Appendix of Operators for The New Formulation of Higgs Effective Field Theory

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Abstract: This appendix is a supplementary material for arxiv:2211.16515. This appendix provides a complete listing of the possible operators for Standard Model particles.

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Contents

A The four-point HEFT operators up to dim-8

In this appendix, we present the complete HEFT operators for some 4-point scattering processes involving SM particles up to dimension-8. In these bases, the Greek letters represent Lorentz indices while the English letters represent QCD color indices.

Note that sometimes different operators correspond to the same amplitude bases, and we indicate them in parentheses. To obtain them explicitly, we merely need to substitute the fields in the EFT operators as suggested in parentheses. The replacement rules are shown in the table below, where particles enclosed in the same braces can be interchanged with each other.

Lorentz structure	**Fields**
left handed spinor	$\{u_L,\, d_L,\, \bar{u}_R,\, \bar{d}_R\},\ \{e_L,\, \nu_L,\, \bar{e}_R,\, \bar{\nu}_R\}$
right handed spinor	$\{u_R,\, d_R,\, \bar{u}_L,\, \bar{d}_L\},\ \{e_R,\, \nu_R,\, \bar{e}_L,\, \bar{\nu}_L\}$
vector	$\{W^+,\, W^-\}$

The following are some four-point scattering that are common on colliders and have important detection significance in particle physics:

- Drell-Yan process: The scattering process involving a quark-antiquark pair annihilating into a virtual photon or Z boson, which then decays into a lepton-antilepton pair, is an important channel for studying electroweak interactions and searching for new physics.
- Top quark pair production: The scattering process involving two top quarks being produced and subsequently decaying into multiple jets and leptons is a crucial probe of the top quark's properties and its role in electroweak symmetry breaking.
- Higgs boson production and decay: The scattering process involving two Higgs bosons decaying into two Z bosons is a significant channel for studying the properties of the Higgs boson at the LHC.
- Top quark decay: The scattering process involving two top quarks decaying into two W bosons is a key channel for measuring the top quark mass and its coupling to the Higgs boson.
- Vector boson scattering: The scattering process involving two W or Z bosons scattering off each other is a pivotal test of the electroweak theory and has the potential to reveal new physics beyond the Standard Model.

The EFT operators of other scattering processes such as the annihilation of dark matter can be calculated using the program https://github.com/zizhengzhou/MassiveAmplitude, here we only give the operators of the above-mentioned processes.

A.1 Type: $hhhh$

A.1.1 Dimension = 4, $\mathcal{O}_4^1$

Type: $hhhh$ $\quad d=4$ $\quad \mathcal{O}_4^1$
$hhhh$

A.1.2 Dimension = 8, $\mathcal{O}_8^1$

Type: $hhhh$ $\quad d=8$ $\quad \mathcal{O}_8^1$
$h\left(D_\nu D_\sigma h\right) h\left(D_\mu D_\rho h\right) \mathrm{Tr}\left(\sigma^\mu \bar{\sigma}^\nu\right) \mathrm{Tr}\left(\sigma^\rho \bar{\sigma}^\sigma\right)$

A.2 Type: $u\bar{u}hh\,(d\bar{d}hh)$

A.2.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $u\bar{u}hh$ $\quad d=5$ $\quad \mathcal{O}_5^{1\sim2}$	
$hh\left(u_R^a \bar{u}_{La}\right)$	$hh\left(u_L^a \bar{u}_{Ra}\right)$

A.2.2 Dimension = 7, $\mathcal{O}_7^{1\sim2}$

Type: $u\bar{u}hh$ $\quad d=7$ $\quad \mathcal{O}_7^{1\sim2}$	
$\left(D_\nu h\right)\left(D_\mu h\right)\left(u_R^a \bar{\sigma}^\mu \sigma^\nu \bar{u}_{La}\right)$	$\left(D_\mu h\right)\left(D_\nu h\right)\left(u_L^a \sigma^\mu \bar{\sigma}^\nu \bar{u}_{Ra}\right)$

A.2.3 Dimension = 8, $\mathcal{O}_8^{1\sim2}$

Type: $u\bar{u}hh$ $\quad d=8$ $\quad \mathcal{O}_8^{1\sim2}$	
$\left(D_\mu h\right)\left(D_\rho h\right)\left(u_R^a \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\rho \left(D_\nu \bar{u}_{Ra}\right)\right)$	$\left(D_\mu h\right)\left(D_\nu h\right)\left(\left(D_\rho \bar{u}_{La}\right) \bar{\sigma}^\mu u_L^a\right) \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\rho\right)$

A.3 Type: $e^-e^+hh\,(\nu\bar{\nu}hh)$

A.3.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $e^-e^+hh \quad d=5 \quad \mathcal{O}_5^{1\sim2}$	
$hh\,(e_R\bar{e}_L)$	$hh\,(e_L\bar{e}_R)$

A.3.2 Dimension = 7, $\mathcal{O}_7^{1\sim2}$

Type: $e^-e^+hh \quad d=7 \quad \mathcal{O}_7^{1\sim2}$	
$(D_\nu h)\,(D_\mu h)\,(e_R\bar{\sigma}^\mu\sigma^\nu\bar{e}_L)$	$(D_\mu h)\,(D_\nu h)\,(e_L\sigma^\mu\bar{\sigma}^\nu\bar{e}_R)$

A.3.3 Dimension = 8, $\mathcal{O}_8^{1\sim2}$

Type: $e^-e^+hh \quad d=8 \quad \mathcal{O}_8^{1\sim2}$	
$(D_\mu h)\,(D_\rho h)\,(e_R\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\rho\,(D_\nu\bar{e}_R))$	$(D_\mu h)\,(D_\nu h)\,((D_\rho\bar{e}_L)\,\bar{\sigma}^\mu e_L)\,\mathrm{Tr}\,(\sigma^\nu\bar{\sigma}^\rho)$

A.4 Type: $\nu\nu hh\,(\bar{\nu}\bar{\nu}hh)$

A.4.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $\nu\nu hh \quad d=5 \quad \mathcal{O}_5^{1\sim2}$	
$hh\,(\nu_R\nu_R)$	$hh\,(\nu_L\nu_L)$

A.4.2 Dimension = 7, $\mathcal{O}_7^{1\sim2}$

Type: $\nu\nu hh \quad d=7 \quad \mathcal{O}_7^{1\sim2}$	
$(D_\nu h)\,(D_\mu h)\,(\nu_R\bar{\sigma}^\mu\sigma^\nu\nu_R)$	$(D_\mu h)\,(D_\nu h)\,(\nu_L\sigma^\mu\bar{\sigma}^\nu\nu_L)$

A.4.3 Dimension = 8, $\mathcal{O}_8^1$

Type: $\nu\nu hh \quad d=8 \quad \mathcal{O}_8^1$
$(D_\mu h)\,(D_\nu h)\,((D_\rho \nu_R)\,\bar{\sigma}^\mu \nu_L)\,\mathrm{Tr}\,(\sigma^\nu \bar{\sigma}^\rho)$

A.5 Type: $Zhhh$

A.5.1 Dimension = 7, $\mathcal{O}_7^1$

Type: $Zhhh \quad d=7 \quad \mathcal{O}_7^1$
$Z_\nu\,(D_\sigma h)\,(D_\mu h)\,(D_\rho h)\,\mathrm{Tr}\,(\bar{\sigma}^\mu \sigma^\nu)\,\mathrm{Tr}\,(\sigma^\rho \bar{\sigma}^\sigma)$

A.6 Type: $\nu\nu\nu\nu\,(\bar{\nu}\bar{\nu}\bar{\nu}\bar{\nu})$

A.6.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $\nu\nu\nu\nu \quad d=6 \quad \mathcal{O}_6^1$
$(\nu_R \nu_R)\,(\nu_L \nu_L)$

A.6.2 Dimension = 8, $\mathcal{O}_8^{1\sim3}$

Type: $\nu\nu\nu\nu \quad d=8 \quad \mathcal{O}_8^{1\sim3}$	
$(\nu_R \nu_R)\,((D_\nu \nu_R)\,\bar{\sigma}^\mu \sigma^\nu\,(D_\mu \nu_R))$	$((D_\nu \nu_R)\,\bar{\sigma}^\mu \nu_L)\,(\nu_R \bar{\sigma}^\nu\,(D_\mu \nu_L))$
$(\nu_L \nu_L)\,((D_\nu \nu_L)\,\sigma^\mu \bar{\sigma}^\nu\,(D_\mu \nu_L))$	

A.7 Type: $\nu\nu\nu\bar{\nu}\,(\bar{\nu}\bar{\nu}\bar{\nu}\nu)$

A.7.1 Dimension = 6, $\mathcal{O}_6^{1\sim2}$

Type: $\nu\nu\nu\bar{\nu} \quad d=6 \quad \mathcal{O}_6^{1\sim2}$	
$(\nu_R \bar{\nu}_L)\,(\nu_L \nu_L)$	$(\nu_R \nu_R)\,(\nu_L \bar{\nu}_R)$

A.7.2 Dimension = 8, $\mathcal{O}_8^{1\sim4}$

Type: $\nu\nu\nu\bar{\nu}$ $d=8$ $\mathcal{O}_8^{1\sim4}$	
$(\nu_R\bar{\nu}_L)\left((D_\nu\nu_R)\,\bar{\sigma}^\mu\sigma^\nu\,(D_\mu\nu_R)\right)$	$\left((D_\nu\nu_R)\,\bar{\sigma}^\mu\nu_L\right)\left((D_\mu\nu_R)\,\bar{\sigma}^\nu\bar{\nu}_R\right)$
$\left((D_\nu\nu_R)\,\bar{\sigma}^\mu\nu_L\right)(\bar{\nu}_L\bar{\sigma}^\nu\,(D_\mu\nu_L))$	$(\nu_L\nu_L)\left((D_\nu\nu_L)\,\sigma^\mu\bar{\sigma}^\nu\,(D_\mu\bar{\nu}_R)\right)$

A.8 Type: $ddde^+$ $(\bar{d}\bar{d}\bar{d}e^-)$

A.8.1 Dimension = 7, $\mathcal{O}_7^{1\sim4}$

Type: $ddde^+$ $d=7$ $\mathcal{O}_7^{1\sim4}$	
$\epsilon_{abc}\left(d_R^b\,(D_\mu\bar{e}_L)\right)(d_R^c\bar{\sigma}^\mu d_L^a)$	$\epsilon_{abc}\left(\left(D_\mu d_L^b\right)\bar{e}_R\right)(d_R^a\bar{\sigma}^\mu d_L^c)$
$\epsilon_{abc}\,(d_R^a\,(D_\mu d_R^c))\left(d_R^b\bar{\sigma}^\mu\bar{e}_R\right)$	$\epsilon_{abc}\left(d_L^b\,(D_\mu d_L^c)\right)(\bar{e}_L\bar{\sigma}^\mu d_L^a)$

A.8.2 Dimension = 8, $\mathcal{O}_8^{1\sim2}$

Type: $ddde^+$ $d=8$ $\mathcal{O}_8^{1\sim2}$	
$\epsilon_{abc}\left(\left(D_\nu d_R^b\right)\bar{\sigma}^\mu d_L^a\right)(\bar{e}_L\bar{\sigma}^\nu\,(D_\mu d_L^c))$	$\epsilon_{abc}\left(\left(D_\nu d_R^b\right)\bar{\sigma}^\mu d_L^a\right)\left((D_\mu d_R^c)\,\bar{\sigma}^\nu\bar{e}_R\right)$

A.9 Type: $e^-e^+e^-e^+$ $(\nu\bar{\nu}\nu\bar{\nu})$

A.9.1 Dimension = 6, $\mathcal{O}_6^{1\sim5}$

Type: $e^-e^+e^-e^+$ $d=6$ $\mathcal{O}_6^{1\sim5}$		
$(e_Re_R)(\bar{e}_L\bar{e}_L)$	$(e_R\bar{e}_L)(e_L\bar{e}_R)$	$(\bar{e}_L\bar{e}_L)(e_Le_L)$
$(e_Re_R)(\bar{e}_R\bar{e}_R)$	$(e_Le_L)(\bar{e}_R\bar{e}_R)$	

A.9.2 Dimension = 8, $\mathcal{O}_8^{1\sim8}$

Type: $e^-e^+e^-e^+$ $d=8$ $\mathcal{O}_8^{1\sim8}$	
$(e_R\bar{e}_L)\left((D_\nu\bar{e}_L)\,\bar{\sigma}^\mu\sigma^\nu\,(D_\mu e_R)\right)$	$\left((D_\nu\bar{e}_R)\,\bar{e}_R\right)(e_R\bar{\sigma}^\mu\sigma^\nu\,(D_\mu e_R))$

$(e_R\,(D_\mu \bar{e}_L))\,((D_\nu \bar{e}_L)\,\bar{\sigma}^\mu \sigma^\nu e_R)$	$(e_L \bar{e}_R)\,((D_\nu e_R)\,\bar{\sigma}^\mu \sigma^\nu\,(D_\mu \bar{e}_L))$
$((D_\nu \bar{e}_L)\,\bar{\sigma}^\mu e_L)\,(\bar{e}_L \bar{\sigma}^\nu\,(D_\mu e_L))$	$(e_L e_L)\,((D_\nu \bar{e}_R)\,\sigma^\mu \bar{\sigma}^\nu\,(D_\mu \bar{e}_R))$
$((D_\nu \bar{e}_L)\,\bar{\sigma}^\mu e_L)\,((D_\mu e_R)\,\bar{\sigma}^\nu \bar{e}_R)$	$(e_L \bar{e}_R)\,((D_\nu e_L)\,\sigma^\mu \bar{\sigma}^\nu\,(D_\mu \bar{e}_R))$

A.10 Type: $u\bar{u}u\bar{u}\,(d\bar{d}d\bar{d})$

A.10.1 Dimension = 6, $\mathcal{O}_6^{1\sim 8}$

Type: $u\bar{u}u\bar{u}$ $\quad d=6$ $\quad \mathcal{O}_6^{1\sim 8}$		
$\left(u_R^a u_R^b\right)(\bar{u}_{La}\bar{u}_{Lb})$	$(\bar{u}_{La}\bar{u}_{Lb})\left(u_L^a u_L^b\right)$	$\epsilon_{ace}\epsilon_{bdf}\left(u_R^b \epsilon^{efh}\bar{u}_{Lh}\right)\left(u_L^a \epsilon^{cdg}\bar{u}_{Rg}\right)$
$\left(u_R^b \bar{u}_{Lb}\right)(u_L^a \bar{u}_{Ra})$	$\left(u_R^a u_R^b\right)(\bar{u}_{Ra}\bar{u}_{Rb})$	$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a \epsilon^{cdg}\bar{u}_{Lg}\right)\left(u_R^b \epsilon^{efh}\bar{u}_{Lh}\right)$
$\left(u_L^a u_L^b\right)(\bar{u}_{Ra}\bar{u}_{Rb})$	$\epsilon_{ace}\epsilon_{bdf}\left(u_L^a \epsilon^{cdg}\bar{u}_{Rg}\right)\left(u_L^b \epsilon^{efh}\bar{u}_{Rh}\right)$	

A.10.2 Dimension = 7, $\mathcal{O}_7^{1\sim 4}$

Type: $u\bar{u}u\bar{u}$ $\quad d=7$ $\quad \mathcal{O}_7^{1\sim 4}$
$\epsilon_{ace}\epsilon_{bdf}\epsilon^{cdg}\left(\bar{u}_{Lg}\left(D_\mu \epsilon^{efh}\bar{u}_{Lh}\right)\right)\left(u_R^b \bar{\sigma}^\mu u_L^a\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a\left(D_\mu \epsilon^{efh}\bar{u}_{Lh}\right)\right)\left(u_R^b \bar{\sigma}^\mu \epsilon^{cdg}\bar{u}_{Rg}\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(\left(D_\mu \epsilon^{cdg}\bar{u}_{Rg}\right)\epsilon^{efh}\bar{u}_{Rh}\right)\left(u_R^a \bar{\sigma}^\mu u_L^b\right)$
$\epsilon_{ace}\epsilon_{bdf}\epsilon^{cdg}\left(\bar{u}_{Rg}\left(D_\mu u_L^b\right)\right)\epsilon^{efh}\,(\bar{u}_{Lh}\bar{\sigma}^\mu u_L^a)$

