$$\mathbb{C}^{1|1} \underset{\infty}{\nwarrow} \mathbb{C}$$

$$\overline{()}\ \Big|\ \text{Toep}$$

$$\uplus\Big|\ \mathbb{C}^{1|1} \underset{\omega}{\searrow} \check{\mathbb{C}}$$

$$\text{allg }\ \overline{\P} = \int\limits_{dw/\pi}^{\mathbb{C}^{1|0}} \overbrace{\frac{-1}{1-w\bar{w}}}\ \int\limits_{d\eta}^{\mathbb{C}^{0|1}} \underbrace{1+\frac{\eta\bar{\eta}}{1-w\bar{w}}}\ \underbrace{{}^{00}_{\;w}\mathbb{J} + \eta^{10}_{\;w}\mathbb{J} + \bar{\eta}^{01}_{\;w}\mathbb{J} + \bar{\eta}\eta^{11}_{\;w}\mathbb{J}}\ \overbrace{\overline{w|\eta}\,\P}^{z|\zeta}$$

$$\overbrace{{}^0\mathsf{J}_0 + \omega\,{}^1\mathsf{J}_0 + \bar\omega\,{}^0\mathsf{J}_1 + \bar\omega\omega\,{}^1\mathsf{J}_1}^{\nu} = \left.\frac{\overbrace{{}^0\mathsf{J}_0 + \dfrac{1-w\bar w}{\nu-1}\,{}^1\mathsf{J}_1}^{\nu}}{\underbrace{{}^1\mathsf{J}_0}_{\nu+1}{}^{\nu}}\;\right|\;\frac{\overbrace{\dfrac{1-w\bar w}{\nu-1}\,{}^0\mathsf{J}_1}^{\nu}{}^{\,\nu+1}}{\underbrace{{}^0\mathsf{J}_0}_{\nu+1}}$$

$$\underbrace{\overbrace{{}^0\mathsf{J}_0 + \omega\,{}^1\mathsf{J}_0 + \bar\omega\,{}^0\mathsf{J}_1 + \bar\omega\omega\,{}^1\mathsf{J}_1}^{\nu}\;\underbrace{{}^0\Upsilon + \omega\,{}^1\Upsilon}}_{\;} = \overbrace{\underbrace{\overbrace{{}^0\mathsf{J}_0 + \omega\,{}^1\mathsf{J}_0 + \bar\omega\,{}^0\mathsf{J}_1 + \bar\omega\omega\,{}^1\mathsf{J}_1}^{\nu}}_{{}^0\Upsilon + \omega\,{}^1\Upsilon}}^{z|\zeta}$$

$$= \int\limits_{dw/\pi}^{\overline{{}^1\mathbb{C}_1}}\;\int\limits_{d\omega}^{|^0\mathbb{C}_{|1}} \underbrace{\overbrace{\frac{1-w\bar w-\omega\bar\omega}{1-z\bar w-\zeta\bar\omega}}}_{\nu}\;\underbrace{{}^0_w\mathsf{J}_0 + \omega\,{}^1_w\mathsf{J}_0 + \bar\omega\,{}^0_w\mathsf{J}_1 + \bar\omega\omega\,{}^1_w\mathsf{J}_1}\;\underbrace{{}^0\Upsilon + \omega\,{}^1\Upsilon}$$

$$= \int\limits_{dw/\pi}^{\overline{{}^1\mathbb{C}_1}}\;\underbrace{\overbrace{\frac{1-w\bar w}{1-z\bar w}}^{\nu-1}}_{\nu}\;\int\limits_{d\omega}^{|^0\mathbb{C}_{|1}}\underbrace{1+\frac{(\nu-1)\bar\omega\omega}{1-w\bar w}}\;\underbrace{1+\frac{\nu\zeta\bar\omega}{1-z\bar w}}\;\underbrace{{}^0_w\mathsf{J}_0\,{}^w\Upsilon^0 + \omega\,\overbrace{{}^1_w\mathsf{J}_0\,{}^w\Upsilon^0 + {}^0_w\mathsf{J}_0\,{}^w\Upsilon^1} + \bar\omega\,{}^0_w\mathsf{J}_1\,{}^w\Upsilon^0 + \bar\omega\omega\,\overbrace{{}^1_w\mathsf{J}_1\,{}^w\Upsilon^0 + {}^0_w\mathsf{J}_1{}_w\Upsilon^1}}$$

