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(54) Title: CARBONYLATION OF CONJUGATED DIENES

(57) Abstract: A process for the carbonylation of a conjugated diene is described. The process comprises the steps of reacting a conjugated diene with carbon monoxide and a co-reactant having an active hydrogen in the presence of a solvent system and a catalyst system. The solvent system comprises a an aromatic carboxylic acid or, under some conditions, any carboxylic acid. The catalyst system is obtainable by combining: a. a metal of Group 8, 9 or 10 or a compound thereof: and b. a bidentate ligand of general formula (I) $X^1(X^2)-Q^2-A-R-B-Q^1-X^3(X^4)$ (I) A and B each independently represent lower alkylene linking groups; R represents a cyclic hydrocarbyl structure to which Q^1 and Q^2 are linked, via the said linking group, on available adjacent cyclic atoms of the cyclic hydrocarbyl structure; the groups X^1 , X^2 , X^3 and X^4 independently represent univalent radicals of up to 30 atoms having at least one tertiary carbon atom or X^1 and X^2 and/or X^3 and X^4 together form a bivalent radical of up to 40 atoms having at least two tertiary carbon atoms wherein each said univalent or bivalent radical is joined via said at least one or two tertiary carbon atoms respectively to the appropriate atom Q^1 or Q^2 ; Q^1 and Q^2 each independently represent phosphorus, arsenic or 120 antimony; and, optionally, a source of anions. When the ratio of bidentate ligand : group 8, 9 or 10 metal is greater than 10:1 (mol:mol), the reaction proceeds with any carboxylic acid.

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