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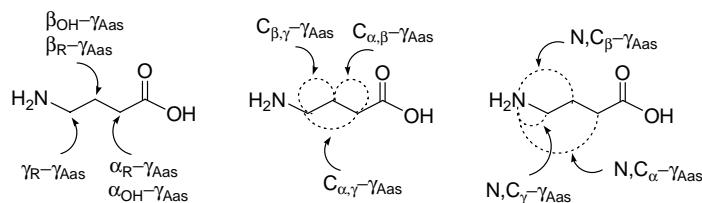
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Stereoselective synthesis of  $\gamma$ -amino acids

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Mario Ordóñez\* and Carlos Cativiela\*

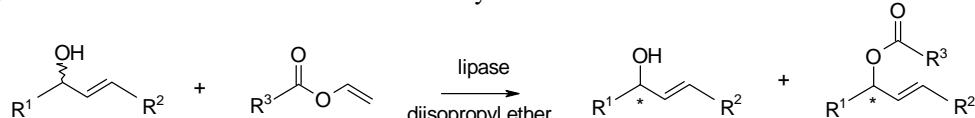


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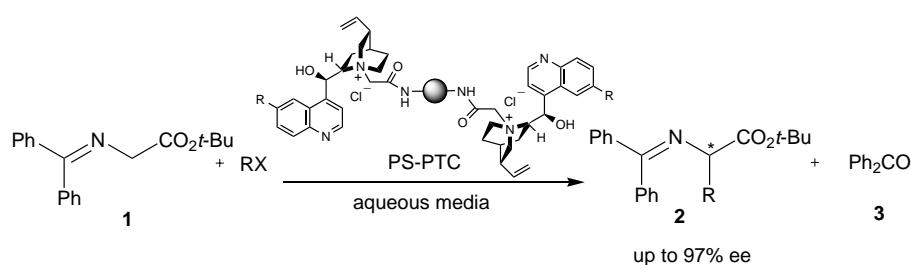
Anna Chojnacka,\* Robert Obara and Czesław Wawrzeńczyk


 $R^1 = n\text{-Bu, } i\text{-Bu, } -\text{CH}_2\text{C}(\text{CH}_3)_3, -\text{CH}_2\text{C}_6\text{H}_5$ 
 $R^2 = \text{H, Me}$ 
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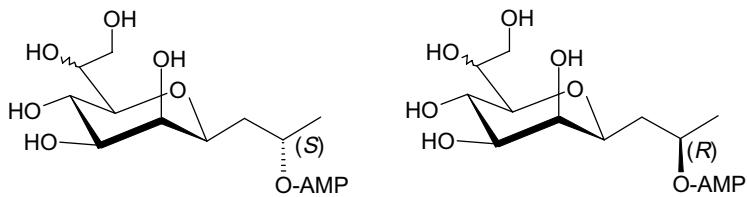
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Xin Wang, Liang Yin, Ting Yang and Yongmei Wang\*



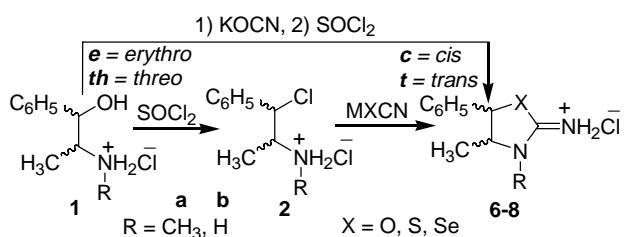
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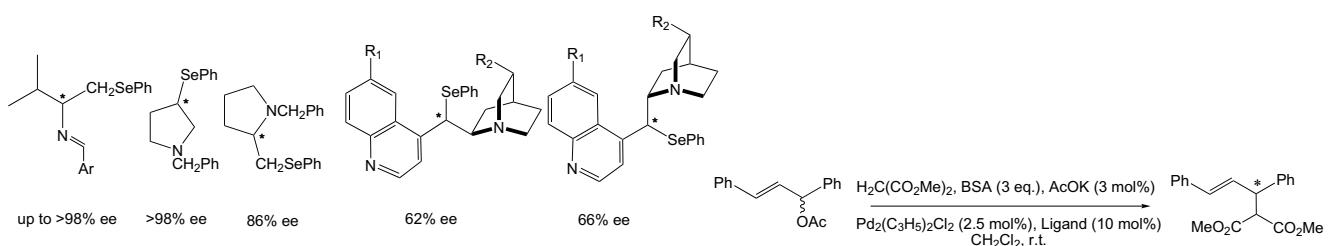
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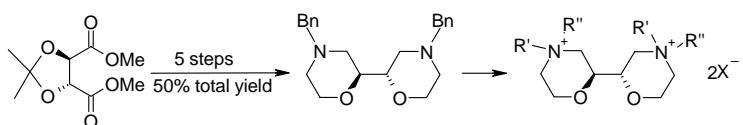
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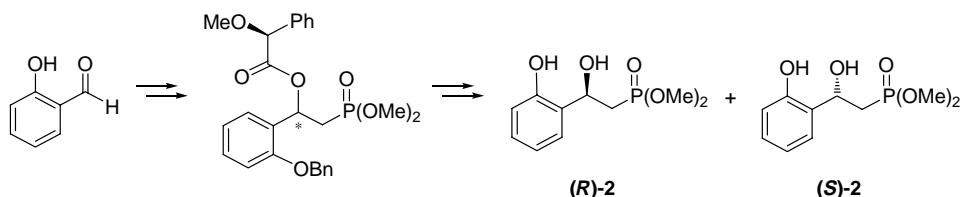
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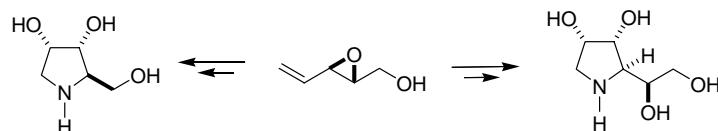
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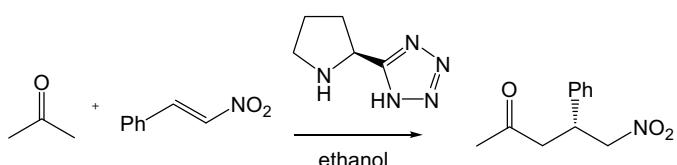


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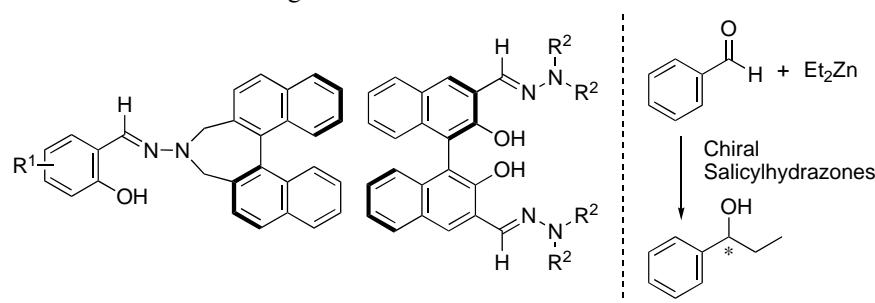
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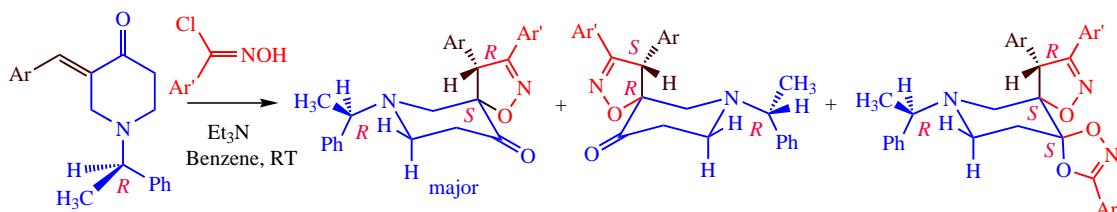
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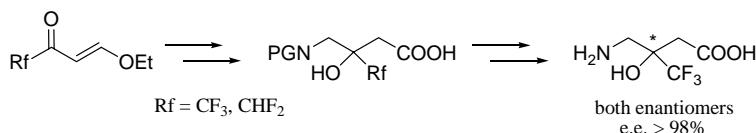
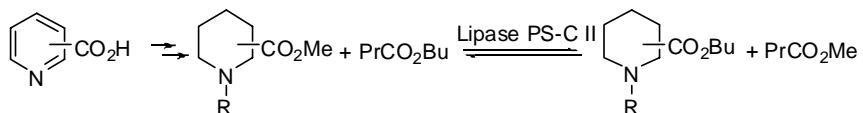


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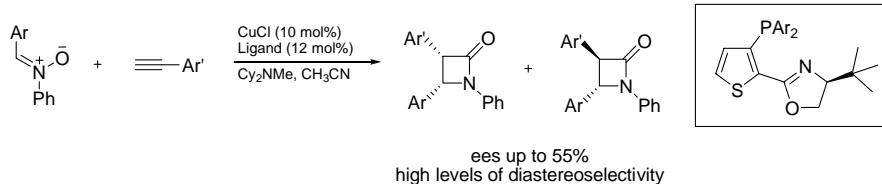
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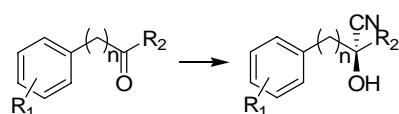




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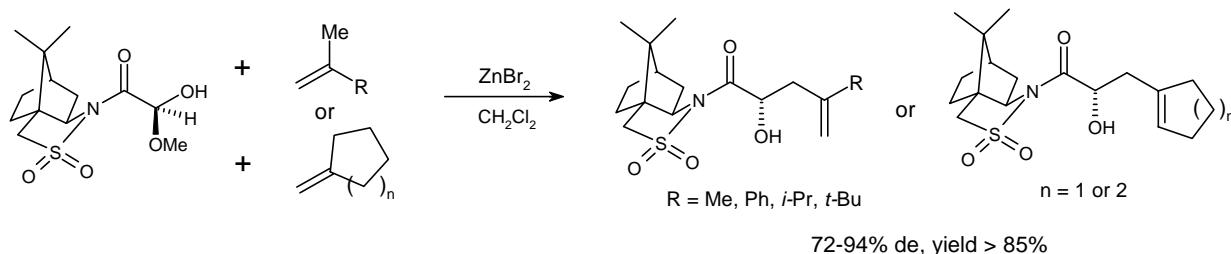
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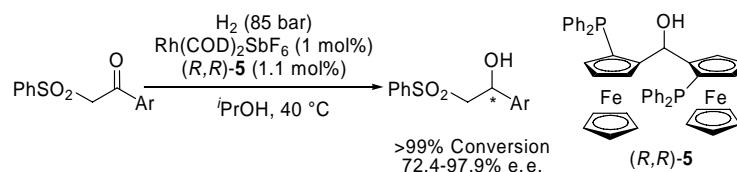
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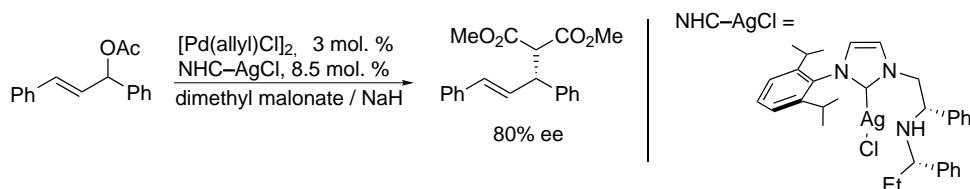
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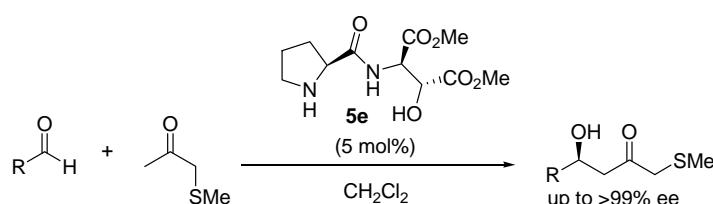
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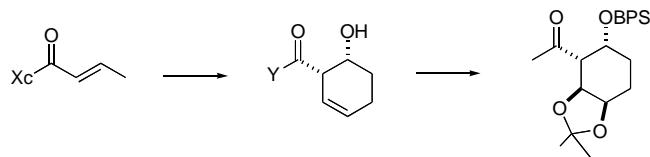
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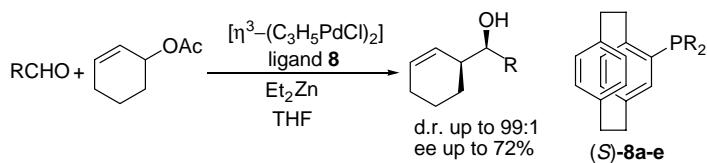
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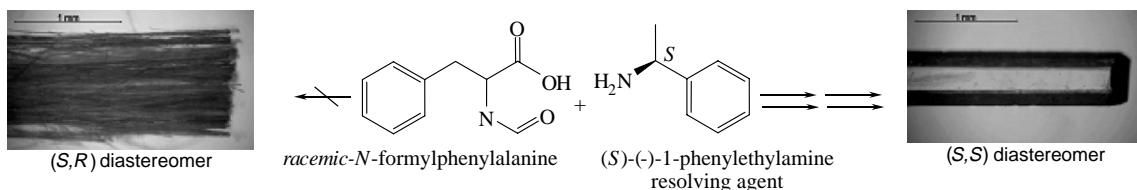
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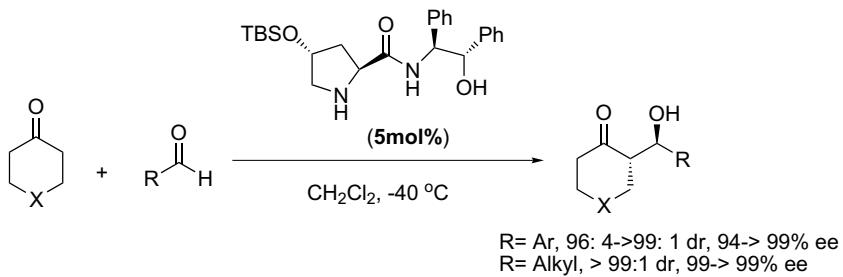
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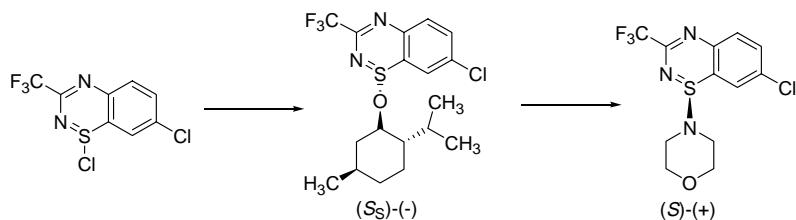


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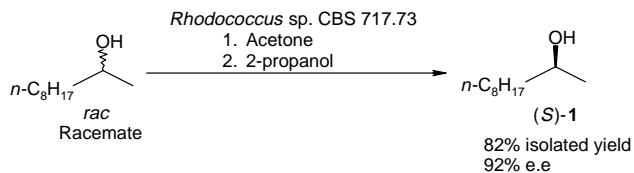


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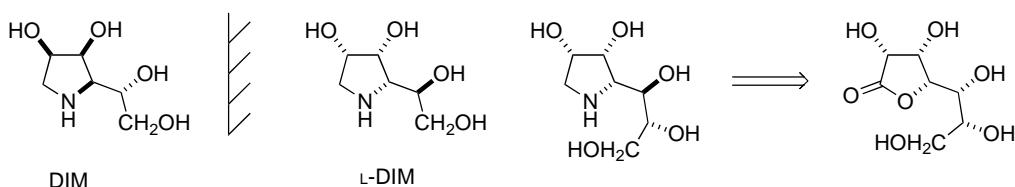


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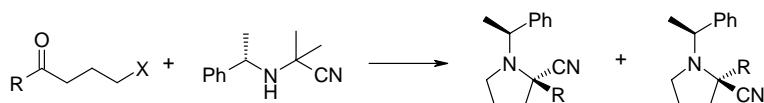


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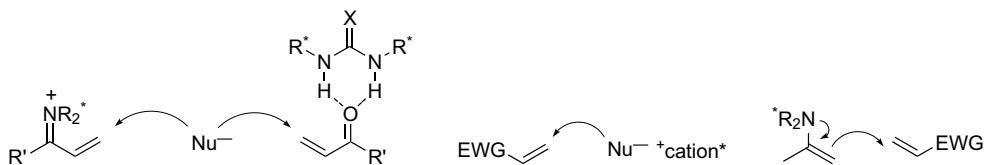


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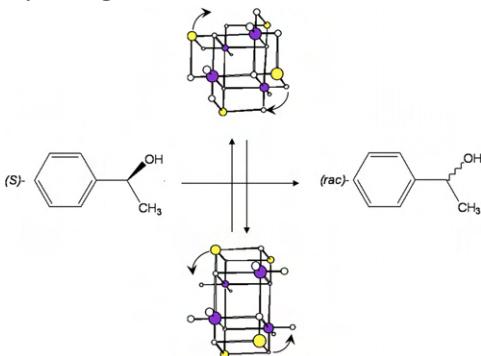
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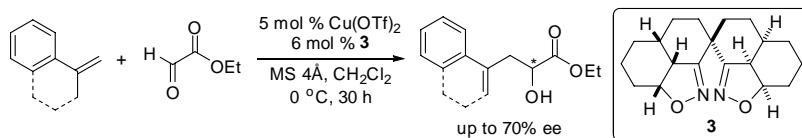
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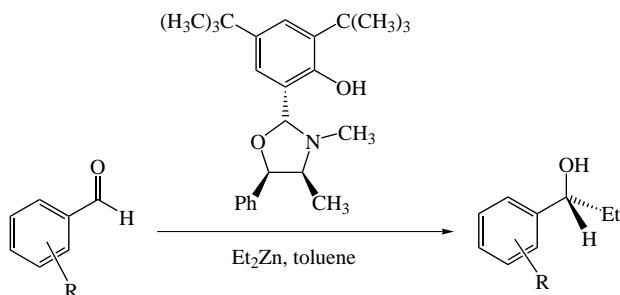
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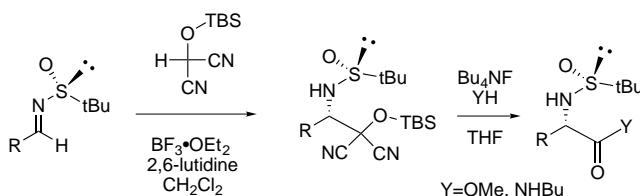
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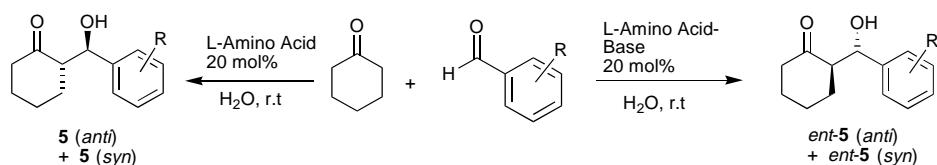
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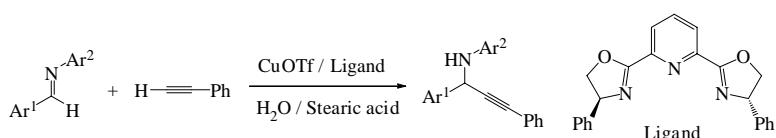
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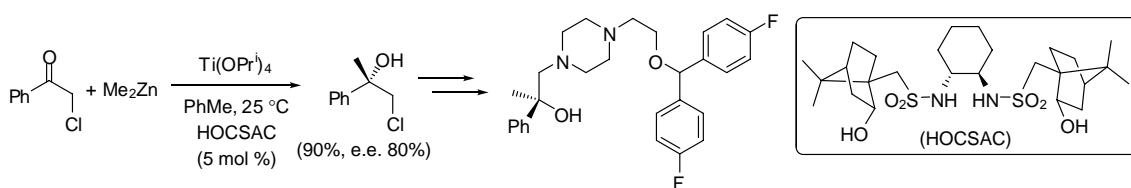
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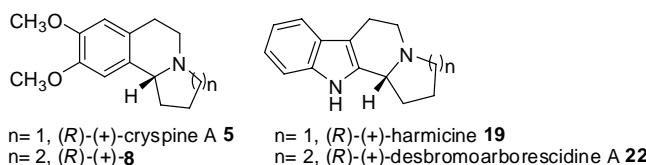
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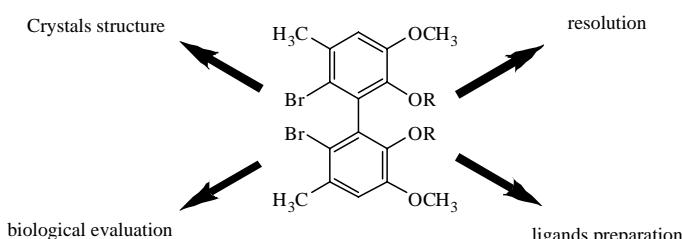
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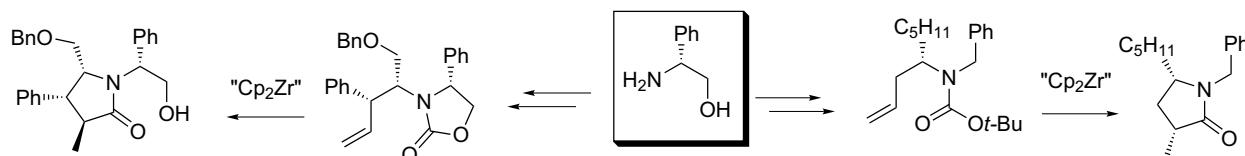
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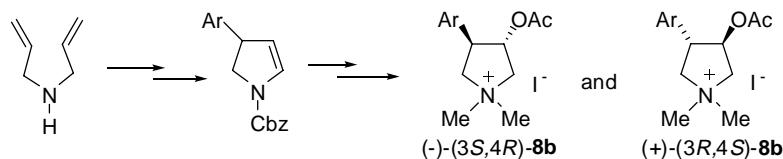


