On Iwasawa λ -invariants for abelian number fields and random matrix heuristics

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Appendix A. Tables of λ -invariants for small χ and p.

We write ζ_m to denote the *m*-th root of unity $\exp\left(\frac{2\pi i}{m}\right)$. The tables below list for primes p=3,5,7 all primitive Dirichlet characters of the form $\chi=\theta\omega^i$ satisfying:

- $\operatorname{cond}(\theta) < 1000$
- $p \nmid \operatorname{cond}(\theta)$
- $p \nmid \operatorname{ord}(\chi)$
- f < 10

such that $\lambda_p(\chi) > 0$ if there is no trivial *p*-adic zero, and for $\lambda_p(\chi) > 1$ if there is. If a character is not listed then $\lambda_p(\chi) = 0$ (resp. $\lambda_p(\chi) = 1$ in the trivial zero case). N.B. The probability of finding a primitive character $\chi = \theta \omega^i$ with residue class degree $f \ge 10$ and non-trivial $\lambda_p(\chi)$ -invariant is small according to Conjecture 1.1.

I. p = 3

Table 1: Dirichlet characters $\chi = \theta \omega^i$ with nontrivial $\lambda_3(\chi)$ invariant.

$\lambda_3(\chi)$	Dirichlet character θ	i twist	$ \operatorname{ord}(\chi) $	f	triv.
1	even Dirichlet character of conductor 29 mapping	0	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 31 mapping $3 \mapsto -1$	1	2	1	
1	even Dirichlet character of conductor 32 mapping $31 \mapsto 1, 5 \mapsto -\zeta_8$	0	8	2	
1	even Dirichlet character of conductor 32 mapping $31 \mapsto 1, 5 \mapsto -\zeta_8^8$	0	8	2	
2	odd Dirichlet character of conductor 35 mapping $22 \mapsto -1, 31 \mapsto -1$	1	2	1	X
2	odd Dirichlet character of conductor 47 mapping $5 \mapsto -1$	1	2	1	X

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$\lambda_3(\chi)$	Dirichlet character θ	$\left egin{array}{l} ext{twist} \\ i \end{array} \right $	$ \operatorname{ord}(\chi) $	f	triv.
2	odd Dirichlet character of conductor 56 mapping $15 \mapsto 1, 29 \mapsto -1, 17 \mapsto -1$	1	2	1	X
2	even Dirichlet character of conductor 77 mapping $45\mapsto -1,57\mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 85 mapping $52 \mapsto -1,71 \mapsto -1$	0	2	1	
2	odd Dirichlet character of conductor 107 mapping $2 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 109 mapping $6 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 113 mapping $3 \mapsto -1$	0	2	1	
2	odd Dirichlet character of conductor 119 mapping $52 \mapsto -1,71 \mapsto \zeta_8$	1	8	2	
2	odd Dirichlet character of conductor 119 mapping $52 \mapsto -1,71 \mapsto \zeta_8^3$	1	8	2	
1	odd Dirichlet character of conductor 131 mapping $2 \mapsto \zeta_{26}$	1	26	3	
1	odd Dirichlet character of conductor 131 mapping $2 \mapsto \zeta_{26}^3$	1	26	3	
1	odd Dirichlet character of conductor 131 mapping $2 \mapsto \zeta_{26}^9$	1	26	3	
1	odd Dirichlet character of conductor 136 mapping $103 \mapsto -1,69 \mapsto -1,105 \mapsto -\zeta_8$	1	8	2	
1	odd Dirichlet character of conductor 136 mapping $103 \mapsto -1,69 \mapsto -1,105 \mapsto -\zeta_8^3$	1	8	2	
1	even Dirichlet character of conductor 137 mapping $3 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 139 mapping $2 \mapsto -1$	1	2	1	
1	odd Dirichlet character of conductor 149 mapping $2 \mapsto \zeta_4$	1	4	2	
1	odd Dirichlet character of conductor 149 mapping $2 \mapsto -\zeta_4$	1	4	2	
2	odd Dirichlet character of conductor 160 mapping	1	8	2	
2	$31 \mapsto 1,101 \mapsto \zeta_8, 97 \mapsto \zeta_8^2$ odd Dirichlet character of conductor 160 mapping	1	8	2	
3	$31 \mapsto 1,101 \mapsto \zeta_8^3,97 \mapsto -\zeta_8^2$ odd Dirichlet character of conductor 164 mapping	1	2	1	X
1	$83 \mapsto -1, 129 \mapsto -1$ even Dirichlet character of conductor 172 mapping	0	2	1	
	$87 \mapsto -1, 89 \mapsto -1$				

$\lambda_3(\chi)$	Dirichlet character θ	$\begin{vmatrix} \text{twist} \\ i \end{vmatrix}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 173 mapping $2 \mapsto -1$	0	2	1	
2	even Dirichlet character of conductor 181 mapping $2 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 199 mapping $3 \mapsto -1$	1	2	1	
1	even Dirichlet character of conductor 205 mapping $42 \mapsto -\zeta_8^2, 6 \mapsto \zeta_8$	0	8	2	
1	even Dirichlet character of conductor 205 mapping $42 \mapsto \zeta_8^2, 6 \mapsto \zeta_8^3$	0	8	2	
1	even Dirichlet character of conductor 205 mapping $42 \mapsto \zeta_8^2, 6 \mapsto -\zeta_8$	0	8	2	
1	odd Dirichlet character of conductor 205 mapping $42 \mapsto -1, 6 \mapsto -\zeta_8$	1	8	2	
1	odd Dirichlet character of conductor 205 mapping	1	8	2	
1	$42 \mapsto -1, 6 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 205 mapping	0	8	2	
1	$42 \mapsto -\zeta_8^2, 6 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 208 mapping	0	4	2	
1	$79 \mapsto 1,53 \mapsto \zeta_4,145 \mapsto -1$ even Dirichlet character of conductor 208 mapping	0	4	2	
2	$79 \mapsto 1,53 \mapsto -\zeta_4,145 \mapsto -1$ odd Dirichlet character of conductor 211 mapping	1	2	1	
1	$2 \mapsto -1$ even Dirichlet character of conductor 217 mapping	0	10	4	
1	$94 \mapsto -1,127 \mapsto \zeta_{10}$ even Dirichlet character of conductor 217 mapping	0	10	4	
1	$94 \mapsto -1,127 \mapsto \zeta_{10}^{3}$ even Dirichlet character of conductor 217 mapping	0	10	4	
1	$94 \mapsto -1,127 \mapsto -\zeta_{10}^2$ even Dirichlet character of conductor 217 mapping	0	10	4	
1	$94 \mapsto -1,127 \mapsto -\zeta_{10}^3 + \zeta_{10}^2 - \zeta_{10} + 1$ even Dirichlet character of conductor 221 mapping	0	16	4	
2	$ 171 \mapsto -\zeta_{16}^4, 105 \mapsto \zeta_{16} $ odd Dirichlet character of conductor 221 mapping	1	8	2	
1	$171 \mapsto \zeta_8^2, 105 \mapsto \zeta_8$ even Dirichlet character of conductor 221 mapping	0	8	2	
1	$171 \mapsto -1,105 \mapsto \zeta_8$ even Dirichlet character of conductor 221 mapping	0	16	4	
1	$171 \mapsto \zeta_{16}^4, 105 \mapsto \zeta_{16}^3$ even Dirichlet character of conductor 221 mapping	0	8	2	
	$171 \mapsto -1,105 \mapsto \zeta_8^3$				

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\lambda_3(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
even Dirichlet character of conductor 221 mapping 0 16 4 171 $\mapsto -\zeta_{16}^4$, $105 \mapsto -\zeta_{16}^3$ 2 even Dirichlet character of conductor 221 mapping 0 16 4 171 $\mapsto \zeta_{16}^4$, $105 \mapsto -\zeta_{16}^3$ 2 odd Dirichlet character of conductor 227 mapping 0 2 1 0 2 0 2 1 0 2 0 3 1 0 2 0 4 1 0 2 0 4 1 0 2 0 4 1 0 2 0 4 1 0 2 0 4 1 0 2 0 4 1 0 4 1 0 4 0 4 1 0	2		1	8	2	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 221 mapping	0	16	4	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 221 mapping	0	16	4	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2	odd Dirichlet character of conductor 227 mapping	1	2	1	X
even Dirichlet character of conductor 232 mapping 0 2 1 175 \mapsto 1,117 \mapsto -1,89 \mapsto -1 even Dirichlet character of conductor 235 mapping 0 4 2 142 \mapsto ζ_4 , 146 \mapsto -1 even Dirichlet character of conductor 235 mapping 0 4 2 142 \mapsto $-\zeta_4$, 146 \mapsto -1 6 odd Dirichlet character of conductor 239 mapping 1 2 1 \times 7 \mapsto -1 1 odd Dirichlet character of conductor 244 mapping 1 2 1 123 \mapsto -1,185 \mapsto -1 1 odd Dirichlet character of conductor 247 mapping 1 2 1 \times 1 120 \mapsto -1,40 \mapsto -1 2 even Dirichlet character of conductor 248 mapping 0 2 1 \times 2 1 \times 2 1 \times 2 1 \times 3 \times -1, 125 \mapsto -1,65 \mapsto -1 1 even Dirichlet character of conductor 253 mapping 0 2 1 \times 2 1 \times 2 1 \times 3 \times -1 1 \times 2 0 \times 2 1 \times 2 1 \times 2 1 \times 3 \times -1 1 \times 2 0 \times 3 \times -1 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 2 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 2 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 2 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 2 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 3 \times -1 1 \times 2 1 \times 2 1 \times 3 \times -1 1 1 \times 2 1 \times 3 \times -1 1 1 1 \times 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	even Dirichlet character of conductor 229 mapping	0	2	1	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 232 mapping	0	2	1	
even Dirichlet character of conductor 235 mapping $142 \mapsto -\zeta_4, 146 \mapsto -1$ odd Dirichlet character of conductor 239 mapping 1 2 1 1 odd Dirichlet character of conductor 244 mapping 1 1 2 1 1 odd Dirichlet character of conductor 244 mapping 1 1 1 1 1 1 1 1 1 1	1	even Dirichlet character of conductor 235 mapping	0	4	2	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 235 mapping	0	4	2	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	6	odd Dirichlet character of conductor 239 mapping	1	2	1	X
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 244 mapping	1	2	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 247 mapping	1	2	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2	even Dirichlet character of conductor 248 mapping	0	2	1	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 253 mapping	0	2	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 257 mapping	0	2	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2	odd Dirichlet character of conductor 260 mapping	1	2	1	X
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 268 mapping	0	2	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 272 mapping	0	8	2	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 272 mapping	0	8	2	
	1	even Dirichlet character of conductor 272 mapping	0	8	2	
	1	even Dirichlet character of conductor 272 mapping	0	8	2	
	3		0	2	1	

$\lambda_3(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 281 mapping $3 \mapsto -\zeta_{20}$	0	20	4	
1	even Dirichlet character of conductor 281 mapping $3 \mapsto -\zeta_{20}^3$	0	20	4	
1	even Dirichlet character of conductor 281 mapping $3 \mapsto -\zeta_{20}^7$	0	20	4	
1	even Dirichlet character of conductor 281 mapping $3 \mapsto -\zeta_{20}^7 + \zeta_{20}^5 - \zeta_{20}^3 + \zeta_{20}$	0	20	4	
1	odd Dirichlet character of conductor 283 mapping $3 \mapsto -1$	1	2	1	
2	odd Dirichlet character of conductor 287 mapping $206 \mapsto -1,211 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 293 mapping $2 \mapsto \zeta_4$	1	4	2	
1	odd Dirichlet character of conductor 293 mapping $2 \mapsto -\zeta_4$	1	4	2	
1	even Dirichlet character of conductor 296 mapping $223 \mapsto 1,149 \mapsto -1,113 \mapsto -1$	0	2	1	
2	odd Dirichlet character of conductor 296 mapping $223 \mapsto -1,149 \mapsto -1,113 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 307 mapping $5 \mapsto -1$	1	2	1	
4	odd Dirichlet character of conductor 311 mapping $17 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 313 mapping $10 \mapsto \zeta_{26}^5$	0	26	3	
1	even Dirichlet character of conductor 313 mapping $10 \mapsto -\zeta_{26}^2$	0	26	3	
1	even Dirichlet character of conductor 313 mapping $10 \mapsto -\zeta_{26}^{6}$	0	26	3	
1	even Dirichlet character of conductor 316 mapping $159 \mapsto -1, 161 \mapsto -1$	0	2	1	
2	odd Dirichlet character of conductor 323 mapping $20 \mapsto -1,154 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 328 mapping $247 \mapsto 1,165 \mapsto -1,129 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 331 mapping	1	10	4	
1	$3 \mapsto \zeta_{10}$ odd Dirichlet character of conductor 331 mapping	1	10	4	
1	$3 \mapsto \zeta_{10}^3$ odd Dirichlet character of conductor 331 mapping	1	2	1	
1	$3\mapsto -1$	1	2	1	

$\lambda_3(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 331 mapping $3 \mapsto -\zeta_{10}^2$	1	10	4	
1	odd Dirichlet character of conductor 331 mapping	1	10	4	
2	$3 \mapsto -\zeta_{10}^3 + \zeta_{10}^2 - \zeta_{10} + 1$ even Dirichlet character of conductor 332 mapping $167 \mapsto -1, 85 \mapsto -1$	0	2	1	
2	even Dirichlet character of conductor 337 mapping $10 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 340 mapping $171 \mapsto -1, 137 \mapsto -\zeta_8^2, 241 \mapsto \zeta_8$	0	8	2	
1	even Dirichlet character of conductor 340 mapping $171 \mapsto -1, 137 \mapsto \zeta_8^2, 241 \mapsto \zeta_8^3$	0	8	2	
1	even Dirichlet character of conductor 341 mapping $156 \mapsto \zeta_{10}, 34 \mapsto \zeta_{10}$	0	10	4	
1	even Dirichlet character of conductor 341 mapping $156 \mapsto \zeta_{10}^3, 34 \mapsto \zeta_{10}^3$	0	10	4	
1	even Dirichlet character of conductor 341 mapping	0	10	4	
1	$156 \mapsto -\zeta_{10}^2, 34 \mapsto -\zeta_{10}^2$ even Dirichlet character of conductor 341 mapping	0	10	4	
3	$156 \mapsto -\zeta_{10}^3 + \zeta_{10}^2 - \zeta_{10} + 1, 34 \mapsto -\zeta_{10}^3 + \zeta_{10}^2 - \zeta_{10} + 1$ odd Dirichlet character of conductor 344 mapping	1	2	1	X
1	$87 \mapsto 1,173 \mapsto -1,89 \mapsto -1$ even Dirichlet character of conductor 353 mapping $3 \mapsto \zeta_4$	0	4	2	
1	even Dirichlet character of conductor 353 mapping $3 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 353 mapping $3 \mapsto -\zeta_4$	0	4	2	
3	odd Dirichlet character of conductor 365 mapping	1	8	2	
1	$147 \mapsto -1, 151 \mapsto -\zeta_8$ even Dirichlet character of conductor 365 mapping	0	8	2	
1	$147 \mapsto -\zeta_8^2, 151 \mapsto -\zeta_8$ even Dirichlet character of conductor 365 mapping $147 \mapsto \zeta_8^2, 151 \mapsto -\zeta_8^3$	0	8	2	
3	odd Dirichlet character of conductor 365 mapping	1	8	2	
1	$147 \mapsto -1,151 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 367 mapping	1	2	1	
2	$6 \mapsto -1$ odd Dirichlet character of conductor 379 mapping	1	2	1	
1	$2 \mapsto -1$ even Dirichlet character of conductor 397 mapping	0	2	1	
	$5 \mapsto -1$				

$\lambda_3(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 401 mapping	0	8	2	
1	$3 \mapsto \zeta_8$ even Dirichlet character of conductor 401 mapping	0	8	2	
3	$3 \mapsto \zeta_8^3$ even Dirichlet character of conductor 401 mapping	0	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 403 mapping	0	20	4	
1	$249 \mapsto -\zeta_{20}^5, 313 \mapsto \zeta_{20}^2$ even Dirichlet character of conductor 403 mapping	0	20	4	
1	$ 249 \mapsto \zeta_{20}^5, 313 \mapsto \zeta_{20}^6 $ even Dirichlet character of conductor 403 mapping	0	20	4	
1	$249 \mapsto \zeta_{20}^5, 313 \mapsto -\zeta_{20}^4$ even Dirichlet character of conductor 403 mapping	0	20	4	
1	$249 \mapsto -\zeta_{20}^5, 313 \mapsto -\zeta_{20}^6 + \zeta_{20}^4 - \zeta_{20}^2 + 1$ even Dirichlet character of conductor 404 mapping	0	4	2	
2	$203 \mapsto -1,305 \mapsto \zeta_4$ odd Dirichlet character of conductor 404 mapping	1	2	1	X
1	$203 \mapsto -1,305 \mapsto -1$ even Dirichlet character of conductor 404 mapping	0	4	2	
2	$203 \mapsto -1,305 \mapsto -\zeta_4$ even Dirichlet character of conductor 412 mapping	0	2	1	
1	$207 \mapsto -1, 5 \mapsto -1$ odd Dirichlet character of conductor 416 mapping	1	8	2	
1	$287 \mapsto -1,261 \mapsto \zeta_8,353 \mapsto -1$ odd Dirichlet character of conductor 416 mapping	1	8	2	
2	$287 \mapsto -1,261 \mapsto \zeta_8^3,353 \mapsto -1$ odd Dirichlet character of conductor 419 mapping	1	2	1	X
1	$2 \mapsto -1$ odd Dirichlet character of conductor 424 mapping	1	4	2	
1	$319 \mapsto 1,213 \mapsto -1,161 \mapsto \zeta_4$ even Dirichlet character of conductor 424 mapping	0	2	1	
1	$319 \mapsto 1,213 \mapsto -1,161 \mapsto -1$ odd Dirichlet character of conductor 424 mapping	1	2	1	
	odd Dirichlet character of conductor 424 mapping $319 \mapsto -1,213 \mapsto -1,161 \mapsto -1$ odd Dirichlet character of conductor 424 mapping				
1	$319 \mapsto 1,213 \mapsto -1,161 \mapsto -\zeta_4$	1	4	2	
1	even Dirichlet character of conductor 425 mapping $52 \mapsto \zeta_{80}^{12}, 326 \mapsto \zeta_{80}^{25}$	0	80	4	
1	even Dirichlet character of conductor 425 mapping $52 \mapsto \zeta_{80}^4, 326 \mapsto \zeta_{80}^{27} - \zeta_{80}^{19} + \zeta_{80}^{11} - \zeta_{80}^3$	0	80	4	
1	even Dirichlet character of conductor 425 mapping $52 \mapsto \zeta_{80}^{28}, 326 \mapsto -\zeta_{80}^{25}$	0	80	4	

	i		f	triv. zero
even Dirichlet character of conductor 425 mapping $52 \mapsto \frac{728}{628} - \frac{720}{628} + \frac{720}{628} - \frac{74}{628} - \frac{74}{628} - \frac{74}{628} - \frac{74}{628} + \frac{73}{628} + \frac{73}{628}$	0	80	4	
odd Dirichlet character of conductor 436 mapping	1	2	1	
odd Dirichlet character of conductor 439 mapping	1	2	1	
even Dirichlet character of conductor 443 mapping	0	13	3	
odd Dirichlet character of conductor 443 mapping	1	26	3	
even Dirichlet character of conductor 443 mapping	0	13	3	
odd Dirichlet character of conductor 443 mapping	1	26	3	
even Dirichlet character of conductor 443 mapping	0	13	3	
odd Dirichlet character of conductor 443 mapping	1	26	3	
odd Dirichlet character of conductor 445 mapping	1	8	2	
even Dirichlet character of conductor 445 mapping	0	8	2	
even Dirichlet character of conductor 445 mapping	0	8	2	
odd Dirichlet character of conductor 445 mapping	1	8	2	
even Dirichlet character of conductor 449 mapping	0	2	1	
odd Dirichlet character of conductor 451 mapping	1	2	1	
odd Dirichlet character of conductor 452 mapping	1	8	2	
odd Dirichlet character of conductor 452 mapping	1	8	2	
odd Dirichlet character of conductor 452 mapping	1	2	1	X
even Dirichlet character of conductor 455 mapping	0	4	2	
even Dirichlet character of conductor 455 mapping	0	4	2	
even Dirichlet character of conductor 457 mapping	0	2	1	
	odd Dirichlet character of conductor 439 mapping $15 \mapsto -1$ even Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{26}^{5}$ even Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}^{3}$ odd Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}^{3}$ odd Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{26}^{3}$ even Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{26}^{6}$ even Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 445 mapping $357 \mapsto -1$, $181 \mapsto -\zeta_{8}$ even Dirichlet character of conductor 445 mapping $357 \mapsto \zeta_{8}^{2}$, $181 \mapsto -\zeta_{8}^{3}$ even Dirichlet character of conductor 445 mapping $357 \mapsto \zeta_{8}^{2}$, $181 \mapsto -\zeta_{8}^{3}$ odd Dirichlet character of conductor 445 mapping $357 \mapsto -1$, $181 \mapsto -\zeta_{8}^{3}$ even Dirichlet character of conductor 449 mapping $3 \mapsto -1$ odd Dirichlet character of conductor 451 mapping $3 \mapsto -1$ odd Dirichlet character of conductor 452 mapping $227 \mapsto -1$, $229 \mapsto \zeta_{8}$ odd Dirichlet character of conductor 452 mapping $227 \mapsto -1$, $229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of conductor 452 mapping $227 \mapsto -1$, $229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of conductor 452 mapping $227 \mapsto -1$, $229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of conductor 452 mapping $227 \mapsto -1$, $229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of conductor 452 mapping $227 \mapsto -1$, $229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of conductor 453 mapping $227 \mapsto -1$, $229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of conductor 453 mapping $227 \mapsto -1$, $229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of 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\mapsto \zeta_{13}^{2}$ odd Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}^{2}$ odd Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{26}^{6}$ odd Dirichlet character of conductor 445 mapping $357 \mapsto -1, 181 \mapsto -\zeta_{8}$ even Dirichlet character of conductor 445 mapping $357 \mapsto -\zeta_{8}^{2}, 181 \mapsto -\zeta_{8}$ even Dirichlet character of conductor 445 mapping $357 \mapsto -1, 181 \mapsto -\zeta_{8}$ even Dirichlet character of conductor 445 mapping $357 \mapsto -1, 181 \mapsto -\zeta_{8}^{3}$ even Dirichlet character of conductor 449 mapping $357 \mapsto -1, 181 \mapsto -\zeta_{8}^{3}$ even Dirichlet character of conductor 449 mapping $3 \mapsto -1$ odd Dirichlet character of conductor 451 mapping $3 \mapsto -1$ odd Dirichlet character of conductor 452 mapping $227 \mapsto -1, 229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of conductor 452 mapping $227 \mapsto -1, 229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of conductor 452 mapping $227 \mapsto -1, 229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of conductor 452 mapping $227 \mapsto -1, 229 \mapsto \zeta_{8}^{3}$ odd Dirichlet character of conductor 453 mapping $227 \mapsto -1, 229 \mapsto -1$ even Dirichlet character of conductor 455 mapping $227 \mapsto -1, 229 \mapsto -1$ even Dirichlet character of conductor 455 mapping $227 \mapsto -1, 229 \mapsto -1$ even Dirichlet character of conductor 457 mapping $227 \mapsto -1, 229 \mapsto -1$ even Dirichlet character of conductor 457 mapping $227 \mapsto -1, 229 \mapsto -1$ even Dirichlet character of conductor 457 mapping $227 \mapsto -1, 229 \mapsto -1$ even Dirichlet character of conductor 457 mapping $227 \mapsto -1, 229 \mapsto -1$ even Dirichlet character of conductor 457 mapping $227 \mapsto -1, 229 \mapsto -1$ even Dir	odd Dirichlet character of conductor 436 mapping $219 \mapsto -1,333 \mapsto -1$ odd Dirichlet character of conductor 439 mapping $15 \mapsto -1$ even Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{26}^{5}$ even Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}^{5}$ odd Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}^{5}$ odd Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{26}^{5}$ even Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 443 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{26}^{6}$ even Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{13}^{6}$ oven Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{13}^{6}$ oven Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{13}^{6}$ oven Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{13}^{6}$ oven Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 445 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 451 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 452 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 452 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 452 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 452 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 453 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 4540 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 455 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 455 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 455 mapping $2 \mapsto \zeta_{13}^{6}$ odd Dirichlet character of conductor 455 mapping $2 \mapsto \zeta_{13}^{6}$	odd Dirichlet character of conductor 436 mapping $219 \mapsto -1,333 \mapsto -1$ oven Dirichlet character of conductor 439 mapping $219 \mapsto -1,333 \mapsto -1$ oven Dirichlet character of conductor 443 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 443 mapping $219 \mapsto \zeta_{26}$ oven Dirichlet character of conductor 443 mapping $219 \mapsto \zeta_{26}$ oven Dirichlet character of conductor 443 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 443 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 443 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 443 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 443 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 443 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 445 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 445 mapping $219 \mapsto \zeta_{13}$ oven Dirichlet character of conductor 445 mapping $219 \mapsto \zeta_{13}$ oven Dirichlet character of conductor 445 mapping $219 \mapsto \zeta_{13}$ oven Dirichlet character of conductor 445 mapping $219 \mapsto \zeta_{13}$ oven Dirichlet character of conductor 445 mapping $219 \mapsto \zeta_{13}$ oven Dirichlet character of conductor 445 mapping $219 \mapsto \zeta_{13}$ oven Dirichlet character of conductor 445 mapping $219 \mapsto \zeta_{13}$ oven Dirichlet character of conductor 451 mapping $219 \mapsto \zeta_{13}$ oven Dirichlet character of conductor 452 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 452 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 452 mapping $219 \mapsto \zeta_{13}$ odd Dirichlet character of conductor 452 mapping $219 \mapsto 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$\lambda_3(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{} i \end{array}$	$ \operatorname{ord}(\chi) $	f	triv.
1	even Dirichlet character of conductor 461 mapping $2 \mapsto -1$	0	2	1	
2	odd Dirichlet character of conductor 467 mapping	1	2	1	X
2	$2 \mapsto -1$ even Dirichlet character of conductor 469 mapping	0	2	1	
1	$269 \mapsto -1,337 \mapsto -1$ odd Dirichlet character of conductor 472 mapping	1	2	1	
1	$119 \mapsto 1,237 \mapsto -1,297 \mapsto -1$ even Dirichlet character of conductor 473 mapping	0	2	1	
1	$431 \mapsto -1,89 \mapsto -1$ odd Dirichlet character of conductor 485 mapping	1	8	2	
2	$292 \mapsto \zeta_8^2, 296 \mapsto -\zeta_8$ even Dirichlet character of conductor 485 mapping	0	8	2	
2	$292 \mapsto -1,296 \mapsto -\zeta_8$ even Dirichlet character of conductor 485 mapping	0	8	2	
1	$292 \mapsto -1,296 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 485 mapping	1	8	2	
2	$292 \mapsto -\zeta_8^2, 296 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 488 mapping	1	4	2	X
1	$367 \mapsto 1,245 \mapsto -1,185 \mapsto \zeta_4$ even Dirichlet character of conductor 488 mapping	0	2	1	
2	$367 \mapsto 1,245 \mapsto -1,185 \mapsto -1$ odd Dirichlet character of conductor 488 mapping	1	4	2	X
1	$367 \mapsto 1,245 \mapsto -1,185 \mapsto -\zeta_4$ odd Dirichlet character of conductor 493 mapping	1	4	2	
1	$88 \mapsto -1,205 \mapsto \zeta_4$ odd Dirichlet character of conductor 493 mapping	1	4	2	
1	$88 \mapsto -1,205 \mapsto -\zeta_4$ even Dirichlet character of conductor 497 mapping	0	2	1	
1	$143 \mapsto -1,78 \mapsto -1$ odd Dirichlet character of conductor 499 mapping $7 \mapsto -1$	1	2	1	
2	odd Dirichlet character of conductor 503 mapping $5 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 505 mapping	0	2	1	
1	$102 \mapsto -1,406 \mapsto -1$ even Dirichlet character of conductor 521 mapping	0	26	3	
1	$3 \mapsto \zeta_{26}^5$ even Dirichlet character of conductor 521 mapping	0	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 521 mapping	0	26	3	
	$3\mapsto -\zeta_{26}^2$				

1 (2/)	Dirichlet character θ	trriat	ond(v)	£	tnire
$\lambda_3(\chi)$	Dirichlet character 6	i twist	$\operatorname{ord}(\chi)$	f	triv.
		1			zero
1	even Dirichlet character of conductor 521 mapping	0	26	3	
	$3\mapsto -\zeta_{26}^6$				
1	odd Dirichlet character of conductor 524 mapping	1	26	3	
	$263 \mapsto -1,133 \mapsto \zeta_{26}^4$				
1	odd Dirichlet character of conductor 524 mapping	1	26	3	
	$263 \mapsto -1,133 \mapsto \zeta_{26}^{10}$				
1	odd Dirichlet character of conductor 524 mapping	1	26	3	
	$263 \mapsto -1,133 \mapsto \zeta_{26}^{11} - \zeta_{26}^{10} + \zeta_{26}^{9} - \zeta_{26}^{8} + \zeta_{26}^{7} - \zeta_{26}^{6} +$				
	$\zeta_{26}^5 - \zeta_{26}^4 + \zeta_{26}^3 - \zeta_{26}^2 + \zeta_{26} - 1$				
1	even Dirichlet character of conductor 524 mapping	0	2	1	
	$263 \mapsto -1,133 \mapsto -1$				
1	even Dirichlet character of conductor 527 mapping	0	80	4	
	$156 \mapsto \zeta_{80}^5, 375 \mapsto \zeta_{80}^8$				
1	odd Dirichlet character of conductor 527 mapping	1	40	4	
	$156 \mapsto \zeta_{40}^5, 375 \mapsto \zeta_{40}^4$				
1	even Dirichlet character of conductor 527 mapping	0	80	4	
	$156 \mapsto \zeta_{80}^{15}, 375 \mapsto \zeta_{80}^{24}$				
1	odd Dirichlet character of conductor 527 mapping	1	40	4	
	$156 \mapsto \zeta_{40}^{15}, 375 \mapsto \zeta_{40}^{12}$				
1	odd Dirichlet character of conductor 527 mapping	1	8	2	
	$156 \mapsto -\zeta_8, 375 \mapsto -1$				
1	odd Dirichlet character of conductor 527 mapping	1	8	2	
	$156 \mapsto -\zeta_8^3, 375 \mapsto -1$				
1	odd Dirichlet character of conductor 527 mapping	1	40	4	
	$156 \mapsto \zeta_{40}^{15}, 375 \mapsto -\zeta_{40}^{8}$				
1	even Dirichlet character of conductor 527 mapping	0	80	4	
	$156 \mapsto -\zeta_{80}^{15}, 375 \mapsto -\zeta_{80}^{16}$				
1	odd Dirichlet character of conductor 527 mapping	1	40	4	
	$156 \mapsto \zeta_{40}^5, 375 \mapsto -\zeta_{40}^{12} + \zeta_{40}^8 - \zeta_{40}^4 + 1$				
1	even Dirichlet character of conductor 527 mapping	0	80	4	
	$156 \mapsto -\zeta_{80}^5, 375 \mapsto -\zeta_{80}^{24} + \zeta_{80}^{16} - \zeta_{80}^8 + 1$	_	_		
1	even Dirichlet character of conductor 533 mapping	0	8	2	
	$288 \mapsto -\zeta_8^2, 170 \mapsto \zeta_8$	_	_		
1	even Dirichlet character of conductor 533 mapping	0	8	2	
	$288 \mapsto \zeta_8^2, 170 \mapsto \zeta_8^3$	_	_		
1	even Dirichlet character of conductor 533 mapping	0	2	1	
	$288 \mapsto -1,170 \mapsto -1$			_	
1	even Dirichlet character of conductor 544 mapping	0	8	2	
	$511 \mapsto 1,69 \mapsto -\zeta_8,513 \mapsto \zeta_8$			_	
1	odd Dirichlet character of conductor 544 mapping	1	8	2	
	$511 \mapsto -1,69 \mapsto \zeta_8^3,513 \mapsto \zeta_8^2$				

$\lambda_3(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$ \operatorname{ord}(\chi) $	f	triv.
1	even Dirichlet character of conductor 544 mapping $511 \mapsto 1,69 \mapsto -\zeta_8^3,513 \mapsto \zeta_8^3$	0	8	2	
2	odd Dirichlet character of conductor 544 mapping $511 \mapsto -1,69 \mapsto -\zeta_8^3,513 \mapsto -\zeta_8$	1	8	2	
1	odd Dirichlet character of conductor 544 mapping	1	8	2	
2	$511 \mapsto -1.69 \mapsto \zeta_8, 513 \mapsto -\zeta_8^2$ odd Dirichlet character of conductor 544 mapping	1	8	2	
1	$511 \mapsto -1,69 \mapsto -\zeta_8,513 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 547 mapping	1	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 548 mapping	1	4	2	
1	$275 \mapsto -1,277 \mapsto \zeta_4$ odd Dirichlet character of conductor 548 mapping	1	4	2	
2	$275 \mapsto -1,277 \mapsto -\zeta_4$ even Dirichlet character of conductor 556 mapping	0	2	1	
2	$279 \mapsto -1,141 \mapsto -1$ odd Dirichlet character of conductor 565 mapping	1	8	2	
2	$227 \mapsto -\zeta_8^2, 116 \mapsto \zeta_8$ odd Dirichlet character of conductor 565 mapping	1	8	2	
1	$227 \mapsto \zeta_8^2, 116 \mapsto \zeta_8^3$ even Dirichlet character of conductor 568 mapping	0	2	1	
1	$143 \mapsto -1,285 \mapsto -1,433 \mapsto -1$ even Dirichlet character of conductor 577 mapping	0	8	2	
1	$5 \mapsto -\zeta_8$ even Dirichlet character of conductor 577 mapping	0	8	2	
1	$5 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 581 mapping	0	2	1	
1	$416 \mapsto -1,85 \mapsto -1$ odd Dirichlet character of conductor 583 mapping	1	26	3	
1	$266 \mapsto -1,320 \mapsto \zeta_{26}^{8}$ odd Dirichlet character of conductor 583 mapping	1	26	3	
1	$266 \mapsto -1,320 \mapsto -\zeta_{26}^{7}$ odd Dirichlet character of conductor 583 mapping	1	26	3	
1	$266 \mapsto -1,320 \mapsto -\zeta_{26}^{11}$ odd Dirichlet character of conductor 584 mapping	1	8	2	
1	$439 \mapsto 1,293 \mapsto -1,297 \mapsto -\zeta_8$ odd Dirichlet character of conductor 584 mapping	1	8	2	
3	$439 \mapsto 1,293 \mapsto -1,297 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 587 mapping	1	2	1	X
1	$2 \mapsto -1$ odd Dirichlet character of conductor 592 mapping	1	4	2	
	$223 \mapsto 1,149 \mapsto -\zeta_4,113 \mapsto \zeta_4$				

$\lambda_3(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 592 mapping $223 \mapsto 1,149 \mapsto \zeta_4,113 \mapsto -\zeta_4$	1	4	2	
2	odd Dirichlet character of conductor 596 mapping $299 \mapsto -1,449 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 599 mapping $7 \mapsto \zeta_{13}^4$	0	13	3	
2	odd Dirichlet character of conductor 599 mapping $7 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 599 mapping $7 \mapsto \zeta_{13}^{10}$	0	13	3	
1	even Dirichlet character of conductor 599 mapping $7 \mapsto -\zeta_{13}^{11} - \zeta_{13}^{10} - \zeta_{13}^{9} - \zeta_{13}^{8} - \zeta_{13}^{7} - \zeta_{13}^{6} - \zeta_{13}^{5} - \zeta_{13}^{4} - \zeta_{13}^{4}$	0	13	3	
2	$\zeta_{13}^3 - \zeta_{13}^2 - \zeta_{13} - 1$ even Dirichlet character of conductor 604 mapping	0	2	1	
2	$303 \mapsto -1,157 \mapsto -1$ odd Dirichlet character of conductor 611 mapping $236 \mapsto -1,287 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 628 mapping $315 \mapsto -1, 5 \mapsto -1$	1	2	1	
1	odd Dirichlet character of conductor 629 mapping $445 \mapsto -\zeta_4, 409 \mapsto \zeta_4$	1	4	2	
1	even Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_4, 409 \mapsto -1$	0	4	2	
1	even Dirichlet character of conductor 629 mapping $445 \mapsto -\zeta_8, 409 \mapsto -1$	0	8	2	
1	even Dirichlet character of conductor 629 mapping $445 \mapsto -\zeta_4, 409 \mapsto -1$	0	4	2	
1	even Dirichlet character of conductor 629 mapping $445 \mapsto -\zeta_8^3, 409 \mapsto -1$	0	8	2	
1	odd Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_4, 409 \mapsto -\zeta_4$	1	4	2	
1	odd Dirichlet character of conductor 632 mapping $159 \mapsto -1,317 \mapsto -1,161 \mapsto \zeta_{26}^4$	1	26	3	
1	odd Dirichlet character of conductor 632 mapping $159 \mapsto -1,317 \mapsto -1,161 \mapsto \zeta_{26}^{10}$	1	26	3	
1	odd Dirichlet character of conductor 632 mapping $159 \mapsto -1,317 \mapsto -1,161 \mapsto \zeta_{26}^{11} - \zeta_{26}^{10} + \zeta_{26}^{9} - \zeta_{26}^{8} +$	1	26	3	
2	$\zeta_{26}^7 - \zeta_{26}^6 + \zeta_{26}^5 - \zeta_{26}^4 + \zeta_{26}^3 - \zeta_{26}^2 + \zeta_{26} - 1$ odd Dirichlet character of conductor 632 mapping	1	2	1	X
2	$159 \mapsto 1,317 \mapsto -1,161 \mapsto -1$ odd Dirichlet character of conductor 635 mapping	1	2	1	X
	$382 \mapsto -1,511 \mapsto -1$				

$\lambda_3(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$ \operatorname{ord}(\chi) $	f	triv.
1	even Dirichlet character of conductor 641 mapping	0	8	2	
1	$3 \mapsto \zeta_8$ even Dirichlet character of conductor 641 mapping	0	40	4	
1	$3 \mapsto \zeta_{40}^{13}$ even Dirichlet character of conductor 641 mapping $3 \mapsto \zeta_8^3$	0	8	2	
1	even Dirichlet character of conductor 641 mapping $3 \mapsto -\zeta_{40}^{11}$	0	40	4	
1	even Dirichlet character of conductor 641 mapping $3 \mapsto -\zeta_{40}^{13} + \zeta_{40}^9 - \zeta_{40}^5 + \zeta_{40}$	0	40	4	
1	even Dirichlet character of conductor 641 mapping	0	40	4	
1	$ 3 \mapsto -\zeta_{40}^{15} + \zeta_{40}^{11} - \zeta_{40}^{7} + \zeta_{40}^{3} $ odd Dirichlet character of conductor 643 mapping $ 11 \mapsto -1 $	1	2	1	
2	even Dirichlet character of conductor 653 mapping $2 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 655 mapping	0	4	2	
1	$132 \mapsto \zeta_4, 526 \mapsto -1$ odd Dirichlet character of conductor 655 mapping $132 \mapsto -1, 526 \mapsto -1$	1	2	1	
1	even Dirichlet character of conductor 655 mapping	0	4	2	
3	$132 \mapsto -\zeta_4, 526 \mapsto -1$ odd Dirichlet character of conductor 659 mapping	1	2	1	X
1	$2 \mapsto -1$ odd Dirichlet character of conductor 661 mapping	1	4	2	
1	$2 \mapsto \zeta_4$ odd Dirichlet character of conductor 661 mapping	1	4	2	
1	$2 \mapsto -\zeta_4$ even Dirichlet character of conductor 677 mapping	0	26	3	
1	$2 \mapsto \zeta_{26}$ even Dirichlet character of conductor 677 mapping	0	26	3	
1	$2 \mapsto \zeta_{26}^3$ even Dirichlet character of conductor 677 mapping	0	26	3	
1	$2 \mapsto \zeta_{26}^9$ odd Dirichlet character of conductor 679 mapping	1	2	1	
1	$486 \mapsto -1,393 \mapsto -1$ odd Dirichlet character of conductor 679 mapping	1	8	2	
1	$486 \mapsto -1,393 \mapsto -\zeta_8$ odd Dirichlet character of conductor 679 mapping	1	8	2	
1	$486 \mapsto -1,393 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 680 mapping	0	4	2	
	$511 \mapsto 1,341 \mapsto -1,137 \mapsto -1,241 \mapsto \zeta_4$				

$\lambda_3(\chi)$	Dirichlet character θ	i twist	$ \operatorname{ord}(\chi) $	f	triv.
1	odd Dirichlet character of conductor 680 mapping $511 \mapsto 1,341 \mapsto -1,137 \mapsto \zeta_4,241 \mapsto -1$	1	4	2	
1	odd Dirichlet character of conductor 680 mapping	1	4	2	
1	$511 \mapsto 1,341 \mapsto -1,137 \mapsto -\zeta_4,241 \mapsto -1$ odd Dirichlet character of conductor 680 mapping $511 \mapsto 1,341 \mapsto -1,137 \mapsto \zeta_8^2,241 \mapsto -\zeta_8$	1	8	2	
1	even Dirichlet character of conductor 680 mapping	0	4	2	
1	$511 \mapsto 1,341 \mapsto -1,137 \mapsto -1,241 \mapsto -\zeta_4$ odd Dirichlet character of conductor 680 mapping	1	8	2	
3	$511 \mapsto 1,341 \mapsto -1,137 \mapsto -\zeta_8^2,241 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 683 mapping	1	2	1	X
2	$5 \mapsto -1$ odd Dirichlet character of conductor 692 mapping	1	2	1	X
1	$347 \mapsto -1,521 \mapsto -1$ even Dirichlet character of conductor 695 mapping	0	4	2	
1	$557 \mapsto \zeta_4, 141 \mapsto -1$ even Dirichlet character of conductor 695 mapping	0	4	2	
1	$557 \mapsto -\zeta_4, 141 \mapsto -1$ even Dirichlet character of conductor 697 mapping $411 \mapsto \zeta_{80}^{27} - \zeta_{80}^{19} + \zeta_{80}^{11} - \zeta_{80}^{3}, 375 \mapsto \zeta_{80}^{2}$	0	80	4	
1	even Dirichlet character of conductor 697 mapping $411 \mapsto \zeta_{80}^{25}, 375 \mapsto \zeta_{80}^{6}$	0	80	4	
1	even Dirichlet character of conductor 697 mapping $411 \mapsto -\zeta_{80}^{27} + \zeta_{80}^{19} - \zeta_{80}^{11} + \zeta_{80}^{3}, 375 \mapsto \zeta_{80}^{18}$	0	80	4	
1	even Dirichlet character of conductor 697 mapping $411 \mapsto \zeta_8^3, 375 \mapsto \zeta_8^2$	0	8	2	
1	odd Dirichlet character of conductor 697 mapping $411 \mapsto -\zeta_{40}^{10}, 375 \mapsto \zeta_{40}^{11}$	1	40	4	
1	odd Dirichlet character of conductor 697 mapping $411 \mapsto \zeta_{40}^{10}, 375 \mapsto \zeta_{40}^{13} - \zeta_{40}^{9} + \zeta_{40}^{5} - \zeta_{40}$	1	40	4	
1	odd Dirichlet character of conductor 697 mapping $411 \mapsto -\zeta_{40}^{10}, 375 \mapsto \zeta_{40}^{15} - \zeta_{40}^{11} + \zeta_{40}^{7} - \zeta_{40}^{3}$	1	40	4	
1	even Dirichlet character of conductor 697 mapping $411 \mapsto -1,375 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 697 mapping $411 \mapsto \zeta_{20}^5, 375 \mapsto -\zeta_{20}$	0	20	4	
1	even Dirichlet character of conductor 697 mapping $411 \mapsto -\zeta_{20}^5, 375 \mapsto -\zeta_{20}^3$	0	20	4	
1	even Dirichlet character of conductor 697 mapping $411 \mapsto -\zeta_{80}^{25}, 375 \mapsto -\zeta_{80}^{14}$	0	80	4	
1	even Dirichlet character of conductor 697 mapping	0	8	2	
	$411 \mapsto \zeta_8, 375 \mapsto -\zeta_8^2$				

$\lambda_3(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 697 mapping $411 \mapsto \zeta_{40}^{10}, 375 \mapsto -\zeta_{40}^{13}$	1	40	4	
1	even Dirichlet character of conductor 697 mapping	0	20	4	
1	$411 \mapsto -\zeta_{20}^5, 375 \mapsto -\zeta_{20}^7$ even Dirichlet character of conductor 697 mapping	0	20	4	
2	$411 \mapsto \zeta_{20}^5, 375 \mapsto -\zeta_{20}^7 + \zeta_{20}^5 - \zeta_{20}^3 + \zeta_{20}$ even Dirichlet character of conductor 716 mapping	0	2	1	
1	$359 \mapsto -1,181 \mapsto -1$ even Dirichlet character of conductor 724 mapping	0	4	2	
1	$363 \mapsto -1,545 \mapsto \zeta_4$ even Dirichlet character of conductor 724 mapping	0	4	2	
1	$363 \mapsto -1,545 \mapsto -\zeta_4$ even Dirichlet character of conductor 728 mapping	0	2	1	
3	$183 \mapsto -1,365 \mapsto -1,521 \mapsto -1,561 \mapsto -1$ even Dirichlet character of conductor 733 mapping	0	2	1	
1	$6 \mapsto -1$ even Dirichlet character of conductor 740 mapping	0	4	2	
1	$371 \mapsto -1,297 \mapsto -1,261 \mapsto \zeta_4$ even Dirichlet character of conductor 740 mapping	0	4	2	
2	$371 \mapsto -1,297 \mapsto -1,261 \mapsto -\zeta_4$ odd Dirichlet character of conductor 743 mapping	1	2	1	X
1	$5 \mapsto -1$ even Dirichlet character of conductor 745 mapping	0	2	1	
1	$597 \mapsto -1,151 \mapsto -1$ even Dirichlet character of conductor 748 mapping	0	8	2	
1	$375 \mapsto -1,409 \mapsto -1,309 \mapsto -\zeta_8$ even Dirichlet character of conductor 748 mapping	0	8	2	
2	$375 \mapsto -1,409 \mapsto -1,309 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 751 mapping	1	2	1	
2	$3 \mapsto -1$ odd Dirichlet character of conductor 757 mapping	1	4	2	X
2	$2 \mapsto \zeta_4$ odd Dirichlet character of conductor 757 mapping	1	4	2	X
1	$2 \mapsto -\zeta_4$ even Dirichlet character of conductor 761 mapping	0	2	1	
1	$6 \mapsto -1$ even Dirichlet character of conductor 773 mapping	0	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 775 mapping	1	20	4	
1	$652 \mapsto -\zeta_{20}^7 + \zeta_{20}^5 - \zeta_{20}^3 + \zeta_{20}, 251 \mapsto \zeta_{20}^4$ odd Dirichlet character of conductor 775 mapping	1	20	4	
	$652 \mapsto -\zeta_{20}^3, 251 \mapsto \zeta_{20}^6 - \zeta_{20}^4 + \zeta_{20}^2 - 1$				

$\lambda_3(\chi)$	Dirichlet character θ	twist	$\operatorname{ord}(\chi)$	f	triv.
3(/()		i	(,c)	J	zero
1	odd Dirichlet character of conductor 775 mapping	1	20	4	<u>. </u>
_	$652 \mapsto -\zeta_{20}^7, 251 \mapsto -\zeta_{20}^2$	_	20	1	
1	odd Dirichlet character of conductor 775 mapping	1	20	4	
	$652 \mapsto -\zeta_{20}, 251 \mapsto -\zeta_{20}^6$				
1	odd Dirichlet character of conductor 776 mapping	1	8	2	
	$583 \mapsto -1,389 \mapsto -1,393 \mapsto \zeta_8$				
1	odd Dirichlet character of conductor 776 mapping	1	8	2	
	$583 \mapsto -1,389 \mapsto -1,393 \mapsto \zeta_8^3$				
1	odd Dirichlet character of conductor 779 mapping	1	20	4	
	$534 \mapsto -1,457 \mapsto -\zeta_{20}$				
1	odd Dirichlet character of conductor 779 mapping	1	20	4	
4	$534 \mapsto -1,457 \mapsto -\zeta_{20}^3$	1	20	4	
1	odd Dirichlet character of conductor 779 mapping	1	20	4	
1	$534 \mapsto -1,457 \mapsto -\zeta_{20}^{7}$	1	20	4	
1	odd Dirichlet character of conductor 779 mapping $534 \mapsto -1,457 \mapsto -\zeta_{20}^7 + \zeta_{20}^5 - \zeta_{20}^3 + \zeta_{20}$	1	20	4	
1	odd Dirichlet character of conductor 781 mapping	1	10	4	
1	$640 \mapsto -\zeta_{10}, 78 \mapsto \zeta_{10}$	1	10	4	
1	odd Dirichlet character of conductor 781 mapping	1	10	4	
	$640 \mapsto -\zeta_{10}^3, 78 \mapsto \zeta_{10}^3$	_			
1	odd Dirichlet character of conductor 781 mapping	1	10	4	
	$640 \mapsto \zeta_{10}^2, 78 \mapsto -\zeta_{10}^2$				
1	odd Dirichlet character of conductor 781 mapping	1	10	4	
	$640 \mapsto \zeta_{10}^3 - \zeta_{10}^2 + \zeta_{10} - 1,78 \mapsto -\zeta_{10}^3 + \zeta_{10}^2 - \zeta_{10} + 1$				
1	even Dirichlet character of conductor 785 mapping	0	26	3	
	$472 \mapsto -1,476 \mapsto \zeta_{26}^4$				
1	even Dirichlet character of conductor 785 mapping	0	26	3	
4	$472 \mapsto -1,476 \mapsto \zeta_{26}^{10}$		20	0	
1	even Dirichlet character of conductor 785 mapping	0	26	3	
	$472 \mapsto -1,476 \mapsto \zeta_{26}^{11} - \zeta_{26}^{10} + \zeta_{26}^{9} - \zeta_{26}^{8} + \zeta_{26}^{7} - \zeta_{26}^{6} + \zeta_{26}^{5} + \zeta_{26}^{7} +$				
1	$\zeta_{26}^5 - \zeta_{26}^4 + \zeta_{26}^3 - \zeta_{26}^2 + \zeta_{26} - 1$ even Dirichlet character of conductor 785 mapping	0	$ $ $_2$	1	
1	even Different character of conductor 785 mapping $472 \mapsto -1,476 \mapsto -1$	0		1	
2	even Dirichlet character of conductor 796 mapping	0	2	1	
-	$399 \mapsto -1,401 \mapsto -1$		_	1	
1	odd Dirichlet character of conductor 800 mapping	1	40	4	
	$351 \mapsto 1,101 \mapsto \zeta_{40}^5,577 \mapsto \zeta_{40}^2$				
1	odd Dirichlet character of conductor 800 mapping	1	40	4	
	$351 \mapsto 1,101 \mapsto \zeta_{40}^{15},577 \mapsto \zeta_{40}^{6}$				
1	odd Dirichlet character of conductor 800 mapping	1	40	4	
	$351 \mapsto 1,101 \mapsto \zeta_{40}^{15},577 \mapsto \zeta_{40}^{14}$				

$\lambda_3(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 800 mapping $351 \mapsto 1,101 \mapsto \zeta_{40}^5,577 \mapsto \zeta_{40}^{14} - \zeta_{40}^{10} + \zeta_{40}^6 - \zeta_{40}^2$	1	40	4	
1	even Dirichlet character of conductor 808 mapping $607 \mapsto 1,405 \mapsto -1,305 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 808 mapping	1	2	1	
1	$607 \mapsto -1,405 \mapsto -1,305 \mapsto -1$ odd Dirichlet character of conductor 812 mapping	1	4	2	
1	$407 \mapsto -1,465 \mapsto -1,785 \mapsto \zeta_4$ odd Dirichlet character of conductor 812 mapping	1	4	2	
3	$407 \mapsto -1,465 \mapsto -1,785 \mapsto -\zeta_4$ odd Dirichlet character of conductor 815 mapping	1	2	1	X
1	$327 \mapsto -1,491 \mapsto -1$ odd Dirichlet character of conductor 820 mapping	1	8	2	
1	$411 \mapsto -1,657 \mapsto -\zeta_8^2,621 \mapsto \zeta_8$ even Dirichlet character of conductor 820 mapping	0	4	2	
1	$411 \mapsto -1,657 \mapsto -\zeta_4,621 \mapsto \zeta_4$ odd Dirichlet character of conductor 820 mapping	1	8	2	
1	$411 \mapsto -1,657 \mapsto \zeta_8^2,621 \mapsto \zeta_8^3$ even Dirichlet character of conductor 820 mapping	0	4	2	
1	$411 \mapsto -1,657 \mapsto \zeta_4,621 \mapsto -\zeta_4$ odd Dirichlet character of conductor 823 mapping	1	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 824 mapping	0	2	1	
3	$207 \mapsto -1,413 \mapsto -1,417 \mapsto -1$ odd Dirichlet character of conductor 827 mapping	1	2	1	X
1	$2 \mapsto -1$ even Dirichlet character of conductor 832 mapping	0	16	4	
1	$703 \mapsto -1,261 \mapsto \zeta_{16}^3,769 \mapsto \zeta_{16}^4$ even Dirichlet character of conductor 832 mapping	0	16	4	
1	$703 \mapsto -1,261 \mapsto -\zeta_{16}^3,769 \mapsto \zeta_{16}^4$ even Dirichlet character of conductor 832 mapping	0	16	4	
1	$703 \mapsto -1,261 \mapsto \zeta_{16},769 \mapsto -\zeta_{16}^4$ even Dirichlet character of conductor 832 mapping	0	16	4	
1	$703 \mapsto -1,261 \mapsto -\zeta_{16},769 \mapsto -\zeta_{16}^4$ odd Dirichlet character of conductor 835 mapping	1	2	1	
1	$502 \mapsto -1,506 \mapsto -1$ odd Dirichlet character of conductor 848 mapping	1	4	2	
1	$319 \mapsto 1,213 \mapsto -\zeta_4,161 \mapsto \zeta_4$ odd Dirichlet character of conductor 848 mapping	1	4	2	
1	$319 \mapsto 1,213 \mapsto \zeta_4,161 \mapsto -\zeta_4$ even Dirichlet character of conductor 851 mapping	0	4	2	
	$741 \mapsto -1,668 \mapsto \zeta_4$				

$\lambda_3(\chi)$	Dirichlet character θ	$\left egin{array}{c} ext{twist} \\ i \end{array} \right $	$ \operatorname{ord}(\chi) $	f	triv. zero
1	even Dirichlet character of conductor 851 mapping $741 \mapsto -1,668 \mapsto -\zeta_4$	0	4	2	
4	odd Dirichlet character of conductor 856 mapping $215 \mapsto 1,429 \mapsto -1,537 \mapsto -1$	1	2	1	
1	odd Dirichlet character of conductor 860 mapping $431 \mapsto -1,517 \mapsto \zeta_4,261 \mapsto -1$	1	4	2	
1	odd Dirichlet character of conductor 860 mapping $431 \mapsto -1,517 \mapsto -\zeta_4,261 \mapsto -1$	1	4	2	
2	odd Dirichlet character of conductor 863 mapping $5 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 865 mapping $347 \mapsto -1,521 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 872 mapping $655 \mapsto -1,437 \mapsto -1,769 \mapsto \zeta_4$	0	4	2	
2	odd Dirichlet character of conductor 872 mapping $655 \mapsto -1,437 \mapsto -1,769 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 872 mapping $655 \mapsto -1,437 \mapsto -1,769 \mapsto -\zeta_4$	0	4	2	
1	even Dirichlet character of conductor 877 mapping $2 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 880 mapping $111 \mapsto 1,661 \mapsto -\zeta_4,177 \mapsto \zeta_4,321 \mapsto -1$	0	4	2	
1	odd Dirichlet character of conductor 880 mapping $111 \mapsto 1,661 \mapsto \zeta_4,177 \mapsto -1,321 \mapsto -1$	1	4	2	
1	odd Dirichlet character of conductor 880 mapping $111 \mapsto 1,661 \mapsto -\zeta_4,177 \mapsto -1,321 \mapsto -1$	1	4	2	
1	even Dirichlet character of conductor 880 mapping $111 \mapsto 1,661 \mapsto \zeta_4,177 \mapsto -\zeta_4,321 \mapsto -1$	0	4	2	
1	odd Dirichlet character of conductor 883 mapping $2 \mapsto -1$	1	2	1	
1	even Dirichlet character of conductor 892 mapping $447 \mapsto -1,449 \mapsto -1$	0	2	1	
2	odd Dirichlet character of conductor 899 mapping $466 \mapsto -1,871 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 904 mapping $679 \mapsto -1,453 \mapsto -1,681 \mapsto \zeta_{16}$	0	16	4	
1	even Dirichlet character of conductor 904 mapping $679 \mapsto -1,453 \mapsto -1,681 \mapsto \zeta_{16}^3$	0	16	4	
1	even Dirichlet character of conductor 904 mapping $679 \mapsto -1,453 \mapsto -1,681 \mapsto -\zeta_{16}$	0	16	4	
1	even Dirichlet character of conductor 904 mapping $679 \mapsto -1,453 \mapsto -1,681 \mapsto -\zeta_{16}^3$	0	16	4	

