

**$Fi_{22}.2 \pmod{13}$**

	blocks	defect	matrix
$G :$	1	1	$13 \times 12$
	2	0	$78_1 = \chi_{2,0}, \varphi_{2,0}$
	3	0	$78_2 = \chi_{2,1}, \varphi_{2,1}$
	4	0	$429_1 = \chi_{3,0}, \varphi_{3,0}$
	5	0	$429_2 = \chi_{3,1}, \varphi_{3,1}$
	6	0	$1001_1 = \chi_{4,0}, \varphi_{4,0}$
	7	0	$1001_2 = \chi_{4,1}, \varphi_{4,1}$
	8	0	$1430_1 = \chi_{5,0}, \varphi_{5,0}$
	9	0	$1430_2 = \chi_{5,1}, \varphi_{5,1}$
	10	0	$3003_1 = \chi_{6,0}, \varphi_{6,0}$
	11	0	$3003_2 = \chi_{6,1}, \varphi_{6,1}$
	12	0	$10725_1 = \chi_{8,0}, \varphi_{8,0}$
	13	0	$10725_2 = \chi_{8,1}, \varphi_{8,1}$
	14	0	$13650_1 = \chi_{9,0}, \varphi_{9,0}$
	15	0	$13650_2 = \chi_{9,1}, \varphi_{9,1}$
	16	0	$30030_1 = \chi_{10,0}, \varphi_{10,0}$
	17	0	$30030_2 = \chi_{10,1}, \varphi_{10,1}$
	18	0	$32032_1 = \chi_{11,0}, \varphi_{11,0}$
	19	0	$32032_2 = \chi_{11,1}, \varphi_{11,1}$
	20	0	$43680_1 = \chi_{12,0}, \varphi_{12,0}$
	21	0	$43680_2 = \chi_{12,1}, \varphi_{12,1}$
	22	0	$45045_1 = \chi_{13,0}, \varphi_{13,0}$
	23	0	$45045_2 = \chi_{13,1}, \varphi_{13,1}$
	24	0	$48048_1 = \chi_{14,0}, \varphi_{14,0}$
	25	0	$48048_2 = \chi_{14,1}, \varphi_{14,1}$
	26	0	$50050_1 = \chi_{15,0}, \varphi_{15,0}$
	27	0	$50050_2 = \chi_{15,1}, \varphi_{15,1}$
	28	0	$50050_3 = \chi_{16,0}, \varphi_{16,0}$
	29	0	$50050_4 = \chi_{16,1}, \varphi_{16,1}$
	30	0	$75075_1 = \chi_{17,0}, \varphi_{17,0}$
	31	0	$75075_2 = \chi_{17,1}, \varphi_{17,1}$
	32	0	$75075_3 = \chi_{18,0}, \varphi_{18,0}$
	33	0	$75075_4 = \chi_{18,1}, \varphi_{18,1}$
	34	0	$75075_5 = \chi_{19,0}, \varphi_{19,0}$
	35	0	$75075_6 = \chi_{19,1}, \varphi_{19,1}$
	36	0	$81081_1 = \chi_{20,0}, \varphi_{20,0}$
	37	0	$81081_2 = \chi_{20,1}, \varphi_{20,1}$
	38	0	$114400_1 = \chi_{21,0}, \varphi_{21,0}$
	39	0	$114400_2 = \chi_{21,1}, \varphi_{21,1}$
	40	0	$150150_1 = \chi_{24,0}, \varphi_{23,0}$

