EFFECT OF THE Fe/Mn PROMOTERS ON THE NANOSTRUCTURE OF TUGSTATED ZIRCONIA CATALYSTS SYNTHESIZED BY SOL-GEL

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This work focuses in the development of new catalytic nanomaterials for the alkane isomerization reactions. These reactions allows to improve fuel quality to increase the octane number of gasolines, increasing their quality. The addition of some high octane isoalkanes, such as 2,2-, and 2,3- dimethyl butanes allows the increase of this number and the replacement of carcinogenic aromatic hydrocarbons. Hence the importance of developing new catalytic materials for isomerization reactions. As an alternative we used bifunctional catalysts based on tungstated zirconia doped with iron and manganese which develop WO$_x$ nanostructures on the surface and generate high activity in isomerization reactions. Adding Fe and Mn to zirconia tungstated as promoters of the catalytic activity of these nanomaterials, using synthesis so-gel has not been studied in depth, so it is expected that the addition of these promoters modify the redox properties of these nanostructures, favoring the activity of these catalysts in n-hexane isomerization reactions.

**Keywords:** sol gel, catalytic promoters, isomerization

**References:**

3. Pangtay Chow Susana, Petroquímica y Sociedad,2003

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