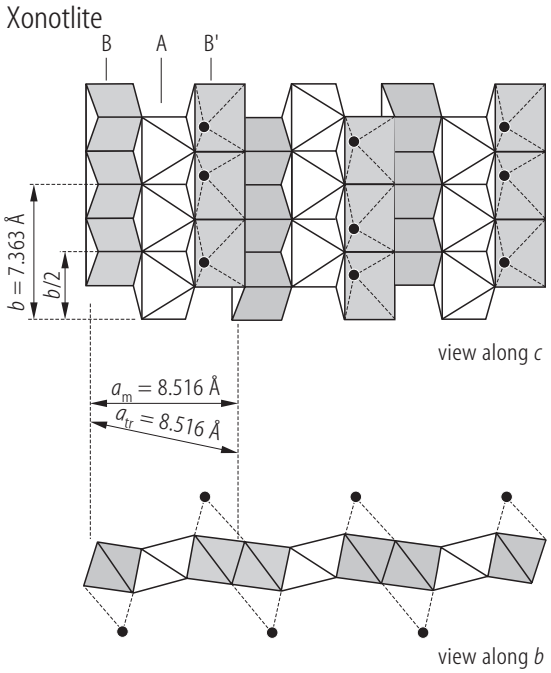


Fig. 1. Xonotlite. Calcium polyhedral layer. Chains of calcium atoms in octahedral coordination (A) and chains of calcium atoms in sevenfold coordination (B, B') are shown. The sevenfold coordination sphere is composed of a trigonal prism plus additional seventh oxygen atom (black dots) [01H1]. (a_m, a_{tr}: lattice parameters for monoclinic and triclinic structure, respectively)

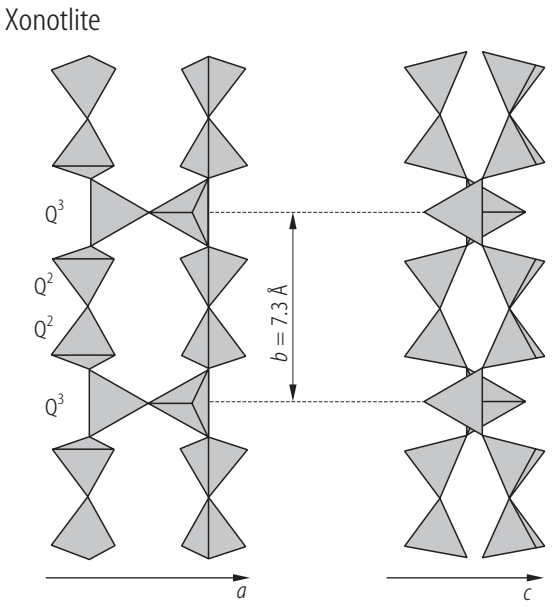


Fig. 2. Xonotlite. $[Si_6O_{17}]$-"dreierdoppelkette" seen along the ***c***-axis (left) and along the ***a***-axis (right). The ***b***-direction is vertical [01H1].

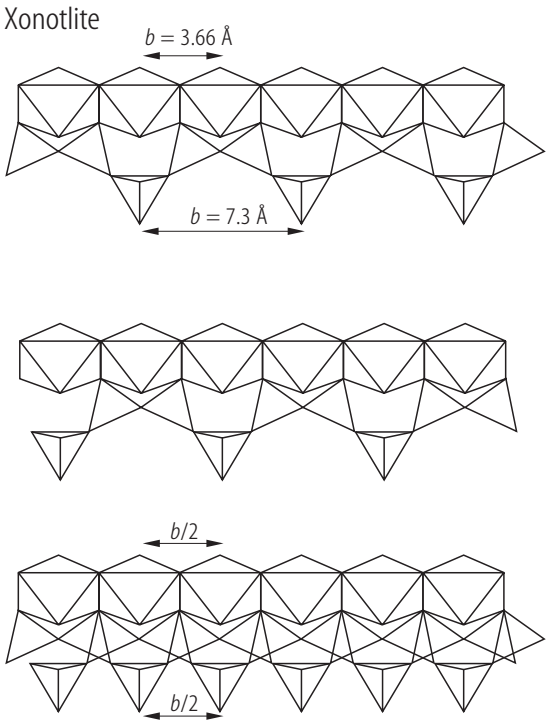


Fig. 3. Xonotlite. Two possibilities of connecting a chain of SiO_4 octahedra with a periodicity of three tetrahedra to a column of calcium octahedra (type A) -top and middle-, and column of calcium octahedra with two superimposed SiO_4 chains -bottom [01H1].

