

## $F_{3+}.2 \pmod{23}$

	blocks	defect	matrix
$G :$	1	1	$13 \times 11$
	2	1	$13 \times 11$
	3	0	$8671_1 = \chi_{2,0}, \varphi_{2,0}$
	4	0	$8671_2 = \chi_{2,1}, \varphi_{2,1}$
	5	0	$57477_1 = \chi_{3,0}, \varphi_{3,0}$
	6	0	$57477_2 = \chi_{3,1}, \varphi_{3,1}$
	7	0	$249458_1 = \chi_{4,0}, \varphi_{4,0}$
	8	0	$249458_2 = \chi_{4,1}, \varphi_{4,1}$
	9	0	$555611_1 = \chi_{5,0}, \varphi_{5,0}$
	10	0	$555611_2 = \chi_{5,1}, \varphi_{5,1}$
	11	0	$1666833_1 = \chi_{8,0}, \varphi_{7,0}$
	12	0	$1666833_2 = \chi_{8,1}, \varphi_{7,1}$
	13	0	$4864431_1 = \chi_{9,0}, \varphi_{8,0}$
	14	0	$4864431_2 = \chi_{9,1}, \varphi_{8,1}$
	15	0	$32715683_1 = \chi_{10,0}, \varphi_{9,0}$
	16	0	$32715683_2 = \chi_{10,1}, \varphi_{9,1}$
	17	0	$40536925_1 = \chi_{12,0}, \varphi_{11,0}$
	18	0	$40536925_2 = \chi_{12,1}, \varphi_{11,1}$
	19	0	$48893768_1 = \chi_{13,0}, \varphi_{12,0}$
	20	0	$48893768_2 = \chi_{13,1}, \varphi_{12,1}$
	21	0	$149674800_1 = \chi_{14+}, \varphi_{13+}$
	22	0	$79452373_1 = \chi_{16,0}, \varphi_{15,0}$
	23	0	$79452373_2 = \chi_{16,1}, \varphi_{15,1}$
	24	0	$112168056_1 = \chi_{17,0}, \varphi_{16,0}$
	25	0	$112168056_2 = \chi_{17,1}, \varphi_{16,1}$
	26	0	$159402880_1 = \chi_{18,0}, \varphi_{17,0}$
	27	0	$159402880_2 = \chi_{18,1}, \varphi_{17,1}$
	28	0	$415098112_1 = \chi_{20,0}, \varphi_{19,0}$
	29	0	$415098112_2 = \chi_{20,1}, \varphi_{19,1}$
	30	0	$635618984_1 = \chi_{21,0}, \varphi_{20,0}$
	31	0	$635618984_2 = \chi_{21,1}, \varphi_{20,1}$
	32	0	$1069551175_1 = \chi_{22,0}, \varphi_{21,0}$
	33	0	$1069551175_2 = \chi_{22,1}, \varphi_{21,1}$
	34	0	$1112333222_1 = \chi_{23,0}, \varphi_{22,0}$
	35	0	$1112333222_2 = \chi_{23,1}, \varphi_{22,1}$
	36	0	$1264015025_1 = \chi_{24,0}, \varphi_{23,0}$
	37	0	$1264015025_2 = \chi_{24,1}, \varphi_{23,1}$
	38	0	$1337276304_1 = \chi_{25,0}, \varphi_{24,0}$
	39	0	$1337276304_2 = \chi_{25,1}, \varphi_{24,1}$
	40	0	$1540153692_1 = \chi_{26,0}, \varphi_{25,0}$

