

# Character Tables of Multiplicity-Free Endomorphism Rings

$G = 2.HS$  (no. 5)

$H = M_{11} \rightarrow (HS, 11)$

rank: 16

degree: 11200

|         | $O_1$ | $O_2$ | $O_3$ | $O_4$ | $O_5$ | $O_6$ | $O_7$ | $O_8$ | $O_9$ | $O_{10}$ | $O_{11}$ | $O_{12}$ |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|----------|----------|
| $1a$    | 1     | 1     | 110   | 132   | 132   | 165   | 165   | 660   | 660   | 792      | 792      | 990      |
| $22a$   | 1     | 1     | 10    | 52    | 52    | -85   | -85   | -140  | -140  | 72       | 72       | 390      |
| $77a$   | 1     | 1     | -40   | 37    | 37    | 40    | 40    | 85    | 85    | -138     | -138     | 90       |
| $154c$  | 1     | 1     | -38   | -12   | -12   | -21   | -21   | 84    | 84    | 72       | 72       | 54       |
| $175a$  | 1     | 1     | 14    | 4     | 4     | 37    | 37    | -44   | -44   | 24       | 24       | 126      |
| $770a$  | 1     | 1     | -8    | 13    | 13    | -16   | -16   | -11   | -11   | -18      | -18      | -6       |
| $825a$  | 1     | 1     | 24    | -11   | -11   | -8    | -8    | 21    | 21    | -26      | -26      | 26       |
| $1056a$ | 1     | 1     | 12    | 13    | 13    | 4     | 4     | 9     | 9     | 22       | 22       | -46      |
| $2520a$ | 1     | 1     | -8    | -7    | -7    | 4     | 4     | -11   | -11   | 2        | 2        | -6       |
| $56a$   | 1     | -1    | 0     | -33   | 33    | 0     | 0     | -165  | 165   | 198      | -198     | 0        |
| $176a$  | 1     | -1    | 0     | -28   | 28    | 35i   | -35i  | -40   | 40    | -72      | 72       | 0        |
| $176b$  | 1     | -1    | 0     | -28   | 28    | -35i  | 35i   | -40   | 40    | -72      | 72       | 0        |
| $616a$  | 1     | -1    | 0     | -13   | 13    | 20i   | -20i  | 35    | -35   | 18       | -18      | 0        |
| $616b$  | 1     | -1    | 0     | -13   | 13    | -20i  | 20i   | 35    | -35   | 18       | -18      | 0        |
| $1980a$ | 1     | -1    | 0     | 7     | -7    | 0     | 0     | -5    | 5     | -2       | 2        | 0        |
| $1980b$ | 1     | -1    | 0     | 7     | -7    | 0     | 0     | -5    | 5     | -2       | 2        | 0        |

|         | $O_{13}$ | $O_{14}$ | $O_{15}$ | $O_{16}$ |
|---------|----------|----------|----------|----------|
| $1a$    | 1320     | 1320     | 1980     | 1980     |
| $22a$   | -280     | -280     | 180      | 180      |
| $77a$   | -80      | -80      | 30       | 30       |
| $154c$  | -24      | -24      | -108     | -108     |
| $175a$  | 40       | 40       | -132     | -132     |
| $770a$  | 56       | 56       | -18      | -18      |
| $825a$  | 0        | 0        | -2       | -2       |
| $1056a$ | -24      | -24      | -8       | -8       |
| $2520a$ | -4       | -4       | 22       | 22       |
| $56a$   | 0        | 0        | 0        | 0        |
| $176a$  | 40i      | -40i     | -120i    | 120i     |
| $176b$  | -40i     | 40i      | 120i     | -120i    |
| $616a$  | -20i     | 20i      | 60i      | -60i     |
| $616b$  | 20i      | -20i     | -60i     | 60i      |
| $1980a$ | 40i      | -40i     | 20i      | -20i     |
| $1980b$ | -40i     | 40i      | -20i     | 20i      |

$i = \text{Sqrt}(-1)$

## References

[Lin] S. A. Linton. private communication.