

Hydroformylation of propene and 1-hexene catalysed by a alpha-zirconium phosphate supported rhodium-phosphine complex - DTU Orbit (09/11/2017)

Hydroformylation of propene and 1-hexene catalysed by a alpha-zirconium phosphate supported rhodium-phosphine complex

The reaction of the amphiphilic ligand {4-[bis(diethylaminoethyl)aminomethyl]diphenyl}phosphine with alpha -zirconium phosphate, of intermediate surface area (24m² g⁻¹), provided a phosphine functionalised support in which electrostatic interaction between ammonium groups on the ligand and de-protonated surface hydroxyl groups on the support provided the binding force. The X-ray powder diffractogram of the material showed that the binding lowers the crystallinity of the carrier and that the ligand is not intercalated but bound at the outer surface and at the entrances to the interlamellar space. Reaction of the phosphine functionalised support with Rh(CO)₂(acac) led to CO-phosphine exchange and formation of an immobilised complex of the composition LRh(CO)(acac) (L = surface bound phosphine). When applied as catalyst in continuous gas-phase hydroformylation of propene and in liquid phase hydroformylation of 1-hexene the immobilised complex showed intermediate activity and regioselectivity, (C) 2001 Elsevier Science B.V. All rights reserved.

General information

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