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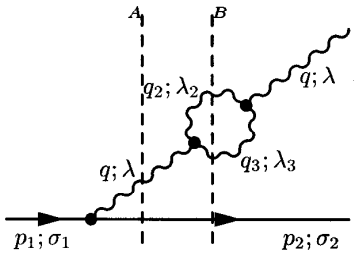
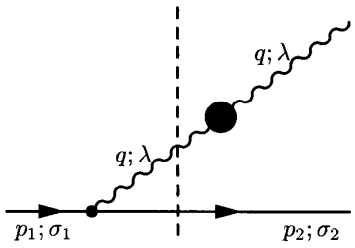
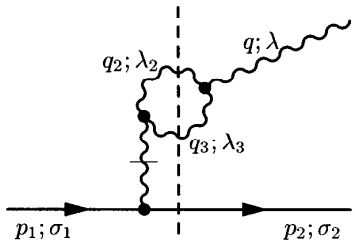


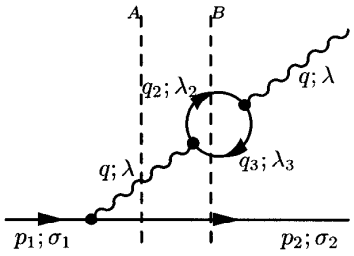
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\,(\bar{u}_2 \not{u}_1 T^a)\,\frac{C_A}{2} \quad \times$$
$$\left\{ \int_0^1 dz \int d^2 l_\perp \frac{\frac{1}{1-z} + \frac{1}{z} - 2 + z(1-z)}{z(1-z)\,(q^+E - Q^2) - |l_\perp|^2} \right.$$
$$\left. - \frac{1}{q^+E - Q^2} \int_0^1 dz \int d^2 l_\perp \left(\frac{1}{(1-z)^2} + \frac{1}{z^2} + 1 \right) \right\}$$



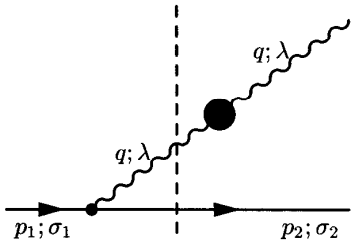
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\,\frac{C_A}{2}\,\frac{(\bar{u}_2 \not{u}_1 T^a)}{q^+E - Q^2} \int_0^1 dz \int d^2 l_\perp \left(\frac{2}{z^2} + \frac{1}{z} \right)$$



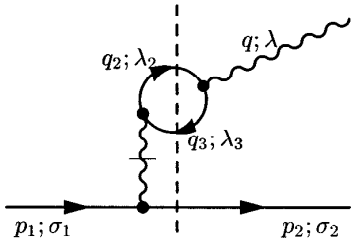
$$\delta P^- = 0$$



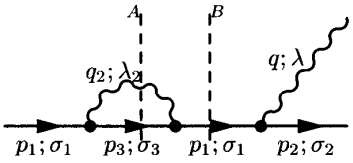
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\left(\bar{u}_2 \not{q} u_1 T^a\right)\frac{N_f}{4} \times \left\{ \int_0^1 dz \int d^2 l_\perp \frac{1-2z(1-z)}{z(1-z)(q^+E-Q^2)-m^2-|l_\perp|^2} - \frac{1}{q^+E-Q^2}\int_0^1 dz \int d^2 l_\perp \left(\frac{1}{1-z}+\frac{1}{z}-2\right) + \frac{2}{q^+E-Q^2}\int_0^1 dz \int d^2 l_\perp \frac{m^2}{z(1-z)(q^+E-Q^2)-m^2-|l_\perp|^2} \right\}$$



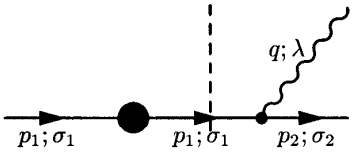
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\frac{\left(\bar{u}_2 \not{q} u_1 T^a\right)}{q^+E-Q^2} N_f \int_0^1 dz \int d^2 l_\perp \frac{-1}{z}$$



