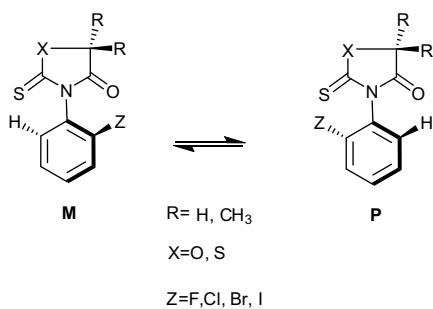


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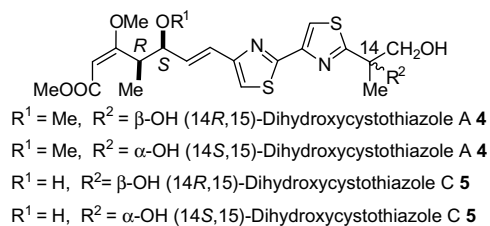
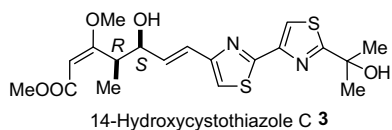
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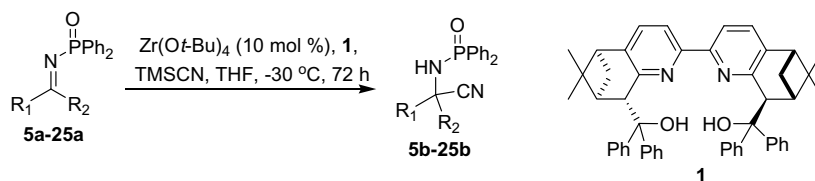
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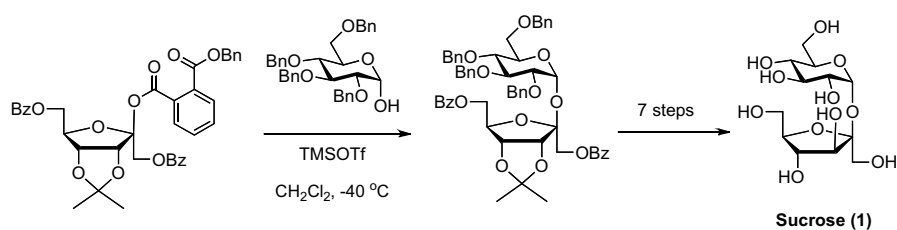
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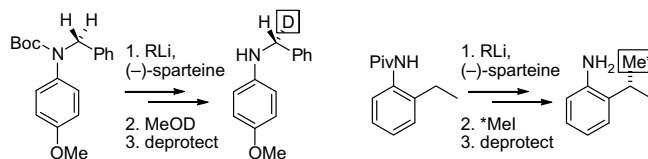
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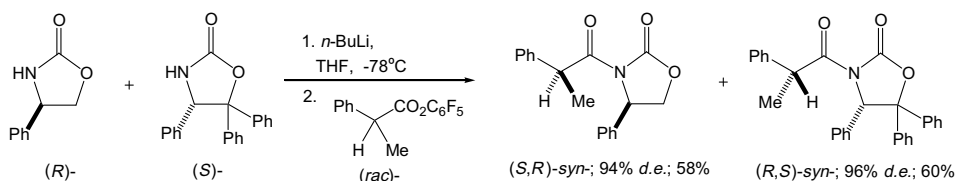
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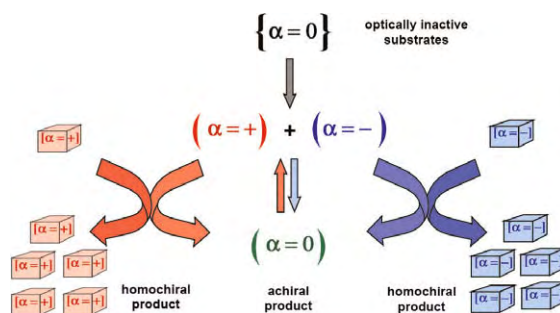
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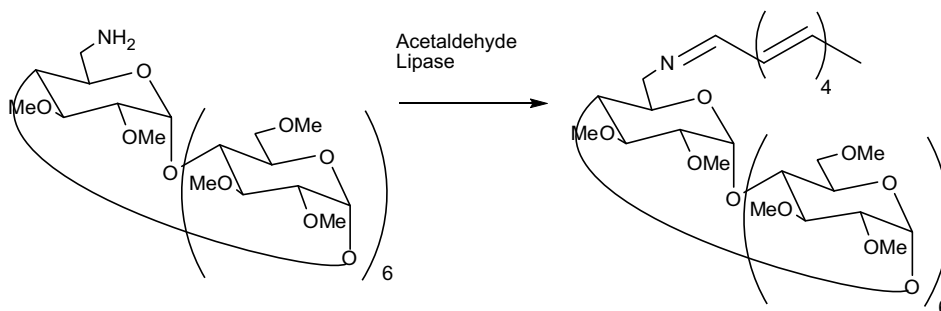
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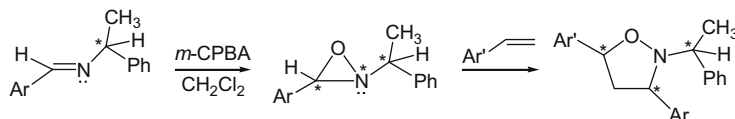


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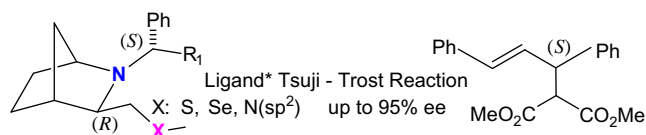


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**Chelating 2-azanobornyl derivatives as effective nitrogen–nitrogen and nitrogen–chalcogen donating ligands in palladium-catalyzed asymmetric allylic alkylation**

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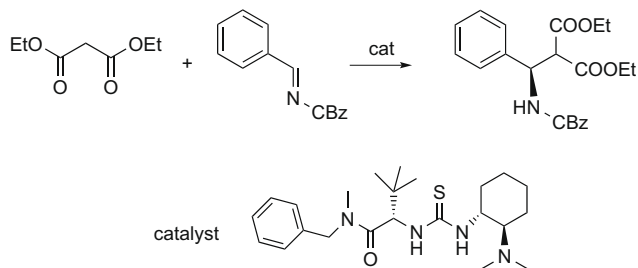


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**Stereoselective nucleophilic addition to imines catalyzed by chiral bifunctional thiourea organocatalysts**

pp 2258–2264

Alessandra Puglisi, Maurizio Benaglia \*, Rita Annunziata, Davide Rossi



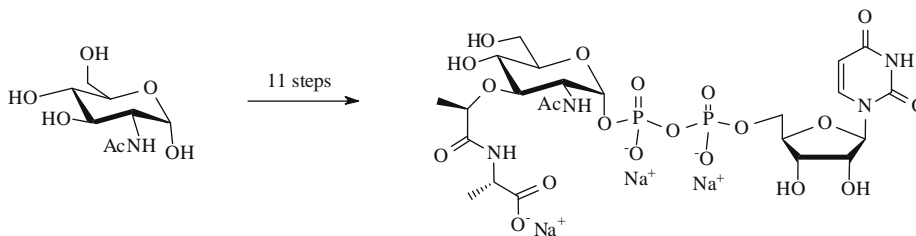
Bifunctional organic catalysts obtained by combination of (*S*)-*t*-leucine-derivatives with (1*R*,2*R*)-*trans*-1,2-diamino-cyclohexane were able to promote the addition of acetylacetone to  $\beta$ -nitrostyrene in 85% ee and the reaction between *N*-Cbz imines and diethyl malonate in up to 71% ee.

