|  | $\Delta_{1^{+}lphaeta}^{\sharp1}$  | $\Delta_{1}^{\#2}{}_{lphaeta}$   | $\Delta_{1^{+}lphaeta}^{\#3}$  | $\Delta_{1}^{\#1}{}_{lpha}$   | $\Delta_{1}^{\#2}{}_{lpha}$  | $\Delta_{1}^{\#3}{}_{lpha}$   | $\Delta_{1^{-}lpha}^{\#4}$  | $\Delta_1^{\#5}{}_{lpha}$  | $\Delta_{1}^{\#6}{}_{lpha}$   | ${\mathcal T}_1^{\sharp 1}{}_{lpha}$ |
|--|--|--|--|---|--|---|---|--|---|--------------------------------------|
| $\Delta_{1}^{\#1} \dagger^{\alpha\beta}$     | $\left(-\frac{1}{a_0+4a_1-4a_2}+\frac{2a_1+a_2-2a_5-6a_7+2a_9}{2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9)}\right)$ | $\frac{2}{3}\sqrt{2}\left(-\frac{1}{a_0+4a_1-4a_2}-\frac{2(2a_1+a_2-2a_5-6a_7+2a_9)}{2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9)}\right)$ | $\frac{4(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$  | 0   | 0  | 0   | 0   | 0  | 0   | 0                                    |
| $\Delta_{1}^{\#2} + \alpha\beta \frac{2}{3}$ | $\sqrt{2} \left(-\frac{1}{a_1+a_2-2a_5-6a_7+2a_9}\right)$  | $-\frac{2}{3(a_0+4a_1-4a_2)}+\frac{8(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$                           | $4 \sqrt{2} (2a_1 + a_2 + a_9)$  | 0   | 0  | 0   | 0   | 0  | 0   | 0                                    |
| $\Delta_{1}^{#3} \dagger^{\alpha\beta}$      | $-\frac{4 (2 a_1+a_2+a_9)}{3 (2 (2 a_1+a_2) (a_5+3 a_7)+a_9^2+a_0 (2 a_1+a_2-2 a_5-6 a_7+2 a_9))}$                               | $\frac{4\sqrt{2}(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$  | $-\frac{4 \left(a_{0}-2  a_{1}-a_{2}\right)}{3 \left(2 \left(2  a_{1}+a_{2}\right) \left(a_{5}+3  a_{7}\right)+a_{9}^{2}+a_{0} \left(2  a_{1}+a_{2}-2  a_{5}-6  a_{7}+2  a_{9}\right)\right)}$ | 0   | 0  | 0   | 0   | 0  | 0   | 0                                    |
| $\Delta_1^{#1} \dagger^{\alpha}$             | 0  | 0  | 0  | $\frac{4 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}{3 (2 (2 a_1 + a_2) (a_5 + 3 a_7) + a_9^2 + a_0 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9))}$ | $\frac{4\sqrt{2}(2a_1+a_2-2a_5-6a_7+2a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$ | 0   | 0   | $-\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$   | $\frac{4(2a_1+a_2+a_9)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$   | 0                                    |
| $\Delta_1^{#2} \uparrow^{\alpha}$            | 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   | $-\frac{8(2a_1+a_2+a_9)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$   | $\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$   | 0                                    |
| $\Delta_1^{#3} \uparrow^{\alpha}$            | 0  | 0  | 0  | 0   | 0  | $-\frac{10}{9(a_0+2a_5-6a_7)}-\frac{1}{6(3a_0-2(a_5-8a_6+5a_7-4c_{13}k^2))}$  | $\frac{1}{18} \sqrt{5} \left( \frac{4}{a_0 + 2a_5 - 6a_7} - \frac{3}{3a_0 - 2a_5 + 16a_6 - 10a_7 + 8c_{13}k^2} \right)$ | $-\frac{1}{\sqrt{2} (9 a_0 - 6 (a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2))}$   | $-\frac{1}{9 a_0 - 6 (a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2)}$   | 0                                    |
