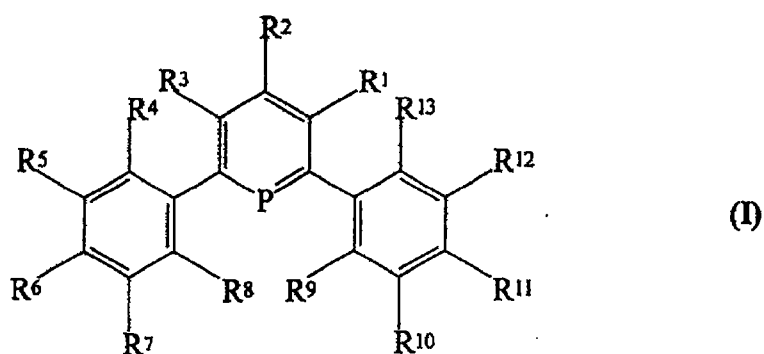


Phosphabenzene compounds and their use in hydroformylation

Abstract

Phosphabenzene compounds of the formula (I)



where the radicals R^1 to R^{13} are, independently of one another, hydrogen, COOM , SO_3M , NR_3X , NR_2 , OR , COOR or SR (where M = hydrogen, NH_4 or alkali metal, X = anion, R = hydrogen or $\text{C}_1\text{-C}_6\text{-alkyl}$), or $\text{C}_1\text{-C}_{12}\text{-alkyl}$, $\text{C}_6\text{-C}_{12}\text{-aryl}$, $\text{C}_7\text{-C}_{12}\text{-aralkyl}$, $\text{C}_7\text{-C}_{12}\text{-alkaryl}$ or $\text{C}_3\text{-C}_6\text{-heteroaromatics}$, where the alkyl, aryl, alkaryl and aralkyl radicals may bear the abovementioned radicals as substituents and two or more of the radicals may be joined to form aliphatic or fused-on rings, where at least one of the radicals R^4 and R^8 and at least one of the radicals R^9 and R^{13} is not hydrogen, can be used for preparing hydroformylation catalysts.