

$$L_2(27).2 \pmod{3}$$

|         | blocks      | defect      | matrix   |
|---------|-------------|-------------|--|
| $G :$   | 1<br>2<br>3 | 3<br>0<br>0 | $27 \times 26$<br>$27_1 = \chi_{10,0}, \varphi_{14,0}$<br>$27_2 = \chi_{10,1}, \varphi_{14,1}$ |
| $2.G :$ | 4           | 3           | $27 \times 26$   |

[illegible]

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| (Block 1:)              | $\varphi_{13,1}$ |                    |        |
|-------------------------|------------------|--------------------|--------|
| $1_1 = \chi_{1,0}$      | .                | $\varphi_{1,0} =$  | $1_1$  |
| $1_2 = \chi_{1,1}$      | .                | $\varphi_{1,1} =$  | $1_2$  |
| $26_1 = \chi_{2,+}$     | .                | $\varphi_{2,0} =$  | $3_1$  |
| $26_2 = \chi_{4,0}$     | .                | $\varphi_{2,1} =$  | $3_2$  |
| $26_3 = \chi_{4,1}$     | .                | $\varphi_{3,0} =$  | $3_3$  |
| $26_4 = \chi_{5,0}$     | .                | $\varphi_{3,1} =$  | $3_4$  |
| $26_5 = \chi_{5,1}$     | .                | $\varphi_{4,0} =$  | $3_5$  |
| $26_6 = \chi_{6,0}$     | .                | $\varphi_{4,1} =$  | $3_6$  |
| $26_7 = \chi_{6,1}$     | 1                | $\varphi_{5,0} =$  | $4_1$  |
| $26_8 = \chi_{7,0}$     | .                | $\varphi_{5,1} =$  | $4_2$  |
| $26_9 = \chi_{7,1}$     | .                | $\varphi_{6,0} =$  | $4_3$  |
| $26_{10} = \chi_{8,0}$  | 1                | $\varphi_{6,1} =$  | $4_4$  |
| $26_{11} = \chi_{8,1}$  | .                | $\varphi_{7,0} =$  | $4_5$  |
| $26_{12} = \chi_{9,0}$  | .                | $\varphi_{7,1} =$  | $4_6$  |
| $26_{13} = \chi_{9,1}$  | .                | $\varphi_{8,0} =$  | $9_1$  |
| $28_1 = \chi_{11,0}$    | .                | $\varphi_{8,1} =$  | $9_2$  |
| $28_2 = \chi_{11,1}$    | .                | $\varphi_{9,0} =$  | $9_3$  |
| $28_3 = \chi_{12,0}$    | .                | $\varphi_{9,1} =$  | $9_4$  |
| $28_4 = \chi_{12,1}$    | 1                | $\varphi_{10,0} =$ | $9_5$  |
| $28_5 = \chi_{13,0}$    | .                | $\varphi_{10,1} =$ | $9_6$  |
| $28_6 = \chi_{13,1}$    | .                | $\varphi_{11,0} =$ | $12_1$ |
| $28_7 = \chi_{14,0}$    | .                | $\varphi_{11,1} =$ | $12_2$ |
| $28_8 = \chi_{14,1}$    | .                | $\varphi_{12,0} =$ | $12_3$ |
| $28_9 = \chi_{15,0}$    | .                | $\varphi_{12,1} =$ | $12_4$ |
| $28_{10} = \chi_{15,1}$ | .                | $\varphi_{13,0} =$ | $12_5$ |
| $28_{11} = \chi_{16,0}$ | 1                | $\varphi_{13,1} =$ | $12_6$ |
| $28_{12} = \chi_{16,1}$ | .                |                    |        |

[illegible]

| (Block 4:)              | $\varphi_{20,1}$ | $\varphi_{21,0}$ | $\varphi_{21,1}$ | $\varphi_{22,0}$ | $\varphi_{22,1}$ | $\varphi_{23,0}$ | $\varphi_{23,1}$ | $\varphi_{24,0}$ | $\varphi_{24,1}$ | $\varphi_{25,0}$ | $\varphi_{25,1}$ |
|-------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| $28_{13} = \chi_{17+}$  | .                | .                | .                | .                | .                | .                | .                | 1                | 1                | .                | .                |
| $26_{14} = \chi_{19,0}$ | .                | 1                | .                | 1                | .                | 1                | .                | .                | 1                | .                | .                |
| $26_{15} = \chi_{19,1}$ | .                | .                | 1                | .                | 1                | .                | 1                | 1                | .                | .                | .                |
| $26_{16} = \chi_{20,0}$ | .                | .                | .                | .                | .                | .                | .                | .                | .                | 1                | .                |
| $26_{17} = \chi_{20,1}$ | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                | 1                |
| $26_{18} = \chi_{21,0}$ | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                |
| $26_{19} = \chi_{21,1}$ | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                |
| $26_{20} = \chi_{22,0}$ | 1                | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                |
| $26_{21} = \chi_{22,1}$ | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                |
| $26_{22} = \chi_{23,0}$ | .                | .                | .                | .                | 1                | .                | .                | 1                | .                | .                | .                |
| $26_{23} = \chi_{23,1}$ | 1                | .                | .                | 1                | .                | .                | .                | .                | 1                | .                | .                |
| $26_{24} = \chi_{24,0}$ | .                | .                | 1                | .                | .                | .                | .                | 1                | .                | .                | .                |
| $26_{25} = \chi_{24,1}$ | .                | 1                | .                | .                | .                | .                | .                | .                | 1                | .                | .                |
| $26_{26} = \chi_{25,0}$ | .                | .                | .                | .                | .                | .                | 1                | 1                | .                | .                | .                |
| $26_{27} = \chi_{25,1}$ | .                | .                | .                | .                | .                | 1                | .                | .                | 1                | .                | .                |
| $28_{14} = \chi_{26,0}$ | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                | 1                |
| $28_{15} = \chi_{26,1}$ | .                | .                | .                | .                | .                | .                | .                | .                | .                | 1                | .                |
| $28_{16} = \chi_{27,0}$ | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                |
| $28_{17} = \chi_{27,1}$ | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                |
| $28_{18} = \chi_{28,0}$ | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                |
| $28_{19} = \chi_{28,1}$ | 1                | .                | .                | .                | .                | .                | .                | .                | .                | .                | .                |
| $28_{20} = \chi_{29,0}$ | .                | 1                | .                | 1                | .                | .                | .                | .                | 1                | .                | .                |
| $28_{21} = \chi_{29,1}$ | .                | .                | 1                | .                | 1                | .                | .                | 1                | .                | .                | .                |
| $28_{22} = \chi_{30,0}$ | .                | 1                | .                | .                | .                | 1                | .                | .                | 1                | .                | .                |
| $28_{23} = \chi_{30,1}$ | .                | .                | 1                | .                | .                | .                | 1                | 1                | .                | .                | .                |
| $28_{24} = \chi_{31,0}$ | 1                | .                | .                | 1                | .                | 1                | .                | .                | 1                | .                | .                |
| $28_{25} = \chi_{31,1}$ | .                | .                | .                | .                | 1                | .                | 1                | 1                | .                | .                | .                |

