

	$\sigma_{1^+ \alpha \beta}^{\#1}$	$\sigma_{1^2 \alpha \beta}^{\#2}$	$\tau_{1^+ \alpha \beta}^{\#1}$	$\sigma_{1^+ \alpha}^{\#1}$	$\sigma_{1^2 \alpha}^{\#2}$	$\tau_{1^+ \alpha}^{\#1}$	$\tau_{1^2 \alpha}^{\#2}$
$\sigma_{1^+ \dagger}^{\#1} \dagger^{\alpha \beta}$	$\frac{1}{\frac{3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)}{16(\beta_1+2\beta_3)}+(a_2+a_5)k^2}$	$-\frac{2\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(a_2+a_5)(\beta_1+2\beta_3)k^2)}$	$-\frac{2i\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)k}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(a_2+a_5)(\beta_1+2\beta_3)k^2)}$	0	0	0	0
$\sigma_{1^+ \dagger}^{\#2} \dagger^{\alpha \beta}$	$-\frac{2\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(a_2+a_5)(\beta_1+2\beta_3)k^2)}$	$\frac{6\alpha_0+8(\beta_1+8\beta_3+3(a_2+a_5)k^2)}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(a_2+a_5)(\beta_1+2\beta_3)k^2)}$	$\frac{2ik(3\alpha_0+4(\beta_1+8\beta_3+3(a_2+a_5)k^2))}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(a_2+a_5)(\beta_1+2\beta_3)k^2)}$	0	0	0	0
$\tau_{1^+ \dagger}^{\#1} \dagger^{\alpha \beta}$	$\frac{2i\sqrt{2}(3\alpha_0-4\beta_1+16\beta_3)k}{(1+k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(a_2+a_5)(\beta_1+2\beta_3)k^2)}$	$-\frac{2ik(3\alpha_0+4(\beta_1+8\beta_3+3(a_2+a_5)k^2))}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(a_2+a_5)(\beta_1+2\beta_3)k^2)}$	$\frac{2k^2(3\alpha_0+4(\beta_1+8\beta_3+3(a_2+a_5)k^2))}{(1+k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)+16(a_2+a_5)(\beta_1+2\beta_3)k^2)}$	0	0	0	0
$\sigma_{1^+ \dagger}^{\#1} \dagger^\alpha$	0	0	0	$\frac{1}{\frac{3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)}{8(2\beta_1+\beta_2)}+(a_4+a_5)k^2}$	$\frac{2\sqrt{2}(3\alpha_0-4\beta_1+4\beta_2)}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(a_4+a_5)(2\beta_1+\beta_2)k^2)}$	0	$\frac{4i(3\alpha_0-4\beta_1+4\beta_2)k}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(a_4+a_5)(2\beta_1+\beta_2)k^2)}$
$\sigma_{1^+ \dagger}^{\#2} \dagger^\alpha$	0	0	0	$\frac{2\sqrt{2}(3\alpha_0-4\beta_1+4\beta_2)}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(a_4+a_5)(2\beta_1+\beta_2)k^2)}$	$\frac{6\alpha_0+8(\beta_1+2\beta_2+3(a_4+a_5)k^2)}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(a_4+a_5)(2\beta_1+\beta_2)k^2)}$	0	$\frac{2i\sqrt{2}k(3\alpha_0+4(\beta_1+2\beta_2+3(a_4+a_5)k^2))}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(a_4+a_5)(2\beta_1+\beta_2)k^2)}$
$\tau_{1^+ \dagger}^{\#1} \dagger^\alpha$	0	0	0	0	0	0	0
$\tau_{1^+ \dagger}^{\#2} \dagger^\alpha$	0	0	0	$-\frac{4i(3\alpha_0-4\beta_1+4\beta_2)k}{(1+2k^2)(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(a_4+a_5)(2\beta_1+\beta_2)k^2)}$	$-\frac{2i\sqrt{2}k(3\alpha_0+4(\beta_1+2\beta_2+3(a_4+a_5)k^2))}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(a_4+a_5)(2\beta_1+\beta_2)k^2)}$	0	$\frac{4k^2(3\alpha_0+4(\beta_1+2\beta_2+3(a_4+a_5)k^2))}{(1+2k^2)^2(-3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)+8(a_4+a_5)(2\beta_1+\beta_2)k^2)}$

