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

Fields in the vertex	Variational derivative of Lagrangian by fields
$\bar{\tau}_a \quad \tau_b \quad H$	$-\frac{1}{2}\frac{e\cdot M_\tau}{M_W\cdot s_w}\cdot\delta_{ab}$
$\bar{\tau}_a \quad \tau_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{c_w\cdot s_w}\gamma^\mu_{ac}((1-2{c_w}^2)\cdot\frac{(1-\gamma^5)_{cb}}{2}+2{s_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2})$
$\bar{\tau}_a \quad \nu^\tau{}_b \quad {W^-}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$G_{\mu p} \quad G_{\nu q} \quad G_{\rho r}$	$g_s f_{pqr}(p_3^\nu g^{\mu\rho}-p_3^\mu g^{\nu\rho}+p_1^\rho g^{\mu\nu}-p_1^\nu g^{\mu\rho}-p_2^\rho g^{\mu\nu}+p_2^\mu g^{\nu\rho})$
$\bar{C}^G{}_p \quad C^G{}_q \quad G_{\mu r}$	$g_s\cdot p_2^\mu f_{pqr}$
$H \quad H \quad H$	$-\frac{3}{2}\frac{e\cdot {M_H}^2}{M_W\cdot s_w}$
$H \quad {W^+}_\mu \quad {W^-}_\nu$	$\frac{e\cdot M_W}{s_w}\cdot g^{\mu\nu}$
$H \quad Z_\mu \quad Z_\nu$	$\frac{e\cdot M_W}{{c_w}^2\cdot s_w}\cdot g^{\mu\nu}$
$H \quad \sim {V^+}_\mu \quad \sim {V^-}_\nu$	$-2\frac{M_W\cdot s_w\cdot\lambda_2}{e}\cdot g^{\mu\nu}$
$H \quad \sim V_{1\mu} \quad \sim V_{1\nu}$	$-2\frac{M_W\cdot s_w}{e}g^{\mu\nu}(\lambda_2+\lambda_3+\lambda_4)$
$H \quad \sim V_{2\mu} \quad \sim V_{2\nu}$	$-2\frac{M_W\cdot s_w}{e}g^{\mu\nu}(\lambda_2+\lambda_3-\lambda_4)$
$\bar{\nu}^e{}_a \quad e_b \quad {W^+}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu}^e{}_a \quad \nu^e{}_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{c_w\cdot s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu}^\mu{}_a \quad \mu_b \quad {W^+}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu}^\mu{}_a \quad \nu^\mu{}_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{c_w\cdot s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu}^\tau{}_a \quad \tau_b \quad {W^+}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu}^\tau{}_a \quad \nu^\tau{}_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{c_w\cdot s_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad c_{bq} \quad {W^-}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad s_{bq} \quad A_\mu$	$\frac{1}{3}e\delta_{pq}\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{s}_{ap} \quad s_{bq} \quad G_{\mu r}$	$g_s\cdot\lambda^r_{pq}\gamma^\mu_{ab}$
$\bar{s}_{ap} \quad s_{bq} \quad H$	$-\frac{1}{2}\frac{e\cdot M_s}{M_W\cdot s_w}\delta_{pq}\cdot\delta_{ab}$