	blocks	defect	matrix
	41	0	$150150_2 = \chi_{24,1}, \varphi_{23,1}$
	42	0	$205920_1 = \chi_{25,0}, \varphi_{24,0}$
	43	0	$205920_2 = \chi_{25,1}, \varphi_{24,1}$
	44	0	$289575_1 = \chi_{26,0}, \varphi_{25,0}$
	45	0	$289575_2 = \chi_{26,1}, \varphi_{25,1}$
	46	0	$300300_1 = \chi_{27,0}, \varphi_{26,0}$
	47	0	$300300_2 = \chi_{27,1}, \varphi_{26,1}$
	48	0	$320320_1 = \chi_{28,0}, \varphi_{27,0}$
	49	0	$320320_2 = \chi_{28,1}, \varphi_{27,1}$
	50	0	$370656_1 = \chi_{30,0}, \varphi_{29,0}$
	51	0	$370656_2 = \chi_{30,1}, \varphi_{29,1}$
	52	0	$800800_1 = \chi_{31+}, \varphi_{30+}$
	53	0	$800800_2 = \chi_{33+}, \varphi_{32+}$
	54	0	$450450_1 = \chi_{35,0}, \varphi_{35,0}$
	55	0	$450450_2 = \chi_{35,1}, \varphi_{35,1}$
	56	0	$450450_3 = \chi_{36,0}, \varphi_{36,0}$
	57	0	$450450_4 = \chi_{36,1}, \varphi_{36,1}$
	58	0	$576576_1 = \chi_{37,0}, \varphi_{37,0}$
	59	0	$576576_2 = \chi_{37,1}, \varphi_{37,1}$
	60	0	$579150_1 = \chi_{39,0}, \varphi_{38,0}$
	61	0	$579150_2 = \chi_{39,1}, \varphi_{38,1}$
	62	0	$1164800_1 = \chi_{40+}, \varphi_{39+}$
	63	0	$600600_1 = \chi_{42,0}, \varphi_{41,0}$
	64	0	$600600_2 = \chi_{42,1}, \varphi_{41,1}$
	65	0	$1201200_1 = \chi_{43+}, \varphi_{42+}$
	66	0	$675675_1 = \chi_{45,0}, \varphi_{44,0}$
	67	0	$675675_2 = \chi_{45,1}, \varphi_{44,1}$
	68	0	$720720_1 = \chi_{46,0}, \varphi_{45,0}$
	69	0	$720720_2 = \chi_{46,1}, \varphi_{45,1}$
	70	0	$800800_3 = \chi_{47,0}, \varphi_{46,0}$
	71	0	$800800_4 = \chi_{47,1}, \varphi_{46,1}$
	72	0	$852930_1 = \chi_{48,0}, \varphi_{47,0}$
	73	0	$852930_2 = \chi_{48,1}, \varphi_{47,1}$
	74	0	$938223_1 = \chi_{49,0}, \varphi_{48,0}$
	75	0	$938223_2 = \chi_{49,1}, \varphi_{48,1}$
	76	0	$972972_1 = \chi_{50,0}, \varphi_{49,0}$
	77	0	$972972_2 = \chi_{50,1}, \varphi_{49,1}$
	78	0	$1965600_1 = \chi_{51+}, \varphi_{50+}$
	79	0	$1201200_2 = \chi_{53,0}, \varphi_{53,0}$
	80	0	$1201200_3 = \chi_{53,1}, \varphi_{53,1}$

