

$S_{10} \pmod{5}$

| | blocks | defect | matrix |
|-------|--------|--------|---------------------------------------|
| $G :$ | 1 | 2 | 20×14 |
| | 2 | 1 | 5×4 |
| | 3 | 1 | 5×4 |
| | 4 | 0 | $75_1 = \chi_{6,0}, \varphi_{10,0}$ |
| | 5 | 0 | $75_2 = \chi_{6,1}, \varphi_{10,1}$ |
| | 6 | 0 | $225_1 = \chi_{14,0}, \varphi_{16,0}$ |
| | 7 | 0 | $225_2 = \chi_{14,1}, \varphi_{16,1}$ |
| | 8 | 0 | $300_1 = \chi_{17,0}, \varphi_{17,0}$ |
| | 9 | 0 | $300_2 = \chi_{17,1}, \varphi_{17,1}$ |
| | 10 | 0 | $350_1 = \chi_{19,0}, \varphi_{18,0}$ |

| | blocks | defect | matrix |
|---------|----------------------|--------|---------------------------------------|
| | 11 | 0 | $350_2 = \chi_{19,1}, \varphi_{18,1}$ |
| | 12 | 0 | $450_1 = \chi_{22,0}, \varphi_{19,0}$ |
| | 13 | 0 | $450_2 = \chi_{22,1}, \varphi_{19,1}$ |
| | 14 | 0 | $525_1 = \chi_{23,0}, \varphi_{20,0}$ |
| | 15 | 0 | $525_2 = \chi_{23,1}, \varphi_{20,1}$ |
| $2.G :$ | 16 | 2 | 11×5 |
| | 17 | 0 | $400_1 = \chi_{36,0}, \varphi_{31,0}$ |
| | $18 = \overline{17}$ | 0 | $400_2 = \chi_{36,1}, \varphi_{31,1}$ |
| | 19 | 0 | $800_1 = \chi_{39,0}, \varphi_{32,0}$ |
| | $20 = \overline{19}$ | 0 | $800_2 = \chi_{39,1}, \varphi_{32,1}$ |

| Block 1: | $\varphi_{1,0}$ | $\varphi_{1,1}$ | $\varphi_{2,0}$ | $\varphi_{2,1}$ | $\varphi_{3,0}$ | $\varphi_{3,1}$ | $\varphi_{4,0}$ | $\varphi_{4,1}$ | φ_{6+} | $\varphi_{9,0}$ | $\varphi_{9,1}$ | φ_{11+} | $\varphi_{15,0}$ |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|------------------|
| $1_1 = \chi_{1,0}$ | 1 | . | . | . | . | . | . | . | . | . | . | . | . |
| $1_2 = \chi_{1,1}$ | . | 1 | . | . | . | . | . | . | . | . | . | . | . |
| $9_1 = \chi_{2,0}$ | 1 | . | 1 | . | . | . | . | . | . | . | . | . | . |
| $9_2 = \chi_{2,1}$ | . | 1 | . | 1 | . | . | . | . | . | . | . | . | . |
| $36_1 = \chi_{4,0}$ | . | . | 1 | . | 1 | . | . | . | . | . | . | . | . |
| $36_2 = \chi_{4,1}$ | . | . | . | 1 | . | 1 | . | . | . | . | . | . | . |
| $42_1 = \chi_{5,0}$ | . | . | 1 | . | . | . | 1 | . | . | . | . | . | . |
| $42_2 = \chi_{5,1}$ | . | . | . | 1 | . | . | . | 1 | . | . | . | . | . |
| $84_1 = \chi_{7,0}$ | . | . | . | . | 1 | . | . | . | . | 1 | . | . | . |
| $84_2 = \chi_{7,1}$ | . | . | . | . | . | 1 | . | . | . | . | 1 | . | . |
| $126_1 = \chi_{9,0}$ | . | . | . | . | . | . | . | . | 1 | 1 | . | . | . |
| $126_2 = \chi_{9,1}$ | . | . | . | . | . | . | . | . | 1 | . | 1 | . | . |
| $448_1 = \chi_{12+}$ | . | . | . | . | . | . | . | . | 1 | 1 | 1 | 1 | . |
| $252_1 = \chi_{15,0}$ | 1 | . | . | . | . | . | . | 1 | . | . | . | . | 1 |
| $252_2 = \chi_{15,1}$ | . | 1 | . | . | . | . | 1 | . | . | . | . | . | . |
| $288_1 = \chi_{16,0}$ | 1 | . | 1 | . | 1 | . | 1 | . | . | . | . | . | 1 |
| $288_2 = \chi_{16,1}$ | . | 1 | . | 1 | . | 1 | . | 1 | . | . | . | . | . |
| $768_1 = \chi_{20+}$ | . | . | . | . | . | . | 1 | 1 | . | . | . | 1 | 1 |
| $567_1 = \chi_{24,0}$ | . | . | . | . | 1 | . | . | . | . | 1 | . | 1 | 1 |
| $567_2 = \chi_{24,1}$ | . | . | . | . | . | 1 | . | . | . | . | 1 | 1 | . |

