$\mathcal{T}_{1^{-}}^{#1} + ^{\alpha}$	$\Delta_{1}^{#6} \uparrow^{\alpha}$	$\Delta_{1}^{#5} + \alpha$	$\Delta_{1}^{\#4} + ^{\alpha}$	$\Delta_{1}^{#3} + \alpha$	$\Delta_{1}^{#2} + \alpha$	$\Delta_{1}^{#1} \uparrow^{\alpha}$	$\Delta_{1+}^{#3} + \alpha \beta$	$\Delta_{1+}^{#2} \dagger^{\alpha\beta}$	$\Delta_{1^+}^{\#1} + ^{\alpha\beta}$	
0	0	0	0	0	0	0	0	$-\frac{2\sqrt{2}}{a_0}$	0	$\Delta_{1}^{\#1}{}_{lphaeta}$
0	0	0	0	0	0	0	0	$\frac{2}{a_0}$	$-\frac{2\sqrt{2}}{a_0}$	$\Delta_{1}^{\#1}{}_{\alpha\beta} \ \Delta_{1}^{\#2}{}_{\alpha\beta} \ \Delta_{1}^{\#3}{}_{\alpha\beta}$
0	0	0	0	0	0	0	$\frac{4}{a_0}$	0	0	$\Delta_{1}^{\#3}{}_{\alpha\beta}$
$\frac{2i\sqrt{2}k}{2a_0+a_0k^2}$	0	$\frac{\sqrt{\frac{2}{3}} k^2}{2a_0+a_0 k^2}$	0	$-\frac{2k^2}{\sqrt{3}(2a_0+a_0k^2)}$	$\frac{\sqrt{2} (4+k^2)}{a_0 (2+k^2)}$	0	0	0	0	$\Delta_{1^- \; \alpha}^{\#1}$
$\frac{ik(4+k^2)}{a_0(2+k^2)^2}$	$-\frac{k^2}{\sqrt{6}(2a_0+a_0k^2)}$	$\frac{k^2 (5+2k^2)}{\sqrt{3} a_0 (2+k^2)^2}$	$-\frac{\sqrt{\frac{5}{6}} k^2}{4 a_0 + 2 a_0 k^2}$	$\frac{k^2 (-2+k^2)}{2 \sqrt{6} a_0 (2+k^2)^2}$	$\frac{(4+k^2)^2}{2a_0(2+k^2)^2}$	$\frac{\sqrt{2}(4+k^2)}{a_0(2+k^2)}$	0	0	0	$\Delta_{1^- \ \alpha}^{\# 2}$
$-\frac{ik(6+5k^2)}{\sqrt{6}a_0(2+k^2)^2}$	$ \begin{array}{c c} & 1 \\ -2 a_0 - \frac{8 a_0}{2 + 3 k^2} \end{array} $	$\frac{-2+k^2}{3\sqrt{2}a_0(2+k^2)^2}$	$\frac{\sqrt{5} (10+3 k^2)}{12 a_0 (2+k^2)}$	$-\frac{76+52k^2+3k^4}{12a_0(2+k^2)^2}$	$\frac{k^2 (-2+k^2)}{2 \sqrt{6} a_0 (2+k^2)^2}$	$-\frac{2k^2}{\sqrt{3} a_0 (2+k^2)}$	0	0	0	$\Delta_{1^-\alpha}^{\#3}$
$\frac{i\sqrt{5}k}{2a_0+a_0k^2}$	$-\frac{\sqrt{5}}{6a_0}$	$-\frac{\sqrt{\frac{5}{2}}}{6a_0+3a_0k^2}$	$\frac{1}{12 a_0}$	$\frac{\sqrt{5} (10+3k^2)}{12 a_0 (2+k^2)}$	$-\frac{\sqrt{5} k^2}{4a_0+2a_0 k^2}$	0	0	0	0	$\Delta_{1^-~\alpha}^{\#4}$
$-\frac{2ik(3+k^2)}{\sqrt{3}a_0(2+k^2)^2}$	$-\frac{\sqrt{2}(7+3k^2)}{3a_0(2+k^2)}$	$\frac{2(17+14k^2+3k^4)}{3a_0(2+k^2)^2}$	$\sqrt{\frac{5}{2}}$ $6a_0+3a_0k^2$	$\frac{-2+k^2}{3\sqrt{2}a_0(2+k^2)^2}$	$\frac{k^2 (5+2k^2)}{\sqrt{3} a_0 (2+k^2)^2}$	$\frac{\sqrt{\frac{2}{3}} k^2}{a_0 (2+k^2)}$	0	0	0	$\Delta_{1^- \ \alpha}^{\# 5}$
$\frac{i\sqrt{\frac{2}{3}}k}{2a_0+a_0k^2}$	5 3 <i>a</i> 0	$\frac{\sqrt{2}(7+3k^2)}{3a_0(2+k^2)}$	$-\frac{\sqrt{5}}{6a_0}$	$\frac{1}{-2a_0 - \frac{8a_0}{2+3k^2}}$	$-\frac{k^2}{\sqrt{6} a_0 (2+k^2)}$	0	0	0	0	$\Delta_{1^{-}\ \alpha}^{\#6}$
$\frac{2k^2}{a_0(2+k^2)^2}$	$-\frac{i\sqrt{\frac{2}{3}}k}{a_0(2+k^2)}$	$\frac{2ik(3+k^2)}{\sqrt{3}a_0(2+k^2)^2}$	$-\frac{i\sqrt{5}k}{a_0(2+k^2)}$	$\frac{ik(6+5k^2)}{\sqrt{6} a_0(2+k^2)^2}$	$-\frac{ik(4+k^2)}{a_0(2+k^2)^2}$	$-\frac{2i\sqrt{2}k}{a_0(2+k^2)}$	0	0	0	${\mathcal T}_{1^-lpha}^{\#1}$

