

	$\sigma_{1+}^{\#1\alpha\beta}$	$\sigma_{1+}^{\#2\alpha\beta}$	$\tau_{1+}^{\#1\alpha\beta}$	$\sigma_{1-}^{\#1\alpha}$	$\sigma_{1-}^{\#2\alpha}$	$\tau_{1-}^{\#1\alpha}$	$\tau_{1-}^{\#2\alpha}$
$\sigma_{1+}^{\#1\alpha\beta}$	$\frac{2(t_1+t_2)}{3t_1t_2+2k^2r_5(t_1+t_2)}$	$\frac{\sqrt{2}(t_1-2t_2)}{(1+k^2)(3t_1t_2+2k^2r_5(t_1+t_2))}$	$\frac{i\sqrt{2}k(t_1-2t_2)}{(1+k^2)(3t_1t_2+2k^2r_5(t_1+t_2))}$	0	0	0	0
$\sigma_{1+}^{\#2\alpha\beta}$	$\frac{\sqrt{2}(t_1-2t_2)}{(1+k^2)(3t_1t_2+2k^2r_5(t_1+t_2))}$	$\frac{6k^2r_5+t_1+4t_2}{(1+k^2)^2(3t_1t_2+2k^2r_5(t_1+t_2))}$	$\frac{ik(6k^2r_5+t_1+4t_2)}{(1+k^2)^2(3t_1t_2+2k^2r_5(t_1+t_2))}$	0	0	0	0
$\tau_{1+}^{\#1\alpha\beta}$	$-\frac{i\sqrt{2}k(t_1-2t_2)}{(1+k^2)(3t_1t_2+2k^2r_5(t_1+t_2))}$	$-\frac{ik(6k^2r_5+t_1+4t_2)}{(1+k^2)^2(3t_1t_2+2k^2r_5(t_1+t_2))}$	$\frac{k^2(6k^2r_5+t_1+4t_2)}{(1+k^2)^2(3t_1t_2+2k^2r_5(t_1+t_2))}$	0	0	0	0
$\sigma_{1-}^{\#1\alpha}$	0	0	0	0	0	0	$\frac{2ik}{t_1+2k^2t_1}$
$\sigma_{1-}^{\#2\alpha}$	0	0	0	$\frac{\sqrt{2}}{t_1+2k^2t_1}$	$-\frac{2k^2r_5+t_1}{(t_1+2k^2t_1)^2}$	0	$-\frac{i\sqrt{2}k(2k^2r_5-t_1)}{(t_1+2k^2t_1)^2}$
$\tau_{1-}^{\#1\alpha}$	0	0	0	0	0	0	0
$\tau_{1-}^{\#2\alpha}$	0	0	0	$-\frac{2ik}{t_1+2k^2t_1}$	$\frac{i\sqrt{2}k(2k^2r_5-t_1)}{(t_1+2k^2t_1)^2}$	0	$-\frac{4k^4r_5+2k^2t_1}{(t_1+2k^2t_1)^2}$

	$\omega_{1+}^{\#1\alpha\beta}$	$\omega_{1+}^{\#2\alpha\beta}$	$f_{1+}^{\#1\alpha\beta}$	$\omega_{1-}^{\#1\alpha}$	$\omega_{1-}^{\#2\alpha}$	$f_{1-}^{\#1\alpha}$	$f_{1-}^{\#2\alpha}$
$\omega_{1+}^{\#1\alpha\beta}$	$\frac{1}{6}(6k^2r_5+t_1+4t_2)$	$-\frac{t_1-2t_2}{3\sqrt{2}}$	$-\frac{ik(t_1-2t_2)}{3\sqrt{2}}$	0	0	0	0
$\omega_{1+}^{\#2\alpha\beta}$	$-\frac{t_1-2t_2}{3\sqrt{2}}$	$\frac{t_1+t_2}{3}$	$\frac{1}{3}ik(t_1+t_2)$	0	0	0	0
$f_{1+}^{\#1\alpha\beta}$	$\frac{ik(t_1-2t_2)}{3\sqrt{2}}$	$-\frac{1}{3}ik(t_1+t_2)$	$\frac{1}{3}k^2(t_1+t_2)$	0	0	0	0
$\omega_{1-}^{\#1\alpha}$	0	0	0	$k^2r_5-\frac{t_1}{2}$	$\frac{t_1}{\sqrt{2}}$	0	ikt_1
$\omega_{1-}^{\#2\alpha}$	0	0	0	$\frac{t_1}{\sqrt{2}}$	0	0	0
$f_{1-}^{\#1\alpha}$	0	0	0	0	0	0	0
$f_{1-}^{\#2\alpha}$	0	0	0	$-ikt_1$	0	0	0

