$$C_4(n) = \frac{15!\cdot 12^{15}}{6}\left(24!\cdot 32!\cdot 2^{26}\cdot 6^{33}\right)^{(n \bmod 2)}\left(\frac{64!}{2}\cdot 3^{63}\right)^{\left\lfloor\frac{n-2}{2}\right\rfloor}\left(\frac{96!}{24^{24}}\cdot 2^{95}\right)^{\left\lfloor\frac{n-2}{2}\right\rfloor+(n \bmod 2)\left(\frac{n-3}{2}\right)}\cdot$$

$$\left(\frac{192!}{24^{48}}\right)^{\frac{\left\lfloor\frac{n-4}{2}\right\rfloor\left\lfloor\frac{n-2}{2}\right\rfloor}{2}}\left(\frac{64!}{(8!)^8}\right)^{\left\lfloor\frac{n-2}{2}\right\rfloor}\left(\frac{96!}{(12!)^8}\right)^{(n \bmod 2)\left(\frac{n-3}{2}\right)}\left(\frac{48!}{(6!)^8}\right)^{(n \bmod 2)\left(\frac{n-3}{2}\right)}\cdot$$

$$\left(\frac{192!}{(24!)^8}\right)^{\frac{\left\lfloor\frac{n-4}{2}\right\rfloor\left\lfloor\frac{n-2}{2}\right\rfloor}{2}+\frac{(n \bmod 2)(n-5)(n-3)(n-1)+\left|(n \bmod 2)-1\right|(n-4)(n-3)(n-2)}{24}}$$