Fields in the vertex	Variational derivative of Lagrangian by fields
$A_\mu \quad A_\nu$	$-p_1^\rho p_1^\rho g^{\mu\nu}$
$\bar{b}_{ap} \quad b_{bq}$	$-\delta_{pq}(p_1^\mu \gamma_{ab}^\mu + M_b \cdot \delta_{ab})$
$\bar{c}_{ap} \quad c_{bq}$	$-\delta_{pq}(p_1^\mu \gamma_{ab}^\mu + M_c \cdot \delta_{ab})$
$\bar{d}_{ap} \quad d_{bq}$	$-p_1^\mu \delta_{pq} \gamma_{ac}^\mu \delta_{cb}$
$\bar{e}_a \quad e_b$	$-p_1^\mu \gamma_{ac}^\mu \delta_{cb}$
$\bar{\mu}_a \quad \mu_b$	$-(p_1^\mu \gamma_{ab}^\mu + M_\mu \cdot \delta_{ab})$
$\bar{\tau}_a \quad \tau_b$	$-(p_1^\mu \gamma_{ab}^\mu + Mtau \cdot \delta_{ab})$
$G_{\mu p} \quad G_{\nu q}$	$-p_1^\rho p_1^\rho g^{\mu\nu} \delta_{pq}$
$H \quad H$	$-\frac{1}{e^2}(8{M_W}^2 {s_w}^2 \lambda_S - e^2 \cdot p_1^\mu p_1^\mu)$
$\bar{\nu^e}_a \quad {\nu^e}_b$	$-p_1^\mu \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu^\mu}_a \quad {\nu^\mu}_b$	$-p_1^\mu \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu^\tau}_a \quad {\nu^\tau}_b$	$-p_1^\mu \gamma_{ac}^\mu \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad s_{bq}$	$-\delta_{pq}(p_1^\mu \gamma_{ab}^\mu + M_s \cdot \delta_{ab})$
$\bar{t}_{ap} \quad t_{bq}$	$-\delta_{pq}(p_1^\mu \gamma_{ab}^\mu + M_t \cdot \delta_{ab})$
$\bar{u}_{ap} \quad u_{bq}$	$-p_1^\mu \delta_{pq} \gamma_{ac}^\mu \delta_{cb}$
${W^+}_\mu \quad {W^-}_\nu$	$-g^{\mu\nu}(p_1^\rho p_1^\rho - {M_W}^2)$
$W_F^+ \quad W_F^-$	$(p_1^\mu p_1^\mu - {M_W}^2)$
$Z_\mu \quad Z_\nu$	$-\frac{1}{{c_w}^2} g^{\mu\nu}({c_w}^2 \cdot p_1^\rho p_1^\rho - {M_W}^2)$
$Z_F \quad Z_F$	$\frac{1}{{c_w}^2}({c_w}^2 \cdot p_1^\mu p_1^\mu - {M_W}^2)$
$\widetilde{h}^+ \quad \widetilde{h}^-$	$\frac{1}{e^2}(e^2 \cdot p_1^\mu p_1^\mu + e^2 md2 - 2{M_W}^2 {s_w}^2 \lambda_3)$
$\widetilde{h}_1 \quad \widetilde{h}_1$	$\frac{1}{e^2}(e^2 \cdot p_1^\mu p_1^\mu + e^2 md2 - 2{M_W}^2 {s_w}^2 \lambda_3 - 2{M_W}^2 {s_w}^2 \lambda_4 - 2{M_W}^2 {s_w}^2 \lambda_5)$
$\widetilde{h}_2 \quad \widetilde{h}_2$	$\frac{1}{e^2}(e^2 \cdot p_1^\mu p_1^\mu + e^2 md2 - 2{M_W}^2 {s_w}^2 \lambda_3 - 2{M_W}^2 {s_w}^2 \lambda_4 + 2{M_W}^2 {s_w}^2 \lambda_5)$
$A_\mu \quad {W^+}_\nu \quad {W^-}_\rho$	$-e(p_2^\rho g^{\mu\nu} - p_2^\mu g^{\nu\rho} - p_3^\nu g^{\mu\rho} + p_3^\mu g^{\nu\rho} + p_1^\nu g^{\mu\rho} - p_1^\rho g^{\mu\nu})$
$A_\mu \quad {W^+}_\nu \quad W_F^-$	$i \cdot e \cdot M_W \cdot g^{\mu\nu}$
$A_\mu \quad W_F^+ \quad {W^-}_\nu$	$-i \cdot e \cdot M_W \cdot g^{\mu\nu}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$A_\mu \quad W_F^+ \quad W_F^-$	$e(p_3^\mu - p_2^\mu)$
$A_\mu \quad \widetilde{h}^+ \quad \widetilde{h}^-$	$e(p_3^\mu - p_2^\mu)$
$\bar{C}^A \quad C^{W+} \quad {W^-}_\mu$	$-2e \cdot p_1^\mu$
$\bar{C}^A \quad C^{W-} \quad {W^+}_\mu$	$2e \cdot p_1^\mu$
$\bar{b}_{ap} \quad b_{bq} \quad A_\mu$	$\frac{1}{3} e \delta_{pq} \gamma^\mu_{ac} \cdot \delta_{cb}$
