

	$\Delta_{1^+ a\beta}^{*1}$	$\Delta_{1^+ a\beta}^{*2}$	$\Delta_{1^+ a\beta}^{*3}$	$\Delta_{1^+ a}^{*1}$	$\Delta_{1^+ a}^{*2}$	$\Delta_{1^+ a}^{*3}$	$\Delta_{1^+ a}^{*4}$	$\Delta_{1^+ a}^{*5}$	$\Delta_{1^+ a}^{*6}$	$\mathcal{T}_{1^+ a}^{*1}$
$\Delta_{1^+ 1^+}^{*1} +^{a\beta}$	$\frac{4}{3} (-\frac{1}{a_0+4a_1-4a_2} - \frac{2(a_1+a_2-2a_5-6a_7+2a_9)}{2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9)})$	$\frac{2}{3} \sqrt{2} (-\frac{1}{a_0+4a_1-4a_2} - \frac{2(2a_1+a_2-2a_5-6a_7+2a_9)}{2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9)})$	$-\frac{4(2a_1+a_2+ag)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	0	0	0	0	0	0	0
$\Delta_{1^+ 1^+}^{*2} +^{a\beta}$	$\frac{2}{3} \sqrt{2} (-\frac{1}{a_0+4a_1-4a_2} - \frac{2(2a_1+a_2-2a_5-6a_7+2a_9)}{2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9)})$	$-\frac{2}{3(a_0+4a_1-4a_2)} + \frac{8(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{4\sqrt{2}(2a_1+a_2+ag)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	0	0	0	0	0	0	0
$\Delta_{1^+ 1^+}^{*3} +^{a\beta}$	$-\frac{4(2a_1+a_2+ag)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{4\sqrt{2}(2a_1+a_2+ag)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$-\frac{4(a_0-2a_1-a_2)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	0	0	0	0	0	0	0
$\Delta_{1^+ 1^+}^{*4} +^{a\alpha}$	0	0	0	$\frac{4(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{4\sqrt{2}(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	0	0	$\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+ag)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{4(2a_1+a_2+ag)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	0
$\Delta_{1^+ 1^+}^{*5} +^{a\alpha}$	0	0	0	$\frac{4\sqrt{2}(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{8(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	0	0	$-\frac{8(2a_1+a_2+ag)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+ag)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	0
$\Delta_{1^+ 1^+}^{*6} +^{a\alpha}$	0	0	0	0	0	$-\frac{10}{9(a_0+2a_5-6a_7)} - \frac{1}{6(3a_0-2(a_5-8a_6+5a_7-4c_{13}k^2))}$	$\frac{1}{18} \sqrt{5} (-\frac{4}{a_0+2a_5-6a_7} - \frac{3}{3a_0-2a_5+16a_6-10a_7+8c_{13}k^2})$	$-\frac{1}{\sqrt{2}(9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2))}$	$-\frac{1}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$	0
$\Delta_{1^+ 1^+}^{*4} +^{a\alpha}$	0	0	0	0	0	$-\frac{2}{9(a_0+2a_5-6a_7)} - \frac{5}{6(3a_0-2(a_5-8a_6+5a_7-4c_{13}k^2))}$	$-\frac{\sqrt{\frac{5}{2}}}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$	$-\frac{\sqrt{\frac{5}{2}}}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$	$-\frac{\sqrt{5}}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$	0
