

## BIMBOL as a multifunctional chiral catalyst in synthesis of both enantiomers of glutamic acid.

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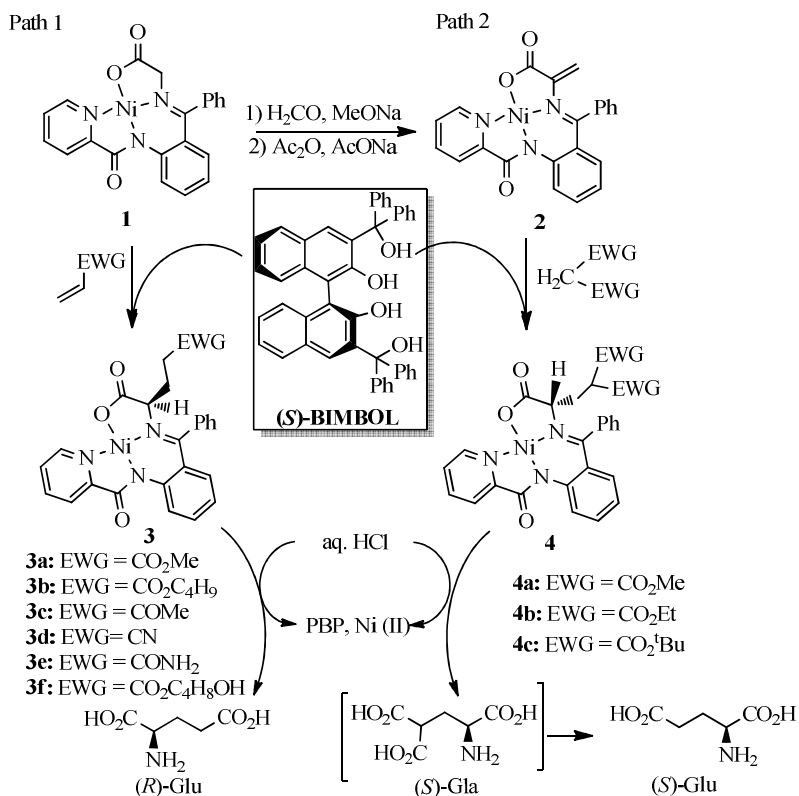
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Both enantiomers of glutamic acid are synthesized via 1,4-additions of achiral glycine and dehydroalanine Schiff base Ni(II) complexes using (*S*)-3,3'-bis(diphenylhydroxymethyl)-2,2'-dihydroxy[1,1']binaphthalenyl (BIMBOL) as catalyst.



It was shown that (*S*)- and (*R*)-BIMBOLs were efficient PTC catalysts of asymmetric procedure of Michael addition of acrylic esters to an achiral Ni-PBP-Gly complex (**1**) and Michael addition of malonic esters to dehydroalanine complex Ni-PBP-Δ-Ala (**2**). The addition reactions proceed with high chemical yields within 5-7 minutes in the presence of 10% mol of BIMBOL or its tetrapotassium derivative. (*R*)-Glutamic acid with 68% enantiomeric excess for *path 1* and (*S*)-glutamic acid with 86% *ee* for *path 2* was obtained after decomposition of the complexes **3** and **4** with HCl.

1. Yu. N. Belokon, Z. T. Gugkaeva, V. I. Maleev, M. A. Moskalenko, A. T. Tsaloev, V. N. Khrustaley, K. V. Hakobyan. *Tetrahedron: Asymmetry*, **2011**, v.22, 167-172.
2. Yu. N. Belokon, Z. T. Gugkaeva, K. V. Hakobyan et al. *Amino Acids*, **2012**, v. 43, 299-308.