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(54) Title: A METHOD OF RESTORING CATALYTIC ACTIVITY OF A SPENT HYDROTREATING CATALYST, THE RESULTING RESTORED CATALYST, AND A METHOD OF HYDROPROCESSING

(57) Abstract: A method of restoring catalytic activity to a spent hydroprocessing catalyst that has a first carbon concentration. The concentration of carbon on the spent hydroprocessing catalyst is reduced to provide a carbon-reduced catalyst having a second carbon concentration that is less than the first carbon concentration. The carbon-reduced catalyst is exposed to a solution, comprising a chelating agent and a solvent, for an aging time period sufficient to provide for a restored catalytic activity thereby resulting in an aged catalyst having incorporated therein the chelating agent and the solvent. The aged catalyst is exposed to conditions, including a drying temperature, so as to remove from the aged catalyst a portion of the solvent without removing a significant portion of the chelating agent from the aged catalyst thereby resulting in a dried aged catalyst. The dried aged catalyst is then sulfur treated to thereby provide a restored catalyst. The restored catalyst and those catalysts made by the treatment method can be used in a hydroprocessing process comprising contacting the restored catalyst with a hydrocarbon feedstock under hydroprocessing conditions.



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