$L_2(81).2_2 \pmod{2}$

	blocks	defect	matrix
2.G:	1	6	20×2
	2	2	4×1
	3	2	4×1
	4	2	4×1
	5	2	4×1
	6	2	4×1
	7	2	4×1
	8	2	4×1
	9	2	4×1
	10	2	4×1
	11	2 2 2 2 2 2 2 2 2 2	4×1
	12	2	4×1
	I		

blocks	defect	matrix
13	2	4×1
14	2	4×1
15	2	4×1
16	2	4×1
17	2	4×1
18	2	4×1
19	2	4×1
20	2	4×1
21	2	4×1
22	5	32×1
23	5	32×1

 $= 1_1 \\ = 80_1$

Block 1:	$\varphi_{1,0}$	φ_{2+}	
$1_1 = \chi_{1,0}$	1		
$1_2 = \chi_{1,1}$	1		
$82_1 = \chi_{2+}$	2	1	
$81_1 = \chi_{24,0}$	1	1	
$81_2 = \chi_{24,1}$	1	1	
$82_2 = \chi_{25,0}$	2	1	
$82_3 = \chi_{25,1}$	2	1	
$82_8 = \chi_{28,0}$	2	1	
$82_9 = \chi_{28,1}$	2	1	(a
$82_{10} = \chi_{29,0}$	2	1	$\varphi_{1,0}$
$82_{11} = \chi_{29,1}$	2	1	φ_{2+}
$80_{41} = \chi_{44+}$		1	
$82_{40} = \chi_{66,0}$	2	1	
$82_{41} = \chi_{66,1}$	2	1	
$82_{42} = \chi_{67,0}$	2	1	
$82_{43} = \chi_{67,1}$	2	1	
$82_{44} = \chi_{68,0}$	2	1	
$82_{45} = \chi_{68,1}$	2	1	
$82_{46} = \chi_{69,0}$	2	1	
$82_{47} = \chi_{69,1}$	2	1	

Block 2:	$\varphi_{4,0}$	-		
$80_1 = \chi_{4,0} \\ 80_2 = \chi_{4,1}$	1 1	$arphi_{4,0}$	=	80 ₂
$80_{42} = \chi_{46,0} \\ 80_{43} = \chi_{46,1}$	1 1			

Block 3:	$\varphi_{5,0}$		
$\begin{array}{l} 80_3 = \chi_{5,0} \\ 80_4 = \chi_{5,1} \end{array}$	1 1	$arphi_{5,0}$	=
$80_{44} = \chi_{47,0} \\ 80_{45} = \chi_{47,1}$	1 1		

Block 4:	$\varphi_{6,0}$			
$ 80_5 = \chi_{6,0} 80_6 = \chi_{6,1} $	1 1	$arphi_{6,0}$	=	804
$\begin{array}{l} 80_{46} = \chi_{48,0} \\ 80_{47} = \chi_{48,1} \end{array}$	1			

 $80_{48} = \chi_{49,0}$

 $80_{49} = \chi_{49,1}$

Block 5:	$\varphi_{7,0}$	-
$80_7 = \chi_{7,0} \\ 80_8 = \chi_{7,1}$	1 1	$\varphi_{7,0}$

1

1

 $\varphi_{7,0} = 80_5$

 80_3

Block 6:	$\varphi_{8,0}$	
$80_9 = \chi_{8,0} \\ 80_{10} = \chi_{8,1}$	1 1	$arphi_{8,0}$
$80_{50} = \chi_{50,0} \\ 80_{51} = \chi_{50,1}$	1 1	

 $_{,0} = 80_6$

Block 7:	$arphi_{9,0}$			
$80_{11} = \chi_{9,0} \\ 80_{12} = \chi_{9,1}$	1 1	$arphi_{9,0}$	=	807
$80_{52} = \chi_{51,0} \\ 80_{53} = \chi_{51,1}$	1 1			

Block 8:	$\varphi_{10,0}$	
$80_{13} = \chi_{10,0} \\ 80_{14} = \chi_{10,1}$	1 1	4
$80_{54} = \chi_{52,0} \\ 80_{55} = \chi_{52,1}$	1 1	

 $\varphi_{10,0} = 80_8$

Block 9:	$\varphi_{11,0}$
$80_{15} = \chi_{11,0} \\ 80_{16} = \chi_{11,1}$	1 1
$80_{56} = \chi_{53,0}$ $80_{57} = \chi_{53,1}$	1 1

