

Title (en)

CATALYSTS MADE FROM TRANSITION METAL COMPOUNDS AND 4,5-DIPHOSPHINOACRIDINE-LIGANDS

Title (de)

KATALYSATOREN AUS ÜBERGANGSMETALL-VERBINDUNGEN UND 4,5-DIPHOSPHINOACRIDIN-LIGANDEN

Title (fr)

CATALYSEURS CONSTITUES DE COMPOSES DE METAUX DE TRANSITION ET DE LIGANDS DE 4,5-DIPHOSPHINOACRIDINE

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Application

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Priority

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- EP 9706866 W 19971209

Abstract (en)

[origin: DE19652350A1] The present invention relates to the production of novel catalysts made from transition metal compounds and "three-toothed" 4,5-diphosphinoacridine-ligands ("Acriphos"). The ligands used to this effect are diphosphine compounds of 4,5-disubstituted acridine, which tri-coordinate the transition metals with both phosphor atoms and with the acridine nitrogen atom. The invention also relates to the use of the novel catalysts for catalysis of carbon monoxide conversion by water gas equilibrium (WGS: $\text{CO} + \text{H}_2\text{O} = \text{CO}_2 + \text{H}_2$) and catalysis of the following reactions: hydroformylation, carbonylation, carboxylation, hydration, hydrocyanation, hydrosilylation, polymerization, isomerization, cross-coupling and metathesis. The invention also relates to the syntheses of the 4,5-diphosphinoacridines by reacting 4,5-difluoroacridine with alkali metal phosphides $\text{R}_2\text{P} \leftrightarrow \text{M} \leftrightarrow \text{M} \leftrightarrow \text{P} \leftrightarrow \text{R}_2$ ($\text{M} \leftrightarrow \text{M} = \text{Li} \leftrightarrow \text{Na}, \text{Na} \leftrightarrow \text{K}, \text{K} \leftrightarrow \text{Rb}, \text{Rb} \leftrightarrow \text{Cs}$, preferably $\text{K} \leftrightarrow \text{K}$) or by reacting 4,5-dibromacridine with chlorophosphines (R_2PCl) and magnesium, as well as to the production of 4,5-difluoroacridine and 4,5-dibromacridine, which were previously unknown.

IPC 1-7

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