	blocks	defect	matrix
	41	0	$1540153692_2 = \chi_{26,1}, \varphi_{25,1}$
	42	0	$2346900864_1 = \chi_{27,0}, \varphi_{26,0}$
	43	0	$2346900864_2 = \chi_{27,1}, \varphi_{26,1}$
	44	0	$3178094920_1 = \chi_{28,0}, \varphi_{27,0}$
	45	0	$3178094920_2 = \chi_{28,1}, \varphi_{27,1}$
	46	0	$3208653525_1 = \chi_{29,0}, \varphi_{28,0}$
	47	0	$3208653525_2 = \chi_{29,1}, \varphi_{28,1}$
	48	0	$3283490925_1 = \chi_{30,0}, \varphi_{29,0}$
	49	0	$3283490925_2 = \chi_{30,1}, \varphi_{29,1}$
	50	0	$5005499499_1 = \chi_{31,0}, \varphi_{30,0}$
	51	0	$5005499499_2 = \chi_{31,1}, \varphi_{30,1}$
	52	0	$6471756928_1 = \chi_{33,0}, \varphi_{32,0}$
	53	0	$6471756928_2 = \chi_{33,1}, \varphi_{32,1}$
	54	0	$7150713570_1 = \chi_{34,0}, \varphi_{33,0}$
	55	0	$7150713570_2 = \chi_{34,1}, \varphi_{33,1}$
	56	0	$9100908180_1 = \chi_{36,0}, \varphi_{35,0}$
	57	0	$9100908180_2 = \chi_{36,1}, \varphi_{35,1}$
	58	0	$9441555200_1 = \chi_{37,0}, \varphi_{36,0}$
	59	0	$9441555200_2 = \chi_{37,1}, \varphi_{36,1}$
	60	0	$10169903744_1 = \chi_{38,0}, \varphi_{37,0}$
	61	0	$10169903744_2 = \chi_{38,1}, \varphi_{37,1}$
	62	0	$21553171200_1 = \chi_{39+}, \varphi_{38+}$
	63	0	$13904165275_1 = \chi_{41,0}, \varphi_{40,0}$
	64	0	$13904165275_2 = \chi_{41,1}, \varphi_{40,1}$
	65	0	$13904165275_3 = \chi_{42,0}, \varphi_{41,0}$
	66	0	$13904165275_4 = \chi_{42,1}, \varphi_{41,1}$
	67	0	$14507059905_1 = \chi_{43,0}, \varphi_{42,0}$
	68	0	$14507059905_2 = \chi_{43,1}, \varphi_{42,1}$
	69	0	$17068369920_1 = \chi_{44,0}, \varphi_{43,0}$
	70	0	$17068369920_2 = \chi_{44,1}, \varphi_{43,1}$
	71	0	$17161712568_1 = \chi_{45,0}, \varphi_{44,0}$
	72	0	$17161712568_2 = \chi_{45,1}, \varphi_{44,1}$
	73	0	$36963688608_1 = \chi_{46+}, \varphi_{45+}$
	74	0	$25027497495_1 = \chi_{48,0}, \varphi_{47,0}$
	75	0	$25027497495_2 = \chi_{48,1}, \varphi_{47,1}$
	76	0	$27808330550_1 = \chi_{49,0}, \varphi_{48,0}$
	77	0	$27808330550_2 = \chi_{49,1}, \varphi_{48,1}$
	78	0	$29444114700_1 = \chi_{50,0}, \varphi_{49,0}$
	79	0	$29444114700_2 = \chi_{50,1}, \varphi_{49,1}$
	80	0	$35594663104_1 = \chi_{51,0}, \varphi_{50,0}$

