

A B S T R A C T

PROCESS FOR THE CARBONYLATION OF ACETYLENICALLY
UNSATURATED COMPOUNDS

A process for the carbonylation of acetylenically unsaturated compounds with carbon monoxide in the presence of a nucleophilic compound having one or more mobile hydrogen atoms as co-reactant, and of a catalyst system based on

- (a) a source of palladium cations;
- (b) a bidentate diphosphine of the general formula
$$R^1R^2P-R-PR^3R^4 \quad (I)$$

wherein each of R^1, R^2, R^3 and R^4 independently represents a substituted or non-substituted aliphatic or cycloaliphatic group, on R^1 together with R^2 , and/or R^3 together with R^4 represent a substituted or non-substituted bivalent cyclic group with at least 5 ring atoms whereby the two free valencies of such a cyclic group are linked to a single phosphorus atom, and R represents a bivalent organic bridging group containing from 1 to 4 atoms in the bridge, and

- (c) a source of non- or weakly coordinating anions derivable from strong acids having a pKa not greater than 4, or a source of anions derivable from sterically hindered carboxylic acids.