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- (54) **ORGANOMETALLIC ZEOLITE**
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- (52) **U.S. Cl.** **540/145**
- (58) **Field of Search** **540/145**

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(57) **ABSTRACT**

The invention relates to an organometallic zeolite which is formed of a multiplicity of units, each of which is of the formula (X.M)_m, wherein M is a metal ion selected from the group consisting of Ni²⁺, Sn²⁺, Mg²⁺, Ca²⁺, Fe²⁺, Co²⁺, Mn²⁺, and Ru²⁺; X is a porphine which coordinates to a metal ion to form an (X.M) and is substituted with at least two linking groups and optionally with one or more non-linking groups; and m is an integer ranging from 4 to 12. Each linking group is an oxygen-, nitrogen-, or sulfur-containing moiety, and each of the non-linking groups, independently, is aryl, heteroaryl, aralkyl, or heteroaralkyl, optionally substituted with alkyl, alkoxy, hydroxyl, hydroxylalkyl, carboxyl, halo, haloalkyl, amino, aminoalkyl, mercapto, mercaptoalkyl, alkylcarbonyloxy, alkyloxycarbonyl, alkylcarbonyl, alkylcarbonylamino, aminocarbonyl, alkylsulfonylamino, aminosulfonyl, dihydroxyboryl, sulfo, or alkylsulfonyl. The organometallic zeolite can be used as molecular sieves, sorbents, or ion exchange materials.

18 Claims, 2 Drawing Sheets