



162162

Process for the carbonylation [sic] of pentenoic acid and its derivatives

5 Abstract

Process for the carbonylation of n-pentenoic acid or its derivatives of the formula (I)

10 $C_4H_7 - R^1$

(I)



G00002

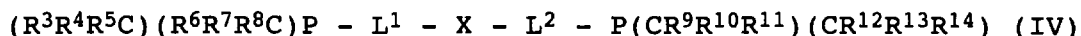
where R^1 is $-CN$ or $COOR^2$ where R^2 is hydrogen, alkyl or aryl

by reaction of a compound of the formula (I) with carbon monoxide
15 and a compound (II) containing a hydroxyl group in the presence of a catalyst system, wherein the catalyst system is obtainable by reaction of

a) a source for a metal ion of a metal (III) of the 8th subgroup of the Periodic Table of the Elements

20 with

b) a bidentate phosphine ligand of the formula (IV)



25 where

$R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}$ independently of one another is an organic radical which in each case contains a carbon atom, via which the respective radical is linked to the relevant tertiary carbon atom mentioned in formula (IV);

30 L^1, L^2 independently of one another are a lower alkylene group; X is an arylene group.

35

40

45