$\bar{s}_{ap} \quad s_{bq} \quad Z_\mu$	$\frac{1}{6}\frac{e}{c_w\cdot s_w}\delta_{pq}\gamma^\mu_{ac}((1+2{c_w}^2)\cdot\frac{(1-\gamma^5)_{cb}}{2}-2{s_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2})$
$\bar{t}_{ap} \quad b_{bq} \quad {W^+}_\mu$	$-\frac{1}{2}\frac{e\cdot\sqrt{2}}{s_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{t}_{ap} \quad t_{bq} \quad A_\mu$	$-\frac{2}{3}e\delta_{pq}\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{t}_{ap} \quad t_{bq} \quad G_{\mu r}$	$g_s\cdot\lambda^r_{pq}\gamma^\mu_{ab}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\bar{t}_{ap} \quad t_{bq} \quad H$	$-\frac{1}{2}\frac{e \cdot M_t}{M_W \cdot s_w}\delta_{pq} \cdot \delta_{ab}$
$\bar{t}_{ap} \quad t_{bq} \quad Z_\mu$	$\frac{1}{6}\frac{e}{c_w \cdot s_w}\delta_{pq}\gamma^\mu_{ac}((1-4{c_w}^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} + 4{s_w}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
$\bar{u}_{ap} \quad d_{bq} \quad {W^+}_\mu$	$-\frac{1}{2}\frac{e \cdot \sqrt{2}}{s_w} \cdot \delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{u}_{ap} \quad u_{bq} \quad A_\mu$	$-\frac{2}{3}e\delta_{pq}\gamma^\mu_{ac} \cdot \delta_{cb}$
$\bar{u}_{ap} \quad u_{bq} \quad G_{\mu r}$	$g_s \cdot \lambda^r_{pq}\gamma^\mu_{ab}$
$\bar{u}_{ap} \quad u_{bq} \quad H$	$-\frac{1}{2}\frac{e \cdot Mu}{M_W \cdot s_w}\delta_{pq} \cdot \delta_{ab}$
$\bar{u}_{ap} \quad u_{bq} \quad Z_\mu$	$\frac{1}{6}\frac{e}{c_w \cdot s_w}\delta_{pq}\gamma^\mu_{ac}((1-4{c_w}^2) \cdot \frac{(1-\gamma^5)_{cb}}{2} + 4{s_w}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2})$
${W^+}_\mu \quad {W^-}_\nu \quad Z_\rho$	$-\frac{c_w \cdot e}{s_w}(p_1^\nu g^{\mu\rho} - p_1^\rho g^{\mu\nu} - p_2^\mu g^{\nu\rho} + p_2^\rho g^{\mu\nu} + p_3^\mu g^{\nu\rho} - p_3^\nu g^{\mu\rho})$
${W^+}_\mu \quad \sim {V^-}_\nu \quad \sim V_{1\rho}$	$\frac{1}{2}\frac{e}{s_w}(p_1^\nu g^{\mu\rho} - p_1^\rho g^{\mu\nu} - p_2^\mu g^{\nu\rho} + p_3^\mu g^{\nu\rho} + p_2^\rho g^{\mu\nu} - p_3^\nu g^{\mu\rho})$
${W^+}_\mu \quad \sim {V^-}_\nu \quad \sim V_{2\rho}$	$\frac{1}{2}\frac{i \cdot e}{s_w}(p_1^\nu g^{\mu\rho} - p_1^\rho g^{\mu\nu} - p_2^\mu g^{\nu\rho} + p_3^\mu g^{\nu\rho} + p_2^\rho g^{\mu\nu} - p_3^\nu g^{\mu\rho})$
${W^-}_\mu \quad \sim {V^+}_\nu \quad \sim V_{1\rho}$	$\frac{1}{2}\frac{e}{s_w}(p_1^\rho g^{\mu\nu} - p_1^\nu g^{\mu\rho} - p_3^\mu g^{\nu\rho} + p_2^\mu g^{\nu\rho} + p_3^\nu g^{\mu\rho} - p_2^\rho g^{\mu\nu})$