$\bar{b}_{ap} \quad b_{bq} \quad G_{\mu r}$	$g_s \cdot \lambda^r_{pq} \gamma^\mu_{ab}$
$\bar{b}_{ap} \quad b_{bq} \quad H$	$-\frac{1}{2} \frac{e \cdot M_b}{M_W \cdot s_w} \delta_{pq} \cdot \delta_{ab}$
$\bar{b}_{ap} \quad b_{bq} \quad Z_\mu$	$\frac{1}{6} \frac{e}{c_w \cdot s_w} \delta_{pq} \gamma^\mu_{ac} (2{c_w}^2 \cdot \frac{(1-\gamma^5)_{cb}}{2} + \frac{(1-\gamma^5)_{cb}}{2} - 2{s_w}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{b}_{ap} \quad b_{bq} \quad Z_F$	$-\frac{1}{2} \frac{i \cdot e \cdot M_b}{M_W \cdot s_w} \delta_{pq} \cdot \gamma^5_{ab}$
$\bar{b}_{ap} \quad t_{bq} \quad {W^-}_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2}}{s_w} \cdot \delta_{pq} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{b}_{ap} \quad t_{bq} \quad W_F^-$	$-\frac{1}{2} \frac{i \cdot e \cdot \sqrt{2}}{M_W \cdot s_w} \delta_{pq} (M_b \cdot \frac{(1-\gamma^5)_{ab}}{2} - M_t \cdot \frac{(1+\gamma^5)_{ab}}{2})$
$\bar{c}_{ap} \quad c_{bq} \quad A_\mu$	$-\frac{2}{3} e \delta_{pq} \gamma^\mu_{ac} \cdot \delta_{cb}$
$\bar{c}_{ap} \quad c_{bq} \quad G_{\mu r}$	$g_s \cdot \lambda^r_{pq} \gamma^\mu_{ab}$
$\bar{c}_{ap} \quad c_{bq} \quad H$	$-\frac{1}{2} \frac{e \cdot M_c}{M_W \cdot s_w} \delta_{pq} \cdot \delta_{ab}$
$\bar{c}_{ap} \quad c_{bq} \quad Z_\mu$	$-\frac{1}{6} \frac{e}{c_w \cdot s_w} \delta_{pq} \gamma^\mu_{ac} (4{c_w}^2 \cdot \frac{(1-\gamma^5)_{cb}}{2} - \frac{(1-\gamma^5)_{cb}}{2} - 4{s_w}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{c}_{ap} \quad c_{bq} \quad Z_F$	$\frac{1}{2} \frac{i \cdot e \cdot M_c}{M_W \cdot s_w} \delta_{pq} \cdot \gamma^5_{ab}$
$\bar{c}_{ap} \quad s_{bq} \quad {W^+}_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2}}{s_w} \cdot \delta_{pq} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{c}_{ap} \quad s_{bq} \quad W_F^+$	$\frac{1}{2} \frac{i \cdot e \cdot \sqrt{2}}{M_W \cdot s_w} \delta_{pq} (M_s \cdot \frac{(1+\gamma^5)_{ab}}{2} - M_c \cdot \frac{(1-\gamma^5)_{ab}}{2})$
$\bar{d}_{ap} \quad d_{bq} \quad A_\mu$	$\frac{1}{3} e \delta_{pq} \gamma^\mu_{ac} \cdot \delta_{cb}$
$\bar{d}_{ap} \quad d_{bq} \quad G_{\mu r}$	$g_s \cdot \lambda^r_{pq} \gamma^\mu_{ab}$
$\bar{d}_{ap} \quad d_{bq} \quad Z_\mu$	$\frac{1}{6} \frac{e}{c_w \cdot s_w} \delta_{pq} \gamma^\mu_{ac} (2{c_w}^2 \cdot \frac{(1-\gamma^5)_{cb}}{2} + \frac{(1-\gamma^5)_{cb}}{2} - 2{s_w}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{d}_{ap} \quad u_{bq} \quad {W^-}_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2}}{s_w} \cdot \delta_{pq} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{e}_a \quad e_b \quad A_\mu$	$e \gamma^\mu_{ac} \cdot \delta_{cb}$
$\bar{e}_a \quad e_b \quad Z_\mu$	$-\frac{1}{2} \frac{e}{c_w \cdot s_w} \gamma^\mu_{ac} ((1 - 2{c_w}^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} + 2{s_w}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{e}_a \quad {\nu^e}_b \quad {W^-}_\mu$	$-\frac{1}{2} \frac{e \cdot \sqrt{2}}{s_w} \cdot \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\bar{\mu}_a \quad \mu_b \quad A_\mu$	$e\gamma^\mu_{ac} \cdot \delta_{cb}$
