Top-left table

	$\sigma^{\#1}_{1^+\alpha\beta}$	$\sigma^{\#2}_{1^+\alpha\beta}$	$\tau^{\#1}_{1^+\alpha\beta}$	$\sigma^{\#1}_{1^-\alpha}$	$\sigma^{\#2}_{1^-\alpha}$	$\tau^{\#1}_{1^-\alpha}$	$\tau^{\#2}_{1^-\alpha}$
$\sigma^{\#1}_{1^+}\dagger^{\alpha\beta}$	0	$\dfrac{2\sqrt2}{(\alpha_0-4\beta_1)(1+k^2)}$	$\dfrac{2i\sqrt2\,k}{(\alpha_0-4\beta_1)(1+k^2)}$	0	0	0	0
$\sigma^{\#2}_{1^+}\dagger^{\alpha\beta}$	$\dfrac{2\sqrt2}{(\alpha_0-4\beta_1)(1+k^2)}$	$-\dfrac{2}{(\alpha_0-4\beta_1)(1+k^2)^2}$	$-\dfrac{2i\,k}{(\alpha_0-4\beta_1)(1+k^2)^2}$	0	0	0	0
$\tau^{\#1}_{1^+}\dagger^{\alpha\beta}$	$-\dfrac{2i\sqrt2\,k}{(\alpha_0-4\beta_1)(1+k^2)}$	$\dfrac{2i\,k}{(\alpha_0-4\beta_1)(1+k^2)^2}$	$-\dfrac{2k^2}{(\alpha_0-4\beta_1)(1+k^2)^2}$	0	0	0	0
$\sigma^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	$-\dfrac{2\sqrt2}{(\alpha_0-4\beta_1)(1+2k^2)}$	0	$-\dfrac{4i\,k}{(\alpha_0-4\beta_1)(1+2k^2)}$
$\sigma^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$-\dfrac{2\sqrt2}{(\alpha_0-4\beta_1)(1+2k^2)}$	$-\dfrac{2}{(\alpha_0-4\beta_1)(1+2k^2)^2}$	0	$-\dfrac{2i\sqrt2\,k}{(\alpha_0-4\beta_1)(1+2k^2)^2}$
$\tau^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	0	0	0
$\tau^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\dfrac{4i\,k}{(\alpha_0-4\beta_1)(1+2k^2)}$	$\dfrac{2i\sqrt2\,k}{(\alpha_0-4\beta_1)(1+2k^2)^2}$	0	$-\dfrac{4k^2}{(\alpha_0-4\beta_1)(1+2k^2)^2}$

Middle-left table

	$\omega^{\#1}_{1^+\alpha\beta}$	$\omega^{\#2}_{1^+\alpha\beta}$	$f^{\#1}_{1^+\alpha\beta}$	$\omega^{\#1}_{1^-\alpha}$	$\omega^{\#2}_{1^-\alpha}$	$f^{\#1}_{1^-\alpha}$	$f^{\#2}_{1^-\alpha}$
$\omega^{\#1}_{1^+}\dagger^{\alpha\beta}$	$\tfrac14(\alpha_0-4\beta_1)$	$\dfrac{\alpha_0-4\beta_1}{2\sqrt2}$	$\dfrac{i(\alpha_0-4\beta_1)k}{2\sqrt2}$	0	0	0	0
$\omega^{\#2}_{1^+}\dagger^{\alpha\beta}$	$\dfrac{\alpha_0-4\beta_1}{2\sqrt2}$	0	0	0	0	0	0
$f^{\#1}_{1^+}\dagger^{\alpha\beta}$	$-\dfrac{i(\alpha_0-4\beta_1)k}{2\sqrt2}$	0	0	0	0	0	0
$\omega^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	$\tfrac14(\alpha_0-4\beta_1)$	$-\dfrac{\alpha_0-4\beta_1}{2\sqrt2}$	0	$-\tfrac12\,i\,(\alpha_0-4\beta_1)k$
$\omega^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$-\dfrac{\alpha_0-4\beta_1}{2\sqrt2}$	0	0	0
$f^{\#1}_{1^-}\dagger^{\alpha}$	0	0	0	0	0	0	0
$f^{\#2}_{1^-}\dagger^{\alpha}$	0	0	0	$\tfrac12\,i\,(\alpha_0-4\beta_1)k$	0	0	0