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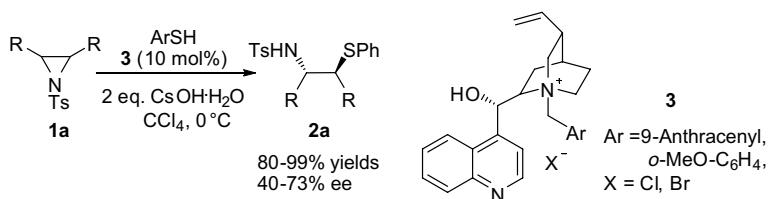
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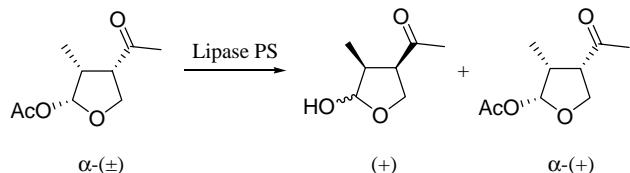
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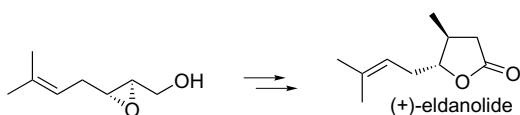
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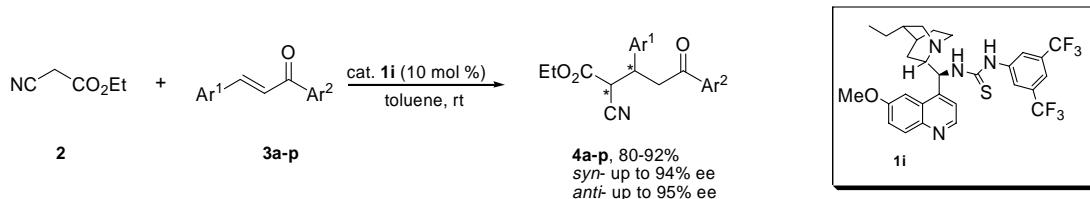
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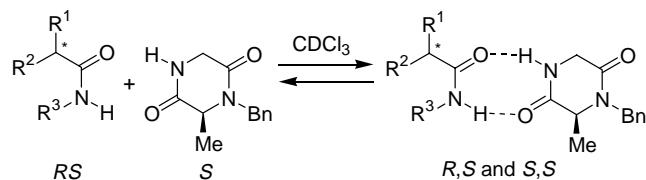
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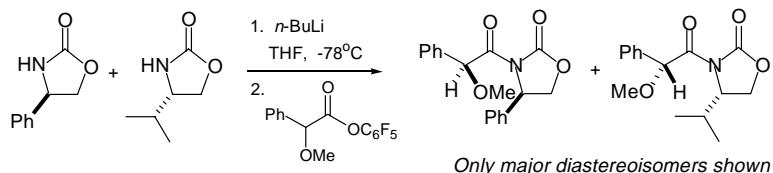
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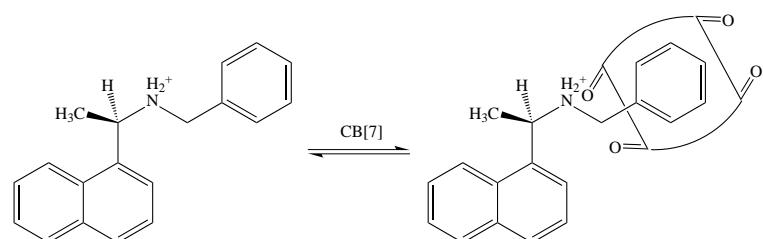
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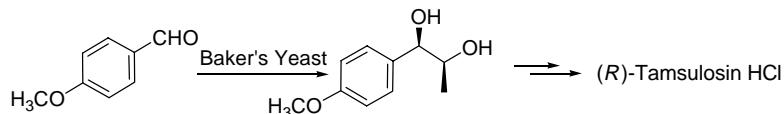
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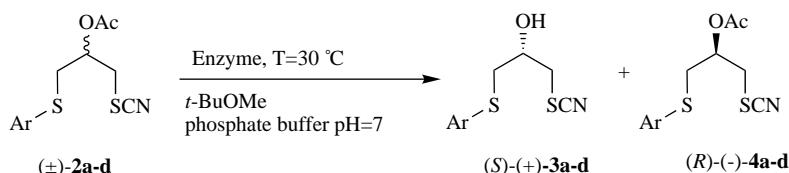
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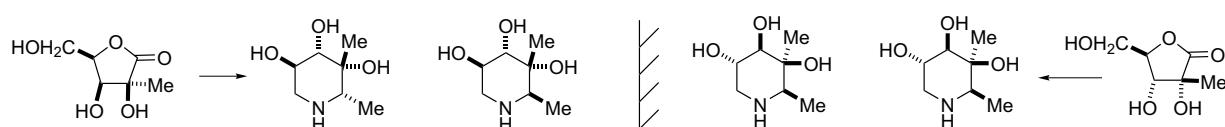
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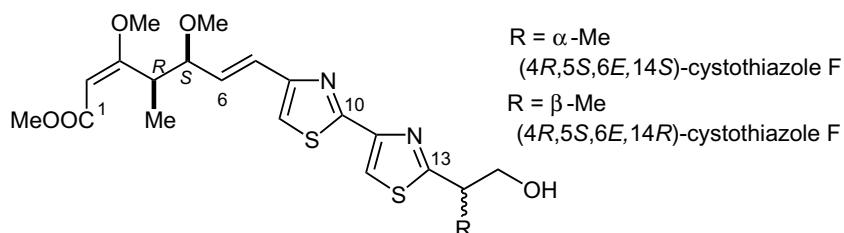
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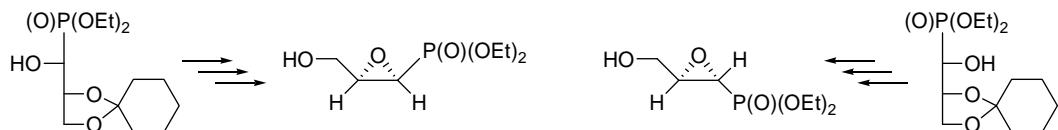
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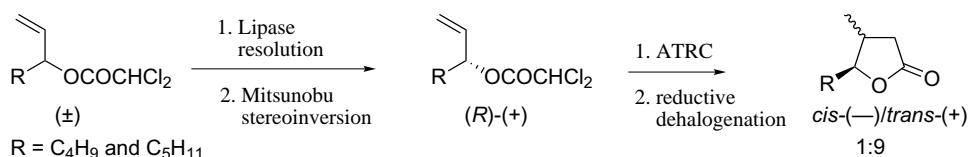
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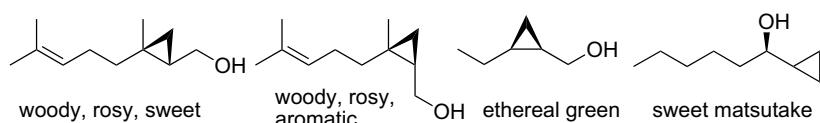
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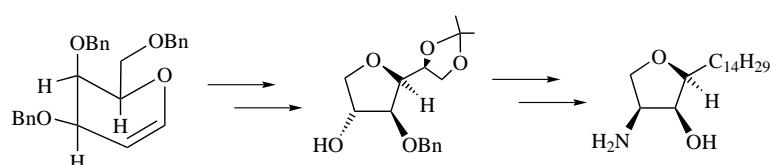
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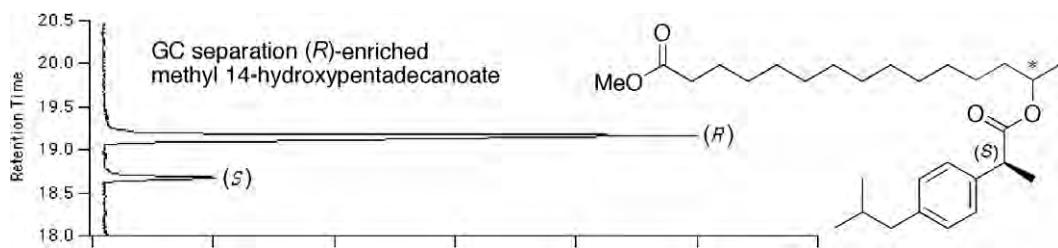
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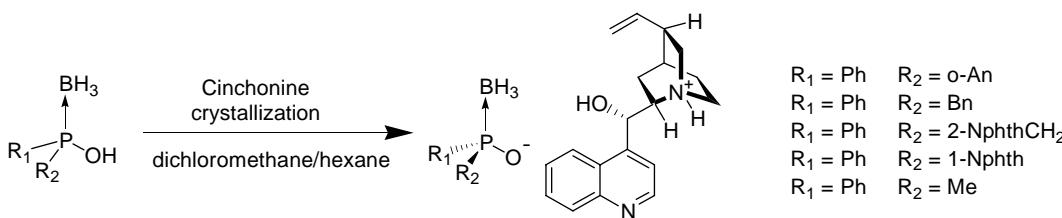
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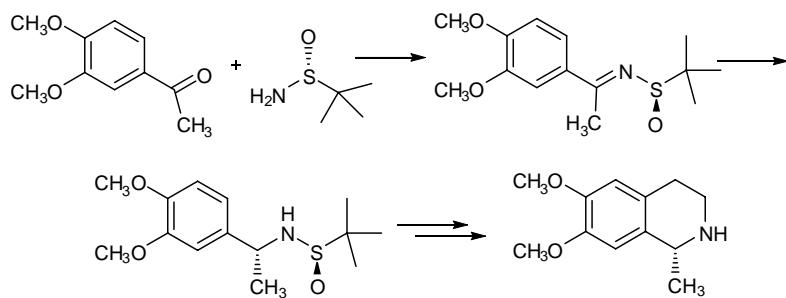
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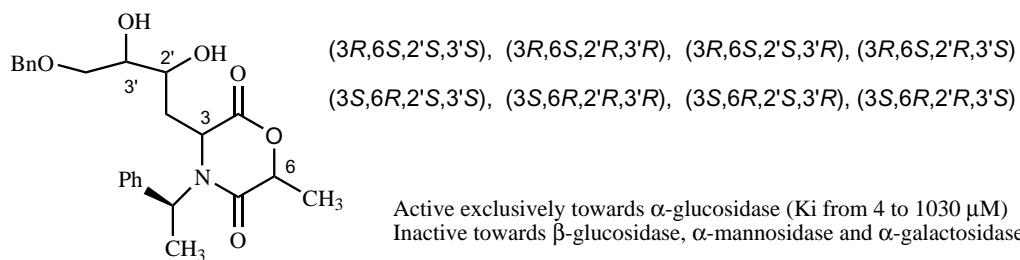
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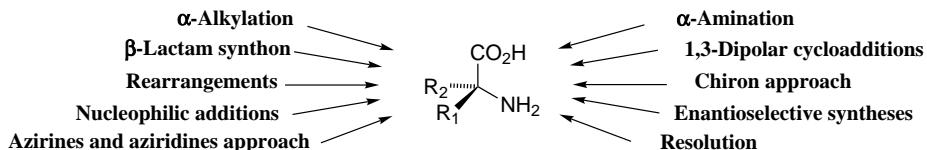
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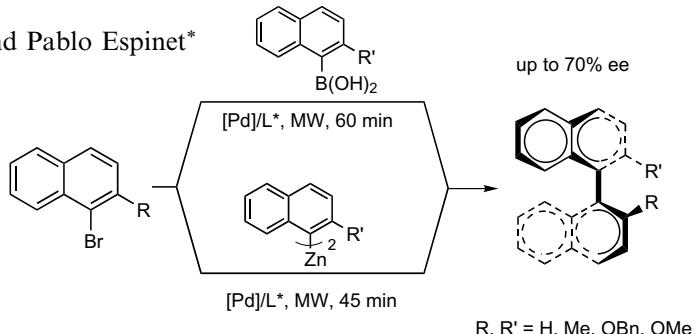


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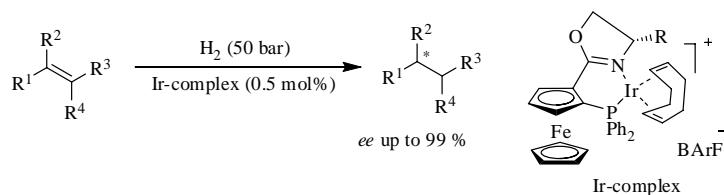


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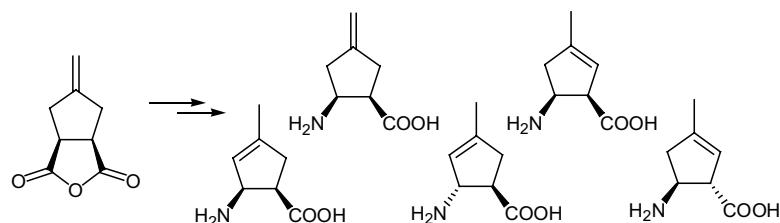
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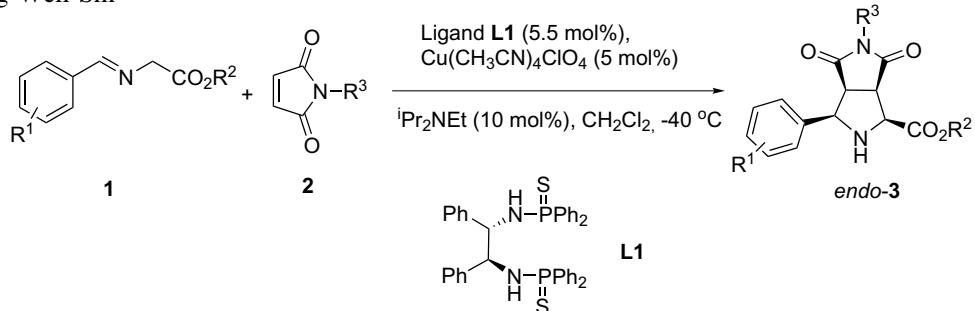
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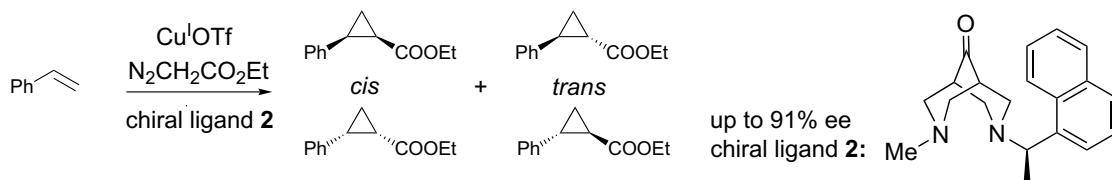
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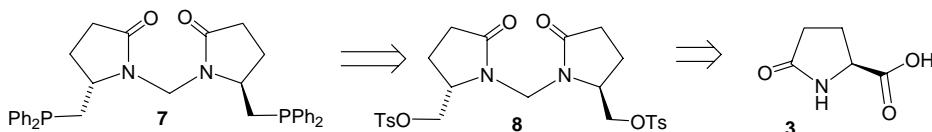
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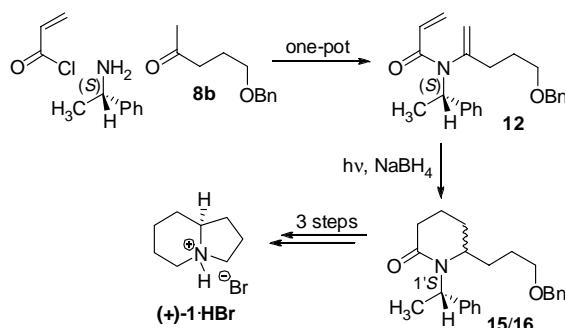
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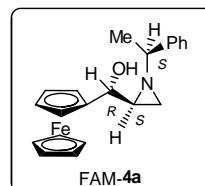
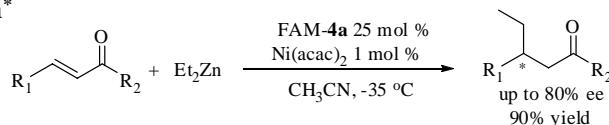
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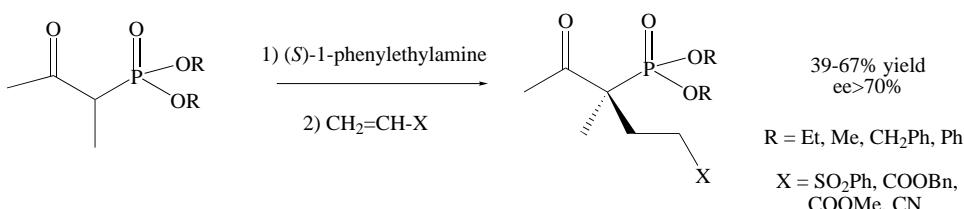
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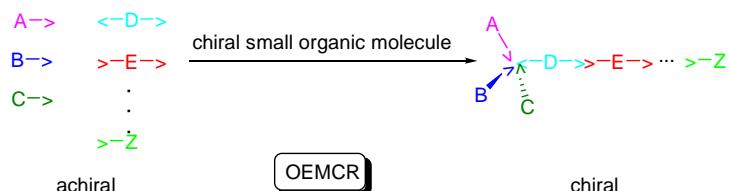
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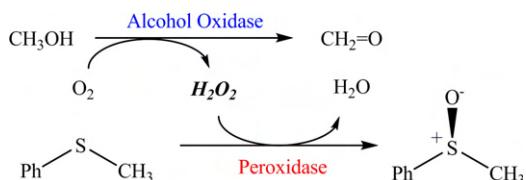


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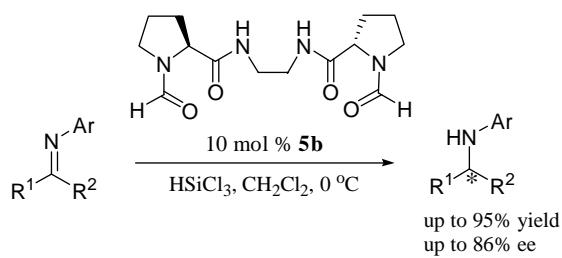


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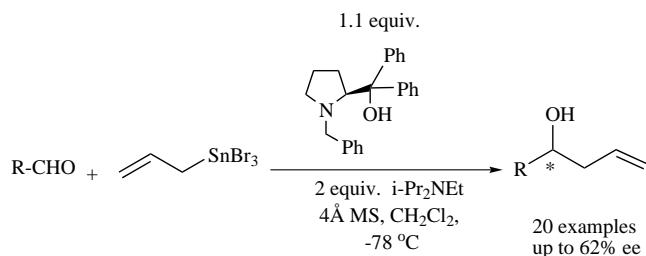
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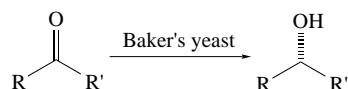
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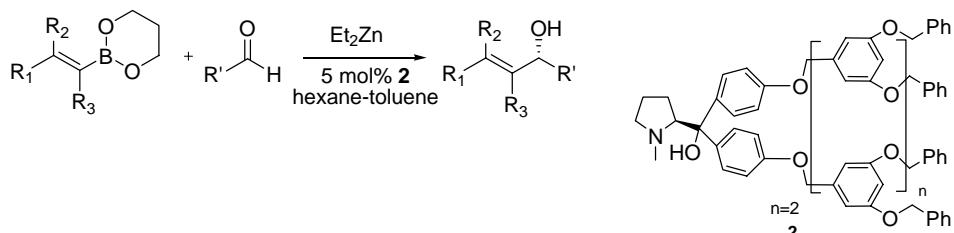


Stereo selective bio-reduction of prochiral ketones like, indanones, tetralones and mono terpene ketones into chiral secondary alcohols using *Daucus carota* root homogenate and fermented baker's yeast cells is described. The application of this methodology in asymmetric bio-reduction of ketones has shown wide substrate specificity, good yields and enantioselectivity in mild and eco-friendly environment.

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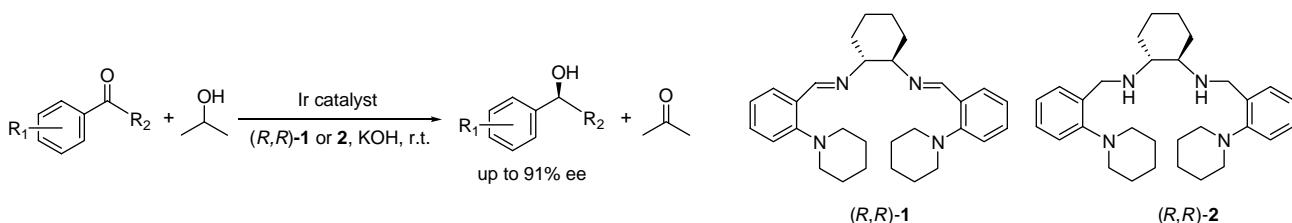
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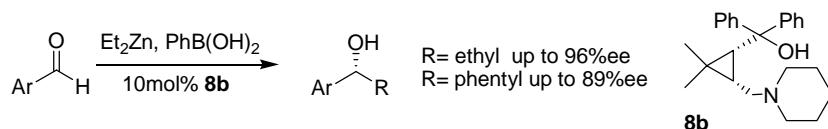
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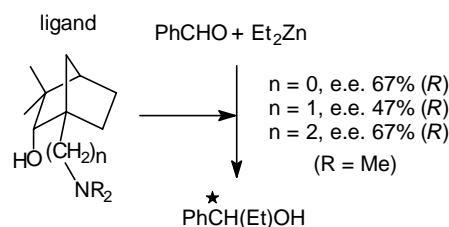
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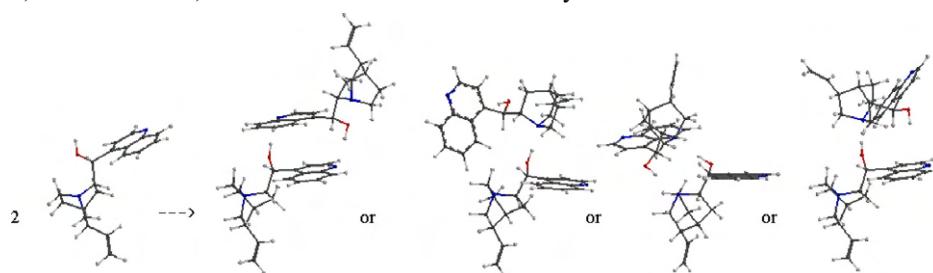
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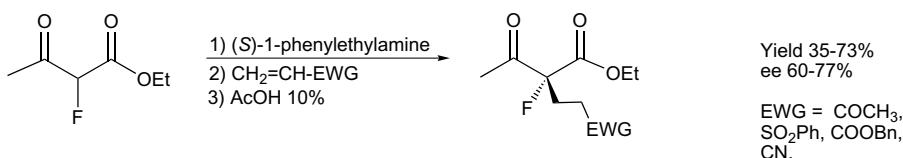
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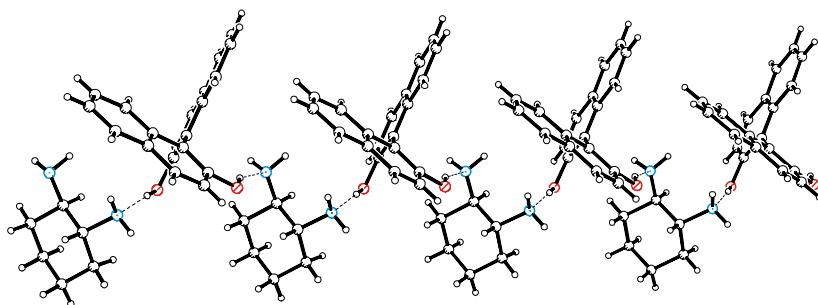
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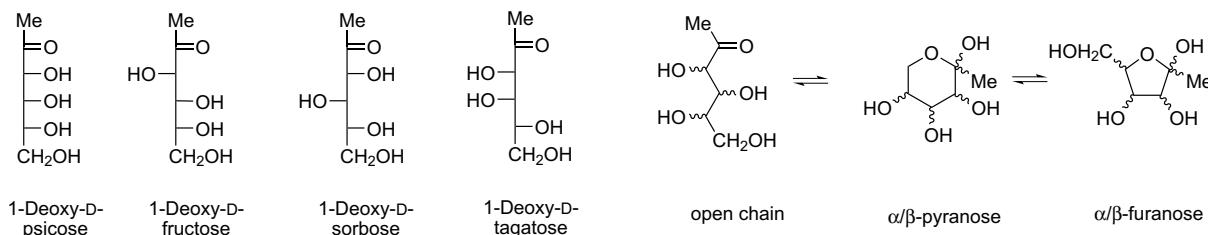
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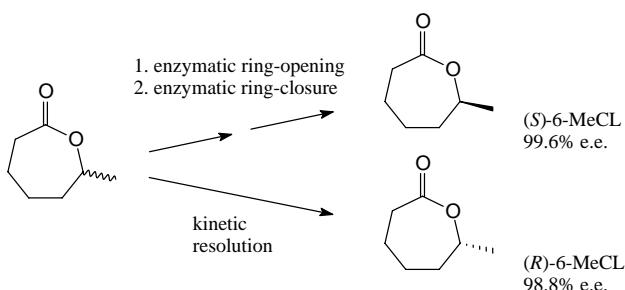
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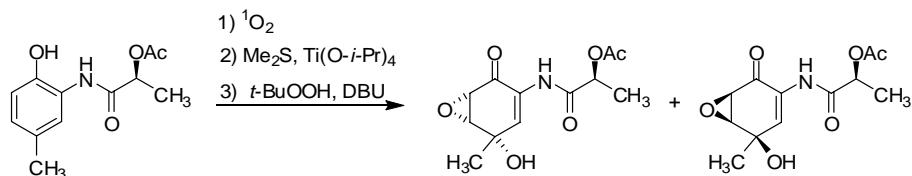
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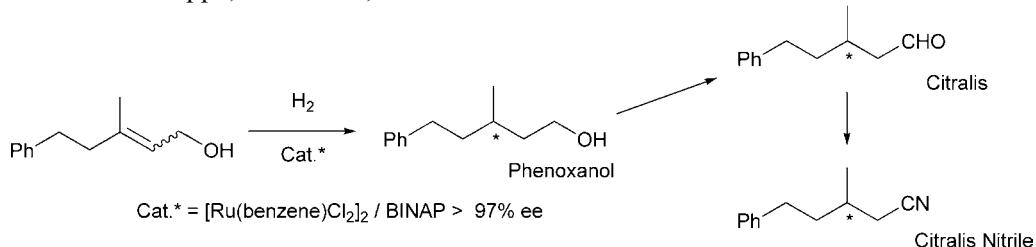


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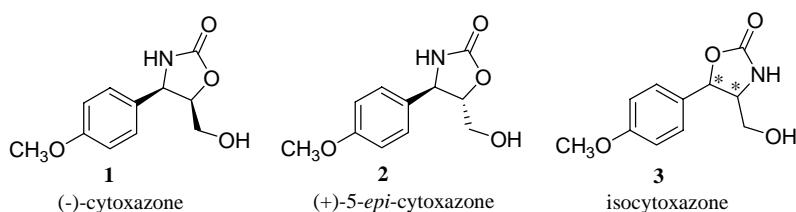
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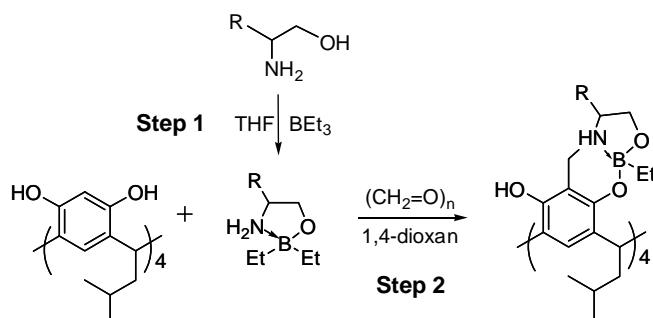


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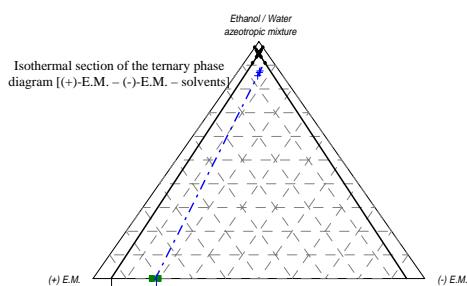
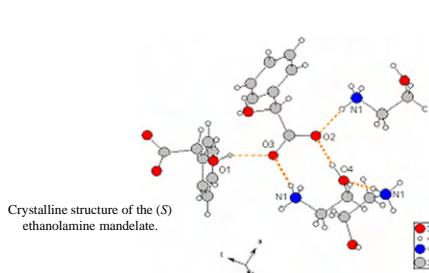
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Nicolas Wermester, Eric Aubin, Morgan Pauchet, Servane Coste and Gérard Coquerel\*

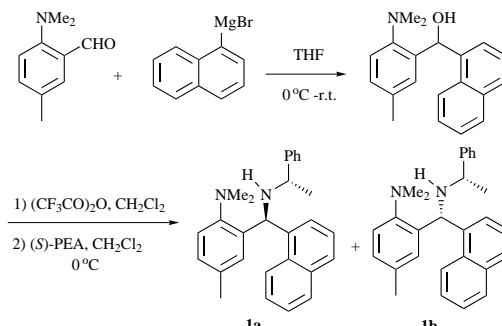
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New chiral auxiliaries derived from (*S*)- $\alpha$ -phenylethylamine as chiral solvating agents for carboxylic acids  
Wenge Wang, Fengnian Ma, Xumin Shen and Cong Zhang\*

pp 832–837

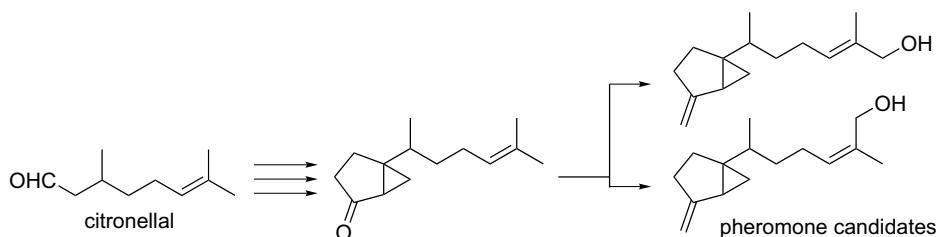
The two new diastereoisomeric chiral auxiliaries **1a** and **1b** were synthesized conveniently and effectively.  $^1\text{H}$  NMR was employed to investigate their chiral recognition ability. Compared with (*S*)-PEA, these new chiral auxiliaries exhibited better enantioselectivity towards the carboxylic acids we had chosen.



