

## Hydroformylation and isomerization of hex-1-ene catalyzed by $[\text{Rh}(\text{acac})(\text{CO})(\text{PPh}_3)]$ : effect of modifying ligands.

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The application of the  $[\text{Rh}(\text{acac})(\text{CO})(\text{PPh}_3)]$ , **[A]**, complex as a hex-1-ene hydroformylation catalyst (at 1 MPa and 353 K) produced 68% hex-2-ene and 20% aldehydes. Identified via IR in the post-reaction mixture were  $[\text{Rh}_4(\text{CO})_{12}]$ , **[D]**, and  $[\text{Rh}_6(\text{CO})_{16}]$ , **[E]**, carbonyls, which, applied as catalysts, produced hex-2-ene with a 70–90% yield. The presence of free triphenylphosphine changed the reaction course completely and increased the yield of aldehydes to 80% in all catalytic systems, independent of the catalyst precursor structure. The presence of amines [TBA (tribenzylamine), TFA (triphenylamine), and  $\text{PhNH}_2$  (aniline)] in reactions catalyzed by **[A]** and **[A]** +  $\text{PPh}_3$  leads to a decrease in the hex-2-ene yield and an increase in the yield of aldehydes.

### Adres publiczny

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