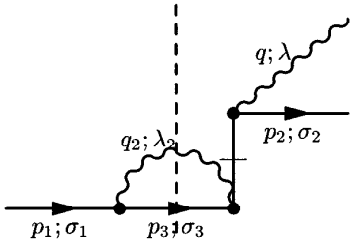
$$\delta P^- = 0$$



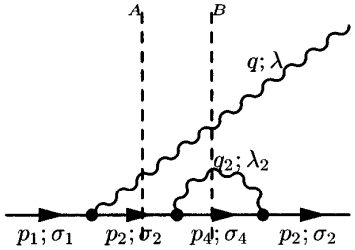
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right)\frac{C_F}{2} \times \left\{\int_0^1 dz \int d^2 l_\perp \frac{\frac{2}{z} - 2 + z - \frac{2m^2}{p_1^+ E}}{z(1-z)\,p_1^+ E - m^2 z^2 - |l_\perp|^2} - \frac{1}{p_1^+ E}\int_0^1 dz \int d^2 l_\perp \left(\frac{2}{z^2} + \frac{1}{1-z}\right)\right\}$$



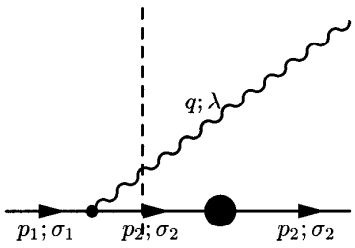
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right)\frac{C_F}{2p_1^+ E}\int_0^1 dz \int d^2 l_\perp \left(\frac{2}{z^2} + \frac{2}{z} - 1\right)$$



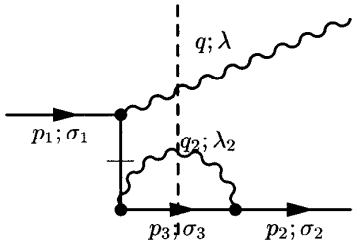
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right) C_F \frac{-m}{p_1^+} \times \int_0^1 dz \int d^2 l_\perp \frac{z}{z(1-z)\,p_1^+ E - m^2 z^2 - |l_\perp|^2}$$



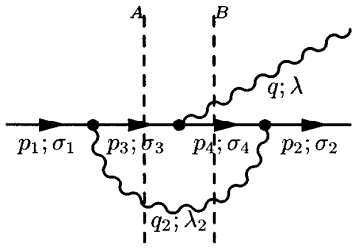
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right)\frac{C_F}{2} \times \left\{\int_0^1 dz \int d^2 l_\perp \frac{\frac{2}{z} - 2 + z - \frac{2m^2}{p_2^+(E - Q^2/q^+)}}{z(1-z)\,p_2^+(E - Q^2/q^+) - m^2 z^2 - |l_\perp|^2} - \frac{1}{p_2^+(E - Q^2/q^+)}\int_0^1 dz \int d^2 l_\perp \left(\frac{2}{z^2} + \frac{1}{1-z}\right)\right\}$$



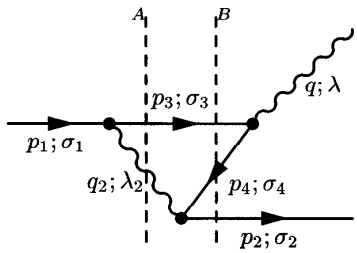
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right)\frac{\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right)}{p_2^+(E - Q^2/q^+)} C_F \int_0^1 dz \int d^2 l_\perp \left(\frac{2}{z^2} + \frac{2}{z} - 1\right)$$



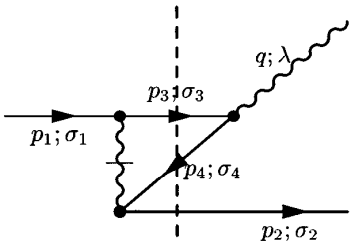
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right) C_F \frac{-m}{p_1^+} \times \int_0^1 dz \int d^2 l_\perp \frac{z}{z(1-z)\,p_2^+(E - Q^2/q^+) - m^2 z^2 - |l_\perp|^2}$$



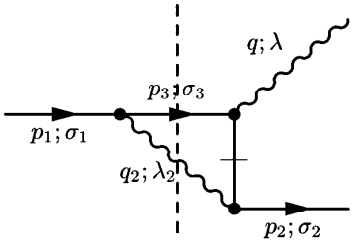
$$
\begin{aligned}
\delta\tilde{P}^- &= \frac{g^3}{\sqrt{2\pi}^9}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right)\left(C_F - \frac{C_A}{2}\right) \\
&\times \left\{ \int_0^1 dz \int d^2 l_\perp \frac{-\frac{1}{z} + \frac{p_2^+}{p_1^+} z}{z(1-z)p_2^+(E - Q^2/q^+) - m^2 z^2 - |l_\perp|^2} - \int_0^{p_2^+/p_1^+} dz \int d^2 l_\perp \frac{1}{z} \frac{1}{z(1-z)p_1^+ E - m^2 z^2 - |l_\perp|^2} \right\} \\
&+ \frac{g^3}{\sqrt{2\pi}^9}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right)\left(C_F - \frac{C_A}{2}\right) \\
&\times \left\{ \frac{m}{p_2^+} \int_0^1 dz \int d^2 l_\perp \frac{1}{z(1-z)p_2^+(E - Q^2/q^+) - m^2 z^2 - |l_\perp|^2} - \frac{m}{p_1^+} \int_0^{p_2^+/p_1^+} dz \int d^2 l_\perp \frac{1}{z(1-z)p_1^+ E - m^2 z^2 - |l_\perp|^2} \right\}
\end{aligned}
$$



