

$A_{15.2} \pmod{7}$

	blocks	defect	matrix
$G :$	1	2	35×27
	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	1	7×6
	13	1	7×6
	14	1	7×6
	15	1	7×6
	16	0	$7007_1 = \chi_{22,0}, Y_{43}$
	17	0	$7007_2 = \chi_{22,1}, Y_{44}$
	18	1	7×6
	19	0	$12740_1 = \chi_{31,0}, Y_{61}$
	20	0	$12740_2 = \chi_{31,1}, Y_{62}$
	21	0	$26950_1 = \chi_{41,0}, Y_{85}$
	22	0	$26950_2 = \chi_{41,1}, Y_{86}$
	23	0	$28028_1 = \chi_{43,0}, Y_{87}$
	24	0	$28028_2 = \chi_{43,1}, Y_{88}$
	25	0	$34398_1 = \chi_{46,0}, Y_{91}$
	26	0	$34398_2 = \chi_{46,1}, Y_{92}$

	blocks	defect	matrix
	27	0	$35035_1 = \chi_{47,0}, Y_{93}$
	28	0	$35035_2 = \chi_{47,1}, Y_{94}$
	29	0	$42042_1 = \chi_{49,0}, Y_{95}$
	30	0	$42042_2 = \chi_{49,1}, Y_{98}$
	31	0	$42042_3 = \chi_{50,0}, Y_{96}$
	32	0	$42042_4 = \chi_{50,1}, Y_{97}$
	33	0	$43120_1 = \chi_{51,0}, Y_{99}$
	34	0	$43120_2 = \chi_{51,1}, Y_{100}$
	35	0	$57330_1 = \chi_{59,0}, Y_{113}$
	36	0	$57330_2 = \chi_{59,1}, Y_{114}$
	37	0	$63700_1 = \chi_{62,0}, Y_{117}$
	38	0	$63700_2 = \chi_{62,1}, Y_{118}$
	39	0	$70070_1 = \chi_{63,0}, Y_{121}$
	40	0	$70070_2 = \chi_{63,1}, Y_{122}$
	41	0	$112112_1 = \chi_{77,0}, Y_{140}$
	42	0	$112112_2 = \chi_{77,1}, Y_{143}$
	43	0	$112112_3 = \chi_{78,0}, Y_{142}$
	44	0	$112112_4 = \chi_{78,1}, Y_{141}$
	45	0	$126126_1 = \chi_{81,0}, Y_{144}$
	46	0	$126126_2 = \chi_{81,1}, Y_{145}$
	47	0	$159250_1 = \chi_{87,0}, Y_{148}$
	48	0	$159250_2 = \chi_{87,1}, Y_{149}$
	49	0	$175175_1 = \chi_{89,0}, Y_{150}$
	50	0	$175175_2 = \chi_{89,1}, Y_{151}$
	51	0	$210210_1 = \chi_{91,0}, Y_{152}$
	52	0	$210210_2 = \chi_{91,1}, Y_{153}$

(Block 1:)	Y_{42}	Y_{47}	Y_{48}	Y_{53}	Y_{54}	Y_{57}	Y_{58}	Y_{73}	Y_{74}	Y_{75}	Y_{76}	Y_{131}
$1_1 = \chi_{1,0}$
$1_2 = \chi_{1,1}$
$90_1 = \chi_{3,0}$
$90_2 = \chi_{3,1}$
$715_1 = \chi_{7,0}$
$715_2 = \chi_{7,1}$
$1430_1 = \chi_{10,0}$
$1430_2 = \chi_{10,1}$
$2925_1 = \chi_{18,0}$
$2925_2 = \chi_{18,1}$
$3432_1 = \chi_{12+}$
$7722_1 = \chi_{23,0}$
$7722_2 = \chi_{23,1}$
$11583_1 = \chi_{28,0}$.	.	.	1	.	.	.	.	.	.	.	.
$11583_2 = \chi_{28,1}$	1	.	.	.	.	.	.	.
$14300_1 = \chi_{33,0}$.	1	.	.	.	.	.	.	.	.	.	.
$14300_2 = \chi_{33,1}$.	.	1	.	.	.	.	.	.	.	.	.
$19305_1 = \chi_{34,0}$	1	1	.	.	.	.	.	.	.	.	.	.
$19305_2 = \chi_{34,1}$	1	.	1	.	.	.	.	.	.	.	.	.
$21450_1 = \chi_{35,0}$.	.	.	1	.	1	.	.	.	.	.	.
$21450_2 = \chi_{35,1}$	1	.	1	.	.	.	.	.
$35100_1 = \chi_{48,0}$.	.	.	1	.	.	.	1	.	.	.	.
$35100_2 = \chi_{48,1}$	1	.	.	.	1	.	.	.
$44550_1 = \chi_{52,0}$	1	1	.	.	.	.	.	.	.	1	.	.
$44550_2 = \chi_{52,1}$	1	.	1	.	.	.	.	.	.	.	1	.
$53625_1 = \chi_{57,0}$	1	.	1	.	.
$53625_2 = \chi_{57,1}$	1	.	1	.
$96525_1 = \chi_{72,0}$	1	.	.	.	.	1
$96525_2 = \chi_{72,1}$	1	.	.	.	.	.	.
$128700_1 = \chi_{82,0}$.	.	.	1	.	1	.	1	.	.	.	1
$128700_2 = \chi_{82,1}$	1	.	1	.	1	.	.	.
$156000_1 = \chi_{66+}$	1	.	.	.	.	.	.	.	.	1	1	.
$231660_1 = \chi_{93,0}$	1	.	1	.	1
$231660_2 = \chi_{93,1}$	1	.	1	.
$292864_1 = \chi_{84+}$	1	1	.	.	.	.	1

