$S_4(5).2 \pmod 2$

	blocks	defect	matrix
$2.G:$	1	8	34×5
	2	5	16×2
	3	5	16×2
	4	2	4×1
	5	2	4×1
	6	2	4×1

Block 1:	$\varphi_{1,0}$	φ_{2+}	$\varphi_{4,0}$	$\varphi_{5,0}$	φ_{10+}
$1_1 = \chi_{1,0}$	1	.	.	.	.
$1_2 = \chi_{1,1}$	1	.	.	.	.
$26_1 = \chi_{2+}$	2	1	.	.	.
$40_1 = \chi_{4,0}$	.	.	1	.	.
$40_2 = \chi_{4,1}$	.	.	1	.	.
$65_1 = \chi_{5,0}$	1	1	1	.	.
$65_2 = \chi_{5,1}$	1	1	1	.	.
$65_3 = \chi_{6,0}$	1	.	.	1	.
$65_4 = \chi_{6,1}$	1	.	.	1	.
$156_1 = \chi_{7+}$	4	1	.	2	.
$90_1 = \chi_{9,0}$	2	1	.	1	.
$90_2 = \chi_{9,1}$	2	1	.	1	.
$130_1 = \chi_{13,0}$	2	1	1	1	.
$130_2 = \chi_{13,1}$	2	1	1	1	.
$156_2 = \chi_{14,0}$	4	2	1	1	.
$156_3 = \chi_{14,1}$	4	2	1	1	.
$624_2 = \chi_{19+}$	.	2	2	.	1
$650_1 = \chi_{21+}$	2	1	.	2	1
$780_1 = \chi_{23+}$	4	3	2	2	1
$625_1 = \chi_{33,0}$	1	1	1	1	1
$625_2 = \chi_{33,1}$	1	1	1	1	1
$780_2 = \chi_{34,0}$	4	2	1	3	1
$780_3 = \chi_{34,1}$	4	2	1	3	1
$24_1 = \chi_{35+}$	.	1	.	.	.
$104_7 = \chi_{37+}$	.	1	2	.	.
$156_4 = \chi_{40,0}$	4	1	.	2	.
$156_5 = \chi_{40,1}$	4	1	.	2	.
$520_7 = \chi_{43+}$	.	1	.	.	1
$600_1 = \chi_{45+}$	.	1	2	.	1
$936_1 = \chi_{50+}$	8	4	2	4	1
$624_{10} = \chi_{57,0}$	.	.	.	2	1
$624_{11} = \chi_{57,1}$	.	.	.	2	1
$780_4 = \chi_{60,0}$	4	3	2	2	1
$780_5 = \chi_{60,1}$	4	3	2	2	1

$\varphi_{1,0} = 1_1$
$\varphi_{2+} = 24_1$
$\varphi_{4,0} = 40_1$
$\varphi_{5,0} = 64_1$
$\varphi_{10+} = 496_1$

Block 2:	$\varphi_{6,0}$	φ_{8+}
$104_1 = \chi_{10,0}$	1	.
$104_2 = \chi_{10,1}$	1	.
$416_1 = \chi_{15+}$	.	1
$624_1 = \chi_{17+}$	2	1
$520_1 = \chi_{25,0}$	1	1
$520_2 = \chi_{25,1}$	1	1
$624_5 = \chi_{32,0}$	2	1
$624_6 = \chi_{32,1}$	2	1
$104_8 = \chi_{39,0}$	1	.
$104_9 = \chi_{39,1}$	1	.
$416_2 = \chi_{41+}$	.	1
$624_7 = \chi_{47+}$	2	1
$520_8 = \chi_{52,0}$	1	1
$520_9 = \chi_{52,1}$	1	1
$624_8 = \chi_{56,0}$	2	1
$624_9 = \chi_{56,1}$	2	1

$$\begin{aligned} \varphi_{6,0} &= 104_1 \\ \varphi_{8+} &= 416_1 \end{aligned}$$

Block 3:	$\varphi_{7,0}$	$\varphi_{12,0}$
$104_3 = \chi_{11,0}$	1	.
$104_4 = \chi_{11,1}$	1	.
$104_5 = \chi_{12,0}$	1	.
$104_6 = \chi_{12,1}$	1	.
$520_3 = \chi_{26,0}$	1	1
$520_4 = \chi_{26,1}$	1	1
$520_5 = \chi_{27,0}$	1	1
$520_6 = \chi_{27,1}$	1	1
$624_3 = \chi_{31,0}$	2	1
$624_4 = \chi_{31,1}$	2	1
$416_3 = \chi_{49,0}$	.	1
$416_4 = \chi_{49,1}$	.	1
$624_{12} = \chi_{58,0}$	2	1
$624_{13} = \chi_{58,1}$	2	1
$624_{14} = \chi_{59,0}$	2	1
$624_{15} = \chi_{59,1}$	2	1

$$\begin{aligned} \varphi_{7,0} &= 104_2 \\ \varphi_{12,0} &= 416_2 \end{aligned}$$

Block 4:	$\varphi_{13,0}$
$576_1 = \chi_{28,0}$	1
$576_2 = \chi_{28,1}$	1
$576_7 = \chi_{53,0}$	1
$576_8 = \chi_{53,1}$	1

$\varphi_{13,0} = 576_1$

Block 5:	$\varphi_{14,0}$
$576_3 = \chi_{29,0}$	1
$576_4 = \chi_{29,1}$	1
$576_9 = \chi_{54,0}$	1
$576_{10} = \chi_{54,1}$	1

$\varphi_{14,0} = 576_2$

Block 6:	$\varphi_{15,0}$
$576_5 = \chi_{30,0}$	1
$576_6 = \chi_{30,1}$	1
$576_{11} = \chi_{55,0}$	1
$576_{12} = \chi_{55,1}$	1

$\varphi_{15,0} = 576_3$