CLAIMS:

1. A synthetic crystalline material having a framework of tetrahedral atoms (T) connected by bridging atoms, the tetrahedral atom framework being defined by connecting the nearest tetrahedral (T) atoms in the manner shown in Table 1 of the specification.

2. The crystalline material of claim 1 wherein said tetrahedral atoms include one or more elements selected from the group consisting of Li, Be, Al, P, Si, Ga, Ge, Zn, Cr, Mg, Fe, Co, Ni, Mn, As, In,, Sn, Sb, Ti, and Zr.

3. The crystalline material of claims 1 or 2 wherein said bridging atoms include one or more elements selected from the group consisting of O, N, F, S, Se, and C.

4. A synthetic porous crystalline material, as synthesized, characterized by an X-ray diffraction pattern including the peaks as substantially set forth in Table 2 of the specification.

5. The crystalline material of any one of the preceding claims wherein said crystalline material has a composition $mR:aX_2O_3:YO_2 \cdot nH_2O$ where R is an organic compound, X is one or more metals selected from the group consisting of B, Ga, Al and Fe, and Y is one or more metals selected from the group consisting of Si, Ge and Ti, and m is a real number less than or equal to 1, a is a real number less than or equal to 0.2 and n is a real number less than or equal to 10.

6. A calcined dehydrated material characterized by an X-ray diffraction pattern including the most significant lines substantially, as set forth in Table 3 of the specification.

7. The calcined dehydrated material of Claim 6 wherein said crystalline material has a composition $aX_2O_3:YO_2 \cdot nH_2O$ where X is one or more metals selected from the group consisting of B, Ga, Al and Fe, and Y is one or more metals selected from the group consisting of Si, Ge and Ti, and a is a real number less than or equal to 0.2 and n is a real number less than or equal to 10.

8. A process for the separation of hydrocarbons from a hydrocarbon-containing stream using any of the materials of claims 1 through claim 7.

9. A process for converting a feedstock comprising organic compounds to at least one conversion product which comprises contacting said feedstock at organic compound conversion conditions with a catalyst comprising an active form of any of the materials of claims 1 through claim 7.

10. The process for converting a feedstock of claim 9 wherein the catalyst is combined with a hydrogenating metal.

11. The process for converting a feedstock of claim 10 wherein said hydrogenating metal is one or more metals selected from the group consisting of tungsten, vanadium, molybdenum, rhenium, nickel, cobalt, chromium, manganese, or a noble metal

12. A method of synthesizing a crystalline silicate composition of ITQ-26 having the diffraction pattern similar to Table 2 by mixing together at

least one source of silica, at least one organic structure directing agent (R), water, and optionally a source of metal (X) to form a mixture having a composition, in terms of mole ratios, within the following ranges:

R/YO_2	0.01 - 1
H_2O/YO_2	2 - 50
X/YO_2	0 - .2

wherein X is any trivalent metal capable of tetrahedral coordination and Y is silicon and optionally any other tetravalent metal capable of tetrahedral coordination.

13. The method according to claim 12 wherein X is one or more metals selected from the group consisting of B, Ga, Al or Fe and Y is silicon and may include one or more metals selected from the group consisting of Ge and Ti.

14. A method of synthesizing a crystalline silicate composition of ITQ-26 having the diffraction pattern similar to Table 2 by mixing together a source of silica, organic structure directing agent (R), water, and optionally a source of metal (X), to form a mixture having a composition, in terms of mole ratios, within the following ranges:

R/YO_2	0.01 - 1
$H2O/YO_2$	2 - 50
X/YO_2	0 - .2

and wherein X is one or more metals selected from the group consisting of B, Ga, Al, Fe, Li, Be, P, Zn, Cr, Mg, Co, Ni, Mn, As, In, Sn, Sb, Ti, and Zr , and Y is silicon and may include one or more metals selected from the group consisting of Ge and Ti.

15. A method of synthesizing a crystalline silicate composition of any of the claims 12 through 14 wherein said organic structure directing agent (SDA) is 1, 3-bis-(triethylphosphoniummethyl)-benzene.