| $\Delta_1^{#4} \uparrow^{\alpha}$            | 0  | 0  | 0  | 0   | 0  | $\frac{1}{18} \sqrt{5} \left( \frac{4}{a_0 + 2a_5 - 6a_7} - \frac{3}{3a_0 - 2a_5 + 16a_6 - 10a_7 + 8c_{13}k^2} \right)$ | $-\frac{2}{9(a_0+2a_5-6a_7)}-\frac{5}{6(3a_0-2(a_5-8a_6+5a_7-4c_{13}k^2))}$   | $-\frac{\sqrt{\frac{5}{2}}}{9 a_0 - 6 (a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2)}$   | $-\frac{\sqrt{5}}{9 a_0-6 (a_5-8 a_6+5 a_7-4 c_{13} k^2)}$  | 0                                    |
| $\Delta_1^{\#5} \dagger^{\alpha}$            | 0  | 0  | 0  | $-\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$                                | $-\frac{8(2a_1+a_2+a_9)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$           | $-\frac{1}{\sqrt{2} (9 a_0 - 6 (a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2))}$  | $-\frac{\sqrt{\frac{5}{2}}}{9 a_0-6 (a_5-8 a_6+5 a_7-4 c_{13} k^2)}$  | $\frac{8(-a_0+2a_1+a_2)}{9(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))} - \frac{1}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$  | $(\sqrt{2} (12a_0^2 - 3a_9^2 - a_0 (30a_1 + 15a_2 + 2a_5 - 64a_6 + 22a_7 + 6a_9 - 32c_{13}k^2 + 2(2a_1 + a_2)(a_5 - 32a_6 + 11a_7 - 16c_{13}k^2)))/$ $(9(2(2a_1 + a_2)(a_5 + 3a_7) + a_9^2 + a_0(2a_1 + a_2 - 2a_5 - 6a_7 + 2a_9))$ $(3a_0 - 2(a_5 - 8a_6 + 5a_7 - 4c_{13}k^2)))$ | 2)+                                  |
| $\Delta_1^{\#6} \dagger^{lpha}$              | 0  | 0  | 0  | $\frac{4(2a_1+a_2+a_9)}{3\sqrt{3}(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$   | $\frac{4\sqrt{\frac{2}{3}}(2a_1+a_2+a_9)}{3(2(2a_1+a_2)(a_5+3a_7)+a_9^2+a_0(2a_1+a_2-2a_5-6a_7+2a_9))}$  | $-\frac{1}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$   | $-\frac{\sqrt{5}}{9a_0-6(a_5-8a_6+5a_7-4c_{13}k^2)}$  | $(\sqrt{2} (12a_0^2 - 3a_9^2 - a_0 (30a_1 + 15a_2 + 2a_5 - 64a_6 + 22a_7 + 6a_9 - 32c_{13}k^2) + 2(2a_1 + a_2)(a_5 - 32a_6 + 11a_7 - 16c_{13}k^2)))/$ $(9(2(2a_1 + a_2)(a_5 + 3a_7) + a_9^2 + a_0(2a_1 + a_2 - 2a_5 - 6a_7 + 2a_9))$ $(3a_0 - 2(a_5 - 8a_6 + 5a_7 - 4c_{13}k^2)))$ | $\frac{-4a_0 + 8a_1 + 4a_2}{9(2(2a_1 + a_2)(a_5 + 3a_7) + a_9^2 + a_0(2a_1 + a_2 - 2a_5 - 6a_7 + 2a_9))} - \frac{2}{9a_0 - 6(a_5 - 8a_6 + 5a_7 - 4c_{13}k^2)}$  | 0                                    |
| $\mathcal{T}_{1}^{#1}\dagger^{\alpha}$       | 0  | 0  | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 0                                    |

|    |                              | $\Gamma_{1}^{\#1}{}_{lphaeta}$                    | $\Gamma_{1}^{\#2}{}_{lphaeta}$             | $\Gamma_{1}^{\#3}{}_{\alpha\beta}$              | $\Gamma_{1-\alpha}^{\#1}$            | Γ <sub>1</sub> -α                    | $\Gamma_{1}^{#3}{}_{\alpha}$  | $\Gamma_{1}^{#4}{}_{\alpha}$  | $\Gamma_{1}^{\#5}{}_{\alpha}$   | $\Gamma_{1}^{\#6}{}_{\alpha}$   | $h_{1}^{\#1}{}_{\alpha}$ |
|----|------------------------------|---|--|---|--------------------------------------|--------------------------------------|---|---|---|---|--------------------------|
| Γ# | $\frac{1}{4} + \alpha \beta$ | $\frac{1}{4} \left( -a_0 - 6 a_1 + 5 a_2 \right)$ | $-\frac{a_0+2a_1-3a_2}{2\sqrt{2}}$         | $\frac{1}{4} \left( -2 a_1 - a_2 - a_9 \right)$ | 0                                    | 0                                    | 0   | 0   | 0   | 0   | 0                        |
