Lagrangian density

$$
\begin{aligned}
&-t_1\,\omega_{I}^{\alpha\prime}\,\omega_{\kappa\alpha}^{\ \ \kappa}-\tfrac{1}{3}t_1\,\omega_{I}^{\kappa\lambda}\,\omega_{\kappa\lambda}^{\ \ \prime}+\tfrac{1}{3}t_1\,\omega_{\kappa\lambda}^{\ \ \prime}\,\omega_{I}^{\kappa\lambda}+\\
&\tfrac{1}{3}t_2\,\omega_{\kappa\lambda}^{\ \ \prime}\,\omega^{\kappa\lambda}{}_{I}+f^{\alpha\beta}\,\tau_{\alpha\beta}+\omega^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi}+2\,r_1\,\partial_I\omega^{\kappa\lambda}{}_{\kappa}{}^{\alpha}\,\partial^{\prime}\omega_{\lambda\ \alpha}^{\ \kappa}-\\
&\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_1\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}-\\
&4\,r_1\,\partial_{\theta}\omega_{\lambda\ \alpha}^{\ \alpha}\,\partial_{\kappa}\omega^{\kappa\lambda\theta}-\tfrac{1}{3}t_1\,\partial^{\alpha}f_{\theta\kappa}\,\partial^{\kappa}f_{\alpha}{}^{\theta}-\tfrac{2}{3}t_1\,\partial^{\alpha}f_{\kappa\theta}\,\partial^{\kappa}f_{\alpha}{}^{\theta}-\\
&\tfrac{1}{6}t_2\,\partial^{\alpha}f_{\kappa\theta}\,\partial^{\kappa}f_{\alpha}{}^{\theta}-\tfrac{1}{3}t_1\,\partial^{\alpha}f_{\kappa\theta}\,\partial^{\kappa}f_{\alpha\lambda}+t_1\,\omega_{\kappa\alpha}{}^{\alpha}\,\partial^{\kappa}f^{\prime}{}_{I}+\\
&t_1\,\omega_{\kappa\lambda}{}^{\lambda}\,\partial^{\kappa}f^{\prime}{}_{I}+2\,t_1\,\partial^{\alpha}f_{\kappa\alpha}\,\partial^{\kappa}f^{\prime}{}_{I}-t_1\,\partial_{\kappa}f^{\lambda}{}_{\theta}\,\partial^{\kappa}f^{\prime}{}_{I}+\\
&\tfrac{1}{3}t_2\,\omega_{I\theta\kappa}\,\partial^{\kappa}f^{\prime\theta}+\tfrac{4}{3}t_1\,\omega_{I\kappa\theta}\,\partial^{\kappa}f^{\prime\theta}-\tfrac{2}{3}t_2\,\omega_{I\kappa\theta}\,\partial^{\kappa}f^{\prime\theta}-\tfrac{1}{3}t_1\,\omega_{\theta\iota\kappa}\,\partial^{\kappa}f^{\prime\theta}-\\
&\tfrac{1}{3}t_2\,\omega_{\theta\kappa I}\,\partial^{\kappa}f^{\prime\theta}+\tfrac{2}{3}t_1\,\omega_{\theta\kappa I}\,\partial^{\kappa}f^{\prime\theta}+\tfrac{2}{3}t_1\,\omega_{\theta\iota\kappa}\,\partial^{\kappa}f^{\prime\theta}-t_1\,\omega_{I\alpha}{}^{\alpha}\,\partial^{\kappa}f^{\prime}{}_{\kappa}-\\
&t_1\,\omega_{I\lambda}{}^{\lambda}\,\partial^{\kappa}f^{\prime}{}_{\kappa}+\tfrac{1}{3}t_1\,\partial^{\alpha}f^{\lambda}{}_{\kappa}\,\partial^{\kappa}f_{\lambda\alpha}-\tfrac{1}{6}t_2\,\partial^{\alpha}f^{\lambda}{}_{\kappa}\,\partial^{\kappa}f_{\lambda\alpha}-\\
&\tfrac{1}{6}t_2\,\partial_{\kappa}f_{\theta}{}^{\lambda}\,\partial^{\kappa}f_{\lambda}{}^{\theta}+\tfrac{2}{3}t_1\,\partial_{\kappa}f^{\lambda}{}_{\theta}\,\partial^{\kappa}f_{\lambda}{}^{\theta}-t_1\,\partial^{\alpha}f^{\lambda}{}_{\alpha}\,\partial^{\kappa}f_{\lambda\kappa}+\\
&\tfrac{1}{6}t_2\,\partial_{\kappa}f^{\lambda}{}_{\theta}\,\partial^{\kappa}f_{\lambda}{}^{\theta}+\tfrac{1}{6}t_2\,\partial_{\kappa}f^{\lambda}{}_{\theta}\,\partial^{\kappa}f_{\lambda}{}^{\theta}-t_1\,\partial^{\alpha}f^{\lambda}{}_{\alpha}\,\partial^{\kappa}f_{\lambda\kappa}+\\
&\tfrac{2}{3}r_1\,\partial_{\kappa}\omega^{\alpha\beta\theta}\,\partial^{\kappa}\omega_{\alpha\beta\theta}-\tfrac{2}{3}r_1\,\partial^{\beta}\omega_{I}^{\alpha\lambda}\,\partial_{\lambda}\omega_{\alpha\beta}^{\ \ \prime}-\\
&\tfrac{8}{3}r_1\,\partial^{\beta}\omega_{I}^{\lambda\alpha}\,\partial_{\lambda}\omega_{\alpha\beta}^{\ \ \prime}-2\,r_1\,\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}
\end{aligned}
$$