 $\varphi_{11,0} = 80_9$

Block 10:	$\varphi_{12,0}$
$80_{17} = \chi_{12,0} \\ 80_{18} = \chi_{12,1}$	1 1
$80_{58} = \chi_{54,0} \\ 80_{59} = \chi_{54,1}$	1 1

 $\varphi_{12,0} = 80_{10}$

Block 11:	$\varphi_{13,0}$	
$80_{19} = \chi_{13,0} \\ 80_{20} = \chi_{13,1}$	1 1	$arphi_1$
$80_{60} = \chi_{55,0} \\ 80_{61} = \chi_{55,1}$	1 1	

 $\varphi_{13,0} = 80_{11}$

Block 12:	$\varphi_{14,0}$	
$\begin{array}{l} 80_{21} = \chi_{14,0} \\ 80_{22} = \chi_{14,1} \end{array}$	1 1	$\varphi_{14,0} = 80_{12}$
$\begin{array}{l} 80_{62} = \chi_{56,0} \\ 80_{63} = \chi_{56,1} \end{array}$	1	

Block 13:	$\varphi_{15,0}$
$\begin{array}{l} 80_{23} = \chi_{15,0} \\ 80_{24} = \chi_{15,1} \end{array}$	1 1
$\begin{array}{l} 80_{64} = \chi_{57,0} \\ 80_{65} = \chi_{57,1} \end{array}$	1

Block 14:	$\varphi_{16,0}$
$80_{25} = \chi_{16,0} \\ 80_{26} = \chi_{16,1}$	1 1
$80_{66} = \chi_{58,0} \\ 80_{67} = \chi_{58,1}$	1 1

 $\varphi_{16,0} = 80_{14}$

Block 15:	$\varphi_{17,0}$
$\begin{array}{l} 80_{27} = \chi_{17,0} \\ 80_{28} = \chi_{17,1} \end{array}$	1 1
$\begin{array}{l} 80_{68} = \chi_{59,0} \\ 80_{69} = \chi_{59,1} \end{array}$	1

 $\varphi_{17,0} = 80_{15}$

Block 16:	$\varphi_{18,0}$	
$80_{29} = \chi_{18,0} \\ 80_{30} = \chi_{18,1}$	1 1	ζ
$80_{70} = \chi_{60,0} \\ 80_{71} = \chi_{60,1}$	1 1	

 $\varphi_{18,0} = 80_{16}$

Block 17:	$\varphi_{19,0}$	
$80_{31} = \chi_{19,0} \\ 80_{32} = \chi_{19,1}$	1 1	$\varphi_{19,0} = 80_{17}$
$80_{72} = \chi_{61,0} \\ 80_{73} = \chi_{61,1}$	1	

Block 18:	$\varphi_{20,0}$	
$80_{33} = \chi_{20,0} \\ 80_{34} = \chi_{20,1}$	1 1	$arphi_2$
$80_{74} = \chi_{62,0} \\ 80_{75} = \chi_{62,1}$	1 1	

-

$\varphi_{20,0}$	=	8018	

Block 19:	$\varphi_{21,0}$
$80_{35} = \chi_{21,0} \\ 80_{36} = \chi_{21,1}$	1 1
$\begin{array}{l} 80_{76} = \chi_{63,0} \\ 80_{77} = \chi_{63,1} \end{array}$	1 1

 $\varphi_{21,0} = 80_{19}$

Block 20:	$\varphi_{22,0}$
$80_{37} = \chi_{22,0} \\ 80_{38} = \chi_{22,1}$	1 1
$80_{78} = \chi_{64,0} \\ 80_{79} = \chi_{64,1}$	1 1

 $\varphi_{22,0} = 80_{20}$

Block 21:	$\varphi_{23,0}$	
$80_{39} = \chi_{23,0} \\ 80_{40} = \chi_{23,1}$	1 1	Ç
$80_{80} = \chi_{65,0}$ $80_{81} = \chi_{65,1}$	1	