Synthetic studies aimed at the elucidation of the stereostructure of the aggregation pheromone, 2-methyl-6-(4'-methylenebicyclo[3.1.0]hexyl)hept-2-en-1-ol, produced by the male stink bug *Erysarcoris lewisi*

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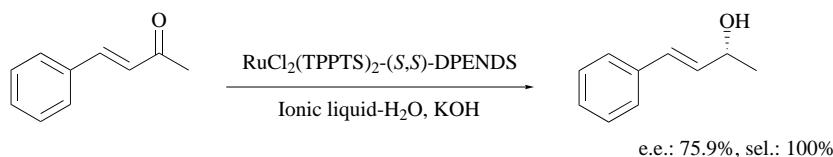
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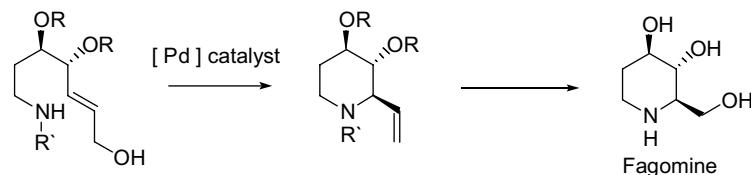
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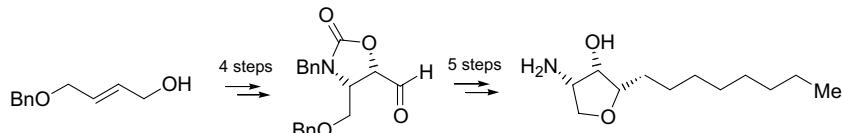
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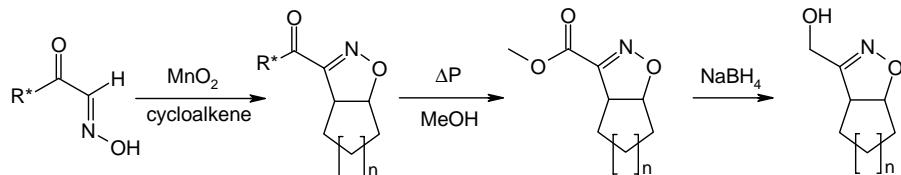
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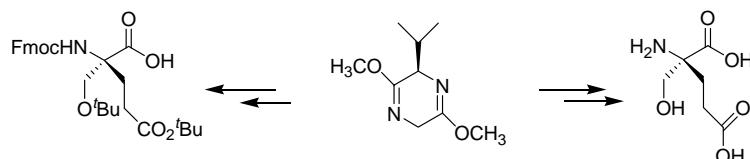
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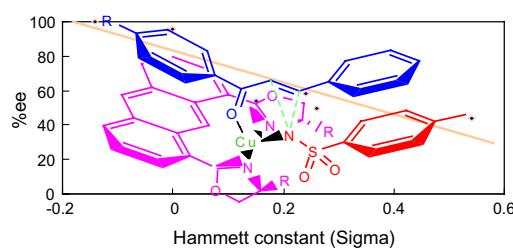
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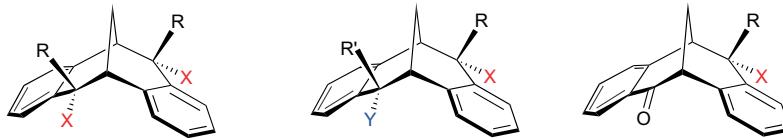
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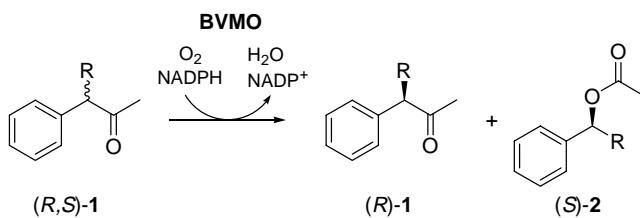
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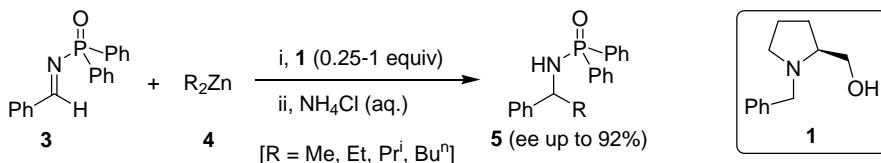
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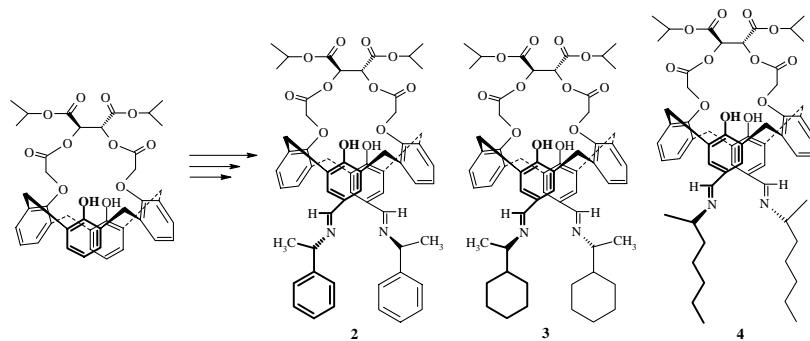
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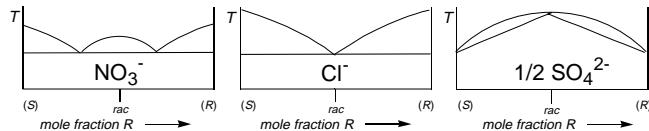
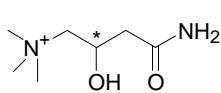


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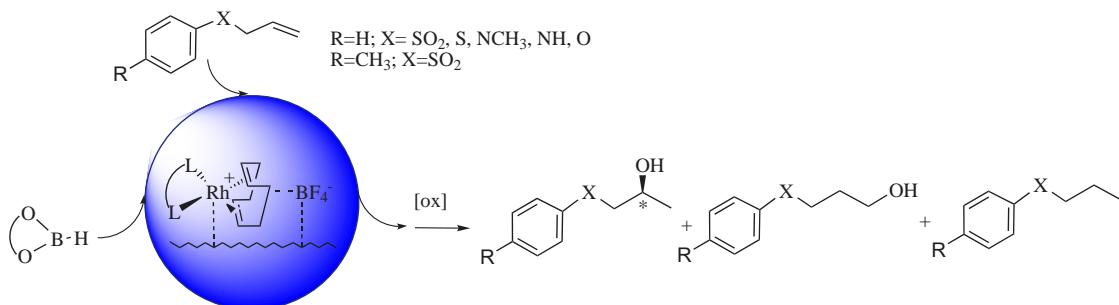
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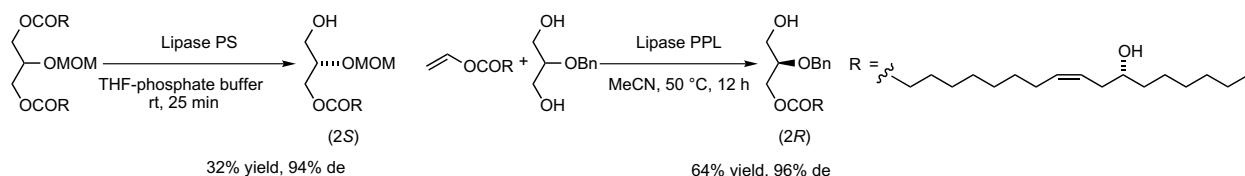
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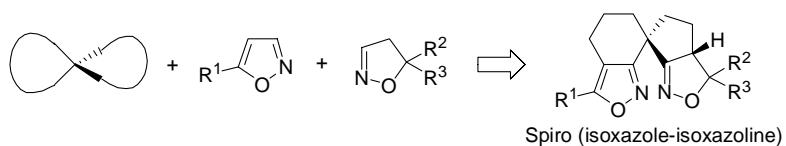
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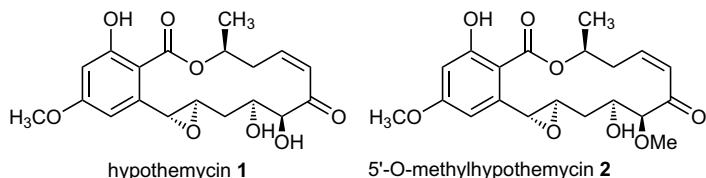


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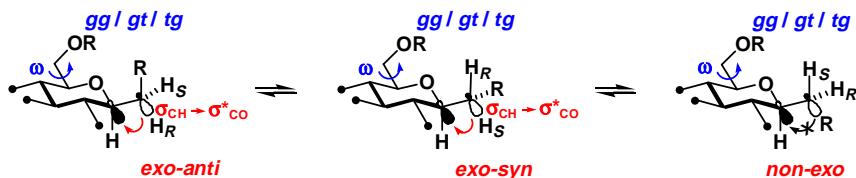
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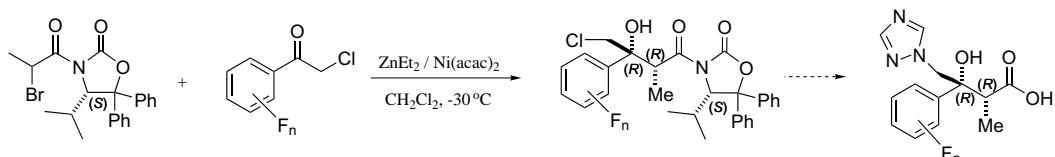
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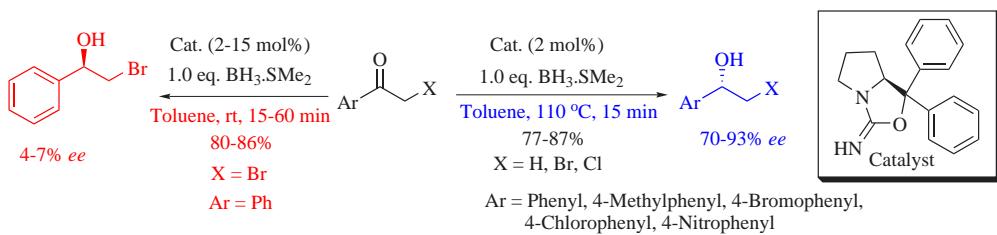
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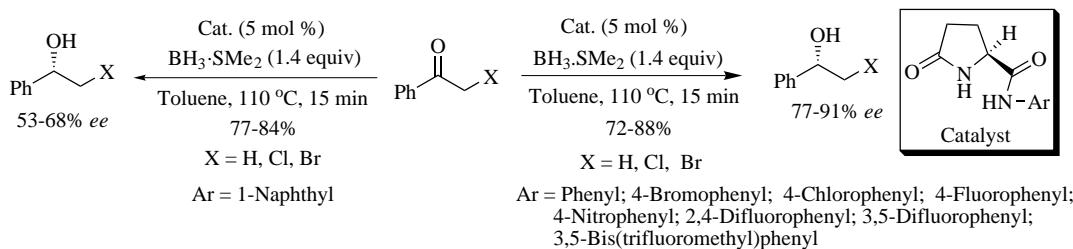
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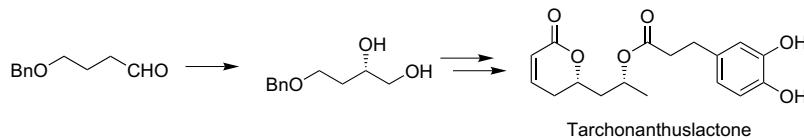
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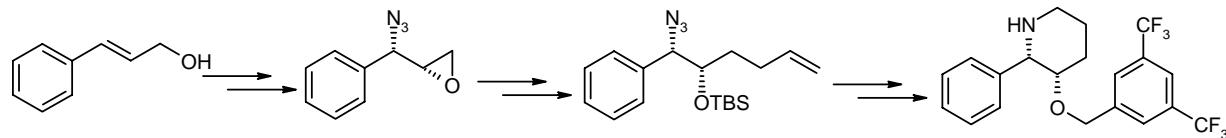
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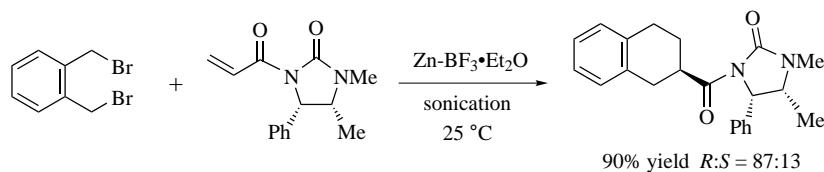
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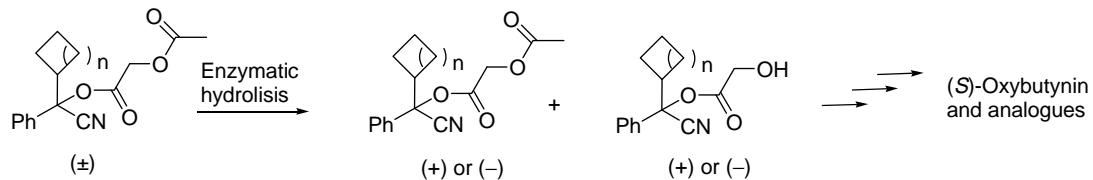
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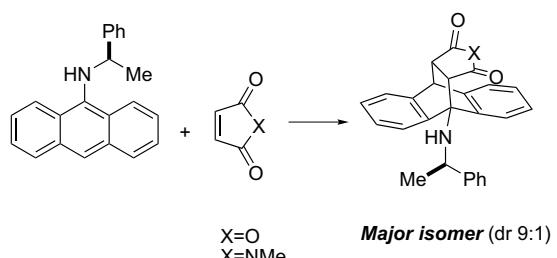
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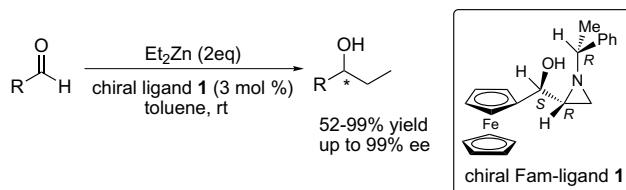
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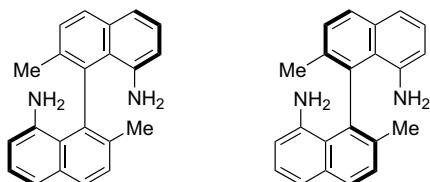
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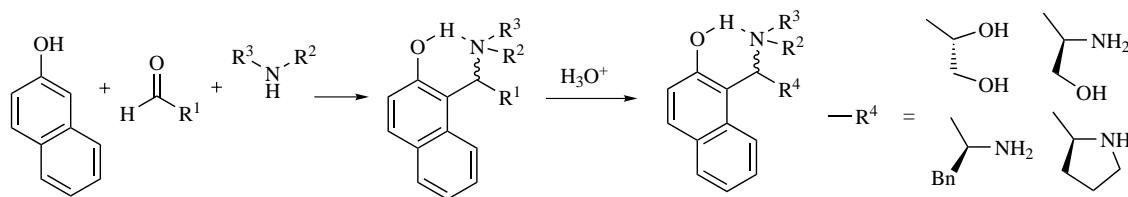
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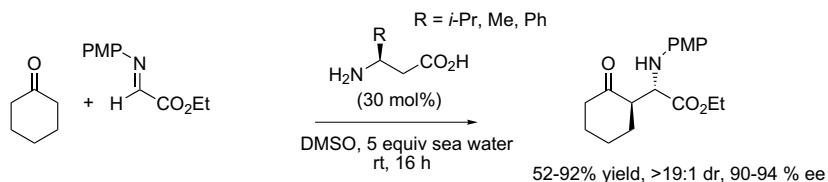


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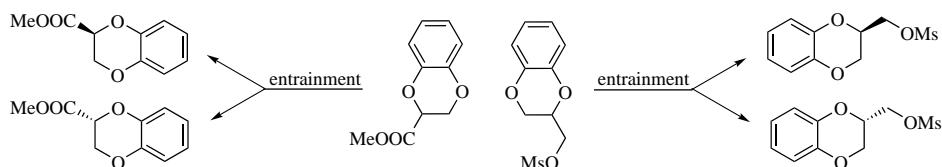
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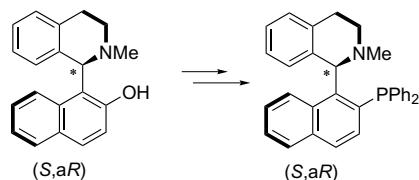
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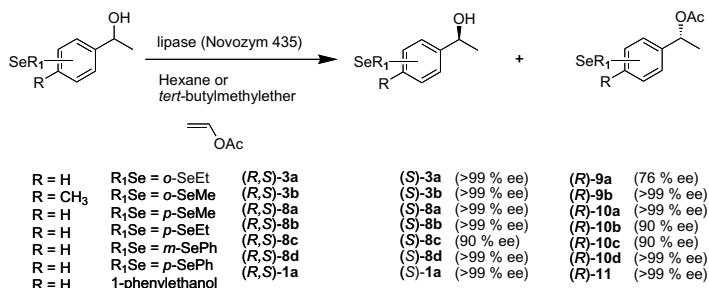
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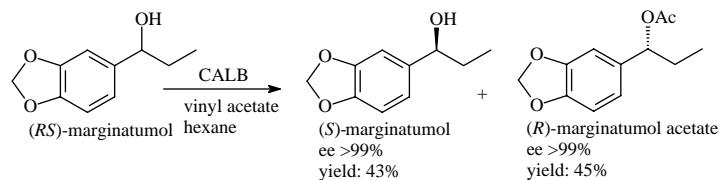
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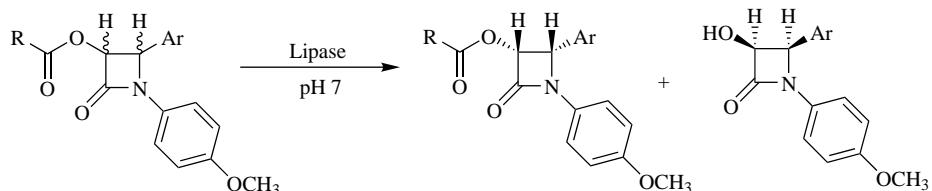
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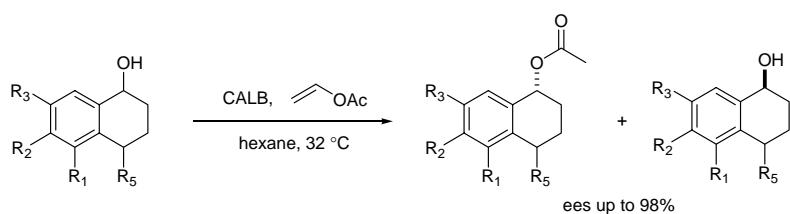
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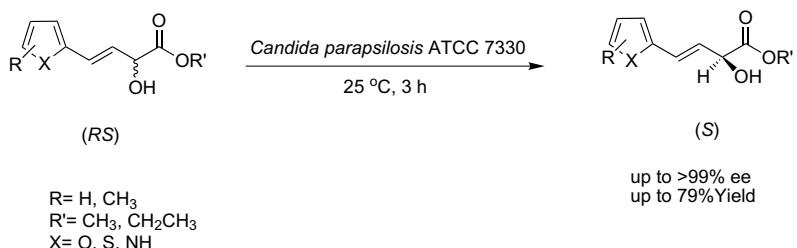
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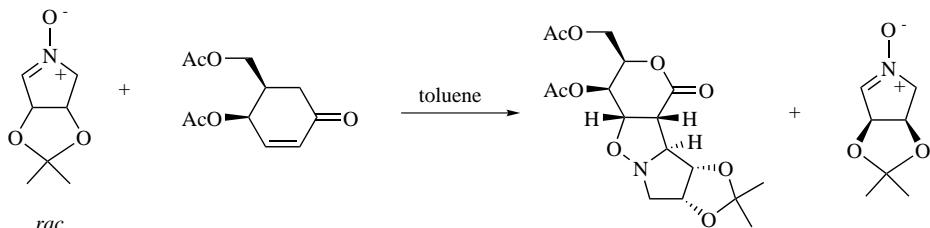
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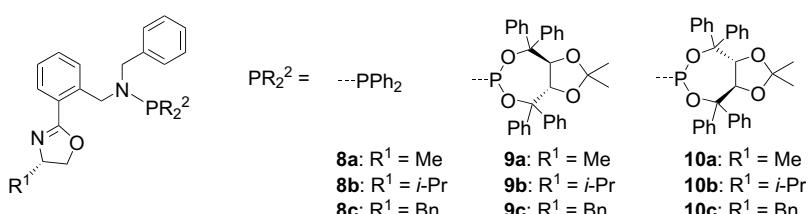
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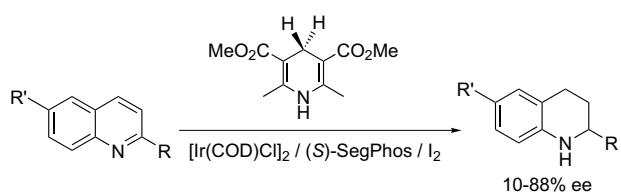
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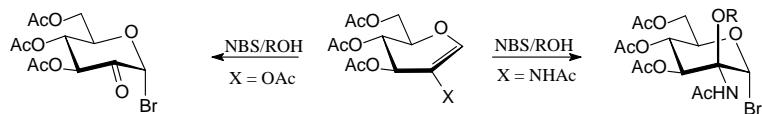
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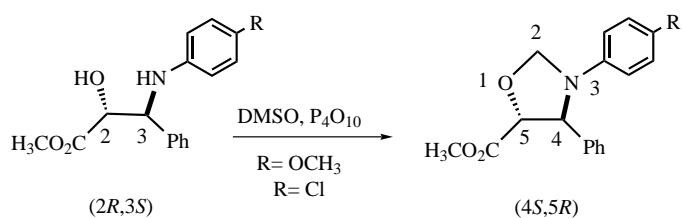
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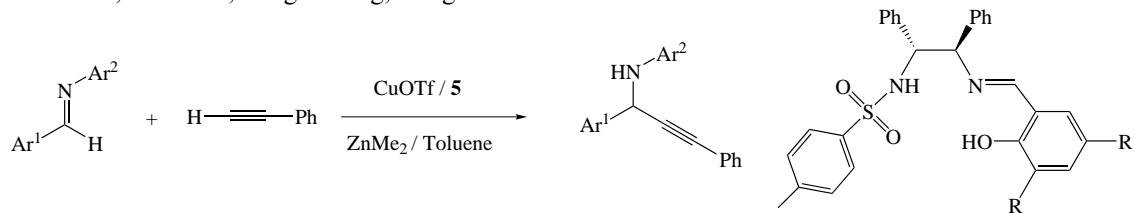
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**The synthesis of chiral *N*-tosylated aminoimine ligands and their application in enantioselective addition of phenylacetylene to imines**

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



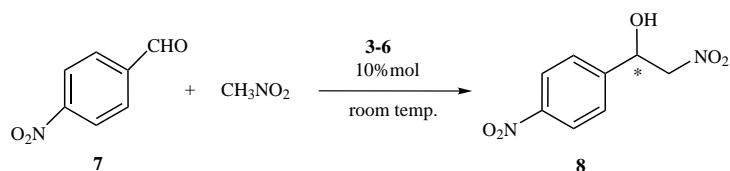
5: R = C(CH<sub>3</sub>)<sub>3</sub>

New chiral tridentate *N*-tosylated aminoimine ligands were synthesized and were used in the Cu(I)-catalyzed enantioselective addition of alkynes to imines. Good enantioselectivities (up to 91% ee) were obtained.

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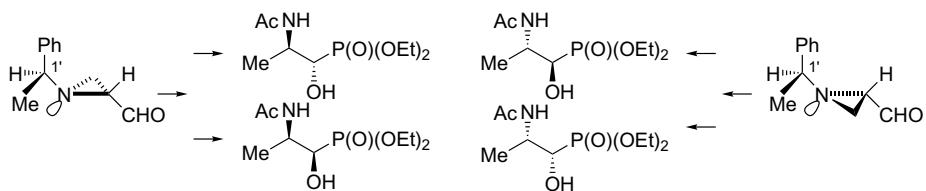


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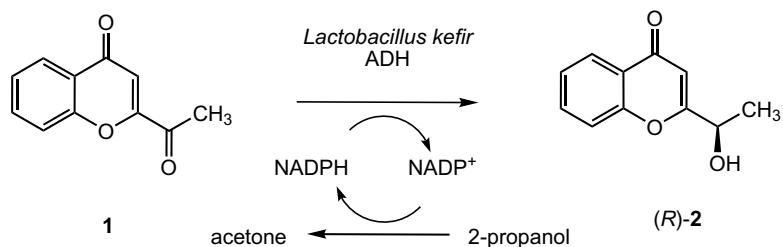


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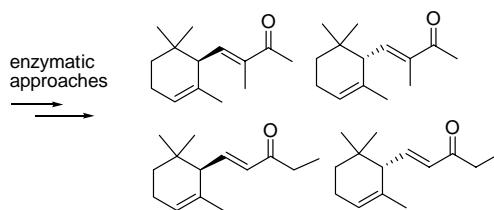


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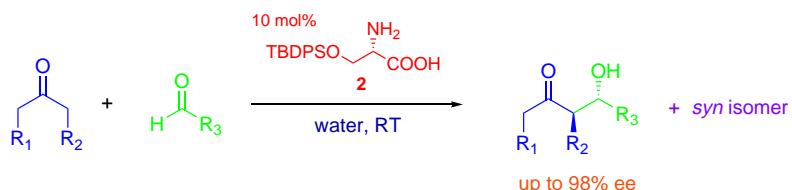


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Yong-Chua Teo

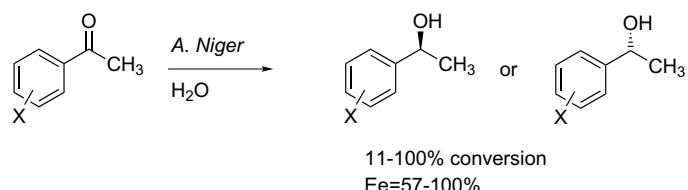


A siloxy-L-serine organocatalyst has been developed to catalyze the asymmetric direct aldol reactions in the presence of water, furnishing the  $\beta$ -hydroxy carbonyl scaffold in high enantio- and diastereoselectivities. The direct aldol reaction between a selection of aromatic aldehydes and cyclohexanone resulted in good yields and high enantioselectivities.

