	∧ #1	Λ#2	<b>∧</b> #3	<b>.</b> #1	a #2	<b>^</b> #3	a #4	<b>^</b> #5	<b>4</b> 6	<b>~</b> #1
Г	$\Delta_{1}^{\#1}{}_{\alpha\beta}$ $\frac{4}{3} \left( -\frac{1}{a_0 + 4a_1 - 4a_2} + (a_0 - 4a_1 - 2a_2 - 3a_3 + 16a_6 - 4a_7 - 2a_9) \right)$	$\Delta_{1+\alpha\beta}^{\#2}$	$\Delta_{1}^{#3}{}_{lphaeta}$	$\Delta_{1^{-}\alpha}^{\#1}$	$\Delta_{1}^{\#2}{}_{lpha}$	Δ <sub>1</sub> - α	$\Delta_{1^{-}}^{\#4}{}_{lpha}$	$\Delta_{1}^{\#5}{}_{lpha}$	$\Delta_1^{\#6}{}_{lpha}$	$\mathcal{T}_{1}^{\sharp 1}{}_{lpha}$
$\Delta_1^{\#1} \dagger^{lphaeta}$	$\frac{1}{3} \left( -\frac{1}{a_0 + 4a_1 - 4a_2} + (a_0 - 4a_1 - 2a_2 - 3a_3 + 10a_6 - 4a_7 - 2a_9) \right) $ $(a_0^2 + (2a_1 + a_2)(2a_1 + a_2 + 3a_3 - 16a_6 + 4a_7) - a_9^2 - a_0(6a_1 + 3a_2 + 3a_3 - 16a_6 + 4a_7 + 2a_9)))$	$\frac{2}{3}\sqrt{2}\left(-\frac{1}{a_0+4a_1-4a_2}+(-2a_0+8a_1+4a_2+6a_3-32a_6+8a_7+4a_9)\right)$ $(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-$ $a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)))$	$\frac{4(2a_1+a_2+a_3)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	0	0	0	0	0
$\Delta_{1}^{\#2} \dagger^{\alpha\beta}$	$ \sqrt{2} \left( -\frac{1}{a_0 + 4a_1 - 4a_2} + (-2a_0 + 8a_1 + 4a_2 + 6a_3 - 32a_6 + 8a_7 + 4a_9) \right)  (a_0^2 + (2a_1 + a_2) (2a_1 + a_2 + 3a_3 - 16a_6 + 4a_7) -  a_9^2 - a_0 (6a_1 + 3a_2 + 3a_3 - 16a_6 + 4a_7 + 2a_9))) $	$-\frac{2}{3(a_0+4a_1-4a_2)} + (8(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9))/$ $(3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-$ $a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)))$	$-((4\sqrt{2}(2a_1 + a_2 + a_9))/$ $(3(a_0^2 + (2a_1 + a_2)(2a_1 + a_2 + 3a_3 - 16a_6 + 4a_7) - a_9^2 -$ $a_0(6a_1 + 3a_2 + 3a_3 - 16a_6 + 4a_7 + 2a_9))))$	0	0	0	0	0	0	0
$\Delta_{1+}^{\#3}\dagger^{\alpha\beta}$	$\frac{4(2a_1+a_2+a_9)}{(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	-((4 $\sqrt{2}$ (2 $a_1 + a_2 + a_9$ ))/ (3 ( $a_0^2 + (2 a_1 + a_2)$ (2 $a_1 + a_2 + 3 a_3 - 16 a_6 + 4 a_7$ ) - $a_9^2$ - $a_0$ (6 $a_1 + 3 a_2 + 3 a_3 - 16 a_6 + 4 a_7 + 2 a_9$ ))))	$\frac{4(a_0-2a_1-a_2)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	0	0	0	0	0
$\Delta_1^{#1}$ † $^{\alpha}$	0	Ο	0	$\frac{4}{3} \left( -\frac{2}{2a_0 + 2a_1 + a_2 + 3a_3} + (a_0 - 4a_1 - 2a_2 - 3a_3 + 16a_6 - 4a_7 - 2a_9) / (a_0^2 + (2a_1 + a_2)(2a_1 + a_2 + 3a_3 - 16a_6 + 4a_7) - a_9^2 - a_0 (6a_1 + 3a_2 + 3a_3 - 16a_6 + 4a_7 + 2a_9)) \right)$	$(4\sqrt{2}(3a_0^2 - 4a_1^2 - a_2^2 - 3a_3(3a_3 + 4(-4a_6 + a_7)) - 6a_3a_9 - a_9^2 - 2a_2(3a_3 + a_9) - 4a_1(a_2 + 3a_3 + a_9) - 6a_0(2a_1 + a_2 + a_3 - 8a_6 + 2a_7 + a_9)))/$ $(3(2a_0 + 2a_1 + a_2 + 3a_3)$ $(a_0^2 + (2a_1 + a_2)(2a_1 + a_2 + 3a_3 - 16a_6 + 4a_7) - a_9^2 - a_0(6a_1 + 3a_2 + 3a_3 - 16a_6 + 4a_7 + 2a_9)))$	0	0	$\frac{4\sqrt{\frac{2}{3}}\left(2a_{1}+a_{2}+a_{9}\right)}{3\left(a_{0}^{2}+\left(2a_{1}+a_{2}\right)\left(2a_{1}+a_{2}+3a_{3}-16a_{6}+4a_{7}\right)-a_{9}^{2}-a_{0}\left(6a_{1}+3a_{2}+3a_{3}-16a_{6}+4a_{7}+2a_{9}\right)\right)}$	$-((4(2a_1+a_2+a_9)))/$ $(3\sqrt{3}(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-(a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))$	
$\Delta_{1}^{#2} \uparrow^{\alpha}$	0	Ο	0	$(4\sqrt{2}(3a_0^2 - 4a_1^2 - a_2^2 - 3a_3(3a_3 + 4(-4a_6 + a_7)) - 6a_3a_9 - a_9^2 - 2a_2(3a_3 + a_9) - 4a_1(a_2 + 3a_3 + a_9) - 6a_0(2a_1 + a_2 + a_3 - 8a_6 + 2a_7 + a_9)))/$ $(3(2a_0 + 2a_1 + a_2 + 3a_3)$ $(a_0^2 + (2a_1 + a_2)(2a_1 + a_2 + 3a_3 - 16a_6 + 4a_7) - a_9^2 - a_0(6a_1 + 3a_2 + 3a_3 - 16a_6 + 4a_7 + 2a_9)))$	$-\frac{4}{3(2a_0+2a_1+a_2+3a_3)} + (8(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9))$ $(3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-$ $a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)))$	0	0	$(8(2a_1 + a_2 + a_9))/$ $(3\sqrt{3}(a_0^2 + (2a_1 + a_2)(2a_1 + a_2 + 3a_3 - 16a_6 + 4a_7) - a_9^2 - a_0(6a_1 + 3a_2 + 3a_3 - 16a_6 + 4a_7 + 2a_9)))$	$-((4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)))/$ $(3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2)$ $a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))))$	2_ 0
$\Delta_1^{#3} \uparrow^{\alpha}$	0	0	0	0	0	$-\frac{5}{18(a_0+4a_6-4a_7)}$	$\frac{\sqrt{5}}{18(a_0 + 4a_6 - 4a_7)}$	0	0	0
$\Delta_1^{#4} \uparrow^{\alpha}$	0	0	0	0	0	$\frac{\sqrt{5}}{18(a_0 + 4a_6 - 4a_7)} = \frac{1}{18(a_0 + a_6 - 4a_7)}$	1	0	0	0
$\Delta_1^{\#5} \uparrow^{\alpha}$	0	0	0	$\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$(8(2a_1 + a_2 + a_9))/$ $(3\sqrt{3}(a_0^2 + (2a_1 + a_2)(2a_1 + a_2 + 3a_3 - 16a_6 + 4a_7) - a_9^2 - a_0(6a_1 + 3a_2 + 3a_3 - 16a_6 + 4a_7 + 2a_9)))$	0	0	$\frac{8(a_0-2a_1-a_2)}{9(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	$\frac{4\sqrt{2}(-a_0+2a_1+a_2)}{9(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_1+a_2)}$	2 2 4 9 ))
$\Delta_1^{\#6} \uparrow^{\alpha}$	0	0	0	-((4 (2 $a_1$ + $a_2$ + $a_9$ ))/ (3 $\sqrt{3}$ ( $a_0^2$ + (2 $a_1$ + $a_2$ ) (2 $a_1$ + $a_2$ + 3 $a_3$ - 16 $a_6$ + 4 $a_7$ ) - $a_9^2$ - $a_0$ (6 $a_1$ + 3 $a_2$ + 3 $a_3$ - 16 $a_6$ + 4 $a_7$ + 2 $a_9$ ))))	$-((4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)))/$ $(3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))))$	0	0	$\frac{4\sqrt{2}\left(-a_{0}+2a_{1}+a_{2}\right)}{9\left(a_{0}^{2}+\left(2a_{1}+a_{2}\right)\left(2a_{1}+a_{2}+3a_{3}-16a_{6}+4a_{7}\right)-a_{9}^{2}-a_{0}\left(6a_{1}+3a_{2}+3a_{3}-16a_{6}+4a_{7}+2a_{9}\right)\right)}$	$\frac{4(a_0-2a_1-a_2)}{9(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_1+a_2)}$	2 <i>a</i> 9)) 0
$\mathcal{T}_1^{\#1} \dagger^{\alpha}$	0	0	0	0	0	0	0	0	0	0

