



(51) International Patent Classification:

C01B 39/48 (2006.01) B01J 20/18 (2006.01)
C01B 37/02 (2006.01) C07D 207/06 (2006.01)
B01D 15/00 (2006.01)

(21) International Application Number:

PCT/US2019/060849

(22) International Filing Date:

12 November 2019 (12.11.2019)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/777,852 11 December 2018 (11.12.2018) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(54) Title: EMM-41 COMPOSITION, METHODS OF MAKING AND USES THEREOF

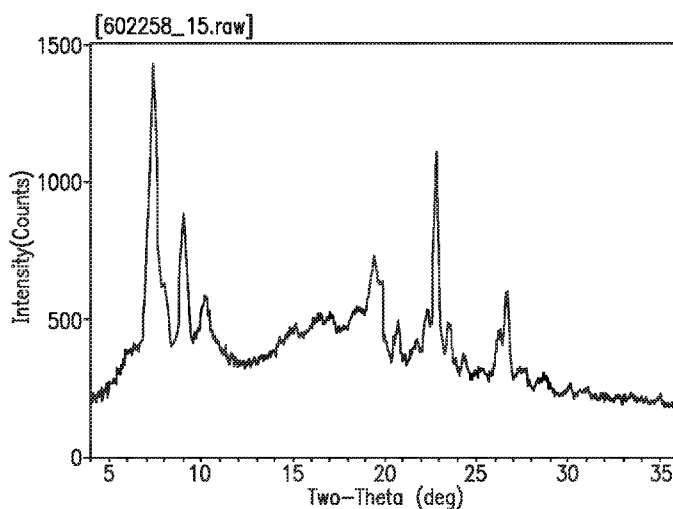


FIG. 1

(57) Abstract: This disclosure relates to EMM-41 materials, methods for making it, and processes for its use. This disclosure also relates to the structure directing agents used in the methods for making the EMM-41 material as well as the synthesis method used to prepare such structure directing agents.

WO 2020/123070 A3

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

23 July 2020 (23.07.2020)

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2019/060849

A. CLASSIFICATION OF SUBJECT MATTER
 INV. C01B39/48 C01B37/02 B01D15/00 B01J20/18 C07D207/06
 ADD.
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 C01B G01N B01D B01J C07D
 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 EPO-Internal, WPI Data, COMPENDEX, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2017/095705 A1 (EXXONMOBIL RES & ENG CO [US]) 8 June 2017 (2017-06-08) paragraph [0023] - paragraph [0048]; claims 1-15; examples 1-26 the whole document ----- -/--	1,2,5-21

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search 13 February 2020	Date of mailing of the international search report 23/06/2020
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Follens, Lana

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2019/060849

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>Jiyang Li ET AL: "Synthesis of new zeolite structures Chemical Society Reviews Synthesis of New Zeolite Structures", J. Name, 1 January 2013 (2013-01-01), pages 1-3, XP055666771, Retrieved from the Internet: URL:https://pubs.rsc.org/tr/content/getaut horversionpdf/C5CS00023H 2.2 Diquaternary SDAs; page 3 - page 5; figure 3; tables 2,4 the whole document</p>	1,2,5-21
A	<p>----- WO 2017/200607 A1 (CHEVRON USA INC [US]) 23 November 2017 (2017-11-23) paragraphs [0015] - [0038]; claims 1-8; examples 1-18 the whole document -----</p>	1,2,5-21

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2019/060849

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
WO 2017095705	A1	08-06-2017	BR 112018010271 A2	27-11-2018
			CA 3007214 A1	08-06-2017
			CN 108290749 A	17-07-2018
			EP 3383796 A1	10-10-2018
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			KR 20180091029 A	14-08-2018
			RU 2018121988 A	13-01-2020
			SG 11201804012W A	28-06-2018
			US 2017158521 A1	08-06-2017
			US 2019218106 A1	18-07-2019
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			US 2018111838 A1	26-04-2018
			WO 2017200607 A1	23-11-2017

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2019/060849

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1, 2, 11-20(completely); 5-10, 21(partially)

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1, 2, 11-20(completely); 5-10, 21(partially)

a crystalline material, characterized by X-ray diffraction peaks, method of its preparation and use.

2. claims: 3, 4(completely); 5-10, 21(partially)

a crystalline material having a disordered framework of members of different polymorph structures and its use.

3. claims: 22, 23

a bispyrrolidinium dication