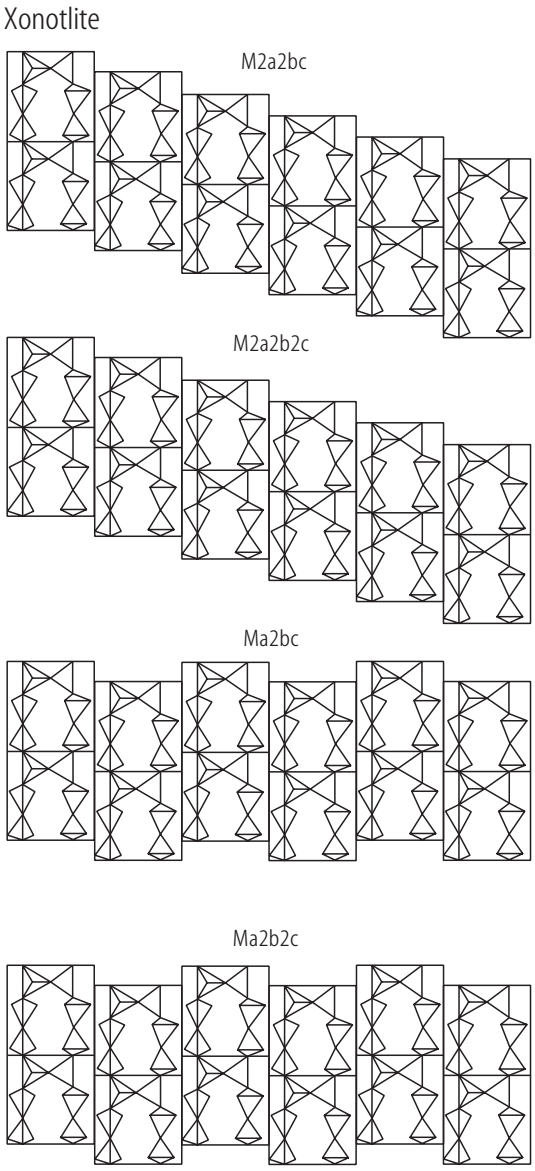


Fig. 4. Xonotlite. Arrangament of protoxonotlite cells and double chains of SiO_4 tetrahedra in the four ordered polytypes parallel ***c***, ***b*** vertical, ***a*** horizontal [01H1]. Labeling of polytypes according to [84G2].

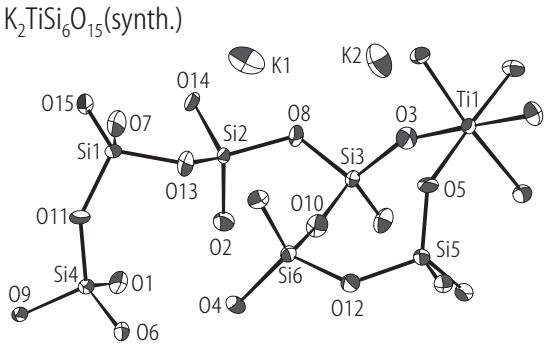


Fig. 5. $K_2TiSi_6O_{15}$, synthetic. An ORTEP plot of the asymmetric unit showing the atomic labeling scheme [01Z1].

