

## $O_8^+(2).2 \pmod{3}$

	blocks	defect	matrix
$G :$	1	5	$54 \times 20$
	2	1	$3 \times 2$
	3	1	$3 \times 2$
	4	1	$3 \times 2$
	5	0	$972_1 = \chi_{27,0}, \varphi_{16,0}$
	6	0	$972_2 = \chi_{27,1}, \varphi_{16,1}$

	blocks	defect	matrix
	7	0	$6075_1 = \chi_{53,0}, \varphi_{21,0}$
	8	0	$6075_2 = \chi_{53,1}, \varphi_{21,1}$
$2.G :$	9	5	$39 \times 13$
	10	1	$3 \times 2$
	11	1	$3 \times 2$



<b>(Block 1:)</b>	$\varphi_{9,0}$	$\varphi_{9,1}$	$\varphi_{10,0}$	$\varphi_{10,1}$	$\varphi_{11+}$	$\varphi_{17,0}$	$\varphi_{17,1}$
$1_1 = \chi_{1,0}$	.	.	.	.	.	.	.
$1_2 = \chi_{1,1}$	.	.	.	.	.	.	.
$28_1 = \chi_{2,0}$	.	.	.	.	.	.	.
$28_2 = \chi_{2,1}$	.	.	.	.	.	.	.
$35_1 = \chi_{3,0}$	.	.	.	.	.	.	.
$35_2 = \chi_{3,1}$	.	.	.	.	.	.	.
$70_1 = \chi_{4+}$	.	.	.	.	.	.	.
$50_1 = \chi_{6,0}$	.	.	.	.	.	.	.
$50_2 = \chi_{6,1}$	.	.	.	.	.	.	.
$84_1 = \chi_{7,0}$	.	.	.	.	.	.	.
$84_2 = \chi_{7,1}$	.	.	.	.	.	.	.
$168_1 = \chi_{8+}$	.	.	.	.	.	.	.
$175_1 = \chi_{10,0}$	.	.	.	.	.	.	.
$175_2 = \chi_{10,1}$	.	.	.	.	.	.	.
$210_1 = \chi_{11,0}$	.	.	.	.	.	.	.
$210_2 = \chi_{11,1}$	.	.	.	.	.	.	.
$420_1 = \chi_{12+}$	.	.	.	.	.	.	.
$300_1 = \chi_{14,0}$	.	.	.	.	.	.	.
$300_2 = \chi_{14,1}$	.	.	.	.	.	.	.
$350_1 = \chi_{15,0}$	.	.	.	.	.	.	.
$350_2 = \chi_{15,1}$	.	.	.	.	.	.	.
$525_1 = \chi_{16,0}$	1	.	.	.	.	.	.
$525_2 = \chi_{16,1}$	.	1	.	.	.	.	.
$700_1 = \chi_{20,0}$	1	.	.	.	.	.	.
$700_2 = \chi_{20,1}$	.	1	.	.	.	.	.
$700_3 = \chi_{21,0}$	.	.	1	.	.	.	.
$700_4 = \chi_{21,1}$	.	.	.	1	.	.	.
$1400_1 = \chi_{22+}$	.	.	.	.	1	.	.
$840_1 = \chi_{24,0}$	.	.	1	.	.	.	.
$840_2 = \chi_{24,1}$	.	.	.	1	.	.	.
$1680_1 = \chi_{25+}$	.	.	.	.	1	.	.
$1050_1 = \chi_{28,0}$	1	.	1	.	.	.	.
$1050_2 = \chi_{28,1}$	.	1	.	1	.	.	.
$2100_1 = \chi_{29+}$	1	1	.	.	1	.	.
$1344_1 = \chi_{31,0}$	1	.	1	.	.	.	.
$1344_2 = \chi_{31,1}$	.	1	.	1	.	.	.
$2688_1 = \chi_{32+}$	1	1	.	.	1	.	.
$1400_2 = \chi_{34,0}$	.	.	.	.	.	1	.
$1400_3 = \chi_{34,1}$	.	.	.	.	.	.	1
$1575_1 = \chi_{35,0}$	.	.	.	.	.	1	.