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**Total synthesis of uridine diphosphate-*N*-acetylmuramoyl-*L*-alanine**

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Andrej Babič \*, Slavko Pečar

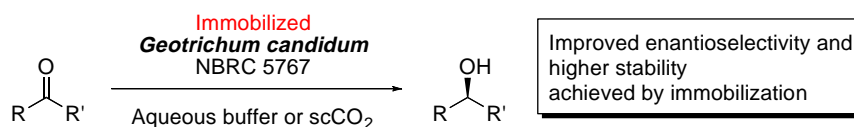




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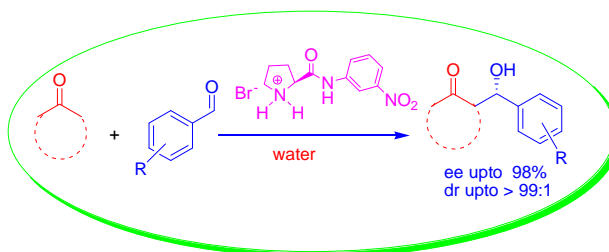
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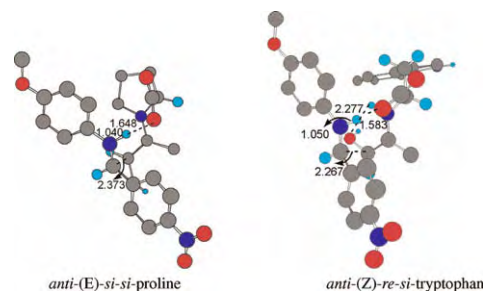


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Aiping Fu \*, Hongliang Li, Hongzong Si, Shuping Yuan, Yunbo Duan

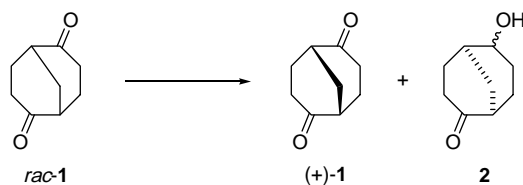
The most stable transition states of the crucial C–C bond-forming step for the proline- and tryptophan-catalyzed direct Mannich reaction involving hydroxyacetone, *p*-anisidine, and *p*-nitrobenzaldehyde.



**Genetically engineered *Saccharomyces cerevisiae* for kinetic resolution of racemic bicyclo[3.3.1]nonane-2,6-dione**

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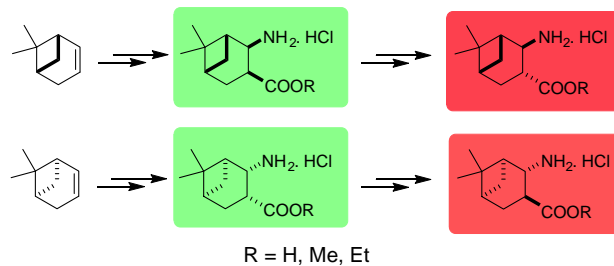
Magnus Carlquist, Carl-Johan Wallentin, Kenneth Wärnmark \*, Marie F. Gorwa-Grauslund \*



**Regio- and stereoselective synthesis of constrained enantiomeric  $\beta$ -amino acid derivatives**

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Zsolt Szakonyi, Tamás A. Martinek, Reijo Sillanpää, Ferenc Fülöp \*

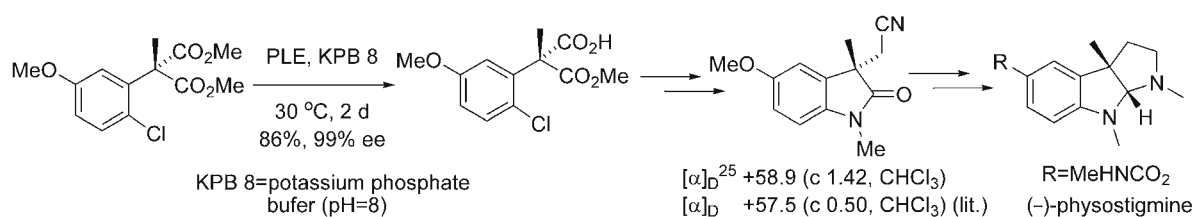


Chlorosulfonyl isocyanate addition to (-)- and (+)-apopinene furnished monoterpene-fused  $\beta$ -lactams in highly regio- and stereospecific reactions, which were easily converted to  $\beta$ -amino acids and their protected derivatives. The base-catalyzed isomerization of the *cis*-amino ester afforded the corresponding *trans*-amino acid enantiomers in excellent yields.

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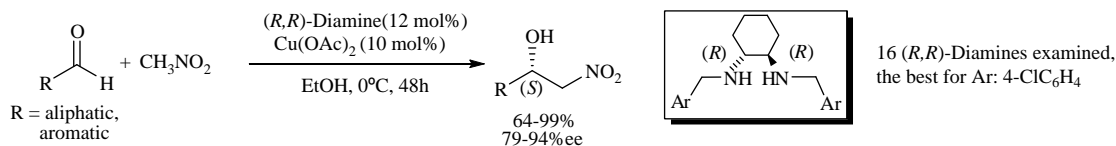
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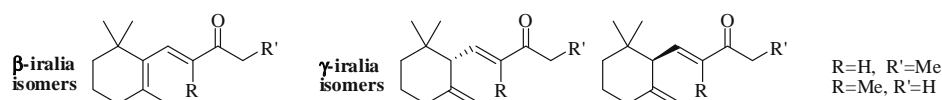
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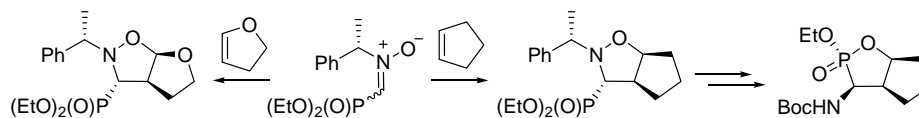
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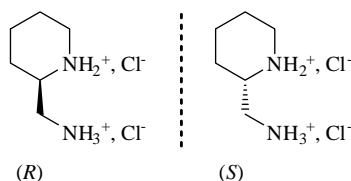
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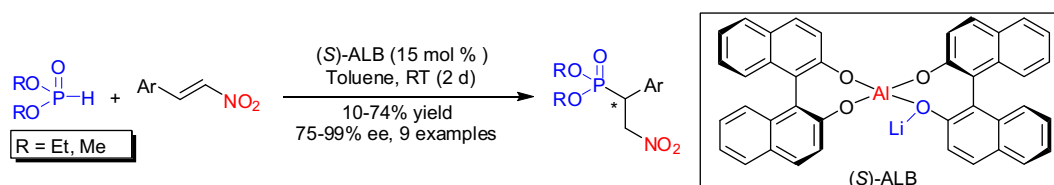
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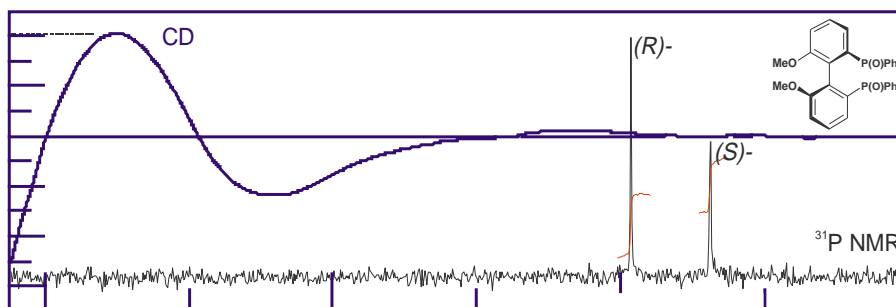