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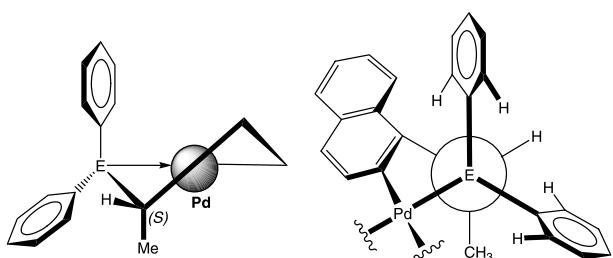
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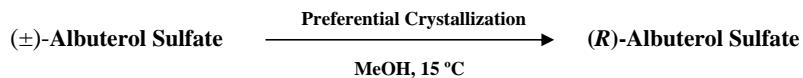
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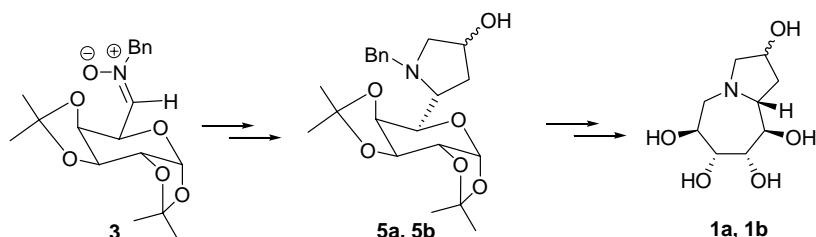
Joseph K. P. Ng, Shuli Chen, Geok K. Tan and Pak-H. Leung\*



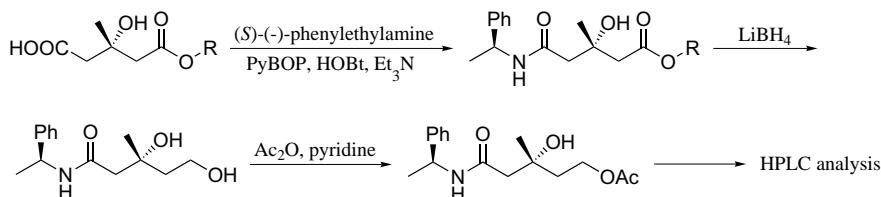


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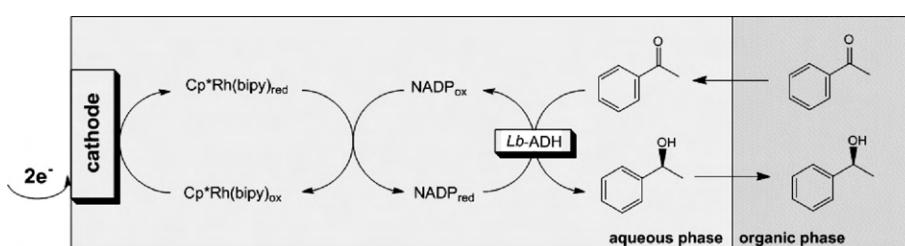
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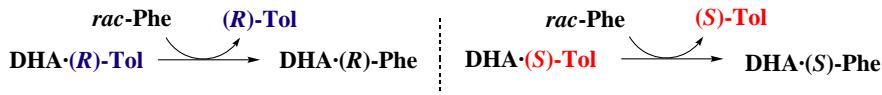


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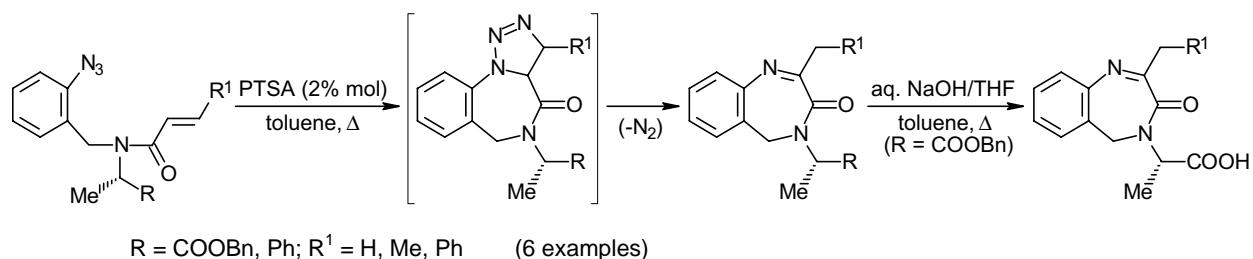
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DHA: dehydrocholic acid, Tol: tolyl methyl sulfoxide, Phe: phenyl methyl sulfoxide

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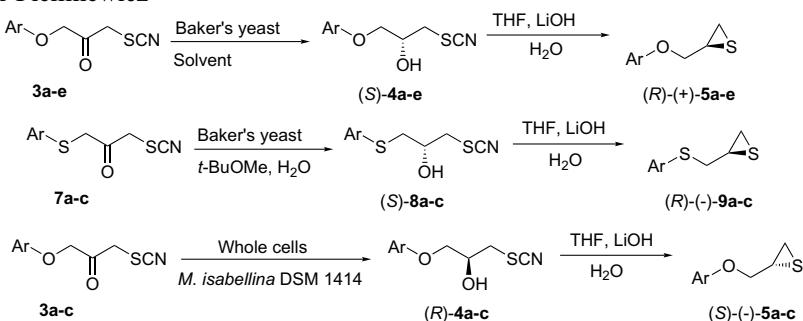
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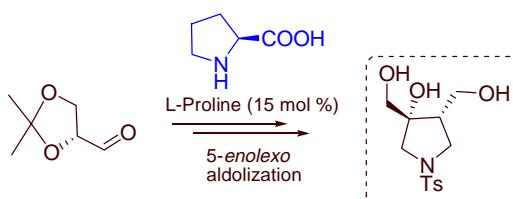
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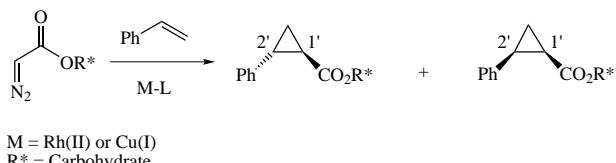
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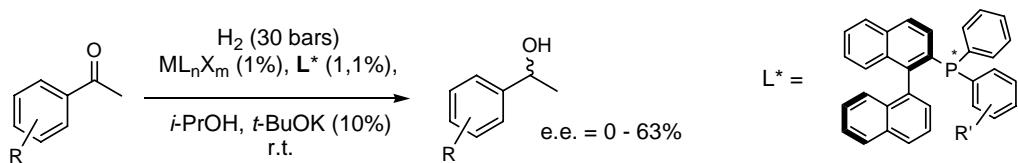
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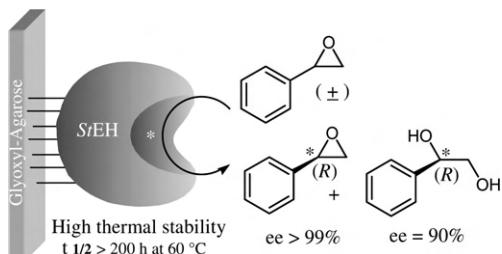
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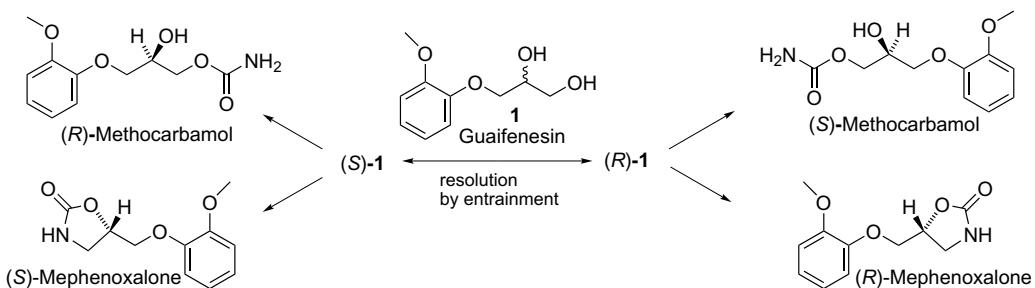
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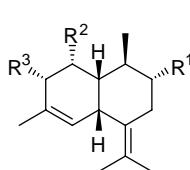


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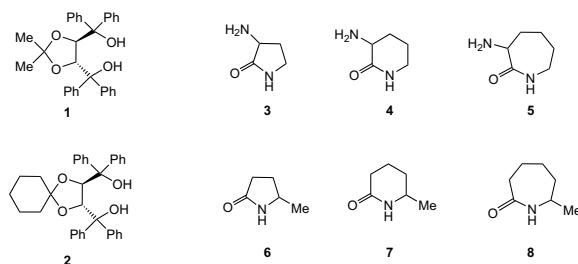
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**3**  $R^1 = R^3 = H; R^2 = OAc$   
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**10**  $R^1 = R^2 = H; R^3 = OH$   
**12**  $R^1 = R^2 = H; R^3 = OAc$   
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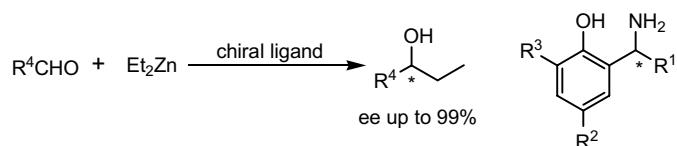


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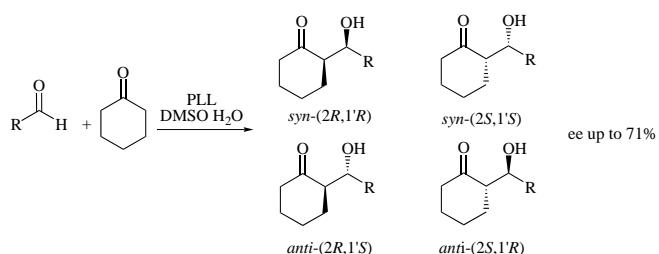


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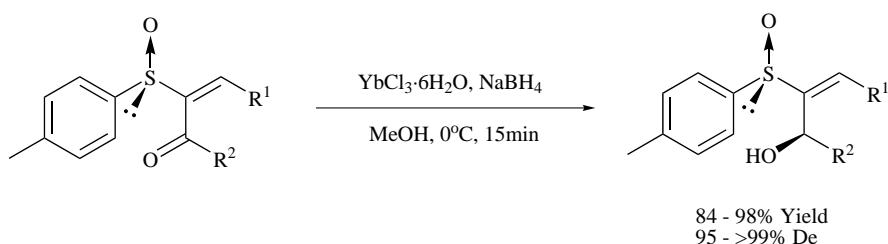
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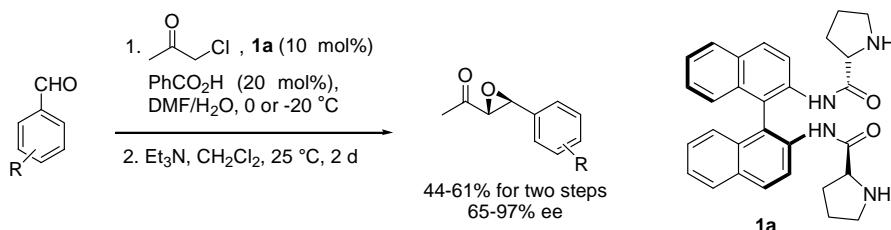
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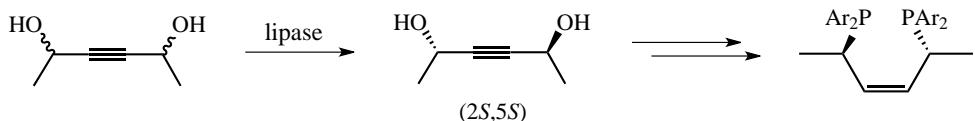
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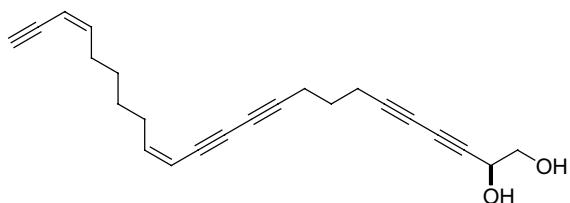
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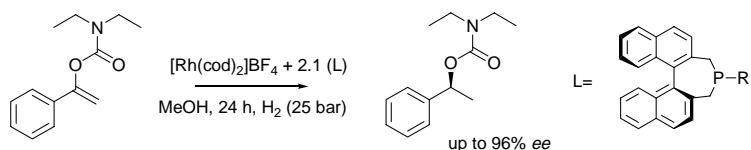
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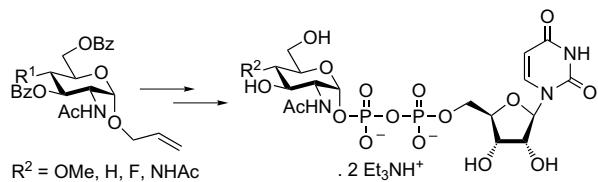
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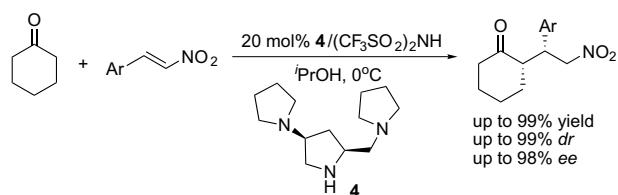
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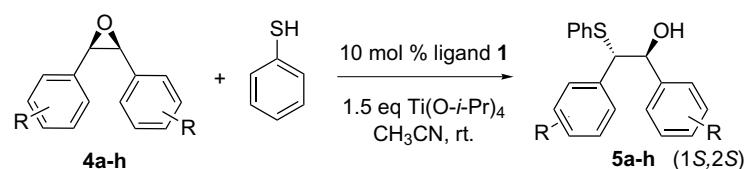
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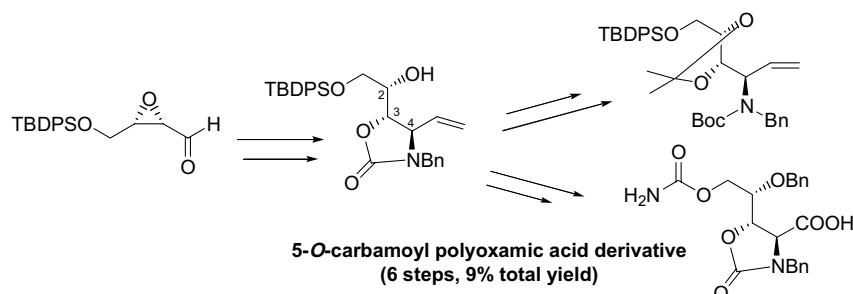
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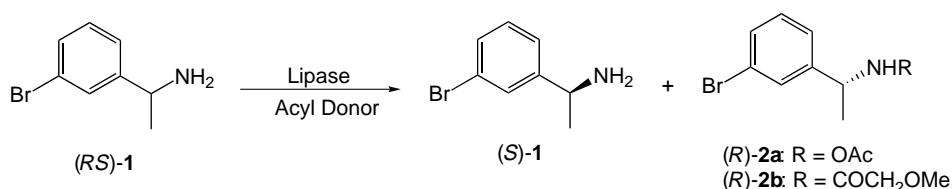
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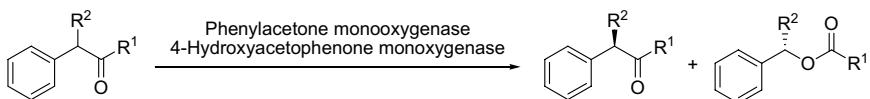


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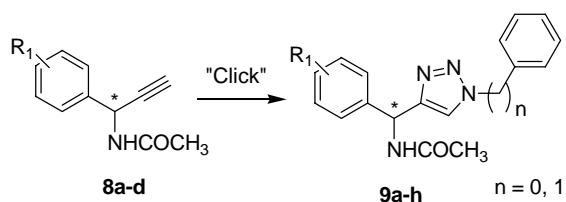
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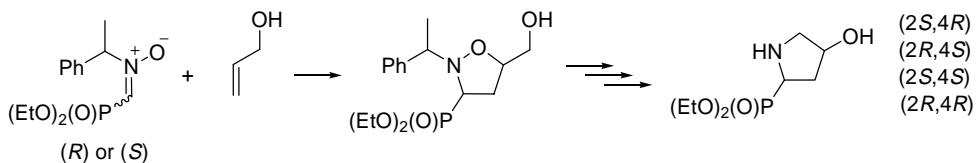


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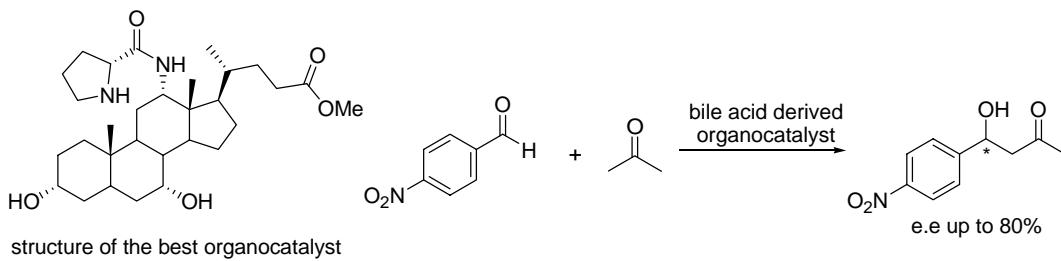


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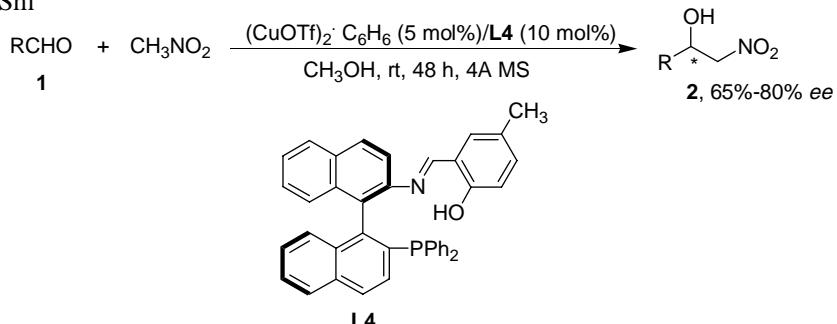
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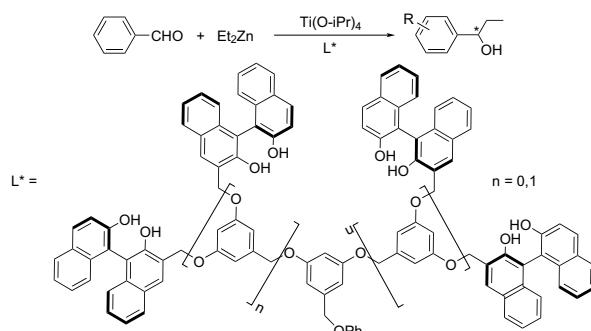
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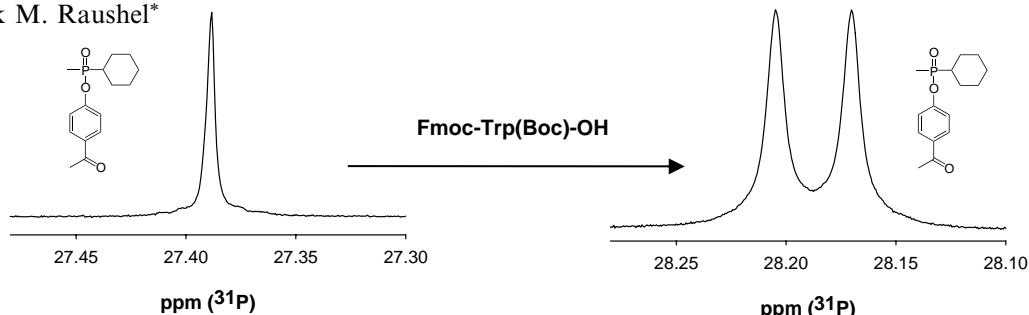
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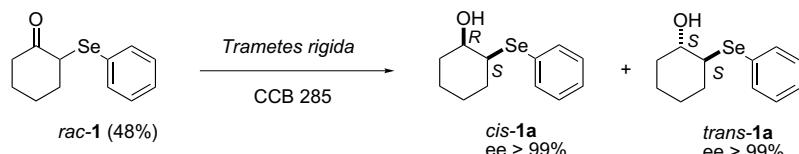
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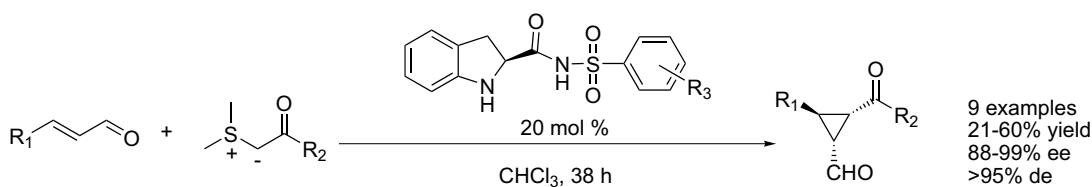
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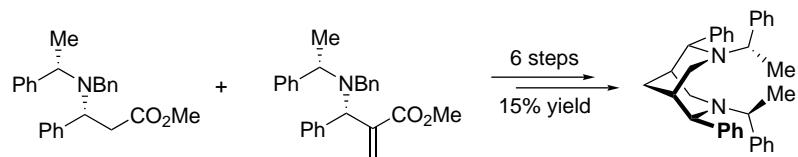
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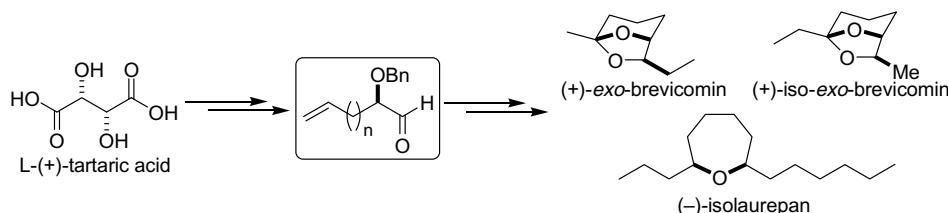
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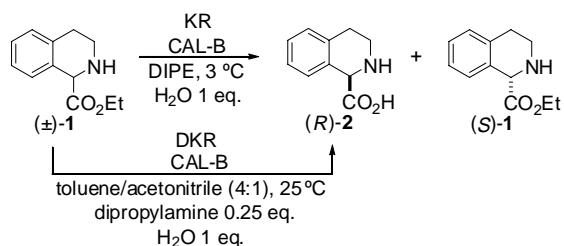
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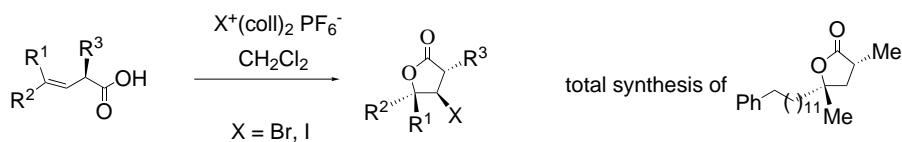


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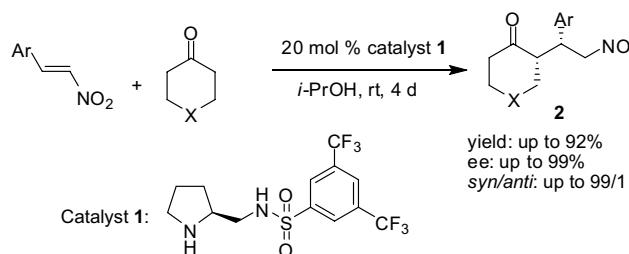
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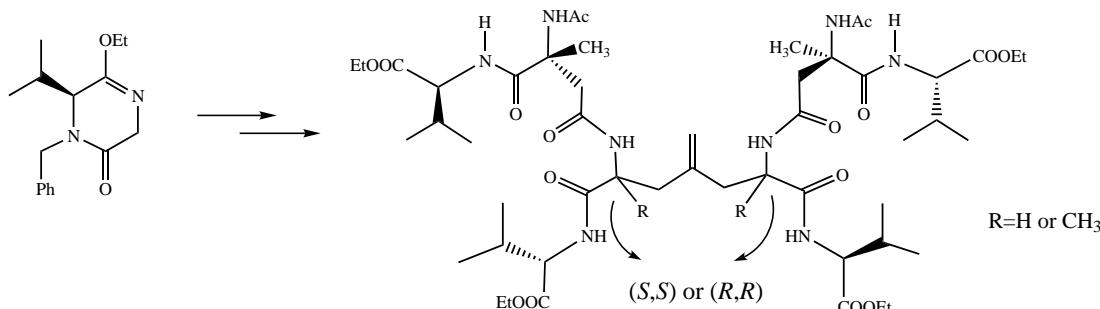
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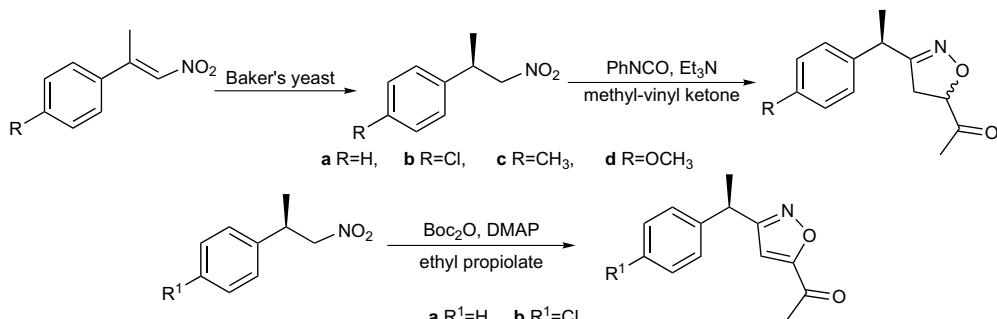
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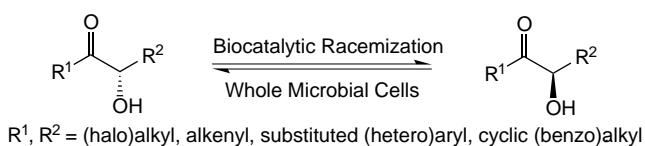
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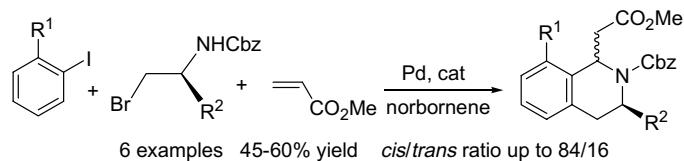
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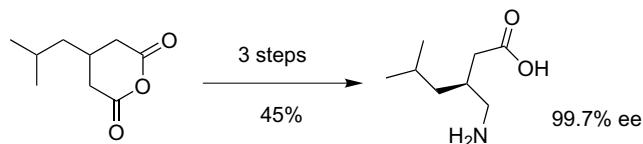
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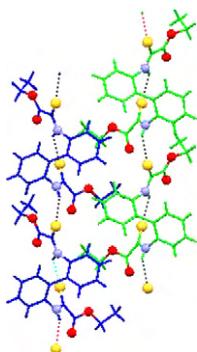
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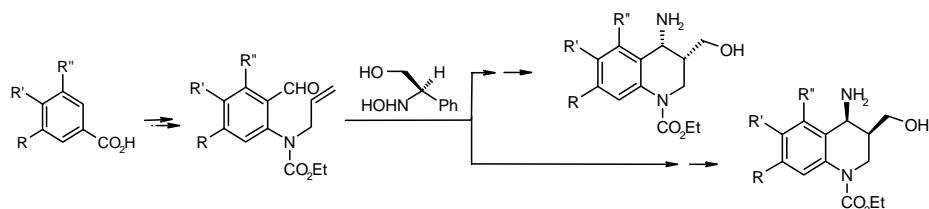
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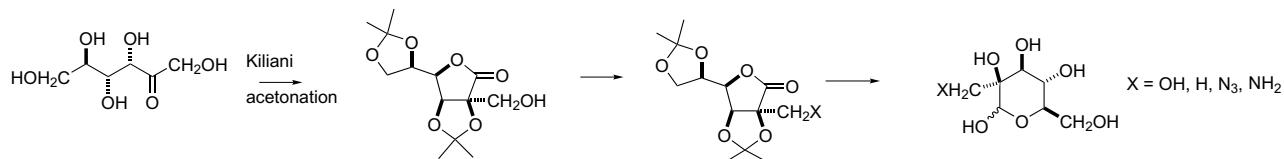
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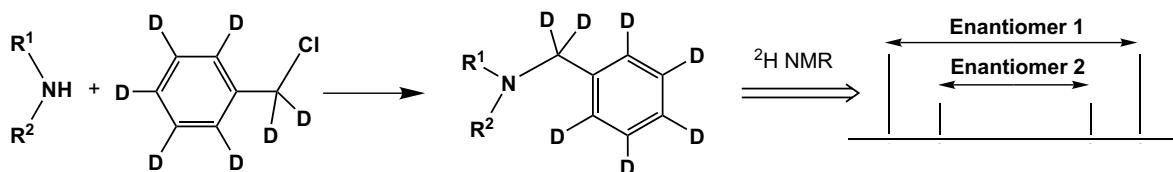


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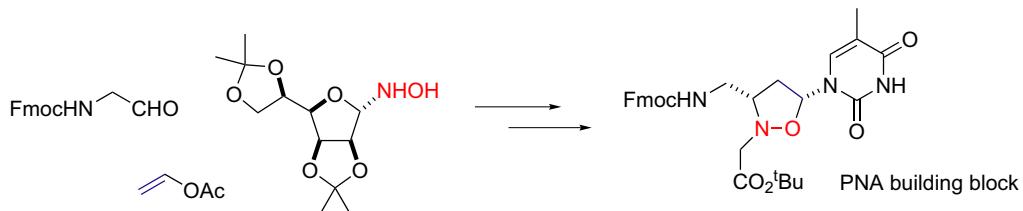
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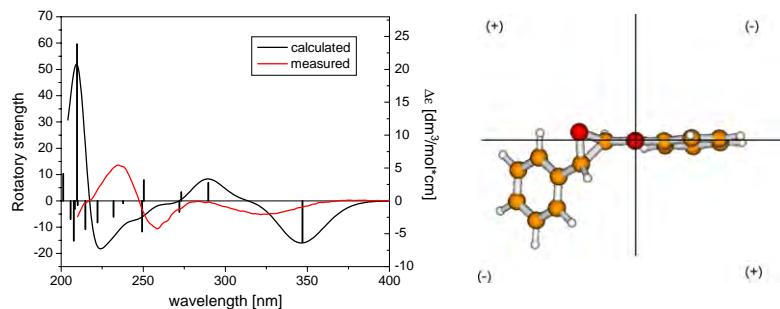
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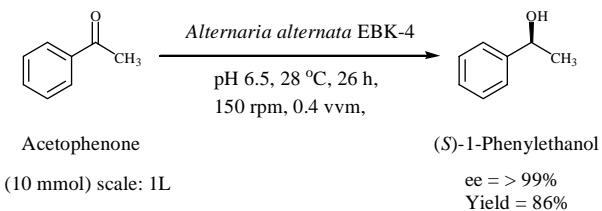
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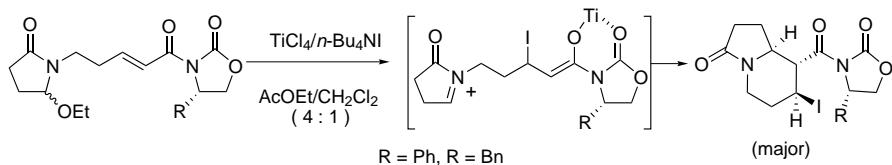
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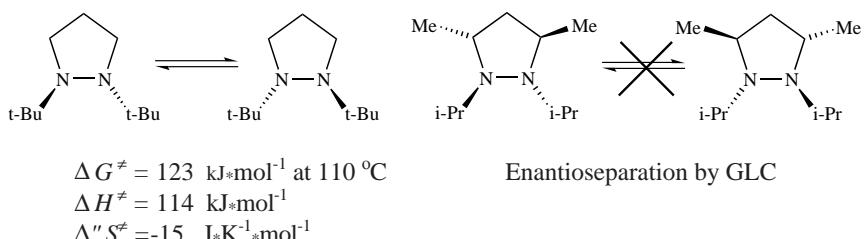
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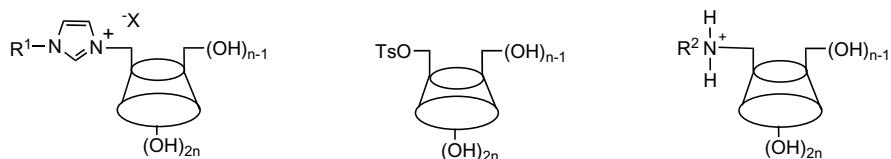
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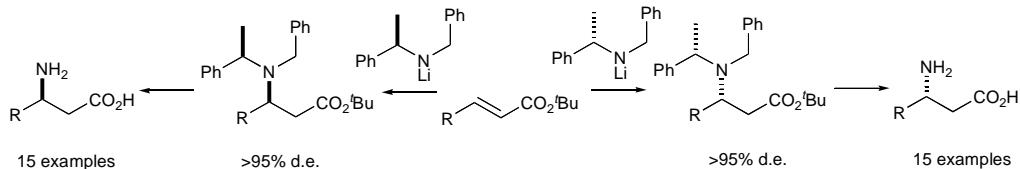