| Γ# | $\frac{1}{1}$                | $-\frac{a_0+2a_1-3a_2}{2\sqrt{2}}$                | $\frac{1}{2} \left( -2  a_1 + a_2 \right)$ | $\frac{2 a_1 + a_2 + a_9}{2 \sqrt{2}}$          | 0                                    | 0                                    | 0   | 0   | 0   | 0   | 0                        |
| Γ# | $^{3}$ $^{\alpha\beta}$      | $\frac{1}{4} \left( -2 a_1 - a_2 - a_9 \right)$   | $\frac{2a_1 + a_2 + a_9}{2\sqrt{2}}$       | $-\frac{3}{4}(2a_1+a_2-2a_5-6a_7+2a_9)$         | 0                                    | 0                                    | 0   | 0   | 0   | 0   | 0                        |
| Г  | <sup>#1</sup> † <sup>α</sup> | 0   | 0  | 0   | $\frac{1}{12} (a_0 - 2 a_1 - a_2)$   | $\frac{a_0 - 2a_1 - a_2}{6\sqrt{2}}$ | 0   | 0   | $-\frac{2a_1+a_2+a_9}{2\sqrt{6}}$   | $\frac{2a_1 + a_2 + a_9}{4\sqrt{3}}$  | 0                        |
| Г  | <sup>#2</sup> † <sup>α</sup> | 0   | 0  | 0   | $\frac{a_0 - 2a_1 - a_2}{6\sqrt{2}}$ | $\frac{1}{6}(a_0-2a_1-a_2)$          | 0   | 0   | $-\frac{2a_1+a_2+a_9}{2\sqrt{3}}$   | $\frac{2a_1+a_2+a_9}{2\sqrt{6}}$  | 0                        |
| Г  | <sup>#3</sup> † <sup>α</sup> | 0   | 0  | 0   | 0                                    | 0                                    | $\frac{1}{12} \left( -9  a_0 - 14  a_5 - 8  a_6 + 50  a_7 - 4  c_{13}  k^2 \right)$ | $\frac{1}{3} \sqrt{5} (a_5 - 2 a_6 - a_7 - c_{13} k^2)$   | $\frac{-3 a_0 + 2 (a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2)}{12 \sqrt{2}}$   | $-\frac{a_0}{4} + \frac{1}{6} (a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2)$                                     | 0                        |
| Г  | <sup>#4</sup> † <sup>α</sup> | 0   | 0  | 0   | 0                                    | 0                                    | $\frac{1}{3} \sqrt{5} (a_5 - 2 a_6 - a_7 - c_{13} k^2)$                             | $\frac{1}{12} \left( -9  a_0 + 2  a_5 - 40  a_6 + 34  a_7 - 20  c_{13}  k^2 \right)$                          | $\frac{1}{12} \sqrt{\frac{5}{2}} \left( -3 a_0 + 2 \left( a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2 \right) \right)$         | $\frac{1}{12} \sqrt{5} \left( -3 a_0 + 2 \left( a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2 \right) \right)$     | 0                        |
| Г  | <sup>#5</sup> † <sup>α</sup> | 0   | 0  | 0   | $-\frac{2a_1+a_2+a_9}{2\sqrt{6}}$    | $-\frac{2a_1+a_2+a_9}{2\sqrt{3}}$    | $\frac{-3 a_0 + 2 (a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2)}{12 \sqrt{2}}$               | $\frac{1}{12} \sqrt{\frac{5}{2}} \left( -3 a_0 + 2 \left( a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2 \right) \right)$ | $\frac{1}{12} \left( -3 a_0 - 2 \left( 6 a_1 + 3 a_2 - 7 a_5 + 8 a_6 - 23 a_7 + 6 a_9 + 4 c_{13} k^2 \right) \right)$ | $-\frac{3 a_0 - 6 a_1 - 3 a_2 + 4 a_5 + 16 a_6 + 8 a_7 - 6 a_9 + 8 c_{13} k^2}{6 \sqrt{2}}$             | 0                        |
| Г  | <sup>#6</sup> † <sup>α</sup> | 0   | 0  | 0   | $\frac{2a_1 + a_2 + a_9}{4\sqrt{3}}$ | $\frac{2a_1 + a_2 + a_9}{2\sqrt{6}}$ | $-\frac{a_0}{4} + \frac{1}{6} (a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2)$                 | $\frac{1}{12} \sqrt{5} \left( -3 a_0 + 2 \left( a_5 - 8 a_6 + 5 a_7 - 4 c_{13} k^2 \right) \right)$           | $-\frac{3 a_0 - 6 a_1 - 3 a_2 + 4 a_5 + 16 a_6 + 8 a_7 - 6 a_9 + 8 c_{13} k^2}{6 \sqrt{2}}$                           | $\frac{1}{12} \left( -6 a_0 - 6 a_1 - 3 a_2 + 10 a_5 - 32 a_6 + 38 a_7 - 6 a_9 - 16 c_{13} k^2 \right)$ | ) 0                      |