Middle small table ($2^\pm$)

	$\omega^{\#1}_{2^-\alpha\beta\chi}$	$f^{\#1}_{2^+\alpha\beta}$	$\omega^{\#1}_{2^+\alpha\beta}$
$\omega^{\#1}_{2^+}\dagger^{\alpha\beta}$	0	$-\dfrac{i(\alpha_0-4\beta_1)k}{2\sqrt2}$	$-\dfrac{\alpha_0}{4}+\beta_1$
$f^{\#1}_{2^+}\dagger^{\alpha\beta}$	0	$2\beta_1 k^2$	$\dfrac{i(\alpha_0-4\beta_1)k}{2\sqrt2}$
$\omega^{\#1}_{2^-}\dagger^{\alpha\beta\chi}$	$-\dfrac{\alpha_0}{4}+\beta_1$	0	0

Top-right table ($2^\pm$ sources)

	$\sigma^{\#1}_{2^+\alpha\beta}$	$\tau^{\#1}_{2^+\alpha\beta}$	$\sigma^{\#1}_{2^-\alpha\beta\chi}$
$\sigma^{\#1}_{2^+}\dagger^{\alpha\beta}$	$-\dfrac{16\beta_1}{\alpha_0^2-4\alpha_0\beta_1}$	$\dfrac{2i\sqrt2}{\alpha_0 k}$	0
$\tau^{\#1}_{2^+}\dagger^{\alpha\beta}$	$-\dfrac{2i\sqrt2}{\alpha_0 k}$	$\dfrac{2}{\alpha_0 k^2}$	0
$\sigma^{\#1}_{2^-}\dagger^{\alpha\beta\chi}$	0	0	$\dfrac{1}{-\frac{\alpha_0}{4}+\beta_1}$

Source constraints

SO(3) irreps	#
$\tau^{\#2}_{0^+}==0$	1
$\tau^{\#2\,\alpha}_{1^-}+2i\,k\,\sigma^{\#2\,\alpha}_{1^-}==0$	3
$\tau^{\#1\,\alpha}_{1^-}==0$	3
$\tau^{\#1\,\alpha\beta}_{1^+}+i\,k\,\sigma^{\#2\,\alpha\beta}_{1^+}==0$	3
Total #:	10

Bottom-middle table ($0^\pm$ fields)

	$\omega^{\#1}_{0^+}$	$f^{\#1}_{0^+}$	$f^{\#2}_{0^+}$	$\omega^{\#1}_{0^-}$
$\omega^{\#1}_{0^+}\dagger$	$\tfrac12(\alpha_0-4\beta_1)$	$-\dfrac{i(\alpha_0-4\beta_1)k}{\sqrt2}$	0	0
$f^{\#1}_{0^+}\dagger$	$\dfrac{i(\alpha_0-4\beta_1)k}{\sqrt2}$	$-4\beta_1 k^2$	0	0
$f^{\#2}_{0^+}\dagger$	0	0	0	0
$\omega^{\#1}_{0^-}\dagger$	0	0	0	$\dfrac{\alpha_0}{2}-2\beta_1+\alpha_3 k^2$

Bottom-right table ($0^\pm$ sources)

	$\sigma^{\#1}_{0^+}$	$\tau^{\#1}_{0^+}$	$\tau^{\#2}_{0^+}$	$\sigma^{\#1}_{0^-}$
$\sigma^{\#1}_{0^+}\dagger$	$\dfrac{8\beta_1}{\alpha_0^2-4\alpha_0\beta_1}$	$-\dfrac{i\sqrt2}{\alpha_0 k}$	0	0
$\tau^{\#1}_{0^+}\dagger$	$\dfrac{i\sqrt2}{\alpha_0 k}$	$-\dfrac{1}{\alpha_0 k^2}$	0	0
$\tau^{\#2}_{0^+}\dagger$	0	0	0	0
$\sigma^{\#1}_{0^-}\dagger$	0	0	0	$\dfrac{2}{\alpha_0-4\beta_1+2\alpha_3 k^2}$

