

Fields in the vertex	Variational derivative of Lagrangian by fields
$A_\mu \quad W^+_\nu \quad W^-_\rho$	$-e(p_2^\rho g^{\mu\nu} - p_2^\mu g^{\nu\rho} - p_3^\nu g^{\mu\rho} + p_3^\mu g^{\nu\rho} + p_1^\nu g^{\mu\rho} - p_1^\rho g^{\mu\nu})$
$A_\mu \quad W^+_\nu \quad W^-_F$	$i \cdot e \cdot M_W \cdot g^{\mu\nu}$
$A_\mu \quad W^+_F \quad W^-_\nu$	$-i \cdot e \cdot M_W \cdot g^{\mu\nu}$
$A_\mu \quad W^+_F \quad W^-_F$	$e(p_3^\mu - p_2^\mu)$
$\bar{C}^A \quad C^{W+} \quad W^-_\mu$	$-e \cdot p_1^\mu$
$\bar{C}^A \quad C^{W-} \quad W^+_\mu$	$e \cdot p_1^\mu$
$\bar{b}_{ap} \quad b_{bq} \quad A_\mu$	$\frac{1}{3}e\delta_{pq}\gamma_{ac}^\mu \cdot \delta_{cb}$
$\bar{b}_{ap} \quad b_{bq} \quad G_{\mu r}$	$g_s \cdot \lambda_{pq}^r \gamma_{ab}^\mu$
$\bar{b}_{ap} \quad b_{bq} \quad H$	$-\frac{1}{2} \frac{e \cdot M_b}{M_W \cdot s_w} \delta_{pq} \cdot \delta_{ab}$
$\bar{b}_{ap} \quad b_{bq} \quad Z_\mu$	$-\frac{1}{6} \frac{e}{c_w \cdot s_w} \delta_{pq} \gamma_{ac}^\mu (2s_w^2 \cdot \frac{(1+\gamma^5)_{cb}}{2} - (3 - 2s_w^2) \cdot \frac{(1-\gamma^5)_{cb}}{2})$
$\bar{b}_{ap} \quad b_{bq} \quad Z_F$	$-\frac{1}{2} \frac{i \cdot e \cdot M_b}{M_W \cdot s_w} \delta_{pq} \cdot \gamma_{ab}^5$
$\bar{b}_{ap} \quad c_{bq} \quad W^-_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot V_{cb}}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{b}_{ap} \quad c_{bq} \quad W^-_F$	$-\frac{1}{2} \frac{i \cdot e \cdot \sqrt{2} \cdot V_{cb}}{M_W \cdot s_w} \delta_{pq} (M_b \cdot \frac{(1-\gamma^5)_{ab}}{2} - M_c \cdot \frac{(1+\gamma^5)_{ab}}{2})$
$\bar{b}_{ap} \quad t_{bq} \quad W^-_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot V_{tb}}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{b}_{ap} \quad t_{bq} \quad W^-_F$	$-\frac{1}{2} \frac{i \cdot e \cdot \sqrt{2} \cdot V_{tb}}{M_W \cdot s_w} \delta_{pq} (M_b \cdot \frac{(1-\gamma^5)_{ab}}{2} - M_t \cdot \frac{(1+\gamma^5)_{ab}}{2})$
$\bar{b}_{ap} \quad u_{bq} \quad W^-_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot V_{ub}}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{b}_{ap} \quad u_{bq} \quad W^-_F$	$-\frac{1}{2} \frac{i \cdot e \cdot M_b \cdot \sqrt{2} \cdot V_{ub}}{M_W \cdot s_w} \cdot \delta_{pq} \frac{(1-\gamma^5)_{ab}}{2}$
$\bar{c}_{ap} \quad b_{bq} \quad W^+_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot V_{cb}}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{c}_{ap} \quad b_{bq} \quad W^+_F$	$\frac{1}{2} \frac{i \cdot e \cdot \sqrt{2} \cdot V_{cb}}{M_W \cdot s_w} \delta_{pq} (M_b \cdot \frac{(1+\gamma^5)_{ab}}{2} - M_c \cdot \frac{(1-\gamma^5)_{ab}}{2})$
