

## $S_4(5).2 \pmod{13}$

	blocks	defect	matrix		blocks	defect	matrix
$G :$	1	1	$7 \times 4$		31	0	$624_4 = \chi_{31,1}, \varphi_{29,1}$
	2	1	$7 \times 4$		32	0	$624_5 = \chi_{32,0}, \varphi_{30,0}$
	3	0	$26_1 = \chi_{2+}, \varphi_{2+}$		33	0	$624_6 = \chi_{32,1}, \varphi_{30,1}$
	4	0	$65_1 = \chi_{5,0}, \varphi_{5,0}$		34	0	$780_2 = \chi_{34,0}, \varphi_{31,0}$
	5	0	$65_2 = \chi_{5,1}, \varphi_{5,1}$		35	0	$780_3 = \chi_{34,1}, \varphi_{31,1}$
	6	0	$65_3 = \chi_{6,0}, \varphi_{6,0}$	$2.G :$	36	1	$8 \times 2$
	7	0	$65_4 = \chi_{6,1}, \varphi_{6,1}$		37	0	$104_7 = \chi_{37+}, \varphi_{34+}$
	8	0	$156_1 = \chi_{7+}, \varphi_{7+}$		38	0	$104_8 = \chi_{39,0}, \varphi_{36,0}$
	9	0	$104_1 = \chi_{10,0}, \varphi_{10,0}$		39	0	$104_9 = \chi_{39,1}, \varphi_{36,1}$
	10	0	$104_2 = \chi_{10,1}, \varphi_{10,1}$		40	0	$156_4 = \chi_{40,0}, \varphi_{37,0}$
	11	0	$104_3 = \chi_{11,0}, \varphi_{11,0}$		41	0	$156_5 = \chi_{40,1}, \varphi_{37,1}$
	12	0	$104_4 = \chi_{11,1}, \varphi_{11,1}$		42	0	$416_2 = \chi_{41+}, \varphi_{38+}$
	13	0	$104_5 = \chi_{12,0}, \varphi_{12,0}$		43	0	$520_7 = \chi_{43+}, \varphi_{40+}$
	14	0	$104_6 = \chi_{12,1}, \varphi_{12,1}$		44	0	$624_7 = \chi_{47+}, \varphi_{44+}$
	15	0	$130_1 = \chi_{13,0}, \varphi_{13,0}$		45	0	$416_3 = \chi_{49,0}, \varphi_{46,0}$
	16	0	$130_2 = \chi_{13,1}, \varphi_{13,1}$		46	0	$416_4 = \chi_{49,1}, \varphi_{46,1}$
	17	0	$156_2 = \chi_{14,0}, \varphi_{14,0}$		47	0	$936_1 = \chi_{50+}, \varphi_{47+}$
	18	0	$156_3 = \chi_{14,1}, \varphi_{14,1}$		48	0	$520_8 = \chi_{52,0}, \varphi_{49,0}$
	19	0	$416_1 = \chi_{15+}, \varphi_{15+}$		49	0	$520_9 = \chi_{52,1}, \varphi_{49,1}$
	20	0	$624_1 = \chi_{17+}, \varphi_{17+}$		50	0	$624_8 = \chi_{56,0}, \varphi_{50,0}$
	21	0	$624_2 = \chi_{19+}, \varphi_{19+}$		51	0	$624_9 = \chi_{56,1}, \varphi_{50,1}$
	22	0	$650_1 = \chi_{21+}, \varphi_{21+}$		52	0	$624_{10} = \chi_{57,0}, \varphi_{51,0}$
	23	0	$780_1 = \chi_{23+}, \varphi_{23+}$		53	0	$624_{11} = \chi_{57,1}, \varphi_{51,1}$
	24	0	$520_1 = \chi_{25,0}, \varphi_{25,0}$		54	0	$624_{12} = \chi_{58,0}, \varphi_{52,0}$
	25	0	$520_2 = \chi_{25,1}, \varphi_{25,1}$		55	0	$624_{13} = \chi_{58,1}, \varphi_{52,1}$
	26	0	$520_3 = \chi_{26,0}, \varphi_{26,0}$		56	0	$624_{14} = \chi_{59,0}, \varphi_{53,0}$
	27	0	$520_4 = \chi_{26,1}, \varphi_{26,1}$		57	0	$624_{15} = \chi_{59,1}, \varphi_{53,1}$
	28	0	$520_5 = \chi_{27,0}, \varphi_{27,0}$		58	0	$780_4 = \chi_{60,0}, \varphi_{54,0}$
	29	0	$520_6 = \chi_{27,1}, \varphi_{27,1}$		59	0	$780_5 = \chi_{60,1}, \varphi_{54,1}$
	30	0	$624_3 = \chi_{31,0}, \varphi_{29,0}$				

Block 1:	$\varphi_{1,0}$	$\varphi_{4,1}$	$\varphi_{9,0}$	$\varphi_{28,1}$
$1_1 = \chi_{1,0}$	1	.	.	.
$40_2 = \chi_{4,1}$	.	1	.	.
$90_1 = \chi_{9,0}$	1	.	1	.
$576_2 = \chi_{28,1}$	.	1	.	1
$576_4 = \chi_{29,1}$	.	1	.	1
$576_6 = \chi_{30,1}$	.	1	.	1
$625_2 = \chi_{33,1}$	.	.	1	1

$$\begin{aligned}
 \varphi_{1,0} &= 1_1 \\
 \varphi_{4,1} &= 40_2 \\
 \varphi_{9,0} &= 89_1 \\
 \varphi_{28,1} &= 536_2
 \end{aligned}$$

<b>Block 2:</b>	$\varphi_{1,1}$	$\varphi_{4,0}$	$\varphi_{9,1}$	$\varphi_{28,0}$	
$1_2 = \chi_{1,1}$	1	.	.	.	$\varphi_{1,1} = 1_2$
$40_1 = \chi_{4,0}$	.	1	.	.	$\varphi_{4,0} = 40_1$
$90_2 = \chi_{9,1}$	1	.	1	.	$\varphi_{9,1} = 89_2$
$576_1 = \chi_{28,0}$	.	1	.	1	$\varphi_{28,0} = 536_1$
$576_3 = \chi_{29,0}$	.	1	.	1	
$576_5 = \chi_{30,0}$	.	1	.	1	
$625_1 = \chi_{33,0}$	.	.	1	1	

<b>Block 36:</b>	$\varphi_{32+}$	$\varphi_{42+}$	
$24_1 = \chi_{35+}$	1	.	
$600_1 = \chi_{45+}$	1	1	
$576_7 = \chi_{53,0}$	.	1	$\varphi_{32+} = 24_1$
$576_8 = \chi_{53,1}$	.	1	$\varphi_{42+} = 576_1$
$576_9 = \chi_{54,0}$	.	1	
$576_{10} = \chi_{54,1}$	.	1	
$576_{11} = \chi_{55,0}$	.	1	
$576_{12} = \chi_{55,1}$	.	1	