

# $S_8 \pmod{5}$

	blocks	defect	matrix
$G :$	1	1	$5 \times 4$
	2	1	$5 \times 4$
	3	1	$5 \times 4$
	4	0	$20_1 = \chi_{4,0}, \varphi_{4,0}$
	5	0	$20_2 = \chi_{4,1}, \varphi_{4,1}$
	6	0	$35_1 = \chi_{9,0}, \varphi_{7,0}$

	blocks	defect	matrix
	7	0	$35_2 = \chi_{9,1}, \varphi_{7,1}$
	8	0	$90_1 = \chi_{10+}, \varphi_{9+}$
	9	0	$70_1 = \chi_{14,0}, \varphi_{11,0}$
	10	0	$70_2 = \chi_{14,1}, \varphi_{11,1}$
$2.G :$	11	1	$5 \times 4$
	12	1	$4 \times 2$

<b>Block 1:</b>	$\varphi_{1,0}$	$\varphi_{3,0}$	$\varphi_{5,1}$	$\varphi_{8,1}$
$1_1 = \chi_{1,0}$	1	.	.	.
$14_1 = \chi_{3,0}$	1	1	.	.
$21_2 = \chi_{5,1}$	.	.	1	.
$56_2 = \chi_{12,1}$	.	1	.	1
$64_2 = \chi_{13,1}$	.	.	1	1

$$\begin{aligned} \varphi_{1,0} &= 1_1 \\ \varphi_{3,0} &= 13_1 \\ \varphi_{5,1} &= 21_2 \\ \varphi_{8,1} &= 43_2 \end{aligned}$$

<b>Block 2:</b>	$\varphi_{1,1}$	$\varphi_{3,1}$	$\varphi_{5,0}$	$\varphi_{8,0}$
$1_2 = \chi_{1,1}$	1	.	.	.
$14_2 = \chi_{3,1}$	1	1	.	.
$21_1 = \chi_{5,0}$	.	.	1	.
$56_1 = \chi_{12,0}$	.	1	.	1
$64_1 = \chi_{13,0}$	.	.	1	1

$$\begin{aligned} \varphi_{1,1} &= 1_2 \\ \varphi_{3,1} &= 13_2 \\ \varphi_{5,0} &= 21_1 \\ \varphi_{8,0} &= 43_1 \end{aligned}$$

<b>Block 3:</b>	$\varphi_{2,0}$	$\varphi_{2,1}$	$\varphi_{6,0}$	$\varphi_{6,1}$
$7_1 = \chi_{2,0}$	1	.	.	.
$7_2 = \chi_{2,1}$	.	1	.	.
$42_1 = \chi_{6+}$	.	.	1	1
$28_1 = \chi_{8,0}$	1	.	1	.
$28_2 = \chi_{8,1}$	.	1	.	1

$$\begin{aligned} \varphi_{2,0} &= 7_1 \\ \varphi_{2,1} &= 7_2 \\ \varphi_{6,0} &= 21_3 \\ \varphi_{6,1} &= 21_4 \end{aligned}$$

<b>Block 11:</b>	$\varphi_{12,0}$	$\varphi_{12,1}$	$\varphi_{17,0}$	$\varphi_{17,1}$	
$8_1 = \chi_{15,0}$	1	.	.	.	$\varphi_{12,0} = 8_1$
$8_2 = \chi_{15,1}$	.	1	.	.	$\varphi_{12,1} = 8_2$
$48_2 = \chi_{18,0}$	.	.	1	.	$\varphi_{17,0} = 48_2$
$48_3 = \chi_{18,1}$	.	.	.	1	$\varphi_{17,1} = 48_3$
$112_2 = \chi_{21+}$	1	1	1	1	

<b>Block 12:</b>	$\varphi_{13+}$	$\varphi_{15+}$	
$48_1 = \chi_{16+}$	1	.	$\varphi_{13+} = 48_1$
$112_1 = \chi_{19+}$	1	1	$\varphi_{15+} = 64_1$
$64_3 = \chi_{23,0}$	.	1	
$64_4 = \chi_{23,1}$	.	1	