

## $M_{22.2} \pmod{11}$

	blocks	defect	matrix
$G :$	1	1	$11 \times 10$
	2	0	$55_1 = \chi_{5,0}, \varphi_{5,0}$
	3	0	$55_2 = \chi_{5,1}, \varphi_{5,1}$
	4	0	$99_1 = \chi_{6,0}, \varphi_{6,0}$
	5	0	$99_2 = \chi_{6,1}, \varphi_{6,1}$
	6	0	$154_1 = \chi_{7,0}, \varphi_{7,0}$
	7	0	$154_2 = \chi_{7,1}, \varphi_{7,1}$
	8	0	$231_1 = \chi_{9,0}, \varphi_{9,0}$
	9	0	$231_2 = \chi_{9,1}, \varphi_{9,1}$
	10	0	$385_1 = \chi_{12,0}, \varphi_{10,0}$
	11	0	$385_2 = \chi_{12,1}, \varphi_{10,1}$
$2.G :$	12	1	$11 \times 10$
	13	0	$308_1 = \chi_{19+}, \varphi_{16+}$
	14	0	$330_1 = \chi_{22,0}, \varphi_{18,0}$
	15	0	$330_2 = \chi_{22,1}, \varphi_{18,1}$

	blocks	defect	matrix
	16	0	$440_1 = \chi_{23,0}, \varphi_{19,0}$
	17	0	$440_2 = \chi_{23,1}, \varphi_{19,1}$
$4.G :$	18	1	$7 \times 5$
	19	0	$352_1 = \chi_{30+}, \varphi_{25+}$
$3.G :$	20	1	$7 \times 5$
	21	0	$198_1 = \chi_{35+}, \varphi_{30+}$
	22	0	$462_1 = \chi_{39+}, \varphi_{32+}$
	23	0	$462_2 = \chi_{40+}, \varphi_{33+}$
	24	0	$660_1 = \chi_{41+}, \varphi_{34+}$
$6.G :$	25	0	$132_1 = \chi_{43+}, \varphi_{36+}$
	26 = $\overline{25}$	0	$132_2 = \chi_{44+}, \varphi_{37+}$
	27	1	$7 \times 5$
	28	0	$660_2 = \chi_{51+}, \varphi_{42+}$
$12.G :$	29	1	$7 \times 5$
	30	1	$7 \times 5$

<b>Block 1:</b>	$\varphi_{1,0}$	$\varphi_{1,1}$	$\varphi_{2,0}$	$\varphi_{2,1}$	$\varphi_{3,0}$	$\varphi_{3,1}$	$\varphi_{4,0}$	$\varphi_{4,1}$	$\varphi_{8,0}$	$\varphi_{8,1}$
$1_1 = \chi_{1,0}$	1	.	.	.	.	.	.	.	.	.
$1_2 = \chi_{1,1}$	.	1	.	.	.	.	.	.	.	.
$21_1 = \chi_{2,0}$	1	.	1	.	.	.	.	.	.	.
$21_2 = \chi_{2,1}$	.	1	.	1	.	.	.	.	.	.
$45_1 = \chi_{3,0}$	.	.	.	.	1	.	.	.	.	.
$45_2 = \chi_{3,1}$	.	.	.	.	.	1	.	.	.	.
$45_3 = \chi_{4,0}$	.	.	.	.	.	.	1	.	.	.
$45_4 = \chi_{4,1}$	.	.	.	.	.	.	.	1	.	.
$210_1 = \chi_{8,0}$	.	.	1	.	.	.	.	.	1	.
$210_2 = \chi_{8,1}$	.	.	.	1	.	.	.	.	.	1
$560_1 = \chi_{10+}$	.	.	.	.	1	1	1	1	1	1

$$\begin{array}{ll}
 \varphi_{1,0} = 1_1 & \varphi_{3,1} = 45_2 \\
 \varphi_{1,1} = 1_2 & \varphi_{4,0} = 45_3 \\
 \varphi_{2,0} = 20_1 & \varphi_{4,1} = 45_4 \\
 \varphi_{2,1} = 20_2 & \varphi_{8,0} = 190_1 \\
 \varphi_{3,0} = 45_1 & \varphi_{8,1} = 190_2
 \end{array}$$

<b>Block 12:</b>	$\varphi_{11,0}$	$\varphi_{11,1}$	$\varphi_{12,0}$	$\varphi_{12,1}$	$\varphi_{13,0}$	$\varphi_{13,1}$	$\varphi_{14,0}$	$\varphi_{14,1}$	$\varphi_{15,0}$	$\varphi_{15,1}$
$10_1 = \chi_{13,0}$	1	.	.	.	.	.	.	.	.	.
$10_2 = \chi_{13,1}$	.	1	.	.	.	.	.	.	.	.
$10_3 = \chi_{14,0}$	.	.	1	.	.	.	.	.	.	.
$10_4 = \chi_{14,1}$	.	.	.	1	.	.	.	.	.	.
$56_1 = \chi_{15,0}$	.	.	.	.	1	.	.	.	.	.
$56_2 = \chi_{15,1}$	.	.	.	.	.	1	.	.	.	.
$120_1 = \chi_{16,0}$	.	.	.	.	1	.	1	.	.	.
$120_2 = \chi_{16,1}$	.	.	.	.	.	1	.	1	.	.
$252_1 = \chi_{17+}$	.	.	.	.	.	.	.	.	1	1
$210_3 = \chi_{21,0}$	1	.	1	.	.	.	1	.	1	.
$210_4 = \chi_{21,1}$	.	1	.	1	.	.	.	1	.	1

