

# Character Tables of Multiplicity-Free Endomorphism Rings

$G = J_2.2$  (no. 12)

$H = A_4 \times A_5 < (A_4 \times A_5).2$

rank: 14

degree: 1680

|          | $O_1$ | $O_2$ | $O_3$ | $O_4$ | $O_5$ | $O_6$ | $O_7$ | $O_8$ | $O_9$ | $O_{10}$ | $O_{11}$ | $O_{12}$ | $O_{13}$ |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|----------|----------|----------|
| $1a^+$   | 1     | 1     | 15    | 15    | 20    | 20    | 24    | 24    | 180   | 180      | 240      | 240      | 360      |
| $1a^-$   | 1     | -1    | -15   | 15    | 20    | -20   | 24    | -24   | 180   | -180     | -240     | 240      | -360     |
| $63a^+$  | 1     | 1     | 5     | 5     | 10    | 10    | -6    | -6    | 0     | 0        | 20       | 20       | -30      |
| $63a^-$  | 1     | -1    | -5    | 5     | 10    | -10   | -6    | 6     | 0     | 0        | -20      | 20       | 30       |
| $90a^+$  | 1     | 1     | 1     | 1     | 6     | 6     | 10    | 10    | -16   | -16      | -12      | -12      | 10       |
| $90a^-$  | 1     | -1    | -1    | 1     | 6     | -6    | 10    | -10   | -16   | 16       | 12       | -12      | -10      |
| $126a^+$ | 1     | 1     | -5    | -5    | 0     | 0     | 4     | 4     | 20    | 20       | 0        | 0        | -20      |
| $126a^-$ | 1     | -1    | 5     | -5    | 0     | 0     | 4     | -4    | 20    | -20      | 0        | 0        | 20       |
| $160a^+$ | 1     | 1     | 6     | 6     | -4    | -4    | 0     | 0     | 9     | 9        | -12      | -12      | 0        |
| $160a^-$ | 1     | -1    | -6    | 6     | -4    | 4     | 0     | 0     | 9     | -9       | 12       | -12      | 0        |
| $175a^+$ | 1     | 1     | -3    | -3    | 2     | 2     | -6    | -6    | 0     | 0        | -12      | -12      | 18       |
| $175a^-$ | 1     | -1    | 3     | -3    | 2     | -2    | -6    | 6     | 0     | 0        | 12       | -12      | -18      |
| $225a^+$ | 1     | -1    | 1     | -1    | -4    | 4     | 0     | 0     | -12   | 12       | -16      | 16       | 0        |
| $225a^-$ | 1     | 1     | -1    | -1    | -4    | -4    | 0     | 0     | -12   | -12      | 16       | 16       | 0        |

|          | $O_{14}$ |
|----------|----------|
| $1a^+$   | 360      |
| $1a^-$   | 360      |
| $63a^+$  | -30      |
| $63a^-$  | -30      |
| $90a^+$  | 10       |
| $90a^-$  | 10       |
| $126a^+$ | -20      |
| $126a^-$ | -20      |
| $160a^+$ | 0        |
| $160a^-$ | 0        |
| $175a^+$ | 18       |
| $175a^-$ | 18       |
| $225a^+$ | 0        |
| $225a^-$ | 0        |

## References

- [Höh01] I. Höhler. Vielfachheitsfreie Permutationsdarstellungen und die Invarianten zugehöriger Graphen. Examensarbeit, RWTH Aachen, 2001.