CLAIMS:

1. A synthetic crystalline material having, in its as-calcined form, an X-ray diffraction pattern including the following peaks in Table 1:

Table 1

d-spacing (Å)	Relative Intensity (I/Io x 100)
19.85±0.30	W
11.20±0.30	VS
9.97±0.20	W
8.80±0.10	M
6.86±0.10	W
6.49±0.10	VW
5.85±0.10	VW
5.70±0.10	VW
5.61±0.10	VW
5.12±0.10	VW
4.60±0.05	VW
4.45±0.05	VW
4.33±0.05	M-S
4.25±0.05	VW-W
4.15±0.05	VW-W
4.06±0.05	VW
3.98±0.05	VW
3.88±0.05	VW
3.76±0.05	VW-W
3.73±0.05	VW-W
3.68±0.05	W
3.53±0.05	W
3.43±0.05	W
3.28±0.05	W-M
3.19±0.05	VW
3.16±0.05	VW
3.11±0.05	VW
3.07±0.05	VW
2.94±0.025	VW
2.79±0.025	VW
2.60±0.025	VW
2.53±0.025	VW
2.50±0.025	VW

2.46±0.025	VW
2.41±0.025	VW
2.34±0.025	VW.

2. The material of claim 1, and having a composition comprising the molar relationship $(n)X_2O_3:YO_2$, wherein n is a number less than 0.05, X is a trivalent element, and Y is a tetravalent element.

3. The material of claim 2, wherein X includes one or more of B, Al, Fe, and Ga, and Y includes one or more of Si, Ge, Sn, Ti, and Zr.

4. The material of claim 3, wherein X includes aluminum and/or boron, and Y includes silicon and/or germanium.

5. A synthetic crystalline material having, in its as-synthesized form, an X-ray diffraction pattern including the following peaks in Table 2:

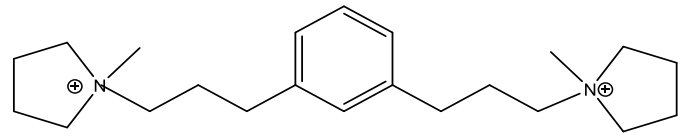
Table 2

d-spacing (Å)	Relative Intensity (I/Io x 100)
20.00±0.30	W
11.56±0.30	VS
10.03±0.20	W
8.87±0.20	W-M
6.91±0.10	W
6.66±0.10	VW
6.03±0.10	VW
5.70±0.10	VW
5.55±0.10	VW
5.14±0.10	W-M
4.64±0.05	W
4.43±0.05	VS
4.36±0.05	S-VS
4.28±0.05	W-M
4.16±0.05	M
4.00±0.05	VW
3.93±0.05	W
3.84±0.05	M

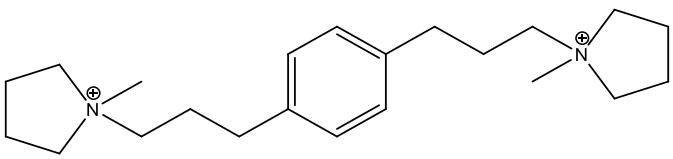
3.77±0.05	M
3.70±0.05	M
3.54±0.05	VW
3.45±0.05	M
3.31±0.05	M-S
3.25±0.05	VW-W
3.17±0.05	VW
3.12±0.05	VW
3.00±0.05	VW
2.96±0.025	VW
2.84±0.025	VW
2.79±0.025	VW
2.76±0.025	VW
2.63±0.025	VW
2.57±0.025	VW
2.47±0.025	VW
2.36±0.025	VW
2.34±0.025	VW.

6. The material of claim 5, and having a composition comprising the molar relationship: $(m)M:(b)Q:(n)X_2O_3:YO_2:(z)H_2O$,

wherein m is a number having a value equal to or greater than 0 to less than or equal to 0.1, b is a number having a value greater than 0 to less than or equal to 0.05, n is a number less than 0.025, z is a number having a value greater than or equal to 0 to less than or equal to 0.2, and wherein M is an alkali metal cation, X is a trivalent element, Y is a tetravalent element and Q is an organic structure directing agent selected from one or more of the dications of formula I and II:



(I)



(II).