	blocks	defect	matrix
	81	0	$35594663104_2 = \chi_{51,1}, \varphi_{50,1}$
	82	0	$36858678129_1 = \chi_{52,0}, \varphi_{51,0}$
	83	0	$36858678129_2 = \chi_{52,1}, \varphi_{51,1}$
	84	0	$37337059200_1 = \chi_{53,0}, \varphi_{52,0}$
	85	0	$37337059200_2 = \chi_{53,1}, \varphi_{52,1}$
	86	0	$38641860608_1 = \chi_{54,0}, \varphi_{53,0}$
	87	0	$38641860608_2 = \chi_{54,1}, \varphi_{53,1}$
	88	0	$40043995992_1 = \chi_{55,0}, \varphi_{54,0}$
	89	0	$40043995992_2 = \chi_{55,1}, \varphi_{54,1}$
	90	0	$44493328880_1 = \chi_{56,0}, \varphi_{55,0}$
	91	0	$44493328880_2 = \chi_{56,1}, \varphi_{55,1}$
	92	0	$45049495491_1 = \chi_{57,0}, \varphi_{56,0}$
	93	0	$45049495491_2 = \chi_{57,1}, \varphi_{56,1}$
	94	0	$46602926370_1 = \chi_{58,0}, \varphi_{57,0}$
	95	0	$46602926370_2 = \chi_{58,1}, \varphi_{57,1}$
	96	0	$54234085491_1 = \chi_{59,0}, \varphi_{59,0}$
	97	0	$54234085491_2 = \chi_{59,1}, \varphi_{59,1}$
	98	0	$108963254400_1 = \chi_{60+}, \varphi_{60+}$
	99	0	$55616661100_1 = \chi_{62,0}, \varphi_{62,0}$
	100	0	$55616661100_2 = \chi_{62,1}, \varphi_{62,1}$
	101	0	$63831063582_1 = \chi_{63,0}, \varphi_{63,0}$
	102	0	$63831063582_2 = \chi_{63,1}, \varphi_{63,1}$
	103	0	$130787835904_1 = \chi_{64+}, \varphi_{64+}$
	104	0	$67331776512_1 = \chi_{66,0}, \varphi_{66,0}$
	105	0	$67331776512_2 = \chi_{66,1}, \varphi_{66,1}$
	106	0	$71189326208_1 = \chi_{67,0}, \varphi_{68,0}$
	107	0	$71189326208_2 = \chi_{67,1}, \varphi_{68,1}$
	108	0	$74887473024_1 = \chi_{68,0}, \varphi_{69,0}$
	109	0	$74887473024_2 = \chi_{68,1}, \varphi_{69,1}$
	110	0	$154015369200_1 = \chi_{69+}, \varphi_{70+}$
	111	0	$77108871168_1 = \chi_{71,0}, \varphi_{72,0}$
	112	0	$77108871168_2 = \chi_{71,1}, \varphi_{72,1}$
	113	0	$102385217025_1 = \chi_{73,0}, \varphi_{74,0}$
	114	0	$102385217025_2 = \chi_{73,1}, \varphi_{74,1}$
	115	0	$111233322200_1 = \chi_{74,0}, \varphi_{75,0}$
	116	0	$111233322200_2 = \chi_{74,1}, \varphi_{75,1}$
	117	0	$111233322200_3 = \chi_{75,0}, \varphi_{76,0}$
	118	0	$111233322200_4 = \chi_{75,1}, \varphi_{76,1}$
	119	0	$118588933386_1 = \chi_{76,0}, \varphi_{77,0}$
	120	0	$118588933386_2 = \chi_{76,1}, \varphi_{77,1}$

	blocks	defect	matrix
	121	0	$264780708192_1 = \chi_{77+}, \varphi_{79+}$
	122	0	$280191225600_1 = \chi_{80+}, \varphi_{81+}$
	123	0	$142169187069_1 = \chi_{82,0}, \varphi_{83,0}$
	124	0	$142169187069_2 = \chi_{82,1}, \varphi_{83,1}$
	125	0	$142378652416_1 = \chi_{83,0}, \varphi_{84,0}$
	126	0	$142378652416_2 = \chi_{83,1}, \varphi_{84,1}$
	127	0	$145650089984_1 = \chi_{84,0}, \varphi_{85,0}$
	128	0	$145650089984_2 = \chi_{84,1}, \varphi_{85,1}$
	129	0	$150201655296_1 = \chi_{85,0}, \varphi_{86,0}$
	130	0	$150201655296_2 = \chi_{85,1}, \varphi_{86,1}$
	131	0	$151397207325_1 = \chi_{86,0}, \varphi_{87,0}$
	132	0	$151397207325_2 = \chi_{86,1}, \varphi_{87,1}$
	133	0	$151397207325_3 = \chi_{87,0}, \varphi_{88,0}$
	134	0	$151397207325_4 = \chi_{87,1}, \varphi_{88,1}$
	135	0	$156321775827_1 = \chi_{88,0}, \varphi_{89,0}$
	136	0	$156321775827_2 = \chi_{88,1}, \varphi_{89,1}$
	137	0	$156321775827_3 = \chi_{89,0}, \varphi_{90,0}$
	138	0	$156321775827_4 = \chi_{89,1}, \varphi_{90,1}$
	139	0	$160313753600_1 = \chi_{90,0}, \varphi_{91,0}$
	140	0	$160313753600_2 = \chi_{90,1}, \varphi_{91,1}$
	141	0	$329144794704_1 = \chi_{91+}, \varphi_{92+}$
	142	0	$169598100672_1 = \chi_{93,0}, \varphi_{94,0}$
	143	0	$169598100672_2 = \chi_{93,1}, \varphi_{94,1}$
	144	0	$184117100544_1 = \chi_{95,0}, \varphi_{95,0}$
	145	0	$184117100544_2 = \chi_{95,1}, \varphi_{95,1}$
	146	0	$190685695200_1 = \chi_{96,0}, \varphi_{96,0}$
	147	0	$190685695200_2 = \chi_{96,1}, \varphi_{96,1}$
	148	0	$400439959920_1 = \chi_{99+}, \varphi_{98+}$
	149	0	$410707651200_1 = \chi_{101+}, \varphi_{100+}$
	150	0	$205940550816_1 = \chi_{103,0}, \varphi_{102,0}$
	151	0	$205940550816_2 = \chi_{103,1}, \varphi_{102,1}$
	152	0	$222758961152_1 = \chi_{104,0}, \varphi_{103,0}$
	153	0	$222758961152_2 = \chi_{104,1}, \varphi_{103,1}$
	154	0	$225247477455_1 = \chi_{105,0}, \varphi_{104,0}$
	155	0	$225247477455_2 = \chi_{105,1}, \varphi_{104,1}$
	156	0	$250274974950_1 = \chi_{106,0}, \varphi_{105,0}$
	157	0	$250274974950_2 = \chi_{106,1}, \varphi_{105,1}$
	158	0	$336033532800_1 = \chi_{108,0}, \varphi_{106,0}$
	159	0	$336033532800_2 = \chi_{108,1}, \varphi_{106,1}$
<b>3.G :</b>	160	1	$13 \times 11$

