The group G is isomorphic to the group labelled by [32, 39] in the Small Groups library. Ordinary character table of  $G \cong C2 \times D16$ :

|             | 1a | 2a | 2b | 2c | 4a | 2d | 8a               | 2e | 2f | 4b | 2g | 8b               | 8c               | 8d               |
|-------------|----|----|----|----|----|----|------------------|----|----|----|----|------------------|------------------|------------------|
| $\chi_1$    | 1  | 1  | 1  | 1  | 1  | 1  | 1                | 1  | 1  | 1  | 1  | 1                | 1                | 1                |
| $\chi_2$    | 1  | -1 | -1 | -1 | 1  | 1  | 1                | 1  | 1  | -1 | -1 | -1               | 1                | -1               |
| $\chi_3$    | 1  | -1 | -1 | 1  | 1  | 1  | 1                | -1 | -1 | 1  | 1  | 1                | 1                | 1                |
| $\chi_4$    | 1  | -1 | 1  | -1 | 1  | 1  | -1               | 1  | -1 | -1 | -1 | 1                | -1               | 1                |
| $\chi_5$    | 1  | -1 | 1  | 1  | 1  | 1  | -1               | -1 | 1  | 1  | 1  | -1               | -1               | -1               |
| $\chi_6$    | 1  | 1  | -1 | -1 | 1  | 1  | -1               | -1 | 1  | -1 | -1 | 1                | -1               | 1                |
| $\chi_7$    | 1  | 1  | -1 | 1  | 1  | 1  | -1               | 1  | -1 | 1  | 1  | -1               | -1               | -1               |
| $\chi_8$    | 1  | 1  | 1  | -1 | 1  | 1  | 1                | -1 | -1 | -1 | -1 | -1               | 1                | -1               |
| $\chi_9$    | 2  | 0  | 0  | -2 | -2 | 2  | 0                | 0  | 0  | 2  | -2 | 0                | 0                | 0                |
| $\chi_{10}$ | 2  | 0  | 0  | 2  | -2 | 2  | 0                | 0  | 0  | -2 | 2  | 0                | 0                | 0                |
| $\chi_{11}$ | 2  | 0  | 0  | -2 | 0  | -2 | $-E(8) + E(8)^3$ | 0  | 0  | 0  | 2  | $E(8) - E(8)^3$  | $E(8) - E(8)^3$  | $-E(8) + E(8)^3$ |
| $\chi_{12}$ | 2  | 0  | 0  | -2 | 0  | -2 | $E(8) - E(8)^3$  | 0  | 0  | 0  | 2  | $-E(8) + E(8)^3$ | $-E(8) + E(8)^3$ | $E(8) - E(8)^3$  |
| $\chi_{13}$ | 2  | 0  | 0  | 2  | 0  | -2 | $-E(8) + E(8)^3$ | 0  | 0  | 0  | -2 | $-E(8) + E(8)^3$ | $E(8) - E(8)^3$  | $E(8) - E(8)^3$  |
| $\chi_{14}$ | 2  | 0  | 0  | 2  | 0  | -2 | $E(8) - E(8)^3$  | 0  | 0  | 0  | -2 | $E(8) - E(8)^3$  | $-E(8) + E(8)^3$ | $-E(8) + E(8)^3$ |

|   |       |              |       |                |  |                             |               |                    |                  |                                       |                               |                               |          |                 | $\chi$                          | 14 2                        | U              | 0 2  | 0 –                          | $\frac{2}{E(8)}$ | $-E(\delta)$          | 5) 0                                   | U               | 0 -             | -Z E           | (8) - E   | (8) -                         | E(8) + I     | 立(8)。                      | -E(8) +                        |
|---|-------|--------------|-------|----------------|--|-----------------------------|---------------|--------------------|------------------|---------------------------------------|-------------------------------|-------------------------------|----------|-----------------|---------------------------------|-----------------------------|----------------|--|------------------------------|------------------|-----------------------|--|-----------------|-----------------|----------------|---|-------------------------------|--------------|----------------------------|--------------------------------|
| Trivial source character table of $G \cong C2 \times D16$ at $p = 2$ :  |       |              |       |                |  |                             |               |                    |                  |                                       |                               |                               |          |                 |                                 |                             |                |  |                              |                  |                       |  |                 |                 |                |   |                               |              |                            |                                |
| Normalisers $N_i$   | $N_1$ | $V_2 \mid N$ | $N_4$ | N <sub>5</sub> | $N_6 \mid N_7$                         | 7 N <sub>8</sub>            | No            | $N_{10}$ $\Lambda$ | $N_{11} \mid N$  | V <sub>12</sub> N                     | $N_1$                         | 4 N <sub>15</sub>             | $N_{16}$ | N <sub>17</sub> | $N_{18} \mid N_{19}$            | 0 N20                       | $N_{21}$       | $N_{22} \mid N_2$                                | $N_{24}$                     | N <sub>25</sub>  | $N_{26} \mid \Lambda$ | 7 <sub>27</sub>   N <sub>29</sub>      | N <sub>20</sub> | N <sub>20</sub> | $N_{21}$       | $N_{32} \mid N$                                       | $N_{33} N_{34}$               | $N_{25}$     | $\overline{N_{26} \mid N}$ | $V_{37}   N_{38}$              |