$\bar{c}_{ap} \quad c_{bq} \quad A_\mu$	$-\frac{2}{3}e\delta_{pq}\gamma_{ac}^\mu \cdot \delta_{cb}$
$\bar{c}_{ap} \quad c_{bq} \quad G_{\mu r}$	$g_s \cdot \lambda_{pq}^r \gamma_{ab}^\mu$
$\bar{c}_{ap} \quad c_{bq} \quad H$	$-\frac{1}{2} \frac{e \cdot M_c}{M_W \cdot s_w} \delta_{pq} \cdot \delta_{ab}$
$\bar{c}_{ap} \quad c_{bq} \quad Z_\mu$	$-\frac{1}{6} \frac{e}{c_w \cdot s_w} \delta_{pq} \gamma_{ac}^\mu ((3 - 4s_w^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} - 4s_w^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{c}_{ap} \quad c_{bq} \quad Z_F$	$\frac{1}{2} \frac{i \cdot e \cdot M_c}{M_W \cdot s_w} \delta_{pq} \cdot \gamma_{ab}^5$
$\bar{c}_{ap} \quad d_{bq} \quad W^+_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot V_{cd}}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$

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$\bar{c}_{ap} \quad d_{bq} \quad W_F^+$	$-\frac{1}{2} \frac{i \cdot e \cdot M_c \cdot \sqrt{2} \cdot Vcd}{M_W \cdot s_w} \cdot \delta_{pq} \frac{(1-\gamma^5)_{ab}}{2}$
$\bar{c}_{ap} \quad s_{bq} \quad W_{\mu}^+$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vcs}{s_w} \cdot \delta_{pq} \gamma_{ac}^{\mu} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{c}_{ap} \quad s_{bq} \quad W_F^+$	$\frac{1}{2} \frac{i \cdot e \cdot \sqrt{2} \cdot Vcs}{M_W \cdot s_w} \delta_{pq} (M_s \cdot \frac{(1+\gamma^5)_{ab}}{2} - M_c \cdot \frac{(1-\gamma^5)_{ab}}{2})$
$\bar{d}_{ap} \quad c_{bq} \quad W_{\mu}^-$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vcd}{s_w} \cdot \delta_{pq} \gamma_{ac}^{\mu} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{d}_{ap} \quad c_{bq} \quad W_F^-$	$\frac{1}{2} \frac{i \cdot e \cdot M_c \cdot \sqrt{2} \cdot Vcd}{M_W \cdot s_w} \cdot \delta_{pq} \frac{(1+\gamma^5)_{ab}}{2}$
$\bar{d}_{ap} \quad d_{bq} \quad A_{\mu}$	$\frac{1}{3} e \delta_{pq} \gamma_{ac}^{\mu} \cdot \delta_{cb}$
$\bar{d}_{ap} \quad d_{bq} \quad G_{\mu r}$	$g_s \cdot \lambda_{pq}^r \gamma_{ab}^{\mu}$
$\bar{d}_{ap} \quad d_{bq} \quad Z_{\mu}$	$-\frac{1}{6} \frac{e}{c_w \cdot s_w} \delta_{pq} \gamma_{ac}^{\mu} (2s_w^2 \cdot \frac{(1+\gamma^5)_{cb}}{2} - (3 - 2s_w^2) \cdot \frac{(1-\gamma^5)_{cb}}{2})$