$\lambda_3(\chi)$	Dirichlet character θ	twist	$ \operatorname{ord}(\chi) $	f	triv.
Λ3(χ)	Directical character v	i	$\operatorname{Ord}(\chi)$	J	zero
		<u> </u>		4	2010
3	odd Dirichlet character of conductor 907 mapping	1	2	1	
4	$2 \mapsto -1$	1	0.0	0	
1	odd Dirichlet character of conductor 917 mapping	1	26	3	
1	$787 \mapsto -1,526 \mapsto -\zeta_{26}$	1	0.0	0	
1	odd Dirichlet character of conductor 917 mapping	1	26	3	
1	$787 \mapsto -1,526 \mapsto -\zeta_{26}^{3}$	1	26	3	
1	odd Dirichlet character of conductor 917 mapping $787 \mapsto -1,526 \mapsto -\zeta_{26}^{9}$	1	26	3	
1	$0.07 \mapsto -1.520 \mapsto -\zeta_{26}$ odd Dirichlet character of conductor 920 mapping	1	4	2	
1	231 \mapsto -1, 461 \mapsto -1, 737 \mapsto ζ_4 , 281 \mapsto -1	1	4	4	
2	odd Dirichlet character of conductor 920 mapping	1	2	1	X
	$231 \mapsto 1,461 \mapsto -1,737 \mapsto -1,281 \mapsto -1$	1		1	11
1	odd Dirichlet character of conductor 920 mapping	1	4	2	
1	$231 \mapsto -1,461 \mapsto -1,737 \mapsto -\zeta_4,281 \mapsto -1$	1	1	-	
1	even Dirichlet character of conductor 928 mapping	0	8	2	
	$639 \mapsto -1,581 \mapsto -\zeta_8^3,321 \mapsto \zeta_8^2$				
1	even Dirichlet character of conductor 928 mapping	0	8	2	
	$639 \mapsto -1,581 \mapsto -\zeta_8,321 \mapsto -\zeta_8^2$				
1	even Dirichlet character of conductor 929 mapping	0	2	1	
	$3 \mapsto -1$				
1	odd Dirichlet character of conductor 935 mapping	1	80	4	
	$562 \mapsto \zeta_{80}^{20}, 596 \mapsto \zeta_{80}^{8}, 496 \mapsto \zeta_{80}^{5}$				
1	odd Dirichlet character of conductor 935 mapping	1	80	4	
	$562 \mapsto -\zeta_{80}^{20}, 596 \mapsto \zeta_{80}^{24}, 496 \mapsto \zeta_{80}^{15}$				
1	odd Dirichlet character of conductor 935 mapping	1	80	4	
	$562 \mapsto \zeta_{80}^{20}, 596 \mapsto -\zeta_{80}^{16}, 496 \mapsto \zeta_{80}^{25}$				
1	odd Dirichlet character of conductor 935 mapping	1	80	4	
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
4	$\zeta_{80}^{27} - \zeta_{80}^{19} + \zeta_{80}^{11} - \zeta_{80}^{3}$		20	4	
1	even Dirichlet character of conductor 935 mapping	0	20	4	
1	$562 \mapsto \zeta_{20}^5, 596 \mapsto \zeta_{20}^2, 496 \mapsto -1$		20	4	
1	even Dirichlet character of conductor 935 mapping	0	20	4	
3	$562 \mapsto -\zeta_{20}^5, 596 \mapsto \zeta_{20}^6, 496 \mapsto -1$ odd Dirichlet character of conductor 935 mapping	1	2	1	X
3	$562 \mapsto -1,596 \mapsto -1,496 \mapsto -1$	1	_ <u></u>	1	Λ
1	$502 \mapsto -1,390 \mapsto -1,490 \mapsto -1$ even Dirichlet character of conductor 935 mapping	0	20	4	
1	$562 \mapsto -\zeta_{20}^5, 596 \mapsto -\zeta_{20}^4, 496 \mapsto -1$		20	4	
1	even Dirichlet character of conductor 935 mapping	0	20	4	
	$562 \mapsto \zeta_{20}^5, 596 \mapsto -\zeta_{20}^6 + \zeta_{20}^4 - \zeta_{20}^2 + 1,496 \mapsto -1$			1	
1	odd Dirichlet character of conductor 935 mapping	1	80	4	
	$562 \mapsto \zeta_{80}^{20}, 596 \mapsto -\zeta_{80}^{24} + \zeta_{80}^{16} - \zeta_{80}^{8} + 1,496 \mapsto -\zeta_{80}^{5}$	_		-	
	302 - 380 - 380 - 380 - 380 - 23 100 - 7 580	l			

$\lambda_3(\chi)$	Dirichlet character θ	$\left egin{array}{l} ext{twist} \\ i \end{array} \right $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 935 mapping $562 \mapsto -\zeta_{80}^{20}, 596 \mapsto -\zeta_{80}^{16}, 496 \mapsto -\zeta_{80}^{15}$	1	80	4	
1	odd Dirichlet character of conductor 935 mapping $562 \mapsto \zeta_{80}^{20}, 596 \mapsto \zeta_{80}^{24}, 496 \mapsto -\zeta_{80}^{25}$	1	80	4	
1	odd Dirichlet character of conductor 935 mapping $562 \mapsto -\zeta_{80}^{20}, 596 \mapsto \zeta_{80}^{8}, 496 \mapsto -\zeta_{80}^{27} + \zeta_{80}^{19} - \zeta_{80}^{11} + \zeta_{80}^{3}$	1	80	4	
1	even Dirichlet character of conductor 940 mapping $471 \mapsto -1,377 \mapsto -1,381 \mapsto -1$	0	2	1	
2	even Dirichlet character of conductor 944 mapping	0	4	2	
2	$591 \mapsto -1,709 \mapsto \zeta_4,769 \mapsto -1$ even Dirichlet character of conductor 944 mapping	0	4	2	
1	$591 \mapsto -1,709 \mapsto -\zeta_4,769 \mapsto -1$ odd Dirichlet character of conductor 949 mapping	1	4	2	
1	$366 \mapsto \zeta_4, 443 \mapsto \zeta_4$ odd Dirichlet character of conductor 949 mapping	1	4	2	
1	$366 \mapsto -\zeta_4, 443 \mapsto -\zeta_4$ even Dirichlet character of conductor 952 mapping	0	2	1	
1	$239 \mapsto -1,477 \mapsto -1,409 \mapsto -1,785 \mapsto -1$ even Dirichlet character of conductor 952 mapping	0	8	2	
1	$239 \mapsto -1,477 \mapsto -1,409 \mapsto -1,785 \mapsto -\zeta_8$ even Dirichlet character of conductor 952 mapping $239 \mapsto -1,477 \mapsto -1,409 \mapsto -1,785 \mapsto -\zeta_8^3$	0	8	2	
1	even Dirichlet character of conductor 953 mapping $3 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 964 mapping $483 \mapsto -1,489 \mapsto -1$	1	2	1	
1	odd Dirichlet character of conductor 965 mapping	1	16	4	
1	$387 \mapsto -\zeta_{16}^4, 391 \mapsto \zeta_{16}^5$ odd Dirichlet character of conductor 965 mapping	1	16	4	
1	$387 \mapsto \zeta_{16}^4, 391 \mapsto \zeta_{16}^7$ even Dirichlet character of conductor 965 mapping $387 \mapsto -1, 391 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 965 mapping	1	16	4	
1	$387 \mapsto -\zeta_{16}^4, 391 \mapsto -\zeta_{16}^5$ odd Dirichlet character of conductor 965 mapping	1	16	4	
2	$387 \mapsto \zeta_{16}^4, 391 \mapsto -\zeta_{16}^7$ odd Dirichlet character of conductor 971 mapping	1	2	1	X
1	$6 \mapsto -1$ even Dirichlet character of conductor 977 mapping	0	8	2	
1	$3 \mapsto \zeta_8$ even Dirichlet character of conductor 977 mapping $3 \mapsto \zeta_8^3$	0	8	2	

$\lambda_3(\chi)$	Dirichlet character θ	$\left egin{array}{c} ext{twist} \\ i \end{array} \right $	$ \operatorname{ord}(\chi) $	f	triv.
1	even Dirichlet character of conductor 985 mapping $592 \mapsto -1,396 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 988 mapping $495 \mapsto -1,457 \mapsto -1,781 \mapsto -1$	0	2	1	
2	odd Dirichlet character of conductor 995 mapping	1	2	1	X
1	$797 \mapsto -1,401 \mapsto -1$ even Dirichlet character of conductor 997 mapping $7 \mapsto -1$	0	2	1	

II. p = 5

Table 2: Dirichlet characters $\chi=\theta\omega^i$ with nontrivial $\lambda_5(\chi)$ invariant.

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
2	odd Dirichlet character of conductor 11 mapping $2 \mapsto -1$	1	2	1	X
2	even Dirichlet character of conductor 16 mapping $15\mapsto 1, 5\mapsto -\zeta_4$	2	4	1	
1	even Dirichlet character of conductor 17 mapping $3 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 36 mapping $19 \mapsto -1, 29 \mapsto \zeta_6$	0	6	2	
1	even Dirichlet character of conductor 36 mapping	0	6	2	
1	$19 \mapsto -1, 29 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 37 mapping	3	4	1	
2	$2 \mapsto \zeta_4$ even Dirichlet character of conductor 37 mapping $2 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 41 mapping	0	4	1	
1	$6 \mapsto \zeta_4$ odd Dirichlet character of conductor 47 mapping	1	2	1	
1	$5 \mapsto -1$ odd Dirichlet character of conductor 48 mapping	3	4	1	
1	$31 \mapsto 1, 37 \mapsto -\zeta_4, 17 \mapsto -1$ odd Dirichlet character of conductor 51 mapping	1	4	1	
2	$35 \mapsto -1, 37 \mapsto \zeta_4$ odd Dirichlet character of conductor 51 mapping	1	2	1	X
1	$35 \mapsto -1, 37 \mapsto -1$ even Dirichlet character of conductor 53 mapping	0	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 53 mapping	3	4	1	
1	$2 \mapsto -\zeta_4$ even Dirichlet character of conductor 56 mapping	2	2	1	
1	$15 \mapsto -1, 29 \mapsto -1, 17 \mapsto -1$ odd Dirichlet character of conductor 61 mapping	3	4	1	
1	$2 \mapsto \zeta_4$ even Dirichlet character of conductor 63 mapping	2	6	2	
1	$29 \mapsto \zeta_6, 10 \mapsto \zeta_6$ even Dirichlet character of conductor 63 mapping $29 \mapsto -\zeta_6 + 1, 10 \mapsto -\zeta_6 + 1$	2	6	2	

$\lambda_5(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 68 mapping $35 \mapsto -1, 37 \mapsto \zeta_8$	3	8	2	
1	odd Dirichlet character of conductor 68 mapping	3	8	2	
1	$35 \mapsto -1, 37 \mapsto -\zeta_8$ even Dirichlet character of conductor 69 mapping	0	2	1	
1	$47 \mapsto -1, 28 \mapsto -1$ odd Dirichlet character of conductor 73 mapping	3	24	2	
1	$5 \mapsto \zeta_{24}$ odd Dirichlet character of conductor 73 mapping	3	24	2	
1	$ \begin{array}{l} 5 \mapsto \zeta_{24}^5 \\ \text{even Dirichlet character of conductor 73 mapping} \end{array} $	0	2	1	
1	$5 \mapsto -1$ even Dirichlet character of conductor 73 mapping	0	4	1	
1	$5 \mapsto -\zeta_4$ odd Dirichlet character of conductor 83 mapping	3	2	1	
3	$2 \mapsto -1$ even Dirichlet character of conductor 89 mapping	2	4	1	
1	$3 \mapsto \zeta_4$ even Dirichlet character of conductor 89 mapping	0	2	1	
1	$3 \mapsto -1$ odd Dirichlet character of conductor 91 mapping	3	2	1	
1	$66 \mapsto -1, 15 \mapsto -1$ even Dirichlet character of conductor 91 mapping	2	4	1	
2	$66 \mapsto -1, 15 \mapsto -\zeta_4$ even Dirichlet character of conductor 92 mapping	2	2	1	
1	$47 \mapsto -1, 5 \mapsto -1$ even Dirichlet character of conductor 97 mapping	2	24	2	
1	$5 \mapsto \zeta_{24}$ even Dirichlet character of conductor 97 mapping	2	24	2	
1	$5 \mapsto \zeta_{24}^5$ even Dirichlet character of conductor 97 mapping	0	4	1	
1	$5 \mapsto \zeta_4$ even Dirichlet character of conductor 97 mapping	0	24	2	
1	$5 \mapsto \zeta_{24}^7$ even Dirichlet character of conductor 97 mapping	0	24	2	
1	$5 \mapsto \zeta_{24}^7 - \zeta_{24}^3$ odd Dirichlet character of conductor 103 mapping	1	2	1	
1	$5 \mapsto -1$ even Dirichlet character of conductor 104 mapping	2	2	1	
2	$79 \mapsto 1,53 \mapsto -1,41 \mapsto -1$	1	2	1	v
	odd Dirichlet character of conductor 104 mapping $79 \mapsto -1, 53 \mapsto -1, 41 \mapsto -1$	1	<i>Δ</i>	1	X

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 104 mapping $79 \mapsto 1,53 \mapsto -1,41 \mapsto -\zeta_{12}$	3	12	2	
2	even Dirichlet character of conductor 104 mapping $79 \mapsto -1, 53 \mapsto -1, 41 \mapsto -\zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 104 mapping $79 \mapsto 1,53 \mapsto -1,41 \mapsto -\zeta_{12}^3 + \zeta_{12}$	3	12	2	
2	even Dirichlet character of conductor 109 mapping $6 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 111 mapping $38\mapsto -1,76\mapsto \zeta_4$	0	4	1	
1	even Dirichlet character of conductor 112 mapping $15 \mapsto -1, 85 \mapsto \zeta_4, 17 \mapsto -1$	2	4	1	
1	even Dirichlet character of conductor 113 mapping $3 \mapsto -\zeta_4$	2	4	1	
1	even Dirichlet character of conductor 116 mapping $59 \mapsto -1, 89 \mapsto -\zeta_4$	2	4	1	
1	even Dirichlet character of conductor 117 mapping $92 \mapsto \zeta_3, 28 \mapsto \zeta_3$	2	3	2	
1	odd Dirichlet character of conductor 117 mapping $92 \mapsto \zeta_{12}^2 - 1, 28 \mapsto -\zeta_{12}$	3	12	2	
1	even Dirichlet character of conductor 117 mapping $92 \mapsto -\zeta_3 - 1, 28 \mapsto -\zeta_3 - 1$	2	3	2	
1	odd Dirichlet character of conductor 117 mapping $92 \mapsto -\zeta_{12}^2, 28 \mapsto -\zeta_{12}^3 + \zeta_{12}$	3	12	2	
1	odd Dirichlet character of conductor 119 mapping $52 \mapsto \zeta_{24}^4, 71 \mapsto \zeta_{24}^3$	1	24	2	
1	odd Dirichlet character of conductor 119 mapping $52 \mapsto -\zeta_{24}^4 + 1,71 \mapsto -\zeta_{24}^3$	1	24	2	
3	odd Dirichlet character of conductor 123 mapping $83 \mapsto -1, 88 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 124 mapping $63 \mapsto -1, 65 \mapsto -1$	2	2	1	
2	odd Dirichlet character of conductor 127 mapping $3 \mapsto -1$	1	2	1	
1	odd Dirichlet character of conductor 127 mapping $3 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 129 mapping $44 \mapsto -1, 46 \mapsto -1$	2	2	1	
2	odd Dirichlet character of conductor 136 mapping $103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 136 mapping $103 \mapsto 1,69 \mapsto -1,105 \mapsto -\zeta_4$	0	4	1	

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 137 mapping	2	4	1	
1	$3 \mapsto -\zeta_4$ even Dirichlet character of conductor 139 mapping	2	3	2	
1	$2 \mapsto \zeta_3$ even Dirichlet character of conductor 139 mapping $2 \mapsto -\zeta_3 - 1$	2	3	2	
2	even Dirichlet character of conductor 143 mapping $79 \mapsto -1,67 \mapsto \zeta_4$	0	4	1	
1	odd Dirichlet character of conductor 143 mapping $79 \mapsto -1,67 \mapsto -1$	1	2	1	
1	even Dirichlet character of conductor 148 mapping $75 \mapsto -1,113 \mapsto -\zeta_4$	0	4	1	
2	odd Dirichlet character of conductor 149 mapping $2 \mapsto \zeta_4$	1	4	1	X
1	odd Dirichlet character of conductor 149 mapping $2 \mapsto \zeta_4$	3	4	1	
2	even Dirichlet character of conductor 149 mapping $2 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 151 mapping $6 \mapsto \zeta_3$	0	3	2	
1	even Dirichlet character of conductor 151 mapping	0	3	2	
1	$6 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 152 mapping $39 \mapsto -1,77 \mapsto -1,97 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 156 mapping $79 \mapsto -1,53 \mapsto -1,145 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 157 mapping	0	6	2	
1	$5 \mapsto \zeta_6$ odd Dirichlet character of conductor 157 mapping $5 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 157 mapping	3	4	1	
1	$5 \mapsto -\zeta_4$ even Dirichlet character of conductor 157 mapping	0	6	2	
1	$5 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 159 mapping	2	4	1	
1	$107 \mapsto -1,55 \mapsto \zeta_4$ even Dirichlet character of conductor 161 mapping	0	6	2	
1	$24 \mapsto \zeta_6, 120 \mapsto -1$ even Dirichlet character of conductor 161 mapping	0	2	1	
1	$24 \mapsto -1, 120 \mapsto -1$ even Dirichlet character of conductor 161 mapping	0	6	2	
	$24 \mapsto -\zeta_6 + 1,120 \mapsto -1$				

$\lambda_5(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 163 mapping $2 \mapsto -1$	3	2	1	
2	odd Dirichlet character of conductor 164 mapping $83 \mapsto -1, 129 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 168 mapping $127 \mapsto -1,85 \mapsto -1,113 \mapsto -1,73 \mapsto \zeta_6$	3	6	2	
1	even Dirichlet character of conductor 168 mapping $127 \mapsto 1,85 \mapsto -1,113 \mapsto -1,73 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 168 mapping $127 \mapsto -1,85 \mapsto -1,113 \mapsto -1,73 \mapsto -\zeta_6 + 1$	3	6	2	
1	odd Dirichlet character of conductor 173 mapping $2 \mapsto \zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 176 mapping $111 \mapsto 1,133 \mapsto \zeta_4,145 \mapsto -1$	1	4	1	
1	even Dirichlet character of conductor 176 mapping $111 \mapsto -1, 133 \mapsto \zeta_4, 145 \mapsto -1$	0	4	1	
2	odd Dirichlet character of conductor 181 mapping $2 \mapsto \zeta_4$	1	4	1	X
2	odd Dirichlet character of conductor 181 mapping $2 \mapsto -\zeta_4$	1	4	1	X
2	even Dirichlet character of conductor 183 mapping $62 \mapsto -1, 124 \mapsto -\zeta_4$	2	4	1	
2	odd Dirichlet character of conductor 184 mapping $47 \mapsto 1,93 \mapsto -1,97 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 187 mapping $35 \mapsto -1, 122 \mapsto -\zeta_4$	3	4	1	
1	odd Dirichlet character of conductor 197 mapping $2 \mapsto \zeta_4$	3	4	1	
1	odd Dirichlet character of conductor 197 mapping $2 \mapsto -\zeta_4$	1	4	1	
3	odd Dirichlet character of conductor 197 mapping $2 \mapsto -\zeta_4$	3	4	1	
1	even Dirichlet character of conductor 203 mapping $59 \mapsto \zeta_{12}^2, 176 \mapsto -\zeta_{12}^3$	2	12	2	
1	even Dirichlet character of conductor 203 mapping $59 \mapsto -\zeta_{12}^2 + 1,176 \mapsto -\zeta_{12}^3$	2	12	2	
2	even Dirichlet character of conductor 204 mapping $103 \mapsto -1, 137 \mapsto -1, 37 \mapsto \zeta_4$	0	4	1	
1	even Dirichlet character of conductor 204 mapping	0	2	1	
1	$103 \mapsto -1, 137 \mapsto -1, 37 \mapsto -1$ even Dirichlet character of conductor 208 mapping	0	12	2	
	$79 \mapsto -1,53 \mapsto \zeta_{12}^3,145 \mapsto \zeta_{12}$				

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 208 mapping $79 \mapsto 1,53 \mapsto \zeta_4,145 \mapsto \zeta_4$	1	4	1	
1	even Dirichlet character of conductor 208 mapping $79 \mapsto -1,53 \mapsto \zeta_4,145 \mapsto \zeta_4$	0	4	1	
1	even Dirichlet character of conductor 208 mapping	0	12	2	
1	$79 \mapsto 1,53 \mapsto -\zeta_{12}^3,145 \mapsto \zeta_{12}^2 - 1$ odd Dirichlet character of conductor 208 mapping	3	12	2	
1	$79 \mapsto -1,53 \mapsto -\zeta_{12}^3,145 \mapsto \zeta_{12}^2 - 1$ even Dirichlet character of conductor 208 mapping	0	12	2	
1	$79 \mapsto -1,53 \mapsto \zeta_{12}^3,145 \mapsto \zeta_{12}^3 - \zeta_{12}$ odd Dirichlet character of conductor 208 mapping	1	4	1	
1	$79 \mapsto -1,53 \mapsto \zeta_4,145 \mapsto -1$ even Dirichlet character of conductor 208 mapping	0	12	2	
1	$79 \mapsto 1,53 \mapsto -\zeta_{12}^3,145 \mapsto -\zeta_{12}^2$ odd Dirichlet character of conductor 208 mapping	3	12	2	
1	$ 79 \mapsto -1,53 \mapsto -\zeta_{12}^3,145 \mapsto -\zeta_{12}^2 $ odd Dirichlet character of conductor 208 mapping	3	4	1	
1	$79 \mapsto 1,53 \mapsto \zeta_4,145 \mapsto -\zeta_4$ even Dirichlet character of conductor 212 mapping	0	4	1	
1	$107 \mapsto -1,161 \mapsto -\zeta_4$ even Dirichlet character of conductor 213 mapping	2	2	1	
1	$ \begin{vmatrix} 143 \mapsto -1, 7 \mapsto -1 \\ \text{odd Dirichlet character of conductor 217 mapping } \end{vmatrix} $	3	6	2	
1	$ 94 \mapsto \zeta_6, 127 \mapsto \zeta_6 - 1 $ odd Dirichlet character of conductor 217 mapping	3	6	2	
1	$ 94 \mapsto -\zeta_6 + 1,127 \mapsto \zeta_6 - 1 $ even Dirichlet character of conductor 217 mapping	0	2	1	
1	$94 \mapsto -1,127 \mapsto -1$ odd Dirichlet character of conductor 217 mapping	3	6	2	
1	$ \begin{array}{c} 94 \mapsto \zeta_6, 127 \mapsto -\zeta_6 \\ \text{odd Dirichlet character of conductor 217 mapping} \end{array} $	3	6	2	
1	$94 \mapsto -\zeta_6 + 1,127 \mapsto -\zeta_6$ odd Dirichlet character of conductor 219 mapping	3	12	2	
2	$74 \mapsto -1,151 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 219 mapping	3	4	1	
1	$74 \mapsto -1,151 \mapsto -\zeta_4$ odd Dirichlet character of conductor 219 mapping	3	12	2	
1	$74 \mapsto -1,151 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 221 mapping	3	24	2	
1	$171 \mapsto -\zeta_{24}^2, 105 \mapsto \zeta_{24}^3$ odd Dirichlet character of conductor 221 mapping	1	12	2	
	$171 \mapsto -\zeta_{12}, 105 \mapsto \zeta_{12}^3$				

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 221 mapping	1	12	2	
1	$171 \mapsto -\zeta_{12}^3 + \zeta_{12}, 105 \mapsto \zeta_{12}^3$ odd Dirichlet character of conductor 221 mapping	3	24	2	
1	$171 \mapsto \zeta_{24}^2, 105 \mapsto \zeta_{24}^5 - \zeta_{24}$ odd Dirichlet character of conductor 221 mapping	3	8	2	
1	$171 \mapsto -\zeta_8^2, 105 \mapsto \zeta_8^3$ odd Dirichlet character of conductor 221 mapping	3	4	1	
1	$171 \mapsto \zeta_4, 105 \mapsto -1$ even Dirichlet character of conductor 221 mapping	0	6	2	
1	$171 \mapsto \zeta_6 - 1, 105 \mapsto -1$ even Dirichlet character of conductor 221 mapping	0	6	2	
1	$171 \mapsto -\zeta_6, 105 \mapsto -1$ odd Dirichlet character of conductor 221 mapping	3	24	2	
1	$171 \mapsto -\zeta_{24}^6 + \zeta_{24}^2, 105 \mapsto -\zeta_{24}^3$ odd Dirichlet character of conductor 221 mapping	3	4	1	
1	$171 \mapsto \zeta_4, 105 \mapsto -\zeta_4$ odd Dirichlet character of conductor 221 mapping $171 \mapsto -\zeta_4, 105 \mapsto -\zeta_4$	3	4	1	
1	odd Dirichlet character of conductor 221 mapping $171 \mapsto \zeta_{24}^6 - \zeta_{24}^6, 105 \mapsto -\zeta_{24}^5 + \zeta_{24}$	3	24	2	
1	odd Dirichlet character of conductor 221 mapping $171 \mapsto -\zeta_8^2, 105 \mapsto -\zeta_8^3$	3	8	2	
1	odd Dirichlet character of conductor 223 mapping $3 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 224 mapping $127 \mapsto 1,197 \mapsto -\zeta_{24}^3,129 \mapsto \zeta_{24}^4$	3	24	2	
1	even Dirichlet character of conductor 224 mapping $127 \mapsto 1,197 \mapsto -\zeta_{24}^5 + \zeta_{24},129 \mapsto \zeta_{24}^4 - 1$	0	24	2	
1	odd Dirichlet character of conductor 224 mapping $127 \mapsto -1, 197 \mapsto -\zeta_{24}^5 + \zeta_{24}, 129 \mapsto \zeta_{24}^4 - 1$	1	24	2	
1	even Dirichlet character of conductor 224 mapping $127 \mapsto 1,197 \mapsto \zeta_{24}^5 - \zeta_{24},129 \mapsto -\zeta_{24}^4$	0	24	2	
1	odd Dirichlet character of conductor 224 mapping $127 \mapsto -1, 197 \mapsto \zeta_{24}^5 - \zeta_{24}, 129 \mapsto -\zeta_{24}^4$	1	24	2	
1	odd Dirichlet character of conductor 224 mapping $127 \mapsto 1,197 \mapsto \zeta_{24}^3,129 \mapsto -\zeta_{24}^4 + 1$	3	24	2	
1	odd Dirichlet character of conductor 227 mapping $2 \mapsto -1$	1	2	1	
1	odd Dirichlet character of conductor 229 mapping $6 \mapsto \zeta_4$	3	4	1	
1	even Dirichlet character of conductor 232 mapping $175 \mapsto -1, 117 \mapsto -1, 89 \mapsto \zeta_4$	0	4	1	

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 232 mapping $175 \mapsto -1, 117 \mapsto -1, 89 \mapsto -1$	3	2	1	
2	odd Dirichlet character of conductor 232 mapping	1	4	1	X
1	$175 \mapsto 1,117 \mapsto -1,89 \mapsto -\zeta_4$ even Dirichlet character of conductor 236 mapping	2	2	1	
1	$119 \mapsto -1, 61 \mapsto -1$ odd Dirichlet character of conductor 237 mapping	3	78	4	
1	$80 \mapsto -1, 82 \mapsto \zeta_{78}^2$ odd Dirichlet character of conductor 237 mapping	3	78	4	
1	$80 \mapsto -1, 82 \mapsto \zeta_{78}^{10}$ odd Dirichlet character of conductor 237 mapping	3	78	4	
1	$80 \mapsto -1, 82 \mapsto \zeta_{78}^{16}$ even Dirichlet character of conductor 237 mapping	2	2	1	
1	$80 \mapsto -1, 82 \mapsto -1$ odd Dirichlet character of conductor 237 mapping	3	78	4	
1	$80 \mapsto -1, 82 \mapsto -\zeta_{78}^{11}$ even Dirichlet character of conductor 241 mapping	0	2	1	
1	$7 \mapsto -1$ even Dirichlet character of conductor 244 mapping	2	4	1	
1	$123 \mapsto -1, 185 \mapsto \zeta_4$ odd Dirichlet character of conductor 247 mapping	1	12	2	
1	$210 \mapsto \zeta_{12}^3, 40 \mapsto \zeta_{12}^2 - 1$ even Dirichlet character of conductor 247 mapping	2	4	1	
1	$210 \mapsto \zeta_4, 40 \mapsto -1$ even Dirichlet character of conductor 247 mapping	2	4	1	
1	$210 \mapsto -\zeta_4, 40 \mapsto -1$ odd Dirichlet character of conductor 247 mapping	1	12	2	
1	$210 \mapsto \zeta_{12}^3, 40 \mapsto -\zeta_{12}^2$ even Dirichlet character of conductor 248 mapping	0	2	1	
2	$63 \mapsto -1, 125 \mapsto -1, 65 \mapsto -1$ even Dirichlet character of conductor 253 mapping	2	2	1	
1	$24 \mapsto -1, 166 \mapsto -1$ even Dirichlet character of conductor 257 mapping	0	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 257 mapping	2	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 257 mapping	2	4	1	
2	$3 \mapsto -\zeta_4$ odd Dirichlet character of conductor 259 mapping	1	6	2	X
1	$38 \mapsto -\zeta_6 + 1,113 \mapsto \zeta_6$ even Dirichlet character of conductor 259 mapping	2	4	1	
	$38 \mapsto -1,113 \mapsto \zeta_4$				

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
2	odd Dirichlet character of conductor 259 mapping $38 \mapsto \zeta_6, 113 \mapsto -\zeta_6 + 1$	1	6	2	X
1	odd Dirichlet character of conductor 267 mapping $179 \mapsto -1,181 \mapsto \zeta_4$	3	4	1	
2	odd Dirichlet character of conductor 267 mapping	1	4	1	X
3	$179 \mapsto -1, 181 \mapsto -\zeta_4$ odd Dirichlet character of conductor 269 mapping	3	4	1	
2	$2 \mapsto \zeta_4$ odd Dirichlet character of conductor 272 mapping $239 \mapsto -1, 69 \mapsto -\zeta_4, 241 \mapsto \zeta_4$	1	4	1	X
1	odd Dirichlet character of conductor 272 mapping $239 \mapsto -1,69 \mapsto -\zeta_4,241 \mapsto \zeta_4$	3	4	1	
1	even Dirichlet character of conductor 273 mapping $92 \mapsto -1,157 \mapsto \zeta_{12}^2 - 1,106 \mapsto \zeta_{12}^3$	0	12	2	
1	even Dirichlet character of conductor 273 mapping $92 \mapsto -1, 157 \mapsto -\zeta_{12}^2, 106 \mapsto \zeta_{12}^3$	0	12	2	
1	odd Dirichlet character of conductor 273 mapping $92 \mapsto -1, 157 \mapsto \zeta_6 - 1, 106 \mapsto \zeta_6 - 1$	3	6	2	
1	even Dirichlet character of conductor 273 mapping $92 \mapsto -1, 157 \mapsto -\zeta_6 + 1, 106 \mapsto \zeta_6 - 1$	0	6	2	
1	even Dirichlet character of conductor 273 mapping $92 \mapsto -1, 157 \mapsto \zeta_6, 106 \mapsto -\zeta_6$	0	6	2	
1	odd Dirichlet character of conductor 273 mapping	3	6	2	
1	$92 \mapsto -1, 157 \mapsto -\zeta_6, 106 \mapsto -\zeta_6$ odd Dirichlet character of conductor 273 mapping	3	12	2	
1	$92 \mapsto -1,157 \mapsto \zeta_{12}^2, 106 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 273 mapping	2	12	2	
1	$92 \mapsto -1,157 \mapsto \zeta_{12}^2 - 1,106 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 273 mapping	2	12	2	
1	$92 \mapsto -1, 157 \mapsto -\zeta_{12}^2, 106 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 273 mapping	3	12	2	
1	$92 \mapsto -1, 157 \mapsto -\zeta_{12}^2 + 1, 106 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 277 mapping	3	4	1	
1	$5 \mapsto \zeta_4$ odd Dirichlet character of conductor 277 mapping	3	4	1	
1	$5 \mapsto -\zeta_4$ even Dirichlet character of conductor 279 mapping	0	6	2	
2	$218 \mapsto -\zeta_6 + 1, 127 \mapsto \zeta_6$ odd Dirichlet character of conductor 279 mapping	3	6	2	
2	$218 \mapsto \zeta_6 - 1, 127 \mapsto -1$ odd Dirichlet character of conductor 279 mapping	3	6	2	
	$218 \mapsto -\zeta_6, 127 \mapsto -1$				

$\lambda_5(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 279 mapping	0	6	2	
3	$218 \mapsto \zeta_6, 127 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 281 mapping $3 \mapsto \zeta_4$	0	4	1	
1	even Dirichlet character of conductor 281 mapping $3 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 291 mapping $98 \mapsto -1,199 \mapsto \zeta_8$	3	8	2	
1	odd Dirichlet character of conductor 291 mapping $98 \mapsto -1,199 \mapsto -\zeta_8$	3	8	2	
1	even Dirichlet character of conductor 292 mapping $147 \mapsto -1, 5 \mapsto \zeta_{24}^7$	0	24	2	
1	even Dirichlet character of conductor 292 mapping $147 \mapsto -1, 5 \mapsto \zeta_{24}^7 - \zeta_{24}^3$	0	24	2	
1	odd Dirichlet character of conductor 292 mapping $147 \mapsto -1, 5 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 292 mapping $147 \mapsto -1, 5 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 292 mapping $147 \mapsto -1, 5 \mapsto -\zeta_4$	3	4	1	
1	even Dirichlet character of conductor 293 mapping $2\mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 293 mapping $2 \mapsto -\zeta_4$	3	4	1	
2	odd Dirichlet character of conductor 296 mapping $223 \mapsto 1,149 \mapsto -1,113 \mapsto \zeta_4$	1	4	1	
1	even Dirichlet character of conductor 296 mapping $223 \mapsto -1,149 \mapsto -1,113 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 296 mapping $223 \mapsto -1,149 \mapsto -1,113 \mapsto -\zeta_4$	2	4	1	
1	even Dirichlet character of conductor 299 mapping $93 \mapsto \zeta_4, 235 \mapsto -1$	2	4	1	
2	odd Dirichlet character of conductor 299 mapping $93 \mapsto -1,235 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 303 mapping $203 \mapsto -1, 103 \mapsto -1$	1	2	1	
1	even Dirichlet character of conductor 303 mapping $203 \mapsto -1, 103 \mapsto -\zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 304 mapping $191 \mapsto -1,229 \mapsto -\zeta_{12}^3, 97 \mapsto \zeta_{12}^2 - 1$	3	12	2	
1	odd Dirichlet character of conductor 304 mapping $191 \mapsto 1,229 \mapsto \zeta_4,97 \mapsto -1$	3	4	1	

X

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 327 mapping	0	12	2	
1	$110 \mapsto -1, 115 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 328 mapping $247 \mapsto 1, 165 \mapsto -1, 129 \mapsto -1$	0	2	1	
2	even Dirichlet character of conductor 328 mapping	2	4	1	
1	$247 \mapsto 1,165 \mapsto -1,129 \mapsto -\zeta_4$ odd Dirichlet character of conductor 328 mapping	3	4	1	
1	$247 \mapsto -1, 165 \mapsto -1, 129 \mapsto -\zeta_4$ odd Dirichlet character of conductor 333 mapping	1	12	2	
1	$38 \mapsto -\zeta_{12}^2, 298 \mapsto \zeta_{12}$ odd Dirichlet character of conductor 333 mapping	1	12	2	
1	$38 \mapsto \zeta_{12}^2 - 1,298 \mapsto \zeta_{12}^3$ odd Dirichlet character of conductor 333 mapping	1	12	2	
1	$38 \mapsto -\zeta_{12}^2, 298 \mapsto \zeta_{12}^3$ odd Dirichlet character of conductor 333 mapping	1	12	2	
1	$38 \mapsto \zeta_{12}^2 - 1,298 \mapsto \zeta_{12}^3 - \zeta_{12}$ even Dirichlet character of conductor 336 mapping	2	4	1	
2	$127 \mapsto 1,85 \mapsto \zeta_4,113 \mapsto -1,241 \mapsto -1$ odd Dirichlet character of conductor 336 mapping	3	4	1	
1	$127 \mapsto -1,85 \mapsto -\zeta_4,113 \mapsto -1,241 \mapsto -1$ even Dirichlet character of conductor 337 mapping	0	8	2	
1	$10 \mapsto \zeta_8$ even Dirichlet character of conductor 337 mapping	0	24	2	
1	$10 \mapsto -\zeta_{24}$ even Dirichlet character of conductor 337 mapping	0	8	2	
1	$10 \mapsto -\zeta_8$ even Dirichlet character of conductor 337 mapping	0	24	2	
1	$10 \mapsto -\zeta_{24}^{5}$ odd Dirichlet character of conductor 339 mapping	3	2	1	
2	$227 \mapsto -1,229 \mapsto -1$ odd Dirichlet character of conductor 339 mapping	1	4	1	
1	$227 \mapsto -1,229 \mapsto -\zeta_4$ even Dirichlet character of conductor 344 mapping	2	2	1	
1	$87 \mapsto -1, 173 \mapsto -1, 89 \mapsto -1$ odd Dirichlet character of conductor 347 mapping	1	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 349 mapping	1	4	1	
1	$2 \mapsto \zeta_4$ odd Dirichlet character of conductor 356 mapping	3	4	1	
1	$179 \mapsto -1, 181 \mapsto \zeta_4$ odd Dirichlet character of conductor 364 mapping	1	12	2	
	$183 \mapsto -1,157 \mapsto -1,197 \mapsto \zeta_{12}$				

odd Dirichlet character of condu $183 \mapsto -1, 157 \mapsto -1, 197 \mapsto \zeta_4$ even Dirichlet character of condu $183 \mapsto -1, 157 \mapsto -\zeta_6 + 1, 197 \mapsto$ odd Dirichlet character of condu $183 \mapsto -1, 157 \mapsto -1, 197 \mapsto \zeta_{12}^3 -$ odd Dirichlet character of condu $183 \mapsto -1, 157 \mapsto \zeta_{12}^2, 197 \mapsto -\zeta_{12}$	actor 364 mapping $\zeta_6 - 1$ actor 364 mapping ζ_{12} actor 364 mapping ζ_{12}	3 0 1	4 6 12	1 2 2	
even Dirichlet character of condu $183 \mapsto -1, 157 \mapsto -\zeta_6 + 1, 197 \mapsto$ odd Dirichlet character of condu $183 \mapsto -1, 157 \mapsto -1, 197 \mapsto \zeta_{12}^3$ - odd Dirichlet character of condu	$\zeta_6 - 1$ ctor 364 mapping $-\zeta_{12}$ ctor 364 mapping	1	12		
odd Dirichlet character of condu $183 \mapsto -1, 157 \mapsto -1, 197 \mapsto \zeta_{12}^3$ - odd Dirichlet character of condu	ctor 364 mapping $-\zeta_{12}$ ctor 364 mapping			2	
1 odd Dirichlet character of condu	ctor 364 mapping	1			
100 / 1,10 / 7,12,10 / 7			12	2	
even Dirichlet character of condu $183 \mapsto -1, 157 \mapsto \zeta_6, 197 \mapsto -\zeta_6$	ictor 504 mapping	0	6	2	
1 odd Dirichlet character of condu $183 \mapsto -1, 157 \mapsto -\zeta_{12}^2 + 1, 197 \mapsto -\zeta_{12}^2 + 1, 197$		1	12	2	
1 even Dirichlet character of condu $6 \mapsto \zeta_3$		0	3	2	
odd Dirichlet character of condu $6 \mapsto -1$	ctor 367 mapping	3	2	1	
even Dirichlet character of conduction $6 \mapsto -\zeta_3 - 1$	actor 367 mapping	0	3	2	
2 odd Dirichlet character of condu $47 \mapsto 1,277 \mapsto \zeta_4,97 \mapsto -1$	ctor 368 mapping	1	4	1	
1 odd Dirichlet character of condu $83 \mapsto \zeta_{12}^2, 334 \mapsto \zeta_{12}^3$	ctor 369 mapping	1	12	2	
1 odd Dirichlet character of condu $83 \mapsto -\zeta_{12}^2 + 1,334 \mapsto \zeta_{12}^3$	ctor 369 mapping	1	12	2	
1 even Dirichlet character of conduction $213 \mapsto -1, 267 \mapsto \zeta_4$	actor 371 mapping	0	4	1	
even Dirichlet character of conduction $213 \mapsto -1,267 \mapsto \zeta_4$	actor 371 mapping	2	4	1	
1 odd Dirichlet character of condu $2 \mapsto \zeta_4$	ctor 373 mapping	1	4	1	
1 odd Dirichlet character of condu $95 \mapsto 1,189 \mapsto -1,193 \mapsto -1$	ctor 376 mapping	3	2	1	
3 odd Dirichlet character of condu $262 \mapsto -1,118 \mapsto \zeta_4$	ctor 377 mapping	1	4	1	X
2 odd Dirichlet character of condu	ctor 377 mapping	3	4	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	actor 377 mapping	0	12	2	
$ \begin{array}{c} 262 \mapsto -\zeta_{12}, 118 \mapsto \zeta_{12}^{3} \\ \text{even Dirichlet character of condu} \end{array} $	actor 377 mapping	0	12	2	
1 262 \mapsto $-\zeta_{12}^3 + \zeta_{12}, 118 \mapsto \zeta_{12}^3$ even Dirichlet character of condu $262 \mapsto \zeta_6 - 1, 118 \mapsto -1$	actor 377 mapping	0	6	2	

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c } \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 377 mapping	0	6	2	
1	$262 \mapsto -\zeta_6, 118 \mapsto -1$ even Dirichlet character of conductor 377 mapping $262 \mapsto \zeta_4, 118 \mapsto -\zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 377 mapping	3	12	2	
2	$262 \mapsto \zeta_{12}^2 - 1,118 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 377 mapping $262 \mapsto -1,118 \mapsto -\zeta_4$	1	4	1	X
1	odd Dirichlet character of conductor 377 mapping $262 \mapsto -\zeta_{12}^2, 118 \mapsto -\zeta_{12}^3$	3	12	2	
1	even Dirichlet character of conductor 377 mapping $262 \mapsto -\zeta_4, 118 \mapsto -\zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 387 mapping $173 \mapsto \zeta_6, 46 \mapsto \zeta_6 - 1$	3	6	2	
1	odd Dirichlet character of conductor 387 mapping $173 \mapsto -\zeta_6 + 1, 46 \mapsto -\zeta_6$	3	6	2	
1	odd Dirichlet character of conductor 388 mapping	3	4	1	
1	$195 \mapsto -1, 5 \mapsto \zeta_4$ odd Dirichlet character of conductor 388 mapping	3	2	1	
2	$195 \mapsto -1, 5 \mapsto -1$ odd Dirichlet character of conductor 389 mapping	1	4	1	X
1	$2 \mapsto \zeta_4$ odd Dirichlet character of conductor 389 mapping	3	4	1	
1	$2 \mapsto -\zeta_4$ odd Dirichlet character of conductor 391 mapping	1	4	1	
1	$139 \mapsto -\zeta_4, 120 \mapsto -1$ even Dirichlet character of conductor 399 mapping	0	6	2	
1	$134 \mapsto -1, 115 \mapsto -\zeta_6, 211 \mapsto \zeta_6$ even Dirichlet character of conductor 399 mapping	0	6	2	
1	$134 \mapsto -1, 115 \mapsto \zeta_6 - 1, 211 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 401 mapping	0	4	1	
1	$3 \mapsto \zeta_4$ even Dirichlet character of conductor 401 mapping	0	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 403 mapping	2	12	2	
1	$249 \mapsto -\zeta_{12}, 313 \mapsto \zeta_{12}^2$ even Dirichlet character of conductor 403 mapping	2	4	1	
1	$249 \mapsto -\zeta_4, 313 \mapsto -1$ even Dirichlet character of conductor 403 mapping	2	12	2	
2	$249 \mapsto -\zeta_{12}^3 + \zeta_{12}, 313 \mapsto -\zeta_{12}^2 + 1$ even Dirichlet character of conductor 404 mapping	0	4	1	
	$203 \mapsto -1,305 \mapsto -\zeta_4$				

$ \begin{array}{ c c c c }\hline 1 & \text{even Dirichlet character of conductor } 407 \text{ mapping} & 2 & 12 & 2 \\ \hline 112 \mapsto -1, 298 \mapsto \zeta_{12} & \\ \hline 12 & \text{even Dirichlet character of conductor } 407 \text{ mapping} & 2 & 12 & 2 \\ \hline 112 \mapsto -1, 298 \mapsto \zeta_{12}^3 - \zeta_{12} & \\ \hline 2 & \text{even Dirichlet character of conductor } 407 \text{ mapping} & 2 & 4 & 1 \\ \hline 112 \mapsto -1, 298 \mapsto -\zeta_4 & & & & \\ \hline 3 & \text{even Dirichlet character of conductor } 408 \text{ mapping} & 0 & 4 & 1 \\ \hline 103 \mapsto -1, 205 \mapsto -1, 137 \mapsto -1, 241 \mapsto -\zeta_4 & & & \\ \hline 1 & \text{even Dirichlet character of conductor } 408 \text{ mapping} & 2 & 4 & 1 \\ \hline 103 \mapsto -1, 205 \mapsto -1, 137 \mapsto -1, 241 \mapsto -\zeta_4 & & & \\ \hline 1 & \text{even Dirichlet character of conductor } 408 \text{ mapping} & 2 & 4 & 1 \\ \hline 103 \mapsto -1, 205 \mapsto -1, 137 \mapsto -1, 241 \mapsto -\zeta_4 & & \\ \hline 1 & \text{even Dirichlet character of conductor } 409 \text{ mapping} & 2 & 4 & 1 \\ \hline 21 \mapsto \zeta_4 & & & \\ \hline 1 & \text{even Dirichlet character of conductor } 416 \text{ mapping} & 0 & 24 & 2 \\ \hline 287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto \zeta_{24}^4 & & \\ \hline 2 & \text{even Dirichlet character of conductor } 416 \text{ mapping} & 1 & 24 & 2 \\ \hline 287 \mapsto -1, 261 \mapsto \zeta_{24}^2, 353 \mapsto \zeta_{24}^4 & & \\ \hline 1 & \text{odd Dirichlet character of conductor } 416 \text{ mapping} & 0 & 24 & 2 \\ \hline 287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^2 & \\ \hline 2 & \text{even Dirichlet character of conductor } 416 \text{ mapping} & 0 & 24 & 2 \\ \hline 287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^2 & 1 \\ \hline 1 & \text{even Dirichlet character of conductor } 416 \text{ mapping} & 0 & 24 & 2 \\ \hline 287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^2 + 1 \\ \hline 1 & \text{odd Dirichlet character of conductor } 416 \text{ mapping} & 0 & 24 & 2 \\ \hline 287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^2 + 1 \\ \hline 1 & \text{odd Dirichlet character of conductor } 416 \text{ mapping} & 0 & 24 & 2 \\ \hline 287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^2 + 1 \\ \hline 1 & \text{odd Dirichlet character of conductor } 416 \text{ mapping} & 0 & 24 & 2 \\ \hline 287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^4 + 1 \\ \hline 1 & \text{odd Dirichlet character of conductor } 416 \text{ mapping} & 0 & 6 & 2 \\ \hline 1 & \text{even Dirichlet character of conductor } 417 \text{ mapping} & 0 & 6 & 2 \\ \hline 1 & even Dirichlet character of co$	triv.
even Dirichlet character of conductor 407 mapping $112 \mapsto -1, 298 \mapsto \zeta_{12}^3 - \zeta_{12}$ even Dirichlet character of conductor 407 mapping $112 \mapsto -1, 298 \mapsto -\zeta_4$ even Dirichlet character of conductor 408 mapping $112 \mapsto -1, 295 \mapsto -1, 137 \mapsto -1, 241 \mapsto -\zeta_4$ even Dirichlet character of conductor 408 mapping $1103 \mapsto -1, 205 \mapsto -1, 137 \mapsto -1, 241 \mapsto -\zeta_4$ even Dirichlet character of conductor 408 mapping $1103 \mapsto -1, 205 \mapsto -1, 137 \mapsto -1, 241 \mapsto -\zeta_4$ even Dirichlet character of conductor 409 mapping $1103 \mapsto -1, 205 \mapsto -1, 137 \mapsto -1, 241 \mapsto -\zeta_4$ even Dirichlet character of conductor 409 mapping $1103 \mapsto -1, 261 \mapsto \zeta_{24}^3 + 353 \mapsto \zeta_{24}^4$ even Dirichlet character of conductor 416 mapping $1103 \mapsto -1, 261 \mapsto \zeta_{24}^3 + 353 \mapsto \zeta_{24}^4$ even Dirichlet character of conductor 416 mapping $1103 \mapsto -1, 261 \mapsto -\zeta_{24}^5 + \zeta_{24}^5 $	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
1 even Dirichlet character of conductor 408 mapping 2 4 1 $103 \mapsto -1, 205 \mapsto -1, 137 \mapsto -1, 241 \mapsto -\zeta_4$ 1 even Dirichlet character of conductor 409 mapping 2 4 1 $21 \mapsto \zeta_4$ 1 even Dirichlet character of conductor 416 mapping 2 2 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto \zeta_{24}^4$ 1 odd Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto -1, 261 \mapsto \zeta_{24}^3, 353 \mapsto \zeta_{24}^4$ 2 even Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto -1, 261 \mapsto \zeta_{24}^3, 353 \mapsto \zeta_{24}^4$ 2 even Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto 1, 261 \mapsto -\zeta_{24}^5 + \zeta_{24}, 353 \mapsto \zeta_{24}^5$ 2 even Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto 1, 261 \mapsto -\zeta_{24}^3, 353 \mapsto -\zeta_{24}^3$ 2 even Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^5 - \zeta_{24}, 353 \mapsto -\zeta_{24}^5 + 1$ 1 even Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto 1, 261 \mapsto -\zeta_{24}^3, 353 \mapsto -\zeta_{24}^4 + 1$ 1 odd Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto 1, 261 \mapsto -\zeta_{24}^3, 353 \mapsto -\zeta_{24}^4 + 1$ 1 odd Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto 1, 261 \mapsto -\zeta_{24}^3, 353 \mapsto -\zeta_{24}^5 + 1$ 1 odd Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + 1$ 1 odd Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 even Dirichlet character of conductor 416 mapping 2 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^6$ 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{2$	
1 even Dirichlet character of conductor 409 mapping $2 \cup 4 \cup 21 \mapsto \zeta_4$ 1 even Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto 1,261 \mapsto \zeta_{24}^3,353 \mapsto \zeta_{24}^4$ 1 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto \zeta_{24}^3,353 \mapsto \zeta_{24}^4$ 2 even Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto 1,261 \mapsto -\zeta_{24}^5 + \zeta_{24},353 \mapsto \zeta_{24}^4$ 1 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto 1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^2$ 2 even Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto 1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^2 \mapsto 1,261 \mapsto \zeta_{24}^5 - \zeta_{24},353 \mapsto -\zeta_{24}^4 + 1$ 1 even Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto 1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ 1 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto 1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ 1 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ 1 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ 1 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ 1 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ 2 even Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ 2 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ 2 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ 2 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ 2 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^3 + 1$ 2 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^3 + 1$ 2 odd Dirichlet character of conductor 416 mapping $0 \cup 24 \cup 287 \mapsto -1,261 \mapsto -1,261 \mapsto -1,261 \mapsto -1,261 \mapsto -1,$	
$ \begin{array}{ c c c c }\hline 1& & \text{even Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto 1,261 \mapsto \zeta_{24}^3,353 \mapsto \zeta_{24}^4\\ \hline 1& \text{odd Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto -1,261 \mapsto \zeta_{24}^3,353 \mapsto \zeta_{24}^4\\ \hline 2& \text{even Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto 1,261 \mapsto -\zeta_{24}^5 + \zeta_{24},353 \mapsto \zeta_{24}^4\\ \hline 1& \text{odd Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto 1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^2\\ \hline 2& \text{even Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto 1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4+1\\ \hline 1& \text{even Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto 1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4+1\\ \hline 1& \text{odd Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4+1\\ \hline 1& \text{odd Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4+1\\ \hline 1& \text{odd Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4+1\\ \hline 1& \text{odd Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto 1,261 \mapsto \zeta_{24}^3,353 \mapsto -\zeta_{24}^4+\zeta_{24}^2\\ \hline 1& \text{even Dirichlet character of conductor }416 \text{ mapping}\\ 287 \mapsto 1,261 \mapsto \zeta_{24}^3,353 \mapsto -\zeta_{24}^6+\zeta_{24}^2\\ \hline 1& \text{even Dirichlet character of conductor }417 \text{ mapping}\\ 0& 6& 2\\ \hline 140 \mapsto -1,280 \mapsto \zeta_6 \\ \hline \end{array}$	
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
odd Dirichlet character of conductor 416 mapping 1 24 2 $287 \mapsto 1, 261 \mapsto -\zeta_{24}^3, 353 \mapsto -\zeta_{24}^2$ even Dirichlet character of conductor 416 mapping 0 24 2 $287 \mapsto 1, 261 \mapsto \zeta_{24}^5 - \zeta_{24}, 353 \mapsto -\zeta_{24}^4 + 1$ even Dirichlet character of conductor 416 mapping 0 24 2 $287 \mapsto 1, 261 \mapsto -\zeta_{24}^3, 353 \mapsto -\zeta_{24}^4 + 1$ odd Dirichlet character of conductor 416 mapping 0 0 0 0 0 0 0 0 0 0	
$ \begin{array}{ c c c c c c } \hline 2 & \text{even Dirichlet character of conductor } 416 \text{ mapping} & 0 & 24 & 2 \\ \hline 287 \mapsto 1,261 \mapsto \zeta_{24}^5 - \zeta_{24},353 \mapsto -\zeta_{24}^4 + 1 & & & & \\ \hline 1 & \text{even Dirichlet character of conductor } 416 \text{ mapping} & 0 & 24 & 2 \\ \hline 287 \mapsto 1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1 & & & \\ \hline 1 & \text{odd Dirichlet character of conductor } 416 \text{ mapping} & 1 & 24 & 2 \\ \hline 287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1 & & & \\ \hline 1 & \text{odd Dirichlet character of conductor } 416 \text{ mapping} & 1 & 24 & 2 \\ \hline 287 \mapsto 1,261 \mapsto \zeta_{24}^3,353 \mapsto -\zeta_{24}^6 + \zeta_{24}^2 & & \\ \hline 1 & \text{even Dirichlet character of conductor } 417 \text{ mapping} & 0 & 6 & 2 \\ \hline 140 \mapsto -1,280 \mapsto \zeta_6 & & & \\ \hline \end{array} $	
even Dirichlet character of conductor 416 mapping 0 24 2 287 \mapsto 1, 261 \mapsto $-\zeta_{24}^3$, 353 \mapsto $-\zeta_{24}^4$ + 1 2 2 287 \mapsto -1, 261 \mapsto $-\zeta_{24}^3$, 353 \mapsto $-\zeta_{24}^4$ + 1 2 2 287 \mapsto -1, 261 \mapsto $-\zeta_{24}^3$, 353 \mapsto $-\zeta_{24}^4$ + 1 2 2 287 \mapsto 1, 261 \mapsto ζ_{24}^3 , 353 \mapsto $-\zeta_{24}^6$ + ζ_{24}^2 2 2 287 \mapsto 1, 261 \mapsto ζ_{24}^3 , 353 \mapsto $-\zeta_{24}^6$ + ζ_{24}^2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3	
$ \begin{array}{ c c c c c c }\hline 1 & \text{odd Dirichlet character of conductor } 416 \text{ mapping} & 1 & 24 & 2 \\ 287 \mapsto -1, 261 \mapsto -\zeta_{24}^3, 353 \mapsto -\zeta_{24}^4 + 1 & & & & \\ \hline 1 & \text{odd Dirichlet character of conductor } 416 \text{ mapping} & 1 & 24 & 2 \\ 287 \mapsto 1, 261 \mapsto \zeta_{24}^3, 353 \mapsto -\zeta_{24}^6 + \zeta_{24}^2 & & & \\ \hline 1 & \text{even Dirichlet character of conductor } 417 \text{ mapping} & 0 & 6 & 2 \\ 140 \mapsto -1, 280 \mapsto \zeta_6 & & & & \\ \hline \end{array} $	
$ \begin{array}{ c c c c c c c c c }\hline 1 & odd \ Dirichlet \ character \ of \ conductor \ 416 \ mapping & 1 & 24 & 2 \\ \hline 287 \mapsto 1,261 \mapsto \zeta_{24}^3,353 \mapsto -\zeta_{24}^6 + \zeta_{24}^2 & & & & \\ \hline 1 & even \ Dirichlet \ character \ of \ conductor \ 417 \ mapping & 0 & 6 & 2 \\ \hline 140 \mapsto -1,280 \mapsto \zeta_6 & & & & & \\ \hline \end{array} $	
even Dirichlet character of conductor 417 mapping $\begin{vmatrix} 0 & 6 & 2 \\ 140 \mapsto -1,280 \mapsto \zeta_6 & \end{vmatrix}$	
$140 \mapsto -1,280 \mapsto -\zeta_6 + 1$	
1 odd Dirichlet character of conductor 421 mapping 1 4 1 $2 \mapsto \zeta_4$	
1 odd Dirichlet character of conductor 421 mapping $\begin{vmatrix} 2 & + & \zeta_4 \\ 2 & + & \zeta_4 \end{vmatrix}$ 1	
1 odd Dirichlet character of conductor 421 mapping $\begin{vmatrix} 2 & \mapsto & \zeta_4 \\ 2 & \mapsto & -\zeta_4 \end{vmatrix}$ 1	
even Dirichlet character of conductor 424 mapping 0 4 1	
$\begin{bmatrix} 319 \mapsto -1, 213 \mapsto -1, 161 \mapsto \zeta_4 \\ \text{odd Dirichlet character of conductor 427 mapping} \\ 367 \mapsto -\zeta_6 + 1, 246 \mapsto \zeta_6 \end{bmatrix}$	