$\bar{\mu}_a \quad \mu_b \quad H$	$-\frac{1}{2}\frac{e \cdot M_\mu}{M_W \cdot s_w} \cdot \delta_{ab}$
$\bar{\mu}_a \quad \mu_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{c_w \cdot s_w}\gamma^\mu_{ac}((1-2{c_w}^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} + 2{s_w}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{\mu}_a \quad \mu_b \quad Z_F$	$-\frac{1}{2}\frac{i \cdot e \cdot M_\mu}{M_W \cdot s_w} \cdot \gamma^5_{ab}$
$\bar{\mu}_a \quad {\nu^\mu}_b \quad {W^-}_\mu$	$-\frac{1}{2}\frac{e \cdot \sqrt{2}}{s_w} \cdot \gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\mu}_a \quad {\nu^\mu}_b \quad W^-_F$	$-\frac{1}{2}\frac{i \cdot e \cdot M_\mu \cdot \sqrt{2}}{M_W \cdot s_w} \cdot \frac{(1-\gamma^5)_{ab}}{2}$
$\bar{\tau}_a \quad \tau_b \quad A_\mu$	$e\gamma^\mu_{ac} \cdot \delta_{cb}$
$\bar{\tau}_a \quad \tau_b \quad H$	$-\frac{1}{2}\frac{e \cdot Mtau}{M_W \cdot s_w} \cdot \delta_{ab}$
$\bar{\tau}_a \quad \tau_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{c_w \cdot s_w}\gamma^\mu_{ac}((1-2{c_w}^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} + 2{s_w}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{\tau}_a \quad \tau_b \quad Z_F$	$-\frac{1}{2}\frac{i \cdot e \cdot Mtau}{M_W \cdot s_w} \cdot \gamma^5_{ab}$
$\bar{\tau}_a \quad {\nu^\tau}_b \quad {W^-}_\mu$	$-\frac{1}{2}\frac{e \cdot \sqrt{2}}{s_w} \cdot \gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\tau}_a \quad {\nu^\tau}_b \quad W^-_F$	$-\frac{1}{2}\frac{i \cdot e \cdot Mtau \cdot \sqrt{2}}{M_W \cdot s_w} \cdot \frac{(1-\gamma^5)_{ab}}{2}$
$G_{\mu p} \quad G_{\nu q} \quad G_{\rho r}$	$g_s f_{pqr}(p^\nu_3 g^{\mu\rho} - p^\mu_3 g^{\nu\rho} + p^\rho_1 g^{\mu\nu} - p^\nu_1 g^{\mu\rho} - p^\rho_2 g^{\mu\nu} + p^\mu_2 g^{\nu\rho})$
$\bar{C}^G{}_p \quad C^G{}_q \quad G_{\mu r}$	$g_s \cdot p^\mu_2 f_{pqr}$
$H \quad H \quad H$	$-12\frac{M_W \cdot s_w \cdot \lambda_S}{e}$
$H \quad {W^+}_\mu \quad {W^-}_\nu$	$\frac{e \cdot M_W}{s_w} \cdot g^{\mu\nu}$
$H \quad {W^+}_\mu \quad W^-_F$	$\frac{1}{2}\frac{i \cdot e}{s_w}(p^\mu_3 - p^\mu_1)$
$H \quad W^+_F \quad {W^-}_\mu$	$-\frac{1}{2}\frac{i \cdot e}{s_w}(p^\mu_1 - p^\mu_2)$
$H \quad W^+_F \quad W^-_F$	$-4\frac{M_W \cdot s_w \cdot \lambda_S}{e}$
$H \quad Z_\mu \quad Z_\nu$	$\frac{e \cdot M_W}{{c_w}^2 \cdot s_w} \cdot g^{\mu\nu}$
$H \quad Z_\mu \quad Z_F$	$-\frac{1}{2}\frac{i \cdot e}{c_w \cdot s_w}(p^\mu_1 - p^\mu_3)$
$H \quad Z_F \quad Z_F$	$-4\frac{M_W \cdot s_w \cdot \lambda_S}{e}$
$H \quad \widetilde{h}^+ \quad \widetilde{h}^-$	$-2\frac{M_W \cdot s_w \cdot \lambda_3}{e}$
$H \quad \widetilde{h}_1 \quad \widetilde{h}_1$	$-2\frac{M_W \cdot s_w}{e}(\lambda_3 + \lambda_4 + \lambda_5)$
