

$S_4(4).2 \pmod{5}$

	blocks	defect	matrix
$G :$	1	2	16×10
	2	0	$50_1 = \chi_{5,0}, \varphi_{5,0}$
	3	0	$50_2 = \chi_{5,1}, \varphi_{5,1}$
	4	1	5×4
	5	1	5×4
	6	0	$450_1 = \chi_{17+}, \varphi_{9+}$
	7	0	$450_2 = \chi_{19+}, \varphi_{11+}$

Block 1:	$\varphi_{1,0}$	$\varphi_{1,1}$	$\varphi_{2,0}$	$\varphi_{2,1}$	$\varphi_{3,0}$	$\varphi_{3,1}$	$\varphi_{4,0}$	$\varphi_{4,1}$	$\varphi_{8,0}$	$\varphi_{8,1}$
$1_1 = \chi_{1,0}$	1	.	.	.	.	.	.	.	.	.
$1_2 = \chi_{1,1}$	.	1	.	.	.	.	.	.	.	.
$18_1 = \chi_{2,0}$	.	.	1	.	.	.	.	.	.	.
$18_2 = \chi_{2,1}$	.	.	.	1	.	.	.	.	.	.
$34_1 = \chi_{3,0}$	1	.	.	.	1	.	.	.	.	.
$34_2 = \chi_{3,1}$	.	1	.	.	.	1	.	.	.	.
$34_3 = \chi_{4,0}$	1	.	.	.	.	.	1	.	.	.
$34_4 = \chi_{4,1}$	.	1	.	.	.	.	.	1	.	.
$102_1 = \chi_{6+}$	.	.	1	1	.	.	1	1	.	.
$102_2 = \chi_{8+}$	.	.	1	1	1	1	.	.	.	.
$153_1 = \chi_{12,0}$	.	.	.	.	.	.	.	.	1	.
$153_2 = \chi_{12,1}$	.	.	.	.	.	.	.	.	.	1
$408_1 = \chi_{13+}$	.	.	1	1	.	.	1	1	1	1
$408_2 = \chi_{15+}$	.	.	1	1	1	1	.	.	1	1
$256_1 = \chi_{25,0}$	1	.	1	1	1	.	1	.	1	.
$256_2 = \chi_{25,1}$	.	1	1	1	.	1	.	1	.	1

$\varphi_{1,0} = 1_1$	$\varphi_{3,1} = 33_2$
$\varphi_{1,1} = 1_2$	$\varphi_{4,0} = 33_3$
$\varphi_{2,0} = 18_1$	$\varphi_{4,1} = 33_4$
$\varphi_{2,1} = 18_2$	$\varphi_{8,0} = 153_1$
$\varphi_{3,0} = 33_1$	$\varphi_{8,1} = 153_2$

Block 4:	$\varphi_{6,0}$	$\varphi_{6,1}$	$\varphi_{13,0}$	$\varphi_{13,1}$	
$85_1 = \chi_{10,0}$	1	.	.	.	$\varphi_{6,0} = 85_1$
$85_2 = \chi_{10,1}$	.	1	.	.	$\varphi_{6,1} = 85_2$
$510_1 = \chi_{21+}$	.	.	1	1	$\varphi_{13,0} = 255_1$
$340_1 = \chi_{26,0}$	1	.	1	.	$\varphi_{13,1} = 255_2$
$340_2 = \chi_{26,1}$	.	1	.	1	

Block 5:	$\varphi_{7,0}$	$\varphi_{7,1}$	$\varphi_{14,0}$	$\varphi_{14,1}$
$85_3 = \chi_{11,0}$	1	.	.	.
$85_4 = \chi_{11,1}$	.	1	.	.
$510_2 = \chi_{23+}$	.	.	1	1
$340_3 = \chi_{27,0}$	1	.	1	.
$340_4 = \chi_{27,1}$	.	1	.	1

$$\begin{aligned} \varphi_{7,0} &= 85_3 \\ \varphi_{7,1} &= 85_4 \\ \varphi_{14,0} &= 255_3 \\ \varphi_{14,1} &= 255_4 \end{aligned}$$