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(54) Title: METAL-CONTAINING MACROSTRUCTURES OF POROUS INORGANIC OXIDE, PREPARATION THEREOF, AND USE

(57) Abstract: There is provided a catalyst containing porous macrostructures comprised of: (a) a three-dimensional network of particles of porous inorganic material; and, (b) at least one metal. The particles of the at least one macrostructure occupy less than 75 % of the total volume of the at least one macrostructure and are jointed together to form a three-dimensional interconnected network. The three-dimensional interconnected network will usually be comprised of pores having diameters greater than about 20 Å. The macrostructures can be made by forming an admixture containing a porous organic ion exchanger and a synthesis mixture capable of forming the porous inorganic material and the at least one metal; converting the synthesis mixture to the porous inorganic material; and removing the porous organic ion exchanger from the organic material. The metal-containing macrostructures find application in hydrocarbon conversion and in the reduction of emissions.



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