$\Delta_{1^+ 1^+}^{*5} +^{a\alpha}$	0	0	0	$-\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+ag)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$-\frac{8(2a_1+a_2+ag)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$-\frac{1}{\sqrt{2}(9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2))}$	$-\frac{\sqrt{\frac{5}{2}}}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$	$\frac{8(a_0+2a_1+a_2)}{9(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))} - \frac{1}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$	$(\sqrt{2}(12a_0^2-3a_3^2-a_0(30a_1+15a_2+2a_5-64a_6+22a_7+6a_9-32c_{13}k^2)+2(2a_1+a_2)(a_5-32a_6+11a_7-16c_{13}k^2)))/(9(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))(3a_0-2(a_5-8a_6+5a_7-4c_{13}k^2)))$	0
$\Delta_{1^+ 1^+}^{*6} +^{a\alpha}$	0	0	0	$\frac{4(2a_1+a_2+ag)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+ag)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$	$-\frac{1}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$	$-\frac{\sqrt{5}}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$	$(\sqrt{2}(12a_0^2-3a_3^2-a_0(30a_1+15a_2+2a_5-64a_6+22a_7+6a_9-32c_{13}k^2)+2(2a_1+a_2)(a_5-32a_6+11a_7-16c_{13}k^2)))/(9(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))(3a_0-2(a_5-8a_6+5a_7-4c_{13}k^2)))$	$-\frac{-4a_0+8a_3+4a_2}{9(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))} - \frac{2}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$	0
$\mathcal{T}_{1^+ 1^+}^{*1} +^{a\alpha}$	0	0	0	0	0	0	0	0	0	0

	$\Gamma_{1^+ a\beta}^{*1}$	$\Gamma_{1^+ a\beta}^{*2}$	$\Gamma_{1^+ a\beta}^{*3}$	$\Gamma_{1^+ a}^{*1}$	$\Gamma_{1^+ a}^{*2}$	$\Gamma_{1^+ a}^{*3}$	$\Gamma_{1^+ a}^{*4}$	$\Gamma_{1^+ a}^{*5}$	$\Gamma_{1^+ a}^{*6}$	$h_{1^+ a}^{*1}$
$\Gamma_{1^+ 1^+}^{*1} +^{a\beta}$	$\frac{1}{4} (-a_0-6a_1+5a_2)$	$-\frac{a_0+2a_1-3a_2}{2\sqrt{2}}$	$\frac{1}{4} (-2a_1-a_2-a_9)$	0	0	0	0	0	0	0
$\Gamma_{1^+ 1^+}^{*2} +^{a\beta}$	$\frac{a_0+2a_1-3a_2}{2\sqrt{2}}$	$\frac{1}{2} (-2a_1+a_2)$	$\frac{2a_1+a_2+ag}{2\sqrt{2}}$	0	0	0	0	0	0	0
$\Gamma_{1^+ 1^+}^{*3} +^{a\beta}$	$\frac{1}{4} (-2a_1-a_2-a_9)$	$\frac{2a_1+a_2+ag}{2\sqrt{2}}$	$-\frac{3}{4} (2a_1+a_2-2a_5-6a_7+2a_9)$	0	0	0	0	0	0	0
$\Gamma_{1^+ 1^+}^{*1} +^{a\alpha}$	0	0	0	$\frac{1}{12} (a_0-2a_1-a_2)$	$\frac{a_0-2a_1-a_2}{6\sqrt{2}}$	0	0	$\frac{2a_1+a_2+ag}{4\sqrt{3}}$	$\frac{2a_1+a_2+ag}{2\sqrt{6}}$	0
$\Gamma_{1^+ 1^+}^{*2} +^{a\alpha}$	0	0	0	0	$\frac{1}{6} (a_0-2a_1-a_2)$	0	0	$\frac{2a_1+a_2+ag}{2\sqrt{3}}$	$\frac{2a_1+a_2+ag}{2\sqrt{6}}$	0
$\Gamma_{1^+ 1^+}^{*3} +^{a\alpha}$	0	0	0	0	0	$\frac{1}{12} (-9a_0-14a_5-8a_6+50a_7-4c_{13}k^2)$	$\frac{1}{3} \sqrt{5} (a_5-2a_6-a_7-c_{13}k^2)$	$\frac{-3a_0+2(a_5-8a_6+5a_7-4c_{13}k^2)}{12\sqrt{2}}$	$-\frac{a_0}{4} + \frac{1}{6} (a_5-8a_6+5a_7-4c_{13}k^2)$	0
$\Gamma_{1^+ 1^+}^{*4} +^{a\alpha}$	0	0	0	0	0	$\frac{1}{3} \sqrt{5} (a_5-2a_6-a_7-c_{13}k^2)$	$\frac{1}{12} (-9a_0+2a_5-40a_6+34a_7-20c_{13}k^2)$	$\frac{1}{12} \sqrt{\frac{5}{2}} (-3a_0+2(a_5+8a_6+5a_7-4c_{13}k^2))$	$\frac{1}{12} \sqrt{5} (-3a_0+2(a_5-8a_6+5a_7-4c_{13}k^2))$	0
