

## Table of monoclinic and orthorhombic OD groupoid families

$P\ 1\ 1\ (-1)$ {1 1 (2 <sub>2</sub> /n <sub>r,s</sub> )}	$P\ 1\ 1\ (m)$ {1 1 (n <sub>r,s</sub> )}	$P\ 1\ 1\ (a)$ {1 1 (n <sub>r-1,s</sub> )}	$P\ 1\ 1\ (2/m)$ {1 1 (2 <sub>2</sub> /n <sub>r,s</sub> )}
$P\ 1\ 1\ (2/a)$ {1 1 (2 <sub>2</sub> /n <sub>r-1,s</sub> )}	$P\ 1\ 1\ (2)$ {1 1 (2 <sub>2</sub> )} [r/4 s/4]	$P\ 1\ 1\ (1)$ {1 1 (n <sub>r,s</sub> )} {1 1 (n <sub>r',s'</sub> )}	$P\ 1\ 1\ (2)$ {1 1 (n <sub>r,s</sub> )} {1 1 (n <sub>r',s'</sub> )}
$P\ 1\ 1\ (-1)$ {1 2 <sub>s</sub> /c <sub>2</sub> (1)}	$P\ 1\ 2\ (1)$ {1 2 <sub>s</sub> (1)}	$P\ 1\ 2_1\ (1)$ {1 2 <sub>s-1</sub> (1)}	$P\ 1\ 2/m\ (1)$ {1 2 <sub>s</sub> /c <sub>2</sub> (1)}
$P\ 1\ 2_1/m\ (1)$ {1 2 <sub>s-1</sub> /c <sub>2</sub> (1)}	$P\ 1\ 2/a\ (1)$ {1 2 <sub>s</sub> /c <sub>2</sub> (1)}	$P\ 1\ 2_1/a\ (1)$ {1 2 <sub>s-1</sub> /c <sub>2</sub> (1)}	$P\ 1\ m\ (1)$ {1 c <sub>2</sub> (1)} [s/4]
$P\ 1\ a\ (1)$ {1 c <sub>2</sub> (1)} [s/4]	$P\ 1\ 1\ (1)$ {1 2 <sub>s</sub> (1)} {1 2 <sub>s'</sub> (1)}	$P\ 1\ m\ (1)$ {1 2 <sub>s</sub> (1)} {1 2 <sub>s'</sub> (1)}	$P\ 1\ a\ (1)$ {1 2 <sub>s</sub> (1)} {1 2 <sub>s'</sub> (1)}
$C\ 1\ 1\ (-1)$ {1 2 <sub>s</sub> /c <sub>2</sub> (1)}	$C\ 1\ 2\ (1)$ {1 2 <sub>s</sub> (1)}	$C\ 1\ 2/m\ (1)$ {1 2 <sub>s</sub> /c <sub>2</sub> (1)}	$C\ 1\ m\ (1)$ {1 c <sub>2</sub> (1)} [s/4]
$C\ 1\ 1\ (1)$ {1 2 <sub>s</sub> (1)} {1 2 <sub>s'</sub> (1)}	$C\ 1\ m\ (1)$ {1 2 <sub>s</sub> (1)} {1 2 <sub>s'</sub> (1)}		
$P\ 1\ 1\ (m)$ {n <sub>s,2</sub> 2 <sub>s</sub> (1)}	$P\ 1\ 1\ (n)$ {n <sub>s,2</sub> 2 <sub>s-1</sub> (1)}	$P\ 1\ 1\ (a)$ {n <sub>s,2</sub> 2 <sub>s</sub> (1)}	$P\ 1\ 1\ (a)$ {2 <sub>r-1</sub> n <sub>2,r</sub> (1)}
$P\ 1\ 2\ (1)$ {2 <sub>r</sub> 1 (2 <sub>2</sub> )}	$P\ 1\ 2_1\ (1)$ {2 <sub>r</sub> 1 (2 <sub>2</sub> )}	$P\ 1\ 2\ (1)$ {n <sub>s,2</sub> 1 (n <sub>r,s</sub> )}	$P\ 1\ 2_1\ (1)$ {n <sub>s-1,2</sub> 1 (n <sub>r,s</sub> )}