	$\sigma_{2+}^{\#1\alpha\beta}$	$\tau_{2+}^{\#1\alpha\beta}$	$\sigma_{2-}^{\#1\alpha\beta\chi}$
$\sigma_{2+}^{\#1\alpha\beta}$	$\frac{2}{(1+2k^2)^2t_1}$	$-\frac{2i\sqrt{2}k}{(1+2k^2)^2t_1}$	0
$\tau_{2+}^{\#1\alpha\beta}$	$\frac{2i\sqrt{2}k}{(1+2k^2)^2t_1}$	$\frac{4k^2}{(1+2k^2)^2t_1}$	0
$\sigma_{2-}^{\#1\alpha\beta\chi}$	0	0	$\frac{2}{t_1}$

	$\omega_{0+}^{\#1}$	$f_{0+}^{\#1}$	$f_{0+}^{\#2}$	$\omega_{0-}^{\#1}$
$\omega_{0+}^{\#1}$	$-t_1$	$i\sqrt{2}kt_1$	0	0
$f_{0+}^{\#1}$	$-i\sqrt{2}kt_1$	$-2k^2t_1$	0	0
$f_{0+}^{\#2}$	0	0	0	0
$\omega_{0-}^{\#1}$	0	0	0	t_2

	$\omega_{2+}^{\#1\alpha\beta}$	$f_{2+}^{\#1\alpha\beta}$	$\omega_{2-}^{\#1\alpha\beta\chi}$
$\omega_{2+}^{\#1\alpha\beta}$	$\frac{t_1}{2}$	$-\frac{ikt_1}{\sqrt{2}}$	0
$f_{2+}^{\#1\alpha\beta}$	$\frac{ikt_1}{\sqrt{2}}$	k^2t_1	0
$\omega_{2-}^{\#1\alpha\beta\chi}$	0	0	$\frac{t_1}{2}$

Lagrangian density
$-t_1\omega_{,\alpha'}\omega_{\kappa}^{\kappa}-\frac{1}{3}t_1\omega_{,\kappa\lambda}^{\kappa\lambda}\omega_{\kappa\lambda}^{\prime}+\frac{2}{3}t_2\omega_{,\kappa\lambda}^{\kappa\lambda}\omega_{\kappa\lambda}^{\prime}+\frac{1}{3}t_1\omega_{\kappa\lambda}^{\prime}\omega^{\kappa\lambda}_{,\prime}+$ $\frac{1}{3}t_2\omega_{\kappa\lambda}^{\prime}\omega^{\kappa\lambda}_{,\prime}+f^{\alpha\beta}\tau_{\alpha\beta}+\omega^{\alpha\beta\chi}\sigma_{\alpha\beta\chi}-r_5\partial_{\lambda}\omega_{\kappa}^{\kappa\lambda}\partial^{\prime}\omega_{\lambda}^{\alpha}_{\alpha}-r_5\partial_{\alpha}\omega_{\lambda}^{\alpha}_{\theta}\partial_{\kappa}\omega^{\theta\kappa\lambda}+$ $r_5\partial_{\theta}\omega_{\lambda}^{\alpha}_{\alpha}\partial_{\kappa}\omega^{\theta\kappa\lambda}-r_5\partial_{\alpha}\omega_{\lambda}^{\alpha}_{\theta}\partial_{\kappa}\omega^{\kappa\lambda\theta}+2r_5\partial_{\theta}\omega_{\lambda}^{\alpha}_{\alpha}\partial_{\kappa}\omega^{\kappa\lambda\theta}-\frac{1}{3}t_1\partial^{\alpha}f_{\theta\kappa}\partial^{\kappa}f_{\alpha}^{\theta}+$ $\frac{1}{6}t_2\partial^{\alpha}f_{\theta\kappa}\partial^{\kappa}f_{\alpha}^{\theta}-\frac{2}{3}t_1\partial^{\alpha}f_{\kappa\theta}\partial^{\kappa}f_{\alpha}^{\theta}-\frac{1}{6}t_2\partial^{\alpha}f_{\kappa\theta}\partial^{\kappa}f_{\alpha}^{\theta}-\frac{1}{3}t_1\partial^{\alpha}f_{\kappa}^{\lambda}\partial^{\kappa}f_{\alpha\lambda}+$ $\frac{1}{6}t_2\partial^{\alpha}f_{\kappa}^{\lambda}\partial^{\kappa}f_{\alpha\lambda}+t_1\omega_{\kappa\alpha}^{\alpha}\partial^{\kappa}f_{,\prime}^{\prime}+t_1\omega_{\kappa\lambda}^{\lambda}\partial^{\kappa}f_{,\prime}^{\prime}+2t_1\partial^{\alpha}f_{\kappa\alpha}\partial^{\kappa}f_{,\prime}^{\prime}-$ $t_1\partial_{\kappa}f_{\lambda}^{\lambda}\partial^{\kappa}f_{,\prime}^{\prime}+\frac{1}{3}t_1\omega_{\iota\theta\kappa}\partial^{\kappa}f^{\iota\theta}+\frac{1}{3}t_2\omega_{\iota\theta\kappa}\partial^{\kappa}f^{\iota\theta}+\frac{4}{3}t_1\omega_{\iota\kappa\theta}\partial^{\kappa}f^{\iota\theta}-$ $\frac{2}{3}t_2\omega_{\iota\kappa\theta}\partial^{\kappa}f^{\iota\theta}-\frac{1}{3}t_1\omega_{\theta\iota\kappa}\partial^{\kappa}f^{\iota\theta}-\frac{1}{3}t_2\omega_{\theta\iota\kappa}\partial^{\kappa}f^{\iota\theta}+\frac{2}{3}t_1\omega_{\theta\kappa\iota}\partial^{\kappa}f^{\iota\theta}+$ $\frac{2}{3}t_2\omega_{\theta\kappa\iota}\partial^{\kappa}f^{\iota\theta}-t_1\omega_{\iota\alpha}^{\alpha}\partial^{\kappa}f_{\kappa}^{\prime}-t_1\omega_{\iota\lambda}^{\lambda}\partial^{\kappa}f_{\kappa}^{\prime}+\frac{1}{3}t_1\partial^{\alpha}f_{\kappa}^{\lambda}\partial^{\kappa}f_{\lambda\alpha}-$ $\frac{1}{6}t_2\partial^{\alpha}f_{\kappa}^{\lambda}\partial^{\kappa}f_{\lambda\alpha}+\frac{1}{3}t_1\partial_{\kappa}f_{\theta}^{\lambda}\partial^{\kappa}f_{\lambda}^{\theta}-\frac{1}{6}t_2\partial_{\kappa}f_{\theta}^{\lambda}\partial^{\kappa}f_{\lambda}^{\theta}+\frac{2}{3}t_1\partial_{\kappa}f_{\theta}^{\lambda}\partial^{\kappa}f_{\lambda}^{\theta}+$ $\frac{1}{6}t_2\partial_{\kappa}f_{\theta}^{\lambda}\partial^{\kappa}f_{\lambda}^{\theta}-t_1\partial^{\alpha}f_{\alpha}^{\lambda}\partial^{\kappa}f_{\lambda\kappa}+r_5\partial_{\alpha}\omega_{\lambda}^{\alpha}_{\theta}\partial^{\lambda}\omega^{\theta\kappa}_{\kappa}-r_5\partial_{\theta}\omega_{\lambda}^{\alpha}_{\alpha}\partial^{\lambda}\omega^{\theta\kappa}_{\kappa}$