$H \quad \widetilde{h}_2 \quad \widetilde{h}_2$	$-2\frac{M_W \cdot s_w}{e}(\lambda_3 + \lambda_4 - \lambda_5)$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\bar{\nu^e}_a \quad e_b \quad W^+{}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu^e}_a \quad \nu^e{}_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{c_w\cdot s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu^\mu}_a \quad \mu_b \quad W^+{}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu^\mu}_a \quad \mu_b \quad W^+_F$	$\frac{1}{2}\frac{i\cdot e\cdot M_\mu\cdot\sqrt{2}}{M_W\cdot s_w}\cdot\frac{(1+\gamma^5)_{ab}}{2}$
$\bar{\nu^\mu}_a \quad \nu^\mu{}_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{c_w\cdot s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu^\tau}_a \quad \tau_b \quad W^+{}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu^\tau}_a \quad \tau_b \quad W^+_F$	$\frac{1}{2}\frac{i\cdot e\cdot Mtau\cdot\sqrt{2}}{M_W\cdot s_w}\cdot\frac{(1+\gamma^5)_{ab}}{2}$
$\bar{\nu^\tau}_a \quad \nu^\tau{}_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{c_w\cdot s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad c_{bq} \quad W^-{}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad c_{bq} \quad W^-_F$	$-\frac{1}{2}\frac{i\cdot e\cdot\sqrt{2}}{M_W\cdot s_w}\delta_{pq}(M_s\cdot\frac{(1-\gamma^5)_{ab}}{2}-M_c\cdot\frac{(1+\gamma^5)_{ab}}{2})$
$\bar{s}_{ap} \quad s_{bq} \quad A_\mu$	$\frac{1}{3}e\delta_{pq}\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{s}_{ap} \quad s_{bq} \quad G_{\mu r}$	$g_s\cdot\lambda^r_{pq}\gamma^\mu_{ab}$
$\bar{s}_{ap} \quad s_{bq} \quad H$	$-\frac{1}{2}\frac{e\cdot M_s}{M_W\cdot s_w}\delta_{pq}\cdot\delta_{ab}$
$\bar{s}_{ap} \quad s_{bq} \quad Z_\mu$	$\frac{1}{6}\frac{e}{c_w\cdot s_w}\delta_{pq}\gamma^\mu_{ac}(2{c_w}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}+\frac{(1-\gamma^5)_{cb}}{2}-2{s_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2})$
$\bar{s}_{ap} \quad s_{bq} \quad Z_F$	$-\frac{1}{2}\frac{i\cdot e\cdot M_s}{M_W\cdot s_w}\delta_{pq}\cdot\gamma^5_{ab}$
$\bar{t}_{ap} \quad b_{bq} \quad W^+{}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{t}_{ap} \quad b_{bq} \quad W^+_F$	$\frac{1}{2}\frac{i\cdot e\cdot\sqrt{2}}{M_W\cdot s_w}\delta_{pq}(M_b\cdot\frac{(1+\gamma^5)_{ab}}{2}-M_t\cdot\frac{(1-\gamma^5)_{ab}}{2})$
$\bar{t}_{ap} \quad t_{bq} \quad A_\mu$	$-\frac{2}{3}e\delta_{pq}\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{t}_{ap} \quad t_{bq} \quad G_{\mu r}$	$g_s\cdot\lambda^r_{pq}\gamma^\mu_{ab}$
$\bar{t}_{ap} \quad t_{bq} \quad H$	$-\frac{1}{2}\frac{e\cdot M_t}{M_W\cdot s_w}\delta_{pq}\cdot\delta_{ab}$
$\bar{t}_{ap} \quad t_{bq} \quad Z_\mu$	$-\frac{1}{6}\frac{e}{c_w\cdot s_w}\delta_{pq}\gamma^\mu_{ac}(4{c_w}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}-\frac{(1-\gamma^5)_{cb}}{2}-4{s_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2})$