${W^-}_\mu \quad \sim {V^+}_\nu \quad \sim V_{2\rho}$	$-\frac{1}{2}\frac{i \cdot e}{s_w}(p_1^\rho g^{\mu\nu} - p_1^\nu g^{\mu\rho} - p_3^\mu g^{\nu\rho} + p_2^\mu g^{\nu\rho} + p_3^\nu g^{\mu\rho} - p_2^\rho g^{\mu\nu})$
$Z_\mu \quad \sim {V^+}_\nu \quad \sim {V^-}_\rho$	$-\frac{1}{2}\frac{(1-2{c_w}^2) \cdot e}{c_w \cdot s_w}(p_1^\rho g^{\mu\nu} - p_1^\nu g^{\mu\rho} - p_3^\mu g^{\nu\rho} + p_2^\mu g^{\nu\rho} + p_3^\nu g^{\mu\rho} - p_2^\rho g^{\mu\nu})$
$Z_\mu \quad \sim V_{1\nu} \quad \sim V_{2\rho}$	$-\frac{1}{2}\frac{i \cdot e}{c_w \cdot s_w}(p_1^\nu g^{\mu\rho} - p_1^\rho g^{\mu\nu} - p_2^\mu g^{\nu\rho} + p_3^\mu g^{\nu\rho} + p_2^\rho g^{\mu\nu} - p_3^\nu g^{\mu\rho})$
$A_\mu \quad A_\nu \quad {W^+}_\rho \quad {W^-}_\sigma$	$-e^2(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\rho}g^{\nu\sigma} - g^{\mu\sigma}g^{\nu\rho})$
$A_\mu \quad A_\nu \quad \sim {V^+}_\rho \quad \sim {V^-}_\sigma$	$-e^2(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma})$
$A_\mu \quad {W^+}_\nu \quad {W^-}_\rho \quad Z_\sigma$	$-\frac{c_w \cdot e^2}{s_w}(2g^{\mu\sigma}g^{\nu\rho} - g^{\mu\nu}g^{\rho\sigma} - g^{\mu\rho}g^{\nu\sigma})$
$A_\mu \quad {W^+}_\nu \quad \sim {V^-}_\rho \quad \sim V_{1\sigma}$	$\frac{1}{2}\frac{e^2}{s_w}(2g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma} - g^{\mu\nu}g^{\rho\sigma})$
$A_\mu \quad {W^+}_\nu \quad \sim {V^-}_\rho \quad \sim V_{2\sigma}$	$\frac{1}{2}\frac{i \cdot e^2}{s_w}(2g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma} - g^{\mu\nu}g^{\rho\sigma})$
$A_\mu \quad {W^-}_\nu \quad \sim {V^+}_\rho \quad \sim V_{1\sigma}$	$-\frac{1}{2}\frac{e^2}{s_w}(g^{\mu\rho}g^{\nu\sigma} - 2g^{\mu\sigma}g^{\nu\rho} + g^{\mu\nu}g^{\rho\sigma})$
$A_\mu \quad {W^-}_\nu \quad \sim {V^+}_\rho \quad \sim V_{2\sigma}$	$\frac{1}{2}\frac{i \cdot e^2}{s_w}(g^{\mu\rho}g^{\nu\sigma} - 2g^{\mu\sigma}g^{\nu\rho} + g^{\mu\nu}g^{\rho\sigma})$
$A_\mu \quad Z_\nu \quad \sim {V^+}_\rho \quad \sim {V^-}_\sigma$	$\frac{1}{2}\frac{(1-2{c_w}^2) \cdot e^2}{c_w \cdot s_w}(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma})$
$G_{\mu p} \quad G_{\nu q} \quad G_{\rho r} \quad G_{\sigma s}$	${g_s}^2(g^{\mu\rho}g^{\nu\sigma}f_{pqt}f_{rst} - g^{\mu\sigma}g^{\nu\rho}f_{pqt}f_{rst} + g^{\mu\nu}g^{\rho\sigma}f_{prt}f_{qst}$
	$-g^{\mu\sigma}g^{\nu\rho}f_{prt}f_{qst} + g^{\mu\nu}g^{\rho\sigma}f_{pst}f_{qrt} - g^{\mu\rho}g^{\nu\sigma}f_{pst}f_{qrt})$