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$ \operatorname{ord}(\chi) $	f	triv.
1	even Dirichlet character of conductor 427 mapping	2	3	2	
1	$367 \mapsto -\zeta_3 - 1,246 \mapsto \zeta_3$ odd Dirichlet character of conductor 427 mapping $367 \mapsto \zeta_6,246 \mapsto -1$	3	6	2	
1	odd Dirichlet character of conductor 427 mapping	3	6	2	
1	$367 \mapsto -\zeta_6 + 1,246 \mapsto -1$ even Dirichlet character of conductor 427 mapping	2	3	2	
1	$367 \mapsto \zeta_3, 246 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 427 mapping $367 \mapsto -1, 246 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 427 mapping	2	4	1	
1	$367 \mapsto -1,246 \mapsto -\zeta_4$ odd Dirichlet character of conductor 427 mapping $367 \mapsto \zeta_6,246 \mapsto -\zeta_6+1$	1	6	2	
1	even Dirichlet character of conductor 428 mapping $215 \mapsto -1, 109 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 429 mapping	3	4	1	
2	$287 \mapsto -1,79 \mapsto -1,67 \mapsto \zeta_4$ even Dirichlet character of conductor 433 mapping	2	4	1	
2	$5 \mapsto \zeta_4$ even Dirichlet character of conductor 433 mapping	0	2	1	
1	$5 \mapsto -1$ even Dirichlet character of conductor 433 mapping	0	4	1	
1	$5 \mapsto -\zeta_4$ even Dirichlet character of conductor 436 mapping	0	12	2	
1	$219 \mapsto -1,333 \mapsto -\zeta_{12}$ even Dirichlet character of conductor 436 mapping	0	4	1	
2	$219 \mapsto -1,333 \mapsto -\zeta_4$ even Dirichlet character of conductor 436 mapping	2	4	1	
1	$219 \mapsto -1,333 \mapsto -\zeta_4$ even Dirichlet character of conductor 436 mapping	0	12	2	
2	$219 \mapsto -1,333 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 439 mapping	1	2	1	X
1	$15 \mapsto -1$ odd Dirichlet character of conductor 443 mapping	1	2	1	
1	$2 \mapsto -1$ even Dirichlet character of conductor 447 mapping	2	4	1	
1	$299 \mapsto -1,151 \mapsto -\zeta_4$ odd Dirichlet character of conductor 451 mapping	3	4	1	
2	$288 \mapsto -1,375 \mapsto \zeta_4$ odd Dirichlet character of conductor 451 mapping	1	2	1	X
	$288 \mapsto -1,375 \mapsto -1$				

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 451 mapping $288 \mapsto -1,375 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 452 mapping $227 \mapsto -1,229 \mapsto \zeta_4$	3	4	1	
1	odd Dirichlet character of conductor 452 mapping $227 \mapsto -1,229 \mapsto -\zeta_4$	3	4	1	
2	even Dirichlet character of conductor 453 mapping $152 \mapsto -1, 157 \mapsto -1$	0	2	1	
3	even Dirichlet character of conductor 456 mapping $343 \mapsto 1,229 \mapsto -1,305 \mapsto -1,97 \mapsto -1$	0	2	1	
2	odd Dirichlet character of conductor 456 mapping $343\mapsto -1,229\mapsto -1,305\mapsto -1,97\mapsto -1$	1	2	1	X
2	odd Dirichlet character of conductor 457 mapping $13 \mapsto \zeta_{24}^7$	3	24	2	
2	odd Dirichlet character of conductor 457 mapping $13 \mapsto \zeta_{24}^7 - \zeta_{24}^3$	3	24	2	
1	even Dirichlet character of conductor 457 mapping $13 \mapsto -1$	0	2	1	
3	even Dirichlet character of conductor 457 mapping $13 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 457 mapping $13 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 457 mapping $13 \mapsto -\zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 457 mapping $13 \mapsto -\zeta_{24}^7$	1	24	2	
1	odd Dirichlet character of conductor 457 mapping $13 \mapsto -\zeta_{24}^7 + \zeta_{24}^3$	1	24	2	
1	odd Dirichlet character of conductor 461 mapping $2 \mapsto -\zeta_4$	3	4	1	
1	odd Dirichlet character of conductor 463 mapping $3 \mapsto \zeta_6$	3	6	2	
1	even Dirichlet character of conductor 463 mapping $3 \mapsto \zeta_3$	2	3	2	
1	even Dirichlet character of conductor 463 mapping $3 \mapsto -\zeta_3 - 1$	2	3	2	
1	odd Dirichlet character of conductor 463 mapping $3 \mapsto -\zeta_6 + 1$	3	6	2	
1	odd Dirichlet character of conductor 464 mapping 175 \mapsto 1, 117 \mapsto ζ_4 , 321 \mapsto ζ_4	3	4	1	
2	even Dirichlet character of conductor 464 mapping $175\mapsto -1,117\mapsto -\zeta_4,321\mapsto \zeta_4$	0	4	1	

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 464 mapping $175 \mapsto -1, 117 \mapsto \zeta_4, 321 \mapsto -1$	3	4	1	
1	odd Dirichlet character of conductor 464 mapping $175 \mapsto -1, 117 \mapsto -\zeta_4, 321 \mapsto -1$	3	4	1	
1	odd Dirichlet character of conductor 464 mapping $175 \mapsto 1,117 \mapsto \zeta_4,321 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto \zeta_{12}^2,145 \mapsto -\zeta_{12}$	1	12	2	
1	odd Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto \zeta_{12}^2,145 \mapsto -\zeta_{12}^3$	3	12	2	
1	odd Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto -\zeta_{12}^2 + 1,145 \mapsto -\zeta_{12}^3$	3	12	2	
1	odd Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto -\zeta_{12}^2 + 1,145 \mapsto -\zeta_{12}^3 + \zeta_{12}$	1	12	2	
1	even Dirichlet character of conductor 469 mapping $269 \mapsto -1,337 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 471 mapping $158 \mapsto -1,319 \mapsto \zeta_4$	2	4	1	
2	odd Dirichlet character of conductor 471 mapping $158 \mapsto -1,319 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 471 mapping $158 \mapsto -1,319 \mapsto -\zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 472 mapping $119 \mapsto 1,237 \mapsto -1,297 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 473 mapping $431 \mapsto -1,89 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 476 mapping $239 \mapsto -1,409 \mapsto \zeta_{12}^2,309 \mapsto \zeta_{12}^3$	2	12	2	
1	even Dirichlet character of conductor 476 mapping $239 \mapsto -1,409 \mapsto -1,309 \mapsto \zeta_4$	0	4	1	
1	even Dirichlet character of conductor 476 mapping $239 \mapsto -1,409 \mapsto -\zeta_{12}^2 + 1,309 \mapsto \zeta_{12}^3$	2	12	2	
1	odd Dirichlet character of conductor 476 mapping $239 \mapsto -1,409 \mapsto \zeta_{12}^2 - 1,309 \mapsto -\zeta_{12}^3$	3	12	2	
1	even Dirichlet character of conductor 476 mapping $239 \mapsto -1,409 \mapsto -1,309 \mapsto -\zeta_4$	0	4	1	
1	odd Dirichlet character of conductor 476 mapping $239 \mapsto -1,409 \mapsto -\zeta_{12}^2,309 \mapsto -\zeta_{12}^3$	3	12	2	
2	odd Dirichlet character of conductor 479 mapping $13 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 481 mapping $223 \mapsto -1, 261 \mapsto \zeta_4$	1	4	1	

$\lambda_5(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 481 mapping	3	12	2	
1	$223 \mapsto -\zeta_{12}, 261 \mapsto \zeta_{12}^2 - 1$ even Dirichlet character of conductor 481 mapping $223 \mapsto -\zeta_6 + 1, 261 \mapsto \zeta_6 - 1$	0	6	2	
1	odd Dirichlet character of conductor 481 mapping	1	4	1	
1	$223 \mapsto \zeta_4, 261 \mapsto -1$ even Dirichlet character of conductor 481 mapping	0	6	2	
1	$223 \mapsto \zeta_6, 261 \mapsto -\zeta_6$ odd Dirichlet character of conductor 481 mapping $223 \mapsto -\zeta_{12}^3 + \zeta_{12}, 261 \mapsto -\zeta_{12}^2$	3	12	2	
1	odd Dirichlet character of conductor 483 mapping $323 \mapsto -1,346 \mapsto -1,442 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 487 mapping $3 \mapsto \zeta_6$	3	6	2	
1	odd Dirichlet character of conductor 487 mapping $3 \mapsto -\zeta_6 + 1$	3	6	2	
1	odd Dirichlet character of conductor 488 mapping $367 \mapsto -1,245 \mapsto -1,185 \mapsto -1$	1	2	1	
1	odd Dirichlet character of conductor 488 mapping $367 \mapsto 1,245 \mapsto -1,185 \mapsto -\zeta_4$	3	4	1	
1	even Dirichlet character of conductor 489 mapping $164 \mapsto -1,328 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 492 mapping $247 \mapsto -1,329 \mapsto -1,457 \mapsto \zeta_4$	2	4	1	
1	even Dirichlet character of conductor 492 mapping $247 \mapsto -1,329 \mapsto -1,457 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 493 mapping $88 \mapsto -1,205 \mapsto -\zeta_4$	3	4	1	
1	odd Dirichlet character of conductor 493 mapping $88 \mapsto -\zeta_4, 205 \mapsto -\zeta_4$	1	4	1	
2	even Dirichlet character of conductor 496 mapping $63 \mapsto -1,373 \mapsto \zeta_4,65 \mapsto -1$	0	4	1	
1	even Dirichlet character of conductor 497 mapping $143 \mapsto -1,78 \mapsto -1$	0	2	1	
2	odd Dirichlet character of conductor 499 mapping $7 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 501 mapping $335 \mapsto -1,172 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 501 mapping $335 \mapsto -1,172 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 504 mapping $127 \mapsto -1,253 \mapsto -1,281 \mapsto \zeta_6,73 \mapsto \zeta_6$	3	6	2	

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 504 mapping	3	6	2	
2	$127 \mapsto -1,253 \mapsto -1,281 \mapsto -\zeta_6 + 1,73 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 508 mapping	0	2	1	
2	$255 \mapsto -1, 257 \mapsto -1$ even Dirichlet character of conductor 508 mapping $255 \mapsto -1, 257 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 509 mapping $2 \mapsto -1$	0	2	1	
2	even Dirichlet character of conductor 509 mapping $2 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 511 mapping $220 \mapsto -\zeta_{24}^4, 78 \mapsto \zeta_{24}^7$	1	24	2	
1	odd Dirichlet character of conductor 511 mapping $220 \mapsto -\zeta_{24}^4, 78 \mapsto \zeta_{24}^7$	3	24	2	
1	odd Dirichlet character of conductor 511 mapping $220 \mapsto \zeta_{24}^4 - 1,78 \mapsto \zeta_{24}^7 - \zeta_{24}^3$	1	24	2	
1	odd Dirichlet character of conductor 511 mapping $220 \mapsto \zeta_{24}^4 - 1,78 \mapsto \zeta_{24}^7 - \zeta_{24}^3$	3	24	2	
2	even Dirichlet character of conductor 511 mapping $220 \mapsto \zeta_6 - 1,78 \mapsto -1$	2	6	2	
2	even Dirichlet character of conductor 511 mapping $220 \mapsto -\zeta_6, 78 \mapsto -1$	2	6	2	
1	odd Dirichlet character of conductor 511 mapping $220 \mapsto -\zeta_{12}^2 + 1,78 \mapsto -\zeta_{12}$	1	12	2	
1	odd Dirichlet character of conductor 511 mapping $220 \mapsto \zeta_{12}^2, 78 \mapsto -\zeta_{12}^3$	1	12	2	
1	odd Dirichlet character of conductor 511 mapping $220 \mapsto -\zeta_{12}^2 + 1,78 \mapsto -\zeta_{12}^3$	1	12	2	
1	odd Dirichlet character of conductor 511 mapping $220 \mapsto \zeta_{12}^2, 78 \mapsto -\zeta_{12}^3 + \zeta_{12}$	1	12	2	
1	even Dirichlet character of conductor 519 mapping $347\mapsto -1,175\mapsto \zeta_4$	0	4	1	
3	odd Dirichlet character of conductor 519 mapping $347 \mapsto -1, 175 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 521 mapping $3 \mapsto \zeta_8$	3	8	2	
1	even Dirichlet character of conductor 521 mapping $3 \mapsto \zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 521 mapping $3 \mapsto -\zeta_8$	3	8	2	
2	odd Dirichlet character of conductor 523 mapping $2\mapsto -1$	1	2	1	

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 527 mapping	3	24	2	
1	$156 \mapsto -\zeta_{24}^5 + \zeta_{24}, 375 \mapsto \zeta_{24}^4$ odd Dirichlet character of conductor 527 mapping	1	4	1	
1	$156 \mapsto \zeta_4, 375 \mapsto -1$ odd Dirichlet character of conductor 527 mapping $156 \mapsto \zeta_{24}^5 - \zeta_{24}, 375 \mapsto -\zeta_{24}^4 + 1$	3	24	2	
1	odd Dirichlet character of conductor 528 mapping	1	4	1	
1	$463 \mapsto -1, 133 \mapsto -\zeta_4, 353 \mapsto -1, 145 \mapsto -1$ even Dirichlet character of conductor 532 mapping $267 \mapsto -1, 381 \mapsto \zeta_6 = 1, 477 \mapsto \zeta_6$	2	6	2	
1	even Dirichlet character of conductor 532 mapping	2	6	2	
1	$267 \mapsto -1,381 \mapsto -\zeta_6,477 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 533 mapping $288 \mapsto -1,170 \mapsto \zeta_4$	2	4	1	
1	even Dirichlet character of conductor 533 mapping $288 \mapsto \zeta_8^2, 170 \mapsto \zeta_8^3$	2	8	2	
2	odd Dirichlet character of conductor 533 mapping $288 \mapsto -\zeta_4, 170 \mapsto -1$	1	4	1	
2	odd Dirichlet character of conductor 533 mapping $288 \mapsto -\zeta_4, 170 \mapsto -1$	3	4	1	
1	odd Dirichlet character of conductor 533 mapping $288 \mapsto \zeta_{12}, 170 \mapsto -\zeta_{12}^3$	3	12	2	
1	odd Dirichlet character of conductor 533 mapping	3	4	1	
1	$288 \mapsto \zeta_4, 170 \mapsto -\zeta_4$ odd Dirichlet character of conductor 533 mapping $288 \mapsto \zeta_{12}^3 - \zeta_{12}, 170 \mapsto -\zeta_{12}^3$	3	12	2	
1	odd Dirichlet character of conductor 533 mapping $288 \mapsto -\zeta_4, 170 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 533 mapping $288 \mapsto -\zeta_4, 170 \mapsto -\zeta_4$	3	4	1	
1	even Dirichlet character of conductor 533 mapping $288 \mapsto \zeta_8^2, 170 \mapsto -\zeta_8^3$	2	8	2	
1	even Dirichlet character of conductor 536 mapping	0	2	1	
1	$135 \mapsto -1,269 \mapsto -1,337 \mapsto -1$ even Dirichlet character of conductor 537 mapping	0	2	1	
1	$359 \mapsto -1,181 \mapsto -1$ even Dirichlet character of conductor 541 mapping	0	2	1	
2	$2 \mapsto -1$ odd Dirichlet character of conductor 541 mapping	1	4	1	X
1	$2 \mapsto -\zeta_4$ even Dirichlet character of conductor 543 mapping $182 \mapsto -1,364 \mapsto -\zeta_4$	2	4	1	

$\lambda_5(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 544 mapping	2	8	2	
1	$511 \mapsto 1,69 \mapsto \zeta_8,513 \mapsto \zeta_8^2$ odd Dirichlet character of conductor 544 mapping $511 \mapsto -1,69 \mapsto \zeta_8^3,513 \mapsto \zeta_8^2$	3	8	2	
1	even Dirichlet character of conductor 544 mapping $511 \mapsto 1,69 \mapsto -\zeta_8,513 \mapsto \zeta_8^2$	2	8	2	
1	odd Dirichlet character of conductor 544 mapping	3	8	2	
1	$511 \mapsto -1,69 \mapsto -\zeta_8^3, 513 \mapsto \zeta_8^2$ even Dirichlet character of conductor 544 mapping $511 \mapsto 1,69 \mapsto \zeta_8^3,513 \mapsto -1$	2	8	2	
1	odd Dirichlet character of conductor 544 mapping $511 \mapsto -1,69 \mapsto \zeta_8^3,513 \mapsto -1$	1	8	2	
1	even Dirichlet character of conductor 544 mapping $511 \mapsto 1,69 \mapsto -\zeta_8^3,513 \mapsto -1$	2	8	2	
1	odd Dirichlet character of conductor 544 mapping $511 \mapsto -1,69 \mapsto -\zeta_8^3,513 \mapsto -1$	1	8	2	
1	even Dirichlet character of conductor 551 mapping	0	4	1	
1	$59 \mapsto -1,495 \mapsto \zeta_4$ even Dirichlet character of conductor 556 mapping	0	2	1	
1	$279 \mapsto -1,141 \mapsto -1$ odd Dirichlet character of conductor 557 mapping	3	4	1	
1	$2 \mapsto \zeta_4$ odd Dirichlet character of conductor 559 mapping	3	12	2	
1	$431 \mapsto -\zeta_{12}^3 + \zeta_{12}, 261 \mapsto \zeta_{12}^2 - 1$ even Dirichlet character of conductor 559 mapping	0	4	1	
1	$431 \mapsto -\zeta_4, 261 \mapsto -1$ odd Dirichlet character of conductor 559 mapping	3	12	2	
1	$431 \mapsto -\zeta_{12}, 261 \mapsto -\zeta_{12}^2$ even Dirichlet character of conductor 561 mapping	2	4	1	
1	$188 \mapsto -1,409 \mapsto -1,496 \mapsto \zeta_4$ even Dirichlet character of conductor 569 mapping	0	4	1	
1	$3 \mapsto -\zeta_4$ odd Dirichlet character of conductor 571 mapping	3	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 572 mapping	0	2	1	
3	$287 \mapsto -1,365 \mapsto -1,353 \mapsto -1$ odd Dirichlet character of conductor 572 mapping	1	4	1	
1	$287 \mapsto -1,365 \mapsto -1,353 \mapsto -\zeta_4$ even Dirichlet character of conductor 577 mapping	2	24	2	
1	$5 \mapsto \zeta_{24}$ even Dirichlet character of conductor 577 mapping	2	24	2	
	$5 \mapsto \zeta_{24}^5$				

$\lambda_5(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 577 mapping	0	3	2	
1	$5\mapsto \zeta_3$ even Dirichlet character of conductor 577 mapping $5\mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 577 mapping	0	3	2	
1	$5 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 577 mapping	2	24	2	
1	$5 \mapsto -\zeta_{24}^7$ even Dirichlet character of conductor 577 mapping	2	24	2	
1	$5 \mapsto -\zeta_{24}^7 + \zeta_{24}^3$ odd Dirichlet character of conductor 579 mapping	3	24	2	
1	$194 \mapsto -1,391 \mapsto -\zeta_{24}$ odd Dirichlet character of conductor 579 mapping	3	24	2	
1	$194 \mapsto -1,391 \mapsto -\zeta_{24}^{5}$ odd Dirichlet character of conductor 579 mapping	1	4	1	
1	$194 \mapsto -1,391 \mapsto -\zeta_4$ odd Dirichlet character of conductor 579 mapping	3	4	1	
1	$194 \mapsto -1,391 \mapsto -\zeta_4$ even Dirichlet character of conductor 581 mapping	0	6	2	
2	$416 \mapsto \zeta_6, 85 \mapsto -1$ even Dirichlet character of conductor 581 mapping	0	2	1	
1	$416 \mapsto -1,85 \mapsto -1$ even Dirichlet character of conductor 581 mapping	2	2	1	
1	$416 \mapsto -1,85 \mapsto -1$ even Dirichlet character of conductor 581 mapping	0	6	2	
1	$416 \mapsto -\zeta_6 + 1,85 \mapsto -1$ even Dirichlet character of conductor 583 mapping	0	4	1	
1	$266 \mapsto -1,320 \mapsto \zeta_4$ even Dirichlet character of conductor 583 mapping $266 \mapsto -1,320 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 584 mapping $439 \mapsto 1,293 \mapsto -1,297 \mapsto \zeta_4$	2	4	1	
1	$439 \mapsto 1,293 \mapsto -1,297 \mapsto \zeta_4$ even Dirichlet character of conductor 584 mapping $439 \mapsto 1,293 \mapsto -1,297 \mapsto -\zeta_4$	2	4	1	
1	$439 \mapsto 1,293 \mapsto -1,297 \mapsto -\zeta_4$ even Dirichlet character of conductor 584 mapping $439 \mapsto -1,293 \mapsto -1,297 \mapsto -\zeta_{24}^{7}$	2	24	2	
1	even Dirichlet character of conductor 584 mapping	2	24	2	
1	$439 \mapsto -1,293 \mapsto -1,297 \mapsto -\zeta_{24}^7 + \zeta_{24}^3$ even Dirichlet character of conductor 589 mapping	0	2	1	
1	$249 \mapsto -1,96 \mapsto -1$ even Dirichlet character of conductor 591 mapping	0	4	1	
	$395 \mapsto -1,199 \mapsto \zeta_4$				

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{i} \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 592 mapping $223 \mapsto -1, 149 \mapsto \zeta_4, 113 \mapsto \zeta_4$	2	4	1	
1	even Dirichlet character of conductor 592 mapping $223 \mapsto -1,149 \mapsto -\zeta_4,113 \mapsto \zeta_4$	0	4	1	
2	even Dirichlet character of conductor 592 mapping $223 \mapsto 1,149 \mapsto \zeta_{12}^3,113 \mapsto \zeta_{12}^2 - 1$	0	12	2	
4	even Dirichlet character of conductor 592 mapping $223 \mapsto 1,149 \mapsto \zeta_4,113 \mapsto -1$	2	4	1	
2	even Dirichlet character of conductor 592 mapping $223 \mapsto 1,149 \mapsto \zeta_{12}^3,113 \mapsto -\zeta_{12}^2$	0	12	2	
1	even Dirichlet character of conductor 592 mapping $223 \mapsto -1, 149 \mapsto \zeta_4, 113 \mapsto -\zeta_4$	2	4	1	
4	odd Dirichlet character of conductor 592 mapping $223 \mapsto 1,149 \mapsto -\zeta_4,113 \mapsto -\zeta_4$	3	4	1	
1	even Dirichlet character of conductor 592 mapping $223 \mapsto -1, 149 \mapsto -\zeta_4, 113 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 593 mapping $3 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 596 mapping $299 \mapsto -1,449 \mapsto \zeta_4$	2	4	1	
2	even Dirichlet character of conductor 597 mapping $200 \mapsto -1,202 \mapsto -1$	0	2	1	
3	odd Dirichlet character of conductor 599 mapping $7 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 603 mapping $470 \mapsto -\zeta_6 + 1,136 \mapsto \zeta_6 - 1$	1	6	2	
1	odd Dirichlet character of conductor 603 mapping $470 \mapsto -\zeta_6 + 1,136 \mapsto \zeta_6 - 1$	3	6	2	
1	odd Dirichlet character of conductor 603 mapping $470 \mapsto \zeta_6, 136 \mapsto -\zeta_6$	1	6	2	
1	odd Dirichlet character of conductor 603 mapping $470 \mapsto \zeta_6, 136 \mapsto -\zeta_6$	3	6	2	
1	odd Dirichlet character of conductor 608 mapping $191 \mapsto -1,229 \mapsto \zeta_{24}^3,97 \mapsto \zeta_{24}^4 - 1$	3	24	2	
1	odd Dirichlet character of conductor 608 mapping $191 \mapsto -1,229 \mapsto -\zeta_{24}^3, 97 \mapsto -\zeta_{24}^4$	3	24	2	
1	even Dirichlet character of conductor 609 mapping $407 \mapsto -1,262 \mapsto \zeta_6,379 \mapsto -1$	0	6	2	
1	odd Dirichlet character of conductor 609 mapping $407 \mapsto -1,262 \mapsto \zeta_6 - 1,379 \mapsto -1$	3	6	2	
1	odd Dirichlet character of conductor 609 mapping $407 \mapsto -1,262 \mapsto -\zeta_6,379 \mapsto -1$	3	6	2	

	i twist	$\operatorname{ord}(\chi)$	f	triv. zero
en Dirichlet character of conductor 609 mapping $7 \mapsto -1.262 \mapsto -\ell_c + 1.379 \mapsto -1$	0	6	2	
d Dirichlet character of conductor 611 mapping	1	2	1	X
en Dirichlet character of conductor 611 mapping	2	4	1	
d Dirichlet character of conductor 613 mapping	1	4	1	
en Dirichlet character of conductor 617 mapping	0	2	1	
en Dirichlet character of conductor 617 mapping	2	4	1	
d Dirichlet character of conductor 623 mapping	3	12	2	
d Dirichlet character of conductor 623 mapping	1	4	1	X
d Dirichlet character of conductor 623 mapping	3	12	2	
d Dirichlet character of conductor 624 mapping	1	12	2	
en Dirichlet character of conductor 624 mapping	2	12	2	
d Dirichlet character of conductor 624 mapping	1	4	1	
en Dirichlet character of conductor 624 mapping	0	4	1	
en Dirichlet character of conductor 624 mapping	2	4	1	
en Dirichlet character of conductor 624 mapping	0	4	1	
en Dirichlet character of conductor 624 mapping	0	4	1	
en Dirichlet character of conductor 624 mapping	2	4	1	
d Dirichlet character of conductor 624 mapping	1	12	2	
en Dirichlet character of conductor 624 mapping	2	12	2	
d Dirichlet character of conductor 627 mapping	3	2	1	
en Dirichlet character of conductor 628 mapping	0	4	1	
	d Dirichlet character of conductor 611 mapping $6\mapsto -1,287\mapsto -1$ en Dirichlet character of conductor 611 mapping $6\mapsto -1,287\mapsto -1$ en Dirichlet character of conductor 613 mapping $6\mapsto -\zeta_4,287\mapsto -1$ d Dirichlet character of conductor 613 mapping $0\mapsto -\zeta_4$ en Dirichlet character of conductor 617 mapping $0\mapsto -1$ en Dirichlet character of conductor 617 mapping $0\mapsto -1$ en Dirichlet character of conductor 623 mapping $0\mapsto -1$ en Dirichlet character of conductor 623 mapping $0\mapsto -1$ en Dirichlet character of conductor 623 mapping $0\mapsto -1, 10\mapsto 0\mapsto 0$	The proof of the conductor of the proof of the conductor	The proof of the	$\begin{array}{c} 7 \mapsto -1, 262 \mapsto -\zeta_6 + 1, 379 \mapsto -1 \\ \text{d Dirichlet character of conductor } 611 \text{ mapping} \\ 5 \mapsto -1, 287 \mapsto -1 \\ \text{d Dirichlet character of conductor } 613 \text{ mapping} \\ 5 \mapsto -\zeta_4, 287 \mapsto -1 \\ \text{d Dirichlet character of conductor } 613 \text{ mapping} \\ \rightarrow -\zeta_4 \\ \text{en Dirichlet character of conductor } 617 \text{ mapping} \\ \rightarrow -1 \\ \text{en Dirichlet character of conductor } 617 \text{ mapping} \\ \rightarrow -\zeta_4 \\ \text{d Dirichlet character of conductor } 623 \text{ mapping} \\ \rightarrow -\zeta_4 \\ \text{d Dirichlet character of conductor } 623 \text{ mapping} \\ 5 \mapsto \zeta_{12}^2, 92 \mapsto \zeta_{12}^3 \\ \text{d Dirichlet character of conductor } 623 \text{ mapping} \\ 5 \mapsto -1, 92 \mapsto \zeta_4 \\ \text{d Dirichlet character of conductor } 623 \text{ mapping} \\ 5 \mapsto -\zeta_{12}^2, 1, 92 \mapsto \zeta_{12}^3 \\ \text{d Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto 1, 469 \mapsto \zeta_{12}^3, 209 \mapsto -1, 145 \mapsto \zeta_{12}^2 \\ \text{en Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto -1, 469 \mapsto -\zeta_{12}, 209 \mapsto -1, 145 \mapsto \zeta_{12}^2 \\ \text{d Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto -1, 469 \mapsto -\zeta_{12}, 209 \mapsto -1, 145 \mapsto \zeta_{12}^2 \\ \text{d Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto -1, 469 \mapsto -\zeta_4, 209 \mapsto -1, 145 \mapsto -1 \\ \text{en Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto 1, 469 \mapsto -\zeta_4, 209 \mapsto -1, 145 \mapsto -1 \\ \text{en Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto 1, 469 \mapsto -\zeta_4, 209 \mapsto -1, 145 \mapsto -\zeta_4 \\ \text{en Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto 1, 469 \mapsto -\zeta_4, 209 \mapsto -1, 145 \mapsto -\zeta_4 \\ \text{en Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto 1, 469 \mapsto -\zeta_4, 209 \mapsto -1, 145 \mapsto -\zeta_4 \\ \text{en Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto 1, 469 \mapsto -\zeta_4, 209 \mapsto -1, 145 \mapsto -\zeta_4 \\ \text{en Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto 1, 469 \mapsto -\zeta_{12}, 209 \mapsto -1, 145 \mapsto -\zeta_{12} + 1 \\ \text{en Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto 1, 469 \mapsto -\zeta_{12}, 209 \mapsto -1, 145 \mapsto -\zeta_{12} + 1 \\ \text{en Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto 1, 469 \mapsto -\zeta_{12}, 209 \mapsto -1, 145 \mapsto -\zeta_{12} + 1 \\ \text{en Dirichlet character of conductor } 624 \text{ mapping} \\ \mapsto 1, 469 \mapsto -\zeta_{13}, 209 \mapsto -1, 145 \mapsto -\zeta_{12} + 1 \\ $

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 629 mapping $445 \mapsto -\zeta_{24}^5 + \zeta_{24}, 409 \mapsto \zeta_{24}^2$	1	24	2	
1	odd Dirichlet character of conductor 629 mapping	3	4	1	
1	$445 \mapsto -1,409 \mapsto \zeta_4$ odd Dirichlet character of conductor 629 mapping	1	24	2	
1	$445 \mapsto \zeta_{24}^5 - \zeta_{24}, 409 \mapsto \zeta_{24}^6 - \zeta_{24}^6$ even Dirichlet character of conductor 629 mapping	0	4	1	
1	$445 \mapsto \zeta_4, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $445 \mapsto -1, 409 \mapsto -1$	0	2	1	
2	even Dirichlet character of conductor 629 mapping $445 \mapsto -1,409 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_{12}^3, 409 \mapsto -\zeta_{12}$	3	12	2	
4	odd Dirichlet character of conductor 629 mapping $445 \mapsto -\zeta_4, 409 \mapsto -\zeta_4$	1	4	1	X
1	odd Dirichlet character of conductor 629 mapping	3	12	2	
3	$445 \mapsto \zeta_{12}^3, 409 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 631 mapping $3 \mapsto -1$	3	2	1	
3	even Dirichlet character of conductor 633 mapping $212 \mapsto -1,424 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 636 mapping $319 \mapsto -1,425 \mapsto -1,373 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 641 mapping $3 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 641 mapping $3 \mapsto -\zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 643 mapping $11 \mapsto -1$	3	2	1	
2	odd Dirichlet character of conductor 651 mapping $218 \mapsto -1, 94 \mapsto -1, 127 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 651 mapping $218 \mapsto -1,94 \mapsto -1,127 \mapsto -1$	3	2	1	
3	odd Dirichlet character of conductor 653 mapping $2 \mapsto \zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 653 mapping $2 \mapsto -\zeta_4$	1	4	1	
2	odd Dirichlet character of conductor 656 mapping $575 \mapsto -1, 165 \mapsto \zeta_4, 129 \mapsto \zeta_4$	1	4	1	
1	even Dirichlet character of conductor 656 mapping	0	4	1	
	$575 \mapsto 1,165 \mapsto -\zeta_4,129 \mapsto \zeta_4$			-	

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 656 mapping	3	4	1	
1	$575 \mapsto -1, 165 \mapsto -\zeta_4, 129 \mapsto \zeta_4$ odd Dirichlet character of conductor 656 mapping	1	4	1	
1	$575 \mapsto -1, 165 \mapsto -\zeta_4, 129 \mapsto -1$ odd Dirichlet character of conductor 656 mapping	3	4	1	
1	$575 \mapsto -1, 165 \mapsto -\zeta_4, 129 \mapsto -1$ odd Dirichlet character of conductor 657 mapping $74 \mapsto \zeta_{24}^4 - 1, 370 \mapsto \zeta_{24}^3$	3	24	2	
1	even Dirichlet character of conductor 657 mapping $74 \mapsto -\zeta_{24}^4 + 1,370 \mapsto \zeta_{24}^3$	2	24	2	
1	odd Dirichlet character of conductor 657 mapping $74 \mapsto -\zeta_6 + 1,370 \mapsto \zeta_6$	1	6	2	
1	even Dirichlet character of conductor 657 mapping $74 \mapsto \zeta_{12}^2 - 1,370 \mapsto \zeta_{12}^3$	0	12	2	
1	even Dirichlet character of conductor 657 mapping $74 \mapsto -\zeta_{12}^2, 370 \mapsto \zeta_{12}^3$	0	12	2	
1	even Dirichlet character of conductor 657 mapping $74 \mapsto \zeta_{24}^4, 370 \mapsto \zeta_{24}^7$	2	24	2	
1	odd Dirichlet character of conductor 657 mapping $74 \mapsto \zeta_{24}^4 - 1,370 \mapsto \zeta_{24}^5 - \zeta_{24}$	1	24	2	
1	even Dirichlet character of conductor 657 mapping $74 \mapsto -\zeta_{24}^4 + 1,370 \mapsto \zeta_{24}^7 - \zeta_{24}^3$	2	24	2	
1	even Dirichlet character of conductor 657 mapping $74 \mapsto \zeta_{24}^4, 370 \mapsto -\zeta_{24}^3$	2	24	2	
1	odd Dirichlet character of conductor 657 mapping $74 \mapsto -\zeta_{24}^4, 370 \mapsto -\zeta_{24}^3$	3	24	2	
1	odd Dirichlet character of conductor 657 mapping $74 \mapsto \zeta_6, 370 \mapsto -\zeta_6 + 1$	1	6	2	
1	odd Dirichlet character of conductor 657 mapping $74 \mapsto -\zeta_{24}^4, 370 \mapsto -\zeta_{24}^5 + \zeta_{24}$	1	24	2	
1	even Dirichlet character of conductor 661 mapping $2 \mapsto \zeta_6$	0	6	2	
1	even Dirichlet character of conductor 661 mapping $2 \mapsto -\zeta_6 + 1$	0	6	2	
1	even Dirichlet character of conductor 663 mapping $443 \mapsto -1,613 \mapsto -\zeta_8^2,547 \mapsto \zeta_8^3$	2	8	2	
1	even Dirichlet character of conductor 663 mapping $443 \mapsto -1,613 \mapsto -\zeta_{24}^6 + \zeta_{24}^2,547 \mapsto \zeta_{24}^5 - \zeta_{24}$	2	24	2	
1	odd Dirichlet character of conductor 663 mapping $443 \mapsto -1,613 \mapsto -1,547 \mapsto -\zeta_4$	3	4	1	
1	even Dirichlet character of conductor 663 mapping $443 \mapsto -1,613 \mapsto -\zeta_4,547 \mapsto -\zeta_4$	0	4	1	

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 663 mapping $443 \mapsto -1,613 \mapsto -\zeta_{24}^2,547 \mapsto -\zeta_{24}^5 + \zeta_{24}$	2	24	2	
1	even Dirichlet character of conductor 663 mapping $443 \mapsto -1,613 \mapsto -\zeta_8^2,547 \mapsto -\zeta_8^3$	2	8	2	
3	odd Dirichlet character of conductor 664 mapping $167 \mapsto 1,333 \mapsto -1,417 \mapsto -1$	1	2	1	X
2	odd Dirichlet character of conductor 664 mapping $167 \mapsto 1,333 \mapsto -1,417 \mapsto -1$	3	2	1	
2	even Dirichlet character of conductor 667 mapping $465 \mapsto -1,553 \mapsto -\zeta_4$	2	4	1	
1	even Dirichlet character of conductor 671 mapping $123 \mapsto -1,551 \mapsto \zeta_4$	0	4	1	
1	even Dirichlet character of conductor 672 mapping $127 \mapsto -1,421 \mapsto -\zeta_{24}^3,449 \mapsto -1,577 \mapsto \zeta_{24}^4 - 1$	0	24	2	
1	even Dirichlet character of conductor 672 mapping $127 \mapsto -1,421 \mapsto \zeta_{24}^3,449 \mapsto -1,577 \mapsto -\zeta_{24}^4$	0	24	2	
1	even Dirichlet character of conductor 673 mapping $5 \mapsto \zeta_6$	0	6	2	
1	even Dirichlet character of conductor 673 mapping $5 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 673 mapping $5 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 673 mapping $5 \mapsto -\zeta_4$	2	4	1	
1	even Dirichlet character of conductor 673 mapping $5 \mapsto -\zeta_6 + 1$	0	6	2	
1	even Dirichlet character of conductor 676 mapping $339 \mapsto -1,509 \mapsto -\zeta_{52}^3$	2	52	4	
1	even Dirichlet character of conductor 676 mapping $339 \mapsto -1,509 \mapsto -\zeta_{52}^{11}$	2	52	4	
1	even Dirichlet character of conductor 676 mapping $339 \mapsto -1,509 \mapsto -\zeta_{52}^{15}$	2	52	4	
1	even Dirichlet character of conductor 676 mapping $339 \mapsto -1,509 \mapsto -\zeta_{52}^{23}$	2	52	4	
1	odd Dirichlet character of conductor 677 mapping $2 \mapsto \zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 677 mapping $2 \mapsto -\zeta_4$	1	4	1	
1	even Dirichlet character of conductor 679 mapping $486 \mapsto -\zeta_{12}^2, 393 \mapsto \zeta_{12}$	2	12	2	
2	odd Dirichlet character of conductor 679 mapping $486 \mapsto -1,393 \mapsto \zeta_4$	3	4	1	

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 679 mapping	2	12	2	
1	$486 \mapsto \zeta_{12}^2 - 1,393 \mapsto \zeta_{12}^3 - \zeta_{12}$ odd Dirichlet character of conductor 679 mapping $486 \mapsto -1,393 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 679 mapping $486 \mapsto \zeta_{24}^4 - 1{,}393 \mapsto -\zeta_{24}^7$	0	24	2	
1	even Dirichlet character of conductor 679 mapping	0	24	2	
1	$486 \mapsto -\zeta_{24}^4, 393 \mapsto -\zeta_{24}^7 + \zeta_{24}^3$ even Dirichlet character of conductor 681 mapping $455 \mapsto -1, 229 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 683 mapping $5 \mapsto -1$	1	2	1	
1	even Dirichlet character of conductor 687 mapping $230 \mapsto -1,235 \mapsto \zeta_{12}$	2	12	2	
1	even Dirichlet character of conductor 687 mapping $230 \mapsto -1,235 \mapsto \zeta_{12}^3 - \zeta_{12}$	2	12	2	
1	even Dirichlet character of conductor 688 mapping $431 \mapsto -1,517 \mapsto \zeta_4,433 \mapsto -1$	2	4	1	
1	odd Dirichlet character of conductor 688 mapping $431 \mapsto 1,517 \mapsto -\zeta_4,433 \mapsto -1$	1	4	1	
2	even Dirichlet character of conductor 688 mapping $431 \mapsto -1,517 \mapsto -\zeta_4,433 \mapsto -1$	2	4	1	
1	even Dirichlet character of conductor 689 mapping $54 \mapsto -\zeta_4, 638 \mapsto \zeta_4$	2	4	1	
1	even Dirichlet character of conductor 689 mapping $54 \mapsto -1,638 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 689 mapping	0	4	1	
1	$54 \mapsto \zeta_4, 638 \mapsto -\zeta_4$ odd Dirichlet character of conductor 689 mapping $54 \mapsto \zeta_{12}^2 - 1, 638 \mapsto -\zeta_{12}^3$	1	12	2	
1	odd Dirichlet character of conductor 689 mapping	1	12	2	
1	$54 \mapsto -\zeta_{12}^2, 638 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 689 mapping	2	4	1	
1	$54 \mapsto -\zeta_4, 638 \mapsto -\zeta_4$ even Dirichlet character of conductor 692 mapping	0	4	1	
1	$347 \mapsto -1,521 \mapsto \zeta_4$ even Dirichlet character of conductor 696 mapping	0	4	1	
1	$175 \mapsto 1,349 \mapsto -1,233 \mapsto -1,553 \mapsto \zeta_4$ odd Dirichlet character of conductor 696 mapping	1	4	1	
2	$175 \mapsto -1,349 \mapsto -1,233 \mapsto -1,553 \mapsto \zeta_4$ even Dirichlet character of conductor 696 mapping	0	4	1	
	$175 \mapsto 1,349 \mapsto -1,233 \mapsto -1,553 \mapsto -\zeta_4$				

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{i} \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 697 mapping	2	4	1	
1	$411 \mapsto -1,375 \mapsto \zeta_4$ odd Dirichlet character of conductor 697 mapping $411 \mapsto -\zeta_8,375 \mapsto \zeta_8^3$	1	8	2	
1	odd Dirichlet character of conductor 697 mapping $411 \mapsto \zeta_8, 375 \mapsto -\zeta_8^3$	1	8	2	
1	odd Dirichlet character of conductor 699 mapping $467 \mapsto -1,469 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 701 mapping $2 \mapsto \zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 701 mapping $2 \mapsto -\zeta_4$	3	4	1	
1	even Dirichlet character of conductor 703 mapping $667 \mapsto -1, 39 \mapsto \zeta_4$	2	4	1	
1	even Dirichlet character of conductor 703 mapping $667 \mapsto -\zeta_3 - 1,39 \mapsto \zeta_3$	2	3	2	
1	even Dirichlet character of conductor 703 mapping $667 \mapsto \zeta_6 - 1,39 \mapsto -1$	0	6	2	
1	odd Dirichlet character of conductor 703 mapping $667 \mapsto -1,39 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 703 mapping $667 \mapsto -\zeta_6, 39 \mapsto -1$	0	6	2	
1	even Dirichlet character of conductor 703 mapping $667 \mapsto \zeta_3, 39 \mapsto -\zeta_3 - 1$	2	3	2	
2	even Dirichlet character of conductor 707 mapping $304 \mapsto -1,204 \mapsto \zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 711 mapping $317 \mapsto -\zeta_6 + 1, 82 \mapsto \zeta_6 - 1$	1	6	2	
1	odd Dirichlet character of conductor 711 mapping $317 \mapsto \zeta_6, 82 \mapsto -\zeta_6$	1	6	2	
2	odd Dirichlet character of conductor 712 mapping $535 \mapsto 1,357 \mapsto -1,537 \mapsto \zeta_8$	1	8	2	
1	even Dirichlet character of conductor 712 mapping $535 \mapsto 1,357 \mapsto -1,537 \mapsto \zeta_4$	2	4	1	
2	odd Dirichlet character of conductor 712 mapping $535 \mapsto -1,357 \mapsto -1,537 \mapsto \zeta_4$	1	4	1	X
2	odd Dirichlet character of conductor 712 mapping $535 \mapsto 1,357 \mapsto -1,537 \mapsto -\zeta_8$	1	8	2	
1	even Dirichlet character of conductor 717 mapping $479 \mapsto -1, 7 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 721 mapping $619 \mapsto -1,211 \mapsto \zeta_6$	0	6	2	

$\lambda_5(\chi)$	Dirichlet character θ	$\left egin{array}{c} ext{twist} \ i \end{array} \right $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 721 mapping $619 \mapsto -1,211 \mapsto -\zeta_6 + 1$	0	6	2	
1	odd Dirichlet character of conductor 723 mapping $242 \mapsto -1, 7 \mapsto \zeta_6$	1	6	2	
1	odd Dirichlet character of conductor 723 mapping $242 \mapsto -1, 7 \mapsto \zeta_4$	3	4	1	
2	odd Dirichlet character of conductor 723 mapping $242 \mapsto -1, 7 \mapsto -\zeta_4$	1	4	1	X
1	odd Dirichlet character of conductor 723 mapping $242 \mapsto -1, 7 \mapsto -\zeta_6 + 1$	1	6	2	
1	odd Dirichlet character of conductor 727 mapping $5 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 728 mapping $183 \mapsto -1,365 \mapsto -1,521 \mapsto -\zeta_6 + 1,561 \mapsto \zeta_6$	0	6	2	
2	odd Dirichlet character of conductor 728 mapping $183 \mapsto 1,365 \mapsto -1,521 \mapsto -1,561 \mapsto \zeta_6 - 1$	1	6	2	X
1	odd Dirichlet character of conductor 728 mapping $183 \mapsto 1,365 \mapsto -1,521 \mapsto \zeta_6,561 \mapsto -1$	3	6	2	
1	odd Dirichlet character of conductor 728 mapping $183 \mapsto 1,365 \mapsto -1,521 \mapsto -\zeta_6 + 1,561 \mapsto -1$	3	6	2	
2	odd Dirichlet character of conductor 728 mapping $183 \mapsto 1,365 \mapsto -1,521 \mapsto -1,561 \mapsto -\zeta_6$	1	6	2	X
1	odd Dirichlet character of conductor 728 mapping $183 \mapsto -1,365 \mapsto -1,521 \mapsto \zeta_{12}^2,561 \mapsto -\zeta_{12}^3$	3	12	2	
1	even Dirichlet character of conductor 728 mapping $183 \mapsto 1,365 \mapsto -1,521 \mapsto -1,561 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 728 mapping $183 \mapsto 1,365 \mapsto -1,521 \mapsto -1,561 \mapsto -\zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 728 mapping $183 \mapsto -1,365 \mapsto -1,521 \mapsto -1,561 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 728 mapping $183 \mapsto -1,365 \mapsto -1,521 \mapsto -\zeta_{12}^2 + 1,561 \mapsto -\zeta_{12}^3$	3	12	2	
1	even Dirichlet character of conductor 728 mapping $183 \mapsto -1,365 \mapsto -1,521 \mapsto \zeta_6,561 \mapsto -\zeta_6+1$	0	6	2	
1	even Dirichlet character of conductor 731 mapping $173 \mapsto -1,562 \mapsto \zeta_6 - 1$	2	6	2	
1	odd Dirichlet character of conductor 731 mapping $173 \mapsto -1,562 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 731 mapping	2	6	2	
3	$173 \mapsto -1,562 \mapsto -\zeta_6$ odd Dirichlet character of conductor 732 mapping $367 \mapsto -1,245 \mapsto -1,673 \mapsto \zeta_4$	1	4	1	X

		$\left egin{array}{c} ext{twist} \ i \end{array} \right $	$\operatorname{ord}(\chi)$	f	triv. zero
1	odd Dirichlet character of conductor 732 mapping $367 \mapsto -1,245 \mapsto -1,673 \mapsto \zeta_4$	3	4	1	
1	even Dirichlet character of conductor 732 mapping $367 \mapsto -1,245 \mapsto -1,673 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 733 mapping $6 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 736 mapping $415 \mapsto 1,645 \mapsto \zeta_8,97 \mapsto -1$	3	8	2	
1	odd Dirichlet character of conductor 736 mapping	3	8	2	
2	$415 \mapsto 1,645 \mapsto -\zeta_8,97 \mapsto -1$ odd Dirichlet character of conductor 739 mapping	1	2	1	X
1	$3 \mapsto -1$ odd Dirichlet character of conductor 741 mapping	1	12	2	
1	$248 \mapsto -1,457 \mapsto -\zeta_{12}^3,40 \mapsto \zeta_{12}^2$ odd Dirichlet character of conductor 741 mapping	1	4	1	
1	$248 \mapsto -1,457 \mapsto \zeta_4,40 \mapsto -1$ even Dirichlet character of conductor 741 mapping	2	2	1	
1	$248 \mapsto -1,457 \mapsto -1,40 \mapsto -1$ odd Dirichlet character of conductor 741 mapping	1	12	2	
1	$248 \mapsto -1,457 \mapsto -\zeta_{12}^3,40 \mapsto -\zeta_{12}^2+1$ even Dirichlet character of conductor 744 mapping	0	2	1	
1	$559 \mapsto 1,373 \mapsto -1,497 \mapsto -1,313 \mapsto -1$ even Dirichlet character of conductor 748 mapping	2	2	1	
1	$375 \mapsto -1,409 \mapsto -1,309 \mapsto -1$ even Dirichlet character of conductor 748 mapping	2	4	1	
1	$375 \mapsto -1,409 \mapsto -1,309 \mapsto -\zeta_4$ odd Dirichlet character of conductor 751 mapping	3	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 752 mapping	0	4	1	
3	$95 \mapsto -1,565 \mapsto \zeta_4,193 \mapsto -1$ odd Dirichlet character of conductor 752 mapping	3	4	1	
1	$95 \mapsto 1,565 \mapsto -\zeta_4,193 \mapsto -1$ even Dirichlet character of conductor 752 mapping	2	4	1	
2	$95 \mapsto -1,565 \mapsto -\zeta_4,193 \mapsto -1$ even Dirichlet character of conductor 753 mapping	0	2	1	
1	$503 \mapsto -1,508 \mapsto -1$ even Dirichlet character of conductor 753 mapping	2	2	1	
1	$503 \mapsto -1,508 \mapsto -1$ odd Dirichlet character of conductor 757 mapping	1	4	1	
1	$2 \mapsto \zeta_4$ odd Dirichlet character of conductor 757 mapping $2 \mapsto -\zeta_4$	1	4	1	

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
2	odd Dirichlet character of conductor 759 mapping $254 \mapsto -1,277 \mapsto -1,166 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 761 mapping $6 \mapsto -1$	0	2	1	
2	odd Dirichlet character of conductor 763 mapping $437 \mapsto \zeta_{12}^2 - 1,442 \mapsto \zeta_{12}$	1	12	2	X
1	even Dirichlet character of conductor 763 mapping	2	12	2	
1	$437 \mapsto \zeta_{12}^2, 442 \mapsto \zeta_{12}^3$ even Dirichlet character of conductor 763 mapping $437 \mapsto -\zeta_{12}^2 + 1, 442 \mapsto \zeta_{12}^3$	2	12	2	
1	odd Dirichlet character of conductor 763 mapping $437 \mapsto \zeta_6, 442 \mapsto \zeta_6 - 1$	3	6	2	
2	odd Dirichlet character of conductor 763 mapping $437 \mapsto -\zeta_{12}^2, 442 \mapsto \zeta_{12}^3 - \zeta_{12}$	1	12	2	X
1	odd Dirichlet character of conductor 763 mapping $437 \mapsto -\zeta_6 + 1,442 \mapsto -\zeta_6$	3	6	2	
1	even Dirichlet character of conductor 764 mapping $383 \mapsto -1,401 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 764 mapping $383 \mapsto -1,401 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 769 mapping $11 \mapsto \zeta_8^8$	2	8	2	
1	even Dirichlet character of conductor 769 mapping	0	48	4	
1	$11 \mapsto \zeta_{48}^{11} - \zeta_{48}^{3}$ even Dirichlet character of conductor 769 mapping $11 \mapsto \zeta_{48}^{15} - \zeta_{48}^{7}$	0	48	4	
1	even Dirichlet character of conductor 769 mapping $11 \mapsto -\zeta_8^3$	2	8	2	
1	even Dirichlet character of conductor 769 mapping	0	48	4	
1	$11 \mapsto -\zeta_{48}^{11} + \zeta_{48}^{3}$ even Dirichlet character of conductor 769 mapping $11 \mapsto -\zeta_{48}^{15} + \zeta_{48}^{7}$	0	48	4	
1	odd Dirichlet character of conductor 771 mapping	3	4	1	
1	$515 \mapsto -1,517 \mapsto \zeta_4$ odd Dirichlet character of conductor 771 mapping	3	8	2	
2	$515 \mapsto -1,517 \mapsto \zeta_8^3$ odd Dirichlet character of conductor 771 mapping	1	2	1	X
1	$515 \mapsto -1,517 \mapsto -1$ odd Dirichlet character of conductor 771 mapping	1	4	1	
1	$515 \mapsto -1,517 \mapsto -\zeta_4$ odd Dirichlet character of conductor 771 mapping	3	4	1	
	$515 \mapsto -1,517 \mapsto -\zeta_4$				