$\sigma_{1^+}^{\#1}{}^{\alpha\beta}\,\dagger$	$\frac{2\,(t_1+t_2)}{3\,t_1\,t_2}$	$\frac{\sqrt{2}\,(t_1-2\,t_2)}{3\,(1+k^2)\,t_1\,t_2}$	$-\frac{i\,\sqrt{2}\,k\,(t_1-2\,t_2)}{3\,(1+k^2)\,t_1\,t_2}$	0	0	0	0
$\sigma_{1^+}^{\#2}{}^{\alpha\beta}\,\dagger$	$\frac{\sqrt{2}\,(t_1-2\,t_2)}{3\,(1+k^2)\,t_1\,t_2}$	$\frac{t_1+4\,t_2}{3\,(1+k^2)^2\,t_1\,t_2}$	$-\frac{i\,k\,(t_1+4\,t_2)}{3\,(1+k^2)^2\,t_1\,t_2}$	0	0	0	0
$\tau_{1^+}^{\#1}{}^{\alpha\beta}\,\dagger$	$-\frac{i\,\sqrt{2}\,(t_1-2\,t_2)}{3\,(1+k^2)\,t_1\,t_2}$	$-\frac{i\,k\,(t_1+4\,t_2)}{3\,(1+k^2)^2\,t_1\,t_2}$	$\frac{k^2\,(t_1+4\,t_2)}{3\,(1+k^2)^2\,t_1\,t_2}$	0	0	0	0
$\sigma_{1^-}^{\#1}{}^{\alpha}\,\dagger$	0	0	0	0	$\frac{\sqrt{2}}{t_1+2\,k^2\,t_1}$	0	$\frac{2\,i\,k}{t_1+2\,k^2\,t_1}$
$\sigma_{1^-}^{\#2}{}^{\alpha}\,\dagger$	0	0	0	$\frac{\sqrt{2}}{t_1+2\,k^2\,t_1}$	$\frac{2\,k^2\,r_1+t_1}{(t_1+2\,k^2\,t_1)^2}$	0	$\frac{i\,\sqrt{2}\,k\,(2\,k^2\,r_1+t_1)}{(t_1+2\,k^2\,t_1)^2}$
$\tau_{1^+}^{\#1}{}^{\alpha}\,\dagger$	0	0	0	0	0	0	$\frac{2\,k^2\,(2\,k^2\,r_1+t_1)}{(t_1+2\,k^2\,t_1)^2}$
$\tau_{1^-}^{\#2}{}^{\alpha}\,\dagger$	0	0	0	$-\frac{i\,\sqrt{2}\,k\,(2\,k^2\,r_1+t_1)}{(t_1+2\,k^2\,t_1)^2}$	0	0	$\frac{2\,k^2\,(2\,k^2\,r_1+t_1)}{(t_1+2\,k^2\,t_1)^2}$