A.10.3 Dimension = 8, $\mathcal{O}_8^{1\sim 14}$

Type: $u\bar{u}u\bar{u}$ $\quad d=8$ $\quad \mathcal{O}_8^{1\sim 14}$
$(u_R^a \bar{u}_{Lb})\left((D_\nu \bar{u}_{La})\,\bar{\sigma}^\mu \sigma^\nu\left(D_\mu u_R^b\right)\right)$
$(u_R^a\,(D_\mu \bar{u}_{Lb}))\left((D_\nu \bar{u}_{La})\,\bar{\sigma}^\mu \sigma^\nu u_R^b\right)$

$((D_\nu \bar{u}_{La})\,\bar{\sigma}^\mu u_L^a)\left(\bar{u}_{Lb}\bar{\sigma}^\nu\left(D_\mu u_L^b\right)\right)$
$((D_\nu \bar{u}_{La})\,\bar{\sigma}^\mu u_L^a)\left(\left(D_\mu u_R^b\right)\bar{\sigma}^\nu \bar{u}_{Rb}\right)$
$((D_\nu \bar{u}_{Ra})\,\bar{u}_{Rb})\left(u_R^a\bar{\sigma}^\mu\sigma^\nu\left(D_\mu u_R^b\right)\right)$
$(u_L^a \bar{u}_{Ra})\left(\left(D_\nu u_R^b\right)\bar{\sigma}^\mu\sigma^\nu\,(D_\mu \bar{u}_{Lb})\right)$
$\left(u_L^a u_L^b\right)((D_\nu \bar{u}_{Ra})\,\sigma^\mu\bar{\sigma}^\nu\,(D_\mu \bar{u}_{Rb}))$
$(u_L^a \bar{u}_{Ra})\left(\left(D_\nu u_L^b\right)\sigma^\mu\bar{\sigma}^\nu\,(D_\mu \bar{u}_{Rb})\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a\epsilon^{efh}\bar{u}_{Lh}\right)\left(\left(D_\nu\epsilon^{cdg}\bar{u}_{Lg}\right)\bar{\sigma}^\mu\sigma^\nu\left(D_\mu u_R^b\right)\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(\left(D_\nu\epsilon^{cdg}\bar{u}_{Lg}\right)\bar{\sigma}^\mu u_L^a\right)\epsilon^{efh}\left(\bar{u}_{Lh}\bar{\sigma}^\nu\left(D_\mu u_L^b\right)\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(\left(D_\nu\epsilon^{cdg}\bar{u}_{Lg}\right)\bar{\sigma}^\mu u_L^a\right)\left(\left(D_\mu u_R^b\right)\bar{\sigma}^\nu\epsilon^{efh}\bar{u}_{Rh}\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(\left(D_\nu\epsilon^{cdg}\bar{u}_{Rg}\right)\epsilon^{efh}\bar{u}_{Rh}\right)\left(u_R^a\bar{\sigma}^\mu\sigma^\nu\left(D_\mu u_R^b\right)\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(u_L^a\epsilon^{cdg}\bar{u}_{Rg}\right)\left(\left(D_\nu u_R^b\right)\bar{\sigma}^\mu\sigma^\nu\left(D_\mu\epsilon^{efh}\bar{u}_{Lh}\right)\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(\left(D_\mu u_L^b\right)\left(D_\nu\epsilon^{efh}\bar{u}_{Rh}\right)\right)\left(u_L^a\sigma^\mu\bar{\sigma}^\nu\epsilon^{cdg}\bar{u}_{Rg}\right)$

A.11 Type: $\nu\nu e^+e^-$ $(\bar{\nu}\bar{\nu}e^-e^+)$

A.11.1 Dimension = 6, $\mathcal{O}_6^{1\sim6}$

Type: $\nu\nu e^+e^-$ $\quad d=6 \quad \mathcal{O}_6^{1\sim6}$		
$(\nu_R\bar{e}_L)\,(\nu_R e_R)$	$(\nu_R e_R)\,(\nu_L\bar{e}_R)$	$(\nu_R\nu_R)\,(\bar{e}_R e_L)$
$(\bar{e}_L e_R)\,(\nu_L\nu_L)$	$(\nu_R\bar{e}_L)\,(\nu_L e_L)$	$(\nu_L\bar{e}_R)\,(\nu_L e_L)$

A.11.2 Dimension = 7, $\mathcal{O}_7^{1\sim2}$

Type: $\nu\nu e^+e^-$ $\quad d=7 \quad \mathcal{O}_7^{1\sim2}$	
$(\nu_R\,(D_\mu e_R))\,(\bar{e}_L\bar{\sigma}^\mu\nu_L)$	$((D_\mu\nu_L)\,e_L)\,(\nu_R\bar{\sigma}^\mu\bar{e}_R)$

A.11.3 Dimension = 8, $\mathcal{O}_8^{1\sim10}$

Type: $\nu\nu e^+e^-$ $\quad d=8 \quad \mathcal{O}_8^{1\sim10}$	
$(\nu_R e_R)\,((D_\nu\nu_R)\,\bar{\sigma}^\mu\sigma^\nu\,(D_\mu\bar{e}_L))$	$(\nu_L\bar{e}_R)\,((D_\nu\nu_R)\,\bar{\sigma}^\mu\sigma^\nu\,(D_\mu e_R))$
$(\nu_R\,(D_\mu e_R))\,((D_\nu\nu_R)\,\bar{\sigma}^\mu\sigma^\nu\bar{e}_L)$	$((D_\nu\bar{e}_R)\,(D_\mu e_L))\,(\nu_R\bar{\sigma}^\mu\sigma^\nu\nu_R)$
$((D_\nu\nu_R)\,\bar{\sigma}^\mu\nu_L)\,(e_R\bar{\sigma}^\nu\,(D_\mu\bar{e}_R))$	$(\nu_R\,(D_\nu\bar{e}_L))\,(\nu_L\sigma^\mu\bar{\sigma}^\nu\,(D_\mu e_L))$
$((D_\nu\nu_R)\,\bar{\sigma}^\mu\nu_L)\,((D_\mu\bar{e}_L)\,\bar{\sigma}^\nu e_L)$	$(\nu_L\bar{e}_R)\,((D_\nu\nu_L)\,\sigma^\mu\bar{\sigma}^\nu\,(D_\mu e_L))$
$((D_\nu\bar{e}_L)\,\bar{\sigma}^\mu\nu_L)\,((D_\mu e_R)\,\bar{\sigma}^\nu\nu_L)$	$((D_\mu\bar{e}_R)\,(D_\nu e_L))\,(\nu_L\sigma^\mu\bar{\sigma}^\nu\nu_L)$

A.12 Type: $\nu\nu u\bar{u}\,(\nu\nu d\bar{d},\ \bar{\nu}\bar{\nu}u\bar{u},\ \bar{\nu}\bar{\nu}d\bar{d})$

A.12.1 Dimension = 6, $\mathcal{O}_6^{1\sim6}$

Type: $\nu\nu u\bar{u}$ $\quad d=6 \quad \mathcal{O}_6^{1\sim6}$		
$(\nu_R u_R^a)\,(\nu_R\bar{u}_{La})$	$(\nu_R\bar{u}_{La})\,(\nu_L u_L^a)$	$(\nu_R\nu_R)\,(u_L^a\bar{u}_{Ra})$
$(u_R^a\bar{u}_{La})\,(\nu_L\nu_L)$	$(\nu_R u_R^a)\,(\nu_L\bar{u}_{Ra})$	$(\nu_L u_L^a)\,(\nu_L\bar{u}_{Ra})$

A.12.2 Dimension = 7, $\mathcal{O}_7^{1\sim2}$

Type: $\nu\nu u\bar{u}$ $\quad d=7 \quad \mathcal{O}_7^{1\sim2}$	
$(\nu_R\,(D_\mu\bar{u}_{La}))\,(u_R^a\bar{\sigma}^\mu\nu_L)$	$((D_\mu\nu_L)\,\bar{u}_{Ra})\,(\nu_R\bar{\sigma}^\mu u_L^a)$

A.12.3 Dimension = 8, $\mathcal{O}_8^{1\sim10}$

Type: $\nu\nu u\bar{u}$ $d=8$ $\mathcal{O}_8^{1\sim10}$	
$(\nu_R\bar{u}_{La})\left((D_\nu\nu_R)\,\bar{\sigma}^\mu\sigma^\nu\,(D_\mu u_R^a)\right)$	$(\nu_L u_L^a)\left((D_\nu\nu_R)\,\bar{\sigma}^\mu\sigma^\nu\,(D_\mu\bar{u}_{La})\right)$
$(\nu_R\,(D_\mu\bar{u}_{La}))\left((D_\nu\nu_R)\,\bar{\sigma}^\mu\sigma^\nu u_R^a\right)$	$\left((D_\nu u_L^a)\,(D_\mu\bar{u}_{Ra})\right)(\nu_R\bar{\sigma}^\mu\sigma^\nu\nu_R)$
$\left((D_\nu\nu_R)\,\bar{\sigma}^\mu\nu_L\right)(\bar{u}_{La}\bar{\sigma}^\nu\,(D_\mu u_L^a))$	$(\nu_R\,(D_\nu u_R^a))\,(\nu_L\sigma^\mu\bar{\sigma}^\nu\,(D_\mu\bar{u}_{Ra}))$
$\left((D_\nu\nu_R)\,\bar{\sigma}^\mu\nu_L\right)\left((D_\mu u_R^a)\,\bar{\sigma}^\nu\bar{u}_{Ra}\right)$	$(\nu_L u_L^a)\left((D_\nu\nu_L)\,\sigma^\mu\bar{\sigma}^\nu\,(D_\mu\bar{u}_{Ra})\right)$
$\left((D_\nu u_R^a)\,\bar{\sigma}^\mu\nu_L\right)\left((D_\mu\bar{u}_{La})\,\bar{\sigma}^\nu\nu_L\right)$	$\left((D_\mu u_L^a)\,(D_\nu\bar{u}_{Ra})\right)(\nu_L\sigma^\mu\bar{\sigma}^\nu\nu_L)$

A.13 Type: $ddu\nu\,(ddu\bar{\nu},\,d\bar{d}\bar{u}\nu,\,d\bar{d}\bar{u}\bar{\nu})$

A.13.1 Dimension = 6, $\mathcal{O}_6^{1\sim4}$

Type: $ddu\nu$ $d=6$ $\mathcal{O}_6^{1\sim4}$		
$\epsilon_{abc}\,(d_R^a u_R^c)\left(d_R^b\nu_R\right)$	$\epsilon_{abc}\left(d_R^b\nu_R\right)(d_L^a u_L^c)$	$\epsilon_{abc}\left(d_R^b u_R^c\right)(d_L^a\nu_L)$
$\epsilon_{abc}\,(d_L^a u_L^c)\left(d_L^b\nu_L\right)$		

A.13.2 Dimension = 7, $\mathcal{O}_7^{1\sim6}$

Type: $ddu\nu$ $d=7$ $\mathcal{O}_7^{1\sim6}$	
$\epsilon_{abc}\left(d_R^b\,(D_\mu\nu_R)\right)(u_R^c\bar{\sigma}^\mu d_L^a)$	$\epsilon_{abc}\left(\left(D_\mu d_L^b\right)\nu_L\right)(d_R^a\bar{\sigma}^\mu u_L^c)$
$\epsilon_{abc}\,(d_R^a\,(D_\mu\nu_R))\left(d_R^b\bar{\sigma}^\mu u_L^c\right)$	$\epsilon_{abc}\left(d_L^b\,(D_\mu u_L^c)\right)(\nu_R\bar{\sigma}^\mu d_L^a)$
$\epsilon_{abc}\,(d_R^a\,(D_\mu u_R^c))\left(d_R^b\bar{\sigma}^\mu\nu_L\right)$	$\epsilon_{abc}\left(d_L^b\,(D_\mu\nu_L)\right)(u_R^c\bar{\sigma}^\mu d_L^a)$

A.13.3 Dimension = 8, $\mathcal{O}_8^{1\sim8}$

Type: $ddu\nu$ $d=8$ $\mathcal{O}_8^{1\sim8}$	
$\epsilon_{abc}\,(d_R^a\nu_R)\left(\left(D_\nu d_R^b\right)\bar{\sigma}^\mu\sigma^\nu\,(D_\mu u_R^c)\right)$	$\epsilon_{abc}\,(d_L^a u_L^c)\left(\left(D_\nu d_R^b\right)\bar{\sigma}^\mu\sigma^\nu\,(D_\mu\nu_R)\right)$

$\epsilon_{abc}\left(\left(D_\nu d_R^b\right)\bar{\sigma}^\mu d_L^a\right)\left(\nu_R\bar{\sigma}^\nu\left(D_\mu u_L^c\right)\right)$	$\epsilon_{abc}\left(\left(D_\nu u_L^c\right)\left(D_\mu\nu_L\right)\right)\left(d_R^a\bar{\sigma}^\mu\sigma^\nu d_R^b\right)$
$\epsilon_{abc}\left(\left(D_\nu d_R^b\right)\bar{\sigma}^\mu d_L^a\right)\left(\left(D_\mu u_R^c\right)\bar{\sigma}^\nu\nu_L\right)$	$\epsilon_{abc}\left(d_R^b\left(D_\nu u_R^c\right)\right)\left(d_L^a\sigma^\mu\bar{\sigma}^\nu\left(D_\mu\nu_L\right)\right)$
$\epsilon_{abc}\left(\left(D_\nu u_R^c\right)\bar{\sigma}^\mu d_L^b\right)\left(\left(D_\mu\nu_R\right)\bar{\sigma}^\nu d_L^a\right)$	$\epsilon_{abc}\left(d_L^a u_L^c\right)\left(\left(D_\nu d_L^b\right)\sigma^\mu\bar{\sigma}^\nu\left(D_\mu\nu_L\right)\right)$

A.14 Type: $uude^-\,(\bar{u}\bar{u}\bar{d}e^+)$

A.14.1 Dimension = 6, $\mathcal{O}_6^{1\sim4}$

Type: $uude^-$ $\quad d=6$ $\quad \mathcal{O}_6^{1\sim4}$		
$\epsilon_{abc}\left(u_R^a d_R^c\right)\left(u_R^b e_R\right)$	$\epsilon_{abc}\left(u_R^b e_R\right)\left(u_L^a d_L^c\right)$	$\epsilon_{abc}\left(u_R^b d_R^c\right)\left(u_L^a e_L\right)$
$\epsilon_{abc}\left(u_L^a d_L^c\right)\left(u_L^b e_L\right)$		

A.14.2 Dimension = 7, $\mathcal{O}_7^{1\sim6}$

Type: $uude^-$ $\quad d=7$ $\quad \mathcal{O}_7^{1\sim6}$	
$\epsilon_{abc}\left(u_R^b\left(D_\mu e_R\right)\right)\left(d_R^c\bar{\sigma}^\mu u_L^a\right)$	$\epsilon_{abc}\left(\left(D_\mu u_L^b\right)e_L\right)\left(u_R^a\bar{\sigma}^\mu d_L^c\right)$
$\epsilon_{abc}\left(u_R^a\left(D_\mu e_R\right)\right)\left(u_R^b\bar{\sigma}^\mu d_L^c\right)$	$\epsilon_{abc}\left(u_L^b\left(D_\mu d_L^c\right)\right)\left(e_R\bar{\sigma}^\mu u_L^a\right)$
$\epsilon_{abc}\left(u_R^a\left(D_\mu d_R^c\right)\right)\left(u_R^b\bar{\sigma}^\mu e_L\right)$	$\epsilon_{abc}\left(u_L^b\left(D_\mu e_L\right)\right)\left(d_R^c\bar{\sigma}^\mu u_L^a\right)$

