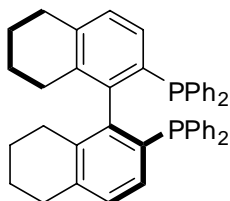


# Tech Note

## (S)-H<sub>8</sub>-BINAP

### (S)-(-)-2,2'-Bis(diphenylphosphino)-5,5',6,6',7,7',8,8'-octahydro-1,1'-binaphthyl

CAS Number	139139-93-8
CASName	Phosphine, [(1S)-5,5',6,6',7,7',8,8'-octahydro-[1,1'-binaphthalene]-2,2'-diyl]bis[bis(diphenyl)-
Formula	C <sub>44</sub> H <sub>40</sub> P <sub>2</sub>
Molecular Weight	630.76



#### Representative references:

X. Zhang, K. Mashima, K. Koyano, N. Sayo, H. Kumobayashi, S. Akutagawa, H. Takaya, *Tetrahedron Lett.*, 1991, 32, 7283.

X. Zhang, K. Mashima, K. Koyano, N. Sayo, H. Kumobayashi, S. Akutagawa, H. Takaya, *J. Chem. Soc., Perkin Trans. 1*, 1994, 2309

H. Kumobayashi, T. Miura, N. Sayo, T. Saito, X. Zhang, *Synlett*, 2001, 1055.

## Performance Examples and References:

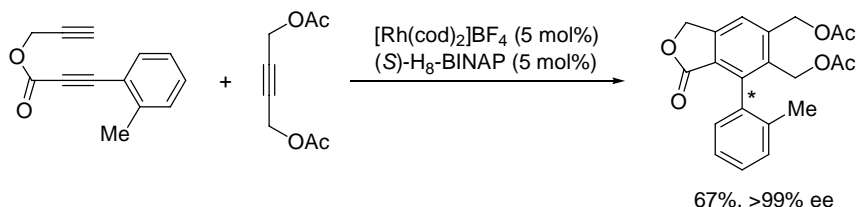
H<sub>8</sub>-BINAP-Ru complexe hydrogenates unsaturated carboxylic acids in higher enantioselectivities than BINAP does.

### 1. Ru catalyzed asymmetric hydrogenation;

see *Technical information chapter 1; Asymmetric hydrogenation*

### 2. Rh catalyzed asymmetric reactions

#### [2+2+2] Cycloaddition

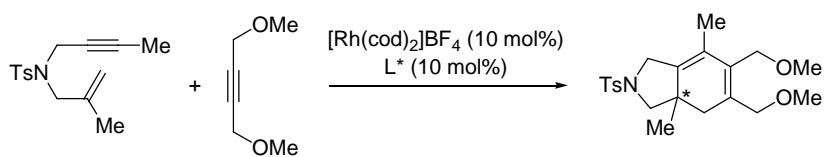


K. Tanaka, *Angew. Chem. Int. Ed.* 2004, 43, 6510



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## Tech Note



$\text{L}^* =$  **H<sub>8</sub>-BINAP : 83%, 95% ee**  
BINAP : 77%, 93% ee  
ToIBINAP : 81%, 97% ee  
XyIBINAP : 36%, 91% ee  
SEGPPOS : 72%, 94% ee

Shibata, T. *Org. Lett.* **2005**, *7*, 4955.



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