

$L_2(81).2_1 \pmod{5}$

	blocks	defect	matrix
$G :$	1	1	4×2
	2	1	4×2
	3	1	4×2
	4	1	4×2
	5	0	$160_1 = \chi_{4+}, \varphi_{4+}$
	6	0	$160_2 = \chi_{6+}, \varphi_{6+}$
	7	0	$160_3 = \chi_{8+}, \varphi_{8+}$
	8	0	$160_4 = \chi_{10+}, \varphi_{10+}$
	9	0	$160_5 = \chi_{12+}, \varphi_{12+}$
	10	0	$160_6 = \chi_{14+}, \varphi_{14+}$
	11	0	$160_7 = \chi_{16+}, \varphi_{16+}$
	12	0	$160_8 = \chi_{18+}, \varphi_{18+}$
	13	0	$160_9 = \chi_{20+}, \varphi_{20+}$
	14	0	$160_{10} = \chi_{22+}, \varphi_{22+}$
	15	1	4×2
	16	1	4×2
	17	1	4×2

	blocks	defect	matrix
$2.G :$	18	0	$40_1 = \chi_{44,0}, \varphi_{28,0}$
	19	0	$40_2 = \chi_{44,1}, \varphi_{28,1}$
	20	0	$40_3 = \chi_{45,0}, \varphi_{29,0}$
	$21 = \overline{20}$	0	$40_4 = \chi_{45,1}, \varphi_{29,1}$
	22	0	$160_{11} = \chi_{46+}, \varphi_{30+}$
	23	0	$160_{12} = \chi_{48+}, \varphi_{32+}$
	24	0	$160_{13} = \chi_{50+}, \varphi_{34+}$
	25	0	$160_{14} = \chi_{52+}, \varphi_{36+}$
	26	0	$160_{15} = \chi_{54+}, \varphi_{38+}$
	27	0	$160_{16} = \chi_{56+}, \varphi_{40+}$
	28	0	$160_{17} = \chi_{58+}, \varphi_{42+}$
	29	0	$160_{18} = \chi_{60+}, \varphi_{44+}$
	30	0	$160_{19} = \chi_{62+}, \varphi_{46+}$
	31	0	$160_{20} = \chi_{64+}, \varphi_{48+}$
	32	1	5×1
	33	1	5×1

Block 1:	$\varphi_{1,0}$	$\varphi_{24,1}$
$1_1 = \chi_{1,0}$	1	.
$81_2 = \chi_{24,1}$	.	1
$82_4 = \chi_{26,1}$	1	1
$82_6 = \chi_{27,1}$	1	1

$$\begin{aligned} \varphi_{1,0} &= 1_1 \\ \varphi_{24,1} &= 81_2 \end{aligned}$$

Block 2:	$\varphi_{1,1}$	$\varphi_{24,0}$
$1_2 = \chi_{1,1}$	1	.
$81_1 = \chi_{24,0}$	.	1
$82_3 = \chi_{26,0}$	1	1
$82_5 = \chi_{27,0}$	1	1

$$\begin{aligned} \varphi_{1,1} &= 1_2 \\ \varphi_{24,0} &= 81_1 \end{aligned}$$

Block 3:	$\varphi_{2,0}$	$\varphi_{3,1}$
$41_1 = \chi_{2,0}$	1	.
$41_4 = \chi_{3,1}$	.	1
$82_{12} = \chi_{30,1}$	1	1
$82_{14} = \chi_{31,1}$	1	1

$$\begin{aligned} \varphi_{2,0} &= 41_1 \\ \varphi_{3,1} &= 41_4 \end{aligned}$$

Block 4:	$\varphi_{2,1}$	$\varphi_{3,0}$	
$41_2 = \chi_{2,1}$	1	.	$\varphi_{2,1} = 41_2$
$41_3 = \chi_{3,0}$	.	1	$\varphi_{3,0} = 41_3$
$82_{11} = \chi_{30,0}$	1	1	
$82_{13} = \chi_{31,0}$	1	1	

Block 15:	$\varphi_{25,0}$	$\varphi_{25,1}$	
$82_1 = \chi_{25,0}$	1	.	$\varphi_{25,0} = 82_1$
$82_2 = \chi_{25,1}$	.	1	$\varphi_{25,1} = 82_2$
$164_1 = \chi_{32+}$	1	1	
$164_2 = \chi_{34+}$	1	1	

Block 16:	$\varphi_{26,0}$	$\varphi_{26,1}$	
$82_7 = \chi_{28,0}$	1	.	$\varphi_{26,0} = 82_3$
$82_8 = \chi_{28,1}$	.	1	$\varphi_{26,1} = 82_4$
$164_3 = \chi_{36+}$	1	1	
$164_6 = \chi_{42+}$	1	1	

Block 17:	$\varphi_{27,0}$	$\varphi_{27,1}$	
$82_9 = \chi_{29,0}$	1	.	$\varphi_{27,0} = 82_5$
$82_{10} = \chi_{29,1}$	.	1	$\varphi_{27,1} = 82_6$
$164_4 = \chi_{38+}$	1	1	
$164_5 = \chi_{40+}$	1	1	

Block 32:	φ_{50+}	
$164_7 = \chi_{66+}$	1	
$164_9 = \chi_{70+}$	1	$\varphi_{50+} = 164_1$
$164_{12} = \chi_{76+}$	1	
$164_{13} = \chi_{78+}$	1	
$164_{16} = \chi_{84+}$	1	

Block 33:	φ_{52+}
$164_8 = \chi_{68+}$	1
$164_{10} = \chi_{72+}$	1
$164_{11} = \chi_{74+}$	1
$164_{14} = \chi_{80+}$	1
$164_{15} = \chi_{82+}$	1

$$\varphi_{52+} = 164_2$$