A.14.3 Dimension = 8, $\mathcal{O}_8^{1\sim8}$

Type: $uude^-$ $\quad d=8$ $\quad \mathcal{O}_8^{1\sim8}$	
$\epsilon_{abc}\left(u_R^a e_R\right)\left(\left(D_\nu u_R^b\right)\bar{\sigma}^\mu\sigma^\nu\left(D_\mu d_R^c\right)\right)$	$\epsilon_{abc}\left(u_L^a d_L^c\right)\left(\left(D_\nu u_R^b\right)\bar{\sigma}^\mu\sigma^\nu\left(D_\mu e_R\right)\right)$
$\epsilon_{abc}\left(\left(D_\nu u_R^b\right)\bar{\sigma}^\mu u_L^a\right)\left(e_R\bar{\sigma}^\nu\left(D_\mu d_L^c\right)\right)$	$\epsilon_{abc}\left(\left(D_\nu d_L^c\right)\left(D_\mu e_L\right)\right)\left(u_R^a\bar{\sigma}^\mu\sigma^\nu u_R^b\right)$
$\epsilon_{abc}\left(\left(D_\nu u_R^b\right)\bar{\sigma}^\mu u_L^a\right)\left(\left(D_\mu d_R^c\right)\bar{\sigma}^\nu e_L\right)$	$\epsilon_{abc}\left(u_R^b\left(D_\nu d_R^c\right)\right)\left(u_L^a\sigma^\mu\bar{\sigma}^\nu\left(D_\mu e_L\right)\right)$
$\epsilon_{abc}\left(\left(D_\nu d_R^c\right)\bar{\sigma}^\mu u_L^b\right)\left(\left(D_\mu e_R\right)\bar{\sigma}^\nu u_L^a\right)$	$\epsilon_{abc}\left(u_L^a d_L^c\right)\left(\left(D_\nu u_L^b\right)\sigma^\mu\bar{\sigma}^\nu\left(D_\mu e_L\right)\right)$

A.15 Type: $\nu\bar{\nu}e^-e^+$

A.15.1 Dimension = 6, $\mathcal{O}_6^{1\sim10}$

Type: $\nu\bar{\nu}e^-e^+ \quad d=6 \quad \mathcal{O}_6^{1\sim10}$		
$(\nu_R e_R)(\bar{\nu}_L \bar{e}_L)$	$(\bar{\nu}_L \bar{e}_L)(\nu_L e_L)$	$(\nu_R e_R)(\bar{\nu}_R \bar{e}_R)$
$(\nu_R \bar{\nu}_L)(e_R \bar{e}_L)$	$(\nu_R \bar{e}_L)(\bar{\nu}_R e_L)$	$(\nu_R \bar{\nu}_L)(e_L \bar{e}_R)$
$(e_R \bar{e}_L)(\nu_L \bar{\nu}_R)$	$(\bar{\nu}_L e_R)(\nu_L \bar{e}_R)$	$(\nu_L e_L)(\bar{\nu}_R \bar{e}_R)$
$(\nu_L \bar{\nu}_R)(e_L \bar{e}_R)$		

A.15.2 Dimension = 7, $\mathcal{O}_7^{1\sim8}$

Type: $\nu\bar{\nu}e^-e^+ \quad d=7 \quad \mathcal{O}_7^{1\sim8}$		
$(\bar{\nu}_L (D_\mu \bar{e}_L))(e_R \bar{\sigma}^\mu \nu_L)$	$(\nu_R (D_\mu \bar{e}_L))(\bar{\nu}_L \bar{\sigma}^\mu e_L)$	$((D_\mu \bar{\nu}_R)\bar{e}_R)(\nu_R \bar{\sigma}^\mu e_L)$
$(\nu_R (D_\mu \bar{e}_L))(e_R \bar{\sigma}^\mu \bar{\nu}_R)$	$(\nu_R (D_\mu e_R))(\bar{\nu}_L \bar{\sigma}^\mu \bar{e}_R)$	$(\bar{\nu}_R (D_\mu e_L))(\bar{e}_L \bar{\sigma}^\mu \nu_L)$
$((D_\mu e_L)\bar{e}_R)(\bar{\nu}_L \bar{\sigma}^\mu \nu_L)$	$(\bar{\nu}_R (D_\mu \bar{e}_R))(e_R \bar{\sigma}^\mu \nu_L)$	

A.15.3 Dimension = 8, $\mathcal{O}_8^{1\sim18}$

Type: $\nu\bar{\nu}e^-e^+ \quad d=8 \quad \mathcal{O}_8^{1\sim18}$	
$(\nu_R \bar{e}_L)((D_\nu \bar{\nu}_L)\bar{\sigma}^\mu \sigma^\nu (D_\mu e_R))$	$(\nu_L e_L)((D_\nu \bar{\nu}_L)\bar{\sigma}^\mu \sigma^\nu (D_\mu \bar{e}_L))$
$(\nu_R (D_\mu \bar{e}_L))((D_\nu \bar{\nu}_L)\bar{\sigma}^\mu \sigma^\nu e_R)$	$(\bar{\nu}_R (D_\nu e_L))(\nu_R \bar{\sigma}^\mu \sigma^\nu (D_\mu \bar{e}_L))$
$(\nu_R e_R)((D_\nu \bar{\nu}_L)\bar{\sigma}^\mu \sigma^\nu (D_\mu \bar{e}_L))$	$((D_\nu e_L)(D_\mu \bar{e}_R))(\nu_R \bar{\sigma}^\mu \sigma^\nu \bar{\nu}_L)$
$((D_\nu \bar{\nu}_L)\bar{\sigma}^\mu \nu_L)(\bar{e}_L \bar{\sigma}^\nu (D_\mu e_L))$	$(\bar{\nu}_L (D_\nu e_R))(\nu_L \sigma^\mu \bar{\sigma}^\nu (D_\mu \bar{e}_R))$
$((D_\nu \bar{\nu}_L)\bar{\sigma}^\mu \nu_L)((D_\mu e_R)\bar{\sigma}^\nu \bar{e}_R)$	$(\nu_R e_R)((D_\nu \bar{\nu}_R)\sigma^\mu \bar{\sigma}^\nu (D_\mu \bar{e}_R))$
$((D_\nu \bar{\nu}_R)(D_\mu e_L))(\nu_R \bar{\sigma}^\mu \sigma^\nu \bar{e}_L)$	$(\nu_R (D_\nu \bar{\nu}_L))(e_L \sigma^\mu \bar{\sigma}^\nu (D_\mu \bar{e}_R))$

$((D_\nu \bar{\nu}_R)\, \bar{e}_R)\, (\nu_R \bar{\sigma}^\mu \sigma^\nu\, (D_\mu e_R))$	$(\nu_L e_L)\, ((D_\nu \bar{\nu}_R)\, \sigma^\mu \bar{\sigma}^\nu\, (D_\mu \bar{e}_R))$
$((D_\nu e_R)\, \bar{\sigma}^\mu \bar{\nu}_R)\, ((D_\mu \bar{e}_L)\, \bar{\sigma}^\nu \nu_L)$	$((D_\mu e_L)\, (D_\nu \bar{e}_R))\, (\nu_L \sigma^\mu \bar{\sigma}^\nu \bar{\nu}_R)$
$(\nu_L \bar{\nu}_R)\, ((D_\nu e_R)\, \bar{\sigma}^\mu \sigma^\nu\, (D_\mu \bar{e}_L))$	$(\nu_L \bar{\nu}_R)\, ((D_\nu e_L)\, \sigma^\mu \bar{\sigma}^\nu\, (D_\mu \bar{e}_R))$

A.16 Type: $u\bar{u}\nu\bar{\nu}\,(d\bar{d}\nu\bar{\nu},\, u\bar{u}e^-e^+,\, d\bar{d}e^-e^+)$

A.16.1 Dimension = 6, $\mathcal{O}_6^{1\sim10}$

Type: $u\bar{u}\nu\bar{\nu}$ $\quad d=6$ $\quad \mathcal{O}_6^{1\sim10}$		
$(u_R^a \nu_R)\, (\bar{u}_{La} \bar{\nu}_L)$	$(\bar{u}_{La} \bar{\nu}_L)\, (u_L^a \nu_L)$	$(u_R^a \nu_R)\, (\bar{u}_{Ra} \bar{\nu}_R)$
$(u_R^a \bar{u}_{La})\, (\nu_R \bar{\nu}_L)$	$(u_R^a \bar{\nu}_L)\, (\bar{u}_{Ra} \nu_L)$	$(u_R^a \bar{u}_{La})\, (\nu_L \bar{\nu}_R)$
$(\nu_R \bar{\nu}_L)\, (u_L^a \bar{u}_{Ra})$	$(\bar{u}_{La} \nu_R)\, (u_L^a \bar{\nu}_R)$	$(u_L^a \nu_L)\, (\bar{u}_{Ra} \bar{\nu}_R)$
$(u_L^a \bar{u}_{Ra})\, (\nu_L \bar{\nu}_R)$		

A.16.2 Dimension = 7, $\mathcal{O}_7^{1\sim8}$

Type: $u\bar{u}\nu\bar{\nu}$ $\quad d=7$ $\quad \mathcal{O}_7^{1\sim8}$		
$(\bar{u}_{La}\, (D_\mu \bar{\nu}_L))\, (\nu_R \bar{\sigma}^\mu u_L^a)$	$(u_R^a\, (D_\mu \bar{\nu}_L))\, (\bar{u}_{La} \bar{\sigma}^\mu \nu_L)$	$((D_\mu \bar{u}_{Ra})\, \bar{\nu}_R)\, (u_R^a \bar{\sigma}^\mu \nu_L)$
$(u_R^a\, (D_\mu \bar{\nu}_L))\, (\nu_R \bar{\sigma}^\mu \bar{u}_{Ra})$	$(u_R^a\, (D_\mu \nu_R))\, (\bar{u}_{La} \bar{\sigma}^\mu \bar{\nu}_R)$	$(\bar{u}_{Ra}\, (D_\mu \nu_L))\, (\bar{\nu}_L \bar{\sigma}^\mu u_L^a)$
$((D_\mu \nu_L)\, \bar{\nu}_R)\, (\bar{u}_{La} \bar{\sigma}^\mu u_L^a)$	$(\bar{u}_{Ra}\, (D_\mu \bar{\nu}_R))\, (\nu_R \bar{\sigma}^\mu u_L^a)$	

A.16.3 Dimension = 8, $\mathcal{O}_8^{1\sim18}$

Type: $u\bar{u}\nu\bar{\nu}$ $\quad d=8$ $\quad \mathcal{O}_8^{1\sim18}$	
$(u_R^a \bar{\nu}_L)\, ((D_\nu \bar{u}_{La})\, \bar{\sigma}^\mu \sigma^\nu\, (D_\mu \nu_R))$	$(u_L^a \nu_L)\, ((D_\nu \bar{u}_{La})\, \bar{\sigma}^\mu \sigma^\nu\, (D_\mu \bar{\nu}_L))$
$(u_R^a\, (D_\mu \bar{\nu}_L))\, ((D_\nu \bar{u}_{La})\, \bar{\sigma}^\mu \sigma^\nu \nu_R)$	$(\bar{u}_{Ra}\, (D_\nu \nu_L))\, (u_R^a \bar{\sigma}^\mu \sigma^\nu\, (D_\mu \bar{\nu}_L))$

$(u_R^a \nu_R)\left((D_\nu \bar{u}_{La})\,\bar{\sigma}^\mu \sigma^\nu\,(D_\mu \bar{\nu}_L)\right)$	$\left((D_\nu \nu_L)\,(D_\mu \bar{\nu}_R)\right)(u_R^a \bar{\sigma}^\mu \sigma^\nu \bar{u}_{La})$
$\left((D_\nu \bar{u}_{La})\,\bar{\sigma}^\mu u_L^a\right)(\bar{\nu}_L \bar{\sigma}^\nu\,(D_\mu \nu_L))$	$(\bar{u}_{La}\,(D_\nu \nu_R))\,(u_L^a \sigma^\mu \bar{\sigma}^\nu\,(D_\mu \bar{\nu}_R))$
$\left((D_\nu \bar{u}_{La})\,\bar{\sigma}^\mu u_L^a\right)\left((D_\mu \nu_R)\,\bar{\sigma}^\nu \bar{\nu}_R\right)$	$(u_R^a \nu_R)\left((D_\nu \bar{u}_{Ra})\,\sigma^\mu \bar{\sigma}^\nu\,(D_\mu \bar{\nu}_R)\right)$
$\left((D_\nu \bar{u}_{Ra})\,(D_\mu \nu_L)\right)(u_R^a \bar{\sigma}^\mu \sigma^\nu \bar{\nu}_L)$	$(u_R^a\,(D_\nu \bar{u}_{La}))\,(\nu_L \sigma^\mu \bar{\sigma}^\nu\,(D_\mu \bar{\nu}_R))$
$\left((D_\nu \bar{u}_{Ra})\,\bar{\nu}_R\right)(u_R^a \bar{\sigma}^\mu \sigma^\nu\,(D_\mu \nu_R))$	$(u_L^a \nu_L)\left((D_\nu \bar{u}_{Ra})\,\sigma^\mu \bar{\sigma}^\nu\,(D_\mu \bar{\nu}_R)\right)$
$\left((D_\nu \nu_R)\,\bar{\sigma}^\mu \bar{u}_{Ra}\right)\left((D_\mu \bar{\nu}_L)\,\bar{\sigma}^\nu u_L^a\right)$	$\left((D_\mu \nu_L)\,(D_\nu \bar{\nu}_R)\right)(u_L^a \sigma^\mu \bar{\sigma}^\nu \bar{u}_{Ra})$
$(u_L^a \bar{u}_{Ra})\left((D_\nu \nu_R)\,\bar{\sigma}^\mu \sigma^\nu\,(D_\mu \bar{\nu}_L)\right)$	$(u_L^a \bar{u}_{Ra})\left((D_\nu \nu_L)\,\sigma^\mu \bar{\sigma}^\nu\,(D_\mu \bar{\nu}_R)\right)$

