	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^+}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_{\alpha}$	$\omega_{1^-}^{\#2}{}_{\alpha}$	$f_{1^-}^{\#1}{}_{\alpha}$	$f_{1^-}^{\#2}{}_{\alpha}$
$\omega_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	$k^2\,(2\,r_3+r_5)-\frac{t_1}{2}$	$-\frac{t_1}{\sqrt{2}}$	$-\frac{i\,k\,t_1}{\sqrt{2}}$	0	0	0	0
$\omega_{1^+}^{\#2}{}^{\dagger\alpha\beta}$	$-\frac{t_1}{\sqrt{2}}$	0	0	0	0	0	0
$f_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{i\,k\,t_1}{\sqrt{2}}$	0	0	0	0	0	0
$\omega_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0	$k^2\,(-r_1+2\,r_3+r_5)+\frac{t_1}{6}$	$\frac{t_1}{3\,\sqrt{2}}$	0	$\frac{i\,k\,t_1}{3}$
$\omega_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0	$\frac{t_1}{3\,\sqrt{2}}$	$\frac{t_1}{3}$	0	$\frac{1}{3}\,i\,\sqrt{2}\,k\,t_1$
$f_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0	0	0	0	0
$f_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0	$-\frac{1}{3}\,i\,k\,t_1$	$-\frac{1}{3}\,i\,\sqrt{2}\,k\,t_1$	0	$\frac{2\,k^2\,t_1}{3}$

	$\sigma_{1^-}^{\#1}{}_{\alpha}$	$\sigma_{1^-}^{\#2}{}_{\alpha}$	$\tau_{1^-}^{\#1}{}_{\alpha}$	$\tau_{1^-}^{\#2}{}_{\alpha}$	$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$\tau_{1^+}^{\#1}{}_{\alpha\beta}$
$\sigma_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	0	0	0	0	0	$-\frac{\sqrt{2}}{t_1+k^2\,t_1}$	$-\frac{i\,\sqrt{2}\,k}{t_1+k^2\,t_1}$
$\sigma_{1^+}^{\#2}{}^{\dagger\alpha\beta}$	0	0	0	0	$-\frac{\sqrt{2}}{t_1+k^2\,t_1}$	$\frac{-2\,k^2\,(2\,r_3+r_5)+t_1}{(1+k^2)^2\,t_1^2}$	$\frac{-2\,i\,k^3\,(2\,r_3+r_5)+i\,k\,t_1}{(1+k^2)^2\,t_1^2}$
$\tau_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	0	0	0	0	$\frac{i\,\sqrt{2}\,k}{t_1+k^2\,t_1}$	$\frac{i\,(2\,k^3\,(2\,r_3+r_5)-k\,t_1)}{(1+k^2)^2\,t_1^2}$	$\frac{-2\,k^4\,(2\,r_3+r_5)+k^2\,t_1}{(1+k^2)^2\,t_1^2}$
$\sigma_{1^-}^{\#1}{}^{\dagger\alpha}$	$\frac{1}{k^2\,(-r_1+2\,r_3+r_5)}$	$\frac{1}{\sqrt{2}\,(k^2+2\,k^4)\,(r_1-2\,r_3-r_5)}$	$\frac{i}{k\,(1+2\,k^2)\,(-r_1+2\,r_3+r_5)}$	$\frac{i}{k\,(1+2\,k^2)\,(r_1-2\,r_3-r_5)}$	0	0	0
$\sigma_{1^-}^{\#2}{}^{\dagger\alpha}$	0	$\frac{1}{\sqrt{2}\,(k^2+2\,k^4)\,(r_1-2\,r_3-r_5)}$	0	$\frac{i\,(6\,k^2\,(r_1-2\,r_3-r_5)+t_1)}{\sqrt{2}\,k\,(1+2\,k^2)^2\,(r_1-2\,r_3-r_5)\,t_1}$	0	0	0
$\tau_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#2}{}^{\dagger\alpha}$	0	0	0	$-\frac{i\,(6\,k^2\,(r_1-2\,r_3-r_5)+t_1)}{\sqrt{2}\,k\,(1+2\,k^2)^2\,(r_1-2\,r_3-r_5)\,t_1}$	0	0	0

