

$$M_{22.2} \pmod{5}$$

	blocks	defect	matrix
$G :$	1	1	5×4
	2	1	5×4
	3	0	$45_1 = \chi_{3,0}, \varphi_{3,0}$
	4	0	$45_2 = \chi_{3,1}, \varphi_{3,1}$
	$5 = \overline{3}$	0	$45_3 = \chi_{4,0}, \varphi_{4,0}$
	$6 = \overline{4}$	0	$45_4 = \chi_{4,1}, \varphi_{4,1}$
	7	0	$55_1 = \chi_{5,0}, \varphi_{5,0}$
	8	0	$55_2 = \chi_{5,1}, \varphi_{5,1}$
	9	0	$210_1 = \chi_{8,0}, \varphi_{8,0}$
	10	0	$210_2 = \chi_{8,1}, \varphi_{8,1}$
	11	0	$560_1 = \chi_{10+}, \varphi_{9+}$
	12	0	$385_1 = \chi_{12,0}, \varphi_{11,0}$
	13	0	$385_2 = \chi_{12,1}, \varphi_{11,1}$
$2.G :$	14	0	$10_1 = \chi_{13,0}, \varphi_{12,0}$
	15	0	$10_2 = \chi_{13,1}, \varphi_{12,1}$
	$16 = \overline{14}$	0	$10_3 = \chi_{14,0}, \varphi_{13,0}$
	$17 = \overline{15}$	0	$10_4 = \chi_{14,1}, \varphi_{13,1}$
	18	1	4×2
	19	0	$120_1 = \chi_{16,0}, \varphi_{16,0}$
	20	0	$120_2 = \chi_{16,1}, \varphi_{16,1}$
	21	0	$210_3 = \chi_{21,0}, \varphi_{19,0}$
	22	0	$210_4 = \chi_{21,1}, \varphi_{19,1}$
	23	0	$330_1 = \chi_{22,0}, \varphi_{20,0}$
	24	0	$330_2 = \chi_{22,1}, \varphi_{20,1}$
	25	0	$440_1 = \chi_{23,0}, \varphi_{21,0}$
	26	0	$440_2 = \chi_{23,1}, \varphi_{21,1}$
$4.G :$	27	1	5×4
	28	0	$320_1 = \chi_{28+}, \varphi_{26+}$
	29	0	$320_2 = \chi_{29+}, \varphi_{27+}$
	30	0	$1120_1 = \chi_{31+}, \varphi_{28+}$
$3.G :$	31	1	5×4
	32	0	$90_1 = \chi_{33+}, \varphi_{30+}$
	$33 = \overline{32}$	0	$90_2 = \chi_{34+}, \varphi_{31+}$
	34	0	$210_5 = \chi_{36+}, \varphi_{33+}$
	35	0	$210_6 = \chi_{37+}, \varphi_{34+}$
	36	0	$420_1 = \chi_{38+}, \varphi_{36+}$
	37	0	$660_1 = \chi_{41+}, \varphi_{38+}$
$6.G :$	38	1	5×4
	39	0	$240_1 = \chi_{45+}, \varphi_{41+}$
	40	0	$420_2 = \chi_{48+}, \varphi_{44+}$

	blocks	defect	matrix
	41	0	$420_3 = \chi_{49+}, \varphi_{45+}$
	42	0	$420_4 = \chi_{50+}, \varphi_{46+}$
	43	0	$660_2 = \chi_{51+}, \varphi_{47+}$
12.G :	44	0	$240_2 = \chi_{53+}, \varphi_{49+}$
	45	0	$240_3 = \chi_{53*17+}, \varphi_{49*17+}$
	$46 = \overline{45}$	0	$240_4 = \chi_{53*7+}, \varphi_{49*7+}$
	$47 = \overline{44}$	0	$240_5 = \chi_{54+}, \varphi_{50+}$
	48	1	5×4
	49	1	5×4

Block 1:	$\varphi_{1,0}$	$\varphi_{2,1}$	$\varphi_{6,0}$	$\varphi_{7,1}$	
$1_1 = \chi_{1,0}$	1	.	.	.	$\varphi_{1,0} = 1_1$
$21_2 = \chi_{2,1}$	.	1	.	.	$\varphi_{2,1} = 21_2$
$99_1 = \chi_{6,0}$	1	.	1	.	$\varphi_{6,0} = 98_1$
$154_2 = \chi_{7,1}$	.	1	.	1	$\varphi_{7,1} = 133_2$
$231_1 = \chi_{9,0}$	.	.	1	1	

