

$$N = 214 = 2 \cdot 107$$

By the Ibukiyama-Kitayama dimension formula,
 $\dim(S_4(K(214))) = 119$

By the Skoruppa-Zagier dimension formula and Jacobi restriction,
the lift dimension of $S_4(K(214))^+$ is 40
the nonlift dimension of $S_4(K(214))^+$ is heuristically 67
 $\dim(S_4(K(214))^+)$ thus is heuristically 107
 $\dim(S_4(K(214))^-)$ is heuristically 12

$\dim(J_{\{2,214\}}^{\{\text{cusp}\}}) = 5$ (Skoruppa-Zagier), so need to span to within 4 dimensions

$q = 7$ for TraceDown

After TD($\text{Grit}(J_{\{4,1498\}}^{\{\text{cusp}\}})$) and $(\text{Grit}(J_{\{2,214\}}^{\{\text{cusp}\}}))^2$,
spanned rank in $S_4(K(214))^+$ is 105
spanned rank in $S_4(K(214))^-$ is 0

Hecke operators applied: $\{\{2, 2\}\}$
After Hecke spreading,
spanned rank in $S_4(K(214))^-$ is 8

After Borcherds products,
spanned rank in $S_4(K(214))^-$ is 12

Final spanned rank in $S_4(K(214))^+$ is 105

Final spanned rank in $S_4(K(214))^-$ is 12

$S_2(K(214))^+$ is determined by Jacobi restriction and the $H4Ndl(2,+)$ test
($\dim(H_4(214,2,1))^+ \leq 4$ and this is less than $\dim(J_{\{2,214\}}^{\{\text{cusp}\}})+1 = 6$)
 $S_2(K(214))^- = 0$ by Jacobi restriction and the $H4Ndl(1,-)$ test
($\dim(H_4(214,1,1))^- \leq 2$ and this is less than $\dim(J_{\{2,214\}}^{\{\text{cusp}\}}) = 5$)

So $S_2(K(214)) = \text{Grit}(J_{\{2,214\}}^{\{\text{cusp}\}})$ (dimension 5)