How to read the tables:

- Modules are named by their dimension.
- $\#Q$ is the column for the numbers of the p-subgroups of G in the Table of Marks.
- S is the column for the simple kG-modules.
- $\mathrm{Br}(S)$ is the column for the image of S under the Brauer homomorphism with respect to Q as an $N_G(Q)$-module.
- S^Q is the column for the fixed point space of S with respect to Q as an $N_G(Q)$-module. Modules in this column need not necessarily be written down as a sum of indecomposable modules in this column.
- $\mathrm{tr}_R^Q/(R)$ denotes the image of S^R under the trace map with respect to R and Q as an $N_G(Q)$-module. Here, R is a subgroup of Q. The notation $/(R)$ is just the label for R. As an example $2/(1,2,4)$, denotes a 2-dimensional module as image of the trace map for the traces $\mathrm{tr}_1^Q(S)$, $\mathrm{tr}_2^Q(S)$ and $\mathrm{tr}_4^Q(S)$.
- If there is a sixth column, modules are characterized in more detail.
- $g(\cdot)$ denotes the upward Green correspondence, $f(\cdot)$ denotes the downward Green correspondence.
- Modules right to or beneath the table are written in radical series form with the head at the top. Those are weight summands of k_P^G, i.e. Green correspondents of weight modules. Note that here, $f(X)$ refers to the Green correspondent of X in $N_G(Q)$, where X is always a direct summand of k_P^G!
- Numbers referring to p-subgroups of G such as R and Q are the numbers in the Table of Marks of G.
- 1-dimensional modules were not investigated; the reason lies in the nature of the programs I have written.
- Tables are organized such that for calculations with respect to the same Q are grouped together. Note that Q is always a weight subgroup of G. Therefore two modules occurring in calculations for different Q's are not comparable as N-modules.
- If no confusion is possible, we omit the $\oplus$-sign. Hence, 1_a1_b and 1^2 denote the direct sums $1_a \oplus 1_b$ and $1 \oplus 1$, respectively.

In a decomposition of k_P^G into indecomposable direct summands, the Green correspondents of all weight modules for G occur. Those are called weight summands. Computations in my thesis identified those weight summands among all indecomposable direct summands of k_P^G together with their vertex and their head and socle series. Let X be such a weight summand with vertex Q_X and assume that its head is $S_1 \oplus S_2 \oplus \ldots \oplus S_r$, a decomposition into simple kG-modules. Then for each simple constituent of the head, we computed the Brauer image, the fixed point space as an $N_G(Q_X)$-module and the respective trace spaces as $N_G(Q_X)$-modules with respect to Q_X. Note that a simple kG-module S might occur in the head of different weight summands. In this case, the respective modules of the table were computed for S with respect to the vertices Q for each such weight summand in which S was a constituent of the head.

A_5 mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
4	2_a	1_a	1_a	$0/(1,2)$
4	2_b	1_b	1_b	$0/(1,2)$

$$f(5_a) = f\begin{pmatrix} 2_b \\ 1 \\ 2_a \end{pmatrix} \cong 1_b \cong \mathrm{Br}(2_b)$$

$$f(5_b) = f\begin{pmatrix} 2_a \\ 1 \\ 2_b \end{pmatrix} \cong 1_a \cong \mathrm{Br}(2_a)$$

A_5 mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
3	4	1_a	$1_a 1_b$	$1_b/(1)$	1_b triv mod

$$f(4) \cong 1_a \cong \mathrm{Br}(4)$$

A_5 mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
5	3	1	1	$0/(1)$	1 non triv

$$f(6) = f\begin{pmatrix} 3 \\ 3 \end{pmatrix} \cong 1 \cong \mathrm{Br}(3)$$

S_5 mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
2	4_a	2_a	$1 \oplus 2_a$	$1/(1)$	4_a iso to summand 4 of k_P^G; 1 triv mod
5	4_b	2_b	2_b	$0/(1,3)$	4_b in head/socle of summand 10 of k_P^G

S_5 mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
4	4_a	1_a	$1_a 1_b$	$1_b/(1)$	1_b trivial mod
4	4_b	1_c	$1_a 1_c$	$1_a/(1)$	

