SiO_2	*hP*9	(180) $P6_222$ – id

SiO_2 quartz β [2], quartz high, Strukturbericht notation C8
Structural features: SiO_4 tetrahedra share vertices to form a 3D-framework with twisted chains and narrow channels of hexagonal cross-section parallel to [001]. See Fig. IV.40.

Tucker M.G. et al. (2001) [1]
O_2Si
a = 0.49965, c = 0.54543 nm, c/a = 1.092, V = 0.1179 nm^3, Z = 3

site	Wyck.	sym.	x	y	z	occ.	atomic environment
O1	6*i*	..2	0.2084	0.4169	0		non-colinear Si_2
Si2	3*d*	222	$^1/_2$	0	$^1/_2$		tetrahedron O_4

Transformation from published data ($P6_422$): new axes -a,-b,-c; origin shift 0 0 $^1/_2$
Experimental: powder, diffractometer, neutrons, time-of-flight, wR = 0.030, T = 1073 K

Remarks: Phase stable at T > 858 K. Strukturbericht notation C8 also refers to the SiO_2 α-quartz type.

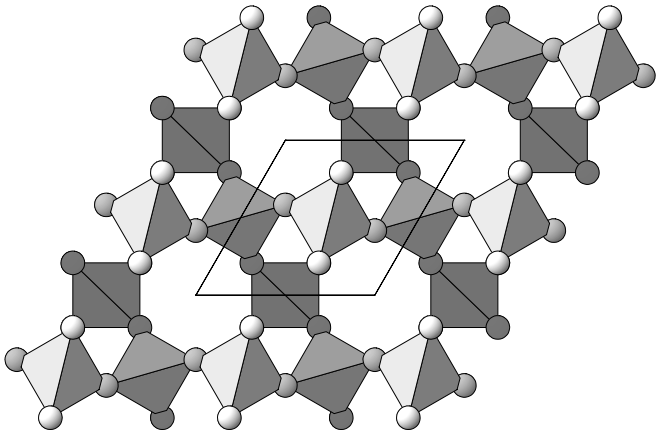

Fig. IV.40. **SiO_2 quartz β**

Arrangement of SiO_4 tetrahedra viewed along [001]. Light, medium and dark tetrahedra are shifted by $c/3$.

References: [1] Tucker M.G., Keen D.A., Dove M.T. (2001), Mineral. Mag. 65, 489-507. [2] Wyckoff R.W.G. (1926), Z. Kristallogr. 63, 507-537.