$\bar{t}_{ap} \quad t_{bq} \quad Z_F$	$\frac{1}{2}\frac{i\cdot e\cdot M_t}{M_W\cdot s_w}\delta_{pq}\cdot\gamma^5_{ab}$
$\bar{u}_{ap} \quad d_{bq} \quad W^+{}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{u}_{ap} \quad u_{bq} \quad A_\mu$	$-\frac{2}{3}e\delta_{pq}\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{u}_{ap} \quad u_{bq} \quad G_{\mu r}$	$g_s\cdot\lambda^r_{pq}\gamma^\mu_{ab}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\bar{u}_{ap} \quad u_{bq} \quad Z_\mu$	$-\frac{1}{6}\frac{e}{c_w \cdot s_w}\delta_{pq}\gamma^\mu_{ac}(4{c_w}^2 \cdot \frac{(1-\gamma^5)_{cb}}{2} - \frac{(1-\gamma^5)_{cb}}{2} - 4{s_w}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
${W^+}_\mu \quad {W^-}_\nu \quad Z_\rho$	$-\frac{c_w \cdot e}{s_w}(p_1^\nu g^{\mu\rho} - p_1^\rho g^{\mu\nu} - p_2^\mu g^{\nu\rho} + p_2^\rho g^{\mu\nu} + p_3^\mu g^{\nu\rho} - p_3^\nu g^{\mu\rho})$
${W^+}_\mu \quad W_F^- \quad Z_\nu$	$-\frac{i \cdot e \cdot M_W \cdot s_w}{c_w} \cdot g^{\mu\nu}$
${W^+}_\mu \quad W_F^- \quad Z_F$	$-\frac{1}{2}\frac{e}{s_w}(p_2^\mu - p_3^\mu)$
${W^+}_\mu \quad \widetilde{h}^- \quad \widetilde{h}_1$	$\frac{1}{2}\frac{i \cdot e}{s_w}(p_2^\mu - p_3^\mu)$
${W^+}_\mu \quad \widetilde{h}^- \quad \widetilde{h}_2$	$-\frac{1}{2}\frac{e}{s_w}(p_2^\mu - p_3^\mu)$
$\bar{C}^{W+} \quad C^Z \quad {W^-}_\mu$	$2e \cdot p_1^\mu$
$\bar{C}^{W+} \quad C^Z \quad W_F^-$	$-i \cdot e \cdot M_W$
$\bar{C}^{W+} \quad C^{W-} \quad A_\mu$	$-2e \cdot p_1^\mu$
$\bar{C}^{W+} \quad C^{W-} \quad H$	$-\frac{1}{2}\frac{e \cdot M_W}{s_w}$
$\bar{C}^{W+} \quad C^{W-} \quad Z_\mu$	$-2\frac{c_w \cdot e}{s_w} \cdot p_1^\mu$
$\bar{C}^{W+} \quad C^{W-} \quad Z_F$	$\frac{1}{2}\frac{i \cdot e \cdot M_W}{s_w}$
$\bar{C}^{W+} \quad C^Z \quad {W^-}_\mu$	$2\frac{c_w \cdot e}{s_w} \cdot p_1^\mu$
$\bar{C}^{W+} \quad C^Z \quad W_F^-$	$\frac{1}{2}\frac{i \cdot (1-2{c_w}^2) \cdot e \cdot M_W}{c_w \cdot s_w}$
$W_F^+ \quad {W^-}_\mu \quad Z_\nu$	$\frac{i \cdot e \cdot M_W \cdot s_w}{c_w} \cdot g^{\mu\nu}$
$W_F^+ \quad {W^-}_\mu \quad Z_F$	$-\frac{1}{2}\frac{e}{s_w}(p_3^\mu - p_1^\mu)$
$W_F^+ \quad W_F^- \quad Z_\mu$	$-\frac{1}{2}\frac{(1-2{c_w}^2) \cdot e}{c_w \cdot s_w}(p_2^\mu - p_1^\mu)$
$W_F^+ \quad \widetilde{h}^- \quad \widetilde{h}_1$	$-\frac{M_W \cdot s_w}{e}(\lambda_4 + \lambda_5)$
$W_F^+ \quad \widetilde{h}^- \quad \widetilde{h}_2$	$-\frac{i \cdot M_W \cdot s_w}{e}(\lambda_4 - \lambda_5)$
${W^-}_\mu \quad \widetilde{h}^+ \quad \widetilde{h}_1$	$-\frac{1}{2}\frac{i \cdot e}{s_w}(p_3^\mu - p_2^\mu)$
${W^-}_\mu \quad \widetilde{h}^+ \quad \widetilde{h}_2$	$-\frac{1}{2}\frac{e}{s_w}(p_3^\mu - p_2^\mu)$
$\bar{C}^{W-} \quad C^Z \quad {W^+}_\mu$	$-2e \cdot p_1^\mu$
$\bar{C}^{W-} \quad C^Z \quad W_F^+$	$i \cdot e \cdot M_W$
$\bar{C}^{W-} \quad C^{W+} \quad A_\mu$	$2e \cdot p_1^\mu$