	. 2	. 2					
<u>.</u>	$T_{0^{+2}}^{#2} +$	$T_{0+}^{#1}$ †	$\Delta_{0^{+4}}^{#4}$ †	$\Delta_{0}^{#3}$ †	$\Delta_{0+}^{#2}$ †	$\Delta_{0}^{#1}$ †	
	0	0	0	0	0	$-\frac{4}{2a_0+2a_1+a_2+3a_3}$	$\Delta_0^{\#1}$
	0	0	0	$\frac{1}{6a_0 + 24a_6 - 24a_7}$	$\frac{1}{-6(a_0+4a_6)+24a_7}$	0	$\Delta_0^{\#2}$
	0	0	0	$\frac{1}{-6(a_0+4a_6)+24a_7}$	$\frac{1}{6(a_0 + 4a_6 - 4a_7)}$	0	Δ#3 0+
	0	0	0	0	0		$\Delta_{0}^{\#4}$
	0	$\frac{4}{a_0 k^2}$	0	0	0	0	$\Delta_{0^+}^{\#4} \ \mathcal{T}_{0^+}^{\#1} \ \mathcal{T}_{0^+}^{\#2}$
	0	0	0	0	0	0	T#2
2	0	0	0	0	0	0	$\Delta_{0^-}^{\#1}$