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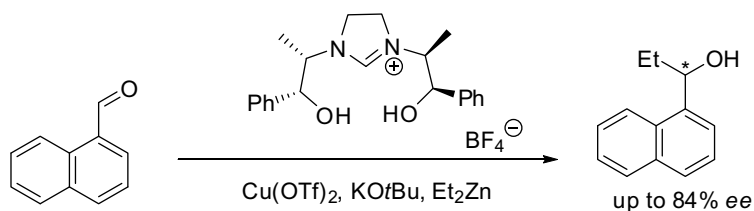
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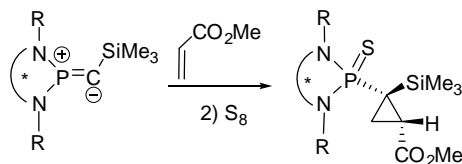
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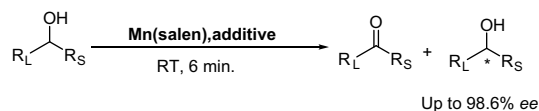
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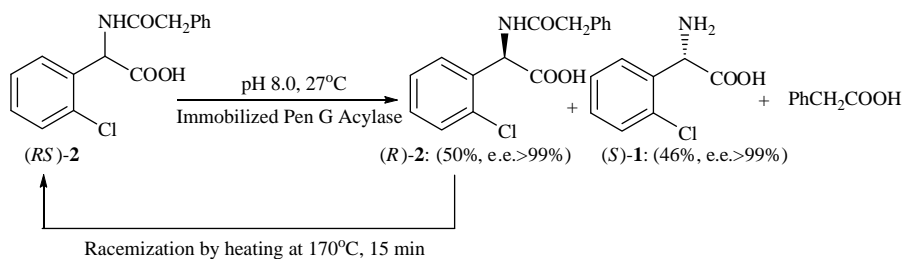
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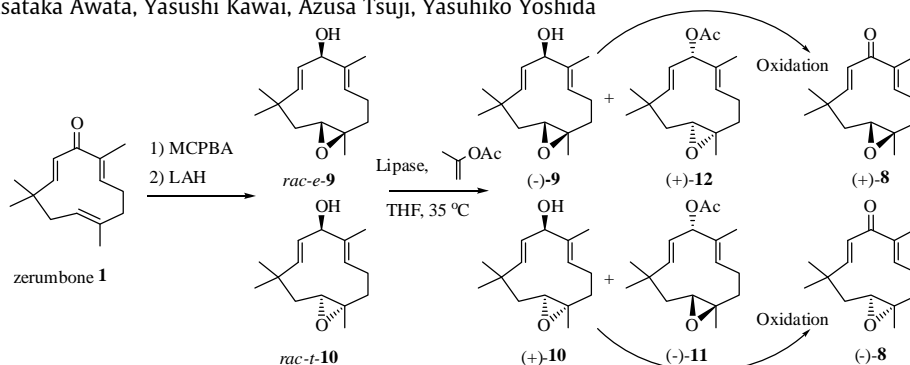
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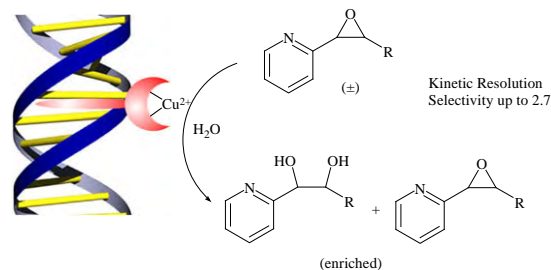
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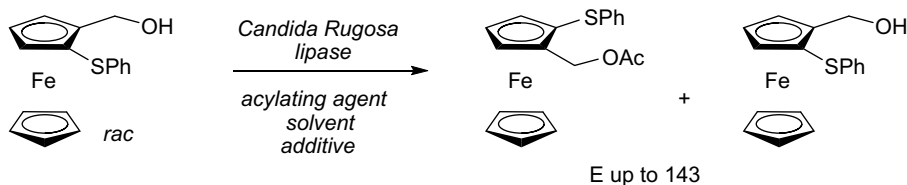
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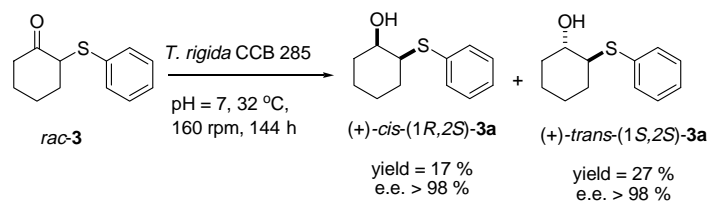
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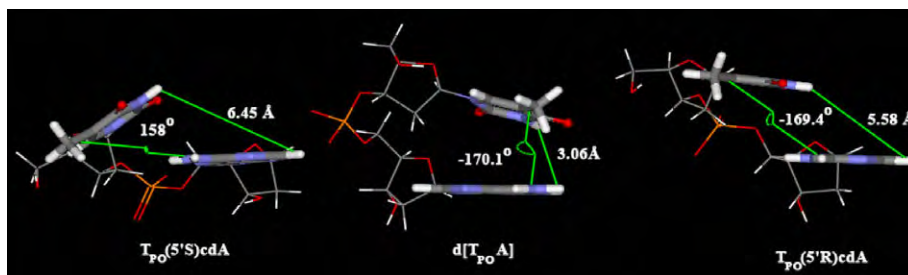
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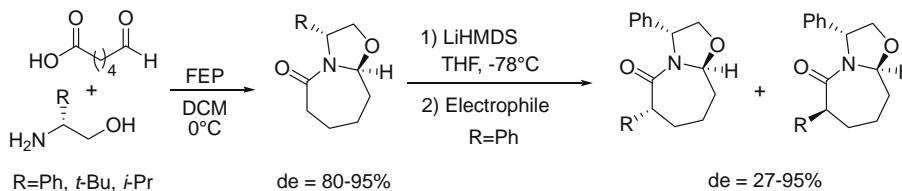


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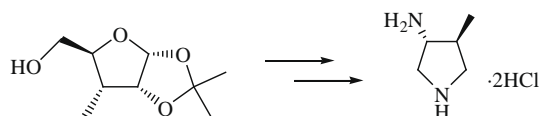
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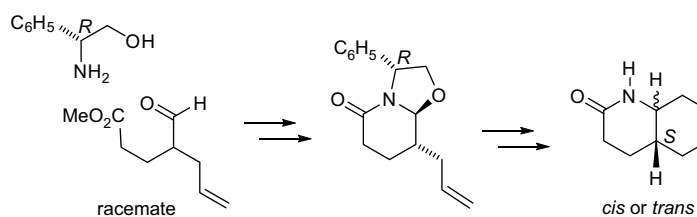
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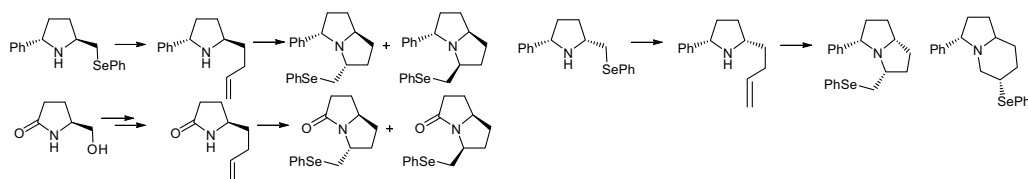
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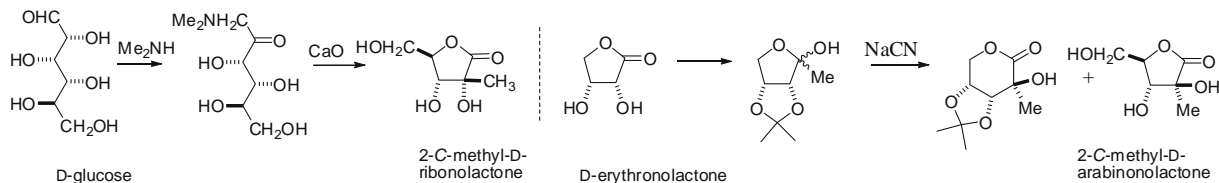
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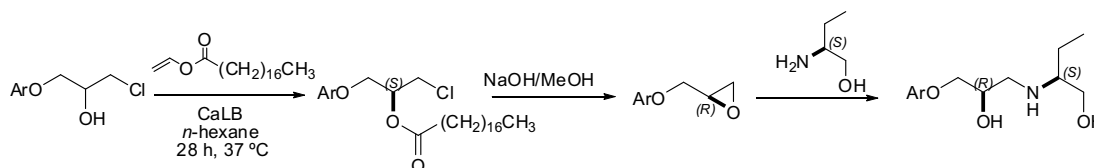
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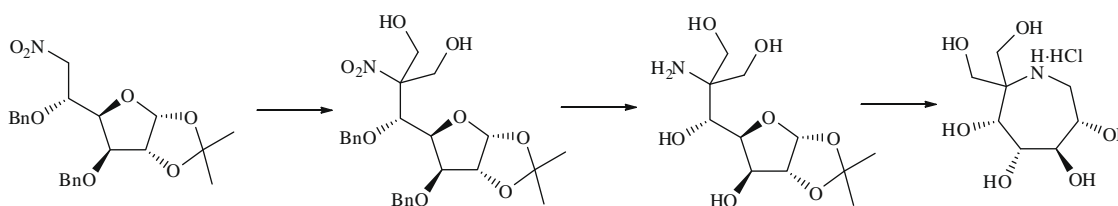
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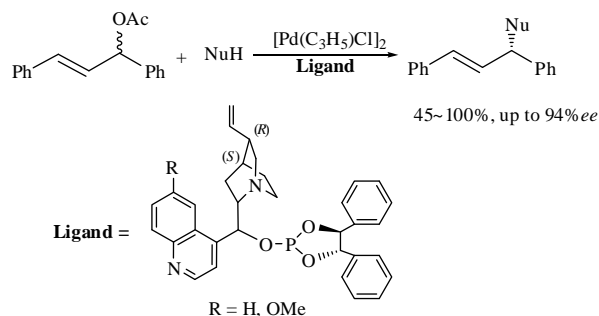
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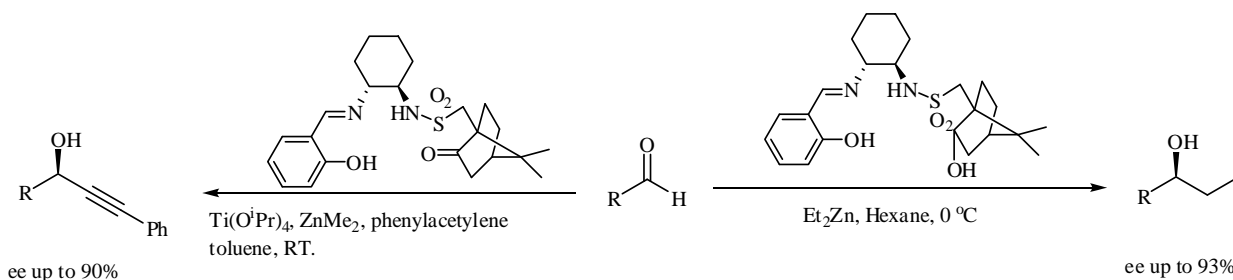
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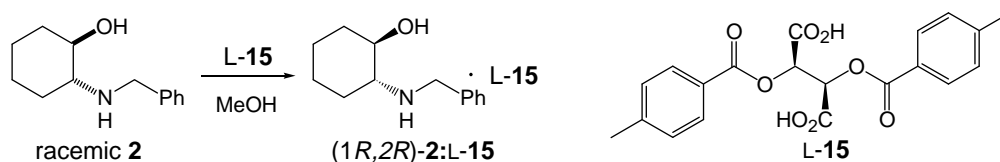
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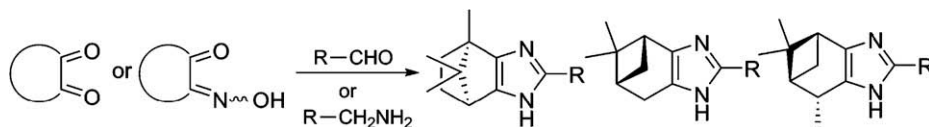
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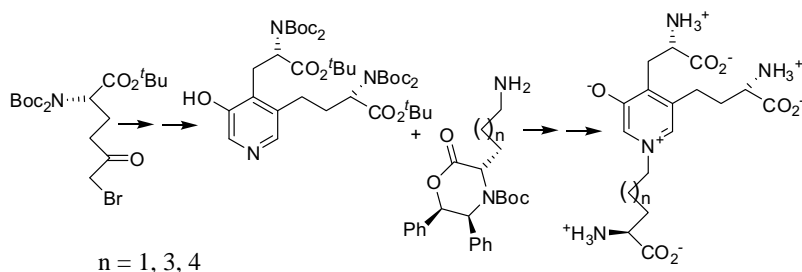
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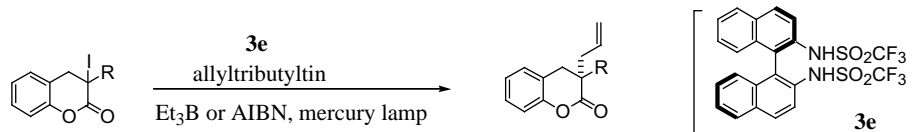


