

$$\nu > 2$$

$$\int\limits_{d\zeta}^{|0\rangle_{\mathbb{C}_{|1}}} \bar{\zeta} \zeta = 1$$

$${}^{1|0}\mathbb{C}_{1|1}\Delta_{\omega}^2\mathbb{C} = \frac{{}^{z|\zeta}\gamma \in {}^{1|0}\mathbb{C}_{1|1}\Delta_{\omega}\mathbb{C}}{\int\limits_{dz/\pi}^{{}^1\mathbb{C}_1} \int\limits_{d\zeta}^{|0\rangle_{\mathbb{C}_{|1}}} \underbrace{1 - z\bar{z} - \zeta\bar{\zeta}}_{\nu - 1} {}^{z|\zeta}\gamma {}^{z|\zeta}\gamma < +\infty}$$

$$\overbrace{1 - z\bar{z} - \zeta\bar{\zeta}}^{\nu - 1} = \overbrace{1 - z\bar{z}}^{\nu - 1} + \overbrace{\nu - 1} \bar{\zeta} \zeta \overbrace{1 - z\bar{z}}^{\nu - 2}$$

$$\text{LHS} = \overbrace{\frac{\nu - 1}{1 - z\bar{z}}}^{{}^1\mathbb{C}_1} \overbrace{1 - \frac{\zeta\bar{\zeta}}{1 - z\bar{z}}}^{\nu - 1} = \overbrace{\frac{\nu - 1}{1 - z\bar{z}}}^{{}^1\mathbb{C}_1} \underbrace{1 - \overbrace{\nu - 1} \frac{\zeta\bar{\zeta}}{1 - z\bar{z}}}_{\nu - 1} = \text{RHS}$$

$${}^{1|0}\mathbb{C}_{1|1}\Delta_{\omega}^2\mathbb{C} = {}^1\mathbb{C}_{1|1}\Delta_{\omega}\mathbb{C} \times {}^1\mathbb{C}_{1|1}\Delta_{\omega}\mathbb{C}$$

$$\begin{aligned} & \int\limits_{dz/\pi}^{{}^1\mathbb{C}_1} \int\limits_{d\zeta}^{|0\rangle_{\mathbb{C}_{|1}}} \underbrace{1 - z\bar{z} - \zeta\bar{\zeta}}^{\nu - 1} \overbrace{{}^z\mathfrak{L}^0 + \zeta{}^z\mathfrak{L}^1}^{{}^z\mathfrak{T}^0 + \zeta{}^z\mathfrak{T}^1} = \int\limits_{dz/\pi}^{{}^1\mathbb{C}_1} \int\limits_{d\zeta}^{|0\rangle_{\mathbb{C}_{|1}}} \underbrace{\frac{\nu - 1}{1 - z\bar{z}} + \overbrace{\nu - 1} \bar{\zeta} \zeta \frac{\nu - 2}{1 - z\bar{z}}}_{\nu - 1} \underbrace{{}^z\bar{\mathfrak{L}}^0 {}^z\mathfrak{T}^0 + \zeta{}^z\bar{\mathfrak{L}}^1 {}^z\mathfrak{T}^1}_{\nu - 1} \\ &= \int\limits_{dz/\pi}^{{}^1\mathbb{C}_1} \underbrace{\frac{\nu - 1}{1 - z\bar{z}}}^{{}^z\bar{\mathfrak{L}}^1} {}^z\mathfrak{T}^1 + \overbrace{\nu - 1} \int\limits_{dz/\pi}^{{}^1\mathbb{C}_1} \underbrace{\frac{\nu - 2}{1 - z\bar{z}}}^{{}^z\bar{\mathfrak{L}}^0} {}^z\mathfrak{T}^0 = \mathfrak{L}^0 \underset{\nu}{\mathbf{x}} \mathfrak{T}^0 + \frac{1}{\nu} \mathfrak{L}^1 \underset{\nu + 1}{\mathbf{x}} \mathfrak{T}^1 \end{aligned}$$

