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**CATALYTIC ENANTIOSELECTIVE
SYNTHESIS OF ALPHA-AMINO ACID
DERIVATIVES BY PHASE-TRANSFER
CATALYSIS**

O'Donnell Martin; Wu Shengd; Esikova Irena; Mi Aiqiao Indianapolis, IN, UNITED STATES assigned to Indiana University Foundation

Described are improved processes for the enantioselective synthesis of alpha-amino acids which involve combinations of solvents, highly-mixed and low-temperature reaction conditions, and novel catalysts. Also described are novel catalysts and precursors to alpha-amino acid derivatives.

NEW CATALYST FORMULATIONS

5540833

**SULFUR TOLERANT BIMETALLIC
ZEOLITIC REFORMING CATALYSTS**

Larsen Gustavo; Haller Gary L; Resasco Daniel E; Durante Vincent New Haven, CT, UNITED STATES assigned to Sun Company Inc (R&M)

New compositions of matter comprise a metal from the group consisting of platinum, rhodium and palladium, a metal from the first row of Group VIII of the Periodic Table and a nonacidic L-zeolite. A preferred composition is Pt-Ni/KL-zeolite. Such catalysts are prepared by coimpregnation of the zeolite with the metals. Methods of using the catalysts in reforming, aromatization or dehydrogenation are provided.

5543374

**ISOMERIZATION CATALYST AND
USE THEREOF IN
ALKANE/CYCLOALKANE
ISOMERIZATION**

Wu An-hsiang Bartlesville, OK, UNITED STATES assigned to Phillips Petroleum Company

A catalyst composition is prepared by a method comprising impregnating alumina with at least one platinum compound, followed by calcining, reducing treatment, and heating with gaseous aluminum chloride and gaseous titanium tetrachloride. The thus-prepared catalyst composition is employed in the isomerization of saturated C4-C8 hydrocarbons (alkanes and/or cycloalkanes), preferably n-butane.

5543379

**HYDROGENATION CATALYST, AND
A METHOD FOR ITS PREPARATION
AND USE, IN PARTICULAR FOR
HYDROGENATION AND/OR
HYDROGENOLYSIS OF
CARBOHYDRATES AND
POLYHYDRIC ALCOHOLS**

Gubitosa Giusepp; Casale Bruno Novara, ITALY assigned to Montecatini Technologie S r l

A metallic catalyst composition on an inert support, suitable in particular for hydrogenolysis reactions of higher polyhydric alcohols, characterized in that it comprises the following relative to 100 parts of the catalyst: a) 0.5 to 5 weight % ruthenium; b) 1 to 10 weight % of a metal selected from the group consisting of palladium, platinum and rhodium; and c) 0.5 to 2.5 weight % copper, in which the copper content is lower than the content of the metal b). The catalyst is used in particular for producing