$$= \int\limits_{dw/\pi}^{\overline{{}^1\mathbb{C}_1}}\;\underbrace{\overbrace{\frac{1-w\bar w}{1-z\bar w}}^{\nu-1}}_{\nu}\;\int\limits_{d\omega}^{|^0\mathbb{C}_{|1}}\bar\omega\omega\,\overbrace{{}^1_w\mathsf{J}_1\,{}^w\Upsilon^0 + {}^0_w\mathsf{J}_1{}_w\Upsilon^1} + \frac{\nu\zeta\bar\omega}{1-z\bar w}\omega\,\overbrace{{}^1_w\mathsf{J}_0\,{}^w\Upsilon^0 + {}^0_w\mathsf{J}_0\,{}^w\Upsilon^1} + \frac{(\nu-1)\bar\omega\omega}{1-w\bar w}\,{}^0_w\mathsf{J}_0\,{}^w\Upsilon^0$$

$$= \int\limits_{dw/\pi}^{\overline{{}^1\mathbb{C}_1}}\;\underbrace{\overbrace{\frac{1-w\bar w}{1-z\bar w}}^{\nu-1}}_{\nu}\;\underbrace{\overbrace{{}^1_w\mathsf{J}_1\,{}^w\Upsilon^0 + {}^0_w\mathsf{J}_1{}_w\Upsilon^1} + \frac{\nu\zeta}{1-z\bar w}\overbrace{{}^1_w\mathsf{J}_0\,{}^w\Upsilon^0 + {}^0_w\mathsf{J}_0\,{}^w\Upsilon^1} + \frac{\nu-1}{1-w\bar w}\,{}^0_w\mathsf{J}_0\,{}^w\Upsilon^0}$$

$$= \underbrace{\nu-1}\int\limits_{dw/\pi}^{\overline{{}^1\mathbb{C}_1}}\underbrace{\overbrace{\frac{1-w\bar w}{1-z\bar w}}^{\nu-2}}_{\nu}\,{}^0_w\mathsf{J}_0\,{}^w\Upsilon^0 + \nu\zeta\int\limits_{dw/\pi}^{\overline{{}^1\mathbb{C}_1}}\underbrace{\overbrace{\frac{1-w\bar w}{1-z\bar w}}^{\nu-1}}_{\nu+1}\overbrace{{}^1_w\mathsf{J}_0\,{}^w\Upsilon^0 + {}^0_w\mathsf{J}_0\,{}^w\Upsilon^1} + \int\limits_{dw/\pi}^{\overline{{}^1\mathbb{C}_1}}\underbrace{\overbrace{\frac{1-w\bar w}{1-z\bar w}}^{\nu-2}}_{\nu}\underbrace{1-w\bar w}\,\overbrace{{}^1_w\mathsf{J}_1\,{}^w\Upsilon^0 + {}^0_w\mathsf{J}_1{}_w\Upsilon^1} =$$

$$= \overbrace{{}^0\mathsf{J}_0\Upsilon^0}^{z\,\nu} + \zeta\,\overbrace{{}^1\mathsf{J}_0\Upsilon^0 + {}^0\mathsf{J}_0\Upsilon^1}^{z\,\nu+1} + \frac{1}{\nu-1}\overbrace{\underbrace{1-w\bar w}\,\underbrace{{}^1\mathsf{J}_1\Upsilon^0 + {}^0\mathsf{J}_1\Upsilon^1}}^{z\,\nu} = \left.\frac{\overbrace{{}^0\mathsf{J}_0 + \dfrac{1-w\bar w}{\nu-1}\,{}^1\mathsf{J}_1}^{\nu}}{\underbrace{{}^1\mathsf{J}_0}_{\nu+1}{}^{\nu}}\;\right|\;\frac{\overbrace{\dfrac{1-w\bar w}{\nu-1}\,{}^0\mathsf{J}_1}^{\nu}{}^{\,\nu+1}}{\underbrace{{}^0\mathsf{J}_0}_{\nu+1}}\;\frac{{}^0\Upsilon}{{}^1\Upsilon}$$

$$\overbrace{{}^0_w\mathsf{J}_0 + \omega\,{}^1_w\mathsf{J}_0 + \bar\omega\,{}^0_w\mathsf{J}_1 + \bar\omega\omega\,{}^1_w\mathsf{J}_1}^{\nu} = \overbrace{{}^0\mathsf{J}_0 + \frac{1-w\bar w}{\nu-1}\,{}^1_w\mathsf{J}_1}^{\nu} + \zeta\,\overbrace{{}^1\mathsf{J}_0}^{\nu+1}$$

