

$L_3(4).2_1 \pmod{3}$

	blocks	defect	matrix
$3.G :$	1	3	16×5
	2	3	16×5
	3	1	3×1
	4	1	3×1
$6.G :$	5	3	14×4
	6	1	3×1

	blocks	defect	matrix
	7	1	3×1
	8	1	3×1
	9	1	3×1
$12_1.G :$	10	3	16×5
$12_2.G :$	11	3	16×5
	12	1	3×1

Block 1:	$\varphi_{1,0}$	$\varphi_{2,1}$	$\varphi_{3,1}$	$\varphi_{4,1}$	$\varphi_{5,0}$
$1_1 = \chi_{1,0}$	1
$20_1 = \chi_{2,0}$	1	.	.	.	1
$35_2 = \chi_{3,1}$	1	1	.	.	1
$35_4 = \chi_{4,1}$	1	.	1	.	1
$35_6 = \chi_{5,1}$	1	.	.	1	1
$64_2 = \chi_{10,1}$.	1	1	1	1
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$15_2 = \chi_{32,1}$.	1	.	.	.
$15_4 = \chi_{32,1}^{*2}$.	1	.	.	.
$15_6 = \chi_{33,1}$.	.	1	.	.
$15_8 = \chi_{33,1}^{*2}$.	.	1	.	.
$15_{10} = \chi_{34,1}$.	.	.	1	.
$15_{12} = \chi_{34,1}^{*2}$.	.	.	1	.
$21_1 = \chi_{35,0}$	2	.	.	.	1
$21_3 = \chi_{35,0}^{*2}$	2	.	.	.	1
$84_2 = \chi_{40,1}$	1	1	1	1	2
$84_4 = \chi_{40,1}^{*2}$	1	1	1	1	2

$$\begin{aligned}
 \varphi_{1,0} &= 1_1 \\
 \varphi_{2,1} &= 15_2 \\
 \varphi_{3,1} &= 15_4 \\
 \varphi_{4,1} &= 15_6 \\
 \varphi_{5,0} &= 19_1
 \end{aligned}$$

Block 2:	$\varphi_{1,1}$	$\varphi_{2,0}$	$\varphi_{3,0}$	$\varphi_{4,0}$	$\varphi_{5,1}$
$1_2 = \chi_{1,1}$	1	.	.	.	.
$20_2 = \chi_{2,1}$	1	.	.	.	1
$35_1 = \chi_{3,0}$	1	1	.	.	1
$35_3 = \chi_{4,0}$	1	.	1	.	1
$35_5 = \chi_{5,0}$	1	.	.	1	1
$64_1 = \chi_{10,0}$	.	1	1	1	1
$15_1 = \chi_{32,0}$	.	1	.	.	.
$15_3 = \chi_{32,0}^{*2}$	.	1	.	.	.
$15_5 = \chi_{33,0}$	.	.	1	.	.
$15_7 = \chi_{33,0}^{*2}$	.	.	1	.	.
$15_9 = \chi_{34,0}$	.	.	.	1	.
$15_{11} = \chi_{34,0}^{*2}$	.	.	.	1	.
$21_2 = \chi_{35,1}$	2	.	.	.	1
$21_4 = \chi_{35,1}^{*2}$	2	.	.	.	1
$84_1 = \chi_{40,0}$	1	1	1	1	2
$84_3 = \chi_{40,0}^{*2}$	1	1	1	1	2

$$\begin{aligned} \varphi_{1,1} &= 1_2 \\ \varphi_{2,0} &= 15_1 \\ \varphi_{3,0} &= 15_3 \\ \varphi_{4,0} &= 15_5 \\ \varphi_{5,1} &= 19_2 \end{aligned}$$

Block 3:	φ_{6+}
$90_1 = \chi_{6+}$	1
$90_4 = \chi_{36+}$	1
$90_5 = \chi_{36*8+}$	1

$$\varphi_{6+} = 90_1$$

Block 4:	φ_{8+}
$126_1 = \chi_{8+}$	1
$126_2 = \chi_{38+}$	1
$126_3 = \chi_{38*11+}$	1

$$\varphi_{8+} = 126_1$$

Block 5:	$\varphi_{10,0}$	$\varphi_{10,1}$	φ_{11+}	φ_{13+}	
$20_3 = \chi_{11+}$	.	.	1	.	
$56_1 = \chi_{13+}$	1	1	.	1	
$64_3 = \chi_{16,0}$	.	.	1	1	
$64_4 = \chi_{16,1}$	.	.	1	1	
$70_1 = \chi_{17,0}$	1	.	1	1	
$70_2 = \chi_{17,1}$	.	1	1	1	$\varphi_{10,0} = 6_1$
$6_1 = \chi_{41,0}$	1	.	.	.	$\varphi_{10,1} = 6_2$
$6_2 = \chi_{41,1}$	.	1	.	.	$\varphi_{11+} = 20_1$
$6_3 = \chi_{41,0}^{*2}$	1	.	.	.	$\varphi_{13+} = 44_1$
$6_4 = \chi_{41,1}^{*2}$	.	1	.	.	
$84_5 = \chi_{43+}$	.	.	2	1	
$84_6 = \chi_{43*11+}$	.	.	2	1	
$120_1 = \chi_{45+}$	1	1	1	2	
$120_2 = \chi_{45*8+}$	1	1	1	2	

