Fields in the vertex	Variational derivative of Lagrangian by fields
$A_\mu \quad A_\nu$	$-\frac{1}{{M_\rho}^2 \cdot \cos{\theta_w}^2}(\cos{\theta_w}^2 \cdot {M_\rho}^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - \cos{\theta_w}^2 \cdot {M_\rho}^2 \cdot p_1^\mu p_1^\nu + 2 \cos{\theta_w}^2 \cdot {M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot p_1^\rho p_1^\rho$
	$-2 \cos{\theta_w}^2 \cdot {M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot p_1^\mu p_1^\nu + 2 \cos{\theta_w}^2 \cdot {M_\rho}^2 \cdot {M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot g^{\mu\nu} - {M_W}^4 \cdot \sin{\theta_w}^2$
$A_\mu \quad \omega_\nu$	$-\frac{M_W \cdot \sin\theta_w \cdot a}{M_\rho \cdot \cos{\theta_w}^2} g^{\mu\nu}(\cos{\theta_w}^2 {M_\rho}^2 - {M_W}^2 \sin{\theta_w}^2 a^2)$
$A_\mu \quad {\rho^0}_\nu$	$-\frac{M_W \cdot \sin\theta_w \cdot a}{M_\rho} g^{\mu\nu}({M_\rho}^2 - {M_W}^2 a^2)$
$A_\mu \quad Z_\nu$	$-\frac{{M_W}^2 \cdot \sin\theta_w \cdot a^2}{\cos{\theta_w}^3 \cdot {M_\rho}^2}(\cos{\theta_w}^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - 2 \cos{\theta_w}^2 \cdot \sin{\theta_w}^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - \cos{\theta_w}^2 \cdot p_1^\mu p_1^\nu + 2 \cos{\theta_w}^2 \cdot \sin\theta$
	$+ \cos{\theta_w}^2 \cdot {M_\rho}^2 \cdot g^{\mu\nu} - 2 \cos{\theta_w}^2 \cdot {M_\rho}^2 \cdot \sin{\theta_w}^2 \cdot g^{\mu\nu} + 2{M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot g^{\mu\nu} - {M_W}^2 \cdot a^2 \cdot g^{\mu}$
$\bar{b}_{ap} \quad b_{bq}$	$-p_1^\mu \delta_{pq} \gamma^\mu_{ac} \delta_{cb}$
$\bar{c}_{ap} \quad c_{bq}$	$-p_1^\mu \delta_{pq} \gamma^\mu_{ac} \delta_{cb}$
$\bar{d}_{ap} \quad d_{bq}$	$-p_1^\mu \delta_{pq} \gamma^\mu_{ac} \delta_{cb}$
$\bar{e}_a \quad e_b$	$-p_1^\mu \gamma^\mu_{ac} \delta_{cb}$
$\bar{\mu}_a \quad \mu_b$	$-p_1^\mu \gamma^\mu_{ac} \delta_{cb}$
$\bar{\tau}_a \quad \tau_b$	$-p_1^\mu \gamma^\mu_{ac} \delta_{cb}$
$H \quad H$	$-(MH^2 - p_1^\mu p_1^\mu)$
$\bar{\nu^e}_a \quad {\nu^e}_b$	$-p_1^\mu \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu^\mu}_a \quad {\nu^\mu}_b$	$-p_1^\mu \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\nu^\tau}_a \quad {\nu^\tau}_b$	$-p_1^\mu \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
$\omega_\mu \quad \omega_\nu$	$-\frac{1}{\cos{\theta_w}^4 \cdot {M_\rho}^2}(\cos{\theta_w}^2 \cdot {M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - \cos{\theta_w}^2 \cdot {M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot p_1^\mu p_1^\nu - {M_W}^4 \cdot s$
	$-3 \cos{\theta_w}^2 \cdot {M_\rho}^2 \cdot {M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot g^{\mu\nu} + \cos{\theta_w}^4 \cdot {M_\rho}^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - \cos{\theta_w}^4 \cdot {M_\rho}^2 \cdot p_1^\mu p_1^\nu - M_W$
$\omega_\mu \quad {\rho^0}_\nu$	$-\frac{{M_W}^4 \cdot \sin{\theta_w}^2 \cdot a^2}{\cos{\theta_w}^2 \cdot {M_\rho}^2} \cdot g^{\mu\nu}$
$\omega_\mu \quad Z_\nu$	$\frac{M_W \cdot \sin{\theta_w}^2 \cdot a}{\cos{\theta_w}^3 \cdot M_\rho} g^{\mu\nu}(\cos{\theta_w}^2 {M_\rho}^2 - {M_W}^2 \sin{\theta_w}^2 a^2 + {M_W}^2)$
${\rho^+}_\mu \quad {\rho^-}_\nu$	$-\frac{1}{{M_\rho}^2}({M_W}^2 \cdot a^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - {M_W}^2 \cdot a^2 \cdot p_1^\mu p_1^\nu - {M_W}^4 \cdot a^4 \cdot g^{\mu\nu} - 3{M_\rho}^2 \cdot {M_W}^2 \cdot a^2 \cdot g^{\mu\nu}$
	$+{M_\rho}^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - {M_\rho}^2 \cdot p_1^\mu p_1^\nu - {M_W}^4 \cdot a^2 \cdot g^{\mu\nu})$
${\rho^+}_\mu \quad {W^-}_\nu$	$-\frac{M_W \cdot a}{M_\rho} g^{\mu\nu}({M_\rho}^2 - {M_W}^2 a^2 + {M_W}^2)$
${\rho^-}_\mu \quad {W^+}_\nu$	$-\frac{M_W \cdot a}{M_\rho} g^{\mu\nu}({M_\rho}^2 - {M_W}^2 a^2 + {M_W}^2)$
${\rho^0}_\mu \quad {\rho^0}_\nu$	$-\frac{1}{{M_\rho}^2}({M_W}^2 \cdot a^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - {M_W}^2 \cdot a^2 \cdot p_1^\mu p_1^\nu - {M_W}^4 \cdot a^4 \cdot g^{\mu\nu} - 3{M_\rho}^2 \cdot {M_W}^2 \cdot a^2 \cdot g^{\mu\nu}$

Fields in the vertex	Variational derivative of Lagrangian by fields
	$+{M_\rho}^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - {M_\rho}^2 \cdot p_1^\mu p_1^\nu - {M_W}^4 \cdot a^2 \cdot g^{\mu\nu})$
${\rho^0}_\mu \quad Z_\nu$	$-\frac{M_W \cdot a}{\cos\theta_w \cdot M_\rho} g^{\mu\nu}(\cos{\theta_w}^2 {M_\rho}^2 - \cos{\theta_w}^2 {M_W}^2 a^2 + {M_W}^2)$
$\bar{s}_{ap} \quad s_{bq}$	$-p_1^\mu \delta_{pq} \gamma^\mu_{ac} \delta_{cb}$
$\bar{t}_{ap} \quad t_{bq}$	$-p_1^\mu \delta_{pq} \gamma^\mu_{ac} \delta_{cb}$
$\bar{u}_{ap} \quad u_{bq}$	$-p_1^\mu \delta_{pq} \gamma^\mu_{ac} \delta_{cb}$
${W^+}_\mu \quad {W^-}_\nu$	$-\frac{1}{{M_\rho}^2}({M_\rho}^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - {M_\rho}^2 \cdot p_1^\mu p_1^\nu + {M_W}^2 \cdot a^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - {M_W}^2 \cdot a^2 \cdot p_1^\mu p_1^\nu - {M_W}^4 \cdot a^4 \cdot g^{\mu\nu}$
	$+{M_\rho}^2 \cdot {M_W}^2 \cdot a^2 \cdot g^{\mu\nu} - {M_\rho}^2 \cdot {M_W}^2 \cdot g^{\mu\nu})$
$Z_\mu \quad Z_\nu$	$-\frac{1}{{M_\rho}^2 \cdot \cos{\theta_w}^4}(\cos{\theta_w}^4 \cdot {M_\rho}^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} - \cos{\theta_w}^4 \cdot {M_\rho}^2 \cdot p_1^\mu p_1^\nu - 2\cos{\theta_w}^4 \cdot {M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot p_1^\rho p_1^\rho$