| h  | $^{\#1}_{1}$ + $^{\alpha}$   | 0   | 0  | 0   | 0                                    | 0                                    | 0   | 0   | 0   | 0   | 0                        |

Lagrangian density

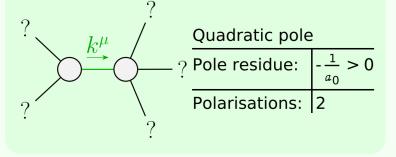
| _                              | Γ <sub>0</sub> <sup>#1</sup> | Γ <sub>0</sub> <sup>#2</sup>                               | Γ <sub>0</sub> <sup>#3</sup>   | Γ <sub>0</sub> <sup>#4</sup>   | $h_{0}^{#1}$        | $h_0^{\#2}$ | Γ <sub>0</sub> <sup>#</sup> -1       |
|--------------------------------|------------------------------|--|--|--|---------------------|-------------|--------------------------------------|
| Γ <sub>0</sub> <sup>#1</sup> † | 0                            | 0  | 0  | 0  | 0                   | 0           | 0                                    |
| Γ <sub>0</sub> <sup>#2</sup> † | 0                            | $\frac{1}{4}$ (-3 $a_0$ - 2 ( $a_5$ + 4 $a_6$ - 7 $a_7$ )) | $a_5$ - 2 $a_6$ - $a_7$  | $\frac{-3a_0+2(a_5-8a_6+5a_7)}{4\sqrt{2}}$                                 | 0                   | 0           | 0                                    |
| Γ <sub>0</sub> <sup>#3</sup> † | 0                            | $a_5 - 2 a_6 - a_7$  | $\frac{1}{4} \left( -3 a_0 - 2 \left( a_5 + 4 a_6 - 7 a_7 \right) \right)$ | $\frac{-3a_0+2(a_5-8a_6+5a_7)}{4\sqrt{2}}$                                 | 0                   | 0           | 0                                    |
| Γ <sub>0</sub> <sup>#4</sup> † | 0                            | $\frac{-3 a_0 + 2 (a_5 - 8 a_6 + 5 a_7)}{4 \sqrt{2}}$      | $\frac{-3 a_0 + 2 (a_5 - 8 a_6 + 5 a_7)}{4 \sqrt{2}}$                      | $\frac{1}{4} \left( -3 a_0 + 2 \left( a_5 - 8 a_6 + 5 a_7 \right) \right)$ | 0                   | 0           | 0                                    |
| $h_{0}^{#1}$ †                 | 0                            | 0  | 0  | 0  | $\frac{a_0 k^2}{4}$ | 0           | 0                                    |
| $h_{0}^{#2} \dagger$           | 0                            | 0  | 0  | 0  | 0                   | 0           | 0                                    |
| Γ <sub>0</sub> -1 †            | 0                            | 0  | 0  | 0  | 0                   | 0           | $-\frac{a_0}{2}$ - 2 $a_1$ + 2 $a_2$ |

| _                           | $\Delta_0^{\#1}$ | $\Delta_0^{\#2}$   | $\Delta_{0}^{#3}$  | $\Delta_0^{\#4}$  | $\mathcal{T}_{0}^{\#1}$ | $\mathcal{T}_{0}^{#2}$ | $\Delta_0^{\#1}$           |
|-----------------------------|------------------|--|--|---|-------------------------|------------------------|----------------------------|
| $\Delta_{0}^{\#1}$ †        | 0                | 0  | 0  | 0   | 0                       | 0                      | 0                          |
| $\Delta_{0}^{\#2}$ †        | 0                | $-\frac{2}{3(a_0+2a_5-6a_7)}-\frac{1}{6a_0-4(a_5-8a_6+5a_7)}$  | $\frac{2}{3(a_0+2a_5-6a_7)} - \frac{1}{6a_0-4(a_5-8a_6+5a_7)}$ | $-\frac{1}{\sqrt{2} (3 a_0 - 2 (a_5 - 8 a_6 + 5 a_7))}$ | 0                       | 0                      | 0                          |
