



(11) **EP 3 256 455 B8**

(12) **CORRECTED EUROPEAN PATENT SPECIFICATION**

(15) Correction information:  
**Corrected version no 1 (W1 B1)**  
**Corrections, see**  
**Bibliography INID code(s) 73**

(48) Corrigendum issued on:  
**25.10.2023 Bulletin 2023/43**

(45) Date of publication and mention  
of the grant of the patent:  
**06.09.2023 Bulletin 2023/36**

(21) Application number: **15703616.1**

(22) Date of filing: **11.02.2015**

(51) International Patent Classification (IPC):  
**C07C 29/17** <sup>(2006.01)</sup> **C07D 307/06** <sup>(2006.01)</sup>  
**C07C 67/303** <sup>(2006.01)</sup> **C07D 307/33** <sup>(2006.01)</sup>

(52) Cooperative Patent Classification (CPC):  
(C-Sets available)  
**C07C 67/303; C07C 29/177; C07D 307/06;**  
**C07D 307/33** (Cont.)

(86) International application number:  
**PCT/EP2015/052881**

(87) International publication number:  
**WO 2016/128044 (18.08.2016 Gazette 2016/33)**

(54) **METHOD FOR THE REDUCTION OF CARBOXYLIC ACIDS OR CARBONIC ACID AND THEIR DERIVATIVES**

METHODE FÜR DIE REDUKTION VON CARBOXYLSÄUREN ODER KOHLENSÄURE UND DEREN DERIVATEN

PROCEDE DE REDUCTION DE ACIDES CARBOXYLIQUE OU ACIDE CARBONIQUE ET LEURS DERIVES

(84) Designated Contracting States:  
**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**

(43) Date of publication of application:  
**20.12.2017 Bulletin 2017/51**

(73) Proprietor: **Rheinisch-Westfälische Technische Hochschule (RWTH) Aachen**  
**52062 Aachen (DE)**

(72) Inventors:  
• **KLANKERMAYER, Jürgen**  
**45259 Essen (DE)**  
• **LEITNER, Walter**  
**52074 Aachen (DE)**  
• **MEURESCH, Markus**  
**52064 Aachen (DE)**

(74) Representative: **Michalski Hüttermann & Partner**  
**Patentanwälte mbB**  
**Kaistraße 16A**  
**40221 Düsseldorf (DE)**

(56) References cited:  
**EP-A1- 2 141 142**

- **BARBARO P ET AL: "SYNTHESIS AND CHARACTERIZATION OF RUTHENIUM(II) COMPLEXES CONTAINING CHIRAL BIS(FERROCENYL)-P3 OR-PS2 LIGANDS. ASYMMETRIC TRANSFER HYDROGENATION OF ACETOPHENONE", ORGANOMETALLICS, ACS, WASHINGTON, DC, US, vol. 16, 24 June 1997 (1997-06-24), pages 3004-3014, XP001038250, ISSN: 0276-7333, DOI: 10.1021/OM970116C**
- **PETER E. SUES ET AL: "Flexible Syntheses of Tripodal Phosphine Ligands 1,1,2-Tris(diarylphosphino)ethane and Their Ruthenium [eta] 5 -C 5 Me 5 Complexes", ORGANOMETALLICS, vol. 31, no. 18, 24 September 2012 (2012-09-24), pages 6589-6594, XP55212171, ISSN: 0276-7333, DOI: 10.1021/om3005959**

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

**EP 3 256 455 B8**

(52) Cooperative Patent Classification (CPC): (Cont.)

C-Sets

**C07C 29/177, C07C 31/20;**

**C07C 67/303, C07C 69/34**