	$\omega_{0^+}^{\#1}$	$f_{0^+}^{\#1}$	$f_{0^+}^{\#2}$	$\omega_0^{\#1}$
$\omega_{0^+}^{\#1} \dagger$	$\frac{\alpha_0}{2} + \beta_2 + (\alpha_4 + \alpha_6)k^2$	$-\frac{i(\alpha_0+2\beta_2)k}{\sqrt{2}}$	0	0
$f_{0^+}^{\#1} \dagger$	$\frac{i(\alpha_0+2\beta_2)k}{\sqrt{2}}$	$2\beta_2k^2$	0	0
$f_{0^+}^{\#2} \dagger$	0	0	0	0
$\omega_0^{\#1} \dagger$	0	0	0	$\frac{\alpha_0}{2} + 4\beta_3 + (\alpha_2 + \alpha_3)k^2$

	$\omega_{2^+ \alpha \beta}^{\#1}$	$f_{2^+ \alpha \beta}^{\#1}$	$\omega_{2^- \alpha \beta \chi}^{\#1}$
$\omega_{2^+ \dagger}^{\#1} \dagger^{\alpha \beta}$	$-\frac{\alpha_0}{4} + \beta_1 + (\alpha_1 + \alpha_4)k^2$	$\frac{i(\alpha_0-4\beta_1)k}{2\sqrt{2}}$	0
$f_{2^+ \dagger}^{\#1} \dagger^{\alpha \beta}$	$-\frac{i(\alpha_0-4\beta_1)k}{2\sqrt{2}}$	$2\beta_1k^2$	0
$\omega_{2^+ \dagger}^{\#1} \dagger^{\alpha \beta \chi}$	0	0	$-\frac{\alpha_0}{4} + \beta_1 + (\alpha_1 + \alpha_2)k^2$

Source constraints	SO(3) irreps	#
$\tau_{0^+}^{\#2} == 0$		1
$\tau_{1^+}^{\#2 \alpha} + 2ik\sigma_{1^+}^{\#2 \alpha} == 0$		3
$\tau_{1^+}^{\#1 \alpha} == 0$		3
$\tau_{1^+}^{\#1 \alpha \beta} + ik\sigma_{1^+}^{\#2 \alpha \beta} == 0$		3
Total #:		10

$\sigma_{2^+ \alpha \beta}^{\#1}$	$\tau_{2^+ \alpha \beta}^{\#1}$	$\sigma_{2^- \alpha \beta \chi}^{\#1}$
$\sigma_{2^+ \dagger}^{\#1} \dagger^{\alpha \beta}$	$-\frac{\alpha_0^2+4\alpha_0\beta_1+16(a_1+a_4)\beta_1k^2}{2i\sqrt{2}(\alpha_0-4\beta_1)}$	0
$\tau_{2^+ \dagger}^{\#1} \dagger^{\alpha \beta}$	$-\frac{\alpha_0(\alpha_0-4\beta_1)k-16(a_1+a_4)\beta_1k^3}{k^2(\alpha_0^2-4\alpha_0\beta_1-16(a_1+a_4)\beta_1k^2)}$	0
$\sigma_{2^+ \dagger}^{\#1} \dagger^{\alpha \beta \chi}$	0	$-\frac{\alpha_0^2+\beta_1+(\alpha_1+\alpha_2)k^2}{4}$