A.17 Type: $u\bar{u}d\bar{d}$

A.17.1 Dimension = 6, $\mathcal{O}_6^{1\sim 20}$

Type: $u\bar{u}d\bar{d}$ $\quad d=6$ $\quad \mathcal{O}_6^{1\sim 20}$	
$\left(u_R^a d_R^b\right)(\bar{u}_{La}\bar{d}_{Lb})$	$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a d_R^b\right)\epsilon^{cdg}\left(\bar{u}_{Lg}\epsilon^{efh}\bar{d}_{Lh}\right)$
$(u_R^a \bar{u}_{La})\left(d_R^b \bar{d}_{Lb}\right)$	$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a \epsilon^{cdg}\bar{u}_{Lg}\right)\left(d_R^b \epsilon^{efh}\bar{d}_{Lh}\right)$
$\left(d_R^b \bar{d}_{Lb}\right)(u_L^a \bar{u}_{Ra})$	$\epsilon_{ace}\epsilon_{bdf}\left(d_R^b \epsilon^{efh}\bar{d}_{Lh}\right)\left(u_L^a \epsilon^{cdg}\bar{u}_{Rg}\right)$
$(\bar{u}_{La}\bar{d}_{Lb})\left(u_L^a d_L^b\right)$	$\epsilon_{ace}\epsilon_{bdf}\epsilon^{cdg}\left(\bar{u}_{Lg}\epsilon^{efh}\bar{d}_{Lh}\right)\left(u_L^a d_L^b\right)$
$(u_R^a \bar{d}_{Lb})\left(\bar{u}_{Ra} d_L^b\right)$	$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a \epsilon^{efh}\bar{d}_{Lh}\right)\epsilon^{cdg}\left(\bar{u}_{Rg} d_L^b\right)$
$\left(\bar{u}_{La} d_R^b\right)(u_L^a \bar{d}_{Rb})$	$\epsilon_{ace}\epsilon_{bdf}\epsilon^{cdg}\left(\bar{u}_{Lg} d_R^b\right)\left(u_L^a \epsilon^{efh}\bar{d}_{Rh}\right)$
$\left(u_R^a d_R^b\right)(\bar{u}_{Ra}\bar{d}_{Rb})$	$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a d_R^b\right)\epsilon^{cdg}\left(\bar{u}_{Rg}\epsilon^{efh}\bar{d}_{Rh}\right)$
$(u_R^a \bar{u}_{La})\left(d_L^b \bar{d}_{Rb}\right)$	$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a \epsilon^{cdg}\bar{u}_{Lg}\right)\left(d_L^b \epsilon^{efh}\bar{d}_{Rh}\right)$
$\left(u_L^a d_L^b\right)(\bar{u}_{Ra}\bar{d}_{Rb})$	$\epsilon_{ace}\epsilon_{bdf}\left(u_L^a d_L^b\right)\epsilon^{cdg}\left(\bar{u}_{Rg}\epsilon^{efh}\bar{d}_{Rh}\right)$
$(u_L^a \bar{u}_{Ra})\left(d_L^b \bar{d}_{Rb}\right)$	$\epsilon_{ace}\epsilon_{bdf}\left(u_L^a \epsilon^{cdg}\bar{u}_{Rg}\right)\left(d_L^b \epsilon^{efh}\bar{d}_{Rh}\right)$

A.17.2 Dimension = 7, $\mathcal{O}_7^{1\sim16}$

Type: $u\bar{u}d\bar{d}$ $d=7$ $\mathcal{O}_7^{1\sim16}$	
$\left(\bar{u}_{La}\left(D_\mu\bar{d}_{Lb}\right)\right)\left(d_R^b\bar{\sigma}^\mu u_L^a\right)$	$\epsilon_{ace}\epsilon_{bdf}\epsilon^{cdg}\left(\bar{u}_{Lg}\left(D_\mu\epsilon^{efh}\bar{d}_{Lh}\right)\right)\left(d_R^b\bar{\sigma}^\mu u_L^a\right)$
$\left(u_R^a\left(D_\mu\bar{d}_{Lb}\right)\right)\left(d_R^b\bar{\sigma}^\mu\bar{u}_{Ra}\right)$	$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a\left(D_\mu\epsilon^{efh}\bar{d}_{Lh}\right)\right)\left(d_R^b\bar{\sigma}^\mu\epsilon^{cdg}\bar{u}_{Rg}\right)$
$\left(u_R^a\left(D_\mu\bar{d}_{Lb}\right)\right)\left(\bar{u}_{La}\bar{\sigma}^\mu d_L^b\right)$	$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a\left(D_\mu\epsilon^{efh}\bar{d}_{Lh}\right)\right)\epsilon^{cdg}\left(\bar{u}_{Lg}\bar{\sigma}^\mu d_L^b\right)$
$\left(u_R^a\left(D_\mu d_R^b\right)\right)\left(\bar{u}_{La}\bar{\sigma}^\mu\bar{d}_{Rb}\right)$	$\epsilon_{ace}\epsilon_{bdf}\left(u_R^a\left(D_\mu d_R^b\right)\right)\epsilon^{cdg}\left(\bar{u}_{Lg}\bar{\sigma}^\mu\epsilon^{efh}\bar{d}_{Rh}\right)$
$\left(\left(D_\mu\bar{u}_{Ra}\right)\bar{d}_{Rb}\right)\left(u_R^a\bar{\sigma}^\mu d_L^b\right)$	$\epsilon_{ace}\epsilon_{bdf}\left(\left(D_\mu\epsilon^{cdg}\bar{u}_{Rg}\right)\epsilon^{efh}\bar{d}_{Rh}\right)\left(u_R^a\bar{\sigma}^\mu d_L^b\right)$
$\left(\bar{u}_{Ra}\left(D_\mu d_L^b\right)\right)\left(\bar{d}_{Lb}\bar{\sigma}^\mu u_L^a\right)$	$\epsilon_{ace}\epsilon_{bdf}\epsilon^{cdg}\left(\bar{u}_{Rg}\left(D_\mu d_L^b\right)\right)\epsilon^{efh}\left(\bar{d}_{Lh}\bar{\sigma}^\mu u_L^a\right)$
$\left(\left(D_\mu d_L^b\right)\bar{d}_{Rb}\right)\left(\bar{u}_{La}\bar{\sigma}^\mu u_L^a\right)$	$\epsilon_{ace}\epsilon_{bdf}\left(\left(D_\mu d_L^b\right)\epsilon^{efh}\bar{d}_{Rh}\right)\epsilon^{cdg}\left(\bar{u}_{Lg}\bar{\sigma}^\mu u_L^a\right)$
$\left(\bar{u}_{Ra}\left(D_\mu\bar{d}_{Rb}\right)\right)\left(d_R^b\bar{\sigma}^\mu u_L^a\right)$	$\epsilon_{ace}\epsilon_{bdf}\epsilon^{cdg}\left(\bar{u}_{Rg}\left(D_\mu\epsilon^{efh}\bar{d}_{Rh}\right)\right)\left(d_R^b\bar{\sigma}^\mu u_L^a\right)$

A.17.3 Dimension = 8, $\mathcal{O}_8^{1\sim36}$

Type: $u\bar{u}d\bar{d}$ $d=8$ $\mathcal{O}_8^{1\sim36}$
$\left(u_R^a\bar{d}_{Lb}\right)\left(\left(D_\nu\bar{u}_{La}\right)\bar{\sigma}^\mu\sigma^\nu\left(D_\mu d_R^b\right)\right)$
$\left(u_R^a\left(D_\mu\bar{d}_{Lb}\right)\right)\left(\left(D_\nu\bar{u}_{La}\right)\bar{\sigma}^\mu\sigma^\nu d_R^b\right)$
$\left(u_R^a d_R^b\right)\left(\left(D_\nu\bar{u}_{La}\right)\bar{\sigma}^\mu\sigma^\nu\left(D_\mu\bar{d}_{Lb}\right)\right)$
$\left(\left(D_\nu\bar{u}_{La}\right)\bar{\sigma}^\mu u_L^a\right)\left(\bar{d}_{Lb}\bar{\sigma}^\nu\left(D_\mu d_L^b\right)\right)$
$\left(\left(D_\nu\bar{u}_{La}\right)\bar{\sigma}^\mu u_L^a\right)\left(\left(D_\mu d_R^b\right)\bar{\sigma}^\nu\bar{d}_{Rb}\right)$
$\left(\left(D_\nu\bar{u}_{Ra}\right)\left(D_\mu d_L^b\right)\right)\left(u_R^a\bar{\sigma}^\mu\sigma^\nu\bar{d}_{Lb}\right)$
$\left(\left(D_\nu\bar{u}_{Ra}\right)\bar{d}_{Rb}\right)\left(u_R^a\bar{\sigma}^\mu\sigma^\nu\left(D_\mu d_R^b\right)\right)$
$\left(\left(D_\nu d_R^b\right)\bar{\sigma}^\mu\bar{u}_{Ra}\right)\left(\left(D_\mu\bar{d}_{Lb}\right)\bar{\sigma}^\nu u_L^a\right)$

$(u_L^a \bar{u}_{Ra}) \left(\left(D_\nu d_R^b \right) \bar{\sigma}^\mu \sigma^\nu \left(D_\mu \bar{d}_{Lb} \right) \right)$
$\left(u_L^a d_L^b \right) \left(\left(D_\nu \bar{u}_{La} \right) \bar{\sigma}^\mu \sigma^\nu \left(D_\mu \bar{d}_{Lb} \right) \right)$
$\left(\bar{u}_{Ra} \left(D_\nu d_L^b \right) \right) \left(u_R^a \bar{\sigma}^\mu \sigma^\nu \left(D_\mu \bar{d}_{Lb} \right) \right)$
$\left(\left(D_\nu d_L^b \right) \left(D_\mu \bar{d}_{Rb} \right) \right) \left(u_R^a \bar{\sigma}^\mu \sigma^\nu \bar{u}_{La} \right)$
$\left(\bar{u}_{La} \left(D_\nu d_R^b \right) \right) \left(u_L^a \sigma^\mu \bar{\sigma}^\nu \left(D_\mu \bar{d}_{Rb} \right) \right)$
$\left(u_R^a d_R^b \right) \left(\left(D_\nu \bar{u}_{Ra} \right) \sigma^\mu \bar{\sigma}^\nu \left(D_\mu \bar{d}_{Rb} \right) \right)$
$\left(u_R^a \left(D_\nu \bar{u}_{La} \right) \right) \left(d_L^b \sigma^\mu \bar{\sigma}^\nu \left(D_\mu \bar{d}_{Rb} \right) \right)$
$\left(u_L^a d_L^b \right) \left(\left(D_\nu \bar{u}_{Ra} \right) \sigma^\mu \bar{\sigma}^\nu \left(D_\mu \bar{d}_{Rb} \right) \right)$
$\left(\left(D_\mu d_L^b \right) \left(D_\nu \bar{d}_{Rb} \right) \right) \left(u_L^a \sigma^\mu \bar{\sigma}^\nu \bar{u}_{Ra} \right)$
$(u_L^a \bar{u}_{Ra}) \left(\left(D_\nu d_L^b \right) \sigma^\mu \bar{\sigma}^\nu \left(D_\mu \bar{d}_{Rb} \right) \right)$
$\epsilon_{ace} \epsilon_{bdf} \left(u_R^a \epsilon^{efh} \bar{d}_{Lh} \right) \left(\left(D_\nu \epsilon^{cdg} \bar{u}_{Lg} \right) \bar{\sigma}^\mu \sigma^\nu \left(D_\mu d_R^b \right) \right)$
$\epsilon_{ace} \epsilon_{bdf} \left(u_R^a \left(D_\mu \epsilon^{efh} \bar{d}_{Lh} \right) \right) \left(\left(D_\nu \epsilon^{cdg} \bar{u}_{Lg} \right) \bar{\sigma}^\mu \sigma^\nu d_R^b \right)$
$\epsilon_{ace} \epsilon_{bdf} \left(u_R^a d_R^b \right) \left(\left(D_\nu \epsilon^{cdg} \bar{u}_{Lg} \right) \bar{\sigma}^\mu \sigma^\nu \left(D_\mu \epsilon^{efh} \bar{d}_{Lh} \right) \right)$
$\epsilon_{ace} \epsilon_{bdf} \left(\left(D_\nu \epsilon^{cdg} \bar{u}_{Lg} \right) \bar{\sigma}^\mu u_L^a \right) \epsilon^{efh} \left(\bar{d}_{Lh} \bar{\sigma}^\nu \left(D_\mu d_L^b \right) \right)$
$\epsilon_{ace} \epsilon_{bdf} \left(\left(D_\nu \epsilon^{cdg} \bar{u}_{Lg} \right) \bar{\sigma}^\mu u_L^a \right) \left(\left(D_\mu d_R^b \right) \bar{\sigma}^\nu \epsilon^{efh} \bar{d}_{Rh} \right)$
$\epsilon_{ace} \epsilon_{bdf} \left(\left(D_\nu \epsilon^{cdg} \bar{u}_{Rg} \right) \left(D_\mu d_L^b \right) \right) \left(u_R^a \bar{\sigma}^\mu \sigma^\nu \epsilon^{efh} \bar{d}_{Lh} \right)$
$\epsilon_{ace} \epsilon_{bdf} \left(\left(D_\nu \epsilon^{cdg} \bar{u}_{Rg} \right) \epsilon^{efh} \bar{d}_{Rh} \right) \left(u_R^a \bar{\sigma}^\mu \sigma^\nu \left(D_\mu d_R^b \right) \right)$
$\epsilon_{ace} \epsilon_{bdf} \left(\left(D_\nu d_R^b \right) \bar{\sigma}^\mu \epsilon^{cdg} \bar{u}_{Rg} \right) \left(\left(D_\mu \epsilon^{efh} \bar{d}_{Lh} \right) \bar{\sigma}^\nu u_L^a \right)$
$\epsilon_{ace} \epsilon_{bdf} \left(u_L^a \epsilon^{cdg} \bar{u}_{Rg} \right) \left(\left(D_\nu d_R^b \right) \bar{\sigma}^\mu \sigma^\nu \left(D_\mu \epsilon^{efh} \bar{d}_{Lh} \right) \right)$
$\epsilon_{ace} \epsilon_{bdf} \left(u_L^a d_L^b \right) \left(\left(D_\nu \epsilon^{cdg} \bar{u}_{Lg} \right) \bar{\sigma}^\mu \sigma^\nu \left(D_\mu \epsilon^{efh} \bar{d}_{Lh} \right) \right)$

$\epsilon_{ace}\epsilon_{bdf}\epsilon^{cdg}\left(\bar{u}_{Rg}\left(D_\nu d^b_L\right)\right)\left(u^a_R\bar{\sigma}^\mu\sigma^\nu\left(D_\mu\epsilon^{efh}\bar{d}_{Lh}\right)\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(\left(D_\nu d^b_L\right)\left(D_\mu\epsilon^{efh}\bar{d}_{Rh}\right)\right)\left(u^a_R\bar{\sigma}^\mu\sigma^\nu\epsilon^{cdg}\bar{u}_{Lg}\right)$
$\epsilon_{ace}\epsilon_{bdf}\epsilon^{cdg}\left(\bar{u}_{Lg}\left(D_\nu d^b_R\right)\right)\left(u^a_L\sigma^\mu\bar{\sigma}^\nu\left(D_\mu\epsilon^{efh}\bar{d}_{Rh}\right)\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(u^a_R d^b_R\right)\left(\left(D_\nu\epsilon^{cdg}\bar{u}_{Rg}\right)\sigma^\mu\bar{\sigma}^\nu\left(D_\mu\epsilon^{efh}\bar{d}_{Rh}\right)\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(u^a_R\left(D_\nu\epsilon^{cdg}\bar{u}_{Lg}\right)\right)\left(d^b_L\sigma^\mu\bar{\sigma}^\nu\left(D_\mu\epsilon^{efh}\bar{d}_{Rh}\right)\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(u^a_L d^b_L\right)\left(\left(D_\nu\epsilon^{cdg}\bar{u}_{Rg}\right)\sigma^\mu\bar{\sigma}^\nu\left(D_\mu\epsilon^{efh}\bar{d}_{Rh}\right)\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(\left(D_\mu d^b_L\right)\left(D_\nu\epsilon^{efh}\bar{d}_{Rh}\right)\right)\left(u^a_L\sigma^\mu\bar{\sigma}^\nu\epsilon^{cdg}\bar{u}_{Rg}\right)$
$\epsilon_{ace}\epsilon_{bdf}\left(u^a_L\epsilon^{cdg}\bar{u}_{Rg}\right)\left(\left(D_\nu d^b_L\right)\sigma^\mu\bar{\sigma}^\nu\left(D_\mu\epsilon^{efh}\bar{d}_{Rh}\right)\right)$

A.18 Type: $\nu u\bar{d}e^-$ ($\nu\bar{u}de^+$, $\bar{\nu}u\bar{d}e^-$, $\bar{\nu}\bar{u}de^+$)