S_5 mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
8	3_a	1_a	1_a	$0/(1)$
8	3_b	1_b	1_b	$0/(1)$

$$f(6_a) = f\begin{pmatrix} 3_b \\ 3_a \end{pmatrix} \cong 1_b \cong \mathrm{Br}(3_b)$$

$$f(6_b) = f\begin{pmatrix} 3_a \\ 3_b \end{pmatrix} \cong 1_a \cong \mathrm{Br}(3_a)$$

A_6 mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
8	4_a	2_a	2_a	$0/(1,2)$
7	4_b	2_b	2_b	$0/(1,2)$

A_6 mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
12	3_a	1_a	1_a	$0/(1,3,4)$
12	3_b	1_b	1_b	$0/(1,3,4)$
12	4	1_c	1_c	$0/(1,3,4)$

$$f(10_a) = f\left(\begin{matrix} 4 \\ 1^2 \\ 4 \end{matrix}\right) \cong 1_c \cong \mathrm{Br}(4)$$

$$f(10_b) = f\left(\begin{matrix} 3_b \\ 4 \\ 3_a \end{matrix}\right) \cong 1_b \cong \mathrm{Br}(3_b)$$

$$f(10_a) = f\left(\begin{matrix} 3_a \\ 4 \\ 3_b \end{matrix}\right) \cong 1_a \cong \mathrm{Br}(3_a)$$

A_6 mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
5	8	1_a	1_a1_b	$1_b/(1)$	1_b triv mod

S_6 mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
22	4_a	2_a	2_a	$0/(1:4,8,10,13)$
21	4_b	2_b	2_b	$0/(1:4,8,10,13)$

$$f(14_a) = f\left(\begin{array}{c} 4_a \\ 1 \\ 4_b \\ 1 \\ 4_a \end{array} \right) \cong 2_a \cong \mathrm{Br}(4_a)$$

$$f(14_b) = f\left(\begin{array}{c} 4_b \\ 1 \\ 4_a \\ 1 \\ 4_b \end{array} \right) \cong 2_b \cong \mathrm{Br}(4_b)$$

S_6 mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
28	4_a	1_a	1_a	$0/(1,5,6)$
28	4_b	1_b	1_b	$0/(1,5,6)$
28	6	2	2	$0/(1,5,6)$

$$f(10_a) = f\left(\begin{array}{c} 4_a \\ 1_a 1_b \\ 4_a \end{array} \right) \cong 1_a \cong \mathrm{Br}(4_a)$$

$$f(10_b) = f\left(\begin{array}{c} 4_b \\ 1_a 1_b \\ 4_b \end{array} \right) \cong 1_b \cong \mathrm{Br}(4_b)$$

$$f(20) = f\left(\begin{array}{c} 6 \\ 4_a 4_b \\ 6 \end{array} \right) \cong 2 \cong \mathrm{Br}(6)$$

S_6 mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
14	8_a	1_a	$1_a 1_b$	$1_b/(1)$	
14	8_b	1_b	$1_b 1_c$	$1_c/(1)$	1_c triv mod

A_7 mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
5	4_a	2_a	2_a	$0/(1,2)$	
5	4_b	2_b	2_b	$0/(1,2)$	
5	6	2_c	$1 \oplus 2_c$	$1/(1,2)$	triv mod
5	20	2_d	$2_d 2_a 2_b$	$2_a 2_b/(1,2)$	
5	14	0	$1 \oplus 2_c 2_d$	$2_c/(1); 5/(2)$	14 is iso to smd $14_c \vert k_P^G$; 1 triv mod
6	14	2_e	$1 \oplus 2_e^2$	$1 \oplus 2_e/(1,2)$	triv mod

$$f(14_a) = f\left(\begin{array}{c} 4_b \\ 6 \\ 4_a \end{array} \right) \cong 2_b \cong \mathrm{Br}(4_b)$$

$$f(14_b) = f\left(\begin{array}{c} 4_a \\ 6 \\ 4_b \end{array} \right) \cong 2_a \cong \mathrm{Br}(4_a)$$

$$f(14_c) = f(\ 14\ ) \cong 2_e \cong \mathrm{Br}(14)$$

$$f(70) = f\left(\begin{array}{c} 14 \oplus 20 \\ 1^2 \\ 14 \oplus 20 \end{array} \right) \cong 2_d \cong \mathrm{Br}(20)$$

