$A_{13}.2 \pmod 7$

	blocks	defect	matrix
$G:$	1	1	7×6
	2	1	7×6
	3	1	7×6
	4	1	7×6
	5	1	7×6
	6	1	7×6
	7	1	7×6
	8	1	7×6
	9	1	7×6
	10	1	7×6
	11	1	7×6
	12	0	$924_1 = \chi_{10+}, \varphi_{10+}$
	13	0	$1365_1 = \chi_{17,0}, \varphi_{18,0}$
	14	0	$1365_2 = \chi_{17,1}, \varphi_{18,1}$
	15	0	$3003_1 = \chi_{22,0}, \varphi_{27,0}$
	16	0	$3003_2 = \chi_{22,1}, \varphi_{27,1}$
	17	0	$3640_1 = \chi_{27,0}, \varphi_{29,0}$
	18	0	$3640_2 = \chi_{27,1}, \varphi_{29,1}$
	19	0	$4004_1 = \chi_{28,0}, \varphi_{30,0}$
	20	0	$4004_2 = \chi_{28,1}, \varphi_{30,1}$
	21	0	$5005_1 = \chi_{33,0}, \varphi_{33,0}$

	blocks	defect	matrix
	22	0	$5005_2 = \chi_{33,1}, \varphi_{33,1}$
	23	0	$6006_1 = \chi_{36,0}, \varphi_{35,0}$
	24	0	$6006_2 = \chi_{36,1}, \varphi_{35,1}$
	25	0	$7371_1 = \chi_{39,0}, \varphi_{38,0}$
	26	0	$7371_2 = \chi_{39,1}, \varphi_{38,1}$
	27	0	$16016_1 = \chi_{41+}, \varphi_{39+}$
	28	0	$9009_1 = \chi_{44,0}, \varphi_{43,0}$
	29	0	$9009_2 = \chi_{44,1}, \varphi_{43,1}$
	30	0	$12012_1 = \chi_{49,0}, \varphi_{45,0}$
	31	0	$12012_2 = \chi_{49,1}, \varphi_{45,1}$
	32	0	$12012_3 = \chi_{50,0}, \varphi_{46,0}$
	33	0	$12012_4 = \chi_{50,1}, \varphi_{46,1}$
	34	0	$15015_1 = \chi_{52,0}, \varphi_{48,0}$
	35	0	$15015_2 = \chi_{52,1}, \varphi_{48,1}$
$2.G:$	36	1	5×3
	37	1	7×6
	38	1	7×6
	39	1	5×3
	40	0	$4928_1 = \chi_{64,0}, \varphi_{60,0}$
	$41 = \overline{40}$	0	$4928_2 = \chi_{64,1}, \varphi_{60,1}$
	42	0	$32032_1 = \chi_{79+}, \varphi_{68+}$

Block 1:	$\varphi_{1,0}$	$\varphi_{14,1}$	$\varphi_{17,0}$	$\varphi_{28,1}$	$\varphi_{32,0}$	$\varphi_{34,0}$
$1_1 = \chi_{1,0}$	1	.	.	.	.	.
$792_2 = \chi_{14,1}$	.	1	.	.	.	.
$1287_1 = \chi_{16,0}$	1	.	1	.	.	.
$4290_2 = \chi_{30,1}$	.	1	.	1	.	.
$5720_1 = \chi_{35,0}$	.	.	1	.	1	.
$9360_1 = \chi_{45,0}$	.	.	.	1	.	1
$10296_1 = \chi_{46,0}$	.	.	.	.	1	1

$\varphi_{1,0} = 1_1$
$\varphi_{14,1} = 792_2$
$\varphi_{17,0} = 1286_1$
$\varphi_{28,1} = 3498_2$
$\varphi_{32,0} = 4434_1$
$\varphi_{34,0} = 5862_1$

Block 2:	$\varphi_{1,1}$	$\varphi_{14,0}$	$\varphi_{17,1}$	$\varphi_{28,0}$	$\varphi_{32,1}$	$\varphi_{34,1}$
$1_2 = \chi_{1,1}$	1	.	.	.	.	.
$792_1 = \chi_{14,0}$	.	1	.	.	.	.
$1287_2 = \chi_{16,1}$	1	.	1	.	.	.
$4290_1 = \chi_{30,0}$	.	1	.	1	.	.
$5720_2 = \chi_{35,1}$	.	.	1	.	1	.
$9360_2 = \chi_{45,1}$	.	.	.	1	.	1
$10296_2 = \chi_{46,1}$	.	.	.	.	1	1

$$\begin{aligned}\varphi_{1,1} &= 1_2\\ \varphi_{14,0} &= 792_1\\ \varphi_{17,1} &= 1286_2\\ \varphi_{28,0} &= 3498_1\\ \varphi_{32,1} &= 4434_2\\ \varphi_{34,1} &= 5862_2\end{aligned}$$