A.18.1 Dimension = 6, $\mathcal{O}_6^{1\sim10}$

Type: $\nu u\bar{d}e^-$ $\quad d=6$ $\quad \mathcal{O}_6^{1\sim10}$		
$\left(\nu_R\bar{d}_{La}\right)\left(u^a_R e_R\right)$	$\left(u^a_R e_R\right)\left(\nu_L\bar{d}_{Ra}\right)$	$\left(\nu_R\bar{d}_{La}\right)\left(u^a_L e_L\right)$
$\left(\nu_R u^a_R\right)\left(\bar{d}_{La}e_R\right)$	$\left(\nu_R e_R\right)\left(u^a_L\bar{d}_{Ra}\right)$	$\left(\nu_R u^a_R\right)\left(\bar{d}_{Ra}e_L\right)$
$\left(\bar{d}_{La}e_R\right)\left(\nu_L u^a_L\right)$	$\left(u^a_R\bar{d}_{La}\right)\left(\nu_L e_L\right)$	$\left(\nu_L\bar{d}_{Ra}\right)\left(u^a_L e_L\right)$
$\left(\nu_L u^a_L\right)\left(\bar{d}_{Ra}e_L\right)$		

A.18.2 Dimension = 7, $\mathcal{O}_7^{1\sim8}$

Type: $\nu u\bar{d}e^-$ $\quad d=7$ $\quad \mathcal{O}_7^{1\sim8}$		
$\left(u^a_R\left(D_\mu e_R\right)\right)\left(\bar{d}_{La}\bar{\sigma}^\mu\nu_L\right)$	$\left(\nu_R\left(D_\mu e_R\right)\right)\left(u^a_R\bar{\sigma}^\mu\bar{d}_{Ra}\right)$	$\left(\left(D_\mu u^a_L\right)e_L\right)\left(\nu_R\bar{\sigma}^\mu\bar{d}_{Ra}\right)$
$\left(\nu_R\left(D_\mu e_R\right)\right)\left(\bar{d}_{La}\bar{\sigma}^\mu u^a_L\right)$	$\left(\nu_R\left(D_\mu\bar{d}_{La}\right)\right)\left(u^a_R\bar{\sigma}^\mu e_L\right)$	$\left(u^a_L\left(D_\mu\bar{d}_{Ra}\right)\right)\left(e_R\bar{\sigma}^\mu\nu_L\right)$

$\left(\left(D_\mu \bar{d}_{Ra}\right) e_L\right)\left(u_R^a \bar{\sigma}^\mu \nu_L\right)$	$\left(u_L^a \left(D_\mu e_L\right)\right)\left(\bar{d}_{La} \bar{\sigma}^\mu \nu_L\right)$	

A.18.3 Dimension = 8, $\mathcal{O}_8^{1\sim18}$

Type: $\nu u \bar{d} e^-$ $\quad d=8$ $\quad \mathcal{O}_8^{1\sim18}$	
$\left(\nu_R e_R\right)\left(\left(D_\nu u_R^a\right) \bar{\sigma}^\mu \sigma^\nu \left(D_\mu \bar{d}_{La}\right)\right)$	$\left(\nu_L \bar{d}_{Ra}\right)\left(\left(D_\nu u_R^a\right) \bar{\sigma}^\mu \sigma^\nu \left(D_\mu e_R\right)\right)$
$\left(\nu_R \left(D_\mu e_R\right)\right)\left(\left(D_\nu u_R^a\right) \bar{\sigma}^\mu \sigma^\nu \bar{d}_{La}\right)$	$\left(u_L^a \left(D_\nu \bar{d}_{Ra}\right)\right)\left(\nu_R \bar{\sigma}^\mu \sigma^\nu \left(D_\mu e_R\right)\right)$
$\left(\nu_R \bar{d}_{La}\right)\left(\left(D_\nu u_R^a\right) \bar{\sigma}^\mu \sigma^\nu \left(D_\mu e_R\right)\right)$	$\left(\left(D_\nu \bar{d}_{Ra}\right)\left(D_\mu e_L\right)\right)\left(\nu_R \bar{\sigma}^\mu \sigma^\nu u_R^a\right)$
$\left(\left(D_\nu u_R^a\right) \bar{\sigma}^\mu \nu_L\right)\left(e_R \bar{\sigma}^\nu \left(D_\mu \bar{d}_{Ra}\right)\right)$	$\left(u_R^a \left(D_\nu \bar{d}_{La}\right)\right)\left(\nu_L \sigma^\mu \bar{\sigma}^\nu \left(D_\mu e_L\right)\right)$
$\left(\left(D_\nu u_R^a\right) \bar{\sigma}^\mu \nu_L\right)\left(\left(D_\mu \bar{d}_{La}\right) \bar{\sigma}^\nu e_L\right)$	$\left(\nu_R \bar{d}_{La}\right)\left(\left(D_\nu u_L^a\right) \sigma^\mu \bar{\sigma}^\nu \left(D_\mu e_L\right)\right)$
$\left(\left(D_\nu u_L^a\right) \left(D_\mu \bar{d}_{Ra}\right)\right)\left(\nu_R \bar{\sigma}^\mu \sigma^\nu e_R\right)$	$\left(\nu_R \left(D_\nu u_R^a\right)\right)\left(\bar{d}_{Ra} \sigma^\mu \bar{\sigma}^\nu \left(D_\mu e_L\right)\right)$
$\left(\left(D_\nu u_L^a\right) e_L\right)\left(\nu_R \bar{\sigma}^\mu \sigma^\nu \left(D_\mu \bar{d}_{La}\right)\right)$	$\left(\nu_L \bar{d}_{Ra}\right)\left(\left(D_\nu u_L^a\right) \sigma^\mu \bar{\sigma}^\nu \left(D_\mu e_L\right)\right)$
$\left(\left(D_\nu \bar{d}_{La}\right) \bar{\sigma}^\mu u_L^a\right)\left(\left(D_\mu e_R\right) \bar{\sigma}^\nu \nu_L\right)$	$\left(\left(D_\mu \bar{d}_{Ra}\right)\left(D_\nu e_L\right)\right)\left(\nu_L \sigma^\mu \bar{\sigma}^\nu u_L^a\right)$
$\left(\nu_L u_L^a\right)\left(\left(D_\nu \bar{d}_{La}\right) \bar{\sigma}^\mu \sigma^\nu \left(D_\mu e_R\right)\right)$	$\left(\nu_L u_L^a\right)\left(\left(D_\nu \bar{d}_{Ra}\right) \sigma^\mu \bar{\sigma}^\nu \left(D_\mu e_L\right)\right)$

A.19 Type: $g^+ u \bar{u} h \left(h d \bar{d} g^+\right)$

A.19.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $g^+ u \bar{u} h$ $\quad d=6$ $\quad \mathcal{O}_6^1$
$\epsilon_{abc} G_{\mu\nu e}^{+c} h \left(u_R^a \bar{\sigma}^{\mu\nu} \epsilon^{ebd} \bar{u}_{Ld}\right)$

A.19.2 Dimension = 7, $\mathcal{O}_7^{1\sim2}$

Type: $g^+ u \bar{u} h$ $\quad d=7$ $\quad \mathcal{O}_7^{1\sim2}$	
$\epsilon_{abc} G_{\nu\rho e}^{+c} \left(D_\mu h\right) \epsilon^{ebd} \left(\bar{u}_{Ld} \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu u_L^a\right)$	$\epsilon_{abc} G_{\nu\rho e}^{+c} \left(D_\mu h\right) \left(u_R^a \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu \epsilon^{ebd} \bar{u}_{Rd}\right)$

A.19.3 Dimension = 8, $\mathcal{O}_8^{1\sim3}$

Type: $g^+u\bar{u}h \quad d=8 \quad \mathcal{O}_8^{1\sim3}$
$\epsilon_{abc}G^{+c}_{\rho\sigma e}\left(D_\mu D_\nu h\right)\left(u_L^a\bar{\sigma}^\mu\bar{\sigma}^{\rho\sigma}\bar{\sigma}^\nu\epsilon^{ebd}\bar{u}_{Rd}\right)$
$\epsilon_{abc}G^{+c}_{\rho\sigma e}\left(D_\mu h\right)\left(u_R^a\bar{\sigma}^{\rho\sigma}\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\epsilon^{ebd}\bar{u}_{Ld}\right)\right)$
$\epsilon_{abc}\left(D_\mu G^{+c}_{\rho\sigma e}\right)h\left(u_R^a\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\rho\sigma}\left(D_\nu\epsilon^{ebd}\bar{u}_{Ld}\right)\right)$

A.20 Type: $\gamma^+u\bar{u}h\,(\gamma^+d\bar{d}h)$

A.20.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $\gamma^+u\bar{u}h \quad d=6 \quad \mathcal{O}_6^1$
$\gamma^+_{\mu\nu}h\left(u_R^a\bar{\sigma}^{\mu\nu}\bar{u}_{La}\right)$

A.20.2 Dimension = 7, $\mathcal{O}_7^{1\sim2}$

Type: $\gamma^+u\bar{u}h \quad d=7 \quad \mathcal{O}_7^{1\sim2}$	
$\gamma^+_{\nu\rho}\left(D_\mu h\right)\left(\bar{u}_{La}\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu u_L^a\right)$	$\gamma^+_{\nu\rho}\left(D_\mu h\right)\left(u_R^a\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\bar{u}_{Ra}\right)$

A.20.3 Dimension = 8, $\mathcal{O}_8^{1\sim3}$

Type: $\gamma^+u\bar{u}h \quad d=8 \quad \mathcal{O}_8^{1\sim3}$	
$\gamma^+_{\rho\sigma}\left(D_\mu D_\nu h\right)\left(u_L^a\bar{\sigma}^\mu\bar{\sigma}^{\rho\sigma}\bar{\sigma}^\nu\bar{u}_{Ra}\right)$	$\gamma^+_{\rho\sigma}\left(D_\mu h\right)\left(u_R^a\bar{\sigma}^{\rho\sigma}\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\bar{u}_{La}\right)\right)$
$\left(D_\mu\gamma^+_{\rho\sigma}\right)h\left(u_R^a\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\rho\sigma}\left(D_\nu\bar{u}_{La}\right)\right)$	

A.21 Type: $\gamma^+e^-e^+h\,(\gamma^+\nu\bar{\nu}h)$

A.21.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $\gamma^+ e^- e^+ h \quad d=6 \quad \mathcal{O}_6^1$
$\gamma^+_{\mu\nu} h \left(e_R \bar{\sigma}^{\mu\nu} \bar{e}_L\right)$

A.21.2 Dimension = 7, $\mathcal{O}_7^{1\sim 2}$

Type: $\gamma^+ e^- e^+ h \quad d=7 \quad \mathcal{O}_7^{1\sim 2}$	
$\gamma^+_{\nu\rho} \left(D_\mu h\right) \left(\bar{e}_L \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu e_L\right)$	$\gamma^+_{\nu\rho} \left(D_\mu h\right) \left(e_R \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu \bar{e}_R\right)$

A.21.3 Dimension = 8, $\mathcal{O}_8^{1\sim 3}$

Type: $\gamma^+ e^- e^+ h \quad d=8 \quad \mathcal{O}_8^{1\sim 3}$	
$\gamma^+_{\rho\sigma} \left(D_\mu D_\nu h\right) \left(e_L \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^\nu \bar{e}_R\right)$	$\gamma^+_{\rho\sigma} \left(D_\mu h\right) \left(e_R \bar{\sigma}^{\rho\sigma} \sigma^\nu \bar{\sigma}^\mu \left(D_\nu \bar{e}_L\right)\right)$
$\left(D_\mu \gamma^+_{\rho\sigma}\right) h \left(e_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma} \left(D_\nu \bar{e}_L\right)\right)$	

A.22 Type: $\gamma^+ \nu\nu h \left(\gamma^+ \bar{\nu}\bar{\nu} h\right)$

A.22.1 Dimension = 7, $\mathcal{O}_7^1$

Type: $\gamma^+ \nu\nu h \quad d=7 \quad \mathcal{O}_7^1$
$\gamma^+_{\nu\rho} \left(D_\mu h\right) \left(\nu_R \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu \nu_L\right)$

A.22.2 Dimension = 8, $\mathcal{O}_8^1$

Type: $\gamma^+ \nu\nu h \quad d=8 \quad \mathcal{O}_8^1$
$\gamma^+_{\rho\sigma} \left(D_\mu h\right) \left(\nu_R \bar{\sigma}^{\rho\sigma} \sigma^\nu \bar{\sigma}^\mu \left(D_\nu \nu_R\right)\right)$

A.23 Type: $W^+ \bar{u} d h \left(W^- \bar{d} u h\right)$

A.23.1 Dimension = 5, $\mathcal{O}_5^{1\sim 2}$

Type: $W^+\bar{u}dh \quad d=5 \quad \mathcal{O}_5^{1\sim2}$	
$(W^+)_\mu h\left(d_R^a\sigma^\mu\bar{u}_{Ra}\right)$	$(W^+)_\mu h\left(\bar{u}_{La}\sigma^\mu d_L^a\right)$

A.23.2 Dimension = 6, $\mathcal{O}_6^{1\sim6}$

Type: $W^+\bar{u}dh \quad d=6 \quad \mathcal{O}_6^{1\sim6}$		
$(W^+)^+_{\mu\nu} h\left(d_R^a\bar{\sigma}^{\mu\nu}\bar{u}_{La}\right)$	$(W^+)_\nu h\left(\left(D_\mu d_R^a\right)\sigma^\nu\bar{\sigma}^\mu\bar{u}_{La}\right)$	$(W^+)_\nu\left(D_\mu h\right)\left(d_L^a\bar{\sigma}^\mu\sigma^\nu\bar{u}_{Ra}\right)$
$(W^+)^-_{\mu\nu} h\left(\bar{u}_{Ra}\sigma^{\mu\nu}d_L^a\right)$	$(W^+)_\nu\left(D_\mu h\right)\left(\bar{u}_{La}\sigma^\nu\bar{\sigma}^\mu d_R^a\right)$	$(W^+)_\nu h\left(\bar{u}_{Ra}\left(D_\mu d_L^a\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$

A.23.3 Dimension = 7, $\mathcal{O}_7^{1\sim8}$

Type: $W^+\bar{u}dh \quad d=7 \quad \mathcal{O}_7^{1\sim8}$	
$(W^+)^+_{\nu\rho} h\left(\bar{u}_{Ra}\bar{\sigma}^\mu\bar{\sigma}^{\nu\rho}\left(D_\mu d_R^a\right)\right)$	$(W^+)_\rho\left(D_\mu h\right)\left(\bar{u}_{La}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\left(D_\nu d_L^a\right)\right)$
$(W^+)^+_{\nu\rho} h\left(d_L^a\bar{\sigma}^\mu\bar{\sigma}^{\nu\rho}\left(D_\mu\bar{u}_{La}\right)\right)$	$(W^+)_\rho\left(D_\nu h\right)\left(\left(D_\mu d_R^a\right)\sigma^\rho\sigma^\mu\bar{\sigma}^\nu\bar{u}_{Ra}\right)$
$(W^+)^-_{\nu\rho} h\left(\bar{u}_{La}\bar{\sigma}^\mu\sigma^{\nu\rho}\left(D_\mu d_L^a\right)\right)$	$(W^+)_\nu\left(D_\mu D_\rho h\right)\left(d_R^a\bar{\sigma}^\rho\bar{u}_{Ra}\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$(W^+)^-_{\nu\rho}\left(D_\mu h\right)\left(d_R^a\bar{\sigma}^\mu\sigma^{\nu\rho}\bar{u}_{Ra}\right)$	$(W^+)_\rho\left(D_\mu h\right)\left(\left(D_\nu\bar{u}_{La}\right)\sigma^\rho d_L^a\right)\mathrm{Tr}\left(\sigma^\mu\bar{\sigma}^\nu\right)$

