

$S_4(5) \pmod{13}$

	blocks	defect	matrix
$G :$	1	1	7×4
	2	0	$13_1 = \chi_2, \varphi_2$
	3	0	$13_2 = \chi_3, \varphi_3$
	4	0	$65_1 = \chi_5, \varphi_5$
	5	0	$65_2 = \chi_6, \varphi_6$
	6	0	$78_1 = \chi_7, \varphi_7$
	7	0	$78_2 = \chi_8, \varphi_8$
	8	0	$104_1 = \chi_{10}, \varphi_{10}$
	9	0	$104_2 = \chi_{11}, \varphi_{11}$
	10	0	$104_3 = \chi_{12}, \varphi_{12}$
	11	0	$130_1 = \chi_{13}, \varphi_{13}$
	12	0	$156_1 = \chi_{14}, \varphi_{14}$
	13	0	$208_1 = \chi_{15}, \varphi_{15}$
	14	0	$208_2 = \chi_{16}, \varphi_{16}$
	15	0	$312_1 = \chi_{17}, \varphi_{17}$
	16	0	$312_2 = \chi_{18}, \varphi_{18}$
	17	0	$312_3 = \chi_{19}, \varphi_{19}$
	18	0	$312_4 = \chi_{20}, \varphi_{20}$
	19	0	$325_1 = \chi_{21}, \varphi_{21}$
	20	0	$325_2 = \chi_{22}, \varphi_{22}$
	21	0	$390_1 = \chi_{23}, \varphi_{23}$
	22	0	$390_2 = \chi_{24}, \varphi_{24}$
	23	0	$520_1 = \chi_{25}, \varphi_{25}$
	24	0	$520_2 = \chi_{26}, \varphi_{26}$

	blocks	defect	matrix
	25	0	$520_3 = \chi_{27}, \varphi_{27}$
	26	0	$624_1 = \chi_{31}, \varphi_{29}$
	27	0	$624_2 = \chi_{32}, \varphi_{30}$
	28	0	$780_1 = \chi_{34}, \varphi_{31}$
$2.G :$	29	1	7×4
	30	0	$52_1 = \chi_{37}, \varphi_{34}$
	31	0	$52_2 = \chi_{38}, \varphi_{35}$
	32	0	$104_4 = \chi_{39}, \varphi_{36}$
	33	0	$156_2 = \chi_{40}, \varphi_{37}$
	34	0	$208_3 = \chi_{41}, \varphi_{38}$
	35	0	$208_4 = \chi_{42}, \varphi_{39}$
	36	0	$260_1 = \chi_{43}, \varphi_{40}$
	37	0	$260_2 = \chi_{44}, \varphi_{41}$
	38	0	$312_5 = \chi_{47}, \varphi_{44}$
	39	0	$312_6 = \chi_{48}, \varphi_{45}$
	40	0	$416_1 = \chi_{49}, \varphi_{46}$
	41	0	$468_1 = \chi_{50}, \varphi_{47}$
	42	0	$468_2 = \chi_{51}, \varphi_{48}$
	43	0	$520_4 = \chi_{52}, \varphi_{49}$
	44	0	$624_3 = \chi_{56}, \varphi_{50}$
	45	0	$624_4 = \chi_{57}, \varphi_{51}$
	46	0	$624_5 = \chi_{58}, \varphi_{52}$
	47	0	$624_6 = \chi_{59}, \varphi_{53}$
	48	0	$780_2 = \chi_{60}, \varphi_{54}$

Block 1:	φ_1	φ_4	φ_9	φ_{28}
$1_1 = \chi_1$	1	.	.	.
$40_1 = \chi_4$	.	1	.	.
$90_1 = \chi_9$	1	.	1	.
$576_1 = \chi_{28}$	.	1	.	1
$576_2 = \chi_{29}$	.	1	.	1
$576_3 = \chi_{30}$	.	1	.	1
$625_1 = \chi_{33}$	.	.	1	1

$$\begin{aligned}
 \varphi_1 &= 1_1 \\
 \varphi_4 &= 40_1 \\
 \varphi_9 &= 89_1 \\
 \varphi_{28} &= 536_1
 \end{aligned}$$

Block 29:	φ_{32}	φ_{33}	φ_{42}	φ_{43}
$12_1 = \chi_{35}$	1	.	.	.
$12_2 = \chi_{36}$	.	1	.	.
$300_1 = \chi_{45}$	.	1	1	.
$300_2 = \chi_{46}$	1	.	.	1
$576_4 = \chi_{53}$	.	.	1	1
$576_5 = \chi_{54}$	.	.	1	1
$576_6 = \chi_{55}$	.	.	1	1

$$\begin{aligned} \varphi_{32} &= 12_1 \\ \varphi_{33} &= 12_2 \\ \varphi_{42} &= 288_1 \\ \varphi_{43} &= 288_2 \end{aligned}$$