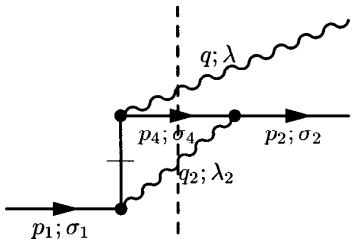
$$
\begin{aligned}
\delta\tilde{P}^- &= \frac{g^3}{\sqrt{2\pi}^9}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right)\left(C_F - \frac{C_A}{2}\right) \\
&\times \left\{ \int_0^1 dz \int d^2 l_\perp \frac{1 + \frac{q^+}{p_1^+} z}{z(1-z)(q^+ E - Q^2) - m^2 - |l_\perp|^2} - \int_{p_2^+/p_1^+}^1 dz \int d^2 l_\perp \frac{1}{z} \frac{1}{z(1-z)p_1^+ E - m^2 z^2 - |l_\perp|^2} \right\} \\
&+ \frac{g^3}{\sqrt{2\pi}^9}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right)\left(C_F - \frac{C_A}{2}\right) \\
&\times \left\{ 2m \int_0^1 dz \int d^2 l_\perp \frac{1}{\left(p_1^+ - z q^+\right)^2} \frac{1}{z(1-z)(q^+ E - Q^2) - m^2 - |l_\perp|^2} - \frac{m}{p_1^+} \int_{p_2^+/p_1^+}^1 dz \int d^2 l_\perp \frac{1}{z(1-z)p_1^+ E - m^2 z^2 - |l_\perp|^2} \right\}
\end{aligned}
$$



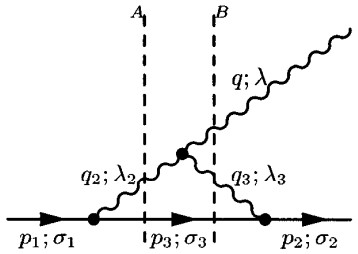
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\left(u^\dagger_{2+}\vec{\epsilon}_\perp\cdot\vec{\gamma}_\perp u_{1+}T^a\right)\left(C_F-\frac{C_A}{2}\right)2m \quad \times$$
$$\int_0^1 dz\int d^2l_\perp \frac{-1}{\left(p_1^+-zq^+\right)^2\cdot\left(z\left(1-z\right)\left(q^+E-Q^2\right)-m^2-\left|l_\perp\right|^2\right)}$$