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$ \operatorname{ord}(\chi) $	f	triv.
1	odd Dirichlet character of conductor 771 mapping	3	8	2	
2	$515 \mapsto -1,517 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 772 mapping	1	4	1	
1	$387 \mapsto -1, 5 \mapsto \zeta_4$ odd Dirichlet character of conductor 772 mapping	1	24	2	
1	$387 \mapsto -1, 5 \mapsto \zeta_{24}^{7}$ odd Dirichlet character of conductor 772 mapping	1	24	2	
1	$387 \mapsto -1, 5 \mapsto \zeta_{24}^7 - \zeta_{24}^3$ odd Dirichlet character of conductor 773 mapping	3	4	1	
2	$2 \mapsto -\zeta_4$ odd Dirichlet character of conductor 776 mapping	1	4	1	
3	$583 \mapsto -1,389 \mapsto -1,393 \mapsto \zeta_4$ odd Dirichlet character of conductor 776 mapping	3	4	1	
1	$583 \mapsto -1,389 \mapsto -1,393 \mapsto \zeta_4$ odd Dirichlet character of conductor 777 mapping	1	12	2	
1	$260 \mapsto -1,556 \mapsto \zeta_{12}^2,631 \mapsto \zeta_{12}$ odd Dirichlet character of conductor 777 mapping	1	12	2	
1	$260 \mapsto -1,556 \mapsto -1,631 \mapsto \zeta_{12}$ even Dirichlet character of conductor 777 mapping	2	6	2	
1	$260 \mapsto -1,556 \mapsto \zeta_6,631 \mapsto \zeta_6$ even Dirichlet character of conductor 777 mapping	$\begin{bmatrix} 2 \\ 2 \end{bmatrix}$	6	2	
	$260 \mapsto -1,556 \mapsto \zeta_6,631 \mapsto \zeta_6 - 1$				
1	odd Dirichlet character of conductor 777 mapping $260 \mapsto -1,556 \mapsto -1,631 \mapsto \zeta_{12}^3 - \zeta_{12}$	1	12	2	
1	odd Dirichlet character of conductor 777 mapping $260 \mapsto -1,556 \mapsto -\zeta_{12}^2 + 1,631 \mapsto \zeta_{12}^3 - \zeta_{12}$	1	12	2	
1	even Dirichlet character of conductor 777 mapping $260 \mapsto -1,556 \mapsto \zeta_6,631 \mapsto -1$	0	6	2	
1	even Dirichlet character of conductor 777 mapping $260 \mapsto -1,556 \mapsto -\zeta_6 + 1,631 \mapsto -1$	0	6	2	
1	even Dirichlet character of conductor 777 mapping $260 \mapsto -1,556 \mapsto -\zeta_6 + 1,631 \mapsto -\zeta_6$	2	6	2	
1	odd Dirichlet character of conductor 777 mapping $260 \mapsto -1,556 \mapsto \zeta_{12}^2,631 \mapsto -\zeta_{12}^3$	3	12	2	
1	odd Dirichlet character of conductor 777 mapping $260 \mapsto -1,556 \mapsto -1,631 \mapsto -\zeta_4$	3	4	1	
1	odd Dirichlet character of conductor 777 mapping $260 \mapsto -1,556 \mapsto -\zeta_{12}^2 + 1,631 \mapsto -\zeta_{12}^3$	3	12	2	
1	even Dirichlet character of conductor 777 mapping	2	6	2	
1	$260 \mapsto -1,556 \mapsto -\zeta_6 + 1,631 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 779 mapping	0	24	2	
	$534 \mapsto \zeta_{24}^4, 457 \mapsto \zeta_{24}^3$				

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 779 mapping	0	12	2	
1	$534 \mapsto \zeta_{12}^2 - 1,457 \mapsto \zeta_{12}^3$ even Dirichlet character of conductor 779 mapping	0	12	2	
1	$534 \mapsto -\zeta_{12}^2, 457 \mapsto \zeta_{12}^3$ even Dirichlet character of conductor 779 mapping	0	24	2	
1	$534 \mapsto -\zeta_{24}^4 + 1,457 \mapsto -\zeta_{24}^3$ even Dirichlet character of conductor 779 mapping	0	12	2	
1	$534 \mapsto \zeta_{12}^2 - 1,457 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 779 mapping	0	12	2	
1	$534 \mapsto -\zeta_{12}^2, 457 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 781 mapping	2	2	1	
1	$640 \mapsto -1,78 \mapsto -1$ odd Dirichlet character of conductor 787 mapping	1	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 788 mapping	1	2	1	
1	$395 \mapsto -1,593 \mapsto -1$ even Dirichlet character of conductor 789 mapping	0	2	1	
1	$527 \mapsto -1,268 \mapsto -1$ odd Dirichlet character of conductor 791 mapping	1	4	1	
1	$227 \mapsto -1,568 \mapsto -\zeta_4$ even Dirichlet character of conductor 793 mapping	0	4	1	
1	$184 \mapsto -\zeta_4, 612 \mapsto \zeta_4$ odd Dirichlet character of conductor 793 mapping	1	12	2	
2	$184 \mapsto -\zeta_{12}^3, 612 \mapsto \zeta_{12}^2 - 1$ odd Dirichlet character of conductor 793 mapping	1	4	1	
1	$184 \mapsto -\zeta_4, 612 \mapsto -1$ odd Dirichlet character of conductor 793 mapping	3	12	2	
1	$184 \mapsto -1,612 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 793 mapping	1	12	2	
1	$184 \mapsto -\zeta_{12}^3, 612 \mapsto -\zeta_{12}^2$ even Dirichlet character of conductor 793 mapping	2	4	1	
1	$184 \mapsto \zeta_4, 612 \mapsto -\zeta_4$ odd Dirichlet character of conductor 793 mapping	3	12	2	
1	$184 \mapsto \zeta_{12}^2 - 1,612 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 793 mapping	3	12	2	
1	$184 \mapsto -\zeta_{12}^2, 612 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 793 mapping	3	12	2	
1	$184 \mapsto -1,612 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 796 mapping	2	2	1	
2	$399 \mapsto -1,401 \mapsto -1$ odd Dirichlet character of conductor 797 mapping	3	4	1	
	$2 \mapsto \zeta_4$				

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$ \operatorname{ord}(\chi) $	f	triv.
1	odd Dirichlet character of conductor 799 mapping $377 \mapsto \zeta_4, 52 \mapsto -1$	3	4	1	
3	odd Dirichlet character of conductor 799 mapping	1	2	1	X
1	$377 \mapsto -1,52 \mapsto -1$ odd Dirichlet character of conductor 799 mapping	3	4	1	
1	$377 \mapsto -\zeta_4, 52 \mapsto -1$ even Dirichlet character of conductor 801 mapping	0	24	2	
1	$713 \mapsto \zeta_{24}^4, 181 \mapsto \zeta_{24}^5 - \zeta_{24}$ even Dirichlet character of conductor 801 mapping	0	24	2	
1	$713 \mapsto -\zeta_{24}^4 + 1,181 \mapsto -\zeta_{24}^5 + \zeta_{24}$ even Dirichlet character of conductor 803 mapping	2	24	2	
1	$585 \mapsto -1,78 \mapsto \zeta_{24}$ odd Dirichlet character of conductor 803 mapping	3	6	2	
1	$585 \mapsto -1,78 \mapsto \zeta_6$ even Dirichlet character of conductor 803 mapping	2	24	2	
2	$585 \mapsto -1,78 \mapsto \zeta_{24}^{5}$ odd Dirichlet character of conductor 803 mapping	1	2	1	
2	$585 \mapsto -1,78 \mapsto -1$ odd Dirichlet character of conductor 803 mapping	3	2	1	
2	$585 \mapsto -1,78 \mapsto -1$ odd Dirichlet character of conductor 803 mapping	1	4	1	
1	$585 \mapsto -1,78 \mapsto -\zeta_4$ odd Dirichlet character of conductor 803 mapping	3	6	2	
2	$585 \mapsto -1,78 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 808 mapping	3	4	1	
1	$607 \mapsto 1,405 \mapsto -1,305 \mapsto \zeta_4$ even Dirichlet character of conductor 808 mapping	0	2	1	
2	$607 \mapsto 1,405 \mapsto -1,305 \mapsto -1$ even Dirichlet character of conductor 808 mapping	0	4	1	
1	$607 \mapsto -1,405 \mapsto -1,305 \mapsto -\zeta_4$ even Dirichlet character of conductor 809 mapping	2	2	1	
1	$3 \mapsto -1$ odd Dirichlet character of conductor 812 mapping	3	4	1	
1	$407 \mapsto -1, 465 \mapsto -1, 785 \mapsto -\zeta_4$ even Dirichlet character of conductor 816 mapping	0	4	1	
1	$511 \mapsto -1,613 \mapsto \zeta_4,545 \mapsto -1,241 \mapsto \zeta_4$ even Dirichlet character of conductor 816 mapping	2	4	1	
1	$511 \mapsto -1,613 \mapsto \zeta_4,545 \mapsto -1,241 \mapsto \zeta_4$ odd Dirichlet character of conductor 816 mapping	1	4	1	
2	511 \mapsto 1,613 \mapsto $-\zeta_4$,545 \mapsto -1,241 \mapsto ζ_4 odd Dirichlet character of conductor 816 mapping	1	4	1	
	511 \mapsto 1,613 \mapsto ζ_4 ,545 \mapsto -1,241 \mapsto -1	1	T	1	

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 816 mapping $511 \mapsto 1,613 \mapsto \zeta_4,545 \mapsto -1,241 \mapsto -1$	3	4	1	
1	even Dirichlet character of conductor 816 mapping $511 \mapsto -1,613 \mapsto -\zeta_4,545 \mapsto -1,241 \mapsto -1$	0	4	1	
1	odd Dirichlet character of conductor 816 mapping $511 \mapsto 1,613 \mapsto -\zeta_4,545 \mapsto -1,241 \mapsto -\zeta_4$	3	4	1	
2	even Dirichlet character of conductor 816 mapping $511 \mapsto -1,613 \mapsto -\zeta_4,545 \mapsto -1,241 \mapsto -\zeta_4$	2	4	1	
1	even Dirichlet character of conductor 817 mapping $173 \mapsto -1,476 \mapsto \zeta_6$	0	6	2	
1	even Dirichlet character of conductor 817 mapping $173 \mapsto -\zeta_6 + 1,476 \mapsto \zeta_6$	0	6	2	
1	even Dirichlet character of conductor 817 mapping $173 \mapsto -1,476 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 817 mapping $173 \mapsto \zeta_6, 476 \mapsto -\zeta_6 + 1$	0	6	2	
1	even Dirichlet character of conductor 817 mapping $173 \mapsto -1,476 \mapsto -\zeta_6 + 1$	0	6	2	
1	even Dirichlet character of conductor 819 mapping $92 \mapsto \zeta_{12}^2 - 1,703 \mapsto \zeta_{12}^2,379 \mapsto \zeta_{12}$	0	12	2	
1	even Dirichlet character of conductor 819 mapping $92 \mapsto -\zeta_6 + 1,703 \mapsto -1,379 \mapsto \zeta_6$	0	6	2	
1	odd Dirichlet character of conductor 819 mapping $92 \mapsto \zeta_6 - 1,703 \mapsto -\zeta_6 + 1,379 \mapsto \zeta_6$	3	6	2	
1	even Dirichlet character of conductor 819 mapping $92 \mapsto -\zeta_{12}^2, 703 \mapsto -\zeta_{12}^2 + 1,379 \mapsto \zeta_{12}^3 - \zeta_{12}$	0	12	2	
1	odd Dirichlet character of conductor 819 mapping $92 \mapsto \zeta_6 - 1,703 \mapsto -1,379 \mapsto -1$	3	6	2	
1	odd Dirichlet character of conductor 819 mapping $92 \mapsto -\zeta_6, 703 \mapsto -1, 379 \mapsto -1$	3	6	2	
1	even Dirichlet character of conductor 819 mapping $92 \mapsto \zeta_{12}^2 - 1,703 \mapsto \zeta_{12}^2,379 \mapsto -\zeta_{12}$	2	12	2	
1	even Dirichlet character of conductor 819 mapping $92 \mapsto -\zeta_{12}^2 + 1{,}703 \mapsto \zeta_{12}^2 - 1{,}379 \mapsto -\zeta_{12}$	0	12	2	
1	odd Dirichlet character of conductor 819 mapping $92 \mapsto \zeta_{12}^2 - 1,703 \mapsto -\zeta_{12}^2$ $92 \mapsto \zeta_{12}^2 - 1,703 \mapsto -\zeta_{12}^2,379 \mapsto -\zeta_{12}$	1	12	2	
1	odd Dirichlet character of conductor 819 mapping $92 \mapsto \zeta_{12}^2 - 1,703 \mapsto -\zeta_{12},379 \mapsto -\zeta_{12}$ $92 \mapsto \zeta_{12}^2 - 1,703 \mapsto -\zeta_{12}^2,379 \mapsto -\zeta_{12}$	3	12	2	
2	odd Dirichlet character of conductor 819 mapping	1	12	2	
1	$92 \mapsto \zeta_{12}^2, 703 \mapsto -\zeta_{12}^2 + 1,379 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 819 mapping	3	6	2	
	$92 \mapsto -\zeta_6, 703 \mapsto \zeta_6, 379 \mapsto -\zeta_6 + 1$				<u> </u>

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 819 mapping $92 \mapsto \zeta_6, 703 \mapsto -1,379 \mapsto -\zeta_6 + 1$	0	6	2	
2	odd Dirichlet character of conductor 819 mapping $92 \mapsto -\zeta_{12}^2 + 1{,}703 \mapsto \zeta_{12}^2, 379 \mapsto -\zeta_{12}^3 + \zeta_{12}$	1	12	2	
1	odd Dirichlet character of conductor 819 mapping $92 \mapsto -\zeta_{12}^2, 703 \mapsto \zeta_{12}^3 -1,379 \mapsto -\zeta_{12}^3 + \zeta_{12}$	1	12	2	
1	odd Dirichlet character of conductor 819 mapping $92 \mapsto -\zeta_{12}^2, 703 \mapsto \zeta_{12}^2 - 1,379 \mapsto -\zeta_{12}^3 + \zeta_{12}$	3	12	2	
1	even Dirichlet character of conductor 819 mapping $92 \mapsto \zeta_{12}^2, 703 \mapsto -\zeta_{12}^2, 379 \mapsto -\zeta_{12}^3 + \zeta_{12}$	0	12	2	
1	even Dirichlet character of conductor 819 mapping	2	12	2	
1	$92 \mapsto -\zeta_{12}^2, 703 \mapsto -\zeta_{12}^2 + 1,379 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 821 mapping	3	4	1	
1	$2 \mapsto -\zeta_4$ even Dirichlet character of conductor 823 mapping	2	3	2	
1	$3 \mapsto \zeta_3$ even Dirichlet character of conductor 823 mapping	2	3	2	
1	$3 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 824 mapping	1	6	2	
1	$207 \mapsto 1,413 \mapsto -1,417 \mapsto \zeta_6$ odd Dirichlet character of conductor 824 mapping	3	6	2	
1	$207 \mapsto 1,413 \mapsto -1,417 \mapsto \zeta_6$ odd Dirichlet character of conductor 824 mapping	1	6	2	
1	$207 \mapsto 1,413 \mapsto -1,417 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 824 mapping	3	6	2	
1	$207 \mapsto 1,413 \mapsto -1,417 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 828 mapping	3	6	2	
1	$415 \mapsto -1,461 \mapsto \zeta_6,649 \mapsto -1$ odd Dirichlet character of conductor 828 mapping	3	6	2	
1	$415 \mapsto -1,461 \mapsto -\zeta_6 + 1,649 \mapsto -1$ even Dirichlet character of conductor 829 mapping	2	6	2	
1	$2 \mapsto \zeta_6$ even Dirichlet character of conductor 829 mapping	2	6	2	
1	$2 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 831 mapping	3	6	2	
2	$278 \mapsto -1,559 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 831 mapping	1	2	1	X
1	$278 \mapsto -1,559 \mapsto -1$ odd Dirichlet character of conductor 831 mapping	3	6	2	
2	$278 \mapsto -1,559 \mapsto -\zeta_6$ odd Dirichlet character of conductor 843 mapping $563 \mapsto -1,565 \mapsto \zeta_4$	1	4	1	X

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 844 mapping $423 \mapsto -1, 213 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 848 mapping $319 \mapsto 1,213 \mapsto -\zeta_4,161 \mapsto \zeta_4$	3	4	1	
1	even Dirichlet character of conductor 848 mapping $319 \mapsto 1,213 \mapsto -\zeta_4,161 \mapsto -1$	2	4	1	
2	even Dirichlet character of conductor 848 mapping $319 \mapsto -1,213 \mapsto -\zeta_4,161 \mapsto -\zeta_4$	2	4	1	
1	even Dirichlet character of conductor 851 mapping $741 \mapsto -1,668 \mapsto -\zeta_{12}$	0	12	2	
1	even Dirichlet character of conductor 851 mapping $741 \mapsto -1,668 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 851 mapping $741 \mapsto -1,668 \mapsto -\zeta_{12}^3 + \zeta_{12}$	0	12	2	
1	even Dirichlet character of conductor 853 mapping $2 \mapsto \zeta_6$	2	6	2	
1	odd Dirichlet character of conductor 853 mapping $2 \mapsto -\zeta_4$	3	4	1	
1	even Dirichlet character of conductor 853 mapping $2 \mapsto -\zeta_6 + 1$	2	6	2	
1	even Dirichlet character of conductor 856 mapping $215 \mapsto -1,429 \mapsto -1,537 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 857 mapping $3 \mapsto \zeta_4$	2	4	1	
1	even Dirichlet character of conductor 857 mapping $3 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 857 mapping $3 \mapsto -\zeta_4$	0	4	1	
2	odd Dirichlet character of conductor 859 mapping $2 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 861 mapping $575 \mapsto -1,493 \mapsto -1,211 \mapsto \zeta_4$	0	4	1	
3	even Dirichlet character of conductor 861 mapping $575 \mapsto -1,493 \mapsto -1,211 \mapsto \zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 861 mapping $575 \mapsto -1,493 \mapsto \zeta_{24}^4,211 \mapsto \zeta_{24}^5 - \zeta_{24}$	3	24	2	
2	even Dirichlet character of conductor 861 mapping $575 \mapsto -1,493 \mapsto -1,211 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 861 mapping $575 \mapsto -1,493 \mapsto \zeta_{12}^2 - 1,211 \mapsto -\zeta_{12}^3$	1	12	2	
1	odd Dirichlet character of conductor 861 mapping $575 \mapsto -1,493 \mapsto -\zeta_{12}^2,211 \mapsto -\zeta_{12}^3$	1	12	2	

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 861 mapping	3	24	2	
	$575 \mapsto -1,493 \mapsto -\zeta_{24}^4 + 1,211 \mapsto -\zeta_{24}^5 + \zeta_{24}$			2	
1	even Dirichlet character of conductor 868 mapping $435 \mapsto -1,745 \mapsto \zeta_6 -1,561 \mapsto \zeta_6$	2	6	2	
1	even Dirichlet character of conductor 868 mapping	2	6	2	
	$435\mapsto -1,745\mapsto -\zeta_6+1,561\mapsto \zeta_6-1$	_		_	
1	odd Dirichlet character of conductor 868 mapping	1	6	2	
	$435 \mapsto -1,745 \mapsto \zeta_6,561 \mapsto -1$				
1	odd Dirichlet character of conductor 868 mapping	1	6	2	
1	$435 \mapsto -1,745 \mapsto -\zeta_6 + 1,561 \mapsto -1$ even Dirichlet character of conductor 868 mapping	$ _{2}$	6	2	
1	$435 \mapsto -1,745 \mapsto \zeta_6,561 \mapsto -\zeta_6$	2	U	2	
1	even Dirichlet character of conductor 868 mapping	2	6	2	
	$435 \mapsto -1,745 \mapsto -\zeta_6,561 \mapsto -\zeta_6+1$				
2	even Dirichlet character of conductor 869 mapping	0	2	1	
1	$475 \mapsto -1,793 \mapsto -1$	1	C	0	
1	odd Dirichlet character of conductor 871 mapping $470 \mapsto -\zeta_6, 404 \mapsto \zeta_6$	1	6	2	
1	odd Dirichlet character of conductor 871 mapping	1	6	2	
	$470 \mapsto \zeta_6 - 1,404 \mapsto -1$				
1	odd Dirichlet character of conductor 871 mapping	3	2	1	
	$470 \mapsto -1,404 \mapsto -1$				
1	odd Dirichlet character of conductor 871 mapping	1	6	2	
1	$470 \mapsto -\zeta_6, 404 \mapsto -1$ odd Dirichlet character of conductor 871 mapping	1	6	2	
1	$470 \mapsto \zeta_6 - 1,404 \mapsto -\zeta_6 + 1$	1	0	2	
2	even Dirichlet character of conductor 872 mapping	0	4	1	
	$655 \mapsto -1,437 \mapsto -1,769 \mapsto \zeta_4$				
1	odd Dirichlet character of conductor 872 mapping	1	2	1	
1	$655 \mapsto -1,437 \mapsto -1,769 \mapsto -1$	3	10	2	
1	odd Dirichlet character of conductor 872 mapping $655 \mapsto 1,437 \mapsto -1,769 \mapsto -\zeta_{12}$	3	12	2	
1	even Dirichlet character of conductor 872 mapping	2	4	1	
	$655 \mapsto -1,437 \mapsto -1,769 \mapsto -\zeta_4$				
1	odd Dirichlet character of conductor 872 mapping	3	12	2	
	$655 \mapsto 1,437 \mapsto -1,769 \mapsto -\zeta_{12}^3 + \zeta_{12}$		2.4	2	
1	even Dirichlet character of conductor 873 mapping	2	24	2	
1	$389 \mapsto -\zeta_{24}^4, 199 \mapsto \zeta_{24}^3$ even Dirichlet character of conductor 873 mapping	$ _{2}$	6	2	
1	$389 \mapsto \zeta_6 - 1,199 \mapsto \zeta_6$				
1	odd Dirichlet character of conductor 873 mapping	1	6	2	
	$389 \mapsto \zeta_6, 199 \mapsto -1$				

$\lambda_5(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 873 mapping $389 \mapsto -\zeta_6 + 1,199 \mapsto -1$	1	6	2	
1	even Dirichlet character of conductor 873 mapping	2	24	2	
1	$389 \mapsto \zeta_{24}^4 - 1{,}199 \mapsto -\zeta_{24}^3$ odd Dirichlet character of conductor 873 mapping	1	24	2	
1	$389 \mapsto \zeta_{24}^4, 199 \mapsto -\zeta_{24}^7$ even Dirichlet character of conductor 873 mapping	2	6	2	
1	$389 \mapsto -\zeta_6, 199 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 873 mapping	1	24	2	
2	$389 \mapsto -\zeta_{24}^4 + 1,199 \mapsto -\zeta_{24}^7 + \zeta_{24}^3$ even Dirichlet character of conductor 876 mapping	0	6	2	
2	$439 \mapsto -1,293 \mapsto -1,589 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 876 mapping	0	6	2	
1	$439 \mapsto -1,293 \mapsto -1,589 \mapsto -\zeta_6$ even Dirichlet character of conductor 877 mapping	0	6	2	
1	$2 \mapsto \zeta_6$ odd Dirichlet character of conductor 877 mapping	3	4	1	
1	$2 \mapsto \zeta_4$ odd Dirichlet character of conductor 877 mapping	3	4	1	
1	$2 \mapsto -\zeta_4$ even Dirichlet character of conductor 877 mapping	0	6	2	
2	$2 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 879 mapping	2	4	1	
2	$587 \mapsto -1,295 \mapsto \zeta_4$ odd Dirichlet character of conductor 879 mapping	1	2	1	X
1	$587 \mapsto -1,295 \mapsto -1$ odd Dirichlet character of conductor 879 mapping	3	2	1	
1	$587 \mapsto -1,295 \mapsto -1$ even Dirichlet character of conductor 881 mapping	0	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 881 mapping	2	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 884 mapping	2	24	2	
1	$443 \mapsto -1,613 \mapsto -\zeta_{24}^2, 105 \mapsto \zeta_{24}^3$ even Dirichlet character of conductor 884 mapping	0	4	1	
1	$443 \mapsto -1,613 \mapsto \zeta_4,105 \mapsto \zeta_4$ even Dirichlet character of conductor 884 mapping	$\begin{vmatrix} 2 \end{vmatrix}$	4	1	
2	$443 \mapsto -1,613 \mapsto \zeta_4,105 \mapsto \zeta_4$ even Dirichlet character of conductor 884 mapping	2	4	1	
1	$443 \mapsto -1,613 \mapsto -\zeta_4,105 \mapsto \zeta_4$ even Dirichlet character of conductor 884 mapping	0	24	2	
1	443 \mapsto -1,613 \mapsto ζ_{24}^{2} , 105 \mapsto ζ_{24}^{5} - ζ_{24}		24	2	

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c } \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv. zero
1	odd Dirichlet character of conductor 884 mapping	3	24	2	
1	$443 \mapsto -1,613 \mapsto -\zeta_{24}^4, 105 \mapsto \zeta_{24}^5 - \zeta_{24}$ even Dirichlet character of conductor 884 mapping $443 \mapsto -1,613 \mapsto -\zeta_4,105 \mapsto -1$	2	4	1	
1	even Dirichlet character of conductor 884 mapping	2	24	2	
1	$443 \mapsto -1,613 \mapsto -\zeta_{24}^6 + \zeta_{24}^2,105 \mapsto -\zeta_{24}^3$ odd Dirichlet character of conductor 884 mapping	3	4	1	
1	$443 \mapsto -1,613 \mapsto -1,105 \mapsto -\zeta_4$ odd Dirichlet character of conductor 884 mapping	3	24	2	
1	$443 \mapsto -1,613 \mapsto \zeta_{24}^4 - 1,105 \mapsto -\zeta_{24}^5 + \zeta_{24}$ even Dirichlet character of conductor 884 mapping	0	24	2	
2	$443 \mapsto -1,613 \mapsto \zeta_{24}^6 - \zeta_{24}^2, 105 \mapsto -\zeta_{24}^5 + \zeta_{24}$ odd Dirichlet character of conductor 887 mapping	3	2	1	
1	$5 \mapsto -1$ odd Dirichlet character of conductor 888 mapping	1	4	1	
1	$223 \mapsto -1,445 \mapsto -1,593 \mapsto -1,409 \mapsto \zeta_4$ odd Dirichlet character of conductor 888 mapping	1	6	2	
1	$223 \mapsto 1,445 \mapsto -1,593 \mapsto -1,409 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 888 mapping	2	2	1	
1	$223 \mapsto -1,445 \mapsto -1,593 \mapsto -1,409 \mapsto -1$ odd Dirichlet character of conductor 888 mapping	1	6	2	
1	$223 \mapsto 1,445 \mapsto -1,593 \mapsto -1,409 \mapsto -\zeta_6$ even Dirichlet character of conductor 888 mapping	2	4	1	
1	$223 \mapsto 1,445 \mapsto -1,593 \mapsto -1,409 \mapsto -\zeta_4$ even Dirichlet character of conductor 889 mapping	2	6	2	
1	$255 \mapsto -\zeta_6 + 1,638 \mapsto \zeta_6$ even Dirichlet character of conductor 889 mapping	2	3	2	
1	$255 \mapsto -\zeta_3 - 1,638 \mapsto \zeta_3$ even Dirichlet character of conductor 889 mapping	2	2	1	
1	$255 \mapsto -1,638 \mapsto -1$ even Dirichlet character of conductor 889 mapping	2	3	2	
1	$255 \mapsto \zeta_3, 638 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 889 mapping	2	6	2	
1	$255 \mapsto \zeta_6, 638 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 892 mapping	2	2	1	
1	$447 \mapsto -1,449 \mapsto -1$ even Dirichlet character of conductor 893 mapping $800 \mapsto -1,381 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 897 mapping	3	4	1	
1	$599 \mapsto -1,691 \mapsto \zeta_4,235 \mapsto -1$ even Dirichlet character of conductor 901 mapping $54 \mapsto \zeta_4,426 \mapsto -1$	0	4	1	

$\lambda_5(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 901 mapping $54 \mapsto \zeta_8, 426 \mapsto -\zeta_8^2$	1	8	2	
2	odd Dirichlet character of conductor 901 mapping $54 \mapsto \zeta_4, 426 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 901 mapping $54 \mapsto -\zeta_8, 426 \mapsto -\zeta_8^2$	1	8	2	
1	odd Dirichlet character of conductor 901 mapping $54 \mapsto -\zeta_4, 426 \mapsto -\zeta_4$	3	4	1	
1	even Dirichlet character of conductor 903 mapping $302 \mapsto -1,388 \mapsto -\zeta_6,820 \mapsto \zeta_6$	0	6	2	
1	even Dirichlet character of conductor 903 mapping $302 \mapsto -1,388 \mapsto \zeta_6 - 1,820 \mapsto -\zeta_6 + 1$	0	6	2	
1	even Dirichlet character of conductor 904 mapping $679 \mapsto 1,453 \mapsto -1,681 \mapsto -\zeta_4$	2	4	1	
2	odd Dirichlet character of conductor 904 mapping	3	4	1	
1	$679 \mapsto -1,453 \mapsto -1,681 \mapsto -\zeta_4$ even Dirichlet character of conductor 907 mapping $2 \mapsto \zeta_3$	0	3	2	
1	$2 \mapsto \zeta_3$ odd Dirichlet character of conductor 907 mapping $2 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 907 mapping $2 \mapsto -\zeta_3 - 1$	0	3	2	
1	even Dirichlet character of conductor 908 mapping $455 \mapsto -1,229 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 909 mapping	3	12	2	
1	$506 \mapsto \zeta_{12}^2 - 1,406 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 909 mapping	3	12	2	
2	$506 \mapsto -\zeta_{12}^2, 406 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 911 mapping $17 \mapsto -1$	1	2	1	X
1	even Dirichlet character of conductor 912 mapping $799 \mapsto 1,229 \mapsto -\zeta_4,305 \mapsto -1,97 \mapsto -1$	2	4	1	
2	even Dirichlet character of conductor 916 mapping	0	4	1	
1	$459 \mapsto -1,693 \mapsto \zeta_4$ even Dirichlet character of conductor 917 mapping	2	2	1	
1	$787 \mapsto -1,526 \mapsto -1$ odd Dirichlet character of conductor 919 mapping	3	6	2	
1	$7 \mapsto \zeta_6$ odd Dirichlet character of conductor 919 mapping	3	6	2	
1	$7 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 921 mapping $308 \mapsto -1,619 \mapsto -1$	2	2	1	

1 odd Dirichlet character of conductor 923 mapping 1 2 1 1 1 1 2 1 1 1	$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{} i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1		1	2	1	
odd Dirichlet character of conductor 928 mapping $639 \mapsto 1,581 \mapsto -\zeta_8,321 \mapsto \zeta_8^2$ even Dirichlet character of conductor 929 mapping $3 \mapsto -\zeta_4$ even Dirichlet character of conductor 929 mapping $2 \mapsto \zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $2 \mapsto \zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $2 \mapsto \zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $2 \mapsto \zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $2 \mapsto \zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $2 \mapsto \zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $2 \mapsto \zeta_4$ 2 odd Dirichlet character of conductor 932 mapping $2 \mapsto \zeta_4$ 3 odd Dirichlet character of conductor 932 mapping $2 \mapsto \zeta_4$ 4 odd Dirichlet character of conductor 933 mapping $2 \mapsto \zeta_4$ 3 odd Dirichlet character of conductor 933 mapping $2 \mapsto \zeta_4$ 3 odd Dirichlet character of conductor 933 mapping $2 \mapsto \zeta_4$ 3 odd Dirichlet character of conductor 933 mapping $2 \mapsto \zeta_4$ 4 odd Dirichlet character of conductor 933 mapping $2 \mapsto \zeta_4$ 5 odd Dirichlet character of conductor 933 mapping $2 \mapsto \zeta_4$ 6 odd Dirichlet character of conductor 933 mapping $2 \mapsto \zeta_4$ 6 odd Dirichlet character of conductor 933 mapping $2 \mapsto \zeta_4$ 6 odd Dirichlet character of conductor 933 mapping $2 \mapsto \zeta_4$ 6 odd Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$ 6 oven Dirichlet character of conductor 936 mapping $2 \mapsto \zeta_4$	1	odd Dirichlet character of conductor 928 mapping	1	8	2	
even Dirichlet character of conductor 929 mapping $3\mapsto -\zeta_4$ even Dirichlet character of conductor 929 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 933 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 933 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 933 mapping $3\mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 933 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 933 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 933 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 933 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 933 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of conductor 936 mapping $3\mapsto -\zeta_4$ 2 odd Dirichlet character of condu	1	odd Dirichlet character of conductor 928 mapping	1	8	2	
even Dirichlet character of conductor 929 mapping $3 \mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $467 \mapsto -1, 469 \mapsto \zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $467 \mapsto -1, 469 \mapsto -1$ 1 odd Dirichlet character of conductor 932 mapping $467 \mapsto -1, 469 \mapsto -1$ 1 odd Dirichlet character of conductor 932 mapping $467 \mapsto -1, 469 \mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 932 mapping $467 \mapsto -1, 469 \mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 933 mapping $467 \mapsto -1, 469 \mapsto -\zeta_4$ 1 odd Dirichlet character of conductor 933 mapping $467 \mapsto -1, 328 \mapsto \zeta_{62}^{18}$ 2 odd Dirichlet character of conductor 933 mapping $4623 \mapsto -1, 328 \mapsto \zeta_{62}^{18}$ 1 odd Dirichlet character of conductor 933 mapping $4623 \mapsto -1, 328 \mapsto \zeta_{62}^{18}$ 2 even Dirichlet character of conductor 933 mapping $4623 \mapsto -1, 328 \mapsto \zeta_{62}^{18}$ 1 even Dirichlet character of conductor 936 mapping $4623 \mapsto -1, 328 \mapsto \zeta_{62}^{18}$ 1 even Dirichlet character of conductor 936 mapping $4623 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{12}^{2}, 145 \mapsto \zeta_{12}^{2}$ 2 even Dirichlet character of conductor 936 mapping $4623 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{12}^{2}, 145 \mapsto \zeta_{12}^{2}$ 2 even Dirichlet character of conductor 936 mapping $4623 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{12}^{2}, 145 \mapsto \zeta_{12}^{2}$ 2 even Dirichlet character of conductor 936 mapping $4623 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{12}^{2}, 145 \mapsto \zeta_{12}^{2}$ 2 even Dirichlet character of conductor 936 mapping $4623 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_{12}^{2}, 145 \mapsto \zeta_{12}^{2}$ 2 even Dirichlet character of conductor 936 mapping $4623 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_{12}^{2}, 145 \mapsto \zeta_{12}^{2}$ 2 even Dirichlet character of conductor 936 mapping $4623 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_{12}^{2}, 145 \mapsto \zeta_{12}^{2}$ 2 even Dirichlet character of conductor 936 mapping $4623 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_{12}^{2}, 145 \mapsto \zeta_{12}^{2}, 145 \mapsto \zeta_{12}^{2}$ 2 even Dirichlet character of conductor 936 mapping $4623 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_{12}^{2}, 145 \mapsto \zeta_{12}^{2}, 145 \mapsto \zeta_{12}^$	1	even Dirichlet character of conductor 929 mapping	0	4	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2	even Dirichlet character of conductor 929 mapping	2	4	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 932 mapping	3	4	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 932 mapping	3	2	1	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	4	odd Dirichlet character of conductor 932 mapping	1	4	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	4	odd Dirichlet character of conductor 932 mapping	3	4	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 933 mapping	1	62	3	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 933 mapping	1	62	3	
1 even Dirichlet character of conductor 933 mapping 0 2 1 $623 \mapsto -1,328 \mapsto -1$ 1 even Dirichlet character of conductor 936 mapping 0 12 2 $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_{12}^2,145 \mapsto \zeta_{12}$ 1 even Dirichlet character of conductor 936 mapping 0 12 2 $703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_{12}^2,145 \mapsto \zeta_{12}$ 2 even Dirichlet character of conductor 936 mapping 0 2 6 2 $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto \zeta_6$ 1 even Dirichlet character of conductor 936 mapping 0 6 2 $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto \zeta_6$ 1 even Dirichlet character of conductor 936 mapping 0 6 2 $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto \zeta_6 -1$ 1 odd Dirichlet character of conductor 936 mapping 0 6 2 $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto \zeta_6 -1$ 1 even Dirichlet character of conductor 936 mapping 0 12 2 $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6+1,145 \mapsto \zeta_6-1$ 1 even Dirichlet character of conductor 936 mapping 0 12 2 $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_{12}^2 -1,145 \mapsto \zeta_{12}^3 -\zeta_{12}$	1	odd Dirichlet character of conductor 933 mapping	1	62	3	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 933 mapping	0	2	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 936 mapping	0	12	2	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 936 mapping	0	12	2	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2	even Dirichlet character of conductor 936 mapping	2	6	2	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 936 mapping	0	6	2	
	1	even Dirichlet character of conductor 936 mapping	0	6	2	
1 even Dirichlet character of conductor 936 mapping 0 12 0 703 \mapsto -1, 469 \mapsto -1, 209 \mapsto $\zeta_{12}^2 - 1$, 145 \mapsto $\zeta_{12}^3 - \zeta_{12}$	1	odd Dirichlet character of conductor 936 mapping	3	6	2	
	1	even Dirichlet character of conductor 936 mapping	0	12	2	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	1	even Dirichlet character of conductor 936 mapping	0	12	2	

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$ \operatorname{ord}(\chi) $	f	triv.
1	odd Dirichlet character of conductor 936 mapping	3	6	2	
1	$703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6$	0	6	2	
1	even Dirichlet character of conductor 936 mapping	0	6	2	
2	$703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping	2	6	2	
1	$703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6+1,145 \mapsto -\zeta_6+1$ even Dirichlet character of conductor 937 mapping $5 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 937 mapping	2	4	1	
1	$5 \mapsto -\zeta_4$ odd Dirichlet character of conductor 939 mapping $314 \mapsto -1, 10 \mapsto \zeta_6$	3	6	2	
1	even Dirichlet character of conductor 939 mapping $314 \mapsto -1, 10 \mapsto \zeta_{24}^7$	2	24	2	
1	even Dirichlet character of conductor 939 mapping $314 \mapsto -1, 10 \mapsto \zeta_{24}^7 - \zeta_{24}^3$	2	24	2	
1	odd Dirichlet character of conductor 939 mapping $314 \mapsto -1, 10 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 939 mapping $314 \mapsto -1, 10 \mapsto -\zeta_6 + 1$	3	6	2	
2	odd Dirichlet character of conductor 941 mapping	3	4	1	
2	$2 \mapsto -\zeta_4$ odd Dirichlet character of conductor 943 mapping $534 \mapsto -1, 47 \mapsto \zeta_4$	3	4	1	
1	even Dirichlet character of conductor 944 mapping $591 \mapsto -1,709 \mapsto \zeta_4,769 \mapsto -1$	0	4	1	
1	even Dirichlet character of conductor 944 mapping $591 \mapsto -1,709 \mapsto -\zeta_4,769 \mapsto -1$	0	4	1	
1	even Dirichlet character of conductor 944 mapping $591 \mapsto -1,709 \mapsto -\zeta_4,769 \mapsto -1$	2	4	1	
1	odd Dirichlet character of conductor 947 mapping	1	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 949 mapping	3	24	2	
1	$366 \mapsto -1,443 \mapsto \zeta_{24}$ even Dirichlet character of conductor 949 mapping	0	24	2	
1	$366 \mapsto -\zeta_{24}^2, 443 \mapsto \zeta_{24}$ even Dirichlet character of conductor 949 mapping	0	12	2	
1	$366 \mapsto -\zeta_{12}^2 + 1,443 \mapsto \zeta_{12}$ odd Dirichlet character of conductor 949 mapping	3	24	2	
	$366 \mapsto -1,443 \mapsto \zeta_{24}^5$				

$\lambda_5(\chi)$	Dirichlet character θ	$\left egin{array}{l} ext{twist} \\ i \end{array} \right $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_{24}^6 + \zeta_{24}^2, 443 \mapsto \zeta_{24}^5$	0	24	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_{12}^2, 443 \mapsto \zeta_{12}^3$	2	12	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -1,443 \mapsto \zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_{12}, 443 \mapsto \zeta_{12}^3$	3	12	2	
2	odd Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_4, 443 \mapsto \zeta_4$	1	4	1	X
1	odd Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_4, 443 \mapsto \zeta_4$	3	4	1	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_{12}^2 + 1,443 \mapsto \zeta_{12}^3$	2	12	2	
1	odd Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_{12}^3 + \zeta_{12}, 443 \mapsto \zeta_{12}^3$	3	12	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_{24}^2, 443 \mapsto \zeta_{24}^7$	0	24	2	
1	odd Dirichlet character of conductor 949 mapping $366 \mapsto -1,443 \mapsto \zeta_{24}^7$	1	24	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_6, 443 \mapsto \zeta_6 - 1$	2	6	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_{12}^2, 443 \mapsto \zeta_{12}^3 - \zeta_{12}$	0	12	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_{24}^6 - \zeta_{24}^2, 443 \mapsto \zeta_{24}^7 - \zeta_{24}^3$	0	24	2	
1	odd Dirichlet character of conductor 949 mapping $366 \mapsto -1,443 \mapsto \zeta_{24}^7 - \zeta_{24}^3$	1	24	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -1,443 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_4, 443 \mapsto -1$	3	4	1	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_{24}^2, 443 \mapsto -\zeta_{24}$	0	24	2	
1	odd Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_{12}, 443 \mapsto -\zeta_{12}$	1	12	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_{12}^2, 443 \mapsto -\zeta_{12}$	0	12	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_6 + 1,443 \mapsto -\zeta_6$	2	6	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_{24}^6 + \zeta_{24}^2, 443 \mapsto -\zeta_{24}^5$	0	24	2	

$\lambda_5(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 949 mapping	0	24	2	
1	$366 \mapsto \zeta_{24}^6 - \zeta_{24}^2, 443 \mapsto -\zeta_{24}^7$ even Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_{12}^2 - 1,443 \mapsto -\zeta_{12}^3 + \zeta_{12}$	0	12	2	
1	odd Dirichlet character of conductor 949 mapping	1	12	2	
1	$366 \mapsto \zeta_{12}^3 - \zeta_{12}, 443 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_{24}^2, 443 \mapsto -\zeta_{24}^7 + \zeta_{24}^3$	0	24	2	
1	even Dirichlet character of conductor 951 mapping $635 \mapsto -1,319 \mapsto \zeta_4$	2	4	1	
3	even Dirichlet character of conductor 951 mapping $635 \mapsto -1,319 \mapsto -\zeta_4$	0	4	1	
1	even Dirichlet character of conductor 951 mapping $635 \mapsto -1,319 \mapsto -\zeta_4$	2	4	1	
1	odd Dirichlet character of conductor 952 mapping $239 \mapsto 1,477 \mapsto -1,409 \mapsto -1,785 \mapsto \zeta_4$	3	4	1	
1	odd Dirichlet character of conductor 952 mapping $239 \mapsto 1,477 \mapsto -1,409 \mapsto -1,785 \mapsto \zeta_8^3$	3	8	2	
2	odd Dirichlet character of conductor 952 mapping $239 \mapsto 1,477 \mapsto -1,409 \mapsto -1,785 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 952 mapping $239 \mapsto -1,477 \mapsto -1,409 \mapsto -1,785 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 952 mapping $239 \mapsto 1,477 \mapsto -1,409 \mapsto -1,785 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 952 mapping $239 \mapsto 1,477 \mapsto -1,409 \mapsto -1,785 \mapsto -\zeta_8^3$	3	8	2	
1	even Dirichlet character of conductor 957 mapping $320 \mapsto -1,871 \mapsto -1,727 \mapsto -1$	2	2	1	
2	odd Dirichlet character of conductor 957 mapping $320 \mapsto -1,871 \mapsto -1,727 \mapsto -\zeta_4$	1	4	1	X
1	odd Dirichlet character of conductor 959 mapping	1	4	1	
1	$549 \mapsto -1,414 \mapsto \zeta_4$ even Dirichlet character of conductor 959 mapping	0	24	2	
1	$549 \mapsto -\zeta_{24}^4 + 1,414 \mapsto \zeta_{24}^5 - \zeta_{24}$ even Dirichlet character of conductor 959 mapping	2	24	2	
1	$549 \mapsto -\zeta_{24}^4 + 1,414 \mapsto \zeta_{24}^5 - \zeta_{24}$ even Dirichlet character of conductor 959 mapping	0	24	2	
1	$549 \mapsto \zeta_{24}^4, 414 \mapsto -\zeta_{24}^5 + \zeta_{24}$ even Dirichlet character of conductor 959 mapping	2	24	2	
3	$549 \mapsto \zeta_{24}^4, 414 \mapsto -\zeta_{24}^5 + \zeta_{24}$ odd Dirichlet character of conductor 964 mapping $483 \mapsto -1, 489 \mapsto -1$	1	2	1	X

$\lambda_5(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 964 mapping $483 \mapsto -1,489 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 967 mapping	3	2	1	
1	$5 \mapsto -1$ even Dirichlet character of conductor 969 mapping	2	4	1	
1	$647 \mapsto -1,343 \mapsto \zeta_4,154 \mapsto -1$ odd Dirichlet character of conductor 971 mapping	3	2	1	
1	$6 \mapsto -1$ even Dirichlet character of conductor 973 mapping	0	6	2	
1	$696 \mapsto -1,141 \mapsto \zeta_6$ odd Dirichlet character of conductor 973 mapping	1	6	2	
1	$696 \mapsto -1,141 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 973 mapping	2	2	1	
1	$696 \mapsto -1,141 \mapsto -1$ odd Dirichlet character of conductor 973 mapping	1	6	2	
1	$696 \mapsto -1,141 \mapsto -\zeta_6$ even Dirichlet character of conductor 973 mapping	0	6	2	
1	$696 \mapsto -1,141 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 976 mapping	1	12	2	
	$367 \mapsto -1,245 \mapsto -\zeta_{12}^3,673 \mapsto \zeta_{12}^2$				
1	even Dirichlet character of conductor 976 mapping $367 \mapsto -1,245 \mapsto \zeta_4,673 \mapsto \zeta_4$	0	4	1	
2	odd Dirichlet character of conductor 976 mapping $367 \mapsto -1,245 \mapsto -\zeta_{12}^3,673 \mapsto \zeta_{12}^2 - 1$	3	12	2	
1	even Dirichlet character of conductor 976 mapping $367 \mapsto 1,245 \mapsto -\zeta_4,673 \mapsto -1$	0	4	1	
2	even Dirichlet character of conductor 976 mapping $367 \mapsto -1,245 \mapsto -\zeta_{12}^3,673 \mapsto -\zeta_{12}$	2	12	2	
2	odd Dirichlet character of conductor 976 mapping $367 \mapsto -1,245 \mapsto -\zeta_{12}^3,673 \mapsto -\zeta_{12}^2$	3	12	2	
1	odd Dirichlet character of conductor 976 mapping $367 \mapsto 1,245 \mapsto -\zeta_4,673 \mapsto -\zeta_4$	1	4	1	
1	odd Dirichlet character of conductor 976 mapping	3	4	1	
1	$367 \mapsto 1,245 \mapsto -\zeta_4,673 \mapsto -\zeta_4$ odd Dirichlet character of conductor 976 mapping	1	12	2	
2	$367 \mapsto -1,245 \mapsto -\zeta_{12}^3,673 \mapsto -\zeta_{12}^2 + 1$ even Dirichlet character of conductor 976 mapping	2	12	2	
1	$367 \mapsto -1,245 \mapsto -\zeta_{12}^3,673 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 977 mapping	0	4	1	
1	$3 \mapsto -\zeta_4$ even Dirichlet character of conductor 979 mapping	0	8	2	
	$90 \mapsto -1,804 \mapsto \zeta_8^3$				

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\lambda_5(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
odd Dirichlet character of conductor 981 mapping $1 = 10 \mapsto \zeta_6, 442 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 983 mapping $1 = 12 = 2$ odd Dirichlet character of conductor 984 mapping $1 = 247 \mapsto 1,439 \mapsto -1,329 \mapsto -1,457 \mapsto -\zeta_4$ odd Dirichlet character of conductor 988 mapping $1 = 247 \mapsto 1,457 \mapsto \zeta_6,781 \mapsto \zeta_6 = 1$ even Dirichlet character of conductor 988 mapping $1 = 2495 \mapsto -1,457 \mapsto \zeta_1,781 \mapsto \zeta_2 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conductor 988 mapping $1 = 4 = 1$ odd Dirichlet character of conduc	1		0	8	2	
1 even Dirichlet character of conductor 981 mapping 110 $\mapsto \zeta_{12}^2$, $442 \mapsto -\zeta_{12}$ 2 odd Dirichlet character of conductor 981 mapping 1 12 2 2 110 $\mapsto \zeta_{12}^2 - 1$, $442 \mapsto -\zeta_{12}$ 1 even Dirichlet character of conductor 981 mapping 1 12 2 2 110 $\mapsto -\zeta_{12}^2 + 1$, $442 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 981 mapping 1 10 $\mapsto -\zeta_{12}^2 + 1$, $442 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 981 mapping 1 10 $\mapsto -\zeta_{12}^2$, $442 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 981 mapping 1 12 2 2 2 2 2 2 2	1	odd Dirichlet character of conductor 981 mapping	3	6	2	
$ \begin{array}{c} 2 & \text{odd Dirichlet character of conductor } 981 \text{ mapping} \\ 110 \mapsto \zeta_{12}^2 - 1, 442 \mapsto -\zeta_{12} \\ \text{even Dirichlet character of conductor } 981 \text{ mapping} \\ 110 \mapsto -\zeta_{12}^2 + 1, 442 \mapsto -\zeta_{12} \\ \text{odd Dirichlet character of conductor } 981 \text{ mapping} \\ 110 \mapsto -\zeta_{12}^6 + 1, 442 \mapsto -\zeta_{6} \\ \text{1} & \text{even Dirichlet character of conductor } 981 \text{ mapping} \\ 110 \mapsto \zeta_{12}^2, 442 \mapsto -\zeta_{13}^2 + \zeta_{12} \\ \text{2} & \text{odd Dirichlet character of conductor } 981 \text{ mapping} \\ 110 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12} \\ \text{2} & \text{odd Dirichlet character of conductor } 981 \text{ mapping} \\ 110 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12} \\ \text{2} & \text{even Dirichlet character of conductor } 981 \text{ mapping} \\ 110 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12} \\ \text{2} & \text{odd Dirichlet character of conductor } 981 \text{ mapping} \\ 110 \mapsto -\zeta_{12}^2 + 1, 442 \mapsto -\zeta_{12}^3 + \zeta_{12} \\ \text{2} & \text{odd Dirichlet character of conductor } 983 \text{ mapping} \\ 110 \mapsto -\zeta_{12}^2 + 1, 442 \mapsto -\zeta_{12}^3 + \zeta_{12} \\ \text{2} & \text{odd Dirichlet character of conductor } 984 \text{ mapping} \\ 110 \mapsto -\zeta_{12}^2 + 1, 493 \mapsto -1, 329 \mapsto -1, 457 \mapsto -\zeta_4 \\ \text{3} & \text{odd Dirichlet character of conductor } 988 \text{ mapping} \\ 120 \mapsto -1, 457 \mapsto \zeta_6, 781 \mapsto \zeta_6 - 1 \\ \text{495} \mapsto -1, 457 \mapsto \zeta_6, 781 \mapsto \zeta_6 - 1 \\ \text{495} \mapsto -1, 457 \mapsto \zeta_1^3 - \zeta_{12}, 781 \mapsto \zeta_{12}^2 - 1 \\ \text{3} & \text{odd Dirichlet character of conductor } 988 \text{ mapping} \\ 120 \mapsto -1, 457 \mapsto \zeta_4, 781 \mapsto -1 \\ \text{495} \mapsto -1, 457 \mapsto \zeta_4, 781 \mapsto -1 \\ \text{495} \mapsto -1, 457 \mapsto \zeta_1, 781 \mapsto -\zeta_1^2 \\ \text{3} & \text{odd Dirichlet character of conductor } 988 \text{ mapping} \\ 120 \mapsto -1, 457 \mapsto \zeta_1, 781 \mapsto -\zeta_1^2 \\ \text{495} \mapsto -1, 457 \mapsto \zeta_1, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto \zeta_6, 1, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto \zeta_6, 1, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto \zeta_1, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto \zeta_1, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto \zeta_1, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto \zeta_1, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto \zeta_1, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto -\zeta_2, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto -\zeta_1, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto -\zeta_1, 781 \mapsto -\zeta_1^2 \\ \text{50} \mapsto -1, 457 \mapsto -\zeta_1, 781 \mapsto -\zeta_1, 781 \mapsto -\zeta_1, 781 \mapsto -\zeta_$	1	even Dirichlet character of conductor 981 mapping	0	12	2	
even Dirichlet character of conductor 981 mapping $110 \mapsto -\zeta_{12}^2 + 1,442 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 981 mapping $110 \mapsto -\zeta_6 + 1,442 \mapsto -\zeta_6$ even Dirichlet character of conductor 981 mapping $110 \mapsto \zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 981 mapping $110 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 981 mapping $110 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 981 mapping $110 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 981 mapping $110 \mapsto -\zeta_{12}^2 + 1,442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 983 mapping $110 \mapsto -\zeta_{12}^2 + 1,442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 984 mapping $110 \mapsto -\zeta_{12}^2 + 1,443 \mapsto -1,457 \mapsto -\zeta_4$ odd Dirichlet character of conductor 988 mapping $110 \mapsto -\zeta_{12}^2 + 1,457 \mapsto \zeta_6,781 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 988 mapping $110 \mapsto -\zeta_{12}^2 + 1,457 \mapsto \zeta_{12}^2 - 1$ odd Dirichlet character of conductor 988 mapping $110 \mapsto -\zeta_{12}^2 + \zeta_{12}^2 + \zeta_{$	2	odd Dirichlet character of conductor 981 mapping	1	12	2	X
odd Dirichlet character of conductor 981 mapping $1 = 10 \mapsto -\zeta_6 + 1,442 \mapsto -\zeta_6$ even Dirichlet character of conductor 981 mapping $1 = 10 \mapsto \zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2 = 110 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 981 mapping $1 = 12 = 2 = 110 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 981 mapping $1 = 12 = 2 = 110 \mapsto -\zeta_{12}^2 + 1,442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 983 mapping $1 = 12 = 2 = 110 \mapsto -\zeta_{12}^2 + 1,442 \mapsto -\zeta_{12}^3 + \zeta_{12}^3 + \zeta_{12$	1	even Dirichlet character of conductor 981 mapping	0	12	2	
even Dirichlet character of conductor 981 mapping $110 \mapsto \zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 981 mapping $110 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 981 mapping $110 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 981 mapping $110 \mapsto -\zeta_{12}^2 + 1,442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 983 mapping $110 \mapsto -\zeta_{12}^2 + 1,442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 984 mapping $110 \mapsto -\zeta_{12}^2 + 1,493 \mapsto -1,329 \mapsto -1,457 \mapsto -\zeta_4$ odd Dirichlet character of conductor 988 mapping $110 \mapsto -1,457 \mapsto \zeta_{12} + 1,457 \mapsto \zeta_{12} + 1,457$	1	odd Dirichlet character of conductor 981 mapping	3	6	2	
odd Dirichlet character of conductor 981 mapping $1 \ 10 \mapsto -\zeta_{12}^2, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 981 mapping $0 \ 12 \ 2$ $110 \mapsto -\zeta_{12}^2 + 1, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 983 mapping $0 \ 12 \ 2$ $110 \mapsto -\zeta_{12}^2 + 1, 442 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 983 mapping $0 \ 12 \ 2 \mapsto -1$ odd Dirichlet character of conductor 984 mapping $0 \ 247 \mapsto 1, 493 \mapsto -1, 329 \mapsto -1, 457 \mapsto -\zeta_4$ odd Dirichlet character of conductor 988 mapping $0 \ 495 \mapsto -1, 457 \mapsto \zeta_6, 781 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 988 mapping $0 \ 495 \mapsto -1, 457 \mapsto \zeta_1, 781 \mapsto -1$ odd Dirichlet character of conductor 988 mapping $0 \ 495 \mapsto -1, 457 \mapsto \zeta_4, 781 \mapsto -1$ odd Dirichlet character of conductor 988 mapping $0 \ 495 \mapsto -1, 457 \mapsto -\zeta_4, 781 \mapsto -1$ even Dirichlet character of conductor 988 mapping $0 \ 495 \mapsto -1, 457 \mapsto \zeta_{12}, 781 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 988 mapping $0 \ 495 \mapsto -1, 457 \mapsto \zeta_{12}, 781 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 988 mapping $0 \ 495 \mapsto -1, 457 \mapsto \zeta_{12}, 781 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 988 mapping $0 \ 495 \mapsto -1, 457 \mapsto \zeta_{12}, 781 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 988 mapping $0 \ 495 \mapsto -1, 457 \mapsto \zeta_{12}, 781 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 992 mapping $0 \ 495 \mapsto -1, 457 \mapsto -\zeta_6 +1, 781 \mapsto -\zeta_6$	1	even Dirichlet character of conductor 981 mapping	0	12	2	
even Dirichlet character of conductor 981 mapping $1000000000000000000000000000000000000$	2	odd Dirichlet character of conductor 981 mapping	1	12	2	X
odd Dirichlet character of conductor 983 mapping $5\mapsto -1$ odd Dirichlet character of conductor 984 mapping $247\mapsto 1,493\mapsto -1,329\mapsto -1,457\mapsto -\zeta_4$ odd Dirichlet character of conductor 988 mapping $495\mapsto -1,457\mapsto \zeta_6,781\mapsto \zeta_6-1$ even Dirichlet character of conductor 988 mapping $495\mapsto -1,457\mapsto \zeta_1^3-\zeta_{12},781\mapsto \zeta_{12}^2-1$ odd Dirichlet character of conductor 988 mapping $495\mapsto -1,457\mapsto \zeta_4,781\mapsto -1$ odd Dirichlet character of conductor 988 mapping $495\mapsto -1,457\mapsto \zeta_4,781\mapsto -1$ even Dirichlet character of conductor 988 mapping $495\mapsto -1,457\mapsto \zeta_1,781\mapsto -1$ even Dirichlet character of conductor 988 mapping $495\mapsto -1,457\mapsto \zeta_{12},781\mapsto -\zeta_{12}^2$ odd Dirichlet character of conductor 988 mapping $495\mapsto -1,457\mapsto \zeta_{12},781\mapsto -\zeta_{12}^2$ odd Dirichlet character of conductor 988 mapping $495\mapsto -1,457\mapsto -\zeta_6+1,781\mapsto -\zeta_6$ even Dirichlet character of conductor 992 mapping 22 24 22 24 24 odd Dirichlet character of conductor 992 mapping $2495\mapsto -1,869\mapsto -\zeta_{24}^3,65\mapsto \zeta_{24}^4$ odd Dirichlet character of conductor 992 mapping $2495\mapsto -1,869\mapsto -\zeta_{24}^3,65\mapsto \zeta_{24}^4$ odd Dirichlet character of conductor 992 mapping $2495\mapsto -1,869\mapsto -\zeta_{24}^3,65\mapsto \zeta_{24}^4$	1	even Dirichlet character of conductor 981 mapping	0	12	2	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2	odd Dirichlet character of conductor 983 mapping	3	2	1	
odd Dirichlet character of conductor 988 mapping 3 6 2 $495 \mapsto -1, 457 \mapsto \zeta_6, 781 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 988 mapping 0 12 2 $495 \mapsto -1, 457 \mapsto \zeta_{12}^3 - \zeta_{12}, 781 \mapsto \zeta_{12}^2 - 1$ odd Dirichlet character of conductor 988 mapping 0 0 0 0 0 0 0 0 0 0	1	odd Dirichlet character of conductor 984 mapping	3	4	1	
even Dirichlet character of conductor 988 mapping 0 12 2 $495 \mapsto -1, 457 \mapsto \zeta_{12}^3 - \zeta_{12}, 781 \mapsto \zeta_{12}^2 - 1$ odd Dirichlet character of conductor 988 mapping 1 4 1 $495 \mapsto -1, 457 \mapsto \zeta_4, 781 \mapsto -1$ 1 odd Dirichlet character of conductor 988 mapping 1 1 1 1 1 1 1 1 1 1	1	odd Dirichlet character of conductor 988 mapping	3	6	2	
odd Dirichlet character of conductor 988 mapping 1 4 1 4 1 495 \mapsto -1, 457 \mapsto ζ_4 , 781 \mapsto -1 odd Dirichlet character of conductor 988 mapping 1 4 1 495 \mapsto -1, 457 \mapsto - ζ_4 , 781 \mapsto -1 even Dirichlet character of conductor 988 mapping 0 12 2 495 \mapsto -1, 457 \mapsto ζ_{12} , 781 \mapsto - ζ_{12}^2 1 odd Dirichlet character of conductor 988 mapping 3 6 2 495 \mapsto -1, 457 \mapsto - ζ_6 1 even Dirichlet character of conductor 992 mapping 2 24 2 63 \mapsto -1, 869 \mapsto - ζ_{24}^3 , 65 \mapsto ζ_{24}^4 1 odd Dirichlet character of conductor 992 mapping 3 24 2	1	even Dirichlet character of conductor 988 mapping	0	12	2	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 988 mapping	1	4	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	3	odd Dirichlet character of conductor 988 mapping	1	4	1	
odd Dirichlet character of conductor 988 mapping 3 6 2 $495 \mapsto -1, 457 \mapsto -\zeta_6 + 1, 781 \mapsto -\zeta_6$ even Dirichlet character of conductor 992 mapping 2 24 2 $63 \mapsto -1, 869 \mapsto -\zeta_{24}^3, 65 \mapsto \zeta_{24}^4$ odd Dirichlet character of conductor 992 mapping 3 24 2	1	even Dirichlet character of conductor 988 mapping	0	12	2	
1 even Dirichlet character of conductor 992 mapping $\begin{bmatrix} 2 \\ 63 \mapsto -1,869 \mapsto -\zeta_{24}^3,65 \mapsto \zeta_{24}^4 \\ \end{bmatrix}$ odd Dirichlet character of conductor 992 mapping $\begin{bmatrix} 3 \\ 24 \end{bmatrix}$ 2	1	odd Dirichlet character of conductor 988 mapping	3	6	2	
1 odd Dirichlet character of conductor 992 mapping 3 24 2	1	even Dirichlet character of conductor 992 mapping	2	24	2	
	1	odd Dirichlet character of conductor 992 mapping	3	24	2	
1 odd Dirichlet character of conductor 992 mapping 1 8 2	1		1	8	2	
$\begin{bmatrix} 63 \mapsto 1,869 \mapsto \zeta_8^3,65 \mapsto -1 \\ \text{odd Dirichlet character of conductor 992 mapping} \\ 63 \mapsto 1,869 \mapsto \zeta_8^3,65 \mapsto -1 \end{bmatrix}$	1	odd Dirichlet character of conductor 992 mapping	3	8	2	

$\lambda_5(\chi)$	Dirichlet character θ	twist	$ \operatorname{ord}(\chi) $	f	triv.
		$\mid i \mid$			zero
1	odd Dirichlet character of conductor 992 mapping	1	8	2	
	$63 \mapsto 1,869 \mapsto -\zeta_8^3,65 \mapsto -1$				
1	odd Dirichlet character of conductor 992 mapping	3	8	2	
1	$63 \mapsto 1,869 \mapsto -\zeta_8^3,65 \mapsto -1$ odd Dirichlet character of conductor 992 mapping	3	24	2	
1	63 \mapsto -1,869 \mapsto - ζ_{24}^{5} + ζ_{24} ,65 \mapsto - ζ_{24}^{4}	3	24	2	
1	even Dirichlet character of conductor 992 mapping	2	24	2	
	$63 \mapsto -1,869 \mapsto \zeta_{24}^3,65 \mapsto -\zeta_{24}^4 + 1$				
1	odd Dirichlet character of conductor 997 mapping	1	4	1	
	$7 \mapsto \zeta_4$			_	
1	even Dirichlet character of conductor 997 mapping	2	2	1	
1	$7 \mapsto -1$ odd Dirichlet character of conductor 997 mapping	1	4	1	
1	odd Dirichlet Character of conductor 997 mapping $7\mapsto -\zeta_4$	1	4	1	
2	odd Dirichlet character of conductor 997 mapping	3	4	1	
	$7 \mapsto -\zeta_4$				

III. p = 7

Table 3: Dirichlet characters $\chi=\theta\omega^i$ with nontrivial $\lambda_7(\chi)$ invariant.