$\bar{C}^{W-} \quad C^{W+} \quad H$	$-\frac{1}{2}\frac{e \cdot M_W}{s_w}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\bar{C}^{W-}\quad C^{W+}\quad Z_\mu$	$2\frac{c_w\cdot e}{s_w}\cdot p_1^\mu$
$\bar{C}^{W-}\quad C^{W+}\quad Z_F$	$-\frac{1}{2}\frac{i\cdot e\cdot M_W}{s_w}$
$\bar{C}^{W-}\quad C^{Z}\quad {W^+}_\mu$	$-2\frac{c_w\cdot e}{s_w}\cdot p_1^\mu$
$\bar{C}^{W-}\quad C^{Z}\quad W_F^+$	$-\frac{1}{2}\frac{i\cdot(1-2{c_w}^2)\cdot e\cdot M_W}{c_w\cdot s_w}$
$W_F^-\quad \widetilde{h}^+\quad \widetilde{h}_1$	$-\frac{M_W\cdot s_w}{e}(\lambda_4+\lambda_5)$
$W_F^-\quad \widetilde{h}^+\quad \widetilde{h}_2$	$\frac{i\cdot M_W\cdot s_w}{e}(\lambda_4-\lambda_5)$
$Z_\mu\quad \widetilde{h}^+\quad \widetilde{h}^-$	$-\frac{1}{2}\frac{(1-2{c_w}^2)\cdot e}{c_w\cdot s_w}(p_3^\mu-p_2^\mu)$
$Z_\mu\quad \widetilde{h}_1\quad \widetilde{h}_2$	$-\frac{1}{2}\frac{i\cdot e}{c_w\cdot s_w}(p_2^\mu-p_3^\mu)$
$\bar{C}^{Z}\quad C^{W+}\quad {W^-}_\mu$	$-2\frac{c_w\cdot e}{s_w}\cdot p_1^\mu$
$\bar{C}^{Z}\quad C^{W+}\quad W_F^-$	$\frac{1}{2}\frac{i\cdot e\cdot M_W}{c_w\cdot s_w}$
$\bar{C}^{Z}\quad C^{W-}\quad {W^+}_\mu$	$2\frac{c_w\cdot e}{s_w}\cdot p_1^\mu$
$\bar{C}^{Z}\quad C^{W-}\quad W_F^+$	$-\frac{1}{2}\frac{i\cdot e\cdot M_W}{c_w\cdot s_w}$
$\bar{C}^{Z}\quad C^{Z}\quad H$	$-\frac{1}{2}\frac{e\cdot M_W}{{c_w}^2\cdot s_w}$
$Z_F\quad \widetilde{h}_1\quad \widetilde{h}_2$	$-2\frac{M_W\cdot s_w\cdot\lambda_5}{e}$
$A_\mu\quad A_\nu\quad {W^+}_\rho\quad {W^-}_\sigma$	$-e^2(2g^{\mu\nu}g^{\rho\sigma}-g^{\mu\rho}g^{\nu\sigma}-g^{\mu\sigma}g^{\nu\rho})$
$A_\mu\quad A_\nu\quad W_F^+\quad W_F^-$	$2e^2\cdot g^{\mu\nu}$
$A_\mu\quad A_\nu\quad \widetilde{h}^+\quad \widetilde{h}^-$	$2e^2\cdot g^{\mu\nu}$
$A_\mu\quad H\quad {W^+}_\nu\quad W_F^-$	$\frac{1}{2}\frac{i\cdot e^2}{s_w}\cdot g^{\mu\nu}$
$A_\mu\quad H\quad W_F^+\quad {W^-}_\nu$	$-\frac{1}{2}\frac{i\cdot e^2}{s_w}\cdot g^{\mu\nu}$
$A_\mu\quad {W^+}_\nu\quad {W^-}_\rho\quad Z_\sigma$	$-\frac{c_w\cdot e^2}{s_w}(2g^{\mu\sigma}g^{\nu\rho}-g^{\mu\nu}g^{\rho\sigma}-g^{\mu\rho}g^{\nu\sigma})$
$A_\mu\quad {W^+}_\nu\quad W_F^-\quad Z_F$	$-\frac{1}{2}\frac{e^2}{s_w}\cdot g^{\mu\nu}$
$A_\mu\quad {W^+}_\nu\quad \widetilde{h}^-\quad \widetilde{h}_1$	$\frac{1}{2}\frac{i\cdot e^2}{s_w}\cdot g^{\mu\nu}$
$A_\mu\quad {W^+}_\nu\quad \widetilde{h}^-\quad \widetilde{h}_2$	$-\frac{1}{2}\frac{e^2}{s_w}\cdot g^{\mu\nu}$
$A_\mu\quad W_F^+\quad {W^-}_\nu\quad Z_F$	$-\frac{1}{2}\frac{e^2}{s_w}\cdot g^{\mu\nu}$
$A_\mu\quad W_F^+\quad W_F^-\quad Z_\nu$	$-\frac{(1-2{c_w}^2)\cdot e^2}{c_w\cdot s_w}\cdot g^{\mu\nu}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$A_\mu \quad {W^-}_\nu \quad \widetilde{h}^+ \quad \widetilde{h}_1$	$-\frac{1}{2}\frac{i\cdot e^2}{s_w}\cdot g^{\mu\nu}$
$A_\mu \quad {W^-}_\nu \quad \widetilde{h}^+ \quad \widetilde{h}_2$	$-\frac{1}{2}\frac{e^2}{s_w}\cdot g^{\mu\nu}$