7. The material of claim 6, wherein X includes one or more of B, Al, Fe and Ga, and Y includes one or more of Si, Ge, Sn, Ti, and Zr.

8. The material of claim 6, wherein X includes aluminum and/or boron, and Y includes silicon and/or germanium.

9. The material of claim 5, and having a composition comprising the molar relationship:

$$(k)F:(b)Q:(n)X_2O_3:YO_2:(z)H_2O,$$

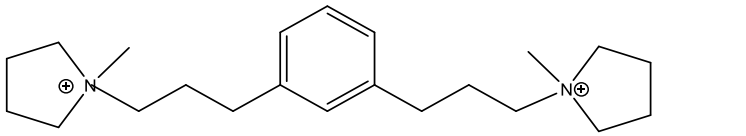
wherein k is a number having a value equal to or greater than 0 to less than or equal to 0.01, b is a number having a value greater than 0 to less than or equal to 0.05, n is a number less than 0.025, and z is a number having a value greater than or equal to 0 to less than or equal to 0.2, and wherein F is a fluoride ion, X is a trivalent element, such as one or more of B, Al, Fe, and Ga, especially Al, Y is a tetravalent element, such as Si, Ge, Sn, Ti, and Zr, especially Ge and/or Si and Q is an organic structure directing agent.

10. The material of claim 9, wherein X includes one or more of B, Al, Fe, and Ga, and Y includes one or more of Si, Ge, Sn, Ti, and Zr.

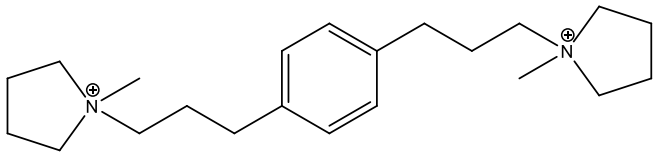
11. The material of claim 9, wherein X includes aluminum, and Y includes silicon.

12. A process for producing the synthetic crystalline material of claim 5, the process comprising the steps of:

(i) preparing a synthesis mixture capable of forming said material, said mixture comprising water, a source of hydroxyl ions, a source of an oxide of a tetravalent element Y, a source of a trivalent element X, and an organic structure directing agent (Q) selected from one or more of the dications of formula I and II:



(I)



(II)

wherein the mixture has a composition, in terms of mole ratios, within the following ranges: X_2O_3/YO_2 from 0 to about 0.05; H_2O/YO_2 from about 2 to about 100; OH^-/YO_2 from about 0.05 to about 0.6; and Q/YO_2 from about 0.04 to about 0.30;

(ii) heating the mixture under crystallization conditions including a temperature of from about 100°C to about 200°C until crystals of said material are formed; and

(iii) recovering the crystalline material from step (ii).

13. The process of claim 12, wherein the mixture further comprises a source of seeds.

14. The process of claim 13, wherein the seeds are EMM-28 seeds.

15. The process of claim 12 and further comprising:

(iv) treating the crystals recovered in (iii) to remove at least part of the organic structure directing agent (Q).

16. A synthetic porous crystalline material produced by the process of claim 15.

17. A process for converting a feedstock comprising an organic compound to a conversion product, the process comprising the steps of:

(i) contacting said feedstock with a catalyst, at organic compound conversion conditions, to produce an effluent containing converted product, said catalyst comprising an active form of the synthetic porous crystalline material of claim 15; and

(ii) recovering converted product from the effluent.

18. A process for selectively separating one or more desired components of a feedstock from remaining components of the feedstock, the process comprising the steps of:

(i) contacting said feedstock with a sorbent, at effective sorption conditions, said sorbent comprising an active form of the synthetic porous crystalline material of claim 16, thereby forming a sorbed product and an effluent product; and

(ii) recovering the one or more desired components from either the sorbed product or the effluent product.