

$\phi_0(1)$			-1		-1				0	0	0.00	- 1/2	1/2
$\phi-(1)$				-1	-1				0	0	0.00	- 1/2	- 1/2
\mathbf{B}_1^+	0	0	-1	1	0	0	0	0	0	0	0	0	1
$\phi_1(2)$			1		-1				0	0	0.00	1/2	- 1/2
$\phi-(2)$				-1	1				0	0	0.00	- 1/2	- 1/2
\mathbf{B}_1^-	0	0	1	-1	0	0	0	0	0	0	0	0	-1
$\phi_0(2)$			-1		1				0	0	0.00	- 1/2	1/2
$\phi+(2)$				1	-1				0	0	0.00	1/2	1/2

E8	$1/2i*\omega_T^3$	$1/2\ \omega_S^3$	U^3	V^3	w	$x\ (R)$	$y\ (G)$	$z\ (B)$	B_{2*}	g_3	g^8	W^3	B_1^3
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<i>New Fields</i>													
$x_1.\Phi^{gb}$					-1	-1			1/3	1/2	0.29	0	0
$x_1.\Phi^{rb}$					-1		-1	0	1/3	- 1/2	0.29	0	0
$x_1.\Phi^{gr}$					-1			-1	1/3	0	-0.58	0	0
$x_1.\Phi^{GB}$					-1	1			- 1/3	- 1/2	-0.29	0	0
$x_1.\Phi^{RB}$					-1		1		- 1/3	1/2	-0.29	0	0
$x_1.\Phi^{RG}$					-1			1	- 1/3	0	0.58	0	0
$x_2.\Phi^{gb}$					1	-1			1/3	1/2	0.29	0	0
$x_2.\Phi^{rb}$					1		-1		1/3	- 1/2	0.29	0	0
$x_2.\Phi^{rg}$					1			-1	1/3	0	-0.58	0	0
$x_2.\Phi^{BG}$					1	1			- 1/3	- 1/2	-0.29	0	0

$x_2.\Phi^{RB}$					1		1		- 1/3	1/2	-0.29	0	0
$x_2.\Phi^{RG}$					1			1	- 1/3	0	0.58	0	0
$x_3.\Phi^{RG}$					0	-1	-1		2/3	0	0.58	0	0
$x_3.\Phi^{GB}$					0		-1	-1	2/3	- 1/2	-0.29	0	0
$x_3.\Phi^{RB}$					0	-1		-1	2/3	1/2	-0.29	0	0
$x_3.\Phi^{rg}$					0	1	1		- 2/3	0	-0.58	0	0
$x_3.\Phi^{gb}$					0		1	1	- 2/3	1/2	0.29	0	0
$x_3.\Phi^{rb}$					0	1		1	- 2/3	- 1/2	0.29	0	0

$\frac{1}{2}Y$	Q
hypercharge	charge
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	1
- 1/2	0
1/2	1
0	-1

1/2	0
- 1/2	-1
1	1
- 1/2	0
- 1/2	-1
-1	-1
1/2	0
1/2	1
½Y	Q

- 1/3	- 1/3
- 1/3	- 1/3
- 1/3	- 1/3
1/3	1/3
1/3	1/3
1/3	1/3
- 1/3	- 1/3
- 1/3	- 1/3
- 1/3	- 1/3
1/3	1/3

$1/3$	$1/3$
$1/3$	$1/3$
$-2/3$	$-2/3$
$-2/3$	$-2/3$
$-2/3$	$-2/3$
$2/3$	$2/3$
$2/3$	$2/3$
$2/3$	$2/3$