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(54) **CATALYSTS HAVING CATALYTIC MATERIAL APPLIED DIRECTLY TO THERMALLY-GROWN ALUMINA AND CATALYTIC METHODS USING SAME, IMPROVED METHODS OF OXIDATIVE DEHYDROGENATION**

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ABSTRACT

(57) The invention describes catalysts, methods of making catalysts, methods of making a microchannel reactor, and methods of conducting chemical reactions. It has been discovered that superior performance can be obtained from a catalyst formed by directly depositing a catalytic material onto a (low surface area) thermally-grown alumina layer. Improved methods of conducting oxidative dehydrogenations are also described.

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