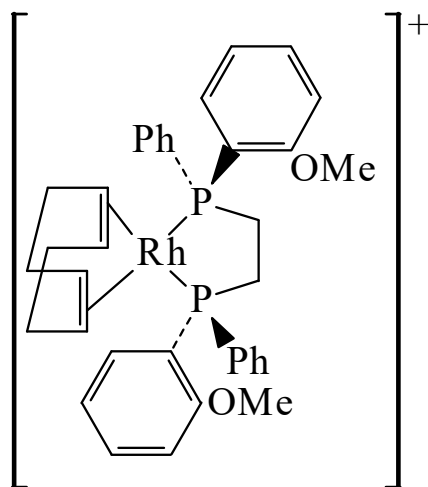




>>Entry Name: [(1,2,5,6- η)-1,5-Cyclooctadiene][1,2-ethanediylbis[(2-methoxyphenyl)phenylphosphine]-*P,P'*]rhodium(1+), 10Cl

Synonym(s): η^4 -1,5-Cyclooctadiene(DIPAMP)rhodium(1+)



Related CAS Registry Numbers(s): 56977-92-5 70896-63-8 70896-64-9 136686-38-9

Molecular Formula: $C_{36}H_{40}O_2P_2Rh^{(+)}$

Molecular Weight: 669.564

Accurate Mass: 669.155854

Percentage Composition: C 64.58%; H 6.02%; O 4.78%; P 9.25%; Rh 15.37%

>>Variant: (*R,R*)-form

Molecular Formula: $C_{36}H_{40}O_2P_2Rh$

Molecular Weight: 669.564

Accurate Mass: 669.155854

Percentage Composition: C 64.58%; H 6.02%; O 4.78%; P 9.25%; Rh 15.37%

Use/Importance: Catalyst precursor for the asymmetric hydrogenation of alkenes, of $H_2C=C(COOR)CH_2COOR'$ and $H_2C=C(OAc)R$

Other Data: Chirality *R,R* refers to free phosphine. Config. in complex is *S,S*

>>Derivative: Tetrafluoroborate

CAS Registry Number: 71423-54-6

Molecular Formula: $C_{36}H_{40}BF_4O_2P_2Rh$

Molecular Weight: 756.368

Percentage Composition: C 57.17%; H 5.33%; B 1.43%; F 10.05%; O 4.23%; P 8.19%; Rh 13.61%

Source/Synthesis: Synth. from $[Rh(cod)Cl]_2$, DIPAMP and $NaBF_4$

Physical Description: Red-orange cryst. (EtOH)

>>Derivative: Perchlorate

CAS Registry Number: 81445-13-8

Molecular Formula: $C_{36}H_{40}ClO_6P_2Rh$

Molecular Weight: 769.014

Percentage Composition: C 56.23%; H 5.24%; Cl 4.61%; O 12.48%; P 8.06%; Rh 13.38%

Physical Description: Characterised spectroscopically, not isol.

Solubility: Sol. Me_2CO

References:

- Knowles, W.S. *et al.*, *J.A.C.S.*, 1975, **97**, 2567, (*use, asymmetric hydrogenation*)
Vineyard, B.D. *et al.*, *J.A.C.S.*, 1977, **99**, 5946, (*synth, cryst struct*)
Christopfel, W.C. *et al.*, *J.A.C.S.*, 1979, **101**, 4406, (*use, asymmetric hydrogenation*)
Koenig, K.E. *et al.*, *J.O.C.*, 1980, **45**, 2362, (*synth, use, asymmetric hydrogenation*)
Stults, B.R. *et al.*, *J.A.C.S.*, 1981, **103**, 3235, (*struct, exafs*)
Maciel, G.E. *et al.*, *Adv. Chem. Ser.*, 1982, **196**, 389, (*nmr, synth*)
Schmidt, U. *et al.*, *Synthesis*, 1991, 655, (*synth*)