	$+\cos{\theta_w}^2 \cdot {M_W}^2 \cdot a^2 \cdot p_1^\rho p_1^\rho g^{\mu\nu} + 2\cos{\theta_w}^4 \cdot {M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot p_1^\mu p_1^\nu - \cos{\theta_w}^2 \cdot {M_W}^2 \cdot a^2 \cdot p_1^\mu p_1^\nu$
	$-2\cos{\theta_w}^4 \cdot {M_\rho}^2 \cdot {M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot g^{\mu\nu} + \cos{\theta_w}^2 \cdot {M_\rho}^2 \cdot {M_W}^2 \cdot a^2 \cdot g^{\mu\nu} + 3\cos{\theta_w}^2 \cdot {M_W}^4 \cdot \sin$
	$-{M_W}^4 \cdot a^4 \cdot g^{\mu\nu} - \cos{\theta_w}^2 \cdot {M_\rho}^2 \cdot {M_W}^2 \cdot g^{\mu\nu})$
$A_\mu \quad {\rho^+}_\nu \quad {\rho^-}_\rho$	$\frac{e}{{M_\rho}^2}({M_W}^2 \cdot a^2 \cdot p_2^\rho g^{\mu\nu} - {M_W}^2 \cdot a^2 \cdot p_2^\mu g^{\nu\rho} - {M_W}^2 \cdot a^2 \cdot p_3^\nu g^{\mu\rho} + {M_W}^2 \cdot a^2 \cdot p_3^\mu g^{\nu\rho}$
	$+{M_W}^2 \cdot a^2 \cdot p_1^\nu g^{\mu\rho} - {M_W}^2 \cdot a^2 \cdot p_1^\rho g^{\mu\nu} + {M_\rho}^2 \cdot p_2^\rho g^{\mu\nu} - {M_\rho}^2 \cdot p_2^\mu g^{\nu\rho} - {M_\rho}^2 \cdot p_3^\nu g^{\mu\rho} + {M_\rho}^2 \cdot p_3^\mu g^{\nu\rho}$
	$+{M_\rho}^2 \cdot p_1^\nu g^{\mu\rho} - {M_\rho}^2 \cdot p_1^\rho g^{\mu\nu})$
$A_\mu \quad {W^+}_\nu \quad {W^-}_\rho$	$\frac{e}{{M_\rho}^2}({M_\rho}^2 \cdot p_2^\rho g^{\mu\nu} - {M_\rho}^2 \cdot p_2^\mu g^{\nu\rho} - {M_\rho}^2 \cdot p_3^\nu g^{\mu\rho} + {M_\rho}^2 \cdot p_3^\mu g^{\nu\rho} + {M_\rho}^2 \cdot p_1^\nu g^{\mu\rho}$
	$-{M_\rho}^2 \cdot p_1^\rho g^{\mu\nu} + {M_W}^2 \cdot a^2 \cdot p_2^\rho g^{\mu\nu} - {M_W}^2 \cdot a^2 \cdot p_2^\mu g^{\nu\rho} - {M_W}^2 \cdot a^2 \cdot p_3^\nu g^{\mu\rho} + {M_W}^2 \cdot a^2 \cdot p_3^\mu g^{\nu\rho}$
	$+{M_W}^2 \cdot a^2 \cdot p_1^\nu g^{\mu\rho} - {M_W}^2 \cdot a^2 \cdot p_1^\rho g^{\mu\nu})$
$\bar{b}_{ap} \quad b_{bq} \quad A_\mu$	$\frac{1}{3} e \delta_{pq} \gamma^\mu_{ac} \cdot \delta_{cb}$
$\bar{b}_{ap} \quad b_{bq} \quad \omega_\mu$	$-\frac{1}{6} \frac{M_W \cdot a \cdot e}{\cos{\theta_w}^2 \cdot {M_\rho}^3 \cdot \sin\theta_w} \delta_{pq} \gamma^\mu_{ac} (6{M_\rho}^2 \cdot \sin{\theta_w}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2} - 4{M_\rho}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2}$
	$-4{M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot \frac{(1+\gamma^5)_{cb}}{2} - 3{M_\rho}^2 \cdot \sin{\theta_w}^2 \cdot \frac{(1-\gamma^5)_{cb}}{2} + 2{M_\rho}^2 \cdot \frac{(1-\gamma^5)_{cb}}{2}$
	$+2{M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot \frac{(1-\gamma^5)_{cb}}{2})$
$\bar{b}_{ap} \quad b_{bq} \quad {\rho^0}_\mu$	$\frac{1}{2} \frac{M_W \cdot a \cdot e}{{M_\rho}^3 \cdot \sin\theta_w} \delta_{pq} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} ({M_\rho}^2 + 2{M_W}^2 a^2)$
$\bar{b}_{ap} \quad b_{bq} \quad Z_\mu$	$-\frac{1}{6} \frac{e}{\cos\theta_w \cdot \sin\theta_w} \delta_{pq} \gamma^\mu_{ac} (2\sin{\theta_w}^2 \cdot \delta_{cb} - 3\frac{(1-\gamma^5)_{cb}}{2})$
$\bar{b}_{ap} \quad c_{bq} \quad {\rho^-}_\mu$	$-\frac{1}{2} \frac{M_W \cdot \sqrt{2} \cdot Vcb \cdot a \cdot e}{{M_\rho}^3 \cdot \sin\theta_w} \delta_{pq} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} ({M_\rho}^2 + 2{M_W}^2 a^2)$
$\bar{b}_{ap} \quad c_{bq} \quad {W^-}_\mu$	$-\frac{1}{2} \frac{\sqrt{2} \cdot Vcb \cdot e}{\sin\theta_w} \cdot \delta_{pq} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$

Fields in the vertex			Variational derivative of Lagrangian by fields
$\bar{b}_{ap}$	t_{bq}	${\rho^-}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vtb\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{b}_{ap}$	t_{bq}	${W^-}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vtb\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{b}_{ap}$	u_{bq}	${\rho^-}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vub\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{b}_{ap}$	u_{bq}	${W^-}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vub\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{c}_{ap}$	b_{bq}	${\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vcb\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{c}_{ap}$	b_{bq}	${W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vcb\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{c}_{ap}$	c_{bq}	A_μ	$-\frac{2}{3}e\delta_{pq}\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{c}_{ap}$	c_{bq}	ω_μ	$\frac{1}{6}\frac{M_W\cdot a\cdot e}{\cos{\theta_w}^2\cdot{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}(3{M_\rho}^2\cdot\sin{\theta_w}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}-2{M_\rho}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}$
			$-2{M_W}^2\cdot\sin{\theta_w}^2\cdot a^2\cdot\frac{(1-\gamma^5)_{cb}}{2}+12{M_\rho}^2\cdot\sin{\theta_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-8{M_\rho}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}$
			$-8{M_W}^2\cdot\sin{\theta_w}^2\cdot a^2\cdot\frac{(1+\gamma^5)_{cb}}{2})$
$\bar{c}_{ap}$	c_{bq}	${\rho^0}_\mu$	$-\frac{1}{2}\frac{M_W\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{c}_{ap}$	c_{bq}	Z_μ	$\frac{1}{6}\frac{e}{\cos\theta_w\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}(4\sin{\theta_w}^2\cdot\delta_{cb}-3\frac{(1-\gamma^5)_{cb}}{2})$