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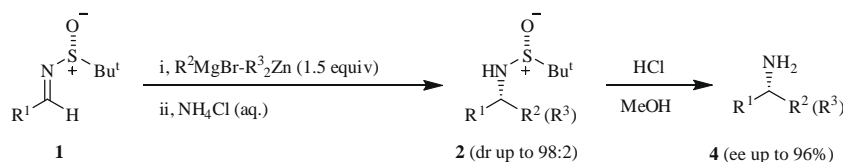


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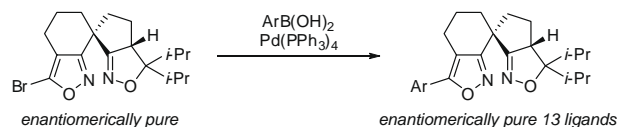
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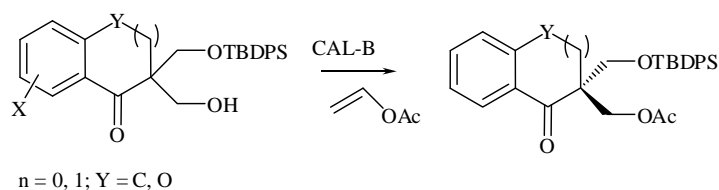
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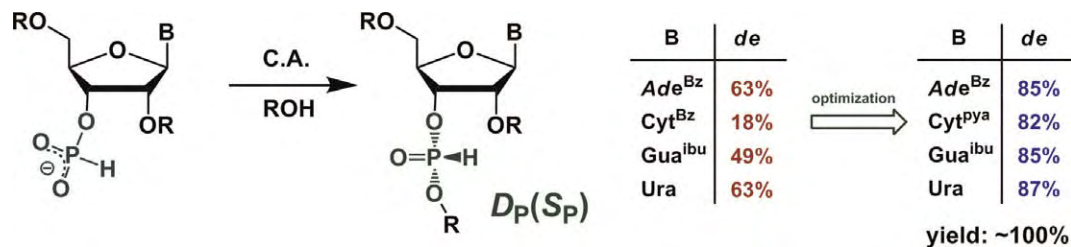
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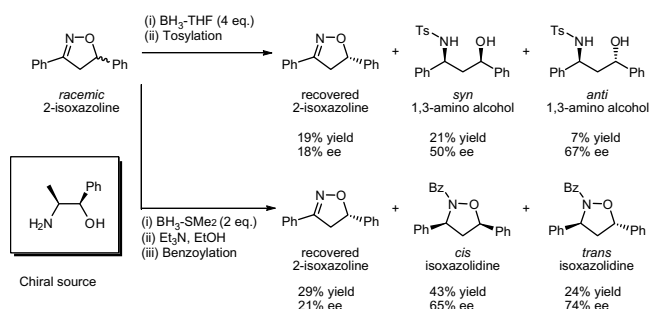
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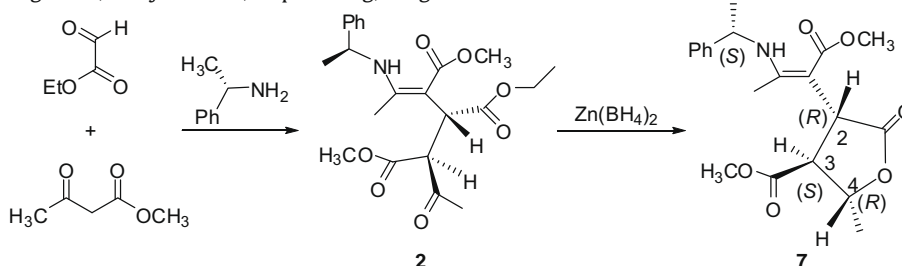
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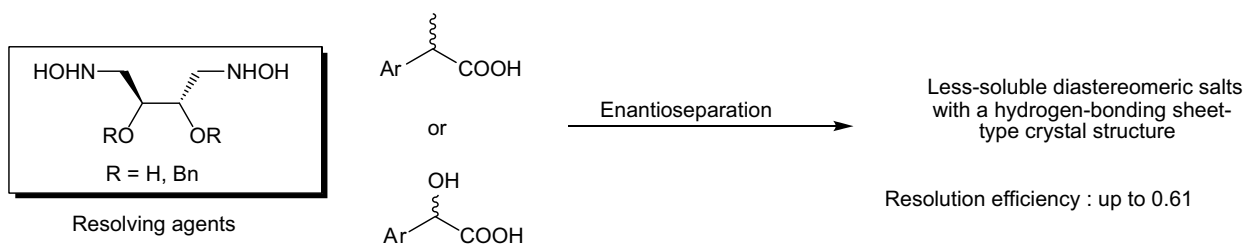


A new type of chiral tricarboxylate containing multiple stereocenters was synthesized via the one-pot reaction of β-ketoester, (*S*)-phenylethylamine, and ethyl glyoxylate under very mild reaction conditions. The reaction of compound **2** with Zn(BH<sub>4</sub>)<sub>2</sub> provides γ-lactone **7** up to 92:8 dr.

