

$G_2(5) \pmod{3}$

| | blocks | defect | matrix |
|-------|--------|--------|-------------------------------------|
| $G :$ | 1 | 3 | 14×7 |
| | 2 | 2 | 9×4 |
| | 3 | 0 | $1890_1 = \chi_{11}, \varphi_8$ |
| | 4 | 1 | 3×2 |
| | 5 | 1 | 3×2 |
| | 6 | 0 | $12096_1 = \chi_{21}, \varphi_{14}$ |
| | 7 | 0 | $12096_2 = \chi_{22}, \varphi_{15}$ |

| | blocks | defect | matrix |
|--|--------|--------|-------------------------------------|
| | 8 | 0 | $12096_3 = \chi_{23}, \varphi_{16}$ |
| | 9 | 0 | $12096_4 = \chi_{24}, \varphi_{17}$ |
| | 10 | 0 | $12096_5 = \chi_{25}, \varphi_{18}$ |
| | 11 | 1 | 3×1 |
| | 12 | 1 | 3×1 |
| | 13 | 1 | 3×1 |

| Block 1: | φ_1 | φ_2 | φ_3 | φ_5 | φ_6 | φ_7 | φ_{19} |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| $1_1 = \chi_1$ | 1 | . | . | . | . | . | . |
| $124_1 = \chi_2$ | . | 1 | . | . | . | . | . |
| $280_1 = \chi_3$ | . | . | 1 | . | . | . | . |
| $930_1 = \chi_5$ | 2 | 1 | . | 1 | . | . | . |
| $960_1 = \chi_6$ | . | . | . | . | 1 | . | . |
| $960_2 = \chi_7$ | . | . | . | . | 1 | . | . |
| $1085_1 = \chi_8$ | 1 | 1 | . | . | 1 | . | . |
| $1085_2 = \chi_9$ | 1 | . | 1 | 1 | . | . | . |
| $1240_1 = \chi_{10}$ | . | . | . | . | . | 1 | . |
| $2480_1 = \chi_{12}$ | . | . | 1 | . | 1 | 1 | . |
| $2604_2 = \chi_{14}$ | . | . | 2 | 1 | . | 1 | . |
| $13020_2 = \chi_{27}$ | . | . | . | 1 | . | . | 1 |
| $15500_1 = \chi_{29}$ | . | 1 | . | . | 2 | 1 | 1 |
| $15625_1 = \chi_{38}$ | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

$$\begin{aligned}
 \varphi_1 &= 1_1 \\
 \varphi_2 &= 124_1 \\
 \varphi_3 &= 280_1 \\
 \varphi_5 &= 804_1 \\
 \varphi_6 &= 960_1 \\
 \varphi_7 &= 1240_1 \\
 \varphi_{19} &= 12216_1
 \end{aligned}$$

| Block 2: | φ_4 | φ_9 | φ_{10} | φ_{13} |
|-----------------------|-------------|-------------|----------------|----------------|
| $651_1 = \chi_4$ | 1 | . | . | . |
| $2604_1 = \chi_{13}$ | . | 1 | . | . |
| $2604_3 = \chi_{15}$ | . | . | 1 | . |
| $3255_1 = \chi_{16}$ | 1 | . | 1 | . |
| $3255_2 = \chi_{17}$ | 1 | 1 | . | . |
| $10416_1 = \chi_{20}$ | . | . | . | 1 |
| $13020_1 = \chi_{26}$ | . | 1 | . | 1 |
| $13020_3 = \chi_{28}$ | . | . | 1 | 1 |
| $16275_1 = \chi_{39}$ | 1 | 1 | 1 | 1 |

$$\begin{aligned}
 \varphi_4 &= 651_1 \\
 \varphi_9 &= 2604_1 \\
 \varphi_{10} &= 2604_2 \\
 \varphi_{13} &= 10416_1
 \end{aligned}$$

| Block 4: | φ_{11} | φ_{21} |
|-----------------------|----------------|----------------|
| $3906_1 = \chi_{18}$ | 1 | . |
| $15624_2 = \chi_{31}$ | . | 1 |
| $19530_1 = \chi_{43}$ | 1 | 1 |

$$\begin{aligned}\varphi_{11} &= 3906_1 \\ \varphi_{21} &= 15624_2\end{aligned}$$

| Block 5: | φ_{12} | φ_{23} |
|-----------------------|----------------|----------------|
| $3906_2 = \chi_{19}$ | 1 | . |
| $15624_6 = \chi_{35}$ | . | 1 |
| $19530_2 = \chi_{44}$ | 1 | 1 |

$$\begin{aligned}\varphi_{12} &= 3906_2 \\ \varphi_{23} &= 15624_4\end{aligned}$$

| Block 11: | φ_{20} |
|-----------------------|----------------|
| $15624_1 = \chi_{30}$ | 1 |
| $15624_3 = \chi_{32}$ | 1 |
| $15624_4 = \chi_{33}$ | 1 |

$$\varphi_{20} = 15624_1$$

| Block 12: | φ_{22} |
|-----------------------|----------------|
| $15624_5 = \chi_{34}$ | 1 |
| $15624_7 = \chi_{36}$ | 1 |
| $15624_8 = \chi_{37}$ | 1 |

$$\varphi_{22} = 15624_3$$

| Block 13: | φ_{24} |
|-----------------------|----------------|
| $17856_1 = \chi_{40}$ | 1 |
| $17856_2 = \chi_{41}$ | 1 |
| $17856_3 = \chi_{42}$ | 1 |

$$\varphi_{24} = 17856_1$$