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(71) Applicant (for all designated States except US): **UMI-CORE AG & CO. KG** [DE/DE]; Rodenbacher Chaussee 4, 63457 Hanau-Wolfgang (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LOTZ, Matthias** [DE/CH]; Steinbühlallee 117, CH-4054 Basel (CH). **SPINDLER, Felix** [CH/CH]; Dullikerstrasse 15, CH-4656 Starrkirch-Wil (CH).

(74) Agent: **MAUÉ, Paul Georg**; Solvias AG, Patents, WKL-402.3.04, Klybeckstrasse 191, CH-4002 Basel (CH).

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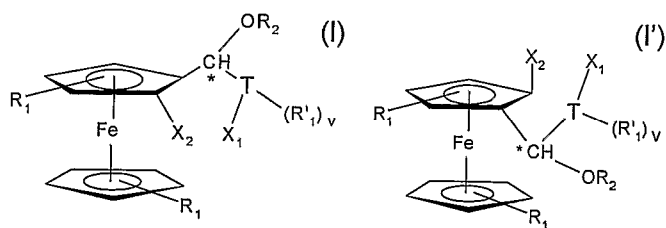
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(54) Title: FERROCENYL LIGANDS FOR HOMOGENEOUS, ENANTIOSELECTIVE HYDROGENATION CATALYSTS



or C₇-C₁₂-aralkyl; R₀₄ and R₀₅ are each, independently of one another, hydrogen, C₁-C₁₂-alkyl, C₃-C₈-cycloalkyl, C₆-C₁₀-aryl or C₇-C₁₂-aralkyl, or R₀₄ and R₀₅ together are trimethylene, tetramethylene, pentamethylene or 3-oxapentylene; R₀₆ is C₁-C₁₈-alkyl, unsubstituted or C₁-C₄-alkyl- or C₁-C₄-alkoxy-substituted C₃-C₈-cycloalkyl, C₆-C₁₀-aryl or C₇-C₁₂-aralkyl; X₀₁ is -O- or -NH-; T is C₆-C₂₀-arylene; v is 0 or an integer from 1 to 4; and * denotes a mixture of racemic or enantiomerically pure diastereomers or pure racemic or enantiomerically diastereomers, are excellent chiral ligands for metal complexes as enantioselective catalysts for the hydrogenation of prochiral organic compounds.

(57) Abstract: Compounds of the formula (I) or (I'), where R₁ is a hydrogen atom or C₁-C₄-alkyl and R'₁ is C₁-C₄-alkyl; X₁ and X₂ are each, independently of one another, a secondary phosphine group; R₂ is hydrogen, R₀₁R₀₂R₀₃Si-, C₁-C₁₈-acyl substituted by halogen, hydroxy, C₁-C₈-alkoxy or R₀₄R₀₅N-, or R₀₆-X₀₁-C(O)-; R₀₁, R₀₂ and R₀₃ are each, independently of one another, C₁-C₁₂-alkyl, unsubstituted or C₁-C₄-alkyl or C₁-C₄-alkoxy-substituted C₆-C₁₀-aryl