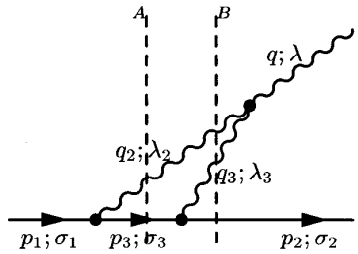
$$\delta P^- = 0$$



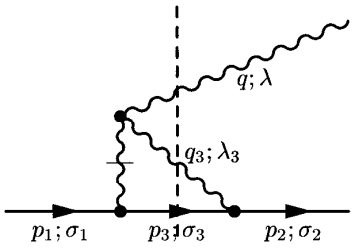
$$\delta P^- = 0$$



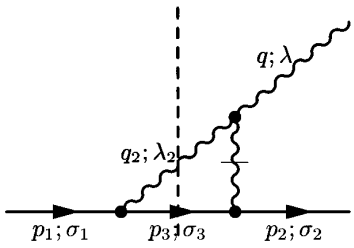
$$
\begin{aligned}
\delta\tilde{P}^- &= \frac{g^3}{\sqrt{2\pi}^9}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right)\frac{C_A}{2} \\
&\times \left\{ \int\limits_{q^+/p_1^+}^{1} dz \int d^2 l_\perp \frac{-\frac{1}{z}}{z(1-z)p_1^+ E - m^2 z^2 - |l_\perp|^2} - \int\limits_{0}^{1} dz \int d^2 l_\perp \frac{\frac{1}{z} + (1-z)\frac{p_2^+}{p_1^+}}{z(1-z)p_2^+(E - Q^2/q^+) - m^2 z^2 - |l_\perp|^2} \right\} \\
&+ \frac{g^3}{\sqrt{2\pi}^9}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right)\frac{C_A}{2} \\
&\times \left\{ \frac{m}{p_1^+} \int\limits_{q^+/p_1^+}^{1} dz \int d^2 l_\perp \frac{\frac{q^+}{zp_1^+ - q^+} - 2\frac{z^2}{\left(z - q^+/p_1^+\right)^2}}{z(1-z)p_1^+ E - m^2 z^2 - |l_\perp|^2} \right. \\
&\qquad \left. + \frac{m}{p_2^+} \int\limits_{0}^{1} dz \int d^2 l_\perp \frac{\frac{q^+}{zp_1^+ + q^+} + 2\frac{z^2}{\left(z + q^+/p_2^+\right)^2}}{z(1-z)p_2^+(E - Q^2/q^+) - m^2 z^2 - |l_\perp|^2} \right\}
\end{aligned}
$$



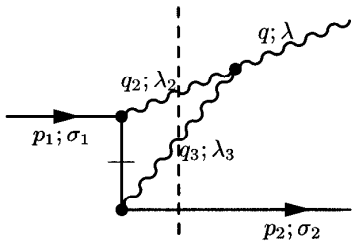
$$
\begin{aligned}
\delta\tilde{P}^- &= \frac{g^3}{\sqrt{2\pi}^9}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right)\frac{C_A}{2} \\
&\times \left\{ \int\limits_{0}^{q^+/p_1^+} dz \int d^2 l_\perp \frac{-\frac{1}{z}}{z(1-z)p_1^+ E - m^2 z^2 - |l_\perp|^2} + \int\limits_{0}^{1} dz \int d^2 l_\perp \frac{2 - z\frac{q^+}{p_1^+} - \frac{1}{z} - \frac{1}{1-z}}{z(1-z)(q^+ E - Q^2) - m^2 z^2 - |l_\perp|^2} \right\} \\
&+ \frac{g^3}{\sqrt{2\pi}^9}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right)\frac{C_A}{2} \\
&\times \left\{ \frac{m}{p_1^+} \int\limits_{0}^{q^+/p_1^+} dz \int d^2 l_\perp \frac{-3\frac{q^+}{q^+ - zp_1^+} + 2 + 2\frac{q^{+2}}{\left(q^+ - p_1^+ z\right)^2}}{z(1-z)p_1^+ E - m^2 z^2 - |l_\perp|^2} \right\}
\end{aligned}
$$



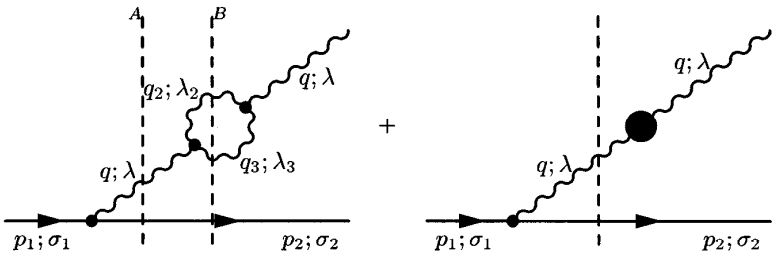
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\left(u^\dagger_{2+}\vec{\epsilon}_\perp\cdot\vec{\gamma}_\perp u_{1+}T^a\right)\frac{C_A}{2}m \quad \times$$
$$\int_0^1 dz\int d^2l_\perp z\frac{zp_2^+ - q^+}{\left(zp_2^+ + q^+\right)^2}\frac{1}{z\left(1-z\right)p_2^+\left(E - Q^2/q^+\right) - m^2z^2 - |l_\perp|^2}$$