$$\underset{\tau}{\Psi}\Big|^{\overline{1|0}\mathbb{C}_{1|1}}\underset{\omega}{\triangleright}^2\overset{\nu}{\mathbb{C}} \Subset \frac{\underset{\tau}{\Psi}\Big|^{\overline{1}\mathbb{C}_1}\underset{\omega}{\triangleright}^{\nu}\mathbb{C}}{_{\nu+1}\mathcal{K}^{\nu}} \Bigg| \frac{_{\nu}\mathcal{K}^{\nu+1}}{\underset{\tau}{\Psi}\Big|^{\overline{1}\mathbb{C}_1}{}_{\nu+1}\underset{\omega}{\triangleright}\mathbb{C}}$$

$$\overline{^{1}\mathbb{C}_1}\underset{\omega}{\triangleright}^{\nu}\mathbb{C} \xleftarrow[\text{comp}]{\overset{\nu}{\overbrace{\underline{1-w\bar{w}}\mathsf{J}}}_1^1} \overline{^{1}\mathbb{C}_1}\underset{\omega}{\triangleright}^{\nu}\mathbb{C}$$

$$\overline{^{1}\mathbb{C}_1}\underset{\omega}{\triangleright}^{\nu}\mathbb{C} \xleftarrow[\text{comp}]{^{\nu}\overbrace{\underline{1-w\bar{w}}\mathsf{J}}^{\nu+1}_1^0} \overline{^{1}\mathbb{C}_1}{}_{\nu+1}\underset{\omega}{\triangleright}\mathbb{C}$$

$$\overline{^{1}\mathbb{C}_1}{}_{\nu+1}\underset{\omega}{\triangleright}\mathbb{C} \xleftarrow[\text{comp}]{^{\nu+1}\overbrace{\mathsf{J}}^{\nu}_0^1} \overline{^{1}\mathbb{C}_1}\underset{\omega}{\triangleright}^{\nu}\mathbb{C}$$

$$\underset{\tau}{\Psi}\Big|^{\overline{1|0}\mathbb{C}_{1|1}}\underset{\omega}{\triangleright}^2\overset{\nu}{\mathbb{C}}$$

$${}^{s}\sigma_{\nu}$$

$$\mathbb{C}$$

$$\cap$$

$${}^{s}\sigma_{\nu}$$

$$\frac{\underset{\tau}{\Psi}\Big|^{\overline{1}\mathbb{C}_1}\underset{\omega}{\triangleright}^{\nu}\mathbb{C}}{_{\nu+1}\mathcal{K}^{\nu}} \Bigg| \frac{_{\nu}\mathcal{K}^{\nu+1}}{\underset{\tau}{\Psi}\Big|^{\overline{1}\mathbb{C}_1}{}_{\nu+1}\underset{\omega}{\triangleright}\mathbb{C}}$$

$${}^{s}\sigma_{\nu}\frac{\llcorner\;\;\lrcorner}{\ulcorner\;\;\urcorner} = {}^{s}\sigma_{\nu}\;\llcorner$$

$$\,^{s}\sigma_{\nu}\,\overbrace{\mathsf{J}_0^0 + \omega\mathsf{J}_0^1 + \bar{\omega}\mathsf{J}_1^0 + \bar{\omega}\omega\mathsf{J}_1^1}^{\nu} = \,_{s}\mathsf{J}_0^0$$

$$\text{LHS} = \,^{s}\sigma_{\nu}\frac{\overbrace{\mathsf{J}_0^0}^{\nu} + \dfrac{1}{\nu-1}\overbrace{\underline{1-w\bar{w}}\,\mathsf{J}_1^1}^{\nu}}{\underbrace{\mathsf{J}_0^1}_{\nu+1}{}^{\nu}} \,\Bigg|\, \dfrac{1}{\nu-1}\frac{\overbrace{\underline{1-w\bar{w}}\,\mathsf{J}_1^0}^{\nu}{}^{\nu+1}}{\underbrace{\mathsf{J}_0^0}_{\nu+1}}$$

$$= \,^{s}\sigma_{\nu}\underbrace{\overbrace{\mathsf{J}_0^0}^{\nu} + \dfrac{1}{\nu-1}\overbrace{\underline{1-w\bar{w}}\,\mathsf{J}_1^1}^{\nu}} = \text{RHS}$$

$$\bigcap_{s}^{\partial\overline{\,^{1}\mathbb{C}_1\,}} \text{Ker }\,^{s}\sigma_{\nu} = \overset{\omega}{\ddot{\Psi}} \,\Big|\, \overline{\,^{1|0}\mathbb{C}_{1|1}\,}\underset{\omega}{\overset{2}{\searrow}}\overset{\nu}{\mathbb{C}}$$