	blocks	defect	matrix
	81	0	$1372800_1 = \chi_{55,0}, \varphi_{54,0}$
	82	0	$1372800_2 = \chi_{55,1}, \varphi_{54,1}$
	83	0	$1791153_1 = \chi_{57,0}, \varphi_{55,0}$
	84	0	$1791153_2 = \chi_{57,1}, \varphi_{55,1}$
	85	0	$1876446_1 = \chi_{58,0}, \varphi_{56,0}$
	86	0	$1876446_2 = \chi_{58,1}, \varphi_{56,1}$
	87	0	$2027025_1 = \chi_{59,0}, \varphi_{57,0}$
	88	0	$2027025_2 = \chi_{59,1}, \varphi_{57,1}$
	89	0	$2050048_1 = \chi_{60,0}, \varphi_{58,0}$
	90	0	$2050048_2 = \chi_{60,1}, \varphi_{58,1}$
	91	0	$2316600_1 = \chi_{61,0}, \varphi_{59,0}$
	92	0	$2316600_2 = \chi_{61,1}, \varphi_{59,1}$
	93	0	$2402400_1 = \chi_{62,0}, \varphi_{60,0}$
	94	0	$2402400_2 = \chi_{62,1}, \varphi_{60,1}$
	95	0	$2555904_1 = \chi_{63,0}, \varphi_{61,0}$
	96	0	$2555904_2 = \chi_{63,1}, \varphi_{61,1}$
	97	0	$2555904_3 = \chi_{64,0}, \varphi_{62,0}$
	98	0	$2555904_4 = \chi_{64,1}, \varphi_{62,1}$
	99	0	$2729376_1 = \chi_{65,0}, \varphi_{63,0}$
	100	0	$2729376_2 = \chi_{65,1}, \varphi_{63,1}$
2.G :	101	1	$13 \times 12$
	102	0	$4160_1 = \chi_{67+}, \varphi_{65+}$
	103	0	$11648_1 = \chi_{69+}, \varphi_{67+}$
	$104 = \overline{103}$	0	$11648_2 = \chi_{71+}, \varphi_{69+}$
	105	0	$27456_1 = \chi_{73+}, \varphi_{71+}$
	106	0	$27456_2 = \chi_{75,0}, \varphi_{73,0}$
	$107 = \overline{106}$	0	$27456_3 = \chi_{75,1}, \varphi_{73,1}$
	108	0	$96096_1 = \chi_{76+}, \varphi_{74+}$
	109	0	$292864_1 = \chi_{82+}, \varphi_{80+}$
	110	0	$228800_1 = \chi_{84,0}, \varphi_{82,0}$
	$111 = \overline{110}$	0	$228800_2 = \chi_{84,1}, \varphi_{82,1}$
	112	0	$471744_1 = \chi_{85+}, \varphi_{83+}$
	113	0	$640640_1 = \chi_{87+}, \varphi_{85+}$
	114	0	$800800_5 = \chi_{89+}, \varphi_{87+}$
	115	0	$873600_1 = \chi_{91+}, \varphi_{89+}$
	116	0	$960960_1 = \chi_{93+}, \varphi_{91+}$
	117	0	$1372800_3 = \chi_{95+}, \varphi_{93+}$
	118	0	$1830400_1 = \chi_{97+}, \varphi_{95+}$
	119	0	$1029600_1 = \chi_{99,0}, \varphi_{97,0}$
	$120 = \overline{119}$	0	$1029600_2 = \chi_{99,1}, \varphi_{97,1}$

	blocks	defect	matrix
	121	0	$2402400_3 = \chi_{100+}, \varphi_{98+}$
	122	0	$2594592_1 = \chi_{102+}, \varphi_{100+}$
	123	0	$4392960_1 = \chi_{107+}, \varphi_{103+}$
	124	0	$4717440_1 = \chi_{109+}, \varphi_{105+}$
	125	0	$4804800_1 = \chi_{111+}, \varphi_{107+}$
	126	0	$5111808_1 = \chi_{113+}, \varphi_{109+}$
3.G :	127	0	$702_1 = \chi_{115+}, \varphi_{111+}$
	128	0	$15444_1 = \chi_{116+}, \varphi_{112+}$
	129	1	$8 \times 6$
	130	0	$38610_1 = \chi_{119+}, \varphi_{114+}$
	131	0	$39312_1 = \chi_{120+}, \varphi_{115+}$
	132	0	$54054_1 = \chi_{121+}, \varphi_{116+}$
	133	0	$84240_1 = \chi_{122+}, \varphi_{117+}$
	134	0	$108108_1 = \chi_{124+}, \varphi_{119+}$
	135	0	$122850_1 = \chi_{125+}, \varphi_{120+}$
	136	0	$193050_1 = \chi_{126+}, \varphi_{121+}$
	137	0	$247104_1 = \chi_{127+}, \varphi_{122+}$
	138	0	$471744_2 = \chi_{128+}, \varphi_{125+}$
	139	0	$579150_3 = \chi_{130+}, \varphi_{126+}$
	140	0	$737100_1 = \chi_{132+}, \varphi_{127+}$
	141	0	$737100_2 = \chi_{133+}, \varphi_{128+}$
	142	0	$772200_1 = \chi_{134+}, \varphi_{129+}$
	143	0	$810810_1 = \chi_{135+}, \varphi_{130+}$
	144	0	$810810_2 = \chi_{136+}, \varphi_{131+}$
	145	0	$864864_1 = \chi_{137+}, \varphi_{132+}$
	146	0	$988416_1 = \chi_{138+}, \varphi_{134+}$
	147	0	$1351350_1 = \chi_{141+}, \varphi_{136+}$
	148	0	$1351350_2 = \chi_{142+}, \varphi_{137+}$
	149	0	$1544400_1 = \chi_{143+}, \varphi_{138+}$
	150	0	$1705860_1 = \chi_{144+}, \varphi_{139+}$
	151	0	$1876446_3 = \chi_{145+}, \varphi_{140+}$
	152	0	$2471040_1 = \chi_{147+}, \varphi_{141+}$
	153	0	$2594592_2 = \chi_{148+}, \varphi_{142+}$
	154	0	$2594592_3 = \chi_{149+}, \varphi_{143+}$
	155	0	$2702700_1 = \chi_{150+}, \varphi_{144+}$
	156	0	$2702700_2 = \chi_{151+}, \varphi_{145+}$
	157	0	$2702700_3 = \chi_{152+}, \varphi_{146+}$
	158	0	$2702700_4 = \chi_{153+}, \varphi_{147+}$
	159	0	$3243240_1 = \chi_{154+}, \varphi_{148+}$
	160	0	$3316950_1 = \chi_{155+}, \varphi_{149+}$