	blocks	defect	matrix
	161	0	$129168_1 = \chi_{110+}, \varphi_{108+}$
	162	0	$612306_1 = \chi_{111+}, \varphi_{109+}$
	163	0	$612306_2 = \chi_{112+}, \varphi_{110+}$
	164	0	$13449618_1 = \chi_{113+}, \varphi_{111+}$
	165	0	$50713344_1 = \chi_{115+}, \varphi_{113+}$
	166	0	$87559758_1 = \chi_{116+}, \varphi_{114+}$
	167	0	$390038922_1 = \chi_{117+}, \varphi_{115+}$
	168	0	$390038922_2 = \chi_{118+}, \varphi_{116+}$
	169	0	$407687742_1 = \chi_{119+}, \varphi_{117+}$
	170	0	$432309150_1 = \chi_{120+}, \varphi_{118+}$
	$171 = \overline{170}$	0	$432309150_2 = \chi_{121+}, \varphi_{119+}$
	172	0	$660065868_1 = \chi_{122+}, \varphi_{120+}$
	173	0	$2101434192_1 = \chi_{123+}, \varphi_{121+}$
	174	0	$2699174016_1 = \chi_{128+}, \varphi_{125+}$
	$175 = \overline{174}$	0	$2699174016_2 = \chi_{129+}, \varphi_{126+}$
	176	0	$3106861758_1 = \chi_{130+}, \varphi_{127+}$
	177	0	$3637097640_1 = \chi_{131+}, \varphi_{128+}$
	178	0	$4800479040_1 = \chi_{132+}, \varphi_{129+}$
	179	0	$5603824512_1 = \chi_{133+}, \varphi_{130+}$
	180	0	$8580856284_1 = \chi_{135+}, \varphi_{132+}$
	181	0	$8833234410_1 = \chi_{136+}, \varphi_{133+}$
	182	0	$9240922152_1 = \chi_{137+}, \varphi_{134+}$
	183	0	$16501243050_1 = \chi_{138+}, \varphi_{135+}$
	$184 = \overline{183}$	0	$16501243050_2 = \chi_{139+}, \varphi_{136+}$
	185	0	$18912907728_1 = \chi_{142+}, \varphi_{139+}$
	186	0	$21452140710_1 = \chi_{143+}, \varphi_{140+}$
	187	0	$24516732240_1 = \chi_{144+}, \varphi_{141+}$
	188	0	$29014119810_1 = \chi_{145+}, \varphi_{142+}$
	189	0	$30032996994_1 = \chi_{146+}, \varphi_{143+}$
	190	0	$42028683840_1 = \chi_{147+}, \varphi_{144+}$
	191	0	$42193502208_1 = \chi_{148+}, \varphi_{145+}$
	192	0	$42244215552_1 = \chi_{149+}, \varphi_{146+}$
	193	0	$43684359264_1 = \chi_{150+}, \varphi_{147+}$
	194	0	$68256811350_1 = \chi_{151+}, \varphi_{148+}$
	195	0	$68256811350_2 = \chi_{152+}, \varphi_{149+}$
	196	0	$127662127164_1 = \chi_{154+}, \varphi_{151+}$
	197	0	$160512344064_1 = \chi_{156+}, \varphi_{153+}$
	198	0	$160512344064_2 = \chi_{157+}, \varphi_{154+}$
	199	0	$168114735360_1 = \chi_{158+}, \varphi_{155+}$
	200	0	$207124117200_1 = \chi_{159+}, \varphi_{157+}$