(Block 1:)	$\varphi_{1,0}$	$\varphi_{1,1}$	$\varphi_{2,0}$	$\varphi_{2,1}$	$\varphi_{3,0}$	$\varphi_{3,1}$	$\varphi_{4+}$	$\varphi_{6,0}$	$\varphi_{6,1}$	$\varphi_{7,0}$	$\varphi_{7,1}$	$\varphi_{8,0}$	$\varphi_{8,1}$
$1575_2 = \chi_{35,1}$	.	.	.	2	.	.	.	.	.	.	.	.	1
$3150_1 = \chi_{36+}$	.	.	2	2	.	.	.	.	.	.	.	1	1
$2100_2 = \chi_{38,0}$	.	.	1	.	.	.	1	.	.	1	.	1	.
$2100_3 = \chi_{38,1}$	.	.	.	1	.	.	1	.	.	.	1	.	1
$4200_1 = \chi_{39+}$	.	.	1	1	1	1	1	.	.	1	1	1	1
$2240_1 = \chi_{41,0}$	.	.	.	2	.	.	.	.	.	1	.	.	1
$2240_2 = \chi_{41,1}$	.	.	2	.	.	.	.	.	.	.	1	1	.
$4480_1 = \chi_{42+}$	.	.	2	2	.	.	.	.	.	1	1	1	1
$3200_1 = \chi_{50,0}$	1	1	.	1	1	.	1	1	.	1	.	.	1
$3200_2 = \chi_{50,1}$	1	1	1	.	.	1	1	.	1	.	1	1	.
$4096_1 = \chi_{51,0}$	1	.	1	1	.	.	.	.	.	1	.	1	1
$4096_2 = \chi_{51,1}$	.	1	1	1	.	.	.	.	.	.	1	1	1
$4200_2 = \chi_{52,0}$	.	.	1	2	.	1	1	.	.	2	1	.	1
$4200_3 = \chi_{52,1}$	.	.	2	1	1	.	1	.	.	1	2	1	.

(Block 1:)	$\varphi_{9,0}$	$\varphi_{9,1}$	$\varphi_{10,0}$	$\varphi_{10,1}$	$\varphi_{11+}$	$\varphi_{17,0}$	$\varphi_{17,1}$
$1575_2 = \chi_{35,1}$	.	.	.	.	.	.	1
$3150_1 = \chi_{36+}$	.	.	.	.	.	1	1
$2100_2 = \chi_{38,0}$	1	.	.	.	1	.	.
$2100_3 = \chi_{38,1}$	.	1	.	.	1	.	.
$4200_1 = \chi_{39+}$	1	1	1	1	1	.	.
$2240_1 = \chi_{41,0}$	.	.	1	.	.	1	.
$2240_2 = \chi_{41,1}$	.	.	.	1	.	.	1
$4480_1 = \chi_{42+}$	.	.	.	.	1	1	1
$3200_1 = \chi_{50,0}$	1	1	1	.	1	.	.
$3200_2 = \chi_{50,1}$	1	1	.	1	1	.	.
$4096_1 = \chi_{51,0}$	1	.	1	.	1	1	.
$4096_2 = \chi_{51,1}$	.	1	.	1	1	.	1
$4200_2 = \chi_{52,0}$	1	.	1	.	1	1	.
$4200_3 = \chi_{52,1}$	.	1	.	1	1	.	1

$$\begin{aligned}
\varphi_{1,0} &= 1_1 \\
\varphi_{1,1} &= 1_2 \\
\varphi_{2,0} &= 28_1 \\
\varphi_{2,1} &= 28_2 \\
\varphi_{3,0} &= 35_1 \\
\varphi_{3,1} &= 35_2 \\
\varphi_{4+} &= 70_1 \\
\varphi_{6,0} &= 48_1 \\
\varphi_{6,1} &= 48_2 \\
\varphi_{7,0} &= 147_1 \\
\varphi_{7,1} &= 147_2 \\
\varphi_{8,0} &= 322_1 \\
\varphi_{8,1} &= 322_2 \\
\varphi_{9,0} &= 497_1 \\
\varphi_{9,1} &= 497_2 \\
\varphi_{10,0} &= 518_1 \\
\varphi_{10,1} &= 518_2 \\
\varphi_{11+} &= 1036_1 \\
\varphi_{17,0} &= 1197_1 \\
\varphi_{17,1} &= 1197_2
\end{aligned}$$

Block 2:	$\varphi_{13,0}$	$\varphi_{18,1}$
$567_1 = \chi_{17,0}$	1	.
$2268_2 = \chi_{44,1}$	.	1
$2835_2 = \chi_{47,1}$	1	1

$$\begin{aligned}
\varphi_{13,0} &= 567_1 \\
\varphi_{18,1} &= 2268_2
\end{aligned}$$