$$\overbrace{1 - z\bar{w} - \zeta\bar{\omega}}^{-\nu} = \overbrace{1 - z\bar{w}}^{-\nu} + \nu \zeta \bar{\omega} \overbrace{1 - z\bar{w}}^{-\nu - 1}$$

$$\text{LHS} = \overbrace{1 - \frac{\zeta\bar{\omega}}{1 - z\bar{w}}}^{-\nu} \overbrace{1 - z\bar{w}}^{-\nu} = \left(1 + \nu \frac{\zeta\bar{\omega}}{1 - z\bar{w}}\right) \overbrace{1 - z\bar{w}}^{-\nu} = \text{RHS}$$

$$\int_{dw/\pi}^{1|0\mathbb{C}_{1|1}} \int_{d\omega}^{1|0\mathbb{C}_{1|1}} \underbrace{\frac{\nu-1}{1-w\bar{w}-\omega\bar{\omega}}}_{\frac{1-z\bar{w}-\zeta\bar{\omega}}{\nu}} {}^{w|\omega}\gamma = {}^{z|\zeta}\gamma$$

$$\begin{aligned} & \int_{dw/\pi}^{1|0\mathbb{C}_{1|1}} \int_{d\omega}^{1|0\mathbb{C}_{1|1}} \underbrace{\frac{\nu-1}{1-w\bar{w}-\omega\bar{\omega}}}_{\frac{1-z\bar{w}-\zeta\bar{\omega}}{\nu}} \underbrace{{}^w\gamma^0 + {}^w\gamma^1}_{w|\omega\gamma} \\ = & \int_{dw/\pi}^{1|0\mathbb{C}_{1|1}} \int_{d\omega}^{1|0\mathbb{C}_{1|1}} \underbrace{\frac{\nu-1}{1-w\bar{w}}}_{\nu} \underbrace{\frac{\nu-2}{1-\bar{w}\omega}}_{\nu-1} \underbrace{\frac{-\nu}{1-z\bar{w}}}_{\nu-2} \underbrace{\frac{-\nu-1}{1-z\bar{w}}}_{\nu-1} \underbrace{{}^w\gamma^0 + {}^w\gamma^1}_{w|\omega\gamma} \\ = & \int_{dw/\pi}^{1|0\mathbb{C}_{1|1}} \int_{d\omega}^{1|0\mathbb{C}_{1|1}} \nu \underbrace{\frac{\nu-1}{1-w\bar{w}}}_{\frac{1-z\bar{w}}{\nu+1}} \zeta \bar{\omega} \underbrace{\frac{-\nu-1}{1-z\bar{w}}}_{\nu-1} {}^w\gamma^1 + \underbrace{\nu-1}_{\nu-1} \bar{\omega} \omega \underbrace{\frac{\nu-2}{1-w\bar{w}}}_{\frac{1-z\bar{w}}{\nu}} \underbrace{\frac{-\nu}{1-z\bar{w}}}_{\nu-1} {}^w\gamma^0 \\ = & \zeta \nu \int_{dw/\pi}^{1|0\mathbb{C}_{1|1}} \underbrace{\frac{\nu-1}{1-w\bar{w}}}_{\frac{1-z\bar{w}}{\nu+1}} {}^w\gamma^1 + \underbrace{\nu-1}_{\nu-1} \int_{dw/\pi}^{1|0\mathbb{C}_{1|1}} \underbrace{\frac{\nu-2}{1-w\bar{w}}}_{\frac{1-z\bar{w}}{\nu}} {}^w\gamma^0 = \zeta {}^z\gamma^1 + {}^z\gamma^0 \end{aligned}$$

$${}^{1|0}\mathbb{C}_{1|1}\triangleleft_{\omega}^2 \mathbb{C} = \frac{\gamma \in {}^{1|0}\mathbb{C}_{1|1}\triangleleft_{\omega}\mathbb{C}}{\Gamma_{\nu} \int_{dz/\pi}^{1|0\mathbb{C}_{1|1}} \int_{d\zeta}^{1|0\mathbb{C}_{1|1}} \frac{\nu-1}{1-z\bar{z}-\zeta\bar{\zeta}} {}^{z|\zeta}\gamma^* {}^{z|\zeta}\gamma < +\infty}$$