$P\ 1\ 1\ (2/m)$ {2 <sub>r</sub> /n <sub>s,2</sub> 2 <sub>s</sub> /n <sub>2,r</sub> (1)}	$P\ 1\ 1\ (2/a)$ {2 <sub>r-1</sub> /n <sub>s,2</sub> 2 <sub>s</sub> /n <sub>2,r</sub> (1)}	$P\ 1\ 1\ (2/n)$ {2 <sub>r-1</sub> /n <sub>s,2</sub> 2 <sub>s-1</sub> /n <sub>2,r</sub> (1)}	
$P\ 1\ 2/m\ (1)$ {2 <sub>r</sub> /n <sub>s,2</sub> 1 (2 <sub>2</sub> /n <sub>r,s</sub> )}	$P\ 1\ 2_1/m\ (1)$ {2 <sub>r</sub> /n <sub>s-1,2</sub> 1 (2 <sub>2</sub> /n <sub>r,s</sub> )}	$P\ 1\ 2/a\ (1)$ {2 <sub>r-1</sub> /n <sub>s,2</sub> 1 (2 <sub>2</sub> /n <sub>r,s</sub> )}	
$P\ 1\ 2_1/a\ (1)$ {2 <sub>r-1</sub> /n <sub>s-1,2</sub> 1 (2 <sub>2</sub> /n <sub>r,s</sub> )}			
$P\ 2\ 2\ (2)$ {2 <sub>r</sub> 2 <sub>s</sub> (2 <sub>2</sub> )}	$P\ 2_1\ 2\ (2)$ {2 <sub>r-1</sub> 2 <sub>s</sub> (2 <sub>2</sub> )}	$P\ 2_1\ 2_1\ (2)$ {2 <sub>r-1</sub> 2 <sub>s-1</sub> (2 <sub>2</sub> )}	$P\ 2\ 2\ (2)$ {n <sub>s,2</sub> n <sub>2,r</sub> (n <sub>r,s</sub> )}
$P\ 2_1\ 2\ (2)$ {n <sub>s,2</sub> n <sub>2,r-1</sub> (n <sub>r,s</sub> )}	$P\ 2_1\ 2_1\ (2)$ {n <sub>s-1,2</sub> n <sub>2,r-1</sub> (n <sub>r,s</sub> )}	$P\ 2\ m\ (m)$ {2 <sub>r</sub> n <sub>2,r</sub> (n <sub>r,s</sub> )}	$P\ 2_1\ a\ (m)$ {2 <sub>r-1</sub> n <sub>2,r-1</sub> (n <sub>r,s</sub> )}
$P\ 2_1\ m\ (a)$ {2 <sub>r-1</sub> n <sub>2,r</sub> (n <sub>r-1,s</sub> )}	$P\ 2\ a\ (a)$ {2 <sub>r</sub> n <sub>2,r-1</sub> (n <sub>r-1,s</sub> )}	$P\ 2\ m\ (b)$ {2 <sub>r</sub> n <sub>2,r</sub> (n <sub>r,s-1</sub> )}	$P\ 2_1\ a\ (b)$ {2 <sub>r-1</sub> n <sub>2,r-1</sub> (n <sub>r,s-1</sub> )}
$P\ 2\ a\ (n)$ {2 <sub>r</sub> n <sub>2,r-1</sub> (n <sub>r-1,s-1</sub> )}	$P\ 2_1\ m\ (n)$ {2 <sub>r-1</sub> n <sub>2,r</sub> (n <sub>r-1,s-1</sub> )}	$P\ 2\ m\ (m)$ {n <sub>s,2</sub> 2 <sub>s</sub> (2 <sub>2</sub> )}	$P\ 2_1\ a\ (m)$ {n <sub>s,2</sub> 2 <sub>s</sub> (2 <sub>2</sub> )}

$$\begin{array}{cccc}
P \ 2_1 \ m \ (a) & P \ 2 \ a \ (a) & P \ 2 \ m \ (b) & P \ 2_1 \ a \ (b) \\
