$$\frac{\mathrm{d}}{\mathrm{d}p} \left(\begin{array}{c} 1\mathrm{PI} \\ \\ \end{array} \right) \bigg|_{p=m_{\psi}} = 0, \qquad = -ig,$$

$$\frac{\mathrm{d}}{\mathrm{d}p} \left(\begin{array}{c} 1\mathrm{PI} \\ \\ \end{array} \right) \bigg|_{p^2=m_{\sigma}^2} = 0, \qquad 1\mathrm{PI} \\ \\ \end{array} = 0.$$

$$\mathrm{Im} \left(\begin{array}{c} 1\mathrm{PI} \\ \\ \end{array} \right) \bigg|_{s=4m^2, s=t=0} = 0.$$