Figure 1: Convergence of the Singular Series $\mathfrak{S}_Q$

First Drop
$p = 283$
$(\omega = 46)$

$\mathfrak{S}_Q(X) = \prod_{p \leq X} \frac{1 - \omega(p)/p}{1 - 1/p}$

Asymptotic ≈ 8.70

Rapid Rise (Shielding Primes $\omega = 0$)

Partial Product

Prime p