

# Character tables of certain finite simple groups

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$M(22)$  is the sporadic simple group discovered by Fischer in 1969. The character tables of  $M(22)$  and the simple groups  $PSU(5, 2)$ ,  $PSU(6, 2)$ ,  $PS\Omega^+(6, 3)$  and  $PS\Omega(7, 3)$  are presented. Only a brief description of the methods used to determine the tables is given.

## 1. Notation

$O(n, q)$  is the group of orthogonal  $n \times n$  matrices over the field  $GF(q)$ . The exponent  $+$  or  $-$  distinguishes between the two orthogonal forms when  $n$  is even.  $+$  denotes the group of maximal Witt index  $n/2$ .

$\Omega(n, q)$  denotes the kernel of the spinorial norm on the orthogonal group  $O(n, q)$ .

$U(n, q)$  is the group of unitary  $n \times n$  matrices over the field  $GF(q)$ .

As usual  $S$  denotes special and  $P$  projective. Hence  $PS\Omega^+(6, 3)$  is a simple group of order  $2^7 \cdot 3^6 \cdot 5 \cdot 13$ .

Let

$$\chi_i^{(5)}, i = 1, \dots, 47; \left\{ \chi_i^{(6)}, i = 1, \dots, 46; \beta_i, i = 1, \dots, 29; \right. \\ \left. \chi_i^{(7)}, i = 1, \dots, 58; \chi_i^{(22)}, i = 1, \dots, 65 \right\}$$

be the irreducible characters of

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$PSU(5, 2)$  ( $PSU(6, 2)$ ;  $PS\Omega^+(6, 3)$ ;  $PS\Omega(7, 3)$ ;  $M(22)$ ).

$M(22)$  is the sporadic simple group of order  $2^{17} \cdot 3^9 \cdot 5^2 \cdot 7 \cdot 11 \cdot 13$  discovered and described by Fischer [1].  $D$  denotes the conjugacy class of 3-transpositions in  $M(22)$ , [1].

$P^* = C_{M(22)}(d)$  where  $d$  is a given element in  $D$ .

$P^*/\langle d \rangle \cong PSU(6, 2)$ , [1].

## 2. Conjugacy classes in the classical groups

The conjugacy classes of  $U(5, 2)$ ,  $U(6, 2)$ ,  $O^+(6, 3)$  and  $O(7, 3)$  were determined directly from the main theorems in the paper of Wall [2] on the conjugacy classes in the unitary, symplectic and orthogonal groups. The restriction to the associated simple groups was easy in the case of the unitary groups. Some difficulties were encountered in dealing with the orthogonal groups as it was necessary to calculate the spinorial norm of the elements in each centralizer.

## 3. The character tables

The character tables of the five groups were determined following the steps (1) to (3).

(1) Several permutation characters of representations on subgroups of small index were found. The associated irreducible characters were found by restricting the permutation characters to subgroups with known character tables and decomposing into irreducible characters on these subgroups.

(2) A large number of generalized characters were found by inducing characters from subgroups with known character tables and forming tensor products of the irreducibles already found.

(3) A matrix of the character scalar products was formed (using an Elliot 4100 computer). The known irreducibles were stripped off the generalized characters. The scalar products naturally led to sets of linear equations which were solved to yield the other irreducible characters.

The following representations and subgroups were used in (1) and (2).

Group	Subgroup	degree	Representation	Character
$PSU(5, 2)$	$PSU(4, 2) \times C$	176	Isotropic points in $PG(5, 4)$	$\chi_1^{(5)} + \chi_5^{(5)} + \chi_{16}^{(5)}$
		165	Non-isotropic points in $PG(5, 4)$	$\chi_1^{(5)} + \chi_6^{(5)} + \chi_{16}^{(5)}$
		297	Totally isotropic points in $PG(5, 4)$	$\chi_1^{(5)} + \chi_{18}^{(5)} + \chi_{16}^{(5)}$
$PSU(6, 2)$	$PSU(5, 2)$	672	Non-isotropic points in $PG(6, 4)$	$\chi_1^{(6)} + \chi_3^{(6)} + \chi_6^{(6)}$
		693	Isotropic points in $PG(6, 4)$	$\chi_1^{(6)} + \chi_4^{(6)} + \chi_6^{(6)}$
	$PSU(4, 9) \cong PS\Omega^-(6, 3)$	2816		$\chi_1^{(6)} + \chi_2^{(6)} + \chi_4^{(6)} + \chi_{11}^{(6)} + \chi_{14}^{(6)}$
$PS\Omega^+(6, 3) \cong PSL(4, 3)$	$PS\Omega(5, 3)$	40	Points in $PG(4, 3)$	$\beta_1 + \beta_4$
		130	Lines in $PG(4, 3)$	$\beta_1 + \beta_4 + \beta_8$
		234		$\beta_1 + \beta_2 + \beta_8 + \beta_5 + \beta_6$
$PS\Omega(7, 3)$	$\Omega^-(6, 3)$	351	Points of length 1 in $PG(7, 3)$	$\chi_1^{(7)} + \chi_5^{(7)} + \chi_6^{(7)}$
	$S\Omega^-(6, 3)$	702		$\chi_1^{(7)} + \chi_5^{(7)} + \chi_6^{(7)} + \chi_2^{(7)} + \chi_{10}^{(7)}$
	$\Omega^+(6, 3)$	378	Points of length 2 in $PG(7, 3)$	$\chi_1^{(7)} + \chi_6^{(7)} + \chi_7^{(7)}$
	$S\Omega^+(6, 3)$	756		$\chi_1^{(7)} + \chi_6^{(7)} + \chi_7^{(7)} + \chi_4^{(7)} + \chi_{10}^{(7)}$
	$PSp(6, 2)$	3159		$\chi_1^{(7)} + \chi_5^{(7)} + \chi_8^{(7)} + \chi_{25}^{(7)}$
$M(22)$	$P^*$	3510	The conjugacy class $D$	$\chi_1^{(22)} + \chi_3^{(22)} + \chi_7^{(22)}$
	$PS\Omega(7, 3)$	14080		$\chi_1^{(22)} + \chi_3^{(22)} + \chi_9^{(22)}$

#### 4. Conjugacy classes in $M(22)$

$PSU(6, 2)$  is a factor group of  $P^*$  by a central involution. Hence characters  $\chi$  of  $M(22)$  may be restricted to  $P^*$  and determine an associated character  $\bar{\chi}$  of  $PSU(6, 2)$ . The restrictions to  $PS\Omega(7, 3)$  and  $PSU(6, 2)$  of the permutation representations of  $M(22)$  of degrees 3510 and 14080 were found. From this information the fusion of elements represented in  $P^*$  and  $PS\Omega(7, 3)$  was determined. This determined the conjugacy classes up to a few alternatives which were decided while calculating the characters.

#### References

- [1] Bernd Fischer, "Finite groups generated by 3-transpositions", (to appear).
- [2] G.E. Wall, "On the conjugacy classes in the unitary, symplectic and orthogonal groups", *J. Austral. Math. Soc.* 3 (1963), 1-62.

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## Appendix: The tables

The following symbols are used for complex integers:

$$\begin{array}{ll}
 \omega & \omega^3 = 1 \\
 \gamma & \gamma^2 = -5 \\
 \sigma & \sigma^2 = -8 \\
 \rho & \rho = 3 + 6\omega \\
 \alpha & \alpha^2 + \alpha = 3 \\
 & \alpha^* = \alpha + 1 \\
 \beta & \beta + \bar{\beta} = -1 \\
 & \beta\bar{\beta} = 3 \\
 \lambda_1 & \lambda_1 = \varepsilon + \varepsilon^3 + \varepsilon^9 \\
 \lambda_2 & \lambda_2 = \varepsilon^{10} + \varepsilon^{12} + \varepsilon^4 \\
 \lambda_3 & \lambda_3 = \varepsilon^2 + \varepsilon^5 + \varepsilon^6 \\
 \lambda_4 & \lambda_4 = \varepsilon^{11} + \varepsilon^7 + \varepsilon^8
 \end{array}
 \left. \vphantom{\begin{array}{l} \lambda_1 \\ \lambda_2 \\ \lambda_3 \\ \lambda_4 \end{array}} \right\} \text{where } \varepsilon^{13} = 1 .$$

Each character table extends over several pages. In the first four such tables, with characters of  $PSU(5, 2)$ ,  $PSU(6, 2)$ ,  $PS\Omega^+(6, 3)$ , and  $PS\Omega(7, 3)$ , the columns are headed by the order of an element in the relevant conjugacy class and the order of its centralizer. In the last table, for  $M(22)$ , this information is listed separately at the end.

	centralizer											
	el.											
Order of												
$X_i^{(5)}$	$C_1$	$C_2$	$C_3$	$C_4$	$C_5$	$C_6$	$C_7$	$C_8$	$C_9$	$C_{10}$	$C_{11}$	$C_{12}$
$X_1$	1	1	1	1	1	1	1	1	1	1	1	1
$X_2$	10	-6	2	2	-2	-2	0	-5	-5	3	3	-1
$X_3$	11	-5	3	3	-1	-1	1	-1-6 $\omega$	5+6 $\omega$	-1+2 $\omega$	-3-2 $\omega$	-1-2 $\omega$
$X_4$	11	-5	3	3	-1	-1	1	5+6 $\omega$	-1-6 $\omega$	-3-2 $\omega$	-1+2 $\omega$	1+2 $\omega$
$X_5$	44	12	-4	4	4	0	0	14	14	6	6	2
$X_6$	55	23	7	-1	-1	3	-1	10	10	2	2	-2
$X_7$	55	7	-1	7	3	-1	1	-20-15 $\omega$	-5+15 $\omega$	-4-7 $\omega$	3+7 $\omega$	-4-3 $\omega$
$X_8$	55	7	-1	7	3	-1	1	-5+15 $\omega$	-20-15 $\omega$	3+7 $\omega$	-4-7 $\omega$	-1+3 $\omega$
$X_9$	66	18	10	2	-2	2	0	-15-9 $\omega$	-6+9 $\omega$	1- $\omega$	2+ $\omega$	1+3 $\omega$
$X_{10}$	66	18	10	2	-2	2	0	-6+9 $\omega$	-15-9 $\omega$	2+ $\omega$	1- $\omega$	-2-3 $\omega$
$X_{11}$	110	-2	-10	6	-6	2	0	-25	-25	7	7	-1
$X_{12}$	110	30	6	6	2	2	0	-25-30 $\omega$	5+30 $\omega$	-9-6 $\omega$	-3+6 $\omega$	-1-2 $\omega$
$X_{13}$	110	30	6	6	2	2	0	5+30 $\omega$	-25-30 $\omega$	-3+6 $\omega$	-9-6 $\omega$	1+2 $\omega$
$X_{14}$	110	-34	6	-2	2	-2	0	-10-15 $\omega$	5+15 $\omega$	-2+ $\omega$	-3- $\omega$	2+ $\omega$
$X_{15}$	110	-34	6	-2	2	-2	0	5+15 $\omega$	-10-15 $\omega$	-3- $\omega$	-2+ $\omega$	1- $\omega$
$X_{16}$	120	24	8	8	0	0	0	30	30	6	6	2
$X_{17}$	165	-27	5	5	5	-3	1	30	30	6	6	2
$X_{18}$	176	-16	16	0	0	0	0	-4	-4	-4	-4	4
$X_{19}$	220	-36	-4	4	-4	0	0	40+30 $\omega$	10-30 $\omega$	-8-10 $\omega$	2+10 $\omega$	2 $\omega$
$X_{20}$	220	-36	-4	4	-4	0	0	10-30 $\omega$	40+30 $\omega$	2+10 $\omega$	-8-10 $\omega$	-2-2 $\omega$
$X_{21}$	220	-4	12	4	4	0	0	10+30 $\omega$	-20-30 $\omega$	2+6 $\omega$	-4-6 $\omega$	-2+2 $\omega$
$X_{22}$	220	-4	12	4	4	0	0	-20-30 $\omega$	10+30 $\omega$	-4-6 $\omega$	2+6 $\omega$	-4-2 $\omega$
$X_{23}$	264	-24	-8	8	0	0	0	-24-54 $\omega$	30+54 $\omega$	-8+2 $\omega$	-10-2 $\omega$	-2 $\omega$
$X_{24}$	264	-24	-8	8	0	0	0	30+54 $\omega$	-24-54 $\omega$	-10-2 $\omega$	-8+2 $\omega$	2+2 $\omega$

Table 1, Part 1: Characters of  $PSU(5, 2)$

	Order of centralizer													
	el.		$C_1$	$C_2$	$C_3$	$C_4$	$C_5$	$C_6$	$C_7$	$C_8$	$C_9$	$C_{10}$	$C_{11}$	$C_{12}$
	1	$2^{10}.3^5.5.11$												
	2	$2^{10}.3^4$												
	2	$2^9.3^2$												
	4	$2^7.3^2$												
	4	$2^7.3$												
	4	$2^5.3$												
	8	$2^4$												
	3	$2^6.3^5.5$												
	3	$2^6.3^5.5$												
	6	$2^6.3^3$												
	6	$2^6.3^3$												
	6	$2^5.3^2$												
$\chi_i^{(5)}$														
$\chi_{25}$			320	-64	0	0	0	0	0	-40	-40	8	8	0
$\chi_{26}$			330	-6	2	10	-2	2	0	60+45w	15-45w	-4-11w	7+11w	4+w
$\chi_{27}$			330	-6	2	10	-2	2	0	15-45w	60+45w	7+11w	-4-11w	3-w
$\chi_{28}$			440	88	8	-8	0	0	0	-10	-10	-2	-2	2
$\chi_{29}$			440	-40	8	8	0	0	0	-40+30w	-70-30w	8+6w	2-6w	2w
$\chi_{30}$			440	-40	8	8	0	0	0	-70-30w	-40+30w	2-6w	8+6w	-2-2w
$\chi_{31}$			495	-81	15	-1	-1	-1	-1	-45w	45+45w	3w	-3-3w	3w
$\chi_{32}$			495	-81	15	-1	-1	-1	-1	45+45w	-45w	-3-3w	3w	-3-3w
$\chi_{33}$			495	63	-9	-1	-5	-1	1	45+45w	-45w	-3-3w	3w	-3-3w
$\chi_{34}$			495	63	-9	-1	-5	-1	1	-45w	45+45w	3w	-3-3w	3w
$\chi_{35}$			660	84	20	-4	4	0	0	30	30	6	6	2
$\chi_{36}$			704	64	0	0	0	0	0	-64-24w	-40+24w	-8w	8+8w	0
$\chi_{37}$			704	64	0	0	0	0	0	-40+24w	-64-24w	8+8w	-8w	0
$\chi_{38}$			880	48	16	0	0	0	0	40+60w	-20-60w	-8-4w	-4+4w	4w
$\chi_{39}$			880	48	16	0	0	0	0	-20-60w	40+60w	-4+4w	-8-4w	-4-4w
$\chi_{40}$			891	27	-21	3	3	-1	-1	81	81	9	9	-3
$\chi_{41}$			891	27	-21	3	3	-1	-1	-81-81w	81w	-9-9w	9w	3+3w
$\chi_{42}$			891	27	-21	3	3	-1	-1	81w	-81-81w	9w	-9-9w	-3w
$\chi_{43}$			990	-18	6	-2	-6	-2	0	-45-45w	45w	3+3w	-3w	3+3w
$\chi_{44}$			990	-18	6	-2	-6	-2	0	45w	-45-45w	-3w	3+3w	-3w
$\chi_{45}$			1024	0	0	0	0	0	0	64	64	0	0	0
$\chi_{46}$			1215	-81	-9	-9	3	3	1	0	0	0	0	0
$\chi_{47}$			1215	-81	-9	-9	3	3	1	0	0	0	0	0

