Lagrangian density

$$
\begin{aligned}
&-\tfrac{1}{3}t_1\,\omega_\iota{}^{\alpha\iota}\,\omega_{\kappa\alpha}{}^\kappa - t_1\,\omega_\iota{}^{\kappa\lambda}\,\omega_{\kappa\lambda}{}^\iota + f^{\alpha\beta}\,\tau_{\alpha\beta} + \omega^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi} - r_5\,\partial_\iota\omega^{\kappa\lambda}{}_\kappa\,\partial^\iota\omega_\lambda{}^\alpha{}_\alpha + \\
&\tfrac{2}{3}r_2\,\partial_\beta\omega^{\theta\alpha}{}_\kappa\,\partial_\theta\omega_{\alpha\beta}{}^\kappa - \tfrac{1}{3}r_2\,\partial_\theta\omega_{\alpha\beta}{}^\kappa\,\partial_\kappa\omega^{\theta\alpha\beta} - \\
&r_5\,\partial_\alpha\omega_\lambda{}^\alpha{}_\alpha\,\partial_\theta\omega^{\theta\kappa\lambda} + r_5\,\partial_\theta\omega_\lambda{}^\alpha{}_\alpha\,\partial_\kappa\omega^{\theta\kappa\lambda} + 2r_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_\kappa{}^\theta - \tfrac{1}{2}t_1\,\partial^\alpha f_{\kappa\theta}\,\partial^\kappa f_{\theta\lambda}{}^\theta - \tfrac{1}{2}t_1\,\partial^\alpha f_{\theta\lambda}\,\partial^\kappa f^\iota{}_\iota + \tfrac{1}{3}t_1\,\omega_{\kappa\alpha}{}^\alpha\,\partial^\kappa f^\iota{}_\iota + \\
&\tfrac{1}{3}t_1\,\omega_{\kappa\lambda}{}^\lambda\,\partial^\kappa f^\iota{}_\iota + \tfrac{2}{3}t_1\,\partial_\theta f_{\kappa\alpha}\,\partial^\kappa f^\iota{}_\iota - \tfrac{1}{3}t_1\,\partial_\kappa f^\lambda{}_\lambda\,\partial^\kappa f^\iota{}_\iota + 2t_1\,\omega_{\iota\kappa\theta}\,\partial^\kappa f^{\iota\theta} - \\
&\tfrac{1}{3}t_1\,\omega_{\iota\alpha}{}^\alpha\,\partial^\kappa f^\iota{}_\kappa + \tfrac{2}{3}t_1\,\partial^\alpha f^\lambda{}_\lambda\,\partial^\kappa f_{\lambda\alpha} + \tfrac{1}{2}t_1\,\partial^\alpha f^\lambda{}_\kappa\,\partial^\kappa f_{\lambda\theta}{}^\theta + \\
&\tfrac{1}{3}t_1\,\partial_\kappa f^\lambda{}_\theta\,\partial^\alpha f^\lambda{}_\lambda - \tfrac{1}{3}t_1\,\partial^\alpha f^\lambda{}_\alpha\,\partial^\kappa f_{\lambda\kappa} + \tfrac{1}{3}r_2\,\partial_\kappa\omega^{\alpha\beta\theta}\,\partial^\kappa\omega_{\alpha\beta\theta} - \\
&\tfrac{2}{3}r_2\,\partial^\beta\omega_\iota{}^{\alpha\lambda}\,\partial_\lambda\omega_{\alpha\beta}{}^\iota + \tfrac{2}{3}r_2\,\partial^\beta\omega_\iota{}^{\lambda\alpha}\,\partial_\lambda\omega_{\alpha\beta}{}^\iota + 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
\end{aligned}
$$

	$\omega_{0^+}^{\#1}$	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_{0^-}^{\#1}$
$\omega_{0^+}^{\#1}\dagger$	0	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	$k^2 r_2 - t_1$

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1}\dagger$	0	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	$\frac{1}{k^2 r_2 - t_1}$

Source constraints

SO(3) irreps	#
$\tau_{0^+}^{\#2} == 0$	1
$\tau_{0^+}^{\#1} == 0$	1
$\sigma_{0^+}^{\#1} == 0$	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 #:	17

	$\omega_{2^+}^{\#1}{}_{\alpha\beta}$	$f_{2^+}^{\#1}{}_{\alpha\beta}$	$\omega_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\omega_{2^+}^{\#1}\dagger^{\alpha\beta}$	0	0	$\frac{t_1}{2}$
$f_{2^+}^{\#1}\dagger^{\alpha\beta}$	$-\frac{ikt_1}{\sqrt2}$	$k^2 t_1$	0
$\omega_{2^-}^{\#1}\dagger^{\alpha\beta\chi}$	$\frac{t_1}{2}$	$\frac{ikt_1}{\sqrt2}$	0