Block 3:	$\varphi_{2,0}$	$\varphi_{8,0}$	$\varphi_{12,1}$	$\varphi_{37,1}$	$\varphi_{41,0}$	$\varphi_{47,1}$
$12_1 = \chi_{2,0}$	1	.	.	.	.	.
$429_5 = \chi_{9,0}$	1	1	.	.	.	.
$495_2 = \chi_{12,1}$	.	.	1	.	.	.
$7800_2 = \chi_{40,1}$	.	.	1	1	.	.
$8580_2 = \chi_{43,0}$	.	1	.	.	1	.
$20592_2 = \chi_{54,1}$	.	.	.	1	.	1
$21450_1 = \chi_{55,0}$	.	.	.	.	1	1

$$\begin{aligned}\varphi_{2,0} &= 12_1\\ \varphi_{8,0} &= 417_1\\ \varphi_{12,1} &= 495_2\\ \varphi_{37,1} &= 7305_2\\ \varphi_{41,0} &= 8163_1\\ \varphi_{47,1} &= 13287_2\end{aligned}$$

Block 4:	$\varphi_{2,1}$	$\varphi_{8,1}$	$\varphi_{12,0}$	$\varphi_{37,0}$	$\varphi_{41,1}$	$\varphi_{47,0}$
$12_2 = \chi_{2,1}$	1	.	.	.	.	.
$429_6 = \chi_{9,1}$	1	1	.	.	.	.
$495_1 = \chi_{12,0}$	.	.	1	.	.	.
$7800_1 = \chi_{40,0}$	.	.	1	1	.	.
$8580_3 = \chi_{43,1}$	.	1	.	.	1	.
$20592_1 = \chi_{54,0}$	.	.	.	1	.	1
$21450_2 = \chi_{55,1}$	.	.	.	.	1	1

$$\begin{aligned}\varphi_{2,1} &= 12_2\\ \varphi_{8,1} &= 417_2\\ \varphi_{12,0} &= 495_1\\ \varphi_{37,0} &= 7305_1\\ \varphi_{41,1} &= 8163_2\\ \varphi_{47,0} &= 13287_1\end{aligned}$$

Block 5:	$\varphi_{3,0}$	$\varphi_{13,0}$	$\varphi_{19,1}$	$\varphi_{24,1}$	$\varphi_{26,0}$	$\varphi_{42,1}$
$65_1 = \chi_{3,0}$	1	.	.	.	.	.
$572_1 = \chi_{13,0}$	1	1	.	.	.	.
$1430_2 = \chi_{18,1}$	.	.	1	.	.	.
$3432_3 = \chi_{24,0}$	.	1	.	.	1	.
$4212_2 = \chi_{29,1}$	.	.	1	1	.	.
$11440_2 = \chi_{47,1}$	.	.	.	1	.	1
$11583_2 = \chi_{48,1}$	.	.	.	.	1	1

$$\begin{aligned}\varphi_{3,0} &= 65_1\\ \varphi_{13,0} &= 507_1\\ \varphi_{19,1} &= 1430_2\\ \varphi_{24,1} &= 2782_2\\ \varphi_{26,0} &= 2925_1\\ \varphi_{42,1} &= 8658_2\end{aligned}$$

Block 6:	$\varphi_{3,1}$	$\varphi_{13,1}$	$\varphi_{19,0}$	$\varphi_{24,0}$	$\varphi_{26,1}$	$\varphi_{42,0}$
$65_2 = \chi_{3,1}$	1	.	.	.	.	.
$572_2 = \chi_{13,1}$	1	1	.	.	.	.
$1430_1 = \chi_{18,0}$	.	.	1	.	.	.
$3432_4 = \chi_{24,1}$	.	1	.	.	1	.
$4212_1 = \chi_{29,0}$	.	.	1	1	.	.
$11440_1 = \chi_{47,0}$	.	.	.	1	.	1
$11583_1 = \chi_{48,0}$	.	.	.	.	1	1

$$\begin{aligned}\varphi_{3,1} &= 65_2\\ \varphi_{13,1} &= 507_2\\ \varphi_{19,0} &= 1430_1\\ \varphi_{24,0} &= 2782_1\\ \varphi_{26,1} &= 2925_2\\ \varphi_{42,0} &= 8658_1\end{aligned}$$

