The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on December 30, 2013 has been entered. **Claims 1-8, 10-18 and 21-28 are pending in the application.**

Allowable Subject Matter

Claims 1-18 and 21-28 are allowed.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

Canos et al. (US Pat. No. 6,231,751) which is considered the closest prior art of record discloses a process for producing an oxide material prepared by delamination and calcination of a layered oxide material. The layered oxide material is prepared by providing a precursor of MCM-22 zeolite, i.e. MCM-22(P), providing an acid such as

hydrochloric acid or nitric acid for acid treatment and contacting the MCM-22-P with the acid to carry out acid treatment.

The difference between Canos and the instant application is that Canos teaches a swelling step after the MCM-22-P is obtained, prior to the acid treatment and calcination.

As persuasively argued by the applicant, Canos teaches contacting an at least partially delaminated, swollen, layered oxide material, not MCM-22-P with an acid to carry out the acid treatment (see page 11 of applicant's remarks). Therefore, the calcined, oxide material obtained is different from the one obtained by the instant application.

Oguchi et al. (US Pat. Pub. No. 2004/0092757) which is considered the second closest prior art of record discloses teaches a process for producing a crystalline titanosilicate catalyst having a structural code of MWW comprising generating a lamellar phase precursor, i.e. MCM-22-P, contacting the MCM-22-P with an acid and further calcining the acid-treated precursor (see paragraphs [0064]-[0073]).

The difference between Oguchi and the instant application is that Oguchi teaches a MWW-type titanosilicate catalyst, which is a different MCM-22-P.

As persuasively argued by the applicant, Oguchi does not teach the MCM-22-P as claimed. Oguchi teaches a different MCM-22-P, particularly an amorphous boron-titanosilicate MCM-22-P, which is calcined to remove boron to obtain a crystalline MWW-type titanosilicate catalyst that is used in an oxidation process (see page 16 of applicant's remarks).

Accordingly, there is no reason, motivation nor would have been obvious to the examiner, to modify the catalyst disclosed by Canos alone or in combination, to obtain the catalyst as claimed by the applicant. In view of this, the above mentioned claims are considered allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JELITZA PEREZ whose telephone number is (571)272-8139. The examiner can normally be reached on Monday- Friday 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 5712721447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JELITZA PEREZ/
Examiner, Art Unit 1774

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1774

ALLOWED CLAIMS

1. A molecular sieve comprising a framework of tetrahedral atoms bridged by oxygen atoms, the tetrahedral atom framework being defined by a unit cell with atomic coordinates in nanometers shown in the following table:

Atom	x/a	y/b	z/c	Uiso	occ.
T1	0.6667	0.3333	0.1126(2)	0.00649	1.0
T2	0.4652(5)	0.2326(3)	0.1754(3)		
T3	0.3901(5)	0.0	0.1897(4)		
T4	0.6667	0.3333	0.2403(4)		
T5	0.6667	0.3333	0.3575(4)		
T6	0.3894(5)	0.0	0.3050(4)		
T7	0.4215(5)	0.2108(2)	0.3593(3)		
T8	0.2502(5)	0.1251(3)	0.4450(2)		
T9	0.6667	0.3333	0.0		
O10	0.6667	0.3333	0.0562(1)	0.010	1.0
O11	0.5420(3)	0.2710(1)	0.1282(2)		
O12	0.3876(5)	0.1037(2)	0.1681(4)		
O13	0.5408(3)	0.2704(2)	0.2230(3)		
O14	0.6667	0.3333	0.2991(4)		
O15	0.3725(2)	0.0	0.2473(3)		
O16	0.5	0.0	0.176(1)		
O17	0.5	0.0	0.318(1)		
O18	0.3951(6)	0.1062(3)	0.3279(3)		
O19	0.5453(3)	0.2727(1)	0.3786(4)		
O20	0.3519(7)	0.1759(4)	0.4087(3)		
O21	0.1806(5)	0.0	0.4320(3)		
O22	0.2928(8)	0.1464(4)	0.5		
Extra-framework:					
T23	0.4499	0.1812	0.0686	0.025	0.355
T24	0.2477	0.1232	0.0360	0.025	0.160

Approximate					
O25	0.663	0.452	0.0	0.025	0.099

2. The molecular sieve of claim 1, having a composition involving the molar relationship:

$$X_2O_3:(n)YO_2,$$

wherein X is a trivalent element comprises at least one of aluminum, boron, iron and gallium, Y is a tetravalent element comprises at least one of silicon and germanium, and n is at least about 30.

3. The molecular sieve of claim 2, in the as-synthesized form, having a formula, on an anhydrous basis and in terms of moles of oxides per n moles of YO_2, as follows:

$$(0.005\text{-}1)M_2O:(1\text{-}4)R:X_2O_3:nYO_2$$

wherein M is an alkali or alkaline earth metal, n is at least about 30 and R is an organic moiety.

4. The molecular sieve of claim 2, wherein said n is from about 30 to about 150.

5. The molecular sieve of claim 2, wherein said n is from about 30 to about 60.

6. The molecular sieve of claim 2, wherein X is aluminum and Y is silicon.

7. The molecular sieve of claim 1, comprising less than 1 wt.% Ti.

8. The molecular sieve of claim 1, having a collidine adsorption capacity at least 150 μmoles/g or at least 200 μmoles/g.

10. The molecular sieve of claim 1 having, in its as-synthesized form and in its calcined form, an X-ray diffraction pattern including peaks at d-spacing maxima at 13.18±0.25, 12.33±0.23, 11.05±0.2 and 9.31±0.2 Angstroms, wherein said peaks at d-spacing maxima at 11.05±0.2 and 9.31±0.2 Angstroms exhibit a valley in between and the measured intensity corrected for background at the lowest point of said valley is less than 50 % of the intensity point

at the same XRD d-spacing on the line connecting d-spacing maxima at 11.05±0.2 and 9.31±0.2 Angstroms, said molecular sieve has less than 1.6 wt.% Ti.