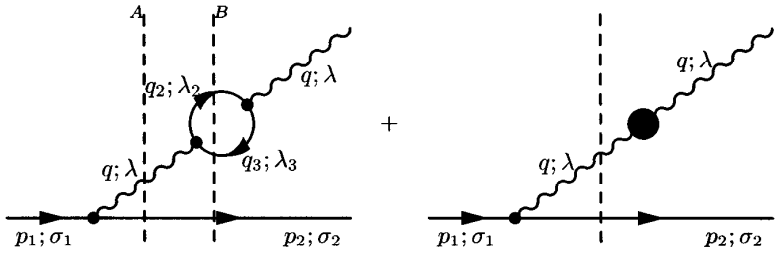
$$\delta P^- = \frac{g^3}{\sqrt{2\pi}^9}\left(u^\dagger_{2+}\vec{\epsilon}_\perp\cdot\vec{\gamma}_\perp u_{1+}T^a\right)\frac{C_A}{2}m \quad \times$$
$$\int_0^1 dz\int d^2l_\perp z\frac{zp_1^+ - q^+}{\left(zp_1^+ + q^+\right)^2}\frac{1}{z\left(1-z\right)p_2^+E - m^2z^2 - |l_\perp|^2}$$



$$\delta P^- = 0$$



$$\delta P^- = \frac{g}{\sqrt{2\pi}^3}\,(\bar{u}_2 \not{\varepsilon} u_1 T^a) \quad \times \quad \frac{g^2}{8\pi^2}\frac{C_A}{2}\left\{\frac{11}{3} - 4\ln\left(\frac{q^+}{\epsilon}\right)\right\}\ln\left(\frac{\Lambda}{\mu}\right)$$



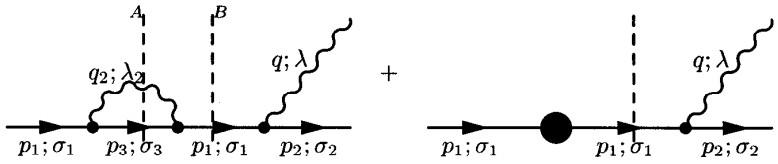
$$\delta P^- = \frac{g}{\sqrt{2\pi}^3}\,(\bar{u}_2 \not{\varepsilon} u_1 T^a) \quad \times \quad \frac{g^2}{8\pi^2}\left(\frac{-N_f}{3}\right)\ln\left(\frac{\Lambda}{\mu}\right)$$

$$\sum_i \delta P_i^- = \frac{g}{\sqrt{2\pi}^3}\,\bar{u}(p_2,\sigma_2)\not{\varepsilon}(q,\lambda)\,u_+(p_1,\sigma_1)\,T^a$$

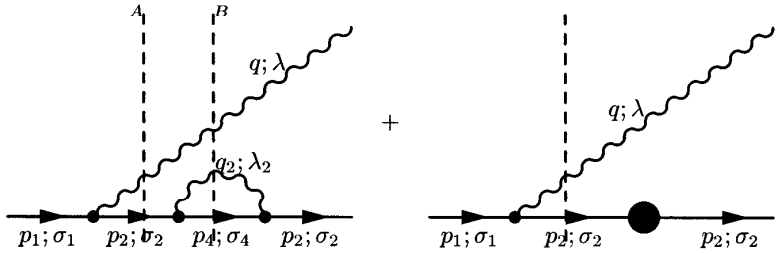
$$\times \frac{g^2}{16\pi^2}\left(\frac{11}{3}C_A - \frac{2}{3}N_f\right)\ln\left(\frac{\Lambda}{\mu}\right)$$

$$+ \frac{g}{\sqrt{2\pi}^3}\,u_+^+(p_2,\sigma_2)\,T_\perp\,\varepsilon_\perp(q,\lambda)\,u_+(p_1,\sigma_1)\,T^a$$

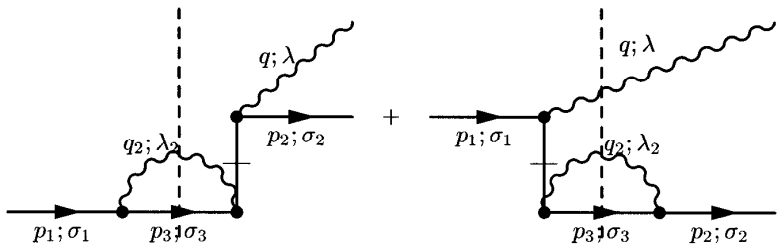
$$\times \frac{3g^2}{8\pi^2}C_F\left(\frac{m}{p_1^+} - \frac{m}{p_2^+}\right)\ln\left(\frac{\Lambda}{\mu}\right)$$