| p-subgroups of $G$ up to conjugacy in $G$   | $P_1$ |              |       |                | $P_e$ $P_e$                            | , P <sub>o</sub>            | $P_0$         | $P_{10}$ $I$       | $P_{11}$ $P$     | $P_{12}$ $P_{1}$                      | $P_1$                         | $\frac{4}{4}$ $P_{15}$        | $P_{16}$ |                 | $P_{18}   P_{19}$               | $P_{20}$                    | $P_{21}$       | $P_{22}$ $P_2$                                   | $\frac{1}{2}$ $P_{24}$       | P <sub>25</sub>  | $P_{26}$ $P_{36}$     | $P_{27} = P_{28}$                      | $P_{20}$        | $P_{20}$        | _              | $P_{32}$ $P_{32}$                                     | $P_{33} = P_{34}$             | $P_{35}$     |                            | $P_{37}   P_{38}$              |
| Representatives $n_j \in N_i$   |       |              |       | $\frac{1}{1a}$ | $\frac{1}{1a}$ $\frac{1}{16}$          | $\frac{1}{a}$ $\frac{1}{a}$ | $\frac{1}{a}$ | $\frac{1}{1a}$     | $\frac{1}{1a}$ 1 | $\begin{vmatrix} a & 1 \end{vmatrix}$ | $\frac{13}{a}$ $\frac{1}{1}a$ | $\frac{4}{a}$ $\frac{1a}{1a}$ | 1a       | $\frac{1}{1a}$  | $\frac{1a}{1a}$ $\frac{1a}{1a}$ | $\frac{9}{1}$ $\frac{1}{a}$ | $\frac{1}{1a}$ | $\frac{1}{1a}$ $\frac{1}{1a}$                    | $\frac{3}{a}$ $\frac{1}{1a}$ | 1a               | $\frac{1}{1a}$        | $\begin{vmatrix} a & 1a \end{vmatrix}$ | $\frac{1}{1a}$  | 1a              | $\frac{1}{1a}$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\frac{33}{a}$ $\frac{1}{1a}$ |              |                            | $\frac{37}{1a}$ $\frac{1}{1a}$ |
| $1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8 + 2 \cdot \chi_9 + 2 \cdot \chi_{10} + 2 \cdot \chi_{11} + 2 \cdot \chi_{12} + 2 \cdot \chi_{13} + 2 \cdot \chi_{14}$  | 1 1   | - 1          |       |                | 0 0                                    | 0                           | 0             | 0                  | 0 (              | 0 0                                   | ) 0                           | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0 0                                    | 0               | 0               | 0              | 0 (   | 0                             | 0            |                            | 0 0                            |
| $\frac{1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8 + 2 \cdot \chi_9 + 2 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}}{1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8 + 2 \cdot \chi_9 + 2 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}}$ |       |              |       | 0              | 0 0                                    | 0                           | 0             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0 0                                    | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | 0 0                            |
| $\frac{1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 2 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 2 \cdot \chi_{13} + 2 \cdot \chi_{14}}{1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 2 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 2 \cdot \chi_{13} + 2 \cdot \chi_{14}}$ |       |              |       | 0              | 0 0                                    | 0                           | 0             | 0                  | 0 (              | 0 0                                   | 0 0                           | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0 0                                    | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 2 \cdot \chi_{10} + 2 \cdot \chi_{11} + 2 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       | 0 0          | 16    | 0              | 0 0                                    | 0                           | 0             | 0                  | 0 (              | 0 0                                   | 0 (                           | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0 0                                    | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8 + 1 \cdot \chi_9 + 1 \cdot \chi_{10} + 1 \cdot \chi_{11} + 1 \cdot \chi_{12} + 1 \cdot \chi_{13} + 1 \cdot \chi_{14}$  |       | 0 0          | 0     | 4              | 0 0                                    | 0                           | 0             | 0                  | 0 (              | 0 0                                   | 0 0                           | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0 0                                    | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9 + 1 \cdot \chi_{10} + 1 \cdot \chi_{11} + 1 \cdot \chi_{12} + 1 \cdot \chi_{13} + 1 \cdot \chi_{14}$  | 16    | 0 0          | 0     | 0              | 4 0                                    | 0                           | 0             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0 0                                    | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | $\overline{0}$                 |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8 + 1 \cdot \chi_9 + 1 \cdot \chi_{10} + 1 \cdot \chi_{11} + 1 \cdot \chi_{12} + 1 \cdot \chi_{13} + 1 \cdot \chi_{14}$  | 16    | 0 0          | 0     | 0              | 0 4                                    | 0                           | 0             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0 0                                    | 0               | 0               | 0              | 0 (   | 0                             | 0            | 0 (                        | $\overline{)}$ 0               |
| $1 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9 + 1 \cdot \chi_{10} + 1 \cdot \chi_{11} + 1 \cdot \chi_{12} + 1 \cdot \chi_{13} + 1 \cdot \chi_{14}$  | 16    | 0 0          | 0     | 0              | 0 0                                    | 4                           | 0             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0 0                                    | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0                          | ) 0                            |