	$\sigma_{1^-}^{\#2}{}_{\alpha}$	$\tau_{1^-}^{\#1}{}_{\alpha}$	$\tau_{1^-}^{\#2}{}_{\alpha}$	$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$\tau_{1^+}^{\#1}{}_{\alpha\beta}$
$\sigma_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	0	0	0	0	$-\frac{\sqrt{2}}{t_1+k^2\,t_1}$	$-\frac{i\,\sqrt{2}\,k}{t_1+k^2\,t_1}$
$\sigma_{1^+}^{\#2}{}^{\dagger\alpha\beta}$	0	0	0	$-\frac{\sqrt{2}}{t_1+k^2\,t_1}$	$\frac{-2\,k^2\,(2\,r_3+r_5)+t_1}{(1+k^2)^2\,t_1^2}$	$\frac{-2\,i\,k^3\,(2\,r_3+r_5)+i\,k\,t_1}{(1+k^2)^2\,t_1^2}$
$\tau_{1^+}^{\#1}{}^{\dagger\alpha\beta}$	0	0	0	$\frac{i\,\sqrt{2}\,k}{t_1+k^2\,t_1}$	$\frac{i\,(2\,k^3\,(2\,r_3+r_5)-k\,t_1)}{(1+k^2)^2\,t_1^2}$	$\frac{-2\,k^4\,(2\,r_3+r_5)+k^2\,t_1}{(1+k^2)^2\,t_1^2}$
$\sigma_{1^-}^{\#1}{}^{\dagger\alpha}$	$\frac{1}{\sqrt{2}\,(k^2+2\,k^4)\,(r_1-2\,r_3-r_5)}$	$\frac{1}{k^2\,(-r_1+2\,r_3+r_5)}$	$\frac{i}{k\,(1+2\,k^2)\,(-r_1+2\,r_3+r_5)}$	0	0	0
$\sigma_{1^-}^{\#2}{}^{\dagger\alpha}$	$\frac{1}{\sqrt{2}\,(k^2+2\,k^4)\,(r_1-2\,r_3-r_5)}$	$\frac{1}{\sqrt{2}\,(k^2+2\,k^4)\,(r_1-2\,r_3-r_5)}$	$\frac{i}{k\,(1+2\,k^2)\,(r_1-2\,r_3-r_5)}$	0	0	0
$\tau_{1^-}^{\#1}{}^{\dagger\alpha}$	0	0	0	0	0	0
$\tau_{1^-}^{\#2}{}^{\dagger\alpha}$	$-\frac{i\,(6\,k^2\,(r_1-2\,r_3-r_5)+t_1)}{\sqrt{2}\,k\,(1+2\,k^2)^2\,(r_1-2\,r_3-r_5)\,t_1}$	0	$\frac{1}{-r_1+2\,r_3+r_5}+\frac{6\,k^2}{t_1}$	0	0	0

Lagrangian density

$$
\begin{aligned}
&-\tfrac{1}{3}\,t_1\,\omega_{I}^{\alpha I}\,\omega_{\kappa\alpha}^{\ \kappa}-t_1\,\omega_{I}^{\ \kappa\lambda}\,\omega_{\kappa\lambda}{}'+f^{\alpha\beta}\,\tau_{\alpha\beta}+\omega^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi}+2\,r_1\,\partial_{\prime}\omega^{\kappa\lambda}{}_{\kappa}\,\partial'\omega_{\lambda\ \alpha}^{\ \alpha}-\\
&2\,r_3\,\partial_{\prime}\omega^{\kappa\lambda}{}_{\kappa}\,\partial'\omega_{\lambda\ \alpha}^{\ \alpha}-r_5\,\partial_{\prime}\omega^{\kappa\lambda}{}_{\kappa}\,\partial'\omega_{\lambda\ \alpha}^{\ \alpha}-\tfrac{2}{3}\,r_1\,\partial^{\beta}\omega^{\theta\alpha}{}_{\kappa}\,\partial_{\theta}\omega_{\alpha\beta}^{\ \kappa}-\\
&\tfrac{2}{3}\,r_1\,\partial_{\theta}\omega_{\alpha\beta}^{\ \kappa}\,\partial_{\kappa}\omega^{\theta\alpha\beta}-2\,r_1\,\partial_{\alpha}\omega_{\lambda\ \theta}^{\ \alpha}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}+2\,r_3\,\partial_{\alpha}\omega_{\lambda\ \theta}^{\ \alpha}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}-\\
&r_5\,\partial_{\alpha}\omega_{\lambda\ \theta}^{\ \alpha}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}+2\,r_1\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}-2\,r_3\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}+\\
&r_5\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial_{\kappa}\omega^{\theta\kappa\lambda}+2\,r_1\,\partial_{\alpha}\omega_{\lambda\ \theta}^{\ \alpha}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}-2\,r_3\,\partial_{\alpha}\omega_{\lambda\ \theta}^{\ \alpha}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}+\\
&r_5\,\partial_{\alpha}\omega_{\lambda\ \theta}^{\ \alpha}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}-4\,r_1\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}+4\,r_3\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}+\\
&2\,r_5\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}-\tfrac{1}{2}\,t_1\,\partial^{\alpha}f_{\theta\kappa}\,\partial^{\kappa}f_{\alpha}^{\ \theta}-\tfrac{1}{2}\,t_1\,\partial^{\alpha}f_{\kappa\theta}\,\partial^{\kappa}f_{\alpha}^{\ \theta}+\\
&\tfrac{1}{3}\,t_1\,\omega_{\kappa\alpha}^{\ \alpha}\,\partial^{\kappa}f_{\prime}^{\ \prime}+\tfrac{1}{3}\,t_1\,\omega_{\kappa\lambda}^{\ \lambda}\,\partial^{\kappa}f_{\prime}^{\ \prime}+\tfrac{2}{3}\,t_1\,\partial^{\alpha}f_{\kappa\alpha}\,\partial^{\kappa}f_{\prime}^{\ \prime}-\tfrac{1}{3}\,t_1\,\partial^{\alpha}f^{\lambda}{}_{\kappa}\,\partial^{\kappa}f_{\lambda\alpha}+\\
&2\,t_1\,\omega_{\prime\kappa\theta}\,\partial^{\kappa}f^{\prime\theta}-\tfrac{1}{3}\,t_1\,\omega_{\prime\alpha}^{\ \alpha}\,\partial^{\kappa}f_{\kappa}^{\ \prime}-\tfrac{1}{3}\,t_1\,\omega_{\prime\lambda}^{\ \lambda}\,\partial^{\kappa}f_{\kappa}^{\ \prime}+\tfrac{1}{2}\,t_1\,\partial^{\alpha}f^{\lambda}{}_{\kappa}\,\partial^{\kappa}f_{\lambda\alpha}+\tfrac{2}{3}\,r_1\,\partial_{\kappa}\omega^{\alpha\beta\theta}\,\partial^{\kappa}\omega_{\alpha\beta\theta}-\\
&\tfrac{1}{2}\,t_1\,\partial_{\kappa}f^{\lambda}{}_{\theta}\,\partial^{\kappa}f_{\lambda}^{\ \theta}+\tfrac{1}{2}\,t_1\,\partial_{\kappa}f^{\lambda}{}_{\theta}\,\partial^{\kappa}f_{\lambda}^{\ \theta}-\tfrac{1}{3}\,t_1\,\partial^{\alpha}f^{\lambda}{}_{\alpha}\,\partial^{\kappa}f_{\lambda\kappa}+\tfrac{2}{3}\,r_1\,\partial_{\kappa}\omega^{\theta\alpha\beta}\,\partial^{\kappa}\omega_{\alpha\beta\theta}{}'+\tfrac{4}{3}\,r_1\,\partial^{\beta}\omega_{\prime}^{\ \lambda\alpha}\,\partial_{\lambda}\omega_{\alpha\beta}{}'-\\
&4\,r_3\,\partial^{\beta}\omega_{\prime}^{\ \lambda\alpha}\,\partial_{\lambda}\omega_{\alpha\beta}{}'+2\,r_1\,\partial_{\alpha}\omega_{\lambda\ \theta}^{\ \alpha}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}-2\,r_3\,\partial_{\alpha}\omega_{\lambda\ \theta}^{\ \alpha}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}+2\,r_3\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}-\\
&r_5\,\partial_{\alpha}\omega_{\lambda\ \theta}^{\ \alpha}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}-2\,r_1\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}+r_5\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial^{\lambda}\omega^{\theta\kappa}{}_{\kappa}
\end{aligned}
$$