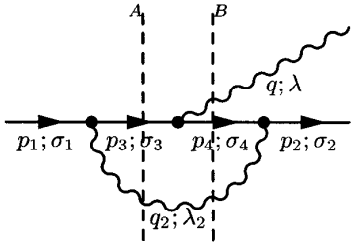
$$\delta P^- = \frac{g}{\sqrt{2\pi}^3}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right) \quad \times \quad \frac{g^2}{8\pi^2}\left(-C_F\right)\left\{2\ln\left(\frac{p_1^+}{\epsilon}\right) - \frac{3}{2} - \cancel{\frac{2m^2}{p_1^+ E}}\right\}\ln\left(\frac{\Lambda}{\mu}\right)$$



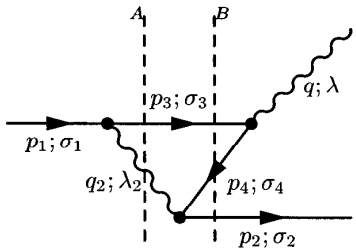
$$\delta P^- = \frac{g}{\sqrt{2\pi}^3}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right) \quad \times \quad \frac{g^2}{8\pi^2}\left(-C_F\right)\left\{2\ln\left(\frac{p_2^+}{\epsilon}\right) - \frac{3}{2} - \cancel{\frac{2m^2}{p_2^+\left(E - Q^2/q^+\right)}}\right\}\ln\left(\frac{\Lambda}{\mu}\right)$$



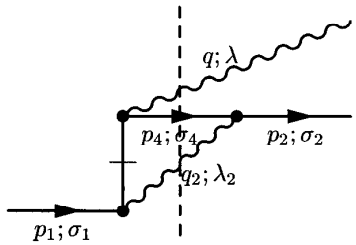
$$\delta P^- = \frac{g}{\sqrt{2\pi}^3}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right) \quad \times \quad \frac{g^2}{8\pi^2} C_F \left\{\frac{m}{p_1^+} - \frac{m}{p_2^+}\right\}\ln\left(\frac{\Lambda}{\mu}\right)$$



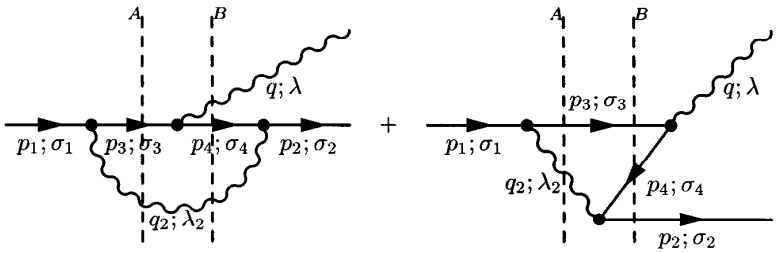
$$\begin{aligned}
\delta\tilde{P}^- &= \frac{g}{\sqrt{2\pi}^3}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right) \times \frac{g^2}{8\pi^2}\left(C_F - \frac{C_A}{2}\right)\left\{2\ln\left(\frac{p_1^+ p_2^+}{\epsilon^2}\right) + 2\ln\left(\frac{p_2^+}{p_1^+}\right) - \frac{p_2^+}{p_1^+}\right\}\ln\left(\frac{\Lambda}{\mu}\right) \\
&+ \frac{g}{\sqrt{2\pi}^3}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right) \times \frac{g^2}{4\pi^2}\left(C_F - \frac{C_A}{2}\right)\left\{\frac{m p_2^+}{{p_1^+}^2} - \frac{m}{p_2^+}\right\}\ln\left(\frac{\Lambda}{\mu}\right)
\end{aligned}$$

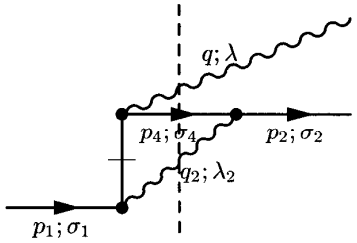


$$\begin{aligned}
\delta\tilde{P}^- &= \frac{g}{\sqrt{2\pi}^3}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right) \times \frac{g^2}{8\pi^2}\left(C_F - \frac{C_A}{2}\right)\left\{-2 - 2\ln\left(\frac{p_2^+}{p_1^+}\right) - \frac{q^+}{p_1^+}\right\}\ln\left(\frac{\Lambda}{\mu}\right) \\
&+ \frac{g}{\sqrt{2\pi}^3}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right) \times \frac{g^2}{4\pi^2}\left(C_F - \frac{C_A}{2}\right)\left\{\frac{m q^+}{{p_1^+}^2} + \frac{2m}{p_1^+} - \frac{2m}{p_2^+}\right\}\ln\left(\frac{\Lambda}{\mu}\right)
\end{aligned}$$

