$S_8(2)$ (mod 7)

	blocks	defect	matrix
$G:$	1	1	7×6
	2	0	$35_1 = \chi_2, \varphi_2$
	3	1	7×6
	4	1	7×6
	5	0	$119_1 = \chi_5, \varphi_5$
	6	0	$238_1 = \chi_7, \varphi_7$
	7	0	$595_1 = \chi_9, \varphi_9$
	8	0	$595_2 = \chi_{10}, \varphi_{10}$
	9	0	$1190_1 = \chi_{12}, \varphi_{12}$
	10	0	$1512_1 = \chi_{14}, \varphi_{14}$
	11	0	$1785_1 = \chi_{15}, \varphi_{15}$
	12	0	$1785_2 = \chi_{16}, \varphi_{16}$
	13	0	$2856_1 = \chi_{18}, \varphi_{18}$
	14	0	$2856_2 = \chi_{19}, \varphi_{19}$
	15	0	$2975_1 = \chi_{20}, \varphi_{20}$
	16	0	$2975_2 = \chi_{21}, \varphi_{21}$
	17	0	$3213_1 = \chi_{22}, \varphi_{22}$
	18	0	$3213_2 = \chi_{23}, \varphi_{23}$
	19	0	$3570_1 = \chi_{25}, \varphi_{25}$
	20	0	$3570_2 = \chi_{26}, \varphi_{26}$
	21	0	$3570_3 = \chi_{27}, \varphi_{27}$
	22	0	$3808_1 = \chi_{28}, \varphi_{28}$
	23	0	$4200_1 = \chi_{29}, \varphi_{29}$
	24	0	$4760_1 = \chi_{30}, \varphi_{30}$
	25	0	$5712_1 = \chi_{31}, \varphi_{31}$
	26	0	$5950_1 = \chi_{32}, \varphi_{32}$
	27	0	$5950_2 = \chi_{33}, \varphi_{33}$
	28	0	$7140_1 = \chi_{34}, \varphi_{34}$
	29	0	$8925_1 = \chi_{36}, \varphi_{37}$
	30	0	$8925_2 = \chi_{37}, \varphi_{38}$
	31	0	$8960_1 = \chi_{38}, \varphi_{39}$
	32	0	$9639_1 = \chi_{39}, \varphi_{40}$

	blocks	defect	matrix
	33	0	$11900_1 = \chi_{41}, \varphi_{42}$
	34	0	$11900_2 = \chi_{42}, \varphi_{43}$
	35	0	$14280_1 = \chi_{45}, \varphi_{46}$
	36	0	$14280_2 = \chi_{46}, \varphi_{47}$
	37	0	$16065_1 = \chi_{48}, \varphi_{48}$
	38	0	$16065_2 = \chi_{49}, \varphi_{49}$
	39	0	$16065_3 = \chi_{50}, \varphi_{50}$
	40	0	$16065_4 = \chi_{51}, \varphi_{51}$
	41	0	$16065_5 = \chi_{52}, \varphi_{52}$
	42	0	$17850_1 = \chi_{53}, \varphi_{54}$
	43	0	$17850_2 = \chi_{54}, \varphi_{55}$
	44	0	$19040_1 = \chi_{56}, \varphi_{56}$
	45	0	$23800_1 = \chi_{57}, \varphi_{58}$
	46	0	$23800_2 = \chi_{58}, \varphi_{59}$
	47	0	$26775_1 = \chi_{59}, \varphi_{61}$
	48	0	$26775_2 = \chi_{60}, \varphi_{62}$
	49	0	$28560_1 = \chi_{61}, \varphi_{63}$
	50	0	$28917_1 = \chi_{62}, \varphi_{64}$
	51	0	$30464_1 = \chi_{63}, \varphi_{65}$
	52	0	$32130_1 = \chi_{64}, \varphi_{66}$
	53	0	$32130_2 = \chi_{65}, \varphi_{67}$
	54	0	$32130_3 = \chi_{66}, \varphi_{68}$
	55	0	$38080_1 = \chi_{70}, \varphi_{69}$
	56	0	$38556_1 = \chi_{71}, \varphi_{70}$
	57	0	$42525_1 = \chi_{72}, \varphi_{71}$
	58	0	$42525_2 = \chi_{73}, \varphi_{72}$
	59	0	$47600_1 = \chi_{75}, \varphi_{73}$
	60	0	$48195_1 = \chi_{76}, \varphi_{74}$
	61	0	$51408_1 = \chi_{77}, \varphi_{75}$
	62	0	$53550_1 = \chi_{78}, \varphi_{76}$
	63	0	$57120_1 = \chi_{79}, \varphi_{77}$

Block 1:	φ_1	φ_8	φ_{11}	φ_{44}	φ_{45}	φ_{57}
$1_1 = \chi_1$	1	.	.	.	.	.
$510_1 = \chi_8$	1	1	.	.	.	.
$918_1 = \chi_{11}$	.	.	1	.	.	.
$13056_1 = \chi_{43}$	.	1	.	1	.	.
$13600_1 = \chi_{44}$	.	.	1	.	1	.
$34425_1 = \chi_{67}$	.	.	.	1	.	1
$34560_1 = \chi_{69}$	.	.	.	.	1	1

$$\begin{aligned}\varphi_1 &= 1_1\\ \varphi_8 &= 509_1\\ \varphi_{11} &= 918_1\\ \varphi_{44} &= 12547_1\\ \varphi_{45} &= 12682_1\\ \varphi_{57} &= 21878_1\end{aligned}$$

Block 3:	φ_3	φ_6	φ_{24}	φ_{36}	φ_{41}	φ_{78}
$51_1 = \chi_3$	1	.	.	.	.	.
$135_1 = \chi_6$	.	1	.	.	.	.
$3400_1 = \chi_{24}$	.	1	1	.	.	.
$8160_1 = \chi_{35}$	1	.	.	1	.	.
$14688_1 = \chi_{47}$	.	.	1	.	1	.
$65536_1 = \chi_{80}$	.	.	.	1	.	1
$68850_1 = \chi_{81}$	.	.	.	.	1	1

$$\begin{aligned}\varphi_3 &= 51_1\\ \varphi_6 &= 135_1\\ \varphi_{24} &= 3265_1\\ \varphi_{36} &= 8109_1\\ \varphi_{41} &= 11423_1\\ \varphi_{78} &= 57427_1\end{aligned}$$

Block 4:	φ_4	φ_{13}	φ_{17}	φ_{35}	φ_{53}	φ_{60}
$85_1 = \chi_4$	1	.	.	.	.	.
$1275_1 = \chi_{13}$	.	1	.	.	.	.
$2295_1 = \chi_{17}$	1	.	1	.	.	.
$10200_1 = \chi_{40}$	.	.	1	1	.	.
$18360_1 = \chi_{55}$	.	1	.	.	1	.
$34425_2 = \chi_{68}$	.	.	.	1	.	1
$43520_1 = \chi_{74}$	.	.	.	.	1	1

$$\begin{aligned}\varphi_4 &= 85_1\\ \varphi_{13} &= 1275_1\\ \varphi_{17} &= 2210_1\\ \varphi_{35} &= 7990_1\\ \varphi_{53} &= 17085_1\\ \varphi_{60} &= 26435_1\end{aligned}$$