Block 2:	$\varphi_{1,1}$	$\varphi_{2,0}$	$\varphi_{6,1}$	$\varphi_{7,0}$	
$1_2 = \chi_{1,1}$	1	.	.	.	$\varphi_{1,1} = 1_2$
$21_1 = \chi_{2,0}$	.	1	.	.	$\varphi_{2,0} = 21_1$
$99_2 = \chi_{6,1}$	1	.	1	.	$\varphi_{6,1} = 98_2$
$154_1 = \chi_{7,0}$	.	1	.	1	$\varphi_{7,0} = 133_1$
$231_2 = \chi_{9,1}$	.	.	1	1	

Block 18:	φ_{14+}	φ_{17+}	
$56_1 = \chi_{15,0}$	1	.	$\varphi_{14+} = 56_1$
$56_2 = \chi_{15,1}$	1	.	$\varphi_{17+} = 252_1$
$252_1 = \chi_{17+}$	.	1	
$308_1 = \chi_{19+}$	1	1	

Block 27:	φ_{22+}	φ_{23+}	φ_{24+}	φ_{25+}
$112_1 = \chi_{24+}$	1	.	.	.
$112_2 = \chi_{25+}$	.	1	.	.
$288_1 = \chi_{26+}$	1	.	1	.
$288_2 = \chi_{27+}$	.	1	.	1
$352_1 = \chi_{30+}$	.	.	1	1

$$\begin{aligned}
\varphi_{22+} &= 112_1 \\
\varphi_{23+} &= 112_2 \\
\varphi_{24+} &= 176_1 \\
\varphi_{25+} &= 176_2
\end{aligned}$$

Block 31:	φ_{29+}	φ_{32+}	φ_{35+}	φ_{37+}
$42_1 = \chi_{32+}$	1	.	.	.
$198_1 = \chi_{35+}$	1	1	.	.
$462_1 = \chi_{39+}$	.	.	.	1
$462_2 = \chi_{40+}$	.	1	1	.
$768_1 = \chi_{42+}$	.	.	1	1

$$\begin{aligned}
\varphi_{29+} &= 42_1 \\
\varphi_{32+} &= 156_1 \\
\varphi_{35+} &= 306_1 \\
\varphi_{37+} &= 462_1
\end{aligned}$$

Block 38:	φ_{39+}	φ_{40+}	φ_{42+}	φ_{43+}
$132_1 = \chi_{43+}$	1	.	.	.
$132_2 = \chi_{44+}$	.	1	.	.
$252_2 = \chi_{46+}$	.	.	1	.
$252_3 = \chi_{47+}$	.	.	.	1
$768_2 = \chi_{52+}$	1	1	1	1

$$\begin{aligned}
\varphi_{39+} &= 132_1 \\
\varphi_{40+} &= 132_2 \\
\varphi_{42+} &= 252_2 \\
\varphi_{43+} &= 252_3
\end{aligned}$$

Block 48:	φ_{48+}	φ_{51+}	φ_{52+}	φ_{53+}
$288_3 = \chi_{55+}$	.	1	.	.
$288_5 = \chi_{56+}$	.	.	1	.
$672_1 = \chi_{57+}$	.	.	.	1
$672_4 = \chi_{58+}$	1	1	1	.
$768_3 = \chi_{59+}$	1	.	.	1

$$\begin{aligned}
\varphi_{48+} &= 96_1 \\
\varphi_{51+} &= 288_1 \\
\varphi_{52+} &= 288_3 \\
\varphi_{53+} &= 672_1
\end{aligned}$$

Block 49:	φ_{48*5+}	φ_{51*29+}	φ_{52*29+}	φ_{53*5+}
$288_4 = \chi_{55*29+}$	.	1	.	.
$288_6 = \chi_{56*29+}$	.	.	1	.
$672_2 = \chi_{57*89+}$	.	.	.	1
$672_3 = \chi_{57*67+}$	1	1	1	.
$768_4 = \chi_{59*5+}$	1	.	.	1

$$\begin{aligned}
\varphi_{48*5+} &= 96_2 \\
\varphi_{51*29+} &= 288_2 \\
\varphi_{52*29+} &= 288_4 \\
\varphi_{53*5+} &= 672_2
\end{aligned}$$