$\bar{c}_{ap}$	d_{bq}	${\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vcd\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{c}_{ap}$	d_{bq}	${W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vcd\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{c}_{ap}$	s_{bq}	${\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vcs\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{c}_{ap}$	s_{bq}	${W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vcs\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{d}_{ap}$	c_{bq}	${\rho^-}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vcd\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{d}_{ap}$	c_{bq}	${W^-}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vcd\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{d}_{ap}$	d_{bq}	A_μ	$\frac{1}{3}e\delta_{pq}\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{d}_{ap}$	d_{bq}	ω_μ	$-\frac{1}{6}\frac{M_W\cdot a\cdot e}{\cos{\theta_w}^2\cdot{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}(6{M_\rho}^2\cdot\sin{\theta_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-4{M_\rho}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}$
			$-4{M_W}^2\cdot\sin{\theta_w}^2\cdot a^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-3{M_\rho}^2\cdot\sin{\theta_w}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}+2{M_\rho}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}$
			$+2{M_W}^2\cdot\sin{\theta_w}^2\cdot a^2\cdot\frac{(1-\gamma^5)_{cb}}{2})$
$\bar{d}_{ap}$	d_{bq}	${\rho^0}_\mu$	$\frac{1}{2}\frac{M_W\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{d}_{ap}$	d_{bq}	Z_μ	$-\frac{1}{6}\frac{e}{\cos\theta_w\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}(2\sin{\theta_w}^2\cdot\delta_{cb}-3\frac{(1-\gamma^5)_{cb}}{2})$
$\bar{d}_{ap}$	t_{bq}	${\rho^-}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vtd\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\bar{d}_{ap}\quad t_{bq}\quad {W^-}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vtd\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{d}_{ap}\quad u_{bq}\quad {\rho^-}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vud\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{d}_{ap}\quad u_{bq}\quad {W^-}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vud\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{e}_a\quad e_b\quad A_\mu$	$e\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{e}_a\quad e_b\quad \omega_\mu$	$-\frac{1}{2}\frac{M_W\cdot a\cdot e}{{\cos\theta_w}^2\cdot{M_\rho}^3\cdot\sin\theta_w}\gamma^\mu_{ac}(3{M_\rho}^2\cdot{\sin\theta_w}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}-2{M_\rho}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}-2{M_W}^2\cdot{\sin\theta_w}^2\cdot a^2\cdot\frac{(1-\gamma^5)_{cb}}{2}$ $+6{M_\rho}^2\cdot{\sin\theta_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-4{M_\rho}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-4{M_W}^2\cdot{\sin\theta_w}^2\cdot a^2\cdot\frac{(1+\gamma^5)_{cb}}{2})$
$\bar{e}_a\quad e_b\quad {\rho^0}_\mu$	$\frac{1}{2}\frac{M_W\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{e}_a\quad e_b\quad Z_\mu$	$-\frac{1}{2}\frac{e}{\cos\theta_w\cdot\sin\theta_w}\gamma^\mu_{ac}(2{\sin\theta_w}^2\cdot\delta_{cb}-\frac{(1-\gamma^5)_{cb}}{2})$
$\bar{e}_a\quad {\nu^e}_b\quad {\rho^-}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{e}_a\quad {\nu^e}_b\quad {W^-}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot e}{\sin\theta_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\mu}_a\quad \mu_b\quad A_\mu$	$e\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{\mu}_a\quad \mu_b\quad \omega_\mu$	$-\frac{1}{2}\frac{M_W\cdot a\cdot e}{{\cos\theta_w}^2\cdot{M_\rho}^3\cdot\sin\theta_w}\gamma^\mu_{ac}(3{M_\rho}^2\cdot{\sin\theta_w}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}-2{M_\rho}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}-2{M_W}^2\cdot{\sin\theta_w}^2\cdot a^2\cdot\frac{(1-\gamma^5)_{cb}}{2}$ $+6{M_\rho}^2\cdot{\sin\theta_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-4{M_\rho}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-4{M_W}^2\cdot{\sin\theta_w}^2\cdot a^2\cdot\frac{(1+\gamma^5)_{cb}}{2})$
$\bar{\mu}_a\quad \mu_b\quad {\rho^0}_\mu$	$\frac{1}{2}\frac{M_W\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{\mu}_a\quad \mu_b\quad Z_\mu$	$-\frac{1}{2}\frac{e}{\cos\theta_w\cdot\sin\theta_w}\gamma^\mu_{ac}(2{\sin\theta_w}^2\cdot\delta_{cb}-\frac{(1-\gamma^5)_{cb}}{2})$
$\bar{\mu}_a\quad {\nu^\mu}_b\quad {\rho^-}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{\mu}_a\quad {\nu^\mu}_b\quad {W^-}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot e}{\sin\theta_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{\tau}_a\quad \tau_b\quad A_\mu$	$e\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{\tau}_a\quad \tau_b\quad \omega_\mu$	$-\frac{1}{2}\frac{M_W\cdot a\cdot e}{{\cos\theta_w}^2\cdot{M_\rho}^3\cdot\sin\theta_w}\gamma^\mu_{ac}(3{M_\rho}^2\cdot{\sin\theta_w}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}-2{M_\rho}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}-2{M_W}^2\cdot{\sin\theta_w}^2\cdot a^2\cdot\frac{(1-\gamma^5)_{cb}}{2}$ $+6{M_\rho}^2\cdot{\sin\theta_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-4{M_\rho}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-4{M_W}^2\cdot{\sin\theta_w}^2\cdot a^2\cdot\frac{(1+\gamma^5)_{cb}}{2})$