$$\begin{aligned}
\varphi_{11,0} &= 10_1 & \varphi_{13,1} &= 56_2 \\
\varphi_{11,1} &= 10_2 & \varphi_{14,0} &= 64_1 \\
\varphi_{12,0} &= 10_3 & \varphi_{14,1} &= 64_2 \\
\varphi_{12,1} &= 10_4 & \varphi_{15,0} &= 126_1 \\
\varphi_{13,0} &= 56_1 & \varphi_{15,1} &= 126_2
\end{aligned}$$

<b>Block 18:</b>	$\varphi_{20+}$	$\varphi_{21+}$	$\varphi_{22+}$	$\varphi_{23+}$	$\varphi_{24+}$
$112_1 = \chi_{24+}$	1	.	.	.	.
$112_2 = \chi_{25+}$	.	1	.	.	.
$288_1 = \chi_{26+}$	.	.	1	.	.
$288_2 = \chi_{27+}$	.	.	.	1	.
$320_1 = \chi_{28+}$	.	.	.	.	1
$320_2 = \chi_{29+}$	.	.	.	.	1
$1120_1 = \chi_{31+}$	1	1	1	1	1

$$\begin{aligned}
\varphi_{20+} &= 112_1 \\
\varphi_{21+} &= 112_2 \\
\varphi_{22+} &= 288_1 \\
\varphi_{23+} &= 288_2 \\
\varphi_{24+} &= 320_1
\end{aligned}$$

<b>Block 20:</b>	$\varphi_{26+}$	$\varphi_{27+}$	$\varphi_{28+}$	$\varphi_{29+}$	$\varphi_{31+}$
$42_1 = \chi_{32+}$	1	.	.	.	.
$90_1 = \chi_{33+}$	.	1	.	.	.
$90_2 = \chi_{34+}$	.	.	1	.	.
$210_5 = \chi_{36+}$	1	.	.	1	.
$210_6 = \chi_{37+}$	1	.	.	1	.
$420_1 = \chi_{38+}$	.	.	.	.	1
$768_1 = \chi_{42+}$	.	1	1	1	1

$$\begin{aligned}
\varphi_{26+} &= 42_1 \\
\varphi_{27+} &= 90_1 \\
\varphi_{28+} &= 90_2 \\
\varphi_{29+} &= 168_1 \\
\varphi_{31+} &= 420_1
\end{aligned}$$

<b>Block 27:</b>	$\varphi_{35+}$	$\varphi_{38+}$	$\varphi_{39+}$	$\varphi_{40+}$	$\varphi_{41+}$	
$240_1 = \chi_{45+}$	.	.	1	.	.	$\varphi_{35+} = 72_1$
$252_2 = \chi_{46+}$	1	1	.	.	.	$\varphi_{38+} = 180_1$
$252_3 = \chi_{47+}$	1	1	.	.	.	$\varphi_{39+} = 240_1$
$420_2 = \chi_{48+}$	1	.	.	1	.	$\varphi_{40+} = 348_1$
$420_3 = \chi_{49+}$	.	.	.	.	1	$\varphi_{41+} = 420_2$
$420_4 = \chi_{50+}$	.	1	1	.	.	
$768_2 = \chi_{52+}$	.	.	.	1	1	

<b>Block 29:</b>	$\varphi_{43+}$	$\varphi_{44+}$	$\varphi_{45+}$	$\varphi_{46+}$	$\varphi_{47+}$	
$240_2 = \chi_{53+}$	.	.	1	.	.	$\varphi_{43+} = 48_1$
$240_5 = \chi_{54+}$	.	.	.	1	.	$\varphi_{44+} = 48_2$
$288_3 = \chi_{55+}$	1	.	1	.	.	$\varphi_{45+} = 240_2$
$288_5 = \chi_{56+}$	.	1	.	1	.	$\varphi_{46+} = 240_3$
$672_1 = \chi_{57+}$	.	.	.	.	1	$\varphi_{47+} = 672_1$
$672_4 = \chi_{58+}$	.	.	.	.	1	
$768_3 = \chi_{59+}$	1	1	.	.	1	

<b>Block 30:</b>	$\varphi_{48+}$	$\varphi_{49+}$	$\varphi_{50+}$	$\varphi_{51+}$	$\varphi_{52+}$	
$240_3 = \chi_{53*17+}$	.	1	.	.	.	$\varphi_{48+} = 192_1$
$240_4 = \chi_{53*7+}$	.	.	1	.	.	$\varphi_{49+} = 240_4$
$288_4 = \chi_{55*29+}$	.	.	.	1	.	$\varphi_{50+} = 240_5$
$288_6 = \chi_{56*29+}$	.	.	.	.	1	$\varphi_{51+} = 288_3$
$672_2 = \chi_{57*89+}$	1	1	1	.	.	$\varphi_{52+} = 288_4$
$672_3 = \chi_{57*67+}$	1	1	1	.	.	
$768_4 = \chi_{59*5+}$	1	.	.	1	1	