Table 1, Part 2: Characters of  $PSU(5, 2)$

	Order of centralizer										
	el.	$2^5 \cdot 3^2$	$2^4 \cdot 3^2$	$2^4 \cdot 3^2$	$2^3 \cdot 3$	$2^3 \cdot 3$	$2^4 \cdot 3^5$	$2^4 \cdot 3^5$	$2^4 \cdot 3^4$	$2^4 \cdot 3^4$	$2^4 \cdot 3^3$
$X_i^{(5)}$	$C_{13}$	$C_{14}$	$C_{15}$	$C_{16}$	$C_{17}$	$C_{18}$	$C_{19}$	$C_{20}$	$C_{21}$	$C_{22}$	$C_{23}$
X1	1	1	1	1	1	1	1	1	1	1	1
X2	-1	-1	-1	1	1	1	1	3	3	-3	-3
X3	$1+2\omega$	$-1-2\omega$	$1+2\omega$	-1	-1	$-1+3\omega$	$-4-3\omega$	$1+3\omega$	$-2-3\omega$	$-1-\omega$	$\omega$
X4	$-1-2\omega$	$1+2\omega$	$-1-2\omega$	-1	-1	$-4-3\omega$	$-1+3\omega$	$-2-3\omega$	$1+3\omega$	$\omega$	$-1-\omega$
X5	2	-2	-2	0	0	-1	-1	3	3	3	3
X6	-2	2	2	0	0	1	1	5	5	5	5
X7	$-1+3\omega$	$\omega$	$-1-\omega$	$-\omega$	$1+\omega$	$-2-6\omega$	$4+6\omega$	-2	-2	$2+2\omega$	$-2\omega$
X8	$-4-3\omega$	$-1-\omega$	$\omega$	$1+\omega$	$-\omega$	$4+6\omega$	$-2-6\omega$	-2	-2	$-2\omega$	$2+2\omega$
X9	$-2-3\omega$	$-3-\omega$	$-2+\omega$	$1+\omega$	$-\omega$	$-6-9\omega$	$3+9\omega$	$-6-3\omega$	$-3+3\omega$	$-2-\omega$	$-1+\omega$
X10	$1+3\omega$	$-2+\omega$	$-3-\omega$	$-\omega$	$1+\omega$	$3+9\omega$	$-6-9\omega$	$-3+3\omega$	$-6-3\omega$	$-1+\omega$	$-2-\omega$
X11	-1	3	3	-1	-1	2	2	-2	-2	-2	-2
X12	$1+2\omega$	$-1-2\omega$	$1+2\omega$	-1	-1	$-4-3\omega$	$-1+3\omega$	$-6-9\omega$	$3+9\omega$	$-3\omega$	$3+3\omega$
X13	$-1-2\omega$	$1+2\omega$	$-1-2\omega$	-1	-1	$-1+3\omega$	$-4-3\omega$	$3+9\omega$	$-6-9\omega$	$3+3\omega$	$-3\omega$
X14	$1-\omega$	$-2-3\omega$	$1+3\omega$	$\omega$	$-1-\omega$	$-1-6\omega$	$5+6\omega$	$5+6\omega$	$-1-6\omega$	$-5-2\omega$	$-3+2\omega$
X15	$2+\omega$	$1+3\omega$	$-2-3\omega$	$-1-\omega$	$\omega$	$5+6\omega$	$-1-6\omega$	$-1-6\omega$	$5+6\omega$	$-3+2\omega$	$-5-2\omega$
X16	2	2	2	0	0	12	12	6	6	0	0
X17	2	2	2	0	0	3	3	-9	-9	3	3
X18	4	0	0	0	0	14	14	2	2	2	2
X19	$-2-2\omega$	$-2\omega$	$2+2\omega$	0	0	$10+3\omega$	$7-3\omega$	$-6-3\omega$	$-3+3\omega$	$-2-\omega$	$-1+\omega$
X20	$2\omega$	$2+2\omega$	$-2\omega$	0	0	$7-3\omega$	$10+3\omega$	$-3+3\omega$	$-6-3\omega$	$-1+\omega$	$-2-\omega$
X21	$-4-2\omega$	$2+2\omega$	$-2\omega$	0	0	$-17-15\omega$	$-2+15\omega$	$-1-3\omega$	$2+3\omega$	$-1-3\omega$	$2+3\omega$
X22	$-2+2\omega$	$-2\omega$	$2+2\omega$	0	0	$-2+15\omega$	$-17-15\omega$	$2+3\omega$	$-1-3\omega$	$2+3\omega$	$-1-3\omega$
X23	$2+2\omega$	$2\omega$	$-2-2\omega$	0	0	-6	-6	$6+6\omega$	$-6\omega$	$-2-4\omega$	$2+4\omega$
X24	$-2\omega$	$-2-2\omega$	$2\omega$	0	0	-6	-6	$-6\omega$	$6+6\omega$	$2+4\omega$	$-2-4\omega$

Table 1, Part 3: Characters of  $PSU(5, 2)$



Order of centralizer												
	el.	$2^5.3^2$	$2^4.3^2$	$2^4.3^2$	$2^3.3$	$2^3.3$	$2^4.3^5$	$2^4.3^5$	$2^4.3^4$	$2^4.3^4$	$2^4.3^3$	$2^4.3^3$
$X_i^{(5)}$	$C_{13}$	$C_{14}$	$C_{15}$	$C_{16}$	$C_{17}$	$C_{18}$	$C_{19}$	$C_{20}$	$C_{21}$	$C_{22}$	$C_{23}$	
X25	0	0	0	0	0	-4	-4	8	8	-4	-4	
X26	3-w	w	-1-w	-w	1+w	-12-9w	-3+9w	3w	-3-3w	-4-5w	1+5w	
X27	4+w	-1-w	w	1+w	-w	-3+9w	-12-9w	-3-3w	3w	1+5w	-4-5w	
X28	2	-2	-2	0	0	8	8	-2	-2	4	4	
X29	-2-2w	2w	-2-2w	0	0	14+12w	2-12w	2-6w	8+6w	2	2	
X30	2w	-2-2w	2w	0	0	2-12w	4+12w	8+6w	2-6w	2	2	
X31	-3-3w	-w	1+w	-w	1+w	9w	-9-9w	9w	-9-9w	-3w	3+3w	
X32	3w	1+w	-w	1+w	-w	-9-9w	9w	-9-9w	9w	3+3w	-3w	
X33	3w	1+w	-w	1+w	-w	-9-9w	9w	9+9w	-9w	3+3w	-3w	
X34	-3-3w	-w	1+w	-w	1+w	9w	-9-9w	-9w	9+9w	-3w	3+3w	
X35	2	2	2	0	0	-15	-15	3	3	-3	-3	
X36	0	0	0	0	0	8+12w	-4-12w	-8	-8	4w	-4-4w	
X37	0	0	0	0	0	-4-12w	8+12w	-8	-8	-4-4w	4w	
X38	-4-4w	0	0	0	0	10+6w	4-6w	6+6w	-6w	-2+2w	-4-2w	
X39	4w	0	0	0	0	4-6w	10+6w	-6w	6+6w	-4-2w	-2+2w	
X40	-3	-3	-3	-1	-1	0	0	0	0	0	0	
X41	-3w	3+3w	-3w	1+w	-w	0	0	0	0	0	0	
X42	3+3w	-3w	3+3w	-w	1+w	0	0	0	0	0	0	
X43	-3w	-1-w	w	-1-w	w	-18-18w	18w	0	0	6+6w	-6w	
X44	3+3w	w	-1-w	w	-1-w	18w	-18-18w	0	0	-6w	6+6w	
X45	0	0	0	0	0	16	16	0	0	0	0	
X46	0	0	0	0	0	0	0	0	0	0	0	
X47	0	0	0	0	0	0	0	0	0	0	0	

Table 1, Part 4: Characters of  $PSU(5, 2)$

	Order of centralizer												
	el.	$2^4 \cdot 3^2$	$2^4 \cdot 3^2$	$2^3 \cdot 3^2$	$2^3 \cdot 3^2$	$2^3 \cdot 3$	$2^3 \cdot 3$	$2^3 \cdot 3^5$	$2^3 \cdot 3^3$	$2^2 \cdot 3^2$	$2^2 \cdot 3^2$	$2^2 \cdot 3^3$	$2^2 \cdot 3^3$
$X_i^{(5)}$	$C_{24}$	$C_{25}$	$C_{26}$	$C_{27}$	$C_{28}$	$C_{29}$	$C_{30}$	$C_{31}$	$C_{32}$	$C_{33}$	$C_{34}$	$C_{35}$	$C_{36}$
X <sub>1</sub>	1	1	1	1	1	1	1	1	1	1	1	1	1
X <sub>2</sub>	-1	-1	-1	-1	1	1	4	0	2	2	0	0	-2
X <sub>3</sub>	1- $\omega$	2+ $\omega$	-1+ $\omega$	-2- $\omega$	1+ $\omega$	- $\omega$	2	-2	0	0	2+2 $\omega$	-2 $\omega$	2
X <sub>4</sub>	2+ $\omega$	1- $\omega$	-2- $\omega$	-1+ $\omega$	- $\omega$	1+ $\omega$	2	-2	0	0	-2 $\omega$	2+2 $\omega$	2
X <sub>5</sub>	-1	-1	1	1	1	1	5	-3	1	2	0	0	2
X <sub>6</sub>	1	1	-1	-1	-1	-1	10	2	2	1	-1	-1	1
X <sub>7</sub>	2	2	-2 $\omega$	2+2 $\omega$	0	0	1	1	1	-1	-1+2 $\omega$	-3-2 $\omega$	1
X <sub>8</sub>	2	2	2+2 $\omega$	-2 $\omega$	0	0	1	1	1	-1	-3-2 $\omega$	-1+2 $\omega$	1
X <sub>9</sub>	-2-3 $\omega$	1+3 $\omega$	- $\omega$	1+ $\omega$	$\omega$	-1- $\omega$	3	3	-1	1	1+2 $\omega$	-1-2 $\omega$	3
X <sub>10</sub>	1+3 $\omega$	-2-3 $\omega$	1+ $\omega$	- $\omega$	-1- $\omega$	$\omega$	3	3	-1	1	-1-2 $\omega$	1+2 $\omega$	3
X <sub>11</sub>	2	2	0	0	0	0	2	-2	0	2	-2	-2	2
X <sub>12</sub>	-2- $\omega$	-1+ $\omega$	2+ $\omega$	1- $\omega$	- $\omega$	1+ $\omega$	8	0	0	0	0	0	-4
X <sub>13</sub>	-1+ $\omega$	-2- $\omega$	1- $\omega$	2+ $\omega$	1+ $\omega$	- $\omega$	8	0	0	0	0	0	-4
X <sub>14</sub>	1+2 $\omega$	-1-2 $\omega$	1	1	-1	-1	11	-1	1	0	-2-2 $\omega$	2 $\omega$	2
X <sub>15</sub>	-1-2 $\omega$	1+2 $\omega$	1	1	-1	-1	11	-1	1	0	2 $\omega$	-2-2 $\omega$	2
X <sub>16</sub>	2	2	2	2	0	0	3	3	-1	-1	3	3	3
X <sub>17</sub>	-1	-1	-1	-1	-1	-1	3	3	-1	2	0	0	-6
X <sub>18</sub>	-2	-2	0	0	0	0	-4	-4	0	1	-1	-1	5
X <sub>19</sub>	-2+ $\omega$	-3- $\omega$	$\omega$	-1- $\omega$	- $\omega$	1+ $\omega$	7	3	1	-1	1+2 $\omega$	-1-2 $\omega$	1
X <sub>20</sub>	-3- $\omega$	-2+ $\omega$	-1- $\omega$	$\omega$	1+ $\omega$	- $\omega$	7	3	1	-1	-1-2 $\omega$	1+2 $\omega$	1
X <sub>21</sub>	-1+ $\omega$	-2- $\omega$	-1- $\omega$	$\omega$	-1- $\omega$	$\omega$	-5	-1	1	0	2	2	4
X <sub>22</sub>	-2- $\omega$	-1+ $\omega$	$\omega$	-1- $\omega$	$\omega$	-1- $\omega$	-5	-1	1	0	2	2	4
X <sub>23</sub>	2+2 $\omega$	-2 $\omega$	2 $\omega$	-2-2 $\omega$	0	0	3	3	-1	1	1+2 $\omega$	-1-2 $\omega$	3
X <sub>24</sub>	-2 $\omega$	2+2 $\omega$	-2-2 $\omega$	2 $\omega$	0	0	3	3	-1	1	-1-2 $\omega$	1+2 $\omega$	3

Table 1, Part 5: Characters of  $PSU(5, 2)$

	Order of centralizer		$X_i^{(5)}$												
	el.		$C_{24}$	$C_{25}$	$C_{26}$	$C_{27}$	$C_{28}$	$C_{29}$	$C_{30}$	$C_{31}$	$C_{32}$	$C_{33}$	$C_{34}$	$C_{35}$	$C_{36}$
X25	6	$2^4 \cdot 3^2$	0	0	0	0	0	0	14	2	0	0	2	2	-4
X26	6	$2^4 \cdot 3^2$	$-\omega$	$1+\omega$	$\omega$	$-1-\omega$	$\omega$	$-1-\omega$	-3	-3	1	-1	$-1-2\omega$	$1+2\omega$	-3
X27	12	$2^3 \cdot 3^2$	$1+\omega$	$-\omega$	$-1-\omega$	$\omega$	$-1-\omega$	$\omega$	-3	-3	1	-1	$1+2\omega$	$-1-2\omega$	-3
X28	12	$2^3 \cdot 3^2$	2	2	-2	-2	0	0	17	1	1	-1	1	1	-1
X29	12	$2^3 \cdot 3$	$-2-2\omega$	$2\omega$	$2\omega$	$-2-2\omega$	0	0	-1	-1	-1	-1	-1	-1	-1
X30	12	$2^3 \cdot 3$	$2\omega$	$-2-2\omega$	$-2-2\omega$	$2\omega$	0	0	-1	-1	-1	-1	-1	-1	-1
X31	3	$2^3 \cdot 3^5$	$-3\omega$	$3+3\omega$	$-\omega$	$1+\omega$	$-\omega$	$1+\omega$	9	-3	-1	0	0	0	0
X32	6	$2^3 \cdot 3^3$	$3+3\omega$	$-3\omega$	$1+\omega$	$-\omega$	$1+\omega$	$-\omega$	9	-3	-1	0	0	0	0
X33	12	$2^2 \cdot 3^2$	$-3-3\omega$	$3\omega$	$1+\omega$	$-\omega$	$-1-\omega$	$\omega$	9	-3	-1	0	0	0	0
X34	6	$2^2 \cdot 3^2$	$3\omega$	$-3-3\omega$	$-\omega$	$1+\omega$	$\omega$	$-1-\omega$	9	-3	-1	0	0	0	0
X35	6	$2^2 \cdot 3^3$	-1	-1	-1	-1	1	1	3	3	-1	-1	-3	-3	3
X36	6	$2^2 \cdot 3^3$	0	0	0	0	0	0	2	-2	0	0	$-2\omega$	$2+2\omega$	2
X37	6	$2^2 \cdot 3^3$	0	0	0	0	0	0	2	-2	0	0	$2+2\omega$	$-2\omega$	2
X38	3	$2^2 \cdot 3^5$	$2+2\omega$	$-2\omega$	0	0	0	0	-8	0	0	1	$1+2\omega$	$-1-2\omega$	-5
X39	6	$2^2 \cdot 3^3$	$-2\omega$	$2+2\omega$	0	0	0	0	-8	0	0	1	$-1-2\omega$	$1+2\omega$	-5
X40	3	$2^2 \cdot 3^5$	0	0	0	0	0	0	0	0	0	0	0	0	0
X41	6	$2^2 \cdot 3^3$	0	0	0	0	0	0	0	0	0	0	0	0	0
X42	6	$2^2 \cdot 3^3$	0	0	0	0	0	0	0	0	0	0	0	0	0
X43	6	$2^2 \cdot 3^3$	0	0	$2+2\omega$	$-2\omega$	0	0	-9	3	1	0	0	0	0
X44	6	$2^2 \cdot 3^3$	0	0	$-2\omega$	$2+2\omega$	0	0	-9	3	1	0	0	0	0
X45	3	$2^2 \cdot 3^5$	0	0	0	0	0	0	-8	0	0	0	0	0	4
X46	6	$2^2 \cdot 3^3$	0	0	0	0	0	0	0	0	0	0	0	0	0
X47	3	$2^2 \cdot 3^5$	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 1, Part 6: Characters of  $PSU(5, 2)$