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv. zero
2	even Dirichlet character of conductor 9 mapping $2 \mapsto$	0	3	1	
1	ζ_3 even Dirichlet character of conductor 13 mapping $2 \mapsto \zeta_6$	4	6	1	
4	odd Dirichlet character of conductor 19 mapping $2 \mapsto \zeta_6$	1	6	1	X
2	odd Dirichlet character of conductor 19 mapping $2 \mapsto -\zeta_6 + 1$	1	6	1	X
2	even Dirichlet character of conductor 24 mapping $7 \mapsto -1, 13 \mapsto -1, 17 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 31 mapping $3 \mapsto -\zeta_3 - 1$	2	3	1	
1	odd Dirichlet character of conductor 32 mapping $31 \mapsto -1, 5 \mapsto \zeta_8^3$	5	8	2	
1	odd Dirichlet character of conductor 32 mapping $31 \mapsto -1, 5 \mapsto -\zeta_8$	5	8	2	
1	even Dirichlet character of conductor 36 mapping $19 \mapsto -1, 29 \mapsto \zeta_6$	4	6	1	
1	odd Dirichlet character of conductor 36 mapping	3	6	1	
1	$19 \mapsto -1, 29 \mapsto -\zeta_6$ even Dirichlet character of conductor 37 mapping	0	18	3	
1	$2 \mapsto \zeta_{18}$ even Dirichlet character of conductor 37 mapping	0	18	3	
1	$2 \mapsto \zeta_{18}^4 - \zeta_{18}$ even Dirichlet character of conductor 37 mapping	0	2	1	
1	$2 \mapsto -1$ even Dirichlet character of conductor 37 mapping	2	3	1	
1	$2 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 37 mapping	0	18	3	
1	$2 \mapsto -\zeta_{18}^4$ even Dirichlet character of conductor 37 mapping	4	6	1	
1	$2 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 40 mapping	2	2	1	
1	$31\mapsto 1, 21\mapsto -1, 17\mapsto -1$ even Dirichlet character of conductor 41 mapping $6\mapsto -1$	4	2	1	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 43 mapping	3	6	1	
1	$3 \mapsto \zeta_6$ odd Dirichlet character of conductor 43 mapping	5	6	1	
1	$3 \mapsto \zeta_6$ even Dirichlet character of conductor 44 mapping $23 \mapsto -1, 13 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 45 mapping	5	12	2	
1	$11 \mapsto -\zeta_{12}^2, 37 \mapsto \zeta_{12}^3$ odd Dirichlet character of conductor 45 mapping $11 \mapsto -\zeta_{12}^2, 37 \mapsto -\zeta_{12}^3$	5	12	2	
1	odd Dirichlet character of conductor 51 mapping $35 \mapsto -1, 37 \mapsto \zeta_8$	5	8	2	
1	even Dirichlet character of conductor 51 mapping $35 \mapsto -1, 37 \mapsto \zeta_{16}^{8}$	0	16	2	
1	even Dirichlet character of conductor 51 mapping $35 \mapsto -1, 37 \mapsto \zeta_{16}^{5}$	0	16	2	
1	odd Dirichlet character of conductor 51 mapping	5	8	2	
1	$35 \mapsto -1, 37 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 53 mapping $2 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 57 mapping	2	2	1	
1	$20 \mapsto -1, 40 \mapsto -1$ even Dirichlet character of conductor 61 mapping	2	6	1	
1	$2 \mapsto \zeta_6$ even Dirichlet character of conductor 61 mapping	2	3	1	
1	$2 \mapsto \zeta_3$ odd Dirichlet character of conductor 61 mapping	5	12	2	
1	$2 \mapsto \zeta_{12}^3 - \zeta_{12}$ even Dirichlet character of conductor 61 mapping	4	3	1	
1	$2 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 61 mapping	4	6	1	
1	$2 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 61 mapping	5	12	2	
1	$2 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 65 mapping	2	12	2	
1	$27 \mapsto \zeta_{12}^3, 41 \mapsto \zeta_{12}$ even Dirichlet character of conductor 65 mapping	2	12	2	
1	$27 \mapsto -\zeta_{12}^3, 41 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 67 mapping	3	6	1	
1	$2 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 71 mapping	1	2	1	
	$7 \mapsto -1$				

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 72 mapping $55 \mapsto -1, 37 \mapsto -1, 65 \mapsto \zeta_6$	0	6	1	
2	even Dirichlet character of conductor 72 mapping	0	6	1	
1	$55 \mapsto 1,37 \mapsto -1,65 \mapsto -\zeta_6$ even Dirichlet character of conductor 73 mapping	0	3	1	
1	$5 \mapsto \zeta_3$ even Dirichlet character of conductor 73 mapping	0	2	1	
1	$5 \mapsto -1$ even Dirichlet character of conductor 73 mapping	4	2	1	
1	$5 \mapsto -1$ even Dirichlet character of conductor 76 mapping	0	6	1	
1	$39 \mapsto -1, 21 \mapsto \zeta_6$ odd Dirichlet character of conductor 76 mapping	3	6	1	
1	$39 \mapsto -1, 21 \mapsto -\zeta_6$ odd Dirichlet character of conductor 76 mapping	5	6	1	
2	$39 \mapsto -1, 21 \mapsto -\zeta_6$ odd Dirichlet character of conductor 79 mapping	3	6	1	
1	$3 \mapsto \zeta_6$ odd Dirichlet character of conductor 79 mapping	5	2	1	
1	$3 \mapsto -1$ odd Dirichlet character of conductor 85 mapping	5	8	2	
1	$52 \mapsto \zeta_8^2, 71 \mapsto \zeta_8^3$ odd Dirichlet character of conductor 85 mapping	5	8	2	
1	$52 \mapsto -\zeta_8^2, 71 \mapsto -\zeta_8$ even Dirichlet character of conductor 89 mapping	0	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 92 mapping	0	2	1	
1	$47 \mapsto -1, 5 \mapsto -1$ even Dirichlet character of conductor 93 mapping	2	6	1	
2	$32 \mapsto -1, 34 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 93 mapping	4	6	1	
1	$32 \mapsto -1, 34 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 95 mapping	3	2	1	
3	$77 \mapsto -1, 21 \mapsto -1$ even Dirichlet character of conductor 95 mapping	0	6	1	
1	$77 \mapsto -1, 21 \mapsto -\zeta_6$ even Dirichlet character of conductor 97 mapping	2	48	2	
1	$5 \mapsto \zeta_{48}^5$ even Dirichlet character of conductor 97 mapping	0	3	1	
1	$5 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 97 mapping	$\begin{vmatrix} 1 & 1 \\ 2 & 1 \end{vmatrix}$	48	2	
	$5\mapsto -\zeta_{48}^{11}$				

$\lambda_7(\chi)$	Dirichlet character θ	$\left egin{array}{l} ext{twist} \ i \end{array} \right $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 101 mapping $2 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 103 mapping	4	3	1	
1	$5 \mapsto \zeta_3$ odd Dirichlet character of conductor 103 mapping $5 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 103 mapping	2	3	1	
1	$5 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 104 mapping	3	6	1	
1	$79 \mapsto -1,53 \mapsto -1,41 \mapsto \zeta_6$ even Dirichlet character of conductor 104 mapping $79 \mapsto 1,53 \mapsto -1,41 \mapsto \zeta_6 - 1$	4	6	1	
1	odd Dirichlet character of conductor 107 mapping $2 \mapsto -1$	5	2	1	
1	odd Dirichlet character of conductor 111 mapping $38 \mapsto -1, 76 \mapsto \zeta_6$	3	6	1	
1	odd Dirichlet character of conductor 111 mapping $38 \mapsto -1,76 \mapsto \zeta_6$	5	6	1	
2	odd Dirichlet character of conductor 111 mapping $38 \mapsto -1,76 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 111 mapping $38 \mapsto -1,76 \mapsto -\zeta_6$	3	6	1	
1	odd Dirichlet character of conductor 117 mapping $92 \mapsto \zeta_6, 28 \mapsto \zeta_6 - 1$	3	6	1	
1	even Dirichlet character of conductor 117 mapping $92 \mapsto -\zeta_3 - 1, 28 \mapsto \zeta_3$	0	3	1	
1	odd Dirichlet character of conductor 117 mapping $92 \mapsto -\zeta_{12}^2, 28 \mapsto \zeta_{12}^3 - \zeta_{12}$	5	12	2	
1	even Dirichlet character of conductor 117 mapping $92 \mapsto -\zeta_6, 28 \mapsto -1$	2	6	1	
1	even Dirichlet character of conductor 117 mapping $92 \mapsto \zeta_3, 28 \mapsto -\zeta_3 - 1$	4	3	1	
1	odd Dirichlet character of conductor 117 mapping	5	6	1	
1	$92 \mapsto \zeta_6, 28 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 117 mapping	4	6	1	
2	$92 \mapsto \zeta_6 - 1, 28 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 117 mapping	4	6	1	
2	$92 \mapsto -\zeta_6, 28 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 117 mapping	5	6	1	
1	$92 \mapsto -\zeta_6 + 1, 28 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 117 mapping $92 \mapsto -\zeta_{12}^2, 28 \mapsto -\zeta_{12}^3 + \zeta_{12}$	5	12	2	

	i twist	$\operatorname{ord}(\chi)$	f	triv. zero
odd Dirichlet character of conductor 123 mapping	3	2	1	
even Dirichlet character of conductor 124 mapping	0	6	1	
even Dirichlet character of conductor 124 mapping	4	6	1	
odd Dirichlet character of conductor 127 mapping	3	6	1	
even Dirichlet character of conductor 127 mapping	4	3	1	
odd Dirichlet character of conductor 129 mapping	5	6	1	
odd Dirichlet character of conductor 131 mapping	5	2	1	
odd Dirichlet character of conductor 136 mapping	3	8	2	
odd Dirichlet character of conductor 136 mapping	1	2	1	X
odd Dirichlet character of conductor 136 mapping	3	2	1	
odd Dirichlet character of conductor 136 mapping	3	8	2	
odd Dirichlet character of conductor 143 mapping	1	2	1	X
odd Dirichlet character of conductor 143 mapping	1	6	1	
odd Dirichlet character of conductor 143 mapping	5	6	1	
even Dirichlet character of conductor 144 mapping	4	12	2	
even Dirichlet character of conductor 144 mapping	4	12	2	
even Dirichlet character of conductor 145 mapping	0	2	1	
even Dirichlet character of conductor 148 mapping	0	12	2	
odd Dirichlet character of conductor 148 mapping	5	6	1	
even Dirichlet character of conductor 148 mapping	0	12	2	
odd Dirichlet character of conductor 148 mapping	1	6	1	
	even Dirichlet character of conductor 124 mapping $63 \mapsto -1, 65 \mapsto \zeta_6$ even Dirichlet character of conductor 124 mapping $63 \mapsto -1, 65 \mapsto \zeta_6$ odd Dirichlet character of conductor 127 mapping $3 \mapsto \zeta_6$ even Dirichlet character of conductor 127 mapping $3 \mapsto \zeta_6$ even Dirichlet character of conductor 129 mapping $3 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 129 mapping $44 \mapsto -1, 46 \mapsto -\zeta_6$ odd Dirichlet character of conductor 131 mapping $2 \mapsto -1$ odd Dirichlet character of conductor 136 mapping $2 \mapsto -1$ odd Dirichlet character of conductor 136 mapping $2 \mapsto -1$ odd Dirichlet character of conductor 136 mapping $2 \mapsto -1, 69 \mapsto -1, 105 \mapsto \zeta_8$ odd Dirichlet character of conductor 136 mapping $2 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ odd Dirichlet character of conductor 136 mapping $2 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ odd Dirichlet character of conductor 136 mapping $2 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ odd Dirichlet character of conductor 143 mapping $2 \mapsto -1, 67 \mapsto -1$ odd Dirichlet character of conductor 143 mapping $2 \mapsto -1, 67 \mapsto -\zeta_6$ odd Dirichlet character of conductor 143 mapping $2 \mapsto -1, 67 \mapsto -\zeta_6$ odd Dirichlet character of conductor 144 mapping $2 \mapsto -1, 67 \mapsto -\zeta_6$ odd Dirichlet character of conductor 144 mapping $2 \mapsto -1, 67 \mapsto -\zeta_6$ odd Dirichlet character of conductor 144 mapping $2 \mapsto -1, 67 \mapsto -\zeta_6$ oven Dirichlet character of conductor 145 mapping $2 \mapsto -1, 67 \mapsto -\zeta_{12}$ oven Dirichlet character of conductor 148 mapping $2 \mapsto -1, 113 \mapsto \zeta_{12}$ odd Dirichlet character of conductor 148 mapping $2 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $2 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $2 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $2 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $2 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $2 \mapsto -1, 113 \mapsto -\zeta_{12}$	even Dirichlet character of conductor 124 mapping $63 \mapsto -1, 65 \mapsto \zeta_6$ even Dirichlet character of conductor 124 mapping $63 \mapsto -1, 65 \mapsto \zeta_6$ even Dirichlet character of conductor 127 mapping $3 \mapsto \zeta_6$ even Dirichlet character of conductor 127 mapping $3 \mapsto \zeta_6$ even Dirichlet character of conductor 129 mapping $44 \mapsto -1, 46 \mapsto -\zeta_6$ even Dirichlet character of conductor 131 mapping $44 \mapsto -1, 46 \mapsto -\zeta_6$ end Dirichlet character of conductor 136 mapping $44 \mapsto -1, 69 \mapsto -1, 105 \mapsto \zeta_8$ end Dirichlet character of conductor 136 mapping $44 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ end Dirichlet character of conductor 136 mapping $44 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ end Dirichlet character of conductor 136 mapping $44 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ end Dirichlet character of conductor 136 mapping $44 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ end Dirichlet character of conductor 136 mapping $44 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ end Dirichlet character of conductor 143 mapping $44 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ end Dirichlet character of conductor 143 mapping $44 \mapsto -1, 69 \mapsto -1, 69$	$83 \mapsto -1, 88 \mapsto -1$ even Dirichlet character of conductor 124 mapping $63 \mapsto -1, 65 \mapsto \zeta_6$ even Dirichlet character of conductor 124 mapping $63 \mapsto -1, 65 \mapsto \zeta_6$ odd Dirichlet character of conductor 127 mapping $3 \mapsto \zeta_6$ even Dirichlet character of conductor 127 mapping $3 \mapsto \zeta_6$ even Dirichlet character of conductor 129 mapping $4 \mapsto -1, 46 \mapsto -\zeta_6$ odd Dirichlet character of conductor 131 mapping $4 \mapsto -1, 46 \mapsto -\zeta_6$ odd Dirichlet character of conductor 136 mapping $2 \mapsto -1$ odd Dirichlet character of conductor 136 mapping $103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ odd Dirichlet character of conductor 136 mapping $103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ odd Dirichlet character of conductor 136 mapping $103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ odd Dirichlet character of conductor 136 mapping $103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ odd Dirichlet character of conductor 136 mapping $103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1$ odd Dirichlet character of conductor 143 mapping $103 \mapsto -1, 67 \mapsto -\zeta_6$ odd Dirichlet character of conductor 143 mapping $103 \mapsto -1, 67 \mapsto -\zeta_6$ even Dirichlet character of conductor 144 mapping $103 \mapsto -1, 67 \mapsto -\zeta_6$ even Dirichlet character of conductor 144 mapping $103 \mapsto -1, 67 \mapsto -\zeta_6$ even Dirichlet character of conductor 144 mapping $103 \mapsto -1, 67 \mapsto -\zeta_6$ over Dirichlet character of conductor 144 mapping $103 \mapsto -1, 67 \mapsto -\zeta_6$ even Dirichlet character of conductor 144 mapping $103 \mapsto -1, 67 \mapsto -\zeta_{12}$ even Dirichlet character of conductor 148 mapping $103 \mapsto -1, 113 \mapsto \zeta_{12}$ odd Dirichlet character of conductor 148 mapping $103 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $103 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $103 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $103 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $103 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $103 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $103 \mapsto -1, 113 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 148 mapping $103 \mapsto -1, 113 \mapsto \zeta_6 $	even Dirichlet character of conductor 124 mapping 0 6 1 6 1 6 3 \mapsto -1, 65 \mapsto ζ_6 even Dirichlet character of conductor 124 mapping 4 6 1 6 3 \mapsto -1, 65 \mapsto ζ_6 odd Dirichlet character of conductor 127 mapping 3 6 1 3 \mapsto ζ_6 even Dirichlet character of conductor 127 mapping 3 6 1 3 \mapsto ζ_6 even Dirichlet character of conductor 129 mapping 4 3 1 3 \mapsto ζ_6 even Dirichlet character of conductor 129 mapping 5 6 1 44 \mapsto -1, 46 \mapsto - ζ_6 odd Dirichlet character of conductor 131 mapping 5 2 1 2 \mapsto -1 odd Dirichlet character of conductor 136 mapping 1 2 1 103 \mapsto -1, 69 \mapsto -1, 105 \mapsto ζ_8^3 odd Dirichlet character of conductor 136 mapping 1 2 1 103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1 odd Dirichlet character of conductor 136 mapping 3 2 1 103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1 odd Dirichlet character of conductor 136 mapping 3 8 2 103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -1 odd Dirichlet character of conductor 136 mapping 1 2 1 103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -2 0 103 \mapsto -1, 69 \mapsto -1, 105 \mapsto -2 0 104 Dirichlet character of conductor 143 mapping 1 2 1 103 \mapsto -1, 67 \mapsto -1, 67 \mapsto - ζ_6 odd Dirichlet character of conductor 143 mapping 1 2 1 104 Dirichlet character of conductor 143 mapping 1 2 1 1 104 Dirichlet character of conductor 144 mapping 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 149 mapping	0	2	1	
1	$2 \mapsto -1$ even Dirichlet character of conductor 149 mapping $2 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 151 mapping	2	3	1	
3	$6 \mapsto \zeta_3$ odd Dirichlet character of conductor 151 mapping $6 \mapsto -1$	1	2	1	
1	even Dirichlet character of conductor 152 mapping $39 \mapsto -1,77 \mapsto -1,97 \mapsto \zeta_6$	2	6	1	
1	odd Dirichlet character of conductor 152 mapping $39 \mapsto 1,77 \mapsto -1,97 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 153 mapping $137 \mapsto \zeta_{48}^{8}, 37 \mapsto \zeta_{48}^{9}$	2	48	2	
1	even Dirichlet character of conductor 153 mapping $137 \mapsto \zeta_{48}^{8}, 37 \mapsto \zeta_{48}^{15}$	2	48	2	
1	even Dirichlet character of conductor 153 mapping	2	6	1	
1	$137 \mapsto \zeta_6 - 1, 37 \mapsto -1$ odd Dirichlet character of conductor 153 mapping	3	6	1	
1	$137 \mapsto -\zeta_6 + 1, 37 \mapsto -1$ even Dirichlet character of conductor 155 mapping	4	6	1	
1	$32 \mapsto -1,96 \mapsto -\zeta_6$ even Dirichlet character of conductor 156 mapping	0	2	1	
1	$79 \mapsto -1,53 \mapsto -1,145 \mapsto -1$ even Dirichlet character of conductor 156 mapping	0	6	1	
1	$79 \mapsto -1,53 \mapsto -1,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 156 mapping	2	6	1	
1	$79 \mapsto -1,53 \mapsto -1,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 156 mapping	2	6	1	
1	$79 \mapsto -1,53 \mapsto -1,145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 157 mapping	2	6	1	
1	$5 \mapsto \zeta_6$ even Dirichlet character of conductor 157 mapping	2	6	1	
1	$5 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 159 mapping	3	2	1	
1	$107 \mapsto -1,55 \mapsto -1$ even Dirichlet character of conductor 160 mapping	0	8	2	
1	$31 \mapsto -1, 101 \mapsto \zeta_8^3, 97 \mapsto \zeta_8^2$ even Dirichlet character of conductor 160 mapping	0	8	2	
1	$31 \mapsto -1,101 \mapsto -\zeta_8, 97 \mapsto -\zeta_8^2$ odd Dirichlet character of conductor 163 mapping	5	6	1	
	$2 \mapsto \zeta_6$				

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 163 mapping	0	3	1	<u></u>
	$2 \mapsto -\zeta_3 - 1$				
1	odd Dirichlet character of conductor 163 mapping	5	6	1	
1	$2 \mapsto -\zeta_6 + 1$	5	18	3	
1	odd Dirichlet character of conductor 171 mapping $20 \mapsto \zeta_{18}^3 - 1,154 \mapsto \zeta_{18}$	5	10	9	
2	odd Dirichlet character of conductor 171 mapping	1	6	1	
	$20 \mapsto -\zeta_6, 154 \mapsto \zeta_6$				
1	even Dirichlet character of conductor 171 mapping	2	3	1	
	$20 \mapsto -\zeta_3 - 1, 154 \mapsto \zeta_3$				
1	odd Dirichlet character of conductor 171 mapping	5	18	3	
1	$20 \mapsto \zeta_{18}^3 - 1, 154 \mapsto \zeta_{18}^4 - \zeta_{18}$		10	9	
1	odd Dirichlet character of conductor 171 mapping $20 \mapsto \zeta_{18}^3 - 1,154 \mapsto -\zeta_{18}^4$	5	18	3	
1	odd Dirichlet character of conductor 171 mapping	5	6	1	
	$20 \mapsto -\zeta_6, 154 \mapsto -\zeta_6 + 1$				
1	even Dirichlet character of conductor 172 mapping	2	2	1	
	$87 \mapsto -1, 89 \mapsto -1$				
1	even Dirichlet character of conductor 172 mapping	$\mid 4 \mid$	6	1	
9	$87 \mapsto -1, 89 \mapsto -\zeta_6 + 1$	1	$ $ $_2$	1	
2	even Dirichlet character of conductor 173 mapping $2 \mapsto -1$	4	_ Z	1	
1	even Dirichlet character of conductor 180 mapping	0	6	1	
	$91 \mapsto -1,101 \mapsto \zeta_6,37 \mapsto -1$				
1	even Dirichlet character of conductor 180 mapping	2	6	1	
	$91 \mapsto -1,101 \mapsto \zeta_6, 37 \mapsto -1$				
1	odd Dirichlet character of conductor 185 mapping	1	12	2	
1	$112 \mapsto \zeta_{12}^3, 76 \mapsto -\zeta_{12}^2$		C	1	
1	even Dirichlet character of conductor 185 mapping $112 \mapsto -1,76 \mapsto -\zeta_6$	0	6	1	
1	odd Dirichlet character of conductor 185 mapping	1	12	2	
-	$112 \mapsto -\zeta_{12}^3, 76 \mapsto -\zeta_{12}^2$	-		_	
2	even Dirichlet character of conductor 185 mapping	0	6	1	
	$112 \mapsto -1,76 \mapsto -\zeta_6 + 1$				
1	even Dirichlet character of conductor 185 mapping	4	6	1	
1	$112 \mapsto -1,76 \mapsto -\zeta_6 + 1$		1.0	0	
1	even Dirichlet character of conductor 187 mapping	0	16	2	
1	$35 \mapsto -1, 122 \mapsto \zeta_{16}$ even Dirichlet character of conductor 187 mapping	2	16	2	
1	$35\mapsto -1,122\mapsto \zeta_{16}$		10	4	
1	even Dirichlet character of conductor 187 mapping	0	16	2	
	$35 \mapsto -1,122 \mapsto \zeta_{16}^7$				

$\lambda_7(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 187 mapping $35 \mapsto -1, 122 \mapsto \zeta_{16}^{7}$	2	16	2	
1	even Dirichlet character of conductor 188 mapping $95 \mapsto -1, 5 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 193 mapping $5 \mapsto \zeta_6$	0	6	1	
2	even Dirichlet character of conductor 193 mapping	2	3	1	
1	$5 \mapsto \zeta_3$ even Dirichlet character of conductor 193 mapping	4	3	1	
1	$5 \mapsto \zeta_3$ even Dirichlet character of conductor 193 mapping	2	2	1	
1	$5 \mapsto -1$ odd Dirichlet character of conductor 195 mapping	3	6	1	
2	$131 \mapsto -1, 157 \mapsto -1, 106 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 195 mapping	1	2	1	X
1	$131 \mapsto -1, 157 \mapsto -1, 106 \mapsto -1$ odd Dirichlet character of conductor 195 mapping	3	6	1	
1	$131 \mapsto -1, 157 \mapsto -1, 106 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 197 mapping	2	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 199 mapping	3	6	1	
1	$3 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 201 mapping	5	6	1	
1	$68 \mapsto -1, 136 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 201 mapping	2	2	1	
3	$68 \mapsto -1, 136 \mapsto -1$ odd Dirichlet character of conductor 201 mapping	5	6	1	
1	$68 \mapsto -1, 136 \mapsto -\zeta_6$ even Dirichlet character of conductor 201 mapping	2	6	1	
1	$68 \mapsto -1, 136 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 207 mapping	4	6	1	
1	$47 \mapsto -\zeta_6 + 1, 28 \mapsto -1$ odd Dirichlet character of conductor 208 mapping	3	12	2	
1	$79 \mapsto -1,53 \mapsto \zeta_{12}^3,145 \mapsto -\zeta_{12}^2 + 1$ odd Dirichlet character of conductor 208 mapping	3	12	2	
1	$79 \mapsto -1,53 \mapsto -\zeta_{12}^3,145 \mapsto -\zeta_{12}^2 + 1$ odd Dirichlet character of conductor 211 mapping	1	6	1	
2	$2 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 211 mapping	5	6	1	
1	$2 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 215 mapping	2	6	1	
	$87 \mapsto -1, 46 \mapsto -\zeta_6$				

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 215 mapping $87 \mapsto -1, 46 \mapsto -\zeta_6 + 1$	5	6	1	
1	even Dirichlet character of conductor 219 mapping $74 \mapsto -1,151 \mapsto \zeta_8$	0	8	2	
2	odd Dirichlet character of conductor 219 mapping	1	6	1	X
1	$74 \mapsto -1,151 \mapsto -\zeta_6$ odd Dirichlet character of conductor 219 mapping	3	6	1	
1	$74 \mapsto -1,151 \mapsto -\zeta_6$ even Dirichlet character of conductor 219 mapping $74 \mapsto -1,151 \mapsto -\zeta_8^3$	0	8	2	
1	even Dirichlet character of conductor 221 mapping $171 \mapsto -\zeta_{12}^2 + 1,105 \mapsto \zeta_{12}^3$	4	12	2	
3	even Dirichlet character of conductor 221 mapping $171 \mapsto \zeta_6, 105 \mapsto -1$	4	6	1	
1	even Dirichlet character of conductor 221 mapping $171 \mapsto -\zeta_{12}^2 + 1,105 \mapsto -\zeta_{12}^3$	4	12	2	
1	even Dirichlet character of conductor 223 mapping $3 \mapsto \zeta_3$	2	3	1	
1	odd Dirichlet character of conductor 228 mapping $115 \mapsto -1,77 \mapsto -1,97 \mapsto -\zeta_6 + 1$	1	6	1	
1	odd Dirichlet character of conductor 228 mapping $115 \mapsto -1,77 \mapsto -1,97 \mapsto -\zeta_6 + 1$	3	6	1	
1	even Dirichlet character of conductor 229 mapping $6 \mapsto \zeta_3$	2	3	1	
1	$0 \mapsto \zeta_3$ even Dirichlet character of conductor 229 mapping $6 \mapsto -\zeta_3 - 1$	4	3	1	
1	even Dirichlet character of conductor 229 mapping $6 \mapsto -\zeta_6 + 1$	2	6	1	
1	odd Dirichlet character of conductor 233 mapping $3 \mapsto \zeta_8$	5	8	2	
1	odd Dirichlet character of conductor 233 mapping $3 \mapsto -\zeta_8^3$	5	8	2	
1	odd Dirichlet character of conductor 235 mapping	5	2	1	
1	$142 \mapsto -1, 146 \mapsto -1$ even Dirichlet character of conductor 237 mapping	2	2	1	
1	$80 \mapsto -1, 82 \mapsto -1$ odd Dirichlet character of conductor 237 mapping	1	6	1	
1	$80 \mapsto -1, 82 \mapsto -\zeta_6$ odd Dirichlet character of conductor 237 mapping	5	6	1	
1	$80 \mapsto -1, 82 \mapsto -\zeta_6$ even Dirichlet character of conductor 241 mapping	4	6	1	
	$7 \mapsto \zeta_6$				

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 241 mapping	2	3	1	
1	$7 \mapsto \zeta_3$ even Dirichlet character of conductor 241 mapping	0	3	1	
1	$7 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 244 mapping $123 \mapsto -1, 185 \mapsto \zeta_6$	5	6	1	
1	odd Dirichlet character of conductor 247 mapping $210 \mapsto -1, 40 \mapsto \zeta_6$	3	6	1	
1	even Dirichlet character of conductor 247 mapping $210 \mapsto -\zeta_6 + 1, 40 \mapsto \zeta_6 - 1$	0	6	1	
1	odd Dirichlet character of conductor 247 mapping $210 \mapsto -\zeta_6, 40 \mapsto -1$	5	6	1	
1	even Dirichlet character of conductor 247 mapping $210 \mapsto \zeta_6, 40 \mapsto -\zeta_6$	0	6	1	
1	odd Dirichlet character of conductor 247 mapping $210 \mapsto \zeta_6, 40 \mapsto -\zeta_6 + 1$	1	6	1	
1	odd Dirichlet character of conductor 247 mapping $210 \mapsto \zeta_6, 40 \mapsto -\zeta_6 + 1$	3	6	1	
1	odd Dirichlet character of conductor 247 mapping $210 \mapsto \zeta_6 - 1, 40 \mapsto -\zeta_6 + 1$	1	6	1	
1	odd Dirichlet character of conductor 248 mapping $63 \mapsto -1, 125 \mapsto -1, 65 \mapsto \zeta_6 - 1$	3	6	1	
1	even Dirichlet character of conductor 248 mapping $63 \mapsto -1, 125 \mapsto -1, 65 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 248 mapping $63 \mapsto 1,125 \mapsto -1,65 \mapsto -\zeta_6$	0	6	1	
1	even Dirichlet character of conductor 248 mapping $63 \mapsto 1,125 \mapsto -1,65 \mapsto -\zeta_6$	4	6	1	
1	odd Dirichlet character of conductor 248 mapping $63 \mapsto 1,125 \mapsto -1,65 \mapsto -\zeta_6 + 1$	5	6	1	
1	even Dirichlet character of conductor 248 mapping $63 \mapsto -1, 125 \mapsto -1, 65 \mapsto -\zeta_6 + 1$	0	6	1	
1	even Dirichlet character of conductor 253 mapping $24 \mapsto -1, 166 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 255 mapping $86 \mapsto -1, 52 \mapsto -1, 241 \mapsto \zeta_8$	3	8	2	
1	odd Dirichlet character of conductor 255 mapping $86 \mapsto -1,52 \mapsto -1,241 \mapsto -1$	5	2	1	
1	odd Dirichlet character of conductor 255 mapping $86 \mapsto -1,52 \mapsto -1,241 \mapsto -\zeta_8^3$	3	8	2	
1	odd Dirichlet character of conductor 260 mapping $131 \mapsto -1, 157 \mapsto -1, 41 \mapsto \zeta_6$	5	6	1	

$\lambda_7(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
2	odd Dirichlet character of conductor 260 mapping $131 \mapsto -1, 157 \mapsto -1, 41 \mapsto -1$	5	2	1	
1	odd Dirichlet character of conductor 260 mapping	5	6	1	
2	$131 \mapsto -1, 157 \mapsto -1, 41 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 261 mapping	5	6	1	
1	$146 \mapsto -\zeta_6 + 1, 118 \mapsto -1$ even Dirichlet character of conductor 264 mapping	2	2	1	
1	$199 \mapsto 1,133 \mapsto -1,89 \mapsto -1,145 \mapsto -1$ even Dirichlet character of conductor 265 mapping	4	2	1	
1	$107 \mapsto -1, 161 \mapsto -1$ odd Dirichlet character of conductor 267 mapping	3	2	1	
1	$179 \mapsto -1,181 \mapsto -1$ odd Dirichlet character of conductor 268 mapping	3	6	1	
1	$135 \mapsto -1,69 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 268 mapping	1	6	1	
1	$135 \mapsto -1,69 \mapsto -\zeta_6$ odd Dirichlet character of conductor 268 mapping $135 \mapsto -1,69 \mapsto -\zeta_6$	3	6	1	
1	even Dirichlet character of conductor 269 mapping $2 \mapsto -1$	4	2	1	
2	odd Dirichlet character of conductor 271 mapping $6 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 271 mapping $6 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 277 mapping $5 \mapsto \zeta_6$	0	6	1	
1	even Dirichlet character of conductor 279 mapping $218 \mapsto \zeta_{30}^5, 127 \mapsto \zeta_{30}$	2	30	4	
1	odd Dirichlet character of conductor 279 mapping $218 \mapsto \zeta_6 - 1, 127 \mapsto \zeta_6$	5	6	1	
1	odd Dirichlet character of conductor 279 mapping $218 \mapsto -\zeta_6, 127 \mapsto \zeta_6$	3	6	1	
1	even Dirichlet character of conductor 279 mapping $218 \mapsto \zeta_{30}^5, 127 \mapsto \zeta_{30}^7$	2	30	4	
1	odd Dirichlet character of conductor 279 mapping $218 \mapsto -\zeta_6 + 1, 127 \mapsto \zeta_6 - 1$	3	6	1	
1	even Dirichlet character of conductor 279 mapping $218 \mapsto \zeta_{30}^5, 127 \mapsto -\zeta_{30}^7 + \zeta_{30}^5 + \zeta_{30}^4 - \zeta_{30} - 1$	2	30	4	
1	even Dirichlet character of conductor 279 mapping $218 \mapsto \zeta_6, 127 \mapsto -1$	0	6	1	
1	even Dirichlet character of conductor 279 mapping $218 \mapsto \zeta_{30}^5, 127 \mapsto -\zeta_{30}^4$	2	30	4	

$\lambda_7(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 279 mapping $218 \mapsto \zeta_6, 127 \mapsto -\zeta_6$	1	6	1	
1	odd Dirichlet character of conductor 279 mapping	3	6	1	
1	$218 \mapsto \zeta_6, 127 \mapsto -\zeta_6$ odd Dirichlet character of conductor 279 mapping	3	6	1	
1	$218 \mapsto -\zeta_6 + 1,127 \mapsto -\zeta_6$ even Dirichlet character of conductor 279 mapping	4	6	1	
1	$218 \mapsto \zeta_6, 127 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 279 mapping	3	6	1	
1	$218 \mapsto \zeta_6 - 1, 127 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 283 mapping	5	6	1	
1	$3 \mapsto \zeta_6$ odd Dirichlet character of conductor 283 mapping	5	2	1	
1	$3 \mapsto -1$ odd Dirichlet character of conductor 283 mapping	5	6	1	
1	$3 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 285 mapping	2	6	1	
1	$ \begin{array}{c} 191 \mapsto -1,172 \mapsto -1,211 \mapsto \zeta_6 \\ \text{odd Dirichlet character of conductor 285 mapping} \end{array} $	5	6	1	
1	$\begin{array}{c} 191 \mapsto -1,172 \mapsto -1,211 \mapsto -\zeta_6 \\ \text{odd Dirichlet character of conductor 291 mapping} \end{array}$	3	8	2	
1	$98 \mapsto -1,199 \mapsto \zeta_8$ odd Dirichlet character of conductor 291 mapping	5	16	2	
1	$ \begin{array}{c} 98 \mapsto -1,199 \mapsto \zeta_{16}^{3} \\ \text{odd Dirichlet character of conductor 291 mapping} \end{array} $	5	16	2	
2	$ \begin{array}{c} 98 \mapsto -1,199 \mapsto \zeta_{16}^5 \\ \text{odd Dirichlet character of conductor 291 mapping} \end{array} $	3	6	1	
1	$98 \mapsto -1,199 \mapsto -\zeta_6$ odd Dirichlet character of conductor 291 mapping	1	6	1	
1	$98 \mapsto -1,199 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 291 mapping	3	6	1	
1	$98 \mapsto -1,199 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 291 mapping	3	8	2	
2	$\begin{vmatrix} 98 \mapsto -1, 199 \mapsto -\zeta_8^3 \\ \text{odd Dirichlet character of conductor 292 mapping} \end{vmatrix}$	1	2	1	X
1	$147 \mapsto -1, 5 \mapsto -1$ odd Dirichlet character of conductor 292 mapping	3	2	1	
2	$147 \mapsto -1, 5 \mapsto -1$ odd Dirichlet character of conductor 292 mapping	1	6	1	X
1	$147 \mapsto -1, 5 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 292 mapping	3	6	1	
	$147 \mapsto -1, 5 \mapsto -\zeta_6 + 1$				

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 296 mapping $223 \mapsto -1, 149 \mapsto -1, 113 \mapsto \zeta_6 - 1$	1	6	1	
1	even Dirichlet character of conductor 296 mapping $223 \mapsto 1,149 \mapsto -1,113 \mapsto -1$	0	2	1	
2	even Dirichlet character of conductor 296 mapping $223 \mapsto 1,149 \mapsto -1,113 \mapsto -\zeta_6$	0	6	1	
1	even Dirichlet character of conductor 296 mapping $223 \mapsto 1,149 \mapsto -1,113 \mapsto -\zeta_6 + 1$	0	6	1	
1	odd Dirichlet character of conductor 296 mapping $223 \mapsto -1,149 \mapsto -1,113 \mapsto -\zeta_6 + 1$	1	6	1	
1	odd Dirichlet character of conductor 299 mapping $93 \mapsto -\zeta_6 + 1,235 \mapsto -1$	1	6	1	
1	odd Dirichlet character of conductor 303 mapping $203 \mapsto -1, 103 \mapsto -1$	5	2	1	
1	odd Dirichlet character of conductor 304 mapping $191 \mapsto 1,229 \mapsto \zeta_{12}^3, 97 \mapsto -\zeta_{12}^2 + 1$	3	12	2	
1	odd Dirichlet character of conductor 304 mapping $191 \mapsto 1,229 \mapsto -\zeta_{12}^3, 97 \mapsto -\zeta_{12}^2 + 1$	3	12	2	
1	even Dirichlet character of conductor 305 mapping $62 \mapsto -1,246 \mapsto \zeta_6 - 1$	4	6	1	
1	even Dirichlet character of conductor 305 mapping $62 \mapsto -1,246 \mapsto -\zeta_6 + 1$	0	6	1	
3	odd Dirichlet character of conductor 307 mapping $5 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 311 mapping $17 \mapsto -1$	5	2	1	
3	odd Dirichlet character of conductor 312 mapping $79 \mapsto 1,157 \mapsto -1,209 \mapsto -1,145 \mapsto \zeta_6$	1	6	1	
1	even Dirichlet character of conductor 312 mapping $79 \mapsto -1,157 \mapsto -1,209 \mapsto -1,145 \mapsto -\zeta_6$	2	6	1	
2	even Dirichlet character of conductor 313 mapping $10 \mapsto \zeta_3$	0	3	1	
1	even Dirichlet character of conductor 313 mapping $10 \mapsto \zeta_3$	2	3	1	
2	even Dirichlet character of conductor 313 mapping $10 \mapsto -\zeta_3 - 1$	0	3	1	
1	even Dirichlet character of conductor 313 mapping $10 \mapsto -\zeta_3 - 1$	4	3	1	
1	even Dirichlet character of conductor 316 mapping $159 \mapsto -1, 161 \mapsto \zeta_6$	4	6	1	
1	$159 \mapsto -1,101 \mapsto \zeta_6$ even Dirichlet character of conductor 316 mapping $159 \mapsto -1,161 \mapsto -1$	2	2	1	

$\lambda_7(\chi)$	Dirichlet character θ	$\left egin{array}{l} ext{twist} \\ i \end{array} \right $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 319 mapping $233 \mapsto -1,89 \mapsto -1$	5	2	1	
1	odd Dirichlet character of conductor 323 mapping $20 \mapsto -1, 154 \mapsto \zeta_6$	3	6	1	
1	odd Dirichlet character of conductor 323 mapping $20 \mapsto \zeta_{48}^3, 154 \mapsto -\zeta_{48}^8$	3	48	2	
1	odd Dirichlet character of conductor 323 mapping $20 \mapsto \zeta_{48}^{13} - \zeta_{48}^{5}, 154 \mapsto -\zeta_{48}^{8}$	3	48	2	
1	odd Dirichlet character of conductor 323 mapping $20 \mapsto -1, 154 \mapsto -\zeta_6 + 1$	1	6	1	
1	odd Dirichlet character of conductor 323 mapping $20 \mapsto -1, 154 \mapsto -\zeta_6 + 1$	5	6	1	
1	even Dirichlet character of conductor 323 mapping $20 \mapsto -\zeta_{48}^9, 154 \mapsto -\zeta_{48}^8 + 1$	4	48	2	
1	even Dirichlet character of conductor 323 mapping $20 \mapsto -\zeta_{48}^{15}, 154 \mapsto -\zeta_{48}^{8} + 1$	4	48	2	
1	even Dirichlet character of conductor 327 mapping $110 \mapsto -1, 115 \mapsto \zeta_{12}$	0	12	2	
1	odd Dirichlet character of conductor 327 mapping $110 \mapsto -1, 115 \mapsto \zeta_6 - 1$	5	6	1	
1	even Dirichlet character of conductor 327 mapping $110 \mapsto -1, 115 \mapsto \zeta_{12}^3 - \zeta_{12}$	4	12	2	
1	even Dirichlet character of conductor 327 mapping $110 \mapsto -1, 115 \mapsto -\zeta_{12}$	0	12	2	
1	even Dirichlet character of conductor 327 mapping $110 \mapsto -1, 115 \mapsto -\zeta_{12}^3 + \zeta_{12}$	4	12	2	
1	odd Dirichlet character of conductor 331 mapping $3 \mapsto -\zeta_6 + 1$	3	6	1	
1	even Dirichlet character of conductor 332 mapping $167 \mapsto -1,85 \mapsto -1$	4	2	1	
1	odd Dirichlet character of conductor 333 mapping $38 \mapsto -\zeta_{12}^2, 298 \mapsto \zeta_{12}$	5	12	2	
2	odd Dirichlet character of conductor 333 mapping $38 \mapsto \zeta_6, 298 \mapsto \zeta_6$	1	6	1	X
1	even Dirichlet character of conductor 333 mapping $38 \mapsto \zeta_3, 298 \mapsto \zeta_3$	0	3	1	
2	even Dirichlet character of conductor 333 mapping $38 \mapsto -\zeta_3 - 1,298 \mapsto \zeta_3$	2	3	1	
1	odd Dirichlet character of conductor 333 mapping $38 \mapsto -\zeta_6 + 1,298 \mapsto \zeta_6 - 1$	5	6	1	
2	even Dirichlet character of conductor 333 mapping $38 \mapsto \zeta_6 - 1, 298 \mapsto -1$	2	6	1	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 333 mapping $38 \mapsto -\zeta_{12}^2, 298 \mapsto -\zeta_{12}$	5	12	2	
1	odd Dirichlet character of conductor 333 mapping $38 \mapsto \zeta_6, 298 \mapsto -\zeta_6 + 1$	3	6	1	
1	odd Dirichlet character of conductor 333 mapping $38 \mapsto \zeta_6, 298 \mapsto -\zeta_6 + 1$	5	6	1	
3	even Dirichlet character of conductor 333 mapping $38 \mapsto \zeta_6 - 1,298 \mapsto -\zeta_6 + 1$	0	6	1	
1	even Dirichlet character of conductor 333 mapping $38 \mapsto -\zeta_6, 298 \mapsto -\zeta_6 + 1$	2	6	1	
1	odd Dirichlet character of conductor 333 mapping $38 \mapsto -\zeta_6 + 1,298 \mapsto -\zeta_6 + 1$	3	6	1	
1	odd Dirichlet character of conductor 333 mapping $38 \mapsto -\zeta_6 + 1,298 \mapsto -\zeta_6 + 1$	5	6	1	
2	odd Dirichlet character of conductor 335 mapping $202 \mapsto -1, 136 \mapsto \zeta_6$	3	6	1	
1	even Dirichlet character of conductor 337 mapping $10 \mapsto \zeta_3$	2	3	1	
1	even Dirichlet character of conductor 337 mapping $10 \mapsto -1$	0	2	1	
2	even Dirichlet character of conductor 337 mapping $10 \mapsto -1$	4	2	1	
1	odd Dirichlet character of conductor 337 mapping $10 \mapsto -\zeta_{16}$	1	16	2	
1	odd Dirichlet character of conductor 337 mapping $10 \mapsto -\zeta_{16}^{7}$	1	16	2	
1	odd Dirichlet character of conductor 339 mapping $227 \mapsto -1,229 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 341 mapping $156 \mapsto -1, 34 \mapsto \zeta_6$	2	6	1	
1	even Dirichlet character of conductor 341 mapping $156 \mapsto -1,34 \mapsto \zeta_6$	4	6	1	
1	even Dirichlet character of conductor 344 mapping $87 \mapsto -1,173 \mapsto -1,89 \mapsto \zeta_6$	2	6	1	
1	odd Dirichlet character of conductor 344 mapping $87 \mapsto -1,173 \mapsto -1,89 \mapsto \zeta_6 - 1$	5	6	1	
1	odd Dirichlet character of conductor 344 mapping $87 \mapsto 1{,}173 \mapsto -1{,}89 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 344 mapping $87 \mapsto 1{,}173 \mapsto -1{,}89 \mapsto -\zeta_6$	0	6	1	
1	$87 \mapsto 1,173 \mapsto -1,89 \mapsto -\zeta_6$ even Dirichlet character of conductor 344 mapping $87 \mapsto 1,173 \mapsto -1,89 \mapsto -\zeta_6$	4	6	1	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
4	odd Dirichlet character of conductor 344 mapping $87 \mapsto 1,173 \mapsto -1,89 \mapsto -\zeta_6 + 1$	5	6	1	
2	odd Dirichlet character of conductor 347 mapping $2 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 349 mapping $2 \mapsto \zeta_{12}$	3	12	2	
1	even Dirichlet character of conductor 349 mapping	4	6	1	
1	$2 \mapsto \zeta_6$ odd Dirichlet character of conductor 349 mapping	3	12	2	
1	$2 \mapsto -\zeta_{12}$ even Dirichlet character of conductor 349 mapping	0	6	1	
1	$2 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 349 mapping	2	6	1	
1	$2 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 351 mapping	4	18	3	
1	$326 \mapsto \zeta_{18}^4, 28 \mapsto -1$ even Dirichlet character of conductor 351 mapping	4	18	3	
1	$326 \mapsto -\zeta_{18}, 28 \mapsto -1$ even Dirichlet character of conductor 351 mapping	4	18	3	
1	$326 \mapsto -\zeta_{18}^4 + \zeta_{18}, 28 \mapsto -1$ even Dirichlet character of conductor 353 mapping	4	4	2	
1	$3 \mapsto \zeta_4$ even Dirichlet character of conductor 353 mapping	4	4	2	
2	$3 \mapsto -\zeta_4$ odd Dirichlet character of conductor 356 mapping	1	2	1	X
2	$179 \mapsto -1,181 \mapsto -1$ odd Dirichlet character of conductor 360 mapping	1	6	1	
1	$271 \mapsto 1,181 \mapsto -1,281 \mapsto \zeta_6,217 \mapsto -1$ odd Dirichlet character of conductor 360 mapping	1	6	1	
1	$\begin{array}{c} 271 \mapsto -1,181 \mapsto -1,281 \mapsto \zeta_6 -1,217 \mapsto -1 \\ \text{odd Dirichlet character of conductor 360 mapping} \end{array}$	5	6	1	
1	$271 \mapsto -1,181 \mapsto -1,281 \mapsto \zeta_6 -1,217 \mapsto -1$ even Dirichlet character of conductor 365 mapping	4	12	2	
1	$147 \mapsto -1,151 \mapsto \zeta_{12}$ even Dirichlet character of conductor 365 mapping	0	6	1	
2	$147 \mapsto -1,151 \mapsto \zeta_6$ even Dirichlet character of conductor 365 mapping	2	6	1	
1	$147 \mapsto -1,151 \mapsto \zeta_6$ even Dirichlet character of conductor 365 mapping	4	6	1	
1	$147 \mapsto -1,151 \mapsto \zeta_6$ even Dirichlet character of conductor 365 mapping	2	6	1	
	$147 \mapsto -1,151 \mapsto \zeta_6 - 1$				

