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(54) Title: **PROCESS FOR MAKING 5-CYANOVALERIC ACID, ADIPIC ACID OR DIMETHYL ADIPATE**

(57) Abstract: Disclosed in a process for making (1) a compound of the formula $\text{NC-CH}_2\text{-CH}_2\text{-CH}_2\text{-CH}_2\text{-CO}_2\text{R}'$, wherein R' is H or C1 to C12 alkyl, or (2) adipic acid or (3) dimethyl adipate, using as the substrate, 3-pentenitrile, (2) 3-pentenoic acid or methyl 3-pentenoate, respectively, by contacting the substrate with carbon monoxide and a nucleophile in the presence of a Group VIII metal, a selected ligand, and an acid promoter. The nucleophile, which (a) an alcohol or water, or (b) water or (c) methanol, respectively, in the presence of a Group VIII metal, preferably palladium, a selected phosphine ligand, and an acid promoter.



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