

$$\begin{aligned}
C_1^{\text{cell}} &= \sum_{i=0}^{\lg n_b} \left(12 \left(\frac{n_b}{2^i} \right)^2 + 36 \left(\frac{n_b}{2^i} \right) + 8 \right) \\
&= 16n_b^2 + 72n_b + 8 \lg n_b - 32 \quad \text{cells}
\end{aligned}$$