$\Delta_{0^{-}}^{#1}$ †	$\mathcal{T}_{0+}^{#2}$ †	$\mathcal{T}_{0^{+}}^{#1}$	$\Delta_{0+}^{#4}$	Δ <sub>0</sub> <sup>#3</sup> -	Δ <sub>0</sub> <sup>#2</sup> -	$\Delta_{0}^{#1}$ †		
+	+	+	+	+	+	+		
0	0	0	0	0	0	$-\frac{4}{2a_0+2a_1+a_2+3a_3}$	$\Delta_0^{\#1}$	
0	0	0	0	$\frac{1}{6a_0 + 24a_6 - 24a_7}$	$\frac{1}{-6 (a_0 + 4 a_6) + 24 a_7}$	0	$\Delta_0^{\#2}$	
0	0	0	0	$\frac{1}{-6(a_0+4a_6)+24a_7}$	$\frac{1}{6(a_0+4a_6-4a_7)}$	0	$\Delta_{0}^{#3}$	
0	0	0	0	0	0	0	$\Delta_{0}^{#4}$	
0	0	$\frac{4}{a_0 k^2}$	0	0	0	0	$\mathcal{T}_{0^{+}}^{#1}$	
0	0	0	0	0	0	0	$\mathcal{T}_{0^{+}}^{#1} \mathcal{T}_{0^{+}}^{#2}$	
$-\frac{2}{a_0+4(a_1-a_2+3a_1k^2)}$	0	0	0	0	0	0	$\Delta_{0}^{\#1}$	

	0	)	<u> </u>	)	<u> </u>	)	(	)	(	0		0	10+
20	0	,	C		C	o	c	O	¢	0		0	Γ <sub>0</sub> -
41. 41 8	$\Lambda^{\#4\alpha} + \Lambda^{\#3\alpha} = 0$		$\Delta_{1-6}^{\#6\alpha} + \Delta_{1-6}^{\#5\alpha} = 0   3$	7 1 0	$\sigma^{*1\alpha} = 0$	H <sub>0</sub> + 1 JH <sub>0</sub> + 0	۸#3 + ۶ ۸#2 ۵	$\Delta_{0+} == 0$	<b>^</b> #4 <b>O</b>	$\mathcal{T}_{0+}^{*2} = 0$	: <b>#</b> 2	SO(3) irreps	Source constraints
(	υ		ω	C	υ	H	_	-	7	Р		#	

\(\begin{aligned}
\Gamma\_{0}^{#1} + \\
\Gamma\_{0}^{#2} + \\
\Gamma\_{0}^{#1} + \\
\Gamma\_{0}^{#2} + \\
\Gamma\_{0}^{#2} + \\
\Gamma\_{0}^{#1} + \\
\Gamma\_{0}^{