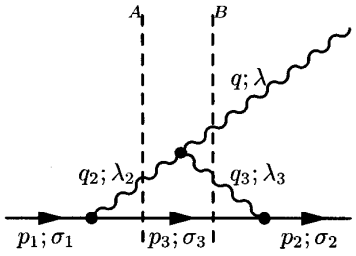


$$\delta\tilde{P}^- = \frac{g}{\sqrt{2\pi}^3}\left(u^\dagger_{2+}\vec{\epsilon}_\perp\cdot\vec{\gamma}_\perp u_{1+}T^a\right) \quad \times \quad \frac{g^2}{4\pi^2}\left(C_F-\frac{C_A}{2}\right)\left\{\frac{2m}{p_2^+}-\frac{2m}{p_1^+}\right\}\ln\left(\frac{\Lambda}{\mu}\right)$$

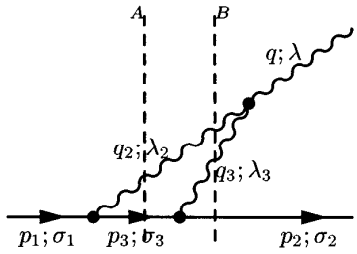




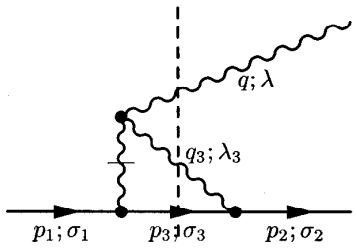
$$\begin{aligned}\delta\tilde{P}^- &= \frac{g}{\sqrt{2\pi}^3}\left(\bar{u}_2\not{\epsilon}u_1T^a\right) && \times \quad \frac{g^2}{8\pi^2}\left(C_F-\frac{C_A}{2}\right)\left\{2\ln\left(\frac{p_1^+p_2^+}{\epsilon^2}\right)-3\right\}\ln\left(\frac{\Lambda}{\mu}\right)\\ &+ \frac{g}{\sqrt{2\pi}^3}\left(u^\dagger_{2+}\vec{\epsilon}_\perp\cdot\vec{\gamma}_\perp u_{1+}T^a\right) && \times \quad \frac{g^2}{4\pi^2}\left(C_F-\frac{C_A}{2}\right)\left\{\frac{m}{p_1^+}-\frac{m}{p_2^+}\right\}\ln\left(\frac{\Lambda}{\mu}\right)\end{aligned}$$



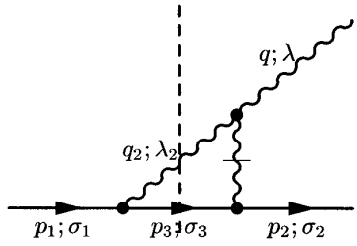
$$
\begin{aligned}
\delta\tilde{P}^- &= \frac{g}{\sqrt{2\pi}^3}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right) &&\times \frac{g^2}{8\pi^2}\frac{C_A}{2}\left\{2\ln\left(\frac{p_2^+}{\epsilon}\right) - 2\ln\left(\frac{q^+}{p_1^+}\right) + \frac{p_2^+}{p_1^+}\right\}\ln\left(\frac{\Lambda}{\mu}\right) \\
&+ \frac{g}{\sqrt{2\pi}^3}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right) &&\times \frac{g^2}{4\pi^2}\frac{C_A}{2}\left\{\frac{m}{p_1^+}\left(2 - 2\frac{q^+}{p_2^+} + 2\frac{{q^+}^2}{p_1^+\epsilon} + 3\frac{q^+}{p_1^+}\ln\left(\frac{p_2^+}{\epsilon}\right)\right)\right. \\
&&&\left. + \frac{m}{p_2^+}\left(-2 - 2\frac{q^+}{p_1^+} + 3\frac{q^+}{p_2^+}\ln\left(\frac{p_1^+}{q^+}\right)\right)\right\}\ln\left(\frac{\Lambda}{\mu}\right)
\end{aligned}
$$