	Order of centralizer											
	el.	2.3 <sup>3</sup>	2.3 <sup>3</sup>	2.3 <sup>2</sup>	2.3 <sup>2</sup>	3 <sup>3</sup>	3 <sup>3</sup>	3.5	3.5	3.5	11	11
$X_i^{(5)}$	$C_{37}$	$C_{38}$	$C_{39}$	$C_{40}$	$C_{41}$	$C_{42}$	$C_{43}$	$C_{44}$	$C_{45}$	$C_{46}$	$C_{47}$	
X <sub>1</sub>	1	1	1	1	1	1	1	1	1	1	1	1
X <sub>2</sub>	-2	-2	0	0	1	1	0	0	0	-1	-1	
X <sub>3</sub>	- $\omega$	1+ $\omega$	$\omega$	-1- $\omega$	- $\omega$	1+ $\omega$	1	$\omega$	-1- $\omega$	0	0	
X <sub>4</sub>	1+ $\omega$	- $\omega$	-1- $\omega$	$\omega$	1+ $\omega$	- $\omega$	1	-1- $\omega$	$\omega$	0	0	
X <sub>5</sub>	2	2	0	0	-1	-1	-1	-1	-1	0	0	
X <sub>6</sub>	1	1	-1	-1	1	1	0	0	0	0	0	
X <sub>7</sub>	-1- $\omega$	$\omega$	-1- $\omega$	$\omega$	-1- $\omega$	$\omega$	0	0	0	0	0	
X <sub>8</sub>	$\omega$	-1- $\omega$	$\omega$	-1- $\omega$	$\omega$	-1- $\omega$	0	0	0	0	0	
X <sub>9</sub>	0	0	0	0	0	0	1	-1- $\omega$	$\omega$	0	0	
X <sub>10</sub>	0	0	0	0	0	0	1	$\omega$	-1- $\omega$	0	0	
X <sub>11</sub>	-1	-1	1	1	-1	-1	0	0	0	0	0	
X <sub>12</sub>	-2-2 $\omega$	2 $\omega$	0	0	1+ $\omega$	- $\omega$	0	0	0	0	0	
X <sub>13</sub>	2 $\omega$	-2-2 $\omega$	0	0	- $\omega$	1+ $\omega$	0	0	0	0	0	
X <sub>14</sub>	- $\omega$	1+ $\omega$	- $\omega$	1+ $\omega$	- $\omega$	1+ $\omega$	0	0	0	0	0	
X <sub>15</sub>	1+ $\omega$	- $\omega$	1+ $\omega$	- $\omega$	1+ $\omega$	- $\omega$	0	0	0	0	0	
X <sub>16</sub>	0	0	0	0	0	0	0	0	0	-1	-1	
X <sub>17</sub>	0	0	0	0	0	0	0	0	0	0	0	
X <sub>18</sub>	-1	-1	-1	-1	-1	-1	1	1	1	0	0	
X <sub>19</sub>	2+2 $\omega$	-2 $\omega$	0	0	-1- $\omega$	$\omega$	0	0	0	0	0	
X <sub>20</sub>	-2 $\omega$	2+2 $\omega$	0	0	$\omega$	-1- $\omega$	0	0	0	0	0	
X <sub>21</sub>	-1- $\omega$	$\omega$	1+ $\omega$	- $\omega$	-1- $\omega$	$\omega$	0	0	0	0	0	
X <sub>22</sub>	$\omega$	-1- $\omega$	- $\omega$	1+ $\omega$	$\omega$	-1- $\omega$	0	0	0	0	0	
X <sub>23</sub>	0	0	0	0	0	0	-1	- $\omega$	1+ $\omega$	0	0	
X <sub>24</sub>	0	0	0	0	0	0	-1	1+ $\omega$	- $\omega$	0	0	

Table 1, Part 7: Characters of  $PSU(5, 2)$

$X_i^{(5)}$	Order of centralizer											
	el.	2.3 <sup>3</sup>	2.3 <sup>3</sup>	2.3 <sup>2</sup>	2.3 <sup>2</sup>	3 <sup>3</sup>	3 <sup>3</sup>	3.5	3.5	3.5	11	11
	$C_{37}$	$C_{38}$	$C_{39}$	$C_{40}$	$C_{41}$	$C_{42}$	$C_{43}$	$C_{44}$	$C_{45}$	$C_{46}$	$C_{47}$	
X <sub>25</sub>	-1	-1	-1	-1	-1	-1	0	0	0	1	1	
X <sub>26</sub>	0	0	0	0	0	0	0	0	0	0	0	
X <sub>27</sub>	0	0	0	0	0	0	0	0	0	0	0	
X <sub>28</sub>	-1	-1	1	1	-1	-1	0	0	0	0	0	
X <sub>29</sub>	- $\omega$	1+ $\omega$	- $\omega$	1+ $\omega$	- $\omega$	1+ $\omega$	0	0	0	0	0	
X <sub>30</sub>	1+ $\omega$	- $\omega$	1+ $\omega$	- $\omega$	1+ $\omega$	- $\omega$	0	0	0	0	0	
X <sub>31</sub>	0	0	0	0	0	0	0	0	0	0	0	
X <sub>32</sub>	0	0	0	0	0	0	0	0	0	0	0	
X <sub>33</sub>	0	0	0	0	0	0	0	0	0	0	0	
X <sub>34</sub>	0	0	0	0	0	0	0	0	0	0	0	
X <sub>35</sub>	0	0	0	0	0	0	0	0	0	0	0	
X <sub>36</sub>	- $\omega$	1+ $\omega$	$\omega$	-1- $\omega$	- $\omega$	1+ $\omega$	-1	- $\omega$	1+ $\omega$	0	0	
X <sub>37</sub>	1+ $\omega$	- $\omega$	-1- $\omega$	$\omega$	1+ $\omega$	- $\omega$	-1	1+ $\omega$	- $\omega$	0	0	
X <sub>38</sub>	-2 $\omega$	2+2 $\omega$	0	0	$\omega$	-1- $\omega$	0	0	0	0	0	
X <sub>39</sub>	2+2 $\omega$	-2 $\omega$	0	0	-1- $\omega$	$\omega$	0	0	0	0	0	
X <sub>40</sub>	0	0	0	0	0	0	1	1	1	0	0	
X <sub>41</sub>	0	0	0	0	0	0	1	$\omega$	-1- $\omega$	0	0	
X <sub>42</sub>	0	0	0	0	0	0	1	-1- $\omega$	$\omega$	0	0	
X <sub>43</sub>	0	0	0	0	0	0	0	0	0	0	0	
X <sub>44</sub>	0	0	0	0	0	0	0	0	0	0	0	
X <sub>45</sub>	-2	-2	0	0	1	1	-1	-1	-1	1	1	
X <sub>46</sub>	0	0	0	0	0	0	0	0	0	$\beta$	$\beta$	
X <sub>47</sub>	0	0	0	0	0	0	0	0	0	$\beta$	$\beta$	

Table 1, Part 8: Characters of  $PSU(5, 2)$

	Order of centralizer													
	el.		$2^{15}.3^6.5.7.11$	$2^{15}.3^4.5$	$2^{14}.3^2$	$2^{12}.3^2$	$2^{11}.3^3$	$2^{11}.3$	$2^9.3$	$2^9.3$	$2^9.3$	$2^8.3$	$2^8$	$2^6$
$X_i^{(6)}$			$C_1$	$C_2$	$C_3$	$C_4$	$C_5$	$C_6$	$C_7$	$C_8$	$C_9$	$C_{10}$	$C_{11}$	$C_{12}$
X <sub>1</sub>			1	1	1	1	1	1	1	1	1	1	1	1
X <sub>2</sub>			22	-10	6	-2	6	-2	2	2	2	-2	2	2
X <sub>3</sub>			231	39	7	-9	23	7	-1	-1	-1	-1	-1	3
X <sub>4</sub>			252	60	28	12	12	-4	4	4	4	4	4	0
X <sub>5</sub>			385	-95	17	-7	1	9	5	5	5	-7	-3	1
X <sub>6</sub>			440	120	24	8	24	8	0	0	0	8	0	0
X <sub>7</sub>			560	-80	-16	16	16	-16	0	0	0	0	0	0
X <sub>8</sub>			616	-24	40	8	8	8	8	8	8	0	0	0
X <sub>9</sub>			770	-30	-14	10	34	-6	-2	-2	-2	2	-2	2
X <sub>10</sub>			770	-30	-14	10	34	-6	-2	-2	-2	2	-2	2
X <sub>11</sub>			1155	195	35	19	-13	3	11	-5	-5	3	3	-1
X <sub>12</sub>			1155	195	35	19	-13	3	-5	11	-5	3	3	-1
X <sub>13</sub>			1155	195	35	19	-13	3	-5	-5	11	3	3	-1
X <sub>14</sub>			1386	-246	58	-30	-6	2	-2	-2	-2	-6	6	-2
X <sub>15</sub>			1540	260	4	-28	-12	-12	4	4	4	4	-4	0
X <sub>16</sub>			3080	-440	40	-8	40	-8	0	0	0	-8	0	0
X <sub>17</sub>			3080	-440	40	-8	40	-8	0	0	0	-8	0	0
X <sub>18</sub>			3520	-320	64	0	64	0	0	0	0	0	0	0
X <sub>19</sub>			4620	-180	44	-36	28	-20	4	4	4	-4	-4	0
X <sub>20</sub>			4928	320	64	64	0	0	0	0	0	0	0	0
X <sub>21</sub>			5544	-24	-56	24	72	24	0	0	0	-8	0	0
X <sub>22</sub>			6160	400	-48	-16	48	16	0	0	0	0	0	0
X <sub>23</sub>			6160	400	-48	-16	48	16	0	0	0	0	0	0

Table 2, Part 1: Characters of  $PSU(6, 2)$

	Order of centralizer													
	el.		$2^{15}.3^6.5.7.11$	$2^{15}.3^4.5$	$2^{14}.3^2$	$2^{12}.3^2$	$2^{11}.3^3$	$2^{11}.3$	$2^9.3$	$2^9.3$	$2^9.3$	$2^8.3$	$2^8$	$2^6$
$\chi_i^{(6)}$			$c_1$	$c_2$	$c_3$	$c_4$	$c_5$	$c_6$	$c_7$	$c_8$	$c_9$	$c_{10}$	$c_{11}$	$c_{12}$
X24			6930	690	98	42	18	-6	6	6	6	10	-2	2
X25			8064	384	128	0	0	0	0	0	0	0	0	0
X26			9240	-360	88	-8	-8	-8	24	-8	-8	0	0	0
X27			9240	-360	88	-8	-8	-8	-8	24	-8	0	0	0
X28			9240	-360	88	-8	-8	-8	-8	-8	24	0	0	0
X29			10395	315	-21	-45	75	-13	-1	-1	-1	3	-1	-1
X30			10395	315	-21	-45	75	-13	-1	-1	-1	3	-1	-1
X31			10395	315	-21	-45	-21	19	15	-1	-1	3	-1	-1
X32			10395	315	-21	-45	-21	19	-1	15	-1	3	-1	-1
X33			10395	315	-21	-45	-21	19	-1	-1	15	3	-1	-1
X34			11264	1024	0	0	0	0	0	0	0	0	0	0
X35			13860	420	100	36	84	20	4	4	4	-4	4	0
X36			14784	-1344	64	0	-64	0	0	0	0	0	0	0
X37			18711	-1161	-57	63	-9	15	3	3	3	-1	-5	-1
X38			18711	1431	87	-9	-9	-9	-9	-9	-9	-1	-1	-1
X39			20790	-810	6	-18	6	14	-6	-6	-6	6	2	2
X40			20790	-810	6	-18	6	14	-6	-6	-6	6	2	2
X41			24640	-960	64	-64	0	0	0	0	0	0	0	0
X42			25515	-405	-117	27	27	-21	3	3	3	3	3	-1
X43			25515	-405	-117	27	27	-21	3	3	3	3	3	-1
X44			32768	0	0	0	0	0	0	0	0	0	0	0
X45			37422	270	30	54	-18	6	-6	-6	-6	-2	-6	-2
X46			40095	1215	-81	-9	-81	-9	3	3	3	-9	3	3

Table 2, Part 2: Characters of  $PSU(6, 2)$

	Order of centralizer											
	el.	$2^5$	$2^5$	$2^5$	$2^6 \cdot 3^5 \cdot 5$	$2^6 \cdot 3^3$	$2^5 \cdot 3^2$	$2^4 \cdot 3^2$	$2^3 \cdot 3$	$2^6 \cdot 3^6$	$2^6 \cdot 3^4$	$2^6 \cdot 3^4$
$X_i^{(6)}$	$C_{13}$	$C_{14}$	$C_{15}$	$C_{16}$	$C_{17}$	$C_{18}$	$C_{19}$	$C_{20}$	$C_{21}$	$C_{22}$	$C_{23}$	$C_{24}$
X <sub>1</sub>	1	1	1	1	1	1	1	1	1	1	1	1
X <sub>2</sub>	0	0	0	4	-4	0	0	-2	-5	-1	-1	3
X <sub>3</sub>	-1	-1	-1	6	6	-2	2	2	15	3	3	7
X <sub>4</sub>	0	0	0	9	9	1	-3	1	9	-3	-3	1
X <sub>5</sub>	-1	-1	-1	25	1	5	1	-1	7	-5	-5	-1
X <sub>6</sub>	0	0	0	35	3	3	3	-1	8	12	12	0
X <sub>7</sub>	0	0	0	20	4	-4	4	0	20	-8	-8	-4
X <sub>8</sub>	0	0	0	-14	-6	-2	2	0	-5	3	3	-5
X <sub>9</sub>	0	0	0	5	-3	1	1	-1	-13	3+12w	-9-12w	7
X <sub>10</sub>	0	0	0	5	-3	1	1	-1	-13	-9-12w	3+12w	7
X <sub>11</sub>	3	-1	-1	30	6	2	2	0	-6	6	6	2
X <sub>12</sub>	-1	3	-1	30	6	2	2	0	-6	6	6	2
X <sub>13</sub>	-1	-1	3	30	6	2	2	0	-6	6	6	2
X <sub>14</sub>	0	0	0	36	-12	4	0	0	9	-3	-3	1
X <sub>15</sub>	0	0	0	55	-1	-5	3	1	1	17	17	1
X <sub>16</sub>	0	0	0	65	1	1	1	1	2	-2+12w	-14-12w	-2
X <sub>17</sub>	0	0	0	65	1	1	1	1	2	-14-12w	-2+12w	-2
X <sub>18</sub>	0	0	0	10	-14	-2	-2	0	-44	4	4	4
X <sub>19</sub>	0	0	0	-15	9	5	1	-1	57	9	9	-7
X <sub>20</sub>	0	0	0	-4	-4	4	0	0	68	-4	-4	4
X <sub>21</sub>	0	0	0	9	9	1	-3	1	36	12	12	4
X <sub>22</sub>	0	0	0	40	-8	0	0	0	-50	-2-12w	10+12w	-6
X <sub>23</sub>	0	0	0	40	-8	0	0	0	-50	10+12w	-2-12w	-6