Lagrangian density
$\frac{\frac{2}{3} a_1 \Gamma_{\alpha \chi}^{\chi} \Gamma_{\beta}^{\alpha\beta} + \frac{1}{3} a_2 \Gamma_{\alpha \chi}^{\chi} \Gamma_{\beta}^{\alpha\beta} + \frac{1}{2} a_3 \Gamma_{\alpha \chi}^{\chi} \Gamma_{\beta}^{\alpha\beta} - 2 a_6 \Gamma_{\alpha \chi}^{\chi} \Gamma_{\beta}^{\alpha\beta} +}{}$
$\frac{1}{3} a_9 \Gamma_{\alpha \chi}^{\chi} \Gamma_{\beta}^{\alpha\beta} - \frac{1}{4} a_0 \Gamma_{\alpha\beta\chi} \Gamma^{\alpha\beta\chi} - \frac{3}{2} a_1 \Gamma_{\alpha\beta\chi} \Gamma^{\alpha\beta\chi} - \frac{1}{4} a_2 \Gamma_{\alpha\beta\chi} \Gamma^{\alpha\beta\chi} -$
$\frac{3}{4} a_3 \Gamma_{\alpha\beta\chi} \Gamma^{\alpha\beta\chi} + 2 a_6 \Gamma_{\alpha\beta\chi} \Gamma^{\alpha\beta\chi} + a_7 \Gamma_{\alpha\beta\chi} \Gamma^{\alpha\beta\chi} - \frac{1}{2} a_9 \Gamma_{\alpha\beta\chi} \Gamma^{\alpha\beta\chi} -$
$\frac{1}{4} a_0 \Gamma_{\alpha\chi\beta} \Gamma^{\alpha\beta\chi} - \frac{1}{2} a_1 \Gamma_{\alpha\chi\beta} \Gamma^{\alpha\beta\chi} - \frac{3}{4} a_2 \Gamma_{\alpha\chi\beta} \Gamma^{\alpha\beta\chi} - \frac{3}{4} a_3 \Gamma_{\alpha\chi\beta} \Gamma^{\alpha\beta\chi} +$
$2 a_6 \Gamma_{\alpha \chi \beta} \Gamma^{\alpha \beta \chi} + a_7 \Gamma_{\alpha \chi \beta} \Gamma^{\alpha \beta \chi} - \frac{1}{2} a_9 \Gamma_{\alpha \chi \beta} \Gamma^{\alpha \beta \chi} - \frac{1}{2} a_0 \Gamma^{\alpha \beta \chi} \Gamma_{\beta \alpha \chi} +$
$\frac{1}{4} a_1 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\alpha\chi} - \frac{3}{8} a_2 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\alpha\chi} + \frac{3}{8} a_3 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\alpha\chi} - 4 a_6 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\alpha\chi} +$
$\frac{5}{2} a_7 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\alpha\chi} - \frac{3}{2} a_0 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\chi\alpha} + \frac{1}{2} a_1 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\chi\alpha} + \frac{5}{4} a_2 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\chi\alpha} +$
$\frac{3}{4} a_3 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\chi\alpha} - 8 a_6 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\chi\alpha} + 5 a_7 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\chi\alpha} + \frac{1}{2} a_9 \Gamma^{\alpha\beta\chi} \Gamma_{\beta\chi\alpha} +$
$\frac{1}{2} a_0 \Gamma_{\alpha}^{\alpha\beta} \Gamma_{\beta\chi}^{\chi} - a_1 \Gamma_{\alpha}^{\alpha\beta} \Gamma_{\beta\chi}^{\chi} - \frac{1}{2} a_2 \Gamma_{\alpha}^{\alpha\beta} \Gamma_{\beta\chi}^{\chi} - \frac{1}{2} a_3 \Gamma_{\alpha}^{\alpha\beta} \Gamma_{\beta\chi}^{\chi} +$
$4 a_6 \Gamma_{\alpha}^{\alpha\beta} \Gamma_{\beta\chi}^{\chi} - 2 a_7 \Gamma_{\alpha}^{\alpha\beta} \Gamma_{\beta\chi}^{\chi} - \frac{1}{2} a_9 \Gamma_{\alpha}^{\alpha\beta} \Gamma_{\beta\chi}^{\chi} + \frac{1}{2} a_0 \Gamma_{\alpha}^{\alpha\beta} \Gamma_{\beta\chi}^{\chi} -$
$\frac{1}{3} a_1 \Gamma^{\alpha\beta}_{\alpha} \Gamma^{\chi}_{\beta \chi} - \frac{1}{6} a_2 \Gamma^{\alpha\beta}_{\alpha} \Gamma^{\chi}_{\beta \chi} - \frac{1}{2} a_3 \Gamma^{\alpha\beta}_{\alpha} \Gamma^{\chi}_{\beta \chi} + 4 a_6 \Gamma^{\alpha\beta}_{\alpha} \Gamma^{\chi}_{\beta \chi} -$
$2 a_7 \Gamma^{\alpha\beta}_{\alpha} \Gamma^{\chi}_{\beta \chi} - \frac{1}{6} a_9 \Gamma^{\alpha\beta}_{\alpha} \Gamma^{\chi}_{\beta \chi} - \frac{1}{2} a_0 \Gamma^{\alpha\beta\chi} \Gamma_{\chi\beta\alpha} + \frac{5}{4} a_1 \Gamma^{\alpha\beta\chi} \Gamma_{\chi\beta\alpha} +$
$\frac{1}{8} a_2 \Gamma^{\alpha\beta\chi} \Gamma_{\chi\beta\alpha} + \frac{3}{8} a_3 \Gamma^{\alpha\beta\chi} \Gamma_{\chi\beta\alpha} - 4 a_6 \Gamma^{\alpha\beta\chi} \Gamma_{\chi\beta\alpha} + \frac{5}{2} a_7 \Gamma^{\alpha\beta\chi} \Gamma_{\chi\beta\alpha} +$
$\frac{1}{2} a_9 \Gamma^{\alpha\beta\chi} \Gamma_{\chi\beta\alpha} + \frac{1}{2} a_0 \Gamma^{\alpha\beta}_{\alpha} \Gamma^{\chi}_{\beta\chi} + \frac{1}{3} a_1 \Gamma^{\alpha\beta}_{\alpha} \Gamma^{\chi}_{\beta\chi} + \frac{1}{6} a_2 \Gamma^{\alpha\beta}_{\alpha} \Gamma^{\chi}_{\beta\chi} +$
$\frac{1}{2} a_3 \Gamma^{\alpha \beta}_{\alpha} \Gamma^{\chi}_{\beta \chi} - a_7 \Gamma^{\alpha \beta}_{\alpha} \Gamma^{\chi}_{\beta \chi} + \frac{1}{6} a_9 \Gamma^{\alpha \beta}_{\alpha} \Gamma^{\chi}_{\beta \chi} - \frac{1}{2} a_7 \Gamma^{\alpha \beta}_{\alpha} \Gamma^{\chi}_{\beta \chi} +$
