$3/2^n$, $\log\log n$, $\sqrt{2}^{\log n}$, $\log n^{\log n}$, $\sqrt{\log n}$

$\log(3/2)^n$, $\log(\log\log n)$, $\log(2^{\frac{1}{2}\log n})$, $\log(\log n^{\log n})$, $\log(\log n)^{1/2}$

$n=2^{1024}$ $n\log(3/2)$, $\log(\log\log n)$, $\frac{1}{2}\log n$, $\log n \cdot \log\log n$, $\frac{1}{2}\log\log n$

✓ 2^{1024} , 3.2 , 512 , 10240 , 5

2^{4096} , 3.7 , 2048 , 4096×12 , 6 $n=2^{4096}$

$1 \approx n^{1/\log n} < \log\log n < \text{sqrt}(\log n) < \text{sqrt}(2)^{\log n} < \log n < 3/2^{\log n} < n < 2^{10} < 2^{11} < (2^{12}) < (n+1)!$

$1 = O(n+1)!$ ✓ $\log n^{\log n} = \Omega(\log\log n) \Rightarrow$ True