Table 2, Part 3: Characters of  $PSU(6, 2)$



	Order of centralizer		$\chi_i^{(6)}$											
	el.		$C_{13}$	$C_{14}$	$C_{15}$	$C_{16}$	$C_{17}$	$C_{18}$	$C_{19}$	$C_{20}$	$C_{21}$	$C_{22}$	$C_{23}$	$C_{24}$
	8	$2^5$												
	8	$2^5$												
	8	$2^5$												
	3	$2^6 \cdot 3^5 \cdot 5$												
	6	$2^6 \cdot 3^3$												
	6	$2^5 \cdot 3^2$												
	12	$2^4 \cdot 3^2$												
	12	$2^3 \cdot 3$												
	3	$2^6 \cdot 3^6$												
	6	$2^6 \cdot 3^4$												
	6	$2^6 \cdot 3^4$												
	6	$2^6 \cdot 3^2$												
X24			0	0	0	45	-3	5	-3	1	-36	-12	-12	-4
X25			0	0	0	-36	12	-4	0	0	-36	-12	-12	-4
X26			0	0	0	-30	-6	-2	-2	0	33	9	9	1
X27			0	0	0	-30	-6	-2	-2	0	33	9	9	1
X28			0	0	0	-30	-6	-2	-2	0	33	9	9	1
X29			1	1	1	0	0	0	0	0	27	-9	-9	3
X30			1	1	1	0	0	0	0	0	27	-9	-9	3
X31			-3	1	1	0	0	0	0	0	27	-9	-9	3
X32			1	-3	1	0	0	0	0	0	27	-9	-9	3
X33			1	1	-3	0	0	0	0	0	27	-9	-9	3
X34			0	0	0	104	-8	0	0	0	32	16	16	0
X35			0	0	0	-45	3	-5	3	-1	9	-3	-3	1
X36			0	0	0	114	-6	-2	2	0	-12	-12	-12	4
X37			1	1	1	81	9	-3	-3	-1	0	0	0	0
X38			-1	-1	-1	81	9	-3	-3	-1	0	0	0	0
X39			0	0	0	0	0	0	0	0	54	18+36 $\omega$	-18-36 $\omega$	-6
X40			0	0	0	0	0	0	0	0	54	-18-36 $\omega$	18+36 $\omega$	-6
X41			0	0	0	-20	12	4	0	0	-92	12	12	4
X42			-1	-1	-1	0	0	0	0	0	0	0	0	0
X43			-1	-1	-1	0	0	0	0	0	0	0	0	0
X44			0	0	0	-64	0	0	0	0	-64	0	0	0
X45			0	0	0	-81	-9	3	3	1	0	0	0	0
X46			1	1	1	0	0	0	0	0	0	0	0	0

Table 2, Part 4: Characters of  $PSU(6, 2)$

	Order of centralizer											
	el.	$2^5 \cdot 3^3$	$2^5 \cdot 3^3$	$2^5 \cdot 3$	$2^5 \cdot 3$	$2^4 \cdot 3$	$2^4 \cdot 3$	$2^4 \cdot 3$	$2^3 \cdot 3^2$	$2^3 \cdot 3^2$	$2^3 \cdot 3^3$	$2^3 \cdot 3^5$
$X_i(6)$	$C_{25}$	$C_{26}$	$C_{27}$	$C_{28}$	$C_{29}$	$C_{30}$	$C_{31}$	$C_{32}$	$C_{33}$	$C_{34}$	$C_{35}$	$C_{36}$
X1	1	1	1	1	1	1	1	1	1	1	1	1
X2	-3	-3	1	1	-1	-1	-1	-2	0	2	4	1
X3	5	5	1	1	-1	-1	-1	0	-2	0	6	0
X4	3	3	-1	-1	1	1	1	3	1	3	9	0
X5	1	1	-3	-3	-1	-1	-1	2	2	-2	-2	1
X6	6	6	2	2	0	0	0	-1	3	3	-1	-1
X7	-2	-2	2	2	0	0	0	-2	2	-2	2	2
X8	-1	-1	-1	-1	-1	-1	-1	-1	1	3	13	-2
X9	$-5-6\omega$	$1+6\omega$	$-1-2\omega$	$1+2\omega$	1	1	1	1	1	-3	5	-1
X10	$1+6\omega$	$-5-6\omega$	$1+2\omega$	$-1-2\omega$	1	1	1	1	1	-3	5	-1
X11	-4	-4	0	0	2	-2	-2	1	-1	-3	3	0
X12	-4	-4	0	0	-2	2	-2	1	-1	-3	3	0
X13	-4	-4	0	0	-2	-2	2	1	-1	-3	3	0
X14	3	3	-1	-1	1	1	1	-3	1	-3	9	0
X15	-3	-3	-3	-3	1	1	1	-1	1	-1	1	1
X16	$-8-6\omega$	$-2+6\omega$	$-2\omega$	$2+2\omega$	0	0	0	1	1	1	-7	-1
X17	$-2+6\omega$	$-8-6\omega$	$2+2\omega$	$-2\omega$	0	0	0	1	1	1	-7	-1
X18	-8	-8	0	0	0	0	0	0	-2	4	10	1
X19	1	1	1	1	1	1	1	0	-4	0	12	0
X20	0	0	0	0	0	0	0	1	1	5	5	2
X21	0	0	0	0	0	0	0	-3	1	-3	9	0
X22	$6+6\omega$	$-6\omega$	$2+2\omega$	$-2\omega$	0	0	0	2	0	-2	4	1
X23	$-6\omega$	$6+6\omega$	$-2\omega$	$2+2\omega$	0	0	0	2	0	-2	4	1

Table 2, Part 5: Characters of  $PSU(6, 2)$

	Order of centralizer													
	el.	$2^5 \cdot 3^3$	$2^5 \cdot 3^3$	$2^5 \cdot 3$	$2^5 \cdot 3$	$2^4 \cdot 3$	$2^4 \cdot 3$	$2^4 \cdot 3$	$2^4 \cdot 3$	$2^3 \cdot 3^2$	$2^3 \cdot 3^2$	$2^3 \cdot 3^3$	$2^3 \cdot 3^5$	$3^3$
$X_r^{(6)}$	$C_{25}$	$C_{26}$	$C_{27}$	$C_{28}$	$C_{29}$	$C_{30}$	$C_{31}$	$C_{32}$	$C_{33}$	$C_{34}$	$C_{35}$	$C_{36}$		
$X_{24}$	0	0	0	0	0	0	0	-3	-1	-3	-9	0		
$X_{25}$	0	0	0	0	0	0	0	0	2	0	18	0		
$X_{26}$	1	1	1	1	-3	1	1	1	1	-3	-3	0		
$X_{27}$	1	1	1	1	1	-3	1	1	1	-3	-3	0		
$X_{28}$	1	1	1	1	1	1	-3	1	1	-3	-3	0		
$X_{29}$	$-3-12\omega$	$9+12\omega$	$1+4\omega$	$-3-4\omega$	-1	-1	-1	0	0	0	0	0		
$X_{30}$	$9+12\omega$	$-3-12\omega$	$-3-4\omega$	$1+4\omega$	-1	-1	-1	0	0	0	0	0		
$X_{31}$	-3	-3	1	1	3	-1	-1	0	0	0	0	0		
$X_{32}$	-3	-3	1	1	-1	3	-1	0	0	0	0	0		
$X_{33}$	-3	-3	1	1	-1	-1	3	0	0	0	0	0		
$X_{34}$	0	0	0	0	0	0	0	0	0	4	-4	-1		
$X_{35}$	3	3	-1	-1	1	1	1	0	-2	0	-18	0		
$X_{36}$	8	8	0	0	0	0	0	0	-2	0	6	0		
$X_{37}$	0	0	0	0	0	0	0	0	0	0	0	0		
$X_{38}$	0	0	0	0	0	0	0	0	0	0	0	0		
$X_{39}$	$6\omega$	$-6-6\omega$	$2\omega$	$-2-2\omega$	0	0	0	0	0	0	0	0		
$X_{40}$	$-6-6\omega$	$-6\omega$	$-2-2\omega$	$2\omega$	0	0	0	0	0	0	0	0		
$X_{41}$	0	0	0	0	0	0	0	-1	1	3	-11	1		
$X_{42}$	0	0	0	0	0	0	0	0	0	0	0	0		
$X_{43}$	0	0	0	0	0	0	0	0	0	0	0	0		
$X_{44}$	0	0	0	0	0	0	0	0	0	0	8	-1		
$X_{45}$	0	0	0	0	0	0	0	0	0	0	0	0		
$X_{46}$	0	0	0	0	0	0	0	0	0	0	0	0		

Table 2, Part 6: Characters of  $PSU(6, 2)$

Order of centralizer	el.									
	18	18	9	9	10	5	15	11	11	7
$X_i^{(6)}$	$C_{37}$	$C_{38}$	$C_{39}$	$C_{40}$	$C_{41}$	$C_{42}$	$C_{43}$	$C_{44}$	$C_{45}$	$C_{46}$
X1	1	1	1	1	1	1	1	1	1	1
X2	-1	-1	1	1	0	2	-1	0	0	1
X3	0	0	0	0	-1	1	1	0	0	0
X4	0	0	0	0	0	2	-1	-1	-1	0
X5	1	1	1	1	0	0	0	0	0	0
X6	0	0	2	2	0	0	0	0	0	-1
X7	1	1	-1	-1	0	0	0	-1	-1	0
X8	0	0	-2	-2	1	1	1	0	0	0
X9	1+2 $\omega$	-1-2 $\omega$	-1	-1	0	0	0	0	0	0
X10	-1-2 $\omega$	1+2 $\omega$	-1	-1	0	0	0	0	0	0
X11	0	0	0	0	0	0	0	0	0	0
X12	0	0	0	0	0	0	0	0	0	0
X13	0	0	0	0	0	0	0	0	0	0
X14	0	0	0	0	-1	1	1	0	0	0
X15	-1	-1	1	1	0	0	0	0	0	0
X16	-1- $\omega$	$\omega$	-1-3 $\omega$	2+3 $\omega$	0	0	0	0	0	0
X17	$\omega$	-1- $\omega$	2+3 $\omega$	-1-3 $\omega$	0	0	0	0	0	0
X18	1	1	1	1	0	0	0	0	0	-1
X19	0	0	0	0	0	0	0	0	0	0
X20	-1	-1	-1	-1	0	-2	1	0	0	0
X21	0	0	0	0	1	-1	-1	0	0	0
X22	$\omega$	-1- $\omega$	-2-3 $\omega$	1+3 $\omega$	0	0	0	0	0	0
X23	-1- $\omega$	$\omega$	1+3 $\omega$	-2-3 $\omega$	0	0	0	0	0	0

Table 2, Part 7: Characters of  $PSU(6, 2)$

	Order of centralizer		$X_i^{(6)}$									
	e.l.		$C_{37}$	$C_{38}$	$C_{39}$	$C_{40}$	$C_{41}$	$C_{42}$	$C_{43}$	$C_{44}$	$C_{45}$	$C_{46}$
$2 \cdot 3^2$	18											
$2 \cdot 3^2$	18											
$2 \cdot 3^3$	9											
$2 \cdot 3^3$	9											
$2 \cdot 5$	10											
$2 \cdot 3 \cdot 5$	5											
$3 \cdot 5$	15											
11	11											
11	11											
7	7											
$X_{24}$			0	0	0	0	0	0	0	0	0	0
$X_{25}$			0	0	0	0	-1	-1	-1	1	1	0
$X_{26}$			0	0	0	0	0	0	0	0	0	0
$X_{27}$			0	0	0	0	0	0	0	0	0	0
$X_{28}$			0	0	0	0	0	0	0	0	0	0
$X_{29}$			0	0	0	0	0	0	0	0	0	0
$X_{30}$			0	0	0	0	0	0	0	0	0	0
$X_{31}$			0	0	0	0	0	0	0	0	0	0
$X_{32}$			0	0	0	0	0	0	0	0	0	0
$X_{33}$			0	0	0	0	0	0	0	0	0	0
$X_{34}$			1	1	-1	-1	-1	-1	-1	0	0	1
$X_{35}$			0	0	0	0	0	0	0	0	0	0
$X_{36}$			0	0	0	0	1	-1	-1	0	0	0
$X_{37}$			0	0	0	0	-1	1	1	0	0	0
$X_{38}$			0	0	0	0	1	1	1	0	0	0
$X_{39}$			0	0	0	0	0	0	0	0	0	0
$X_{40}$			0	0	0	0	0	0	0	0	0	0
$X_{41}$			0	0	-2	-2	0	0	0	0	0	0
$X_{42}$			0	0	0	0	0	0	0	$-\beta$	$-\beta$	0
$X_{43}$			0	0	0	0	0	0	0	$-\beta$	$-\beta$	0
$X_{44}$			0	0	2	2	0	-2	1	-1	-1	1
$X_{45}$			0	0	0	0	0	2	-1	0	0	0
$X_{46}$			0	0	0	0	0	0	0	0	0	-1

Table 2, Part 8: Characters of  $PSU(6, 2)$

$\beta_i$	Order of centralizer																	
	el.		$C_1$	$C_2$	$C_3$	$C_4$	$C_5$	$C_6$	$C_7$	$C_8$	$C_9$	$C_{10}$	$C_{11}$	$C_{12}$	$C_{13}$	$C_{14}$	$C_{15}$	$C_{16}$
$\beta_1$	1	$2^7.3^6.5.13$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
$\beta_2$	2	$2^7.3^2$	26	2	6	2	4	0	0	-1	-1	8	-1	2	-1	-1	-1	2
$\beta_3$	2	$2^6.3^2.5$	26	2	6	2	4	0	0	-1	8	-1	-1	-1	2	-1	2	-1
$\beta_4$	4	$2^5.3$	39	7	-1	3	-1	-1	1	12	3	3	3	0	0	4	1	1
$\beta_5$	4	$2^5.3^2.5$	52	-4	8	0	-10	2	0	-2	7	7	-2	1	1	2	-1	-1
$\beta_6$	4	$2^5$	65	-7	5	1	-5	-1	-1	11	2	11	2	2	-1	-1	2	-1
$\beta_7$	8	$2^3$	65	-7	5	1	-5	-1	-1	11	11	2	2	-1	2	-1	-1	2
$\beta_8$	3	$2^3.3^6$	90	10	10	-2	10	2	0	9	9	9	0	0	0	1	1	1
$\beta_9$	3	$2^3.3^5$	234	2	14	2	-4	0	0	-9	18	-9	0	0	0	-1	2	-1
$\beta_{10}$	3	$2^3.3^5$	234	2	14	2	-4	0	0	-9	-9	18	0	0	0	-1	-1	2
$\beta_{11}$	3	$3^4$	260	-4	0	0	10	-2	0	-10	17	-1	-1	2	-1	2	-1	-1
$\beta_{12}$	9	$3^3$	260	-4	0	0	10	-2	0	-10	-1	17	-1	-1	2	2	-1	-1
$\beta_{13}$	9	$3^3$	260	4	20	4	0	0	0	17	-10	-10	-1	-1	-1	1	-2	-2
$\beta_{14}$	6	$2^3.3^2$	351	15	-9	-1	-9	-1	-1	27	0	0	0	0	0	3	0	0
$\beta_{15}$	6	$2^2.3^2$	390	-10	-10	2	10	2	0	39	3	3	3	0	0	-1	-1	-1
$\beta_{16}$	6	$2^2.3^2$	416	0	16	0	16	0	0	-16	2	2	2	-1	-1	0	0	0
$\beta_{17}$	6	$2^2.3^2$	416	0	16	0	-16	0	0	-16	2	2	2	-1	-1	0	0	0
$\beta_{18}$	6	$2^2.3^2$	416	0	-16	0	0	0	0	-16	2	2	2	-1	-1	0	0	0
$\beta_{19}$	6	$2^2.3^2$	416	0	-16	0	0	0	0	-16	2	2	2	-1	-1	0	0	0
$\beta_{20}$	6	$2^2.3^2$	468	-4	-8	0	-10	2	0	-18	9	9	0	0	0	2	-1	-1
$\beta_{21}$	6	$2^2.3^2$	585	1	5	-3	-5	-1	1	18	-9	18	0	0	0	-2	1	-2
$\beta_{22}$	6	$2^2.3^2$	585	1	5	-3	-5	-1	1	18	18	-9	0	0	0	-2	-2	1
$\beta_{23}$	6	$2^2.3^2$	640	0	0	0	0	0	0	-8	-8	-8	1	1	1	0	0	0
$\beta_{24}$	6	$2^2.3^2$	640	0	0	0	0	0	0	-8	-8	-8	1	1	1	0	0	0
$\beta_{25}$	6	$2^2.3^2$	640	0	0	0	0	0	0	-8	-8	-8	1	1	1	0	0	0
$\beta_{26}$	6	$2^2.3^2$	640	0	0	0	0	0	0	-8	-8	-8	1	1	1	0	0	0
$\beta_{27}$	6	$2^2.3^2$	729	9	9	-3	9	1	-1	0	0	0	0	0	0	0	0	0
$\beta_{28}$	6	$2^2.3^2$	780	12	-20	4	0	0	0	-3	6	6	-3	0	0	-3	0	0
$\beta_{29}$	6	$2^2.3^2$	1040	-16	0	0	0	0	0	14	-4	-4	-4	-1	-1	2	2	2

