No. 198 $P2_13$ T^4

$$\mathcal{G} = P2_13$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}'$	$\mathbf{b}'$	$\mathbf{d}$	Scanning group $\mathcal{H}$	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(001)	$\mathbf{a}$	$\mathbf{b}$	$\mathbf{c}$	$P2_12_12_1$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_122\ (\mathbf{b}'/4)$	L20
(100)	$\mathbf{b}$	$\mathbf{c}$	$\mathbf{a}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p12_11$	L09
(010)	$\mathbf{c}$	$\mathbf{a}$	$\mathbf{b}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p1$	L01
(111)	$\mathbf{a} - \mathbf{b}$	$\mathbf{b} - \mathbf{c}$	τ	With respect to origin at P			
$(\bar{1}\bar{1}1)$	$\mathbf{b} - \mathbf{a}$	$-\mathbf{b} - \mathbf{c}$	τ_3	With respect to origin at $P + (\mathbf{a} + \mathbf{c})/2$			
$(1\bar{1}\bar{1})$	$\mathbf{a} + \mathbf{b}$	$\mathbf{c} - \mathbf{b}$	τ_1	With respect to origin at $P + (\mathbf{b} + \mathbf{a})/2$			
$(\bar{1}1\bar{1})$	$-\mathbf{a} - \mathbf{b}$	$\mathbf{b} + \mathbf{c}$	τ_2	With respect to origin at $P + (\mathbf{c} + \mathbf{b})/2$			
				$R3$	$[s\mathbf{d}, (s + \frac{1}{3})\mathbf{d}, (s + \frac{2}{3})\mathbf{d}]$	$p3$	L65

No. 199 $I2_13$ T^5

$$\mathcal{G} = I2_13$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}'$	$\mathbf{b}'$	$\mathbf{d}$	Scanning group $\mathcal{H}$	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(001)	$\mathbf{a}$	$\mathbf{b}$	$\mathbf{c}$	$I2_12_12_1$	$[0\mathbf{d}, \frac{1}{2}\mathbf{d}]$	$p2_122\ (\mathbf{b}'/4)$	L20
(100)	$\mathbf{b}$	$\mathbf{c}$	$\mathbf{a}$		$[\frac{1}{4}\mathbf{d}, \frac{3}{4}\mathbf{d}]$	$p22_12\ (\mathbf{b}'/4)$	L20
(010)	$\mathbf{c}$	$\mathbf{a}$	$\mathbf{b}$		$[\pm s\mathbf{d}, (\pm s + \frac{1}{2})\mathbf{d}]$	$p112\ (\mathbf{b}'/4)$	L03
(111)	$\mathbf{a} - \mathbf{c}$	$\mathbf{b} - \mathbf{a}$	$\tau/2$	With respect to origin at P			
$(\bar{1}\bar{1}1)$	$-\mathbf{a} - \mathbf{c}$	$\mathbf{a} - \mathbf{b}$	$\tau_3/2$	With respect to origin at $P + \mathbf{b}/2$			
$(1\bar{1}\bar{1})$	$\mathbf{a} + \mathbf{c}$	$-\mathbf{a} - \mathbf{b}$	$\tau_1/2$	With respect to origin at $P + \mathbf{c}/2$			
$(\bar{1}1\bar{1})$	$\mathbf{c} - \mathbf{a}$	$\mathbf{a} + \mathbf{b}$	$\tau_2/2$	With respect to origin at $P + \mathbf{a}/2$			
				$R3$	$[s\mathbf{d}, (s + \frac{1}{3})\mathbf{d}, (s + \frac{2}{3})\mathbf{d}]$	$p3$	L65