$$\begin{aligned} {}^{z|\zeta}\mathcal{P}_{w|\omega} &= \overbrace{1 - \underline{z\hat{w} + \zeta\hat{\omega}}}^{-\nu} \\ {}^{z|\zeta}\mathcal{P}_{w|\omega} &= \sum_{0 \leq n} \overline{z^n} \overline{w^{n^*}} + \sum_{0 \leq n} \overline{\zeta z^n} \overline{\omega w^{n^*}} \\ &= \sum_{0 \leq n} \frac{\nu_n}{n!} z^n \hat{w}^n + \sum_{0 \leq n} \frac{\nu_{n+1}}{n!} z^n \zeta \hat{w}^n \hat{\omega} = \overbrace{1 - \underline{z\hat{w}}}^{-\nu} + \nu \zeta \hat{\omega} \overbrace{1 - \underline{z\hat{w}}}^{-\nu-1} \\ &= \left(1 + \nu \frac{\zeta \hat{\omega}}{1 - z\hat{w}}\right) \overbrace{1 - \underline{z\hat{w}}}^{-\nu} = \overbrace{1 - \frac{\zeta \hat{\omega}}{1 - z\hat{w}}}^{-\nu} \overbrace{1 - \underline{z\hat{w}}}^{-\nu} = \overbrace{1 - \underline{z\hat{w} + \zeta\hat{\omega}}}^{-\nu} \end{aligned}$$