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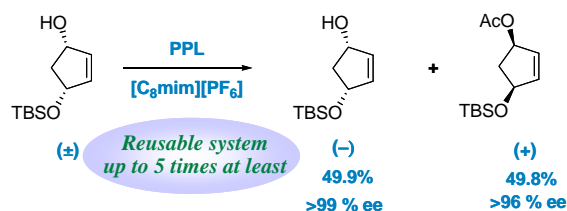
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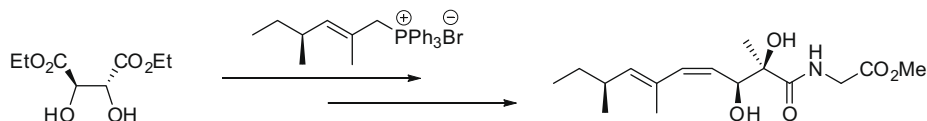


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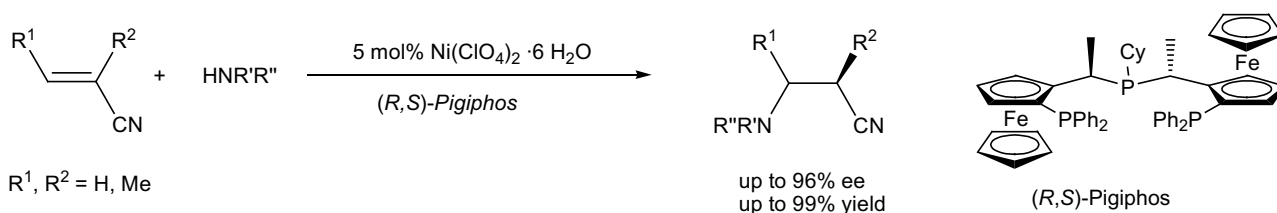
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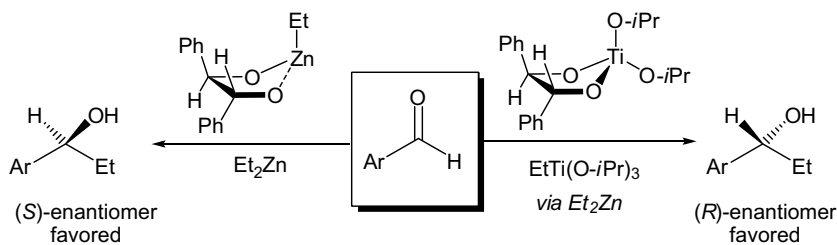
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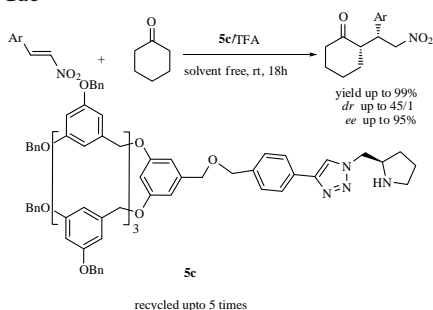
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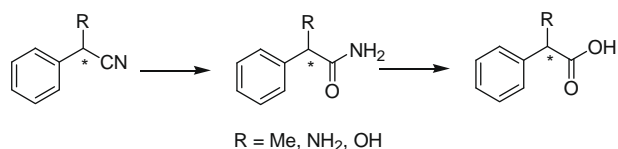
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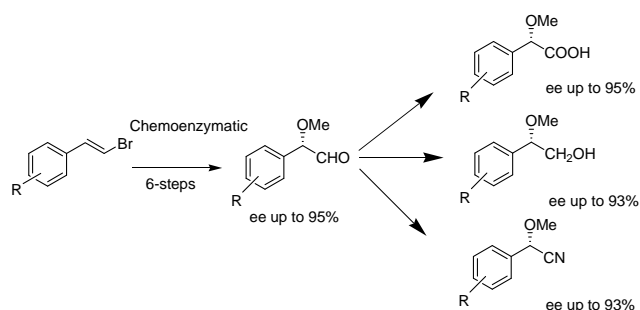
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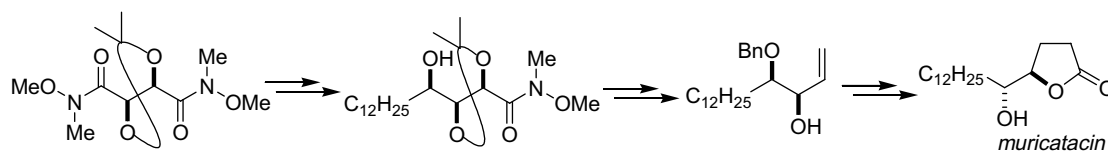




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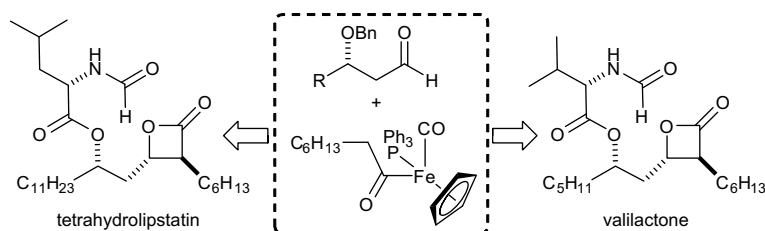
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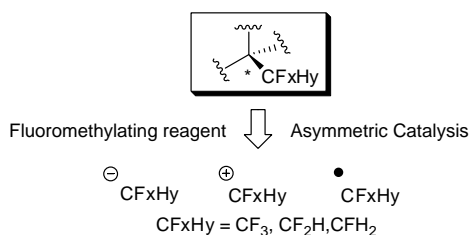
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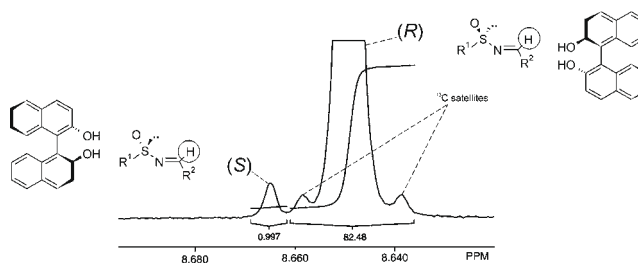