 $\varphi_{23,0} = 80_{21}$

Block 22: $\varphi_{24,0}$ $82_4 = \chi_{26,0}$ 1 $82_5 = \chi_{26,1}$ 1 $82_{12} = \chi_{30,0}$ 1 $82_{13} = \chi_{30,1}$ 1 $82_{16} = \chi_{32,0}$ 1 $82_{17} = \chi_{32,1}$ 1 $82_{18} = \chi_{33,0}$ 1 $82_{19} = \chi_{33,1}$ 1 $82_{25} = \chi_{36,1}$ 1 $82_{25} = \chi_{37,0}$ 1 $82_{27} = \chi_{37,1}$ 1 $82_{32} = \chi_{40,0}$ 1 $82_{33} = \chi_{40,1}$ 1 $82_{34} = \chi_{41,0}$ 1 $82_{49} = \chi_{70,0}$ 1 $82_{50} = \chi_{71,0}$ 1 $82_{50} = \chi_{71,0}$ 1 $82_{57} = \chi_{74,1}$ 1 $82_{58} = \chi_{75,0}$ 1 $82_{65} = \chi_{78,0}$ 1 $82_{65} = \chi_{78,1}$ 1 $82_{66} = \chi_{79,0}$ 1 $82_{67} = \chi_{79,1}$ 1 $82_{72} = \chi_{82,0}$ 1 $82_{73} = \chi_{82,1}$ 1		
$\begin{array}{c ccccc} 82_5 = \chi_{26,1} & 1 \\ 82_{12} = \chi_{30,0} & 1 \\ 82_{13} = \chi_{30,1} & 1 \\ 82_{16} = \chi_{32,0} & 1 \\ 82_{17} = \chi_{32,1} & 1 \\ 82_{18} = \chi_{33,0} & 1 \\ 82_{19} = \chi_{33,1} & 1 \\ 82_{24} = \chi_{36,0} & 1 \\ 82_{25} = \chi_{36,1} & 1 \\ 82_{26} = \chi_{37,0} & 1 \\ 82_{27} = \chi_{37,1} & 1 \\ 82_{32} = \chi_{40,0} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{35} = \chi_{41,1} & 1 \\ 82_{49} = \chi_{70,0} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{51} = \chi_{71,1} & 1 \\ 82_{56} = \chi_{74,0} & 1 \\ 82_{57} = \chi_{74,1} & 1 \\ 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{64} = \chi_{78,0} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{67} = \chi_{82,0} & 1 \\ \end{array}$	Block 22:	$\varphi_{24,0}$
$\begin{array}{c cccc} 82_5 = \chi_{26,1} & 1 \\ 82_{12} = \chi_{30,0} & 1 \\ 82_{13} = \chi_{30,1} & 1 \\ 82_{16} = \chi_{32,0} & 1 \\ 82_{17} = \chi_{32,1} & 1 \\ 82_{18} = \chi_{33,0} & 1 \\ 82_{19} = \chi_{33,1} & 1 \\ 82_{24} = \chi_{36,0} & 1 \\ 82_{25} = \chi_{36,1} & 1 \\ 82_{25} = \chi_{37,0} & 1 \\ 82_{26} = \chi_{37,0} & 1 \\ 82_{32} = \chi_{40,0} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{35} = \chi_{41,1} & 1 \\ 82_{48} = \chi_{70,0} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{56} = \chi_{74,0} & 1 \\ 82_{57} = \chi_{74,1} & 1 \\ 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{64} = \chi_{78,0} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \\ \end{array}$	$82_4 = \chi_{26,0}$	1
$\begin{array}{c ccccc} 82_{12} = \chi_{30,0} & 1 \\ 82_{13} = \chi_{30,1} & 1 \\ 82_{16} = \chi_{32,0} & 1 \\ 82_{17} = \chi_{32,1} & 1 \\ 82_{18} = \chi_{33,0} & 1 \\ 82_{19} = \chi_{33,1} & 1 \\ 82_{24} = \chi_{36,0} & 1 \\ 82_{25} = \chi_{36,1} & 1 \\ 82_{26} = \chi_{37,0} & 1 \\ 82_{27} = \chi_{37,1} & 1 \\ 82_{32} = \chi_{40,0} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{34} = \chi_{41,0} & 1 \\ 82_{49} = \chi_{70,1} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{51} = \chi_{71,1} & 1 \\ 82_{56} = \chi_{74,0} & 1 \\ 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \end{array}$	$\chi_{20,0}^{2}$ $\chi_{20,0}^{2}$ $\chi_{20,1}^{2}$	
