

(51) International Patent Classification:
C01B 39/06 (2006.01)(21) International Application Number:
PCT/US2014/017616(22) International Filing Date:
21 February 2014 (21.02.2014)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/768,234 22 February 2013 (22.02.2013) US
14/185,115 20 February 2014 (20.02.2014) 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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, 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, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,

[Continued on next page]

(54) Title: NOVEL ZEOLITIC MATERIALS WITH HETEROATOM SUBSTITUTIONS ON EXTERNAL SURFACE OF LATTICE FRAMEWORK

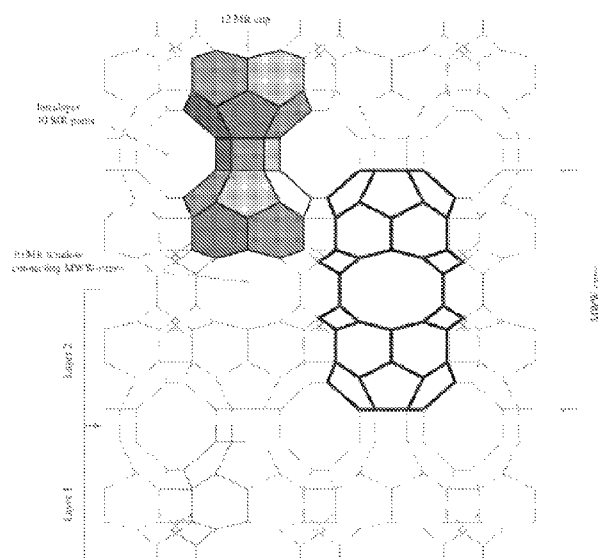


FIGURE 1

(57) Abstract: A zeolite material is provided having non-boron heteroatoms on the external surface of the zeolitic material lattice framework and B heteroatoms, or silanols created from boron hydrolysis, throughout the remainder of the lattice framework. The lattice framework of the zeolite material comprises large pore 12 member ring or larger openings at the external surface of the framework, and 10 member ring or smaller openings beneath the external surface large pore openings. Also provided is a process for preparing the zeolitic material.



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).

— *before the expiration of the time limit for amending the
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Published:

— *with international search report (Art. 21(3))*