(Block 1:)	Y_{132}	Y_{139}	
$1_1 = \chi_{1,0}$.	.	
$1_2 = \chi_{1,1}$.	.	
$90_1 = \chi_{3,0}$.	.	
$90_2 = \chi_{3,1}$.	.	$Y_1 = 1_1$
$715_1 = \chi_{7,0}$.	.	$Y_2 = 1_2$
$715_2 = \chi_{7,1}$.	.	$Y_5 = 89_1$
$1430_1 = \chi_{10,0}$.	.	$Y_6 = 89_2$
$1430_2 = \chi_{10,1}$.	.	$Y_{13} = 626_1$
$2925_1 = \chi_{18,0}$.	.	$Y_{14} = 626_2$
$2925_2 = \chi_{18,1}$.	.	$Y_{21} = 1341_1$
$3432_1 = \chi_{12+}$.	.	$Y_{22} = 1341_2$
$7722_1 = \chi_{23,0}$.	.	$Y_{29} = 2299_1$
$7722_2 = \chi_{23,1}$.	.	$Y_{30} = 2299_2$
$11583_1 = \chi_{28,0}$.	.	$Y_{35} = 3432_1$
$11583_2 = \chi_{28,1}$.	.	$Y_{40} = 5423_1$
$14300_1 = \chi_{33,0}$.	.	$Y_{41} = 5423_2$
$14300_2 = \chi_{33,1}$.	.	$Y_{42} = 6996_1$
$19305_1 = \chi_{34,0}$.	.	$Y_{47} = 8877_1$
$19305_2 = \chi_{34,1}$.	.	$Y_{48} = 8877_2$
$21450_1 = \chi_{35,0}$.	.	$Y_{53} = 9526_1$
$21450_2 = \chi_{35,1}$.	.	$Y_{54} = 9526_2$
$35100_1 = \chi_{48,0}$.	.	$Y_{57} = 11923_1$
$35100_2 = \chi_{48,1}$.	.	$Y_{58} = 11923_2$
$44550_1 = \chi_{52,0}$.	.	$Y_{73} = 22649_1$
$44550_2 = \chi_{52,1}$.	.	$Y_{74} = 22649_2$
$53625_1 = \chi_{57,0}$.	.	$Y_{75} = 23254_1$
$53625_2 = \chi_{57,1}$.	.	$Y_{76} = 23254_2$
$96525_1 = \chi_{72,0}$.	.	$Y_{131} = 83261_1$
$96525_2 = \chi_{72,1}$	1	.	$Y_{132} = 83261_2$
$128700_1 = \chi_{82,0}$.	.	$Y_{139} = 102496_1$
$128700_2 = \chi_{82,1}$	1	.	
$156000_1 = \chi_{66+}$.	1	
$231660_1 = \chi_{93,0}$.	1	
$231660_2 = \chi_{93,1}$	1	1	
$292864_1 = \chi_{84+}$	1	1	