Lagrangian density

$$
\begin{aligned}
\mathcal{L} =\ & -\tfrac{1}{2}\alpha_0\,\omega_{\alpha\chi\beta}\,\omega^{\alpha\beta\chi}{}_\alpha
- \tfrac{1}{2}\alpha_0\,\omega_\alpha{}^{\chi}{}_\beta\,\omega^{\alpha\beta}{}_\chi
+ 2\beta_1\,\omega_{\alpha\chi}{}^{\chi}\,\partial_\beta f^{\alpha\beta}
- 2\beta_1\,\omega_\alpha{}^{\chi}{}_\beta\,\partial_\chi f^{\alpha\beta} \\
& - \alpha_0\,f^{\alpha\beta}\,\partial_\beta\omega_\alpha{}^{\chi}{}_\chi
+ 2\beta_1\,\omega_\beta{}^{\delta}{}_\delta\,\partial_\chi f^{\alpha}{}_\alpha
- 2\beta_1\,\omega_\delta{}^{\delta}{}_\chi\,\partial_\beta f^{\alpha\chi}{}_\alpha
+ \alpha_0\,\partial^\alpha\omega^{\beta\chi}{}_\chi\,\partial_\beta\omega_{\alpha}{}^{\delta}{}_\delta \\
& + \tfrac{2}{3}\alpha_3\,\partial^\alpha\omega^{\beta\chi\delta}\,\partial_\beta\omega_{\chi\delta\alpha}
+ 2\beta_1\,\omega_\beta{}^{\delta}{}_\delta\,\partial_\chi f^{\alpha\chi}{}_\alpha
+ 2\beta_1\,\omega_\delta{}^{\delta}{}_\chi\,\partial_\beta f^{\alpha\beta}
- 2\beta_1\,\omega_\chi{}^{\chi\delta}\,\partial_\delta f^{\alpha}{}_\alpha \\
& + \alpha_0\,f^{\alpha\beta}\,\partial_\chi\omega_\alpha{}^{\chi}{}_\beta
+ 4\beta_1\,\omega_{\alpha\chi\beta}\,\partial^\chi f^{\alpha\beta}
+ \beta_1\,\partial^\chi f^{\alpha\beta}\,\partial_\chi f_{\alpha\beta}
+ 4\beta_1\,\partial_\beta f_\alpha{}^{\delta}\,\partial_\delta f^{\alpha\beta} \\
& + \tfrac{2}{3}\alpha_3\,\partial_\chi\omega^{\chi\zeta\alpha}\,\partial^\chi\omega_{\zeta\alpha}
+ \tfrac{1}{3}\alpha_3\,\partial_\chi\omega^{\zeta\chi\alpha}\,\partial^\chi\omega_{\zeta\alpha}
- \tfrac{2}{3}\alpha_3\,\partial_\beta\omega_{\zeta\alpha}{}^{\chi}\,\partial_\chi\omega^{\zeta\beta\alpha} \\
& - \tfrac{1}{3}\alpha_3\,\partial_\beta\omega_{\zeta\alpha}{}^{\chi}\,\partial_\chi\omega^{\beta\zeta\alpha}
- \beta_1\,\partial^\chi f^{\alpha\beta}\,\partial_\zeta f_{\beta\chi}
- \beta_1\,\partial^\chi f_\zeta{}^{\beta}\,\partial^\zeta f_{\beta\chi}
+ \beta_1\,\partial^\chi f_{\alpha\zeta}\,\partial^\zeta f^{\alpha}{}_\chi
- \beta_1\,\partial^\chi f_{\zeta\delta}\,\partial^\delta f^{\zeta}{}_\chi
\end{aligned}
$$

Added source term: $f^{\alpha\beta}\,\tau_{\alpha\beta} + \omega^{\alpha\beta\chi}\,\sigma_{\alpha\beta\chi}$

Bottom diagrams

Massive particle ($J^P = 0^-$, $\vec{k}^\mu$)

Pole residue:	$-\dfrac{1}{\alpha_3} > 0$
Polarisations:	1
Square mass:	$-\dfrac{\alpha_0-4\beta_1}{2\alpha_3} > 0$
Spin:	0
Parity:	Odd

Quadratic pole (k^μ)

Pole residue:	$\dfrac{1}{\alpha_0} > 0$
Polarisations:	2

Unitarity conditions

$\alpha_0 > 0$ && $\alpha_3 < 0$ && $\beta_1 < \dfrac{\alpha_0}{4}$