(Block 2:)	$\varphi_{73,1}$	$\varphi_{78,1}$	$\varphi_{97,1}$	
$1_2 = \chi_{1,1}$	.	.	.	$\varphi_{1,1} = 1_2$
$1603525_2 = \chi_{6,1}$	.	.	.	$\varphi_{6,1} = 1603525_2$
$1603525_4 = \chi_{7,1}$	.	.	.	$\varphi_{10,1} = 35873144_2$
$35873145_2 = \chi_{11,1}$	.	.	.	$\varphi_{18,1} = 279777211_2$
$281380736_2 = \chi_{19,1}$	.	.	.	$\varphi_{31,1} = 5495500869_2$
$5775278080_2 = \chi_{32,1}$	.	.	.	$\varphi_{34,1} = 8493768328_2$
$8529641472_2 = \chi_{35,1}$	.	.	.	$\varphi_{58,1} = 49586823659_2$
$77379702400_2 = \chi_{72,1}$	.	.	.	$\varphi_{67,1} = 68885934072_2$
$139317477376_2 = \chi_{79,1}$	1	.	.	$\varphi_{73,1} = 89730653717_2$
$178514751987_2 = \chi_{94,1}$	.	1	.	$\varphi_{78,1} = 128927928328_2$
$197813862400_2 = \chi_{97,1}$	.	1	.	$\varphi_{97,1} = 192318361531_2$
$197813862400_4 = \chi_{98,1}$	.	.	1	
$282049015248_2 = \chi_{107,1}$	1	.	1	

Block 160:	$\varphi_{107+}$	$\varphi_{112+}$	$\varphi_{122+}$	$\varphi_{123+}$	$\varphi_{124+}$	$\varphi_{131+}$	$\varphi_{137+}$
$1566_1 = \chi_{109+}$	1	.	.	.	.	.	.
$38069460_1 = \chi_{114+}$	1	1	.	.	.	.	.
$2304322020_1 = \chi_{124+}$	.	.	1	.	.	.	.
$2304322020_2 = \chi_{125+}$	.	.	.	1	.	.	.
$2511120150_1 = \chi_{126+}$	.	.	.	.	1	.	.
$2511120150_2 = \chi_{127+}$	.	.	.	.	1	.	.
$6528912390_1 = \chi_{134+}$	.	1	.	.	.	1	.
$17987819850_1 = \chi_{140+}$	.	.	.	.	.	.	1
$17987819850_2 = \chi_{141+}$	.	.	.	.	.	.	.
$83570078592_1 = \chi_{153+}$	.	.	.	.	.	1	.
$156693897360_1 = \chi_{155+}$	.	.	.	.	1	.	.
$320510244600_1 = \chi_{169+}$	.	.	1	1	.	.	1
$357029503974_1 = \chi_{170+}$	.	.	.	.	.	.	.

<b>(Block 160:)</b>	$\varphi_{138+}$	$\varphi_{150+}$	$\varphi_{152+}$	$\varphi_{156+}$		
$1566_1 = \chi_{109+}$	.	.	.	.	$\varphi_{107+}$	$= 1566_1$
$38069460_1 = \chi_{114+}$	.	.	.	.	$\varphi_{112+}$	$= 38067894_1$
$2304322020_1 = \chi_{124+}$	.	.	.	.	$\varphi_{122+}$	$= 2304322020_1$
$2304322020_2 = \chi_{125+}$	.	.	.	.	$\varphi_{123+}$	$= 2304322020_2$
$2511120150_1 = \chi_{126+}$	.	.	.	.	$\varphi_{124+}$	$= 2511120150_1$
$2511120150_2 = \chi_{127+}$	.	.	.	.	$\varphi_{131+}$	$= 6490844496_1$
$6528912390_1 = \chi_{134+}$	.	.	.	.	$\varphi_{137+}$	$= 17987819850_1$
$17987819850_1 = \chi_{140+}$	.	.	.	.	$\varphi_{138+}$	$= 17987819850_2$
$17987819850_2 = \chi_{141+}$	1	.	.	.	$\varphi_{150+}$	$= 77079234096_1$
$83570078592_1 = \chi_{153+}$	.	1	.	.	$\varphi_{152+}$	$= 154182777210_1$
$156693897360_1 = \chi_{155+}$	.	.	1	.	$\varphi_{156+}$	$= 202846726764_1$
$320510244600_1 = \chi_{169+}$	1	1	.	1		
$357029503974_1 = \chi_{170+}$	.	.	1	1		