| $1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       |              |       | 0              | 0 0                                    | 0                           | 8             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0                          | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 1 \cdot \chi_{10} + 1 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 8     | 0 0          | 8     | 2              | $\begin{vmatrix} 2 & 0 \end{vmatrix}$  | 0                           | 0             | 2                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 2 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 8     | 8 8          | 8     | 0              | 0 0                                    | 0                           | 0             | 0                  | 8 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 2 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 8     | 8 0          | 0     | 0              | 0 0                                    | 0                           | 0             | 0                  | 0 0              | 8 0                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 1 \cdot \chi_{13} + 1 \cdot \chi_{14}$  |       |              |       | 2              | 2 0                                    | 0                           | 0             | 0                  | 0 (              | 0 2                                   | 2 0                           | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8 + 1 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 8     | 8 0          | 0     | 4              | 0 0                                    | 0                           | 0             | 0                  | 0 (              | 0 0                                   | ) 4                           | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 1 \cdot \chi_{10} + 1 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       | 0 0          | 8     | 0              | 0 2                                    | 2                           | 0             | 0                  | 0 (              | 0 0                                   | 0                             | 2                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       | 8 0          | 0     | 0              | 4 0                                    | 0                           | 0             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 4        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 1 \cdot \chi_{13} + 1 \cdot \chi_{14}$  |       | -            | 0     | 0              | 0 2                                    | 2                           | 0             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 2               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8 + 1 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       |              |       | 0              | 0 4                                    | 0                           | 0             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 4 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0                             | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 8     | 8 0          | 0     | 0              | 0 0                                    | 4                           | 0             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 4                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 4     | 4 0          | 0     | 0              | 0 0                                    | 4                           | 4             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 4                             | 4                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 4     | 4 0          | 0     | 0              | 0 0                                    | 0                           | 4             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 4              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0                             | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 4     | 4 0          | 0     | 0              | 0 0                                    | 0                           | 4             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 4 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 4     | 4 4          | 4     | 0              | 0 2                                    | 2                           | 0             | 0                  | 4 (              | 0 0                                   | 0                             | 2                             | 0        | 2               | 2 2                             | 0                           | 0              | 0 2  | 0                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0                             | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       | 4  0         | 0     | 0              | 0 4                                    | 0                           | 4             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             | 0        | 0               | 4 0                             | 0                           | 0              | 0 0  | 4                            | 0                