

	$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$\tau_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^-}^{\#1}{}_{\alpha}$	$\sigma_{1^-}^{\#2}{}_{\alpha}$	$\tau_{1^-}^{\#1}{}_{\alpha}$	$\tau_{1^-}^{\#2}{}_{\alpha}$
$\sigma_{1^+}^{\#1}{}_{\dagger\alpha\beta}$	$\frac{1}{k^2(2r_1+r_5)}$	$\frac{1}{\sqrt{2}(k^2+k^4)(2r_1+r_5)}$	$\frac{i}{\sqrt{2}(k+k^3)(2r_1+r_5)}$	0	0	0	0
$\sigma_{1^+}^{\#2}{}_{\dagger\alpha\beta}$	$\frac{1}{\sqrt{2}(k^2+k^4)(2r_1+r_5)}$	$\frac{6k^2(2r_1+r_5)+t_1}{2(k+k^3)^2(2r_1+r_5)t_1}$	$\frac{i(6k^2(2r_1+r_5)+t_1)}{2k(1+k^2)^2(2r_1+r_5)t_1}$	0	0	0	0
$\tau_{1^+}^{\#1}{}_{\dagger\alpha\beta}$	$-\frac{i}{\sqrt{2}(k+k^3)(2r_1+r_5)}$	$-\frac{i(6k^2(2r_1+r_5)+t_1)}{2k(1+k^2)^2(2r_1+r_5)t_1}$	$\frac{6k^2(2r_1+r_5)+t_1}{2(1+k^2)^2(2r_1+r_5)t_1}$	0	0	0	0
$\sigma_{1^-}^{\#1}{}_{\dagger\alpha}$	0	0	0	0	$\frac{\sqrt{2}}{t_1+2k^2t_1}$	0	$\frac{2ik}{t_1+2k^2t_1}$
$\sigma_{1^-}^{\#2}{}_{\dagger\alpha}$	0	0	0	$\frac{\sqrt{2}}{t_1+2k^2t_1}$	$\frac{-2k^2(r_1+r_5)+t_1}{(t_1+2k^2t_1)^2}$	0	$-\frac{i\sqrt{2}k(2k^2(r_1+r_5)-t_1)}{(t_1+2k^2t_1)^2}$
$\tau_{1^-}^{\#1}{}_{\dagger\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#2}{}_{\dagger\alpha}$	0	0	0	$-\frac{2ik}{t_1+2k^2t_1}$	$\frac{i\sqrt{2}k(2k^2(r_1+r_5)-t_1)}{(t_1+2k^2t_1)^2}$	0	$\frac{-4k^4(r_1+r_5)+2k^2t_1}{(t_1+2k^2t_1)^2}$

Added source term:

$$f^{\alpha\beta}\tau_{\alpha\beta}+\omega^{\alpha\beta\chi}\sigma_{\alpha\beta\chi}$$