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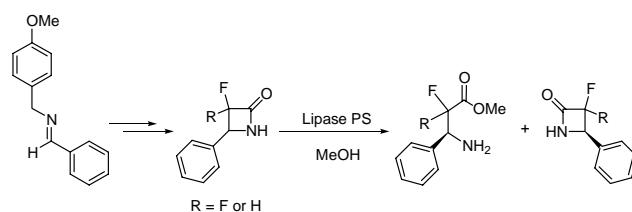
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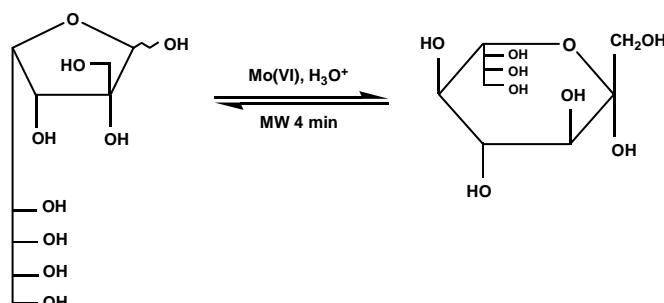


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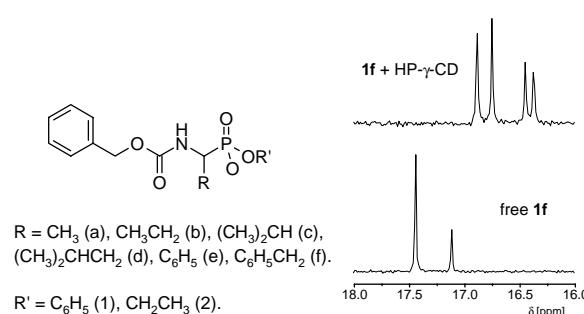
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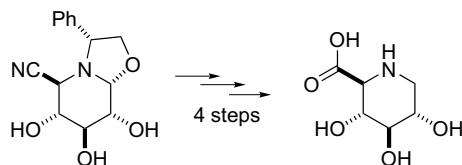
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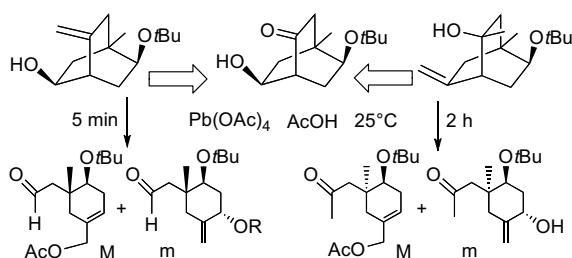
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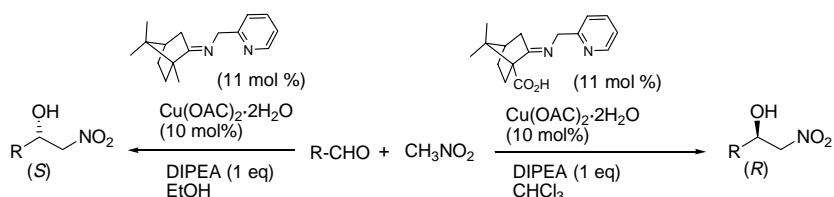
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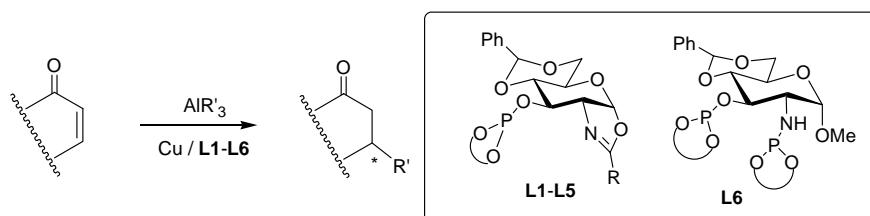
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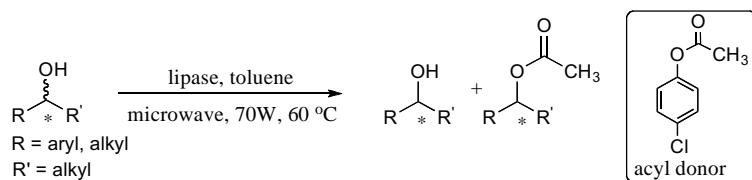
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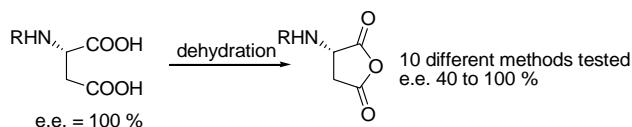
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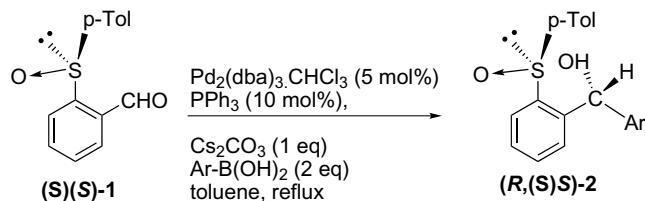
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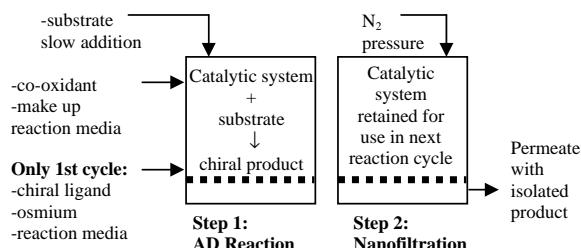


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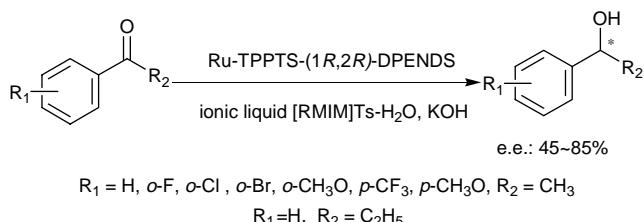
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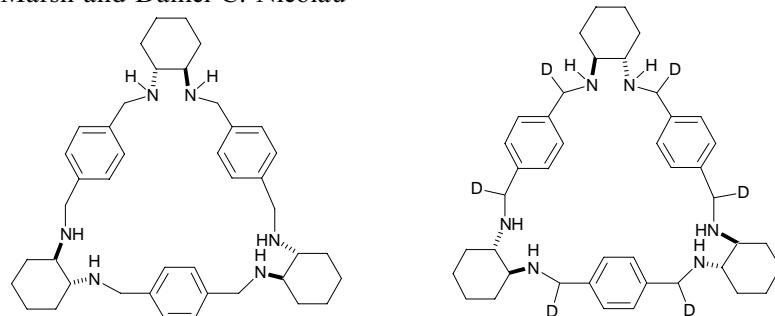

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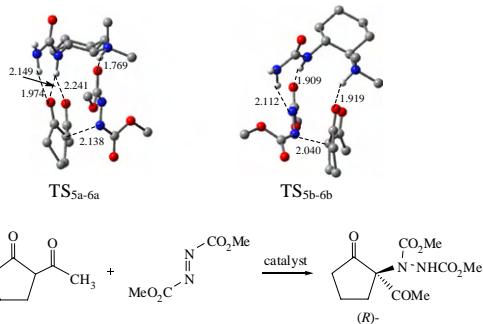
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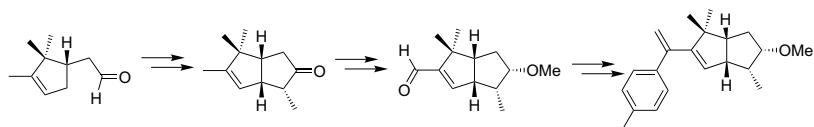
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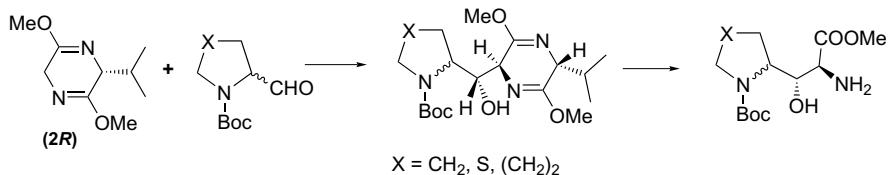
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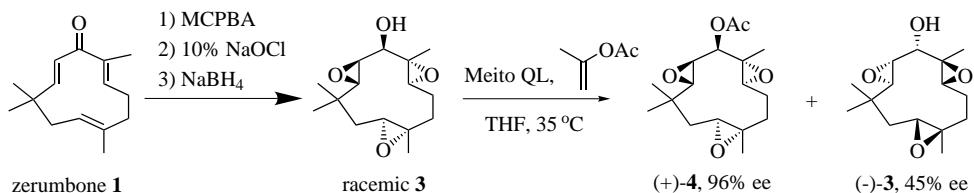
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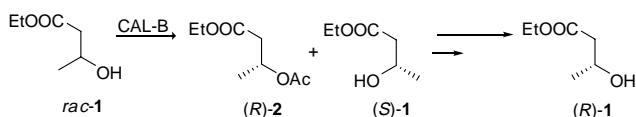
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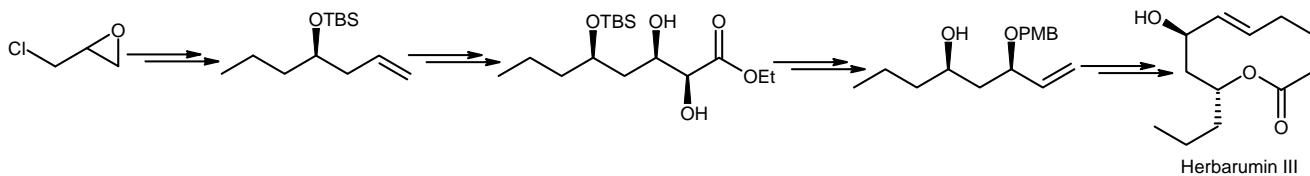
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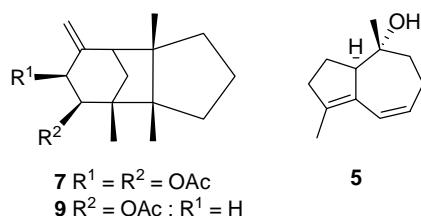
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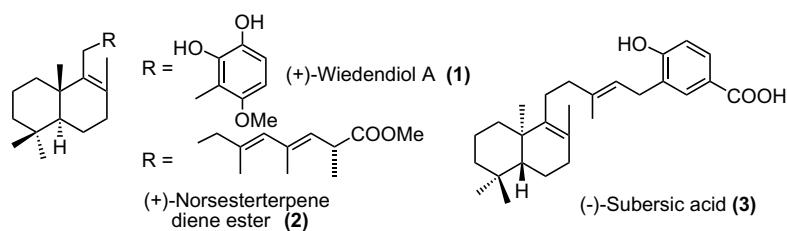
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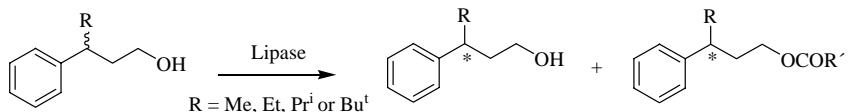
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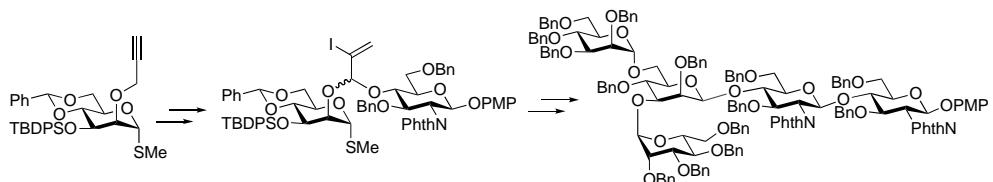
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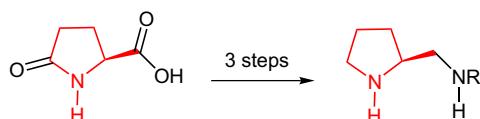
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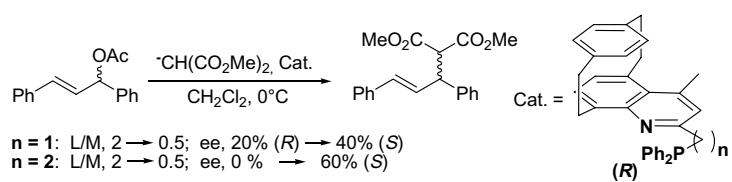
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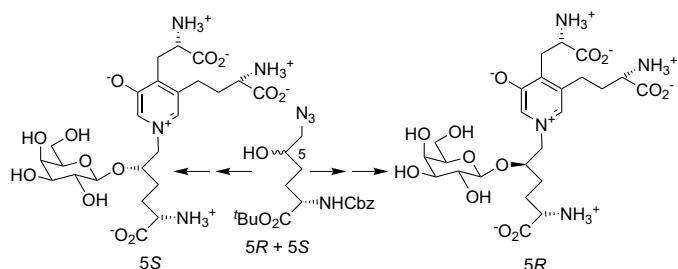


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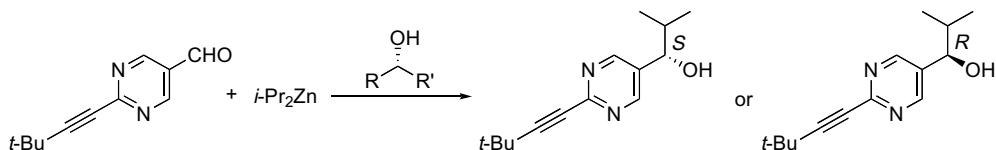


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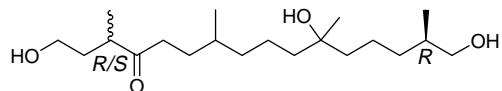
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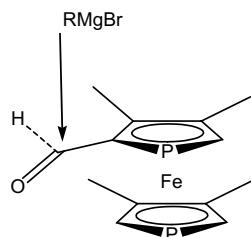


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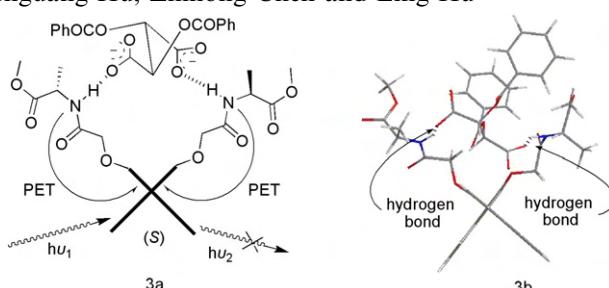
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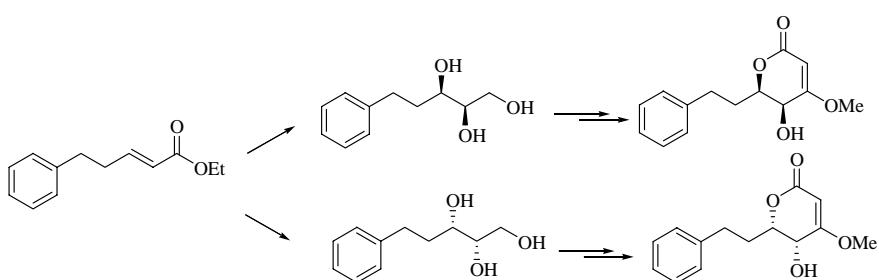
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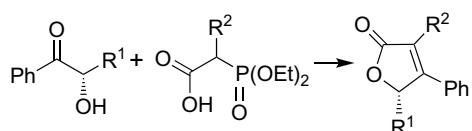
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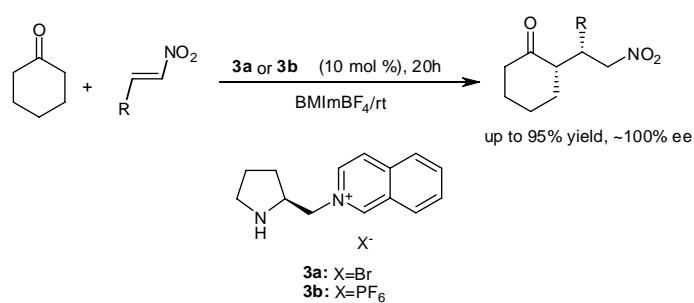
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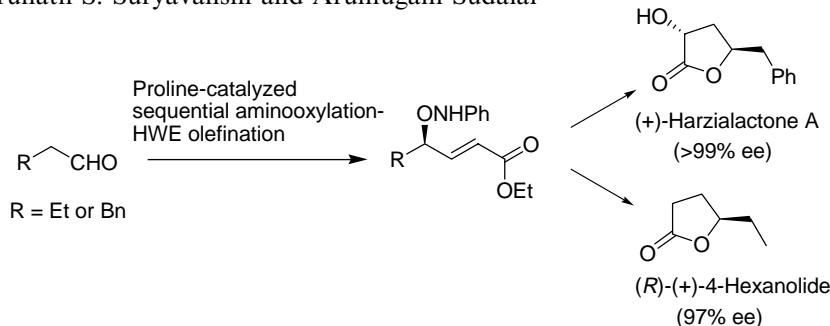
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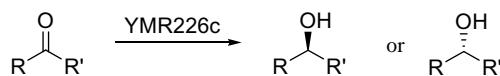
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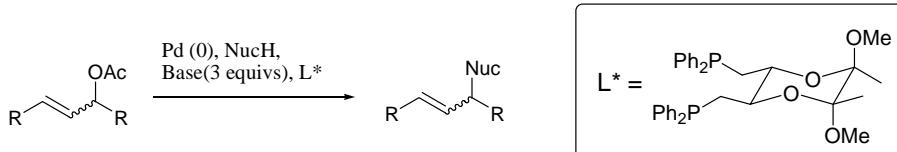


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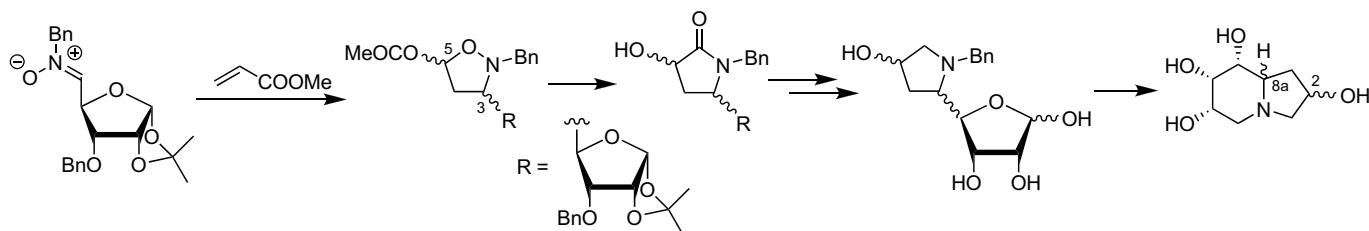
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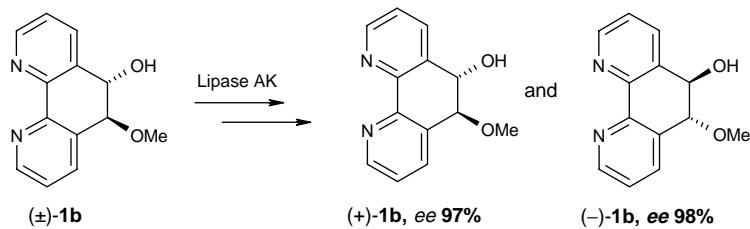
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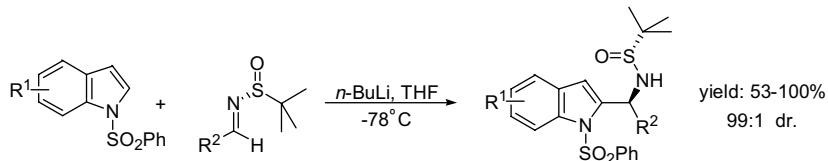
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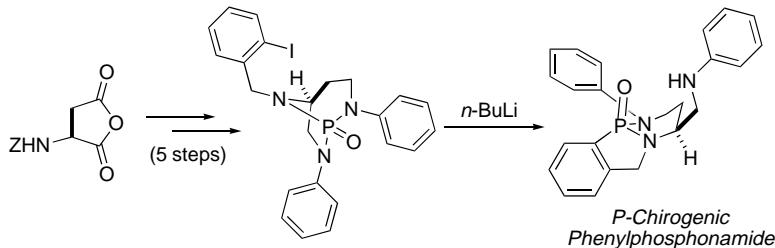
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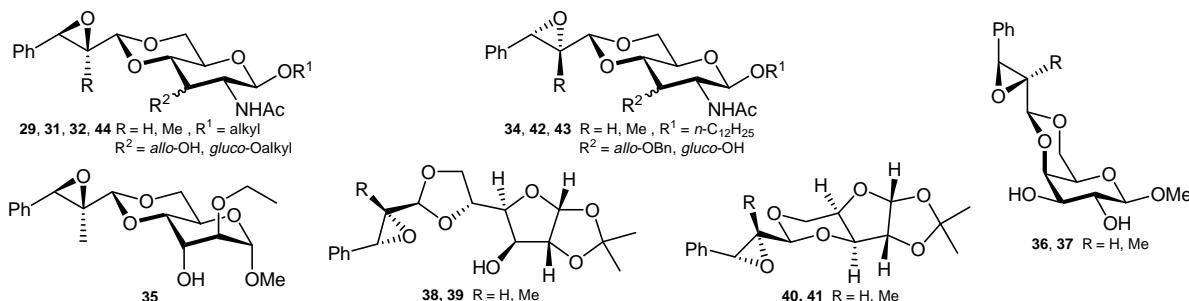


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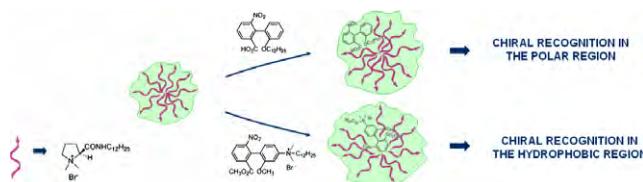
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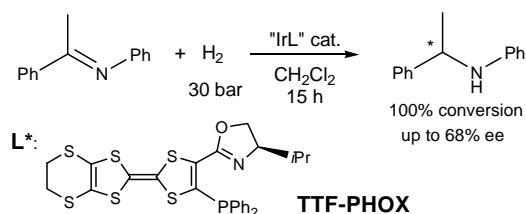
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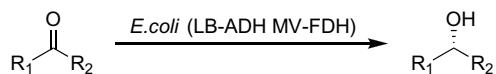