A.23.4 Dimension = 8, $\mathcal{O}_8^{1\sim12}$

Type: $W^+\bar{u}dh \quad d=8 \quad \mathcal{O}_8^{1\sim12}$
$(W^+)^-_{\rho\sigma}\left(D_\mu D_\nu h\right)\left(\bar{u}_{La}\bar{\sigma}^\mu\sigma^{\rho\sigma}\bar{\sigma}^\nu d_R^a\right)$
$(W^+)^+_{\rho\sigma}\left(D_\mu h\right)\left(\bar{u}_{La}\sigma^\nu\bar{\sigma}^\mu\bar{\sigma}^{\rho\sigma}\left(D_\nu d_R^a\right)\right)$
$(W^+)^-_{\rho\sigma}\left(D_\nu h\right)\left(\bar{u}_{Ra}\bar{\sigma}^\nu\sigma^\mu\sigma^{\rho\sigma}\left(D_\mu d_L^a\right)\right)$
$(W^+)^-_{\rho\sigma}\left(D_\nu h\right)\left(\bar{u}_{Ra}\sigma^{\rho\sigma}\sigma^\mu\bar{\sigma}^\nu\left(D_\mu d_L^a\right)\right)$
$(W^+)_\sigma\left(D_\mu D_\rho h\right)\left(\left(D_\nu d_L^a\right)\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\sigma^\sigma\bar{u}_{Ra}\right)$

$(W^+)^+_{\rho\sigma}\left(D_\mu h\right)\left(d^a_R\bar{\sigma}^{\rho\sigma}\left(D_\nu\bar{u}_{La}\right)\right)\mathrm{Tr}\left(\sigma^\mu\bar{\sigma}^\nu\right)$
$(W^+)^+_{\rho\sigma}h\left(\left(D_\mu\bar{u}_{Ra}\right)\left(D_\nu d^a_L\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\rho\sigma}\right)$
$(W^+)_\nu h\left(\left(D_\sigma\bar{u}_{La}\right)\bar{\sigma}^\rho\sigma^\sigma\left(D_\mu D_\rho d^a_R\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$(W^+)_\sigma\left(D_\mu D_\nu h\right)\left(\bar{u}_{La}\sigma^\sigma\bar{\sigma}^\mu\left(D_\rho d^a_R\right)\right)\mathrm{Tr}\left(\sigma^\nu\bar{\sigma}^\rho\right)$
$(W^+)_\nu\left(D_\sigma h\right)\left(\bar{u}_{Ra}\sigma^\rho\bar{\sigma}^\sigma\left(D_\mu D_\rho d^a_L\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$(W^+)_\sigma\left(D_\nu h\right)\left(\left(D_\mu d^a_R\right)\sigma^\sigma\bar{\sigma}^\mu\left(D_\rho\bar{u}_{La}\right)\right)\mathrm{Tr}\left(\sigma^\nu\bar{\sigma}^\rho\right)$
$(W^+)_\nu\left(D_\rho h\right)\left(\left(D_\sigma\bar{u}_{Ra}\right)\left(D_\mu d^a_L\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)\mathrm{Tr}\left(\sigma^\rho\bar{\sigma}^\sigma\right)$

A.24 Type: $W^+e^-\nu h\,(W^+e^-\bar{\nu}h,\, W^-e^+\nu h,\, W^-e^+\bar{\nu}h)$

A.24.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $W^+e^-\nu h \quad d=5 \quad \mathcal{O}_5^{1\sim2}$	
$(W^+)_\mu h\left(\nu_R\sigma^\mu e_L\right)$	$(W^+)_\mu h\left(e_R\sigma^\mu\nu_L\right)$

A.24.2 Dimension = 6, $\mathcal{O}_6^{1\sim6}$

Type: $W^+e^-\nu h \quad d=6 \quad \mathcal{O}_6^{1\sim6}$		
$(W^+)^+_{\mu\nu}h\left(\nu_R\bar{\sigma}^{\mu\nu}e_R\right)$	$(W^+)_\nu h\left(\left(D_\mu\nu_R\right)\sigma^\nu\bar{\sigma}^\mu e_R\right)$	$(W^+)_\nu\left(D_\mu h\right)\left(\nu_L\bar{\sigma}^\mu\sigma^\nu e_L\right)$
$(W^+)^-_{\mu\nu}h\left(e_L\sigma^{\mu\nu}\nu_L\right)$	$(W^+)_\nu\left(D_\mu h\right)\left(e_R\sigma^\nu\bar{\sigma}^\mu\nu_R\right)$	$(W^+)_\nu h\left(e_L\left(D_\mu\nu_L\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$

A.24.3 Dimension = 7, $\mathcal{O}_7^{1\sim8}$

Type: $W^+e^-\nu h \quad d=7 \quad \mathcal{O}_7^{1\sim8}$	
$(W^+)^+_{\nu\rho}h\left(e_L\bar{\sigma}^\mu\bar{\sigma}^{\nu\rho}\left(D_\mu\nu_R\right)\right)$	$(W^+)_\rho\left(D_\mu h\right)\left(e_R\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\left(D_\nu\nu_L\right)\right)$
$(W^+)^+_{\nu\rho}h\left(\nu_L\bar{\sigma}^\mu\bar{\sigma}^{\nu\rho}\left(D_\mu e_R\right)\right)$	$(W^+)_\rho\left(D_\nu h\right)\left(\left(D_\mu\nu_R\right)\sigma^\rho\sigma^\mu\bar{\sigma}^\nu e_L\right)$

$(W^+)^-_{\nu\rho} h\left(e_R \bar{\sigma}^\mu \sigma^{\nu\rho} \left(D_\mu \nu_L\right)\right)$	$(W^+)_\nu \left(D_\mu D_\rho h\right) \left(\nu_R \bar{\sigma}^\rho e_L\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^+)^-_{\nu\rho} \left(D_\mu h\right) \left(\nu_R \bar{\sigma}^\mu \sigma^{\nu\rho} e_L\right)$	$(W^+)_\rho \left(D_\mu h\right) \left(\left(D_\nu e_R\right) \sigma^\rho \nu_L\right) \mathrm{Tr}\left(\sigma^\mu \bar{\sigma}^\nu\right)$

A.24.4 Dimension = 8, $\mathcal{O}_8^{1\sim12}$

Type: $W^+e^-\nu h \quad d=8 \quad \mathcal{O}_8^{1\sim12}$
$(W^+)^-_{\rho\sigma} \left(D_\mu D_\nu h\right) \left(e_R \bar{\sigma}^\mu \sigma^{\rho\sigma} \bar{\sigma}^\nu \nu_R\right)$
$(W^+)^+_{\rho\sigma} \left(D_\mu h\right) \left(e_R \sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \left(D_\nu \nu_R\right)\right)$
$(W^+)^-_{\rho\sigma} \left(D_\nu h\right) \left(e_L \bar{\sigma}^\nu \sigma^\mu \sigma^{\rho\sigma} \left(D_\mu \nu_L\right)\right)$
$(W^+)^-_{\rho\sigma} \left(D_\nu h\right) \left(e_L \sigma^{\rho\sigma} \sigma^\mu \bar{\sigma}^\nu \left(D_\mu \nu_L\right)\right)$
$(W^+)_\sigma \left(D_\mu D_\rho h\right) \left(\left(D_\nu \nu_L\right) \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \sigma^\sigma e_L\right)$
$(W^+)^+_{\rho\sigma} \left(D_\mu h\right) \left(\nu_R \bar{\sigma}^{\rho\sigma} \left(D_\nu e_R\right)\right) \mathrm{Tr}\left(\sigma^\mu \bar{\sigma}^\nu\right)$
$(W^+)^+_{\rho\sigma} h \left(\left(D_\mu e_L\right) \left(D_\nu \nu_L\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$
$(W^+)_\nu h \left(\left(D_\sigma e_R\right) \bar{\sigma}^\rho \sigma^\sigma \left(D_\mu D_\rho \nu_R\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^+)_\sigma \left(D_\mu D_\nu h\right) \left(e_R \sigma^\sigma \bar{\sigma}^\mu \left(D_\rho \nu_R\right)\right) \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\rho\right)$
$(W^+)_\nu \left(D_\sigma h\right) \left(e_L \sigma^\rho \bar{\sigma}^\sigma \left(D_\mu D_\rho \nu_L\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^+)_\sigma \left(D_\nu h\right) \left(\left(D_\mu \nu_R\right) \sigma^\sigma \bar{\sigma}^\mu \left(D_\rho e_R\right)\right) \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\rho\right)$
$(W^+)_\nu \left(D_\rho h\right) \left(\left(D_\sigma e_L\right) \left(D_\mu \nu_L\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\sigma^\rho \bar{\sigma}^\sigma\right)$

A.25 Type: $Ze^+e^-h\left(Z\nu\bar{\nu}h\right)$

A.25.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $Ze^+e^-h \quad d=5 \quad \mathcal{O}_5^{1\sim 2}$	
$Z_\mu h\left(e_R\sigma^\mu\bar{e}_R\right)$	$Z_\mu h\left(\bar{e}_L\sigma^\mu e_L\right)$

A.25.2 Dimension = 6, $\mathcal{O}_6^{1\sim 6}$

Type: $Ze^+e^-h \quad d=6 \quad \mathcal{O}_6^{1\sim 6}$		
$Z^+_{\mu\nu}h\left(e_R\bar{\sigma}^{\mu\nu}\bar{e}_L\right)$	$Z_\nu h\left(\left(D_\mu e_R\right)\sigma^\nu\bar{\sigma}^\mu\bar{e}_L\right)$	$Z_\nu\left(D_\mu h\right)\left(e_L\bar{\sigma}^\mu\sigma^\nu\bar{e}_R\right)$
$Z^-_{\mu\nu}h\left(\bar{e}_R\sigma^{\mu\nu}e_L\right)$	$Z_\nu\left(D_\mu h\right)\left(\bar{e}_L\sigma^\nu\bar{\sigma}^\mu e_R\right)$	$Z_\nu h\left(\bar{e}_R\left(D_\mu e_L\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$

A.25.3 Dimension = 7, $\mathcal{O}_7^{1\sim 8}$

Type: $Ze^+e^-h \quad d=7 \quad \mathcal{O}_7^{1\sim 8}$	
$Z^+_{\nu\rho}h\left(\bar{e}_R\bar{\sigma}^\mu\bar{\sigma}^{\nu\rho}\left(D_\mu e_R\right)\right)$	$Z_\rho\left(D_\mu h\right)\left(\bar{e}_L\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\left(D_\nu e_L\right)\right)$
$Z^+_{\nu\rho}h\left(e_L\bar{\sigma}^\mu\bar{\sigma}^{\nu\rho}\left(D_\mu\bar{e}_L\right)\right)$	$Z_\rho\left(D_\nu h\right)\left(\left(D_\mu e_R\right)\sigma^\rho\sigma^\mu\bar{\sigma}^\nu\bar{e}_R\right)$
$Z^-_{\nu\rho}h\left(\bar{e}_L\bar{\sigma}^\mu\sigma^{\nu\rho}\left(D_\mu e_L\right)\right)$	$Z_\nu\left(D_\mu D_\rho h\right)\left(e_R\bar{\sigma}^\rho\bar{e}_R\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$Z^-_{\nu\rho}\left(D_\mu h\right)\left(e_R\bar{\sigma}^\mu\sigma^{\nu\rho}\bar{e}_R\right)$	$Z_\rho\left(D_\mu h\right)\left(\left(D_\nu\bar{e}_L\right)\sigma^\rho e_L\right)\mathrm{Tr}\left(\sigma^\mu\bar{\sigma}^\nu\right)$

A.25.4 Dimension = 8, $\mathcal{O}_8^{1\sim 12}$

Type: $Ze^+e^-h \quad d=8 \quad \mathcal{O}_8^{1\sim 12}$
$Z^-_{\rho\sigma}\left(D_\mu D_\nu h\right)\left(\bar{e}_L\bar{\sigma}^\mu\sigma^{\rho\sigma}\bar{\sigma}^\nu e_R\right)$
$Z^+_{\rho\sigma}\left(D_\mu h\right)\left(\bar{e}_L\sigma^\nu\bar{\sigma}^\mu\bar{\sigma}^{\rho\sigma}\left(D_\nu e_R\right)\right)$
$Z^-_{\rho\sigma}\left(D_\nu h\right)\left(\bar{e}_R\bar{\sigma}^\nu\sigma^\mu\sigma^{\rho\sigma}\left(D_\mu e_L\right)\right)$
$Z^-_{\rho\sigma}\left(D_\nu h\right)\left(\bar{e}_R\sigma^{\rho\sigma}\sigma^\mu\bar{\sigma}^\nu\left(D_\mu e_L\right)\right)$
$Z_\sigma\left(D_\mu D_\rho h\right)\left(\left(D_\nu e_L\right)\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\sigma^\sigma\bar{e}_R\right)$

$Z^{+}_{\rho\sigma}\left(D_{\mu}h\right)\left(e_{R}\bar{\sigma}^{\rho\sigma}\left(D_{\nu}\bar{e}_{L}\right)\right)\mathrm{Tr}\left(\sigma^{\mu}\bar{\sigma}^{\nu}\right)$
$Z^{+}_{\rho\sigma}h\left(\left(D_{\mu}\bar{e}_{R}\right)\left(D_{\nu}e_{L}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\rho\sigma}\right)$
$Z_{\nu}h\left(\left(D_{\sigma}\bar{e}_{L}\right)\bar{\sigma}^{\rho}\sigma^{\sigma}\left(D_{\mu}D_{\rho}e_{R}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$
$Z_{\sigma}\left(D_{\mu}D_{\nu}h\right)\left(\bar{e}_{L}\sigma^{\sigma}\bar{\sigma}^{\mu}\left(D_{\rho}e_{R}\right)\right)\mathrm{Tr}\left(\sigma^{\nu}\bar{\sigma}^{\rho}\right)$
$Z_{\nu}\left(D_{\sigma}h\right)\left(\bar{e}_{R}\sigma^{\rho}\bar{\sigma}^{\sigma}\left(D_{\mu}D_{\rho}e_{L}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$
$Z_{\sigma}\left(D_{\nu}h\right)\left(\left(D_{\mu}e_{R}\right)\sigma^{\sigma}\bar{\sigma}^{\mu}\left(D_{\rho}\bar{e}_{L}\right)\right)\mathrm{Tr}\left(\sigma^{\nu}\bar{\sigma}^{\rho}\right)$
$Z_{\nu}\left(D_{\rho}h\right)\left(\left(D_{\sigma}\bar{e}_{R}\right)\left(D_{\mu}e_{L}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)\mathrm{Tr}\left(\sigma^{\rho}\bar{\sigma}^{\sigma}\right)$

A.26 Type: $Zu\bar{u}h\,(Zd\bar{d}h)$

A.26.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $Zu\bar{u}h \quad d=5 \quad \mathcal{O}_5^{1\sim2}$	
$Z_{\mu}h\left(\bar{u}_{La}\sigma^{\mu}u^{a}_{L}\right)$	$Z_{\mu}h\left(u^{a}_{R}\sigma^{\mu}\bar{u}_{Ra}\right)$