\{n_{s,2} \ 2_s \ (2_2)\} & \{n_{s,2} \ 2_s \ (2_2)\} & \{n_{s,2} \ 2_{s-1} \ (2_2)\} & \{n_{s,2} \ 2_{s-1} \ (2_2)\} \\
\\
P \ 2 \ a \ (n) & P \ 2_1 \ m \ (n) & P \ m \ m \ (m) & \\
\{n_{s,2} \ 2_{s-1} \ (2_2)\} & \{n_{s,2} \ 2_{s-1} \ (2_2)\} & \{2_r/n_{s,2} \ 2_s/n_{2,r} \ (2_2/n_{r,s})\} & \\
\\
P \ m \ a \ (a) & P \ b \ a \ (n) & P \ b \ m \ (m) & \\
\{2_r/n_{s,2} \ 2_s/n_{2,r-1} \ (2_2/n_{r-1,s})\} & \{2_r/n_{s-1,2} \ 2_s/n_{2,r-1} \ (2_2/n_{r-1,s-1})\} & \{2_r/n_{s-1,2} \ 2_{s-1}/n_{2,r} \ (2_2/n_{r,s})\} & \\
\\
P \ m \ m \ (a) & P \ b \ m \ (n) & P \ b \ a \ (a) & \\
\{2_{r-1}/n_{s,2} \ 2_s/n_{2,r} \ (2_2/n_{r-1,s})\} & \{2_{r-1}/n_{s-1,2} \ 2_s/n_{2,r} \ (2_2/n_{r-1,s-1})\} & \{2_r/n_{s-1,2} \ 2_{s-1}/n_{2,r-1} \ (2_2/n_{r-1,s})\} & \\
\\
P \ b \ a \ (m) & P \ m \ a \ (b) & P \ m \ m \ (n) & \\
\{2_{r-1}/n_{s-1,2} \ 2_{s-1}/n_{2,r-1} \ (2_2/n_{r,s})\} & \{2_{r-1}/n_{s,2} \ 2_{s-1}/n_{2,r-1} \ (2_2/n_{r,s-1})\} & \{2_{r-1}/n_{s,2} \ 2_{s-1}/n_{2,r} \ (2_2/n_{r-1,s-1})\} & \\
\\
P \ 1 \ 1 \ (2) & P \ 1 \ m \ (1) & P \ 1 \ a \ (1) & P \ m \ m \ (2) \\
\{n_{s,2} \ n_{2,r} \ (1)\} & \{n_{s,2} \ 1 \ (2_2)\} & \{n_{s,2} \ 1 \ (2_2)\} & \{n_{s,2} \ n_{2,r} \ (2_2)\} \\
\\
P \ m \ a \ (2) & P \ b \ a \ (2) & P \ 1 \ 1 \ (1) & P \ 1 \ 1 \ (1) \\
\{n_{s,2} \ n_{2,r-1} \ (2_2)\} & \{n_{s-1,2} \ n_{2,r-1} \ (2_2)\} & \{1 \ 1 \ (n_{r,s})\} & \{2_r \ 1 \ (1)\} \\
\{2_{r'} \ 1 \ (1)\} & & \{2_{r'} \ 1 \ (1)\} & \{1 \ 2_{s'} \ (1)\} \\
\\
P \ 1 \ 1 \ (2) & P \ 1 \ 1 \ (2) & P \ 1 \ m \ (1) & P \ 1 \ a \ (1) \\
\{1 \ 1 \ (n_{r,s})\} & \{2_r \ 2_s \ (1)\} & \{2_r \ 1 \ (n_{r,s})\} & \{2_{r-1} \ 1 \ (n_{r,s})\} \\
\{2_{r'} \ 2_{s'} \ (1)\} & \{2_{r'} \ 2_{s'} \ (1)\} & \{2_{r'} \ 1 \ (n_{r',s'})\} & \{2_{r'-1} \ 1 \ (n_{r',s'})\} \\
\\
P \ 1 \ m \ (1) & P \ 1 \ a \ (1) & P \ m \ m \ (2) & P \ m \ a \ (2) \\
