$HS.2$ (mod 7)

	blocks	defect	matrix
$G:$	1	1	7×6
	2	1	7×6
	3	0	$77_1 = \chi_{3,0}, \varphi_{3,0}$
	4	0	$77_2 = \chi_{3,1}, \varphi_{3,1}$
	5	0	$154_1 = \chi_{4,0}, \varphi_{4,0}$
	6	0	$154_2 = \chi_{4,1}, \varphi_{4,1}$
	7	0	$308_1 = \chi_{5+}, \varphi_{5+}$
	8	0	$175_1 = \chi_{7,0}, \varphi_{7,0}$
	9	0	$175_2 = \chi_{7,1}, \varphi_{7,1}$
	10	0	$231_1 = \chi_{8,0}, \varphi_{8,0}$
	11	0	$231_2 = \chi_{8,1}, \varphi_{8,1}$
	12	0	$693_1 = \chi_{9,0}, \varphi_{10,0}$
	13	0	$693_2 = \chi_{9,1}, \varphi_{10,1}$
	14	0	$770_1 = \chi_{10,0}, \varphi_{11,0}$
	15	0	$770_2 = \chi_{10,1}, \varphi_{11,1}$
	16	0	$1540_1 = \chi_{11+}, \varphi_{12+}$
	17	0	$1792_1 = \chi_{14+}, \varphi_{15+}$
	18	0	$1386_1 = \chi_{17,0}, \varphi_{18,0}$
	19	0	$1386_2 = \chi_{17,1}, \varphi_{18,1}$
	20	0	$1750_1 = \chi_{19,0}, \varphi_{19,0}$
	21	0	$1750_2 = \chi_{19,1}, \varphi_{19,1}$
	22	0	$1925_1 = \chi_{20,0}, \varphi_{20,0}$
	23	0	$1925_2 = \chi_{20,1}, \varphi_{20,1}$
	24	0	$1925_3 = \chi_{21,0}, \varphi_{21,0}$
	25	0	$1925_4 = \chi_{21,1}, \varphi_{21,1}$
	26	0	$2520_1 = \chi_{22,0}, \varphi_{23,0}$
	27	0	$2520_2 = \chi_{22,1}, \varphi_{23,1}$
$2.G:$	28	0	$56_1 = \chi_{25,0}, \varphi_{24,0}$
	29	0	$56_2 = \chi_{25,1}, \varphi_{24,1}$
	30	1	5×3
	31	0	$1232_1 = \chi_{28+}, \varphi_{29+}$
	32	0	$1848_1 = \chi_{30+}, \varphi_{31+}$
	33	0	$2464_1 = \chi_{33+}, \varphi_{33+}$
	34	0	$1792_2 = \chi_{35,0}, \varphi_{35,0}$
	$35 = \overline{34}$	0	$1792_3 = \chi_{35,1}, \varphi_{35,1}$
	36	0	$1848_2 = \chi_{36,0}, \varphi_{38,0}$
	$37 = \overline{36}$	0	$1848_3 = \chi_{36,1}, \varphi_{38,1}$
	38	0	$2520_3 = \chi_{41,0}, \varphi_{39,0}$
	$39 = \overline{38}$	0	$2520_4 = \chi_{41,1}, \varphi_{39,1}$
	40	0	$2520_5 = \chi_{42,0}, \varphi_{40,0}$
	$41 = \overline{40}$	0	$2520_6 = \chi_{42,1}, \varphi_{40,1}$

Block 1:	$\varphi_{1,0}$	$\varphi_{2,0}$	$\varphi_{9,0}$	$\varphi_{14,0}$	$\varphi_{17,0}$	$\varphi_{22,0}$
$1_1 = \chi_{1,0}$	1	.	.	.	.	.
$22_1 = \chi_{2,0}$	.	1	.	.	.	.
$825_1 = \chi_{13,0}$	.	1	.	1	.	.
$1056_1 = \chi_{16,0}$	1	.	.	.	1	.
$1408_1 = \chi_{18,0}$	.	.	1	1	.	.
$2750_1 = \chi_{23,0}$	.	.	1	.	.	1
$3200_1 = \chi_{24,0}$	.	.	.	.	1	1

$\varphi_{1,0} = 1_1$
$\varphi_{2,0} = 22_1$
$\varphi_{9,0} = 605_1$
$\varphi_{14,0} = 803_1$
$\varphi_{17,0} = 1055_1$
$\varphi_{22,0} = 2145_1$

Block 2:	$\varphi_{1,1}$	$\varphi_{2,1}$	$\varphi_{9,1}$	$\varphi_{14,1}$	$\varphi_{17,1}$	$\varphi_{22,1}$
$1_2 = \chi_{1,1}$	1	.	.	.	.	.
$22_2 = \chi_{2,1}$	.	1	.	.	.	.
$825_2 = \chi_{13,1}$	.	1	.	1	.	.
$1056_2 = \chi_{16,1}$	1	.	.	.	1	.
$1408_2 = \chi_{18,1}$	.	.	1	1	.	.
$2750_2 = \chi_{23,1}$	.	.	1	.	.	1
$3200_2 = \chi_{24,1}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_{1,1} &= 1_2 \\ \varphi_{2,1} &= 22_2 \\ \varphi_{9,1} &= 605_2 \\ \varphi_{14,1} &= 803_2 \\ \varphi_{17,1} &= 1055_2 \\ \varphi_{22,1} &= 2145_2 \end{aligned}$$

Block 30:	φ_{25+}	φ_{27+}	φ_{36+}
$352_1 = \chi_{26+}$	1	.	.
$1000_1 = \chi_{32,0}$	.	1	.
$1000_2 = \chi_{32,1}$	.	1	.
$3960_1 = \chi_{37+}$	1	.	1
$4608_1 = \chi_{39+}$	.	1	1

$$\begin{aligned} \varphi_{25+} &= 352_1 \\ \varphi_{27+} &= 1000_1 \\ \varphi_{36+} &= 3608_1 \end{aligned}$$