Geometric class $T_h - m\bar{3}$

No. 200 $Pm\bar{3}$ T_h^1

$$\mathcal{G} = P\frac{2}{m}\bar{3}$$

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}'$	$\mathbf{b}'$	$\mathbf{d}$	Scanning group $\mathcal{H}$	Linear orbit $s\mathbf{d}$	Sectional layer group $\mathcal{L}(s\mathbf{d})$	
(001)	$\mathbf{a}$	$\mathbf{b}$	$\mathbf{c}$	$Pmmm$	$0\mathbf{d}, \frac{1}{2}\mathbf{d}$	$pmmm$	L37
(100)	$\mathbf{b}$	$\mathbf{c}$	$\mathbf{a}$		$[s\mathbf{d}, -s\mathbf{d}]$	$pmm2$	L23
(010)	$\mathbf{c}$	$\mathbf{a}$	$\mathbf{b}$				
(111)	$\mathbf{a} - \mathbf{b}$	$\mathbf{b} - \mathbf{c}$	τ	$R\bar{3}$	$[0\mathbf{d}, \quad [\frac{1}{2}\mathbf{d},$	$p\bar{3}$	L66
$(\bar{1}\bar{1}1)$	$\mathbf{b} - \mathbf{a}$	$-\mathbf{b} - \mathbf{c}$	τ_3		$\frac{1}{3}\mathbf{d}, \ \| \ \frac{5}{6}\mathbf{d},$	$p\bar{3}\ [(2\mathbf{a}' + \mathbf{b}')/3]$	L66
$(1\bar{1}\bar{1})$	$\mathbf{a} + \mathbf{c}$	$\mathbf{c} - \mathbf{b}$	τ_1		$\frac{2}{3}\mathbf{d}] \quad [\frac{1}{6}\mathbf{d}]$	$p\bar{3}\ [(\mathbf{a}' + 2\mathbf{b}')/3]$	L66
$(\bar{1}1\bar{1})$	$-\mathbf{a} - \mathbf{b}$	$\mathbf{b} + \mathbf{c}$	τ_2		$[\pm s\mathbf{d}, (\pm s + \frac{1}{3})\mathbf{d}, (\pm s + \frac{2}{3})\mathbf{d}]$	$p3$	L65

Auxiliary tables for Laue class $T_h - m\overline{3}$

Centring types *P* and *I*

Orientation orbit (hkl)	Conventional basis of the scanning group $\mathbf{a}'$	$\mathbf{b}'$	$\mathbf{d}$	Auxiliary basis of the scanning group $\widehat{\mathbf{a}}$	$\widehat{\mathbf{b}}$	$\widehat{\mathbf{c}}$
$(mn0)$	$\mathbf{c}$	$n\mathbf{a}-m\mathbf{b}$	$p\mathbf{a}+q\mathbf{b}$	$\mathbf{a}$	$\mathbf{b}$	$\mathbf{c}$
$(\overline{m}n0)$	$\mathbf{c}$	$n\mathbf{a}+m\mathbf{b}$	$-p\mathbf{a}+q\mathbf{b}$			
$(0mn)$	$\mathbf{a}$	$n\mathbf{b}-m\mathbf{c}$	$p\mathbf{b}+q\mathbf{c}$	$\mathbf{b}$	$\mathbf{c}$	$\mathbf{a}$
$(0\overline{m}n)$	$\mathbf{a}$	$n\mathbf{b}+m\mathbf{c}$	$-p\mathbf{b}+q\mathbf{c}$			
$(n0m)$	$\mathbf{b}$	$n\mathbf{c}-m\mathbf{a}$	$p\mathbf{c}+q\mathbf{a}$	$\mathbf{c}$	$\mathbf{a}$	$\mathbf{b}$
$(n0\overline{m})$	$\mathbf{b}$	$n\mathbf{c}+m\mathbf{a}$	$-p\mathbf{c}+q\mathbf{a}$			

Arithmetic classes $23P$ and $23I$

Serial No.	195	198	197	199
Group type	T^1	T^4	T^3	T^5
Group	$P23$	$P2_13$	$I23$	$I2_13$
$(mn0)$	$P112$	$P112_1$	$I112$	$I112$
$(\overline{m}n0)$		$(\mathbf{a}/4)$		$(\mathbf{b}/4)$
$(0mn)$		$P112_1$		$I112$
$(0\overline{m}n)$		$(\mathbf{b}/4)$		$(\mathbf{c}/4)$
$(n0m)$		$P112_1$		$I112$
$(n0\overline{m})$		$(\mathbf{c}/4)$		$(\mathbf{a}/4)$

Arithmetic classes $m\overline{3}P$ and $m\overline{3}I$

Serial No.	200	201		205	204	206
Group type	T_h^1	T_h^2		T_h^6	T_h^5	T_h^7
Group	$Pm\overline{3}$	$Pn\overline{3}$		$Pa\overline{3}$	$Im\overline{3}$	$Ia\overline{3}$
		Origin 1	Origin 2			
$(mn0)$	$P112/m$	$P112/n$	$P112/n$	$P112_1/a$	$I112/m$	$I112/b$
$(\overline{m}n0)$		$(\mathbf{a}+\mathbf{b}+\mathbf{c})/4$				
$(0mn)$						
$(0\overline{m}n)$						
$(n0m)$						
$(n0\overline{m})$						