$\begin{array}{c ccccc} 82_{13} = \chi_{30,1} & 1 \\ 82_{16} = \chi_{32,0} & 1 \\ 82_{17} = \chi_{32,1} & 1 \\ 82_{18} = \chi_{33,0} & 1 \\ 82_{19} = \chi_{33,1} & 1 \\ 82_{24} = \chi_{36,0} & 1 \\ 82_{25} = \chi_{36,1} & 1 \\ 82_{26} = \chi_{37,0} & 1 \\ 82_{27} = \chi_{37,1} & 1 \\ 82_{32} = \chi_{40,0} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{34} = \chi_{41,0} & 1 \\ 82_{49} = \chi_{70,1} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{57} = \chi_{74,1} & 1 \\ 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{64} = \chi_{78,0} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \\ \end{array}$	$82_{12} = \chi_{30,0}$	
$\begin{array}{c ccccc} 82_{16} &= \chi_{32,0} & 1 \\ 82_{17} &= \chi_{32,1} & 1 \\ 82_{18} &= \chi_{33,0} & 1 \\ 82_{19} &= \chi_{33,1} & 1 \\ 82_{24} &= \chi_{36,0} & 1 \\ 82_{25} &= \chi_{36,1} & 1 \\ 82_{25} &= \chi_{37,0} & 1 \\ 82_{27} &= \chi_{37,1} & 1 \\ 82_{32} &= \chi_{40,0} & 1 \\ 82_{33} &= \chi_{40,1} & 1 \\ 82_{34} &= \chi_{41,0} & 1 \\ 82_{35} &= \chi_{41,1} & 1 \\ \hline \\ 82_{48} &= \chi_{70,0} & 1 \\ 82_{50} &= \chi_{71,0} & 1 \\ 82_{50} &= \chi_{71,0} & 1 \\ 82_{57} &= \chi_{74,1} & 1 \\ 82_{58} &= \chi_{75,0} & 1 \\ 82_{59} &= \chi_{75,1} & 1 \\ 82_{65} &= \chi_{78,1} & 1 \\ 82_{65} &= \chi_{79,0} & 1 \\ 82_{67} &= \chi_{79,1} & 1 \\ 82_{67} &= \chi_{82,0} & 1 \\ \end{array}$	$82_{13} = \chi_{30,1}$	1
$\begin{array}{c ccccc} 82_{17} = \chi_{32,1} & 1 \\ 82_{18} = \chi_{33,0} & 1 \\ 82_{19} = \chi_{33,1} & 1 \\ 82_{24} = \chi_{36,0} & 1 \\ 82_{25} = \chi_{36,1} & 1 \\ 82_{26} = \chi_{37,0} & 1 \\ 82_{27} = \chi_{37,1} & 1 \\ 82_{32} = \chi_{40,0} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{35} = \chi_{41,1} & 1 \\ \end{array}$	$82_{16} = \chi_{32,0}$	1
$\begin{array}{c c c} 82_{18} = \chi_{33,0} & 1 \\ 82_{19} = \chi_{33,1} & 1 \\ 82_{24} = \chi_{36,0} & 1 \\ 82_{25} = \chi_{36,1} & 1 \\ 82_{26} = \chi_{37,0} & 1 \\ 82_{27} = \chi_{37,1} & 1 \\ 82_{32} = \chi_{40,0} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{34} = \chi_{41,0} & 1 \\ 82_{35} = \chi_{41,1} & 1 \\ \end{array}$	$82_{17} = \chi_{32,1}$	1
$\begin{array}{c ccccc} 82_{19} = \chi_{33,1} & 1 \\ 82_{24} = \chi_{36,0} & 1 \\ 82_{25} = \chi_{36,1} & 1 \\ 82_{26} = \chi_{37,0} & 1 \\ 82_{27} = \chi_{37,1} & 1 \\ 82_{32} = \chi_{40,0} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{35} = \chi_{41,1} & 1 \\ 82_{48} = \chi_{70,0} & 1 \\ 82_{49} = \chi_{70,1} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{55} = \chi_{71,0} & 1 \\ 82_{56} = \chi_{74,0} & 1 \\ 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{64} = \chi_{78,0} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{66} = \chi_{79,1} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \\ \end{array}$	$82_{18} = \chi_{33,0}$	1
