

# $U_3(9).4 \pmod{73}$

|       | blocks               | defect | matrix                                   |
|-------|----------------------|--------|------------------------------------------|
| $G :$ | 1                    | 1      | $18 \times 12$                           |
|       | 2                    | 0      | $73_1 = \chi_{3,0}, \varphi_{3,0}$       |
|       | 3                    | 0      | $73_2 = \chi_{3,1}, \varphi_{3,1}$       |
|       | 4                    | 0      | $73_3 = \chi_{3,2}, \varphi_{3,2}$       |
|       | $5 = \overline{3}$   | 0      | $73_4 = \chi_{3,3}, \varphi_{3,3}$       |
|       | 6                    | 0      | $292_1 = \chi_{4+}, \varphi_{4+}$        |
|       | 7                    | 0      | $292_2 = \chi_{8+}, \varphi_{8+}$        |
|       | 8                    | 0      | $1168_1 = \chi_{12,0+}, \varphi_{12,0+}$ |
|       | 9                    | 0      | $1168_2 = \chi_{12,1+}, \varphi_{12,1+}$ |
|       | 10                   | 0      | $1168_3 = \chi_{14,0+}, \varphi_{14,0+}$ |
|       | 11                   | 0      | $1168_4 = \chi_{14,1+}, \varphi_{14,1+}$ |
|       | 12                   | 0      | $2336_1 = \chi_{16+}, \varphi_{16+}$     |
|       | 13                   | 0      | $2336_2 = \chi_{20+}, \varphi_{20+}$     |
|       | 14                   | 0      | $657_1 = \chi_{24,0}, \varphi_{24,0}$    |
|       | 15                   | 0      | $657_2 = \chi_{24,1}, \varphi_{24,1}$    |
|       | 16                   | 0      | $657_3 = \chi_{24,2}, \varphi_{24,2}$    |
|       | $17 = \overline{15}$ | 0      | $657_4 = \chi_{24,3}, \varphi_{24,3}$    |
|       | 18                   | 0      | $2628_1 = \chi_{25+}, \varphi_{25+}$     |
|       | 19                   | 0      | $2628_2 = \chi_{29+}, \varphi_{29+}$     |
|       | 20                   | 0      | $730_1 = \chi_{34,0}, \varphi_{34,0}$    |
|       | 21                   | 0      | $730_2 = \chi_{34,1}, \varphi_{34,1}$    |
|       | 22                   | 0      | $730_3 = \chi_{34,2}, \varphi_{34,2}$    |
|       | $23 = \overline{21}$ | 0      | $730_4 = \chi_{34,3}, \varphi_{34,3}$    |
|       | 24                   | 0      | $1460_1 = \chi_{35,0+}, \varphi_{35,0+}$ |
|       | 25                   | 0      | $1460_2 = \chi_{35,1+}, \varphi_{35,1+}$ |
|       | 26                   | 0      | $2920_1 = \chi_{37+}, \varphi_{37+}$     |
|       | 27                   | 0      | $2920_2 = \chi_{41+}, \varphi_{41+}$     |
|       | 28                   | 0      | $2920_3 = \chi_{45+}, \varphi_{45+}$     |
|       | 29                   | 0      | $2920_4 = \chi_{49+}, \varphi_{49+}$     |
|       | 30                   | 0      | $2920_5 = \chi_{53+}, \varphi_{53+}$     |
|       | 31                   | 0      | $2920_6 = \chi_{57+}, \varphi_{57+}$     |
|       | 32                   | 0      | $2920_7 = \chi_{61+}, \varphi_{61+}$     |
|       | 33                   | 0      | $2920_8 = \chi_{65+}, \varphi_{65+}$     |

| <b>Block 1:</b>       | $\varphi_{1,0}$ | $\varphi_{1,1}$ | $\varphi_{1,2}$ | $\varphi_{1,3}$ | $\varphi_{2,0}$ | $\varphi_{2,1}$ | $\varphi_{2,2}$ | $\varphi_{2,3}$ | $\varphi_{33,0}$ | $\varphi_{33,1}$ | $\varphi_{33,2}$ | $\varphi_{33,3}$ |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
| $1_1 = \chi_{1,0}$    | 1               | .               | .               | .               | .               | .               | .               | .               | .                | .                | .                | .                |
| $1_2 = \chi_{1,1}$    | .               | 1               | .               | .               | .               | .               | .               | .               | .                | .                | .                | .                |
| $1_3 = \chi_{1,2}$    | .               | .               | 1               | .               | .               | .               | .               | .               | .                | .                | .                | .                |
| $1_4 = \chi_{1,3}$    | .               | .               | .               | 1               | .               | .               | .               | .               | .                | .                | .                | .                |
| $72_1 = \chi_{2,0}$   | .               | .               | .               | .               | 1               | .               | .               | .               | .                | .                | .                | .                |
| $72_2 = \chi_{2,1}$   | .               | .               | .               | .               | .               | 1               | .               | .               | .                | .                | .                | .                |
| $72_3 = \chi_{2,2}$   | .               | .               | .               | .               | .               | .               | 1               | .               | .                | .                | .                | .                |
| $72_4 = \chi_{2,3}$   | .               | .               | .               | .               | .               | .               | .               | 1               | .                | .                | .                | .                |
| $729_1 = \chi_{33,0}$ | 1               | .               | .               | .               | .               | .               | .               | .               | 1                | .                | .                | .                |
| $729_2 = \chi_{33,1}$ | .               | 1               | .               | .               | .               | .               | .               | .               | .                | 1                | .                | .                |
| $729_3 = \chi_{33,2}$ | .               | .               | 1               | .               | .               | .               | .               | .               | .                | .                | 1                | .                |
| $729_4 = \chi_{33,3}$ | .               | .               | .               | 1               | .               | .               | .               | .               | .                | .                | .                | 1                |
| $3200_1 = \chi_{69+}$ | .               | .               | .               | .               | 1               | 1               | 1               | 1               | 1                | 1                | 1                | 1                |
| $3200_2 = \chi_{73+}$ | .               | .               | .               | .               | 1               | 1               | 1               | 1               | 1                | 1                | 1                | 1                |
| $3200_3 = \chi_{77+}$ | .               | .               | .               | .               | 1               | 1               | 1               | 1               | 1                | 1                | 1                | 1                |
| $3200_4 = \chi_{81+}$ | .               | .               | .               | .               | 1               | 1               | 1               | 1               | 1                | 1                | 1                | 1                |
| $3200_5 = \chi_{85+}$ | .               | .               | .               | .               | 1               | 1               | 1               | 1               | 1                | 1                | 1                | 1                |
| $3200_6 = \chi_{89+}$ | .               | .               | .               | .               | 1               | 1               | 1               | 1               | 1                | 1                | 1                | 1                |

$$\begin{array}{ll}
\varphi_{1,0} = 1_1 & \varphi_{2,2} = 72_3 \\
\varphi_{1,1} = 1_2 & \varphi_{2,3} = 72_4 \\
\varphi_{1,2} = 1_3 & \varphi_{33,0} = 728_1 \\
\varphi_{1,3} = 1_4 & \varphi_{33,1} = 728_2 \\
\varphi_{2,0} = 72_1 & \varphi_{33,2} = 728_3 \\
\varphi_{2,1} = 72_2 & \varphi_{33,3} = 728_4
\end{array}$$