$\frac{1}{3} a_1 \Gamma^{\alpha \beta}_{\alpha} \Gamma^{\chi}_{\chi\beta} + \frac{1}{6} a_2 \Gamma^{\alpha \beta}_{\alpha} \Gamma^{\chi}_{\chi\beta} - \frac{1}{2} a_7 \Gamma^{\alpha \beta}_{\alpha} \Gamma^{\chi}_{\chi\beta} + \frac{1}{6} a_9 \Gamma^{\alpha \beta}_{\alpha} \Gamma^{\chi}_{\chi\beta} +$
$h^{\alpha\beta}  \mathcal{T}_{\alpha\beta} + \Gamma^{\alpha\beta\chi}  \Delta_{\alpha\beta\chi} - \frac{1}{2}  a_0  \Gamma^{\alpha\beta\chi}  \partial_\beta h_{\alpha\chi} - \frac{1}{4}  a_0  \Gamma^{\alpha}_{\ \alpha}{}^\beta  \partial_\beta h^\chi_{\ \chi} +$
$\frac{1}{4} a_0 \Gamma^{\alpha\beta}_{\alpha} \partial_{\beta} h^{\chi}_{\chi} - \frac{1}{4} a_0 h^{\chi}_{\chi} \partial_{\beta} \Gamma^{\alpha\beta}_{\alpha} + \frac{1}{4} a_0 h^{\chi}_{\chi} \partial_{\beta} \Gamma^{\alpha\beta}_{\alpha} - \frac{1}{2} a_0 h_{\alpha\chi} \partial_{\beta} \Gamma^{\alpha\beta\chi} +$
$\frac{1}{4} a_0 h^{\alpha\beta} \partial_{\beta} \partial_{\alpha} h^{\chi}_{\chi} - \frac{1}{8} a_0 \partial_{\beta} h^{\chi}_{\chi} \partial^{\beta} h^{\alpha}_{\alpha} + \frac{1}{2} a_0 \Gamma^{\alpha}_{\alpha}{}^{\beta} \partial_{\chi} h_{\beta}{}^{\chi} + \frac{1}{4} a_0 \partial^{\beta} h^{\alpha}_{\alpha} \partial_{\chi} h_{\beta}{}^{\chi} -$
$\frac{1}{2} a_0 h^{\alpha\beta} \partial_{\chi} \partial_{\beta} h_{\alpha}^{\ \chi} + \frac{1}{4} a_0 h^{\alpha}_{\ \alpha} \partial_{\chi} \partial_{\beta} h^{\beta\chi} + \frac{1}{4} a_0 h^{\alpha\beta} \partial_{\chi} \partial^{\chi} h_{\alpha\beta} - \frac{1}{4} a_0 h^{\alpha}_{\ \alpha} \partial_{\chi} \partial^{\chi} h^{\beta}_{\ \beta} -$
$\frac{1}{4} a_0 \partial_{\beta} h_{\alpha \chi} \partial^{\chi} h^{\alpha \beta} + \frac{1}{8} a_0 \partial_{\chi} h_{\alpha \beta} \partial^{\chi} h^{\alpha \beta} + \frac{1}{2} a_0 h_{\beta \chi} \partial^{\chi} \Gamma^{\alpha}{}_{\alpha}{}^{\beta} + 2 a_1 \partial_{\alpha} \Gamma_{\beta \chi \mu} \partial^{\mu} \Gamma^{\alpha \beta \chi} -$
$2 a_1 \partial_\alpha \Gamma_{\beta\mu\chi} \partial^\mu \Gamma^{\alpha\beta\chi} - 2 a_1 \partial_\alpha \Gamma_{\chi\beta\mu} \partial^\mu \Gamma^{\alpha\beta\chi} + 2 a_1 \partial_\alpha \Gamma_{\chi\mu\beta} \partial^\mu \Gamma^{\alpha\beta\chi} +$
$a_1  \partial_\alpha \Gamma_{\mu\beta\chi}  \partial^\mu \Gamma^{\alpha\beta\chi} - a_1  \partial_\alpha \Gamma_{\mu\chi\beta}  \partial^\mu \Gamma^{\alpha\beta\chi} - 2  a_1  \partial_\beta \Gamma_{\alpha\chi\mu}  \partial^\mu \Gamma^{\alpha\beta\chi} + a_1  \partial_\beta \Gamma_{\alpha\mu\chi}  \partial^\mu \Gamma^{\alpha\beta\chi} - a_1  \partial_\alpha \Gamma_{\mu\chi\beta}  \partial^\mu \Gamma^{\alpha\beta\chi} - a_1  \partial_\alpha \Gamma_{\mu\chi\gamma}  \partial^\mu \Gamma^{\alpha\gamma} - a_1  \partial_\alpha \Gamma$
$a_1  \partial_{\beta} \Gamma_{\chi\mu\alpha}  \partial^{\mu} \Gamma^{\alpha\beta\chi} + a_1  \partial_{\chi} \Gamma_{\alpha\beta\mu}  \partial^{\mu} \Gamma^{\alpha\beta\chi} - a_1  \partial_{\chi} \Gamma_{\beta\alpha\mu}  \partial^{\mu} \Gamma^{\alpha\beta\chi} + 2  a_1  \partial_{\chi} \Gamma_{\beta\mu\alpha}  \partial^{\mu} \Gamma^{\alpha\beta\chi} - a_1  \partial_{\chi} \Gamma_{\beta\alpha\mu}  \partial^{\mu} \Gamma^{\alpha\beta\chi} + a_2  a_3  \partial_{\chi} \Gamma_{\beta\mu\alpha}  \partial^{\mu} \Gamma^{\alpha\beta\chi} - a_3  \partial_{\chi} \Gamma_{\beta\alpha\mu}  \partial^{\mu} \Gamma^{\alpha\beta\chi} + a_3  \partial_{\chi} \Gamma_{\beta\alpha\mu}  \partial^{\mu} \Gamma^{\alpha\beta\chi} - a_3  \partial_{\chi} \Gamma_{\beta\alpha\mu}  \partial^{\mu} \Gamma^{\alpha\beta\chi} + a_4  \partial_{\chi} \Gamma_{\alpha\beta\mu}  \partial^{\mu} \Gamma^{\alpha\beta\chi} - a_5  \partial_{\chi} \Gamma_{\beta\alpha\mu}  \partial^{\mu} \Gamma^{\alpha\beta\chi} - a_5  \partial_{\chi} \Gamma_{\alpha\beta\mu}  \partial^{\mu} \Gamma^{\alpha\gamma} - a_5  \partial_{\chi} \Gamma^{\alpha\gamma} - a$
$a_1  \partial_\mu \Gamma_{\alpha\beta\chi}  \partial^\mu \Gamma^{\alpha\beta\chi} + a_1  \partial_\mu \Gamma_{\alpha\chi\beta}  \partial^\mu \Gamma^{\alpha\beta\chi} + a_1  \partial_\mu \Gamma_{\beta\alpha\chi}  \partial^\mu \Gamma^{\alpha\beta\chi} - 2  a_1  \partial_\mu \Gamma_{\beta\chi\alpha}  \partial^\mu \Gamma^{\alpha\beta\chi} +$
$a_1 \partial_{\mu} \Gamma_{\chi\beta\alpha} \partial^{\mu} \Gamma^{\alpha\beta\chi} + a_1 \partial_{\chi} \partial_{\beta} h_{\alpha\mu} \partial^{\mu} \partial^{\chi} h^{\alpha\beta} - a_1 \partial_{\mu} \partial_{\beta} h_{\alpha\chi} \partial^{\mu} \partial^{\chi} h^{\alpha\beta}$