\{1 \ 2_s \ (1)\} & \{1 \ 2_s \ (1)\} & \{2_r \ 2_s \ (n_{r,s})\} & \{2_{r-1} \ 2_s \ (n_{r,s})\} \\
\{2_{r'} \ 1 \ (n_{r',s'})\} & \{2_{r'-1} \ 1 \ (n_{r',s'})\} & \{2_{r'} \ 2_{s'} \ (n_{r',s'})\} & \{2_{r'-1} \ 2_{s'} \ (n_{r',s'})\} \\
\\
P \ b \ a \ (2) & C \ 1 \ 1 \ (m) & C \ 1 \ 1 \ (a) & C \ 1 \ 1 \ (d) \\
\{2_{r-1} \ 2_{s-1} \ (n_{r,s})\} & \{n_{s,2} \ 2_s \ (1)\} & \{n_{s,2} \ 2_s \ (1)\} & \{n_{s,2} \ 2_{s-1,2} \ (1)\} \\
\{2_{r'-1} \ 2_{s'-1} \ (n_{r',s'})\} & & & \\
\\
C \ 1 \ 1 \ (2/m) & C \ 1 \ 1 \ (2/a) & C \ 1 \ 1 \ (2/d) & C \ 1 \ 2 \ (1) \\
\{2_r/n_{s,2} \ 2_s/n_{2,r} \ (1)\} & \{2_r/n_{s,2} \ 2_s/n_{2,r} \ (1)\} & \{2_{r-1/2}/n_{s,2} \ 2_{s-1/2}/n_{2,r} \ (1)\} & \{2_r \ 1 \ (2_2)\} \\
\\
C \ 1 \ 2 \ (1) & C \ 1 \ 2/m \ (1) & C \ m \ 2 \ (m) & C \ m \ 2 \ (a) \\
\{n_{s,2} \ 1 \ (n_{r,s})\} & \{2_r/n_{s,2} \ 1 \ (2_2/n_{r,s})\} & \{n_{s,2} \ 2_s \ (n_{r,s})\} & \{n_{s,2} \ 2_s \ (n_{r-1,s})\} \\
\\
C \ m \ 2 \ (m) & C \ m \ 2 \ (a) & C \ 2 \ 2 \ (2) & C \ 2 \ 2 \ (2) \\
\{2_r \ n_{2,r} \ (2_2)\} & \{2_r \ n_{2,r} \ (2_2)\} & \{2_r \ 2_s \ (2_2)\} & \{n_{s,2} \ n_{2,r} \ (n_{r,s})\} \\
\\
C \ m \ m \ (m) & C \ m \ m \ (a) & C \ 1 \ 1 \ (2) & C \ 1 \ m \ (1) \\
\{2_r/n_{s,2} \ 2_s/n_{2,r} \ (2_2/n_{r,s})\} & \{2_r/n_{s,2} \ 2_s/n_{2,r} \ (2_2/n_{r-1,s})\} & \{n_{s,2} \ n_{2,r} \ (1)\} & \{n_{s,2} \ 1 \ (2_2)\} \\
\\
C \ m \ m \ (2) & C \ 1 \ 1 \ (1) & C \ 1 \ 1 \ (1) & C \ 1 \ 1 \ (2) \\
\{n_{s,2} \ n_{2,r} \ (2_2)\} & \{1 \ 1 \ (n_{r,s})\} & \{2_r \ 1 \ (1)\} & \{2_r \ 2_s \ (1)\} \\
\{2_{r'} \ 1 \ (1)\} & \{2_{r'} \ 1 \ (1)\} & \{1 \ 2_{s'} \ (1)\} & \{2_{r'} \ 2_{s'} \ (1)\} \\
\\
C \ 1 \ 1 \ (2) & C \ 1 \ m \ (1) & C \ 1 \ m \ (1) & C \ m \ m \ (2) \\
\{1 \ 1 \ (n_{r,s})\} & \{2_r \ 1 \ (n_{r,s})\} & \{1 \ 2_s \ (1)\} & \{2_r \ 2_s \ (n_{r,s})\} \\
\{2_{r'} \ 2_{s'} \ (1)\} & \{2_{r'} \ 1 \ (n_{r',s'})\} & \{2_{r'} \ 1 \ (n_{r',s'})\} & \{2_{r'} \ 2_{s'} \ (n_{r',s'})\}
\end{array}$$