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

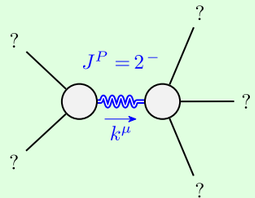
	$\tau_{2^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\sigma_{2^+}^{\#1}{}^{\dagger\alpha\beta}$	$-\frac{2\,i\,\sqrt{2}\,k}{(1+2\,k^2)^2\,t_1}$	0
$\tau_{2^+}^{\#1}{}^{\dagger\alpha\beta}$	$\frac{4\,k^2}{(1+2\,k^2)^2\,t_1}$	0
$\sigma_{2^-}^{\#1}{}^{\dagger\alpha\beta\chi}$	0	$\frac{2}{2\,k^2\,r_1+t_1}$

	$\omega_{0^+}^{\#1}$	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_{0^-}^{\#1}$
$\omega_{0^+}^{\#1}{}^{\dagger}$	$6\,k^2\,(-r_1+r_3)$	0	0	0
$f_{0^+}^{\#1}{}^{\dagger}$	0	0	0	0
$f_{0^+}^{\#2}{}^{\dagger}$	0	0	0	0
$\omega_{0^-}^{\#1}{}^{\dagger}$	0	0	0	$-t_1$

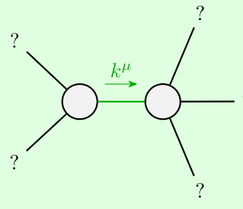
	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1}{}^{\dagger}$	$\frac{1}{6\,k^2\,(-r_1+r_3)}$	0	0	0
$\tau_{0^+}^{\#1}{}^{\dagger}$	0	0	0	0
$\tau_{0^+}^{\#2}{}^{\dagger}$	0	0	0	0
$\sigma_{0^-}^{\#1}{}^{\dagger}$	0	0	0	$-\frac{1}{t_1}$ |

Source constraints

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



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



Quadratic pole	
Pole residue:	$\frac{1}{(r_1-2\,r_3-r_5)\,{t_1}^2}>0$
Polarisations:	2

Unitarity conditions

$r_1<0\ \&\&\ r_5<r_1-2\,r_3\ \&\&\ t_1>0$