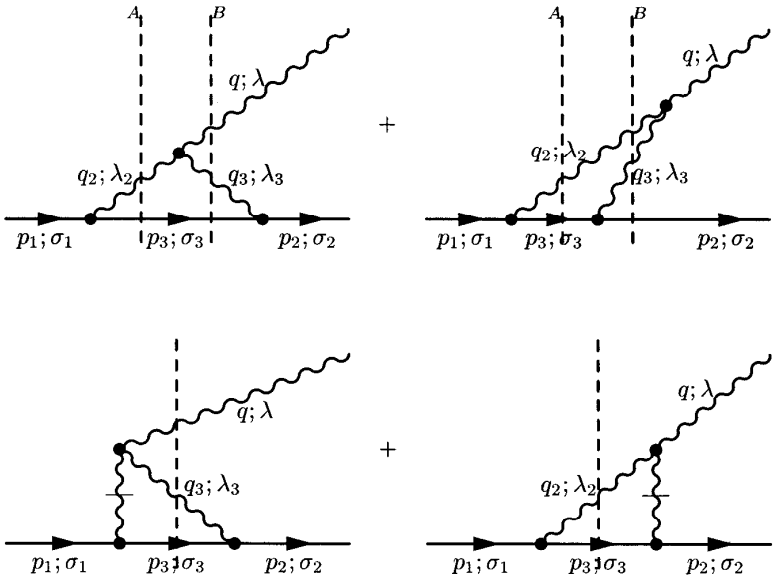
$$
\begin{aligned}
\delta\tilde{P}^- &= \frac{g}{\sqrt{2\pi}^3}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right) &&\times \frac{g^2}{8\pi^2}\frac{C_A}{2}\left\{2\ln\left(\frac{p_1^+}{\epsilon}\right) + 4\ln\left(\frac{q^+}{\epsilon}\right) - 4 + 2\ln\left(\frac{q^+}{p_1^+}\right) + \frac{q^+}{p_1^+}\right\}\ln\left(\frac{\Lambda}{\mu}\right) \\
&+ \frac{g}{\sqrt{2\pi}^3}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right) &&\times \frac{g^2}{4\pi^2}\frac{C_A}{2}\frac{m}{p_1^+}\left(2\frac{{q^+}^2}{\epsilon p_1^+} - 3\frac{q^+}{p_1^+}\ln\left(\frac{q^+}{\epsilon}\right)\right)\ln\left(\frac{\Lambda}{\mu}\right)
\end{aligned}
$$



$$\delta\tilde{P}^- = \frac{g}{\sqrt{2\pi}^3}\left(u^\dagger_{2+}\vec{\epsilon}_\perp\cdot\vec{\gamma}_\perp u_{1+}T^a\right) \quad \times \quad \frac{g^2}{4\pi^2}\frac{C_A}{2}\frac{m}{p_2^+}\left(1-3\frac{q^+}{p_2^+}\ln\left(\frac{p_1^+}{q^+}\right)-2\frac{q^{+2}}{p_1^+p_2^+}+2\frac{q^+}{p_2^+}\right)\ln\left(\frac{\Lambda}{\mu}\right)$$



$$\delta\tilde{P}^- = \frac{g}{\sqrt{2\pi}^3}\left(u^\dagger_{2+}\vec{\epsilon}_\perp\cdot\vec{\gamma}_\perp u_{1+}T^a\right) \quad \times \quad \frac{g^2}{4\pi^2}\frac{C_A}{2}\frac{m}{p_1^+}\left(-1-3\frac{q^+}{p_1^+}\ln\left(\frac{p_2^+}{q^+}\right)+2\frac{q^{+2}}{p_1^+p_2^+}+2\frac{q^+}{p_1^+}-4\frac{q^{+2}}{\epsilon p_1^+}\right)\ln\left(\frac{\Lambda}{\mu}\right)$$



$$\begin{aligned}
\delta\tilde{P}^- &= \frac{g}{\sqrt{2\pi}^3}\left(\bar{u}_2 \not{\epsilon} u_1 T^a\right) &&\times \frac{g^2}{8\pi^2}\frac{C_A}{2}\left\{2\ln\left(\frac{p_1^+ p_2^+}{\epsilon^2}\right) - 3 + 4\ln\left(\frac{q^+}{\epsilon}\right)\right\}\ln\left(\frac{\Lambda}{\mu}\right) \\
&+ \frac{g}{\sqrt{2\pi}^3}\left(u_{2+}^\dagger \vec{\epsilon}_\perp \cdot \vec{\gamma}_\perp u_{1+} T^a\right) &&\times \frac{g^2}{4\pi^2}\frac{C_A}{2}\left\{\frac{m}{p_1^+} - \frac{m}{p_2^+}\right\}\ln\left(\frac{\Lambda}{\mu}\right)
\end{aligned}$$

R. J. Perry, Phys. Let. B 300 (1993), 8

Harindranath, Zhang

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