	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^+}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_\alpha$	$\omega_{1^-}^{\#2}{}_\alpha$	$f_{1^-}^{\#1}{}_\alpha$	$f_{1^-}^{\#2}{}_\alpha$
$\omega_{1^+}^{\#1}\dagger^{\alpha\beta}$	$k^2 r_5 - \frac{t_1}{2}$	$-\frac{t_1}{\sqrt2}$	$-\frac{ikt_1}{\sqrt2}$	0	0	0	0
$\omega_{1^+}^{\#2}\dagger^{\alpha\beta}$	$-\frac{t_1}{\sqrt2}$	0	0	0	0	0	0
$f_{1^+}^{\#1}\dagger^{\alpha\beta}$	$\frac{ikt_1}{\sqrt2}$	0	0	0	0	0	0
$\omega_{1^-}^{\#1}\dagger^\alpha$	0	0	0	$k^2 r_5 + \frac{t_1}{6}$	$\frac{t_1}{3\sqrt2}$	0	$\frac{ikt_1}{3}$
$\omega_{1^-}^{\#2}\dagger^\alpha$	0	0	0	$\frac{t_1}{3\sqrt2}$	$\frac{t_1}{3}$	0	$\frac{1}{3}i\sqrt2\,k t_1$
$f_{1^-}^{\#1}\dagger^\alpha$	0	0	0	0	0	0	0
$f_{1^-}^{\#2}\dagger^\alpha$	0	0	0	$-\frac{1}{3}ikt_1$	$-\frac{1}{3}i\sqrt2\,kt_1$	0	$\frac{2k^2 t_1}{3}$

	$\sigma_{2^+}^{\#1}{}_{\alpha\beta}$	$\tau_{2^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\sigma_{2^+}^{\#1}\dagger^{\alpha\beta}$	0	0	$\frac{2}{t_1}$
$\tau_{2^+}^{\#1}\dagger^{\alpha\beta}$	$-\frac{2i\sqrt2\,k}{(1+2k^2)^2 t_1}$	$\frac{4k^2}{(1+2k^2)^2 t_1}$	0
$\sigma_{2^-}^{\#1}\dagger^{\alpha\beta\chi}$	$\frac{2}{(1+2k^2)^2 t_1}$	$\frac{2i\sqrt2\,k}{(1+2k^2)^2 t_1}$	0

	$\sigma_{1^+}^{\#1}\dagger^{\alpha\beta}$	$\sigma_{1^+}^{\#2}\dagger^{\alpha\beta}$	$\tau_{1^+}^{\#1}\dagger^{\alpha\beta}$	$\sigma_{1^-}^{\#1}\dagger^\alpha$	$\sigma_{1^-}^{\#2}\dagger^\alpha$	$\tau_{1^-}^{\#1}\dagger^\alpha$	$\tau_{1^-}^{\#2}\dagger^\alpha$
$\tau_{1^-}^{\#2}{}_\alpha$	0	0	0	$-\frac{i}{k r_5 + 2k^3 r_5}$	$\frac{i(6k^2 r_5 + t_1)}{\sqrt2\,k(1+2k^2)^2 r_5 t_1}$	0	$\frac{6k^2 r_5 + t_1}{(1+2k^2)^2 r_5 t_1}$
$\tau_{1^-}^{\#1}{}_\alpha$	0	0	0	0	0	0	0
$\sigma_{1^-}^{\#2}{}_\alpha$	0	0	0	$-\frac{1}{\sqrt2(k^2 r_5 + 2k^4 r_5)}$	$\frac{6k^2 r_5 + t_1}{2(k+2k^3)^2 r_5 t_1}$	0	$-\frac{i(6k^2 r_5 + t_1)}{\sqrt2\,k(1+2k^2)^2 r_5 t_1}$
$\sigma_{1^-}^{\#1}{}_\alpha$	0	0	0	$\frac{1}{k^2 r_5}$	$-\frac{1}{\sqrt2(k^2 r_5 + 2k^4 r_5)}$	0	$\frac{i}{k r_5 + 2k^3 r_5}$
$\tau_{1^+}^{\#1}{}_{\alpha\beta}$	$-\frac{i\sqrt2\,k}{t_1 + k^2 t_1}$	$\frac{i(2k^3 r_5 - k t_1)}{(1+k^2)^2 t_1^2}$	$-\frac{2k^4 r_5 + k^2 t_1}{(1+k^2)^2 t_1^2}$	0	0	0	0
$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$-\frac{\sqrt2}{t_1 + k^2 t_1}$	$-\frac{2k^2 r_5 + t_1}{(1+k^2)^2 t_1^2}$	$\frac{i(2k^3 r_5 - k t_1)}{(1+k^2)^2 t_1^2}$	0	0	0	0
$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	0	$-\frac{\sqrt2}{t_1 + k^2 t_1}$	$\frac{i\sqrt2\,k}{t_1 + k^2 t_1}$	0	0	0	0

Massive particle
$J^P = 0^-$

Pole residue:	$-\frac{1}{r_2} > 0$
Polarisations:	1
Square mass:	$\frac{t_1}{r_2} > 0$
Spin:	0
Parity:	Odd

Quadratic pole

Pole residue:	$-\frac{1}{r_5 t_1^2} > 0$
Polarisations:	2

Unitarity conditions
$r_2 < 0 \ \&\&\ r_5 < 0 \ \&\&\ t_1 < 0$