$A_\mu \quad Z_\nu \quad \widetilde{h}^+ \quad \widetilde{h}^-$	$-\frac{(1-2{c_w}^2)\cdot e^2}{c_w\cdot s_w}\cdot g^{\mu\nu}$
$G_{\mu p} \quad G_{\nu q} \quad G_{\rho r} \quad G_{\sigma s}$	${g_s}^2(g^{\mu\rho}g^{\nu\sigma}f_{pqt}f_{rst} - g^{\mu\sigma}g^{\nu\rho}f_{pqt}f_{rst} + g^{\mu\nu}g^{\rho\sigma}f_{prt}f_{qst}$
	$-g^{\mu\sigma}g^{\nu\rho}f_{prt}f_{qst} + g^{\mu\nu}g^{\rho\sigma}f_{pst}f_{qrt} - g^{\mu\rho}g^{\nu\sigma}f_{pst}f_{qrt})$
$H \quad H \quad H \quad H$	$-6\lambda_S$
$H \quad H \quad {W^+}_\mu \quad {W^-}_\nu$	$\frac{1}{2}\frac{e^2}{{s_w}^2}\cdot g^{\mu\nu}$
$H \quad H \quad W_F^+ \quad W_F^-$	$-2\lambda_S$
$H \quad H \quad Z_\mu \quad Z_\nu$	$\frac{1}{2}\frac{e^2}{{c_w}^2\cdot{s_w}^2}\cdot g^{\mu\nu}$
$H \quad H \quad Z_F \quad Z_F$	$-2\lambda_S$
$H \quad H \quad \widetilde{h}^+ \quad \widetilde{h}^-$	$-\lambda_3$
$H \quad H \quad \widetilde{h}_1 \quad \widetilde{h}_1$	$-(\lambda_3+\lambda_4+\lambda_5)$
$H \quad H \quad \widetilde{h}_2 \quad \widetilde{h}_2$	$-(\lambda_3+\lambda_4-\lambda_5)$
$H \quad {W^+}_\mu \quad W_F^- \quad Z_\nu$	$-\frac{1}{2}\frac{i\cdot e^2}{c_w}\cdot g^{\mu\nu}$
$H \quad W_F^+ \quad {W^-}_\mu \quad Z_\nu$	$\frac{1}{2}\frac{i\cdot e^2}{c_w}\cdot g^{\mu\nu}$
$H \quad W_F^+ \quad \widetilde{h}^- \quad \widetilde{h}_1$	$-\frac{1}{2}(\lambda_4+\lambda_5)$
$H \quad W_F^+ \quad \widetilde{h}^- \quad \widetilde{h}_2$	$-\frac{1}{2}i(\lambda_4-\lambda_5)$
$H \quad W_F^- \quad \widetilde{h}^+ \quad \widetilde{h}_1$	$-\frac{1}{2}(\lambda_4+\lambda_5)$
$H \quad W_F^- \quad \widetilde{h}^+ \quad \widetilde{h}_2$	$\frac{1}{2}i(\lambda_4-\lambda_5)$
$H \quad Z_F \quad \widetilde{h}_1 \quad \widetilde{h}_2$	$-\lambda_5$
${W^+}_\mu \quad {W^+}_\nu \quad {W^-}_\rho \quad {W^-}_\sigma$	$\frac{e^2}{{s_w}^2}(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma})$
${W^+}_\mu \quad W_F^+ \quad {W^-}_\nu \quad W_F^-$	$\frac{1}{2}\frac{e^2}{{s_w}^2}\cdot g^{\mu\nu}$
${W^+}_\mu \quad {W^-}_\nu \quad Z_\rho \quad Z_\sigma$	$-\frac{{c_w}^2\cdot e^2}{{s_w}^2}(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\rho}g^{\nu\sigma} - g^{\mu\sigma}g^{\nu\rho})$
${W^+}_\mu \quad {W^-}_\nu \quad Z_F \quad Z_F$	$\frac{1}{2}\frac{e^2}{{s_w}^2}\cdot g^{\mu\nu}$
${W^+}_\mu \quad {W^-}_\nu \quad \widetilde{h}^+ \quad \widetilde{h}^-$	$\frac{1}{2}\frac{e^2}{{s_w}^2}\cdot g^{\mu\nu}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$W^+{}_\mu \quad W^-{}_\nu \quad \widetilde{h}_1 \quad \widetilde{h}_1$	$\frac{1}{2}\frac{e^2}{{s_w}^2}\cdot g^{\mu\nu}$
$W^+{}_\mu \quad W^-{}_\nu \quad \widetilde{h}_2 \quad \widetilde{h}_2$	$\frac{1}{2}\frac{e^2}{{s_w}^2}\cdot g^{\mu\nu}$
$W^+{}_\mu \quad W_F^- \quad Z_\nu \quad Z_F$	$\frac{1}{2}\frac{e^2}{c_w}\cdot g^{\mu\nu}$
$W^+{}_\mu \quad Z_\nu \quad \widetilde{h}^- \quad \widetilde{h}_1$	$-\frac{1}{2}\frac{i\cdot e^2}{c_w}\cdot g^{\mu\nu}$
