Lagrangian density

$$\frac{2}{3} t_2\, \omega_I^{\kappa\lambda}\, \omega_{\kappa\lambda}{}' + \frac{1}{3} t_2\, \omega_{\kappa\lambda}{}'\, \omega^{\kappa\lambda}{}_I{}' + f^{\alpha\beta}\, \tau_{\alpha\beta} + \omega^{\alpha\beta\chi}\, \sigma_{\alpha\beta\chi} - \frac{1}{2} r_3\, \partial_I \omega^{\kappa\lambda}{}_\kappa\, \partial' \omega_\lambda{}^\alpha -$$
$$r_5\, \partial_I \omega^{\kappa\lambda}{}_\kappa\, \partial' \omega_\lambda{}^\alpha + \frac{2}{3} r_2\, \partial^\beta \omega^{\theta\alpha}{}_\kappa\, \partial_\theta \omega_{\alpha\beta}{}^\kappa - \frac{1}{3} r_2\, \partial_\theta \omega_{\alpha\beta}{}^\kappa\, \partial_\kappa \omega^{\alpha\beta\theta} -$$
$$\frac{2}{3} r_2\, \partial_\theta \omega_{\alpha\beta}{}^\kappa\, \partial_\kappa \omega^{\alpha\beta\theta} + \frac{1}{2} r_3\, \partial_\alpha \omega_\lambda{}^\alpha{}_\theta\, \partial_\kappa \omega^{\theta\kappa\lambda} - r_5\, \partial_\alpha \omega_\lambda{}^\alpha{}_\theta\, \partial_\kappa \omega^{\theta\kappa\lambda} -$$
$$\frac{1}{2} r_3\, \partial_\theta \omega_\lambda{}^\alpha{}_\alpha\, \partial_\kappa \omega^{\theta\kappa\lambda} + r_5\, \partial_\theta \omega_\lambda{}^\alpha{}_\alpha\, \partial_\kappa \omega^{\theta\kappa\lambda} - \frac{1}{2} r_3\, \partial_\alpha \omega_\lambda{}^\alpha{}_\theta\, \partial_\kappa \omega^{\kappa\lambda\theta} -$$
$$r_5\, \partial_\alpha \omega_\lambda{}^\alpha{}_\theta\, \partial_\kappa \omega^{\kappa\lambda\theta} + r_3\, \partial_\theta \omega_\lambda{}^\alpha{}_\alpha\, \partial_\kappa \omega^{\kappa\lambda\theta} + 2\, r_5\, \partial_\theta \omega_\lambda{}^\alpha{}_\alpha\, \partial_\kappa \omega^{\kappa\lambda\theta} + \frac{1}{6} t_2\, \partial^\alpha f_{\theta\kappa}\, \partial^\kappa f_\alpha{}^\theta -$$
$$\frac{1}{6} t_2\, \partial^\alpha f_{\kappa\theta}\, \partial^\kappa f_\alpha{}^\theta + \frac{1}{6} t_2\, \partial^\alpha f^\lambda{}_\kappa\, \partial^\kappa f_{\alpha\lambda} + \frac{1}{3} t_2\, \omega_{\iota\theta\kappa}\, \partial^\kappa f'^{\iota\theta} - \frac{2}{3} t_2\, \omega_{\iota\kappa\theta}\, \partial^\kappa f'^{\iota\theta} -$$
$$\frac{1}{3} t_2\, \omega_{\theta\iota\kappa}\, \partial^\kappa f'^{\iota\theta} + \frac{2}{3} t_2\, \omega_{\theta\kappa\iota}\, \partial^\kappa f'^{\iota\theta} - \frac{1}{6} t_2\, \partial^\alpha f^\lambda{}_\kappa\, \partial^\kappa f_{\lambda\alpha} - \frac{1}{6} t_2\, \partial_\kappa f^\lambda{}_\theta\, \partial^\kappa f_\lambda{}^\theta +$$
$$\frac{1}{6} t_2\, \partial_\kappa f^\lambda{}_\theta\, \partial^\kappa f_\lambda{}^\theta + \frac{1}{3} r_2\, \partial_\kappa \omega^{\alpha\beta\theta}\, \partial^\kappa \omega_{\alpha\beta\theta} + \frac{2}{3} r_2\, \partial_\kappa \omega^{\theta\alpha\beta}\, \partial^\kappa \omega_{\alpha\beta\theta} -$$
$$\frac{2}{3} r_2\, \partial^\beta \omega_I{}^{\alpha\lambda}\, \partial_\lambda \omega_{\alpha\beta}{}' + \frac{2}{3} r_2\, \partial^\beta \omega_I{}^{\lambda\alpha}\, \partial_\lambda \omega_{\alpha\beta}{}' - 4\, r_3\, \partial^\beta \omega_I{}^{\lambda\alpha}\, \partial_\lambda \omega_{\alpha\beta}{}' -$$
$$\frac{1}{2} r_3\, \partial_\alpha \omega_\lambda{}^\alpha{}_\theta\, \partial^\lambda \omega^{\theta\kappa}{}_\kappa + r_5\, \partial_\alpha \omega_\lambda{}^\alpha{}_\theta\, \partial^\lambda \omega^{\theta\kappa}{}_\kappa + \frac{1}{2} r_3\, \partial_\theta \omega_\lambda{}^\alpha{}_\alpha\, \partial^\lambda \omega^{\theta\kappa}{}_\kappa - r_5\, \partial_\theta \omega_\lambda{}^\alpha{}_\alpha\, \partial^\lambda \omega^{\theta\kappa}{}_\kappa$$