$\bar{d}_{ap} \quad t_{bq} \quad W_{\mu}^-$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vtd}{s_w} \cdot \delta_{pq} \gamma_{ac}^{\mu} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{d}_{ap} \quad t_{bq} \quad W_F^-$	$\frac{1}{2} \frac{i \cdot e \cdot M_t \cdot \sqrt{2} \cdot Vtd}{M_W \cdot s_w} \cdot \delta_{pq} \frac{(1+\gamma^5)_{ab}}{2}$
$\bar{d}_{ap} \quad u_{bq} \quad W_{\mu}^-$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vud}{s_w} \cdot \delta_{pq} \gamma_{ac}^{\mu} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{e}_a \quad e_b \quad A_{\mu}$	$e \gamma_{ac}^{\mu} \cdot \delta_{cb}$
$\bar{e}_a \quad e_b \quad Z_{\mu}$	$\frac{1}{2} \frac{e}{c_w \cdot s_w} \gamma_{ac}^{\mu} ((1 - 2s_w^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} - 2s_w^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{e}_a \quad \nu_b^e \quad W_{\mu}^-$	$-\frac{1}{2} \frac{e \cdot \sqrt{2}}{s_w} \cdot \gamma_{ac}^{\mu} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\mu}_a \quad \mu_b \quad A_{\mu}$	$e \gamma_{ac}^{\mu} \cdot \delta_{cb}$
$\bar{\mu}_a \quad \mu_b \quad H$	$-\frac{1}{2} \frac{e \cdot M_{\mu}}{M_W \cdot s_w} \cdot \delta_{ab}$
$\bar{\mu}_a \quad \mu_b \quad Z_{\mu}$	$\frac{1}{2} \frac{e}{c_w \cdot s_w} \gamma_{ac}^{\mu} ((1 - 2s_w^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} - 2s_w^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{\mu}_a \quad \mu_b \quad Z_F$	$-\frac{1}{2} \frac{i \cdot e \cdot M_{\mu}}{M_W \cdot s_w} \cdot \gamma_{ab}^5$
$\bar{\mu}_a \quad \nu_b^{\mu} \quad W_{\mu}^-$	$-\frac{1}{2} \frac{e \cdot \sqrt{2}}{s_w} \cdot \gamma_{ac}^{\mu} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\mu}_a \quad \nu_b^{\mu} \quad W_F^-$	$-\frac{1}{2} \frac{i \cdot e \cdot M_{\mu} \cdot \sqrt{2}}{M_W \cdot s_w} \cdot \frac{(1-\gamma^5)_{ab}}{2}$
$\bar{\tau}_a \quad \tau_b \quad A_{\mu}$	$e \gamma_{ac}^{\mu} \cdot \delta_{cb}$
$\bar{\tau}_a \quad \tau_b \quad H$	$-\frac{1}{2} \frac{e \cdot M_{\tau}}{M_W \cdot s_w} \cdot \delta_{ab}$
$\bar{\tau}_a \quad \tau_b \quad Z_{\mu}$	$\frac{1}{2} \frac{e}{c_w \cdot s_w} \gamma_{ac}^{\mu} ((1 - 2s_w^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} - 2s_w^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{\tau}_a \quad \tau_b \quad Z_F$	$-\frac{1}{2} \frac{i \cdot e \cdot M_{\tau}}{M_W \cdot s_w} \cdot \gamma_{ab}^5$
$\bar{\tau}_a \quad \nu_b^{\tau} \quad W_{\mu}^-$	$-\frac{1}{2} \frac{e \cdot \sqrt{2}}{s_w} \cdot \gamma_{ac}^{\mu} \frac{(1-\gamma^5)_{cb}}{2}$