A.26.2 Dimension = 6, $\mathcal{O}_6^{1\sim6}$

Type: $Zu\bar{u}h \quad d=6 \quad \mathcal{O}_6^{1\sim6}$		
$Z^{+}_{\mu\nu}h\left(\bar{u}_{La}\bar{\sigma}^{\mu\nu}u^{a}_{R}\right)$	$Z_{\nu}h\left(\left(D_{\mu}\bar{u}_{La}\right)\sigma^{\nu}\bar{\sigma}^{\mu}u^{a}_{R}\right)$	$Z_{\nu}\left(D_{\mu}h\right)\left(\bar{u}_{Ra}\bar{\sigma}^{\mu}\sigma^{\nu}u^{a}_{L}\right)$
$Z^{-}_{\mu\nu}h\left(u^{a}_{L}\sigma^{\mu\nu}\bar{u}_{Ra}\right)$	$Z_{\nu}\left(D_{\mu}h\right)\left(u^{a}_{R}\sigma^{\nu}\bar{\sigma}^{\mu}\bar{u}_{La}\right)$	$Z_{\nu}h\left(u^{a}_{L}\left(D_{\mu}\bar{u}_{Ra}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$

A.26.3 Dimension = 7, $\mathcal{O}_7^{1\sim8}$

Type: $Zu\bar{u}h \quad d=7 \quad \mathcal{O}_7^{1\sim8}$	
$Z^{+}_{\nu\rho}h\left(u^{a}_{L}\bar{\sigma}^{\mu}\bar{\sigma}^{\nu\rho}\left(D_{\mu}\bar{u}_{La}\right)\right)$	$Z_{\rho}\left(D_{\mu}h\right)\left(u^{a}_{R}\sigma^{\nu}\bar{\sigma}^{\mu}\sigma^{\rho}\left(D_{\nu}\bar{u}_{Ra}\right)\right)$
$Z^{+}_{\nu\rho}h\left(\bar{u}_{Ra}\bar{\sigma}^{\mu}\bar{\sigma}^{\nu\rho}\left(D_{\mu}u^{a}_{R}\right)\right)$	$Z_{\rho}\left(D_{\nu}h\right)\left(\left(D_{\mu}\bar{u}_{La}\right)\sigma^{\rho}\sigma^{\mu}\bar{\sigma}^{\nu}u^{a}_{L}\right)$

$Z^-_{\nu\rho} h \left(u^a_R \bar{\sigma}^\mu \sigma^{\nu\rho} \left(D_\mu \bar{u}_{Ra}\right)\right)$	$Z_\nu \left(D_\mu D_\rho h\right) \left(\bar{u}_{La} \bar{\sigma}^\rho u^a_L\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$Z^-_{\nu\rho} \left(D_\mu h\right) \left(\bar{u}_{La} \bar{\sigma}^\mu \sigma^{\nu\rho} u^a_L\right)$	$Z_\rho \left(D_\mu h\right) \left(\left(D_\nu u^a_R\right) \sigma^\rho \bar{u}_{Ra}\right) \mathrm{Tr}\left(\sigma^\mu \bar{\sigma}^\nu\right)$

A.26.4 Dimension = 8, $\mathcal{O}_8^{1\sim12}$

Type: $Zu\bar{u}h \quad d=8 \quad \mathcal{O}_8^{1\sim12}$
$Z^-_{\rho\sigma} \left(D_\mu D_\nu h\right) \left(u^a_R \bar{\sigma}^\mu \sigma^{\rho\sigma} \bar{\sigma}^\nu \bar{u}_{La}\right)$
$Z^+_{\rho\sigma} \left(D_\mu h\right) \left(u^a_R \sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \left(D_\nu \bar{u}_{La}\right)\right)$
$Z^-_{\rho\sigma} \left(D_\nu h\right) \left(u^a_L \bar{\sigma}^\nu \sigma^\mu \sigma^{\rho\sigma} \left(D_\mu \bar{u}_{Ra}\right)\right)$
$Z^-_{\rho\sigma} \left(D_\nu h\right) \left(u^a_L \sigma^{\rho\sigma} \sigma^\mu \bar{\sigma}^\nu \left(D_\mu \bar{u}_{Ra}\right)\right)$
$Z_\sigma \left(D_\mu D_\rho h\right) \left(\left(D_\nu \bar{u}_{Ra}\right) \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \sigma^\sigma u^a_L\right)$
$Z^+_{\rho\sigma} \left(D_\mu h\right) \left(\bar{u}_{La} \bar{\sigma}^{\rho\sigma} \left(D_\nu u^a_R\right)\right) \mathrm{Tr}\left(\sigma^\mu \bar{\sigma}^\nu\right)$
$Z^+_{\rho\sigma} h \left(\left(D_\mu u^a_L\right) \left(D_\nu \bar{u}_{Ra}\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$
$Z_\nu h \left(\left(D_\sigma u^a_R\right) \bar{\sigma}^\rho \sigma^\sigma \left(D_\mu D_\rho \bar{u}_{La}\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$Z_\sigma \left(D_\mu D_\nu h\right) \left(u^a_R \sigma^\sigma \bar{\sigma}^\mu \left(D_\rho \bar{u}_{La}\right)\right) \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\rho\right)$
$Z_\nu \left(D_\sigma h\right) \left(u^a_L \sigma^\rho \bar{\sigma}^\sigma \left(D_\mu D_\rho \bar{u}_{Ra}\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$Z_\sigma \left(D_\nu h\right) \left(\left(D_\mu \bar{u}_{La}\right) \sigma^\sigma \bar{\sigma}^\mu \left(D_\rho u^a_R\right)\right) \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\rho\right)$
$Z_\nu \left(D_\rho h\right) \left(\left(D_\sigma u^a_L\right) \left(D_\mu \bar{u}_{Ra}\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\sigma^\rho \bar{\sigma}^\sigma\right)$

A.27 Type: $Z\nu\nu h \left(Z\bar{\nu}\bar{\nu}h\right)$

A.27.1 Dimension = 5, $\mathcal{O}_5^1$

Type: $Z\nu\nu h \quad d=5 \quad \mathcal{O}_5^1$
$Z_\mu h\left(\nu_R \sigma^\mu \nu_L\right)$

A.27.2 Dimension = 6, $\mathcal{O}_6^{1\sim2}$

Type: $Z\nu\nu h \quad d=6 \quad \mathcal{O}_6^{1\sim2}$	
$Z_\nu h\left(\left(D_\mu \nu_R\right) \sigma^\nu \bar{\sigma}^\mu \nu_R\right)$	$Z_\nu h\left(\nu_L \left(D_\mu \nu_L\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$

A.27.3 Dimension = 7, $\mathcal{O}_7^{1\sim4}$

Type: $Z\nu\nu h \quad d=7 \quad \mathcal{O}_7^{1\sim4}$	
$Z_{\nu\rho}^+ h\left(\nu_L \bar{\sigma}^\mu \bar{\sigma}^{\nu\rho} \left(D_\mu \nu_R\right)\right)$	$Z_\rho \left(D_\mu h\right)\left(\nu_R \sigma^\nu \bar{\sigma}^\mu \sigma^\rho \left(D_\nu \nu_L\right)\right)$
$Z_{\nu\rho}^- h\left(\nu_R \bar{\sigma}^\mu \sigma^{\nu\rho} \left(D_\mu \nu_L\right)\right)$	$Z_\rho \left(D_\nu h\right)\left(\left(D_\mu \nu_R\right) \sigma^\rho \sigma^\mu \bar{\sigma}^\nu \nu_L\right)$

A.27.4 Dimension = 8, $\mathcal{O}_8^{1\sim6}$

Type: $Z\nu\nu h \quad d=8 \quad \mathcal{O}_8^{1\sim6}$
$Z_{\rho\sigma}^- \left(D_\nu h\right)\left(\nu_L \bar{\sigma}^\nu \sigma^\mu \sigma^{\rho\sigma} \left(D_\mu \nu_L\right)\right)$
$Z_{\rho\sigma}^+ \left(D_\mu h\right)\left(\nu_R \bar{\sigma}^{\rho\sigma} \left(D_\nu \nu_R\right)\right) \mathrm{Tr}\left(\sigma^\mu \bar{\sigma}^\nu\right)$
$Z_\nu h\left(\left(D_\sigma \nu_R\right) \bar{\sigma}^\rho \sigma^\sigma \left(D_\mu D_\rho \nu_R\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$Z_\nu \left(D_\sigma h\right)\left(\nu_L \sigma^\rho \bar{\sigma}^\sigma \left(D_\mu D_\rho \nu_L\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$Z_\sigma \left(D_\nu h\right)\left(\left(D_\mu \nu_R\right) \sigma^\sigma \bar{\sigma}^\mu \left(D_\rho \nu_R\right)\right) \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\rho\right)$
$Z_\nu \left(D_\rho h\right)\left(\left(D_\sigma \nu_L\right)\left(D_\mu \nu_L\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\sigma^\rho \bar{\sigma}^\sigma\right)$

A.28 Type: $g^+ g^+ hh$

A.28.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $g^+g^+hh \quad d=6 \quad \mathcal{O}_6^1$
$G^{+b}_{\mu\nu a}G^{+a}_{\rho\sigma b}hh\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$

A.28.2 Dimension = 8, $\mathcal{O}_8^1$

Type: $g^+g^+hh \quad d=8 \quad \mathcal{O}_8^1$
$G^{+b}_{\rho\sigma a}\left(D_\mu G^{+a}_{\xi\tau b}\right)h\left(D_\nu h\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\rho\sigma}\right)$

A.29 Type: g^+g^-hh

A.29.1 Dimension = 8, $\mathcal{O}_8^1$

Type: $g^+g^-hh \quad d=8 \quad \mathcal{O}_8^1$
$G^{+b}_{\rho\sigma a}G^{-a}_{\xi\tau b}h\left(D_\mu D_\nu h\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\xi\tau}\bar{\sigma}^{\nu}\bar{\sigma}^{\rho\sigma}\right)$

A.30 Type: $\gamma^+\gamma^+hh$

A.30.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $\gamma^+\gamma^+hh \quad d=6 \quad \mathcal{O}_6^1$
$\gamma^+_{\mu\nu}\gamma^+_{\rho\sigma}hh\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$

A.30.2 Dimension = 8, $\mathcal{O}_8^1$

Type: $\gamma^+\gamma^+hh \quad d=8 \quad \mathcal{O}_8^1$
$\gamma^+_{\rho\sigma}\left(D_\mu\gamma^+_{\xi\tau}\right)h\left(D_\nu h\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\rho\sigma}\right)$

A.31 Type: $\gamma^+\gamma^-hh$

A.31.1 Dimension = 8, $\mathcal{O}_8^1$

Type: $\gamma^+\gamma^- hh \quad d=8 \quad \mathcal{O}_8^1$
$\gamma^+_{\rho\sigma}\gamma^-_{\xi\tau} h\,(D_\mu D_\nu h)\,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^{\xi\tau}\bar{\sigma}^\nu\bar{\sigma}^{\rho\sigma}\right)$

A.32 Type: $Z\gamma^+hh$

A.32.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $Z\gamma^+hh \quad d=6 \quad \mathcal{O}_6^1$
$Z^+_{\mu\nu}\gamma^+_{\rho\sigma} hh\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$

A.32.2 Dimension = 8, $\mathcal{O}_8^{1\sim3}$

Type: $Z\gamma^+hh \quad d=8 \quad \mathcal{O}_8^{1\sim3}$
$Z^-_{\rho\sigma}\gamma^+_{\xi\tau} h\,(D_\mu D_\nu h)\,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^{\rho\sigma}\bar{\sigma}^\nu\bar{\sigma}^{\xi\tau}\right)$
$Z^+_{\rho\sigma}\gamma^+_{\xi\tau}\,(D_\nu h)\,(D_\mu h)\,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\rho\sigma}\right)$
$Z_\nu\gamma^+_{\xi\tau}\,(D_\rho h)\,(D_\mu D_\sigma h)\,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)\mathrm{Tr}\left(\bar{\sigma}^\rho\sigma^\sigma\bar{\sigma}^{\xi\tau}\right)$

A.33 Type: $ZZhh$

A.33.1 Dimension = 4, $\mathcal{O}_4^1$

Type: $ZZhh \quad d=4 \quad \mathcal{O}_4^1$
$Z_\mu Z_\nu hh\,\mathrm{Tr}\left(\sigma^\mu\bar{\sigma}^\nu\right)$

A.33.2 Dimension = 6, $\mathcal{O}_6^{1\sim4}$

Type: $ZZhh \quad d=6 \quad \mathcal{O}_6^{1\sim4}$	
$Z^+_{\mu\nu}Z^+_{\rho\sigma} hh\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$Z_\rho Z_\sigma\,(D_\nu h)\,(D_\mu h)\,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\sigma\sigma^\rho\right)$
$Z^-_{\mu\nu}Z^-_{\rho\sigma} hh\,\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$	$Z_\nu Z_\sigma\,(D_\mu D_\rho h)\,h\,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)\mathrm{Tr}\left(\bar{\sigma}^\rho\sigma^\sigma\right)$

A.33.3 Dimension = 8, $\mathcal{O}_8^{1\sim7}$

Type: $ZZhh \quad d=8 \quad \mathcal{O}_8^{1\sim7}$
$Z^-_{\rho\sigma}Z^+_{\xi\tau}\,(D_\mu D_\nu h)\,h\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\rho\sigma}\bar\sigma^\nu\bar\sigma^{\xi\tau}\right)$
$Z^+_{\rho\sigma}Z^+_{\xi\tau}\,(D_\nu h)\,(D_\mu h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\bar\sigma^{\xi\tau}\bar\sigma^{\rho\sigma}\right)$
$Z^-_{\rho\sigma}Z^-_{\xi\tau}\,(D_\mu h)\,(D_\nu h)\,\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^\mu\bar\sigma^\nu\sigma^{\xi\tau}\right)$
$Z_\sigma Z^+_{\xi\tau}\,(D_\nu D_\rho h)\,(D_\mu h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\bar\sigma^{\xi\tau}\bar\sigma^\rho\sigma^\sigma\right)$
$Z^-_{\sigma\xi}Z_\tau\,(D_\mu D_\nu h)\,(D_\rho h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\sigma\xi}\sigma^\nu\bar\sigma^\rho\sigma^\tau\right)$
$Z_\xi Z_\tau\,(D_\nu D_\sigma h)\,(D_\mu D_\rho h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\bar\sigma^\rho\sigma^\sigma\bar\sigma^\tau\sigma^\xi\right)$
$Z_\nu\,(D_\sigma Z_\tau)\,(D_\mu D_\rho h)\,(D_\xi h)\,\mathrm{Tr}\,(\bar\sigma^\mu\sigma^\nu)\,\mathrm{Tr}\left(\bar\sigma^\rho\sigma^\sigma\bar\sigma^\xi\sigma^\tau\right)$

A.34 Type: W^+W^-hh

A.34.1 Dimension = 4, $\mathcal{O}_4^1$

Type: $W^+W^-hh \quad d=4 \quad \mathcal{O}_4^1$
$(W^+)_\mu(W^-)_\nu hh\,\mathrm{Tr}\,(\sigma^\mu\bar\sigma^\nu)$

A.34.2 Dimension = 6, $\mathcal{O}_6^{1\sim4}$

Type: $W^+W^-hh \quad d=6 \quad \mathcal{O}_6^{1\sim4}$	
$(W^+)^+_{\mu\nu}(W^-)^+_{\rho\sigma}hh\,\mathrm{Tr}\,(\bar\sigma^{\mu\nu}\bar\sigma^{\rho\sigma})$	$(W^+)_\rho(W^-)_\sigma\,(D_\nu h)\,(D_\mu h)\,\mathrm{Tr}\,(\bar\sigma^\mu\sigma^\nu\bar\sigma^\sigma\sigma^\rho)$
$(W^+)^-_{\mu\nu}(W^-)^-_{\rho\sigma}hh\,\mathrm{Tr}\,(\sigma^{\mu\nu}\sigma^{\rho\sigma})$	$(W^+)_\nu(W^-)_\sigma\,(D_\mu D_\rho h)\,h\,\mathrm{Tr}\,(\bar\sigma^\mu\sigma^\nu)\,\mathrm{Tr}\,(\bar\sigma^\rho\sigma^\sigma)$