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$82_{19} = \chi_{33,1}$	1
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		1
$\begin{array}{c c c} 82_{26} = \chi_{37,0} & 1 \\ 82_{27} = \chi_{37,1} & 1 \\ 82_{32} = \chi_{40,0} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{34} = \chi_{41,0} & 1 \\ 82_{35} = \chi_{41,1} & 1 \\ \hline \end{array}$ $\begin{array}{c c c c c c c c c c c c c c c c c c c $		1
$\begin{array}{c ccccc} 82_{27} = \chi_{37,1} & 1 \\ 82_{32} = \chi_{40,0} & 1 \\ 82_{33} = \chi_{40,1} & 1 \\ 82_{34} = \chi_{41,0} & 1 \\ 82_{35} = \chi_{41,1} & 1 \\ \hline \\ 82_{48} = \chi_{70,0} & 1 \\ 82_{49} = \chi_{70,1} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{51} = \chi_{71,1} & 1 \\ 82_{56} = \chi_{74,0} & 1 \\ 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{65} = \chi_{78,1} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \\ \end{array}$		1
$\begin{array}{c ccccc} 82_{33} = \chi_{40,1} & 1 \\ 82_{34} = \chi_{41,0} & 1 \\ 82_{35} = \chi_{41,1} & 1 \\ \hline \\ 82_{48} = \chi_{70,0} & 1 \\ 82_{49} = \chi_{70,1} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{51} = \chi_{71,1} & 1 \\ 82_{56} = \chi_{74,0} & 1 \\ 82_{57} = \chi_{74,1} & 1 \\ 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{64} = \chi_{78,0} & 1 \\ 82_{65} = \chi_{78,1} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \\ \end{array}$		1
$\begin{array}{c ccccc} 82_{34} &= \chi_{41,0} & 1 \\ 82_{35} &= \chi_{41,1} & 1 \\ \hline \\ 82_{48} &= \chi_{70,0} & 1 \\ 82_{49} &= \chi_{70,1} & 1 \\ 82_{50} &= \chi_{71,0} & 1 \\ 82_{51} &= \chi_{71,1} & 1 \\ 82_{56} &= \chi_{74,0} & 1 \\ 82_{57} &= \chi_{74,1} & 1 \\ 82_{58} &= \chi_{75,0} & 1 \\ 82_{59} &= \chi_{75,1} & 1 \\ 82_{64} &= \chi_{78,0} & 1 \\ 82_{65} &= \chi_{78,1} & 1 \\ 82_{66} &= \chi_{79,0} & 1 \\ 82_{67} &= \chi_{79,1} & 1 \\ 82_{72} &= \chi_{82,0} & 1 \\ \end{array}$	$82_{32} = \chi_{40,0}$	1
$\begin{array}{c ccccc} 82_{35} = \chi_{41,1} & 1 \\ \hline \\ 82_{48} = \chi_{70,0} & 1 \\ 82_{49} = \chi_{70,1} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{51} = \chi_{71,1} & 1 \\ 82_{56} = \chi_{74,0} & 1 \\ 82_{57} = \chi_{74,1} & 1 \\ 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{64} = \chi_{78,0} & 1 \\ 82_{65} = \chi_{78,1} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \\ \end{array}$	$82_{33} = \chi_{40,1}$	1