Block 2:	Y_3	Y_{34}	Y_{81}	Y_{108}	Y_{129}	Y_{135}
$14_1 = \chi_{2,0}$	1	.	.	.	.	.
$3003_2 = \chi_{19,1}$	.	1	.	.	.	.
$25025_3 = \chi_{39,0}$	1	.	1	.	.	.
$51975_2 = \chi_{56,1}$	.	1	.	1	.	.
$108108_1 = \chi_{76,0}$	.	.	1	.	1	.
$150150_1 = \chi_{86,0}$	.	.	.	1	.	1
$184275_1 = \chi_{90,0}$	.	.	.	.	1	1

$$\begin{aligned}
Y_3 &= 14_1 \\
Y_{34} &= 3003_2 \\
Y_{81} &= 25011_1 \\
Y_{108} &= 48972_2 \\
Y_{129} &= 83097_1 \\
Y_{135} &= 101178_1
\end{aligned}$$

Block 3:	Y_4	Y_{33}	Y_{82}	Y_{107}	Y_{130}	Y_{136}
$14_2 = \chi_{2,1}$	1	.	.	.	.	.
$3003_1 = \chi_{19,0}$	.	1	.	.	.	.
$25025_4 = \chi_{39,1}$	1	.	1	.	.	.
$51975_1 = \chi_{56,0}$	.	1	.	1	.	.
$108108_2 = \chi_{76,1}$	.	.	1	.	1	.
$150150_2 = \chi_{86,1}$	.	.	.	1	.	1
$184275_2 = \chi_{90,1}$	.	.	.	.	1	1

$$\begin{aligned}
Y_4 &= 14_2 \\
Y_{33} &= 3003_1 \\
Y_{82} &= 25011_2 \\
Y_{107} &= 48972_1 \\
Y_{130} &= 83097_2 \\
Y_{136} &= 101178_2
\end{aligned}$$

Block 4:	Y_7	Y_{28}	Y_{36}	Y_{124}	Y_{133}	Y_{146}
$91_1 = \chi_{4,0}$	1	.	.	.	.	.
$2002_4 = \chi_{16,1}$	.	1	.	.	.	.
$5005_1 = \chi_{20,0}$	1	.	1	.	.	.
$75075_4 = \chi_{65,1}$	.	1	.	1	.	.
$100100_1 = \chi_{73,0}$	.	.	1	.	1	.
$221130_2 = \chi_{92,1}$	.	.	.	1	.	1
$243243_1 = \chi_{94,0}$	.	.	.	.	1	1

$$\begin{aligned}
Y_7 &= 91_1 \\
Y_{28} &= 2002_2 \\
Y_{36} &= 4914_1 \\
Y_{124} &= 73073_2 \\
Y_{133} &= 95186_1 \\
Y_{146} &= 148057_1
\end{aligned}$$

Block 5:	Y_8	Y_{27}	Y_{37}	Y_{123}	Y_{134}	Y_{147}
$91_2 = \chi_{4,1}$	1	.	.	.	.	.
$2002_3 = \chi_{16,0}$	.	1	.	.	.	.
$5005_2 = \chi_{20,1}$	1	.	1	.	.	.
$75075_3 = \chi_{65,0}$	.	1	.	1	.	.
$100100_2 = \chi_{73,1}$	.	.	1	.	1	.
$221130_1 = \chi_{92,0}$	.	.	.	1	.	1
$243243_2 = \chi_{94,1}$	.	.	.	.	1	1

$$\begin{aligned}
Y_8 &= 91_2 \\
Y_{27} &= 2002_1 \\
Y_{37} &= 4914_2 \\
Y_{123} &= 73073_1 \\
Y_{134} &= 95186_2 \\
Y_{147} &= 148057_2
\end{aligned}$$

Block 6:	Y_9	Y_{23}	Y_{80}	Y_{106}	Y_{109}	Y_{126}
$350_1 = \chi_{5,0}$	1	.	.	.	.	.
$2002_1 = \chi_{15,0}$	1	1	.	.	.	.
$24948_2 = \chi_{37,1}$	.	.	1	.	.	.
$54054_1 = \chi_{58,0}$	.	1	.	.	1	.
$100100_4 = \chi_{74,1}$	.	.	1	.	.	1
$100100_5 = \chi_{75,0}$	.	.	.	1	1	.
$122850_2 = \chi_{79,1}$	.	.	.	1	.	1

$$\begin{aligned}
Y_9 &= 350_1 \\
Y_{23} &= 1652_1 \\
Y_{80} &= 24948_2 \\
Y_{106} &= 47698_2 \\
Y_{109} &= 52402_1 \\
Y_{126} &= 75152_2
\end{aligned}$$