	$\omega_{1^+ \alpha \beta}^{\#1}$	$\omega_{1^2 \alpha \beta}^{\#2}$	$f_{1^+ \alpha \beta}^{\#1}$	$\omega_{1^+ \alpha}^{\#1}$	$\omega_{1^2 \alpha}^{\#2}$	$f_{1^+ \alpha}^{\#1}$	$f_{1^2 \alpha}^{\#2}$
$\omega_{1^+ \dagger}^{\#1} \dagger^{\alpha \beta}$	$\frac{\alpha_0}{4} + \frac{1}{3}(\beta_1 + 8\beta_3) + (\alpha_2 + \alpha_5)k^2$	$\frac{3\alpha_0-4\beta_1+16\beta_3}{6\sqrt{2}}$	$\frac{i(3\alpha_0-4\beta_1+16\beta_3)k}{6\sqrt{2}}$	0	0	0	0
$\omega_{1^+ \dagger}^{\#2} \dagger^{\alpha \beta}$	$\frac{3\alpha_0-4\beta_1+16\beta_3}{6\sqrt{2}}$	$\frac{2}{3}(\beta_1 + 2\beta_3)$	$\frac{2}{3}i(\beta_1 + 2\beta_3)k$	0	0	0	0
$f_{1^+ \dagger}^{\#1} \dagger^{\alpha \beta}$	$-\frac{i(3\alpha_0-4\beta_1+16\beta_3)k}{6\sqrt{2}}$	$-\frac{2}{3}i(\beta_1 + 2\beta_3)k$	$\frac{2}{3}(\beta_1 + 2\beta_3)k^2$	0	0	0	0
$\omega_{1^+ \dagger}^{\#1} \dagger^\alpha$	0	0	0	$\frac{\alpha_0}{4} + \frac{1}{3}(\beta_1 + 2\beta_2) + (\alpha_4 + \alpha_5)k^2$	$-\frac{3\alpha_0-4\beta_1+4\beta_2}{6\sqrt{2}}$	0	$-\frac{1}{6}i(3\alpha_0-4\beta_1+4\beta_2)k$
$\omega_{1^+ \dagger}^{\#2} \dagger^\alpha$	0	0	0	$-\frac{3\alpha_0-4\beta_1+4\beta_2}{6\sqrt{2}}$	$\frac{1}{3}(2\beta_1 + \beta_2)$	0	$\frac{1}{3}i\sqrt{2}(2\beta_1 + \beta_2)k$
$f_{1^+ \dagger}^{\#1} \dagger^\alpha$	0	0	0	0	0	0	0
$f_{1^+ \dagger}^{\#2} \dagger^\alpha$	0	0	0	$\frac{1}{6}i(3\alpha_0-4\beta_1+4\beta_2)k$	$-\frac{1}{3}i\sqrt{2}(2\beta_1 + \beta_2)k$	0	$\frac{2}{3}(2\beta_1 + \beta_2)k^2$

	$\sigma_{0^+}^{\#1}$	$\tau_{0^+}^{\#1}$	$\tau_{0^+}^{\#2}$	$\sigma_{0^+}^{\#1}$
$\sigma_{0^+}^{\#1} \dagger$	$-\frac{4\beta_2}{\alpha_0^2+2\alpha_0\beta_2-4(a_4+a_6)\beta_2k^2}$	$\frac{i\sqrt{2}(\alpha_0+2\beta_2)}{-\alpha_0(\alpha_0+2\beta_2)k+4(a_4+a_6)\beta_2k^3}$	0	0
$\tau_{0^+}^{\#1} \dagger$	$\frac{i\sqrt{2}(\alpha_0+2\beta_2)}{\alpha_0(\alpha_0+2\beta_2)k-4(a_4+a_6)\beta_2k^3}$	$\frac{\alpha_0}{2} + \beta_2 + (\alpha_4 + \alpha_6)k^2$	0	0
$\tau_{0^+}^{\#2} \dagger$	0	0	0	0
$\sigma_{0^+}^{\#1} \dagger$	0	0	0	$\frac{2}{\alpha_0+8\beta_3+2(a_2+\alpha_3)k^2}$