$\begin{array}{c ccccc} 82_{48} = \chi_{70,0} & 1 \\ 82_{49} = \chi_{70,1} & 1 \\ 82_{50} = \chi_{71,0} & 1 \\ 82_{51} = \chi_{71,1} & 1 \\ 82_{56} = \chi_{74,0} & 1 \\ 82_{57} = \chi_{74,1} & 1 \\ 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{64} = \chi_{78,0} & 1 \\ 82_{65} = \chi_{78,1} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \end{array}$		1
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$82_{35} = \chi_{41,1}$	1
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$82_{48} = \chi_{70.0}$	1
$\begin{array}{c c} 82_{50} = \chi_{71,0} \\ 82_{51} = \chi_{71,1} \\ 82_{56} = \chi_{74,0} \\ 82_{57} = \chi_{74,1} \\ 82_{58} = \chi_{75,0} \\ 82_{59} = \chi_{75,1} \\ 82_{64} = \chi_{78,0} \\ 82_{65} = \chi_{78,1} \\ 82_{66} = \chi_{79,0} \\ 82_{67} = \chi_{79,1} \\ 82_{72} = \chi_{82,0} \\ \end{array}$		
$\begin{array}{c cccc} 82_{51} = \chi_{71,1} & 1 \\ 82_{56} = \chi_{74,0} & 1 \\ 82_{57} = \chi_{74,1} & 1 \\ 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{64} = \chi_{78,0} & 1 \\ 82_{65} = \chi_{78,1} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \end{array}$		
$\begin{array}{ccccc} 82_{56} &= \chi_{74,0} & 1 \\ 82_{57} &= \chi_{74,1} & 1 \\ 82_{58} &= \chi_{75,0} & 1 \\ 82_{59} &= \chi_{75,1} & 1 \\ 82_{64} &= \chi_{78,0} & 1 \\ 82_{65} &= \chi_{78,1} & 1 \\ 82_{66} &= \chi_{79,0} & 1 \\ 82_{67} &= \chi_{79,1} & 1 \\ 82_{72} &= \chi_{82,0} & 1 \end{array}$		
$\begin{array}{cccccc} 82_{57} &= \chi_{74,1} & 1 \\ 82_{58} &= \chi_{75,0} & 1 \\ 82_{59} &= \chi_{75,1} & 1 \\ 82_{64} &= \chi_{78,0} & 1 \\ 82_{65} &= \chi_{78,1} & 1 \\ 82_{66} &= \chi_{79,0} & 1 \\ 82_{67} &= \chi_{79,1} & 1 \\ 82_{72} &= \chi_{82,0} & 1 \end{array}$		
$\begin{array}{c cccc} 82_{58} = \chi_{75,0} & 1 \\ 82_{59} = \chi_{75,1} & 1 \\ 82_{64} = \chi_{78,0} & 1 \\ 82_{65} = \chi_{78,1} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \end{array}$		-
$\begin{array}{c c c} 82_{59} = \chi_{75,1} & 1 \\ 82_{64} = \chi_{78,0} & 1 \\ 82_{65} = \chi_{78,1} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \end{array}$	$82_{58} = \chi_{75.0}$	-
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		
$\begin{array}{c c c} 82_{65} = \chi_{78,1} & 1 \\ 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \end{array}$		
$\begin{array}{c c c} 82_{66} = \chi_{79,0} & 1 \\ 82_{67} = \chi_{79,1} & 1 \\ 82_{72} = \chi_{82,0} & 1 \end{array}$	$82_{65} = \chi_{78,1}$	1
$\begin{array}{c c} 82_{67} = \chi_{79,1} \\ 82_{72} = \chi_{82,0} \end{array} \begin{array}{c} 1 \\ 1 \end{array}$	$82_{66} = \chi_{79.0}$	1
$82_{72} = \chi_{82,0}$ 1		1
	$82_{72} = \chi_{82.0}$	1
	$82_{73} = \chi_{82,1}$	1
$82_{74} = \chi_{83,0}$ 1	$82_{74} = \chi_{83,0}$	1
$82_{75} = \chi_{83,1}$ 1	$82_{75} = \chi_{83,1}$	1