11. The molecular sieve of claim 10, further having, in its as-synthesized form and in its calcined form, an X-ray diffraction pattern including peaks at 3.57±0.07 and 3.42±0.07 Angstroms.

12. The molecular sieve of claim 10, further having, in its as-synthesized form and in calcined form, an X-ray diffraction pattern including peak at 6.9±0.15 Angstroms.

13. A molecular sieve having, in its as-synthesized form and in its calcined form, an X-ray diffraction pattern including peaks at d-spacing maxima at 13.18±0.25, 12.33±0.23, 11.05±0.2 and 9.31±0.2 Angstroms, wherein said peaks at d-spacing maxima at 11.05±0.2 and 9.31±0.2 Angstroms exhibit a valley in between and the measured intensity corrected for background at the lowest point of said valley is less than 50 % of the intensity point at the same XRD d-spacing on the line connecting d-spacing maxima at 11.05±0.2 and 9.31±0.2 Angstroms, said EMM-13 molecular sieve has less than 1.6 wt.% Ti.

14. The molecular sieve of claim 13, further having, in its as-synthesized form and in its calcined form, an X-ray diffraction pattern including peaks at 3.57±0.07 and 3.42±0.07 Angstroms.

15. The molecular sieve of claim 13, further having, in its as-synthesized form and in its calcined form, an X-ray diffraction pattern including peak at 6.9±0.15 Angstroms.

16. The molecular sieve of claim 13, having a composition involving the molar relationship:

$$X_2O_3:(n)YO_2,$$

wherein X is a trivalent element comprises at least one of aluminum, boron, iron and gallium, Y is a tetravalent element comprises at least one of silicon and germanium, and n is at least about 30.

17. The molecular sieve of claim 13, in the as-synthesized form, having a formula, on an anhydrous basis and in terms of moles of oxides per n moles of YO_2, as follows:

$$(0.005\text{-}1)M_2O:(1\text{-}4)R:X_2O_3:nYO_2$$

wherein M is an alkali or alkaline earth metal, n is at least about 30 and R is an organic moiety.

18. The molecular sieve of claim 16, wherein said n is from about 30 to about 150 or from about 30 to about 60.

21. The molecular sieve claim 13, comprising less than 1 wt.% Ti.

22. The molecular sieve of claim 13, having a collidine adsorption capacity at least 150 μmoles/g.

23. The molecular sieve of claim 13, having a collidine adsorption capacity at least 200 μmoles/g.

24. The molecular sieve of claim 13, further comprising a framework of tetrahedral atoms bridged by oxygen atoms, the tetrahedral atom framework being defined by a unit cell with atomic coordinates in nanometers shown in the Table below, wherein each coordinate position may vary within ±0.05 nanometer, wherein said Table is as follows:

Atom	x/a	y/b	z/c	Uiso	occ.
T1	0.6667	0.3333	0.1126(2)	0.00649	1.0
T2	0.4652(5)	0.2326(3)	0.1754(3)		
T3	0.3901(5)	0.0	0.1897(4)		
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T7	0.4215(5)	0.2108(2)	0.3593(3)		
T8	0.2502(5)	0.1251(3)	0.4450(2)		

T9	0.6667	0.3333	0.0		
O10	0.6667	0.3333	0.0562(1)	0.010	1.0
O11	0.5420(3)	0.2710(1)	0.1282(2)		
O12	0.3876(5)	0.1037(2)	0.1681(4)		
O13	0.5408(3)	0.2704(2)	0.2230(3)		
O14	0.6667	0.3333	0.2991(4)		
O15	0.3725(2)	0.0	0.2473(3)		
O16	0.5	0.0	0.176(1)		
O17	0.5	0.0	0.318(1)		
O18	0.3951(6)	0.1062(3)	0.3279(3)		
O19	0.5453(3)	0.2727(1)	0.3786(4)		
O20	0.3519(7)	0.1759(4)	0.4087(3)		
O21	0.1806(5)	0.0	0.4320(3)		
O22	0.2928(8)	0.1464(4)	0.5		
Extra-framework:					
T23	0.4499	0.1812	0.0686	0.025	0.355
T24	0.2477	0.1232	0.0360	0.025	0.160
Approximate					
O25	0.663	0.452	0.0	0.025	0.099

25. A method of manufacturing an as-synthesized crystalline molecular sieve EMM-13, the method comprising the steps of:

(a) providing a mixture comprising MCM-22-P, and an acidic material having a concentration of less than or equal to 10 N, optionally a spacing agent;

(b) treating the mixture at treatment conditions to form a product comprising as-synthesized EMM-13, wherein the treatment conditions comprise a treatment temperature in the range of from 50°C to 250°C, and a treatment time from about 0.01 hour to 240 hours; and

(c) recovering the as-synthesized crystalline molecular sieve EMM-13.

26. A method of manufacturing a calcined crystalline molecular sieve EMM-13, the method comprising the step of calcining said as-synthesized crystalline molecular sieve EMM-13 of claim 25 under calcining conditions.

27. A hydrocarbon conversion process comprising the step of contacting a hydrocarbon feedstock with said crystalline molecular sieve EMM-13 of claim 1 under hydrocarbon conversion conditions.

28. The method of manufacturing an as-synthesized crystalline molecular sieve EMM-13 of claim 25, wherein said spacing agent is a silane selected from the group consisting of disilanes and alkoxysilanes.