A_7 mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
3	6	3_a	$1_a 3_a$	$1_a/(1)$	1_a triv mod
3	15	3_b	$1_b 3_a 3_b$	$1_b 3_a/(1)$	1_b non-triv
14	10_a	1_a	$1_a 1_b$	$1_b/(1,3,4)$	
14	10_b	1_b	$1_a 1_b$	$1_a/(1,3,4)$	
14	13	1_c	$1_c 1_d$	$1_d/(1,3,4)$	1_d triv mod

$f(6) \cong 3_a \cong \mathrm{Br}(6)$

$f(15) \cong 3_b \cong \mathrm{Br}(15)$

A_7 mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
8	6	1_a	$1_a 1_d$	$1_d/(1)$	1_d triv mod
8	8	1_b	$1_a 1_b$	$1_a/(1)$	
8	13	1_c	$1_a 1_c 1_d$	$1_a 1_d/(1)$	

$f(6) \cong 1_a \cong \mathrm{Br}(6)$

$f(21_b) = f(\begin{smallmatrix} 13 \\ 8 \end{smallmatrix}) \cong 1_c \cong \mathrm{Br}(13)$

$f(21_a) = f(\begin{smallmatrix} 8 \\ 13 \end{smallmatrix}) \cong 1_b \cong \mathrm{Br}(8)$

A_7 mod 7

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
12	5	1_a	1_a	$0/(1)$	
12	10	1_b	$1_b 1_c$	$1_c/(1)$	1_c triv mod

$f(15_a) = f(\begin{smallmatrix} 10 \\ 5 \end{smallmatrix}) \cong 1_b \cong \mathrm{Br}(10)$

$f(15_b) = f(\begin{smallmatrix} 5 \\ 10 \end{smallmatrix}) \cong 1_a \cong \mathrm{Br}(5)$

S_7 mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
24	6	2_a	$2_a \oplus 1$	$0/(1,3,7,9); 1/(2,8)$	triv mod
7	8	4	4	$0/(1)$	
25	14	2_b	$1 \oplus 2_b^2$	$0/(1,3,4,10); 1 \oplus 2_b/(2,8,13)$	triv mod
26	14	0	$1^2 \oplus 2_c$	$1^2 \oplus 2_c/(13); 1/(rest)$	triv mod
26	20	2_c	2_c^2	$2_c/(f.a.)$	

$f(70) = f(\begin{smallmatrix} 14 \oplus 20 \\ 1^2 \\ 14 \oplus 20 \end{smallmatrix}) \cong 2_c \cong \mathrm{Br}(20)$

S_7 mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
5	6_a	3_a	1_a3_a	$1_a/(1)$	1_a triv mod
5	6_b	3_b	1_b3_b	$1_b/(1)$	1_b non-triv
5	15_a	3_c	$1_a3_b3_c$	$1_a3_b/(1)$	
5	15_b	3_d	$1_b3_a3_d$	$1_b3_a/(1)$	
31	13_a	1_a	1_a1_c	$1_c/(1,5,6)$	
31	13_b	1_b	1_b1_d	$1_d/(1,5,6)$	1_d triv mod
31	20	2	2^2	$2/(1,5,6)$	

$$f(28_a) = f\begin{pmatrix} 13_a \\ * \\ 13_a \end{pmatrix} \cong 1_a \cong \mathrm{Br}(13_a)$$

$$f(28_b) = f\begin{pmatrix} 13_b \\ * \\ 13_b \end{pmatrix} \cong 1_b \cong \mathrm{Br}(13_b)$$

S_7 mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
14	6_a	1_a	1_a1_g	$1_g/(1)$	1_g triv mod
14	6_b	1_b	1_b1_h	$1_h/(1)$	1_h other 1-dim mod
14	8_a	1_c	1_a1_c	$1_a/(1)$	
14	8_b	1_d	1_b1_d	$1_b/(1)$	
14	13_a	1_e	$1_b1_e1_h$	$1_b1_h/(1)$	
14	13_b	1_f	$1_a1_f1_g$	$1_a1_g/(1)$	

