$S_8 \pmod 7$

	blocks	defect	matrix
$G:$	1	1	7×6
	2	0	$7_1 = \chi_{2,0}, \varphi_{2,0}$
	3	0	$7_2 = \chi_{2,1}, \varphi_{2,1}$
	4	0	$14_1 = \chi_{3,0}, \varphi_{3,0}$
	5	0	$14_2 = \chi_{3,1}, \varphi_{3,1}$
	6	0	$21_1 = \chi_{5,0}, \varphi_{5,0}$
	7	0	$21_2 = \chi_{5,1}, \varphi_{5,1}$
	8	0	$42_1 = \chi_{6+}, \varphi_{6+}$
	9	0	$28_1 = \chi_{8,0}, \varphi_{8,0}$
	10	0	$28_2 = \chi_{8,1}, \varphi_{8,1}$
	11	0	$35_1 = \chi_{9,0}, \varphi_{9,0}$
	12	0	$35_2 = \chi_{9,1}, \varphi_{9,1}$
	13	0	$56_1 = \chi_{12,0}, \varphi_{11,0}$
	14	0	$56_2 = \chi_{12,1}, \varphi_{11,1}$
	15	0	$70_1 = \chi_{14,0}, \varphi_{12,0}$
	16	0	$70_2 = \chi_{14,1}, \varphi_{12,1}$
$2.G:$	17	1	7×6
	18	0	$112_1 = \chi_{19+}, \varphi_{16+}$
	19	0	$112_2 = \chi_{21+}, \varphi_{18+}$

Block 1:	$\varphi_{1,0}$	$\varphi_{1,1}$	$\varphi_{4,0}$	$\varphi_{4,1}$	$\varphi_{10,0}$	$\varphi_{10,1}$
$1_1 = \chi_{1,0}$	1	.	.	.	.	.
$1_2 = \chi_{1,1}$	.	1	.	.	.	.
$20_1 = \chi_{4,0}$	1	.	1	.	.	.
$20_2 = \chi_{4,1}$	.	1	.	1	.	.
$90_1 = \chi_{10+}$	.	.	.	.	1	1
$64_1 = \chi_{13,0}$	.	.	1	.	1	.
$64_2 = \chi_{13,1}$	.	.	.	1	.	1

$$\begin{aligned} \varphi_{1,0} &= 1_1 \\ \varphi_{1,1} &= 1_2 \\ \varphi_{4,0} &= 19_1 \\ \varphi_{4,1} &= 19_2 \\ \varphi_{10,0} &= 45_1 \\ \varphi_{10,1} &= 45_2 \end{aligned}$$

Block 17:	$\varphi_{13,0}$	$\varphi_{13,1}$	$\varphi_{14,0}$	$\varphi_{14,1}$	$\varphi_{15,0}$	$\varphi_{15,1}$
$8_1 = \chi_{15,0}$	1	.	.	.	.	.
$8_2 = \chi_{15,1}$	.	1	.	.	.	.
$48_1 = \chi_{16+}$	1	1	1	1	.	.
$48_2 = \chi_{18,0}$	.	.	.	.	1	.
$48_3 = \chi_{18,1}$	.	.	.	.	.	1
$64_3 = \chi_{23,0}$	.	.	1	.	.	1
$64_4 = \chi_{23,1}$	.	.	.	1	1	.

$$\begin{aligned} \varphi_{13,0} &= 8_1 \\ \varphi_{13,1} &= 8_2 \\ \varphi_{14,0} &= 16_1 \\ \varphi_{14,1} &= 16_2 \\ \varphi_{15,0} &= 48_1 \\ \varphi_{15,1} &= 48_2 \end{aligned}$$