

$$c_{2n} = (-1)^{n+1} \frac{i}{\sqrt{2}} \sum_{k=0}^n (-1)^k V(k) W(2n-2k) + \frac{e^{3\pi i/8}}{2} \sum_{k=0}^n i^{n-k} V(k) W(n-k)$$