

The group  $G$  is isomorphic to the group labelled by [ 48, 31 ] in the Small Groups library.  
 Ordinary character table of  $G \cong C4 \times A4$ :

|             | 1a | 4a          | 2a | 4b          | 2b | 4c      | 2c | 4d      | 3a       | 12a           | 6a        | 12b           | 3b       | 12c           | 6b        | 12d           |
|-------------|----|-------------|----|-------------|----|---------|----|---------|----------|---------------|-----------|---------------|----------|---------------|-----------|---------------|
| $\chi_1$    | 1  | 1           | 1  | 1           | 1  | 1       | 1  | 1       | 1        | 1             | 1         | 1             | 1        | 1             | 1         | 1             |
| $\chi_2$    | 1  | $E(4)$      | -1 | $-E(4)$     | 1  | $E(4)$  | -1 | $-E(4)$ | 1        | $E(4)$        | -1        | $-E(4)$       | 1        | $E(4)$        | -1        | $-E(4)$       |
| $\chi_3$    | 1  | -1          | 1  | -1          | 1  | -1      | 1  | -1      | 1        | -1            | 1         | -1            | 1        | -1            | 1         | -1            |
| $\chi_4$    | 1  | $-E(4)$     | -1 | $E(4)$      | 1  | $-E(4)$ | -1 | $E(4)$  | 1        | $-E(4)$       | -1        | $E(4)$        | 1        | $-E(4)$       | -1        | $E(4)$        |
| $\chi_5$    | 3  | 3           | 3  | 3           | -1 | -1      | -1 | 0       | 0        | 0             | 0         | 0             | 0        | 0             | 0         | 0             |
| $\chi_6$    | 3  | $3 * E(4)$  | -3 | $-3 * E(4)$ | -1 | $-E(4)$ | 1  | $E(4)$  | 0        | 0             | 0         | 0             | 0        | 0             | 0         | 0             |
| $\chi_7$    | 3  | -3          | 3  | -3          | -1 | 1       | -1 | 1       | 0        | 0             | 0         | 0             | 0        | 0             | 0         | 0             |
| $\chi_8$    | 3  | $-3 * E(4)$ | -3 | $3 * E(4)$  | -1 | $E(4)$  | 1  | $-E(4)$ | 0        | 0             | 0         | 0             | 0        | 0             | 0         | 0             |
| $\chi_9$    | 1  | 1           | 1  | 1           | 1  | 1       | 1  | 1       | $E(3)$   | $E(3)$        | $E(3)$    | $E(3)$        | $E(3)^2$ | $E(3)^2$      | $E(3)^2$  | $E(3)^2$      |
| $\chi_{10}$ | 1  | $E(4)$      | -1 | $-E(4)$     | 1  | $E(4)$  | -1 | $-E(4)$ | $E(3)$   | $E(12)^7$     | $-E(3)$   | $-E(12)^7$    | $E(3)^2$ | $E(12)^{11}$  | $-E(3)^2$ | $-E(12)^{11}$ |
| $\chi_{11}$ | 1  | -1          | 1  | -1          | 1  | -1      | 1  | -1      | $E(3)$   | $-E(3)$       | $E(3)$    | $-E(3)$       | $E(3)^2$ | $-E(3)^2$     | $E(3)^2$  | $-E(3)^2$     |
| $\chi_{12}$ | 1  | $-E(4)$     | -1 | $E(4)$      | 1  | $-E(4)$ | -1 | $E(4)$  | $E(3)$   | $-E(12)^7$    | $-E(3)$   | $E(12)^7$     | $E(3)^2$ | $-E(12)^{11}$ | $-E(3)^2$ | $E(12)^{11}$  |
| $\chi_{13}$ | 1  | 1           | 1  | 1           | 1  | 1       | 1  | 1       | $E(3)^2$ | $E(3)^2$      | $E(3)^2$  | $E(3)^2$      | $E(3)$   | $E(3)$        | $E(3)$    | $E(3)$        |
| $\chi_{14}$ | 1  | $E(4)$      | -1 | $-E(4)$     | 1  | $E(4)$  | -1 | $-E(4)$ | $E(3)^2$ | $E(12)^{11}$  | $-E(3)^2$ | $-E(12)^{11}$ | $E(3)$   | $E(12)^7$     | $-E(3)$   | $-E(12)^7$    |
| $\chi_{15}$ | 1  | -1          | 1  | -1          | 1  | -1      | 1  | -1      | $E(3)^2$ | $E(3)^2$      | $-E(3)^2$ | $E(3)^2$      | $-E(3)$  | $E(3)$        | $-E(3)$   | $-E(3)$       |
| $\chi_{16}$ | 1  | $-E(4)$     | -1 | $E(4)$      | 1  | $-E(4)$ | -1 | $E(4)$  | $E(3)^2$ | $-E(12)^{11}$ | $-E(3)^2$ | $E(12)^{11}$  | $E(3)$   | $-E(12)^7$    | $-E(3)$   | $E(12)^7$     |

