



US011565942B2

# (12) United States Patent Hodgkins et al.

(10) Patent No.: **US 11,565,942 B2**

(45) Date of Patent: **Jan. 31, 2023**

(54) **MODIFIED ZEOLITES THAT INCLUDE PLATINUM-CONTAINING ORGANOMETALLIC MOIETIES AND METHODS FOR MAKING SUCH**

(58) **Field of Classification Search**  
CPC ..... C01B 33/26; C01B 33/28; C01B 33/2807;  
C01B 33/2869; C01B 39/04; C01B 39/38;  
C01B 39/40  
See application file for complete search history.

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(21) Appl. No.: 17/230,476

(57) **ABSTRACT**

(22) Filed: **Apr. 14, 2021**

Disclosed herein are modified zeolites and methods for making modified zeolites. In one or more embodiments disclosed herein, a modified zeolite may include a microporous framework including a plurality of micropores having diameters of less than or equal to 2 nm. The microporous framework may include at least silicon atoms and oxygen atoms. The modified zeolite may further include organometallic moieties each bonded to bridging oxygen atoms. The organometallic moieties may include a platinum atom. The platinum atom may be bonded to a bridging oxygen atom, and the bridging oxygen atom may bridge the platinum atom of the organometallic moiety and a silicon atom of the microporous framework.

(65) **Prior Publication Data**

US 2022/0340432 A1 Oct. 27, 2022

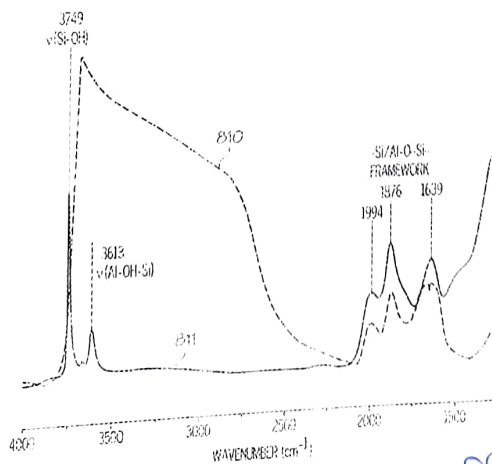
(51) **Int. Cl.**  
**C01B 33/26** (2006.01)  
**C01B 39/40** (2006.01)

(Continued)

(52) **U.S. Cl.**  
CPC ..... **C01B 39/40** (2013.01); **B01J 29/40** (2013.01); **B01J 35/023** (2013.01);

(Continued)

**19 Claims, 9 Drawing Sheets**



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08/04/24