

$S_9 \pmod{5}$

	blocks	defect	matrix
$G :$	1	1	5×4
	2	1	5×4
	3	1	5×4
	4	1	5×4
	5	1	5×4
	6	0	$70_1 = \chi_{7+}, \varphi_{7+}$
	7	0	$105_1 = \chi_{13,0}, \varphi_{11,0}$
	8	0	$105_2 = \chi_{13,1}, \varphi_{11,1}$

	blocks	defect	matrix
	9	0	$120_1 = \chi_{14,0}, \varphi_{12,0}$
	10	0	$120_2 = \chi_{14,1}, \varphi_{12,1}$
$2.G :$	11	1	4×2
	12	1	5×4
	13	0	$240_1 = \chi_{25+}, \varphi_{20+}$
	14	0	$160_1 = \chi_{27,0}, \varphi_{22,0}$
	$15 = \overline{14}$	0	$160_2 = \chi_{27,1}, \varphi_{22,1}$

Block 1:	$\varphi_{1,0}$	$\varphi_{9,1}$	$\varphi_{10,0}$	$\varphi_{13,1}$
$1_1 = \chi_{1,0}$	1	.	.	.
$56_2 = \chi_{11,1}$	.	1	.	.
$84_1 = \chi_{12,0}$	1	.	1	.
$189_2 = \chi_{17,1}$	.	1	.	1
$216_1 = \chi_{18,0}$	.	.	1	1

$$\begin{aligned} \varphi_{1,0} &= 1_1 \\ \varphi_{9,1} &= 56_2 \\ \varphi_{10,0} &= 83_1 \\ \varphi_{13,1} &= 133_2 \end{aligned}$$

Block 2:	$\varphi_{1,1}$	$\varphi_{9,0}$	$\varphi_{10,1}$	$\varphi_{13,0}$
$1_2 = \chi_{1,1}$	1	.	.	.
$56_1 = \chi_{11,0}$	.	1	.	.
$84_2 = \chi_{12,1}$	1	.	1	.
$189_1 = \chi_{17,0}$	.	1	.	1
$216_2 = \chi_{18,1}$	.	.	1	1

$$\begin{aligned} \varphi_{1,1} &= 1_2 \\ \varphi_{9,0} &= 56_1 \\ \varphi_{10,1} &= 83_2 \\ \varphi_{13,0} &= 133_1 \end{aligned}$$

Block 3:	$\varphi_{2,0}$	$\varphi_{5,1}$	$\varphi_{6,0}$	$\varphi_{14,1}$
$8_1 = \chi_{2,0}$	1	.	.	.
$28_2 = \chi_{6,1}$	.	1	.	.
$42_2 = \chi_{9,0}$	1	.	1	.
$162_2 = \chi_{15,1}$	.	1	.	1
$168_2 = \chi_{16,1}$	.	.	1	1

$$\begin{aligned} \varphi_{2,0} &= 8_1 \\ \varphi_{5,1} &= 28_2 \\ \varphi_{6,0} &= 34_1 \\ \varphi_{14,1} &= 134_2 \end{aligned}$$

Block 4:	$\varphi_{2,1}$	$\varphi_{5,0}$	$\varphi_{6,1}$	$\varphi_{14,0}$
$8_2 = \chi_{2,1}$	1	.	.	.
$28_1 = \chi_{6,0}$	.	1	.	.
$42_3 = \chi_{9,1}$	1	.	1	.
$162_1 = \chi_{15,0}$	.	1	.	1
$168_1 = \chi_{16,0}$	.	.	1	1

$$\begin{aligned}\varphi_{2,1} &= 8_2 \\ \varphi_{5,0} &= 28_1 \\ \varphi_{6,1} &= 34_2 \\ \varphi_{14,0} &= 134_1\end{aligned}$$

Block 5:	$\varphi_{3,0}$	$\varphi_{3,1}$	$\varphi_{4,0}$	$\varphi_{4,1}$
$42_1 = \chi_{3+}$	1	1	.	.
$27_1 = \chi_{5,0}$	.	.	1	.
$27_2 = \chi_{5,1}$	.	.	.	1
$48_1 = \chi_{10,0}$	1	.	1	.
$48_2 = \chi_{10,1}$	.	1	.	1

$$\begin{aligned}\varphi_{3,0} &= 21_1 \\ \varphi_{3,1} &= 21_2 \\ \varphi_{4,0} &= 27_1 \\ \varphi_{4,1} &= 27_2\end{aligned}$$

Block 11:	φ_{15+}	φ_{17+}
$16_1 = \chi_{19+}$	1	.
$96_1 = \chi_{21+}$	.	1
$112_1 = \chi_{24,0}$	1	1
$112_2 = \chi_{24,1}$	1	1

$$\begin{aligned}\varphi_{15+} &= 16_1 \\ \varphi_{17+} &= 96_1\end{aligned}$$

Block 12:	$\varphi_{19,0}$	$\varphi_{19,1}$	$\varphi_{23,0}$	$\varphi_{23,1}$
$56_3 = \chi_{23,0}$	1	.	.	.
$56_4 = \chi_{23,1}$	.	1	.	.
$336_1 = \chi_{28+}$	.	.	1	1
$224_1 = \chi_{30,0}$	.	1	1	.
$224_2 = \chi_{30,1}$	1	.	.	1

$$\begin{aligned}\varphi_{19,0} &= 56_3 \\ \varphi_{19,1} &= 56_4 \\ \varphi_{23,0} &= 168_1 \\ \varphi_{23,1} &= 168_2\end{aligned}$$