$\omega_{1^+}^{\#2}{}^{\alpha\beta}\,\dagger$	$\frac{1}{6}\,(t_1+4\,t_2)$	$-\frac{t_1-2\,t_2}{3\,\sqrt{2}}$	$-\frac{i\,k\,(t_1-2\,t_2)}{3\,\sqrt{2}}$	0	0	0	0
$\omega_{1^+}^{\#1}{}^{\alpha\beta}\,\dagger$	$-\frac{t_1-2\,t_2}{3\,\sqrt{2}}$	$\frac{t_1+t_2}{3}$	$-\frac{1}{3}\,i\,k\,(t_1+t_2)$	0	0	0	0
$f_{1^+}^{\#1}{}^{\alpha\beta}\,\dagger$	$\frac{i\,k\,(t_1-2\,t_2)}{3\,\sqrt{2}}$	$\frac{1}{3}\,i\,k\,(t_1+t_2)$	$\frac{1}{3}\,k^2\,(t_1+t_2)$	0	0	0	0
$\omega_{1^-}^{\#1}{}^{\alpha}\,\dagger$	0	0	0	$-k^2\,r_1-\frac{t_1}{2}$	$\frac{t_1}{\sqrt{2}}$	0	$-i\,k\,t_1$
$\omega_{1^-}^{\#2}{}^{\alpha}\,\dagger$	0	0	0	$\frac{t_1}{\sqrt{2}}$	0	0	0
$f_{1^-}^{\#1}{}^{\alpha}\,\dagger$	0	0	0	0	0	0	0
$f_{1^-}^{\#2}{}^{\alpha}\,\dagger$	0	0	0	$i\,k\,t_1$	0	0	0

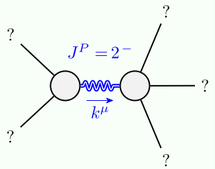
$\omega_{0^+}^{\#1}\,\dagger$	$-t_1$	$i\,\sqrt{2}\,k\,t_1$	0	0
$f_{0^+}^{\#1}\,\dagger$	$-i\,\sqrt{2}\,k\,t_1$	$-2\,k^2\,t_1$	0	0
$f_{0^+}^{\#2}\,\dagger$	0	0	0	0
$\omega_{0^-}^{\#1}\,\dagger$	0	0	0	t_2

$\sigma_{2^+}^{\#1}{}^{\alpha\beta}\,\dagger$	$\frac{2}{(1+2\,k^2)^2\,t_1}$	$-\frac{2\,i\,\sqrt{2}\,k}{(1+2\,k^2)^2\,t_1}$	0	0
$\tau_{2^+}^{\#1}{}^{\alpha\beta}\,\dagger$	$\frac{2\,i\,\sqrt{2}\,k}{(1+2\,k^2)^2\,t_1}$	$\frac{4\,k^2}{(1+2\,k^2)^2\,t_1}$	0	0
$\sigma_{2^-}^{\#1}{}^{\alpha\beta\chi}\,\dagger$	0	0	$\frac{2}{2\,k^2\,r_1+t_1}$	0
$\omega_{2^+}^{\#1}{}^{\alpha\beta}\,\dagger$	$\frac{t_1}{2}$	$-\frac{i\,k\,t_1}{\sqrt{2}}$	0	0
$f_{2^+}^{\#1}{}^{\alpha\beta}\,\dagger$	$\frac{i\,k\,t_1}{\sqrt{2}}$	$k^2\,t_1$	0	0
$\omega_{2^-}^{\#1}{}^{\alpha\beta\chi}\,\dagger$	0	0	$k^2\,r_1+\frac{t_1}{2}$	$\frac{1}{t_2}$

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

Source constraints

SO(3) irreps	#
$\tau_{0^+}^{\#2} == 0$	1
$\tau_{0^+}^{\#1} - 2\,i\,k\,\sigma_{0^+}^{\#1} == 0$	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

(No massless particles)

$r_1 < 0$ && $t_1 > 0$