$\Delta_{0^{-}}^{#1}$ †	T ₀ ^{#2} †	$\mathcal{T}_{0^{+}}^{#1}$ †	$\Delta_{0^{+4}}^{#4}$ †	$\Delta_{0^{+3}}^{#3}$ †	$\Delta_{0}^{#2}$ †	$\Delta_{0^{+}}^{*1}$ †	
0	$\frac{2i\sqrt{6}k}{16a_0+3a_0k^2}$	2 i √2 a0 k	$-\frac{8}{\sqrt{3}(16a_0+3a_0k^2)}$	$-\frac{4\sqrt{\frac{2}{3}}}{16a_0+3a_0k^2}$	$\frac{4\sqrt{6}}{16a_0 + 3a_0 k^2}$	0	$\Delta_{0}^{\#1}$
0	$-\frac{72ik}{a_0(16+3k^2)^2}$	$\frac{8i\sqrt{3}}{16a_0k+3a_0k^3}$	$\frac{8\sqrt{2}(10+3k^2)}{a_0(16+3k^2)^2}$	$\frac{16(19+3k^2)}{a_0(16+3k^2)^2}$	$-\frac{144}{a_0 (16+3 k^2)^2}$	$4\sqrt{6}$ $16a_0+3a_0k^2$	$\Delta_{0}^{#2}$
0	$\frac{8ik(19+3k^2)}{a_0(16+3k^2)^2}$	$\frac{8i}{\sqrt{3}(16a_0k + 3a_0k^3)}$	$\frac{8\sqrt{2}(22+3k^2)}{3a_0(16+3k^2)^2}$	$\frac{16(35+6k^2)}{3a_0(16+3k^2)^2}$	$\frac{16(19+3k^2)}{a_0(16+3k^2)^2}$	$-\frac{4\sqrt{\frac{2}{3}}}{16a_0+3a_0k^2}$	$\Delta_0^{\#3}$
0	$-\frac{4i\sqrt{2}k(10+3k^2)}{a_0(16+3k^2)^2}$	$\frac{8i\sqrt{\frac{2}{3}}}{16a_0k+3a_0k^3}$	$\frac{32(13+3k^2)}{3a_0(16+3k^2)^2}$	$\frac{8\sqrt{2}(22+3k^2)}{3a_0(16+3k^2)^2}$	$-\frac{8\sqrt{2}(10+3k^2)}{a_0(16+3k^2)^2}$	$-\frac{8}{\sqrt{3} (16 a_0 + 3 a_0 k^2)}$	$\Delta_0^{\#4}$
0	$\frac{4\sqrt{3}}{16a_0 + 3a_0 k^2}$	$\frac{4}{a_0 k^2}$	$ 8i \sqrt{\frac{2}{3}} 16a_0 k + 3a_0 k^3 $	$\frac{8i}{\sqrt{3} (16a_0k + 3a_0k^3)}$	$\frac{8i\sqrt{3}}{16a_0k+3a_0k^3}$	$-\frac{2i\sqrt{2}}{a_0k}$	${\mathcal T}^{\#1}_{0^+}$
0	$-\frac{36 k^2}{a_0 (16+3 k^2)^2}$	$\frac{4\sqrt{3}}{16a_0+3a_0k^2}$	$\frac{4i\sqrt{2}k(10+3k^2)}{a_0(16+3k^2)^2}$	$-\frac{8ik(19+3k^2)}{a_0(16+3k^2)^2}$	$\frac{72ik}{a_0(16+3k^2)^2}$	$-\frac{2i\sqrt{6}k}{16a_0+3a_0k^2}$	T ₀ ^{#2}
$-\frac{2}{a_0}$	0	0	0	0	0	0	$\Delta_{0^{\bar{-}}}^{\#1}$

