

Character Tables of Multiplicity-Free Endomorphism Rings

$G = 6.Fi_{22}.2$ (no. 3)

$H = {}^2F_4(2)'.2 \rightarrow (Fi_{22}.2, 16)$

rank: 22

degree: 21555072

	O_1	O_2	O_3	O_4	O_5	O_6	O_7	O_8	O_9	O_{10}
$1a^+$	1	1	2	2	3510	7020	23400	46800	89856	280800
$1001a^+$	1	1	2	2	-810	-1620	1800	3600	-3456	-21600
$1430a^+$	1	1	2	2	-378	-756	3960	7920	-3456	8640
$13650a^+$	1	1	2	2	342	684	1224	2448	-5184	2016
$30030a^+$	1	1	2	2	198	396	1080	2160	3456	-2880
$289575a^-$	1	1	2	2	150	300	-120	-240	1152	1248
$400400ab$	1	1	2	2	54	108	72	144	-864	0
$579150a^+$	1	1	2	2	-42	-84	264	528	576	-96
$675675a^-$	1	1	2	2	54	108	-216	-432	0	-864
$1201200a^-$	1	1	2	2	-90	-180	-72	-144	0	288
$133056a^+$	1	-1	2	-2	0	0	0	0	0	0
$133056a^-$	1	-1	2	-2	0	0	0	0	0	0
$1663200ab$	1	-1	2	-2	0	0	0	0	0	0
$19305ab$	1	1	-1	-1	438	-438	360	-360	0	-3360
$27027ab$	1	1	-1	-1	150	-150	1800	-1800	0	2400
$51975ab$	1	1	-1	-1	-234	234	-312	312	0	3744
$386100ab$	1	1	-1	-1	102	-102	24	-24	0	1344
$405405ab$	1	1	-1	-1	-138	138	360	-360	0	-480
$1351350ef$	1	1	-1	-1	-42	42	-120	120	0	-96
$1351350gh$	1	1	-1	-1	54	-54	-24	24	0	-288
$1796256ad$	1	-1	-1	1	0	0	0	0	0	0
$1796256bc$	1	-1	-1	1	0	0	0	0	0	0

	O_{11}	O_{12}	O_{13}	O_{14}	O_{15}
$1a^+$	374400	374400	374400	499200	499200
$1001a^+$	28800	28800	28800	-19200	-19200
$1430a^+$	-14400	-14400	-14400	32640	32640
$13650a^+$	6912	6912	6912	4992	4992
$30030a^+$	-2880	-2880	-2880	-1920	-1920
$289575a^-$	768	768	768	-768	-768
$400400ab$	-576	-576	-576	-1056	-1056
$579150a^+$	384	384	384	384	384
$675675a^-$	0	0	0	1536	1536
$1201200a^-$	0	0	0	-192	-192
$133056a^+$	0	0	0	2400-2160r3	-2400+2160r3
$133056a^-$	0	0	0	2400+2160r3	-2400-2160r3
$1663200ab$	0	0	0	-192	192
$19305ab$	5760	-2880	-2880	0	0
$27027ab$	0	0	0	0	0
$51975ab$	4992	-2496	-2496	0	0
$386100ab$	-960	480	480	0	0
$405405ab$	0	0	0	0	0
$1351350ef$	-384	192	192	0	0
$1351350gh$	384	-192	-192	0	0
$1796256ad$	0	120i39	-120i39	0	0
$1796256bc$	0	-120i39	120i39	0	0

	O_{16}	O_{17}	O_{18}	O_{19}	O_{20}
$1a^+$	561600	898560	1123200	1123200	1797120
$1001a^+$	-43200	34560	-43200	-43200	69120
$1430a^+$	17280	27648	-43200	-43200	55296
$13650a^+$	4032	-1152	11232	11232	-2304
$30030a^+$	-5760	4608	8640	8640	9216
$289575a^-$	2496	768	-1728	-1728	1536
$400400ab$	0	0	-432	-432	0
$579150a^+$	-192	-1920	-864	-864	-3840
$675675a^-$	-1728	0	0	0	0
$1201200a^-$	576	576	864	864	1152
$133056a^+$	0	0	$5400+2160r3$	$-5400-2160r3$	0
$133056a^-$	0	0	$5400-2160r3$	$-5400+2160r3$	0
$1663200ab$	0	0	-432	432	0
$19305ab$	3360	12288	0	0	-12288
$27027ab$	-2400	-3840	0	0	3840
$51975ab$	-3744	0	0	0	0
$386100ab$	-1344	1536	0	0	-1536
$405405ab$	480	768	0	0	-768
$1351350ef$	96	384	0	0	-384
$1351350gh$	288	-1152	0	0	1152
$1796256ad$	0	0	0	0	0
$1796256bc$	0	0	0	0	0

	O_{21}	O_{22}
$1a^+$	4492800	8985600
$1001a^+$	0	0
$1430a^+$	-17280	-34560
$13650a^+$	-18432	-36864
$30030a^+$	-5760	-11520
$289575a^-$	-1536	-3072
$400400ab$	1728	3456
$579150a^+$	1536	3072
$675675a^-$	0	0
$1201200a^-$	-1152	-2304
$133056a^+$	0	0
$133056a^-$	0	0
$1663200ab$	0	0
$19305ab$	7680	-7680
$27027ab$	19200	-19200
$51975ab$	0	0
$386100ab$	-3072	3072
$405405ab$	-3840	3840
$1351350ef$	2688	-2688
$1351350gh$	-1152	1152
$1796256ad$	0	0
$1796256bc$	0	0

i39 = $Sqrt(-39)$

r3 = $Sqrt(3)$

References

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