Table 3, Part 1: Characters of  $PS\Omega^+(6, 3)$

$\beta_i$	Order of		el. centralizer											
	$C_{17}$	$C_{18}$	$C_{19}$	$C_{20}$	$C_{21}$	$C_{22}$	$C_{23}$	$C_{24}$	$C_{25}$	$C_{26}$	$C_{27}$	$C_{28}$	$C_{29}$	
$\beta_1$	1	1	1	1	1	1	1	1	1	1	1	1	1	
$\beta_2$	3	0	-1	-2	1	1	1	-1	-1	0	0	0	0	
$\beta_3$	0	3	-1	1	-2	1	1	-1	-1	0	0	0	0	
$\beta_4$	-1	-1	0	-1	-1	-1	-1	-1	-1	0	0	0	0	
$\beta_5$	-1	-1	0	-1	-1	2	-2	0	0	0	0	0	0	
$\beta_6$	2	-1	1	1	-2	0	0	0	0	0	0	0	0	
$\beta_7$	-1	2	1	-2	1	0	0	0	0	0	0	0	0	
$\beta_8$	1	1	1	1	1	0	0	0	0	-1	-1	-1	-1	
$\beta_9$	2	-1	-1	-1	2	-1	-1	1	1	0	0	0	0	
$\beta_{10}$	-1	2	-1	2	-1	-1	-1	1	1	0	0	0	0	
$\beta_{11}$	-3	3	0	1	1	0	0	0	0	0	0	0	0	
$\beta_{12}$	3	-3	0	1	1	0	0	0	0	0	0	0	0	
$\beta_{13}$	2	2	1	0	0	0	0	0	0	0	0	0	0	
$\beta_{14}$	0	0	-1	0	0	1	1	1	1	0	0	0	0	
$\beta_{15}$	-1	-1	-1	1	1	0	0	0	0	0	0	0	0	
$\beta_{16}$	-2	-2	0	-2	-2	1	1	1	1	0	0	0	0	
$\beta_{17}$	-2	-2	0	2	2	1	1	-1	-1	0	0	0	0	
$\beta_{18}$	2	2	0	0	0	1	-1	$\gamma$	$-\gamma$	0	0	0	0	
$\beta_{19}$	2	2	0	0	0	1	-1	$-\gamma$	$\gamma$	0	0	0	0	
$\beta_{20}$	1	1	0	-1	-1	-2	2	0	0	0	0	0	0	
$\beta_{21}$	-1	2	0	-2	1	0	0	0	0	0	0	0	0	
$\beta_{22}$	2	-1	0	1	-2	0	0	0	0	0	0	0	0	
$\beta_{23}$	0	0	0	0	0	0	0	0	0	$\lambda_1$	$\lambda_2$	$\lambda_3$	$\lambda_4$	
$\beta_{24}$	0	0	0	0	0	0	0	0	0	$\lambda_2$	$\lambda_1$	$\lambda_4$	$\lambda_3$	
$\beta_{25}$	0	0	0	0	0	0	0	0	0	$\lambda_3$	$\lambda_4$	$\lambda_1$	$\lambda_2$	
$\beta_{26}$	0	0	0	0	0	0	0	0	0	$\lambda_4$	$\lambda_3$	$\lambda_2$	$\lambda_1$	
$\beta_{27}$	0	0	0	0	0	-1	-1	-1	-1	1	1	1	1	
$\beta_{28}$	-2	-2	1	0	0	0	0	0	0	0	0	0	0	
$\beta_{29}$	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 3, Part 2: Characters of  $PSS\Omega^+(6, 3)$

$X_i^{(7)}$	Order of centralizer																
	el.		$C_1$	$C_2$	$C_3$	$C_4$	$C_5$	$C_6$	$C_7$	$C_8$	$C_9$	$C_{10}$	$C_{11}$	$C_{12}$	$C_{13}$	$C_{14}$	$C_{15}$
X1	1	$2^9.3^9.5.7.13$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
X2	2	$2^9.3^6.5.7$	78	-34	14	-2	-6	2	2	2	0	0	-3	6	15	-3	-3
X3	2	$2^9.3^4.5$	91	-21	11	-5	-1	3	3	-1	-1	-1	10	19	1	10	10
X4	2	$2^9.3^3$	105	-35	5	1	-5	5	1	-1	1	-1	24	6	15	-3	-3
X5	4	$2^6.3^2.5$	168	56	24	8	4	0	0	4	0	0	6	24	15	6	6
X6	4	$2^7.3^2$	182	70	22	6	10	2	2	2	0	0	20	11	29	-7	-7
X7	4	$2^7.3$	195	55	15	11	5	3	-1	1	1	-1	33	24	15	6	6
X8	4	$2^6.3$	260	20	20	4	0	4	4	0	0	0	17	-10	-10	-10	17
X9	8	$2^4$	260	20	20	4	0	4	4	0	0	0	17	-10	-10	17	-10
X10	8	$2^4$	273	-91	29	-7	-9	1	-3	3	-1	1	30	30	30	3	3
X11	3	$2^5.3^9$	546	154	26	2	14	6	-2	-2	0	0	-21	-12	51	6	6
X12	3	$2^6.3^7$	819	-21	-21	19	-1	7	-1	-1	1	1	90	9	9	9	9
X13	3	$2^4.3^7.5$	910	-210	30	-2	-10	2	2	-2	0	0	19	-17	55	-8	19
X14	3	$2^3.3^7$	910	-210	30	-2	-10	2	2	-2	0	0	19	-17	55	19	-8
X15	3	$2^3.3^7$	1092	-140	52	4	0	4	4	0	0	0	-42	30	-6	-15	-15
X16	3	$2^3.3^7$	1365	245	5	-27	5	1	1	-3	-1	-1	69	-3	60	15	15
X17	3	$2^3.3^7$	1365	-35	45	5	5	5	-3	-3	1	1	-12	87	-30	15	15
X18	3	$2^3.3^7$	1560	120	-40	-8	0	0	0	0	0	0	-60	12	30	-6	-6
X19	3	$2^3.3^7$	1560	120	-40	-8	0	0	0	0	0	0	-60	12	30	-6	-6
X20	3	$2^3.3^7$	1638	294	54	-10	6	2	2	-2	0	0	-63	18	45	-9	-9
X21	3	$2^3.3^7$	1820	140	-20	-4	0	4	4	0	0	0	-43	56	20	11	11
X22	3	$2^3.3^7$	2106	-414	66	-6	-14	6	-2	2	0	0	-81	0	81	0	0
X23	3	$2^3.3^7$	2184	56	24	-24	-4	0	0	-4	0	0	78	96	-21	24	24
X24	3	$2^3.3^7$	2457	189	21	33	-9	-7	5	3	-1	1	27	54	0	27	27
X25	3	$2^3.3^7$	2730	490	90	26	10	-2	-2	2	0	0	-24	-15	75	3	3
X26	3	$2^3.3^7$	2730	-70	10	-6	-10	6	6	-2	0	0	138	21	-15	-24	-24
X27	3	$2^3.3^7$	2835	315	75	3	-5	3	-5	3	-1	-1	-81	81	0	0	0
X28	3	$2^3.3^7$	4095	315	-45	-25	5	11	-1	1	-1	1	207	18	45	-9	-9
X29	3	$2^3.3^7$	4095	-525	75	7	5	-9	3	1	1	-1	-36	72	45	18	18

Table 4, Part 1: Characters of  $PS\Omega(7, 3)$



$X_{\psi}^{(7)}$	Order of centralizer														
	1	2	2	2	4	4	4	4	8	8	3	3	3	3	3
	$2^9 \cdot 3^9 \cdot 5 \cdot 7 \cdot 13$	$2^9 \cdot 3^6 \cdot 5 \cdot 7$	$2^9 \cdot 3^4 \cdot 5$	$2^9 \cdot 3^3$	$2^6 \cdot 3^2 \cdot 5$	$2^7 \cdot 3^2$	$2^7 \cdot 3$	$2^6 \cdot 3$	$2^4$	$2^4$	$2^5 \cdot 3^9$	$2^6 \cdot 3^7$	$2^4 \cdot 3^7 \cdot 5$	$2^3 \cdot 3^7$	$2^3 \cdot 3^7$
	$c_1$	$c_2$	$c_3$	$c_4$	$c_5$	$c_6$	$c_7$	$c_8$	$c_9$	$c_{10}$	$c_{11}$	$c_{12}$	$c_{13}$	$c_{14}$	$c_{15}$
X30	4368	560	48	16	0	0	0	0	0	0	156	-24	66	-6	-6
X31	4536	-504	-24	24	-4	0	0	-4	0	0	162	0	81	0	0
X32	5265	225	-15	33	5	-3	-3	-3	-1	-1	162	81	0	0	0
X33	5460	420	100	20	0	4	4	0	0	0	33	96	-30	-21	-21
X34	5460	-700	100	-12	0	-4	-4	0	0	0	114	6	60	-21	-21
X35	5460	-140	-140	20	0	12	-4	0	0	0	-129	60	60	6	6
X36	5824	896	64	0	16	0	0	0	0	0	-8	-8	154	-8	-8
X37	5824	-896	64	0	-16	0	0	0	0	0	-8	-8	154	-8	-8
X38	6552	-504	-24	-8	4	0	0	4	0	0	234	72	45	18	18
X39	7020	540	60	12	0	4	4	0	0	0	-27	-54	0	-27	54
X40	7020	540	60	12	0	4	4	0	0	0	-27	-54	0	54	-27
X41	7280	-560	80	-16	0	0	0	0	0	0	-10	152	-10	-10	-10
X42	7280	-560	80	-16	0	0	0	0	0	0	-10	-64	-10	44	-10
X43	7280	-560	80	-16	0	0	0	0	0	0	-10	-64	-10	-10	44
X44	7371	819	51	-21	-1	-9	-1	-1	1	1	81	81	81	0	0
X45	8190	-210	30	-18	10	2	2	2	0	0	171	-45	-45	36	-45
X46	8190	-210	30	-18	10	2	2	2	0	0	171	-45	-45	-45	36
X47	11648	0	128	0	0	0	0	0	0	0	-16	-16	-124	-16	-16
X48	14742	630	102	6	-10	-6	-6	-2	0	0	162	-81	-81	0	0
X49	16380	-420	60	28	0	12	-4	0	0	0	99	-36	-90	18	18
X50	16640	1280	0	0	0	0	0	0	0	0	-208	-64	80	8	8
X51	16640	-1280	0	0	0	0	0	0	0	0	-208	-64	80	8	8
X52	17472	-896	-64	0	16	0	0	0	0	0	-24	-24	30	-24	-24
X53	17472	896	-64	0	-16	0	0	0	0	0	-24	-24	30	-24	-24
X54	17920	0	0	0	0	0	0	0	0	0	-224	64	-80	-8	-8
X55	17920	0	0	0	0	0	0	0	0	0	-224	64	-80	-8	-8
X56	19683	-729	-81	27	9	-9	3	-3	-1	1	0	0	0	0	0
X57	21840	560	-80	-48	0	0	0	0	0	0	-30	24	-30	24	24
X58	22113	189	-171	9	-9	-3	1	3	1	-1	243	0	0	0	0

Table 4, Part 2: Characters of  $PS\Omega(7, 3)$

$X_i^{(7)}$	Order of centralizer														
	e.l.	$2 \cdot 3^6$	$2^2 \cdot 3^6$	$2 \cdot 3^4$	$2^2 \cdot 3^4$	$3^3$	$3^3$	$2^5 \cdot 3^6$	$2^4 \cdot 3^5$	$2^4 \cdot 3^5$	$2^2 \cdot 3^4$	$2^5 \cdot 3^4$	$2^5 \cdot 3^3$	$2^4 \cdot 3^3$	$2^5 \cdot 3^3$
	$C_{16}$	$C_{17}$	$C_{18}$	$C_{19}$	$C_{20}$	$C_{21}$	$C_{22}$	$C_{23}$	$C_{24}$	$C_{25}$	$C_{26}$	$C_{27}$	$C_{28}$	$C_{29}$	$C_{30}$
X1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
X2	-3	6	0	3	0	0	-7	2	-7	2	5	2	-1	1	1
X3	1	1	4	-2	1	1	6	-3	-3	-3	2	-1	5	-2	1
X4	6	-3	0	3	0	0	-8	-8	1	1	-4	2	-1	4	1
X5	-3	6	3	0	0	0	2	2	11	2	6	0	3	2	-1
X6	2	2	-1	5	-1	-1	16	7	7	-2	4	7	1	0	3
X7	6	-3	3	0	0	0	1	10	1	1	-3	0	3	5	5
X8	-1	8	-1	-1	-1	2	-7	2	2	2	-7	2	2	1	-2
X9	-1	8	-1	-1	2	-1	-7	2	2	2	-7	2	2	1	-2
X10	3	3	3	3	0	0	-10	-10	-10	-1	2	2	2	2	2
X11	-3	-3	0	3	0	0	19	-8	1	1	-1	8	-1	-1	5
X12	9	9	0	0	0	0	6	-3	-3	-3	6	-3	-3	10	1
X13	1	1	-2	4	-2	1	-21	-3	-3	-3	3	3	3	-5	1
X14	1	1	-2	4	1	-2	-21	-3	-3	-3	3	3	3	-5	1
X15	3	12	0	-3	0	0	22	4	-14	4	-2	-2	-2	-2	-2
X16	6	6	0	3	0	0	29	11	2	2	5	5	-4	-3	-6
X17	-3	-3	3	0	0	0	-8	1	-8	1	0	3	6	-4	-4
X18	3	3	0	-3	0	0	12	-6	-6	3	-4	8	2	4	-2
X19	3	3	0	-3	0	0	12	-6	-6	3	-4	8	2	4	-2
X20	0	9	0	0	0	0	-3	-12	15	-3	9	-6	-3	5	-1
X21	-7	-7	-1	5	-1	-1	5	-4	-4	5	-11	-8	4	5	-4
X22	0	0	0	0	0	0	-9	18	-9	0	3	0	-3	3	3
X23	6	6	3	0	0	0	2	2	11	2	6	0	3	-6	3
X24	0	0	0	0	0	0	27	0	0	0	3	6	0	3	0
X25	3	12	-3	0	0	0	4	-5	13	4	0	-3	3	-4	5
X26	3	-6	0	-3	0	0	38	-7	11	2	10	1	1	6	3
X27	0	0	0	0	0	0	-9	-9	18	0	3	-3	0	3	-6
X28	9	0	0	0	0	0	-9	18	-9	0	-9	-6	-3	-1	-1
X29	0	9	0	0	0	0	-12	6	-21	-3	12	0	-3	4	-5