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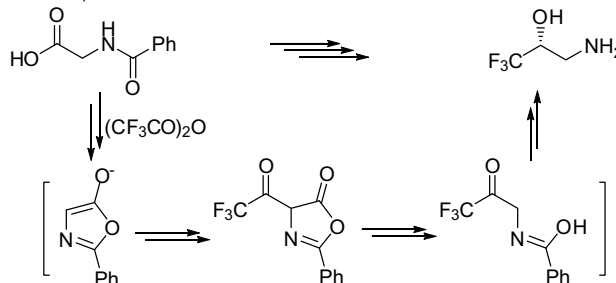
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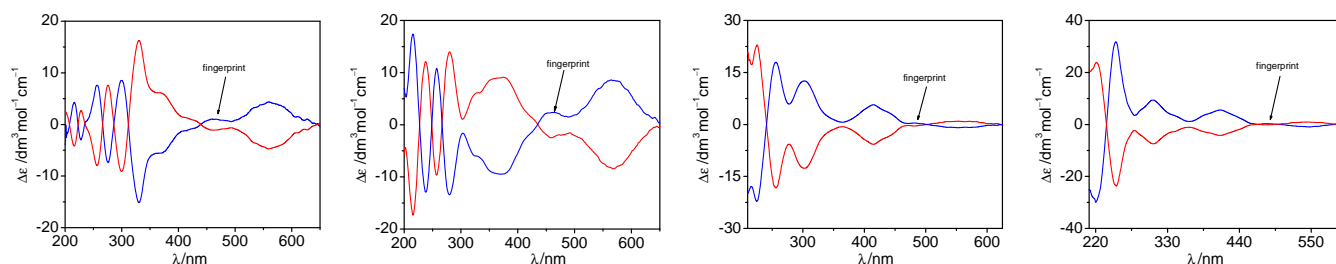
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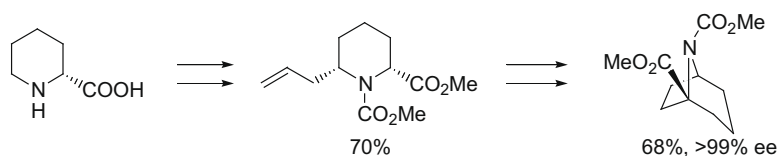
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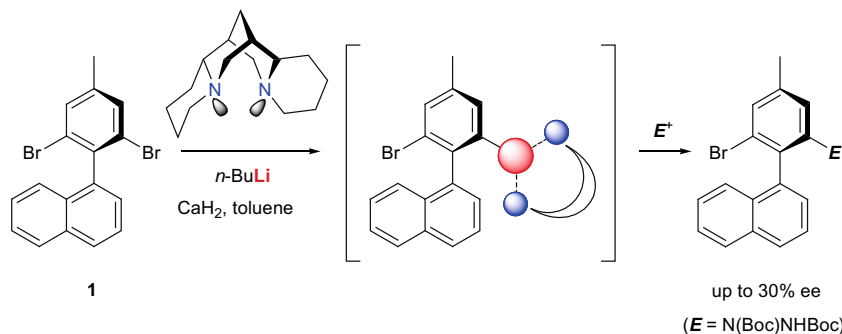
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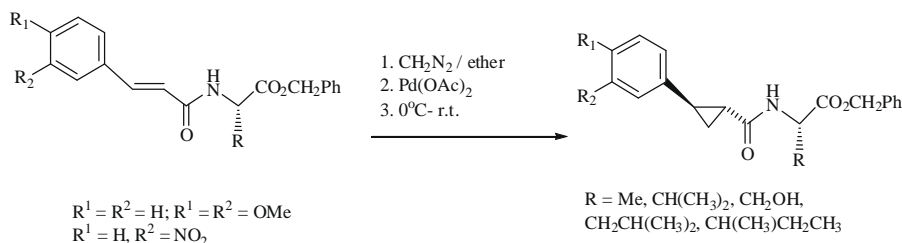
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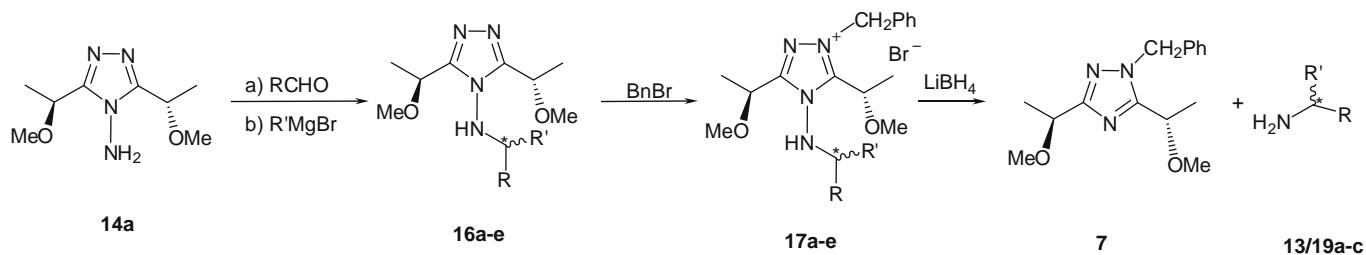
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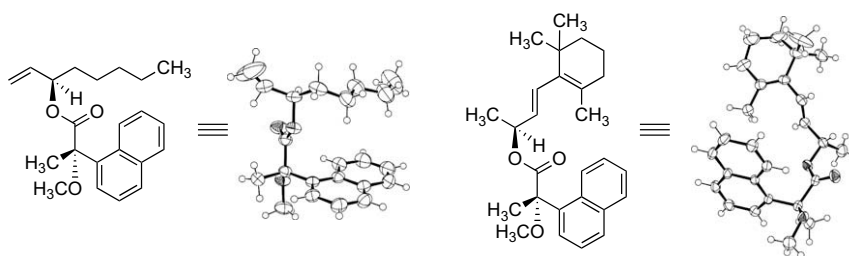
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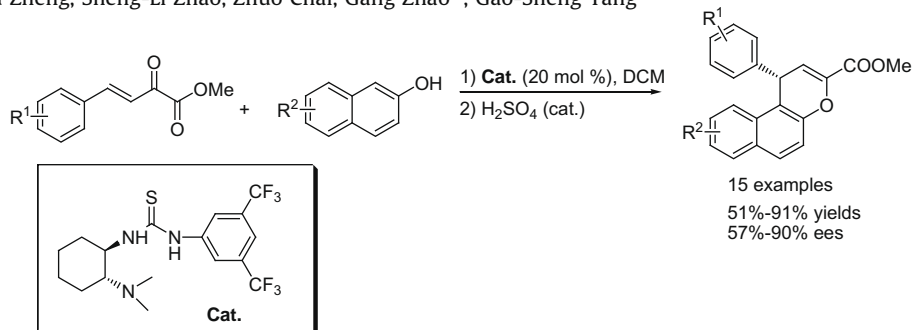
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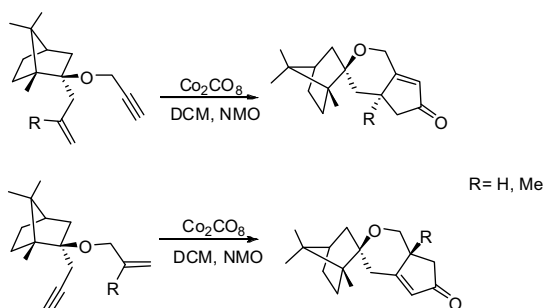
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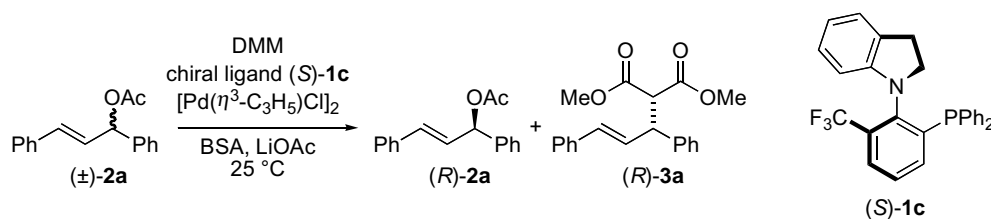
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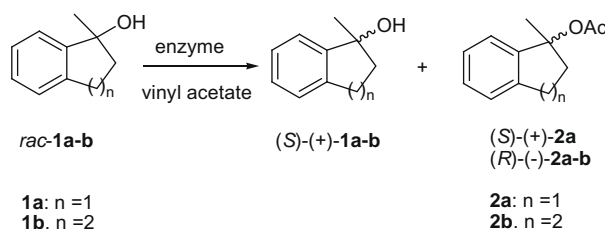
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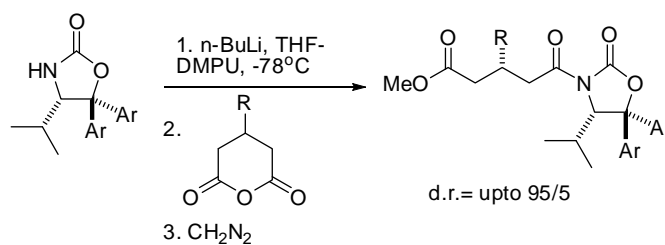
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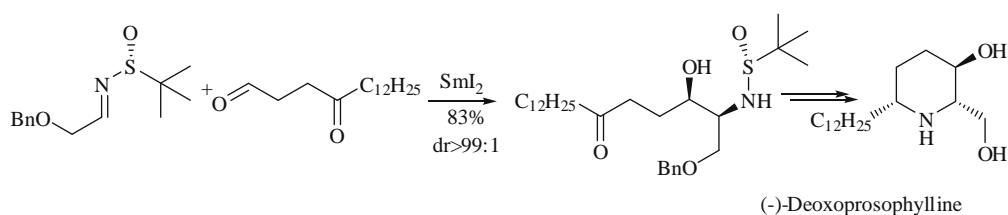
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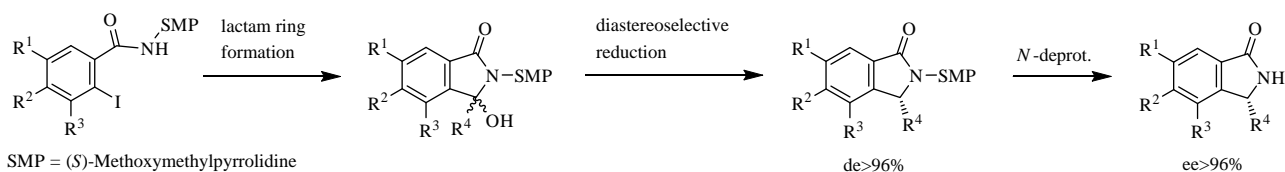
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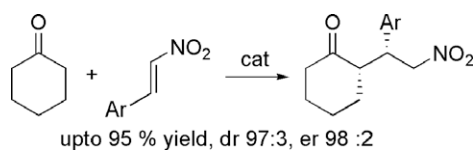


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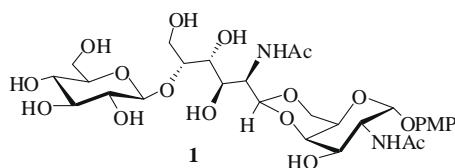
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**Tetrahedron: *Asymmetry* Vol. 19, No. 24, 2008**

Special Issue

**Amino Acids**

Guest editor:  
**Robert M. Williams**

Colorado State University, Fort Collins, Colorado 80523, USA

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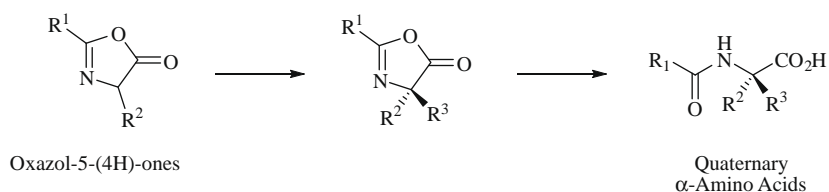
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**Report**

**Stereoselective syntheses of quaternary substituted  $\alpha$ -amino acids using oxazol-5-(4H)-ones**

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Robert A. Mosey, Jason S. Fisk, Jetze J. Tepe \*



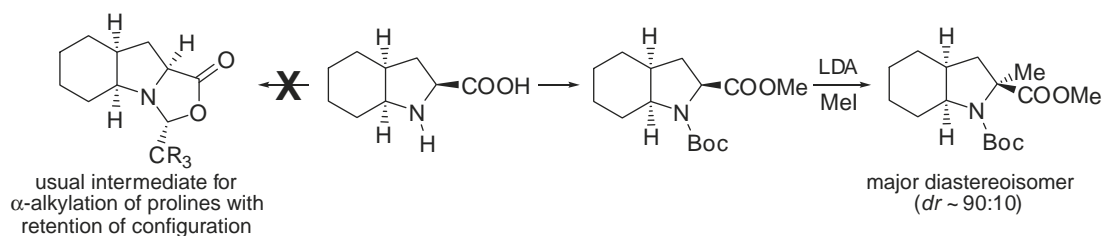
Quaternary  $\alpha$ -amino acids play vital roles in protein and synthetic chemistries. Stereoselective access to such molecules has been an intensive focus of research in recent years and new methods are continuously being explored. The present mini-review gives an overview of stereoselective syntheses of quaternary  $\alpha$ -amino acids produced from racemic oxazolones.