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{} i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 365 mapping	4	12	2	
1	$147 \mapsto -1,151 \mapsto -\zeta_{12}$ even Dirichlet character of conductor 365 mapping $147 \mapsto -\zeta_{24}^6,151 \mapsto -\zeta_{24}^5$	4	24	2	
1	even Dirichlet character of conductor 365 mapping	4	24	2	
1	$147 \mapsto \zeta_{24}^6, 151 \mapsto -\zeta_{24}^7 + \zeta_{24}^3$ odd Dirichlet character of conductor 367 mapping	5	6	1	
1	$6 \mapsto \zeta_6$ even Dirichlet character of conductor 369 mapping $83 \mapsto \zeta_6 - 1,334 \mapsto -1$	2	6	1	
2	even Dirichlet character of conductor 369 mapping	4	6	1	
1	$83 \mapsto -\zeta_6, 334 \mapsto -1$ even Dirichlet character of conductor 373 mapping $2 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 373 mapping	0	3	1	
1	$2 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 373 mapping	0	6	1	
1	$2 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 377 mapping	1	12	2	
1	$262 \mapsto \zeta_{12}^2 - 1,118 \mapsto \zeta_{12}^3$ odd Dirichlet character of conductor 377 mapping $262 \mapsto -1,118 \mapsto \zeta_4$	5	4	2	
1	even Dirichlet character of conductor 377 mapping	4	6	1	
2	$262 \mapsto -\zeta_6, 118 \mapsto -1$ even Dirichlet character of conductor 377 mapping	0	6	1	
1	$262 \mapsto -\zeta_6 + 1,118 \mapsto -1$ odd Dirichlet character of conductor 377 mapping	1	12	2	
1	$262 \mapsto \zeta_{12}^2 - 1{,}118 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 377 mapping	5	4	2	
1	$262 \mapsto -1,118 \mapsto -\zeta_4$ odd Dirichlet character of conductor 379 mapping	5	2	1	
2	$2 \mapsto -1$ even Dirichlet character of conductor 379 mapping	2	3	1	
2	$2 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 379 mapping	3	6	1	
1	$2 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 379 mapping	5	6	1	
1	$2 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 381 mapping	0	6	1	
1	$128 \mapsto -1, 130 \mapsto \zeta_6$ odd Dirichlet character of conductor 381 mapping	3	6	1	
1	$128 \mapsto -1,130 \mapsto \zeta_6 - 1$			1	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 381 mapping	2	2	1	
1	$128 \mapsto -1, 130 \mapsto -1$ odd Dirichlet character of conductor 387 mapping $173 \mapsto \zeta_6, 46 \mapsto \zeta_6 - 1$	3	6	1	
1	odd Dirichlet character of conductor 387 mapping	5	6	1	
1	$173 \mapsto \zeta_6, 46 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 387 mapping	2	3	1	
1	$173 \mapsto -\zeta_3 - 1, 46 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 387 mapping	1	6	1	
1	$173 \mapsto \zeta_6 - 1, 46 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 387 mapping	3	6	1	
1	$173 \mapsto \zeta_6 - 1, 46 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 387 mapping	4	6	1	
1	$173 \mapsto -\zeta_6 + 1, 46 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 388 mapping	5	24	2	
1	$195 \mapsto -1, 5 \mapsto \zeta_{24}^{5}$ odd Dirichlet character of conductor 388 mapping	3	48	2	
1	$195 \mapsto -1, 5 \mapsto \zeta_{48}^{13}$ odd Dirichlet character of conductor 388 mapping	1	8	2	
1	$195 \mapsto -1, 5 \mapsto \zeta_8^3$ odd Dirichlet character of conductor 388 mapping	5	24	2	
1	$195 \mapsto -1, 5 \mapsto \zeta_{24}^7 - \zeta_{24}^3$ odd Dirichlet character of conductor 388 mapping	5	2	1	
1	$195 \mapsto -1, 5 \mapsto -1$ odd Dirichlet character of conductor 388 mapping	1	8	2	
1	$195 \mapsto -1, 5 \mapsto -\zeta_8$ odd Dirichlet character of conductor 388 mapping	5	6	1	
1	$195 \mapsto -1, 5 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 388 mapping	3	48	2	
2	$195 \mapsto -1, 5 \mapsto -\zeta_{48}^{11} + \zeta_{48}^{3}$ odd Dirichlet character of conductor 389 mapping	1	4	2	X
2	$2 \mapsto \zeta_4$ odd Dirichlet character of conductor 389 mapping	1	4	2	X
1	$2 \mapsto -\zeta_4$ odd Dirichlet character of conductor 391 mapping	1	8	2	
1	$139 \mapsto \zeta_8, 120 \mapsto -1$ odd Dirichlet character of conductor 391 mapping	1	8	2	
1	$139 \mapsto -\zeta_8^3, 120 \mapsto -1$ odd Dirichlet character of conductor 395 mapping	1	6	1	
1	$317 \mapsto -1,161 \mapsto \zeta_6$ even Dirichlet character of conductor 395 mapping	0	6	1	
	$317 \mapsto -1, 161 \mapsto \zeta_6 - 1$				

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
2	even Dirichlet character of conductor 395 mapping	4	6	1	
1	$317 \mapsto -1,161 \mapsto -\zeta_6$ odd Dirichlet character of conductor 396 mapping	5	6	1	
2	$199 \mapsto -1,353 \mapsto \zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 396 mapping $199 \mapsto -1,353 \mapsto -\zeta_6,145 \mapsto -1$	2	6	1	
1	even Dirichlet character of conductor 397 mapping	4	6	1	
1	$5 \mapsto \zeta_6$ even Dirichlet character of conductor 397 mapping $5 \mapsto -1$	4	2	1	
1	odd Dirichlet character of conductor 403 mapping	3	6	1	
1	$249 \mapsto \zeta_6, 313 \mapsto \zeta_6$ even Dirichlet character of conductor 403 mapping $249 \mapsto \zeta_6, 313 \mapsto \zeta_6 - 1$	2	6	1	
1	even Dirichlet character of conductor 403 mapping	0	3	1	
1	$249 \mapsto \zeta_3, 313 \mapsto \zeta_3$ even Dirichlet character of conductor 403 mapping $249 \mapsto -\zeta_3 - 1, 313 \mapsto \zeta_3$	0	3	1	
1	even Dirichlet character of conductor 403 mapping	2	3	1	
1	$249 \mapsto -\zeta_3 - 1,313 \mapsto \zeta_3$ even Dirichlet character of conductor 403 mapping $249 \mapsto -\zeta_6 + 1,313 \mapsto \zeta_6 - 1$	4	6	1	
1	odd Dirichlet character of conductor 403 mapping	5	6	1	
1	$249 \mapsto \zeta_6, 313 \mapsto -1$ odd Dirichlet character of conductor 403 mapping $249 \mapsto -\zeta_6, 313 \mapsto -1$	3	6	1	
1	even Dirichlet character of conductor 403 mapping $249 \mapsto \zeta_6, 313 \mapsto -\zeta_6$	2	6	1	
1	even Dirichlet character of conductor 403 mapping	2	12	2	
2	$249 \mapsto \zeta_{12}^3 - \zeta_{12}, 313 \mapsto -\zeta_{12}^2 + 1$ odd Dirichlet character of conductor 403 mapping $249 \mapsto -1, 313 \mapsto -\zeta_6 + 1$	1	6	1	
1	even Dirichlet character of conductor 403 mapping	2	12	2	
1	$249 \mapsto -\zeta_{12}^3 + \zeta_{12}, 313 \mapsto -\zeta_{12}^2 + 1$ odd Dirichlet character of conductor 407 mapping	5	6	1	
2	$112 \mapsto -1,298 \mapsto -\zeta_6$ odd Dirichlet character of conductor 407 mapping	3	6	1	
1	$112 \mapsto -1,298 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 408 mapping	4	8	2	
1	$103 \mapsto -1, 205 \mapsto -1, 137 \mapsto -1, 241 \mapsto \zeta_8^3$ odd Dirichlet character of conductor 408 mapping $103 \mapsto 1, 205 \mapsto -1, 137 \mapsto -1, 241 \mapsto -1$	3	2	1	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 408 mapping $103 \mapsto -1, 205 \mapsto -1, 137 \mapsto -1, 241 \mapsto -\zeta_8$	4	8	2	
1	even Dirichlet character of conductor 409 mapping	0	6	1	
2	$21 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 411 mapping	1	2	1	X
1	$275 \mapsto -1,277 \mapsto -1$ odd Dirichlet character of conductor 412 mapping	1	6	1	
1	$207 \mapsto -1, 5 \mapsto -\zeta_6$ even Dirichlet character of conductor 415 mapping	2	4	2	
1	$167 \mapsto \zeta_4, 251 \mapsto -1$ even Dirichlet character of conductor 415 mapping	2	4	2	
1	$167 \mapsto -\zeta_4, 251 \mapsto -1$ odd Dirichlet character of conductor 416 mapping	3	24	2	
1	$287 \mapsto 1,261 \mapsto \zeta_{24}^5 - \zeta_{24},353 \mapsto \zeta_{24}^2$ odd Dirichlet character of conductor 416 mapping	5	24	2	
1	$287 \mapsto -1,261 \mapsto \zeta_{24}^3,353 \mapsto \zeta_{24}^4$ odd Dirichlet character of conductor 416 mapping	5	24	2	
1	$287 \mapsto -1,261 \mapsto -\zeta_{24}^5 + \zeta_{24},353 \mapsto \zeta_{24}^4$ odd Dirichlet character of conductor 416 mapping	1	24	2	
1	$287 \mapsto 1,261 \mapsto \zeta_{24}^3,353 \mapsto \zeta_{24}^6 - \zeta_{24}^2$ odd Dirichlet character of conductor 416 mapping	3	24	2	
1	$287 \mapsto 1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^2$ even Dirichlet character of conductor 416 mapping	0	24	2	
1	$287 \mapsto 1,261 \mapsto \zeta_{24}^3,353 \mapsto -\zeta_{24}^4$ even Dirichlet character of conductor 416 mapping	4	24	2	
1	$287 \mapsto 1,261 \mapsto \zeta_{24}^5 - \zeta_{24},353 \mapsto -\zeta_{24}^4$ even Dirichlet character of conductor 416 mapping	4	24	2	
1	$287 \mapsto 1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4$ even Dirichlet character of conductor 416 mapping	0	24	2	
1	$287 \mapsto 1,261 \mapsto -\zeta_{24}^5 + \zeta_{24},353 \mapsto -\zeta_{24}^4$ even Dirichlet character of conductor 416 mapping	4	24	2	
1	$287 \mapsto 1,261 \mapsto \zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ odd Dirichlet character of conductor 416 mapping	3	24	2	
1	$287 \mapsto -1,261 \mapsto \zeta_{24}^5 - \zeta_{24},353 \mapsto -\zeta_{24}^4 + 1$ odd Dirichlet character of conductor 416 mapping	3	24	2	
1	$287 \mapsto -1,261 \mapsto -\zeta_{24}^3,353 \mapsto -\zeta_{24}^4 + 1$ even Dirichlet character of conductor 416 mapping	4	24	2	
1	$287 \mapsto 1,261 \mapsto -\zeta_{24}^5 + \zeta_{24},353 \mapsto -\zeta_{24}^4 + 1$ odd Dirichlet character of conductor 416 mapping	1	24	2	
1	$287 \mapsto 1,261 \mapsto -\zeta_{24}^5 + \zeta_{24},353 \mapsto -\zeta_{24}^6 + \zeta_{24}^2$ even Dirichlet character of conductor 417 mapping	0	2	1	
	$140 \mapsto -1,280 \mapsto -1$				

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 419 mapping $2 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 423 mapping $236 \mapsto \zeta_6, 334 \mapsto -1$	2	6	1	
1	even Dirichlet character of conductor 429 mapping $287 \mapsto -1,79 \mapsto -1,67 \mapsto \zeta_6$	0	6	1	
1	odd Dirichlet character of conductor 431 mapping $7 \mapsto -1$	1	2	1	
1	odd Dirichlet character of conductor 431 mapping $7 \mapsto -1$	5	2	1	
1	even Dirichlet character of conductor 433 mapping $5 \mapsto \zeta_8$	4	8	2	
1	even Dirichlet character of conductor 433 mapping $5 \mapsto \zeta_6$	2	6	1	
2	even Dirichlet character of conductor 433 mapping $5 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 433 mapping $5 \mapsto -\zeta_8^3$	4	8	2	
1	even Dirichlet character of conductor 437 mapping $116 \mapsto -1,419 \mapsto -1$	2	2	1	
2	odd Dirichlet character of conductor 439 mapping $15 \mapsto -1$	5	2	1	
1	even Dirichlet character of conductor 439 mapping $15 \mapsto -\zeta_3 - 1$	2	3	1	
1	even Dirichlet character of conductor 439 mapping $15 \mapsto -\zeta_3 - 1$	4	3	1	
1	even Dirichlet character of conductor 444 mapping $223 \mapsto -1,149 \mapsto -1,409 \mapsto \zeta_6$	0	6	1	
1	even Dirichlet character of conductor 444 mapping $223 \mapsto -1,149 \mapsto -1,409 \mapsto \zeta_6$	2	6	1	
1	even Dirichlet character of conductor 445 mapping $357 \mapsto -\zeta_8^2$, $181 \mapsto \zeta_8^3$	2	8	2	
1	even Dirichlet character of conductor 445 mapping $357 \mapsto \zeta_8^2, 181 \mapsto -\zeta_8$	2	8	2	
1	even Dirichlet character of conductor 449 mapping $3 \mapsto \zeta_{16}^3$	0	16	2	
1	$3 \mapsto \zeta_{16}$ even Dirichlet character of conductor 449 mapping $3 \mapsto \zeta_{16}^5$	0	16	2	
1	$3 \mapsto \zeta_{16}$ even Dirichlet character of conductor 449 mapping $3 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 449 mapping	4	2	1	
	$3 \mapsto -1$				

$\lambda_7(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 453 mapping	2	2	1	
1	$152 \mapsto -1, 157 \mapsto -1$ odd Dirichlet character of conductor 453 mapping $152 \mapsto -1, 157 \mapsto -\zeta_6$	5	6	1	
1	even Dirichlet character of conductor 453 mapping $152 \mapsto -1, 157 \mapsto -\zeta_6 + 1$	0	6	1	
1	even Dirichlet character of conductor 456 mapping $343 \mapsto 1,229 \mapsto -1,305 \mapsto -1,97 \mapsto \zeta_6$	0	6	1	
1	odd Dirichlet character of conductor 456 mapping $343 \mapsto -1,229 \mapsto -1,305 \mapsto -1,97 \mapsto \zeta_6$	1	6	1	
1	even Dirichlet character of conductor 456 mapping $343 \mapsto -1,229 \mapsto -1,305 \mapsto -1,97 \mapsto \zeta_6 - 1$	2	6	1	
1	even Dirichlet character of conductor 457 mapping $13 \mapsto \zeta_3$	0	3	1	
1	even Dirichlet character of conductor 457 mapping $13 \mapsto \zeta_3$	4	3	1	
1	even Dirichlet character of conductor 461 mapping $2 \mapsto -1$	4	2	1	
2	odd Dirichlet character of conductor 463 mapping $3 \mapsto \zeta_6$	1	6	1	
1	even Dirichlet character of conductor 463 mapping $3 \mapsto \zeta_3$	4	3	1	
1	odd Dirichlet character of conductor 463 mapping $3 \mapsto -1$	1	2	1	
1	even Dirichlet character of conductor 463 mapping $3 \mapsto -\zeta_3 - 1$	0	3	1	
1	odd Dirichlet character of conductor 463 mapping $3 \mapsto -\zeta_6 + 1$	3	6	1	
1	even Dirichlet character of conductor 465 mapping $311 \mapsto -1,187 \mapsto \zeta_{12}^3,406 \mapsto \zeta_{12}^2-1$	2	12	2	
1	even Dirichlet character of conductor 465 mapping $311 \mapsto -1,187 \mapsto -\zeta_{12}^3,406 \mapsto \zeta_{12}^2 - 1$	2	12	2	
1	even Dirichlet character of conductor 465 mapping $311 \mapsto -1,187 \mapsto -1,406 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 465 mapping $311 \mapsto -1,187 \mapsto -1,406 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 465 mapping $311 \mapsto -1,187 \mapsto -1,406 \mapsto -\zeta_6$	1	6	1	
1	even Dirichlet character of conductor 465 mapping $311 \mapsto -1,187 \mapsto -1,406 \mapsto -\zeta_6 + 1$	0	6	1	
1	even Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto \zeta_6$	4	6	1	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline {\rm twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto \zeta_6$	5	6	1	
1	even Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto -\zeta_6 + 1,145 \mapsto \zeta_6$	0	6	1	
2	even Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -1$	4	6	1	
1	even Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$	0	6	1	
1	odd Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6$	5	6	1	
1	even Dirichlet character of conductor 468 mapping $235 \mapsto -1,209 \mapsto -\zeta_6 + 1,145 \mapsto -\zeta_6$	2	6	1	
2	odd Dirichlet character of conductor 471 mapping $158 \mapsto -1,319 \mapsto \zeta_6 - 1$	1	6	1	X
2	odd Dirichlet character of conductor 471 mapping $158 \mapsto -1,319 \mapsto \zeta_6 - 1$	5	6	1	
1	odd Dirichlet character of conductor 471 mapping $158 \mapsto -1,319 \mapsto -\zeta_6 + 1$	5	6	1	
2	odd Dirichlet character of conductor 472 mapping $119 \mapsto 1,237 \mapsto -1,297 \mapsto -1$	1	2	1	X
1	odd Dirichlet character of conductor 472 mapping $119 \mapsto 1,237 \mapsto -1,297 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 472 mapping $119 \mapsto 1,237 \mapsto -1,297 \mapsto -1$	5	2	1	
1	odd Dirichlet character of conductor 477 mapping $425 \mapsto -\zeta_{12}^3, 55 \mapsto \zeta_{12}^3$	1	12	2	
1	even Dirichlet character of conductor 477 mapping $425 \mapsto \zeta_6 - 1, 55 \mapsto -1$	4	6	1	
1	odd Dirichlet character of conductor 477 mapping $425 \mapsto -\zeta_{12}^2, 55 \mapsto -\zeta_{12}^3$	1	12	2	
1	odd Dirichlet character of conductor 479 mapping $13 \mapsto -1$	5	2	1	
1	even Dirichlet character of conductor 480 mapping $31 \mapsto 1,421 \mapsto \zeta_8^3,161 \mapsto -1,97 \mapsto \zeta_8^2$	4	8	2	
1	even Dirichlet character of conductor 480 mapping $31 \mapsto 1,421 \mapsto -\zeta_8,161 \mapsto -1,97 \mapsto \zeta_8^2$	0	8	2	
1	odd Dirichlet character of conductor 480 mapping	1	8	2	
1	odd Dirichlet character of conductor 480 mapping	1	8	2	
1	odd Dirichlet character of conductor 480 mapping	1	8	2	
1	$31 \mapsto -1,421 \mapsto -\zeta_8^3,161 \mapsto -1,97 \mapsto \zeta_8^2$ odd Dirichlet character of conductor 480 mapping $31 \mapsto 1,421 \mapsto \zeta_8^3,161 \mapsto -1,97 \mapsto -1$	1	8	2	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{} i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 480 mapping $31 \mapsto -1,421 \mapsto \zeta_8,161 \mapsto -1,97 \mapsto -\zeta_8^2$	1	8	2	
1	even Dirichlet character of conductor 480 mapping $31 \mapsto 1,421 \mapsto \zeta_8^3,161 \mapsto -1,97 \mapsto -\zeta_8^2$	0	8	2	
1	even Dirichlet character of conductor 480 mapping $31 \mapsto 1,421 \mapsto -\zeta_8,161 \mapsto -1,97 \mapsto -\zeta_8^2$	4	8	2	
1	even Dirichlet character of conductor 481 mapping	4	6	1	
1	$223 \mapsto \zeta_6, 261 \mapsto \zeta_6$ even Dirichlet character of conductor 481 mapping	0	6	1	
1	$223 \mapsto -1,261 \mapsto \zeta_6$ even Dirichlet character of conductor 481 mapping	2	12	2	
1	$223 \mapsto \zeta_{12}^3 - \zeta_{12}, 261 \mapsto \zeta_{12}^3$ even Dirichlet character of conductor 481 mapping	2	3	1	
1	$223 \mapsto \zeta_3, 261 \mapsto \zeta_3$ even Dirichlet character of conductor 481 mapping	4	3	1	
1	$223 \mapsto \zeta_3, 261 \mapsto \zeta_3$ even Dirichlet character of conductor 481 mapping	4	6	1	
1	$223 \mapsto -1,261 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 481 mapping	4	6	1	
1	$223 \mapsto -\zeta_6 + 1, 261 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 481 mapping	2	12	2	
2	$223 \mapsto \zeta_{12}, 261 \mapsto \zeta_{12}^3 - \zeta_{12}$ even Dirichlet character of conductor 481 mapping	2	12	2	
1	$223 \mapsto \zeta_{12}^3, 261 \mapsto \zeta_{12}^3 - \zeta_{12}$ even Dirichlet character of conductor 481 mapping	2	6	1	
1	$223 \mapsto \zeta_6 - 1, 261 \mapsto -1$ even Dirichlet character of conductor 481 mapping	4	6	1	
1	$223 \mapsto \zeta_6 - 1, 261 \mapsto -1$ odd Dirichlet character of conductor 481 mapping	1	12	2	
2	$223 \mapsto \zeta_{12}, 261 \mapsto -\zeta_{12}^2$ even Dirichlet character of conductor 481 mapping	4	6	1	
1	$223 \mapsto \zeta_6, 261 \mapsto -\zeta_6$ even Dirichlet character of conductor 481 mapping	4	3	1	
1	$223 \mapsto \zeta_3, 261 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 481 mapping	1	12	2	
1	$223 \mapsto -\zeta_{12}, 261 \mapsto -\zeta_{12}^2$ even Dirichlet character of conductor 481 mapping	2	3	1	
1	$223 \mapsto -\zeta_3 - 1, 261 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 481 mapping	0	6	1	
1	$223 \mapsto -\zeta_6 + 1, 261 \mapsto -\zeta_6$ even Dirichlet character of conductor 481 mapping	2	12	2	
	$223 \mapsto -\zeta_{12}^3 + \zeta_{12}, 261 \mapsto -\zeta_{12}^3$				

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$ \operatorname{ord}(\chi) $	f	triv.
1	even Dirichlet character of conductor 481 mapping	0	6	1	
1	$223 \mapsto -1, 261 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 481 mapping $223 \mapsto -1, 261 \mapsto -\zeta_6 + 1$	2	6	1	
1	even Dirichlet character of conductor 481 mapping	4	6	1	
1	$223 \mapsto -1, 261 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 481 mapping $223 \mapsto -\zeta_6 + 1, 261 \mapsto -\zeta_6 + 1$	4	6	1	
1	even Dirichlet character of conductor 481 mapping $223 \mapsto -\zeta_{12}, 261 \mapsto -\zeta_{12}^3 + \zeta_{12}$	2	12	2	
2	even Dirichlet character of conductor 481 mapping $223 \mapsto -\zeta_{12}^3, 261 \mapsto -\zeta_{12}^3 + \zeta_{12}$	2	12	2	
1	odd Dirichlet character of conductor 485 mapping $292 \mapsto \zeta_{48}^{12}, 296 \mapsto \zeta_{48}^{5}$	1	48	2	
1	even Dirichlet character of conductor 485 mapping $292 \mapsto -1,296 \mapsto \zeta_6$	2	6	1	
1	odd Dirichlet character of conductor 485 mapping $292 \mapsto \zeta_8^2, 296 \mapsto \zeta_8^3$	3	8	2	
1	even Dirichlet character of conductor 485 mapping $292 \mapsto -1,296 \mapsto -\zeta_{48}$	2	48	2	
1	odd Dirichlet character of conductor 485 mapping $292 \mapsto -\zeta_8^2, 296 \mapsto -\zeta_8$	3	8	2	
1	even Dirichlet character of conductor 485 mapping $292 \mapsto -1,296 \mapsto -\zeta_{48}^7$	2	48	2	
1	even Dirichlet character of conductor 485 mapping $292 \mapsto -1,296 \mapsto -\zeta_6$	4	6	1	
1	odd Dirichlet character of conductor 485 mapping $292 \mapsto -\zeta_{48}^{11}, 296 \mapsto -\zeta_{48}^{11}$	1	48	2	
1	even Dirichlet character of conductor 485 mapping	2	6	1	
1	$292 \mapsto -1,296 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 487 mapping	1	2	1	
1	$3 \mapsto -1$ odd Dirichlet character of conductor 487 mapping	5	2	1	
1	$3 \mapsto -1$ odd Dirichlet character of conductor 487 mapping	1	6	1	
1	$3 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 488 mapping	0	6	1	
1	$367 \mapsto 1,245 \mapsto -1,185 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 488 mapping	2	2	1	
1	$367 \mapsto 1,245 \mapsto -1,185 \mapsto -1$ odd Dirichlet character of conductor 488 mapping	5	2	1	
	$367 \mapsto -1,245 \mapsto -1,185 \mapsto -1$				

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 488 mapping $367 \mapsto -1,245 \mapsto -1,185 \mapsto -\zeta_6$	3	6	1	
1	even Dirichlet character of conductor 489 mapping	4	6	1	
1	$164 \mapsto -1,328 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 491 mapping	5	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 492 mapping	3	8	2	
4	$247 \mapsto -1,329 \mapsto -1,457 \mapsto \zeta_8$ even Dirichlet character of conductor 492 mapping	0	2	1	
1	$247 \mapsto -1,329 \mapsto -1,457 \mapsto -1$ odd Dirichlet character of conductor 492 mapping	3	8	2	
2	$247 \mapsto -1,329 \mapsto -1,457 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 493 mapping	2	2	1	
1	$88 \mapsto -1,205 \mapsto -1$ odd Dirichlet character of conductor 495 mapping	1	6	1	
1	$56 \mapsto -\zeta_6, 397 \mapsto -1, 46 \mapsto -1$ odd Dirichlet character of conductor 495 mapping	5	6	1	
2	$56 \mapsto -\zeta_6, 397 \mapsto -1, 46 \mapsto -1$ even Dirichlet character of conductor 495 mapping	2	6	1	
1	$56 \mapsto -\zeta_6 + 1,397 \mapsto -1,46 \mapsto -1$ odd Dirichlet character of conductor 499 mapping	5	6	1	
2	$7 \mapsto \zeta_6$ even Dirichlet character of conductor 499 mapping	4	3	1	
1	$7 \mapsto \zeta_3$ odd Dirichlet character of conductor 499 mapping	3	2	1	
1	$7 \mapsto -1$ odd Dirichlet character of conductor 499 mapping	5	2	1	
1	$7 \mapsto -1$ even Dirichlet character of conductor 501 mapping	0	2	1	
1	$335 \mapsto -1,172 \mapsto -1$ even Dirichlet character of conductor 505 mapping	0	2	1	
1	$102 \mapsto -1,406 \mapsto -1$ even Dirichlet character of conductor 505 mapping	4	2	1	
1	$102 \mapsto -1,406 \mapsto -1$ odd Dirichlet character of conductor 508 mapping	1	6	1	
1	$255 \mapsto -1, 257 \mapsto -\zeta_6$ even Dirichlet character of conductor 513 mapping	4	9	3	
1	$191 \mapsto \zeta_9^2, 325 \mapsto \zeta_9$ even Dirichlet character of conductor 513 mapping	4	9	3	
1	$191 \mapsto -\zeta_9^5 - \zeta_9^2, 325 \mapsto \zeta_9^4$ even Dirichlet character of conductor 513 mapping	4	9	3	
	$191 \mapsto \zeta_9^5, 325 \mapsto -\zeta_9^4 - \zeta_9$				

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline twist \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 515 mapping	0	4	2	
1	$207 \mapsto \zeta_4, 211 \mapsto -1$ even Dirichlet character of conductor 515 mapping	0	4	2	
1	$207 \mapsto -\zeta_4, 211 \mapsto -1$ odd Dirichlet character of conductor 515 mapping	3	6	1	
1	$207 \mapsto -1,211 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 515 mapping	5	6	1	
1	$207 \mapsto -1,211 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 516 mapping	5	2	1	
1	$259 \mapsto -1,173 \mapsto -1,433 \mapsto -1$ even Dirichlet character of conductor 516 mapping	2	6	1	
1	$259 \mapsto -1,173 \mapsto -1,433 \mapsto -\zeta_6$ odd Dirichlet character of conductor 520 mapping	3	4	2	
1	$391 \mapsto 1,261 \mapsto -1,417 \mapsto -1,41 \mapsto \zeta_4$ even Dirichlet character of conductor 520 mapping $391 \mapsto -1,261 \mapsto -1,417 \mapsto -1,41 \mapsto \zeta_4$	0	4	2	
1	even Dirichlet character of conductor 520 mapping $391 \mapsto 1,261 \mapsto -1,417 \mapsto -1,41 \mapsto \zeta_6 - 1$	2	6	1	
1	odd Dirichlet character of conductor 520 mapping $391 \mapsto -1,261 \mapsto -1,417 \mapsto -1,41 \mapsto \zeta_6 - 1$	5	6	1	
1	odd Dirichlet character of conductor 520 mapping $391 \mapsto 1,261 \mapsto -1,417 \mapsto \zeta_{12}^3,41 \mapsto -\zeta_{12}^2$	1	12	2	
1	odd Dirichlet character of conductor 520 mapping $391 \mapsto 1,261 \mapsto -1,417 \mapsto -\zeta_{12}^3,41 \mapsto -\zeta_{12}^3$	1	12	2	
1	odd Dirichlet character of conductor 520 mapping $391 \mapsto 1,261 \mapsto -1,417 \mapsto -1,41 \mapsto -\zeta_4$	3	4	2	
1	even Dirichlet character of conductor 520 mapping $391 \mapsto -1,261 \mapsto -1,417 \mapsto -1,41 \mapsto -\zeta_4$	0	4	2	
3	odd Dirichlet character of conductor 520 mapping $391 \mapsto -1,261 \mapsto -1,417 \mapsto -1,41 \mapsto -\zeta_6 + 1$	1	6	1	
1	odd Dirichlet character of conductor 520 mapping $391 \mapsto -1,261 \mapsto -1,417 \mapsto -1,41 \mapsto -\zeta_6 + 1$	3	6	1	
1	even Dirichlet character of conductor 523 mapping $2 \mapsto \zeta_3$	0	3	1	
1	even Dirichlet character of conductor 523 mapping $2 \mapsto -\zeta_3 - 1$	2	3	1	
1	even Dirichlet character of conductor 527 mapping $156 \mapsto \zeta_{48}^9, 375 \mapsto \zeta_{48}^8$	2	48	2	
1	odd Dirichlet character of conductor 527 mapping $156 \mapsto \zeta_{12}^3, 375 \mapsto \zeta_{12}^2$	3	12	2	
1	odd Dirichlet character of conductor 527 mapping $156 \mapsto \zeta_{12}^3, 375 \mapsto \zeta_{12}^2$	5	12	2	

$\lambda_7(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 527 mapping	2	48	2	
1	$156 \mapsto \zeta_{48}^{15}, 375 \mapsto \zeta_{48}^{8}$ odd Dirichlet character of conductor 527 mapping $156 \mapsto -\zeta_{12}^{3}, 375 \mapsto \zeta_{12}^{2}$	3	12	2	
1	odd Dirichlet character of conductor 527 mapping $156 \mapsto -\zeta_{12}^3, 375 \mapsto \zeta_{12}^2$	5	12	2	
1	even Dirichlet character of conductor 527 mapping $156 \mapsto \zeta_{16}^3, 375 \mapsto -1$	0	16	2	
1	even Dirichlet character of conductor 527 mapping $156 \mapsto \zeta_{16}^5, 375 \mapsto -1$	0	16	2	
1	odd Dirichlet character of conductor 527 mapping $156 \mapsto \zeta_8^3, 375 \mapsto -1$	5	8	2	
1	odd Dirichlet character of conductor 527 mapping $156 \mapsto -\zeta_8, 375 \mapsto -1$	5	8	2	
1	even Dirichlet character of conductor 527 mapping $156 \mapsto \zeta_{48}^9, 375 \mapsto -\zeta_{48}^8 + 1$	4	48	2	
1	odd Dirichlet character of conductor 527 mapping $156 \mapsto \zeta_{12}^3, 375 \mapsto -\zeta_{12}^2 + 1$	1	12	2	
1	even Dirichlet character of conductor 527 mapping $156 \mapsto \zeta_{48}^{15}, 375 \mapsto -\zeta_{48}^{8} + 1$	4	48	2	
1	odd Dirichlet character of conductor 527 mapping $156 \mapsto -1,375 \mapsto -\zeta_6 + 1$	5	6	1	
1	odd Dirichlet character of conductor 527 mapping $156 \mapsto -\zeta_{12}^3, 375 \mapsto -\zeta_{12}^2 + 1$	1	12	2	
1	odd Dirichlet character of conductor 531 mapping $119 \mapsto \zeta_6 - 1,415 \mapsto -1$	1	6	1	
2	even Dirichlet character of conductor 533 mapping $288 \mapsto \zeta_8^2, 170 \mapsto \zeta_8$	4	8	2	
1	odd Dirichlet character of conductor 533 mapping $288 \mapsto \zeta_{24}^4, 170 \mapsto \zeta_{24}^5 - \zeta_{24}$	3	24	2	
1	odd Dirichlet character of conductor 533 mapping $288 \mapsto \zeta_{24}^4 - 1{,}170 \mapsto \zeta_{24}^5 - \zeta_{24}$	3	24	2	
1	even Dirichlet character of conductor 533 mapping $288 \mapsto \zeta_6, 170 \mapsto -1$	4	6	1	
1	even Dirichlet character of conductor 533 mapping $288 \mapsto -1,170 \mapsto -1$	4	2	1	
1	even Dirichlet character of conductor 533 mapping $288 \mapsto -\zeta_6, 170 \mapsto -1$	4	6	1	
1	odd Dirichlet character of conductor 533 mapping $288 \mapsto \zeta_{24}^4, 170 \mapsto -\zeta_{24}^3$	3	24	2	
1	odd Dirichlet character of conductor 533 mapping $288 \mapsto \zeta_{24}^4 - 1{,}170 \mapsto -\zeta_{24}^3$	3	24	2	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{i} \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
2	even Dirichlet character of conductor 533 mapping $288 \mapsto -\zeta_8^2, 170 \mapsto -\zeta_8^3$	4	8	2	
1	odd Dirichlet character of conductor 536 mapping	1	6	1	
1	$135 \mapsto 1,269 \mapsto -1,337 \mapsto \zeta_6$ odd Dirichlet character of conductor 536 mapping	1	2	1	
1	$135 \mapsto 1,269 \mapsto -1,337 \mapsto -1$ odd Dirichlet character of conductor 536 mapping	3	2	1	
1	$135 \mapsto 1,269 \mapsto -1,337 \mapsto -1$ even Dirichlet character of conductor 536 mapping	2	2	1	
1	$135 \mapsto -1,269 \mapsto -1,337 \mapsto -1$ odd Dirichlet character of conductor 536 mapping	5	6	1	
1	$135 \mapsto -1,269 \mapsto -1,337 \mapsto -\zeta_6$ even Dirichlet character of conductor 541 mapping	4	6	1	
1	$2 \mapsto \zeta_6$ even Dirichlet character of conductor 541 mapping	4	3	1	
1	$2 \mapsto \zeta_3$ even Dirichlet character of conductor 541 mapping	2	2	1	
1	$2 \mapsto -1$ even Dirichlet character of conductor 541 mapping	2	6	1	
1	$2 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 541 mapping	4	6	1	
1	$2 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 543 mapping	5	2	1	
1	$182 \mapsto -1,364 \mapsto -1$ even Dirichlet character of conductor 544 mapping	4	8	2	
1	$511 \mapsto 1,69 \mapsto \zeta_8^3, 513 \mapsto \zeta_8$ even Dirichlet character of conductor 544 mapping	4	8	2	
1	$511 \mapsto 1,69 \mapsto -\zeta_8,513 \mapsto \zeta_8$ even Dirichlet character of conductor 544 mapping	4	8	2	
1	$511 \mapsto 1,69 \mapsto -\zeta_8^3, 513 \mapsto \zeta_8$ odd Dirichlet character of conductor 544 mapping	5	8	2	
1	$511 \mapsto -1,69 \mapsto \zeta_8^3, 513 \mapsto \zeta_8^2$ odd Dirichlet character of conductor 544 mapping	5	8	2	
1	$511 \mapsto -1,69 \mapsto -\zeta_8,513 \mapsto \zeta_8^2$ odd Dirichlet character of conductor 544 mapping	1	16	2	
1	511 \mapsto 1,69 \mapsto ζ_{16}^{6} ,513 \mapsto $-\zeta_{16}$ odd Dirichlet character of conductor 544 mapping	1	16	2	
1	511 \mapsto 1,69 \mapsto $-\zeta_{16}^{6}$,513 \mapsto $-\zeta_{16}^{3}$ odd Dirichlet character of conductor 544 mapping	5	8	2	
	$511 \mapsto -1,69 \mapsto \zeta_8^3,513 \mapsto -\zeta_8^2$				
1	odd Dirichlet character of conductor 544 mapping $511 \mapsto -1,69 \mapsto -\zeta_8,513 \mapsto -\zeta_8^2$	5	8	2	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 544 mapping	1	16	2	
1	$511 \mapsto 1,69 \mapsto \zeta_{16}^2, 513 \mapsto -\zeta_{16}^5$ even Dirichlet character of conductor 544 mapping	4	8	2	
1	$511 \mapsto 1,69 \mapsto \zeta_8,513 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 544 mapping	4	8	2	
1	$511 \mapsto 1,69 \mapsto \zeta_8^3,513 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 544 mapping	4	8	2	
1	$511 \mapsto 1,69 \mapsto -\zeta_8, 513 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 544 mapping	1	16	2	
1	$511 \mapsto 1,69 \mapsto -\zeta_{16}^2,513 \mapsto -\zeta_{16}^7$ even Dirichlet character of conductor 545 mapping	0	4	2	
1	$437 \mapsto \zeta_4, 6 \mapsto \zeta_4$ even Dirichlet character of conductor 545 mapping	4	6	1	
1	$437 \mapsto -1, 6 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 545 mapping	4	2	1	
1	$437 \mapsto -1, 6 \mapsto -1$ even Dirichlet character of conductor 545 mapping	2	6	1	
1	$437 \mapsto -1, 6 \mapsto -\zeta_6$ even Dirichlet character of conductor 545 mapping	0	4	2	
1	$437 \mapsto -\zeta_4, 6 \mapsto -\zeta_4$ even Dirichlet character of conductor 545 mapping	0	6	1	
3	$437 \mapsto -1, 6 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 547 mapping	2	3	1	
1	$2 \mapsto \zeta_3$ odd Dirichlet character of conductor 549 mapping	1	6	1	
1	$245 \mapsto \zeta_6, 307 \mapsto \zeta_6$ odd Dirichlet character of conductor 549 mapping	5	6	1	
3	$245 \mapsto \zeta_6, 307 \mapsto \zeta_6$ even Dirichlet character of conductor 549 mapping	2	3	1	
1	$245 \mapsto \zeta_3, 307 \mapsto \zeta_3$ odd Dirichlet character of conductor 549 mapping	3	6	1	
1	$245 \mapsto -\zeta_6 + 1,307 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 549 mapping	3	6	1	
1	$245 \mapsto \zeta_6, 307 \mapsto -1$ odd Dirichlet character of conductor 549 mapping	5	6	1	
1	$245 \mapsto -\zeta_6 + 1,307 \mapsto -1$ odd Dirichlet character of conductor 549 mapping	3	6	1	
1	$245 \mapsto \zeta_6, 307 \mapsto -\zeta_6$ odd Dirichlet character of conductor 549 mapping	5	6	1	
1	$245 \mapsto \zeta_6, 307 \mapsto -\zeta_6$ even Dirichlet character of conductor 549 mapping	2	3	1	
	$245 \mapsto -\zeta_3 - 1,307 \mapsto -\zeta_3 - 1$				

$\lambda_7(\chi)$	Dirichlet character θ	$\left egin{array}{l} ext{twist} \\ i \end{array} \right $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 549 mapping	2	6	1	
1	$245 \mapsto -\zeta_6, 307 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 551 mapping	4	6	1	
1	$59 \mapsto \zeta_6 - 1,495 \mapsto -1$ even Dirichlet character of conductor 551 mapping $59 \mapsto -\zeta_6,495 \mapsto -1$	2	6	1	
1	even Dirichlet character of conductor 552 mapping $415 \mapsto 1,277 \mapsto -1,185 \mapsto -1,97 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 555 mapping $371 \mapsto -1,112 \mapsto -1,76 \mapsto -1$	5	2	1	
2	odd Dirichlet character of conductor 555 mapping $371 \mapsto -1,112 \mapsto -1,76 \mapsto -\zeta_6$	1	6	1	
1	even Dirichlet character of conductor 556 mapping $279 \mapsto -1,141 \mapsto -\zeta_6 + 1$	0	6	1	
1	even Dirichlet character of conductor 556 mapping $279 \mapsto -1,141 \mapsto -\zeta_6 + 1$	4	6	1	
1	even Dirichlet character of conductor 559 mapping $431 \mapsto \zeta_{12}, 261 \mapsto \zeta_{12}^2$	4	12	2	
3	odd Dirichlet character of conductor 559 mapping $431 \mapsto \zeta_6, 261 \mapsto \zeta_6$	1	6	1	
1	odd Dirichlet character of conductor 559 mapping $431 \mapsto \zeta_6, 261 \mapsto \zeta_6$	3	6	1	
2	odd Dirichlet character of conductor 559 mapping $431 \mapsto \zeta_6 - 1,261 \mapsto \zeta_6$	3	6	1	
1	odd Dirichlet character of conductor 559 mapping $431 \mapsto -1,261 \mapsto \zeta_6$	3	6	1	
1	even Dirichlet character of conductor 559 mapping $431 \mapsto -\zeta_{12}, 261 \mapsto \zeta_{12}^2$	4	12	2	
3	odd Dirichlet character of conductor 559 mapping $431 \mapsto -\zeta_6 + 1,261 \mapsto \zeta_6$	1	6	1	X
1	even Dirichlet character of conductor 559 mapping $431 \mapsto \zeta_4, 261 \mapsto -1$	4	4	2	
1	odd Dirichlet character of conductor 559 mapping $431 \mapsto -\zeta_6, 261 \mapsto -1$	1	6	1	
1	even Dirichlet character of conductor 559 mapping $431 \mapsto -\zeta_4, 261 \mapsto -1$	4	4	2	
3	odd Dirichlet character of conductor 559 mapping $431 \mapsto -\zeta_6 + 1,261 \mapsto -1$	5	6	1	
1	even Dirichlet character of conductor 559 mapping	2	3	1	
1	$431 \mapsto \zeta_3, 261 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 559 mapping $431 \mapsto \zeta_6 - 1, 261 \mapsto -\zeta_6 + 1$	1	6	1	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{vmatrix} ext{twist} \\ ext{} \end{aligned}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 559 mapping $431 \mapsto -1,261 \mapsto -\zeta_6 + 1$	3	6	1	
1	odd Dirichlet character of conductor 561 mapping $188 \mapsto -1,409 \mapsto -1,496 \mapsto \zeta_{16}$	3	16	2	
1	odd Dirichlet character of conductor 561 mapping $188 \mapsto -1,409 \mapsto -1,496 \mapsto \zeta_{16}^{7}$	3	16	2	
1	odd Dirichlet character of conductor 565 mapping $227 \mapsto \zeta_8^2, 116 \mapsto \zeta_8^3$	5	8	2	
1	odd Dirichlet character of conductor 565 mapping $227 \mapsto -\zeta_8^2$, $116 \mapsto -\zeta_8$	5	8	2	
1	even Dirichlet character of conductor 568 mapping $143 \mapsto -1,285 \mapsto -1,433 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 571 mapping $3 \mapsto \zeta_{57}^2$	2	57	3	
1	even Dirichlet character of conductor 571 mapping $3 \mapsto \zeta_{57}^{14}$	2	57	3	
1	even Dirichlet character of conductor 571 mapping	4	3	1	
1	$3 \mapsto \zeta_3$ odd Dirichlet character of conductor 571 mapping	1	114	3	
1	$3 \mapsto \zeta_{114}^{22} - \zeta_{114}^{3}$ odd Dirichlet character of conductor 571 mapping	1	114	3	
1	$3 \mapsto -\zeta_{114}^2$ odd Dirichlet character of conductor 571 mapping	1	114	3	
1	$3 \mapsto -\zeta_{114}^{14}$ even Dirichlet character of conductor 571 mapping	2	3	1	
1	$3 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 571 mapping	2	57	3	
1	$3 \mapsto -\zeta_{57}^{22} - \zeta_{57}^{3}$ even Dirichlet character of conductor 572 mapping	0	6	1	
1	$287 \mapsto -1,365 \mapsto -1,353 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 572 mapping	3	12	2	
2	$287 \mapsto -1,365 \mapsto -1,353 \mapsto \zeta_{12}^3 - \zeta_{12}$ even Dirichlet character of conductor 572 mapping	4	6	1	
1	$287 \mapsto -1,365 \mapsto -1,353 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 572 mapping	3	12	2	
1	$287 \mapsto -1,365 \mapsto -1,353 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 576 mapping	5	48	2	
1	$127 \mapsto 1,325 \mapsto \zeta_{48}^3,65 \mapsto \zeta_{48}^8$ odd Dirichlet character of conductor 576 mapping	5	48	2	
1	$127 \mapsto 1,325 \mapsto \zeta_{48}^{13} - \zeta_{48}^{5},65 \mapsto \zeta_{48}^{8}$ even Dirichlet character of conductor 577 mapping	2	48	2	
	$5 \mapsto \zeta_{48}$				

$\lambda_7(\chi)$	Dirichlet character θ	$\left egin{array}{c} ext{twist} \ i \end{array} \right $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 577 mapping	2	48	2	
1	$5 \mapsto \zeta_{48}^7$ even Dirichlet character of conductor 577 mapping	0	6	1	
1	$5 \mapsto \zeta_6$ even Dirichlet character of conductor 577 mapping $5 \mapsto \zeta_3$	0	3	1	
1	even Dirichlet character of conductor 577 mapping	4	3	1	
1	$5 \mapsto \zeta_3$ even Dirichlet character of conductor 577 mapping $5 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 577 mapping $5 \mapsto -1$	4	2	1	
1	even Dirichlet character of conductor 577 mapping $5 \mapsto -\zeta_6 + 1$	0	6	1	
1	odd Dirichlet character of conductor 579 mapping $194 \mapsto -1,391 \mapsto \zeta_{12}$	3	12	2	
1	odd Dirichlet character of conductor 579 mapping	3	12	2	
3	$194 \mapsto -1,391 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 580 mapping	1	2	1	X
1	$291 \mapsto -1, 117 \mapsto -1, 321 \mapsto -1$ odd Dirichlet character of conductor 580 mapping $291 \mapsto -1, 117 \mapsto -1, 321 \mapsto -1$	5	2	1	
1	even Dirichlet character of conductor 583 mapping	2	4	2	
1	$266 \mapsto -1,320 \mapsto \zeta_4$ even Dirichlet character of conductor 583 mapping	2	4	2	
1	$266 \mapsto -1,320 \mapsto -\zeta_4$ odd Dirichlet character of conductor 584 mapping	3	8	2	
1	$439 \mapsto 1,293 \mapsto -1,297 \mapsto \zeta_8$ odd Dirichlet character of conductor 584 mapping	5	24	2	
1	$439 \mapsto 1,293 \mapsto -1,297 \mapsto \zeta_{24}^{5}$ odd Dirichlet character of conductor 584 mapping	5	24	2	
1	$439 \mapsto 1,293 \mapsto -1,297 \mapsto \zeta_{24}^7 - \zeta_{24}^3$ even Dirichlet character of conductor 584 mapping	0	6	1	
1	$439 \mapsto 1,293 \mapsto -1,297 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 584 mapping	3	8	2	
1	$439 \mapsto 1,293 \mapsto -1,297 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 585 mapping	5	6	1	
1	$326 \mapsto \zeta_6, 352 \mapsto -1, 496 \mapsto \zeta_6$ odd Dirichlet character of conductor 585 mapping	1	6	1	
1	$\begin{array}{l} 326 \mapsto -\zeta_6 + 1,352 \mapsto -1,496 \mapsto \zeta_6 \\ \text{even Dirichlet character of conductor 585 mapping} \\ 326 \mapsto -\zeta_{12}^2 + 1,352 \mapsto -1,496 \mapsto \zeta_{12}^3 \end{array}$	4	12	2	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{} i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 585 mapping $326 \mapsto \zeta_6, 352 \mapsto -1, 496 \mapsto \zeta_6 - 1$	1	6	1	
1	even Dirichlet character of conductor 585 mapping $326 \mapsto -\zeta_6, 352 \mapsto -1, 496 \mapsto \zeta_6 - 1$	4	6	1	
1	odd Dirichlet character of conductor 585 mapping	1	6	1	
1	$326 \mapsto -\zeta_6 + 1,352 \mapsto -1,496 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 585 mapping	5	6	1	
1	$326 \mapsto \zeta_6, 352 \mapsto -1, 496 \mapsto -\zeta_6$ odd Dirichlet character of conductor 585 mapping	3	6	1	
1	$326 \mapsto -\zeta_6 + 1,352 \mapsto -1,496 \mapsto -\zeta_6$ even Dirichlet character of conductor 585 mapping	4	12	2	
1	$326 \mapsto -\zeta_{12}^2 + 1,352 \mapsto -1,496 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 585 mapping	0	6	1	
1	$326 \mapsto \zeta_6 - 1,352 \mapsto -1,496 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 585 mapping	0	6	1	
1	$326 \mapsto -\zeta_6, 352 \mapsto -1, 496 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 589 mapping	3	6	1	
1	$249 \mapsto \zeta_6 - 1,96 \mapsto \zeta_6$ odd Dirichlet character of conductor 589 mapping	5	6	1	
1	$249 \mapsto -\zeta_6, 96 \mapsto \zeta_6$ odd Dirichlet character of conductor 589 mapping	1	6	1	
1	$249 \mapsto -1,96 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 589 mapping	5	6	1	
2	$249 \mapsto -\zeta_6 + 1,96 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 589 mapping	4	3	1	
1	$249 \mapsto -\zeta_3 - 1,96 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 589 mapping	1	6	1	
1	$249 \mapsto -\zeta_6 + 1,96 \mapsto -\zeta_6$ even Dirichlet character of conductor 589 mapping	4	6	1	
1	$249 \mapsto \zeta_6, 96 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 589 mapping	1	6	1	
2	$249 \mapsto \zeta_6 - 1,96 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 589 mapping	2	6	1	
1	$249 \mapsto -1,96 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 593 mapping	0	2	1	
1	$3 \mapsto -1$ odd Dirichlet character of conductor 596 mapping	1	2	1	
1	$299 \mapsto -1,449 \mapsto -1$ odd Dirichlet character of conductor 596 mapping	3	2	1	
1	$299 \mapsto -1,449 \mapsto -1$ even Dirichlet character of conductor 597 mapping	0	6	1	
	$200 \mapsto -1,202 \mapsto \zeta_6$				

$\lambda_7(\chi)$	Dirichlet character θ	$\left egin{array}{l} ext{twist} \\ i \end{array} \right $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 597 mapping $200 \mapsto -1,202 \mapsto \zeta_6$	4	6	1	
1	even Dirichlet character of conductor 597 mapping	2	2	1	
1	$200 \mapsto -1,202 \mapsto -1$ even Dirichlet character of conductor 601 mapping	0	300	4	
1	$7 \mapsto \zeta_{300}^{17}$ odd Dirichlet character of conductor 601 mapping	1	8	2	
1	$7 \mapsto \zeta_8$ even Dirichlet character of conductor 601 mapping	0	6	1	
1	$7 \mapsto \zeta_6$ even Dirichlet character of conductor 601 mapping	0	3	1	
1	$7 \mapsto \zeta_3$ even Dirichlet character of conductor 601 mapping	0	300	4	
1	$7 \mapsto \zeta_{300}^{69} - \zeta_{300}^{19}$ even Dirichlet character of conductor 601 mapping	0	300	4	
1	$7 \mapsto -\zeta_{300}^{71} + \zeta_{300}^{51} + \zeta_{300}^{41} - \zeta_{300}^{11} - \zeta_{300}$ even Dirichlet character of conductor 601 mapping	0	300	4	
1	$7 \mapsto \zeta_{300}^{73} - \zeta_{300}^{53} - \zeta_{300}^{43} - \zeta_{300}^{33} + \zeta_{300}^{13} + \zeta_{300}^{3}$ odd Dirichlet character of conductor 601 mapping	1	8	2	
1	$7 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 603 mapping	0	6	1	
	$470 \mapsto \zeta_6, 136 \mapsto \zeta_6$				
1	odd Dirichlet character of conductor 603 mapping $470 \mapsto \zeta_6 - 1, 136 \mapsto \zeta_6$	1	6	1	
1	odd Dirichlet character of conductor 603 mapping $470 \mapsto \zeta_6, 136 \mapsto \zeta_6 - 1$	1	6	1	
1	odd Dirichlet character of conductor 603 mapping $470 \mapsto \zeta_6 - 1, 136 \mapsto -1$	5	6	1	
2	even Dirichlet character of conductor 603 mapping $470 \mapsto -\zeta_6 + 1,136 \mapsto -1$	4	6	1	
2	odd Dirichlet character of conductor 603 mapping $470 \mapsto \zeta_6, 136 \mapsto -\zeta_6$	1	6	1	X
1	odd Dirichlet character of conductor 603 mapping $470 \mapsto \zeta_6, 136 \mapsto -\zeta_6$	5	6	1	
2	even Dirichlet character of conductor 603 mapping	0	6	1	
1	$470 \mapsto -\zeta_6 + 1, 136 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 603 mapping	4	6	1	
1	$470 \mapsto -\zeta_6 + 1, 136 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 604 mapping	1	6	1	
1	$303 \mapsto -1,157 \mapsto -\zeta_6$ even Dirichlet character of conductor 604 mapping	0	6	1	
	$303 \mapsto -1,157 \mapsto -\zeta_6 + 1$				

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{i} \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 604 mapping $303 \mapsto -1, 157 \mapsto -\zeta_6 + 1$	2	6	1	
1	even Dirichlet character of conductor 604 mapping	4	6	1	
1	$303 \mapsto -1, 157 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 608 mapping	3	24	2	
1	$191 \mapsto 1,229 \mapsto \zeta_{24}^3, 97 \mapsto \zeta_{24}^4$ odd Dirichlet character of conductor 608 mapping	1	24	2	
1	$191 \mapsto 1,229 \mapsto \zeta_{24}^5 - \zeta_{24}, 97 \mapsto \zeta_{24}^4$ odd Dirichlet character of conductor 608 mapping	1	24	2	
1	$191 \mapsto 1,229 \mapsto -\zeta_{24}^3, 97 \mapsto \zeta_{24}^4$ odd Dirichlet character of conductor 608 mapping	3	24	2	
1	$191 \mapsto 1,229 \mapsto -\zeta_{24}^5 + \zeta_{24}, 97 \mapsto \zeta_{24}^4$ odd Dirichlet character of conductor 608 mapping	5	24	2	
1	$191 \mapsto -1,229 \mapsto \zeta_{24}^5 - \zeta_{24},97 \mapsto -\zeta_{24}^4$ odd Dirichlet character of conductor 608 mapping	5	24	2	
1	$191 \mapsto -1,229 \mapsto -\zeta_{24}^3, 97 \mapsto -\zeta_{24}^4$ odd Dirichlet character of conductor 611 mapping	3	6	1	
1	$236 \mapsto -\zeta_6, 287 \mapsto -1$ odd Dirichlet character of conductor 611 mapping	1	6	1	
1	$236 \mapsto -\zeta_6 + 1,287 \mapsto -1$ odd Dirichlet character of conductor 612 mapping	3	48	2	
1	$307 \mapsto -1, 137 \mapsto \zeta_{48}^{8}, 37 \mapsto \zeta_{48}^{3}$ odd Dirichlet character of conductor 612 mapping	3	48	2	
1	$307 \mapsto -1, 137 \mapsto \zeta_{48}^8, 37 \mapsto \zeta_{48}^{13} - \zeta_{48}^5$ even Dirichlet character of conductor 613 mapping	4	6	1	
2	$2 \mapsto \zeta_6$ odd Dirichlet character of conductor 615 mapping	5	2	1	
1	$206 \mapsto -1,247 \mapsto -1,211 \mapsto -1$ even Dirichlet character of conductor 617 mapping	4	2	1	
1	$3 \mapsto -1$ even Dirichlet character of conductor 619 mapping	2	3	1	
1	$2 \mapsto \zeta_3$ odd Dirichlet character of conductor 619 mapping	1	6	1	
1	$2 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 620 mapping	5	6	1	
1	$311 \mapsto -1,497 \mapsto -1,561 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 620 mapping	2	2	1	
1	$311 \mapsto -1,497 \mapsto -1,561 \mapsto -1$ even Dirichlet character of conductor 620 mapping	2	6	1	
1	$311 \mapsto -1,497 \mapsto -1,561 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 627 mapping	0	18	3	
	$419 \mapsto -1,343 \mapsto -1,496 \mapsto \zeta_{18}^4$				