$\Gamma_{3}^{\#1}{}_{\alpha\beta\chi}$	$\Delta^{\#1}_{3^-lphaeta\chi}$
$\Gamma_{3}^{\#1} + \alpha \beta \chi$ -3 (a <sub>0</sub> + 4 a <sub>6</sub> - 4 a <sub>7</sub> )	$\Delta_{3}^{\#1} + \alpha \beta \chi \boxed{\frac{1}{-3(a_0 + 4a_6) + 12a_7}}$

	$\Gamma_{2}^{\#1}{}_{lphaeta}$	$\Gamma_{2^{+}\alpha\beta}^{\#2}$	Γ <sub>2</sub> + <sub>αβ</sub>	$h_{2}^{\#1}_{\alpha\beta}$	$\Gamma_{2^{-}lphaeta\chi}^{\#1}$	$\Gamma_{2^{-} \alpha \beta \chi}^{\# 2}$
$\Gamma_{2}^{\#1} \dagger^{\alpha\beta}$	$\frac{1}{4}(a_0 - 2a_1 - a_2)$	0	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	0	0	0
$\Gamma_{2}^{\#2} \dagger^{\alpha\beta}$	0	$-3(a_0+4a_6-4a_7)$	0	0	0	0
$\Gamma_2^{#3} \dagger^{\alpha\beta}$	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	0	$\frac{3}{4} (a_0 - 4 a_1 - 2 a_2 - 3 a_3 + 16 a_6 - 4 a_7 - 2 a_9)$	0	0	0
$h_{2}^{\#1} \dagger^{\alpha\beta}$	0	0	0	$-\frac{a_0 k^2}{8}$	0	0
$\Gamma_2^{#1} \dagger^{\alpha\beta\chi}$	0	0	0	0	$\frac{1}{4} (a_0 - 2 a_1 - a_2)$	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$
$\Gamma_2^{\#2} \dagger^{\alpha\beta\chi}$	0	0	0	0	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	$\frac{3}{4} (a_0 - 4a_1 - 2a_2 - 3a_3 + 16a_6 - 4a_7 - 2a_9)$