Block 7:	$\varphi_{4,0}$	$\varphi_{6,1}$	$\varphi_{22,0}$	$\varphi_{25,0}$	$\varphi_{36,1}$	$\varphi_{44,1}$
$66_1 = \chi_{4,0}$	1	.	.	.	.	.
$220_2 = \chi_{6,1}$	.	1	.	.	.	.
$2860_1 = \chi_{21,0}$	1	.	.	1	.	.
$5148_1 = \chi_{34,0}$	.	.	1	1	.	.
$6864_2 = \chi_{38,1}$	.	1	.	.	1	.
$12870_2 = \chi_{51,1}$	.	.	1	.	.	1
$17160_2 = \chi_{53,1}$	.	.	.	.	1	1

$$\begin{aligned}\varphi_{4,0} &= 66_1\\ \varphi_{6,1} &= 220_2\\ \varphi_{22,0} &= 2354_1\\ \varphi_{25,0} &= 2794_1\\ \varphi_{36,1} &= 6644_2\\ \varphi_{44,1} &= 10516_2\end{aligned}$$

Block 8:	$\varphi_{4,1}$	$\varphi_{6,0}$	$\varphi_{22,1}$	$\varphi_{25,1}$	$\varphi_{36,0}$	$\varphi_{44,0}$
$66_2 = \chi_{4,1}$	1	.	.	.	.	.
$220_1 = \chi_{6,0}$	.	1	.	.	.	.
$2860_2 = \chi_{21,1}$	1	.	.	1	.	.
$5148_2 = \chi_{34,1}$	.	.	1	1	.	.
$6864_1 = \chi_{38,0}$	.	1	.	.	1	.
$12870_1 = \chi_{51,0}$	.	.	1	.	.	1
$17160_1 = \chi_{53,0}$	.	.	.	.	1	1

$$\begin{aligned}\varphi_{4,1} &= 66_2\\ \varphi_{6,0} &= 220_1\\ \varphi_{22,1} &= 2354_2\\ \varphi_{25,1} &= 2794_2\\ \varphi_{36,0} &= 6644_1\\ \varphi_{44,0} &= 10516_1\end{aligned}$$

Block 9:	$\varphi_{5,0}$	$\varphi_{7,0}$	$\varphi_{15,1}$	$\varphi_{16,1}$	$\varphi_{21,0}$	$\varphi_{23,1}$
$208_1 = \chi_{5,0}$	1	.	.	.	.	.
$429_3 = \chi_{8,0}$	1	1	.	.	.	.
$936_2 = \chi_{15,1}$	.	.	1	.	.	.
$2574_3 = \chi_{20,0}$	.	1	.	.	1	.
$3432_2 = \chi_{23,1}$	.	.	1	.	.	1
$3432_5 = \chi_{25,0}$	.	.	.	1	1	.
$3575_2 = \chi_{26,1}$	.	.	.	1	.	1

$$\begin{aligned}\varphi_{5,0} &= 208_1\\ \varphi_{7,0} &= 221_1\\ \varphi_{15,1} &= 936_2\\ \varphi_{16,1} &= 1079_2\\ \varphi_{21,0} &= 2353_1\\ \varphi_{23,1} &= 2496_2\end{aligned}$$

Block 10:	$\varphi_{5,1}$	$\varphi_{7,1}$	$\varphi_{15,0}$	$\varphi_{16,0}$	$\varphi_{21,1}$	$\varphi_{23,0}$
$208_2 = \chi_{5,1}$	1	.	.	.	.	.
$429_4 = \chi_{8,1}$	1	1	.	.	.	.
$936_1 = \chi_{15,0}$	.	.	1	.	.	.
$2574_4 = \chi_{20,1}$	.	1	.	.	1	.
$3432_1 = \chi_{23,0}$	.	.	1	.	.	1
$3432_6 = \chi_{25,1}$	.	.	.	1	1	.
$3575_1 = \chi_{26,0}$	.	.	.	1	.	1