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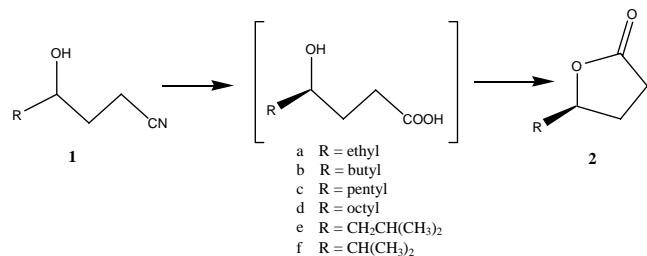
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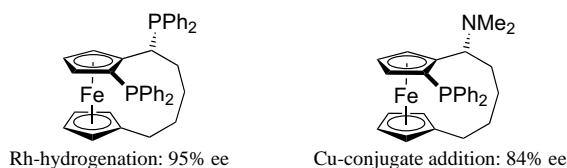
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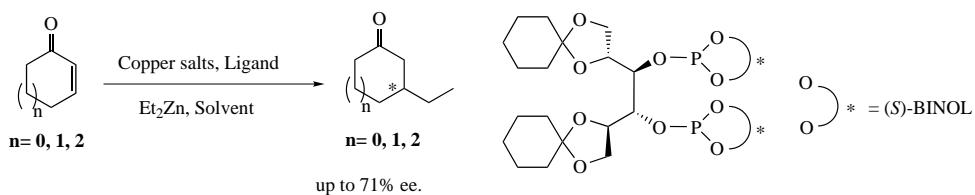
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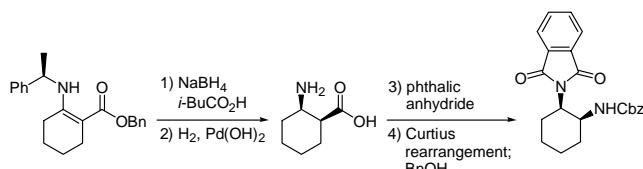
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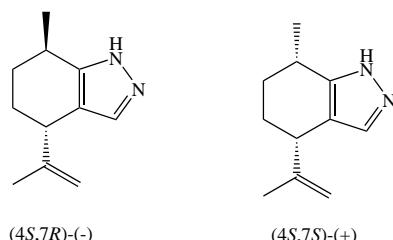
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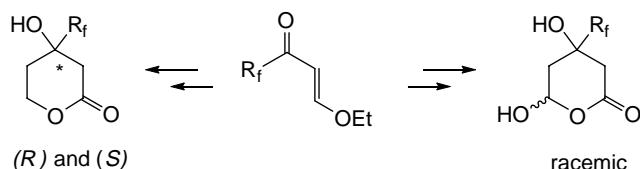
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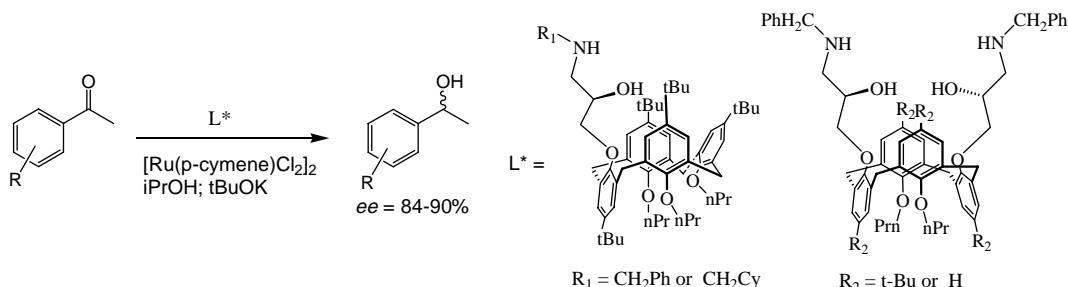
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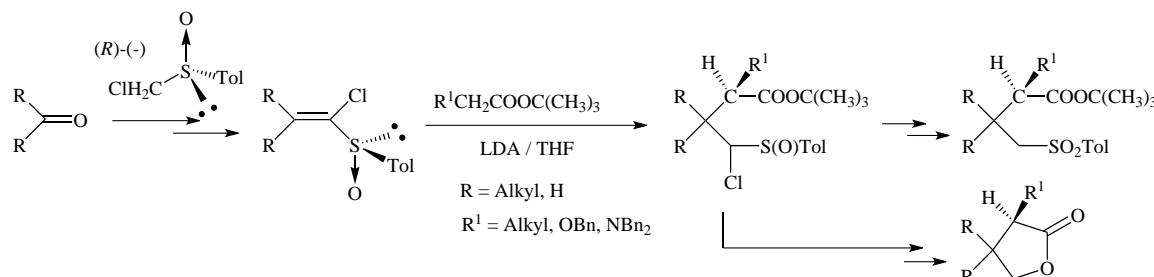
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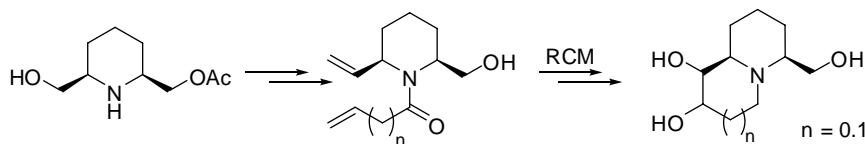
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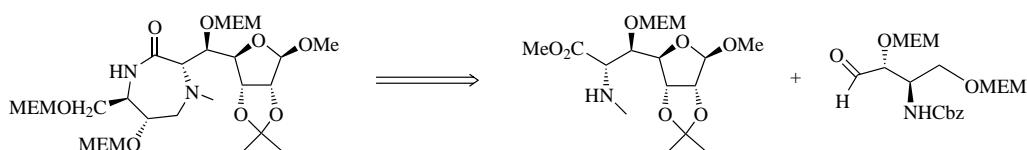
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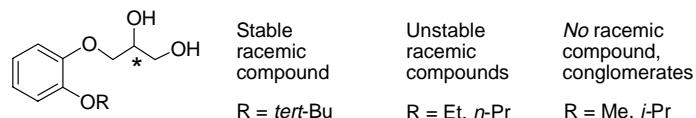
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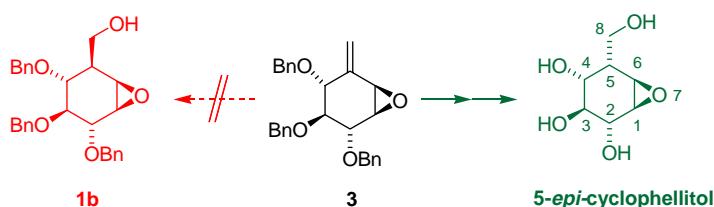
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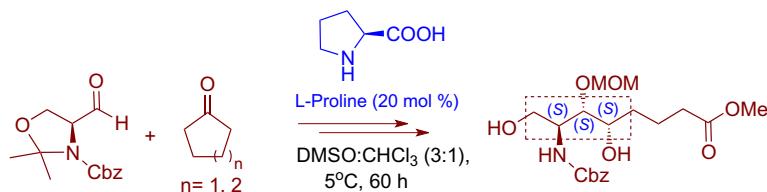
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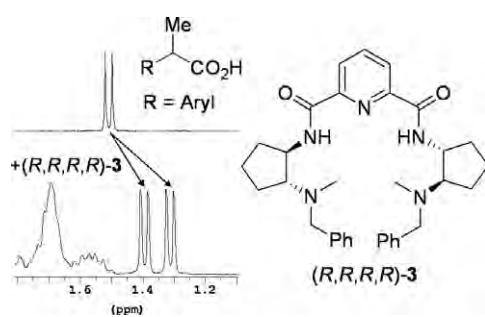
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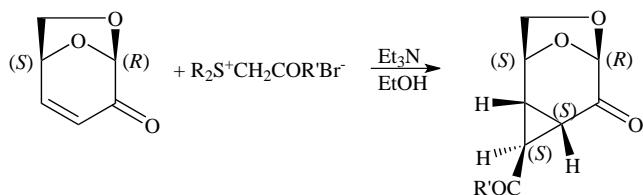
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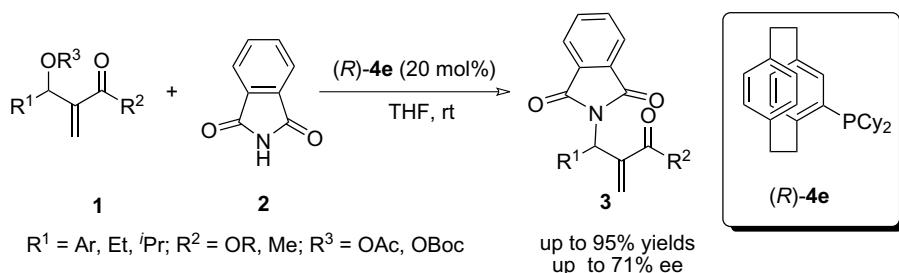
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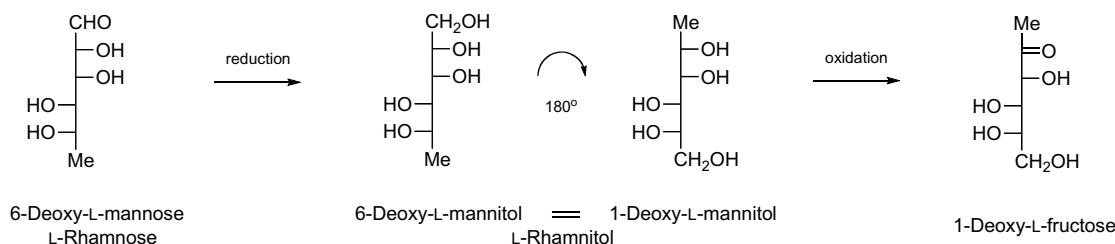
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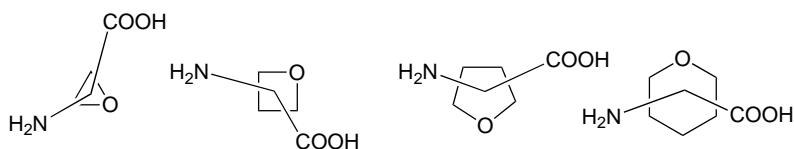
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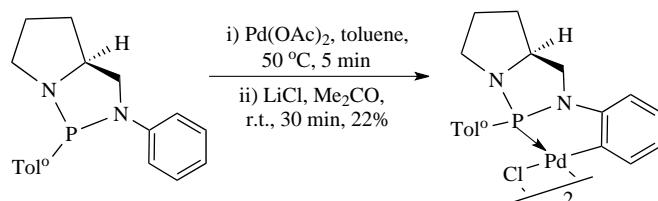
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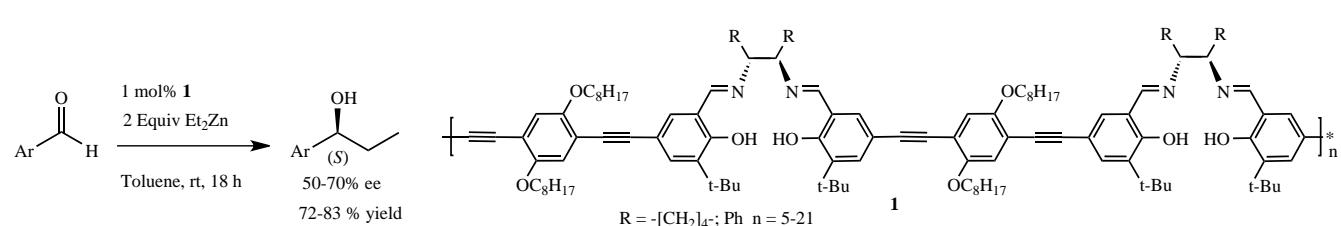
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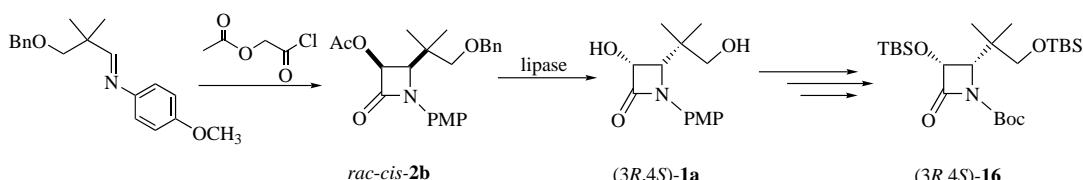


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Yan Yang, Jianmei Wang and Margaret Kayser\*

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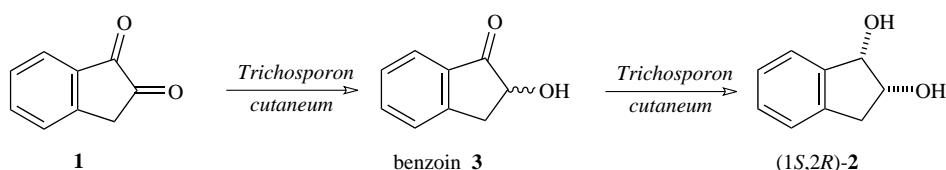


We report a synthesis of pharmaceutically important  $\alpha$ -hydroxy (or *t*-butyldimethylsilyl protected  $\alpha$ -hydroxy)- $\beta$ -lactams with functionalized chains in position 4 of the azetidinone ring. A convenient and high-yielding route to these compounds was developed and optimized. Preparation and characterization of several new enantiopure title compounds with various functional groups are discussed.

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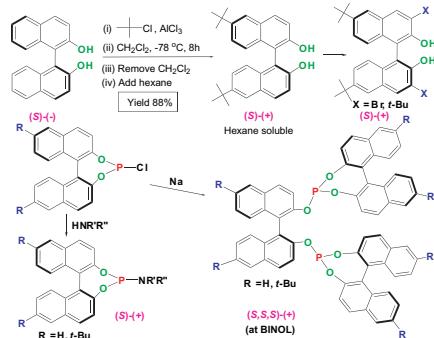
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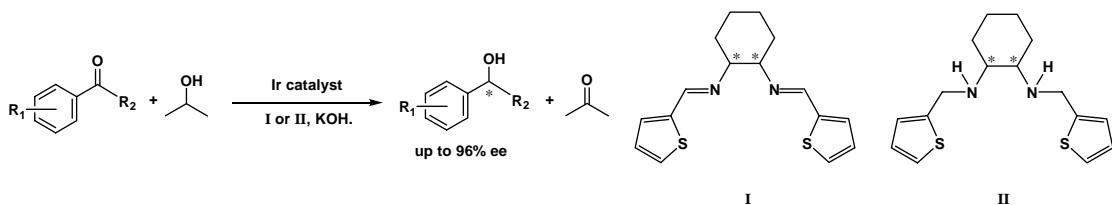
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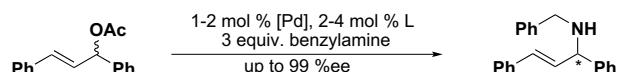
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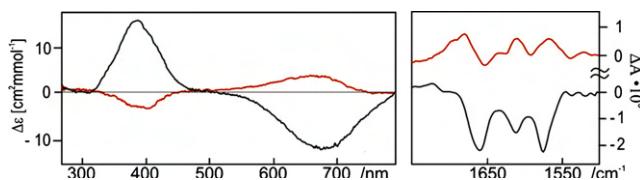
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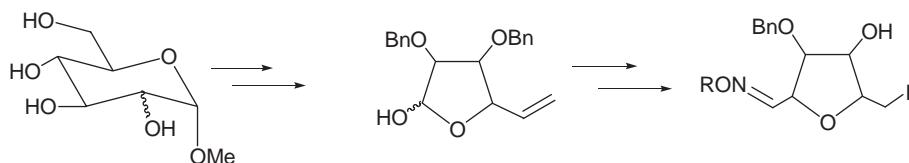


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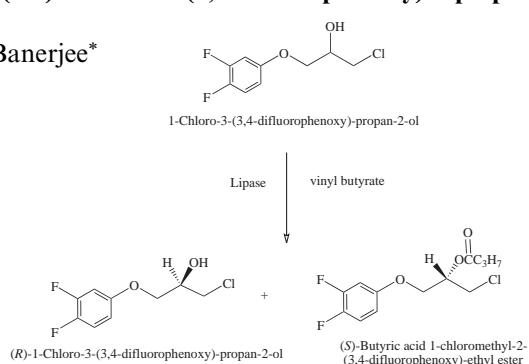
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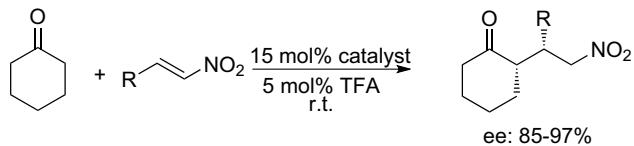
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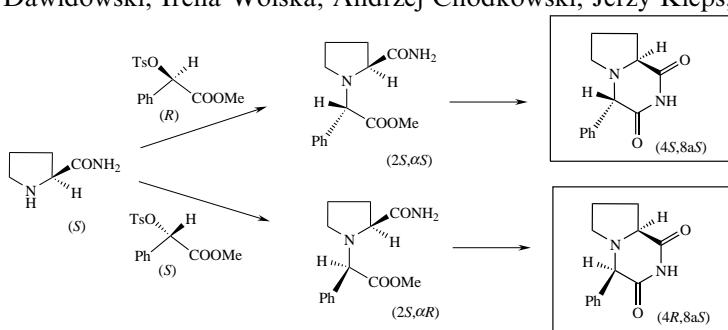
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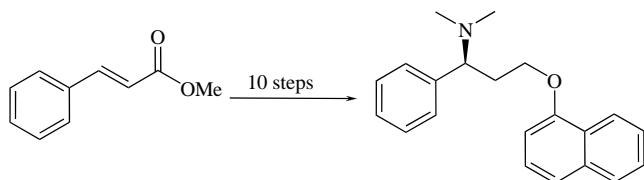
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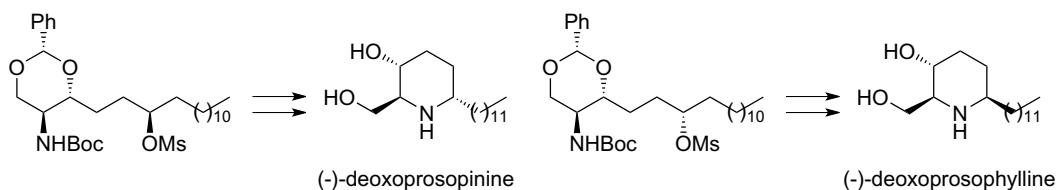
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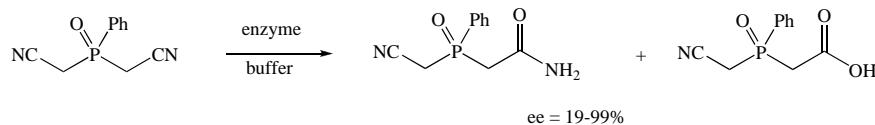
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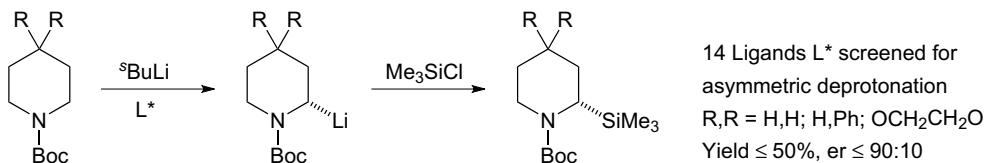
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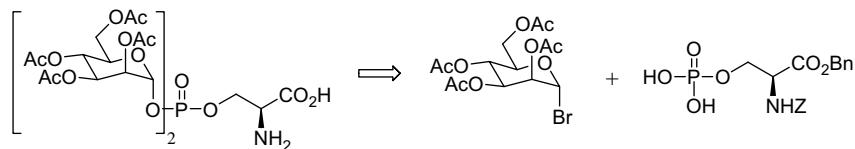


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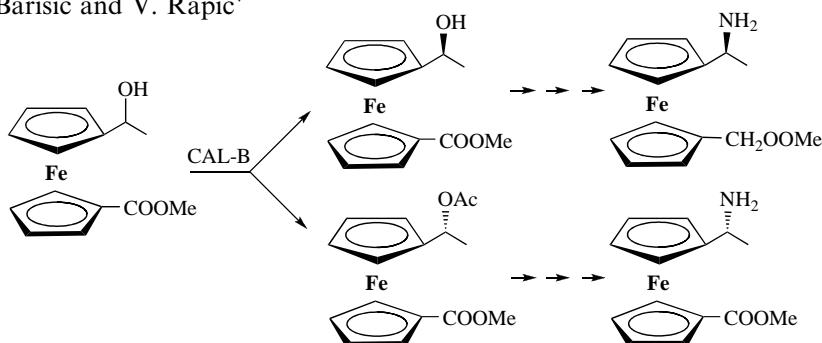
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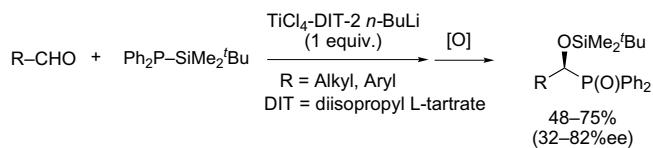
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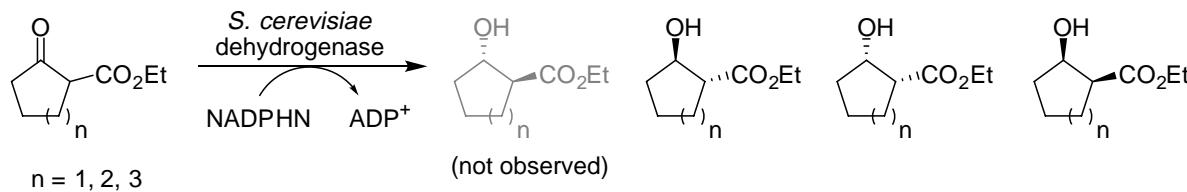
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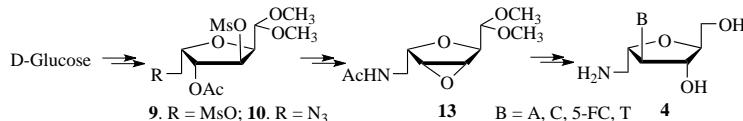
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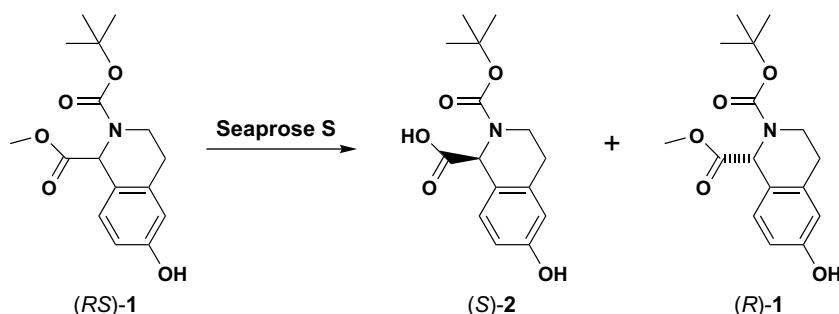
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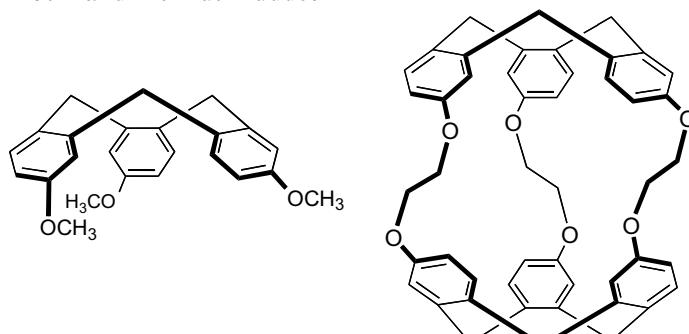
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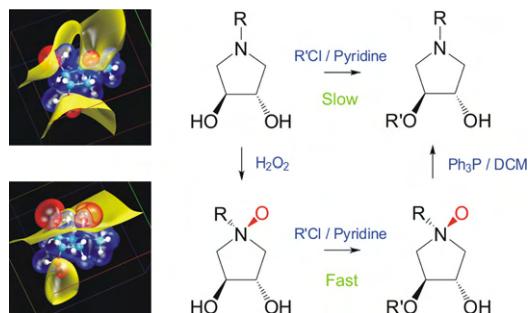
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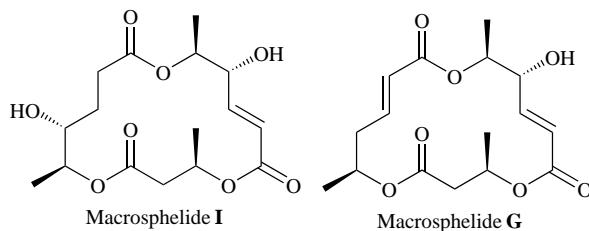
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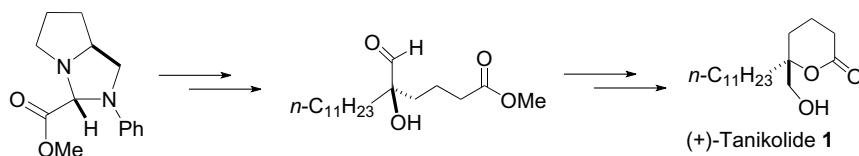
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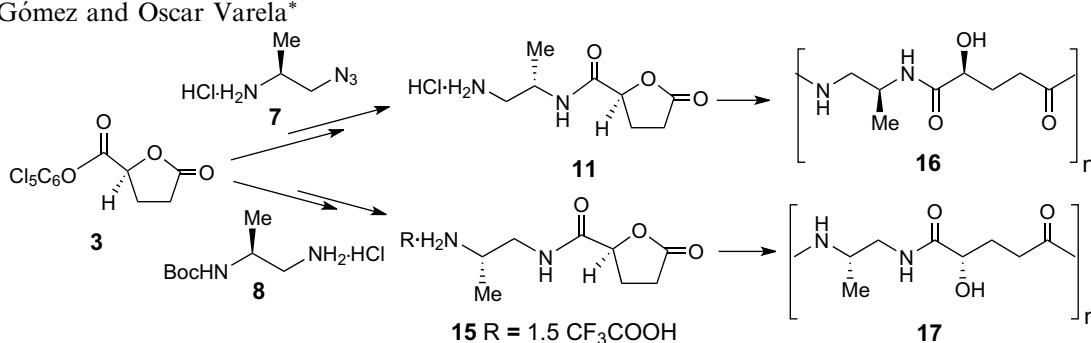
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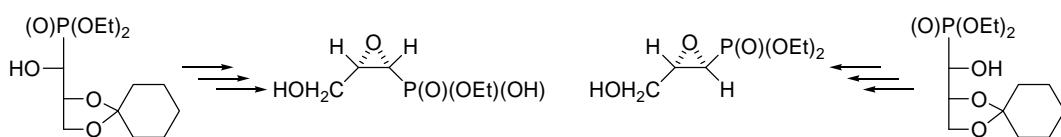
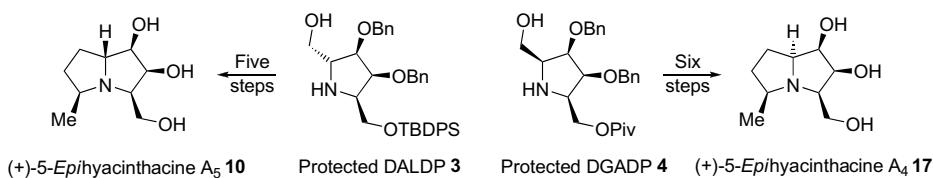
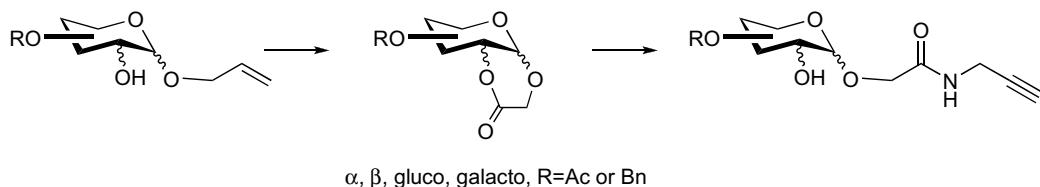
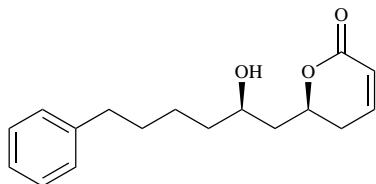
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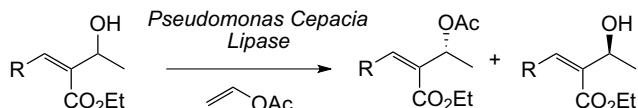


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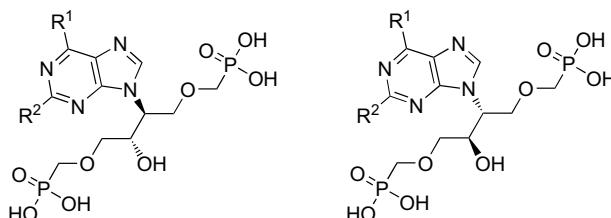


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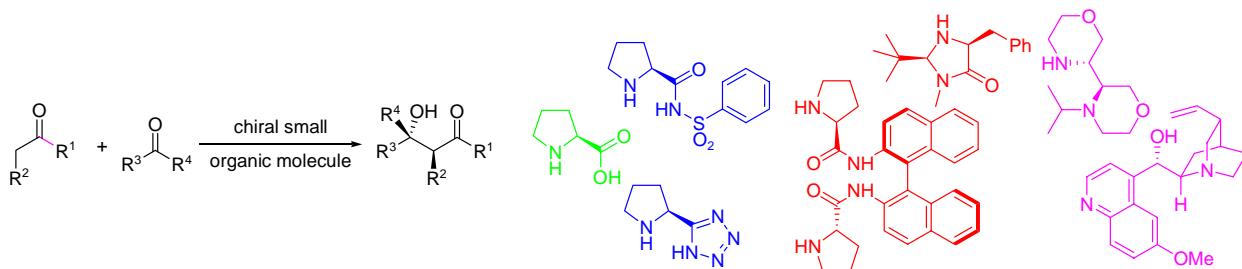
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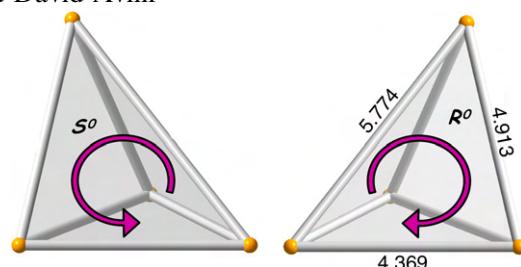


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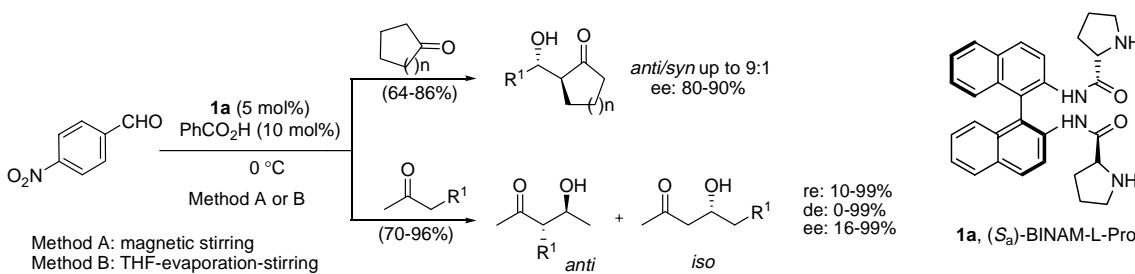


What is the handedness of a chiral  $\text{AB}_4$ ? A set of rules to answer that question—which has not been addressed so far—is proposed, and applied to many molecules, to quartz, and to a computed large random population of chiral  $\text{AB}_4$  structures.

