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(54) Title: LAYERED SUPPORT MATERIAL FOR CATALYSTS

(57) Abstract: The present invention addresses at least four different aspects relating to catalyst structure, methods of making those catalysts and methods of using those catalysts for making alkenyl alkanoates. Separately or together in combination, the various aspects of the invention are directed at improving the production of alkenyl alkanoates and VA in particular, including reduction of by-products and improved production efficiency. A first aspect of the present invention pertains to a unique palladium/gold catalyst or pre-catalyst (optionally calcined) that includes rhodium or another metal. A second aspect pertains to a palladium/gold catalyst or precatalyst that is based on a layered support material where one layer of the support material is substantially free of catalytic components. A third aspect pertains to a palladium/gold catalyst or pre-catalyst on a zirconia containing support material. A fourth aspect pertains to a palladium/gold catalyst or pre-catalyst that is produced from substantially chloride free catalytic components.

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