Prob. to Improve the Approximate Solution b_{op} (by QAOA Depth p)

$p = 1$ — $\alpha = 0.536$, $\alpha = 3.445$

$p = 2$ — $\alpha = 0.412$, $\alpha = 3.111$

$p = 3$ — $\alpha = 0.425$, $\alpha = 3.433$

$p = 4$ — $\alpha = 0.373$, $\alpha = 3.022$

$p = 5$ — $\alpha = 0.413$, $\alpha = 3.920$

$p = 6$ — $\alpha = 0.550$, $\alpha = 2.913$

$p = 7$ — $\alpha = 0.416$, $\alpha = 3.175$

$p = 8$ — $\alpha = 0.483$, $\alpha = 2.911$

$p = 9$ — $\alpha = 0.370$, $\alpha = 2.942$

$p = 10$ — $\alpha = 0.461$, $\alpha = 3.127$

Y-axis: $P(|v_{new} - t|^2 < |b_{op} - t|^2)$

X-axis: Lattice Dimension $l \cdot \log_2 N / \log_2 \log_2 N$