$W^+{}_\mu \quad Z_\nu \quad \widetilde{h}^- \quad \widetilde{h}_2$	$\frac{1}{2}\frac{e^2}{c_w}\cdot g^{\mu\nu}$
$W_F^+ \quad W_F^+ \quad W_F^- \quad W_F^-$	$-4\lambda_S$
$W_F^+ \quad W_F^+ \quad \widetilde{h}^- \quad \widetilde{h}^-$	$-2\lambda_5$
$W_F^+ \quad W^-{}_\mu \quad Z_\nu \quad Z_F$	$\frac{1}{2}\frac{e^2}{c_w}\cdot g^{\mu\nu}$
$W_F^+ \quad W_F^- \quad Z_\mu \quad Z_\nu$	$\frac{1}{2}\frac{(1-2{c_w}^2)^2\cdot e^2}{{c_w}^2\cdot{s_w}^2}\cdot g^{\mu\nu}$
$W_F^+ \quad W_F^- \quad Z_F \quad Z_F$	$-2\lambda_S$
$W_F^+ \quad W_F^- \quad \widetilde{h}^+ \quad \widetilde{h}^-$	$-(\lambda_3+\lambda_4)$
$W_F^+ \quad W_F^- \quad \widetilde{h}_1 \quad \widetilde{h}_1$	$-\lambda_3$
$W_F^+ \quad W_F^- \quad \widetilde{h}_2 \quad \widetilde{h}_2$	$-\lambda_3$
$W_F^+ \quad Z_F \quad \widetilde{h}^- \quad \widetilde{h}_1$	$\frac{1}{2}i(\lambda_4-\lambda_5)$
$W_F^+ \quad Z_F \quad \widetilde{h}^- \quad \widetilde{h}_2$	$-\frac{1}{2}(\lambda_4+\lambda_5)$
$W^-{}_\mu \quad Z_\nu \quad \widetilde{h}^+ \quad \widetilde{h}_1$	$\frac{1}{2}\frac{i\cdot e^2}{c_w}\cdot g^{\mu\nu}$
$W^-{}_\mu \quad Z_\nu \quad \widetilde{h}^+ \quad \widetilde{h}_2$	$\frac{1}{2}\frac{e^2}{c_w}\cdot g^{\mu\nu}$
$W_F^- \quad W_F^- \quad \widetilde{h}^+ \quad \widetilde{h}^+$	$-2\lambda_5$
$W_F^- \quad Z_F \quad \widetilde{h}^+ \quad \widetilde{h}_1$	$-\frac{1}{2}i(\lambda_4-\lambda_5)$
$W_F^- \quad Z_F \quad \widetilde{h}^+ \quad \widetilde{h}_2$	$-\frac{1}{2}(\lambda_4+\lambda_5)$
$Z_\mu \quad Z_\nu \quad Z_F \quad Z_F$	$\frac{1}{2}\frac{e^2}{{c_w}^2\cdot{s_w}^2}\cdot g^{\mu\nu}$
$Z_\mu \quad Z_\nu \quad \widetilde{h}^+ \quad \widetilde{h}^-$	$\frac{1}{2}\frac{(1-2{c_w}^2)^2\cdot e^2}{{c_w}^2\cdot{s_w}^2}\cdot g^{\mu\nu}$
$Z_\mu \quad Z_\nu \quad \widetilde{h}_1 \quad \widetilde{h}_1$	$\frac{1}{2}\frac{e^2}{{c_w}^2\cdot{s_w}^2}\cdot g^{\mu\nu}$
$Z_\mu \quad Z_\nu \quad \widetilde{h}_2 \quad \widetilde{h}_2$	$\frac{1}{2}\frac{e^2}{{c_w}^2\cdot{s_w}^2}\cdot g^{\mu\nu}$
$Z_F \quad Z_F \quad Z_F \quad Z_F$	$-6\lambda_S$

Fields in the vertex				Variational derivative of Lagrangian by fields
Z_F	Z_F	$\widetilde{h}^+$	$\widetilde{h}^-$	$-\lambda_3$
Z_F	Z_F	$\widetilde{h}_1$	$\widetilde{h}_1$	$-(\lambda_3+\lambda_4-\lambda_5)$
Z_F	Z_F	$\widetilde{h}_2$	$\widetilde{h}_2$	$-(\lambda_3+\lambda_4+\lambda_5)$
$\widetilde{h}^+$	$\widetilde{h}^+$	$\widetilde{h}^-$	$\widetilde{h}^-$	$-4\lambda_D$
$\widetilde{h}^+$	$\widetilde{h}^-$	$\widetilde{h}_1$	$\widetilde{h}_1$	$-2\lambda_D$
$\widetilde{h}^+$	$\widetilde{h}^-$	$\widetilde{h}_2$	$\widetilde{h}_2$	$-2\lambda_D$
$\widetilde{h}_1$	$\widetilde{h}_1$	$\widetilde{h}_1$	$\widetilde{h}_1$	$-6\lambda_D$
$\widetilde{h}_1$	$\widetilde{h}_1$	$\widetilde{h}_2$	$\widetilde{h}_2$	$-2\lambda_D$
$\widetilde{h}_2$	$\widetilde{h}_2$	$\widetilde{h}_2$	$\widetilde{h}_2$	$-6\lambda_D$