$\bar{\tau}_a\quad \tau_b\quad {\rho^0}_\mu$	$\frac{1}{2}\frac{M_W\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{\tau}_a\quad \tau_b\quad Z_\mu$	$-\frac{1}{2}\frac{e}{\cos\theta_w\cdot\sin\theta_w}\gamma^\mu_{ac}(2{\sin\theta_w}^2\cdot\delta_{cb}-\frac{(1-\gamma^5)_{cb}}{2})$
$\bar{\tau}_a\quad {\nu^\tau}_b\quad {\rho^-}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{\tau}_a\quad {\nu^\tau}_b\quad {W^-}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot e}{\sin\theta_w}\cdot\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$H\quad H\quad H$	$-\frac{3}{2}\frac{MH^2\cdot e}{M_W\cdot\sin\theta_w}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$H \quad \omega_\mu \quad \omega_\nu$	$\frac{{M_W}^3 \cdot \sin\theta_w{}^3 \cdot a^2 \cdot e}{\cos\theta_w{}^4 \cdot {M_\rho}^2} \cdot g^{\mu\nu}$
$H \quad \omega_\mu \quad {\rho^0}_\nu$	$-\frac{{M_W}^3 \cdot \sin\theta_w \cdot a^2 \cdot e}{\cos\theta_w{}^2 \cdot {M_\rho}^2} \cdot g^{\mu\nu}$
$H \quad \omega_\mu \quad Z_\nu$	$\frac{{M_W}^2 \cdot \sin\theta_w \cdot a \cdot e}{\cos\theta_w{}^3 \cdot M_\rho} \cdot g^{\mu\nu}$
$H \quad {\rho^+}_\mu \quad {\rho^-}_\nu$	$\frac{{M_W}^3 \cdot a^2 \cdot e}{{M_\rho}^2 \cdot \sin\theta_w} \cdot g^{\mu\nu}$
$H \quad {\rho^+}_\mu \quad {W^-}_\nu$	$-\frac{{M_W}^2 \cdot a \cdot e}{M_\rho \cdot \sin\theta_w} \cdot g^{\mu\nu}$
$H \quad {\rho^-}_\mu \quad {W^+}_\nu$	$-\frac{{M_W}^2 \cdot a \cdot e}{M_\rho \cdot \sin\theta_w} \cdot g^{\mu\nu}$
$H \quad {\rho^0}_\mu \quad {\rho^0}_\nu$	$\frac{{M_W}^3 \cdot a^2 \cdot e}{{M_\rho}^2 \cdot \sin\theta_w} \cdot g^{\mu\nu}$
$H \quad {\rho^0}_\mu \quad Z_\nu$	$-\frac{{M_W}^2 \cdot a \cdot e}{\cos\theta_w \cdot M_\rho \cdot \sin\theta_w} \cdot g^{\mu\nu}$
$H \quad {W^+}_\mu \quad {W^-}_\nu$	$\frac{M_W \cdot e}{\sin\theta_w} \cdot g^{\mu\nu}$
$H \quad Z_\mu \quad Z_\nu$	$\frac{M_W \cdot e}{\cos\theta_w{}^2 \cdot \sin\theta_w} \cdot g^{\mu\nu}$
${\bar\nu^e}_a \quad e_b \quad {\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W \cdot \sqrt{2} \cdot a \cdot e}{{M_\rho}^3 \cdot \sin\theta_w} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} ({M_\rho}^2 + 2{M_W}^2 a^2)$
${\bar\nu^e}_a \quad e_b \quad {W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2} \cdot e}{\sin\theta_w} \cdot \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
${\bar\nu^e}_a \quad {\nu^e}_b \quad \omega_\mu$	$-\frac{1}{2}\frac{M_W \cdot a \cdot e}{\cos\theta_w{}^2 \cdot {M_\rho}^3 \cdot \sin\theta_w} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} (3{M_\rho}^2 \sin\theta_w{}^2 - 2{M_\rho}^2 - 2{M_W}^2 \sin\theta_w{}^2 a^2)$
${\bar\nu^e}_a \quad {\nu^e}_b \quad {\rho^0}_\mu$	$-\frac{1}{2}\frac{M_W \cdot a \cdot e}{{M_\rho}^3 \cdot \sin\theta_w} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} ({M_\rho}^2 + 2{M_W}^2 a^2)$
${\bar\nu^e}_a \quad {\nu^e}_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{\cos\theta_w \cdot \sin\theta_w} \cdot \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
${\bar\nu^\mu}_a \quad \mu_b \quad {\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W \cdot \sqrt{2} \cdot a \cdot e}{{M_\rho}^3 \cdot \sin\theta_w} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} ({M_\rho}^2 + 2{M_W}^2 a^2)$
${\bar\nu^\mu}_a \quad \mu_b \quad {W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2} \cdot e}{\sin\theta_w} \cdot \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
${\bar\nu^\mu}_a \quad {\nu^\mu}_b \quad \omega_\mu$	$-\frac{1}{2}\frac{M_W \cdot a \cdot e}{\cos\theta_w{}^2 \cdot {M_\rho}^3 \cdot \sin\theta_w} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} (3{M_\rho}^2 \sin\theta_w{}^2 - 2{M_\rho}^2 - 2{M_W}^2 \sin\theta_w{}^2 a^2)$
${\bar\nu^\mu}_a \quad {\nu^\mu}_b \quad {\rho^0}_\mu$	$-\frac{1}{2}\frac{M_W \cdot a \cdot e}{{M_\rho}^3 \cdot \sin\theta_w} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} ({M_\rho}^2 + 2{M_W}^2 a^2)$
${\bar\nu^\mu}_a \quad {\nu^\mu}_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{\cos\theta_w \cdot \sin\theta_w} \cdot \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
${\bar\nu^\tau}_a \quad \tau_b \quad {\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W \cdot \sqrt{2} \cdot a \cdot e}{{M_\rho}^3 \cdot \sin\theta_w} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} ({M_\rho}^2 + 2{M_W}^2 a^2)$
${\bar\nu^\tau}_a \quad \tau_b \quad {W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2} \cdot e}{\sin\theta_w} \cdot \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$
${\bar\nu^\tau}_a \quad {\nu^\tau}_b \quad \omega_\mu$	$-\frac{1}{2}\frac{M_W \cdot a \cdot e}{\cos\theta_w{}^2 \cdot {M_\rho}^3 \cdot \sin\theta_w} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} (3{M_\rho}^2 \sin\theta_w{}^2 - 2{M_\rho}^2 - 2{M_W}^2 \sin\theta_w{}^2 a^2)$