	blocks	defect	matrix
	161	0	$3316950_2 = \chi_{156+}, \varphi_{150+}$
	162	0	$3459456_1 = \chi_{157+}, \varphi_{151+}$
	163	0	$3582306_1 = \chi_{158+}, \varphi_{152+}$
	164	0	$3706560_1 = \chi_{159+}, \varphi_{153+}$
	165	0	$3752892_1 = \chi_{160+}, \varphi_{154+}$
	166	0	$3931200_1 = \chi_{161+}, \varphi_{155+}$
	167	0	$3931200_2 = \chi_{162+}, \varphi_{156+}$
	168	0	$5458752_1 = \chi_{163+}, \varphi_{157+}$
	169	0	$6177600_1 = \chi_{164+}, \varphi_{158+}$
6.G :	170	1	$8 \times 6$
	171	0	$123552_1 = \chi_{167+}, \varphi_{161+}$
	$172 = \overline{171}$	0	$123552_2 = \chi_{168+}, \varphi_{162+}$
	173	0	$224640_1 = \chi_{171+}, \varphi_{165+}$
	$174 = \overline{173}$	0	$224640_2 = \chi_{172+}, \varphi_{166+}$
	175	0	$247104_2 = \chi_{173+}, \varphi_{167+}$
	176	0	$617760_1 = \chi_{174+}, \varphi_{168+}$
	$177 = \overline{176}$	0	$617760_2 = \chi_{175+}, \varphi_{169+}$
	178	0	$628992_1 = \chi_{176+}, \varphi_{170+}$
	179	0	$628992_2 = \chi_{177+}, \varphi_{171+}$
	$180 = \overline{178}$	0	$628992_3 = \chi_{178+}, \varphi_{172+}$
	$181 = \overline{179}$	0	$628992_4 = \chi_{179+}, \varphi_{173+}$
	182	0	$718848_1 = \chi_{180+}, \varphi_{174+}$
	$183 = \overline{182}$	0	$718848_2 = \chi_{181+}, \varphi_{175+}$
	184	0	$864864_2 = \chi_{182+}, \varphi_{176+}$
	$185 = \overline{184}$	0	$864864_3 = \chi_{183+}, \varphi_{177+}$
	186	0	$2246400_1 = \chi_{186+}, \varphi_{180+}$
	$187 = \overline{186}$	0	$2246400_2 = \chi_{187+}, \varphi_{181+}$
	188	0	$2471040_2 = \chi_{188+}, \varphi_{182+}$
	$189 = \overline{188}$	0	$2471040_3 = \chi_{189+}, \varphi_{183+}$
	190	0	$3459456_2 = \chi_{190+}, \varphi_{184+}$
	$191 = \overline{190}$	0	$3459456_3 = \chi_{191+}, \varphi_{185+}$
	192	0	$5189184_1 = \chi_{194+}, \varphi_{186+}$
	193	0	$5930496_1 = \chi_{195+}, \varphi_{187+}$
	$194 = \overline{193}$	0	$5930496_2 = \chi_{196+}, \varphi_{188+}$
	195	0	$6177600_2 = \chi_{197+}, \varphi_{189+}$
	$196 = \overline{195}$	0	$6177600_3 = \chi_{198+}, \varphi_{190+}$