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0                             | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 4     | $4 \mid 0$   | 0     | 0              | 4 0                                    | 0                           | 4             | 0                  | 0 (              | 0 0                                   | 0 0                           | 0                             | 4        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 4                | 0                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0                             | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 4     | $4 \mid 0$   | 0     | 0              | 0 2                                    | 2                           | 0             | 0                  | 0 4              | 4 0                                   | 0 0                           | 0                             | 0        | 0               | 2 2                             | 0                           | 0              | 0 0  | 0                            | 0                | 2                     | 0  0                                   | 0               | 0               | 0              | 0 (   | 0                             | 0            | 0 (                        | 0 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       | 4 4          |       | 2              | 2 0                                    | 0                           | 0             | 2                  | 4 (              | 0 2                                   | 2 2                           | 0                             | 2        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | $\begin{array}{c c} 2 & 0 \end{array}$ | 0               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 0                        | 0 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 4     | 4 0          | 0     | 4              | 0 0                                    | 0                           | 4             | 0                  | 0 (              | 0 0                                   | ) 4                           | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | $0 \mid 4$                             | 0               | 0               | 0              | 0 (   | 0                             | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 4     |              | 4     | 0              | 0 0                                    | 0                           | 4             | 0                  | 4 4              | 4 (                                   | 0                             | 0                             | 0        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0 0                                    | 4               | 0               | 0              | 0 (   | 0 0                           | 0            | 0 0                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 4     |              |       | 2              | $\begin{array}{c c} 2 & 0 \end{array}$ | 0                           | 0             | 0                  | 0 4              | 4 0                                   | ) 2                           | 0                             | 2        | 0               | 0 0                             | 0                           | 0              | 0 0  | 0                            | 0                | 0                     | 0  0                                   | 0               | 2               | 0              | 0 (   | 0                             | 0            | 0 0                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       |              |       | 2              | 0 2                                    | 0                           | 2             | 0                  | ,                | 0 0                                   |                               | 0                             | 0        |                 | 2 0                             | 0                           | 2              | 0 0  | 2                            | 0                |                       | $0 \mid 2$                             | 0               | 0               | 2              | 0 (   | 0                             | 0            | 0 (                        | ) 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       |              |       |                |  | 2                           |               |                    |                  | 2 (                                   |                               | 2                             | 0        |                 |                                 |                             |                | 0 2  | 2                            | 0                | _                     | 0 0                                    | 2               | 0               | 0              | 2 (   | 0 0                           |              |                            | 0 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       |              |       |                |  | 0                           | 2             | 0                  | 0 (              | 0 0                                   | 0                             | 0                             |          |                 | 2 0                             | _                           | -              | 2 0  |                              | 2                | 0                     | 0  0                                   | 0               | 0               |                |   | 2 0                           | 0            |                            | 0 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       |              |       |                |  | 0                           | 2             | 2                  | 2 2              | $2 \mid 2$                            | $\frac{2}{2}$                 | 0                             | _        | 0               |                                 | 0                           | -              | 0 0  | 0                            | 2                | 0                     | $\begin{array}{c c} 2 & 2 \end{array}$ | 2               | 2               | 0              | 0 (   | 0 2                           | <del>_</del> |                            | 0 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       |              |       |                | 0 0                                    | 2                           | 2             | 0                  | 0 (              | 0 0                                   | ) 2                           | 0                             | 0        | -               | 0 2                             | 2                           | 0              | 2 0  | 0                            | 0                | 0                     | 0  2                                   | 0               | 0               | 0              | 0 (   | ) 0                           |              |                            | 0 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       |              |       |                | 0 0                                    | 0                           | 2             | 0                  | 2 2              | $\frac{2}{2}$                         |                               | 0                             | 0        | 0               | 0 0                             | 0                           | 2              | $\begin{array}{c c} 2 & 0 \\ \hline \end{array}$ | 0                            | 0                | 0                     | 0 0                                    | 2               | 0               | 0              | 0 (   | ) 0                           | 0            |                            | 0  0                           |
| $1 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  |       |              |       |                | 2 0                                    | 2                           | 2             | 0                  | 0 (              | 0 0                                   | ) 0                           | 0                             | 2        | 0               | 0 2                             | 2                           | 2              | 0 0  | 0                            | 2                | 0                     | 0 0                                    | 0               | 0               | 0              | 0 (   | ) 0                           | 0            | 0 2                        | 2 0                            |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14}$  | 1     | 1   1        | 1     | 1              | 1   1                                  | 1                           | 1             | 1                  | 1   1            | 1   1                                 | l   1                         | 1                             | 1        | 1               | 1   1                           | 1                           | 1              | 1   1  | 1                            | 1                | 1                     | 1   1                                  | 1               | 1               | 1              | 1   1   | 1   1                         | 1            | 1 1                        | 1 1                            |
|   |       |              |       |                |  |                             |               |                    |                  |                                       |                               |                               |          |                 |                                 |                             |                |  |                              |                  |                       |  |                 |                 |                |   |                               |              |                            |                                |

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P_2 = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)]) \cong C2(1,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)] = C2(1,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)] = C2(1,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)] = C2(1,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)] = C2(1,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)] = C2(1,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)] = C2(1,24)(12,25)(14,26)(17,28)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(18,29)(1
P_3 = Group([(1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(29,32)]) \cong C2
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- $P_4 = Group([(1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(8,10)(9,30)(11,13)(12,31)(14,16)(17,19)(18,32)(20,22)(23,25)(27,29)]) \cong C2$  $P_5 = Group([(1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,16)(14,31)(15,24)(18,22)(20,32)(21,28)(23,26)(27,30)]) \cong C2(1,23)($
- $P_6 = Group([(1,11)(2,17)(3,4)(5,31)(6,24)(7,8)(9,32)(10,28)(12,26)(13,15)(14,25)(16,23)(18,30)(19,21)(20,29)(22,27)]) \cong C2$