Fig. 6. Synthetic $K_2TiSi_6O_{15}$ (**a**), davanite $K_2TiSi_6O_{15}$ (**b**), armstrongite $CaZrSi_6O_{15}\cdot 2.5H_2O$ (**c**), and epididymite $K_2Be_2Si_6O_{15}$ (**d**). (**A**) **C**omparison of the $[Si_6O_{15}]_{\infty\,\infty}$ layers, (**B**) the $[Si_6O_{15}]_{\infty\,\infty}$ layers viewed perpendicular to the layers, (**C**) comparison of the connection of the $[Si_6O_{15}]_{\infty\,\infty}$ layers by isolated octahedra. Only the Si-(O)-Si connections are drawn [01Z1].
(For Fig. see next page)

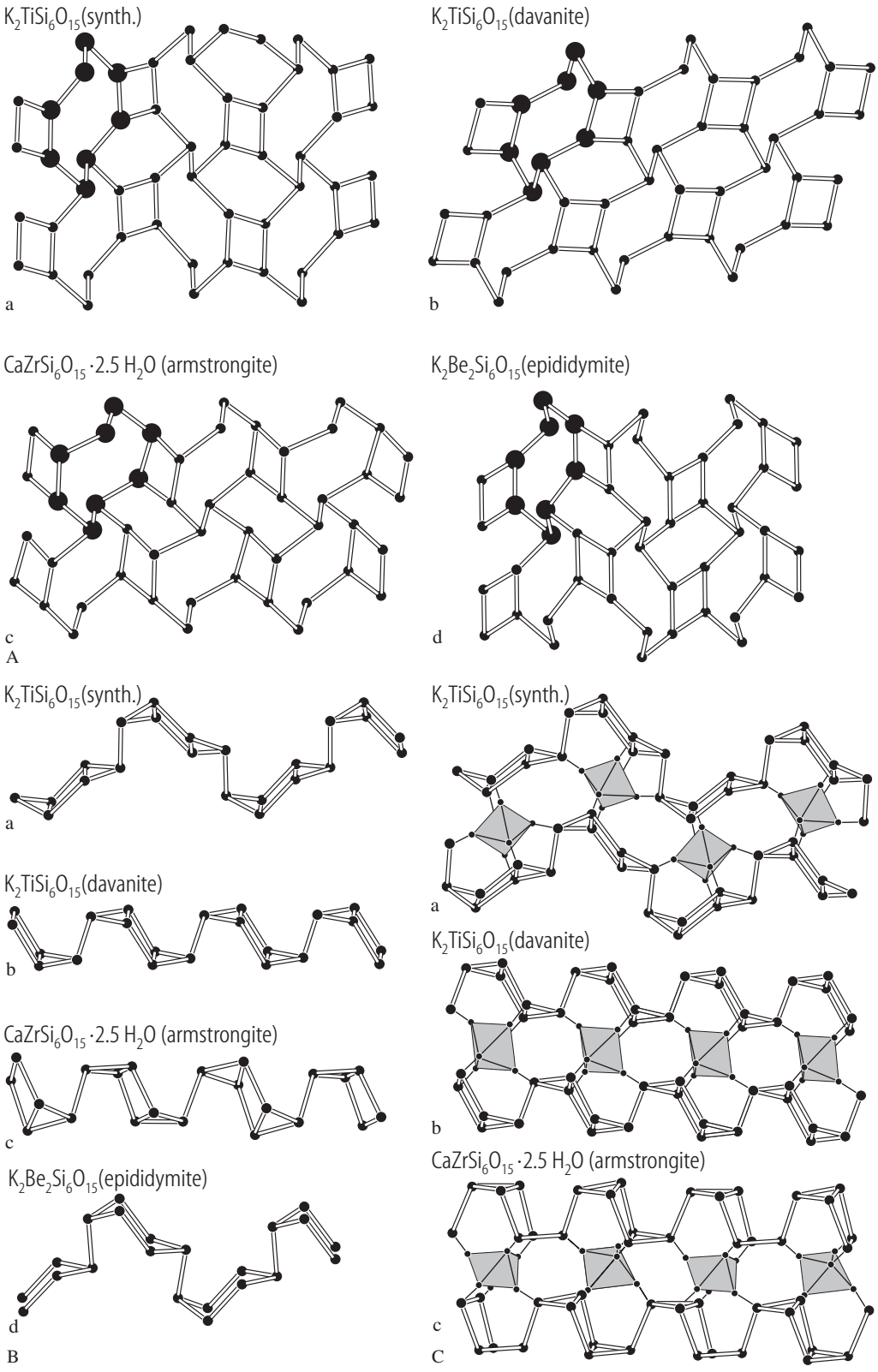


Fig. 6. For caption see previous page

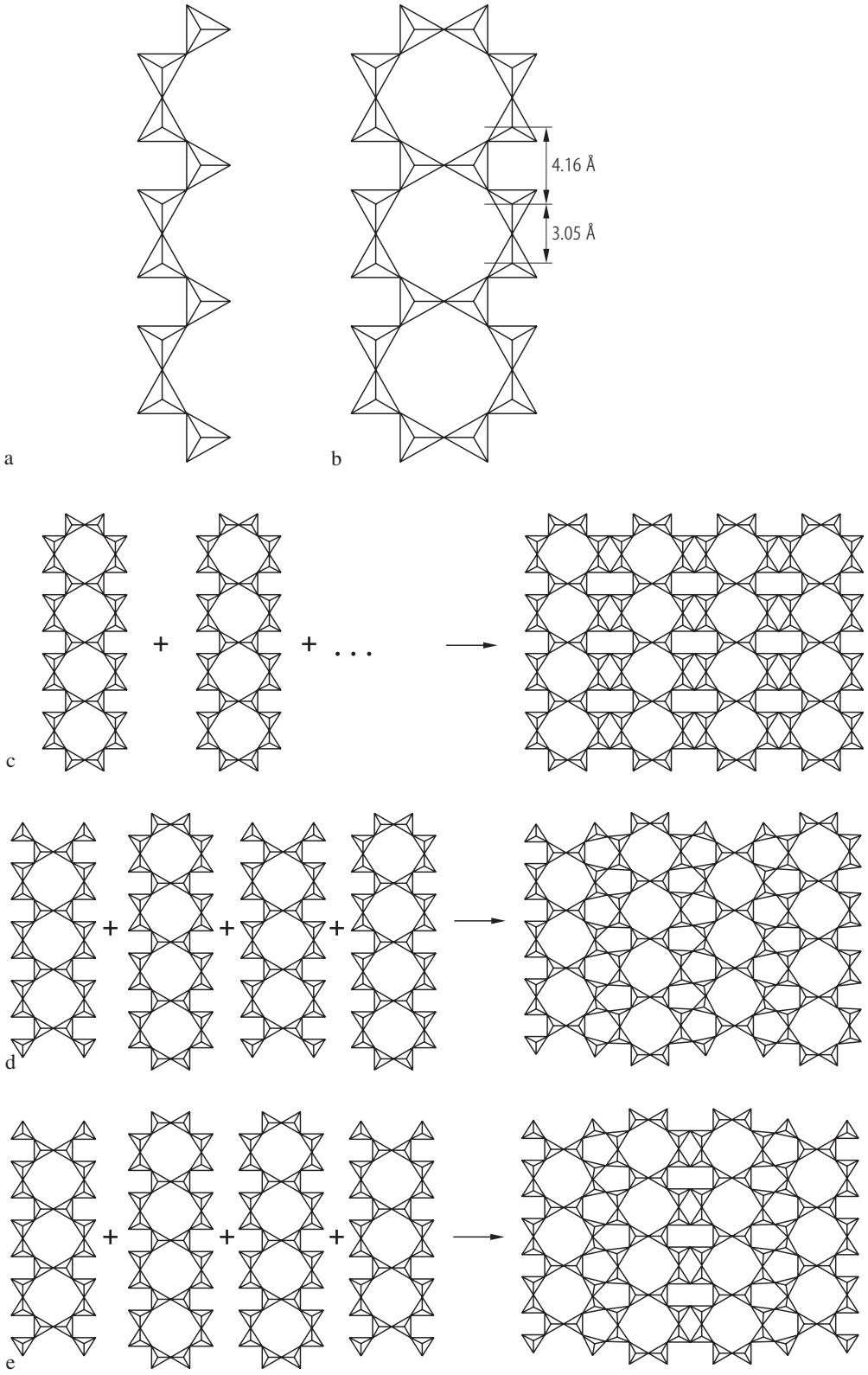


Fig. 7. For caption see next page.

