

## 1.6. METHODS OF SPACE-GROUP DETERMINATION

**Table 1.6.4.20**

 Reflection conditions and possible space groups with Bravais lattice  $hP$  and Laue class  $6/mmm$ ;  $hki$  are permutable; Patterson symmetry  $P6/mmm$ 

Reflection conditions			Space group	No.	Space group	No.	Space group	No.	
$hh\bar{2}hl$	$h\bar{h}0l$	$000l$							
$l$	$l$	$l$	<b><math>P622</math></b>	177	$P6mm$	183	$P\bar{6}m2$	187	
			$P62m$	189	$P6/mmm$	191			
			<b><math>P6_322</math></b>	182					
			$l = 3n$	<b><math>P6_222</math></b>	180	<b><math>P6_422</math></b>			181
			$l = 6n$	<b><math>P6_122</math></b>	178	<b><math>P6_522</math></b>			179
			$l$	$P6_3mc$	186	$P\bar{6}2c$			190
$l$	$l$	$l$	$P6_3cm$	185	$P\bar{6}c2$	188	$P6_3/mcm$	193	
$l$	$l$	$l$	$P6cc$	184	$P6/mcc$	192			

**Table 1.6.4.21**

 Reflection conditions and possible space groups with Bravais lattice  $hR$  and Laue class  $\bar{3}$  (hexagonal axes);  $hki$  are permutable; Patterson symmetry  $R\bar{3}$ ; Ov = obverse setting; Rv = reverse setting

Reflection conditions						Space group	No.	Space group	No.	
$hkil$	$hki0$	$hh\bar{2}hl$	$h\bar{h}0l$	$000l$	$h\bar{h}00$					
$-h + k + l = 3n$	$-h + k = 3n$	$l = 3n$	$h + l = 3n$	$l = 3n$	$h = 3n$	<b><math>R3</math></b>	146	$R\bar{3}$	148	Ov
$h - k + l = 3n$	$h - k = 3n$	$l = 3n$	$-h + l = 3n$	$l = 3n$	$h = 3n$	<b><math>R3</math></b>	146	$R\bar{3}$	148	Rv

**Table 1.6.4.22**

 Reflection conditions and possible space groups with Bravais lattice  $hR$  and Laue class  $\bar{3}m$  (hexagonal axes);  $hki$  are permutable; Patterson symmetry  $R\bar{3}m$ ; Ov = obverse setting; Rv = reverse setting

Reflection conditions						Space group	No.	Space group	No.	Space group	No.	
$hkil$	$hki0$	$hh\bar{2}hl$	$h\bar{h}0l$	$000l$	$h\bar{h}00$							
$-h + k + l = 3n$	$-h + k = 3n$	$l = 3n$	$h + l = 3n$	$l = 3n$	$h = 3n$	<b><math>R32</math></b>	155	$R3m$	160	$R\bar{3}m$	166	Ov
$-h + k + l = 3n$	$-h + k = 3n$	$l = 3n$	$h + l = 3n, l = 2m$	$l = 6n$	$h = 3n$	$R3c$	161	$R\bar{3}c$	167			Ov
$h - k + l = 3n$	$h - k = 3n$	$l = 3n$	$-h + l = 3n$	$l = 3n$	$h = 3n$	<b><math>R32</math></b>	155	$R3m$	160	$R\bar{3}m$	166	Rv
$h - k + l = 3n$	$h - k = 3n$	$l = 3n$	$-h + l = 3n, l = 2m$	$l = 6n$	$h = 3n$	$R3c$	161	$R\bar{3}c$	167			Rv

**Table 1.6.4.23**

 Reflection conditions and possible space groups with Bravais lattice  $hR$  and Laue class  $\bar{3}$  (rhombohedral axes);  $hkl$  are permutable; Patterson symmetry  $R\bar{3}$ 

Reflection conditions		Space group	No.	Space group	No.
$hhl$	$hhh$				
		<b><math>R3</math></b>	146	$R\bar{3}$	148

**Table 1.6.4.24**

 Reflection conditions and possible space groups with Bravais lattice  $hR$  and Laue class  $\bar{3}m$  (rhombohedral axes);  $hkl$  are permutable; Patterson symmetry  $R\bar{3}m$ 

Reflection conditions		Space group	No.	Space group	No.	Space group	No.
$hhl$	$hhh$						
		<b><math>R32</math></b>	155	$R3m$	160	$R\bar{3}m$	166
$l$	$h$	$R3c$	161	$R\bar{3}c$	167		