$\begin{array}{r c c c c c c c c c c c c c c c c c c c$
$\begin{array}{c ccccc} 827 = \chi_{27,1} & 1 \\ 82_{14} = \chi_{31,0} & 1 \\ 82_{15} = \chi_{31,1} & 1 \\ 82_{20} = \chi_{34,0} & 1 \\ 82_{21} = \chi_{34,1} & 1 \\ 82_{22} = \chi_{35,0} & 1 \\ 82_{23} = \chi_{35,1} & 1 \\ 82_{28} = \chi_{38,0} & 1 \\ 82_{29} = \chi_{38,1} & 1 \\ 82_{30} = \chi_{39,0} & 1 \\ 82_{31} = \chi_{39,1} & 1 \\ 82_{36} = \chi_{42,0} & 1 \\ 82_{37} = \chi_{42,1} & 1 \\ 82_{38} = \chi_{43,0} & 1 \\ 82_{39} = \chi_{43,1} & 1 \\ \end{array}$
$\begin{array}{c cccc} 82_7 = \chi_{27,1} & 1 \\ 82_{14} = \chi_{31,0} & 1 \\ 82_{15} = \chi_{31,1} & 1 \\ 82_{20} = \chi_{34,0} & 1 \\ 82_{21} = \chi_{34,1} & 1 \\ 82_{22} = \chi_{35,0} & 1 \\ 82_{23} = \chi_{35,1} & 1 \\ 82_{28} = \chi_{38,0} & 1 \\ 82_{29} = \chi_{38,1} & 1 \\ 82_{30} = \chi_{39,0} & 1 \\ 82_{31} = \chi_{39,1} & 1 \\ 82_{36} = \chi_{42,0} & 1 \\ 82_{37} = \chi_{42,1} & 1 \\ 82_{38} = \chi_{43,0} & 1 \\ 82_{39} = \chi_{43,1} & 1 \\ \end{array}$
$\begin{array}{c ccccc} 82_{14} = \chi_{31,0} & 1 \\ 82_{15} = \chi_{31,1} & 1 \\ 82_{20} = \chi_{34,0} & 1 \\ 82_{21} = \chi_{34,1} & 1 \\ 82_{22} = \chi_{35,0} & 1 \\ 82_{23} = \chi_{35,1} & 1 \\ 82_{28} = \chi_{38,0} & 1 \\ 82_{29} = \chi_{38,1} & 1 \\ 82_{30} = \chi_{39,0} & 1 \\ 82_{31} = \chi_{39,1} & 1 \\ 82_{36} = \chi_{42,0} & 1 \\ 82_{37} = \chi_{42,1} & 1 \\ 82_{38} = \chi_{43,0} & 1 \\ 82_{39} = \chi_{43,1} & 1 \\ \end{array}$
$\begin{array}{c ccccc} 82_{15} = \chi_{31,1} & 1 \\ 82_{20} = \chi_{34,0} & 1 \\ 82_{21} = \chi_{34,1} & 1 \\ 82_{22} = \chi_{35,0} & 1 \\ 82_{23} = \chi_{35,1} & 1 \\ 82_{28} = \chi_{38,0} & 1 \\ 82_{29} = \chi_{38,1} & 1 \\ 82_{30} = \chi_{39,0} & 1 \\ 82_{31} = \chi_{39,1} & 1 \\ 82_{36} = \chi_{42,0} & 1 \\ 82_{37} = \chi_{42,1} & 1 \\ 82_{38} = \chi_{43,0} & 1 \\ 82_{39} = \chi_{43,1} & 1 \\ \end{array}$
$\begin{array}{c c} 82_{20} = \chi_{34,0} & 1 \\ 82_{21} = \chi_{34,1} & 1 \\ 82_{22} = \chi_{35,0} & 1 \\ 82_{23} = \chi_{35,1} & 1 \\ 82_{28} = \chi_{38,0} & 1 \\ 82_{29} = \chi_{38,1} & 1 \\ 82_{30} = \chi_{39,0} & 1 \\ 82_{31} = \chi_{39,1} & 1 \\ 82_{36} = \chi_{42,0} & 1 \\ 82_{37} = \chi_{42,1} & 1 \\ 82_{38} = \chi_{43,0} & 1 \\ 82_{39} = \chi_{43,1} & 1 \\ \end{array}$
$\begin{array}{c ccccc} 82_{21} & = \chi_{34,1} & 1 \\ 82_{21} & = \chi_{35,0} & 1 \\ 82_{22} & = \chi_{35,1} & 1 \\ 82_{23} & = \chi_{35,1} & 1 \\ 82_{29} & = \chi_{38,1} & 1 \\ 82_{30} & = \chi_{39,0} & 1 \\ 82_{31} & = \chi_{39,1} & 1 \\ 82_{36} & = \chi_{42,0} & 1 \\ 82_{37} & = \chi_{42,1} & 1 \\ 82_{38} & = \chi_{43,0} & 1 \\ 82_{39} & = \chi_{43,1} & 1 \\ \end{array}$
