



Lagrangian density

[illegible]

$\sigma_1^{\#1} + \alpha\beta$	$\frac{2(t_1+t_2)}{3t_1t_2}$	$\frac{\sqrt{2}(t_1-2t_2)}{3(1+k^2)t_1t_2}$	$\frac{i\sqrt{2}k(t_1-2t_2)}{3(1+k^2)t_1t_2}$	$\sigma_1^{\#1}$	$\sigma_1^{\#2}$	$\tau_1^{\#1}$	$\tau_1^{\#2}$
$\sigma_1^{\#2} + \alpha\beta$	$\frac{\sqrt{2}(t_1-2t_2)}{3(1+k^2)t_1t_2}$	$\frac{t_1+4t_2}{3(1+k^2)^2t_1t_2}$	$\frac{ik(t_1+4t_2)}{3(1+k^2)^2t_1t_2}$	0	0	0	0
$\tau_1^{\#1} + \alpha\beta$	$-\frac{i\sqrt{2}k(t_1-2t_2)}{3(1+k^2)t_1t_2}$	$-\frac{ik(t_1+4t_2)}{3(1+k^2)^2t_1t_2}$	$\frac{k^2(t_1+4t_2)}{3(1+k^2)^2t_1t_2}$	0	0	0	0
$\sigma_1^{\#1} + \alpha$	0	0	0	0	$\frac{\sqrt{2}}{t_1+2k^2t_1}$	0	$\frac{2ik}{t_1+2k^2t_1}$
$\sigma_1^{\#2} + \alpha$	0	0	0	$\frac{\sqrt{2}}{t_1+2k^2t_1}$	$\frac{2k^2t_1+t_1}{(t_1+2k^2t_1)^2}$	0	$\frac{i\sqrt{2}k(2k^2t_1+t_1)}{(t_1+2k^2t_1)^2}$
$\tau_1^{\#1} + \alpha$	0	0	0	0	0	0	0
$\tau_1^{\#2} + \alpha$	0	0	0	$-\frac{2ik}{t_1+2k^2t_1}$	$-\frac{i\sqrt{2}k(2k^2t_1+t_1)}{(t_1+2k^2t_1)^2}$	0	$\frac{2k^2(2k^2t_1+t_1)}{(t_1+2k^2t_1)^2}$

$\omega_1^{\#1} + \alpha\beta$	$\omega_1^{\#2} + \alpha\beta$	$f_1^{\#1} + \alpha\beta$	$\omega_1^{\#1} - \alpha$	$\omega_1^{\#2} - \alpha$	$f_1^{\#1} - \alpha$	$f_1^{\#2} - \alpha$
$\frac{1}{6}(t_1 + 4t_2)$	$-\frac{t_1 - 2t_2}{3\sqrt{2}}$	$-\frac{\bar{i}k(t_1 - 2t_2)}{3\sqrt{2}}$	0	0	0	0
$\omega_1^{\#2} + \alpha\beta$	$-\frac{t_1 - 2t_2}{3\sqrt{2}}$	$-\frac{\bar{i}k(t_1 - 2t_2)}{3\sqrt{2}}$	0	0	0	0
$f_1^{\#1} + \alpha\beta$	$-\frac{t_1 - 2t_2}{3\sqrt{2}}$	$-\frac{\bar{i}k(t_1 - 2t_2)}{3\sqrt{2}}$	0	0	0	0
$\omega_1^{\#1} + \alpha$	0	0	$-k^2 r_1 - \frac{t_1}{2}$	$\frac{t_1}{\sqrt{2}}$	0	$\bar{i}k t_1$
$\omega_1^{\#2} + \alpha$	0	0	$\frac{t_1}{\sqrt{2}}$	0	0	0
$f_1^{\#1} + \alpha$	0	0	0	0	0	0
$f_1^{\#2} + \alpha$	0	0	$-\bar{i}k t_1$	0	0	0

	$\sigma_{0+}^{\#1}$	$\tau_{0+}^{\#1}$	$\tau_{0+}^{\#2}$	$\sigma_{0-}^{\#1}$
$\sigma_{0+}^{\#1} \dagger$	$-\frac{1}{(1+2k^2)^2 t_1}$	$\frac{i\sqrt{2}k}{(1+2k^2)^2 t_1}$	0	0
$\tau_{0+}^{\#1} \dagger$	$-\frac{i\sqrt{2}k}{(1+2k^2)^2 t_1}$	$-\frac{2k^2}{(1+2k^2)^2 t_1}$	0	0
$\tau_{0+}^{\#2} \dagger$	0	0	0	0
$\sigma_{0-}^{\#1} \dagger$	0	0	0	$\frac{1}{t_2}$

$\sigma_2^{\#1} + \alpha\beta$	$\frac{2}{(1+2k^2)^2 t_1}$	$-\frac{2i\sqrt{2}k}{(1+2k^2)^2 t_1}$	$\sigma_2^{\#1} \alpha\beta$
$\tau_2^{\#1} + \alpha\beta$	$\frac{2i\sqrt{2}k}{(1+2k^2)^2 t_1}$	$\frac{4k^2}{(1+2k^2)^2 t_1}$	$\tau_2^{\#1} + \alpha\beta$
$\sigma_2^{\#1} + \alpha\beta\chi$	0	0	$\frac{2}{2k^2 t_1 + t_1}$

$$\begin{array}{ccc}
 \omega_{2+}^{\#1} \alpha_\beta & f_{2+}^{\#1} \alpha_\beta & \omega_{2-}^{\#1} \alpha_\beta \chi \\
 \omega_{2+}^{\#1} \dagger \alpha_\beta & \frac{t_1}{2} & -\frac{i k t_1}{\sqrt{2}} & 0 \\
 f_{2+}^{\#1} \dagger \alpha_\beta & \frac{i k t_1}{\sqrt{2}} & k^2 t_1 & 0 \\
 \omega_{2-}^{\#1} \dagger \alpha_\beta \chi & 0 & 0 & k^2 r_1 + \frac{t_1}{2}
 \end{array}$$

Source constraints	
SO(3) irreps	#
$\tau_{0+}^{\#2} == 0$	1
$\tau_{0+}^{\#1} - 2 \, i \, k \, \sigma_{0+}^{\#1} == 0$	1
$\tau_{1-}^{\#2\alpha} + 2 \, i \, k \, \sigma_{1-}^{\#2\alpha} == 0$	3
$\tau_{1-}^{\#1\alpha} == 0$	3
$\tau_{1+}^{\#1\alpha\beta} + i \, k \, \sigma_{1+}^{\#2\alpha\beta} == 0$	3
$\tau_{2+}^{\#1\alpha\beta} - 2 \, i \, k \, \sigma_{2+}^{\#1\alpha\beta} == 0$	5
Total #:	16

	$\omega_{0+}^{\#1}$	$f_{0+}^{\#1}$	$f_{0+}^{\#2}$	$\omega_{0-}^{\#1}$
$\omega_{0+}^{\#1} \dagger$	$-t_1$	$i \sqrt{2} k t_1$	0	0
$f_{0+}^{\#1} \dagger$	$-i \sqrt{2} k t_1$	$-2 k^2 t_1$	0	0
$f_{0+}^{\#2} \dagger$	0	0	0	0
$\omega_{0-}^{\#1} \dagger$	0	0	0	t_2