${\bar\nu^\tau}_a \quad {\nu^\tau}_b \quad {\rho^0}_\mu$	$-\frac{1}{2}\frac{M_W \cdot a \cdot e}{{M_\rho}^3 \cdot \sin\theta_w} \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2} ({M_\rho}^2 + 2{M_W}^2 a^2)$
${\bar\nu^\tau}_a \quad {\nu^\tau}_b \quad Z_\mu$	$-\frac{1}{2}\frac{e}{\cos\theta_w \cdot \sin\theta_w} \cdot \gamma^\mu_{ac} \frac{(1-\gamma^5)_{cb}}{2}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\rho^+{}_\mu \quad \rho^-{}_\nu \quad \rho^0{}_\rho$	$-\frac{e}{M_\rho{}^3 \cdot M_W \cdot \sin\theta_w \cdot a}(M_W{}^4 \cdot a^4 \cdot p_1^\nu g^{\mu\rho} - M_W{}^4 \cdot a^4 \cdot p_1^\rho g^{\mu\nu} - M_W{}^4 \cdot a^4 \cdot p_2^\mu g^{\nu\rho} + M_W{}^4 \cdot a^4 \cdot p_2^\rho g^{\mu\nu}$ $+M_W{}^4 \cdot a^4 \cdot p_3^\mu g^{\nu\rho} - M_W{}^4 \cdot a^4 \cdot p_3^\nu g^{\mu\rho} - M_\rho{}^4 \cdot p_1^\nu g^{\mu\rho} + M_\rho{}^4 \cdot p_1^\rho g^{\mu\nu} + M_\rho{}^4 \cdot p_2^\mu g^{\nu\rho} - M_\rho{}^4 \cdot p_2^\rho g^{\mu\nu}$ $-M_\rho{}^4 \cdot p_3^\mu g^{\nu\rho} + M_\rho{}^4 \cdot p_3^\nu g^{\mu\rho})$
$\rho^+{}_\mu \quad \rho^-{}_\nu \quad Z_\rho$	$\frac{\cos\theta_w \cdot e}{M_\rho{}^2 \cdot \sin\theta_w}(M_W{}^2 \cdot a^2 \cdot p_1^\nu g^{\mu\rho} - M_W{}^2 \cdot a^2 \cdot p_1^\rho g^{\mu\nu} - M_W{}^2 \cdot a^2 \cdot p_2^\mu g^{\nu\rho} + M_W{}^2 \cdot a^2 \cdot p_2^\rho g^{\mu\nu}$ $+M_W{}^2 \cdot a^2 \cdot p_3^\mu g^{\nu\rho} - M_W{}^2 \cdot a^2 \cdot p_3^\nu g^{\mu\rho} + M_\rho{}^2 \cdot p_1^\nu g^{\mu\rho} - M_\rho{}^2 \cdot p_1^\rho g^{\mu\nu} - M_\rho{}^2 \cdot p_2^\mu g^{\nu\rho} + M_\rho{}^2 \cdot p_2^\rho g^{\mu\nu}$ $+M_\rho{}^2 \cdot p_3^\mu g^{\nu\rho} - M_\rho{}^2 \cdot p_3^\nu g^{\mu\rho})$
$\rho^+{}_\mu \quad \rho^0{}_\nu \quad W^-{}_\rho$	$\frac{e}{M_\rho{}^2 \cdot \sin\theta_w}(M_W{}^2 \cdot a^2 \cdot p_1^\rho g^{\mu\nu} - M_W{}^2 \cdot a^2 \cdot p_1^\nu g^{\mu\rho} - M_W{}^2 \cdot a^2 \cdot p_3^\mu g^{\nu\rho} + M_W{}^2 \cdot a^2 \cdot p_3^\nu g^{\mu\rho}$ $+M_W{}^2 \cdot a^2 \cdot p_2^\mu g^{\nu\rho} - M_W{}^2 \cdot a^2 \cdot p_2^\rho g^{\mu\nu} + M_\rho{}^2 \cdot p_1^\rho g^{\mu\nu} - M_\rho{}^2 \cdot p_1^\nu g^{\mu\rho} - M_\rho{}^2 \cdot p_3^\mu g^{\nu\rho} + M_\rho{}^2 \cdot p_3^\nu g^{\mu\rho}$ $+M_\rho{}^2 \cdot p_2^\mu g^{\nu\rho} - M_\rho{}^2 \cdot p_2^\rho g^{\mu\nu})$
$\rho^-{}_\mu \quad \rho^0{}_\nu \quad W^+{}_\rho$	$\frac{e}{M_\rho{}^2 \cdot \sin\theta_w}(M_W{}^2 \cdot a^2 \cdot p_3^\mu g^{\nu\rho} - M_W{}^2 \cdot a^2 \cdot p_3^\nu g^{\mu\rho} - M_W{}^2 \cdot a^2 \cdot p_1^\rho g^{\mu\nu} + M_W{}^2 \cdot a^2 \cdot p_1^\nu g^{\mu\rho}$ $+M_W{}^2 \cdot a^2 \cdot p_2^\rho g^{\mu\nu} - M_W{}^2 \cdot a^2 \cdot p_2^\mu g^{\nu\rho} + M_\rho{}^2 \cdot p_3^\mu g^{\nu\rho} - M_\rho{}^2 \cdot p_3^\nu g^{\mu\rho} - M_\rho{}^2 \cdot p_1^\rho g^{\mu\nu} + M_\rho{}^2 \cdot p_1^\nu g^{\mu\rho}$ $+M_\rho{}^2 \cdot p_2^\rho g^{\mu\nu} - M_\rho{}^2 \cdot p_2^\mu g^{\nu\rho})$
$\bar{s}_{ap} \quad c_{bq} \quad \rho^-{}_\mu$	$-\frac{1}{2}\frac{M_W \cdot \sqrt{2} \cdot Vcs \cdot a \cdot e}{M_\rho{}^3 \cdot \sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}(M_\rho{}^2 + 2M_W{}^2 a^2)$
$\bar{s}_{ap} \quad c_{bq} \quad W^-{}_\mu$	$-\frac{1}{2}\frac{\sqrt{2} \cdot Vcs \cdot e}{\sin\theta_w} \cdot \delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad s_{bq} \quad A_\mu$	$\frac{1}{3}e\delta_{pq}\gamma^\mu_{ac} \cdot \delta_{cb}$
$\bar{s}_{ap} \quad s_{bq} \quad \omega_\mu$	$-\frac{1}{6}\frac{M_W \cdot a \cdot e}{\cos\theta_w{}^2 \cdot M_\rho{}^3 \cdot \sin\theta_w}\delta_{pq}\gamma^\mu_{ac}(6M_\rho{}^2 \cdot \sin\theta_w{}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2} - 4M_\rho{}^2 \cdot \frac{(1+\gamma^5)_{cb}}{2}$ $-4M_W{}^2 \cdot \sin\theta_w{}^2 \cdot a^2 \cdot \frac{(1+\gamma^5)_{cb}}{2} - 3M_\rho{}^2 \cdot \sin\theta_w{}^2 \cdot \frac{(1-\gamma^5)_{cb}}{2} + 2M_\rho{}^2 \cdot \frac{(1-\gamma^5)_{cb}}{2}$ $+2M_W{}^2 \cdot \sin\theta_w{}^2 \cdot a^2 \cdot \frac{(1-\gamma^5)_{cb}}{2})$
$\bar{s}_{ap} \quad s_{bq} \quad \rho^0{}_\mu$	$\frac{1}{2}\frac{M_W \cdot a \cdot e}{M_\rho{}^3 \cdot \sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}(M_\rho{}^2 + 2M_W{}^2 a^2)$
$\bar{s}_{ap} \quad s_{bq} \quad Z_\mu$	$-\frac{1}{6}\frac{e}{\cos\theta_w \cdot \sin\theta_w}\delta_{pq}\gamma^\mu_{ac}(2\sin\theta_w{}^2 \cdot \delta_{cb} - 3\frac{(1-\gamma^5)_{cb}}{2})$
$\bar{s}_{ap} \quad t_{bq} \quad \rho^-{}_\mu$	$-\frac{1}{2}\frac{M_W \cdot \sqrt{2} \cdot Vts \cdot a \cdot e}{M_\rho{}^3 \cdot \sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}(M_\rho{}^2 + 2M_W{}^2 a^2)$
$\bar{s}_{ap} \quad t_{bq} \quad W^-{}_\mu$	$-\frac{1}{2}\frac{\sqrt{2} \cdot Vts \cdot e}{\sin\theta_w} \cdot \delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{s}_{ap} \quad u_{bq} \quad \rho^-{}_\mu$	$-\frac{1}{2}\frac{M_W \cdot \sqrt{2} \cdot Vus \cdot a \cdot e}{M_\rho{}^3 \cdot \sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}(M_\rho{}^2 + 2M_W{}^2 a^2)$
