Synthesis, Molecular Structure, and ^{1}H NMR Analysis of Bis(tetraphenylcyclopentadienyl)ruthenium(II)

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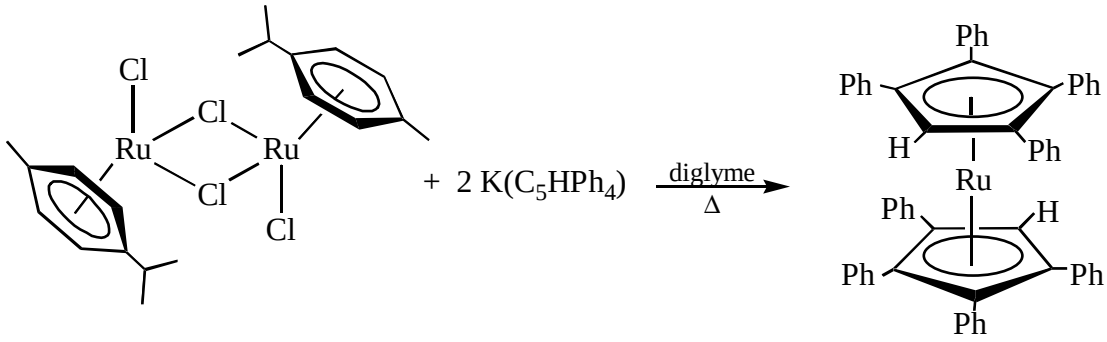
Abstract

Reaction of [Ru(*p*-cymene)Cl_2]$_2$ with K(η^5-C_5HPh_4) in refluxing diglyme yields (η^5-C_5HPh_4)$_2$Ru in *ca*. 50% yield. The complex was not susceptible to oxidation or reduction. An X-ray crystal structure of (C_5HPh_4)$_2$Ru was obtained. The metal-centroid distance is 1.832(2) Å and all other bond lengths and angles are similar to other octaphenylmetallocenes. ^{1}H NMR analysis employing 2D *J*-resolved, COSY and low temperature techniques allowed assignment of all protons in the molecule. The motional processes of the phenyl groups are discussed.



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