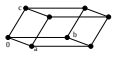
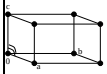
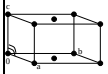
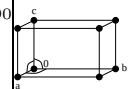
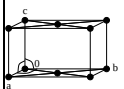
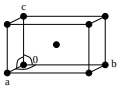
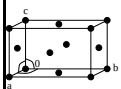
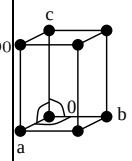
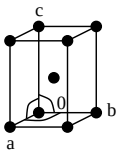
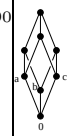
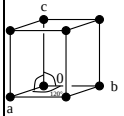
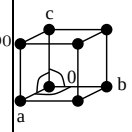
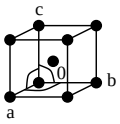
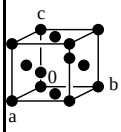
3.3. Raumgruppen (Forts.) Kristallsysteme, Punktgruppen, Bravaisgittertypen

Kristallsystem	Punktgruppe	Gitterkonstanten	Bravaisgittertypen *P*	*C*	*I*	*F*	Blickrichtung 1.	2.	3.	Raumgruppen
			x, y, z	x, y, z $x+\frac{1}{2}, y+\frac{1}{2}, z$	x, y, z $x+\frac{1}{2}, y+\frac{1}{2}, z+\frac{1}{2}$	x, y, z $x+\frac{1}{2}, y+\frac{1}{2}, z$ $x+\frac{1}{2}, y, z+\frac{1}{2}$ $x, y+\frac{1}{2}, z+\frac{1}{2}$				
triklin	1	$a \neq b \neq c$					-	-	-	$P1$
	$\bar{1}$	$\alpha \neq \beta \neq \gamma \neq 90$								$P\bar{1}$
monoklin	2	$a \neq b \neq c$					[010]	-	-	$P2, P2_1, C2$
	m	$\alpha = \gamma = 90^o$								Pm, Pc, Cm, Cc
	$2/m$	$\beta \neq 90$								$P2/m, P2_1/m, C2/m, P2/c, P2_1/c, C2/c$
orthorhombisch	222	$a \neq b \neq c$					[100]	[010]	[001]	$P222$, $P222_1$, $P2_12_12$, $P2_12_12_1$, $C222_1$, $C222$, $F222$, $I222$, $I2_12_12_1$, $Pmm2$, $Pmc2_1$, $Pcc2$, $Pma2_1$, $Pca2_1$, $Pnc2_1$, $Pmn2_1$, $Pba2$, $Pna2_1$, $Pnn2$, $Cmm2$, $Cmc2_1$, $Ccc2$, $Amm2$, $Abma$, $Ama2$, $Aba2$, $Fmm2$, $Fdd2$, $Imm2$, $Iba2$, $Ima2$
	$mm2$	$\alpha = \beta = \gamma = 90$								
	mmm									$Pmmm$, $Pnnm$, $Pccm$, $Pban$, $Pmma$, $Pnna$, $Pmna$, $Pcca$, $Pbam$, $Pccn$, $Pbcm$, $Pnnm$, $Pmmn$, $Pbcn$, $Pbca$, $Pnma$, $Cmcm$, $Cmca$, $Cmmm$, $Cccm$, $Cmma$, $Ccca$, $Fmmm$, $Fddd$, $Immm$, $Ibam$, $Ibca$, $Imma$
tetragonal	4	$a = b \neq c$					[001]	[100]	[110]	$P4, P4_1, P4_2, P4_3, I4, I4_1$
	$\bar{4}$	$\alpha = \beta = \gamma = 90$						[010]	[1$\bar{1}$0]	$P\bar{4}, I\bar{4}$
	$4/m$									$P4/m$, $P4_2/m$, $P4/n$, $P4_2/n$, $I4/m$, $I4_1/a$