Table 4, Part 3: Characters of  $PS\Omega(7, 3)$

Order of centralizer															
	3	3	9	9	9	9	6	6	6	6	6	6	6	6	
$X_i^{(7)}$	$C_{16}$	$C_{17}$	$C_{18}$	$C_{19}$	$C_{20}$	$C_{21}$	$C_{22}$	$C_{23}$	$C_{24}$	$C_{25}$	$C_{26}$	$C_{27}$	$C_{28}$	$C_{29}$	$C_{30}$
X30	3	-6	-3	0	0	0	20	20	2	2	12	0	6	4	-2
X31	0	0	0	0	0	0	-18	-18	9	0	-6	0	-3	6	-3
X32	0	0	0	0	0	0	-18	9	-18	0	-6	-3	0	6	6
X33	-3	-3	0	-6	0	0	-39	6	6	-3	1	4	-2	-7	2
X34	6	6	-3	-3	0	0	2	-16	-16	2	10	-2	4	-6	0
X35	-3	15	-3	-3	0	0	-5	4	4	-5	-5	4	4	-1	-4
X36	-8	-8	1	1	1	1	32	-4	-4	-4	-8	4	-2	0	0
X37	-8	-8	1	1	1	1	-32	4	4	4	-8	4	-2	0	0
X38	9	0	0	0	0	0	-18	-18	9	0	-6	0	-3	-2	1
X39	0	0	0	0	0	0	-27	0	0	0	-3	-6	0	-3	0
X40	0	0	0	0	0	0	-27	0	0	0	-3	-6	0	-3	0
X41	-10	-10	-1	-1	-1	-1	34	-2	-2	-2	-10	-4	2	2	2
X42	-1	8	-1	-1	-1	2	34	-2	-2	-2	-10	-4	2	2	2
X43	-1	8	-1	-1	2	-1	34	-2	-2	-2	-10	-4	2	2	2
X44	0	0	0	0	0	0	9	9	9	0	-3	-3	-3	-3	-3
X45	0	-9	0	0	0	0	-21	-3	-3	-3	3	3	3	3	-3
X46	0	-9	0	0	0	0	-21	-3	-3	-3	3	3	3	3	-3
X47	2	20	2	2	-1	-1	0	0	0	0	-16	8	-4	0	0
X48	0	0	0	0	0	0	-18	9	9	0	-6	3	3	6	-3
X49	-9	-9	0	0	0	0	39	-6	-6	3	15	0	-6	-5	-2
X50	8	-10	2	-4	-1	-1	-16	-16	-16	2	0	0	0	0	0
X51	8	-10	2	-4	-1	-1	16	16	16	-2	0	0	0	0	0
X52	-6	12	3	3	0	0	-32	4	4	4	8	-4	2	0	0
X53	-6	12	3	3	0	0	32	-4	-4	-4	8	-4	2	0	0
X54	10	-8	-2	4	1	1	0	0	0	0	0	0	0	0	0
X55	10	-8	-2	4	1	1	0	0	0	0	0	0	0	0	0
X56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X57	-12	6	-3	-3	0	0	-34	2	2	2	10	4	-2	6	6
X58	0	0	0	0	0	0	27	0	0	0	-9	0	0	-9	0

Table 4, Part 4: Characters of  $PS\Omega(7, 3)$

$X_i^{(7)}$	Order of centralizer														
	6	6	6	6	6	6	6	12	12	12	12	12	12	12	12
	$2^4 \cdot 3^3$	$2^6 \cdot 3^3$	$2^3 \cdot 3^3$	$2^3 \cdot 3^3$	$2 \cdot 3^3$	$2^2 \cdot 3^3$	$2^2 \cdot 3^3$	$2^3 \cdot 3^2$	$2^3 \cdot 3^2$	$2^3 \cdot 3$	$2^4 \cdot 3^2$	$2^4 \cdot 3^2$	$2^2 \cdot 3^2$	$2^2 \cdot 3^2$	$2^4 \cdot 3$
	$C_{31}$	$C_{32}$	$C_{33}$	$C_{34}$	$C_{35}$	$C_{36}$	$C_{37}$	$C_{38}$	$C_{39}$	$C_{40}$	$C_{41}$	$C_{42}$	$C_{43}$	$C_{44}$	$C_{45}$
X1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
X2	-2	-2	1	1	1	-2	-2	0	-3	-1	2	-1	-1	-1	-1
X3	1	-5	-2	-2	1	1	1	-1	-1	-1	3	0	0	0	0
X4	4	-2	1	1	-2	1	1	-2	1	-1	2	2	-1	-1	-2
X5	2	8	2	2	-1	2	2	-2	1	1	0	0	0	0	0
X6	3	3	-3	-3	0	0	0	1	1	-1	-1	2	-1	-1	2
X7	2	8	2	2	2	-1	-1	2	-1	1	0	3	0	0	-1
X8	-2	-2	-2	1	1	4	-2	0	0	0	-2	1	-2	1	1
X9	-2	-2	1	-2	1	-2	4	0	0	0	-2	1	1	-2	1
X10	2	-10	-1	-1	-1	-1	-1	0	0	0	-2	4	1	1	0
X11	-4	-4	2	2	-1	-1	-1	2	-1	1	0	-3	0	0	1
X12	1	1	1	1	1	1	1	-1	-1	-1	1	-2	1	1	2
X13	1	7	4	-5	1	1	1	-1	-1	1	-1	-1	2	-1	-1
X14	1	7	-5	4	1	1	1	-1	-1	1	-1	-1	-1	2	-1
X15	4	-2	1	1	1	-2	-2	0	0	0	-2	-2	1	1	-2
X16	3	-3	3	3	0	0	0	-1	2	0	1	1	1	1	1
X17	5	-1	-1	-1	-1	-1	-1	-1	2	0	-1	-4	-1	-1	0
X18	-2	4	-2	-2	1	1	1	0	0	0	0	0	0	0	0
X19	-2	4	-2	-2	1	1	1	0	0	0	0	0	0	0	0
X20	-4	2	-1	-1	2	-1	-1	0	3	1	2	-1	-1	-1	-1
X21	-4	8	-1	-1	-1	-1	-1	0	0	0	4	1	1	1	1
X22	-6	0	0	0	0	0	0	-2	1	-1	0	-3	0	0	1
X23	-6	0	0	0	0	0	0	2	-1	-1	0	0	0	0	0
X24	0	6	3	3	0	0	0	0	0	0	2	-1	-1	-1	-1
X25	-1	-7	-1	-1	-1	2	2	1	1	-1	1	-2	1	1	-2
X26	-3	-3	0	0	-3	0	0	-1	-1	1	-3	0	0	0	0
X27	3	9	0	0	0	0	0	1	-2	0	-3	-3	0	0	1
X28	2	2	-1	-1	-1	2	2	2	-1	1	2	-1	-1	-1	-1
X29	-2	-8	-2	-2	-2	1	1	2	-1	1	0	0	0	0	0

Table 4, Part 5: Characters of  $PS\Omega(7, 3)$

$X_i^{(7)}$	Order of centralizer																
	el.		$C_{31}$	$C_{32}$	$C_{33}$	$C_{34}$	$C_{35}$	$C_{36}$	$C_{37}$	$C_{38}$	$C_{39}$	$C_{40}$	$C_{41}$	$C_{42}$	$C_{43}$	$C_{44}$	$C_{45}$
X30	6	$2^4.3^3$	4	-8	-2	-2	1	-2	-2	0	0	0	0	0	0	0	0
X31	6	$2^6.3^3$	6	0	0	0	0	0	0	2	-1	-1	0	0	0	0	0
X32	6	$2^3.3^3$	-3	9	0	0	0	0	0	-1	2	0	-3	0	0	0	0
X33	6	$2^3.3^3$	2	8	-1	-1	-1	-1	-1	0	0	0	4	1	1	1	1
X34	6	$2.3^3$	0	6	3	3	0	0	0	0	0	0	2	2	-1	-1	2
X35	6	$2^2.3^3$	-4	-4	2	2	-1	-1	-1	0	0	0	0	3	0	0	-1
X36	6	$2^2.3^3$	0	0	0	0	0	0	0	-2	-2	0	0	0	0	0	0
X37	6	$2^2.3^3$	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0
X38	12	$2^3.3^2$	-2	-8	-2	-2	1	-2	-2	-2	1	1	0	0	0	0	0
X39	12	$2^3.3^2$	0	-6	-3	6	0	0	0	0	0	0	-2	1	1	-2	1
X40	12	$2^3.3^2$	0	-6	6	-3	0	0	0	0	0	0	-2	1	-2	1	1
X41	12	$2^4.3^2$	2	-16	2	2	2	2	2	0	0	0	0	0	0	0	0
X42	12	$2^4.3^2$	2	8	-4	2	-1	-4	2	0	0	0	0	0	0	0	0
X43	12	$2^4.3^2$	2	8	2	-4	-1	2	-4	0	0	0	0	0	0	0	0
X44	12	$2^4.3^2$	-3	9	0	0	0	0	0	-1	-1	-1	-3	3	0	0	-1
X45	12	$2^4.3^2$	-3	3	0	3	0	3	-3	1	1	-1	-1	-1	2	-1	-1
X46	12	$2^4.3^2$	-3	3	3	0	0	-3	3	1	1	-1	-1	-1	-1	2	-1
X47	12	$2^4.3^2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X48	12	$2^4.3^2$	-3	-9	0	0	0	0	0	-1	-1	1	3	0	0	0	0
X49	12	$2^4.3^2$	-2	4	-2	-2	1	1	1	0	0	0	0	3	0	0	-1
X50	12	$2^4.3^2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X51	12	$2^4.3^2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X52	12	$2^4.3^2$	0	0	0	0	0	0	0	-2	-2	0	0	0	0	0	0
X53	12	$2^4.3^2$	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0
X54	12	$2^4.3^2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X55	12	$2^4.3^2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X56	12	$2^4.3^2$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X57	12	$2^4.3^2$	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X58	12	$2^4.3$	0	0	0	0	0	0	0	0	0	0	0	-3	0	0	1

Table 4, Part 6: Characters of  $PS\Omega(7, 3)$

$X_i^{(7)}$	Order of centralizer													
	el.	$2^2 \cdot 3^3$	$2^2 \cdot 3^3$	$2 \cdot 3^3$	$2^2 \cdot 3^2$	$2^3 \cdot 3 \cdot 5$	$2^3 \cdot 5$	$2^2 \cdot 5$	$2^2 \cdot 5$	$3 \cdot 5$	$2 \cdot 7$	$2 \cdot 7$	$13$	$13$
	$C_{46}$	$C_{47}$	$C_{48}$	$C_{49}$	$C_{50}$	$C_{51}$	$C_{52}$	$C_{53}$	$C_{54}$	$C_{55}$	$C_{56}$	$C_{57}$	$C_{58}$	
X1	1	1	1	1	1	1	1	1	1	1	1	1	1	
X2	-1	-1	2	-1	3	-1	1	-1	0	1	1	0	0	
X3	0	0	0	2	1	1	-1	-1	1	0	0	0	0	
X4	1	1	-2	-1	0	0	0	0	0	0	0	1	1	
X5	2	2	-1	0	3	-1	1	-1	0	0	0	-1	-1	
X6	1	1	1	1	2	2	0	0	-1	0	0	0	0	
X7	-2	-2	1	0	0	0	0	0	0	-1	-1	0	0	
X8	-1	-1	-1	-1	0	0	0	0	0	1	-1	0	0	
X9	-1	-1	-1	-1	0	0	0	0	0	1	-1	0	0	
X10	-1	-1	-1	-1	3	-1	-1	1	0	0	0	0	0	
X11	1	1	-2	-1	1	1	-1	-1	1	0	0	0	0	
X12	0	0	0	0	-1	-1	-1	-1	-1	0	0	0	0	
X13	0	0	0	0	0	0	0	0	0	0	0	0	0	
X14	0	0	0	0	0	0	0	0	0	0	0	0	0	
X15	1	1	-2	1	2	2	0	0	-1	0	0	0	0	
X16	-1	-1	2	-1	0	0	0	0	0	0	0	0	0	
X17	-2	-2	1	0	0	0	0	0	0	0	0	0	0	
X18	$p$	$-p$	0	-1	0	0	0	0	0	-1	1	0	0	
X19	$-p$	$p$	0	-1	0	0	0	0	0	-1	1	0	0	
X20	0	0	0	0	3	-1	-1	1	0	0	0	0	0	
X21	-1	-1	-1	1	0	0	0	0	0	0	0	0	0	
X22	0	0	0	0	1	1	1	1	1	-1	-1	0	0	
X23	2	2	-1	0	-1	-1	1	1	-1	0	0	0	0	
X24	0	0	0	0	-3	1	-1	1	0	0	0	0	0	
X25	-2	-2	1	0	0	0	0	0	0	0	0	0	0	
X26	-1	-1	2	1	0	0	0	0	0	0	0	0	0	
X27	0	0	0	0	0	0	0	0	0	0	0	1	1	
X28	0	0	0	0	0	0	0	0	0	0	0	0	0	
X29	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 4, Part 7: Characters of  $PS\Omega(7, 3)$

$X_i(7)$	Order of centralizer													
	el.	18	18	18	18	5	10	10	20	15	7	14	13	13
	$C_{46}$	$C_{47}$	$C_{48}$	$C_{49}$	$C_{50}$	$C_{51}$	$C_{52}$	$C_{53}$	$C_{54}$	$C_{55}$	$C_{56}$	$C_{57}$	$C_{58}$	
X30	2	2	-1	0	-2	-2	0	0	1	0	0	0	0	0
X31	0	0	0	0	1	1	1	1	1	0	0	-1	-1	
X32	0	0	0	0	0	0	0	0	0	1	1	0	0	
X33	0	0	0	-2	0	0	0	0	0	0	0	0	0	
X34	-1	-1	-1	1	0	0	0	0	0	0	0	0	0	
X35	1	1	1	1	0	0	0	0	0	0	0	0	0	
X36	-1	-1	-1	1	-1	-1	1	1	-1	0	0	0	0	
X37	1	1	1	1	-1	-1	-1	-1	-1	0	0	0	0	
X38	0	0	0	0	-3	1	1	-1	0	0	0	0	0	
X39	0	0	0	0	0	0	0	0	0	-1	1	0	0	
X40	0	0	0	0	0	0	0	0	0	-1	1	0	0	
X41	1	1	1	-1	0	0	0	0	0	0	0	0	0	
X42	1	1	1	-1	0	0	0	0	0	0	0	0	0	
X43	1	1	1	-1	0	0	0	0	0	0	0	0	0	
X44	0	0	0	0	1	1	-1	-1	1	0	0	0	0	
X45	0	0	0	0	0	0	0	0	0	0	0	0	0	
X46	0	0	0	0	0	0	0	0	0	0	0	0	0	
X47	0	0	0	2	-2	-2	0	0	1	0	0	0	0	
X48	0	0	0	0	2	2	0	0	-1	0	0	0	0	
X49	0	0	0	0	0	0	0	0	0	0	0	0	0	
X50	2	2	2	0	0	0	0	0	0	1	-1	0	0	
X51	-2	-2	-2	0	0	0	0	0	0	1	1	0	0	
X52	1	1	1	-1	-3	1	-1	1	0	0	0	0	0	
X53	-1	-1	-1	-1	-3	1	1	-1	0	0	0	0	0	
X54	0	0	0	0	0	0	0	0	0	0	0	$\alpha$	$-\alpha^*$	
X55	0	0	0	0	0	0	0	0	0	0	0	$-\alpha^*$	$\alpha$	
X56	0	0	0	0	3	-1	1	-1	0	-1	-1	1	1	
X57	-1	-1	-1	1	0	0	0	0	0	0	0	0	0	
X58	0	0	0	0	3	-1	-1	1	0	0	0	0	0	