Massive particle	
Pole residue:	$(3(\alpha_0^2(3\alpha_2+3\alpha_5+2\beta_1+4\beta_3)-8\alpha_0(\beta_1^2+\alpha_2(\beta_1-4\beta_3)+\alpha_5(\beta_1-4\beta_3)-4\beta_3^2)+16(-4\beta_1\beta_3(\beta_1+2\beta_3)+\alpha_2(\beta_1^2+8\beta_3^2))+\alpha_5(\beta_1^2+8\beta_3^2))))/(2(\alpha_2+\alpha_5)(\beta_1+2\beta_3)(3\alpha_0^2-12\alpha_0(\beta_1-2\beta_3)+16(\alpha_5\beta_1+2\alpha_5\beta_3-6\beta_1\beta_3+\alpha_2(\beta_1+2\beta_3))))>0$
Polarisations:	3
Square mass:	$\frac{3(\alpha_0-4\beta_1)(\alpha_0+8\beta_3)}{16(\alpha_2+\alpha_5)(\beta_1+2\beta_3)}>0$
Spin:	1
Parity:	Even

Massive particle	
Pole residue:	$-(((3(\alpha_0^2(3\alpha_4+3\alpha_5+4\beta_1+2\beta_2)+4\alpha_0(-2\alpha_4\beta_1-2\alpha_5\beta_1-4\beta_1^2+2\alpha_4\beta_2+2\alpha_5\beta_2+\beta_2^2))+8(-2\beta_1\beta_2(2\beta_1+\beta_2)+\alpha_4(2\beta_1^2+\beta_2^2))+\alpha_5(2\beta_1^2+\beta_2^2))))/(2(\alpha_4+\alpha_5)(2\beta_1+\beta_2)(3\alpha_0^2+6\alpha_0(-2\beta_1+\beta_2)+4(2\alpha_5\beta_1+\alpha_5\beta_2-6\beta_1\beta_2+\alpha_4(2\beta_1+\beta_2))))>0$
Polarisations:	3
Square mass:	$\frac{3(\alpha_0-4\beta_1)(\alpha_0+2\beta_2)}{8(\alpha_4+\alpha_5)(2\beta_1+\beta_2)}>0$
Spin:	1
Parity:	Odd

Massive particle	
Pole residue:	$-\frac{2}{\alpha_0} + \frac{\alpha_1+\alpha_4+2\beta_1}{2\alpha_1\beta_1+2\alpha_4\beta_1}>0$
Polarisations:	5
Square mass:	$\frac{\alpha_0(\alpha_0-4\beta_1)}{16(\alpha_1+\alpha_4)\beta_1}>0$
Spin:	2
Parity:	Even

Massive particle	
Pole residue:	$\frac{1}{\alpha_0} + \frac{\alpha_4+\alpha_6+2\beta_2}{2\alpha_4\beta_2+2\alpha_6\beta_2}>0$
Polarisations:	1
Square mass:	$\frac{\alpha_0(\alpha_0+2\beta_2)}{4(\alpha_4+\alpha_6)\beta_2}>0$
Spin:	0
Parity:	Even

Massive particle	
Pole residue:	$-\frac{1}{\alpha_2+\alpha_3}>0$
Polarisations:	1
Square mass:	$\frac{\alpha_0+8\beta_3}{2(\alpha_2+\alpha_3)}>0$
Spin:	0
Parity:	Odd

Unitarity conditions  
(Unitarity is demonstrably impossible)

Massive particle	
Pole residue:	$-\frac{1}{\alpha_1+\alpha_2}>0$
Polarisations:	5
Square mass:	$\frac{\alpha_0-4\beta_1}{4(\alpha_1+\alpha_2)}>0$
Spin:	2
Parity:	Odd

Quadratic pole	
Pole residue:	$\frac{1}{\alpha_0}>0$
Polarisations:	2