Visibility at Higher Level

A_f with odd invisible $Ш_{\mathrm{an}}[\ell]$	All ℓ-congruent $A_g \subset J_0(Np)_{\mathrm{new}}$ with $Np \leq 5000$ and $\mathrm{ord}_{s=1} L(g,s) \geq 0$ (and higher Np if known)
551, dim 18, $\ell = 3$	$\mathbf{p = 2}$: dim 1, rank 2 $\mathbf{p = 3}$: dim 1, rank 2 $\mathbf{p = 5}$: dim 25, rank 0
767, dim 23, $\ell = 3$	$\mathbf{p = 2}$: dim 1, rank 2 $\mathbf{p = 7}$: dim 1, rank 2 $\mathbf{p = 7}$: dim 52, rank 0
959, dim 24, $\ell = 3$	$\mathbf{p = 2}$: dim 1, rank 2
1091, dim 62, $\ell = 7$	$\mathbf{p = 7}$: dim 2, rank 2
1283, dim 62, $\ell = 5$	$\mathbf{p = 3}$: dim 2, rank 2
1337, dim 33, $\ell = 3$	$\mathbf{p = 2}$: dim 1, rank 2
1339, dim 30, $\ell = 3$	$\mathbf{p = 2}$: dim 1, rank 2
1355, dim 28, $\ell = 3$	$\mathbf{p = 2}$: dim 1, rank 2
1429, dim 64, $\ell = 5$	$\mathbf{p = 2}$: dim 2, rank 2 $\mathbf{p = 3}$: dim 66, rank 0
1481, dim 71, $\ell = 13$	Nothing in range
1513, dim 31, $\ell = 3$	$\mathbf{p = 2}$: dim 1, rank 2
1529, dim 36, $\ell = 5$	$\mathbf{p = 7}$: dim 1, rank 2
1559, dim 90, $\ell = 11$	Nothing in range
1589, dim 35, $\ell = 3$	Nothing in range
1631, dim 37, $\ell = 5$	$\mathbf{p = 2}$: dim 1, rank 2
1679, dim 45, $\ell = 11$	$\mathbf{p = 2}$: dim 2, rank 2
1727, dim 39, $\ell = 3$	$\mathbf{p = 2}$: dim 1, rank 2
2849, dim 1, $\ell = 3$	$\mathbf{p = 3}$: dim 1, rank 2
4343, dim 1, $\ell = 3$	Nothing in range
5389, dim 1, $\ell = 3$	$\mathbf{p = 7}$: dim 1, rank 2

When the second column contains an A_g of rank 2, then $Ш(A_f)[\ell]$ is "very likely" to be visible of level $M = Np$. This is the case for most examples. The "Nothing in range" note means that the smallest p for which there exists g of even analytic rank congruent to f is beyond the range of my current tables. The examples of level 2849, 4343, and 5389 are the odd and definitely invisible examples in Cremona and Mazur's original paper on visibility.