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$\bar{\tau}_a \quad \nu^\tau_b \quad W_F^-$	$-\frac{1}{2} \frac{i \cdot e \cdot M_T \cdot \sqrt{2}}{M_W \cdot s_w} \cdot \frac{(1-\gamma^5)_{ab}}{2}$
$G_{\mu p} \quad G_{\nu q} \quad G_{\rho r}$	$g_s f_{pqr} (p_3^\nu g^{\mu\rho} - p_3^\mu g^{\nu\rho} + p_1^\rho g^{\mu\nu} - p_1^\nu g^{\mu\rho} - p_2^\rho g^{\mu\nu} + p_2^\mu g^{\nu\rho})$
$\bar{C}_p^G \quad C_q^G \quad G_{\mu r}$	$g_s \cdot p_2^\mu f_{pqr}$
$H \quad H \quad H$	$-\frac{3}{2} \frac{e \cdot M H^2}{M_W \cdot s_w}$
$H \quad W_\mu^+ \quad W_\nu^-$	$\frac{e \cdot M_W}{s_w} \cdot g^{\mu\nu}$
$H \quad W_\mu^+ \quad W_F^-$	$\frac{1}{2} \frac{i \cdot e}{s_w} (p_3^\mu - p_1^\mu)$
$H \quad W_F^+ \quad W_\mu^-$	$-\frac{1}{2} \frac{i \cdot e}{s_w} (p_1^\mu - p_2^\mu)$
$H \quad W_F^+ \quad W_F^-$	$-\frac{1}{2} \frac{e \cdot M H^2}{M_W \cdot s_w}$
$H \quad Z_\mu \quad Z_\nu$	$\frac{e \cdot M_W}{c_w^2 \cdot s_w} \cdot g^{\mu\nu}$
$H \quad Z_\mu \quad Z_F$	$\frac{1}{2} \frac{i \cdot e}{c_w \cdot s_w} (p_3^\mu - p_1^\mu)$
$H \quad Z_F \quad Z_F$	$-\frac{1}{2} \frac{e \cdot M H^2}{M_W \cdot s_w}$
$\bar{\nu}_a^e \quad e_b \quad W_\mu^+$	$-\frac{1}{2} \frac{e \cdot \sqrt{2}}{s_w} \cdot \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu}_a^e \quad \nu_b^e \quad Z_\mu$	$-\frac{1}{2} \frac{e}{c_w \cdot s_w} \cdot \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu}_a^\mu \quad \mu_b \quad W_\mu^+$	$-\frac{1}{2} \frac{e \cdot \sqrt{2}}{s_w} \cdot \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu}_a^\mu \quad \mu_b \quad W_F^+$	$\frac{1}{2} \frac{i \cdot e \cdot M_\mu \cdot \sqrt{2}}{M_W \cdot s_w} \cdot \frac{(1+\gamma^5)_{ab}}{2}$
$\bar{\nu}_a^\mu \quad \nu_b^\mu \quad Z_\mu$	$-\frac{1}{2} \frac{e}{c_w \cdot s_w} \cdot \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu}_a^\tau \quad \tau_b \quad W_\mu^+$	$-\frac{1}{2} \frac{e \cdot \sqrt{2}}{s_w} \cdot \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu}_a^\tau \quad \tau_b \quad W_F^+$	$\frac{1}{2} \frac{i \cdot e \cdot M_T \cdot \sqrt{2}}{M_W \cdot s_w} \cdot \frac{(1+\gamma^5)_{ab}}{2}$
$\bar{\nu}_a^\tau \quad \nu_b^\tau \quad Z_\mu$	$-\frac{1}{2} \frac{e}{c_w \cdot s_w} \cdot \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad c_{bq} \quad W_\mu^-$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot V_{cs}}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad c_{bq} \quad W_F^-$	$-\frac{1}{2} \frac{i \cdot e \cdot \sqrt{2} \cdot V_{cs}}{M_W \cdot s_w} \delta_{pq} (M_s \cdot \frac{(1-\gamma^5)_{ab}}{2} - M_c \cdot \frac{(1+\gamma^5)_{ab}}{2})$