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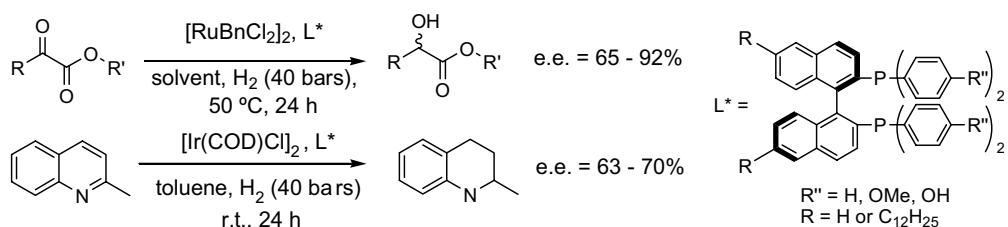


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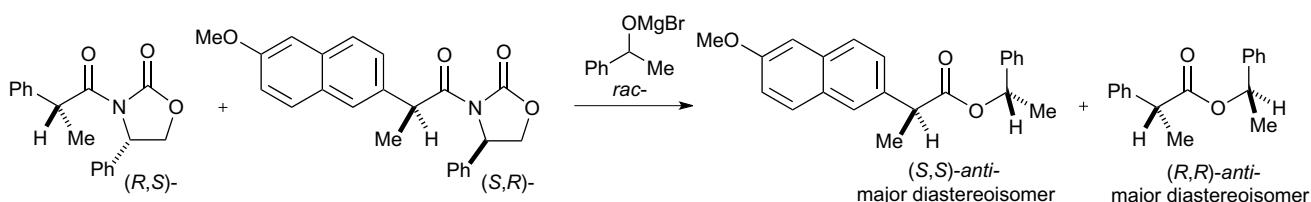
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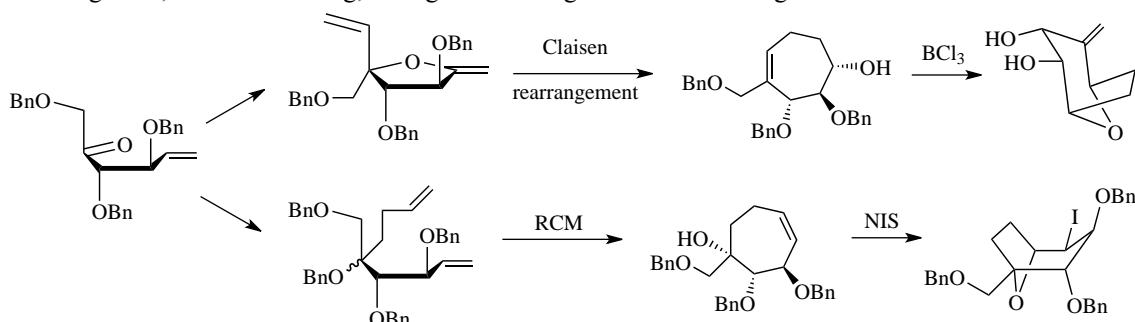
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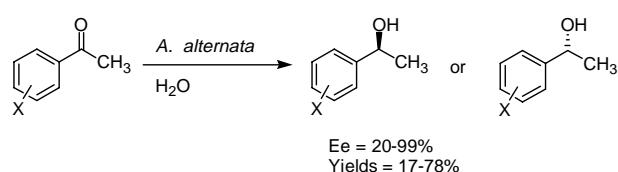
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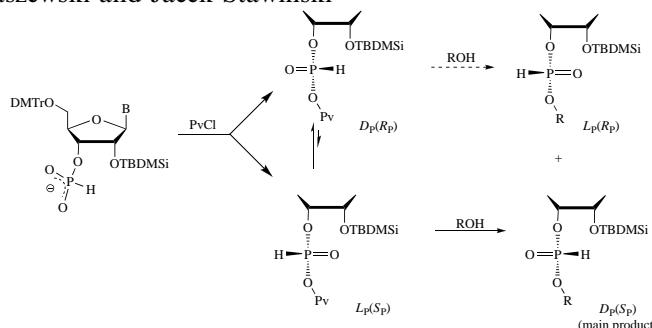
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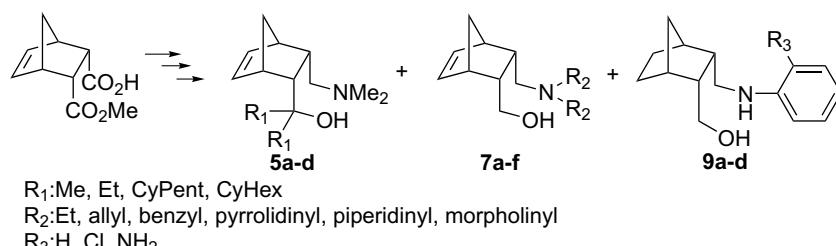
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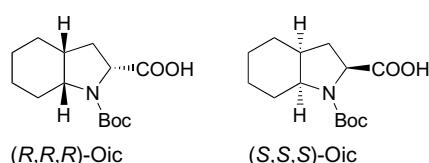
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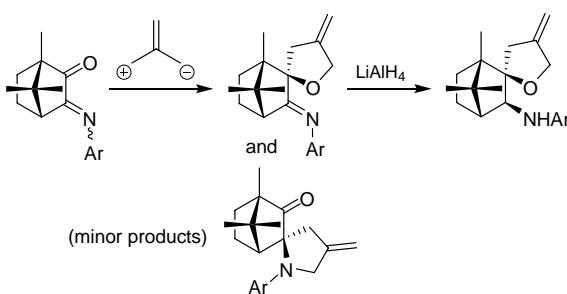
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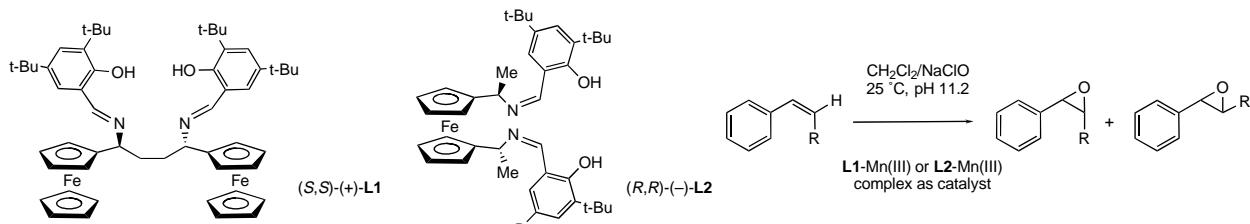
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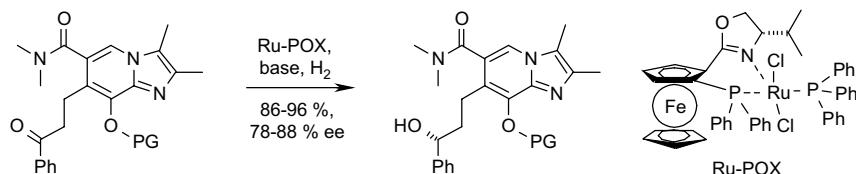
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Andreas M. Palmer\* and Ulrike Nettekoven\*



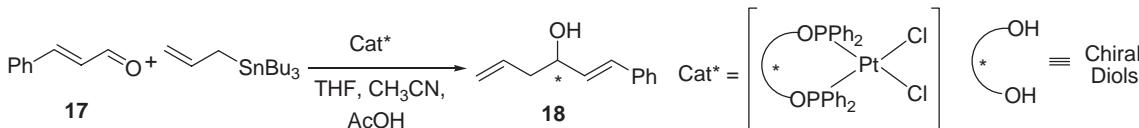
The asymmetric reduction of O-protected ketones in the presence of Ru-POX catalyst constitutes a key step in the synthesis of drugs for the treatment of acid-related diseases.

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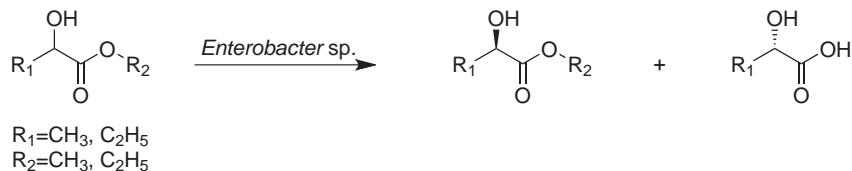
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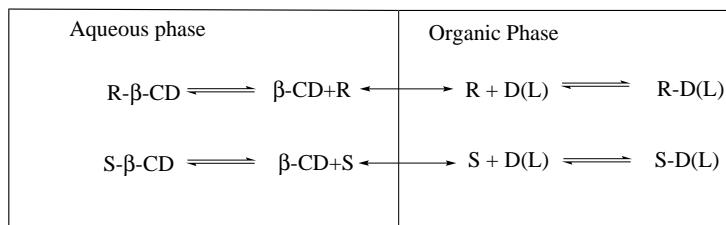
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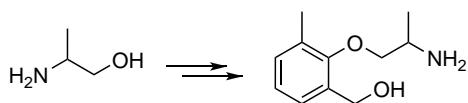
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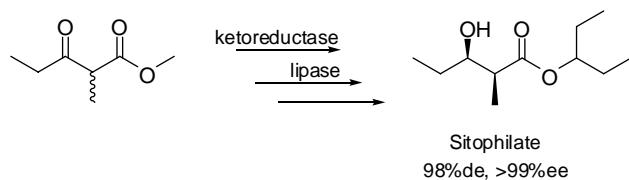
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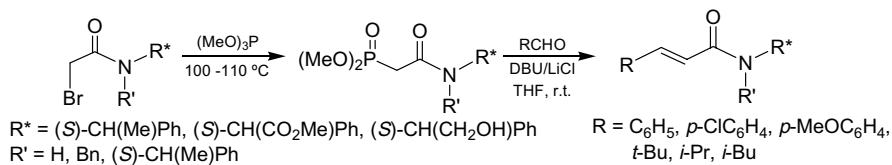
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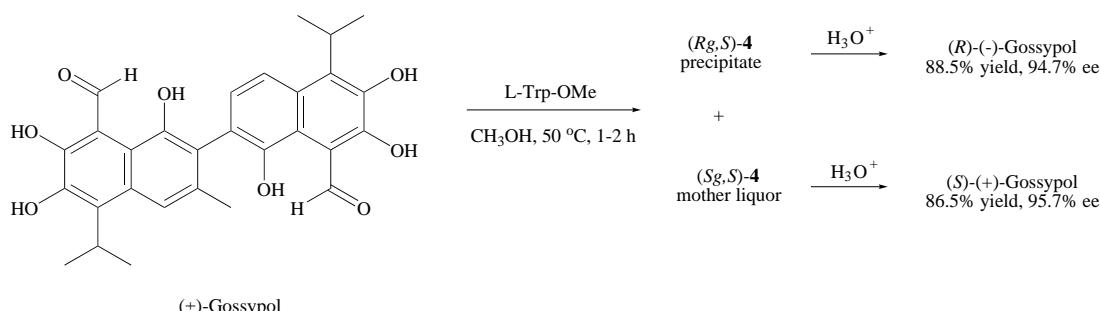
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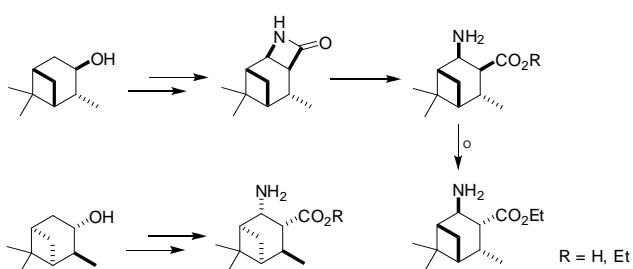
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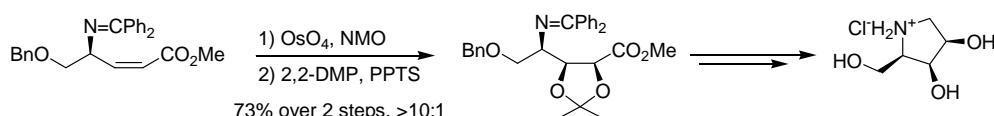
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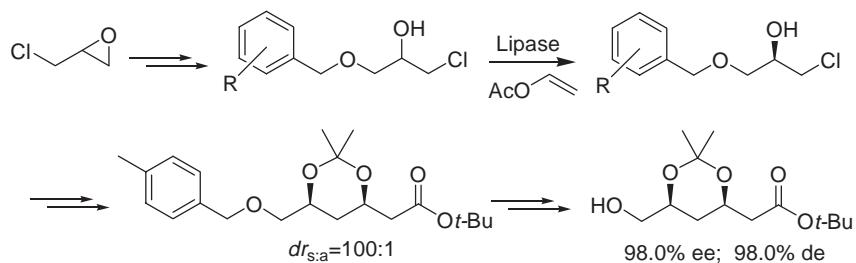
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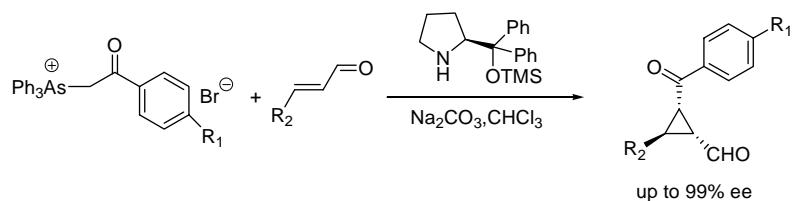
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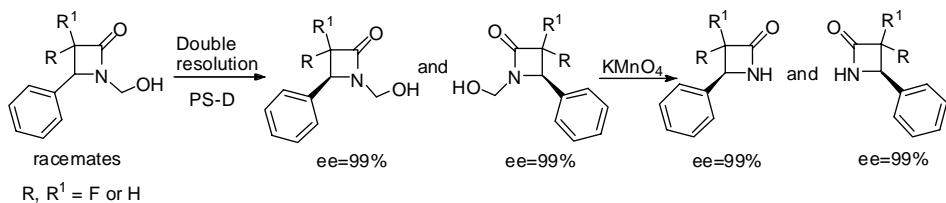
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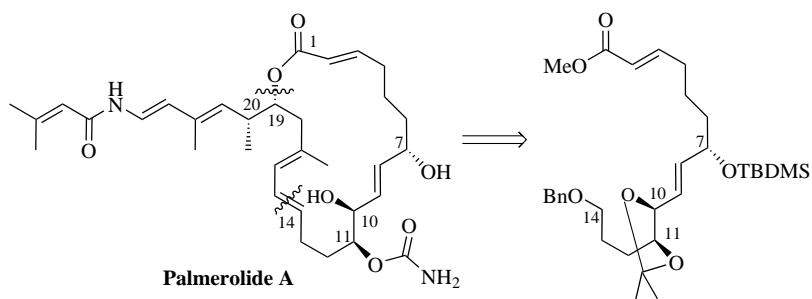
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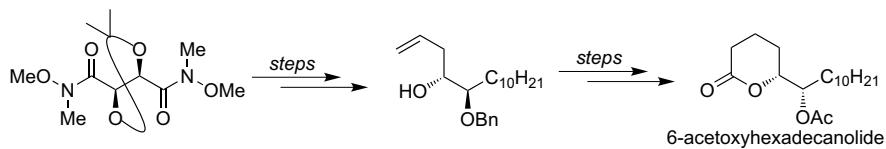
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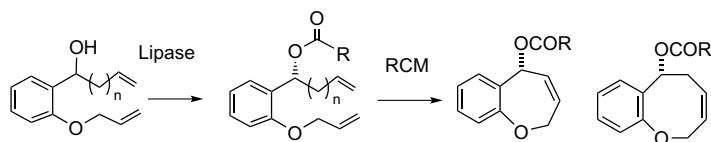
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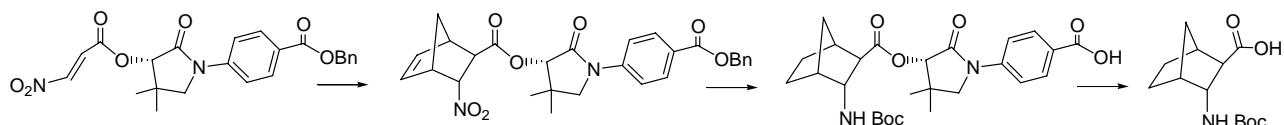
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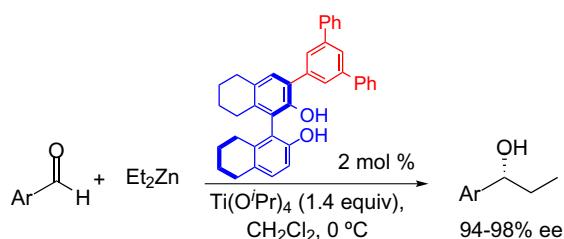


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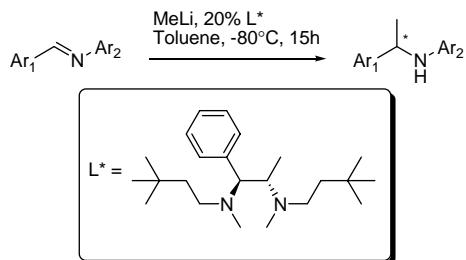
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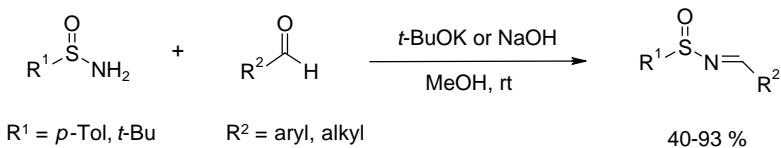
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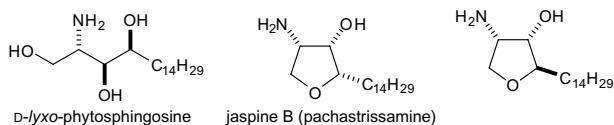
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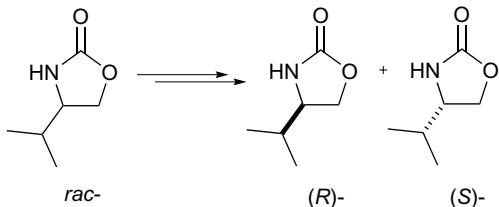


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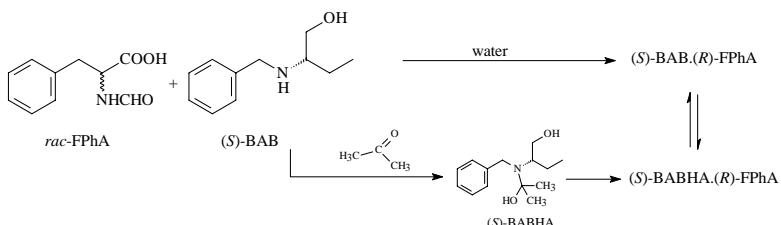
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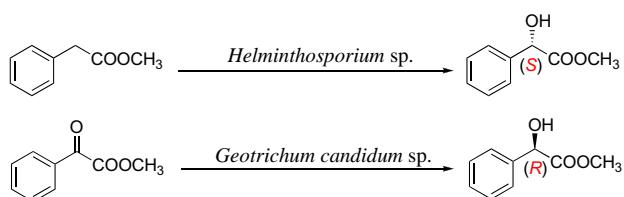


Solvent	Time of crystallization	ee %	F
water	12 days	27	0.18
acetone	15 hours	83	0.73
acetone	3 hours	49	0.4

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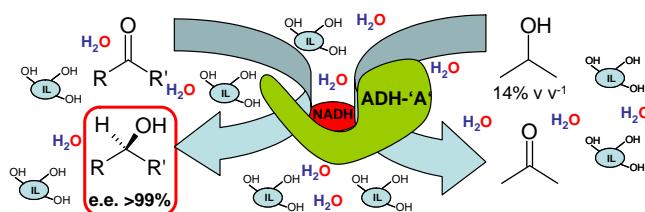


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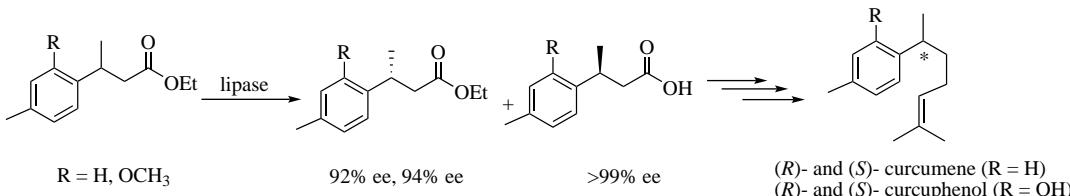


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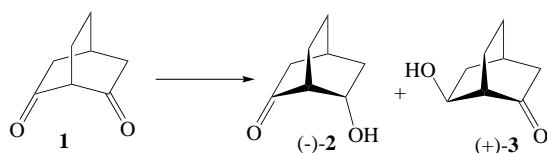


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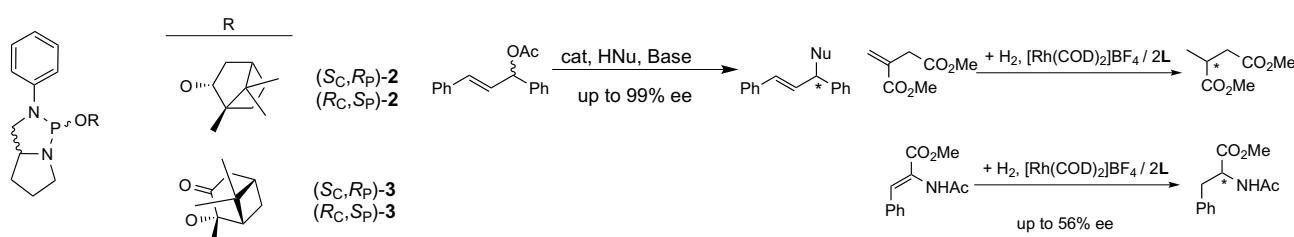


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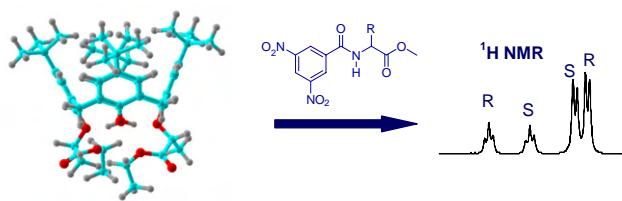
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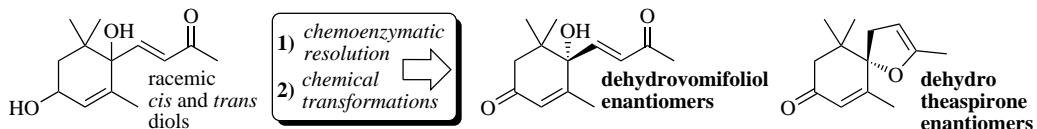
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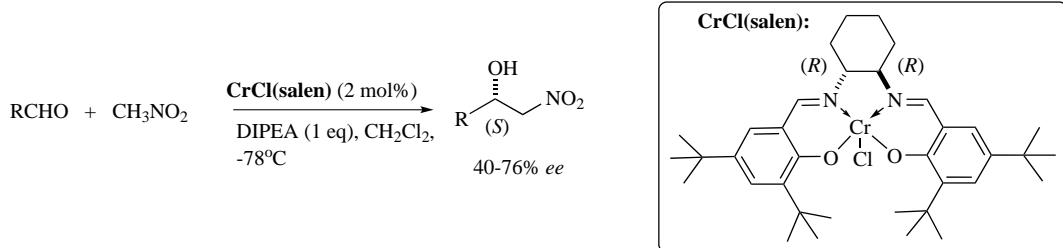
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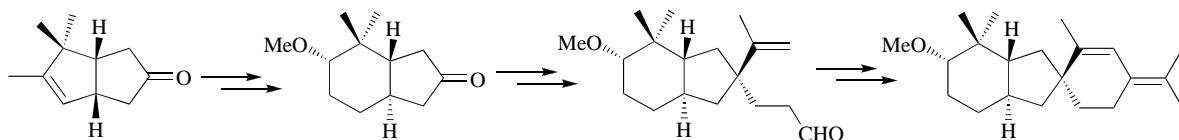
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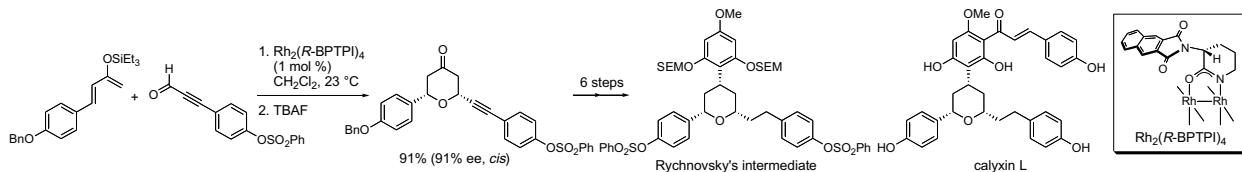
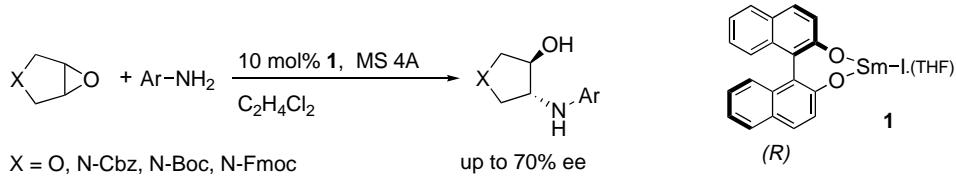