Fig. 7. Layered silicates building blocks: **(a)** wollastonite-type chain and its three-tetrahedron repetition; **(b)** condensation of two wollastonite-type chains to form the xonotlite-like double chain with a characteristic eight-membered ring. The distances shown between unshared apical vertices of the tetrahedra assume no distortion of the idealized chain and a Si-O distance of 1.62 Å; **(c)** condensation of the chain related to one another by a translation in a direction perpendicular to chain direction; **(d)** condensation of the chains after an additional translation (or shear) in a direction parallel to the chain by an amount equal to the half periodicity of the chain; (**e**) condensation of chains in an alternating manner between the direction linkages in **(c)** and sheared linkages in **(d)** [97H1, 00H2].

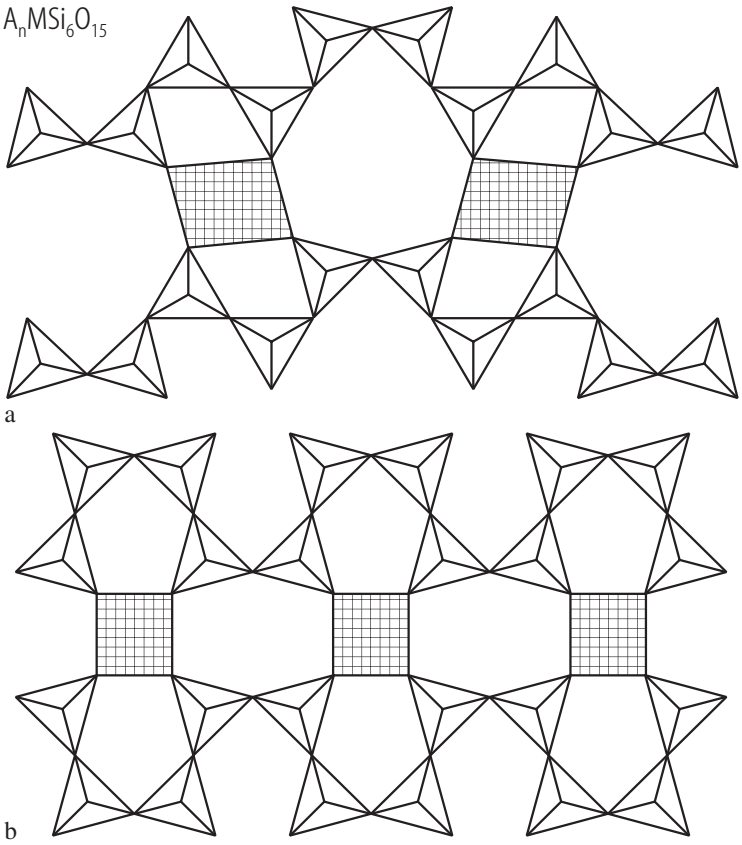


Fig. 8. $A_nMSi_6O_{15}\cdot xH_2O$. Schematic of the two general types of MSi_6O_{15} frameworks within corrugated layers: **(a)** the open frameworks encountered with large M (M = Nd, Ce) cations; **(b)** the compact frameworks encountered with small M (M = Zr, Ti) cations [97H1].

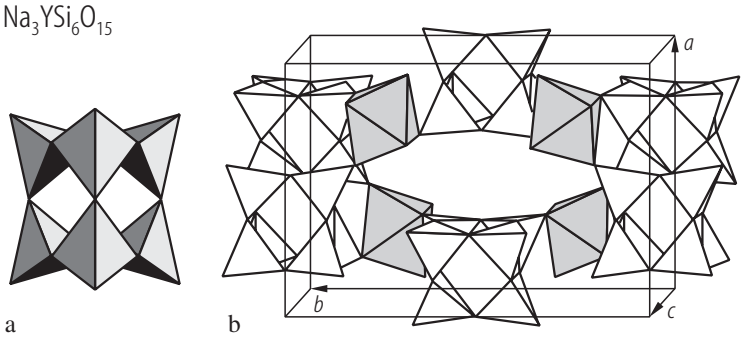


Fig. 9. $Na_3YSi_6O_{15}$ structure. **(a)** The unique isolated Si_6O_{15} unit in the form of a dreier double ring. **(b)** The YSi_6O_{15} framework [97H1].

