1154-11-562 **Edgar Costa** (edgarc@mit.edu), **Ravi Donepudi*** (donepud2@illinois.edu), **Ravi Fernando** (fernando@berkeley.edu), **Valentijn Karemaker** (vkarem@math.upenn.edu), **Caleb Springer** (cks5320@psu.edu) and **Mckenzie West** (westmr@uwec.edu). *Abelian varieties not isogenous to a hyperelliptic jacobian.*

Let W_g be the set of $\mathbb{F}_q$-isogeny classes of abelian varieties of dimension g defined over $\mathbb{F}_q$. By Honda-Tate theory, W_g is identified with the set of q-Weil polynomials of degree $2g$. We show that certain congruence conditions on the coefficients of a q-Weil polynomial preclude the corresponding isogeny class from containing a hyperelliptic jacobian. In particular, as $q \to \infty$ this result implies that asymptotically at least 25% of q-isogeny classes of abelian threefolds over $\mathbb{F}_q$ do not contain the jacobian of a smooth hyperelliptic curve defined over $\mathbb{F}_q$. (Received September 12, 2019)