$\Gamma_{2^{-}}^{#2} \dagger^{\alpha\beta\chi}$	$\Gamma_{2}^{#1} \dagger^{\alpha\beta\chi}$	$h_{2+}^{\#1} \dagger^{\alpha\beta}$	$\Gamma_{2+}^{#3} \dagger^{\alpha\beta}$	$\Gamma_{2+}^{#2} + \alpha \beta$	$\Gamma_{2+}^{*1} + \alpha \beta$	
0	0	$-\frac{ia_0k}{4\sqrt{2}}$	0	0	$\frac{a_0}{4}$	$\Gamma_{2}^{++}\alpha\beta$
0	0	$-\frac{i a_0 k}{4 \sqrt{3}}$	0	$-\frac{a_0}{2}$	0	$\Gamma_{2}^{\#2} + \alpha\beta$
0	0	$\frac{i a_0 k}{4 \sqrt{6}}$	$\frac{a_0}{4}$	0	0	$\Gamma_{2}^{*+}\alpha\beta$
0	0	0	$-\frac{ia_0k}{4\sqrt{6}}$	$\frac{i a_0 k}{4 \sqrt{3}}$	$\frac{i a_0 k}{4 \sqrt{2}}$	$h_{2}^{++}\alpha\beta$
0	$\frac{a_0}{4}$	0	0	0	0	$\Gamma_{2^{-}\alpha\beta\chi}^{\#1}$
$\frac{a_0}{4}$	0	0	0	0	0	$\Gamma_{2^{-}}^{\#2}\alpha\beta\chi$

$\Delta_{3}^{\#1}{}_{\alpha\beta\chi}$				$\Gamma_{3}^{\#1}_{\alpha\beta\chi}$
$^{#_1}_{3}$ † $^{\alpha\beta\chi}$	$-\frac{2}{a_0}$		$\Gamma_3^{\#1} \dagger^{\alpha\beta\chi}$	$-\frac{a_0}{2}$

	$\Delta_{2}^{\#1}\alpha\beta$	$\Delta_{2}^{\#2} \alpha \beta$	$\Delta_{2}^{\#3} \alpha \beta$	$\mathcal{T}_{2}^{\#1}_{\alpha\beta}$	$\Delta_{2}^{\#1}_{\alpha\beta\chi}$	$\Delta_{2}^{\#2}_{\alpha\beta\chi}$
$\Delta_{2}^{#1} \dagger^{\alpha\beta}$	0	$\frac{2\sqrt{\frac{2}{3}}}{a_0}$	$\frac{4}{\sqrt{3} a_0}$	$\frac{4i\sqrt{2}}{a_0k}$	0	0
$\Delta_{2}^{\#2} \dagger^{\alpha\beta}$	$\frac{2\sqrt{\frac{2}{3}}}{a_0}$	$-\frac{8}{3a_0}$	$-\frac{2\sqrt{2}}{3a_0}$	$-\frac{4i}{\sqrt{3} a_0 k}$	0	0
$\Delta_{2}^{#3} \dagger^{\alpha\beta}$	$\frac{4}{\sqrt{3}}a_0$	$-\frac{2\sqrt{2}}{3a_0}$	8 3 <i>a</i> ₀	$-\frac{4i\sqrt{\frac{2}{3}}}{a_0k}$	0	0
${\mathcal T}_2^{\sharp 1} \dagger^{lphaeta}$	$-\frac{4i\sqrt{2}}{a_0k}$	$\frac{4i}{\sqrt{3} a_0 k}$	$\frac{4i\sqrt{\frac{2}{3}}}{a_0k}$	$-\frac{8}{a_0 k^2}$	0	0
$\Delta_2^{#1} \dagger^{\alpha\beta\chi}$	0	0	0	0	$\frac{4}{a_0}$	0
$\Delta_2^{\#2} + \alpha \beta \chi$	0	0	0	0	0	4