$\begin{array}{cccc} 82_{22} = \chi_{35,0} & 1 \\ 82_{23} = \chi_{35,1} & 1 \\ 82_{28} = \chi_{38,0} & 1 \\ 82_{29} = \chi_{38,1} & 1 \\ 82_{30} = \chi_{39,0} & 1 \\ 82_{31} = \chi_{39,1} & 1 \\ 82_{36} = \chi_{42,0} & 1 \\ 82_{37} = \chi_{42,1} & 1 \\ 82_{38} = \chi_{43,0} & 1 \\ 82_{39} = \chi_{43,1} & 1 \\ \end{array}$
$\begin{array}{c cccc} 82_{23} = \chi_{35,1} & 1 \\ 82_{28} = \chi_{38,0} & 1 \\ 82_{29} = \chi_{38,1} & 1 \\ 82_{30} = \chi_{39,0} & 1 \\ 82_{31} = \chi_{39,1} & 1 \\ 82_{36} = \chi_{42,0} & 1 \\ 82_{37} = \chi_{42,1} & 1 \\ 82_{38} = \chi_{43,0} & 1 \\ 82_{39} = \chi_{43,1} & 1 \\ \end{array}$
$\begin{array}{c c} 82_{28} = \chi_{38,0} & 1 \\ 82_{29} = \chi_{38,1} & 1 \\ 82_{30} = \chi_{39,0} & 1 \\ 82_{31} = \chi_{39,1} & 1 \\ 82_{36} = \chi_{42,0} & 1 \\ 82_{37} = \chi_{42,1} & 1 \\ 82_{38} = \chi_{43,0} & 1 \\ 82_{39} = \chi_{43,1} & 1 \end{array}$
$\begin{array}{c c} 82_{29} = \chi_{38,1} & 1 \\ 82_{30} = \chi_{39,0} & 1 \\ 82_{31} = \chi_{39,1} & 1 \\ 82_{36} = \chi_{42,0} & 1 \\ 82_{37} = \chi_{42,1} & 1 \\ 82_{38} = \chi_{43,0} & 1 \\ 82_{39} = \chi_{43,1} & 1 \\ \end{array}$
$ \begin{array}{c c} 82_{30} = \chi_{39,0} \\ 82_{31} = \chi_{39,1} \\ 82_{36} = \chi_{42,0} \\ 82_{37} = \chi_{42,1} \\ 82_{38} = \chi_{43,0} \\ 82_{39} = \chi_{43,1} \end{array} $
$\begin{array}{c ccccc} 82_{31} & = \chi_{39,1} & 1 \\ 82_{36} & = \chi_{42,0} & 1 \\ 82_{37} & = \chi_{42,1} & 1 \\ 82_{38} & = \chi_{43,0} & 1 \\ 82_{39} & = \chi_{43,1} & 1 \\ \hline \\ 82_{52} & = \chi_{72,0} & 1 \end{array}$
$\begin{array}{c c} 82_{36} = \chi_{42,0} \\ 82_{37} = \chi_{42,1} \\ 82_{38} = \chi_{43,0} \\ 82_{39} = \chi_{43,1} \\ \end{array} \begin{array}{c} 1 \\ 1 \\ 82_{29} = \chi_{43,1} \\ 82_{52} = \chi_{72,0} \\ \end{array}$
$\begin{array}{ccc} 82_{37} = \chi_{42,1} & 1 \\ 82_{38} = \chi_{43,0} & 1 \\ 82_{39} = \chi_{43,1} & 1 \\ \hline \\ 82_{52} = \chi_{72,0} & 1 \end{array}$
$\begin{array}{c c} 82_{38} = \chi_{43,0} & 1\\ 82_{39} = \chi_{43,1} & 1\\ \hline \\ 82_{52} = \chi_{72,0} & 1 \end{array}$
$\begin{array}{c c} 82_{39} = \chi_{43,1} \\ \hline 82_{52} = \chi_{72,0} \\ \hline \end{array} \qquad 1$
$82_{52} = \chi_{72,0}$ 1
$\begin{array}{c c c} 82_{52} = \chi_{72,0} & 1\\ 82_{53} = \chi_{72,1} & 1 \end{array}$
$82_{53} = \chi_{72,1}$ 1
$82_{54} = \chi_{73,0} \qquad 1$
$82_{55} = \chi_{73,1}$ 1
$82_{60} = \chi_{76,0} \qquad 1$
$82_{61} = \chi_{76,1}$ 1
$82_{62} = \chi_{77,0} \qquad 1$
$82_{63} = \chi_{77,1} \qquad 1$
$82_{68} = \chi_{80,0} \qquad 1$
$82_{69} = \chi_{80,1} \qquad 1$
$82_{70} = \chi_{81,0} \qquad 1$
$82_{71} = \chi_{81,1}$ 1
$82_{76} = \chi_{84,0}$ 1
$82_{77} = \chi_{84,1}$ 1
$82_{78} = \chi_{85,0} \qquad 1$
$82_{79} = \chi_{85,1} \qquad 1$