1 even Dirichlet character of conductor 627 mapping 0 18 3 419 \mapsto -1, 343 \mapsto -1, 496 \mapsto - ζ_{18} even Dirichlet character of conductor 627 mapping 0 18 3 419 \mapsto -1, 343 \mapsto -1, 496 \mapsto - ζ_{18}^4 + ζ_{18} 1 odd Dirichlet character of conductor 628 mapping 5 2 1 315 \mapsto -1, 5 \mapsto - ζ_{16} + 1 1 odd Dirichlet character of conductor 628 mapping 3 6 1 315 \mapsto -1, 5 \mapsto - ζ_{6} + 1 1 odd Dirichlet character of conductor 628 mapping 5 6 1 315 \mapsto -1, 5 \mapsto - ζ_{6} + 1 1 odd Dirichlet character of conductor 629 mapping 5 16 2 2 2 2 2 3 315 \mapsto -1, 5 \mapsto - ζ_{6} + 1 1 odd Dirichlet character of conductor 629 mapping 5 16 2 2 2 2 2 3 3 3 3 3	$\lambda_7(\chi)$	Dirichlet character θ	$_{i}^{\mathrm{twist}}$	$\operatorname{ord}(\chi)$	f	triv.
even Dirichlet character of conductor 627 mapping $419 \mapsto -1,343 \mapsto -1,496 \mapsto -\zeta_{18}^4 + \zeta_{18}$ odd Dirichlet character of conductor 628 mapping $315 \mapsto -1,5 \mapsto -1$ odd Dirichlet character of conductor 628 mapping $315 \mapsto -1,5 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 628 mapping $315 \mapsto -1,5 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 628 mapping $315 \mapsto -1,5 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_{16}^3, 409 \mapsto -1$ odd Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_{16}^3, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_{16}^3, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_{18}^3, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $445 \mapsto -1,409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $445 \mapsto -1,409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $445 \mapsto -1,409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $445 \mapsto -1,409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $445 \mapsto -1,409 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 629 mapping $445 \mapsto -1,409 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 629 mapping $445 \mapsto -1,317 \mapsto -1,161 \mapsto \zeta_6$ 1 even Dirichlet character of conductor 632 mapping $159 \mapsto -1,317 \mapsto -1,161 \mapsto \zeta_6 -1$ even Dirichlet character of conductor 632 mapping $159 \mapsto -1,317 \mapsto -1,161 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 632 mapping $159 \mapsto -1,317 \mapsto -1,161 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 632 mapping $159 \mapsto -1,317 \mapsto -1,161 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 632 mapping $159 \mapsto -1,317 \mapsto -1,161 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 632 mapping $159 \mapsto -1,317 \mapsto -1,161 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 632 mapping $159 \mapsto -1,317 \mapsto -1,161 \mapsto -\zeta_6 + 1$	1		0	18	3	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 627 mapping	0	18	3	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 628 mapping	5	2	1	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 628 mapping	3	6	1	
1 odd Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_{16}^3$, $409 \mapsto -1$ 1 odd Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_{16}^3$, $409 \mapsto -1$ 1 even Dirichlet character of conductor 629 mapping $2000000000000000000000000000000000000$	1	odd Dirichlet character of conductor 628 mapping	5	6	1	
odd Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_{16}^5, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping 2 8 2 $445 \mapsto \zeta_8^3, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping 2 8 2 $445 \mapsto -1, 409 \mapsto -1$ 1 even Dirichlet character of conductor 629 mapping 2 8 2 $445 \mapsto -\zeta_8, 409 \mapsto -1$ 1 even Dirichlet character of conductor 629 mapping 2 8 2 $445 \mapsto -\zeta_8, 409 \mapsto -1$ 1 even Dirichlet character of conductor 629 mapping 2 8 2 $2000000000000000000000000000000000$	1	odd Dirichlet character of conductor 629 mapping	5	16	2	
even Dirichlet character of conductor 629 mapping $445 \mapsto \zeta_8^3, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping 0 $445 \mapsto -1, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping 0 $445 \mapsto -1, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping 0 0 0 0 0 0 0 0 0 0	1	odd Dirichlet character of conductor 629 mapping	5	16	2	
even Dirichlet character of conductor 629 mapping $445 \mapsto -1, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $45 \mapsto -1, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $45 \mapsto -1, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $45 \mapsto -1, 409 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 629 mapping $45 \mapsto -1, 409 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 629 mapping $45 \mapsto -1, 409 \mapsto -\zeta_4 + 1$ odd Dirichlet character of conductor 629 mapping $45 \mapsto -1, 409 \mapsto -1,$	1	even Dirichlet character of conductor 629 mapping	2	8	2	
even Dirichlet character of conductor 629 mapping $445 \mapsto -\zeta_8, 409 \mapsto -1$ even Dirichlet character of conductor 629 mapping $456 \mapsto -1, 409 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 629 mapping $456 \mapsto -1, 409 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 629 mapping $456 \mapsto -\zeta_{48}^3, 409 \mapsto -\zeta_{48}^3 + 1$ odd Dirichlet character of conductor 629 mapping $456 \mapsto -\zeta_{48}^3 + \zeta_{48}^5, 409 \mapsto -\zeta_{48}^3 + 1$ even Dirichlet character of conductor 632 mapping $456 \mapsto -1, 317 \mapsto -1, 161 \mapsto \zeta_6 \mapsto -1, 317 \mapsto -1, 161 \mapsto \zeta_6 \mapsto -1, 317 \mapsto -1, 161 \mapsto \zeta_6 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_6 \mapsto -1, 317 \mapsto$	1	even Dirichlet character of conductor 629 mapping	0	2	1	
even Dirichlet character of conductor 629 mapping 4 6 1 $445 \mapsto -1, 409 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 629 mapping 3 48 2 $445 \mapsto -\zeta_{48}^3, 409 \mapsto -\zeta_{48}^8 + 1$ odd Dirichlet character of conductor 629 mapping 3 48 2 $445 \mapsto -\zeta_{48}^{13} + \zeta_{48}^{5}, 409 \mapsto -\zeta_{48}^{8} + 1$ even Dirichlet character of conductor 632 mapping 2 2 2 2 2 2 2 2 2 2	1	even Dirichlet character of conductor 629 mapping	2	8	2	
odd Dirichlet character of conductor 629 mapping 3 48 2 $445 \mapsto -\zeta_{48}^3, 409 \mapsto -\zeta_{48}^8 + 1$ odd Dirichlet character of conductor 629 mapping 3 48 2 $445 \mapsto -\zeta_{48}^{18} + \zeta_{48}^{5}, 409 \mapsto -\zeta_{48}^{8} + 1$ even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto \zeta_{6}$ even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto 1, 317 \mapsto -1, 161 \mapsto \zeta_{6} - 1$ even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto \zeta_{6} - 1$ even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_{6} + 1$ $2 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_{6} + 1$ $2 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_{6} + 1$ $317 \mapsto -1, 161 \mapsto -1, 161 \mapsto -1, 161 \mapsto -1, 161 \mapsto -1, 161$	1	even Dirichlet character of conductor 629 mapping	4	6	1	
odd Dirichlet character of conductor 629 mapping $445 \mapsto -\zeta_{48}^{13} + \zeta_{48}^{5}, 409 \mapsto -\zeta_{48}^{8} + 1$ even Dirichlet character of conductor 632 mapping $2 = 6 = 1$ $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto \zeta_{6} = 1$ even Dirichlet character of conductor 632 mapping $2 = 6 = 1$ $159 \mapsto 1, 317 \mapsto -1, 161 \mapsto \zeta_{6} = 1$ even Dirichlet character of conductor 632 mapping $2 = 6 = 1$ $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 632 mapping $4 = 6 = 1$ $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 633 mapping $4 = 6 = 1$ $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 633 mapping $4 = 6 = 1$ $120 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_{6} + 1$ $120 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_{6} + 1$	1	odd Dirichlet character of conductor 629 mapping	3	48	2	
even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto \zeta_6$ even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto 1, 317 \mapsto -1, 161 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 632 mapping 4 6 1 $159 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 633 mapping 0 6 1 $212 \mapsto -1, 424 \mapsto -\zeta_6 + 1$	1	odd Dirichlet character of conductor 629 mapping	3	48	2	
even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto 1,317 \mapsto -1,161 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 632 mapping 2 6 1 $159 \mapsto -1,317 \mapsto -1,161 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 632 mapping 4 6 1 $159 \mapsto -1,317 \mapsto -1,161 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 633 mapping 0 6 1 $212 \mapsto -1,424 \mapsto -\zeta_6 + 1$	1	even Dirichlet character of conductor 632 mapping	2	6	1	
$ \begin{array}{ c c c c c c c c c } \hline 1 & \text{even Dirichlet character of conductor } 632 \text{ mapping} & 2 & 6 & 1 \\ \hline 159 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_6 + 1 & & & 6 \\ \hline 2 & \text{even Dirichlet character of conductor } 632 \text{ mapping} & 4 & 6 & 1 \\ \hline 159 \mapsto -1, 317 \mapsto -1, 161 \mapsto -\zeta_6 + 1 & & & 6 \\ \hline 1 & \text{even Dirichlet character of conductor } 633 \text{ mapping} & 0 & 6 & 1 \\ \hline 212 \mapsto -1, 424 \mapsto -\zeta_6 + 1 & & & 6 \\ \hline \end{array} $	1	even Dirichlet character of conductor 632 mapping	2	6	1	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		even Dirichlet character of conductor 632 mapping	2	6	1	
even Dirichlet character of conductor 633 mapping $\begin{vmatrix} 0 & 6 & 1 \\ 212 \mapsto -1, 424 \mapsto -\zeta_6 + 1 & \end{vmatrix}$	2	even Dirichlet character of conductor 632 mapping	4	6	1	
		even Dirichlet character of conductor 633 mapping	0	6	1	
	1	even Dirichlet character of conductor 635 mapping	0	6	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 635 mapping	4	6	1	
$ \begin{vmatrix} 382 \mapsto -1,511 \mapsto \zeta_6 - 1 \\ \text{odd Dirichlet character of conductor 635 mapping} \\ 382 \mapsto -1,511 \mapsto -1 \end{vmatrix} $	1	odd Dirichlet character of conductor 635 mapping	5	2	1	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{i} \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 636 mapping $319 \mapsto -1,425 \mapsto -1,373 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 639 mapping $569 \mapsto \zeta_6, 433 \mapsto -1$	0	6	1	
1	even Dirichlet character of conductor 639 mapping $569 \mapsto \zeta_6, 433 \mapsto -1$	4	6	1	
1	odd Dirichlet character of conductor 639 mapping	5	6	1	
1	$569 \mapsto \zeta_6 - 1,433 \mapsto -1$ even Dirichlet character of conductor 643 mapping	0	3	1	
1	$11 \mapsto \zeta_3$ odd Dirichlet character of conductor 643 mapping	5	2	1	
1	$11 \mapsto -1$ odd Dirichlet character of conductor 643 mapping	5	6	1	
1	$11 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 645 mapping	2	2	1	
3	$431 \mapsto -1,517 \mapsto -1,46 \mapsto -1$ even Dirichlet character of conductor 649 mapping	4	2	1	
1	$178 \mapsto -1,474 \mapsto -1$ even Dirichlet character of conductor 652 mapping	2	6	1	
1	$327 \mapsto -1,165 \mapsto \zeta_6$ odd Dirichlet character of conductor 652 mapping	3	6	1	
1	$327 \mapsto -1, 165 \mapsto -\zeta_6$ even Dirichlet character of conductor 653 mapping $2 \mapsto -1$	4	2	1	
1	odd Dirichlet character of conductor 657 mapping	1	6	1	
1	$74 \mapsto -\zeta_6 + 1,370 \mapsto -1$ even Dirichlet character of conductor 657 mapping	2	3	1	
1	$74 \mapsto \zeta_3, 370 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 657 mapping	1	6	1	
1	$74 \mapsto -\zeta_6 + 1,370 \mapsto -\zeta_6$ even Dirichlet character of conductor 657 mapping	0	6	1	
1	$74 \mapsto -\zeta_6, 370 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 661 mapping	2	6	1	
1	$2 \mapsto \zeta_6$ even Dirichlet character of conductor 661 mapping	2	3	1	
1	$2 \mapsto \zeta_3$ even Dirichlet character of conductor 661 mapping	4	3	1	
3	$2 \mapsto \zeta_3$ even Dirichlet character of conductor 661 mapping	0	3	1	
1	$2 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 661 mapping	4	6	1	
	$2 \mapsto -\zeta_6 + 1$				

$\lambda_7(\chi)$	Dirichlet character θ	twist	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 663 mapping	3	8	2	
1	$443 \mapsto -1,613 \mapsto -1,547 \mapsto \zeta_8$ even Dirichlet character of conductor 663 mapping	0	24	2	
1	$443 \mapsto -1,613 \mapsto -\zeta_{24}^2,547 \mapsto \zeta_{24}^3$ odd Dirichlet character of conductor 663 mapping	1	16	2	
1	$443 \mapsto -1,613 \mapsto \zeta_{16}^4,547 \mapsto \zeta_{16}^3$ even Dirichlet character of conductor 663 mapping	0	12	2	
1	$443 \mapsto -1,613 \mapsto -\zeta_{12},547 \mapsto \zeta_{12}^3$ even Dirichlet character of conductor 663 mapping	$\frac{1}{2}$	12	2	
	$443 \mapsto -1,613 \mapsto -\zeta_{12}^3 + \zeta_{12},547 \mapsto \zeta_{12}^3$				
1	odd Dirichlet character of conductor 663 mapping $443\mapsto -1,613\mapsto -\zeta_{16}^4,547\mapsto \zeta_{16}^5$	1	16	2	
1	odd Dirichlet character of conductor 663 mapping $443 \mapsto -1,613 \mapsto \zeta_6,547 \mapsto -1$	1	6	1	
1	odd Dirichlet character of conductor 663 mapping $443 \mapsto -1,613 \mapsto \zeta_6,547 \mapsto -1$	5	6	1	
1	odd Dirichlet character of conductor 663 mapping $443 \mapsto -1,613 \mapsto -1,547 \mapsto -1$	5	2	1	
1	even Dirichlet character of conductor 663 mapping	0	12	2	
1	$443 \mapsto -1,613 \mapsto \zeta_{12},547 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 663 mapping	2	12	2	
1	$443 \mapsto -1,613 \mapsto \zeta_{12}^3 - \zeta_{12},547 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 663 mapping	0	24	2	
1	$443 \mapsto -1,613 \mapsto \zeta_{24}^2,547 \mapsto -\zeta_{24}^5 + \zeta_{24}$ odd Dirichlet character of conductor 663 mapping	3	8	2	
1	$443 \mapsto -1,613 \mapsto -1,547 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 668 mapping	2	2	1	
1	$335 \mapsto -1, 5 \mapsto -1$ even Dirichlet character of conductor 669 mapping	0	6	1	
1	$224 \mapsto -1,226 \mapsto \zeta_6$ odd Dirichlet character of conductor 671 mapping	3	6	1	
1	$123 \mapsto -1,551 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 671 mapping	5	6	1	
1	$123 \mapsto -1,551 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 671 mapping	5	6	1	
	$123 \mapsto -1,551 \mapsto -\zeta_6$				
2	odd Dirichlet character of conductor 671 mapping $123 \mapsto -1,551 \mapsto -\zeta_6 + 1$	3	6	1	
1	even Dirichlet character of conductor 673 mapping $5 \mapsto \zeta_{16}$	4	16	2	
1	even Dirichlet character of conductor 673 mapping $5 \mapsto \zeta_{48}^5$	0	48	2	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{i} \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 673 mapping	4	16	2	
1	$5 \mapsto \zeta_{16}^{7}$ even Dirichlet character of conductor 673 mapping	2	3	1	
1	$5 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 673 mapping $5 \mapsto -\zeta_{48}^{11}$	0	48	2	
1	even Dirichlet character of conductor 680 mapping	0	16	2	
1	$511 \mapsto 1,341 \mapsto -1,137 \mapsto \zeta_{16}^4,241 \mapsto -\zeta_{16}^3$ even Dirichlet character of conductor 680 mapping	0	16	2	
1	$511 \mapsto 1,341 \mapsto -1,137 \mapsto -\zeta_{16}^4,241 \mapsto -\zeta_{16}^5$ even Dirichlet character of conductor 681 mapping	2	2	1	
1	$ 455 \mapsto -1,229 \mapsto -1 $ odd Dirichlet character of conductor 683 mapping $ 5 \mapsto -1 $	5	2	1	
1	even Dirichlet character of conductor 684 mapping	0	6	1	
2	$343 \mapsto -1,533 \mapsto \zeta_6 -1,325 \mapsto \zeta_6$ even Dirichlet character of conductor 684 mapping	2	6	1	
2	$343 \mapsto -1,533 \mapsto \zeta_6 -1,325 \mapsto \zeta_6$ even Dirichlet character of conductor 684 mapping	4	6	1	
1	$343 \mapsto -1,533 \mapsto \zeta_6 -1,325 \mapsto \zeta_6$ even Dirichlet character of conductor 684 mapping	0	6	1	
1	$343 \mapsto -1,533 \mapsto -\zeta_6,325 \mapsto \zeta_6$ even Dirichlet character of conductor 684 mapping	4	6	1	
1	$343 \mapsto -1,533 \mapsto -\zeta_6,325 \mapsto \zeta_6$ odd Dirichlet character of conductor 684 mapping	3	6	1	
1	$343 \mapsto -1,533 \mapsto -\zeta_6 + 1,325 \mapsto \zeta_6$ odd Dirichlet character of conductor 684 mapping	5	6	1	
2	$343 \mapsto -1,533 \mapsto -\zeta_6 + 1,325 \mapsto \zeta_6$ odd Dirichlet character of conductor 684 mapping	5	6	1	
1	$343 \mapsto -1,533 \mapsto \zeta_6 - 1,325 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 684 mapping	4	6	1	
1	$343 \mapsto -1,533 \mapsto -\zeta_6 + 1,325 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 684 mapping	5	6	1	
1	$343 \mapsto -1,533 \mapsto \zeta_6 - 1,325 \mapsto -\zeta_6$ odd Dirichlet character of conductor 684 mapping	5	6	1	
2	$343 \mapsto -1,533 \mapsto -\zeta_6,325 \mapsto -\zeta_6$ even Dirichlet character of conductor 684 mapping	4	6	1	
1	$343 \mapsto -1,533 \mapsto -\zeta_6 + 1,325 \mapsto -\zeta_6$ even Dirichlet character of conductor 685 mapping	0	2	1	
2	$412 \mapsto -1,551 \mapsto -1$ even Dirichlet character of conductor 685 mapping	2	2	1	
	$\mid 412 \mapsto -1,551 \mapsto -1$				

$\lambda_7(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 687 mapping $230 \mapsto -1,235 \mapsto \zeta_{114}^{22}$	1	114	3	
1	odd Dirichlet character of conductor 687 mapping $230 \mapsto -1,235 \mapsto \zeta_6 - 1$	1	6	1	
1	odd Dirichlet character of conductor 687 mapping $230 \mapsto -1,235 \mapsto \zeta_{114}^{21} - \zeta_{114}^{2}$	1	114	3	
1	odd Dirichlet character of conductor 687 mapping $230 \mapsto -1,235 \mapsto \zeta_{114}^{33} - \zeta_{114}^{14}$	1	114	3	
1	odd Dirichlet character of conductor 688 mapping $431 \mapsto -1,517 \mapsto \zeta_{12}^3,433 \mapsto -\zeta_{12}^2$	1	12	2	
1	odd Dirichlet character of conductor 688 mapping	1	12	2	
1	$431 \mapsto -1,517 \mapsto -\zeta_{12}^3, 433 \mapsto -\zeta_{12}^2$ even Dirichlet character of conductor 689 mapping $54 \mapsto \zeta_{12}^3 - \zeta_{12}, 638 \mapsto \zeta_{12}^3$	0	12	2	
1	odd Dirichlet character of conductor 689 mapping	5	12	2	
1	$54 \mapsto -\zeta_{12}^2, 638 \mapsto \zeta_{12}^3$ even Dirichlet character of conductor 689 mapping	0	6	1	
1	$54 \mapsto \zeta_6, 638 \mapsto -1$ odd Dirichlet character of conductor 689 mapping $54 \mapsto \zeta_{12}^3 - \zeta_{12}, 638 \mapsto -1$	3	12	2	
1	even Dirichlet character of conductor 689 mapping $54 \mapsto -1,638 \mapsto -1$	2	2	1	
1	odd Dirichlet character of conductor 689 mapping	3	12	2	
1	$54 \mapsto -\zeta_{12}^3 + \zeta_{12}, 638 \mapsto -1$ odd Dirichlet character of conductor 689 mapping	5	12	2	
1	$54 \mapsto -\zeta_{12}^2, 638 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 689 mapping	0	12	2	
1	$54 \mapsto -\zeta_{12}^3 + \zeta_{12}, 638 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 691 mapping	2	3	1	
1	$3 \mapsto \zeta_3$ even Dirichlet character of conductor 692 mapping	0	4	2	
1	$347 \mapsto -1,521 \mapsto \zeta_4$ even Dirichlet character of conductor 692 mapping $347 \mapsto -1,521 \mapsto -\zeta_4$	0	4	2	
1	even Dirichlet character of conductor 695 mapping	4	6	1	
1	$557 \mapsto -1,141 \mapsto -\zeta_6$ odd Dirichlet character of conductor 696 mapping	5	2	1	
1	$175 \mapsto 1,349 \mapsto -1,233 \mapsto -1,553 \mapsto -1$ even Dirichlet character of conductor 697 mapping	2	16	2	
1	$411 \mapsto \zeta_{16}^7, 375 \mapsto \zeta_{16}^2$ even Dirichlet character of conductor 697 mapping	2	16	2	
	$411 \mapsto \zeta_{16}^5, 375 \mapsto \zeta_{16}^6$				

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{i} \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 697 mapping $411 \mapsto \zeta_{16}^7, 375 \mapsto \zeta_{16}^6$	2	16	2	
1	even Dirichlet character of conductor 697 mapping $411 \mapsto \zeta_{16}, 375 \mapsto -\zeta_{16}^2$	2	16	2	
1	even Dirichlet character of conductor 697 mapping	2	16	2	
1	$411 \mapsto \zeta_{16}^3, 375 \mapsto -\zeta_{16}^2$ even Dirichlet character of conductor 697 mapping	2	16	2	
1	$411 \mapsto \zeta_{16}, 375 \mapsto -\zeta_{16}^{6}$ odd Dirichlet character of conductor 699 mapping	3	4	2	
1	$467 \mapsto -1,469 \mapsto \zeta_4$ odd Dirichlet character of conductor 699 mapping	3	4	2	
1	$467 \mapsto -1,469 \mapsto -\zeta_4$ even Dirichlet character of conductor 703 mapping	0	18	3	
1	$667 \mapsto \zeta_{18}^4, 39 \mapsto \zeta_{18}^3$ even Dirichlet character of conductor 703 mapping	0	18	3	
1	$667 \mapsto -\zeta_{18}, 39 \mapsto \zeta_{18}^{3}$ even Dirichlet character of conductor 703 mapping	2	6	1	
2	$667 \mapsto -\zeta_6, 39 \mapsto \zeta_6$ odd Dirichlet character of conductor 703 mapping	5	6	1	
1	$667 \mapsto -\zeta_6 + 1,39 \mapsto \zeta_6$ even Dirichlet character of conductor 703 mapping	0	18	3	
1	$667 \mapsto -\zeta_{18}^4 + \zeta_{18}, 39 \mapsto \zeta_{18}^3$ odd Dirichlet character of conductor 703 mapping	1	18	3	
2	$667 \mapsto -\zeta_{18}^3 + 1,39 \mapsto \zeta_{18}^4$ odd Dirichlet character of conductor 703 mapping	1	6	1	
1	$667 \mapsto \zeta_6, 39 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 703 mapping	5	6	1	
1	$667 \mapsto \zeta_6, 39 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 703 mapping	3	6	1	
2	$667 \mapsto -1,39 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 703 mapping	2	6	1	
1	$667 \mapsto \zeta_6 - 1, 39 \mapsto -1$ odd Dirichlet character of conductor 703 mapping	1	18	3	
1	$667 \mapsto -\zeta_{18}^3 + 1,39 \mapsto -\zeta_{18}$ odd Dirichlet character of conductor 703 mapping	3	6	1	
1	$667 \mapsto \zeta_6, 39 \mapsto -\zeta_6$ even Dirichlet character of conductor 703 mapping	0	6	1	
1	$667 \mapsto -\zeta_6, 39 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 703 mapping	1	18	3	
	$667 \mapsto -\zeta_{18}^3 + 1, 39 \mapsto -\zeta_{18}^4 + \zeta_{18}$				
2	even Dirichlet character of conductor 709 mapping $2 \mapsto \zeta_3$	4	3	1	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 711 mapping	0	6	1	
1	$317 \mapsto \zeta_6, 82 \mapsto \zeta_6$ even Dirichlet character of conductor 711 mapping $317 \mapsto \zeta_6, 82 \mapsto \zeta_6$	$oxed{4}$	6	1	
1	odd Dirichlet character of conductor 711 mapping	1	6	1	
2	$317 \mapsto \zeta_6 - 1,82 \mapsto \zeta_6$ odd Dirichlet character of conductor 711 mapping	3	6	1	
1	$317 \mapsto -\zeta_6, 82 \mapsto \zeta_6$ even Dirichlet character of conductor 711 mapping $317 \mapsto -\zeta_6 + 1, 82 \mapsto \zeta_6$	0	6	1	
1	even Dirichlet character of conductor 711 mapping $317 \mapsto \zeta_3, 82 \mapsto \zeta_3$	4	3	1	
1	even Dirichlet character of conductor 711 mapping $317 \mapsto -\zeta_3 - 1, 82 \mapsto \zeta_3$	4	3	1	
2	odd Dirichlet character of conductor 711 mapping	1	6	1	X
1	$317 \mapsto -\zeta_6 + 1, 82 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 711 mapping	1	6	1	
2	$317 \mapsto \zeta_6 - 1,82 \mapsto -1$ odd Dirichlet character of conductor 711 mapping	1	6	1	X
1	$317 \mapsto \zeta_6, 82 \mapsto -\zeta_6$ even Dirichlet character of conductor 711 mapping	2	3	1	
1	$317 \mapsto -\zeta_3 - 1, 82 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 711 mapping	5	6	1	
2	$317 \mapsto -\zeta_6 + 1, 82 \mapsto -\zeta_6$ odd Dirichlet character of conductor 711 mapping	1	6	1	
2	$317 \mapsto \zeta_6 - 1,82 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 711 mapping	2	6	1	
1	$317 \mapsto -\zeta_6 + 1, 82 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 713 mapping	1	6	1	
1	$373 \mapsto -1,530 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 715 mapping	4	12	2	
1	$287 \mapsto -1,651 \mapsto -1,496 \mapsto \zeta_{12}$ odd Dirichlet character of conductor 715 mapping	1	6	1	
1	$287 \mapsto -1,651 \mapsto -1,496 \mapsto \zeta_6$ odd Dirichlet character of conductor 715 mapping	3	6	1	
1	$287 \mapsto -1,651 \mapsto -1,496 \mapsto \zeta_6$ odd Dirichlet character of conductor 715 mapping	3	2	1	
1	$287 \mapsto -1,651 \mapsto -1,496 \mapsto -1$ even Dirichlet character of conductor 715 mapping	4	12	2	
1	$287 \mapsto -1,651 \mapsto -1,496 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 715 mapping	5	6	1	
	$287 \mapsto -1,651 \mapsto -1,496 \mapsto -\zeta_6$				

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 716 mapping $359 \mapsto -1, 181 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 720 mapping $271 \mapsto -1,181 \mapsto \zeta_{12}^3,641 \mapsto \zeta_{12}^2,577 \mapsto \zeta_{12}^3$	5	12	2	
1	even Dirichlet character of conductor 720 mapping $271 \mapsto -1,181 \mapsto -\zeta_{12}^3,641 \mapsto \zeta_{12}^3 -1,577 \mapsto \zeta_{12}^3$	2	12	2	
1	odd Dirichlet character of conductor 720 mapping $271 \mapsto -1,181 \mapsto -\zeta_{12}^3,641 \mapsto \zeta_{12}^2,577 \mapsto -\zeta_{12}^3$	5	12	2	
1	even Dirichlet character of conductor 720 mapping $271 \mapsto -1,181 \mapsto \zeta_{12}^3,641 \mapsto \zeta_{12}^2 -1,577 \mapsto -\zeta_{12}^3$	2	12	2	
1	odd Dirichlet character of conductor 723 mapping $242 \mapsto -1, 7 \mapsto \zeta_6$	3	6	1	
1	even Dirichlet character of conductor 723 mapping $242 \mapsto -1, 7 \mapsto \zeta_{48}^{11}$	2	48	2	
1	even Dirichlet character of conductor 723 mapping $242 \mapsto -1, 7 \mapsto -\zeta_{48}^5$	2	48	2	
2	odd Dirichlet character of conductor 723 mapping $242 \mapsto -1, 7 \mapsto -\zeta_6$	5	6	1	
1	odd Dirichlet character of conductor 724 mapping $363 \mapsto -1,545 \mapsto \zeta_6$	3	6	1	
1	odd Dirichlet character of conductor 724 mapping $363 \mapsto -1,545 \mapsto \zeta_6 - 1$	1	6	1	
1	odd Dirichlet character of conductor 724 mapping $363 \mapsto -1,545 \mapsto -\zeta_6 + 1$	5	6	1	
1	odd Dirichlet character of conductor 731 mapping $173 \mapsto \zeta_{12}^3, 562 \mapsto \zeta_{12}^2$	3	12	2	
1	odd Dirichlet character of conductor 731 mapping $173 \mapsto -\zeta_{12}^3, 562 \mapsto \zeta_{12}^2$	3	12	2	
1	even Dirichlet character of conductor 731 mapping $173 \mapsto -1,562 \mapsto \zeta_6 - 1$	0	6	1	
1	odd Dirichlet character of conductor 731 mapping $173 \mapsto \zeta_8^3, 562 \mapsto -1$	5	8	2	
1	odd Dirichlet character of conductor 731 mapping $173 \mapsto -\zeta_8, 562 \mapsto -1$	5	8	2	
1	even Dirichlet character of conductor 731 mapping $173 \mapsto \zeta_{48}^3, 562 \mapsto -\zeta_{48}^8 + 1$	2	48	2	
1	even Dirichlet character of conductor 731 mapping $173 \mapsto \zeta_{48}^{13} - \zeta_{48}^{5}, 562 \mapsto -\zeta_{48}^{8} + 1$	2	48	2	
1	even Dirichlet character of conductor 732 mapping	4	6	1	
2	$367 \mapsto -1,245 \mapsto -1,673 \mapsto \zeta_6$ even Dirichlet character of conductor 733 mapping	2	6	1	
	$6\mapsto \zeta_6$				

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 733 mapping	4	6	1	
1	$6 \mapsto \zeta_6$ even Dirichlet character of conductor 733 mapping	2	3	1	
1	$6 \mapsto \zeta_3$ even Dirichlet character of conductor 733 mapping $6 \mapsto -\zeta_6 + 1$	0	6	1	
1	even Dirichlet character of conductor 737 mapping $68 \mapsto -1,672 \mapsto -\zeta_6 + 1$	0	6	1	
1	even Dirichlet character of conductor 737 mapping $68 \mapsto -1,672 \mapsto -\zeta_6 + 1$	2	6	1	
1	odd Dirichlet character of conductor 739 mapping $3 \mapsto \zeta_6$	3	6	1	
1	odd Dirichlet character of conductor 739 mapping $3 \mapsto \zeta_6$	5	6	1	
1	odd Dirichlet character of conductor 739 mapping $3 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 740 mapping $371 \mapsto -1,297 \mapsto -\zeta_{12}^3,261 \mapsto \zeta_{12}^3 - \zeta_{12}$	5	12	2	
1	odd Dirichlet character of conductor 740 mapping $371 \mapsto -1,297 \mapsto -1,261 \mapsto -\zeta_6$	3	6	1	
1	odd Dirichlet character of conductor 740 mapping $371 \mapsto -1,297 \mapsto -1,261 \mapsto -\zeta_6 + 1$	1	6	1	
1	odd Dirichlet character of conductor 740 mapping $371 \mapsto -1,297 \mapsto \zeta_{12}^3,261 \mapsto -\zeta_{12}^3 + \zeta_{12}$	5	12	2	
1	even Dirichlet character of conductor 741 mapping $248\mapsto -1,457\mapsto \zeta_6,40\mapsto \zeta_6$	2	6	1	
1	even Dirichlet character of conductor 741 mapping $248\mapsto -1,457\mapsto \zeta_6,40\mapsto \zeta_6$	4	6	1	
1	even Dirichlet character of conductor 741 mapping $248\mapsto -1,457\mapsto -\zeta_6,40\mapsto \zeta_6$	0	6	1	
1	odd Dirichlet character of conductor 741 mapping $248\mapsto -1,457\mapsto \zeta_6,40\mapsto \zeta_6-1$	3	6	1	
1	odd Dirichlet character of conductor 741 mapping $248 \mapsto -1,457 \mapsto -\zeta_6,40 \mapsto \zeta_6-1$	3	6	1	
1	odd Dirichlet character of conductor 741 mapping $248 \mapsto -1,457 \mapsto -\zeta_6 + 1,40 \mapsto \zeta_6 - 1$	3	6	1	
1	even Dirichlet character of conductor 741 mapping $248\mapsto -1,457\mapsto -1,40\mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 741 mapping $248 \mapsto -1,457 \mapsto -1,40 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 741 mapping $248\mapsto -1,457\mapsto -\zeta_6,40\mapsto -1$	4	6	1	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{} i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 741 mapping $248 \mapsto -1,457 \mapsto -\zeta_6 + 1,40 \mapsto -1$	4	6	1	
2	odd Dirichlet character of conductor 741 mapping $248 \mapsto -1,457 \mapsto \zeta_6,40 \mapsto -\zeta_6$	1	6	1	
2	odd Dirichlet character of conductor 741 mapping	1	6	1	
1	$248 \mapsto -1,457 \mapsto -1,40 \mapsto -\zeta_6$ odd Dirichlet character of conductor 741 mapping	1	6	1	
2	$248 \mapsto -1,457 \mapsto -\zeta_6,40 \mapsto -\zeta_6$ odd Dirichlet character of conductor 741 mapping	3	6	1	
2	$248 \mapsto -1,457 \mapsto -\zeta_6,40 \mapsto -\zeta_6$ even Dirichlet character of conductor 741 mapping	2	6	1	
1	$248 \mapsto -1,457 \mapsto \zeta_6 - 1,40 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 743 mapping	1	2	1	
1	$5 \mapsto -1$ odd Dirichlet character of conductor 744 mapping	5	6	1	
1	$559 \mapsto 1,373 \mapsto -1,497 \mapsto -1,313 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 744 mapping	2	2	1	
1	$559 \mapsto 1,373 \mapsto -1,497 \mapsto -1,313 \mapsto -1$ even Dirichlet character of conductor 745 mapping	2	2	1	
1	$597 \mapsto -1,151 \mapsto -1$ odd Dirichlet character of conductor 747 mapping	1	6	1	
1	$416 \mapsto -\zeta_6, 334 \mapsto -1$ odd Dirichlet character of conductor 747 mapping	5	6	1	
1	$416 \mapsto -\zeta_6, 334 \mapsto -1$ even Dirichlet character of conductor 747 mapping	4	6	1	
1	$416 \mapsto -\zeta_6 + 1,334 \mapsto -1$ even Dirichlet character of conductor 748 mapping	4	80	4	
1	$375 \mapsto -1,409 \mapsto \zeta_{80}^{24} - \zeta_{80}^{16} + \zeta_{80}^{8} - 1,309 \mapsto \zeta_{80}^{15}$ even Dirichlet character of conductor 748 mapping	4	80	4	
1	$375 \mapsto -1,409 \mapsto -\zeta_{80}^{8},309 \mapsto \zeta_{80}^{15}$ even Dirichlet character of conductor 748 mapping	4	80	4	
1	$375 \mapsto -1,409 \mapsto \zeta_{80}^{16},309 \mapsto \zeta_{80}^{25}$ even Dirichlet character of conductor 748 mapping	4	80	4	
1	$375 \mapsto -1,409 \mapsto -\zeta_{80}^{24},309 \mapsto \zeta_{80}^{25}$ even Dirichlet character of conductor 755 mapping	2	12	2	
1	$152 \mapsto \zeta_{12}^3, 6 \mapsto -\zeta_{12}^2 + 1$ even Dirichlet character of conductor 755 mapping	2	12	2	
1	$152 \mapsto -\zeta_{12}^3, 6 \mapsto -\zeta_{12}^2 + 1$ even Dirichlet character of conductor 757 mapping	0	3	1	
2	$2 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 759 mapping	1	2	1	X
	$254 \mapsto -1,277 \mapsto -1,166 \mapsto -1$	_		•	4.

$\lambda_7(\chi)$	Dirichlet character θ	twist	$\operatorname{ord}(\chi)$	f	triv.
					zero
1	odd Dirichlet character of conductor 760 mapping	3	6	1	
	$191 \mapsto -1,381 \mapsto -1,457 \mapsto -1,401 \mapsto -\zeta_6$				
1	even Dirichlet character of conductor 765 mapping	4	48	2	
	$596 \mapsto \zeta_{48}^8 - 1,307 \mapsto -\zeta_{48}^{12},496 \mapsto \zeta_{48}^3$		4.0	0	
1	odd Dirichlet character of conductor 765 mapping	1	48	2	
	$596 \mapsto \zeta_{48}^8 - 1,307 \mapsto -1,496 \mapsto \zeta_{48}^9$		40	0	
1	even Dirichlet character of conductor 765 mapping	2	48	2	
1	$596 \mapsto \zeta_{48}^8 - 1,307 \mapsto -\zeta_{48}^{12},496 \mapsto \zeta_{48}^9$	4	12	9	
1	even Dirichlet character of conductor 765 mapping $596 \mapsto \zeta_{12}^2, 307 \mapsto \zeta_{12}^3, 496 \mapsto \zeta_{12}^3$	$\mid 4 \mid$	12	2	
1	even Dirichlet character of conductor 765 mapping	2	12	2	
1	$596 \mapsto -\zeta_{12}^2 + 1,307 \mapsto \zeta_{12}^3,496 \mapsto \zeta_{12}^3$	2	12	4	
1	even Dirichlet character of conductor 765 mapping	2	48	2	
-	$596 \mapsto \zeta_{48}^8 - 1,307 \mapsto \zeta_{48}^{12},496 \mapsto \zeta_{48}^{15}$	_	10	_	
1	odd Dirichlet character of conductor 765 mapping	1	48	2	
	$596 \mapsto \zeta_{48}^8 - 1,307 \mapsto -1,496 \mapsto \zeta_{48}^{15}$				
1	odd Dirichlet character of conductor 765 mapping	5	24	2	
	$596 \mapsto \zeta_{24}^4, 307 \mapsto -1,496 \mapsto \zeta_{24}^5 - \zeta_{24}$				
1	even Dirichlet character of conductor 765 mapping	4	48	2	
	$596 \mapsto \zeta_{48}^8 - 1,307 \mapsto \zeta_{48}^{12},496 \mapsto \zeta_{48}^{13} - \zeta_{48}^5$				
1	odd Dirichlet character of conductor 765 mapping	3	6	1	
	$596 \mapsto \zeta_6, 307 \mapsto -1, 496 \mapsto -1$		_		
1	odd Dirichlet character of conductor 765 mapping	3	6	1	
1	$596 \mapsto -\zeta_6 + 1,307 \mapsto -1,496 \mapsto -1$	_	0.4	0	
1	odd Dirichlet character of conductor 765 mapping	5	24	2	
1	$596 \mapsto \zeta_{24}^4, 307 \mapsto -1, 496 \mapsto -\zeta_{24}^3$	1	10	9	
1	even Dirichlet character of conductor 765 mapping $596 \mapsto \zeta_{12}^2, 307 \mapsto -\zeta_{12}^3, 496 \mapsto -\zeta_{12}^3$	$\mid 4 \mid$	12	2	
1	even Dirichlet character of conductor 765 mapping	2	12	2	
1	$596 \mapsto -\zeta_{12}^2 + 1,307 \mapsto -\zeta_{12}^3,496 \mapsto -\zeta_{12}^3$		12	2	
1	odd Dirichlet character of conductor 767 mapping	1	6	1	
	$119 \mapsto -\zeta_6,651 \mapsto -1$		-		
1	odd Dirichlet character of conductor 767 mapping	1	6	1	
	$119 \mapsto -\zeta_6 + 1,651 \mapsto -1$				
1	even Dirichlet character of conductor 769 mapping	0	3	1	
	$11 \mapsto \zeta_3$				
1	even Dirichlet character of conductor 769 mapping	0	2	1	
	$11 \mapsto -1$				
1	odd Dirichlet character of conductor 771 mapping	3	2	1	
	$515 \mapsto -1,517 \mapsto -1$				
1	odd Dirichlet character of conductor 772 mapping	3	6	1	
	$387 \mapsto -1, 5 \mapsto \zeta_6$				<u> </u>

$ \begin{array}{ c c c c c }\hline 1 & \text{odd Dirichlet character of conductor } 772 \text{ mapping} & 5 & 6 & 1 \\ \hline 387 \mapsto -1, 5 \mapsto \zeta_6 & & & & & & & \\ \hline 1 & \text{odd Dirichlet character of conductor } 772 \text{ mapping} & 3 & 6 & 1 \\ \hline 387 \mapsto -1, 5 \mapsto \zeta_6 - 1 & & & & & \\ \hline 1 & \text{odd Dirichlet character of conductor } 772 \text{ mapping} & 3 & 2 & 1 \\ \hline 387 \mapsto -1, 5 \mapsto -1 & & & & \\ \hline 1 & \text{odd Dirichlet character of conductor } 772 \text{ mapping} & 5 & 16 & 2 \\ \hline 387 \mapsto -1, 5 \mapsto -\zeta_{16} & & & \\ \hline 1 & \text{odd Dirichlet character of conductor } 772 \text{ mapping} & 5 & 16 & 2 \\ \hline 387 \mapsto -1, 5 \mapsto -\zeta_{16} & & & \\ \hline 1 & \text{even Dirichlet character of conductor } 776 \text{ mapping} & 5 & 16 & 2 \\ \hline 583 \mapsto 1, 389 \mapsto -1, 393 \mapsto \zeta_{24}^5 & & & \\ \hline 1 & \text{even Dirichlet character of conductor } 776 \text{ mapping} & 1 & 48 & 2 \\ \hline 583 \mapsto -1, 389 \mapsto -1, 393 \mapsto \zeta_{48}^{11} & & \\ \hline 1 & \text{even Dirichlet character of conductor } 776 \text{ mapping} & 4 & 6 & 1 \\ \hline 583 \mapsto 1, 389 \mapsto -1, 393 \mapsto \zeta_6 - 1 & & \\ \hline \end{array}$	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
1 even Dirichlet character of conductor 776 mapping 4 6 1	
$1 \rightarrow 1 \rightarrow 2 \rightarrow 1 \rightarrow 2 \rightarrow 2 \rightarrow 1 \rightarrow 2 \rightarrow 1 \rightarrow 1 \rightarrow $	
2 odd Dirichlet character of conductor 776 mapping 1 $583 \mapsto -1,389 \mapsto -1,393 \mapsto \zeta_6 - 1$	
1 even Dirichlet character of conductor 776 mapping 2 24 2 $583 \mapsto 1,389 \mapsto -1,393 \mapsto \zeta_{24}^7 - \zeta_{24}^3$	
3 odd Dirichlet character of conductor 776 mapping 1 $583 \mapsto -1,389 \mapsto -1,393 \mapsto -1$	X
1 odd Dirichlet character of conductor 776 mapping 1 48 2 $583 \mapsto -1,389 \mapsto -1,393 \mapsto -\zeta_{48}^{5}$	
1 odd Dirichlet character of conductor 776 mapping 3 6 1 $583 \mapsto -1,389 \mapsto -1,393 \mapsto -\zeta_6$	
1 odd Dirichlet character of conductor 776 mapping 5 6 1 $583 \mapsto -1,389 \mapsto -1,393 \mapsto -\zeta_6$	
1 even Dirichlet character of conductor 776 mapping 0 6 1 $583 \mapsto 1,389 \mapsto -1,393 \mapsto -\zeta_6 + 1$	
1 odd Dirichlet character of conductor 776 mapping 1 $583 \mapsto -1,389 \mapsto -1,393 \mapsto -\zeta_6 + 1$	
1 even Dirichlet character of conductor 779 mapping 2 6 1 $534 \mapsto \zeta_6 - 1,457 \mapsto -1$	
2 odd Dirichlet character of conductor 779 mapping 1 6 1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$\begin{bmatrix} 391 \mapsto -1, 521 \mapsto -1, 157 \mapsto -1, 301 \mapsto -\zeta_6 + 1 \\ \text{odd Dirichlet character of conductor } 785 \text{ mapping} \\ 472 \mapsto -1, 476 \mapsto \zeta_4 \end{bmatrix}$	

$\lambda_7(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 785 mapping $472 \mapsto -1,476 \mapsto \zeta_6 - 1$	0	6	1	
1	even Dirichlet character of conductor 785 mapping	2	12	2	
1	$472 \mapsto -\zeta_{12}^3, 476 \mapsto \zeta_{12}^3 - \zeta_{12}$ even Dirichlet character of conductor 785 mapping	4	2	1	
1	$472 \mapsto -1,476 \mapsto -1$ even Dirichlet character of conductor 785 mapping	0	6	1	
1	$472 \mapsto -1,476 \mapsto -\zeta_6$ odd Dirichlet character of conductor 785 mapping	3	4	2	
1	$472 \mapsto -1,476 \mapsto -\zeta_4$ even Dirichlet character of conductor 785 mapping	4	6	1	
1	$472 \mapsto -1,476 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 785 mapping	2	12	2	
1	$472 \mapsto \zeta_{12}^3, 476 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 787 mapping	4	3	1	
1	$2 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 792 mapping	0	6	1	
1	$199 \mapsto 1,397 \mapsto -1,353 \mapsto \zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 792 mapping	2	6	1	
1	$199 \mapsto -1,397 \mapsto -1,353 \mapsto -\zeta_6,145 \mapsto -1$ odd Dirichlet character of conductor 793 mapping	1	12	2	
1	$184 \mapsto -\zeta_{12}^2, 612 \mapsto \zeta_{12}$ even Dirichlet character of conductor 793 mapping	2	6	1	
1	$184 \mapsto -1,612 \mapsto \zeta_6$ even Dirichlet character of conductor 793 mapping	2	4	2	
1	$184 \mapsto -\zeta_4, 612 \mapsto \zeta_4$ odd Dirichlet character of conductor 793 mapping	1	12	2	
1	$184 \mapsto -\zeta_{12}^2, 612 \mapsto -\zeta_{12}$ even Dirichlet character of conductor 793 mapping	2	6	1	
1	$184 \mapsto -1,612 \mapsto -\zeta_6$ even Dirichlet character of conductor 793 mapping	2	4	2	
2	$184 \mapsto \zeta_4, 612 \mapsto -\zeta_4$ even Dirichlet character of conductor 793 mapping	0	6	1	
2	$184 \mapsto \zeta_6 - 1,612 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 793 mapping	0	6	1	
1	$184 \mapsto -1,612 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 796 mapping	0	6	1	
1	$399 \mapsto -1,401 \mapsto \zeta_6$ even Dirichlet character of conductor 797 mapping	0	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 799 mapping $377 \mapsto \zeta_8^3, 52 \mapsto -1$	5	8	2	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{} i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 799 mapping $377 \mapsto -\zeta_8, 52 \mapsto -1$	5	8	2	
1	odd Dirichlet character of conductor 800 mapping $351 \mapsto -1,101 \mapsto \zeta_{40}^5,577 \mapsto \zeta_{40}^8$	3	40	4	
1	odd Dirichlet character of conductor 800 mapping	3	40	4	
1	$351 \mapsto -1,101 \mapsto -\zeta_{40}^{15},577 \mapsto \zeta_{40}^{12} - \zeta_{40}^{8} + \zeta_{40}^{4} - 1$ odd Dirichlet character of conductor 800 mapping	3	40	4	
1	$351 \mapsto -1,101 \mapsto -\zeta_{40}^{15},577 \mapsto -\zeta_{40}^{4}$ odd Dirichlet character of conductor 800 mapping	3	40	4	
1	$351 \mapsto -1,101 \mapsto \zeta_{40}^5,577 \mapsto -\zeta_{40}^{12}$ even Dirichlet character of conductor 801 mapping	4	6	1	
1	$713 \mapsto \zeta_6 - 1, 181 \mapsto -1$ odd Dirichlet character of conductor 801 mapping	1	6	1	
1	$713 \mapsto -\zeta_6 + 1, 181 \mapsto -1$ odd Dirichlet character of conductor 801 mapping	5	6	1	
1	$713 \mapsto -\zeta_6 + 1,181 \mapsto -1$ odd Dirichlet character of conductor 803 mapping	3	6	1	
1	$585 \mapsto -1,78 \mapsto -\zeta_6$ even Dirichlet character of conductor 804 mapping	4	6	1	
1	$403 \mapsto -1,269 \mapsto -1,337 \mapsto -\zeta_6$ odd Dirichlet character of conductor 807 mapping	1	2	1	
1	$539 \mapsto -1,271 \mapsto -1$ even Dirichlet character of conductor 808 mapping	4	2	1	
2	$607 \mapsto 1,405 \mapsto -1,305 \mapsto -1$ even Dirichlet character of conductor 809 mapping	4	2	1	
2	$3 \mapsto -1$ odd Dirichlet character of conductor 811 mapping	1	6	1	X
1	$3 \mapsto \zeta_6$ odd Dirichlet character of conductor 815 mapping	3	6	1	
1	$327 \mapsto -1,491 \mapsto \zeta_6$ odd Dirichlet character of conductor 815 mapping	5	6	1	
1	$327 \mapsto -1,491 \mapsto \zeta_6$ odd Dirichlet character of conductor 815 mapping	3	2	1	
1	$327 \mapsto -1,491 \mapsto -1$ odd Dirichlet character of conductor 815 mapping	3	6	1	
1	$327 \mapsto -1,491 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 816 mapping	4	16	2	
1	$511 \mapsto 1,613 \mapsto \zeta_{16}^4,545 \mapsto -1,241 \mapsto \zeta_{16}$ even Dirichlet character of conductor 816 mapping	4	16	2	
1	$511 \mapsto 1,613 \mapsto -\zeta_{16}^4,545 \mapsto -1,241 \mapsto \zeta_{16}^7$ even Dirichlet character of conductor 817 mapping	0	6	1	
1	$173 \mapsto \zeta_6, 476 \mapsto \zeta_6$	0	0	1	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{i} \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
2	even Dirichlet character of conductor 817 mapping $173 \mapsto -\zeta_6 + 1,476 \mapsto \zeta_6$	0	6	1	
2	even Dirichlet character of conductor 817 mapping	2	6	1	
2	$173 \mapsto -\zeta_6 + 1,476 \mapsto \zeta_6$ odd Dirichlet character of conductor 817 mapping	5	6	1	
1	$173 \mapsto -1,476 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 817 mapping	4	6	1	
1	$173 \mapsto \zeta_6, 476 \mapsto -1$ odd Dirichlet character of conductor 817 mapping $173 \mapsto \zeta_6 - 1, 476 \mapsto -1$	3	6	1	
1	even Dirichlet character of conductor 817 mapping $173 \mapsto -1,476 \mapsto -1$	0	2	1	
1	even Dirichlet character of conductor 817 mapping $173 \mapsto -1,476 \mapsto -1$	4	2	1	
1	odd Dirichlet character of conductor 817 mapping $173 \mapsto -\zeta_6, 476 \mapsto -1$	3	6	1	
1	odd Dirichlet character of conductor 817 mapping $173 \mapsto -\zeta_6, 476 \mapsto -1$	5	6	1	
1	even Dirichlet character of conductor 817 mapping $173 \mapsto -\zeta_3 - 1,476 \mapsto -\zeta_3 - 1$	0	3	1	
1	even Dirichlet character of conductor 817 mapping $173 \mapsto -\zeta_3 - 1,476 \mapsto -\zeta_3 - 1$	2	3	1	
2	even Dirichlet character of conductor 817 mapping $173 \mapsto -\zeta_3 - 1,476 \mapsto -\zeta_3 - 1$	4	3	1	
1	odd Dirichlet character of conductor 817 mapping $173 \mapsto -\zeta_6 + 1,476 \mapsto -\zeta_6$	1	6	1	
1	odd Dirichlet character of conductor 817 mapping	3	6	1	
1	$173 \mapsto -\zeta_6 + 1,476 \mapsto -\zeta_6$ even Dirichlet character of conductor 820 mapping $411 \mapsto -1,657 \mapsto -1,621 \mapsto \zeta_8^3$	2	8	2	
1	even Dirichlet character of conductor 820 mapping $411 \mapsto -1,657 \mapsto -1,621 \mapsto \zeta_8^8$	4	8	2	
1	even Dirichlet character of conductor 820 mapping $411 \mapsto -1,657 \mapsto -1,621 \mapsto -\zeta_8$	2	8	2	
1	even Dirichlet character of conductor 820 mapping	4	8	2	
1	$411 \mapsto -1,657 \mapsto -1,621 \mapsto -\zeta_8$ even Dirichlet character of conductor 823 mapping	0	3	1	
1	$3 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 823 mapping	2	3	1	
1	$3 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 824 mapping $207 \mapsto 1,413 \mapsto -1,417 \mapsto -1$	5	2	1	

even Dirichlet character of conductor 824 mapping 0 2 1 207 \mapsto -1, 413 \mapsto -1, 417 \mapsto -1 1 even Dirichlet character of conductor 824 mapping 2 2 1 207 \mapsto -1, 413 \mapsto -1, 417 \mapsto -1 1 odd Dirichlet character of conductor 824 mapping 5 6 1 207 \mapsto -1, 413 \mapsto -1, 417 \mapsto -6 odd Dirichlet character of conductor 824 mapping 5 6 1 207 \mapsto -1, 413 \mapsto -1, 417 \mapsto -6 odd Dirichlet character of conductor 824 mapping 5 6 1 207 \mapsto -1, 413 \mapsto -1, 417 \mapsto -6 1 odd Dirichlet character of conductor 827 mapping 1 2 1 2 \mapsto -1 1 odd Dirichlet character of conductor 827 mapping 3 2 1 2 \mapsto -1 1 odd Dirichlet character of conductor 828 mapping 2 6 1 415 \mapsto -1, 461 \mapsto ζ_6 -1, 649 \mapsto -1 1 even Dirichlet character of conductor 829 mapping 2 6 1 2 \mapsto -1 2 even Dirichlet character of conductor 829 mapping 2 6 1 2 \mapsto -1 2 even Dirichlet character of conductor 829 mapping 2 6 1 2 \mapsto - ζ_6 +1 2 odd Dirichlet character of conductor 832 mapping 2 6 1 2 \mapsto - ζ_6 +1 0 odd Dirichlet character of conductor 832 mapping 5 48 2 703 \mapsto -1, 261 \mapsto - ζ_{48} , 769 \mapsto ζ_{48} 1 even Dirichlet character of conductor 832 mapping 5 48 2 703 \mapsto -1, 261 \mapsto - ζ_{48} , 769 \mapsto ζ_{48} 1 even Dirichlet character of conductor 832 mapping 0 16 2 703 \mapsto -1, 261 \mapsto - ζ_{48} , 769 \mapsto ζ_{48} -1 even Dirichlet character of conductor 832 mapping 703 \mapsto -1, 261 \mapsto - ζ_{48} , 769 \mapsto ζ_{48} -1 even Dirichlet character of conductor 832 mapping 703 \mapsto -1, 261 \mapsto - ζ_{48} , 769 \mapsto ζ_{48} -1 even Dirichlet character of conductor 832 mapping 703 \mapsto -1, 261 \mapsto - ζ_{48} , 769 \mapsto ζ_{48} -1 even Dirichlet character of conductor 832 mapping 703 \mapsto -1, 261 \mapsto - ζ_{48} , 769 \mapsto ζ_{48} -1 even Dirichlet character of conductor 832 mapping 703 \mapsto -1, 261 \mapsto - ζ_{48} , 769 \mapsto ζ_{48} -1 even Dirichlet character of conductor 832 mapping 1	$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{} i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
even Dirichlet character of conductor 824 mapping $207 \rightarrow -1,413 \rightarrow -1,417 \rightarrow -1$ odd Dirichlet character of conductor 824 mapping $207 \rightarrow -1,413 \rightarrow -1,417 \rightarrow -6$ odd Dirichlet character of conductor 824 mapping $207 \rightarrow -1,413 \rightarrow -1,417 \rightarrow -6$ $207 \rightarrow 1,413 \rightarrow -1,417 \rightarrow -6 + 1$ odd Dirichlet character of conductor 824 mapping $207 \rightarrow 1,413 \rightarrow -1,417 \rightarrow -6 + 1$ odd Dirichlet character of conductor 827 mapping $2 \rightarrow -1$	1		0	2	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 824 mapping	2	2	1	
odd Dirichlet character of conductor 824 mapping $207 \mapsto 1,413 \mapsto -1,417 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 827 mapping $2 \mapsto -1$ odd Dirichlet character of conductor 827 mapping $2 \mapsto -1$ odd Dirichlet character of conductor 828 mapping $2 \mapsto -1$ even Dirichlet character of conductor 829 mapping $2 \mapsto -1$ even Dirichlet character of conductor 829 mapping $2 \mapsto -1$ even Dirichlet character of conductor 829 mapping $2 \mapsto -1$ even Dirichlet character of conductor 829 mapping $2 \mapsto -1$ even Dirichlet character of conductor 831 mapping $2 \mapsto -1$ odd Dirichlet character of conductor 831 mapping $2 \mapsto -1$ odd Dirichlet character of conductor 832 ma	1	odd Dirichlet character of conductor 824 mapping	5	6	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 824 mapping	5	6	1	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 827 mapping	1	2	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 827 mapping	3	2	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	3	even Dirichlet character of conductor 828 mapping	2	6	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 829 mapping	0	2	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2	even Dirichlet character of conductor 829 mapping	2	6	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2	odd Dirichlet character of conductor 831 mapping	1	2	1	X
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 832 mapping	5	48	2	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 832 mapping	5	48	2	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 832 mapping	0	16	2	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 832 mapping	4	48	2	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 832 mapping	4	48	2	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 832 mapping	4	48	2	
	1	odd Dirichlet character of conductor 832 mapping	3	48	2	
1 even Dirichlet character of conductor 832 mapping 4 48 2 $703 \mapsto -1, 261 \mapsto -\zeta_{48}^{13} + \zeta_{48}^{5}, 769 \mapsto \zeta_{48}^{12} - \zeta_{48}^{4}$ 1 even Dirichlet character of conductor 832 mapping 0 16 2	1	odd Dirichlet character of conductor 832 mapping	1	48	2	
even Dirichlet character of conductor 832 mapping 0 16 2	1	even Dirichlet character of conductor 832 mapping	4	48	2	
	1	even Dirichlet character of conductor 832 mapping	0	16	2	
$ \begin{vmatrix} 703 \mapsto -1, 261 \mapsto \zeta_{16}^7, 769 \mapsto -\zeta_{16}^4 \\ \text{odd Dirichlet character of conductor 832 mapping} \\ 703 \mapsto 1, 261 \mapsto \zeta_{48}^9, 769 \mapsto -\zeta_{48}^{12} + \zeta_{48}^4 \end{vmatrix} $	1	odd Dirichlet character of conductor 832 mapping	1	48	2	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{vmatrix} ext{twist} \\ ext{} \end{aligned}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 832 mapping $703 \mapsto 1,261 \mapsto \zeta_{48}^{15},769 \mapsto -\zeta_{48}^{12} + \zeta_{48}^{4}$	3	48	2	
1	even Dirichlet character of conductor 832 mapping $703 \mapsto -1,261 \mapsto \zeta_{48}^{13} - \zeta_{48}^{5},769 \mapsto -\zeta_{48}^{12} + \zeta_{48}^{4}$	4	48	2	
1	even Dirichlet character of conductor 832 mapping $703 \mapsto -1,261 \mapsto -\zeta_{48}^3,769 \mapsto -\zeta_{48}^{12} + \zeta_{48}^4$	4	48	2	
1	odd Dirichlet character of conductor 835 mapping $502 \mapsto -1,506 \mapsto -1$	5	2	1	
1	even Dirichlet character of conductor 836 mapping $419 \mapsto -1,761 \mapsto -1,705 \mapsto \zeta_6 - 1$	4	6	1	
1	even Dirichlet character of conductor 844 mapping $423 \mapsto -1,213 \mapsto \zeta_6$	0	6	1	
1	even Dirichlet character of conductor 844 mapping $423 \mapsto -1,213 \mapsto -\zeta_6 + 1$	4	6	1	
2	odd Dirichlet character of conductor 848 mapping $319 \mapsto 1,213 \mapsto -\zeta_4,161 \mapsto \zeta_4$	1	4	2	X
2	odd Dirichlet character of conductor 848 mapping $319 \mapsto 1,213 \mapsto \zeta_4,161 \mapsto -\zeta_4$	1	4	2	X
1	even Dirichlet character of conductor 849 mapping $284 \mapsto -1,286 \mapsto -1$	2	2	1	
2	odd Dirichlet character of conductor 851 mapping $741 \mapsto -1,668 \mapsto \zeta_6$	5	6	1	
2	odd Dirichlet character of conductor 851 mapping $741 \mapsto -1,668 \mapsto -\zeta_6 + 1$	5	6	1	
1	even Dirichlet character of conductor 853 mapping $2 \mapsto \zeta_6$	4	6	1	
2	even Dirichlet character of conductor 853 mapping $2 \mapsto \zeta_3$	2	3	1	
1	even Dirichlet character of conductor 853 mapping $2 \mapsto -1$	4	2	1	
1	even Dirichlet character of conductor 853 mapping $2 \mapsto -\zeta_3 - 1$	4	3	1	
1	even Dirichlet character of conductor 853 mapping $2 \mapsto -\zeta_6 + 1$	4	6	1	
1	odd Dirichlet character of conductor 855 mapping $191 \mapsto \zeta_6 - 1,172 \mapsto -1,496 \mapsto \zeta_6$	3	6	1	
1	odd Dirichlet character of conductor 855 mapping $191 \mapsto \zeta_6 - 1,172 \mapsto -1,496 \mapsto \zeta_6$	5	6	1	
1	odd Dirichlet character of conductor 855 mapping	5	6	1	
1	$191 \mapsto -\zeta_6, 172 \mapsto -1, 496 \mapsto \zeta_6$ odd Dirichlet character of conductor 855 mapping $191 \mapsto \zeta_6, 172 \mapsto -1, 496 \mapsto \zeta_6 - 1$	3	6	1	