	$\sigma_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^+}^{\#2}{}_{\alpha\beta}$	$\tau_{1^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{1^-}^{\#1}{}_{\alpha}$	$\sigma_{1^-}^{\#2}{}_{\alpha}$	$\tau_{1^-}^{\#1}{}_{\alpha}$	$\tau_{1^-}^{\#2}{}_{\alpha}$
$\sigma_{1^+}^{\#1}{}^\dagger{}^{\alpha\beta}$	$\frac{1}{k^2 (2 r_3 + r_5)}$	$-\frac{\sqrt{2}}{k^2 (1+k^2) (2 r_3 + r_5)}$	$-\frac{i \sqrt{2}}{k (1+k^2) (2 r_3 + r_5)}$	0	0	0	0
$\sigma_{1^+}^{\#2}{}^\dagger{}^{\alpha\beta}$	$-\frac{\sqrt{2}}{k^2 (1+k^2) (2 r_3 + r_5)}$	$\frac{3 k^2 (2 r_3 + r_5) + 2 t_2}{(k+k^3)^2 (2 r_3 + r_5) t_2}$	$\frac{i (3 k^2 (2 r_3 + r_5) + 2 t_2)}{k (1+k^2)^2 (2 r_3 + r_5) t_2}$	0	0	0	0
$\tau_{1^+}^{\#1}{}^\dagger{}^{\alpha\beta}$	$\frac{i \sqrt{2}}{k (1+k^2) (2 r_3 + r_5)}$	$-\frac{i (3 k^2 (2 r_3 + r_5) + 2 t_2)}{k (1+k^2)^2 (2 r_3 + r_5) t_2}$	$\frac{3 k^2 (2 r_3 + r_5) + 2 t_2}{(1+k^2)^2 (2 r_3 + r_5) t_2}$	0	$\frac{2}{k^2 (r_3 + 2 r_5)}$	0	0
$\sigma_{1^-}^{\#1}{}^\dagger{}^{\alpha}$	0	0	0	0	0	0	0
$\sigma_{1^-}^{\#2}{}^\dagger{}^{\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#1}{}^\dagger{}^{\alpha}$	0	0	0	0	0	0	0
$\tau_{1^-}^{\#2}{}^\dagger{}^{\alpha}$	0	0	0	0	0	0	0

	$\omega_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^+}^{\#2}{}_{\alpha\beta}$	$f_{1^+}^{\#1}{}_{\alpha\beta}$	$\omega_{1^-}^{\#1}{}_{\alpha}$	$\omega_{1^-}^{\#2}{}_{\alpha}$	$f_{1^-}^{\#1}{}_{\alpha}$	$f_{1^-}^{\#2}{}_{\alpha}$
$\omega_{1^+}^{\#1}{}^\dagger{}^{\alpha\beta}$	$k^2 (2 r_3 + r_5) + \frac{2 t_2}{3}$	$\frac{\sqrt{2} t_2}{3}$	$\frac{1}{3} i \sqrt{2}\, k t_2$	0	0	0	0
$\omega_{1^+}^{\#2}{}^\dagger{}^{\alpha\beta}$	$\frac{\sqrt{2} t_2}{3}$	$\frac{t_2}{3}$	$\frac{i k t_2}{3}$	0	0	0	0
$f_{1^+}^{\#1}{}^\dagger{}^{\alpha\beta}$	$-\frac{1}{3} i \sqrt{2}\, k t_2$	$-\frac{1}{3} i k t_2$	$\frac{k^2 t_2}{3}$	0	0	0	0
$\omega_{1^-}^{\#1}{}^\dagger{}^{\alpha}$	0	0	0	$\frac{1}{2} k^2 (r_3 + 2 r_5)$	0	0	0
$\omega_{1^-}^{\#2}{}^\dagger{}^{\alpha}$	0	0	0	0	0	0	0
$f_{1^-}^{\#1}{}^\dagger{}^{\alpha}$	0	0	0	0	0	0	0
$f_{1^-}^{\#2}{}^\dagger{}^{\alpha}$	0	0	0	0	0	0	0