$\bar{s}_{ap} \quad s_{bq} \quad A_\mu$	$\frac{1}{3} e \delta_{pq} \gamma_{ac}^\mu \cdot \delta_{cb}$
$\bar{s}_{ap} \quad s_{bq} \quad G_{\mu r}$	$g_s \cdot \lambda_{pq}^r \gamma_{ab}^\mu$
$\bar{s}_{ap} \quad s_{bq} \quad H$	$-\frac{1}{2} \frac{e \cdot M_s}{M_W \cdot s_w} \delta_{pq} \cdot \delta_{ab}$
$\bar{s}_{ap} \quad s_{bq} \quad Z_\mu$	$-\frac{1}{6} \frac{e}{c_w \cdot s_w} \delta_{pq} \gamma_{ac}^\mu (2s_w^2 \cdot \frac{(1+\gamma^5)_{cb}}{2} - (3 - 2s_w^2) \cdot \frac{(1-\gamma^5)_{cb}}{2})$

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$\bar{s}_{ap} \quad s_{bq} \quad Z_F$	$-\frac{1}{2} \frac{i \cdot e \cdot M_s}{M_W \cdot s_w} \delta_{pq} \cdot \gamma_{ab}^5$
$\bar{s}_{ap} \quad t_{bq} \quad W^-_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vts}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad t_{bq} \quad W_F^-$	$-\frac{1}{2} \frac{i \cdot e \cdot \sqrt{2} \cdot Vts}{M_W \cdot s_w} \delta_{pq} (M_s \cdot \frac{(1-\gamma^5)_{ab}}{2} - M_t \cdot \frac{(1+\gamma^5)_{ab}}{2})$
$\bar{s}_{ap} \quad u_{bq} \quad W^-_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vus}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad u_{bq} \quad W_F^-$	$-\frac{1}{2} \frac{i \cdot e \cdot M_s \cdot \sqrt{2} \cdot Vus}{M_W \cdot s_w} \cdot \delta_{pq} \frac{(1-\gamma^5)_{ab}}{2}$
$\bar{t}_{ap} \quad b_{bq} \quad W^+_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vtb}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{t}_{ap} \quad b_{bq} \quad W_F^+$	$\frac{1}{2} \frac{i \cdot e \cdot \sqrt{2} \cdot Vtb}{M_W \cdot s_w} \delta_{pq} (M_b \cdot \frac{(1+\gamma^5)_{ab}}{2} - M_t \cdot \frac{(1-\gamma^5)_{ab}}{2})$
$\bar{t}_{ap} \quad d_{bq} \quad W^+_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vtd}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{t}_{ap} \quad d_{bq} \quad W_F^+$	$-\frac{1}{2} \frac{i \cdot e \cdot M_t \cdot \sqrt{2} \cdot Vtd}{M_W \cdot s_w} \cdot \delta_{pq} \frac{(1-\gamma^5)_{ab}}{2}$
$\bar{t}_{ap} \quad s_{bq} \quad W^+_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vts}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{t}_{ap} \quad s_{bq} \quad W_F^+$	$\frac{1}{2} \frac{i \cdot e \cdot \sqrt{2} \cdot Vts}{M_W \cdot s_w} \delta_{pq} (M_s \cdot \frac{(1+\gamma^5)_{ab}}{2} - M_t \cdot \frac{(1-\gamma^5)_{ab}}{2})$
$\bar{t}_{ap} \quad t_{bq} \quad A_\mu$	$-\frac{2}{3} e \delta_{pq} \gamma_{ac}^\mu \cdot \delta_{cb}$