$$\int_{\mathbb{C}^{0|1}}^{d\zeta} \zeta^* \zeta = 1$$

$$\begin{aligned}
& \nu_{z|\zeta} = \frac{dz}{\pi} d\zeta \overbrace{1 - \underbrace{z\bar{z} + \zeta\bar{\zeta}}^{\nu-1}}^{\nu-1} = \frac{dz}{\pi} \overbrace{1 - z\bar{z}}^{\nu-1} d\zeta \overbrace{1 - \frac{\zeta\bar{\zeta}}{1 - z\bar{z}}}^{\nu-1} = \frac{dz}{\pi} \overbrace{1 - z\bar{z}}^{\nu-1} d\zeta \left(1 - \underbrace{\nu-1}_{\nu-1} \frac{\zeta\bar{\zeta}}{1 - z\bar{z}} \right) \\
& \nu_{z|\zeta} = \frac{dz}{\pi} d\zeta \overbrace{1 - \underbrace{z\bar{z} + \zeta\bar{\zeta}}^{\nu-1}}^{\nu-1} = \frac{dz}{\pi} \overbrace{1 - z\bar{z}}^{\nu-1} d\zeta \overbrace{1 - \frac{\zeta\bar{\zeta}}{1 - z\bar{z}}}^{\nu-1} = \frac{dz}{\pi} \overbrace{1 - z\bar{z}}^{\nu-1} d\zeta \left(1 - \underbrace{\nu-1}_{\nu-1} \frac{\zeta\bar{\zeta}}{1 - z\bar{z}} \right) \\
& \int_{\mathbb{C}}^{d^2w/\pi} \int_{\mathbb{C}^{0|1}}^{d^2\omega} \overbrace{1 - \underbrace{w\bar{w} + \omega\bar{\omega}}^{\nu-1}}^{\nu-1} \overbrace{1 - \underbrace{z\bar{w} + \zeta\bar{\omega}}^{-\nu}}^{-\nu} \underbrace{\omega_w^{00} \mathbb{J} + \omega_w^{10} \mathbb{J} + \omega_w^{01} \mathbb{J} + \omega_w^{11} \mathbb{J}}_{\omega_w^{00} \mathbb{J} + \omega_w^{10} \mathbb{J} + \omega_w^{01} \mathbb{J} + \omega_w^{11} \mathbb{J}} \\
= & \int_{\mathbb{C}}^{d^2w/\pi} \overbrace{\frac{\nu-1}{1-w\bar{w}}}^{\nu-1} \overbrace{\frac{-\nu}{1-z\bar{w}}}^{-\nu} \int_{\mathbb{C}^{0|1}}^{d^2\omega} \underbrace{1 + (\nu-1) \frac{\omega\bar{\omega}}{1-w\bar{w}}}_{1 + (\nu-1) \frac{\omega\bar{\omega}}{1-w\bar{w}}} \left(1 + \nu \frac{\zeta\bar{\omega}}{1-z\bar{w}} \right) \underbrace{\omega_w^{00} \mathbb{J} + \omega_w^{10} \mathbb{J} + \omega_w^{01} \mathbb{J} + \omega_w^{11} \mathbb{J}}_{\omega_w^{00} \mathbb{J} + \omega_w^{10} \mathbb{J} + \omega_w^{01} \mathbb{J} + \omega_w^{11} \mathbb{J}} \\
= & \int_{\mathbb{C}}^{d^2w/\pi} \overbrace{\frac{\nu-1}{1-w\bar{w}}}^{\nu-1} \overbrace{\frac{-\nu}{1-z\bar{w}}}^{-\nu} \int_{\mathbb{C}^{0|1}}^{d^2\omega} \omega_w^{11} \mathbb{J} + \nu \frac{\zeta\bar{\omega}}{1-z\bar{w}} \omega_w^{10} \mathbb{J} + (\nu-1) \frac{\omega\bar{\omega}}{1-w\bar{w}} \omega_w^{00} \mathbb{J} \\
= & \int_{\mathbb{C}}^{d^2w/\pi} \overbrace{\frac{\nu-1}{1-w\bar{w}}}^{\nu-1} \overbrace{\frac{-\nu}{1-z\bar{w}}}^{-\nu} \underbrace{\omega_w^{11} \mathbb{J} + \nu \frac{\zeta}{1-z\bar{w}} \omega_w^{10} \mathbb{J} + (\nu-1) \frac{1}{1-w\bar{w}} \omega_w^{00} \mathbb{J}}_{\omega_w^{11} \mathbb{J} + \nu \frac{\zeta}{1-z\bar{w}} \omega_w^{10} \mathbb{J} + (\nu-1) \frac{1}{1-w\bar{w}} \omega_w^{00} \mathbb{J}} \\
= & (\nu-1) \int_{\mathbb{C}}^{d^2w/\pi} \overbrace{\frac{\nu-2}{1-w\bar{w}}}^{\nu-2} \overbrace{\frac{-\nu}{1-z\bar{w}}}^{-\nu} \underbrace{\omega_w^{00} \mathbb{J}}_{\omega_w^{00} \mathbb{J}} + \nu \zeta \int_{\mathbb{C}}^{d^2w/\pi} \overbrace{\frac{\nu-1}{1-w\bar{w}}}^{\nu-1} \overbrace{\frac{-\nu-1}{1-z\bar{w}}}^{-\nu-1} \underbrace{\omega_w^{10} \mathbb{J}}_{\omega_w^{10} \mathbb{J}} + \int_{\mathbb{C}}^{d^2w/\pi} \overbrace{\frac{\nu-1}{1-w\bar{w}}}^{\nu-1} \overbrace{\frac{-\nu}{1-z\bar{w}}}^{-\nu} \underbrace{\omega_w^{11} \mathbb{J}}_{\omega_w^{11} \mathbb{J}} \\
= & \zeta \overbrace{\mathcal{P}_\nu^{00} \mathbb{J}}^{\mathcal{P}_\nu^{00} \mathbb{J}} + \zeta \overbrace{\mathcal{P}_{\nu+1}^{10} \mathbb{J}}^{\mathcal{P}_{\nu+1}^{10} \mathbb{J}} + \text{awful}
\end{aligned}$$