| $\Delta_0^{#3}$ †           | 0                | $\frac{2}{3(a_0+2a_5-6a_7)} - \frac{1}{6a_0-4(a_5-8a_6+5a_7)}$ | $-\frac{2}{3(a_0+2a_5-6a_7)}-\frac{1}{6a_0-4(a_5-8a_6+5a_7)}$  | $-\frac{1}{\sqrt{2} (3 a_0 - 2 (a_5 - 8 a_6 + 5 a_7))}$ | 0                       | 0                      | 0                          |
| $\Delta_{0}^{#4}$ †         | 0                | $-\frac{1}{\sqrt{2} (3 a_0 - 2 (a_5 - 8 a_6 + 5 a_7))}$        | $-\frac{1}{\sqrt{2} (3 a_0 - 2 (a_5 - 8 a_6 + 5 a_7))}$        | $\frac{1}{-3 a_0 + 2 (a_5 - 8 a_6 + 5 a_7)}$            | 0                       | 0                      | 0                          |
| ${\cal T}_{0}^{\#1}\dagger$ | 0                | 0  | 0  | 0   | $\frac{4}{a_0 k^2}$     | 0                      | 0                          |
| $\mathcal{T}_{0}^{\#2}$ †   | 0                | 0  | 0  | 0   | 0                       | 0                      | 0                          |
| $\Delta_0^{\#1}$ †          | 0                | 0  | 0  | 0   | 0                       | 0                      | $-\frac{2}{a_0+4a_1-4a_2}$ |

| Total #: | $\Delta_{1}^{\#1\alpha} = \Delta_{1}^{\#2\alpha}$ | 5α            | $\mathcal{T}_{1}^{\#1\alpha} == 0$ | $\Delta_{0+}^{\#1} == 0$ | $\Delta_{0+}^{#3} + 3 \Delta_{0+}^{#2} == 2 \Delta_{0+}^{#4}$ | $T_{0+}^{\#2} == 0$ | SO(3) irreps | Source constraints | $\Gamma_{3^{-}}^{\#1} + \alpha \beta \chi$ $\Gamma_{3^{-}}^{\#1} + \alpha \beta \chi$ $\Gamma_{4}^{\#1} + \alpha \alpha (a_{0} + 2 a_{5} - 6 a_{7})$ |
|----------|---|---------------|------------------------------------|--------------------------|---|---------------------|--------------|--------------------|--|
| 12       | ω   | - <u>3α</u> 3 | ω                                  | 1                        | 1   | 1                   | #            |                    | $\Delta_{3}^{\#1}{}_{lphaeta\chi}$   |
|          |   |               |                                    |                          |   |                     |              |                    | $\Delta_{3}^{\#1} + \frac{\alpha \beta \chi}{3(a_0 + 2a_5 - 6a_7)}$  |

| _  | $\Gamma_{2}^{\#1}_{\alpha\beta}$            | $\Gamma^{\#2}_{2}{}^{+}_{lphaeta}$ | $\Gamma^{\#3}_{2^+ \alpha \beta}$                       | $h_{2}^{\#1}{}_{lphaeta}$ | $\Gamma_{2}^{\#1}{}_{lphaeta\chi}$   | Γ <sub>2</sub> - <sub>αβχ</sub>         |
|--|---|------------------------------------|---|---------------------------|--------------------------------------|---|
| $\Gamma_{2}^{\#1} \dagger^{\alpha\beta}$ | $\frac{1}{4}(a_0 - 2a_1 - a_2)$             | 0                                  | $-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$                    | 0                         | 0                                    | 0                                       |
| $\Gamma_{2}^{\#2} + \alpha \beta$        | 0   | $-\frac{3}{4}(a_0+2a_5-6a_7)$      | 0   | 0                         | 0                                    | 0                                       |
| $\Gamma_{2}^{\#3} \dagger^{\alpha\beta}$ | $-\frac{1}{4} \sqrt{3} (2 a_1 + a_2 + a_9)$ | 0                                  | $-\frac{3}{4}$ (2 $a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9$ ) | 0                         | 0                                    | 0                                       |
