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(54) Title: METHOD OF PREPARING A TITANIUM-MODIFIED CR/SILICA CATALYST

(57) Abstract: A method for making high-PV titanium-modified Cr/Silica (Cr/Ti/Silica) catalyst precursor, with PV > 1.5 ml/g, comprising: providing a silica support, typically based on a desired porosity, purity, particle size and size distribution; providing a coating solution containing a Cr-containing compound, a Ti-containing compound, and a solvent; mixing the coating solution with the silica support to form a catalyst preparation mixture; and drying the catalyst preparation mixture to produce a Cr/Ti/Silica catalyst precursor. The Cr/Ti/Silica catalyst is surprisingly tolerant to the presence of water in the catalyst preparation mixture, as shown by it containing water in an H₂O:Ti molar ratio ranging from 2-50 with negligible effect on the pore volume (PV) and the MI potential of the Cr/Ti/Silica catalyst precursor. A catalyst, such as an olefin polymerization catalyst, made by the method is also disclosed.



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