- $P_7 = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(19,25)(20,26)(24,32)(28,31)]) \cong \mathbb{C}_2$
- $P_8 = Group([(1,8)(2,4)(3,27)(5,30)(6,21)(7,23)(9,26)(10,15)(11,18)(12,17)(13,32)(14,22)(16,20)(19,31)(24,29)(25,28)]) \cong \mathbb{C}^2$

- $P_{12} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32), \\ (1,14,6,26)(2,20,10,30)(3,23,13,31)(4,5,15,16)(7,27,19,32)(8,9,21,22)(11,12,24,25)(17,18,28,29)]) \cong C4$

- $P_{20} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,8)(2,4)(3,27)(5,30)(6,21)(7,23)(9,26)(10,15)(11,18)(12,17)(13,32)(14,22)(16,20)(19,31)(24,29)(25,28)]) \cong D8$  $P_{21} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,18,5,19,6,29,16,7)(2,12,9,13,10,25,22,3)(4,27,14,28,15,32,26,17)(8,23,20,24,21,31,30,11)]) \cong C8$
- $P_{22} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(17,18,19,29)(17,1$
- $P_{23} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)$
- $P_{24} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(19,25)(20,26)(24,32)(28,31)]) \cong D8$
- $P_{25} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32), \\ (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), \\ (1,11)(2,17)(3,4)(5,31)(6,24)(7,8)(9,32)(10,28)(12,26)(13,15)(14,25)(16,23)(18,30)(19,21)(20,29)(22,27)]) \cong D8$  $P_{26} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(4,5,15,16)(7,27,19,32)(8,9,21,22)(11,12,24,25)(17,18,28,29), (1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(19,25)(20,26)(24,32)(28,31)]) \cong D8$
- $P_{28} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(4,26)(17,28)(13,24)(17,27,28,32), \\ (1,5)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,16)(14,31)(15,24)(18,22)(20,32)(21,28)(23,26)(27,30)]) \cong D_{28} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(13,24)(17,27,28,32), \\ (1,5)(4,11)(5,25)(6,13)(6,17)(9,29)(10,19)(12,16)(14,21)(12,25)(14,26)(17,28)(12,26)(17,28)(12,26)(17,28)(12,26)(17,28)(17,$
- $P_{29} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(13,24)(17,27,28,32), \\ (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), \\ (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), \\ (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), \\ (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), \\ (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(17,18,19,29)(11,24)(12,25)(14,26)(17,28)(17,2$
- $P_{30} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(4,26)(17,28)(18,29)(20,30)(23,31)(4,5,15,16)(7,27,19,32)(8,9,21,22)(11,12,24,25)(17,18,28,29),\\ (1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,16)(14,31)(15,24)(18,22)(20,32)(21,28)(23,26)(27,30)] \cong D_{30} = 0$  $P_{31} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), \\ (1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,16)(14,27)(13,29)(14,20)(17,28)(18,29)(20,30)(21,28)(21,28)(23,26)(27,30), \\ (1,2)(3,12)(1,23)(1,2$
- $P_{32} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), \\ (1,5)(4,14)(5,12)(1,23)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), \\ (1,5)(4,14)(1,23)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), \\ (1,5)(4,14)(1,23)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)($  $P_{33} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(13,15)(14,25)(14,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32), \\ (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), \\ (1,11)(2,17)(3,4)(5,31)(6,24)(7,8)(9,32)(10,28)(12,26)(13,15)(14,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32), \\ (1,11)(2,17)(3,4)(5,31)(6,24)(7,8)(9,32)(10,28)(12,26)(13,15)(14,25)(14,26)(13,15)(14,25)(14,26)(13,15)(14,25)(14,26)(13,15)(14,25)(14,26)(13,15)(14,25)(14,26)(13,15)(14,25)(14,26)(13,15)(14,25)(14,26)(13,15)(14,25)(14,26)(13,15)(14,25)(14,26)(13,15)(14,25)(14,26)(13,15)(14,25)(14,26)(1$
- $P_{34} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,11)(5,14)(6,15)(7,17)(9,20)(10,11)(12,23)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(17$
- $P_{35} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), \\ (1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,16)(14,21)(15,24)(18,22)(20,32)(21,28)(23,26)(27,30), \\ (1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,16)(14,21)(15,24)(18,22)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,32)(11,24)(12,25)(14,26)(17,28)(18,29)(12,26)(11,24)(12,25)(14,26)(17,28)(18,29)(12,26)(11,24)(12,25)(14,26)(17,28)(18,29)(12,26)(12,$
- $P_{36} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(22,30)(25,31)(27,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(18,29)(20,30)(25,31)(27,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(18,29)(20,30)(25,31)(27,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(18,29)(10,21)(12,23)(13,24)(16,26)(17,28)(18,29)(19,28)(19$  $P_{37} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,23)(9,22)(11,24)(12,25)(14,26)(17,23)(9,24)(11,24)(12,25)(14,26)(17,23)(9,24)(11,24)(12,25)(14,26)(17,23)(14,22)(16,24)(17,23)(14,22)(16,24)(17,23)(14,22)(16,24)(17,23)(18,24)(19$
- $P_{38} = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(4,14,15,26)(7,19)(8,21)(9,22)(11,24)(12,25)(4,14)(15,26)(17,28)(13,24)(16,25)(14,26)(17,28)(13,24)(16,25)(14,26)(17,28)(13,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(12,31)(17,27,28,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(12,31)(17,27,28,32)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(11,24)(12,25)(14,26)(17,28)(18,29)(12,26)(11,24)(12,25)(14,26)(17,28)(18,29)(12,26)(12,28)($