	$\Delta^{\#1}_{2^+lphaeta}$	$\Delta^{\#2}_{2^+lphaeta}$	$\Delta^{\#3}_{2^+lphaeta}$	${\mathcal T}_{2}^{\#1}{}_{lphaeta}$	$\Delta^{\#1}_{2^-lphaeta\chi}$	$\Delta_{2^{-} \ lphaeta\chi}^{\#2}$
$\Delta_{2}^{#1} \dagger^{\alpha\beta}$	$\frac{4 (a_0 - 4 a_1 - 2 a_2 - 3 a_3 + 16 a_6 - 4 a_7 - 2 a_9)}{{a_0}^2 + (2 a_1 + a_2) (2 a_1 + a_2 + 3 a_3 - 16 a_6 + 4 a_7) - a_9^2 - a_0 (6 a_1 + 3 a_2 + 3 a_3 - 16 a_6 + 4 a_7 + 2 a_9)}$	0	$\frac{4 \left(2  a_{1} + a_{2} + a_{9}\right)}{\sqrt{3}  \left(a_{0}^{2} + \left(2  a_{1} + a_{2}\right) \left(2  a_{1} + a_{2} + 3  a_{3} - 16  a_{6} + 4  a_{7}\right) - a_{9}^{2} - a_{0} \left(6  a_{1} + 3  a_{2} + 3  a_{3} - 16  a_{6} + 4  a_{7} + 2  a_{9}\right)\right)}$	0	0	0
$\Delta_{2+}^{#2} \dagger^{\alpha\beta}$	0	$\frac{1}{-3(a_0+4a_6)+12a_7}$	0	0	0	0
$\Delta_{2}^{\#3} \dagger^{\alpha\beta}$	$\frac{4 \left(2  a_{1} + a_{2} + a_{9}\right)}{\sqrt{3}  \left(a_{0}^{2} + \left(2  a_{1} + a_{2}\right) \left(2  a_{1} + a_{2} + 3  a_{3} - 16  a_{6} + 4  a_{7}\right) - a_{9}^{2} - a_{0} \left(6  a_{1} + 3  a_{2} + 3  a_{3} - 16  a_{6} + 4  a_{7} + 2  a_{9}\right)\right)}$	0	$\frac{4(a_0-2a_1-a_2)}{3(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$	0	0	0
$\frac{-#1}{2} + \alpha \beta$	0	0	0	$-\frac{8}{a_0 k^2}$	0	0
$^{\#1}_{2}$ † $^{\alpha\beta\chi}$	0	0	0	0	$\frac{4(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)}{{a_0}^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9}^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9)}$	$\frac{4(2a_1+a_2+a_9)}{\sqrt{3}(a_0^2+(2a_1+a_2)(2a_1+a_2+3a_3-16a_6+4a_7)-a_9^2-a_0(6a_1+3a_2+3a_3-16a_6+4a_7+2a_9))}$
$\frac{^{#2}}{^{2}}$ † $^{\alpha\beta\chi}$	0	0	0	0	$\frac{4 \left(2  a_{1} + a_{2} + a_{9}\right)}{\sqrt{3}  \left(a_{0}^{2} + \left(2  a_{1} + a_{2}\right) \left(2  a_{1} + a_{2} + 3  a_{3} - 16  a_{6} + 4  a_{7}\right) - a_{9}^{2} - a_{0} \left(6  a_{1} + 3  a_{2} + 3  a_{3} - 16  a_{6} + 4  a_{7} + 2  a_{9}\right)\right)}$	4 (a <sub>0</sub> -2 a <sub>1</sub> -a <sub>2</sub> )

