F $\langle dz, v\rangle = \sum \bar{v}^i dz_i$

$$\Rightarrow \langle dz, v\rangle \wedge \langle dz, v\rangle = \bar{v}^i dz_i \wedge \bar{v}^j dz_j$$

$$= \bar{v}^i \bar{v}^j dz_i \wedge dz_j. \qquad i = j \Rightarrow 0$$

$$i \neq j \qquad \begin{array}{ll} i > j & \bar{v}^i \bar{v}^j dz_i \wedge dz_j \\ j > i & \bar{v}^j \bar{v}^i dz_j \wedge dz_i \end{array} + \quad \Rightarrow 0.$$

$$\frac{\langle dz, v\rangle}{\langle v, v\rangle} \wedge \left(- \frac{\langle dz, dv\rangle}{\langle v, v\rangle} + \frac{\langle dz, v\rangle \wedge \langle v, dv\rangle}{\langle v, v\rangle^2} \right)^{n-1}$$

$$= \frac{\langle dz, v\rangle}{\langle v, v\rangle} (-1)^{n-1} \frac{\langle dz, dv\rangle^{n-1}}{\langle v, v\rangle^{n-1}}$$

$$= \frac{(-1)^{n-1}}{\langle v, v\rangle^n} (\bar{v}^1 dz_1 + \bar{v}^2 dz_2 + \cdots + \bar{v}^n dz_n)(d\bar{v}^1 \wedge dz_1 + d\bar{v}^2 \wedge dz_2 + \cdots + d\bar{v}^n \wedge dz_n)^{n-1}$$

$$= \frac{(-1)^{n-1}}{\langle v, v\rangle^n} \{ \bar{v}^1 dz_1 \, (n-1)! \, d\bar{v}^2 \wedge dz_2 \wedge d\bar{v}^3 \wedge dz_3 \wedge \cdots \wedge d\bar{v}^n \wedge dz_n$$

$$+ (n-1)! \, \bar{v}^2 dz_2 \wedge d\bar{v}^1 \wedge dz_1 \wedge d\bar{v}^3 \wedge dz_3 \wedge \cdots \wedge \cdots$$

$$\vdots \qquad \qquad \vdots$$

$$+ (n-1)! \, \bar{v}^n dz_n \wedge d\bar{v}^1 \wedge dz_1 \wedge d\bar{v}^2 \wedge dz_2 \wedge \cdots \wedge d\bar{v}^n \wedge dz_n \}$$

$$= \frac{(-1)^{n-1}(n-1)!}{\langle v, v\rangle^n} \{ \sum_{i=0}^{n} (-1)^{i-1} \bar{v}^i d\bar{v}^1 \wedge \cdots \wedge \widehat{d\bar{v}^i} \wedge \cdots \wedge d\bar{v}^n \wedge dz_1 \wedge \cdots \wedge dz_n \} \times (-1)^{\frac{n(n-1)}{2}}$$

$$\Rightarrow \left(\frac{\sqrt{-1}}{2\pi}\right)^n \omega \wedge (\partial\omega)^{n-1} = (-1)^{n-1} \left(\frac{\sqrt{-1}}{2\pi}\right)^n (n-1)! \, (-1)^{\frac{n(n-1)}{2}} \sum \frac{(-1)^{i-1} \bar{v}^i d\bar{v}^1 \wedge \cdots}{\langle v, v\rangle^n}$$

$$\Rightarrow C_n = (-1)^n \left(\frac{\sqrt{-1}}{2\pi}\right)^n (n-1)! \, (-1)^{\frac{n(n-1)}{2}}$$

$$= (-1)^{\frac{n(n+1)}{2}} \left(\frac{\sqrt{-1}}{2\pi}\right)^n (n-1)! = (-1)^{\frac{n(n+1)}{2} + \frac{n}{2}} \left(\frac{1}{2\pi}\right)^n (n-1)!$$