| (Block 4:)              | $\varphi_{26,0}$ | $\varphi_{26,1}$ | $\varphi_{27,0}$ | $\varphi_{27,1}$ |                    |          |
|-------------------------|------------------|------------------|------------------|------------------|--------------------|----------|
| $28_{13} = \chi_{17+}$  | .                | .                | .                | .                | $\varphi_{15,0} =$ | $2_1$    |
| $26_{14} = \chi_{19,0}$ | .                | .                | .                | .                | $\varphi_{15,1} =$ | $2_2$    |
| $26_{15} = \chi_{19,1}$ | .                | .                | .                | .                | $\varphi_{16,0} =$ | $2_3$    |
| $26_{16} = \chi_{20,0}$ | .                | .                | .                | .                | $\varphi_{16,1} =$ | $2_4$    |
| $26_{17} = \chi_{20,1}$ | .                | .                | .                | .                | $\varphi_{17,0} =$ | $2_5$    |
| $26_{18} = \chi_{21,0}$ | .                | .                | 1                | .                | $\varphi_{17,1} =$ | $2_6$    |
| $26_{19} = \chi_{21,1}$ | .                | .                | .                | 1                | $\varphi_{18,0} =$ | $6_1$    |
| $26_{20} = \chi_{22,0}$ | 1                | .                | .                | .                | $\varphi_{18,1} =$ | $6_2$    |
| $26_{21} = \chi_{22,1}$ | .                | 1                | .                | .                | $\varphi_{19,0} =$ | $6_3$    |
| $26_{22} = \chi_{23,0}$ | .                | .                | .                | .                | $\varphi_{19,1} =$ | $6_4$    |
| $26_{23} = \chi_{23,1}$ | .                | .                | .                | .                | $\varphi_{20,0} =$ | $6_5$    |
| $26_{24} = \chi_{24,0}$ | .                | .                | .                | .                | $\varphi_{20,1} =$ | $6_6$    |
| $26_{25} = \chi_{24,1}$ | .                | .                | .                | .                | $\varphi_{21,0} =$ | $6_7$    |
| $26_{26} = \chi_{25,0}$ | .                | .                | .                | .                | $\varphi_{21,1} =$ | $6_8$    |
| $26_{27} = \chi_{25,1}$ | .                | .                | .                | .                | $\varphi_{22,0} =$ | $6_9$    |
| $28_{14} = \chi_{26,0}$ | .                | .                | .                | .                | $\varphi_{22,1} =$ | $6_{10}$ |
| $28_{15} = \chi_{26,1}$ | .                | .                | .                | .                | $\varphi_{23,0} =$ | $6_{11}$ |
| $28_{16} = \chi_{27,0}$ | .                | .                | .                | 1                | $\varphi_{23,1} =$ | $6_{12}$ |
| $28_{17} = \chi_{27,1}$ | .                | .                | 1                | .                | $\varphi_{24,0} =$ | $8_1$    |
| $28_{18} = \chi_{28,0}$ | .                | 1                | .                | .                | $\varphi_{24,1} =$ | $8_2$    |
| $28_{19} = \chi_{28,1}$ | 1                | .                | .                | .                | $\varphi_{25,0} =$ | $18_1$   |
| $28_{20} = \chi_{29,0}$ | .                | .                | .                | .                | $\varphi_{25,1} =$ | $18_2$   |
| $28_{21} = \chi_{29,1}$ | .                | .                | .                | .                | $\varphi_{26,0} =$ | $18_3$   |
| $28_{22} = \chi_{30,0}$ | .                | .                | .                | .                | $\varphi_{26,1} =$ | $18_4$   |
| $28_{23} = \chi_{30,1}$ | .                | .                | .                | .                | $\varphi_{27,0} =$ | $18_5$   |
| $28_{24} = \chi_{31,0}$ | .                | .                | .                | .                | $\varphi_{27,1} =$ | $18_6$   |
| $28_{25} = \chi_{31,1}$ | .                | .                | .                | .                |                    |          |