

Title (en)
METHOD FOR HYDROFORMYLATION OF UNSATURATED COMPOUNDS

Title (de)
VERFAHREN ZUR HYDROFORMYLIERUNG VON UNGESÄTTIGTEN VERBINDUNGEN

Title (fr)
PROCÉDÉ D'HYDROFORMYLATION DE COMPOSÉS INSATURÉS

Publication
EP 2637993 A1 20130918 (DE)

Application
EP 11781465 A 20111024

Priority
• DE 102010043558 A 20101108
• EP 2011068522 W 20111024

Abstract (en)
[origin: WO2012062558A1] The invention relates to a method for hydroformylation of unsaturated compounds such as olefins and alkynes using mixtures of synthesis gas (CO/H₂), in which either the unsaturated compounds and a catalyst are heated to a reaction temperature of 60 to 200 °C and the synthesis gas is then introduced, or the unsaturated compounds and the catalyst are brought into contact with pure CO at normal temperature in a preformation step, then are heated to reaction temperature and on reaching the reaction temperature the CO is replaced by the synthesis gas. The pressure is 1 to 200 bar and the CO:H₂ ratio in the synthesis gas is in the range from 1:1 to 50:1. The iridium catalyst used comprises a phosphorus-containing ligand in an iridium:ligand ratio in the range from 1:1 to 1:100. With high catalyst activities and low catalyst use, very high turnover frequencies are achieved.

IPC 8 full level
C07C 45/50 (2006.01); **C07F 9/02** (2006.01)

CPC (source: EP KR US)
B01J 23/46 (2013.01 - KR); **C07C 45/27** (2013.01 - US); **C07C 45/50** (2013.01 - EP KR US); **C07F 9/02** (2013.01 - KR); **C07F 9/145** (2013.01 - EP US); **C07F 9/5022** (2013.01 - EP US); **C07F 9/572** (2013.01 - EP US); **C07F 9/65683** (2013.01 - EP US); **C07C 2601/14** (2017.04 - EP US); **C07C 2601/16** (2017.04 - EP US); **C07C 2601/18** (2017.04 - EP US)

Citation (search report)
See references of WO 2012062558A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
DE 102010043558 A1 20120510; AR 083789 A1 20130320; BR 112013011138 A2 20160802; CN 103180278 A 20130626; EP 2637993 A1 20130918; JP 2014501709 A 20140123; KR 20130122752 A 20131108; MX 2013004632 A 20130605; SG 189528 A1 20130628; TW 201233668 A 20120816; US 2014024860 A1 20140123; US 8927776 B2 20150106; WO 2012062558 A1 20120518; ZA 201304113 B 20140430

DOCDB simple family (application)
DE 102010043558 A 20101108; AR P110104155 A 20111108; BR 112013011138 A 20111024; CN 201180053773 A 20111024; EP 11781465 A 20111024; EP 2011068522 W 20111024; JP 2013538119 A 20111024; KR 20137014654 A 20111024; MX 2013004632 A 20111024; SG 2013031661 A 20111024; TW 100140130 A 20111103; US 201113883808 A 20111024; ZA 201304113 A 20130605