$\bar{t}_{ap} \quad t_{bq} \quad G_{\mu r}$	$g_s \cdot \lambda_{pq}^r \gamma_{ab}^\mu$
$\bar{t}_{ap} \quad t_{bq} \quad H$	$-\frac{1}{2} \frac{e \cdot M_t}{M_W \cdot s_w} \delta_{pq} \cdot \delta_{ab}$
$\bar{t}_{ap} \quad t_{bq} \quad Z_\mu$	$-\frac{1}{6} \frac{e}{c_w \cdot s_w} \delta_{pq} \gamma_{ac}^\mu ((3 - 4s_w^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} - 4s_w^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{t}_{ap} \quad t_{bq} \quad Z_F$	$\frac{1}{2} \frac{i \cdot e \cdot M_t}{M_W \cdot s_w} \delta_{pq} \cdot \gamma_{ab}^5$
$\bar{u}_{ap} \quad b_{bq} \quad W^+_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vub}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{u}_{ap} \quad b_{bq} \quad W_F^+$	$\frac{1}{2} \frac{i \cdot e \cdot M_b \cdot \sqrt{2} \cdot Vub}{M_W \cdot s_w} \cdot \delta_{pq} \frac{(1+\gamma^5)_{ab}}{2}$
$\bar{u}_{ap} \quad d_{bq} \quad W^+_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vud}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{u}_{ap} \quad s_{bq} \quad W^+_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2} \cdot Vus}{s_w} \cdot \delta_{pq} \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{u}_{ap} \quad s_{bq} \quad W_F^+$	$\frac{1}{2} \frac{i \cdot e \cdot M_s \cdot \sqrt{2} \cdot Vus}{M_W \cdot s_w} \cdot \delta_{pq} \frac{(1+\gamma^5)_{ab}}{2}$
$\bar{u}_{ap} \quad u_{bq} \quad A_\mu$	$-\frac{2}{3} e \delta_{pq} \gamma_{ac}^\mu \cdot \delta_{cb}$
$\bar{u}_{ap} \quad u_{bq} \quad G_{\mu r}$	$g_s \cdot \lambda_{pq}^r \gamma_{ab}^\mu$
$\bar{u}_{ap} \quad u_{bq} \quad Z_\mu$	$-\frac{1}{6} \frac{e}{c_w \cdot s_w} \delta_{pq} \gamma_{ac}^\mu ((3 - 4s_w^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} - 4s_w^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$W^+_\mu \quad W^-_\nu \quad Z_\rho$	$-\frac{c_w \cdot e}{s_w} (p_1^\nu g^{\mu\rho} - p_1^\rho g^{\mu\nu} - p_2^\mu g^{\nu\rho} + p_2^\rho g^{\mu\nu} + p_3^\mu g^{\nu\rho} - p_3^\nu g^{\mu\rho})$

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$W^+_{\mu} \quad W^-_F \quad Z_{\nu}$	$-\frac{i \cdot e \cdot M_W \cdot s_w}{c_w} \cdot g^{\mu\nu}$
$W^+_{\mu} \quad W^-_F \quad Z_F$	$-\frac{1}{2} \frac{e}{s_w} (p_2^{\mu} - p_3^{\mu})$
$\bar{C}^{W+} \quad C^Z \quad W^-_{\mu}$	$e \cdot p_1^{\mu}$
$\bar{C}^{W+} \quad C^Z \quad W^-_F$	$-i \cdot e \cdot M_W$
$\bar{C}^{W+} \quad C^{W-} \quad A_{\mu}$	$-e \cdot p_1^{\mu}$
$\bar{C}^{W+} \quad C^{W-} \quad H$	$-\frac{1}{2} \frac{e \cdot M_W}{s_w}$