<b>Block 1:</b>	$\varphi_{1,0}$	$\varphi_{1,1}$	$\varphi_{7,0}$	$\varphi_{7,1}$	$\varphi_{22,0}$	$\varphi_{22,1}$	$\varphi_{28,0}$	$\varphi_{28,1}$	$\varphi_{34,0}$	$\varphi_{34,1}$
$1_1 = \chi_{1,0}$	1	.	.	.	.	.	.	.	.	.
$1_2 = \chi_{1,1}$	.	1	.	.	.	.	.	.	.	.
$3080_1 = \chi_{7,0}$	1	.	1	.	.	.	.	.	.	.
$3080_2 = \chi_{7,1}$	.	1	.	1	.	.	.	.	.	.
$277200_1 = \chi_{22+}$	.	.	.	.	1	1	.	.	.	.
$360855_1 = \chi_{29,0}$	.	.	1	.	.	.	1	.	.	.
$360855_2 = \chi_{29,1}$	.	.	.	1	.	.	.	1	.	.
$577368_1 = \chi_{38,0}$	.	.	.	.	1	.	.	.	1	.
$577368_2 = \chi_{38,1}$	.	.	.	.	.	1	.	.	.	1
$1360800_1 = \chi_{54,0}$	.	.	.	.	.	.	1	.	.	.
$1360800_2 = \chi_{54,1}$	.	.	.	.	.	.	.	1	.	.
$1441792_1 = \chi_{56,0}$	.	.	.	.	.	.	.	.	1	.
$1441792_2 = \chi_{56,1}$	.	.	.	.	.	.	.	.	.	1

<b>(Block 1:)</b>	$\varphi_{52,0}$	$\varphi_{52,1}$	
$1_1 = \chi_{1,0}$	.	.	$\varphi_{1,0} = 1_1$
$1_2 = \chi_{1,1}$	.	.	$\varphi_{1,1} = 1_2$
$3080_1 = \chi_{7,0}$	.	.	$\varphi_{7,0} = 3079_1$
$3080_2 = \chi_{7,1}$	.	.	$\varphi_{7,1} = 3079_2$
$277200_1 = \chi_{22+}$	.	.	$\varphi_{22,0} = 138600_1$
$360855_1 = \chi_{29,0}$	.	.	$\varphi_{22,1} = 138600_2$
$360855_2 = \chi_{29,1}$	.	.	$\varphi_{28,0} = 357776_1$
$577368_1 = \chi_{38,0}$	.	.	$\varphi_{28,1} = 357776_2$
$577368_2 = \chi_{38,1}$	.	.	$\varphi_{34,0} = 438768_1$
$1360800_1 = \chi_{54,0}$	.	1	$\varphi_{34,1} = 438768_2$
$1360800_2 = \chi_{54,1}$	1	.	$\varphi_{52,0} = 1003024_1$
$1441792_1 = \chi_{56,0}$	1	.	$\varphi_{52,1} = 1003024_2$
$1441792_2 = \chi_{56,1}$	.	1	

<b>Block 101:</b>	$\varphi_{64,0}$	$\varphi_{64,1}$	$\varphi_{76,0}$	$\varphi_{76,1}$	$\varphi_{77,0}$	$\varphi_{77,1}$	$\varphi_{78,0}$	$\varphi_{78,1}$	$\varphi_{79,0}$	$\varphi_{79,1}$
$352_1 = \chi_{66,0}$	1	.	.	.	.	.	.	.	.	.
$352_2 = \chi_{66,1}$	.	1	.	.	.	.	.	.	.	.
$105600_1 = \chi_{78,0}$	.	.	1	.	.	.	.	.	.	.
$105600_2 = \chi_{78,1}$	.	.	.	1	.	.	.	.	.	.
$105600_3 = \chi_{79,0}$	.	.	.	.	1	.	.	.	.	.
$105600_4 = \chi_{79,1}$	.	.	.	.	.	1	.	.	.	.
$123200_1 = \chi_{80,0}$	1	.	.	.	.	.	1	.	.	.
$123200_2 = \chi_{80,1}$	.	1	.	.	.	.	.	1	.	.
$133056_1 = \chi_{81,0}$	.	.	.	.	.	.	.	.	1	.
$133056_2 = \chi_{81,1}$	.	.	.	.	.	.	.	.	.	1
$1441792_3 = \chi_{104,0}$	.	.	.	.	.	.	1	.	.	.
$1441792_4 = \chi_{104,1}$	.	.	.	.	.	.	.	1	.	.
$3326400_1 = \chi_{105+}$	.	.	1	1	1	1	.	.	1	1

