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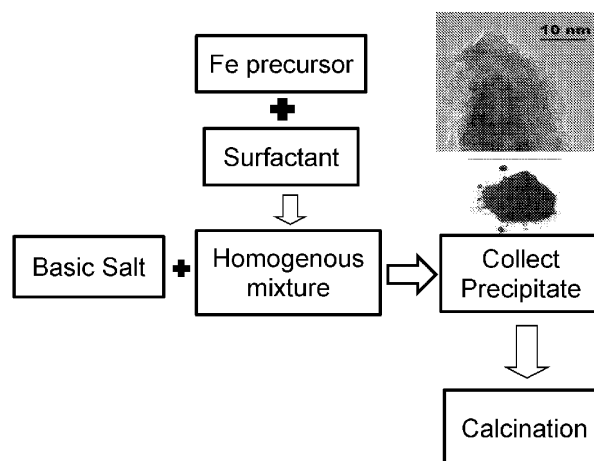
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(54) Title: METHOD OF PRODUCING NANOSTRUCTURED IRON-BASED CATALYSTS FOR CONVERTING SYNGAS TO LIGHT OLEFINS

Figure 1



(57) Abstract: The present invention relates to a method of preparing a nano-sized, iron-based catalyst, the method comprising: mixing a solution containing an iron salt with a surfactant to form a mixture; adding a basic salt solution comprising a salt of element 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 elements thereof, to the mixture to form a precipitate; and calcining said precipitate to form the iron-based catalyst, said iron-based catalyst at least partially comprising said element of said basic salt. The present invention also relates to a nano-sized, iron-based catalyst prepared by the above method and a process for the production of light olefins using the nano-sized, iron-based catalyst.

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