$$\begin{aligned} & -t_1\omega_{\dagger}^{\alpha'}\omega_{\kappa\alpha}^{\kappa}-\frac{1}{3}t_1\omega_{\dagger}^{\kappa\lambda}\omega_{\kappa\lambda}^{\dagger}+\frac{1}{3}t_1\omega_{\kappa\lambda}^{\dagger}\omega_{\kappa\lambda}^{\kappa}-r_5\partial_{\dagger}\omega_{\kappa\lambda}^{\kappa}\partial^{\dagger}\omega_{\lambda}^{\alpha\alpha}- \\ & \frac{2}{3}r_1\partial^{\beta}\omega_{\kappa}^{\theta\alpha}\partial_{\theta}\omega_{\alpha\beta}^{\kappa}-\frac{2}{3}r_1\partial_{\theta}\omega_{\alpha\beta}^{\kappa}\partial_{\kappa}\omega^{\alpha\beta\theta}+\frac{2}{3}r_1\partial_{\theta}\omega_{\alpha\beta}^{\kappa}\partial_{\kappa}\omega^{\theta\alpha\beta}- \\ & r_5\partial_{\alpha}\omega_{\lambda}^{\alpha}\partial_{\theta}\partial_{\kappa}\omega^{\theta\kappa\lambda}+r_5\partial_{\theta}\omega_{\lambda}^{\alpha}\partial_{\alpha}\partial_{\kappa}\omega^{\theta\kappa\lambda}-r_5\partial_{\alpha}\omega_{\lambda}^{\alpha}\partial_{\kappa}\omega^{\kappa\lambda\theta}+ \\ & 2r_5\partial_{\theta}\omega_{\lambda}^{\alpha}\partial_{\kappa}\omega^{\kappa\lambda\theta}-\frac{1}{3}t_1\partial^{\alpha}f_{\theta\kappa}\partial^{\kappa}f_{\alpha}^{\theta}-\frac{2}{3}t_1\partial^{\alpha}f_{\kappa\theta}\partial^{\kappa}f_{\alpha}^{\theta}- \\ & \frac{1}{3}t_1\partial^{\alpha}f_{\kappa}^{\lambda}\partial^{\kappa}f_{\alpha\lambda}^{\lambda}+\frac{1}{3}t_1\omega_{\kappa\alpha}^{\alpha}\partial^{\kappa}f_{\dagger}^{\lambda}+t_1\omega_{\kappa\lambda}^{\lambda}\partial^{\kappa}f_{\dagger}^{\lambda}+2t_1\partial^{\alpha}f_{\kappa\alpha}^{\lambda}\partial^{\kappa}f_{\dagger}^{\lambda}- \\ & t_1\partial_{\kappa}f_{\lambda}^{\lambda}\partial^{\kappa}f_{\dagger}^{\lambda}+\frac{1}{3}t_1\omega_{\dagger\theta\kappa}\partial^{\kappa}f_{\dagger}^{\theta}+\frac{4}{3}t_1\omega_{\kappa\lambda}^{\lambda}\partial^{\kappa}f_{\dagger}^{\theta}-\frac{1}{3}t_1\omega_{\dagger\kappa\theta}\partial^{\kappa}f_{\dagger}^{\theta}+\frac{1}{3}t_1\partial^{\alpha}f_{\kappa}^{\lambda}\partial^{\kappa}f_{\lambda\alpha}^{\lambda}+ \\ & \frac{2}{3}t_1\omega_{\theta\kappa\lambda}\partial^{\kappa}f_{\dagger}^{\theta}-t_1\omega_{\dagger\alpha}^{\alpha}\partial^{\kappa}f_{\kappa}^{\lambda}-t_1\omega_{\dagger\lambda}^{\lambda}\partial^{\kappa}f_{\kappa}^{\lambda}+\frac{1}{3}t_1\partial^{\alpha}f_{\kappa}^{\lambda}\partial^{\kappa}f_{\lambda\alpha}^{\lambda}+ \\ & \frac{1}{3}t_1\partial_{\kappa}f_{\theta}^{\lambda}\partial^{\kappa}f_{\lambda}^{\theta}+\frac{2}{3}t_1\partial_{\kappa}f_{\theta}^{\lambda}\partial^{\kappa}f_{\lambda}^{\theta}-t_1\partial^{\alpha}f_{\alpha}^{\lambda}\partial^{\kappa}f_{\lambda\kappa}^{\lambda}+ \\ & \frac{2}{3}r_1\partial_{\kappa}\omega^{\alpha\beta\theta}\partial^{\kappa}\omega_{\alpha\beta\theta}-\frac{2}{3}r_1\partial_{\kappa}\omega^{\theta\alpha\beta}\partial^{\kappa}\omega_{\alpha\beta\theta}+\frac{2}{3}r_1\partial^{\beta}\omega_{\dagger}^{\alpha\lambda}\partial_{\lambda}\omega_{\alpha\beta}^{\dagger}- \\ & \frac{8}{3}r_1\partial^{\beta}\omega_{\dagger}^{\lambda\alpha}\partial_{\lambda}\omega_{\alpha\beta}^{\dagger}+r_5\partial_{\alpha}\omega_{\lambda}^{\alpha}\partial^{\lambda}\omega^{\theta\kappa}_{\kappa}-r_5\partial_{\theta}\omega_{\lambda}^{\alpha}\partial^{\lambda}\omega^{\theta\kappa}_{\kappa} \end{aligned}$$