Table 4, Part 8: Characters of  $PS\Omega(7, 3)$

$X_i^{(22)}$	$C_1$	$C_2$	$C_3$	$C_4$	$C_5$	$C_6$	$C_7$	$C_8$	$C_9$	$C_{10}$	$C_{11}$	$C_{12}$	$C_{13}$
X1	1	1	1	1	1	1	1	1	1	1	1	1	1
X2	78	-34	14	-2	0	0	1	1	-1	-1	1	1	1
X3	429	77	45	13	0	0	0	0	0	0	2	0	-1
X4	1001	-231	41	-7	0	0	0	0	0	0	0	0	0
X5	1430	-154	86	6	0	0	0	0	0	0	2	0	-1
X6	3003	539	59	-37	0	0	0	0	0	0	0	0	0
X7	3080	615	136	40	-1	-1	0	0	0	0	0	0	0
X8	10725	-715	165	-43	0	0	0	0	0	0	1	-1	1
X9	13650	1330	210	114	0	0	-1	-1	-1	-1	0	0	0
X10	30030	1694	526	62	0	0	0	0	0	0	0	0	0
X11	32032	-2464	544	-32	0	0	0	0	0	0	0	0	0
X12	43680	-4256	416	-32	0	0	-1	-1	1	1	0	0	0
X13	45045	4389	309	133	0	0	0	0	0	0	0	0	0
X14	48048	-1232	432	48	0	0	0	0	0	0	0	0	0
X15	50050	-5390	450	-46	0	0	0	0	0	0	0	0	0
X16	50050	770	130	-126	0	0	0	0	0	0	0	0	0
X17	75075	1155	835	131	0	0	0	0	0	0	0	0	0
X18	75075	7315	515	51	0	0	0	0	0	0	0	0	0
X19	75075	-5005	-125	83	0	0	0	0	0	0	0	0	0
X20	81081	3465	633	-87	0	0	0	0	0	0	0	0	0
X21	114400	-8800	480	32	0	0	0	0	0	0	-1	-1	-1
X22	138600	-9240	360	-24	$-\alpha$	$\alpha^*$	0	0	0	0	0	0	0
X23	138600	-9240	360	-24	$\alpha^*$	$-\alpha$	0	0	0	0	0	0	0
X24	150150	8470	70	54	0	0	0	0	0	0	0	0	0
X25	205920	1056	864	160	0	0	0	0	0	0	1	-1	1
X26	289575	12375	615	183	0	0	0	0	0	0	-1	-1	-1
X27	300300	-7700	1420	-84	0	0	0	0	0	0	0	0	0
X28	320320	14784	1344	192	0	0	0	0	0	0	0	0	0
X29	360855	18711	1431	279	1	1	0	0	0	0	-2	0	1
X30	370656	-15840	1248	-96	0	0	0	0	0	0	-1	1	-1
X31	400400	6160	1040	16	0	0	0	0	0	0	0	0	0
X32	400400	6160	1040	16	0	0	0	0	0	0	0	0	0
X33	400400	-18480	-240	80	0	0	0	0	0	0	0	0	0

Table 5, Part 1: Characters of  $M(22)$



$\chi_i^{(22)}$	$C_1$	$C_2$	$C_3$	$C_4$	$C_5$	$C_6$	$C_7$	$C_8$	$C_9$	$C_{10}$	$C_{11}$	$C_{12}$	$C_{13}$
X34	400400	-18480	-240	80	0	0	0	0	0	0	0	0	0
X35	450450	6930	1170	-110	0	0	0	0	0	0	0	0	0
X36	450450	25410	210	-350	0	0	0	0	0	0	0	0	0
X37	576576	14784	576	-320	0	0	0	0	0	0	0	0	0
X38	577368	-21384	216	-72	-1	-1	0	0	0	0	1	1	1
X39	579150	-6930	1230	174	0	0	0	0	0	0	-2	0	1
X40	582400	-8960	-1280	256	0	0	$\beta$	$\bar{\beta}$	$\beta$	$\bar{\beta}$	0	0	0
X41	582400	-8960	-1280	256	0	0	$\bar{\beta}$	$\beta$	$\bar{\beta}$	$\beta$	0	0	0
X42	600600	9240	-1000	280	0	0	0	0	0	0	0	0	0
X43	600600	9240	-1000	280	0	0	0	0	0	0	0	0	0
X44	600600	21560	920	-136	0	0	0	0	0	0	0	0	0
X45	675675	10395	-165	411	0	0	0	0	0	0	0	0	0
X46	720720	-33264	1104	-112	0	0	0	0	0	0	0	0	0
X47	800800	-12320	800	-416	0	0	0	0	0	0	0	0	0
X48	852930	-29646	1026	18	0	0	1	1	-1	-1	1	-1	1
X49	938223	-2673	1647	207	0	0	0	0	0	0	-1	1	-1
X50	972972	-24948	1836	-180	0	0	0	0	0	0	0	0	0
X51	982800	15120	-240	-240	0	0	$\beta$	$\bar{\beta}$	$-\beta$	$-\bar{\beta}$	0	0	0
X52	982800	15120	-240	-240	0	0	$\bar{\beta}$	$\beta$	$-\bar{\beta}$	$-\beta$	0	0	0
X53	1201200	-30800	560	176	0	0	0	0	0	0	0	0	0
X54	1360800	30240	1440	288	-1	-1	1	1	1	1	0	0	0
X55	1372800	49280	640	128	0	0	0	0	0	0	2	0	-1
X56	1441792	0	0	0	1	1	0	0	0	0	2	0	-1
X57	1791153	-5103	-2511	81	0	0	1	1	1	1	0	0	0
X58	1876446	37422	-1890	-306	0	0	0	0	0	0	-2	0	1
X59	2027025	-24255	-1455	33	0	0	0	0	0	0	0	0	0
X60	2050048	0	2048	0	0	0	0	0	0	0	0	0	0
X61	2316600	-43560	-840	24	0	0	0	0	0	0	-1	1	-1
X62	2402400	12320	-160	160	0	0	0	0	0	0	0	0	0
X63	2555904	32768	0	0	0	0	-1	-1	-1	-1	1	1	1
X64	2555904	-32768	0	0	0	0	-1	-1	1	1	1	-1	1
X65	2729376	7776	-864	-288	0	0	1	1	-1	-1	-1	-1	-1

Table 5, Part 2: Characters of  $M(22)$

$X_i^{(22)}$	$C_{14}$	$C_{15}$	$C_{16}$	$C_{17}$	$C_{18}$	$C_{19}$	$C_{20}$	$C_{21}$	$C_{22}$	$C_{23}$	$C_{24}$	$C_{25}$	$C_{26}$
X1	1	1	1	1	1	1	1	1	1	1	1	1	1
X2	3	1	-1	0	-1	-2	15	-7	-1	1	-3	3	-1
X3	4	2	0	1	0	-1	6	14	6	-2	2	-2	2
X4	1	-1	1	1	-1	-1	56	-6	8	2	-2	4	0
X5	5	1	1	-1	-1	1	-1	-19	-1	-3	-3	-1	-1
X6	3	-1	-1	0	1	2	105	17	-7	-7	5	5	1
X7	5	1	1	-1	-1	1	119	31	7	7	3	3	-1
X8	0	0	0	0	0	0	15	5	15	5	-3	-1	-1
X9	0	0	0	0	0	0	105	25	9	9	1	1	1
X10	5	-1	1	-1	1	-1	-21	29	-5	5	5	-1	-1
X11	7	1	-1	1	1	1	91	-79	-5	1	-3	-5	-1
X12	5	-1	1	-1	1	-1	399	-71	-1	1	-3	3	-1
X13	-5	-1	-1	1	1	-1	441	-21	9	19	-1	5	1
X14	-2	-2	2	1	0	1	-84	-44	12	-12	0	-4	0
X15	0	0	0	0	0	0	595	-35	3	5	1	7	3
X16	0	0	0	0	0	0	-35	5	13	-3	1	1	-3
X17	0	0	0	0	0	0	-210	30	-2	-10	-2	2	2
X18	0	0	0	0	0	0	735	25	-1	9	1	7	-1
X19	0	0	0	0	0	0	420	-10	4	-10	-6	4	0
X20	6	0	-2	0	0	0	0	90	0	-6	2	0	0
X21	0	0	0	0	0	0	685	-25	-3	-1	-1	1	1
X22	0	0	0	0	0	0	630	30	6	6	2	2	-2
X23	0	0	0	0	0	0	630	30	6	6	2	2	-2
X24	0	0	0	0	0	0	525	55	13	-9	3	5	1
X25	-5	1	-1	1	-1	1	-279	-69	9	-5	3	1	1
X26	0	0	0	0	0	0	405	-45	21	3	-1	-3	1
X27	0	0	0	0	0	0	-210	-50	-2	6	-2	2	2
X28	-5	-1	-1	1	1	-1	406	114	6	-6	-2	-6	-2
X29	5	1	1	-1	-1	1	729	81	9	9	-3	-3	1
X30	6	0	-2	0	0	0	405	-45	21	3	-1	-3	1
X31	0	0	0	0	0	0	-280	40	8	-8	0	0	0
X32	0	0	0	0	0	0	-280	40	8	-8	0	0	0
X33	0	0	0	0	0	0	980	60	-12	-4	0	4	0

Table 5, Part 3: Characters of  $M(22)$

$\chi_i^{(22)}$	$c_{14}$	$c_{15}$	$c_{16}$	$c_{17}$	$c_{18}$	$c_{19}$	$c_{20}$	$c_{21}$	$c_{22}$	$c_{23}$	$c_{24}$	$c_{25}$	$c_{26}$
X34	0	0	0	0	0	0	980	60	-12	-4	0	4	0
X35	0	0	0	0	0	0	-315	45	21	-11	1	1	-3
X36	0	0	0	0	0	0	1575	-15	-9	-23	-3	3	-1
X37	1	-1	1	1	-1	-1	126	114	-18	10	2	-6	2
X38	-7	1	1	-1	1	1	729	81	9	9	-3	-3	1
X39	0	0	0	0	0	0	-405	-45	-21	3	-1	3	-1
X40	0	0	0	0	0	0	280	40	-8	-8	0	0	0
X41	0	0	0	0	0	0	280	40	-8	-8	0	0	0
X42	0	0	0	0	0	0	210	-30	2	10	2	-2	-2
X43	0	0	0	0	0	0	210	-30	2	10	2	-2	-2
X44	0	0	0	0	0	0	525	5	-19	5	1	-3	1
X45	0	0	0	0	0	0	0	0	0	0	0	0	0
X46	-5	1	-1	1	-1	1	1386	-54	-6	2	2	-2	-2
X47	0	0	0	0	0	0	-245	-35	11	13	1	3	-1
X48	5	-1	1	-1	1	-1	729	-81	9	-9	3	-3	1
X49	-2	2	2	1	0	-1	-729	-81	-9	-9	3	3	-1
X50	-3	-3	1	0	-1	0	0	0	0	0	0	0	0
X51	0	0	0	0	0	0	0	0	0	0	0	0	0
X52	0	0	0	0	0	0	0	0	0	0	0	0	0
X53	0	0	0	0	0	0	420	-20	-28	-4	0	-4	0
X54	0	0	0	0	0	0	0	0	0	0	0	0	0
X55	0	0	0	0	0	0	1560	-40	-8	8	0	0	0
X56	-8	0	0	-2	0	0	-512	0	0	0	0	0	0
X57	3	-3	-1	0	-1	0	0	0	0	0	0	0	0
X58	-4	2	0	-1	0	-1	729	-81	9	-9	3	-3	1
X59	0	0	0	0	0	0	0	-90	0	6	-2	0	0
X60	-2	0	-2	-2	0	0	-1232	0	-16	0	0	0	0
X61	0	0	0	0	0	0	405	45	21	-3	1	-3	1
X62	0	0	0	0	0	0	-735	35	17	-5	-1	5	1
X63	4	-2	0	1	0	1	-384	-64	0	0	0	0	0
X64	4	2	0	1	0	-1	-384	64	0	0	0	0	0
X65	1	1	1	1	1	1	-729	81	-9	9	-3	3	-1

Table 5, Part 4: Characters of  $M(22)$

$X_i^{(22)}$	$C_{27}$	$C_{28}$	$C_{29}$	$C_{30}$	$C_{31}$	$C_{32}$	$C_{33}$	$C_{34}$	$C_{35}$	$C_{36}$	$C_{37}$	$C_{38}$	$C_{39}$
X1	1	1	1	1	1	1	1	1	1	1	1	1	1
X2	-3	1	-1	-3	-7	5	1	-3	1	-1	-1	0	2
X3	-2	-2	-2	24	-4	0	4	4	0	2	2	3	-1
X4	-2	-2	0	29	-15	5	-7	1	-3	-1	-1	2	0
X5	5	-1	1	-28	8	-4	0	-4	0	-2	-2	-1	-1
X6	5	-1	-1	6	26	14	2	2	-2	0	0	0	2
X7	3	1	1	2	22	10	-2	6	2	0	0	-1	1
X8	5	3	1	114	14	-6	-10	2	-2	0	0	3	-1
X9	1	1	1	123	7	3	15	-5	-1	1	1	3	1
X10	-7	1	-1	-102	-34	-14	-10	2	-2	0	0	-3	-1
X11	1	-1	1	-44	20	4	4	-8	0	0	0	1	-1
X12	-3	1	-1	-60	-44	20	4	0	0	0	0	3	1
X13	-1	-1	1	90	42	-6	10	2	2	-2	-2	0	0
X14	-4	0	0	258	10	18	-6	2	2	-2	-2	3	1
X15	1	1	-1	73	-71	9	-7	1	1	1	1	-2	-2
X16	1	-1	-1	235	-13	-5	3	-5	3	3	3	1	-1
X17	2	0	0	150	-6	-2	2	2	-2	0	0	0	0
X18	1	-1	1	-93	79	11	-9	-5	-1	1	1	0	-2
X19	-2	0	2	-12	-64	28	8	4	0	2	2	-3	-1
X20	-6	0	2	162	-18	-6	6	6	2	0	0	0	0
X21	-5	-1	1	28	-52	12	-4	-8	0	0	0	-2	2
X22	2	0	0	-153	-33	-9	15	-1	-1	-1	-1	0	0
X23	2	0	0	-153	-33	-9	15	-1	-1	-1	-1	0	0
X24	-1	1	-1	57	73	25	9	-7	1	-3	-3	0	-2
X25	-5	1	-1	-144	-24	0	-8	-8	0	0	0	0	0
X26	3	1	-1	162	-18	-6	6	6	2	0	0	0	0
X27	2	0	0	-291	49	-11	9	5	1	-1	-1	-3	1
X28	6	0	0	-116	-12	12	-12	0	0	0	0	-2	0
X29	-3	-1	-1	0	0	0	0	0	0	0	0	0	0
X30	3	1	-1	324	36	-12	-12	0	0	0	0	0	0
X31	0	0	0	-307	-23	5	1	-3	1	7	-5	-1	1
X32	0	0	0	-307	-23	5	1	-3	1	-5	7	-1	1
X33	4	0	0	98	-66	-6	-10	-2	2	0	0	2	0

Table 5, Part 5: Characters of  $M(22)$

$X_i^{(22)}$	$C_{27}$	$C_{28}$	$C_{29}$	$C_{30}$	$C_{31}$	$C_{32}$	$C_{33}$	$C_{34}$	$C_{35}$	$C_{36}$	$C_{37}$	$C_{38}$	$C_{39}$
X <sub>34</sub>	4	0	0	98	-66	-6	-10	-2	2	0	0	2	0
X <sub>35</sub>	1	-1	-1	-72	-36	0	4	4	0	-2	-2	0	0
X <sub>36</sub>	-3	1	-1	171	111	3	7	3	-1	1	1	0	0
X <sub>37</sub>	6	0	0	180	-12	36	4	0	0	0	0	0	0
X <sub>38</sub>	-3	-1	-1	0	0	0	0	0	0	0	0	0	0
X <sub>39</sub>	3	-1	-1	324	36	-12	-12	0	0	0	0	0	0
X <sub>40</sub>	0	0	0	172	4	-20	4	0	0	0	0	1	1
X <sub>41</sub>	0	0	0	172	4	-20	4	0	0	0	0	1	1
X <sub>42</sub>	-2	0	0	-15	33	17	1	1	1	1	1	0	0
X <sub>43</sub>	-2	0	0	-15	33	17	1	1	1	1	1	0	0
X <sub>44</sub>	-3	1	1	-96	-40	-16	8	0	0	0	0	3	-1
X <sub>45</sub>	0	0	0	135	27	15	3	3	-1	1	1	0	0
X <sub>46</sub>	-2	0	0	-18	-54	6	2	10	-2	0	0	0	0
X <sub>47</sub>	-3	-1	1	520	-8	8	-8	0	0	0	0	1	1
X <sub>48</sub>	3	-1	1	0	0	0	0	0	0	0	0	0	0
X <sub>49</sub>	3	1	1	0	0	0	0	0	0	0	0	0	0
X <sub>50</sub>	0	0	0	-243	81	-27	9	-3	1	3	3	0	0
X <sub>51</sub>	0	0	0	-135	-27	-15	-3	-3	1	-1	-1	0	0
X <sub>52</sub>	0	0	0	-135	-27	-15	-3	-3	1	-1	-1	0	0
X <sub>53</sub>	-4	0	0	-30	34	2	2	2	2	-2	-2	0	-2
X <sub>54</sub>	0	0	0	486	-54	-18	18	-6	-2	0	0	0	0
X <sub>55</sub>	0	0	0	-312	32	-8	-16	0	0	0	0	0	2
X <sub>56</sub>	0	0	0	640	0	0	0	0	0	0	0	-2	0
X <sub>57</sub>	0	0	0	0	0	0	0	0	0	0	0	0	0
X <sub>58</sub>	3	-1	1	0	0	0	0	0	0	0	0	0	0
X <sub>59</sub>	6	0	-2	-324	-36	12	12	0	0	0	0	0	0
X <sub>60</sub>	0	0	0	-224	0	32	0	0	0	0	0	4	0
X <sub>61</sub>	-3	1	1	-162	18	6	-6	-6	-2	0	0	0	0
X <sub>62</sub>	-1	-1	1	-384	8	-16	-8	8	0	0	0	3	-1
X <sub>63</sub>	0	0	0	192	-64	0	0	0	0	0	0	-3	-1
X <sub>64</sub>	0	0	0	192	64	0	0	0	0	0	0	-3	-1
X <sub>65</sub>	-3	1	-1	0	0	0	0	0	0	0	0	0	0

