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(54) Title: SYNTHESIS AND USE OF ZSM-12

FIGURE 1(a)

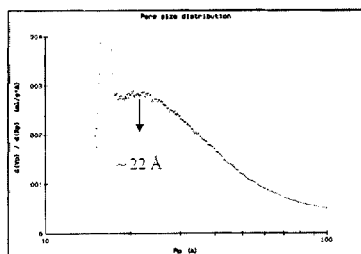
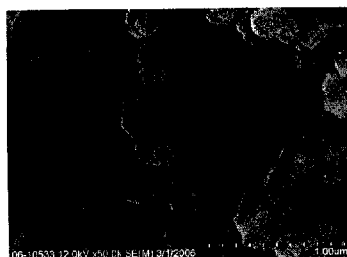


FIGURE 1(b)

(57) Abstract: A process is described for synthesizing a porous, crystalline material having the framework structure of ZSM-12 of the formula: $(n)YO_2 \cdot X_2O_3$ wherein X is a trivalent element, Y is a tetravalent element and n is between about 80 and about 250. In the process, a mixture capable of forming said material is prepared comprising sources of alkali or alkaline earth metal (M), an oxide of trivalent element (X), an oxide of tetravalent element (Y), hydroxyl ions (OH⁻), water and tetraethylammonium cations (R), wherein said mixture has a composition, in terms of mole ratios, within the following ranges: $YO_2/X_2O_3 = 100$ to 300; $H_2O/YO_2 = 5$ to 15; $OH^-/YO_2 = 0.10$ to 0.30; $M/YO_2 = 0.05$ to 0.30; and $R/YO_2 = 0.10$ to 0.20. The mixture is reacted at a temperature of at least about 300° F (149° C) for a time of less than about 50 hours to form crystals of the crystalline material and the crystalline material is then recovered.



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