S_7 mod 7

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
23	5_a	1_a	1_a	$0/(1)$	
23	5_b	1_b	1_b	$0/(1)$	
23	10_a	1_c	1_c1_g	$1_g/(1)$	1_g triv mod
23	10_b	1_d	1_d1_h	$1_h/(1)$	1_h other 1-dim mod

A_8 mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
82	4_a	2_a	2_a	$0/(f.a.)$
80	4_b	2_b	2_b	$0/(f.a.)$
81	6	2_c	2_c	$0/(f.a.)$
22	20_a	8_a	8_a	$0/(f.a.)$
21	20_b	8_b	8_b	$0/(f.a.)$
49	14	4	4	$0/(f.a.)$

$$f(76) = f\left(\begin{array}{c} 14 \\ * \\ 14 \end{array}\right) \cong 4 \cong \mathrm{Br}(14)$$

A_8 mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
4	21	6	$1 \oplus 4 \oplus 6$	$1 \oplus 4/(1)$	
36	7	1_a	$1_a 1_c 1_d$	$0/(1,5); 1_c 1_d/(4)$	1_d triv mod
36	13	1_b	$1_b 1_d$	$1_d/(1,4,5)$	
36	28	1_c	$1_a 1_c^2 1_d$	$1_a 1_c 1_d/(1,4,5)$	
36	35	2	$2^3 \oplus 1_b$	$2 \oplus 1_b/(1,5); 2^2 \oplus 1_b/(4)$	

$f(21) \cong 6 \cong \mathrm{Br}(21)$

$f(7) \cong 1_a \cong \mathrm{Br}(7)$

$f(28) \cong 1_c \cong \mathrm{Br}(28)$

$$f(34) = f\left(\begin{array}{c} 13 \\ * \\ 1 \oplus 7 \end{array}\right) \cong 1_b \cong \mathrm{Br}(13)$$

$f(35) \cong 2 \cong \mathrm{Br}(35)$

S_8 mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
167	8	2_a	$2_a \oplus 1$	$1/(96); 0/(rest)$
223	6	2_b	2_b	$0/(f.a.)$
168	14	2_c	$2_c \oplus 1$	$1/(96); 0/(rest)$
37	40	8	$8 \oplus 3$	$0/(1); 3/(3,9)$
2	64	16	$16 \oplus 24$	$24/(1)$

$f(64) \cong 16 \cong \mathrm{Br}(16)$

$$f(112) = f\left(\begin{matrix} 40 \\ * \\ 40 \end{matrix}\right) \cong 8 \cong \mathrm{Br}(40)$$

A_9 mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
33	8_a	2_a	$1^2 \oplus 2_a$	$0/(1,12); 1/(2,7,10)$	8_a iso to summand 8 in k_P^G; 1 triv mod
116	8_b	2_b	2_b	$0/(f.a)$	
117	8_c	2_c	2_c	$0/(f.a.)$	
25	20_a	8_a	8_a	$0/(1,3,9)$	
24	20_b	8_b	8_b	$0/(1,3,8)$	
64	78	4_a	4_a^2	$4_a/(f.a.)$	
64	26	$4_a \oplus 1$	$4_a \oplus \begin{matrix} 1 \\ 1 \end{matrix}$	$1/(f.a.)$	1 triv mod
118	26	0	$1 \oplus 2_d$	$1 \oplus 2_d/(30,65,67,70); 0/(rest)$	1 triv mod
10	48	4_b	18	$8/(1); 14/(2)$	
7	48	0	$8_c \oplus 4_b \oplus \begin{matrix} 1 \\ 4_a \\ 1 \end{matrix}$	$18/(2); 6/(1)$	
7	160	8_c	44	$36/(1)$	

A_9 mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
164	7	1_a	1_a	$0/(f.a.)$	
164	21	1_a	1_a^2	$1_a/(111); 0/(rest)$	
111	21	$1 \oplus 3_a$	$1 \oplus 3_a$	$0/(f.a.)$	
111	35	0	3_b	$0/(1,4,6); 3_b/(40,41,42)$	
4	27	9_a	$9_a \oplus 6$	$6/(11)$	
4	189	9_b	$9_b^2 \oplus 15 \oplus 36$	$9_b \oplus 15 \oplus 36/(1)$	
39	41	$1 \oplus 3_c$	$\begin{matrix}1\\1\end{matrix} \oplus 2 \oplus 3_c$	$1/(1); 1 \oplus 2/(5)$	1 triv mod