$H \quad H \quad H \quad H$	$-\frac{3}{4}\frac{{e^2} \cdot {M_H}^2}{{M_W}^2 \cdot {s_w}^2}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$H \quad H \quad {W^+}_\mu \quad {W^-}_\nu$	$\frac{1}{2}\frac{e^2}{{s_w}^2} \cdot g^{\mu\nu}$
$H \quad H \quad Z_\mu \quad Z_\nu$	$\frac{1}{2}\frac{e^2}{{c_w}^2 \cdot {s_w}^2} \cdot g^{\mu\nu}$
$H \quad H \quad \sim {V^+}_\mu \quad \sim {V^-}_\nu$	$-\lambda_2 \cdot g^{\mu\nu}$
$H \quad H \quad \sim V_{1\mu} \quad \sim V_{1\nu}$	$-g^{\mu\nu}(\lambda_2 + \lambda_3 + \lambda_4)$
$H \quad H \quad \sim V_{2\mu} \quad \sim V_{2\nu}$	$-g^{\mu\nu}(\lambda_2 + \lambda_3 - \lambda_4)$
${W^+}_\mu \quad {W^+}_\nu \quad {W^-}_\rho \quad {W^-}_\sigma$	$\frac{e^2}{{s_w}^2}(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma})$
${W^+}_\mu \quad {W^-}_\nu \quad Z_\rho \quad Z_\sigma$	$-\frac{{c_w}^2 \cdot e^2}{{s_w}^2}(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\rho}g^{\nu\sigma} - g^{\mu\sigma}g^{\nu\rho})$
${W^+}_\mu \quad {W^-}_\nu \quad \sim {V^+}_\rho \quad \sim {V^-}_\sigma$	$-\frac{1}{2}\frac{e^2}{{s_w}^2}(g^{\mu\sigma}g^{\nu\rho} - 2g^{\mu\rho}g^{\nu\sigma} + g^{\mu\nu}g^{\rho\sigma})$
${W^+}_\mu \quad {W^-}_\nu \quad \sim V_{1\rho} \quad \sim V_{1\sigma}$	$\frac{1}{4}\frac{e^2}{{s_w}^2}(g^{\mu\sigma}g^{\nu\rho} + g^{\mu\rho}g^{\nu\sigma} - 2g^{\mu\nu}g^{\rho\sigma})$
${W^+}_\mu \quad {W^-}_\nu \quad \sim V_{1\rho} \quad \sim V_{2\sigma}$	$\frac{3}{4}\frac{i \cdot e^2}{{s_w}^2}(g^{\mu\rho}g^{\nu\sigma} - g^{\mu\sigma}g^{\nu\rho})$
${W^+}_\mu \quad {W^-}_\nu \quad \sim V_{2\rho} \quad \sim V_{2\sigma}$	$\frac{1}{4}\frac{e^2}{{s_w}^2}(g^{\mu\sigma}g^{\nu\rho} + g^{\mu\rho}g^{\nu\sigma} - 2g^{\mu\nu}g^{\rho\sigma})$
${W^+}_\mu \quad Z_\nu \quad \sim {V^-}_\rho \quad \sim V_{1\sigma}$	$-\frac{1}{4}\frac{e^2}{c_w \cdot {s_w}^2}((1 - 4{c_w}^2) \cdot g^{\mu\rho}g^{\nu\sigma} + (1 + 2{c_w}^2) \cdot g^{\mu\sigma}g^{\nu\rho}$ $-2{s_w}^2 \cdot g^{\mu\nu}g^{\rho\sigma})$
${W^+}_\mu \quad Z_\nu \quad \sim {V^-}_\rho \quad \sim V_{2\sigma}$	$-\frac{1}{4}\frac{i \cdot e^2}{c_w \cdot {s_w}^2}((1 - 4{c_w}^2) \cdot g^{\mu\rho}g^{\nu\sigma} + (1 + 2{c_w}^2) \cdot g^{\mu\sigma}g^{\nu\rho}$ $-2{s_w}^2 \cdot g^{\mu\nu}g^{\rho\sigma})$
${W^-}_\mu \quad Z_\nu \quad \sim {V^+}_\rho \quad \sim V_{1\sigma}$	$-\frac{1}{4}\frac{e^2}{c_w \cdot {s_w}^2}((1 + 2{c_w}^2) \cdot g^{\mu\sigma}g^{\nu\rho} + (1 - 4{c_w}^2) \cdot g^{\mu\rho}g^{\nu\sigma}$ $-2{s_w}^2 \cdot g^{\mu\nu}g^{\rho\sigma})$