	$\omega_{0^+}^{\#1}$	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_{0^-}^{\#1}$
$\omega_{0^+}^{\#1}{}^\dagger$	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	$k^2 r_2 + t_2$

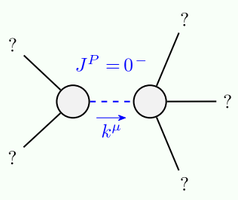
	$\omega_{2^+}^{\#1}{}_{\alpha\beta}$	$f_{2^+}^{\#1}{}_{\alpha\beta}$	$\omega_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\omega_{2^+}^{\#1}{}^\dagger{}^{\alpha\beta}$	$-\frac{3 k^2 r_3}{2}$	0	0
$f_{2^+}^{\#1}{}^\dagger{}^{\alpha\beta}$	0	0	0
$\omega_{2^-}^{\#1}{}^\dagger{}^{\alpha\beta\chi}$	0	0	0

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^-}^{\#1}$
$\sigma_{0^+}^{\#1}{}^\dagger$	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	$\frac{1}{k^2 r_2 + t_2}$

	$\sigma_{2^+}^{\#1}{}_{\alpha\beta}$	$\tau_{2^+}^{\#1}{}_{\alpha\beta}$	$\sigma_{2^-}^{\#1}{}_{\alpha\beta\chi}$
$\sigma_{2^+}^{\#1}{}^\dagger{}^{\alpha\beta}$	$-\frac{2}{3 k^2 r_3}$	0	0
$\tau_{2^+}^{\#1}{}^\dagger{}^{\alpha\beta}$	0	0	0
$\sigma_{2^-}^{\#1}{}^\dagger{}^{\alpha\beta\chi}$	0	0	0

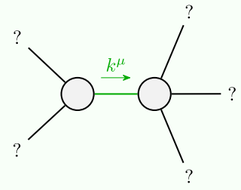
Source constraints

SO(3) irreps	#
$\tau_{0^+}^{\#2} == 0$	1
$\tau_{0^+}^{\#1} == 0$	1
$\sigma_{0^+}^{\#1} == 0$	1
$\tau_{1^-}^{\#2\,\alpha} == 0$	3
$\tau_{1^-}^{\#1\,\alpha} == 0$	3
$\sigma_{1^-}^{\#2\,\alpha} == 0$	3
$\tau_{1^+}^{\#1\,\alpha\beta} + i\, k\, \sigma_{1^+}^{\#2\,\alpha\beta} == 0$	3
$\sigma_{2^-}^{\#1\,\alpha\beta\chi} == 0$	5
$\tau_{2^+}^{\#1\,\alpha\beta} == 0$	5
Total #:	25



Massive particle

Pole residue:	$-\frac{1}{r_2} > 0$
Polarisations:	1
Square mass:	$-\frac{t_2}{r_2} > 0$
Spin:	0
Parity:	Odd



Quadratic pole

Pole residue:	$-\frac{1}{r_3 (2 r_3 + r_5) (r_3 + 2 r_5) p^2} > 0$
Polarisations:	2

$$r_2 < 0 \,\&\&\, r_3 < 0 \,\&\&\, r_5 < -\frac{r_3}{2} \,\&\&\, t_2 > 0 \,\|\, r_2 < 0 \,\&\&\, r_3 < 0 \,\&\&\, r_5 > -2\, r_3 \,\&\&\, t_2 > 0 \,\|\, r_2 < 0 \,\&\&\, r_3 > 0 \,\&\&\, -2\, r_3 < r_5 < -\frac{r_3}{2} \,\&\&\, t_2 > 0$$