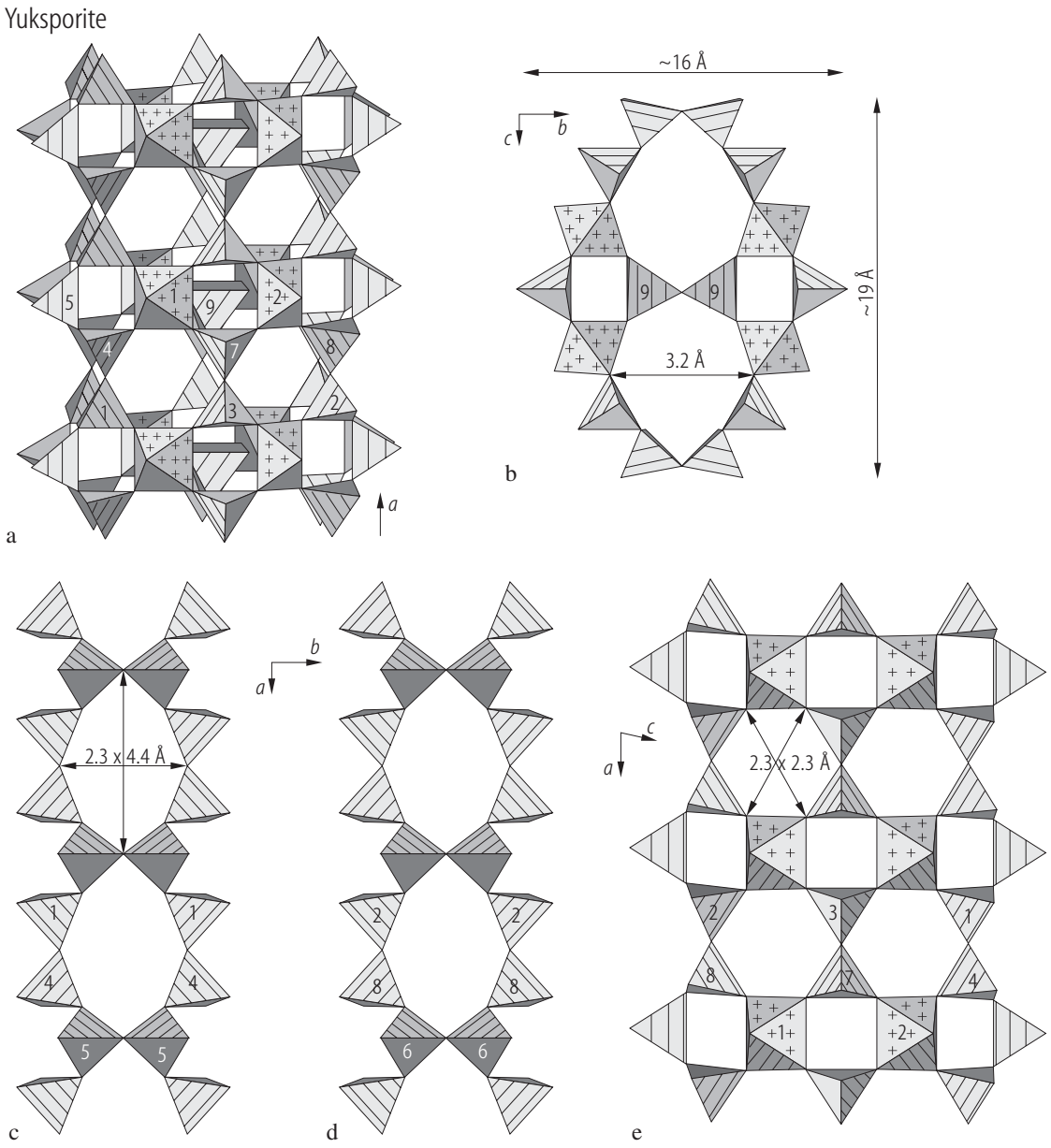
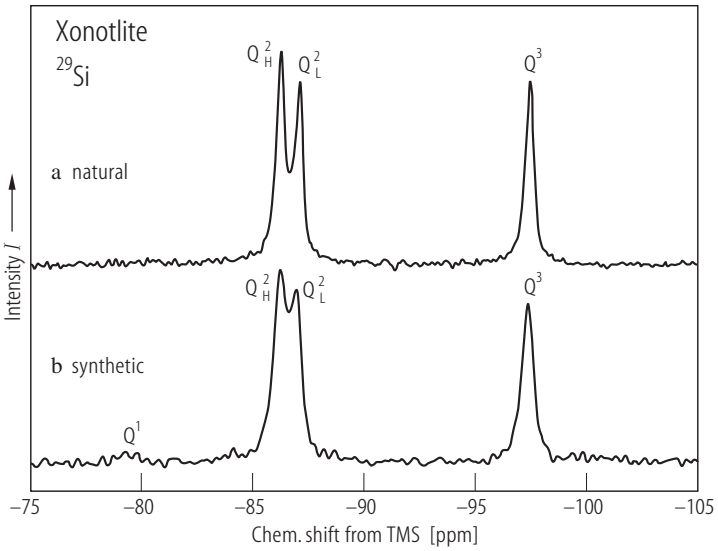


