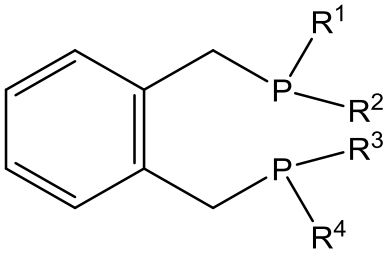
claims

1. Process comprising the process steps of:

a) addition of an olefin;

b) addition of a compound comprising Pd, wherein the Pd is capable of forming a complex;

c) addition of a compound of general formula (**I**):



(**I**)

wherein R^1, R^2, R^3, R^4 are each independently selected from: -H, -(C_1-C_{12})-alkyl, -O-(C_1-C_{12})-alkyl, -(C_4-C_{14})-aryl, -O-(C_4-C_{14})-aryl, cycloalkyl, -(C_1-C_{12})-heteroalkyl, -O-(C_1-C_{12})-heteroalkyl, -(C_3-C_{14})-heteroaryl, -O-(C_3-C_{14})-heteroaryl, -COO-alkyl, -COO-aryl, -C-O-alkyl, -C-O-aryl, NH_2, halogen and the residues are also capable of forming a larger condensed ring;

wherein the recited alkyl groups, aryl groups, cycloalkyl, heteroalkyl groups, heteroaryl groups may be substituted as follows:

-(C_1-C_{12})-alkyl, -O-(C_1-C_{12})-alkyl, halogen;

and at least one of the radicals R^1, R^2, R^3, R^4 does not represent phenyl;

d) addition of MeOH and HCOOH,

wherein the MeOH / HCOOH ratio based on the total volume of MeOH and HCOOH employed is in the range from 1.55 : 0.45 to 1.1 : 0.9;

e) the reaction mixture is heated to convert the olefin into methyl ester.

2. Process according to Claim 1,

wherein no CO gas is supplied to the reaction mixture.

3. Process according to Claim 1 or 2,

wherein HCOOH serves as the only CO source for the reaction.

4. Process according to any of Claims 1 to 3,

wherein the compound in process step b) is selected from:

$Pd(acac)_2$, $PdCl_2$, $Pd(dba)_3*CH_3Cl$ (dba = dibenzylideneacetone), $Pd(OAc)_2$, $Pd(TFA)_2$, $Pd(CH_3CN)Cl_2$.

5. Process according to any of Claims 1 to 4,
wherein the process comprises additional process step f):
f) addition of an acid.

6. Process according to Claim 5,
wherein the acid is selected from: H_2SO_4, CH_3SO_3H, CF_3SO_3H, PTSA.

7. Process according to any of Claims 1 to 6,
wherein the MeOH / HCOOH ratio based on the total volume of MeOH and HCOOH employed is in the range from 1.5 : 0.5 to 1.2 : 0.8.

8. Process according to any of Claims 1 to 7,
wherein R^1, R^2, R^3, R^4 are each independently selected from: -(C_1-C_{12})-alkyl, -O-(C_1-C_{12})-alkyl, -(C_4-C_{14})-aryl, -O-(C_4-C_{14})-aryl, cycloalkyl, -(C_1-C_{12})-heteroalkyl, -O-(C_1-C_{12})-heteroalkyl, -(C_3-C_{14})-heteroaryl, -O-(C_3-C_{14})-heteroaryl, -COO-alkyl, -COO-aryl, -C-O-alkyl, -C-O-aryl, NH_2, halogen and the residues are also capable of forming a larger condensed ring;
wherein the recited alkyl groups, aryl groups, cycloalkyl, heteroalkyl groups, heteroaryl groups may be substituted as follows:
-(C_1-C_{12})-alkyl, -O-(C_1-C_{12})-alkyl, halogen;
and at least one of the radicals R^1, R^2, R^3, R^4 does not represent phenyl.

9. Process according to any of Claims 1 to 8,
wherein R^1, R^2, R^3, R^4 are each independently selected from: -(C_1-C_{12})-alkyl, -(C_4-C_{14})-aryl, cycloalkyl, -(C_1-C_{12})-heteroalkyl, -(C_3-C_{14})-heteroaryl, halogen and the residues are also capable of forming a larger condensed ring;
wherein the recited alkyl groups, aryl groups, cycloalkyl, heteroalkyl groups, heteroaryl groups may be substituted as follows:
-(C_1-C_{12})-alkyl, -O-(C_1-C_{12})-alkyl, halogen;
and at least one of the radicals R^1, R^2, R^3, R^4 does not represent phenyl.

10. Process according to any of Claims 1 to 9,