

Title (en)  
PROCESS FOR THE PREPARATION OF BETA-GAMMA UNSATURATED ESTERS

Title (de)  
VERFAHREN ZUM HERSTELLEN VON BETA-GAMMA UNGESÄTTIGTEN ESTERN

Title (fr)  
PROCEDE DE PREPARATION D'ESTERS INSATURES BETA-GAMMA

Publication  
**EP 1140770 A1 20011010 (EN)**

Application  
**EP 99962928 A 19991130**

Priority  
• US 9928247 W 19991130  
• US 21540998 A 19981218

Abstract (en)  
[origin: WO0037411A1] A process for the carbonylation of allylic butenyl ether (e.g., methyl crotyl ether, 3-methoxybutene-1 and mixtures thereof) or mixture of butadiene and alcohol (e.g., methanol) and production of beta-gamma unsaturated carboxylic acid esters (e.g., methyl-3-pentenoate) utilizing a rhodium-containing catalyst (e.g., dicarbonylacetylacetonate rhodium(I) or the like) promoted with an iodide-containing compound (e.g., HI, AlI<sub>3</sub>, SnI<sub>4</sub>, TiI<sub>4</sub>, CrI<sub>3</sub>, and CoI<sub>2</sub> or the like). Such a process is particularly useful in the production of difunctional monomers and intermediates in the synthesis of adipic acid. The representative reaction showing (a) butadiene in the presence of methanol under catalytic reaction conditions producing the 3-methoxybutene-1 intermediate (a positional isomer of methyl crotyl ether) which is then combined with carbon monoxide to produce methyl pentenoate is illustrative of the overall carbonylation.

IPC 1-7  
**C07C 67/37**; **C07C 69/533**; **C07C 67/38**

IPC 8 full level  
**C07B 61/00** (2006.01); **C07C 67/37** (2006.01); **C07C 67/38** (2006.01); **C07C 69/533** (2006.01)

CPC (source: EP KR)  
**C07C 67/37** (2013.01 - EP KR); **C07C 67/38** (2013.01 - EP)

Citation (search report)  
See references of WO 0037411A1

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)  
**WO 0037411 A1 20000629**; CA 2347451 A1 20000629; CN 1331668 A 20020116; EP 1140770 A1 20011010; ID 28976 A 20010719; JP 2002533308 A 20021008; KR 20010101275 A 20011114

DOCDB simple family (application)  
**US 9928247 W 19991130**; CA 2347451 A 19991130; CN 99814710 A 19991130; EP 99962928 A 19991130; ID 20011297 A 19991130; JP 2000589483 A 19991130; KR 20017007611 A 20010616