$\Gamma_{1^+ 1^+}^{*5} +^{a\alpha}$	0	0	0	$\frac{2a_1+a_2+ag}{2\sqrt{6}}$	$\frac{2a_1+a_2+ag}{2\sqrt{3}}$	$\frac{-3a_0+2(a_5-8a_6+5a_7-4c_{13}k^2)}{12\sqrt{2}}$	$\frac{1}{12} \sqrt{\frac{5}{2}} (-3a_0+2(a_5-8a_6+5a_7-4c_{13}k^2))$	$\frac{1}{12} (-3a_0+2(6a_1+3a_2-7a_5+8a_6-23a_7+6a_9+4c_{13}k^2))$	$-\frac{3a_0-6a_1-3a_2+4a_5+16a_6+8a_7-6a_9+8c_{13}k^2}{6\sqrt{2}}$	0
$\Gamma_{1^+ 1^+}^{*6} +^{a\alpha}$	0	0	0	$\frac{2a_1+a_2+ag}{4\sqrt{3}}$	$\frac{2a_1+a_2+ag}{2\sqrt{6}}$	$-\frac{a_0}{4} + \frac{1}{6} (a_5-8a_6+5a_7-4c_{13}k^2)$	$\frac{1}{12} \sqrt{5} (-3a_0+2(a_5-8a_6+5a_7-4c_{13}k^2))$	$\frac{1}{12} (-6a_0-6a_1-3a_2+10a_5-32a_6+38a_7-6a_9-16c_{13}k^2)$	$\frac{1}{12}$	0
$h_{1^+ 1^+}^{*1} +^{a\alpha}$	0	0	0	0	0	0	0	0	0	0

Lagrangian density	
$-\frac{1}{3}a_0\Gamma_{\alpha\mu}^{\mu}\Gamma^{\alpha\beta}_{\beta}+\frac{1}{3}a_1\Gamma_{\alpha\mu}^{\mu}\Gamma^{\alpha\beta}_{\beta}+\frac{1}{6}a_2\Gamma_{\alpha\mu}^{\mu}\Gamma^{\alpha\beta}_{\beta}$ $2a_6\Gamma_{\alpha\mu}^{\mu}\Gamma^{\alpha\beta}_{\beta}+\frac{1}{3}a_9\Gamma_{\alpha\mu}^{\mu}\Gamma^{\alpha\beta}_{\beta}-\frac{1}{8}a_0\Gamma_{a\beta\mu}\Gamma^{\alpha\beta\mu}-a_1\Gamma_{a\beta\mu}\Gamma^{\alpha\beta\mu}+$ $\frac{1}{4}a_5\Gamma_{a\beta\mu}\Gamma^{\alpha\beta\mu}+\frac{9}{4}a_7\Gamma_{a\beta\mu}\Gamma^{\alpha\beta\mu}-\frac{1}{2}a_9\Gamma_{a\beta\mu}\Gamma^{\alpha\beta\mu}-\frac{1}{8}a_0\Gamma_{a\mu\beta}\Gamma^{\alpha\beta\mu}-$ $\frac{1}{2}a_2\Gamma_{a\mu\beta}\Gamma^{\alpha\beta\mu}+\frac{1}{4}a_5\Gamma_{a\mu\beta}\Gamma^{\alpha\beta\mu}+\frac{9}{4}a_7\Gamma_{a\mu\beta}\Gamma^{\alpha\beta\mu}-\frac{1}{2}a_9\Gamma_{a\mu\beta}\Gamma^{\alpha\beta\mu}-$ $\frac{1}{2}a_2\Gamma^{\alpha\beta\mu}\Gamma_{\beta a\mu}-\frac{1}{2}a_5\Gamma^{\alpha\beta\mu}\Gamma_{\beta a\mu}-\frac{1}{2}a_0\Gamma^{\alpha\beta\mu}\Gamma_{\beta a\mu}+a_2\Gamma^{\alpha\beta\mu}\Gamma_{\beta a\mu}-$ $a_5\Gamma^{\alpha\beta\mu}\Gamma_{\beta a\mu}+\frac{1}{2}a_9\Gamma^{\alpha\beta\mu}\Gamma_{\beta a\mu}+\frac{1}{12}a_0\Gamma^{\alpha\beta}_{\beta\mu}\Gamma^{\mu}_{\mu}-\frac{1}{2}a_1\Gamma^{\alpha\beta}_{\beta\mu}\Gamma^{\mu}_{\mu}-$ $\frac{1}{3}a_2\Gamma^{\alpha\beta}_{\beta\mu}\Gamma^{\mu}_{\mu}+\frac{1}{2}a_5\Gamma^{\alpha\beta}_{\beta\mu}\Gamma^{\mu}_{\mu}+\frac{1}{2}a_7\Gamma^{\alpha\beta}_{\beta\mu}\Gamma^{\mu}_{\mu}-\frac{1}{2}a_9\Gamma^{\alpha\beta}_{\beta\mu}\Gamma^{\mu}_{\mu}+$ $\frac{1}{12}a_0\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}+\frac{1}{2}a_5\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}+\frac{1}{2}a_7\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}-\frac{1}{6}a_9\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}+$ $a_1\Gamma^{\alpha\beta\mu}\Gamma_{\mu\beta a}-\frac{1}{2}a_5\Gamma^{\alpha\beta\mu}\Gamma_{\mu\beta a}+\frac{1}{2}a_9\Gamma^{\alpha\beta\mu}\Gamma_{\mu\beta a}+\frac{1}{6}a_0\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}-$ $a_7\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}+\frac{1}{6}a_9\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}-\frac{1}{2}a_7\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}+\frac{1}{3}a_1\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}+$ $\frac{1}{6}a_2\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}-\frac{1}{2}a_7\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}+\frac{1}{6}a_9\Gamma^{\alpha\beta}_{\alpha\beta\mu}\Gamma^{\mu}_{\mu}-\frac{1}{2}a_0\Gamma^{\alpha\beta\mu}\partial_{\beta}h_{a\mu}-$ $\frac{1}{4}a_0\Gamma^{\alpha\beta}_{\alpha\beta}\partial_{\beta}h^{\mu}_{\mu}+\frac{1}{4}a_0\Gamma^{\alpha\beta}_{\alpha}\partial_{\beta}h^{\mu}_{\mu}-\frac{1}{4}a_0h^{\mu}_{\mu}\partial_{\beta}\Gamma^{\alpha\beta}_{\alpha}+\frac{1}{4}a_0h^{\mu}_{\mu}\partial_{\beta}\Gamma^{\alpha\beta}_{\alpha}-$ $\frac{1}{2}a_0h^{\mu}_{\mu}\partial_{\beta}\Gamma^{\alpha\beta}_{\alpha}-\frac{1}{2}a_0h_{a\mu}\partial_{\beta}\Gamma^{\alpha\beta\mu}+\frac{1}{4}a_0h^{\alpha\beta}\partial_{\beta}\partial_{\alpha}h^{\mu}_{\mu}-$ $\frac{1}{8}a_0\partial_{\beta}h^{\mu}_{\mu}\partial^{\beta}h^{\alpha}_{\alpha}+\frac{1}{2}a_0\Gamma^{\alpha\beta}_{\alpha}\partial_{\mu}h^{\mu}_{\mu}+\frac{1}{4}a_0\partial^{\beta}h^{\alpha}_{\alpha}\partial_{\mu}h^{\mu}_{\mu}-$ $\frac{1}{2}a_0h^{\alpha\beta}\partial_{\beta}\partial_{\beta}h^{\mu}_{\mu}+\frac{1}{4}a_0h^{\alpha}_{\alpha}\partial_{\mu}\partial_{\beta}h^{\beta\mu}+\frac{1}{4}a_0h^{\alpha\beta}\partial_{\mu}\partial^{\beta}h_{a\beta}-$ $\frac{1}{4}a_0h^{\alpha}_{\alpha}\partial_{\mu}\partial^{\mu}h^{\beta}_{\beta}-\frac{1}{4}a_0\partial_{\beta}h_{a\mu}\partial^{\mu}h^{\beta}_{\beta}+\frac{1}{8}a_0\partial_{\mu}h_{a\beta}\partial^{\mu}h^{\alpha\beta}+$ $\frac{1}{2}a_0h_{\beta\mu}\partial^{\mu}\Gamma^{\alpha\beta}_{\alpha}+c_{13}\partial_{\mu}^{\nu}\partial^{\mu}\Gamma^{\alpha\beta}_{\beta}c_{13}\partial_{\mu}\Gamma^{\nu}_{\nu}\partial^{\mu}\Gamma^{\alpha\beta}_{\beta}$	
Added source term:	$ h^{\alpha\beta}\mathcal{T}_{\alpha\beta}+\Gamma^{a\beta\chi}\Delta_{a\beta\chi}$

$\Gamma_{2^+a\beta}^{*1}$	$\Gamma_{2^+a\beta}^{*2}$	$\Gamma_{2^+a\beta}^{*3}$	$h_{2^+a\beta}^{*1}$	$\Gamma_{2^+a\beta\chi}^{*1}$	$\Gamma_{2^+a\beta\chi}^{*2}$
$\frac{1}{4}(a_0-2a_1+a_2)$	0	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	0	0	0
$\Gamma_{2^+a\beta}^{*2}+a\beta$	$-\frac{3}{4}(a_0+2a_5-6a_7)$	0	0	0	0
$\Gamma_{2^+a\beta}^{*3}+a\beta$	0	$\frac{3}{4}(2a_1+a_2-2a_5-6a_7+2a_9)$	0	0	0
$\Gamma_{2^+a\beta}^{*4}+a\beta$	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$	0	$-\frac{10}{8}\chi^2$	0	0
$h_{2^+a\beta}^{*4}$	0	0	0	0	0
$\Gamma_{2^+a\beta\chi}^{*1}$	0	0	0	$\frac{1}{4}(a_0-2a_1+a_2)$	$-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$
$\Gamma_{2^+a\beta\chi}^{*2}$	0	0	0	$-\frac{3}{4}\sqrt{3}(2a_1+a_2-2a_5-6a_7+2a_9)$	$\frac{3}{4}\sqrt{3}(2a_1+a_2+a_9)$
$\Gamma_{2^+a\beta\chi}^{*3}$	0	0	0	0	0