$\bar{C}^{W+} \quad C^{W-} \quad Z_{\mu}$	$-\frac{c_w \cdot e}{s_w} \cdot p_1^{\mu}$
$\bar{C}^{W+} \quad C^{W-} \quad Z_F$	$\frac{1}{2} \frac{i \cdot e \cdot M_W}{s_w}$
$\bar{C}^{W+} \quad C^Z \quad W^-_{\mu}$	$\frac{c_w \cdot e}{s_w} \cdot p_1^{\mu}$
$\bar{C}^{W+} \quad C^Z \quad W^-_F$	$-\frac{1}{2} \frac{i \cdot (1-2s_w^2) \cdot e \cdot M_W}{c_w \cdot s_w}$
$W^+_F \quad W^-_{\mu} \quad Z_{\nu}$	$\frac{i \cdot e \cdot M_W \cdot s_w}{c_w} \cdot g^{\mu\nu}$
$W^+_F \quad W^-_{\mu} \quad Z_F$	$-\frac{1}{2} \frac{e}{s_w} (p_3^{\mu} - p_1^{\mu})$
$W^+_F \quad W^-_F \quad Z_{\mu}$	$\frac{1}{2} \frac{(1-2s_w^2) \cdot e}{c_w \cdot s_w} (p_2^{\mu} - p_1^{\mu})$
$\bar{C}^{W-} \quad C^Z \quad W^+_{\mu}$	$-e \cdot p_1^{\mu}$
$\bar{C}^{W-} \quad C^Z \quad W^+_F$	$i \cdot e \cdot M_W$
$\bar{C}^{W-} \quad C^{W+} \quad A_{\mu}$	$e \cdot p_1^{\mu}$
$\bar{C}^{W-} \quad C^{W+} \quad H$	$-\frac{1}{2} \frac{e \cdot M_W}{s_w}$
$\bar{C}^{W-} \quad C^{W+} \quad Z_{\mu}$	$\frac{c_w \cdot e}{s_w} \cdot p_1^{\mu}$
$\bar{C}^{W-} \quad C^{W+} \quad Z_F$	$-\frac{1}{2} \frac{i \cdot e \cdot M_W}{s_w}$
$\bar{C}^{W-} \quad C^Z \quad W^+_{\mu}$	$-\frac{c_w \cdot e}{s_w} \cdot p_1^{\mu}$
$\bar{C}^{W-} \quad C^Z \quad W^+_F$	$\frac{1}{2} \frac{i \cdot (1-2s_w^2) \cdot e \cdot M_W}{c_w \cdot s_w}$
$\bar{C}^Z \quad C^{W+} \quad W^-_{\mu}$	$-\frac{c_w \cdot e}{s_w} \cdot p_1^{\mu}$
$\bar{C}^Z \quad C^{W+} \quad W^-_F$	$\frac{1}{2} \frac{i \cdot e \cdot M_W}{c_w \cdot s_w}$
$\bar{C}^Z \quad C^{W-} \quad W^+_{\mu}$	$\frac{c_w \cdot e}{s_w} \cdot p_1^{\mu}$
$\bar{C}^Z \quad C^{W-} \quad W^+_F$	$-\frac{1}{2} \frac{i \cdot e \cdot M_W}{c_w \cdot s_w}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\bar{C}^Z \quad C^Z \quad H$	$-\frac{1}{2} \frac{e \cdot M_W}{c_w^2 \cdot s_w}$
$A_\mu \quad A_\nu \quad W^+_\rho \quad W^-_\sigma$	$-e^2(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\rho}g^{\nu\sigma} - g^{\mu\sigma}g^{\nu\rho})$
$A_\mu \quad A_\nu \quad W^+_F \quad W^-_F$	$2e^2 \cdot g^{\mu\nu}$
$A_\mu \quad H \quad W^+_\nu \quad W^-_F$	$\frac{1}{2} \frac{i \cdot e^2}{s_w} \cdot g^{\mu\nu}$
$A_\mu \quad H \quad W^+_F \quad W^-_\nu$	$-\frac{1}{2} \frac{i \cdot e^2}{s_w} \cdot g^{\mu\nu}$
$A_\mu \quad W^+_\nu \quad W^-_\rho \quad Z_\sigma$	$-\frac{c_w \cdot e^2}{s_w}(2g^{\mu\sigma}g^{\nu\rho} - g^{\mu\nu}g^{\rho\sigma} - g^{\mu\rho}g^{\nu\sigma})$
$A_\mu \quad W^+_\nu \quad W^-_F \quad Z_F$	$-\frac{1}{2} \frac{e^2}{s_w} \cdot g^{\mu\nu}$