Block 6:	$\varphi_{15,0}$	
$36_1 = \chi_{15,0}$	1	$\varphi_{15,0} = 36_1$
$36_3 = \chi_{42,0}$	1	
$36_5 = \chi_{42,0}^{*2}$	1	

Block 7:	$\varphi_{15,1}$	
$36_2 = \chi_{15,1}$	1	$\varphi_{15,1} = 36_2$
$36_4 = \chi_{42,1}$	1	
$36_6 = \chi_{42,1}^{*2}$	1	

Block 8:	$\varphi_{16,0}$	
$90_2 = \chi_{18,0}$	1	$\varphi_{16,0} = 90_2$
$90_6 = \chi_{47,0}$	1	
$90_8 = \chi_{47,0}^{*2}$	1	

Block 9:	$\varphi_{16,1}$
$90_3 = \chi_{18,1}$	1
$90_7 = \chi_{47,1}$	1
$90_9 = \chi_{47,1}^{*2}$	1

$$\varphi_{16,1} = 90_3$$

Block 10:	φ_{17+}	φ_{18+}	φ_{19+}	φ_{20+}	φ_{21+}
$16_1 = \chi_{19+}$	1	.	.	.	.
$16_2 = \chi_{20+}$	.	1	.	.	.
$112_1 = \chi_{21+}$	1	1	.	.	1
$128_1 = \chi_{22+}$	1	1	1	1	.
$160_1 = \chi_{23+}$	1	1	1	.	1
$160_2 = \chi_{24+}$	1	1	.	1	1
$48_1 = \chi_{48+}$	.	.	1	.	.
$48_2 = \chi_{48*29+}$	.	.	1	.	.
$48_3 = \chi_{49+}$	.	.	.	1	.
$48_4 = \chi_{48*71+}$	.	.	.	1	.
$96_1 = \chi_{50+}$	1	.	.	.	1
$96_2 = \chi_{50*41+}$	1	.	.	.	1
$96_3 = \chi_{51+}$	.	1	.	.	1
$96_4 = \chi_{50*11+}$	.	1	.	.	1
$240_1 = \chi_{52+}$	2	2	1	1	1
$240_2 = \chi_{52*5+}$	2	2	1	1	1

$$\begin{aligned} \varphi_{17+} &= 16_1 \\ \varphi_{18+} &= 16_2 \\ \varphi_{19+} &= 48_1 \\ \varphi_{20+} &= 48_2 \\ \varphi_{21+} &= 80_1 \end{aligned}$$

Block 11:	φ_{22+}	φ_{23+}	φ_{24+}	φ_{25+}	φ_{27+}	
$40_1 = \chi_{25+}$	1	1	.	.	.	
$56_2 = \chi_{26+}$	.	.	1	.	.	
$56_3 = \chi_{27+}$	.	.	.	1	.	
$128_1 = \chi_{29+}$	1	.	.	.	1	
$160_1 = \chi_{30+}$	1	1	.	.	1	
$160_2 = \chi_{31+}$	2	1	1	1	.	$\varphi_{22+} = 8_1$
$96_1 = \chi_{54+}$	1	1	1	.	.	$\varphi_{23+} = 32_1$
$96_2 = \chi_{54*41+}$	1	1	1	.	.	$\varphi_{24+} = 56_1$
$96_3 = \chi_{55+}$	1	1	.	1	.	$\varphi_{25+} = 56_2$
$96_4 = \chi_{54*11+}$	1	1	.	1	.	$\varphi_{27+} = 120_1$
$120_3 = \chi_{56+}$	1	.	1	1	.	
$120_4 = \chi_{56*29+}$	1	.	1	1	.	
$120_5 = \chi_{57+}$	.	.	.	.	1	
$120_6 = \chi_{56*71+}$	.	.	.	.	1	
$168_1 = \chi_{58+}$	2	1	.	.	1	
$168_2 = \chi_{58*5+}$	2	1	.	.	1	

Block 12:	φ_{26+}	
$72_1 = \chi_{28+}$	1	
$72_2 = \chi_{53+}$	1	
$72_3 = \chi_{53*5+}$	1	$\varphi_{26+} = 72_1$