- $N_1 = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(19,25)(20,32)(21,32)(17,23)(19,25)(20,32)(21,32)(17,23)(19,25)(20,32)(21,32)(17,23)(19,25)(20,32)(21,32)(17,23)(19,25)(20,32)(21,32)(17,23)(19,25)(20,32)(21,32)(17,23)(19,25)(20,32)(21,32)(17,23)(19,25)(21,24)(19,25)(19$  $N_2 = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(13,24)(16,26)(17,23)(17$  $N_3 = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,25)(14,20)(15,21)(17,23)(13,24)(16,25)(24,31)(17,27,28,32), (1,5)(4,14)(5,25)(6,13)(8,17)(9,29)(10,19)(12,25)(14,26)(17,28)(13,24)(16,25)(14,26)(17,28)(13,24)(16,26)(17,28)(18,29)(20,30)(25,31)(27,32)]) \\ \cong C2 \times D16$  $N_4 = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,23)(13,24)(16,25)(24,32)(25,31)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(17$  $N_5 = Group([(1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,16)(14,31)(15,24)(18,22)(20,32)(21,28)(23,26)(27,30), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(23,26)(27,30), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(23,26)(27,30), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(23,26)(27,30), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(23,26)(27,30), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)$
- $N_6 = Group([(1,11)(2,17)(3,4)(5,31)(6,24)(7,8)(9,32)(10,28)(12,26)(13,15)(14,25)(16,23)(18,20)(27,30), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(13,15)(14,25)(16,23)(18,20)(27,30), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(16,26)(16$  $N_7 = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(19,25)(20,26)(24,32)(28,31), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(18,27)(19,28)(21,24)(12,25)(14,26)(17,28)(18,27)(19,28)(21,24)(12,23)(13,24)(16,26)(18,27)(19,28)(21,24)(21,24)($  $N_8 = Group([(1,8)(2,4)(3,27)(5,30)(6,21)(7,23)(9,26)(10,15)(11,18)(12,27)(13,29)(14,20)(15,21)(17,23)(19,25)(20,26)(24,32)(25,28), \\ (1,2)(3,10)(4,2)(15,20)(15,21)(17,23)(19,25)(20,26)(24,32)(25,28), \\ (1,2)(3,10)(4,2)(15,20)(15,21)(17,23)(19,25)(20,26)(24,32)(25,28), \\ (1,2)(3,10)(4,2)(15,20)(15,21)(17,23)(19,25)(20,26)(24,32)(25,28), \\ (1,2)(3,10)(4,20)(15,21)(17,23)(19,25)(20,26)(24,32)(25,28), \\ (1,2)(3,10)(4,20)(15,21)(17,23)(19,25)(20,26)(24,32)(25,28), \\ (1,2)(3,10)(4,20)(15,21)(17,23)(19,25)(20,26)(24,32)(25,28), \\ (1,2)(3,10)(4,20)(15,21)(17,23)(19,25)(20,26)(10,15)(11,24)(12,25)(14,26)(17,28)(13,24)(15,24$

 $N_9 = Group([(1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18)(4,22)(23,31)(27,32),(1,2)(3,18)(4,15)(5,16)(7,19)(8,21)(27,32),(1,2)(3,18)(4,15)(5,16)(7,19)(8,21)(27,32),(1,2)(3,18)(4,15)(5,16)(7,19)(8,21)(27,32),(1,2)(3,18)(4,15)(5,16)(7,19)(8,21)(27,32),(1,2)(3,18)(4,15)(5,16)(7,19)(8,21)(27,32),(1,2)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(18,29)(20,32)(21,28)(23,26)(27,32),(1,2)(3,18)(4,15)(5,16)(7,19)(8,21)(17,28)(18,29)(20,32)(17,28)(18,29)(20,32)(17,28)(18,29)(20,32)(17,28)(18,29)(20,32)(17,28)(18,29)(20,32)(18,29)(21,28)(2$ 

- $N_{10} = Group([(1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,16)(14,31)(15,24)(18,22)(20,32)(21,28)(23,26)(27,30), \\ (1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(8,10)(9,30)(11,13)(12,31)(14,16)(17,19)(18,32)(20,32)(21,28)(23,26)(27,30), \\ (1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(8,10)(9,30)(11,13)(12,31)(14,16)(17,19)(18,32)(20,32)(21,28)(23,26)(27,30), \\ (1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(8,10)(9,30)(11,13)(12,31)(14,16)(17,19)(18,32)(20,32)(21,28)(23,26)(27,30), \\ (1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(13,24)(16,26)(18,27)(19,28)(21,28)(23,26)(27,30), \\ (1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(13,24)(16,26)(18,27)(19,28)(21,28)$  $N_{11} = Group([(1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(13,24)(16,26)(17,23)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(18,27)(19,28)$
- $N_{12} = Group([(1,14,6,26)(2,20,10,30)(3,23,13,31)(4,5,15,16)(7,27,19,32)(8,9,21,22)(11,12,24,25)(17,18,28,29),(1,6)(2,10)(3,13)(4,5)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32),(1,2)(3,18)(4,18)(4,18)(5,29)(10,19)(12,16)(14,21)(12,25)(14,26)(17,28)(18,29)(20,32)(21,28)(23,26)(27,30)]) \\ \cong C_2 \times D_{16} + C_3 \times D_{16} + C_4 \times D_{16} + C_5 \times$  $N_{13} = Group([(1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,16)(14,31)(15,24)(18,22)(20,32)(21,28)(23,26)(27,30), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(23,26)(27,30), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(23,26)(27,30), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(23,26)(27,30), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(12,28$
- $N_{14} = Group([(1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,25)(14,26)(17,28)(13,24)(16,25)(14,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)$
- $N_{16} = Group([(1,11)(2,17)(3,4)(5,31)(6,24)(7,8)(9,22)(11,24)(12,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,16)(14,26)$
- $N_{18} = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,23)(12,23)(13,24)(16,25)(14,26)(17,23)(19,22)(11,24)(12,25)(14,26)(17,23)(19,24)(11,24)(12,25)(14,26)(17,24)(12,25)(14,26)(17,24)(12,25)(14,26)(17,24)(12,25)(14,26)(17,24)(12,25)(14,26)(17,24)(12,25)(14,26)(17,24)(12,25)(14,26)(17,24)$
- $N_{19} = Group([(1,8)(2,4)(3,27)(5,30)(6,21)(7,23)(9,26)(10,15)(11,28)(12,25)(14,26)(17,23)(9,26)(10,15)(11,28)(12,25)(14,26)(17,23)(12,25)($  $N_{20} = Group([(1,8)(2,4)(3,27)(5,30)(6,21)(7,23)(9,26)(10,15)(11,18)(12,17)(13,29)(14,20)(15,21)(17,23)(9,26)(10,15)(11,18)(12,17)(13,29)(14,20)(15,21)(17,23)(19,25)(20,20)(21,28)(23,20)(23,20)($
