

$$N = 285 = 3 \cdot 5 \cdot 19$$

By the Ibukiyama-Kitayama dimension formula,
 $\dim(S_4(K(285))) = 169$

By the Skoruppa-Zagier dimension formula and Jacobi restriction,
the lift dimension of $S_4(K(285))^+$ is 47
the nonlift dimension of $S_4(K(285))^+$ is heuristically 97
 $\dim(S_4(K(285))^+)$ thus is heuristically 144
 $\dim(S_4(K(285))^-)$ is heuristically 25

$\dim(J_{\{2,285\}}^{\{\text{cusp}\}}) = 3$ (Skoruppa-Zagier), so need to span to within 2 dimensions

$q = 7$ for TraceDown

After TD($\text{Grit}(J_{\{4,1995\}}^{\{\text{cusp}\}})$) and $(\text{Grit}(J_{\{2,285\}}^{\{\text{cusp}\}}))^2$,
spanned rank in $S_4(K(285))^+$ is 143
spanned rank in $S_4(K(285))^-$ is 0

Hecke operators applied: $\{\{3, 2\}\}$
After Hecke spreading,
spanned rank in $S_4(K(285))^-$ is 4

After Borcherds products,
spanned rank in $S_4(K(285))^-$ is 24

Final spanned rank in $S_4(K(285))^+$ is 143

Final spanned rank in $S_4(K(285))^-$ is 24

 $S_2(K(285))^+$ is determined by Jacobi restriction and the $H4Ndl(2,+)$ test
($\dim(H_4(285,2,1))^+ \leq 3$ and this is less than $\dim(J_{\{2,285\}}^{\{\text{cusp}\}})+1 = 4$)
 $S_2(K(285))^- = 0$ by Jacobi restriction and the $H4Ndl(1,-)$ test
($\dim(H_4(285,1,1))^- \leq 2$ and this is less than $\dim(J_{\{2,285\}}^{\{\text{cusp}\}}) = 3$)

So $S_2(K(285)) = \text{Grit}(J_{\{2,285\}}^{\{\text{cusp}\}})$ (dimension 3)