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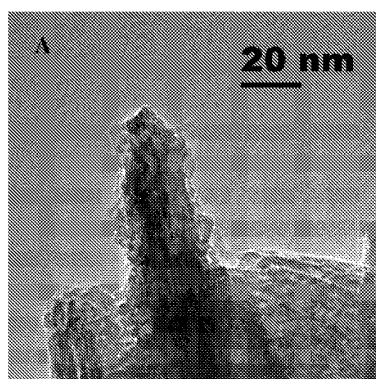
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(54) Title: NANOSTRUCTURED HYBRID IRON-ZEOLITE CATALYSTS

[Fig. 1]



(57) Abstract: The present invention relates to a hybrid iron nanoparticle catalyst comprising: i) 1 to 50 wt. % nanoparticles comprising iron and at least one of a metal M selected from the group consisting of alkali metals, alkaline earth metals, transition metals of groups 3 to 7 and 9 to 11 of the Periodic Table of Elements, lanthanides and combinations of M thereof; and ii) 50 to 99 wt. % of an aluminosilicate or silicoaluminophosphate zeolite, based on the total weight of the catalyst, wherein said nanoparticle has a diameter of about 2 to 50 nm. The present invention also relates to a method of preparing the hybrid iron nanoparticle catalyst and a process for the production of light olefins using the hybrid iron nanoparticle catalyst.

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