$\varphi_{5,1} = 208_2$
$\varphi_{7,1} = 221_2$
$\varphi_{15,0} = 936_1$
$\varphi_{16,0} = 1079_1$
$\varphi_{21,1} = 2353_2$
$\varphi_{23,0} = 2496_1$

Block 11:	$\varphi_{9,0}$	$\varphi_{9,1}$	$\varphi_{20,0}$	$\varphi_{20,1}$	$\varphi_{31,0}$	$\varphi_{31,1}$
$429_1 = \chi_{7,0}$	1	.	.	.	.	.
$429_2 = \chi_{7,1}$	.	1	.	.	.	.
$2574_1 = \chi_{19,0}$	1	.	1	.	.	.
$2574_2 = \chi_{19,1}$	.	1	.	1	.	.
$8580_1 = \chi_{31+}$	.	.	.	.	1	1
$6435_1 = \chi_{37,0}$	.	.	1	.	1	.
$6435_2 = \chi_{37,1}$	.	.	.	1	.	1

$\varphi_{9,0} = 429_1$
$\varphi_{9,1} = 429_2$
$\varphi_{20,0} = 2145_1$
$\varphi_{20,1} = 2145_2$
$\varphi_{31,0} = 4290_1$
$\varphi_{31,1} = 4290_2$

Block 36:	φ_{49+}	φ_{53+}	φ_{65+}
$64_1 = \chi_{56+}$	1	.	.
$4224_1 = \chi_{62,0}$	1	1	.
$4224_2 = \chi_{62,1}$	1	1	.
$18304_2 = \chi_{69+}$	.	.	1
$22464_2 = \chi_{74+}$	.	1	1

$\varphi_{49+} = 64_1$
$\varphi_{53+} = 4160_1$
$\varphi_{65+} = 18304_1$

Block 37:	$\varphi_{51,0}$	$\varphi_{51,1}$	$\varphi_{57,0}$	$\varphi_{57,1}$	$\varphi_{64,0}$	$\varphi_{64,1}$
$352_1 = \chi_{58,0}$	1	.	.	.	.	.
$352_2 = \chi_{58,1}$	.	1	.	.	.	.
$4576_1 = \chi_{63,0}$	.	.	1	.	.	.
$4576_2 = \chi_{63,1}$	.	.	.	1	.	.
$9504_1 = \chi_{71,0}$	1	.	.	.	1	.
$9504_2 = \chi_{71,1}$	.	1	.	.	.	1
$27456_1 = \chi_{77+}$	.	.	1	1	1	1

$\varphi_{51,0} = 352_1$
$\varphi_{51,1} = 352_2$
$\varphi_{57,0} = 4576_1$
$\varphi_{57,1} = 4576_2$
$\varphi_{64,0} = 9152_2$
$\varphi_{64,1} = 9152_3$

Block 38:	$\varphi_{52,0}$	$\varphi_{52,1}$	$\varphi_{63,0}$	$\varphi_{63,1}$	$\varphi_{67,0}$	$\varphi_{67,1}$
$1728_1 = \chi_{59,0}$	1	.	.	.	.	.
$1728_2 = \chi_{59,1}$	.	1	.	.	.	.
$8800_1 = \chi_{65,0}$	1	.	1	.	.	.
$8800_2 = \chi_{65,1}$	.	1	.	1	.	.
$13728_1 = \chi_{76,0}$	.	.	.	.	1	.
$13728_2 = \chi_{76,1}$	.	.	.	.	.	1
$41600_1 = \chi_{81+}$	.	.	1	1	1	1

$\varphi_{52,0} = 1728_1$
$\varphi_{52,1} = 1728_2$
$\varphi_{63,0} = 7072_1$
$\varphi_{63,1} = 7072_2$
$\varphi_{67,0} = 13728_1$
$\varphi_{67,1} = 13728_2$

Block 39:	φ_{55+}	φ_{58+}	φ_{61+}
$4992_1 = \chi_{60+}$	1	.	.
$9152_1 = \chi_{66,0}$	.	1	.
$9152_2 = \chi_{66,1}$	.	1	.
$18304_1 = \chi_{67+}$	1	.	1
$22464_1 = \chi_{72+}$	.	1	1

$\varphi_{55+} = 4992_1$
$\varphi_{58+} = 9152_1$
$\varphi_{61+} = 13312_1$