$\bar{s}_{ap} \quad u_{bq} \quad W^-{}_\mu$	$-\frac{1}{2}\frac{\sqrt{2} \cdot Vus \cdot e}{\sin\theta_w} \cdot \delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{t}_{ap} \quad b_{bq} \quad \rho^+{}_\mu$	$-\frac{1}{2}\frac{M_W \cdot \sqrt{2} \cdot Vtb \cdot a \cdot e}{M_\rho{}^3 \cdot \sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}(M_\rho{}^2 + 2M_W{}^2 a^2)$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\bar{t}_{ap}\quad b_{bq}\quad {W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vtb\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{t}_{ap}\quad d_{bq}\quad {\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vtd\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{t}_{ap}\quad d_{bq}\quad {W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vtd\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{t}_{ap}\quad s_{bq}\quad {\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vts\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{t}_{ap}\quad s_{bq}\quad {W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vts\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{t}_{ap}\quad t_{bq}\quad A_\mu$	$-\frac{2}{3}e\delta_{pq}\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{t}_{ap}\quad t_{bq}\quad \omega_\mu$	$\frac{1}{6}\frac{M_W\cdot a\cdot e}{\cos{\theta_w}^2\cdot{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}(3{M_\rho}^2\cdot\sin{\theta_w}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}-2{M_\rho}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}$
	$-2{M_W}^2\cdot\sin{\theta_w}^2\cdot a^2\cdot\frac{(1-\gamma^5)_{cb}}{2}+12{M_\rho}^2\cdot\sin{\theta_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-8{M_\rho}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}$
	$-8{M_W}^2\cdot\sin{\theta_w}^2\cdot a^2\cdot\frac{(1+\gamma^5)_{cb}}{2})$
$\bar{t}_{ap}\quad t_{bq}\quad {\rho^0}_\mu$	$-\frac{1}{2}\frac{M_W\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{t}_{ap}\quad t_{bq}\quad Z_\mu$	$\frac{1}{6}\frac{e}{\cos\theta_w\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}(4\sin{\theta_w}^2\cdot\delta_{cb}-3\frac{(1-\gamma^5)_{cb}}{2})$
$\bar{u}_{ap}\quad b_{bq}\quad {\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vub\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{u}_{ap}\quad b_{bq}\quad {W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vub\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{u}_{ap}\quad d_{bq}\quad {\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vud\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{u}_{ap}\quad d_{bq}\quad {W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vud\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{u}_{ap}\quad s_{bq}\quad {\rho^+}_\mu$	$-\frac{1}{2}\frac{M_W\cdot\sqrt{2}\cdot Vus\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{u}_{ap}\quad s_{bq}\quad {W^+}_\mu$	$-\frac{1}{2}\frac{\sqrt{2}\cdot Vus\cdot e}{\sin\theta_w}\cdot\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}$
$\bar{u}_{ap}\quad u_{bq}\quad A_\mu$	$-\frac{2}{3}e\delta_{pq}\gamma^\mu_{ac}\cdot\delta_{cb}$
$\bar{u}_{ap}\quad u_{bq}\quad \omega_\mu$	$\frac{1}{6}\frac{M_W\cdot a\cdot e}{\cos{\theta_w}^2\cdot{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}(3{M_\rho}^2\cdot\sin{\theta_w}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}-2{M_\rho}^2\cdot\frac{(1-\gamma^5)_{cb}}{2}$
	$-2{M_W}^2\cdot\sin{\theta_w}^2\cdot a^2\cdot\frac{(1-\gamma^5)_{cb}}{2}+12{M_\rho}^2\cdot\sin{\theta_w}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}-8{M_\rho}^2\cdot\frac{(1+\gamma^5)_{cb}}{2}$
	$-8{M_W}^2\cdot\sin{\theta_w}^2\cdot a^2\cdot\frac{(1+\gamma^5)_{cb}}{2})$
$\bar{u}_{ap}\quad u_{bq}\quad {\rho^0}_\mu$	$-\frac{1}{2}\frac{M_W\cdot a\cdot e}{{M_\rho}^3\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}\frac{(1-\gamma^5)_{cb}}{2}({M_\rho}^2+2{M_W}^2a^2)$
$\bar{u}_{ap}\quad u_{bq}\quad Z_\mu$	$\frac{1}{6}\frac{e}{\cos\theta_w\cdot\sin\theta_w}\delta_{pq}\gamma^\mu_{ac}(4\sin{\theta_w}^2\cdot\delta_{cb}-3\frac{(1-\gamma^5)_{cb}}{2})$
${W^+}_\mu\quad {W^-}_\nu\quad Z_\rho$	$\frac{\cos\theta_w\cdot e}{\sin\theta_w\cdot{M_\rho}^2}({M_\rho}^2\cdot p_1^\nu g^{\mu\rho}-{M_\rho}^2\cdot p_1^\rho g^{\mu\nu}-{M_\rho}^2\cdot p_2^\mu g^{\nu\rho}+{M_\rho}^2\cdot p_2^\rho g^{\mu\nu}+{M_\rho}^2\cdot p_3^\mu g^{\nu\rho}$
	$-{M_\rho}^2\cdot p_3^\nu g^{\mu\rho}+{M_W}^2\cdot a^2\cdot p_1^\nu g^{\mu\rho}-{M_W}^2\cdot a^2\cdot p_1^\rho g^{\mu\nu}-{M_W}^2\cdot a^2\cdot p_2^\mu g^{\nu\rho}+{M_W}^2\cdot a^2\cdot p_2^\rho g^{\mu\nu}$

Fields in the vertex	Variational derivative of Lagrangian by fields
	$+{M_W}^2 \cdot a^2 \cdot p_3^\mu g^{\nu\rho} - {M_W}^2 \cdot a^2 \cdot p_3^\nu g^{\mu\rho})$
$A_\mu \quad A_\nu \quad {\rho^+}_\rho \quad {\rho^-}_\sigma$	$-\frac{e^2}{{M_\rho}^2}(2{M_W}^2 \cdot a^2 \cdot g^{\mu\nu} g^{\rho\sigma} - {M_W}^2 \cdot a^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_W}^2 \cdot a^2 \cdot g^{\mu\sigma} g^{\nu\rho}$ $+2{M_\rho}^2 \cdot g^{\mu\nu} g^{\rho\sigma} - {M_\rho}^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_\rho}^2 \cdot g^{\mu\sigma} g^{\nu\rho})$
$A_\mu \quad A_\nu \quad {W^+}_\rho \quad {W^-}_\sigma$	$-\frac{e^2}{{M_\rho}^2}(2{M_\rho}^2 \cdot g^{\mu\nu} g^{\rho\sigma} - {M_\rho}^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_\rho}^2 \cdot g^{\mu\sigma} g^{\nu\rho} + 2{M_W}^2 \cdot a^2 \cdot g^{\mu\nu} g^{\rho\sigma}$ $-{M_W}^2 \cdot a^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_W}^2 \cdot a^2 \cdot g^{\mu\sigma} g^{\nu\rho})$