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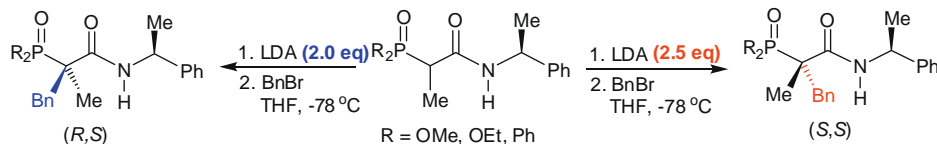




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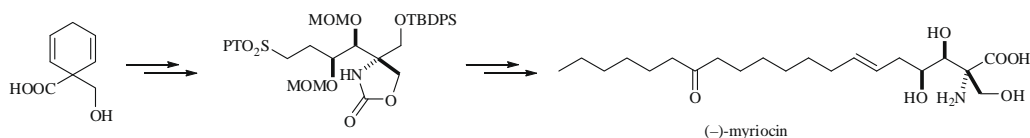
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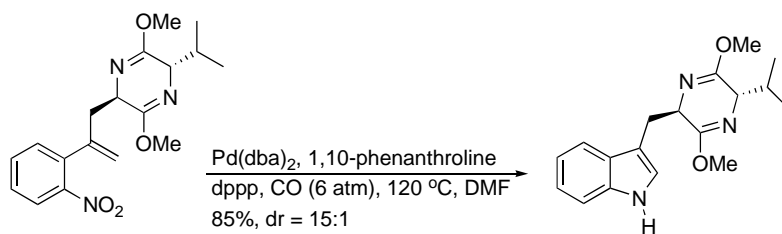


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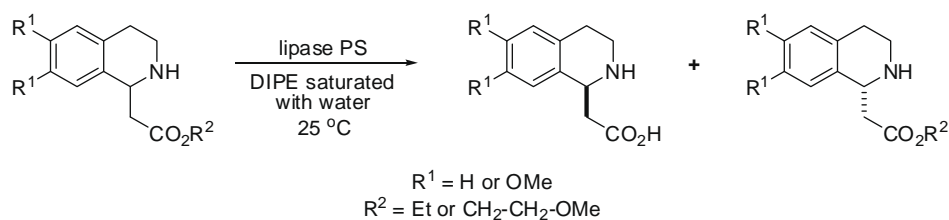
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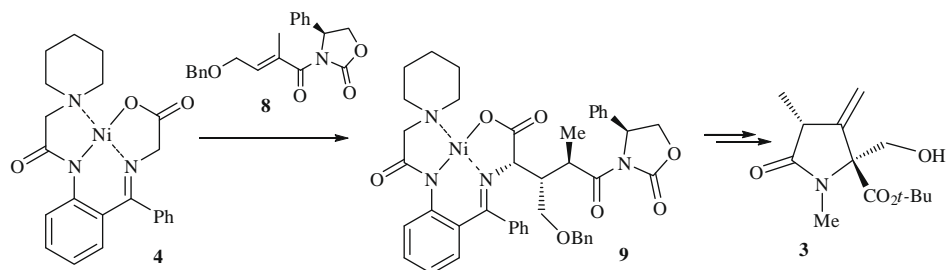
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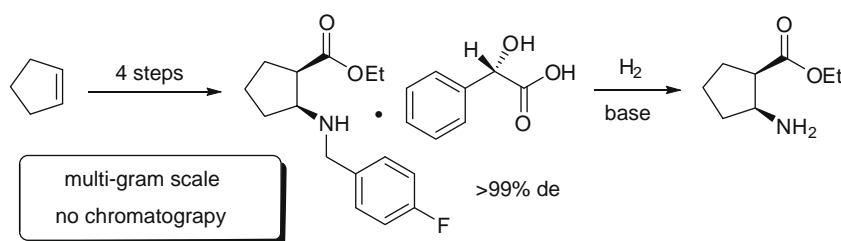
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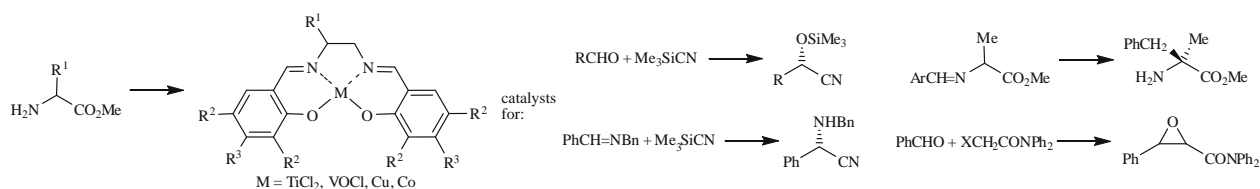
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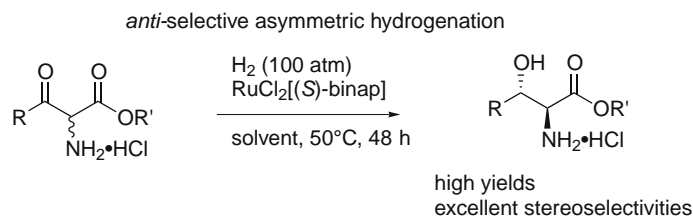
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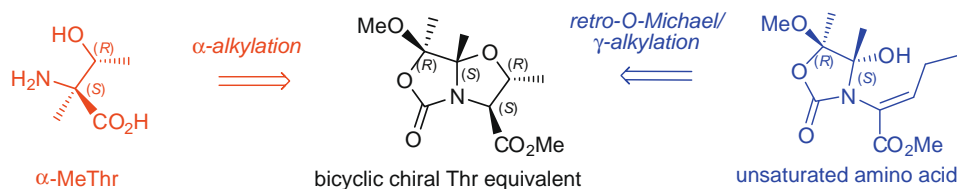
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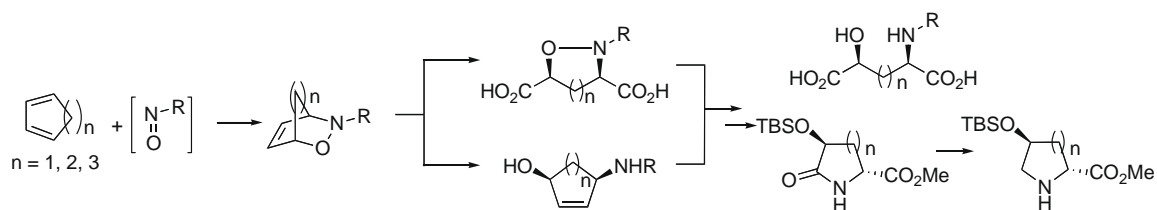
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**Concise syntheses of enantiomerically pure protected 4-hydroxypyroglutamic acid and 4-hydroxyproline from a nitroso-cyclopentadiene cycloadduct**

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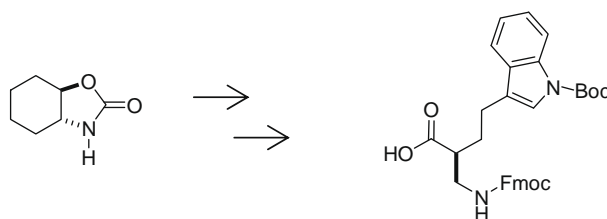
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**Enantioselective synthesis of beta-amino acids using hexahydrobenzoxazolidinones as chiral auxiliaries**

pp 2839–2849

Gloria Reyes-Rangel, Erika Jiménez-González, José Luis Olivares-Romero, Eusebio Juaristi\*

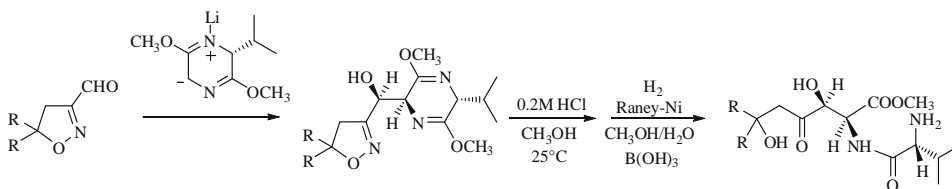


An efficient asymmetric synthetic route that provides both enantiomers of  $\beta^2$ -homovaline,  $\beta^2$ -homoleucine, and  $\beta^2$ -homotryptophan from chiral hexahydrobenzoxazolidinones is described.