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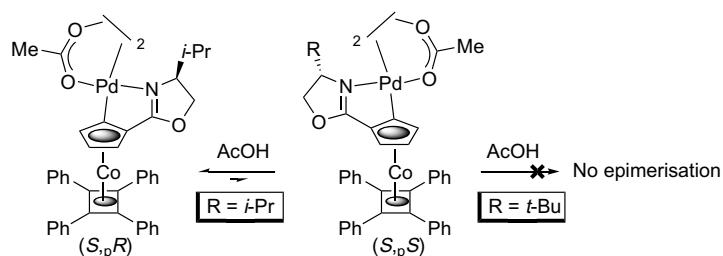
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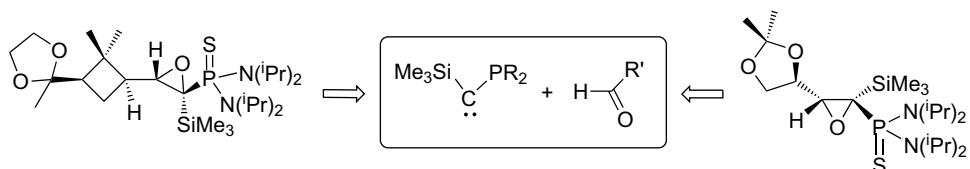
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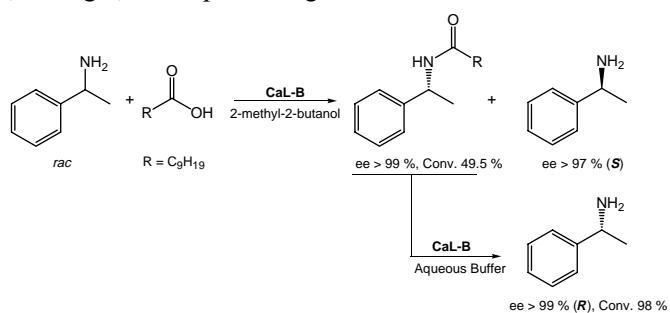
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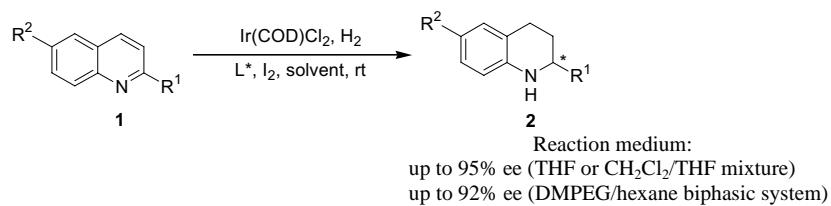


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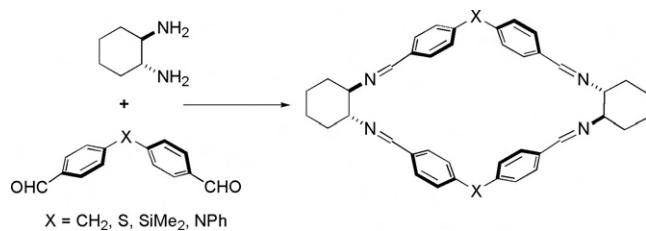
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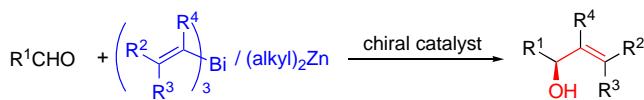


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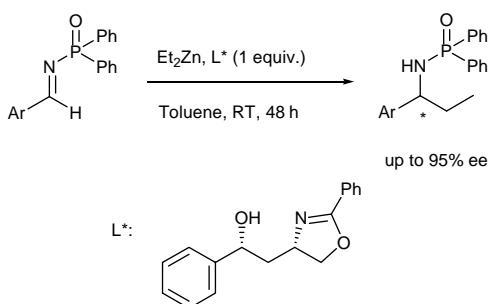


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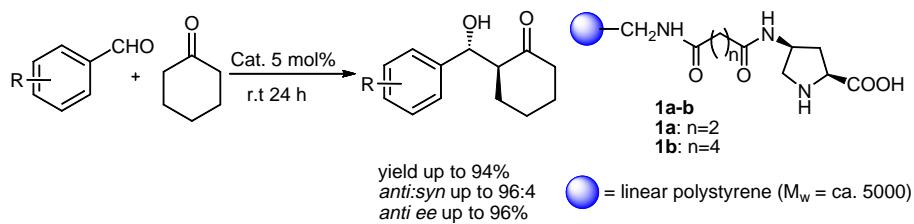
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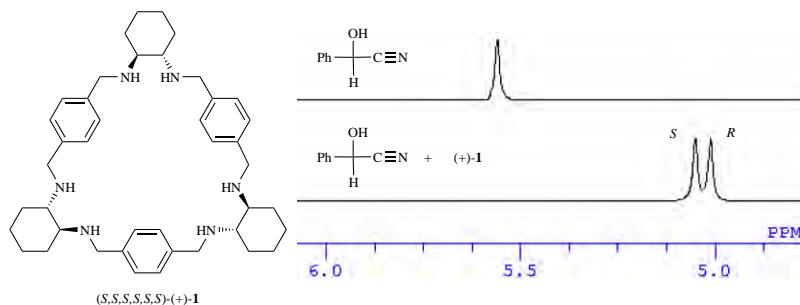


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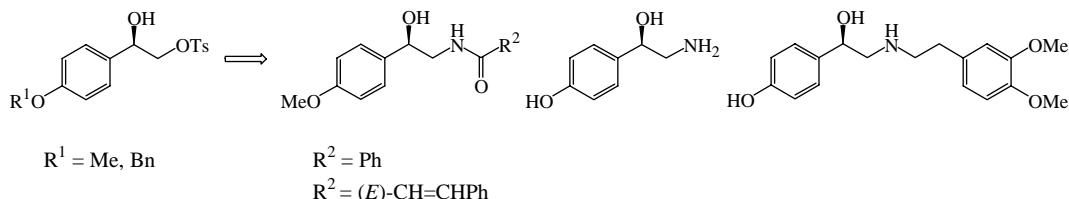


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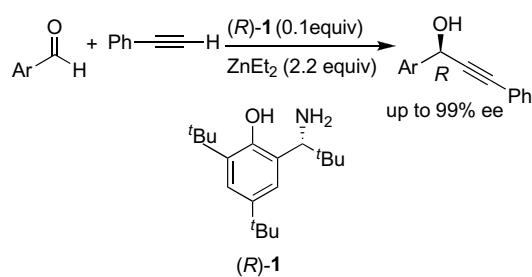


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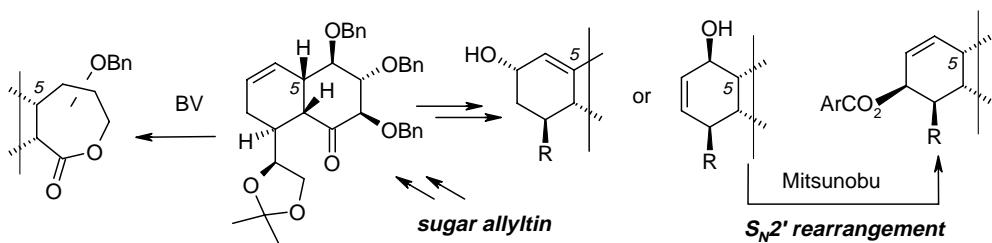
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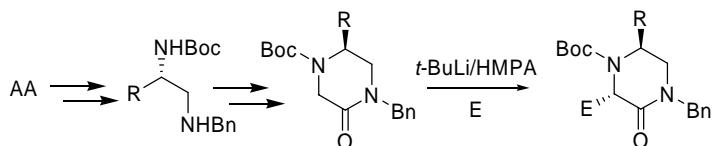
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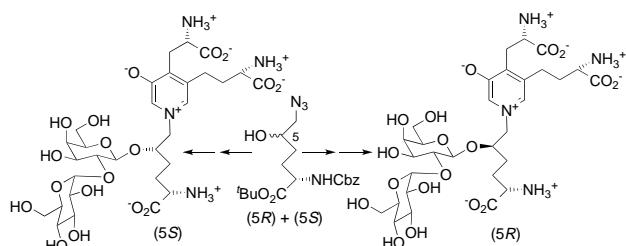
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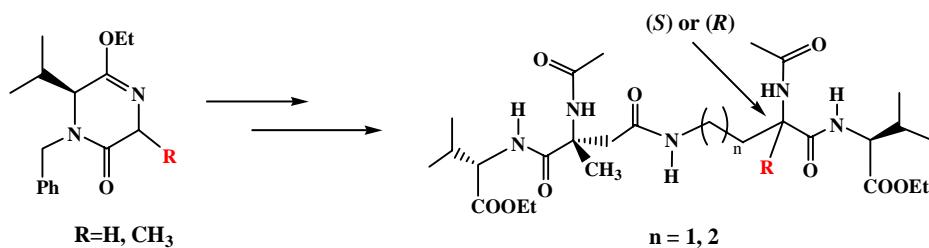
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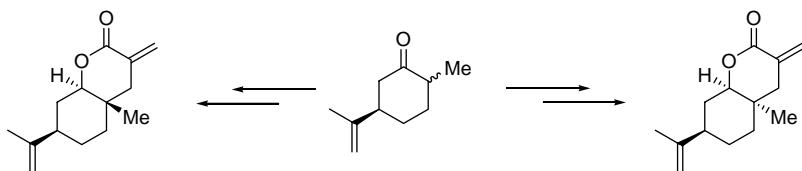


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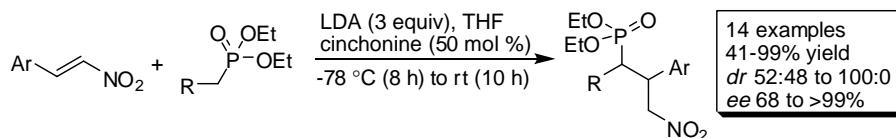


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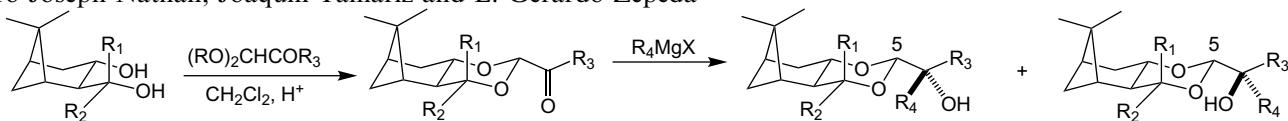


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**1a**  $R_1 = R_2 = H$

**1b**  $R_1 = CH_3; R_2 = H$

**1c**  $R_1 = H; R_2 = CH_3$

**1d**  $R_1 = R_2 = CH_3$

**3a**  $R_1 = R_2 = H; R_3 = CH_3$

**3b**  $R_1 = R_3 = CH_3; R_2 = H$

**3c**  $R_2 = R_3 = CH_3; R_1 = H$

**3d**  $R_1 = R_2 = H; R_3 = Ph$

**3e**  $R_1 = CH_3; R_2 = H; R_3 = Ph$

**3f**  $R_1 = R_2 = R_3 = CH_3$

**6a-k**

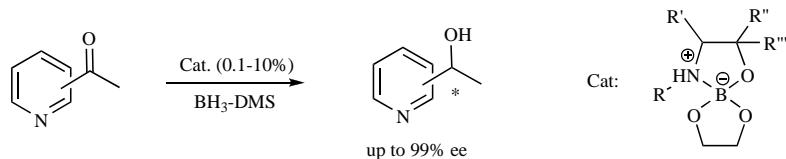
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*dr* 82:12-92:08

$R_4 = H, Et, iPr, iBu, Ph, PhCH_2, CH_2=CH, CH_3CC$

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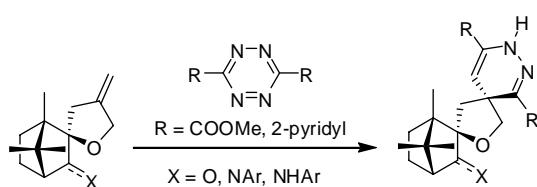
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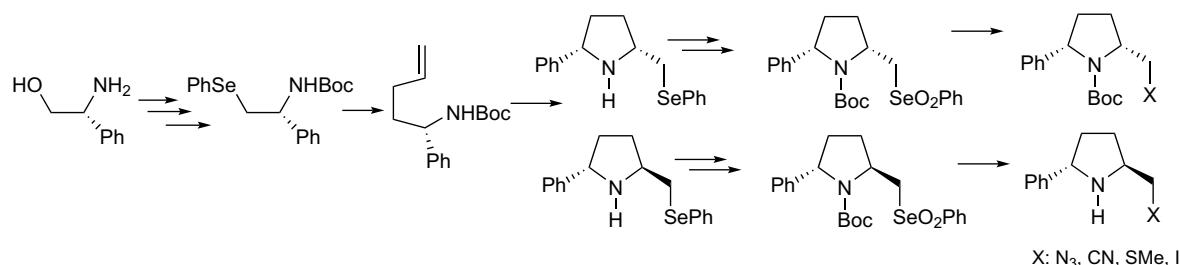
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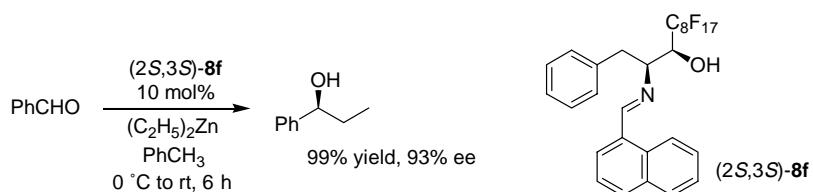
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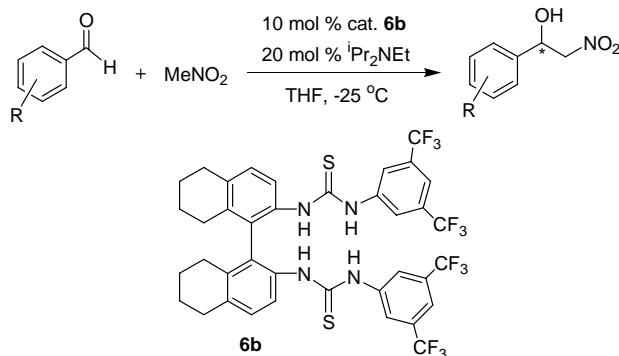
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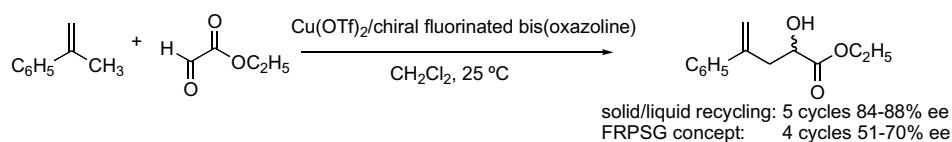
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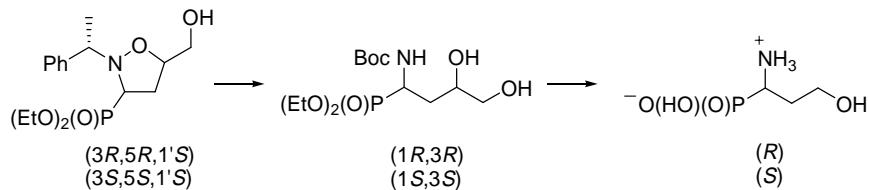
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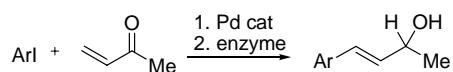
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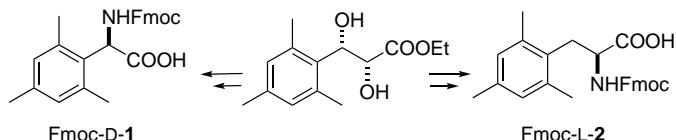
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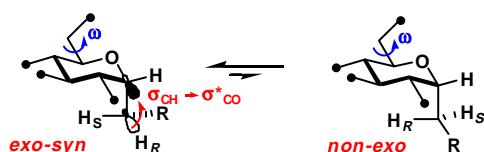
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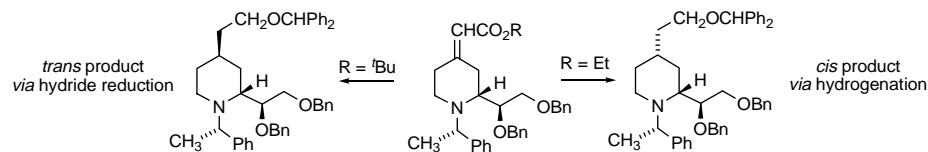
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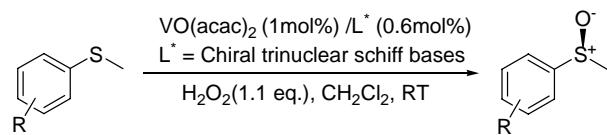
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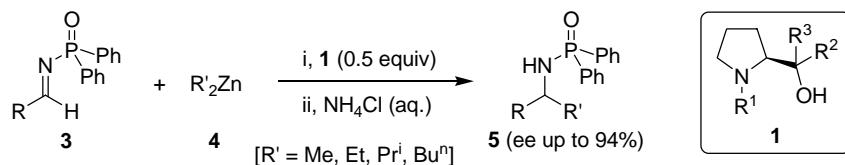
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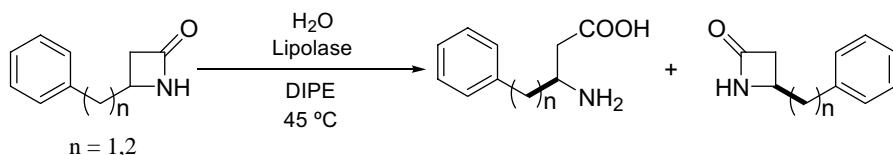
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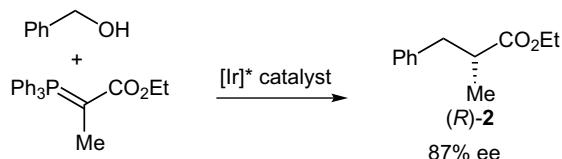
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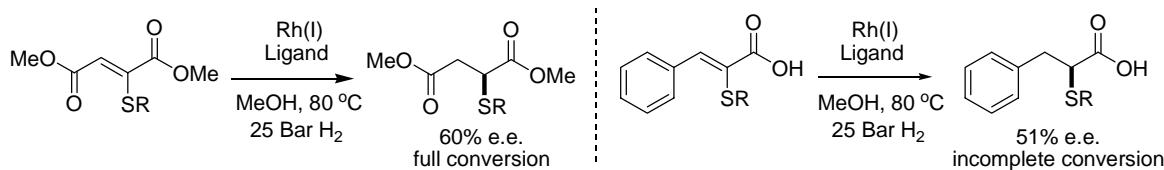


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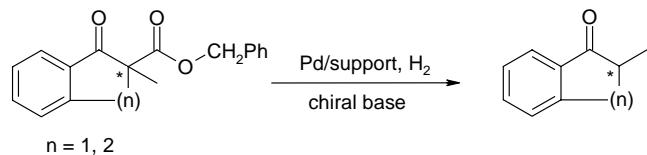
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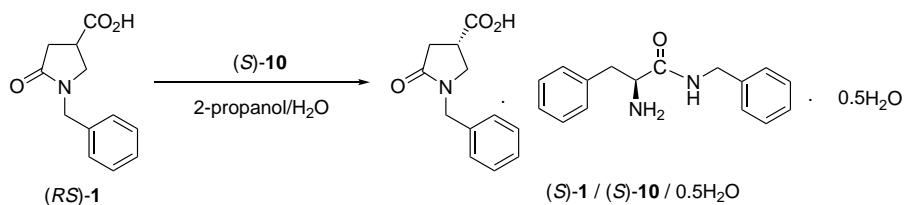
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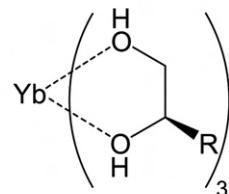
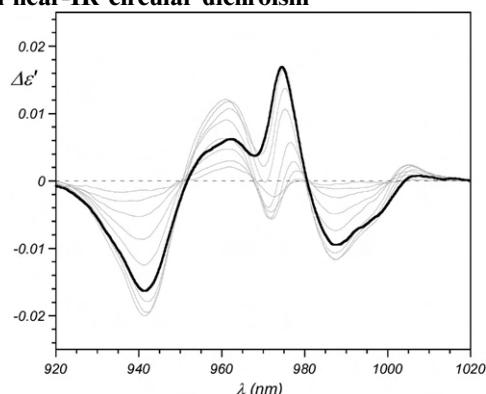
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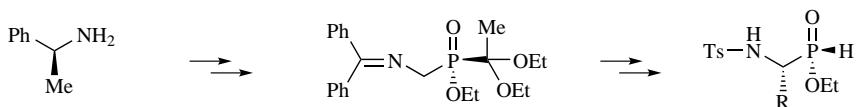
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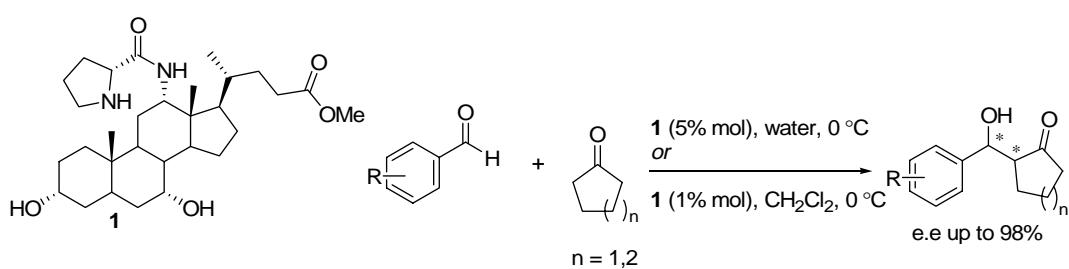
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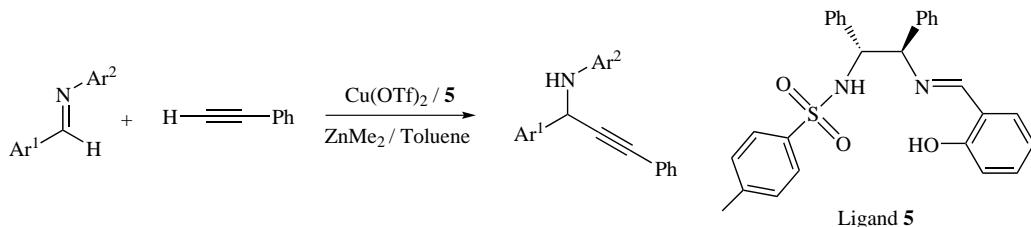
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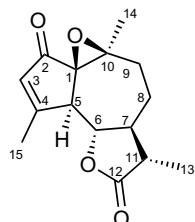
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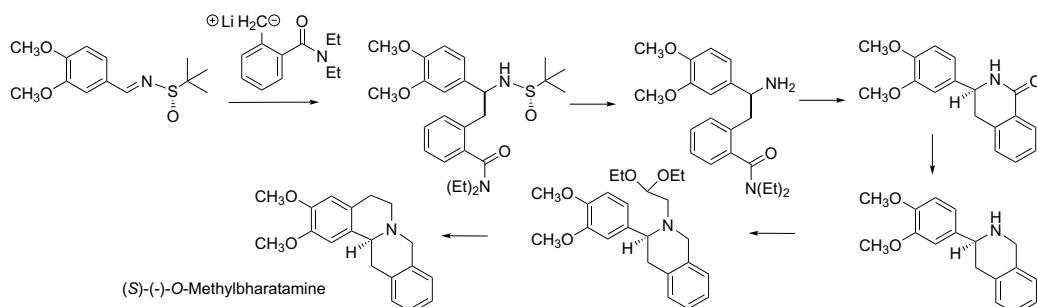


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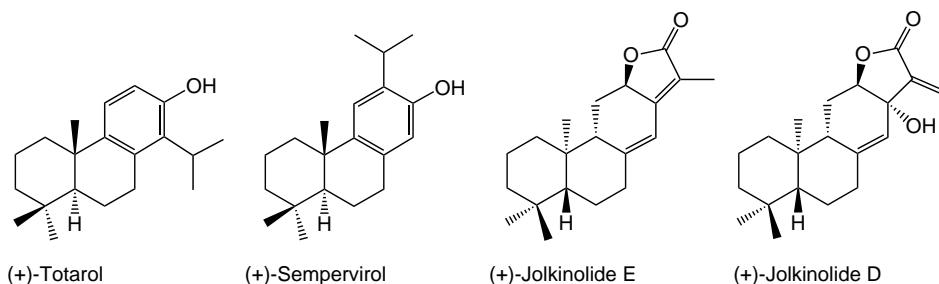
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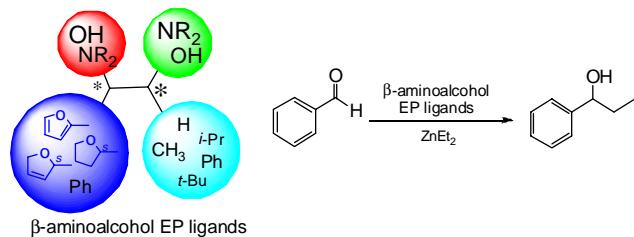
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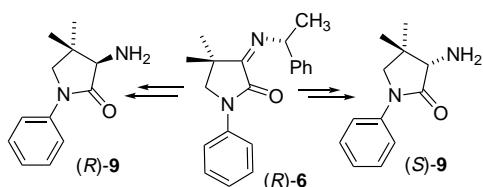
Claudio Paolucci\* and Goffredo Rosini\*



**Enantiodivergent synthesis of 3-amino-4,4-dimethyl-1-phenylpyrrolidin-2-one and derivatives: amino analogues of pantolactone**

pp 2947–2958

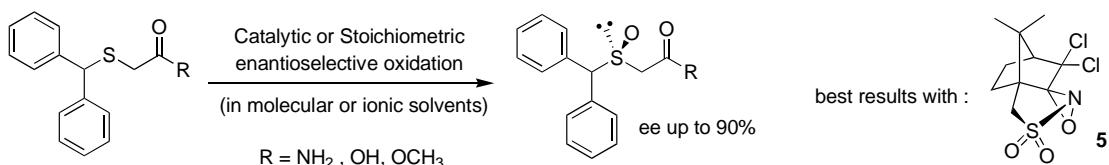
Pelayo Camps,\* Diego Muñoz-Torralbo,\* Jordi Rull, Mercè Font-Bardia and Xavier Solans



**Asymmetric synthesis of modafinil and its derivatives by enantioselective oxidation of thioethers: comparison of various methods including synthesis in ionic liquids**

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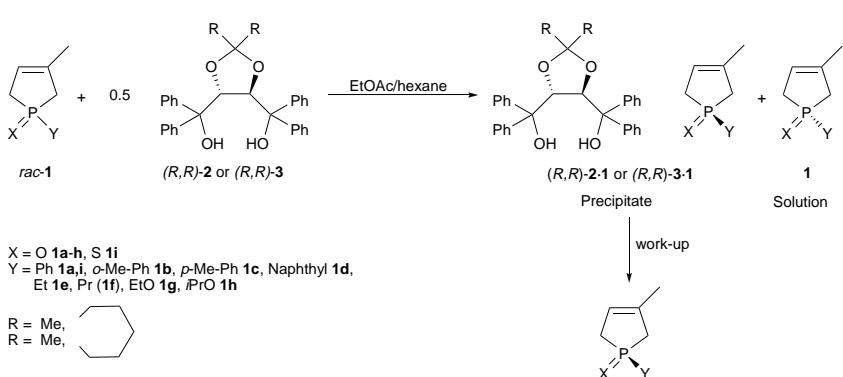
James Ternois, Frédéric Guillen,\* Jean-Christophe Plaquevent and Gérard Coquerel



**Resolution of 1-substituted-3-methyl-3-phospholene 1-oxides by molecular complex formation with TADDOL derivatives**

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Tibor Novák, Viktória Ujj, József Schindler, Mátyás Czugler, Miklós Kubinyi, Zsuzsa A. Mayer, Elemér Fogassy and György Keglevich\*



X = O 1a-h, S 1i  
Y = Ph 1a,i, o-Me-Ph 1b, p-Me-Ph 1c, Naphthyl 1d,  
Et 1e, Pr (1f), EtO 1g, iPrO 1h

R = Me,

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\*Corresponding author

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