- $N_{21} = Group([(1,18,5,19,6,29,16,7)(2,12,9,13,10,25,22,3)(4,27,14,28,15,32,26,17)(8,23,20,24,21,31,30,11),(1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18,19,29)(8,20,21,30)(11,23,24,31)(17,27,28,32),(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(27,32),(1,21,23)(21,21)(21,23)(21,2$  $N_{22} = Group([(1,27,5,28,6,32,16,17)(2,23,9,24,10,31,22,11)(3,8,12,20,13,25)(4,14,15,26)(7,18)(4,15)(5,16)(2,10)(3,13)(4,15)(5,16)(4,15)(4,15)(5,16)(4,15)(4,1$  $N_{23} = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(19,25)(20,30)(23,31)(27,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18)(9,22)(11,24)(12,25)(14,26)(17,28)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(27,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18)(9,22)(11,24)(12,25)(14,26)(17,28)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(27,32), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,18)(19,22)(11,24)(12,23)(13,24)(16,26)(18,27)(19,28)(23,24)(16,26)(18,27)(19,28)(23,24)(16,26)(18,27)(19,28)(23,24)(16,26)(18,27)(19,28)(23,24)(16,26)(18,27)(19,28)(23,24)(16,26)(18,27)(19,28)(18,29)(19,28)(19,$
- $N_{24} = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,27)(23,31)(27,32)(13,24)(16,26)(17,23)(13,24)(16,26)(17,28)(23,24)(16,26)(17,28)(23,24)(16,26)(17,28)(23,24)(16,26)(17,28)(23,24)(16,26)(17,28)(23,24)(16,26)(17,28)(23,24)(16,26)(17,28)(23,24)(16,26)(17,28)(23,24)(16,26)(17,28)$  $N_{25} = Group([(1,11)(2,17)(3,4)(5,31)(6,24)(7,8)(9,32)(10,28)(12,26)(13,15)(14,25)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,25)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(12,26)(13,15)(14,26)(17,28)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(17,28)(12,26)(13,16)(14,26)(13,16)(14,26)$
- $N_{26} = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(19,25)(20,30)(23,31)(27,32), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(12,23)(13,24)(16,26)(17,28)(12,23)(13,24)(16,26)(17,28)(18,29)(20,30)(25,31)(27,32), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(18,29)(20,30)(25,31)(27,32), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)$
- $N_{27} = Group([(1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,21)(12,23)(13,24)(16,26)(17,28)(23,26)(27,30), \\ (1,4)(2,5)(4,4,15,26)(7,18)(2,23)(13,24)(16,26)(17,28)(23,26)(27,30), \\ (1,5)(4,14)(5,25)(4,14)(5,25)(4,14)(12,25)(14,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), \\ (1,5)(4,14)(5,25)(4,14)(5,25)(4,14)(5,25)(4,14)(12,25)(14,26)(17,28)(13,24)(16,26)(17,28$  $N_{28} = Group([(1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,25)(14,26)(17,28)(23,26)(27,30), (1,5,6,16)(2,9,10,22)(3,12)(17,23)(19,25)(20,30)(23,31)(27,32), (1,5)(4,14,15,26)(7,18)(9,29)(10,19)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(27,32), (1,2)(3,18)(4,15)(5,16)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(27,32), (1,2)(3,18)(4,15)(5,16)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(27,32), (1,2)(3,18)(4,15)(5,16)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(23,26)(27,30), (1,2)(23,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,2)(23,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,2)(23,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,2)(23,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,2)(23,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,2)(23,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,2)(23,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32), (1,2)(23,24)(23,$  $N_{29} = Group([(1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(22,30)(25,31)(27,32), \\ (1,5)(4,14)(5,25)(4,14)(5,22)(23,24)(13,24)(16,24)(12,23)(13,24)(16,24)(12,23)(13,24)(16,24)(12,23)(13,24)(16,24)(1$
- $N_{30} = Group([(1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(10,19)(12,25)(14,26)(17,18)(2,32)(21,28)(23,26)(27,30), \\ (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(18,29)(21,28$  $N_{31} = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)(13,24)(16,26)(17,23)$  $N_{32} = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(19,25)(20,32)(21,32)(13,24)(16,26)(17,23)(19,25)(20,32)(21,28)(23,26)(27,30)]) \\ \cong C2 \times D16$
- $N_{33} = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,23)(12,23)$  $N_{34} = Group([(1,3)(2,7)(4,11)(5,25)(6,13)(8,17)(9,29)(11,24)(12,25)(4,14,15,26)(7,18)(9,29)(11,24)(12,25)(4,14)(5,26)(13,24)(14,25)(14,26)(17,27)(13,29)(14,20)(15,24)(15,24)(15,25)(15,24$  $N_{35} = Group([(1,8)(2,4)(3,27)(5,30)(6,21)(7,23)(9,26)(10,15)(11,24)(12,25)(14,26)(17,23)(9,26)(10,15)(11,24)(12,25)(14,26)(17,23)(14,22)(16,20)(17,23)(14,22)(16,20)(17,23)(14,22)(16,20)(17,23)($  $N_{36} = Group([(1,18,5,19,6,29,16,7)(2,12,9,13,10,25,22,3)(4,27,14,28,15,32,26,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(13,29)(20,30)(23,31)(27,32), (1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,16)(11,27)(13,29)(14,30)(15,21)(17,23)(19,25)(20,26)(24,32)(28,31)]) \\ \cong C2 \times D16 + C_{10} \times D16 +$

 $N_{37} = Group([(1,8)(2,4)(3,27)(5,30)(6,21)(7,23)(9,26)(10,15)(11,23)(14,25)(14,25)(14,26)(17,23)(9,26)(13,15)(14,25)(14,26)(17,23)(14,22)(16,20)(17,23)(14,25)(14,26)(17,23)(19,25)(19,24)($  $N_{38} = Group([(1,2)(3,18)(4,8)(5,22)(6,10)(7,12)(9,23)(13,24)(16,25)(23,26)(27,30), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(23,26)(27,30), (1,5,6,16)(2,9,10,22)(3,12,13,25)(4,14,15,26)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(13,24)(16,26)(17,28)(18,29)(20,30)(23,31)(27,32)] \\ \cong C2 \times D16 \times$