**Stereoselective synthesis of  $\beta,\epsilon$ -dihydroxy- $\alpha$ -amino acids by ring opening of 4,5-dihydroisoxazolyl derivatives**

pp 2850–2855

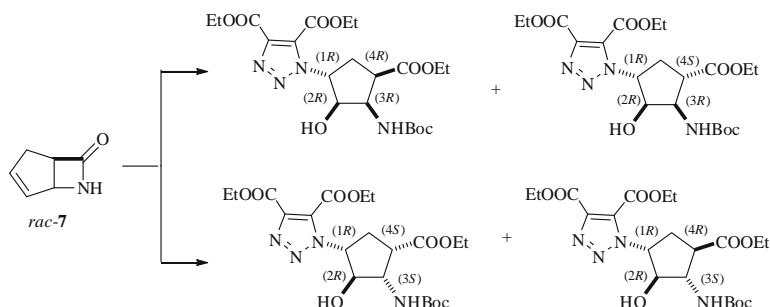
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**Novel functionalized cispentacin derivatives. Synthesis of 1,2,3-triazole-substituted 2-aminocyclopentanecarboxylate stereoisomers**

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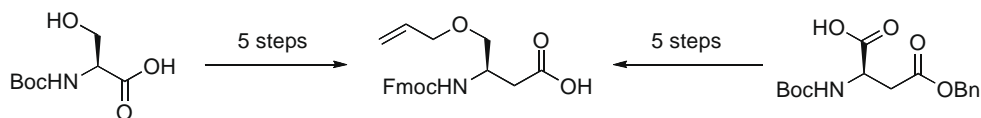
Loránd Kiss, Enikő Forró, Reijo Sillanpää, Ferenc Fülöp \*



**The synthesis of Fmoc-O-allyl β-serine**

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Ylva Bergman, Marisa Ciampini, Sania Jalal, Helen Rachel Lagiakos, Marie-Isabel Aguilar, Patrick Perlmutter \*

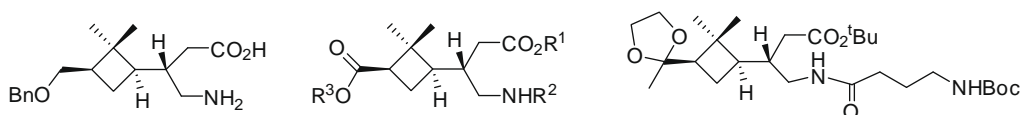


Two concise routes for the synthesis of Fmoc-O-Allyl-β-serine have been developed employing either Boc-O-allyl-β-serine or Boc-α-aspartic acid as starting material.

**Stereoselective synthesis of cyclobutyl γ-amino acids leading to branched peptides with a cyclobutane core**

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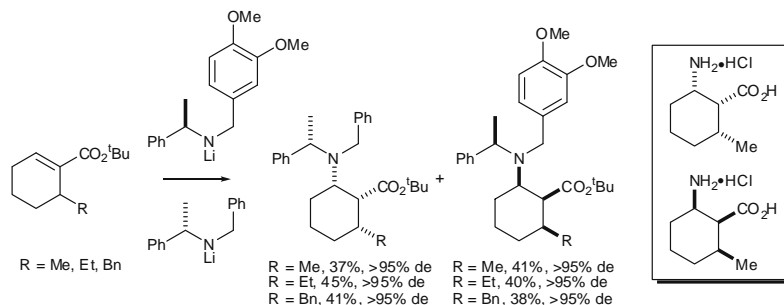
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**Parallel kinetic resolution of tert-butyl (RS)-6-alkyl-cyclohex-1-ene-carboxylates for the asymmetric synthesis of 6-alkyl-substituted cishexacin derivatives**

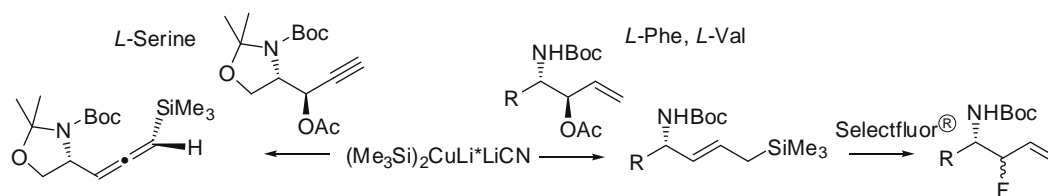
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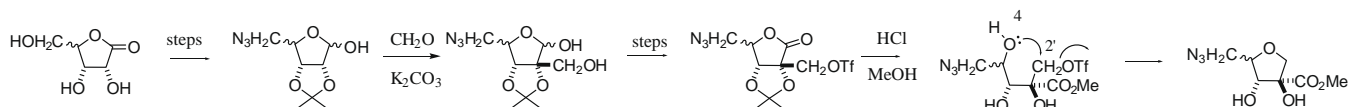


Parallel kinetic resolution of tert-butyl (RS)-6-n-alkyl-cyclohex-1-ene-carboxylates with a pseudoenantiomeric mixture of homo-chiral lithium amides gives access to (1R,2S,6R)- and (1S,2R,6S)-6-methyl-cishexacin.

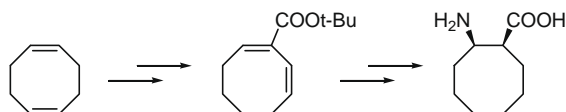
Gianna Reginato\*, Alessandro Mordini, Alice Tenti, Michela Valacchi, Julie Broguiere



Michela I. Simone, Alison A. Edwards, George E. Tranter, George W.J. Fleet\*

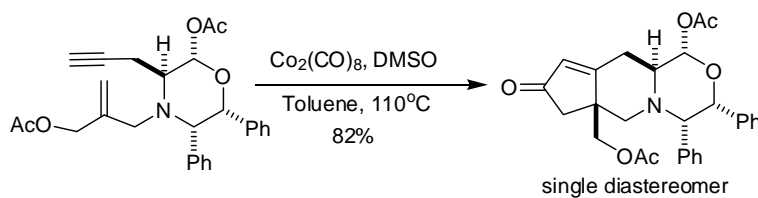


Narciso M. Garrido\*, Magda Blanco, Imanol F. Cascón, David Díez, Victor M. Vicente, Francisca Sanz, Julio G. Urones



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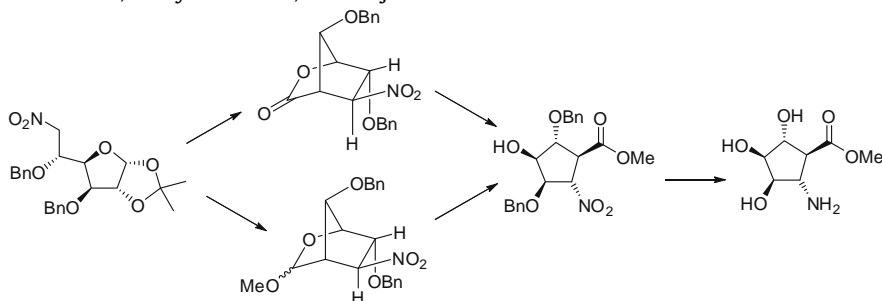
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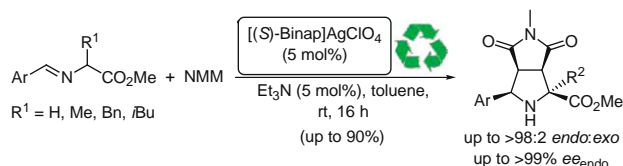
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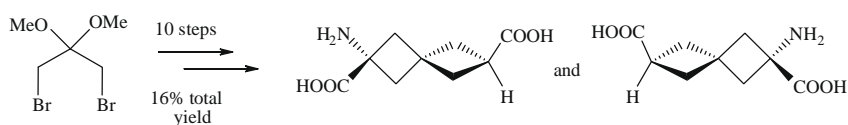
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Dmytro S. Radchenko, Oleksandr O. Grygorenko, Igor V. Komarov\*



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