Trivial source character table of  $G \cong C4 \times A4$  at  $p = 3$ :

| Normalisers $N_i$<br>$p$ -subgroups of $G$ up to conjugacy in $G$<br>Representatives $n_j \in N_i$   | $N_1$ |             |    |    |             |             |    | $N_2$       |    |         |    |         |
|--|-------|-------------|----|----|-------------|-------------|----|-------------|----|---------|----|---------|
|  | $P_1$ |             |    |    |             |             |    | $P_2$       |    |         |    |         |
|  | 1a    | 4a          | 2a | 2b | 4b          | 4c          | 2c | 4d          | 1a | 4a      | 2a | 4b      |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 1 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 3     | 3           | 3  | 3  | 3           | 3           | 3  | 3           | 0  | 0       | 0  | 0       |
| $0 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 1 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 1 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 3     | $3 * E(4)$  | -3 | 3  | $-3 * E(4)$ | $3 * E(4)$  | -3 | $-3 * E(4)$ | 0  | 0       | 0  | 0       |
| $0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 1 \cdot \chi_{11} + 1 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 1 \cdot \chi_{16}$ | 3     | $-3 * E(4)$ | -3 | 3  | $3 * E(4)$  | $-3 * E(4)$ | -3 | $3 * E(4)$  | 0  | 0       | 0  | 0       |
| $0 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 1 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 1 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 3     | -3          | 3  | 3  | -3          | -3          | 3  | -3          | 0  | 0       | 0  | 0       |
| $0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 3     | 3           | 3  | -1 | 3           | -1          | -1 | -1          | 0  | 0       | 0  | 0       |
| $0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 3     | $3 * E(4)$  | -3 | -1 | $-3 * E(4)$ | $-E(4)$     | 1  | $E(4)$      | 0  | 0       | 0  | 0       |
| $0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 3     | $-3 * E(4)$ | -3 | -1 | $3 * E(4)$  | $E(4)$      | 1  | $-E(4)$     | 0  | 0       | 0  | 0       |
| $0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 3     | -3          | 3  | -1 | -3          | 1           | -1 | 1           | 0  | 0       | 0  | 0       |
| $1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 1     | 1           | 1  | 1  | 1           | 1           | 1  | 1           | 1  | 1       | 1  | 1       |
| $0 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 1     | -1          | 1  | 1  | -1          | -1          | 1  | -1          | 1  | -1      | 1  | -1      |
| $0 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 1     | $E(4)$      | -1 | 1  | $-E(4)$     | $E(4)$      | -1 | $-E(4)$     | 1  | $E(4)$  | -1 | $-E(4)$ |
| $0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9 + 0 \cdot \chi_{10} + 0 \cdot \chi_{11} + 0 \cdot \chi_{12} + 0 \cdot \chi_{13} + 0 \cdot \chi_{14} + 0 \cdot \chi_{15} + 0 \cdot \chi_{16}$ | 1     | $-E(4)$     | -1 | 1  | $E(4)$      | $-E(4)$     | -1 | $E(4)$      | 1  | $-E(4)$ | -1 | $E(4)$  |

$P_1 = Group(\{\}) \cong 1$   
 $P_2 = Group(\{(1, 3, 11)(2, 7, 18)(4, 12, 25)(5, 14, 41)(6, 30, 26)(8, 19, 32)(9, 21, 45)(10, 37, 33)(13, 27, 17)(15, 29, 47)(16, 42, 39)(20, 34, 24)(22, 36, 48)(23, 46, 43)(28, 40, 31)(35, 44, 38)\}) \cong C3$

$N_1 = Group(\{(1, 2, 4, 8)(3, 7, 12, 19)(5, 9, 15, 22)(6, 10, 16, 23)(11, 18, 25, 32)(13, 20, 28, 35)(14, 21, 29, 36)(17, 24, 31, 38)(26, 33, 39, 43)(27, 34, 40, 44)(30, 37, 42, 46)(41, 45, 47, 48), (1, 3, 11)(2, 7, 18)(4, 12, 25)(5, 14, 41)(6, 30, 26)(8, 19, 32)(9, 21, 45)(10, 37, 33)(13, 27, 17)(15, 29, 47)(16, 42, 39)(20, 34, 24)(22, 36, 48)(23, 46, 43)(28, 40, 31)(35, 44, 38), (1, 4)(2, 8)(3, 12)(5, 15)(6, 16)(7, 19)(9, 22)(10, 23)(11, 25)(13, 28)(14, 29)(17, 31)(18, 32)(20, 35)(21, 36)(24, 38)(26, 39)(27, 40)(30, 42)(33, 43)(34, 44)(37, 46)(41, 47)(45, 48), (1, 5)(2, 9)(3, 13)(4, 15)(6, 17)(7, 20)(8, 22)(10, 24)(11, 26)(12, 28)(14, 30)(16, 31)(18, 33)(19, 35)(21, 37)(23, 38)(25, 39)(27, 41)(29, 42)(32, 43)(34, 45)(36, 46)(40, 47)(44, 48), (1, 6)(2, 10)(3, 14)(4, 16)(5, 17)(7, 21)(8, 23)(9, 24)(11, 27)(12, 29)(13, 30)(15, 31)(18, 34)(19, 36)(20, 37)(22, 38)(25, 40)(26, 41)(28, 42)(32, 44)(33, 45)(35, 46)(39, 47)(43, 48)\}) \cong C4 \times A4$   
 $N_2 = Group(\{(1, 3, 11)(2, 7, 18)(4, 12, 25)(5, 14, 41)(6, 30, 26)(8, 19, 32)(9, 21, 45)(10, 37, 33)(13, 27, 17)(15, 29, 47)(16, 42, 39)(20, 34, 24)(22, 36, 48)(23, 46, 43)(28, 40, 31)(35, 44, 38), (1, 2, 4, 8)(3, 7, 12, 19)(5, 9, 15, 22)(6, 10, 16, 23)(11, 18, 25, 32)(13, 20, 28, 35)(14, 21, 29, 36)(17, 24, 31, 38)(26, 33, 39, 43)(27, 34, 40, 44)(30, 37, 42, 46)(41, 45, 47, 48)\}) \cong C12$