16. The crystalline silicate composition produced using the method of any one of claims 12 to 15.

CLAIMS

1. A synthetic crystalline material having a framework of tetrahedral atoms (T) connected by bridging atoms, the tetrahedral atom framework being defined by connecting the nearest tetrahedral (T) atoms in the manner shown in Table 1 of the specification.

2. The crystalline material of claim 1 wherein said tetrahedral atoms include one or more elements selected from the group consisting of Li, Be, Al, P, Si, Ga, Ge, Zn, Cr, Mg, Fe, Co, Ni, Mn, As, In, Sn, Sb, Ti, and Zr.

3. The crystalline material of claims 1 or 2 wherein said bridging atoms include one or more elements selected from the group consisting of O, N, F, S, Se, and C.

4. A synthetic porous crystalline material, as synthesized, characterized by an X-ray diffraction pattern including the peaks as substantially set forth in Table 2 of the specification.

5. The crystalline material of claim 4 wherein said crystalline material has a composition $mR:aX_2O_3:YO_2.nH_2O$ where R is an organic compound, X is one or more metals selected from the group consisting of B, Ga, Al and Fe, and Y is one or more metals selected from the group consisting of Si, Ge and Ti, and m is a real number less than or equal to 1, a is a real number less than or equal to 0.2 and n is a real number less than or equal to 10.

6. A calcined dehydrated material characterized by an X-ray diffraction pattern including the most significant lines substantially, as set forth in Table 3 of the specification.

7. The calcined dehydrated material of claim 6 wherein said crystalline material has a composition $aX_2O_3:YO_2.nH_2O$ where X is one or more metals selected from the group consisting of B, Ga, Al and Fe, and Y is one or more metals selected from the group

consisting of Si, Ge and Ti, and a is a real number less than or equal to 0.2 and n is a real number less than or equal to 10.

8. A process for the separation of hydrocarbons from a hydrocarbon-containing stream using the material of claim 6.

9. A process for converting a feedstock comprising organic compounds to at least one conversion product which comprises contacting said feedstock at organic compound conversion conditions with a catalyst comprising an active form of the material of claim 6.

10. The process for converting a feedstock of claim 9 wherein the catalyst is combined with a hydrogenating metal.

11. The process for converting a feedstock of claim 10 wherein said hydrogenating metal is one or more metals selected from the group consisting of tungsten, vanadium, molybdenum, rhenium, nickel, cobalt, chromium, manganese, or a noble metal.

12. A method of synthesizing a crystalline silicate composition of ITQ-26 having the diffraction pattern substantially as set forth in Table 2 of the specification by mixing together at least one source of silica, at least one organic structure directing agent (R), water, and optionally a source of metal (X) to form a mixture having a composition, in terms of mole ratios, within the following ranges:

R/YO_2	0.01 - 1
H_2O/YO_2	2 - 50
X/YO_2	0 - .2

wherein X is any trivalent metal capable of tetrahedral coordination and Y is silicon and optionally any other tetravalent metal capable of tetrahedral coordination.

13. The method according to claim 12 wherein X is one or more metals selected from the group consisting of B, Ga, Al or Fe and Y is silicon and may include one or more metals selected from the group consisting of Ge and Ti.

14. The method of claim 12 wherein said molar ratio ranges are

R/YO_2	0.1 - .5
H_2O/YO_2	5 - 20
X/YO_2	0 - .1

15. A method of synthesizing a crystalline silicate composition of claim 12 wherein said organic structure directing agent (SDA) is 1,3-bis-(triethylphosphoniummethyl)-benzene.

16. The crystalline silicate composition produced using the method of claim 12.

17. A method of synthesizing a crystalline silicate composition of ITQ-26 having the diffraction pattern substantially as set forth in Table 2 of the specification by mixing together a source of silica, organic structure directing agent (R), water, and optionally a source of metal (X), to form a mixture having a composition, in terms of mole ratios, within the following ranges:

R/YO_2	0.01 - 1
H_2O/YO_2	2 - 50
X/YO_2	0 - .2

and wherein X is one or more metals selected from the group consisting of B, Ga, Al, Fe, Li, Be, P, Zn, Cr, Mg, Co, Ni, Mn, As, In, Sn, Sb, Ti, and Zr, and Y is silicon and may include one or more metals selected from the group consisting of Ge and Ti.