Fig. 10. Yuksporite. Structure of titanosilicate nanorods. (**a**) View from the side, (**b**) view from the top; (**c**,**d**) two xonotlite-like [Si_6O_{17}] chains form walls of nanorods perpendicular to ***c***; TiO_6 octahedra, Si_2O_7 groups and halves of the xonotlite chains form walls of nanorods perpendicular to ***b*** (**e**). The TiO_6 octahedra are crosshatched, SiO_4 tetrahedra are lined. The number in circles correspond to the number of Ti and Si atoms in text [04K1].



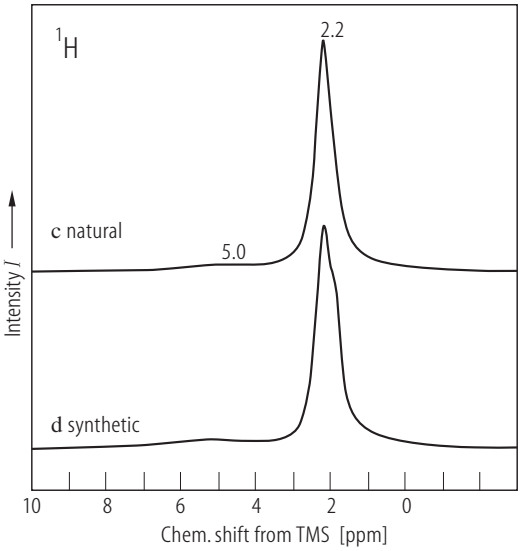


Fig. 11. Xonotlite, natural and synthetic. ^{29}Si HD-MAS NMR spectra (*a*, *b*) and ^{1}H MAS NMR (*c*, *d*) [98N1].

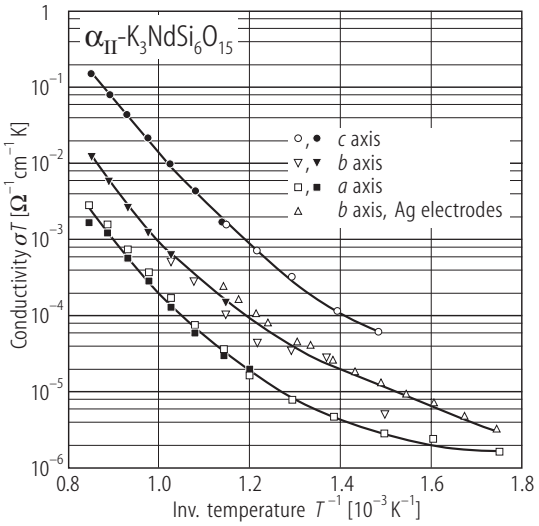


Fig. 12. α_{II}-$K_3NdSi_6O_{15}$. Conductivity as a function of temperature and crystallographic direction. Unless otherwise mentioned, platinum served as the electrode material. Two sets of data (denoted by open and closed symbols) were obtained [00H1].