	$\Gamma_{0}^{\#1}$	Γ ₀ ^{#2}	Γ ₀ ^{#3}	Γ ₀ ^{#4}	$h_{0}^{\#1}$	$h_{0}^{\#2}$	Γ ₀ -
$\Gamma_{0}^{\#1}$ †	$-\frac{a_0}{2}$	0	0	0	$-\frac{i a_0 k}{2 \sqrt{2}}$	0	0
$\Gamma_{0}^{\#2}$ †	0	0	<u>a₀</u> 2	$-\frac{a_0}{2\sqrt{2}}$	0	0	0
Γ ₀ ^{#3} †	0	<u>a₀</u> 2	0	$-\frac{a_0}{2\sqrt{2}}$	$\frac{i a_0 k}{4 \sqrt{3}}$	$-\frac{1}{4}ia_0k$	0
Γ ₀ ^{#4} †	0	$-\frac{a_0}{2\sqrt{2}}$	$-\frac{a_0}{2\sqrt{2}}$	<u>a₀</u> 2	$-\frac{i a_0 k}{4 \sqrt{6}}$	$\frac{i a_0 k}{4 \sqrt{2}}$	0
$h_0^{\#1}$ †	$\frac{i a_0 k}{2 \sqrt{2}}$	0	$-\frac{i a_0 k}{4 \sqrt{3}}$	$\frac{i a_0 k}{4 \sqrt{6}}$	0	0	0
$h_0^{\#2}$ †	0	0	<u>i a 0 k</u> 4	$-\frac{i a_0 k}{4 \sqrt{2}}$	0	0	0
Γ ₀ -1 †	0	0	0	0	0	0	$-\frac{a_0}{2}$

 $\frac{i a_0 k}{4 \sqrt{2}}$

 $\frac{1}{4} i \sqrt{\frac{5}{6}} a_0 k$

 $-\frac{a_0}{6\sqrt{2}}$

 $\sqrt{\frac{5}{2}}$

<u>a</u>0 3

 $\frac{\sqrt{5} a_0}{6}$

 $\sqrt{\frac{5}{2}}a_0$

 $\begin{array}{c|c}
-\frac{a_0}{6} \\
-\frac{\sqrt{5} a_0}{6} \\
\hline
\frac{a_0}{6 \sqrt{2}} \\
\frac{5a_0}{12}
\end{array}$

 $\frac{ia_0k}{4\sqrt{6}}$ $-\frac{1}{4}\bar{l}\sqrt{\frac{5}{6}}a_0k$ $\frac{ia_0k}{4\sqrt{3}}$ $\frac{ia_0k}{4\sqrt{6}}$

 $\begin{array}{c}
\sqrt{5} a_0 \\
6 \\
3
\end{array}$

 $0 \frac{a_0}{2\sqrt{2}}$

 $\frac{a_0}{4}$

 $\frac{a_0}{2\sqrt{2}}$

 $\frac{i a_0 k}{4 \sqrt{2}}$

Γ_{1-α} 0

Γ₁- α 0

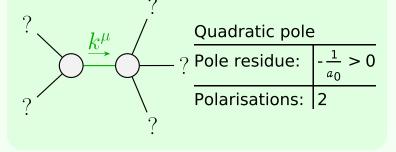
 $\Gamma_{1^{-}\alpha}^{\#6}$

Source constraints		La
SO(3) irreps	#	- 1
$2\mathcal{T}_{0^{+}}^{\#2} - \bar{\imath}k\Delta_{0^{+}}^{\#2} == 0$	1	$\frac{1}{2}a$
$\Delta_{0^{+}}^{\#3} + 2 \Delta_{0^{+}}^{\#4} + 3 \Delta_{0^{+}}^{\#2} == 0$	1	4 1
$6 \mathcal{T}_{1}^{\#1\alpha} - i k (3 \Delta_{1}^{\#2\alpha} - \Delta_{1}^{\#5\alpha} + \Delta_{1}^{\#3\alpha}) == 0$	3	2 Ad
$2 \Delta_{1}^{\#6\alpha} + \Delta_{1}^{\#4\alpha} + 2 \Delta_{1}^{\#5\alpha} + \Delta_{1}^{\#3\alpha} == 0$	3	Au
Total #:	8	

Lagrangian density

 $-\frac{1}{2} a_0 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\chi\alpha} + \frac{1}{2} a_0 \Gamma^{\alpha\beta}_{\alpha} \Gamma^{\chi}_{\beta\chi} - \frac{1}{4} a_0 h^{\chi}_{\chi} \partial_{\beta} \Gamma^{\alpha\beta}_{\alpha} + \frac{1}{4} a_0 h^{\chi}_{\chi} \partial_{\beta} \Gamma^{\alpha\beta}_{\alpha} - \frac{1}{2} a_0 h_{\alpha\chi} \partial_{\beta} \Gamma^{\alpha\beta\chi} + \frac{1}{2} a_0 h_{\beta\chi} \partial^{\chi} \Gamma^{\alpha\beta}_{\alpha}$

Added source term: $h^{\alpha\beta} \mathcal{T}_{\alpha\beta} + \Gamma^{\alpha\beta\chi} \Delta_{\alpha\beta\chi}$



Unitarity conditions $a_0 < 0$

(No massive particles)