

Character Tables of Multiplicity-Free Endomorphism Rings

$G = 3.M_{22}.2$ (no. 1)

$H = 2^4 : S_5 \rightarrow (M_{22}.2, 6)$

rank: 9

degree: 1386

	O_1	O_2	O_3	O_4	O_5	O_6	O_7	O_8	O_9
$1a^+$	1	2	15	96	120	192	240	240	480
$21a^+$	1	2	15	-36	10	-72	20	20	40
$55a^+$	1	2	15	12	-6	24	-12	-12	-24
$154a^+$	1	2	-3	0	12	0	24	-12	-24
$231a^-$	1	2	-3	0	-8	0	-16	8	16
$21bc$	1	-1	0	-24	40	24	-40	20	-20
$105ad$	1	-1	0	$9+r33$	$-3b33^*$	$-9-r33$	$3b33^*$	$9-3r33$	$-9+3r33$
$105bc$	1	-1	0	$9-r33$	$-3b33$	$-9+r33$	$3b33$	$9+3r33$	$-9-3r33$
$231bc$	1	-1	0	-6	-5	6	5	-10	10

$$-3b33 = (3 - 3 * Sqrt(33))/2$$

$$-3b33^* = (3 + 3 * Sqrt(33))/2$$

$$3b33 = (-3 + 3 * Sqrt(33))/2$$

$$3b33^* = (-3 - 3 * Sqrt(33))/2$$

$$r33 = Sqrt(33)$$

References

[Mül08] J. Müller. On the multiplicity-free actions of the sporadic simple groups. *J. Algebra*, 320:910–926, 2008.