<b>Block 3:</b>	$\varphi_{13,1}$	$\varphi_{18,0}$
$567_2 = \chi_{17,1}$	1	.
$2268_1 = \chi_{44,0}$	.	1
$2835_1 = \chi_{47,0}$	1	1

$$\begin{aligned} \varphi_{13,1} &= 567_2 \\ \varphi_{18,0} &= 2268_1 \end{aligned}$$

<b>Block 4:</b>	$\varphi_{14+}$	$\varphi_{19+}$
$1134_1 = \chi_{18+}$	1	.
$4536_1 = \chi_{45+}$	.	1
$5670_1 = \chi_{48+}$	1	1

$$\begin{aligned} \varphi_{14+} &= 1134_1 \\ \varphi_{19+} &= 4536_1 \end{aligned}$$

<b>Block 9:</b>	$\varphi_{22,0}$	$\varphi_{22,1}$	$\varphi_{23,0}$	$\varphi_{23,1}$	$\varphi_{24,0}$	$\varphi_{24,1}$	$\varphi_{25+}$	$\varphi_{27,0}$	$\varphi_{27,1}$	$\varphi_{28,0}$	$\varphi_{28,1}$
$8_1 = \chi_{54,0}$	1	.	.	.	.	.	.	.	.	.	.
$8_2 = \chi_{54,1}$	.	1	.	.	.	.	.	.	.	.	.
$56_1 = \chi_{55,0}$	.	.	1	.	.	.	.	.	.	.	.
$56_2 = \chi_{55,1}$	.	.	.	1	.	.	.	.	.	.	.
$112_1 = \chi_{56,0}$	1	.	.	.	1	.	.	.	.	.	.
$112_2 = \chi_{56,1}$	.	1	.	.	.	1	.	.	.	.	.
$160_1 = \chi_{57,0}$	.	.	1	.	1	.	.	.	.	.	.
$160_2 = \chi_{57,1}$	.	.	.	1	.	1	.	.	.	.	.
$448_1 = \chi_{58+}$	.	.	.	.	.	.	1	.	.	.	.
$400_1 = \chi_{60,0}$	1	1	.	.	.	.	.	1	.	.	.
$400_2 = \chi_{60,1}$	1	1	.	.	.	.	.	.	1	.	.
$448_2 = \chi_{61,0}$	1	.	.	1	.	.	.	1	.	.	.
$448_3 = \chi_{61,1}$	.	1	1	.	.	.	.	.	1	.	.
$560_1 = \chi_{62,0}$	2	.	1	.	1	.	.	1	.	.	.
$560_2 = \chi_{62,1}$	.	2	.	1	.	1	.	.	1	.	.
$1344_3 = \chi_{63+}$	1	1	1	1	.	.	1	1	1	.	.
$840_3 = \chi_{65,0}$	1	.	.	.	.	.	1	1	.	.	.
$840_4 = \chi_{65,1}$	.	1	.	.	.	.	1	.	1	.	.
$1008_1 = \chi_{66,0}$	.	.	2	.	1	.	.	.	.	1	.
$1008_2 = \chi_{66,1}$	.	.	.	2	.	1	.	.	.	.	1
$2016_1 = \chi_{67+}$	.	.	2	2	1	1	.	.	.	1	1
$1400_4 = \chi_{70,0}$	.	1	.	2	.	1	.	1	.	1	.
$1400_5 = \chi_{70,1}$	1	.	2	.	1	.	.	.	1	.	1
$1400_6 = \chi_{71,0}$	1	.	1	1	1	.	.	1	.	1	.
$1400_7 = \chi_{71,1}$	.	1	1	1	.	1	.	.	1	.	1
$2400_1 = \chi_{72,0}$	.	.	1	.	.	.	1	.	.	.	.
$2400_2 = \chi_{72,1}$	.	.	.	1	.	.	1	.	.	.	.
$2800_1 = \chi_{73,0}$	.	.	1	1	.	.	.	.	.	1	.
$2800_2 = \chi_{73,1}$	.	.	1	1	.	.	.	.	.	.	1
$5600_1 = \chi_{74+}$	2	2	1	1	.	.	2	1	1	.	.
$3360_1 = \chi_{77,0}$	1	1	1	2	.	1	.	1	.	1	.
$3360_2 = \chi_{77,1}$	1	1	2	1	1	.	.	.	1	.	1
$7168_1 = \chi_{78+}$	2	2	3	3	1	1	1	1	1	1	1
$4096_3 = \chi_{80,0}$	2	1	1	2	.	.	1	2	.	1	.
$4096_4 = \chi_{80,1}$	1	2	2	1	.	.	1	.	2	.	1
$4200_4 = \chi_{81,0}$	1	2	1	2	.	1	1	1	1	1	.
$4200_5 = \chi_{81,1}$	2	1	2	1	1	.	1	1	1	.	1
$5600_2 = \chi_{83,0}$	1	1	1	2	.	.	1	1	.	1	.
$5600_3 = \chi_{83,1}$	1	1	2	1	.	.	1	.	1	.	1