| (Block 1:) | $\varphi_{15,1}$ | | |
|-----------------------|------------------|--------------------|---------|
| $1_1 = \chi_{1,0}$ | . | | |
| $1_2 = \chi_{1,1}$ | . | | |
| $9_1 = \chi_{2,0}$ | . | $\varphi_{1,0} =$ | 1_1 |
| $9_2 = \chi_{2,1}$ | . | $\varphi_{1,1} =$ | 1_2 |
| $36_1 = \chi_{4,0}$ | . | $\varphi_{2,0} =$ | 8_1 |
| $36_2 = \chi_{4,1}$ | . | $\varphi_{2,1} =$ | 8_2 |
| $42_1 = \chi_{5,0}$ | . | $\varphi_{3,0} =$ | 28_1 |
| $42_2 = \chi_{5,1}$ | . | $\varphi_{3,1} =$ | 28_2 |
| $84_1 = \chi_{7,0}$ | . | $\varphi_{4,0} =$ | 34_1 |
| $84_2 = \chi_{7,1}$ | . | $\varphi_{4,1} =$ | 34_2 |
| $126_1 = \chi_{9,0}$ | . | $\varphi_{6+} =$ | 70_1 |
| $126_2 = \chi_{9,1}$ | . | $\varphi_{9,0} =$ | 56_1 |
| $448_1 = \chi_{12+}$ | . | $\varphi_{9,1} =$ | 56_2 |
| $252_1 = \chi_{15,0}$ | . | $\varphi_{11+} =$ | 266_1 |
| $252_2 = \chi_{15,1}$ | 1 | $\varphi_{15,0} =$ | 217_1 |
| $288_1 = \chi_{16,0}$ | . | $\varphi_{15,1} =$ | 217_2 |
| $288_2 = \chi_{16,1}$ | 1 | | |
| $768_1 = \chi_{20+}$ | 1 | | |
| $567_1 = \chi_{24,0}$ | . | | |
| $567_2 = \chi_{24,1}$ | 1 | | |

| Block 2: | $\varphi_{5,0}$ | $\varphi_{8,0}$ | $\varphi_{13,1}$ | $\varphi_{14,1}$ | | |
|-----------------------|-----------------|-----------------|------------------|------------------|--------------------|---------|
| $35_1 = \chi_{3,0}$ | 1 | . | . | . | $\varphi_{5,0} =$ | 35_1 |
| $90_1 = \chi_{8,0}$ | 1 | 1 | . | . | $\varphi_{8,0} =$ | 55_1 |
| $160_2 = \chi_{10,1}$ | . | . | . | 1 | $\varphi_{13,1} =$ | 155_2 |
| $210_2 = \chi_{11,1}$ | . | 1 | 1 | . | $\varphi_{14,1} =$ | 160_2 |
| $315_2 = \chi_{18,1}$ | . | . | 1 | 1 | | |

| Block 3: | $\varphi_{5,1}$ | $\varphi_{8,1}$ | $\varphi_{13,0}$ | $\varphi_{14,0}$ | | |
|-----------------------|-----------------|-----------------|------------------|------------------|--------------------|---------|
| $35_2 = \chi_{3,1}$ | 1 | . | . | . | $\varphi_{5,1} =$ | 35_2 |
| $90_2 = \chi_{8,1}$ | 1 | 1 | . | . | $\varphi_{8,1} =$ | 55_2 |
| $160_1 = \chi_{10,0}$ | . | . | . | 1 | $\varphi_{13,0} =$ | 155_1 |
| $210_1 = \chi_{11,0}$ | . | 1 | 1 | . | $\varphi_{14,0} =$ | 160_1 |
| $315_1 = \chi_{18,0}$ | . | . | 1 | 1 | | |

| Block 16: | φ_{21+} | φ_{23+} | φ_{25+} | φ_{27+} | φ_{29+} | | | |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|---------|--|
| $16_1 = \chi_{25,0}$ | 1 | . | . | . | . | | | |
| $16_2 = \chi_{25,1}$ | 1 | . | . | . | . | | | |
| $96_1 = \chi_{26+}$ | . | 1 | . | . | . | $\varphi_{21+} =$ | 16_1 | |
| $128_1 = \chi_{28+}$ | 1 | . | 1 | . | . | $\varphi_{23+} =$ | 96_1 | |
| $432_1 = \chi_{30+}$ | . | . | 1 | 1 | . | $\varphi_{25+} =$ | 112_1 | |
| $672_1 = \chi_{32+}$ | 2 | 2 | 1 | . | 1 | $\varphi_{27+} =$ | 320_1 | |
| $768_2 = \chi_{34+}$ | . | . | 1 | 1 | 1 | $\varphi_{29+} =$ | 336_1 | |
| $432_2 = \chi_{37,0}$ | . | 1 | . | . | 1 | | | |
| $432_3 = \chi_{37,1}$ | . | 1 | . | . | 1 | | | |
| $448_2 = \chi_{38,0}$ | 1 | 1 | . | . | 1 | | | |
| $448_3 = \chi_{38,1}$ | 1 | 1 | . | . | 1 | | | |