${W^-}_\mu \quad Z_\nu \quad \sim {V^+}_\rho \quad \sim V_{2\sigma}$	$\frac{1}{4}\frac{i \cdot e^2}{c_w \cdot {s_w}^2}((1 + 2{c_w}^2) \cdot g^{\mu\sigma}g^{\nu\rho} + (1 - 4{c_w}^2) \cdot g^{\mu\rho}g^{\nu\sigma}$ $-2{s_w}^2 \cdot g^{\mu\nu}g^{\rho\sigma})$
$Z_\mu \quad Z_\nu \quad \sim {V^+}_\rho \quad \sim {V^-}_\sigma$	$-\frac{1}{4}\frac{(1-2{c_w}^2)^2 \cdot e^2}{{c_w}^2 \cdot {s_w}^2}(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma})$
$Z_\mu \quad Z_\nu \quad \sim V_{1\rho} \quad \sim V_{1\sigma}$	$-\frac{1}{4}\frac{e^2}{{c_w}^2 \cdot {s_w}^2}(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma})$
$Z_\mu \quad Z_\nu \quad \sim V_{2\rho} \quad \sim V_{2\sigma}$	$-\frac{1}{4}\frac{e^2}{{c_w}^2 \cdot {s_w}^2}(2g^{\mu\nu}g^{\rho\sigma} - g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma})$
$\sim {V^+}_\mu \quad \sim {V^+}_\nu \quad \sim {V^-}_\rho \quad \sim {V^-}_\sigma$	$-2(\alpha_2 \cdot g^{\mu\rho}g^{\nu\sigma} + \alpha_3 \cdot g^{\mu\rho}g^{\nu\sigma} + \alpha_2 \cdot g^{\mu\sigma}g^{\nu\rho} + \alpha_3 \cdot g^{\mu\sigma}g^{\nu\rho})$
$\sim {V^+}_\mu \quad \sim {V^-}_\nu \quad \sim V_{1\rho} \quad \sim V_{1\sigma}$	$-(2\alpha_2 \cdot g^{\mu\nu}g^{\rho\sigma} + \alpha_3 \cdot g^{\mu\rho}g^{\nu\sigma} + \alpha_3 \cdot g^{\mu\sigma}g^{\nu\rho})$
$\sim {V^+}_\mu \quad \sim {V^-}_\nu \quad \sim V_{1\rho} \quad \sim V_{2\sigma}$	$i \cdot \alpha_3(g^{\mu\sigma}g^{\nu\rho} - g^{\mu\rho}g^{\nu\sigma})$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\sim {V^+}_\mu \quad \sim {V^-}_\nu \quad \sim V_{2\rho} \quad \sim V_{2\sigma}$	$-(2\alpha_2 \cdot g^{\mu\nu}g^{\rho\sigma} + \alpha_3 \cdot g^{\mu\rho}g^{\nu\sigma} + \alpha_3 \cdot g^{\mu\sigma}g^{\nu\rho})$
$\sim V_{1\mu} \quad \sim V_{1\nu} \quad \sim V_{1\rho} \quad \sim V_{1\sigma}$	$-2(\alpha_2 \cdot g^{\mu\nu}g^{\rho\sigma} + \alpha_3 \cdot g^{\mu\nu}g^{\rho\sigma} + \alpha_2 \cdot g^{\mu\rho}g^{\nu\sigma} + \alpha_3 \cdot g^{\mu\rho}g^{\nu\sigma} + \alpha_2 \cdot g^{\mu\sigma}g^{\nu\rho}$ $+\alpha_3 \cdot g^{\mu\sigma}g^{\nu\rho})$
$\sim V_{1\mu} \quad \sim V_{1\nu} \quad \sim V_{2\rho} \quad \sim V_{2\sigma}$	$-2g^{\mu\nu}g^{\rho\sigma}(\alpha_2 + \alpha_3)$
$\sim V_{2\mu} \quad \sim V_{2\nu} \quad \sim V_{2\rho} \quad \sim V_{2\sigma}$	$-2(\alpha_2 \cdot g^{\mu\nu}g^{\rho\sigma} + \alpha_3 \cdot g^{\mu\nu}g^{\rho\sigma} + \alpha_2 \cdot g^{\mu\rho}g^{\nu\sigma} + \alpha_3 \cdot g^{\mu\rho}g^{\nu\sigma} + \alpha_2 \cdot g^{\mu\sigma}g^{\nu\rho}$ $+\alpha_3 \cdot g^{\mu\sigma}g^{\nu\rho})$