| $h_{2}^{\#1} \dagger^{\alpha\beta}$      | 0   | 0                                  | 0   | $-\frac{a_0 k^2}{8}$      | 0                                    | 0                                       |
| $\Gamma_{2}^{\#1} + \alpha \beta \chi$   | 0   | 0                                  | 0   | 0                         | $\frac{1}{4}(a_0 - 2a_1 - a_2)$      | $-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$    |
| $\Gamma_{2}^{\#2} + \alpha \beta \chi$   | 0   | 0                                  | 0   | 0                         | $-\frac{1}{4}\sqrt{3}(2a_1+a_2+a_9)$ | $-\frac{3}{4}(2a_1+a_2-2a_5-6a_7+2a_9)$ |

| Massive particl | le  |
|-----------------|---|
| Pole residue:   | $\frac{1}{4c_{13}} > 0$                         |
| Polarisations:  | 3   |
| Square mass:    | $\frac{-3a_0+2(a_5-8a_6+5a_7)}{8c_{13}} >$      |
| Spin:           | 1   |
| Parity:         | Odd   |
|                 | Pole residue: Polarisations: Square mass: Spin: |



Unitarity conditions  $a_0 < 0 \&\& a_7 > \frac{1}{10} (3 a_0 - 2 a_5 + 16 a_6) \&\& c_{13} > 0$ 

| $\Delta_{2}^{#2} + \alpha \beta \chi$  | $\Delta_{2^{-}}^{#1} + \alpha \beta \chi$   | $\mathcal{T}_{2^{+}}^{#1} \dagger^{\alpha\beta}$ | $\Delta_{2+}^{#3} \dagger^{\alpha\beta}$ -   | $\Delta_{2+}^{#2} \dagger^{\alpha\beta}$ | $\Delta_{2+}^{#1} \dagger^{\alpha\beta}$  |                                     |
|--|---|--|--|--|---|-------------------------------------|
| 0  | 0   | 0  | $\frac{4 \left(2  a_{1} + a_{2} + a_{9}\right)}{\sqrt{3} \left(2 \left(2  a_{1} + a_{2}\right) \left(a_{5} + 3  a_{7}\right) + a_{9}^{2} + a_{0} \left(2  a_{1} + a_{2} - 2  a_{5} - 6  a_{7} + 2  a_{9}\right)\right)}$ | 0  | $\frac{4 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}{2 (2 a_1 + a_2) (a_5 + 3 a_7) + a_9^2 + a_0 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}$   | $\Delta^{\#1}_{2^+\alpha\beta}$     |
| 0  | 0   | 0  | 0  | $-\frac{4}{3(a_0+2a_5-6a_7)}$            | 0   | $\Delta_{2}^{\#2}{}_{lphaeta}$      |
| 0  | 0   | 0  | $-\frac{4 (a_0-2 a_1-a_2)}{3 (2 (2 a_1+a_2) (a_5+3 a_7)+a_9^2+a_0 (2 a_1+a_2-2 a_5-6 a_7+2 a_9))}$   | 0  | $-\frac{4 \left(2  a_{1}+a_{2}+a_{9}\right)}{\sqrt{3} \left(2 \left(2  a_{1}+a_{2}\right) \left(a_{5}+3  a_{7}\right)+a_{9}^{2}+a_{0} \left(2  a_{1}+a_{2}-2  a_{5}-6  a_{7}+2  a_{9}\right)\right)}$ | $\Delta_{2+\alpha\beta}^{\#3}$      |
| 0  | 0   | $-\frac{8}{a_0 k^2}$                             | 0  | 0  | 0   | $\mathcal{T}^{\#1}_{2^+lphaeta}$    |
| $\frac{4 (2 a_1 + a_2 + a_9)}{\sqrt{3} (2 (2 a_1 + a_2) (a_5 + 3 a_7) + a_9^2 + a_0 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9))}$ | $\frac{4 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}{2 (2 a_1 + a_2) (a_5 + 3 a_7) + a_9^2 + a_0 (2 a_1 + a_2 - 2 a_5 - 6 a_7 + 2 a_9)}$ | 0  | 0  | 0  | 0   | $\Delta^{\#1}_{2^-\alpha\beta\chi}$ |
| $-\frac{4 (a_0 - 2 a_1 - a_2)}{3 (2 (2 a_1 + a_2) (a_5 + 3 a_7) + a_9^2 + a_0 (2 a_1 + a_2)}$                                | $-\frac{4 (2 a_1 + a_2 + a_9)}{\sqrt{3} (2 (2 a_1 + a_2) (a_5 + 3 a_7) + a_9^2 + a_0 (2 a_1 + a_2)}$                                | 0  | 0  | 0  | 0   | $\Delta_{2}^{\#2}_{-lphaeta\chi}$   |