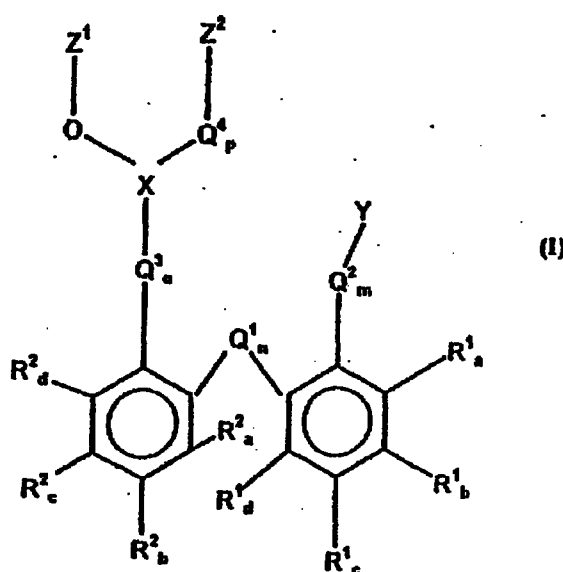


Process for the preparation of aldehydes from olefins by hydroformylation

Abstract:

The invention relates to a process for the catalytic hydroformylation of olefins having from 3 to 24 carbon atoms, wherein the catalyst used comprises a metal of transition group 8 of the Periodic Table in the presence of a ligand of the formula I



- 10 where X = As, Sb, P,
 R^1_{a-d}, R^2_{a-d} = H, aliphatic or aromatic hydrocarbon radical, aliphatic or aromatic alkoxy group, in each case having from 1 to 25 carbon atoms, where R^1_{a-d} and R^2_{a-d} can each be identical or
 15 different,
 Q^1, Q^2, Q^3, Q^4 = O, S, NR^7 , CR^7R^8 , where R^7 and R^8 can be identical or different and can have one of the meanings of R^1_a ,
 20 n, m, o, p = 0 or 1, with the proviso that either o or p is 1,
 Y = $-O-R^5$, $-COOR^5$, $-COOM$, $-SR^5$, $-NR^5R^6$, $-N=CR^5R^6$, $-COR^5$, $-CONR^5R^6$, $-F$, $-Cl$, $-Br$, $-I$,

5

where R^5 and R^6 can be identical or different and are H, an aliphatic or aromatic hydrocarbon radical having from 1 to 25 carbon atoms and $M = H$, Li, Na, K or NH_4 , and

Z^1, Z^2 = substituted or unsubstituted aliphatic or aromatic hydrocarbon radical having from 1 to 75 carbon atoms, where Z^1 and Z^2 can be covalently linked.

10

Figure: None.