	422									$P422$, $P42_12$, $P4_122$, $P4_12_12$, $P4_222$, $P4_22_12$, $P4_322$, $P4_32_12$, $I422$, $I4_122$
	$4mm$									$P4mm$, $P4bm$, $P4_2cm$, $P4_2nm$, $P4cc$, $P4nc$, $P4_2mc$, $P4_2bc$, $I4mm$, $I4cm$, $I4_1md$, $I4_1cd$
	$\bar{4}m$									$P\bar{4}2m$, $P\bar{4}2c$, $P\bar{4}2_1m$, $P\bar{4}2_1c$, $P\bar{4}m2$, $P\bar{4}c2$, $P\bar{4}b2$, $P\bar{4}n2$, $I\bar{4}m2$, $I\bar{4}c2$, $I\bar{4}2m$, $I\bar{4}2d$
	$4/mmm$									$P4/mmm$, $P4/mcc$, $P4/nbm$, $P4/nnc$, $P4/mbm$, $P4/mnc$, $P4/nmm$, $P4/ncc$, $P4_2/mmc$, $P4_2/mcm$, $P4_2/nbc$, $P4_2/nnm$, $P4_2/mbc$, $P4_2/mnm$, $P4_2/nmc$, $P4_2/ncm$, $I4/mmm$, $I4/mcm$, $I4_1/amd$, $I4_1/acd$
trigonal	3	$a = b = c$	***R***				[111]	[1$\bar{1}$0]	-	$P3, P3_1, P3_2, R3$
	$\bar{3}$	$\alpha = \beta = \gamma \neq 90$						[01$\bar{1}$]		$P\bar{3}, R\bar{3}$
	32							[$\bar{1}$01]		$P312$, $P321$, $P3_112$, $P3_121$, $P3_212$, $P3_221$, $R32$
	$3m$									$P3m1$, $P31m$, $P3c1$, $P31c$, $R3m$, $R3c$
	$\bar{3}m$									$P\bar{3}1m$, $P\bar{3}1c$, $P\bar{3}m1$, $P\bar{3}c1$, $R\bar{3}m$, $R\bar{3}c$
hexagonal	6	a = b ≠ c					[001]	[100]	[1$\bar{1}$0]	$P6, P6_1, P6_5, P6_3, P6_2, P6_4$
	$\bar{6}$	$\alpha = \beta = 90$						[010]	[120]	$P\bar{6}$
	$6/m$	$\gamma = 120$						[1$\bar{1}$0]	[2$\bar{1}$0]	$P6/m, P6_3/m$
	622									$P622$, $P6_122$, $P6_522$, $P6_222$, $P6_422$, $P6_322$
	$6mm$									$P6mm$, $P6cc$, $P6_3cm$, $P6_3mc$
	$\bar{6}m$									$P\bar{6}m2$, $P\bar{6}c2$, $P\bar{6}2m$, $P\bar{6}2c$
	$6/mmm$									$P6/mmm$, $P6/mcc$, $P6_3/mcm$, $P6_3/mmc$
kubisch	23	$a = b = c$					[100]	[111]	[110]	$P23$, $F23$, $I23$, $P2_13$, $I2_13$
	$m\bar{3}$	$\alpha = \beta = \gamma = 90$					[010]	[1$\bar{1}$1]	[01$\bar{1}$]	$Pm\bar{3}$, $Pn\bar{3}$, $Fm\bar{3}$, $Fd\bar{3}$, $Im\bar{3}$, $Pa\bar{3}$, $Ia\bar{3}$
	432						[001]	[$\bar{1}$1$\bar{1}$]	[$\bar{1}$01]	$P432$, $P4_232$, $F432$, $F4_132$, $I432$, $P4_332$, $P4_132$, $I4_132$
	$\bar{4}3m$							[$\bar{1}\bar{1}$1]	[1$\bar{1}$0]	$P\bar{4}3m$, $F\bar{4}3m$, $I\bar{4}3m$, $P\bar{4}3n$, $F\bar{4}3c$, $I\bar{4}3d$
	$m\bar{3}m$								[011]	$Pm\bar{3}m$, $Pn\bar{3}n$, $Pm\bar{3}n$, $Pn\bar{3}m$,
									[101]	$Fm\bar{3}m$, $Fm\bar{3}c$, $Fd\bar{3}m$, $Fd\bar{3}c$, $Im\bar{3}m$, $Ia\bar{3}d$