 $\Gamma_{1}^{\#4}$ 

0

0

 $-\frac{5}{2}(a_0+4a_6-4a_7)$   $\frac{1}{2}\sqrt{5}(a_0+4a_6-4a_7)$ 

 $\frac{1}{2}\sqrt{5}(a_0+4a_6-4a_7)$   $-\frac{a_0}{2}-2a_6+2a_7$ 

 $\Gamma_{1}^{\#5}{}_{\alpha}$ 

 $-\frac{2a_1+a_2+a_9}{2\sqrt{6}}$ 

 $-\frac{2a_1+a_2+a_9}{2\sqrt{3}}$ 

 $\frac{1}{2}(a_0-4a_1-2a_2-3a_3+16a_6-4a_7-2a_9)$ 

 $\frac{-a_0 + 4a_1 + 2a_2 + 3a_3 - 16a_6 + 4a_7 + 2a_9}{2\sqrt{2}}$ 

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

 $\frac{2a_1 + a_2 + a_9}{4\sqrt{3}}$   $\frac{2a_1 + a_2 + a_9}{2\sqrt{6}}$ 

 $\frac{-a_0 + 4a_1 + 2a_2 + 3a_3 - 16a_6 + 4a_7 + 2a_9}{2\sqrt{2}}$ 

 $\left| \frac{1}{4} (a_0 - 4 a_1 - 2 a_2 - 3 a_3 + 16 a_6 - 4 a_7 - 2 a_9) \right| 0$ 

	Massive particle					
? /	Pole residue:	$\left \frac{1}{6a_1} > 0\right $				
$J^P = 0^-$	Polarisations:	1				
$\frac{1}{k^{\mu}}$	Square mass:	$-\frac{a_0 + 4a_1 - 4a_2}{12a_1} > 0$				
?	Spin:	0				
	Parity:	Odd				

?		
_	atic pole	
$\stackrel{k^{\mu}}{\longrightarrow}$ Pole re	sidue: $-\frac{1}{a_0}$	> 0
? Polaris	ations: 2	

 $\Gamma_{1}^{\#3}{}_{lphaeta}$ 

 $\frac{1}{4} \left( -2 a_1 - a_2 - a_9 \right)$ 

 $\frac{2a_1+a_2+a_9}{2\sqrt{2}}$ 

 $\frac{1}{4} \left( -a_0 - 2 a_1 - a_2 - 2 a_3 \right) \qquad \frac{a_0 + a_3}{2 \sqrt{2}}$ 

 $-\frac{2a_1+a_2+a_9}{2\sqrt{6}}$ 

 $\frac{2a_1 + a_2 + a_9}{4\sqrt{3}}$ 

 $\frac{1}{4} \left( -2 a_1 - a_2 - a_3 \right)$ 

 $-\frac{2a_1+a_2+a_9}{2\sqrt{3}}$ 

 $\frac{2a_1+a_2+a_9}{2\sqrt{6}}$ 

 $\frac{1}{2}(-2a_1+a_2)$ 

 $\Gamma_{1}^{\#3} + \alpha \beta \left[ \begin{array}{c|c} \frac{1}{4} \left( -2 a_1 - a_2 - a_9 \right) & \frac{2 a_1 + a_2 + a_9}{2 \sqrt{2}} & \frac{3}{4} \left( a_0 - 4 a_1 - 2 a_2 - 3 a_3 + 16 a_6 - 4 a_7 - 2 a_9 \right) \end{array} \right]$ 

Unitarity conditions  $a_0 < 0 \&\& a_2 > \frac{1}{4} (a_0 + 4 a_1) \&\& a_1 > 0$