M_{11} mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
10	10	2_a	$1 \oplus 2_a$	$1/(1,2,5)$	
4	44	2_b	$2_b^5 \oplus \begin{matrix}1\\1\end{matrix} \oplus 1^2$	$2_b^4 \oplus \begin{matrix}1\\1\end{matrix} \oplus 1^2/(2); 2_b^3 \oplus \begin{matrix}1\\1\end{matrix} \oplus 1/(1)$	1 triv mod

M_{11} mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
13	10_a	1_a	$1_a 1_b$	$1_b/(1,3)$	1_b triv mod; 10_a iso to summand 10 in k_P^G
13	10_b	0	2_a	$0/(1); 2_a/(3)$	10_b is simple hd of summand 65_a of k_P^G
13	10_c	$1_c \oplus 2_b$	$1_c \oplus 2_b$	$0/(1,3)$	10_c is in hd of smd. 65_b and 55_a of k_P^G
13	5_a	1_d	1_d	$0/(1,3)$	5_a is head of summand 55_b of k_P^G
13	5_b	2_c	2_c	$0/(1,3)$	5_b is head of summand 11 of k_P^G
13	24	2_b	$2_b 2_c$	$2_c/(1,3)$	

$$f(11) = f\left(\begin{matrix}5_b\\1\\5_a\end{matrix}\right) \cong 2_c \cong \mathrm{Br}(5_b)$$

$$f(55_b) = f\left(\begin{matrix}5_a\\ *\end{matrix}\right) \cong 1_b \cong \mathrm{Br}(5_a)$$

$$f(55_a) = f\left(\begin{matrix}10_c\\ *\end{matrix}\right) \cong 1_c \cong 2_b \mid \mathrm{Br}(10_c)$$

$$f(65_b) = f\left(\begin{matrix}10_c \oplus 24\\ *\end{matrix}\right) \cong 2_b \cong \mathrm{Br}(24) \cong 2_b \mid \mathrm{Br}(10_c)$$

M_{12} mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
80	10	0	2_a	$2_a/(53); 0/(rest)$	
80	44	0	$2_a \oplus 1^2$	$2_a \oplus 1^2/(50), 0/(1,2,3,6,7,11); 1/(rest)$	1 triv mod
81	44	2_b	$2_b \oplus 3$	$3/(30,50,57); 0/(rest)$	
9	16_a	2_c	$2_c \oplus 5$	$2/(1); 5/(2)$	
9	16_b	2_d	$2_d \oplus 5$	$2/(1); 5/(2)$	
9	144	2_e	39	$37/(1); 34/(2)$	

M_{12} mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
34	10_a	3_a	3_a	$0/(1,5)$	
34	15_a	3_b	3_b	$0/(1,5)$	
35	10_b	3_c	3_c	$0/(1,5)$	
35	15_b	3_d	3_d	$0/(1,5)$	
79	34	1_a	$1_a 1_d$	$1_d/(f.a)$	1_d triv mod
79	45_b	0	$1_a 1_b 1_c$	$1_a 1_b 1_c/(35); 1_c/(rest)$	
79	45_c	0	$1_a 1_b 1_c$	$1_a 1_b 1_c/(34); 1_b/(rest)$	
4	45_a	3_e	17	$14/(1)$	
4	99	3_f	35	$32/(1)$	

$U_3(3)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
19	6	2_a	2_a	$0/(f.a.)$
18	14	0	2_b	$2_b/(13); 0/(rest)$

$U_3(3)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
26	3_a	1_a	1_a	$0/(f.a.)$
26	3_b	1_b	1_b	$0/(f.a.)$
26	7	1_c	1_c	$0/(f.a.)$
26	15_a	1_d	1_d	$0/(f.a.)$
26	15_b	1_e	1_e	$0/(f.a.)$
26	6_a	1_f	1_f	$0/(f.a.)$
26	6_b	1_g	1_g	$0/(f.a.)$

$U_3(3)$ mod 7

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
10	6	1_a	1_a	$0/(f.a)$	
10	26	1_b	$1_a 1_b^2 1_c$	$1_a 1_b 1_c/(f.a.)$	1_c triv mod