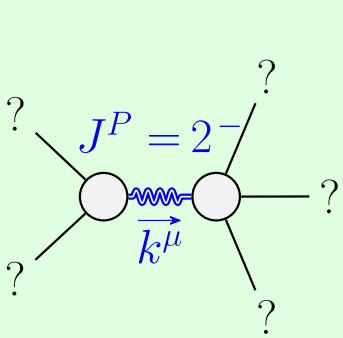
Lagrangian density

	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^+}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_{\alpha}$	$\omega_{1^-}^{\#2}{}_{\alpha}$	$f_{1^-}^{\#1}{}_{\alpha}$	$f_{1^-}^{\#2}{}_{\alpha}$
$\omega_{1^+}^{\#1}{}_{\dagger\alpha\beta}$	$k^2(2r_1+r_5)+\frac{t_1}{6}$	$-\frac{t_1}{3\sqrt{2}}$	$-\frac{ik t_1}{3\sqrt{2}}$	0	0	0	0
$\omega_{1^+}^{\#2}{}_{\dagger\alpha\beta}$	$-\frac{t_1}{3\sqrt{2}}$	$\frac{t_1}{3}$	$\frac{ik t_1}{3}$	0	0	0	0
$f_{1^+}^{\#1}{}_{\dagger\alpha\beta}$	$\frac{ik t_1}{3\sqrt{2}}$	$-\frac{1}{3}ik t_1$	$\frac{k^2 t_1}{3}$	0	0	0	0
$\omega_{1^-}^{\#1}{}_{\dagger\alpha}$	0	0	0	$k^2(r_1+r_5)-\frac{t_1}{2}$	$\frac{t_1}{\sqrt{2}}$	0	$ik t_1$
$\omega_{1^-}^{\#2}{}_{\dagger\alpha}$	0	0	0	$\frac{t_1}{\sqrt{2}}$	0	0	0
$f_{1^-}^{\#1}{}_{\dagger\alpha}$	0	0	0	0	0	0	0
$f_{1^-}^{\#2}{}_{\dagger\alpha}$	0	0	0	$-ik t_1$	0	0	0

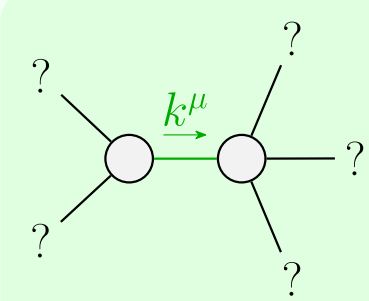
	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1}{}_{\dagger}$	$-\frac{1}{(1+2k^2)^2t_1}$	$\frac{i\sqrt{2}k}{(1+2k^2)^2t_1}$	0	0
$\tau_{0^+}^{\#1}{}_{\dagger}$	$-\frac{i\sqrt{2}k}{(1+2k^2)^2t_1}$	$-\frac{2k^2}{(1+2k^2)^2t_1}$	0	0
$\tau_{0^+}^{\#2}{}_{\dagger}$	0	0	0	0
$\sigma_{0^-}^{\#1}{}_{\dagger}$	0	0	0	0

	$\omega_{0^+}^{\#1}$	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_{0^-}^{\#1}$
$\omega_{0^+}^{\#1}{}_{\dagger}$	$-t_1$	$i\sqrt{2}kt_1$	0	0
$f_{0^+}^{\#1}{}_{\dagger}$	$-i\sqrt{2}kt_1$	$-2k^2t_1$	0	0
$f_{0^+}^{\#2}{}_{\dagger}$	0	0	0	0
$\omega_{0^-}^{\#1}{}_{\dagger}$	0	0	0	0

	$\omega_{2^+}^{\#1}{}_{\alpha\beta}$	$f_{2^+}^{\#1}{}_{\alpha\beta}$	$\omega_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\omega_{2^+}^{\#1}{}_{\dagger\alpha\beta}$	$\frac{t_1}{2}$	$-\frac{ik t_1}{\sqrt{2}}$	0
$f_{2^+}^{\#1}{}_{\dagger\alpha\beta}$	$\frac{ik t_1}{\sqrt{2}}$	k^2t_1	0
$\omega_{2^-}^{\#1}{}_{\dagger\alpha\beta\chi}$	0	0	$k^2r_1+\frac{t_1}{2}$



Massive particle	
Pole residue:	$-\frac{1}{r_1} > 0$
Polarisations:	5
Square mass:	$-\frac{t_1}{2r_1} > 0$
Spin:	2
Parity:	Odd



Quadratic pole	
Pole residue:	$\frac{1}{(2r_1+r_5)t_1^2p^2} > 0$
Polarisations:	2

Unitarity conditions
$r_1 < 0$ && $r_5 > -2r_1$ && $t_1 > 0$