Block 7:	Y_{10}	Y_{24}	Y_{79}	Y_{105}	Y_{110}	Y_{125}
$350_2 = \chi_{5,1}$	1	.	.	.	.	.
$2002_2 = \chi_{15,1}$	1	1	.	.	.	.
$24948_1 = \chi_{37,0}$	.	.	1	.	.	.
$54054_2 = \chi_{58,1}$	.	1	.	.	1	.
$100100_3 = \chi_{74,0}$	.	.	1	.	.	1
$100100_6 = \chi_{75,1}$	.	.	.	1	1	.
$122850_1 = \chi_{79,0}$	.	.	.	1	.	1

$$\begin{aligned}
Y_{10} &= 350_2 \\
Y_{24} &= 1652_2 \\
Y_{79} &= 24948_1 \\
Y_{105} &= 47698_1 \\
Y_{110} &= 52402_2 \\
Y_{125} &= 75152_1
\end{aligned}$$

Block 8:	Y_{11}	Y_{20}	Y_{77}	Y_{83}	Y_{116}	Y_{138}
$364_1 = \chi_{6,0}$	1	.	.	.	.	.
$1001_2 = \chi_{9,1}$	.	1	.	.	.	.
$27027_1 = \chi_{42,0}$	1	.	.	1	.	.
$50050_1 = \chi_{54,0}$	.	.	1	1	.	.
$61425_2 = \chi_{61,1}$	.	1	.	.	1	.
$125125_2 = \chi_{80,1}$	.	.	1	.	.	1
$162162_2 = \chi_{88,1}$	.	.	.	.	1	1

$$\begin{aligned}
Y_{11} &= 364_1 \\
Y_{20} &= 1001_2 \\
Y_{77} &= 23387_1 \\
Y_{83} &= 26663_1 \\
Y_{116} &= 60424_2 \\
Y_{138} &= 101738_2
\end{aligned}$$

Block 9:	Y_{12}	Y_{19}	Y_{78}	Y_{84}	Y_{115}	Y_{137}
$364_2 = \chi_{6,1}$	1	.	.	.	.	.
$1001_1 = \chi_{9,0}$	.	1	.	.	.	.
$27027_2 = \chi_{42,1}$	1	.	.	1	.	.
$50050_2 = \chi_{54,1}$	.	.	1	1	.	.
$61425_1 = \chi_{61,0}$	.	1	.	.	1	.
$125125_1 = \chi_{80,0}$	.	.	1	.	.	1
$162162_1 = \chi_{88,0}$	.	.	.	.	1	1

$$\begin{aligned}
Y_{12} &= 364_2 \\
Y_{19} &= 1001_1 \\
Y_{78} &= 23387_2 \\
Y_{84} &= 26663_2 \\
Y_{115} &= 60424_1 \\
Y_{137} &= 101738_1
\end{aligned}$$

Block 10:	Y_{15}	Y_{17}	Y_{38}	Y_{66}	Y_{102}	Y_{104}
$910_1 = \chi_{8,0}$	.	1	.	.	.	.
$1638_1 = \chi_{11,0}$	1	1	.	.	.	.
$6006_1 = \chi_{21,0}$	1	.	1	.	.	.
$13650_2 = \chi_{32,1}$	.	.	.	1	.	.
$50050_4 = \chi_{55,1}$	.	.	1	.	1	.
$58968_2 = \chi_{60,1}$	.	.	.	1	.	1
$90090_2 = \chi_{70,1}$	.	.	.	.	1	1

$$\begin{aligned}
Y_{15} &= 728_1 \\
Y_{17} &= 910_1 \\
Y_{38} &= 5278_1 \\
Y_{66} &= 13650_2 \\
Y_{102} &= 44772_2 \\
Y_{104} &= 45318_2
\end{aligned}$$

Block 11:	Y_{16}	Y_{18}	Y_{39}	Y_{65}	Y_{101}	Y_{103}
$910_2 = \chi_{8,1}$	.	1	.	.	.	.
$1638_2 = \chi_{11,1}$	1	1	.	.	.	.
$6006_2 = \chi_{21,1}$	1	.	1	.	.	.
$13650_1 = \chi_{32,0}$	.	.	.	1	.	.
$50050_3 = \chi_{55,0}$	.	.	1	.	1	.
$58968_1 = \chi_{60,0}$	.	.	.	1	.	1
$90090_1 = \chi_{70,0}$	.	.	.	.	1	1

$$\begin{aligned}
Y_{16} &= 728_2 \\
Y_{18} &= 910_2 \\
Y_{39} &= 5278_2 \\
Y_{65} &= 13650_1 \\
Y_{101} &= 44772_1 \\
Y_{103} &= 45318_1
\end{aligned}$$