Table 5, Part 6: Characters of  $M(22)$

$X_i^{(22)}$	$C_{40}$	$C_{41}$	$C_{42}$	$C_{43}$	$C_{44}$	$C_{45}$	$C_{46}$	$C_{47}$	$C_{48}$	$C_{49}$	$C_{50}$	$C_{51}$	$C_{52}$
X1	1	1	1	1	1	1	1	1	1	1	1	1	1
X2	3	-1	-1	-1	0	-3	1	-1	6	2	2	-2	-2
X3	0	2	2	0	0	-3	1	-1	15	5	3	7	1
X4	2	0	0	2	-1	2	2	2	2	-6	2	2	2
X5	-1	-1	-1	-1	2	-1	3	1	26	8	2	-6	0
X6	3	-1	-1	-1	0	6	2	0	15	-1	-1	-1	-1
X7	5	1	1	1	-1	2	-2	0	20	4	4	4	4
X8	0	2	2	0	0	6	2	0	24	-4	0	8	-4
X9	0	-2	-2	0	0	15	3	1	33	7	-3	9	3
X10	-3	-1	-1	1	0	6	2	0	60	2	4	-4	2
X11	1	-1	-1	1	-2	10	-2	0	64	2	4	-8	-2
X12	3	1	1	-1	0	-6	-2	0	48	10	-4	-8	-2
X13	0	0	0	0	0	9	1	1	-18	6	6	-2	-2
X14	0	-2	-2	0	0	-12	0	-2	6	-8	6	6	0
X15	4	-2	-2	0	1	19	-1	1	10	-8	6	2	-4
X16	1	-1	-1	1	1	-8	0	0	19	5	-5	3	-3
X17	-6	0	0	-2	0	-12	-4	0	51	3	7	11	-1
X18	3	1	1	-1	0	-12	0	-2	-3	-11	5	-3	-3
X19	-3	-1	-1	1	0	15	-1	-1	42	-10	-2	2	2
X20	0	0	0	0	0	0	0	0	81	9	-3	9	-3
X21	4	2	2	0	1	-26	2	0	-8	2	0	8	2
X22	0	0	0	0	0	9	-3	-1	-45	3	3	3	3
X23	0	0	0	0	0	9	-3	-1	-45	3	3	3	3
X24	-3	1	1	1	0	-24	0	0	48	-8	-8	0	0
X25	0	0	0	0	0	18	-2	0	72	12	0	-8	4
X26	0	0	0	0	0	0	0	0	-81	9	3	-9	-3
X27	-3	1	1	1	0	-21	3	-1	114	4	-2	-6	0
X28	4	0	0	0	1	-8	0	0	64	6	0	0	6
X29	0	0	0	0	0	0	0	0	0	0	0	0	0
X30	0	0	0	0	0	0	0	0	0	-18	0	0	6
X31	-1	1	1	-1	-1	17	1	1	-10	-14	2	-2	-2
X32	-1	1	1	-1	-1	17	1	1	-10	-14	2	-2	-2
X33	-4	0	0	0	-1	-10	2	0	-28	6	0	-4	2

Table 5, Part 7: Characters of  $M(22)$

$\chi_i^{(22)}$	$C_{40}$	$C_{41}$	$C_{42}$	$C_{43}$	$C_{44}$	$C_{45}$	$C_{46}$	$C_{47}$	$C_{48}$	$C_{49}$	$C_{50}$	$C_{51}$	$C_{52}$
X34	-4	0	0	0	-1	-10	2	0	-28	6	0	-4	2
X35	0	0	0	0	0	9	1	1	9	-9	-3	1	-5
X36	0	0	0	0	0	9	1	1	-18	12	6	-2	4
X37	0	0	0	0	0	18	-2	0	72	6	0	-8	-2
X38	0	0	0	0	0	0	0	0	0	0	0	0	0
X39	0	0	0	0	0	0	0	0	81	9	-3	9	-3
X40	1	1	1	1	1	10	-2	0	64	-14	4	-8	-2
X41	1	1	1	1	1	10	-2	0	64	-14	4	-8	-2
X42	-3	$\rho$	$-\rho$	-1	0	-15	1	1	57	-3	5	1	1
X43	-3	$-\rho$	$\rho$	-1	0	-15	1	1	57	-3	5	1	1
X44	3	-1	-1	-1	0	-42	2	0	12	-22	-4	-4	2
X45	0	0	0	0	0	54	6	-2	-54	0	-6	-6	0
X46	0	0	0	0	0	-18	2	0	36	0	0	-4	-4
X47	-5	1	1	-1	1	34	-2	0	16	-8	-4	-8	4
X48	0	0	0	0	0	0	0	0	0	0	0	0	0
X49	0	0	0	0	0	0	0	0	0	0	0	0	0
X50	0	0	0	0	0	0	0	0	0	0	0	0	0
X51	0	0	0	0	0	27	3	-1	54	0	6	6	0
X52	0	0	0	0	0	27	3	-1	54	0	6	6	0
X53	3	1	1	-1	0	51	-1	1	-48	-2	-4	8	2
X54	0	0	0	0	0	0	0	0	0	0	0	0	0
X55	-3	-1	-1	1	0	12	-4	0	-24	-4	-8	8	-4
X56	4	0	0	0	-2	-8	0	0	64	0	0	0	0
X57	0	0	0	0	0	0	0	0	0	0	0	0	0
X58	0	0	0	0	0	0	0	0	0	0	0	0	0
X59	0	0	0	0	0	0	0	0	81	-9	-3	9	3
X60	-2	0	0	2	1	-8	0	0	-80	0	8	0	0
X61	0	0	0	0	0	0	0	0	0	18	0	0	-6
X62	3	-1	-1	-1	0	-6	-2	0	48	8	-4	-8	4
X63	0	2	2	0	0	-24	0	0	-96	8	0	0	0
X64	0	-2	-2	0	0	-24	0	0	-96	-8	0	0	0
X65	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 5, Part 8: Characters of  $M(22)$

$X_i^{(2)}$	$C_{53}$	$C_{54}$	$C_{55}$	$C_{56}$	$C_{57}$	$C_{58}$	$C_{59}$	$C_{60}$	$C_{61}$	$C_{62}$	$C_{63}$	$C_{64}$	$C_{65}$
X1	1	1	1	1	1	1	1	1	1	1	1	1	1
X2	0	2	-6	2	2	0	6	-2	2	-2	2	0	0
X3	-1	-1	5	5	5	1	13	-3	1	1	1	-1	-1
X4	-2	2	-11	-3	5	-1	1	9	-3	1	1	1	1
X5	0	-2	-6	2	10	0	14	6	-2	2	2	0	0
X6	-1	3	11	-5	3	-1	11	-5	-1	-1	3	-1	-1
X7	0	0	24	8	0	0	24	8	4	4	0	0	0
X8	0	0	-15	-7	9	-1	29	-11	1	-3	1	-1	-1
X9	1	1	10	10	10	2	-14	2	-2	-2	-2	0	0
X10	2	0	26	2	18	0	38	-2	2	-2	2	0	0
X11	0	0	-24	8	0	0	64	0	4	-4	0	0	0
X12	0	0	-24	8	0	0	0	0	-4	4	0	0	0
X13	2	-2	41	1	1	-1	29	5	1	5	1	-1	-1
X14	0	-2	0	0	16	0	-16	-16	0	0	0	0	0
X15	-2	-2	-50	6	-2	0	10	-14	2	-2	-2	0	0
X16	1	3	10	-6	18	-2	-14	18	2	2	-2	0	0
X17	1	3	-5	11	3	-1	83	19	3	3	-1	1	1
X18	1	1	55	-1	7	1	-5	-13	-5	-1	-1	1	1
X19	0	2	15	-9	-1	1	-5	3	-1	3	3	-1	-1
X20	-1	-3	5	-3	-3	-1	33	-7	-7	-3	1	1	1
X21	2	0	-40	-8	0	0	64	0	4	-4	0	0	0
X22	-1	-1	-40	-8	8	0	8	8	0	0	0	0	0
X23	-1	-1	-40	-8	8	0	8	8	0	0	0	0	0
X24	0	0	-30	10	-6	0	-34	22	2	-2	2	0	0
X25	0	0	24	-8	0	0	64	0	-4	4	0	0	0
X26	-1	3	35	-5	3	1	15	23	-1	-5	3	1	1
X27	-2	2	-20	-4	20	0	-4	-20	0	0	-4	0	0
X28	-2	0	16	16	0	0	0	0	0	0	0	0	0
X29	0	0	39	7	-9	-1	-9	-9	-1	-1	-1	-1	-1
X30	2	0	-40	-8	0	0	0	0	-4	4	0	0	0
X31	0	-2	0	0	16	0	-48	16	0	0	0	0	0
X32	0	-2	0	0	16	0	-48	16	0	0	0	0	0
X33	0	0	0	0	0	0	16	-16	0	0	0	$\sigma$	$-\sigma$

Table 5, Part 9: Characters of  $M(22)$



$\chi_i^{(22)}$	$C_{53}$	$C_{54}$	$C_{55}$	$C_{56}$	$C_{57}$	$C_{58}$	$C_{59}$	$C_{60}$	$C_{61}$	$C_{62}$	$C_{63}$	$C_{64}$	$C_{65}$
X34	0	0	0	0	0	0	16	-16	0	0	0	0	0
X35	1	1	10	-6	-14	2	130	-30	2	2	-2	0	0
X36	0	-2	30	-10	-2	0	-6	2	2	-2	-2	0	0
X37	2	0	-16	-16	0	0	0	0	0	0	0	0	0
X38	0	0	-24	-8	0	0	72	24	-4	-4	0	0	0
X39	-1	-3	-10	-10	6	2	-18	30	2	2	2	0	0
X40	0	0	0	0	0	0	0	0	0	0	0	0	0
X41	0	0	0	0	0	0	0	0	0	0	0	0	0
X42	-1	1	-40	-8	-8	0	-8	-8	0	0	0	0	0
X43	-1	1	-40	-8	-8	0	-8	-8	0	0	0	0	0
X44	-2	0	40	-8	0	0	72	24	4	4	0	0	0
X45	0	-2	-45	3	-5	-1	75	11	3	3	-1	1	1
X46	2	0	-16	16	0	0	-80	16	0	0	0	0	0
X47	-2	0	40	8	0	0	0	0	4	-4	0	0	0
X48	0	0	6	-2	-18	0	-54	18	-2	2	-2	0	0
X49	0	0	15	-1	-9	-1	63	15	-5	-5	-1	-1	-1
X50	0	0	-36	12	-12	0	60	-20	0	0	4	0	0
X51	0	2	0	0	-16	0	-48	16	0	0	0	0	0
X52	0	2	0	0	-16	0	-48	16	0	0	0	0	0
X53	0	4	0	0	16	0	-16	-16	0	0	0	0	0
X54	0	0	0	0	0	0	-96	-32	0	0	0	0	0
X55	0	0	0	0	0	0	0	0	0	0	0	0	0
X56	0	0	0	0	0	0	0	0	0	0	0	0	0
X57	0	0	9	9	9	1	81	33	-3	-3	-3	-1	-1
X58	0	0	-30	10	18	0	54	-18	-2	2	2	0	0
X59	1	-3	85	-3	-3	-1	9	-15	1	-3	1	1	1
X60	0	0	0	0	0	0	0	0	0	0	0	0	0
X61	-2	0	40	-8	0	0	-24	-8	4	4	0	0	0
X62	2	0	-40	-8	0	0	-64	0	4	-4	0	0	0
X63	0	0	0	0	0	0	0	0	0	0	0	0	0
X64	0	0	0	0	0	0	0	0	0	0	0	0	0
X65	0	0	-24	8	0	0	0	0	-4	4	0	0	0

Table 5, Part 10: Characters of  $M(22)$

	Order of			Order of	
	el.	centralizer		el.	centralizer
$C_1$	1	$ M(22) $	$C_{34}$	12	$2^5.3^3$
$C_2$	2	$2^{16}.3^6.5.7.11$	$C_{35}$	12	$2^5.3$
$C_3$	2	$2^{17}.3^4.5$	$C_{36}$	12	$2^4.3^2$
$C_4$	2	$2^{16}.3^3$	$C_{37}$	12	$2^4.3^2$
$C_5$	13	13	$C_{38}$	9	$2.3^4$
$C_6$	13	13	$C_{39}$	18	$2.3^3$
$C_7$	11	2.11	$C_{40}$	9	$2^2.3^4$
$C_8$	11	2.11	$C_{41}$	18	$2^2.3^3$
$C_9$	22	2.11	$C_{42}$	18	$2^2.3^3$
$C_{10}$	22	2.11	$C_{43}$	18	$2^2.3^2$
$C_{11}$	7	2.3.7	$C_{44}$	9	$3^3$
$C_{12}$	14	2.7	$C_{45}$	3	$2^3.3^7$
$C_{13}$	21	3.7	$C_{46}$	6	$2^3.3^3$
$C_{14}$	5	$2^3.3.5^2$	$C_{47}$	12	$2^2.3^2$
$C_{15}$	10	$2^2.3.5$	$C_{48}$	3	$2^6.3^7$
$C_{16}$	10	$2^3.5$	$C_{49}$	6	$2^4.3^5$
$C_{17}$	15	2.3.5	$C_{50}$	6	$2^5.3^3$
$C_{18}$	20	$2^2.5$	$C_{51}$	6	$2^6.3^3$
$C_{19}$	30	2.3.5	$C_{52}$	6	$2^4.3^3$
$C_{20}$	3	$2^8.3^7.5.7$	$C_{53}$	12	$2^3.3^2$
$C_{21}$	6	$2^7.3^5.5$	$C_{54}$	12	$2^4.3^2$
$C_{22}$	6	$2^8.3^3$	$C_{55}$	4	$2^{10}.3^2.5$
$C_{23}$	6	$2^7.3^3$	$C_{56}$	4	$2^{10}.3$
$C_{24}$	12	$2^5.3^2$	$C_{57}$	4	$2^9.3^2$
$C_{25}$	12	$2^6.3^2$	$C_{58}$	8	$2^5$
$C_{26}$	12	$2^5.3$	$C_{59}$	4	$2^{12}.3^3$
$C_{27}$	12	$2^6.3^2$	$C_{60}$	4	$2^{12}.3$
$C_{28}$	24	$2^4.3$	$C_{61}$	8	$2^7.3$
$C_{29}$	24	$2^4.3$	$C_{62}$	8	$2^7.3$
$C_{30}$	3	$2^7.3^9$	$C_{63}$	8	$2^7$
$C_{31}$	6	$2^7.3^6$	$C_{64}$	16	$2^5$
$C_{32}$	6	$2^7.3^4$	$C_{65}$	16	$2^5$
$C_{33}$	6	$2^7.3^3$			

Table 5, Part 11: Conjugacy classes of  $M(22)$