

Title (en)  
A NOVEL CLASS OF OLEFIN METATHESIS CATALYSTS, METHODS OF PREPARATION, AND PROCESSES FOR THE USE THEREOF

Title (de)  
NEUE KLASSE VON OLEFIN-METATHESE-KATALYSATOREN, HERSTELLUNGSVERFAHREN DAFÜR UND VERFAHREN ZU IHRER VERWENDUNG

Title (fr)  
NOUVELLE CLASSE DE CATALYSEURS DE MÉTATHÈSE D'OLÉFINE, PROCÉDÉS DE PRÉPARATION ET PROCÉDÉS POUR L'UTILISATION DE CELLE-CI

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Application  
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Abstract (en)  
[origin: WO2012166259A2] This invention relates to a metathesis catalyst comprising a Group 8 metal complex represented by the formula: (I) wherein: M is a Group 8 metal; each X is independently an anionic ligand; R1 and R2 are independently selected from the group consisting of hydrogen, a C1 to C30 hydrocarbyl, and a C1 to C30 substituted hydrocarbyl; R3 and R4 are independently selected from the group consisting of hydrogen, C1 to C12 hydrocarbyl groups, substituted C1 to C12 hydrocarbyl groups, and halides; and L is a neutral donor ligand. This invention also relates to processes for performing a metathesis reaction, in particular ring opening cross metathesis reactions and ring opening metathesis polymerization reactions, using the Group 8 metal complexes.

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Citation (search report)  
• [X] MATHEW, JOMON ET AL: "Assessment of Stereoelectronic Effects in Grubbs First-Generation Olefin Metathesis Catalysis Using Molecular Electrostatic Potential", ORGANOMETALLICS , 30(6), 1438-1444 CODEN: ORGND7; ISSN: 0276-7333, 24 February 2011 (2011-02-24), XP002658780  
• [X] DATABASE CA [online] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; PEREIRA DA SILVA, CARLOS ET AL: "Investigation of the catalysis mechanism of ROMP of norbornene using density functional theory", XP002658781, retrieved from STN Database accession no. 2010:1265734  
• [X] JACOBSEN, HEIKO: "P-Heterocyclic carbenes as potential ligands in the design of new metathesis catalysts. A computational study", DALTON TRANSACTIONS , (18), 2214-2224 CODEN: DTARAF; ISSN: 1477-9226, 2006, XP002658782  
• [X] SLIWA, PAWEL ET AL: "Assessment of density functional methods for the study of olefin metathesis catalyzed by ruthenium alkylidene complexes", CHEMICAL PHYSICS LETTERS , 493(4-6), 273-278 CODEN: CHPLBC; ISSN: 0009-2614, 2010, XP002658783  
• [I] RANDALL M L ET AL: "SELECTIVE RING-OPENING CROSS METATHESIS. SHORT SYNTHESSES OF MULTIFIDENE AND VIRIDIENE", JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC; US, vol. 117, no. 37, 20 September 1995 (1995-09-20), XP002066314, ISSN: 0002-7863, DOI: 10.1021/JA00142A048  
• See references of WO 2012166259A2

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