<b>(Block 101:)</b>	$\varphi_{102,0}$	$\varphi_{102,1}$	
$352_1 = \chi_{66,0}$	.	.	$\varphi_{64,0} = 352_1$
$352_2 = \chi_{66,1}$	.	.	$\varphi_{64,1} = 352_2$
$105600_1 = \chi_{78,0}$	.	.	$\varphi_{76,0} = 105600_1$
$105600_2 = \chi_{78,1}$	.	.	$\varphi_{76,1} = 105600_2$
$105600_3 = \chi_{79,0}$	.	.	$\varphi_{77,0} = 105600_3$
$105600_4 = \chi_{79,1}$	.	.	$\varphi_{77,1} = 105600_4$
$123200_1 = \chi_{80,0}$	.	.	$\varphi_{78,0} = 122848_1$
$123200_2 = \chi_{80,1}$	.	.	$\varphi_{78,1} = 122848_2$
$133056_1 = \chi_{81,0}$	.	.	$\varphi_{79,0} = 133056_1$
$133056_2 = \chi_{81,1}$	.	.	$\varphi_{79,1} = 133056_2$
$1441792_3 = \chi_{104,0}$	1	.	$\varphi_{102,0} = 1318944_1$
$1441792_4 = \chi_{104,1}$	.	1	$\varphi_{102,1} = 1318944_2$
$3326400_1 = \chi_{105+}$	1	1	

<b>Block 129:</b>	$\varphi_{113+}$	$\varphi_{118+}$	$\varphi_{123+}$	$\varphi_{124+}$	$\varphi_{133+}$	$\varphi_{135+}$
$24948_1 = \chi_{117+}$	1	.	.	.	.	.
$24948_2 = \chi_{118+}$	1	.	.	.	.	.
$103950_1 = \chi_{123+}$	.	1	.	.	.	.
$475200_1 = \chi_{129+}$	1	.	.	1	.	.
$721710_1 = \chi_{131+}$	.	.	1	1	.	.
$1154736_1 = \chi_{139+}$	.	1	.	.	.	1
$1216512_1 = \chi_{140+}$	.	.	1	.	1	.
$1995840_1 = \chi_{146+}$	.	.	.	.	1	1

$$\begin{array}{ll}
\varphi_{113+} = 24948_1 & \varphi_{124+} = 450252_1 \\
\varphi_{118+} = 103950_1 & \varphi_{133+} = 945054_1 \\
\varphi_{123+} = 271458_1 & \varphi_{135+} = 1050786_1
\end{array}$$

<b>Block 170:</b>	$\varphi_{159+}$	$\varphi_{160+}$	$\varphi_{163+}$	$\varphi_{164+}$	$\varphi_{178+}$	$\varphi_{179+}$
$3456_1 = \chi_{165+}$	1	.	.	.	.	.
$3456_2 = \chi_{166+}$	.	1	.	.	.	.
$142560_1 = \chi_{169+}$	1	.	1	.	.	.
$142560_2 = \chi_{170+}$	.	1	.	1	.	.
$1935360_1 = \chi_{184+}$	.	.	1	.	1	.
$1935360_2 = \chi_{185+}$	.	.	.	1	.	1
$3592512_1 = \chi_{192+}$	.	.	.	.	1	1
$3592512_2 = \chi_{193+}$	.	.	.	.	1	1

$$\begin{array}{ll}
\varphi_{159+} = 3456_1 & \varphi_{164+} = 139104_2 \\
\varphi_{160+} = 3456_2 & \varphi_{178+} = 1796256_1 \\
\varphi_{163+} = 139104_1 & \varphi_{179+} = 1796256_2
\end{array}$$