$A_\mu \quad {\rho^+}_\nu \quad {\rho^-}_\rho \quad {\rho^0}_\sigma$	$\frac{e^2}{{M_\rho}^3 \cdot M_W \cdot \sin\theta_w \cdot a}(2{M_W}^4 \cdot a^4 \cdot g^{\mu\sigma} g^{\nu\rho} - {M_W}^4 \cdot a^4 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_W}^4 \cdot a^4 \cdot g^{\mu\nu} g^{\rho\sigma}$ $-2{M_\rho}^4 \cdot g^{\mu\sigma} g^{\nu\rho} + {M_\rho}^4 \cdot g^{\mu\rho} g^{\nu\sigma} + {M_\rho}^4 \cdot g^{\mu\nu} g^{\rho\sigma})$
$A_\mu \quad {\rho^+}_\nu \quad {\rho^-}_\rho \quad Z_\sigma$	$-\frac{\cos\theta_w \cdot e^2}{{M_\rho}^2 \cdot \sin\theta_w}(2{M_W}^2 \cdot a^2 \cdot g^{\mu\sigma} g^{\nu\rho} - {M_W}^2 \cdot a^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_W}^2 \cdot a^2 \cdot g^{\mu\nu} g^{\rho\sigma}$ $+2{M_\rho}^2 \cdot g^{\mu\sigma} g^{\nu\rho} - {M_\rho}^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_\rho}^2 \cdot g^{\mu\nu} g^{\rho\sigma})$
$A_\mu \quad {\rho^+}_\nu \quad {\rho^0}_\rho \quad {W^-}_\sigma$	$-\frac{e^2}{{M_\rho}^2 \cdot \sin\theta_w}(2{M_W}^2 \cdot a^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_W}^2 \cdot a^2 \cdot g^{\mu\sigma} g^{\nu\rho} - {M_W}^2 \cdot a^2 \cdot g^{\mu\nu} g^{\rho\sigma}$ $+2{M_\rho}^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_\rho}^2 \cdot g^{\mu\sigma} g^{\nu\rho} - {M_\rho}^2 \cdot g^{\mu\nu} g^{\rho\sigma})$
$A_\mu \quad {\rho^-}_\nu \quad {\rho^0}_\rho \quad {W^+}_\sigma$	$-\frac{e^2}{{M_\rho}^2 \cdot \sin\theta_w}(2{M_W}^2 \cdot a^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_W}^2 \cdot a^2 \cdot g^{\mu\nu} g^{\rho\sigma} - {M_W}^2 \cdot a^2 \cdot g^{\mu\sigma} g^{\nu\rho}$ $+2{M_\rho}^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_\rho}^2 \cdot g^{\mu\nu} g^{\rho\sigma} - {M_\rho}^2 \cdot g^{\mu\sigma} g^{\nu\rho})$
$A_\mu \quad {W^+}_\nu \quad {W^-}_\rho \quad Z_\sigma$	$-\frac{\cos\theta_w \cdot e^2}{\sin\theta_w \cdot {M_\rho}^2}(2{M_\rho}^2 \cdot g^{\mu\sigma} g^{\nu\rho} - {M_\rho}^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_\rho}^2 \cdot g^{\mu\nu} g^{\rho\sigma} + 2{M_W}^2 \cdot a^2 \cdot g^{\mu\sigma} g^{\nu\rho}$ $-{M_W}^2 \cdot a^2 \cdot g^{\mu\rho} g^{\nu\sigma} - {M_W}^2 \cdot a^2 \cdot g^{\mu\nu} g^{\rho\sigma})$
$H \quad H \quad H \quad H$	$-\frac{3}{4}\frac{M{H^2} \cdot e^2}{{M_W}^2 \cdot \sin{\theta_w}^2}$
$H \quad H \quad \omega_\mu \quad \omega_\nu$	$\frac{1}{2}\frac{{M_W}^2 \cdot \sin{\theta_w}^2 \cdot a^2 \cdot e^2}{\cos{\theta_w}^4 \cdot {M_\rho}^2} \cdot g^{\mu\nu}$
$H \quad H \quad \omega_\mu \quad {\rho^0}_\nu$	$-\frac{1}{2}\frac{{M_W}^2 \cdot a^2 \cdot e^2}{\cos{\theta_w}^2 \cdot {M_\rho}^2} \cdot g^{\mu\nu}$
$H \quad H \quad \omega_\mu \quad Z_\nu$	$\frac{1}{2}\frac{M_W \cdot a \cdot e^2}{\cos{\theta_w}^3 \cdot M_\rho} \cdot g^{\mu\nu}$
$H \quad H \quad {\rho^+}_\mu \quad {\rho^-}_\nu$	$\frac{1}{2}\frac{{M_W}^2 \cdot a^2 \cdot e^2}{{M_\rho}^2 \cdot \sin{\theta_w}^2} \cdot g^{\mu\nu}$
$H \quad H \quad {\rho^+}_\mu \quad {W^-}_\nu$	$-\frac{1}{2}\frac{M_W \cdot a \cdot e^2}{M_\rho \cdot \sin{\theta_w}^2} \cdot g^{\mu\nu}$
$H \quad H \quad {\rho^-}_\mu \quad {W^+}_\nu$	$-\frac{1}{2}\frac{M_W \cdot a \cdot e^2}{M_\rho \cdot \sin{\theta_w}^2} \cdot g^{\mu\nu}$
$H \quad H \quad {\rho^0}_\mu \quad {\rho^0}_\nu$	$\frac{1}{2}\frac{{M_W}^2 \cdot a^2 \cdot e^2}{{M_\rho}^2 \cdot \sin{\theta_w}^2} \cdot g^{\mu\nu}$
$H \quad H \quad {\rho^0}_\mu \quad Z_\nu$	$-\frac{1}{2}\frac{M_W \cdot a \cdot e^2}{\cos\theta_w \cdot M_\rho \cdot \sin{\theta_w}^2} \cdot g^{\mu\nu}$
$H \quad H \quad {W^+}_\mu \quad {W^-}_\nu$	$\frac{1}{2}\frac{e^2}{\sin{\theta_w}^2} \cdot g^{\mu\nu}$

Fields in the vertex	Variational derivative of Lagrangian by fields
$H \quad H \quad Z_\mu \quad Z_\nu$	$\frac{1}{2}\frac{e^2}{\cos\theta_w{}^2\cdot\sin\theta_w{}^2}\cdot g^{\mu\nu}$
$\rho^+{}_\mu \quad \rho^+{}_\nu \quad \rho^-{}_\rho \quad \rho^-{}_\sigma$	$\frac{e^2}{M_\rho{}^4\cdot M_W{}^2\cdot\sin\theta_w{}^2\cdot a^2}(2M_W{}^6\cdot a^6\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^6\cdot a^6\cdot g^{\mu\sigma}g^{\nu\rho} + 2M_\rho{}^6\cdot g^{\mu\nu}g^{\rho\sigma}$ $-M_\rho{}^6\cdot g^{\mu\sigma}g^{\nu\rho} - M_W{}^6\cdot a^6\cdot g^{\mu\rho}g^{\nu\sigma} - M_\rho{}^6\cdot g^{\mu\rho}g^{\nu\sigma})$
$\rho^+{}_\mu \quad \rho^+{}_\nu \quad \rho^-{}_\rho \quad W^-{}_\sigma$	$-\frac{e^2}{M_\rho{}^3\cdot M_W\cdot\sin\theta_w{}^2\cdot a}(2M_W{}^4\cdot a^4\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^4\cdot a^4\cdot g^{\mu\sigma}g^{\nu\rho} - M_W{}^4\cdot a^4\cdot g^{\mu\rho}g^{\nu\sigma}$ $-2M_\rho{}^4\cdot g^{\mu\nu}g^{\rho\sigma} + M_\rho{}^4\cdot g^{\mu\sigma}g^{\nu\rho} + M_\rho{}^4\cdot g^{\mu\rho}g^{\nu\sigma})$
$\rho^+{}_\mu \quad \rho^+{}_\nu \quad W^-{}_\rho \quad W^-{}_\sigma$	$\frac{e^2}{M_\rho{}^2\cdot\sin\theta_w{}^2}(2M_W{}^2\cdot a^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\sigma}g^{\nu\rho} + 2M_\rho{}^2\cdot g^{\mu\nu}g^{\rho\sigma}$ $-M_\rho{}^2\cdot g^{\mu\sigma}g^{\nu\rho} - M_W{}^2\cdot a^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_\rho{}^2\cdot g^{\mu\rho}g^{\nu\sigma})$