J_2 mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
118	6_a	1_a	1_a	$0/(f.a.)$	
118	6_b	1_b	1_b	$0/(f.a.)$	
102	14_a	2_a	2_a	$0/(f.a.)$	
102	14_b	2_a	2_a	$0/(f.a.)$	
102	36	2_a	$1 \oplus 2_a$	$1/(19, 46:48, 75, 76); 0/(rest)$	1 triv mod
102	84	0	$2_b 2_c$	$2_b 2_c/(75); 0/(rest)$	
74	36	0	$1 \oplus 4_a$	$1 \oplus 4_a/(47, 49); 0/(rest)$	1 triv mod
7	64_a	4_b	18	$14/(1, 3)$	
7	64_b	4_c	18	$14/(1, 3)$	
7	160	4_d	18	$14/(1, 3)$	

M_{22} mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
70	10_b	2_a	$2_a \oplus 1$	$1/(39); 0/(rest)$	$10_b \mid \mathrm{hd}(76), 76 \mid k_P^G$; 1 triv mod
102	10_a	0	2_b	$2_b/(12); 0/(rest)$	$10_a \mid \mathrm{hd}(230), 230 \mid k_P^G$
102	34	$2_b \oplus 1$	$2_b \oplus \begin{matrix}1\\1\end{matrix}$	$1/(38, 72); 0/(rest)$	1 triv mod
104	34	0	$2_c \oplus 1$	$1/(rest); 3/(72); 0/(rest)$	1 triv mod
104	98	0	$2_c \oplus \begin{matrix}1\\1\end{matrix}$	$\begin{matrix}1\\1\end{matrix}/(39); 4/(71); 0/(rest)$	1 triv mod
38	70_a	0	8_a	$8_a/(15); 0/(rest)$	
38	70_b	0	8_b	$8_b/(15); 0/(rest)$	
14	98	0	$1 \oplus 8_c \oplus \begin{matrix}3_a\\3_b\\3_a\end{matrix}$	$\begin{matrix}3_b\\3_a\end{matrix}/(1, 2); 18/(6)$	1 triv mod

$L_2(49)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
6	24_a	2_a	$2_a^2 \oplus 1 \oplus \begin{matrix}1\\1\end{matrix}$	$2_a \oplus 1 \oplus \begin{matrix}1\\1\end{matrix}\ /(1,2)$	1 triv mod
5	24_b	2_b	$2_b^2 \oplus 1 \oplus \begin{matrix}1\\1\end{matrix}$	$2_b \oplus 1 \oplus \begin{matrix}1\\1\end{matrix}\ /(1,2)$	1 triv mod
13	50	2_c	$1^2 \oplus 2_c^3$	$1^2 \oplus 2_c^2/(1,2,4)$	1 triv mod

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$L_2(49)$ mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
32	48	0	1_a1_b	$1_a/(1); 1_a1_b/(7)$	1_a triv mod

$L_2(8)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
7	2_a	1_a	1_a	$0/(f.a.)$
7	2_b	1_b	1_b	$0/(f.a.)$
7	2_c	1_c	1_c	$0/(f.a.)$
7	4_a	1_d	1_d	$0/(f.a.)$
7	4_b	1_e	1_e	$0/(f.a.)$
7	4_c	1_f	1_f	$0/(f.a.)$

$L_2(8)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
8	7	0	1	$0/(1); 1/(3)$	1 non-triv

$L_2(11)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
4	5_a	1_a	1_a1_b	$1_b/(1,2)$
4	5_b	1_b	1_a1_b	$1_a/(1,2)$
2	10	2	6	$4/(1)$

$L_2(11)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
3	5_a	1_a	$1_a 1_d$	$1_d/(1)$	1_d triv mod
3	5_b	1_b	$1_b 1_d$	$1_d/(1)$	1_d triv mod
3	10	1_c	$1_a 1_b 1_c^2$	$1_a 1_b 1_c/(1)$	

$L_2(11)$ mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
5	11	1_a	$1_a^2 1_b$	$1_a 1_b/(1)$	1_b triv mod

$L_2(11)$ mod 11

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
10	3	1_a	1_a	$0/(1)$
10	5	1_b	1_b	$0/(1)$
10	7	1_c	1_c	$0/(1)$
10	9	1_d	1_d	$0/(1)$

