

Character Tables of Multiplicity-Free Endomorphism Rings

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

$H = {}^2F_4(2)' \rightarrow (Fi_{22}, 9)$

rank: 25

degree: 10777536

	O_1	O_2	O_3	O_4	O_5	O_6	O_7	O_8
$1a$	1	1	1	1755	1755	1755	11700	11700
$1001a$	1	1	1	-405	-405	-405	900	900
$1430a$	1	1	1	-189	-189	-189	1980	1980
$13650a$	1	1	1	171	171	171	612	612
$30030a$	1	1	1	99	99	99	540	540
$289575a$	1	1	1	75	75	75	-60	-60
$400400a$	1	1	1	27	27	27	36	36
$400400b$	1	1	1	27	27	27	36	36
$579150a$	1	1	1	-21	-21	-21	132	132
$675675a$	1	1	1	27	27	27	-108	-108
$1201200a$	1	1	1	-45	-45	-45	-36	-36
$19305a$	1	z3	z3**	219	219z3	219z3**	180	180z3
$19305b$	1	z3**	z3	219	219z3**	219z3	180	180z3**
$27027a$	1	z3	z3**	75	75z3	75z3**	900	900z3
$27027b$	1	z3**	z3	75	75z3**	75z3	900	900z3**
$51975a$	1	z3	z3**	-117	-117z3	-117z3**	-156	-156z3
$51975b$	1	z3**	z3	-117	-117z3**	-117z3	-156	-156z3**
$386100a$	1	z3	z3**	51	51z3	51z3**	12	12z3
$386100b$	1	z3**	z3	51	51z3**	51z3	12	12z3**
$405405a$	1	z3	z3**	-69	-69z3	-69z3**	180	180z3
$405405b$	1	z3**	z3	-69	-69z3**	-69z3	180	180z3**
$1351350e$	1	z3	z3**	-21	-21z3	-21z3**	-60	-60z3
$1351350f$	1	z3**	z3	-21	-21z3**	-21z3	-60	-60z3**
$1351350g$	1	z3	z3**	27	27z3	27z3**	-12	-12z3
$1351350h$	1	z3**	z3	27	27z3**	27z3	-12	-12z3**

	O_9	O_{10}	O_{11}	O_{12}	O_{13}	O_{14}
$1a$	11700	44928	140400	140400	140400	187200
$1001a$	900	-1728	-10800	-10800	-10800	14400
$1430a$	1980	-1728	4320	4320	4320	-7200
$13650a$	612	-2592	1008	1008	1008	3456
$30030a$	540	1728	-1440	-1440	-1440	-1440
$289575a$	-60	576	624	624	624	384
$400400a$	36	-432	0	0	0	-288
$400400b$	36	-432	0	0	0	-288
$579150a$	132	288	-48	-48	-48	192
$675675a$	-108	0	-432	-432	-432	0
$1201200a$	-36	0	144	144	144	0
$19305a$	180z3**	0	-1680	-1680z3	-1680z3**	2880
$19305b$	180z3	0	-1680	-1680z3**	-1680z3	2880
$27027a$	900z3**	0	1200	1200z3	1200z3**	0
$27027b$	900z3	0	1200	1200z3**	1200z3	0
$51975a$	-156z3**	0	1872	1872z3	1872z3**	2496
$51975b$	-156z3	0	1872	1872z3**	1872z3	2496
$386100a$	12z3**	0	672	672z3	672z3**	-480
$386100b$	12z3	0	672	672z3**	672z3	-480
$405405a$	180z3**	0	-240	-240z3	-240z3**	0
$405405b$	180z3	0	-240	-240z3**	-240z3	0
$1351350e$	-60z3**	0	-48	-48z3	-48z3**	-192
$1351350f$	-60z3	0	-48	-48z3**	-48z3	-192
$1351350g$	-12z3**	0	-144	-144z3	-144z3**	192
$1351350h$	-12z3	0	-144	-144z3**	-144z3	192

	O_{15}	O_{16}	O_{17}	O_{18}	O_{19}	O_{20}
$1a$	187200	187200	249600	249600	449280	449280
$1001a$	14400	14400	-9600	-9600	17280	17280
$1430a$	-7200	-7200	16320	16320	13824	13824
$13650a$	3456	3456	2496	2496	-576	-576
$30030a$	-1440	-1440	-960	-960	2304	2304
$289575a$	384	384	-384	-384	384	384
$400400a$	-288	-288	768	-1824	0	0
$400400b$	-288	-288	-1824	768	0	0
$579150a$	192	192	192	192	-960	-960
$675675a$	0	0	768	768	0	0
$1201200a$	0	0	-96	-96	288	288
$19305a$	2880z3	2880z3**	0	0	6144	6144z3
$19305b$	2880z3**	2880z3	0	0	6144	6144z3**
$27027a$	0	0	0	0	-1920	-1920z3
$27027b$	0	0	0	0	-1920	-1920z3**
$51975a$	2496z3	2496z3**	0	0	0	0
$51975b$	2496z3**	2496z3	0	0	0	0
$386100a$	-480z3	-480z3**	0	0	768	768z3
$386100b$	-480z3**	-480z3	0	0	768	768z3**
$405405a$	0	0	0	0	384	384z3
$405405b$	0	0	0	0	384	384z3**
$1351350e$	-192z3	-192z3**	0	0	192	192z3
$1351350f$	-192z3**	-192z3	0	0	192	192z3**
$1351350g$	192z3	192z3**	0	0	-576	-576z3
$1351350h$	192z3**	192z3	0	0	-576	-576z3**

	O_{21}	O_{22}	O_{23}	O_{24}	O_{25}
$1a$	449280	1123200	2246400	2246400	2246400
$1001a$	17280	-43200	0	0	0
$1430a$	13824	-43200	-8640	-8640	-8640
$13650a$	-576	11232	-9216	-9216	-9216
$30030a$	2304	8640	-2880	-2880	-2880
$289575a$	384	-1728	-768	-768	-768
$400400a$	0	-432	864	864	864
$400400b$	0	-432	864	864	864
$579150a$	-960	-864	768	768	768
$675675a$	0	0	0	0	0
$1201200a$	288	864	-576	-576	-576
$19305a$	$6144z3^{**}$	0	3840	$3840z3$	$3840z3^{**}$
$19305b$	$6144z3$	0	3840	$3840z3^{**}$	$3840z3$
$27027a$	$-1920z3^{**}$	0	9600	$9600z3$	$9600z3^{**}$
$27027b$	$-1920z3$	0	9600	$9600z3^{**}$	$9600z3$
$51975a$	0	0	0	0	0
$51975b$	0	0	0	0	0
$386100a$	$768z3^{**}$	0	-1536	$-1536z3$	$-1536z3^{**}$
$386100b$	$768z3$	0	-1536	$-1536z3^{**}$	$-1536z3$
$405405a$	$384z3^{**}$	0	-1920	$-1920z3$	$-1920z3^{**}$
$405405b$	$384z3$	0	-1920	$-1920z3^{**}$	$-1920z3$
$1351350e$	$192z3^{**}$	0	1344	$1344z3$	$1344z3^{**}$
$1351350f$	$192z3$	0	1344	$1344z3^{**}$	$1344z3$
$1351350g$	$-576z3^{**}$	0	-576	$-576z3$	$-576z3^{**}$
$1351350h$	$-576z3$	0	-576	$-576z3^{**}$	$-576z3$

$$z3 = (-1 + \sqrt{-3})/2$$

$$z3^{**} = (-1 - \sqrt{-3})/2$$

References

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