$\rho^+{}_\mu \quad \rho^-{}_\nu \quad \rho^-{}_\rho \quad W^+{}_\sigma$	$-\frac{e^2}{M_\rho{}^3\cdot M_W\cdot\sin\theta_w{}^2\cdot a}(2M_W{}^4\cdot a^4\cdot g^{\mu\sigma}g^{\nu\rho} - M_W{}^4\cdot a^4\cdot g^{\mu\rho}g^{\nu\sigma} - M_W{}^4\cdot a^4\cdot g^{\mu\nu}g^{\rho\sigma}$ $-2M_\rho{}^4\cdot g^{\mu\sigma}g^{\nu\rho} + M_\rho{}^4\cdot g^{\mu\rho}g^{\nu\sigma} + M_\rho{}^4\cdot g^{\mu\nu}g^{\rho\sigma})$
$\rho^+{}_\mu \quad \rho^-{}_\nu \quad \rho^0{}_\rho \quad \rho^0{}_\sigma$	$-\frac{e^2}{M_\rho{}^4\cdot M_W{}^2\cdot\sin\theta_w{}^2\cdot a^2}(2M_W{}^6\cdot a^6\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^6\cdot a^6\cdot g^{\mu\rho}g^{\nu\sigma} - M_W{}^6\cdot a^6\cdot g^{\mu\sigma}g^{\nu\rho}$ $+2M_\rho{}^6\cdot g^{\mu\nu}g^{\rho\sigma} - M_\rho{}^6\cdot g^{\mu\rho}g^{\nu\sigma} - M_\rho{}^6\cdot g^{\mu\sigma}g^{\nu\rho})$
$\rho^+{}_\mu \quad \rho^-{}_\nu \quad \rho^0{}_\rho \quad Z_\sigma$	$\frac{\cos\theta_w\cdot e^2}{M_\rho{}^3\cdot M_W\cdot\sin\theta_w{}^2\cdot a}(2M_W{}^4\cdot a^4\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^4\cdot a^4\cdot g^{\mu\rho}g^{\nu\sigma} - M_W{}^4\cdot a^4\cdot g^{\mu\sigma}g^{\nu\rho}$ $-2M_\rho{}^4\cdot g^{\mu\nu}g^{\rho\sigma} + M_\rho{}^4\cdot g^{\mu\rho}g^{\nu\sigma} + M_\rho{}^4\cdot g^{\mu\sigma}g^{\nu\rho})$
$\rho^+{}_\mu \quad \rho^-{}_\nu \quad W^+{}_\rho \quad W^-{}_\sigma$	$\frac{e^2}{M_\rho{}^2\cdot\sin\theta_w{}^2}(2M_W{}^2\cdot a^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\sigma}g^{\nu\rho} - M_W{}^2\cdot a^2\cdot g^{\mu\nu}g^{\rho\sigma}$ $+2M_\rho{}^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_\rho{}^2\cdot g^{\mu\sigma}g^{\nu\rho} - M_\rho{}^2\cdot g^{\mu\nu}g^{\rho\sigma})$
$\rho^+{}_\mu \quad \rho^-{}_\nu \quad Z_\rho \quad Z_\sigma$	$-\frac{\cos\theta_w{}^2\cdot e^2}{M_\rho{}^2\cdot\sin\theta_w{}^2}(2M_W{}^2\cdot a^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\sigma}g^{\nu\rho}$ $+2M_\rho{}^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_\rho{}^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_\rho{}^2\cdot g^{\mu\sigma}g^{\nu\rho})$
$\rho^+{}_\mu \quad \rho^0{}_\nu \quad \rho^0{}_\rho \quad W^-{}_\sigma$	$\frac{e^2}{M_\rho{}^3\cdot M_W\cdot\sin\theta_w{}^2\cdot a}(2M_W{}^4\cdot a^4\cdot g^{\mu\sigma}g^{\nu\rho} - M_W{}^4\cdot a^4\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^4\cdot a^4\cdot g^{\mu\rho}g^{\nu\sigma}$ $-2M_\rho{}^4\cdot g^{\mu\sigma}g^{\nu\rho} + M_\rho{}^4\cdot g^{\mu\nu}g^{\rho\sigma} + M_\rho{}^4\cdot g^{\mu\rho}g^{\nu\sigma})$
$\rho^+{}_\mu \quad \rho^0{}_\nu \quad W^-{}_\rho \quad Z_\sigma$	$-\frac{\cos\theta_w\cdot e^2}{M_\rho{}^2\cdot\sin\theta_w{}^2}(2M_W{}^2\cdot a^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\sigma}g^{\nu\rho}$ $+2M_\rho{}^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_\rho{}^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_\rho{}^2\cdot g^{\mu\sigma}g^{\nu\rho})$
$\rho^-{}_\mu \quad \rho^-{}_\nu \quad W^+{}_\rho \quad W^+{}_\sigma$	$\frac{e^2}{M_\rho{}^2\cdot\sin\theta_w{}^2}(2M_W{}^2\cdot a^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\sigma}g^{\nu\rho} + 2M_\rho{}^2\cdot g^{\mu\nu}g^{\rho\sigma}$ $-M_\rho{}^2\cdot g^{\mu\sigma}g^{\nu\rho} - M_W{}^2\cdot a^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_\rho{}^2\cdot g^{\mu\rho}g^{\nu\sigma})$
$\rho^-{}_\mu \quad \rho^0{}_\nu \quad \rho^0{}_\rho \quad W^+{}_\sigma$	$\frac{e^2}{M_\rho{}^3\cdot M_W\cdot\sin\theta_w{}^2\cdot a}(2M_W{}^4\cdot a^4\cdot g^{\mu\sigma}g^{\nu\rho} - M_W{}^4\cdot a^4\cdot g^{\mu\rho}g^{\nu\sigma} - M_W{}^4\cdot a^4\cdot g^{\mu\nu}g^{\rho\sigma}$ $-2M_\rho{}^4\cdot g^{\mu\sigma}g^{\nu\rho} + M_\rho{}^4\cdot g^{\mu\rho}g^{\nu\sigma} + M_\rho{}^4\cdot g^{\mu\nu}g^{\rho\sigma})$

Fields in the vertex	Variational derivative of Lagrangian by fields
$\rho^-{}_\mu \quad \rho^0{}_\nu \quad W^+{}_\rho \quad Z_\sigma$	$-\frac{\cos\theta_w\cdot e^2}{M_\rho{}^2\cdot\sin\theta_w{}^2}(2M_W{}^2\cdot a^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\sigma}g^{\nu\rho} - M_W{}^2\cdot a^2\cdot g^{\mu\nu}g^{\rho\sigma}$ $+2M_\rho{}^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_\rho{}^2\cdot g^{\mu\sigma}g^{\nu\rho} - M_\rho{}^2\cdot g^{\mu\nu}g^{\rho\sigma})$
$\rho^0{}_\mu \quad \rho^0{}_\nu \quad W^+{}_\rho \quad W^-{}_\sigma$	$-\frac{e^2}{M_\rho{}^2\cdot\sin\theta_w{}^2}(2M_W{}^2\cdot a^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\sigma}g^{\nu\rho}$ $+2M_\rho{}^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_\rho{}^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_\rho{}^2\cdot g^{\mu\sigma}g^{\nu\rho})$
$W^+{}_\mu \quad W^+{}_\nu \quad W^-{}_\rho \quad W^-{}_\sigma$	$\frac{e^2}{\sin\theta_w{}^2\cdot M_\rho{}^2}(2M_\rho{}^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_\rho{}^2\cdot g^{\mu\sigma}g^{\nu\rho} + 2M_W{}^2\cdot a^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\sigma}g^{\nu\rho}$ $-M_\rho{}^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_W{}^2\cdot a^2\cdot g^{\mu\rho}g^{\nu\sigma})$
$W^+{}_\mu \quad W^-{}_\nu \quad Z_\rho \quad Z_\sigma$	$-\frac{\cos\theta_w{}^2\cdot e^2}{\sin\theta_w{}^2\cdot M_\rho{}^2}(2M_\rho{}^2\cdot g^{\mu\nu}g^{\rho\sigma} - M_\rho{}^2\cdot g^{\mu\rho}g^{\nu\sigma} - M_\rho{}^2\cdot g^{\mu\sigma}g^{\nu\rho} + 2M_W{}^2\cdot a^2\cdot g^{\mu\nu}g^{\rho\sigma}$