<b>(Block 9:)</b>	$\varphi_{30,0}$	$\varphi_{30,1}$	
$8_1 = \chi_{54,0}$	.	.	
$8_2 = \chi_{54,1}$	.	.	
$56_1 = \chi_{55,0}$	.	.	
$56_2 = \chi_{55,1}$	.	.	
$112_1 = \chi_{56,0}$	.	.	
$112_2 = \chi_{56,1}$	.	.	
$160_1 = \chi_{57,0}$	.	.	
$160_2 = \chi_{57,1}$	.	.	
$448_1 = \chi_{58+}$	.	.	
$400_1 = \chi_{60,0}$	.	.	
$400_2 = \chi_{60,1}$	.	.	
$448_2 = \chi_{61,0}$	.	.	
$448_3 = \chi_{61,1}$	.	.	$\varphi_{22,0} = 8_1$
$560_1 = \chi_{62,0}$	.	.	$\varphi_{22,1} = 8_2$
$560_2 = \chi_{62,1}$	.	.	$\varphi_{23,0} = 56_1$
$1344_3 = \chi_{63+}$	.	.	$\varphi_{23,1} = 56_2$
$840_3 = \chi_{65,0}$	.	.	$\varphi_{24,0} = 104_1$
$840_4 = \chi_{65,1}$	.	.	$\varphi_{24,1} = 104_2$
$1008_1 = \chi_{66,0}$	.	.	$\varphi_{25+} = 448_1$
$1008_2 = \chi_{66,1}$	.	.	$\varphi_{27,0} = 384_1$
$2016_1 = \chi_{67+}$	.	.	$\varphi_{27,1} = 384_2$
$1400_4 = \chi_{70,0}$	.	.	$\varphi_{28,0} = 792_1$
$1400_5 = \chi_{70,1}$	.	.	$\varphi_{28,1} = 792_2$
$1400_6 = \chi_{71,0}$	.	.	$\varphi_{30,0} = 1896_1$
$1400_7 = \chi_{71,1}$	.	.	$\varphi_{30,1} = 1896_2$
$2400_1 = \chi_{72,0}$	1	.	
$2400_2 = \chi_{72,1}$	.	1	
$2800_1 = \chi_{73,0}$	1	.	
$2800_2 = \chi_{73,1}$	.	1	
$5600_1 = \chi_{74+}$	1	1	
$3360_1 = \chi_{77,0}$	1	.	
$3360_2 = \chi_{77,1}$	.	1	
$7168_1 = \chi_{78+}$	1	1	
$4096_3 = \chi_{80,0}$	1	.	
$4096_4 = \chi_{80,1}$	.	1	
$4200_4 = \chi_{81,0}$	1	.	
$4200_5 = \chi_{81,1}$	.	1	
$5600_2 = \chi_{83,0}$	1	1	
$5600_3 = \chi_{83,1}$	1	1	

<b>Block 10:</b>	$\varphi_{29,0}$	$\varphi_{31,1}$
$1296_1 = \chi_{69,0}$	1	.
$3240_2 = \chi_{76,1}$	.	1
$4536_3 = \chi_{82,1}$	1	1

$$\begin{aligned} \varphi_{29,0} &= 1296_1 \\ \varphi_{31,1} &= 3240_2 \end{aligned}$$

<b>Block 11:</b>	$\varphi_{29,1}$	$\varphi_{31,0}$
$1296_2 = \chi_{69,1}$	1	.
$3240_1 = \chi_{76,0}$	.	1
$4536_2 = \chi_{82,0}$	1	1

$$\begin{aligned} \varphi_{29,1} &= 1296_2 \\ \varphi_{31,0} &= 3240_1 \end{aligned}$$