$L_2(13)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
4	6_a	1_a	$1_a 1_c$	$1_c/(1,2)$	1_c triv mod
4	6_b	1_b	$1_b 1_c$	$1_c/(1,2)$	1_c triv mod
2	14	2	8	$6/(1)$	

$L_2(13)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
3	7_a	1_a	$1_a 1_b 1_c$	$1_b 1_c/(1)$	
3	7_b	1_b	$1_a 1_b 1_c$	$1_a 1_c/(1)$	
3	13	1_c	$1_a 1_b 1_c 1_d^2$	$1_a 1_b 1_d^2/(1)$	1_d triv mod

$L_2(13)$ mod 7

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
8	12	1_a	$1_a 1_b$	$1_b/(1)$	1_btriv mod

$L_2(13)$ mod 13

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
11	3	1_a	1_a	$0/(1)$
11	5	1_b	1_b	$0/(1)$
11	7	1_c	1_c	$0/(1)$
11	9	1_d	1_d	$0/(1)$
11	11	1_e	1_e	$0/(1)$

$L_2(16)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
3	16	1_a	$1_a1_b2_a2_b$	$1_b2_a2_b/(1)$	1_b triv mod
3	17_1	2_a	$1_b2_a^22_b$	$1_b2_a2_b/(1)$	
3	17_2	2_b	$1_b2_a2_b^2$	$1_b2_a2_b/(1)$	

$L_2(16)$ mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
7	16	1	4	$3/(1)$
7	17	2	5	$3/(1)$

$L_2(17)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
5	8_a	2_a	$1 \oplus 2_a$	$1/(1,2)$
4	8_b	2_b	$1 \oplus 2_b$	$1/(1,2)$

$L_2(17)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
11	16	0	1_a1_b	$1_a/(1); 1_a1_b/(3)$	1_a triv mod

$L_2(17)$ mod 17

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
15	3	1_a	1_a	$0/(1)$
15	5	1_b	1_b	$0/(1)$
15	7	1_c	1_c	$0/(1)$
15	9	1_d	1_d	$0/(1)$
15	13	1_e	1_e	$0/(1)$
15	15	1_f	1_f	$0/(1)$
15	17	1_g	1_g	$0/(1)$

$L_2(19)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
4	9_a	1_a	$1_a 1_b 1_c$	$1_b 1_c/(1,2)$	1_c triv mod
4	9_b	1_b	$1_a 1_b 1_c$	$1_a 1_c/(1,2)$	
2	18_a	2_a	$1_c^2 2_a^2 2_b^2$	$1_c^2 2_a 2_b^2/(1)$	
2	18_b	2_b	$1_c^2 2_a^2 2_b^2$	$1_c^2 2_a^2 2_b/(1)$	

$L_2(19)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
7	19	1	3	$2/(1,3)$

$L_2(19)$ mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
5	9_a	1_a	$1_a 1_d$	$1_d/(1)$	1_d triv mod
5	9_b	1_b	$1_b 1_d$	$1_d/(1)$	
5	18	1_c	$1_a 1_b 1_c^2$	$1_a 1_b 1_c/(1)$	

$L_3(2)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
5	3_a	2_a	2_a	$0/(1,2)$
4	3_b	2_b	2_b	$0/(1,2)$

$L_3(2)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
3	7	1_a	$1_a 1_b^2$	$1_a 1_b/(1)$	1_b triv mod

$L_3(2)$ mod 7

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
8	3	1_a	1_a	$0/(1)$
8	5	1_b	1_b	$0/(1)$

$L_3(3)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
5	12	2_a	6	$1/(1); 4/(2)$
11	26	2_b	5	$3/(1,2,6)$

$L_3(3)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
28	3_a	1_a	1_a	$0/(f.a.)$
28	3_b	1_b	1_b	$0/(f.a.)$
28	7	1_c	1_c	$0/(f.a.)$
15	6_a	3_a	3_a	$0/(f.a.)$
15	15_b	3_b	3_b	$0/(f.a.)$
14	6_b	3_c	3_c	$0/(f.a.)$
14	15_a	3_d	3_d	$0/(f.a.)$