SO(3) irreps	#
$\tau_{0+}^{\#2}==0$	1
$\tau_{0+}^{\#1}-2ik\sigma_{0+}^{\#1}==0$	1
$\tau_{1-}^{\#2\alpha}+2ik\sigma_{1-}^{\#2\alpha}==0$	3
$\tau_{1-}^{\#1\alpha}==0$	3
$\tau_{1+}^{\#1\alpha\beta}+ik\sigma_{1+}^{\#2\alpha\beta}==0$	3
$\tau_{2+}^{\#1\alpha\beta}-2ik\sigma_{2+}^{\#1\alpha\beta}==0$	5
Total #:	16

	$\sigma_0^{\#1}$	$\tau_0^{\#1}$	$\tau_0^{\#2}$	$\sigma_0^{\#1}$
$\sigma_0^{\#1}$	$-\frac{1}{(1+2k^2)^2t_1}$	$\frac{i\sqrt{2}k}{(1+2k^2)^2t_1}$	0	0
$\tau_0^{\#1}$	$-\frac{i\sqrt{2}k}{(1+2k^2)^2t_1}$	$-\frac{2k^2}{(1+2k^2)^2t_1}$	0	0
$\tau_0^{\#2}$	0	0	0	0
$\sigma_0^{\#1}$	0	0	0	$\frac{1}{t_2}$

Massive particle	
Pole residue:	$\frac{-3t_1t_2(t_1+t_2)+3r_5(t_1^2+2t_2^2)}{r_5(t_1+t_2)(-3t_1t_2+2r_5(t_1+t_2))}>0$
Polarisations:	3
Square mass:	$-\frac{3t_1t_2}{2r_5t_1+2r_5t_2}>0$
Spin:	1
Parity:	Even

Unitarity conditions
$r_5>0\ \&\&\ (t_1<0\ \&\&\ (t_2<0\ \ t_2>-t_1))\ \ (t_1>0\ \&\&\ -t_1<t_2<0)$
(No massless particles)

