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CARBONYLATION OF OLEFINS

The invention relates to a process for the mono-carbonylation of optionally substituted olefinically unsaturated compounds by reaction with carbon monoxide and a coreactant in the presence of a catalyst system comprising:

- a) a source of palladium cations,
- b) a source of bidentate diphosphine, and
- c) a source of anions,

characterized in that the diphosphine is selected from the group of diphosphines of formula I,



wherein R^1 , R^2 , R^3 and R^4 independently represent an optionally substituted aliphatic group, or R^1 and R^2 together and/or R^3 and R^4 together represent an optionally substituted bivalent aliphatic group, and X represents a bivalent bridging group containing from 1 to 10 atoms in the bridge, to produce various carbonyl compounds including aldehydes, ketones, esters, and amides. The invention also relates to certain catalyst systems useful in this reaction.

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