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} ext{twist} \\ ext{i} \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 855 mapping $191 \mapsto \zeta_6 - 1, 172 \mapsto -1, 496 \mapsto \zeta_6 - 1$	0	6	1	
1	even Dirichlet character of conductor 855 mapping $191 \mapsto -\zeta_6, 172 \mapsto -1, 496 \mapsto \zeta_6 - 1$	0	6	1	
1	even Dirichlet character of conductor 855 mapping	2	6	1	
1	$191 \mapsto -\zeta_6, 172 \mapsto -1, 496 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 855 mapping	2	12	2	
1	$191 \mapsto \zeta_{12}^2 - 1,172 \mapsto \zeta_{12}^3,496 \mapsto -1$ even Dirichlet character of conductor 855 mapping	0	6	1	
1	$191 \mapsto -\zeta_6 + 1,172 \mapsto -1,496 \mapsto -1$ even Dirichlet character of conductor 855 mapping	2	12	2	
1	$191 \mapsto \zeta_{12}^2 - 1,172 \mapsto -\zeta_{12}^3,496 \mapsto -1$ odd Dirichlet character of conductor 855 mapping	3	6	1	
1	$191 \mapsto -\zeta_6 + 1,172 \mapsto -1,496 \mapsto -\zeta_6$ odd Dirichlet character of conductor 855 mapping	3	6	1	
1	$191 \mapsto -\zeta_6, 172 \mapsto -1, 496 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 856 mapping	5	2	1	
1	$215 \mapsto 1,429 \mapsto -1,537 \mapsto -1$ even Dirichlet character of conductor 856 mapping	0	2	1	
1	$215 \mapsto -1,429 \mapsto -1,537 \mapsto -1$ odd Dirichlet character of conductor 857 mapping	5	8	2	
1	$3 \mapsto \zeta_8$ odd Dirichlet character of conductor 857 mapping	5	8	2	
2	$3 \mapsto -\zeta_8^3$ odd Dirichlet character of conductor 859 mapping	1	2	1	X
1	$2 \mapsto -1$ odd Dirichlet character of conductor 860 mapping	5	6	1	
1	$431 \mapsto -1,517 \mapsto -1,261 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 860 mapping	0	2	1	
1	$431 \mapsto -1,517 \mapsto -1,261 \mapsto -1$ odd Dirichlet character of conductor 860 mapping	3	6	1	
1	$431 \mapsto -1,517 \mapsto -1,261 \mapsto -\zeta_6$ odd Dirichlet character of conductor 863 mapping	1	2	1	
1	$5 \mapsto -1$ even Dirichlet character of conductor 865 mapping	2	4	2	
1	$347 \mapsto \zeta_4, 521 \mapsto \zeta_4$ even Dirichlet character of conductor 865 mapping	2	4	2	
1	$347 \mapsto -\zeta_4, 521 \mapsto -\zeta_4$ even Dirichlet character of conductor 869 mapping	0	6	1	
2	$475 \mapsto -1,793 \mapsto \zeta_6$ odd Dirichlet character of conductor 871 mapping	1	6	1	
	$470 \mapsto \zeta_6 - 1,404 \mapsto \zeta_6$				

$\lambda_7(\chi)$	Dirichlet character θ	$ \begin{array}{c} \text{twist} \\ i \end{array} $	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 871 mapping $470 \mapsto -1,404 \mapsto \zeta_6$	5	6	1	
1	odd Dirichlet character of conductor 871 mapping $470 \mapsto -1,404 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 871 mapping $470 \mapsto -\zeta_6, 404 \mapsto -1$	3	6	1	
1	even Dirichlet character of conductor 871 mapping $470 \mapsto \zeta_6, 404 \mapsto -\zeta_6$	2	6	1	
1	even Dirichlet character of conductor 871 mapping $470 \mapsto \zeta_3, 404 \mapsto -\zeta_3 - 1$	4	3	1	
2	odd Dirichlet character of conductor 871 mapping $470 \mapsto \zeta_6, 404 \mapsto -\zeta_6 + 1$	1	6	1	X
2	odd Dirichlet character of conductor 871 mapping $470 \mapsto -1,404 \mapsto -\zeta_6 + 1$	1	6	1	
1	even Dirichlet character of conductor 872 mapping $655 \mapsto 1,437 \mapsto -1,769 \mapsto \zeta_6$	4	6	1	
1	even Dirichlet character of conductor 872 mapping $655 \mapsto 1,437 \mapsto -1,769 \mapsto \zeta_6 - 1$	0	6	1	
1	odd Dirichlet character of conductor 872 mapping $655 \mapsto -1,437 \mapsto -1,769 \mapsto \zeta_6 - 1$	1	6	1	
1	even Dirichlet character of conductor 872 mapping $655 \mapsto 1,437 \mapsto -1,769 \mapsto -1$	0	2	1	
1	odd Dirichlet character of conductor 872 mapping $655 \mapsto -1,437 \mapsto -1,769 \mapsto -\zeta_6$	5	6	1	
1	odd Dirichlet character of conductor 873 mapping $389 \mapsto \zeta_6, 199 \mapsto \zeta_6$	3	6	1	
2	odd Dirichlet character of conductor 873 mapping $389 \mapsto -\zeta_6 + 1,199 \mapsto \zeta_6$	1	6	1	
1	odd Dirichlet character of conductor 873 mapping $389 \mapsto -\zeta_6 + 1,199 \mapsto \zeta_6$	5	6	1	
1	even Dirichlet character of conductor 873 mapping $389 \mapsto \zeta_{48}^8 - 1{,}199 \mapsto \zeta_{48}^9$	4	48	2	
1	even Dirichlet character of conductor 873 mapping $389 \mapsto \zeta_{48}^8 - 1,199 \mapsto \zeta_{48}^{15}$	4	48	2	
2	odd Dirichlet character of conductor 873 mapping	1	6	1	X
2	$389 \mapsto \zeta_6, 199 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 873 mapping	0	3	1	
1	$389 \mapsto \zeta_3, 199 \mapsto \zeta_3$ even Dirichlet character of conductor 873 mapping	4	3	1	
1	$389 \mapsto -\zeta_3 - 1, 199 \mapsto \zeta_3$ even Dirichlet character of conductor 873 mapping $389 \mapsto -\zeta_{48}^8, 199 \mapsto \zeta_{48}^9 - \zeta_{48}$	0	48	2	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{vmatrix} \text{twist} \\ i \end{vmatrix}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 873 mapping $389 \mapsto -\zeta_{48}^{8}, 199 \mapsto \zeta_{48}^{15} - \zeta_{48}^{7}$	0	48	2	
1	odd Dirichlet character of conductor 873 mapping $389 \mapsto \zeta_{24}^4, 199 \mapsto -\zeta_{24}$	5	24	2	
1	odd Dirichlet character of conductor 873 mapping $389 \mapsto \zeta_6, 199 \mapsto -\zeta_6$	5	6	1	
1	odd Dirichlet character of conductor 873 mapping $389 \mapsto \zeta_{24}^4, 199 \mapsto -\zeta_{24}^7$	5	24	2	
1	even Dirichlet character of conductor 873 mapping $389 \mapsto \zeta_6 - 1,199 \mapsto -\zeta_6 + 1$	2	6	1	
1	even Dirichlet character of conductor 873 mapping $389 \mapsto -\zeta_6, 199 \mapsto -\zeta_6 + 1$	0	6	1	
1	odd Dirichlet character of conductor 876 mapping $439 \mapsto -1,293 \mapsto -1,589 \mapsto \zeta_{24}^{5}$	3	24	2	
1	odd Dirichlet character of conductor 876 mapping $439 \mapsto -1,293 \mapsto -1,589 \mapsto \zeta_8^8$	5	8	2	
1	odd Dirichlet character of conductor 876 mapping	3	24	2	
1	$439 \mapsto -1,293 \mapsto -1,589 \mapsto \zeta_{24}^7 - \zeta_{24}^3$ even Dirichlet character of conductor 876 mapping	0	2	1	
1	$439 \mapsto -1,293 \mapsto -1,589 \mapsto -1$ odd Dirichlet character of conductor 876 mapping	5	8	2	
1	$439 \mapsto -1,293 \mapsto -1,589 \mapsto -\zeta_8$ even Dirichlet character of conductor 876 mapping	4	6	1	
1	$439 \mapsto -1,293 \mapsto -1,589 \mapsto -\zeta_6$ even Dirichlet character of conductor 877 mapping	0	6	1	
1	$2 \mapsto \zeta_6$ even Dirichlet character of conductor 877 mapping	2	3	1	
2	$2 \mapsto \zeta_3$ even Dirichlet character of conductor 877 mapping	0	3	1	
1	$2 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 877 mapping	2	3	1	
1	$2 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 883 mapping	0	3	1	
1		0	3	1	
1	$2 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 883 mapping	3	6	1	
1	$2 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 884 mapping	0	48	2	
1	$ \begin{array}{c} 443 \mapsto -1,613 \mapsto -\zeta_{48}^8, 105 \mapsto \zeta_{48}^3 \\ \text{even Dirichlet character of conductor 884 mapping} \\ 443 \mapsto -1,613 \mapsto -\zeta_{24}^2, 105 \mapsto \zeta_{24}^3 \\ \end{array} $	0	24	2	

$\lambda_7(\chi)$	Dirichlet character θ	twist	$\operatorname{ord}(\chi)$	f	triv.
		i			zero
1	odd Dirichlet character of conductor 884 mapping	5	12	2	
	$443 \mapsto -1,613 \mapsto -\zeta_{12}^2,105 \mapsto \zeta_{12}^3$	_			
1	even Dirichlet character of conductor 884 mapping	0	48	2	
1	$443 \mapsto -1,613 \mapsto -\zeta_{48}^{8},105 \mapsto \zeta_{48}^{13} - \zeta_{48}^{5}$	_		1	
1	odd Dirichlet character of conductor 884 mapping	5	6	1	
1	$443 \mapsto -1,613 \mapsto \zeta_6,105 \mapsto -1$ odd Dirichlet character of conductor 884 mapping	5	6	1	
1	443 \mapsto -1,613 \mapsto ζ_6 - 1,105 \mapsto -1	9	0	1	
1	even Dirichlet character of conductor 884 mapping	4	12	2	
_	$443 \mapsto -1,613 \mapsto \zeta_{12}^3 - \zeta_{12},105 \mapsto -1$	1	- -	_	
1	odd Dirichlet character of conductor 884 mapping	3	6	1	
	$443 \mapsto -1,613 \mapsto -\zeta_6,105 \mapsto -1$				
1	even Dirichlet character of conductor 884 mapping	4	12	2	
	$443 \mapsto -1,613 \mapsto -\zeta_{12}^3 + \zeta_{12},105 \mapsto -1$				
1	even Dirichlet character of conductor 884 mapping	4	48	2	
	$443 \mapsto -1,613 \mapsto -\zeta_{48}^8, 105 \mapsto -\zeta_{48}^3$				
1	even Dirichlet character of conductor 884 mapping	0	48	2	
1	$443 \mapsto -1,613 \mapsto \zeta_{48}^8 - 1,105 \mapsto -\zeta_{48}^9$	 E	10	2	
1	odd Dirichlet character of conductor 884 mapping	5	12	2	
1	$443 \mapsto -1,613 \mapsto -\zeta_{12}^2, 105 \mapsto -\zeta_{12}^3$ even Dirichlet character of conductor 884 mapping	0	48	2	
1	$443 \mapsto -1,613 \mapsto \zeta_{48}^{0} -1,105 \mapsto -\zeta_{48}^{15}$		10	2	
1	even Dirichlet character of conductor 884 mapping	0	24	2	
	$443 \mapsto -1,613 \mapsto \zeta_{24}^2,105 \mapsto -\zeta_{24}^5 + \zeta_{24}$				
1	even Dirichlet character of conductor 884 mapping	4	48	2	
	$443 \mapsto -1,613 \mapsto -\zeta_{48}^{8},105 \mapsto -\zeta_{48}^{13} + \zeta_{48}^{5}$				
2	even Dirichlet character of conductor 885 mapping	2	2	1	
	$296 \mapsto -1,532 \mapsto -1,61 \mapsto -1$				
1	even Dirichlet character of conductor 888 mapping	2	2	1	
1	$223 \mapsto -1,445 \mapsto -1,593 \mapsto -1,409 \mapsto -1$	1	0	1	
1	odd Dirichlet character of conductor 888 mapping	1	6	1	
1	$223 \mapsto 1,445 \mapsto -1,593 \mapsto -1,409 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 892 mapping	4	6	1	
1	even Different character of conductor 892 mapping $447 \mapsto -1,449 \mapsto \zeta_6$	'1	ا	1	
1	odd Dirichlet character of conductor 892 mapping	1	6	1	
•	$447 \mapsto -1,449 \mapsto \zeta_6 - 1$	_		-	
1	odd Dirichlet character of conductor 892 mapping	5	6	1	
	$447 \mapsto -1,449 \mapsto \zeta_6 - 1$				
1	odd Dirichlet character of conductor 893 mapping	5	6	1	
	$800 \mapsto \zeta_6 - 1,381 \mapsto -1$				
1	even Dirichlet character of conductor 897 mapping	4	2	1	
	$599 \mapsto -1,691 \mapsto -1,235 \mapsto -1$				

$\lambda_7(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
2	even Dirichlet character of conductor 897 mapping $599 \mapsto -1,691 \mapsto -\zeta_6,235 \mapsto -1$	4	6	1	
1	odd Dirichlet character of conductor 899 mapping $466 \mapsto -1,871 \mapsto -1$	5	2	1	
1	even Dirichlet character of conductor 899 mapping $466 \mapsto -1,871 \mapsto -\zeta_6$	4	6	1	
1	even Dirichlet character of conductor 899 mapping	4	12	2	
1	$466 \mapsto \zeta_{12}^3, 871 \mapsto -\zeta_{12}^2 + 1$ even Dirichlet character of conductor 899 mapping	4	12	2	
1	$466 \mapsto -\zeta_{12}^3, 871 \mapsto -\zeta_{12}^2 + 1$ odd Dirichlet character of conductor 901 mapping	5	8	2	
1	$54 \mapsto -\zeta_8, 426 \mapsto \zeta_8^2$ odd Dirichlet character of conductor 901 mapping $54 \mapsto \zeta_8^3, 426 \mapsto -\zeta_8^2$	5	8	2	
1	even Dirichlet character of conductor 904 mapping	4	8	2	
2	$679 \mapsto 1,453 \mapsto -1,681 \mapsto \zeta_8^8$ even Dirichlet character of conductor 904 mapping	2	2	1	
1	$679 \mapsto 1,453 \mapsto -1,681 \mapsto -1$ even Dirichlet character of conductor 904 mapping	4	8	2	
1	$679 \mapsto 1,453 \mapsto -1,681 \mapsto -\zeta_8$ even Dirichlet character of conductor 905 mapping	0	6	1	
1	$182 \mapsto -1,726 \mapsto \zeta_6$ even Dirichlet character of conductor 905 mapping	2	6	1	
1	$182 \mapsto -1,726 \mapsto \zeta_6$ even Dirichlet character of conductor 905 mapping	0	6	1	
1	$182 \mapsto -1,726 \mapsto -\zeta_6$ even Dirichlet character of conductor 905 mapping	4	6	1	
1	$182 \mapsto -1,726 \mapsto -\zeta_6$ even Dirichlet character of conductor 905 mapping	2	6	1	
2	$182 \mapsto -1,726 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 907 mapping	5	6	1	
1	$2 \mapsto \zeta_6$ odd Dirichlet character of conductor 907 mapping	5	2	1	
1	$2 \mapsto -1$ odd Dirichlet character of conductor 907 mapping	1	6	1	
1	$2 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 907 mapping	5	6	1	
1	$2 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 909 mapping	4	6	1	
2	$506 \mapsto -\zeta_6, 406 \mapsto -1$ even Dirichlet character of conductor 913 mapping	2	2	1	
	$167 \mapsto -1,749 \mapsto -1$				

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$ \operatorname{ord}(\chi) $	f	triv.
1	odd Dirichlet character of conductor 915 mapping $611 \mapsto -1,367 \mapsto -1,856 \mapsto \zeta_6$	1	6	1	
1	even Dirichlet character of conductor 915 mapping	0	4	2	
1	$611 \mapsto -1,367 \mapsto -1,856 \mapsto \zeta_4$ even Dirichlet character of conductor 915 mapping	2	12	2	
1	$611 \mapsto -1,367 \mapsto \zeta_{12}^3,856 \mapsto \zeta_{12}^2 - 1$ even Dirichlet character of conductor 915 mapping	2	12	2	
1	$611 \mapsto -1,367 \mapsto -\zeta_{12}^3,856 \mapsto \zeta_{12}^2 - 1$ even Dirichlet character of conductor 915 mapping	2	12	2	
1	$611 \mapsto -1,367 \mapsto -1,856 \mapsto \zeta_{12}^3 - \zeta_{12}$ odd Dirichlet character of conductor 915 mapping	1	12	2	
1	$611 \mapsto -1,367 \mapsto -\zeta_{12}^3,856 \mapsto \zeta_{12}^3 - \zeta_{12}$ even Dirichlet character of conductor 915 mapping	2	4	2	
1	$611 \mapsto -1,367 \mapsto \zeta_4,856 \mapsto -1$ even Dirichlet character of conductor 915 mapping	2	4	2	
1	$611 \mapsto -1,367 \mapsto -\zeta_4,856 \mapsto -1$ even Dirichlet character of conductor 915 mapping	0	4	2	
1	$611 \mapsto -1,367 \mapsto -1,856 \mapsto -\zeta_4$ odd Dirichlet character of conductor 915 mapping	1	12	2	
1	$611 \mapsto -1,367 \mapsto \zeta_{12}^3,856 \mapsto -\zeta_{12}^3 + \zeta_{12}$ even Dirichlet character of conductor 915 mapping	2	12	2	
1	$611 \mapsto -1,367 \mapsto -1,856 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 916 mapping	3	6	1	
1	$459 \mapsto -1,693 \mapsto -\zeta_6$ odd Dirichlet character of conductor 919 mapping	5	6	1	
1	$7 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 921 mapping	2	6	1	
1	$308 \mapsto -1,619 \mapsto \zeta_6$ odd Dirichlet character of conductor 921 mapping	3	6	1	
1	$308 \mapsto -1,619 \mapsto -\zeta_6$ odd Dirichlet character of conductor 927 mapping	5	6	1	
1	$722 \mapsto -\zeta_6, 829 \mapsto \zeta_6$ even Dirichlet character of conductor 927 mapping	4	6	1	
1	$722 \mapsto -\zeta_6 + 1,829 \mapsto \zeta_6$ odd Dirichlet character of conductor 927 mapping	1	6	1	
1	$722 \mapsto -\zeta_6 + 1,829 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 927 mapping	4	6	1	
1	$722 \mapsto \zeta_6, 829 \mapsto -1$ odd Dirichlet character of conductor 927 mapping	5	6	1	
1	$722 \mapsto -\zeta_6, 829 \mapsto -1$ odd Dirichlet character of conductor 927 mapping	5	6	1	
	$722 \mapsto \zeta_6, 829 \mapsto -\zeta_6$			•	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{vmatrix} ext{twist} \\ ext{} \end{aligned}$	$\operatorname{ord}(\chi)$	f	triv.
2	odd Dirichlet character of conductor 927 mapping $722 \mapsto -\zeta_6 + 1,829 \mapsto -\zeta_6$	5	6	1	
1	even Dirichlet character of conductor 928 mapping $639 \mapsto -1,581 \mapsto -\zeta_8^3,321 \mapsto \zeta_8^2$	0	8	2	
1	even Dirichlet character of conductor 928 mapping $639 \mapsto -1,581 \mapsto \zeta_8,321 \mapsto -\zeta_8^2$	0	8	2	
1	even Dirichlet character of conductor 929 mapping $3 \mapsto -1$	2	2	1	
1	even Dirichlet character of conductor 929 mapping $3 \mapsto -\zeta_{16}$	0	16	2	
1	even Dirichlet character of conductor 929 mapping $3 \mapsto -\zeta_{16}^7$	0	16	2	
1	even Dirichlet character of conductor 932 mapping $467 \mapsto -1,469 \mapsto \zeta_8$	4	8	2	
1	even Dirichlet character of conductor 932 mapping $467 \mapsto -1,469 \mapsto -\zeta_8^8$	4	8	2	
1	even Dirichlet character of conductor 935 mapping $562 \mapsto -\zeta_4, 596 \mapsto -1, 496 \mapsto \zeta_4$	4	4	2	
1	odd Dirichlet character of conductor 935 mapping	1	2	1	
1	$562 \mapsto -1,596 \mapsto -1,496 \mapsto -1$ even Dirichlet character of conductor 935 mapping	0	16	2	
1	$562 \mapsto -1,596 \mapsto -1,496 \mapsto -\zeta_{16}$ odd Dirichlet character of conductor 935 mapping	3	16	2	
1	$562 \mapsto -\zeta_{16}^4, 596 \mapsto -1,496 \mapsto -\zeta_{16}^3$ even Dirichlet character of conductor 935 mapping	4	4	2	
1	$562 \mapsto \zeta_4, 596 \mapsto -1, 496 \mapsto -\zeta_4$ odd Dirichlet character of conductor 935 mapping	3	16	2	
1	$562 \mapsto \zeta_{16}^4, 596 \mapsto -1,496 \mapsto -\zeta_{16}^5$ even Dirichlet character of conductor 935 mapping	0	16	2	
2	$562 \mapsto -1,596 \mapsto -1,496 \mapsto -\zeta_{16}^{7}$ odd Dirichlet character of conductor 936 mapping	1	6	1	X
1	$703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto \zeta_6$ odd Dirichlet character of conductor 936 mapping	5	6	1	
1	$703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6 + 1,145 \mapsto \zeta_6$ even Dirichlet character of conductor 936 mapping	2	12	2	
1	$703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_{12}^2 - 1,145 \mapsto \zeta_{12}^3$ odd Dirichlet character of conductor 936 mapping	1	6	1	
1	$703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 936 mapping	0	6	1	
1	$ 703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto \zeta_6 - 1 $ odd Dirichlet character of conductor 936 mapping	5	6	1	
	$703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto \zeta_6 - 1$				

$ \begin{array}{ c c c c }\hline 1 & \text{odd Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6, 1,145 \mapsto \zeta_6 - 1 \\ 1 & \text{odd Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6, 145 \mapsto -1 \\ 1 & \text{odd Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6, 145 \mapsto -1 \\ 2 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6, 145 \mapsto -1 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6, 145 \mapsto -1 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -1 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -1 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -1 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -1 \\ 1 & \text{odd Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -1 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6 + 1 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6 + 1 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6 + 1 \\ 1 & \text{even Dirichlet character of conductor } 936 \text{ mapping} \\ 703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6 + 1 \\ 1 & even Dirichlet$	$\lambda_7(\chi)$	Dirichlet character θ	i twist	$\operatorname{ord}(\chi)$	f	triv.
odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 +1,145 \mapsto -\zeta_6$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6+1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor	1		3	6	1	
odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 = 1,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 = 1,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 = 1,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 = 1,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6 +1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6 +1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6 +1$ even Dirichlet character of cond	1	odd Dirichlet character of conductor 936 mapping	3	6	1	
even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \rightarrow -1, 209 \mapsto \zeta_6, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \rightarrow -1, 209 \mapsto \zeta_6, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow 1, 469 \rightarrow -1, 209 \mapsto \zeta_6 - 1, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow 1, 469 \rightarrow -1, 209 \mapsto \zeta_6 - 1, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow 1, 469 \rightarrow -1, 209 \mapsto \zeta_6 - 1, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \rightarrow -1, 209 \mapsto \zeta_6 - 1, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \rightarrow -1, 209 \rightarrow -\zeta_6, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \rightarrow -1, 209 \mapsto -\zeta_6, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \rightarrow -1, 209 \mapsto -\zeta_6, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \rightarrow -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \rightarrow -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \rightarrow -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \rightarrow -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \mapsto -1, 209 \mapsto -\zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \mapsto -1, 209 \mapsto -\zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \rightarrow -1, 469 \mapsto -1, 209 \mapsto -\zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of c	1	odd Dirichlet character of conductor 936 mapping	5	6	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2	even Dirichlet character of conductor 936 mapping	2	6	1	
1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto ζ_6 - 1, 145 \mapsto -1 2 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto ζ_6 - 1, 145 \mapsto -1 2 odd Dirichlet character of conductor 936 mapping 703 \mapsto -1, 469 \mapsto -1, 209 \mapsto ζ_6 - 1, 145 \mapsto -1 1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto $-\zeta_6$, 145 \mapsto -1 2 odd Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto $-\zeta_6$, 145 \mapsto -1 1 odd Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto $-\zeta_6$, 145 \mapsto -1 1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto $-\zeta_6$, 145 \mapsto - ζ_6 1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto $-\zeta_6$, 145 \mapsto - $-\zeta_6$ 1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto $-\zeta_6$, 145 \mapsto - $-\zeta_6$ 1 even Dirichlet character of conductor 936 mapping 703 \mapsto -1, 469 \mapsto -1, 209 \mapsto - $-\zeta_6$, 145 \mapsto - $-\zeta_6$ 1 even Dirichlet character of conductor 936 mapping 703 \mapsto -1, 469 \mapsto -1, 209 \mapsto - $-\zeta_6$, 145 \mapsto - $-\zeta_6$ 1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto - $-\zeta_6$, 145 \mapsto - $-\zeta_6$ 1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto - $-\zeta_6$, 145 \mapsto - $-\zeta_6$ + 1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto - $-\zeta_6$, 145 \mapsto - $-\zeta_6$ + 1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto - $-\zeta_6$, 145 \mapsto - $-\zeta_6$ + 1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto - $-\zeta_6$, 145 \mapsto - $-\zeta_6$ + 1 even Dirichlet character of conductor 936 mapping 703 \mapsto 1, 469 \mapsto -1, 209 \mapsto - $-\zeta_6$, 145 \mapsto - $-\zeta_6$ + 1 even Dirichlet character of conductor 936 mapping 703 \mapsto -1, 469 \mapsto -1, 209 \mapsto -26, 145 \mapsto -26, 1 100 \mapsto -100 \mapsto -100 \mapsto	1	even Dirichlet character of conductor 936 mapping	4	6	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 936 mapping	2	6	1	
odd Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6 - 1, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_6 + 1, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6 + 1, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6 + 1, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6 \mapsto 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6 \mapsto 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6 \mapsto 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6 \mapsto 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6 \mapsto 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 \mapsto 1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 \mapsto 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 \mapsto 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 \mapsto 1$	1	even Dirichlet character of conductor 936 mapping	4	6	1	
even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto -\zeta_6+1,145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6-1,145 \mapsto -\zeta_6+1$ 1 even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,2$	2	odd Dirichlet character of conductor 936 mapping	5	6	1	
odd Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto -\zeta_6 + 1, 145 \mapsto -1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_6 + 1, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{12}^{2} - 1, 145 \mapsto -\zeta_{13}^{3}$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_6 -1, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto 1, 469 \mapsto 1, 469 \mapsto $	1	even Dirichlet character of conductor 936 mapping	4	6	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2	odd Dirichlet character of conductor 936 mapping	1	6	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 936 mapping	3	6	1	
even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto -\zeta_6$ odd Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto -\zeta_6 + 1,145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 + 1,145 \mapsto -\zeta_{12}$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 - 1,145 \mapsto -\zeta_6 + 1$	1	even Dirichlet character of conductor 936 mapping	4	6	1	
odd Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_6, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto -\zeta_6 + 1, 145 \mapsto -\zeta_6$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{6}^{2} + 1, 145 \mapsto -\zeta_{6}^{3}$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{6}, 145 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{6}, 145 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{6}, 145 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1, 469 \mapsto -1, 209 \mapsto \zeta_{6} -1, 145 \mapsto -\zeta_{6} + 1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{6} -1, 145 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{6} -1, 145 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{6} -1, 145 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{6} -1, 145 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{6} -1, 145 \mapsto -\zeta_{6} + 1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_{6} -1, 145 \mapsto -\zeta_{6} + 1$	1	even Dirichlet character of conductor 936 mapping	0	6	1	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	odd Dirichlet character of conductor 936 mapping	1	6	1	
even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_{12}^2 -1,145 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6 +1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6,145 \mapsto -\zeta_6 +1$ even Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6 +1$ odd Dirichlet character of conductor 936 mapping $703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6 +1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6 +1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6 +1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6 +1$ even Dirichlet character of conductor 936 mapping $703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6 +1$	1	even Dirichlet character of conductor 936 mapping	2	6	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 936 mapping	2	12	2	
even Dirichlet character of conductor 936 mapping 0 6 1 $703 \mapsto -1, 469 \mapsto -1, 209 \mapsto \zeta_6, 145 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 936 mapping 0 0 0 0 0 0 0 0 0 0	1	odd Dirichlet character of conductor 936 mapping	1	6	1	
even Dirichlet character of conductor 936 mapping $\begin{bmatrix} 2 \\ 703 \mapsto 1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6 +1 \end{bmatrix}$ odd Dirichlet character of conductor 936 mapping $\begin{bmatrix} 5 \\ 703 \mapsto -1,469 \mapsto -1,209 \mapsto \zeta_6 -1,145 \mapsto -\zeta_6 +1 \end{bmatrix}$ even Dirichlet character of conductor 936 mapping $\begin{bmatrix} 5 \\ 6 \end{bmatrix}$ $\begin{bmatrix} 6 \\ 1 \end{bmatrix}$	1	even Dirichlet character of conductor 936 mapping	0	6	1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	even Dirichlet character of conductor 936 mapping	2	6	1	
even Dirichlet character of conductor 936 mapping 2 6 1	1	odd Dirichlet character of conductor 936 mapping	5	6	1	
	1		2	6	1	

$\lambda_7(\chi)$	Dirichlet character θ	$\left \begin{array}{c} \mathrm{twist} \\ i \end{array} \right $	$\operatorname{ord}(\chi)$	f	triv.
2	even Dirichlet character of conductor 937 mapping	0	6	1	
1	$5 \mapsto \zeta_6$ even Dirichlet character of conductor 937 mapping	2	3	1	
1	$5 \mapsto \zeta_3$ even Dirichlet character of conductor 937 mapping	4	12	2	
1	$5 \mapsto \zeta_{12}^3 - \zeta_{12}$ even Dirichlet character of conductor 937 mapping	0	2	1	
1	$5 \mapsto -1$ even Dirichlet character of conductor 937 mapping	4	12	2	
1	$5 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 939 mapping	1	6	1	
4	$314 \mapsto -1, 10 \mapsto \zeta_6$ odd Dirichlet character of conductor 939 mapping $314 \mapsto -1, 10 \mapsto \zeta_6 - 1$	3	6	1	
2	odd Dirichlet character of conductor 939 mapping $314 \mapsto -1, 10 \mapsto -1$	5	2	1	
1	even Dirichlet character of conductor 939 mapping $314 \mapsto -1, 10 \mapsto -\zeta_{24}$	2	24	2	
1	even Dirichlet character of conductor 939 mapping $314 \mapsto -1, 10 \mapsto -\zeta_{24}^7$	2	24	2	
1	odd Dirichlet character of conductor 943 mapping $534 \mapsto -1, 47 \mapsto -1$	5	2	1	
1	odd Dirichlet character of conductor 947 mapping $2 \mapsto -1$	3	2	1	
1	odd Dirichlet character of conductor 948 mapping $475 \mapsto -1,317 \mapsto -1,793 \mapsto \zeta_6$	1	6	1	
1	odd Dirichlet character of conductor 948 mapping $475 \mapsto -1,317 \mapsto -1,793 \mapsto -\zeta_6 + 1$	5	6	1	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_{24}^2, 443 \mapsto \zeta_{24}$	0	24	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_8^2, 443 \mapsto \zeta_8$	4	8	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_6, 443 \mapsto \zeta_6$	2	6	1	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto \zeta_6, 443 \mapsto \zeta_6$	4	6	1	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_6, 443 \mapsto \zeta_6$	4	6	1	
1	odd Dirichlet character of conductor 949 mapping $366 \mapsto -\zeta_{24}^4, 443 \mapsto \zeta_{24}^5$	5	24	2	
1	even Dirichlet character of conductor 949 mapping $366 \mapsto -1,443 \mapsto \zeta_{18}^4$	0	18	3	

$\lambda_7(\chi)$	Dirichlet character θ	twist i	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 949 mapping	0	24	2	
2	$366 \mapsto \zeta_{24}^2, 443 \mapsto \zeta_{24}^7$ even Dirichlet character of conductor 949 mapping	2	3	1	
1	$366 \mapsto \zeta_3, 443 \mapsto \zeta_3$ even Dirichlet character of conductor 949 mapping	4	6	1	
1	$366 \mapsto -1,443 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 949 mapping	4	6	1	
1	$366 \mapsto -\zeta_6 + 1,443 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 949 mapping	4	24	2	
1	$366 \mapsto -\zeta_{24}^6 + \zeta_{24}^2, 443 \mapsto \zeta_{24}^5 - \zeta_{24}$ even Dirichlet character of conductor 949 mapping	2	12	2	
1	$366 \mapsto -\zeta_{12}^2, 443 \mapsto \zeta_{12}^3 - \zeta_{12}$ odd Dirichlet character of conductor 949 mapping	5	24	2	
1	$366 \mapsto -\zeta_{24}^4, 443 \mapsto \zeta_{24}^7 - \zeta_{24}^3$ even Dirichlet character of conductor 949 mapping	4	6	1	
1	$366 \mapsto -\zeta_6, 443 \mapsto -1$ even Dirichlet character of conductor 949 mapping	2	6	1	
1	$366 \mapsto -\zeta_6 + 1,443 \mapsto -1$ even Dirichlet character of conductor 949 mapping	0	18	3	
1	$366 \mapsto -1,443 \mapsto -\zeta_{18}$ even Dirichlet character of conductor 949 mapping	4	24	2	
1	$366 \mapsto \zeta_{24}^6 - \zeta_{24}^2, 443 \mapsto -\zeta_{24}^3$ even Dirichlet character of conductor 949 mapping	2	3	1	
1	$366 \mapsto \zeta_3, 443 \mapsto -\zeta_3 - 1$ odd Dirichlet character of conductor 949 mapping	1	24	2	
1	$366 \mapsto \zeta_{24}^4, 443 \mapsto -\zeta_{24}^5$ even Dirichlet character of conductor 949 mapping	0	6	1	
1	$366 \mapsto \zeta_6, 443 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 949 mapping	4	8	2	
1	$366 \mapsto -\zeta_8^2, 443 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 949 mapping	0	18	3	
1	$366 \mapsto -1,443 \mapsto -\zeta_{18}^4 + \zeta_{18}$ even Dirichlet character of conductor 949 mapping	2	12	2	
1	$366 \mapsto -\zeta_{12}^2, 443 \mapsto -\zeta_{12}^3 + \zeta_{12}$ odd Dirichlet character of conductor 949 mapping	1	24	2	
1	$366 \mapsto \zeta_{24}^4, 443 \mapsto -\zeta_{24}^7 + \zeta_{24}^3$ odd Dirichlet character of conductor 955 mapping	3	2	1	
1	$192 \mapsto -1,401 \mapsto -1$ even Dirichlet character of conductor 957 mapping	2	2	1	
1	$320 \mapsto -1,871 \mapsto -1,727 \mapsto -1$ odd Dirichlet character of conductor 960 mapping	1	16	2	
	$511 \mapsto -1,901 \mapsto \zeta_{16}^7,641 \mapsto -1,577 \mapsto \zeta_{16}^4$				

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{vmatrix} ext{twist} \\ ext{} i \end{vmatrix}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 960 mapping $511 \mapsto -1,901 \mapsto \zeta_{16},641 \mapsto -1,577 \mapsto -\zeta_{16}^4$	1	16	2	
1	odd Dirichlet character of conductor 963 mapping	3	6	1	
1	$857 \mapsto \zeta_6 - 1,109 \mapsto -1$ even Dirichlet character of conductor 963 mapping	0	6	1	
1	$857 \mapsto -\zeta_6 + 1,109 \mapsto -1$ even Dirichlet character of conductor 963 mapping	4	6	1	
1	$857 \mapsto -\zeta_6 + 1,109 \mapsto -1$ even Dirichlet character of conductor 964 mapping	0	48	2	
1	$483 \mapsto -1,489 \mapsto \zeta_{48}^5$ odd Dirichlet character of conductor 964 mapping	5	8	2	
1	$483 \mapsto -1,489 \mapsto \zeta_8$ even Dirichlet character of conductor 964 mapping	2	48	2	
1	$483 \mapsto -1,489 \mapsto \zeta_{48}^9 - \zeta_{48}$ even Dirichlet character of conductor 964 mapping $483 \mapsto -1,489 \mapsto \zeta_{48}^{15} - \zeta_{48}^{7}$	2	48	2	
1	odd Dirichlet character of conductor 964 mapping	1	6	1	
2	$483 \mapsto -1,489 \mapsto -\zeta_6$ odd Dirichlet character of conductor 964 mapping	5	6	1	
1	$483 \mapsto -1,489 \mapsto -\zeta_6$ even Dirichlet character of conductor 964 mapping	0	48	2	
1	$483 \mapsto -1,489 \mapsto -\zeta_{48}^{11}$ odd Dirichlet character of conductor 964 mapping	3	6	1	
1	$483 \mapsto -1,489 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 964 mapping	5	8	2	
1	$483 \mapsto -1,489 \mapsto -\zeta_8^3$ even Dirichlet character of conductor 965 mapping	2	48	2	
1	$387 \mapsto -1,391 \mapsto \zeta_{48}$ odd Dirichlet character of conductor 965 mapping	1	24	2	
1	$387 \mapsto \zeta_{24}^6, 391 \mapsto \zeta_{24}$ even Dirichlet character of conductor 965 mapping	2	48	2	
1	$387 \mapsto -1,391 \mapsto \zeta_{48}^7$ odd Dirichlet character of conductor 965 mapping	5	24	2	
1	$387 \mapsto \zeta_{24}^6, 391 \mapsto \zeta_{24}^5$ even Dirichlet character of conductor 965 mapping	0	4	2	
1	$387 \mapsto -1,391 \mapsto \zeta_4$ odd Dirichlet character of conductor 965 mapping	1	24	2	
1	$387 \mapsto -\zeta_{24}^6, 391 \mapsto \zeta_{24}^7$ odd Dirichlet character of conductor 965 mapping	3	12	2	
1	$387 \mapsto \zeta_{12}^3, 391 \mapsto \zeta_{12}^3 - \zeta_{12}$ odd Dirichlet character of conductor 965 mapping $387 \mapsto -\zeta_{24}^6, 391 \mapsto \zeta_{24}^7 - \zeta_{24}^3$	5	24	2	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c } \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	odd Dirichlet character of conductor 965 mapping	5	48	2	
1	$387 \mapsto \zeta_{48}^{12}, 391 \mapsto -\zeta_{48}$ even Dirichlet character of conductor 965 mapping	2	24	2	
1	$387 \mapsto -1,391 \mapsto -\zeta_{24}$ odd Dirichlet character of conductor 965 mapping $387 \mapsto -\zeta_{48}^{12},391 \mapsto -\zeta_{48}^{7}$	5	48	2	
1	even Dirichlet character of conductor 965 mapping $387 \mapsto -1,391 \mapsto -\zeta_6$	0	6	1	
1	even Dirichlet character of conductor 965 mapping $387 \mapsto -1,391 \mapsto -\zeta_6$	4	6	1	
1	even Dirichlet character of conductor 965 mapping $387 \mapsto -1,391 \mapsto -\zeta_4$	0	4	2	
1	even Dirichlet character of conductor 965 mapping $387 \mapsto -1,391 \mapsto -\zeta_{24}^7$	2	24	2	
1	even Dirichlet character of conductor 965 mapping $387 \mapsto -1,391 \mapsto -\zeta_6 + 1$	2	6	1	
1	odd Dirichlet character of conductor 965 mapping $387 \mapsto \zeta_{48}^{12}, 391 \mapsto -\zeta_{48}^{9} + \zeta_{48}$	5	48	2	
1	odd Dirichlet character of conductor 965 mapping $387 \mapsto -\zeta_{48}^{12}, 391 \mapsto -\zeta_{48}^{9} + \zeta_{48}$	5	48	2	
1	odd Dirichlet character of conductor 965 mapping $387 \mapsto -\zeta_{12}^3, 391 \mapsto -\zeta_{12}^3 + \zeta_{12}$	3	12	2	
1	odd Dirichlet character of conductor 965 mapping $387 \mapsto \zeta_{48}^{12}, 391 \mapsto -\zeta_{48}^{15} + \zeta_{48}^{7}$	5	48	2	
1	odd Dirichlet character of conductor 965 mapping $387 \mapsto -\zeta_{48}^{12}, 391 \mapsto -\zeta_{48}^{15} + \zeta_{48}^{7}$	5	48	2	
1	odd Dirichlet character of conductor 967 mapping $5 \mapsto -1$	3	2	1	
1	even Dirichlet character of conductor 967 mapping $5 \mapsto -\zeta_3 - 1$	0	3	1	
1	even Dirichlet character of conductor 969 mapping $647 \mapsto -1,343 \mapsto -1,154 \mapsto \zeta_6$	4	6	1	
1	even Dirichlet character of conductor 969 mapping $647 \mapsto -1,343 \mapsto \zeta_{48}^3,154 \mapsto \zeta_{48}^8-1$	4	48	2	
1	even Dirichlet character of conductor 969 mapping $647 \mapsto -1,343 \mapsto \zeta_{48}^{13} - \zeta_{48}^{5},154 \mapsto \zeta_{48}^{8} - 1$	4	48	2	
3	odd Dirichlet character of conductor 969 mapping $647 \mapsto -1,343 \mapsto -1,154 \mapsto \zeta_6 - 1$	1	6	1	
1	odd Dirichlet character of conductor 969 mapping $647 \mapsto -1,343 \mapsto \zeta_{16}^3,154 \mapsto -1$	3	16	2	
1	odd Dirichlet character of conductor 969 mapping $647 \mapsto -1,343 \mapsto \zeta_{16}^5,154 \mapsto -1$	3	16	2	

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline { m twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 969 mapping $647 \mapsto -1,343 \mapsto -1,154 \mapsto -1$	4	2	1	
1	odd Dirichlet character of conductor 969 mapping $647 \mapsto -1,343 \mapsto \zeta_{48}^3, 154 \mapsto -\zeta_{48}^8 + 1$	1	48	2	
1	odd Dirichlet character of conductor 969 mapping	1	48	2	
1	$647 \mapsto -1,343 \mapsto \zeta_{48}^{13} - \zeta_{48}^{5},154 \mapsto -\zeta_{48}^{8} + 1$ even Dirichlet character of conductor 969 mapping	2	6	1	
1	$647 \mapsto -1,343 \mapsto -1,154 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 977 mapping	5	16	2	
1	$3 \mapsto -\zeta_{16}^3$ odd Dirichlet character of conductor 977 mapping	5	16	2	
2	$3 \mapsto -\zeta_{16}^{5}$ odd Dirichlet character of conductor 979 mapping	1	2	1	X
1	$90 \mapsto -1,804 \mapsto -1$ odd Dirichlet character of conductor 979 mapping	3	2	1	
1	$90 \mapsto -1,804 \mapsto -1$ even Dirichlet character of conductor 981 mapping	2	6	1	
1	$110 \mapsto \zeta_6 - 1,442 \mapsto \zeta_6$ even Dirichlet character of conductor 981 mapping	4	6	1	
1	$110 \mapsto -\zeta_6, 442 \mapsto \zeta_6$ even Dirichlet character of conductor 981 mapping	2	12	2	
1	$110 \mapsto \zeta_{12}^2, 442 \mapsto \zeta_{12}^3$ even Dirichlet character of conductor 981 mapping	2	3	1	
1	$110 \mapsto -\zeta_3 - 1,442 \mapsto \zeta_3$ odd Dirichlet character of conductor 981 mapping	1	6	1	
1	$110 \mapsto -\zeta_6 + 1,442 \mapsto \zeta_6 - 1$ even Dirichlet character of conductor 981 mapping	4	3	1	
1	$110 \mapsto \zeta_3, 442 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 981 mapping	2	3	1	
1	$110 \mapsto -\zeta_3 - 1,442 \mapsto -\zeta_3 - 1$ even Dirichlet character of conductor 981 mapping	2	12	2	
1	$110 \mapsto \zeta_{12}^2, 442 \mapsto -\zeta_{12}^3$ odd Dirichlet character of conductor 981 mapping	5	6	1	
1	$110 \mapsto \zeta_6, 442 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 981 mapping	4	6	1	
1	$110 \mapsto -\zeta_6, 442 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 983 mapping	3	2	1	
1	$5 \mapsto -1$ even Dirichlet character of conductor 984 mapping	4	8	2	
1	$247 \mapsto 1,493 \mapsto -1,329 \mapsto -1,457 \mapsto \zeta_8^3$ even Dirichlet character of conductor 984 mapping	4	8	2	
	$247 \mapsto 1,493 \mapsto -1,329 \mapsto -1,457 \mapsto -\zeta_8$				

$\lambda_7(\chi)$	Dirichlet character θ	$\begin{array}{ c c }\hline \text{twist} \\ i \end{array}$	$\operatorname{ord}(\chi)$	f	triv.
1	even Dirichlet character of conductor 985 mapping $592 \mapsto -1,396 \mapsto -1$	4	2	1	
1	odd Dirichlet character of conductor 988 mapping	5	12	2	
1	$495 \mapsto -1,457 \mapsto \zeta_{12}^3,781 \mapsto \zeta_{12}^2$ odd Dirichlet character of conductor 988 mapping	5	12	2	
1	$495 \mapsto -1,457 \mapsto -\zeta_{12}^3,781 \mapsto \zeta_{12}^2$ even Dirichlet character of conductor 988 mapping	0	6	1	
1	$495 \mapsto -1,457 \mapsto -\zeta_6 + 1,781 \mapsto \zeta_6$ even Dirichlet character of conductor 988 mapping	4	6	1	
1	$495 \mapsto -1,457 \mapsto -\zeta_6 + 1,781 \mapsto \zeta_6$ odd Dirichlet character of conductor 988 mapping	3	6	1	
2	$495 \mapsto -1,457 \mapsto \zeta_6,781 \mapsto \zeta_6 - 1$ odd Dirichlet character of conductor 988 mapping	3	6	1	
1	$ \begin{array}{c} 495 \mapsto -1,457 \mapsto -\zeta_6,781 \mapsto \zeta_6 - 1 \\ \text{odd Dirichlet character of conductor 988 mapping} \end{array} $	3	6	1	
1	$\begin{array}{c} 495 \mapsto -1,457 \mapsto -\zeta_6 + 1,781 \mapsto \zeta_6 - 1 \\ \text{even Dirichlet character of conductor 988 mapping} \end{array}$	0	6	1	
2	$ 495 \mapsto -1, 457 \mapsto \zeta_6 - 1, 781 \mapsto -1$ odd Dirichlet character of conductor 988 mapping	1	6	1	X
2	$495 \mapsto -1,457 \mapsto -1,781 \mapsto -\zeta_6$ even Dirichlet character of conductor 988 mapping	0	6	1	
2	$495 \mapsto -1,457 \mapsto -\zeta_6 + 1,781 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 989 mapping	0	6	1	
1	$603 \mapsto -1,691 \mapsto \zeta_6$ even Dirichlet character of conductor 989 mapping	0	2	1	
1	$603 \mapsto -1,691 \mapsto -1$ even Dirichlet character of conductor 989 mapping	2	2	1	
1	$603 \mapsto -1,691 \mapsto -1$ odd Dirichlet character of conductor 989 mapping	3	6	1	
1	$603 \mapsto -1,691 \mapsto -\zeta_6$ even Dirichlet character of conductor 989 mapping	2	6	1	
1	$603 \mapsto -1,691 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 991 mapping	4	3	1	
2	$6 \mapsto \zeta_3$ odd Dirichlet character of conductor 991 mapping	1	6	1	
1	$6 \mapsto -\zeta_6 + 1$ odd Dirichlet character of conductor 991 mapping	3	6	1	
1	$6 \mapsto -\zeta_6 + 1$ even Dirichlet character of conductor 992 mapping	0	24	2	
1	$63 \mapsto 1,869 \mapsto \zeta_{24}^5 - \zeta_{24},65 \mapsto -\zeta_{24}^4$ even Dirichlet character of conductor 992 mapping	$\begin{vmatrix} 2 \end{vmatrix}$	24	2	
	$63 \mapsto 1,869 \mapsto \zeta_{24}^5 - \zeta_{24},65 \mapsto -\zeta_{24}^4$			_	

$\lambda_7(\chi)$	Dirichlet character θ	twist	$\operatorname{ord}(\chi)$	f	triv.
		$\mid i \mid$			zero
1	even Dirichlet character of conductor 992 mapping	0	24	2	
1	$63 \mapsto 1,869 \mapsto -\zeta_{24}^3,65 \mapsto -\zeta_{24}^4$ even Dirichlet character of conductor 992 mapping $63 \mapsto 1,869 \mapsto -\zeta_{24}^3,65 \mapsto -\zeta_{24}^4$	2	24	2	
1	even Dirichlet character of conductor 993 mapping	0	6	1	
1	$332 \mapsto -1,334 \mapsto \zeta_6$ odd Dirichlet character of conductor 995 mapping	1	6	1	
1	$797 \mapsto -1,401 \mapsto \zeta_6$ odd Dirichlet character of conductor 995 mapping	5	6	1	
2	$797 \mapsto -1,401 \mapsto \zeta_6$ odd Dirichlet character of conductor 996 mapping	5	2	1	
1	$499 \mapsto -1,665 \mapsto -1,85 \mapsto -1$ even Dirichlet character of conductor 997 mapping $7 \mapsto -1$	4	2	1	
1	even Dirichlet character of conductor 997 mapping $7 \mapsto -\zeta_3 - 1$	4	3	1	

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