Block 12:	Y_{25}	Y_{56}	Y_{68}	Y_{69}	Y_{89}	Y_{120}
$1925_1 = \chi_{14,0}$	1	.	.	.	.	.
$11088_2 = \chi_{26,1}$	.	1	.	.	.	.
$25025_2 = \chi_{38,1}$	.	1	1	.	.	.
$32032_1 = \chi_{45,0}$	1	.	.	.	1	.
$45045_1 = \chi_{53,0}$	.	.	.	1	1	.
$80080_2 = \chi_{68,1}$	.	.	1	.	.	1
$81081_2 = \chi_{69,1}$	.	.	.	1	.	1

$$\begin{aligned}
Y_{25} &= 1925_1 \\
Y_{56} &= 11088_2 \\
Y_{68} &= 13937_2 \\
Y_{69} &= 14938_1 \\
Y_{89} &= 30107_1 \\
Y_{120} &= 66143_2
\end{aligned}$$

Block 13:	Y_{26}	Y_{55}	Y_{67}	Y_{70}	Y_{90}	Y_{119}
$1925_2 = \chi_{14,1}$	1	.	.	.	.	.
$11088_1 = \chi_{26,0}$	.	1	.	.	.	.
$25025_1 = \chi_{38,0}$	.	1	1	.	.	.
$32032_2 = \chi_{45,1}$	1	.	.	.	1	.
$45045_2 = \chi_{53,1}$	.	.	.	1	1	.
$80080_1 = \chi_{68,0}$	.	.	1	.	.	1
$81081_1 = \chi_{69,0}$	.	.	.	1	.	1

$$\begin{aligned}
Y_{26} &= 1925_2 \\
Y_{55} &= 11088_1 \\
Y_{67} &= 13937_1 \\
Y_{70} &= 14938_2 \\
Y_{90} &= 30107_2 \\
Y_{119} &= 66143_1
\end{aligned}$$

Block 14:	Y_{31}	Y_{45}	Y_{52}	Y_{71}	Y_{112}	Y_{128}
$2835_1 = \chi_{17,0}$	1	.	.	.	.	.
$9450_2 = \chi_{25,1}$	.	.	1	.	.	.
$11375_1 = \chi_{27,0}$	1	1	.	.	.	.
$30030_1 = \chi_{44,0}$	.	1	.	1	.	.
$75075_2 = \chi_{64,1}$	.	.	.	1	1	.
$91000_2 = \chi_{71,1}$	.	.	1	.	.	1
$135135_2 = \chi_{83,1}$	.	.	.	.	1	1

$$\begin{aligned}
Y_{31} &= 2835_1 \\
Y_{45} &= 8540_1 \\
Y_{52} &= 9450_2 \\
Y_{71} &= 21490_1 \\
Y_{112} &= 53585_2 \\
Y_{128} &= 81550_2
\end{aligned}$$

Block 15:	Y_{32}	Y_{46}	Y_{51}	Y_{72}	Y_{111}	Y_{127}
$2835_2 = \chi_{17,1}$	1	.	.	.	.	.
$9450_1 = \chi_{25,0}$	.	.	1	.	.	.
$11375_2 = \chi_{27,1}$	1	1	.	.	.	.
$30030_2 = \chi_{44,1}$	.	1	.	1	.	.
$75075_1 = \chi_{64,0}$	.	.	.	1	1	.
$91000_1 = \chi_{71,0}$	.	.	1	.	.	1
$135135_1 = \chi_{83,0}$	.	.	.	.	1	1

$$\begin{aligned}
Y_{32} &= 2835_2 \\
Y_{46} &= 8540_2 \\
Y_{51} &= 9450_1 \\
Y_{72} &= 21490_2 \\
Y_{111} &= 53585_1 \\
Y_{127} &= 81550_1
\end{aligned}$$

Block 18:	Y_{49}	Y_{50}	Y_{59}	Y_{60}	Y_{63}	Y_{64}
$9100_1 = \chi_{24,0}$	1	.	.	.	.	.
$9100_2 = \chi_{24,1}$	.	1	.	.	.	.
$22113_1 = \chi_{36,0}$	1	.	.	.	1	.
$22113_2 = \chi_{36,1}$	.	1	.	.	.	1
$24024_1 = \chi_{29+}$	.	.	1	1	.	.
$25025_5 = \chi_{40,0}$	.	.	1	.	1	.
$25025_6 = \chi_{40,1}$	.	.	.	1	.	1

$$\begin{aligned}
Y_{49} &= 9100_1 \\
Y_{50} &= 9100_2 \\
Y_{59} &= 12012_1 \\
Y_{60} &= 12012_2 \\
Y_{63} &= 13013_1 \\
Y_{64} &= 13013_2
\end{aligned}$$