$A_\mu \quad W^+_F \quad W^-_\nu \quad Z_F$	$-\frac{1}{2} \frac{e^2}{s_w} \cdot g^{\mu\nu}$
$A_\mu \quad W^+_F \quad W^-_F \quad Z_\nu$	$\frac{(1-2s_w^2) \cdot e^2}{c_w \cdot s_w} \cdot g^{\mu\nu}$
$G_{\mu\rho} \quad G_{\nu q} \quad G_{\rho r} \quad G_{\sigma s}$	$g_s^2(g^{\mu\rho}g^{\nu\sigma}f_{pqt}f_{rst} - g^{\mu\sigma}g^{\nu\rho}f_{pqt}f_{rst} + g^{\mu\nu}g^{\rho\sigma}f_{prt}f_{qst} - g^{\mu\sigma}g^{\nu\rho}f_{prt}f_{qst} + g^{\mu\nu}g^{\rho\sigma}f_{pst}f_{qrt} - g^{\mu\rho}g^{\nu\sigma}f_{pst}f_{qrt})$
$H \quad H \quad H \quad H$	$-\frac{3}{4} \frac{e^2 \cdot M H^2}{M_W^2 \cdot s_w^2}$
$H \quad H \quad W^+_\mu \quad W^-_\nu$	$\frac{1}{2} \frac{e^2}{s_w^2} \cdot g^{\mu\nu}$
$H \quad H \quad W^+_F \quad W^-_F$	$-\frac{1}{4} \frac{e^2 \cdot M H^2}{M_W^2 \cdot s_w^2}$
$H \quad H \quad Z_\mu \quad Z_\nu$	$\frac{1}{2} \frac{e^2}{c_w^2 \cdot s_w^2} \cdot g^{\mu\nu}$
$H \quad H \quad Z_F \quad Z_F$	$-\frac{1}{4} \frac{e^2 \cdot M H^2}{M_W^2 \cdot s_w^2}$
$H \quad W^+_\mu \quad W^-_F \quad Z_\nu$	$-\frac{1}{2} \frac{i \cdot e^2}{c_w} \cdot g^{\mu\nu}$
$H \quad W^+_F \quad W^-_\mu \quad Z_\nu$	$\frac{1}{2} \frac{i \cdot e^2}{c_w} \cdot g^{\mu\nu}$
$W^+_\mu \quad W^+_\nu \quad W^-_\rho \quad W^-_\sigma$	$\frac{e^2}{s_w^2}(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma})$
$W^+_\mu \quad W^+_F \quad W^-_\nu \quad W^-_F$	$\frac{1}{2} \frac{e^2}{s_w^2} \cdot g^{\mu\nu}$
$W^+_\mu \quad W^-_\nu \quad Z_\rho \quad Z_\sigma$	$-\frac{c_w \cdot e^2}{s_w^2}(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\rho}g^{\nu\sigma} - g^{\mu\sigma}g^{\nu\rho})$
$W^+_\mu \quad W^-_\nu \quad Z_F \quad Z_F$	$\frac{1}{2} \frac{e^2}{s_w^2} \cdot g^{\mu\nu}$
$W^+_\mu \quad W^-_F \quad Z_\nu \quad Z_F$	$\frac{1}{2} \frac{e^2}{c_w} \cdot g^{\mu\nu}$
$W^+_F \quad W^+_F \quad W^-_F \quad W^-_F$	$-\frac{1}{2} \frac{e^2 \cdot M H^2}{M_W^2 \cdot s_w^2}$
$W^+_F \quad W^-_\mu \quad Z_\nu \quad Z_F$	$\frac{1}{2} \frac{e^2}{c_w} \cdot g^{\mu\nu}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$W^+_F \quad W^-_F \quad Z_\mu \quad Z_\nu$	$\frac{1}{2} \frac{(1-2s_w^2)^2 \cdot e^2}{c_w^2 \cdot s_w^2} \cdot g^{\mu\nu}$
$W^+_F \quad W^-_F \quad Z_F \quad Z_F$	$-\frac{1}{4} \frac{e^2 \cdot M H^2}{M_W^2 \cdot s_w^2}$
$Z_\mu \quad Z_\nu \quad Z_F \quad Z_F$	$\frac{1}{2} \frac{e^2}{c_w^2 \cdot s_w^2} \cdot g^{\mu\nu}$
$Z_F \quad Z_F \quad Z_F \quad Z_F$	$-\frac{3}{4} \frac{e^2 \cdot M H^2}{M_W^2 \cdot s_w^2}$