$L_3(4)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
35	9_a	4_a	4_a	$0/(f.a.)$
36	9_b	4_b	4_b	$0/(f.a.)$
78	8_a	1_a	1_a	$0/(f.a.)$
78	8_b	1_b	1_b	$0/(f.a.)$

$L_3(4)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
26	15_a	2_a	$1_a \oplus 2_a$	$1_a/(1,3)$	1_a non triv
26	15_b	2_a	$1_b \oplus 2_a$	$1_b/(1,3)$	1_b non triv
26	15_c	2_a	$1_c \oplus 2_a$	$1_c/(1,3)$	1_c non triv
26	19	$1_a 1_b 1_c$	$1_a 1_b 1_c 1_d$	$1_d/(1,3)$	1_d triv mod

$$f(128) = f\left(\begin{array}{c} 15_a 15_b 15_c \\ 19^2 \\ 15_a 15_b 15_c \end{array} \right) \cong 2_a = \mathrm{Br}(15_a) = \mathrm{Br}(15_b) = \mathrm{Br}(15_c)$$

$$f(55_a) = f\left(\begin{array}{c} 19 \\ 15_a 1^2 \\ 19 \end{array} \right) \cong 1_a | \mathrm{Br}(19) = 1_a 1_b 1_c$$

$$f(55_b) = f\left(\begin{array}{c} 19 \\ 15_b 1^2 \\ 19 \end{array} \right) \cong 1_b | \mathrm{Br}(19) = 1_a 1_b 1_c$$

$$f(55_c) = f\left(\begin{array}{c} 19 \\ 15_c 1^2 \\ 19 \end{array} \right) \cong 1_c | \mathrm{Br}(19) = 1_a 1_b 1_c$$

$Sz(8)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
20	4_a	1_a	1_a	$0/(f.a.)$
20	4_b	1_b	1_b	$0/(f.a.)$
20	4_c	1_c	1_c	$0/(f.a.)$
20	16_a	1_d	1_d	$0/(f.a.)$
20	16_b	1_e	1_e	$0/(f.a.)$
20	16_c	1_f	1_f	$0/(f.a.)$

$Sz(8)$ mod 13

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
12	14_a	1_a	1_a^2	$1_a/(1)$	non-triv
12	14_b	1_b	1_b^2	$1_b/(1)$	non-triv
12	35	1_c	$1_c^2 1_d$	$1_c 1_d/(1)$	1_d triv mod

$Sp_6(2)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
1214	6	2_a	2_a	$0/(f.a.)$
1216	8	2_b	2_b	$0/(f.a.)$
1215	14	2_c	2_c	$0/(f.a.)$
1064	48	4	4	$0/(f.a.)$
808	64	8	8	$0/(f.a.)$
489	112	16	16	$0/(f.a.)$

$U_3(4)$ mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
19	12	1_a	1_a	$0/(f.a.)$	
19	39	2	$2 \oplus 1_b$	$1_b/(1,6,7)$	1_b triv mod
6	65	5	17	$12/(1)$	

$U_3(5)$ mod 5

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
63	8	1_a	1_a	$0/(f.a.)$
63	10_a	1_b	1_b	$0/(f.a.)$
63	10_b	1_c	1_c	$0/(f.a.)$
63	19	1_d	1_d	$0/(f.a.)$
63	35_a	1_e	1_e	$0/(f.a.)$
63	35_b	1_f	1_f	$0/(f.a.)$
63	63	1_g	1_g	$0/(f.a.)$

$U_4(2)$ mod 2

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$
87	4_a	1_a	1_a	$0/(f.a.)$
87	4_b	1_b	1_b	$0/(f.a.)$
70	6	2_a	2_a	$0/(f.a.)$
70	20_a	2_b	2_b	$0/(f.a.)$
70	20_b	2_c	2_c	$0/(f.a.)$
42	14	4	4	$0/(f.a.)$

$U_4(2)$ mod 3

$\#Q$	S	$\mathrm{Br}(S)$	S^Q	$\mathrm{tr}_R^Q/(R)$	
91	5	1	1	$0/(f.a.)$	1 non triv
67	10	3_a	3_a	$0/(f.a.)$	
67	25	3_b	3_b	$0/(f.a.)$	
68	14	3_c	3_c	$0/(f.a.)$	