A.34.3 Dimension = 8, $\mathcal{O}_8^{1\sim10}$

Type: $W^+W^-hh \quad d=8 \quad \mathcal{O}_8^{1\sim10}$
$(W^+)^-_{\rho\sigma}(W^-)^+_{\xi\tau}\left(D_\mu D_\nu h\right) h \,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^{\rho\sigma}\bar{\sigma}^\nu\bar{\sigma}^{\xi\tau}\right)$
$(W^+)^+_{\rho\sigma}(W^-)^-_{\xi\tau}\left(D_\mu D_\nu h\right) h \,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^{\xi\tau}\bar{\sigma}^\nu\bar{\sigma}^{\rho\sigma}\right)$
$(W^+)^+_{\rho\sigma}(W^-)^+_{\xi\tau}\left(D_\nu h\right)\left(D_\mu h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\rho\sigma}\right)$
$(W^+)^-_{\rho\sigma}(W^-)^-_{\xi\tau}\left(D_\mu h\right)\left(D_\nu h\right) \mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^\mu\bar{\sigma}^\nu\sigma^{\xi\tau}\right)$
$(W^+)_\sigma(W^-)^+_{\xi\tau}\left(D_\nu D_\rho h\right)\left(D_\mu h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\xi\tau}\bar{\sigma}^\rho\sigma^\sigma\right)$
$(W^+)^+_{\sigma\xi}(W^-)_\tau\left(D_\mu D_\rho h\right)\left(D_\nu h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu\bar{\sigma}^\tau\sigma^\rho\bar{\sigma}^\nu\bar{\sigma}^{\sigma\xi}\right)$
$(W^+)^-_{\sigma\xi}(W^-)_\tau\left(D_\mu D_\nu h\right)\left(D_\rho h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^{\sigma\xi}\sigma^\nu\bar{\sigma}^\rho\sigma^\tau\right)$
$(W^+)_\xi(W^-)_\tau\left(D_\nu D_\sigma h\right)\left(D_\mu D_\rho h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\rho\sigma^\sigma\bar{\sigma}^\tau\sigma^\xi\right)$
$(W^+)_\nu(W^-)^-_{\xi\tau}\left(D_\mu D_\rho h\right)\left(D_\sigma h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right) \mathrm{Tr}\left(\sigma^\rho\bar{\sigma}^\sigma\sigma^{\xi\tau}\right)$
$(W^+)_\nu\left(D_\sigma(W^-)_\tau\right)\left(D_\mu D_\rho h\right)\left(D_\xi h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right) \mathrm{Tr}\left(\bar{\sigma}^\rho\sigma^\sigma\bar{\sigma}^\xi\sigma^\tau\right)$

A.35 Type: $g^+g^+g^+h$

A.35.1 Dimension = 7, $\mathcal{O}_7^1$

Type: $g^+g^+g^+h \quad d=7 \quad \mathcal{O}_7^1$
$\epsilon_{acd}\epsilon^{efb}G^{+a}_{\mu\nu e}G^{+c}_{\rho\sigma f}G^{+d}_{\xi\tau b}h \,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\rho\sigma}\right)$

A.36 Type: Zg^+g^+h

A.36.1 Dimension = 7, $\mathcal{O}_7^1$

Type: $Zg^+g^+h \quad d=7 \quad \mathcal{O}_7^1$
$Z_\nu\left(D_\mu G^{+b}_{\rho\sigma a}\right)G^{+a}_{\xi\tau b}h \,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right) \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$

A.37 Type: Zg^+g^-h

A.37.1 Dimension = 7, $\mathcal{O}_7^1$

Type: $Zg^+g^-h \quad d=7 \quad \mathcal{O}_7^1$
$Z_\nu G^{+b}_{\rho\sigma a} G^{-a}_{\xi\tau b} \left(D_\mu h\right) \mathrm{Tr}\left(\sigma^\nu \sigma^{\xi\tau} \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma}\right)$

A.38 Type: $Z\gamma^+\gamma^+h$

A.38.1 Dimension = 7, $\mathcal{O}_7^1$

Type: $Z\gamma^+\gamma^+h \quad d=7 \quad \mathcal{O}_7^1$
$Z_\nu \left(D_\mu \gamma^+_{\rho\sigma}\right) \gamma^+_{\xi\tau} h \, \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right)$

A.39 Type: $Z\gamma^+\gamma^-h$

A.39.1 Dimension = 7, $\mathcal{O}_7^1$

Type: $Z\gamma^+\gamma^-h \quad d=7 \quad \mathcal{O}_7^1$
$Z_\nu \gamma^+_{\rho\sigma} \gamma^-_{\xi\tau} \left(D_\mu h\right) \mathrm{Tr}\left(\sigma^\nu \sigma^{\xi\tau} \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma}\right)$

A.40 Type: $ZZ\gamma^+h$

A.40.1 Dimension = 7, $\mathcal{O}_7^{1\sim4}$

Type: $ZZ\gamma^+h \quad d=7 \quad \mathcal{O}_7^{1\sim4}$
$Z_\nu Z^+_{\rho\sigma} \gamma^+_{\xi\tau} \left(D_\mu h\right) \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right)$
$Z^-_{\nu\rho} Z_\sigma \gamma^+_{\xi\tau} \left(D_\mu h\right) \mathrm{Tr}\left(\sigma^\sigma \sigma^{\nu\rho} \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau}\right)$
$Z_\rho Z_\sigma \gamma^+_{\xi\tau} \left(D_\mu D_\nu h\right) \mathrm{Tr}\left(\sigma^\rho \bar{\sigma}^\mu \sigma^\sigma \bar{\sigma}^\nu \bar{\sigma}^{\xi\tau}\right)$
$Z_\nu Z^+_{\rho\sigma} \gamma^+_{\xi\tau} \left(D_\mu h\right) \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$

A.41 Type: $W^+W^-\gamma^+h$

A.41.1 Dimension = 5, $\mathcal{O}_5^1$

Type: $W^+W^-\gamma^+h \quad d=5 \quad \mathcal{O}_5^1$
$(W^+)_\mu (W^-)_\nu \gamma^+_{\rho\sigma} h \,\mathrm{Tr}\left(\sigma^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$

A.41.2 Dimension = 7, $\mathcal{O}_7^{1\sim 9}$

Type: $W^+W^-\gamma^+h \quad d=7 \quad \mathcal{O}_7^{1\sim 9}$
$(W^+)^+_{\mu\nu}(W^-)^+_{\rho\sigma}\gamma^+_{\xi\tau} h \,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$
$(W^+)_\nu (W^-)^+_{\rho\sigma}\gamma^+_{\xi\tau} (D_\mu h) \,\mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$
$(W^+)^+_{\nu\rho}(W^-)_\sigma \left(D_\mu \gamma^+_{\xi\tau}\right) h \,\mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\sigma \bar{\sigma}^{\xi\tau}\bar{\sigma}^{\nu\rho}\right)$
$(W^+)_\nu (W^-)^+_{\rho\sigma}\gamma^+_{\xi\tau} (D_\mu h) \,\mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau}\bar{\sigma}^{\rho\sigma}\right)$
$(W^+)^-_{\nu\rho}(W^-)_\sigma \gamma^+_{\xi\tau} (D_\mu h) \,\mathrm{Tr}\left(\sigma^\sigma \sigma^{\nu\rho} \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau}\right)$
$(W^+)_\nu (W^-)^-_{\rho\sigma}\gamma^+_{\xi\tau} (D_\mu h) \,\mathrm{Tr}\left(\sigma^\nu \sigma^{\rho\sigma} \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau}\right)$
$(W^+)_\rho (W^-)_\sigma \gamma^+_{\xi\tau} (D_\mu D_\nu h) \,\mathrm{Tr}\left(\sigma^\rho \bar{\sigma}^\mu \sigma^\sigma \bar{\sigma}^\nu \bar{\sigma}^{\xi\tau}\right)$
$(W^-)_\nu (W^+)^+_{\rho\sigma}\gamma^+_{\xi\tau} (D_\mu h) \,\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^+)_\rho (W^-)_\sigma \left(D_\mu \gamma^+_{\xi\tau}\right) (D_\nu h) \,\mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\sigma \bar{\sigma}^{\xi\tau}\bar{\sigma}^\nu \sigma^\rho\right)$

A.42 Type: $ZZZh$

A.42.1 Dimension = 5, $\mathcal{O}_5^1$

Type: $ZZZh \quad d=5 \quad \mathcal{O}_5^1$
$Z_\nu Z_\rho \left(D_\mu Z_\sigma\right) h \,\mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \sigma^\rho \bar{\sigma}^\sigma\right)$

A.42.2 Dimension = 7, $\mathcal{O}_7^{1\sim 6}$

Type: $ZZZh \quad d=7 \quad \mathcal{O}_7^{1\sim 6}$
$Z_\nu Z^+_{\rho\sigma}\left(D_\mu Z^+_{\xi\tau}\right) h \,\mathrm{Tr}\left(\sigma^\nu\bar\sigma^\mu\bar\sigma^{\rho\sigma}\bar\sigma^{\xi\tau}\right)$
$Z^-_{\nu\rho} Z^+_{\sigma\xi}\left(D_\mu Z_\tau\right) h \,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\nu\rho}\bar\sigma^\tau\bar\sigma^{\sigma\xi}\right)$
$Z^-_{\nu\rho} Z_\sigma\left(D_\mu Z^-_{\xi\tau}\right) h \,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\nu\rho}\sigma^{\xi\tau}\sigma^\sigma\right)$
$Z_\rho Z_\sigma Z^+_{\xi\tau}\left(D_\mu D_\nu h\right) \mathrm{Tr}\left(\sigma^\rho\bar\sigma^\mu\sigma^\sigma\bar\sigma^\nu\bar\sigma^{\xi\tau}\right)$
$Z^-_{\rho\sigma} Z_\xi Z_\tau\left(D_\mu D_\nu h\right) \mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\rho\sigma}\sigma^\tau\bar\sigma^\nu\sigma^\xi\right)$
$Z_\nu\left(D_\sigma Z_\xi\right)\left(D_\mu D_\rho Z_\tau\right) h \,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\right) \mathrm{Tr}\left(\bar\sigma^\rho\sigma^\sigma\bar\sigma^\tau\sigma^\xi\right)$

A.43 Type: W^+W^-Zh

A.43.1 Dimension = 5, $\mathcal{O}_5^{1\sim 9}$

Type: $W^+W^-Zh \quad d=5 \quad \mathcal{O}_5^{1\sim 9}$	
$(W^+)_\mu (W^-)_\nu Z^+_{\rho\sigma} h \,\mathrm{Tr}\left(\sigma^\mu\sigma^\nu\bar\sigma^{\rho\sigma}\right)$	$(W^+)_\mu (W^-)^-_{\nu\rho} Z_\sigma h \,\mathrm{Tr}\left(\sigma^\mu\sigma^{\nu\rho}\bar\sigma^\sigma\right)$
$(W^+)_\mu (W^-)^+_{\nu\rho} Z_\sigma h \,\mathrm{Tr}\left(\sigma^\mu\bar\sigma^\sigma\bar\sigma^{\nu\rho}\right)$	$(W^+)_\mu (W^-)_\nu Z^-_{\rho\sigma} h \,\mathrm{Tr}\left(\sigma^\mu\sigma^{\rho\sigma}\bar\sigma^\nu\right)$
$(W^+)^+_{\mu\nu} (W^-)_\rho Z_\sigma h \,\mathrm{Tr}\left(\bar\sigma^{\mu\nu}\bar\sigma^\rho\bar\sigma^\sigma\right)$	$(W^+)_\nu (W^-)_\rho \left(D_\mu Z_\sigma\right) h \,\mathrm{Tr}\left(\sigma^\nu\bar\sigma^\mu\sigma^\rho\bar\sigma^\sigma\right)$
$(W^+)^-_{\mu\nu} (W^-)_\rho Z_\sigma h \,\mathrm{Tr}\left(\sigma^\rho\sigma^{\mu\nu}\bar\sigma^\sigma\right)$	$(W^-)_\nu (W^+)_\rho Z_\sigma \left(D_\mu h\right) \mathrm{Tr}\left(\sigma^\rho\bar\sigma^\sigma\right) \mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\right)$
$Z_\nu (W^+)_\rho (W^-)_\sigma \left(D_\mu h\right) \mathrm{Tr}\left(\sigma^\rho\bar\sigma^\sigma\right) \mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\right)$	

A.43.2 Dimension = 7, $\mathcal{O}_7^{1\sim 36}$

Type: $W^+W^-Zh \quad d=7 \quad \mathcal{O}_7^{1\sim 36}$
$(W^+)^+_{\mu\nu} (W^-)^+_{\rho\sigma} Z^+_{\xi\tau} h \,\mathrm{Tr}\left(\bar\sigma^{\mu\nu}\bar\sigma^{\rho\sigma}\bar\sigma^{\xi\tau}\right)$
$(W^+)^-_{\mu\nu} (W^-)^-_{\rho\sigma} Z^-_{\xi\tau} h \,\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\xi\tau}\sigma^{\rho\sigma}\right)$
$(W^+)_\nu (W^-)^+_{\rho\sigma} \left(D_\mu Z^+_{\xi\tau}\right) h \,\mathrm{Tr}\left(\sigma^\nu\bar\sigma^\mu\bar\sigma^{\rho\sigma}\bar\sigma^{\xi\tau}\right)$

$(W^+)_\nu (W^-)^+_{\rho\sigma} Z^+_{\xi^\tau} \left(D_\mu h\right) \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\rho\sigma}\right)$
$(W^+)^+_{\nu\rho} (W^-)^+_{\sigma\xi} Z_\tau \left(D_\mu h\right) \mathrm{Tr}\left(\bar{\sigma}^{\nu\rho} \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu \bar{\sigma}^\tau\right)$
$(W^+)^-_{\nu\rho} (W^-)^+_{\sigma\xi} \left(D_\mu Z_\tau\right) h \, \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\nu\rho} \bar{\sigma}^\tau \bar{\sigma}^{\sigma\xi}\right)$
$(W^+)^-_{\nu\rho} (W^-)_\sigma Z^+_{\xi^\tau} \left(D_\mu h\right) \mathrm{Tr}\left(\sigma^\sigma \sigma^{\nu\rho} \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau}\right)$
$(W^+)^+_{\nu\rho} (W^-)^-_{\sigma\xi} \left(D_\mu Z_\tau\right) h \, \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\sigma\xi} \bar{\sigma}^\tau \bar{\sigma}^{\nu\rho}\right)$
$(W^+)_\nu (W^-)^-_{\rho\sigma} Z^+_{\xi^\tau} \left(D_\mu h\right) \mathrm{Tr}\left(\sigma^\nu \sigma^{\rho\sigma} \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau}\right)$
$(W^+)^+_{\nu\rho} \left(D_\mu (W^-)_\sigma\right) Z^-_{\xi^\tau} h \, \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\xi\tau} \bar{\sigma}^\sigma \bar{\sigma}^{\nu\rho}\right)$
$(W^+)_\nu (W^-)^+_{\rho\sigma} Z^-_{\xi^\tau} \left(D_\mu h\right) \mathrm{Tr}\left(\sigma^\nu \sigma^{\xi\tau} \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma}\right)$
$(W^+)^-_{\nu\rho} (W^-)_\sigma \left(D_\mu Z^-_{\xi^\tau}\right) h \, \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\nu\rho} \sigma^{\xi\tau} \sigma^\sigma\right)$
$(W^+)^-_{\nu\rho} (W^-)^-_{\sigma\xi} Z_\tau \left(D_\mu h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\sigma\xi} \sigma^{\nu\rho} \sigma^\tau\right)$
$(W^+)_\nu (W^-)^-_{\rho\sigma} Z^-_{\xi^\tau} \left(D_\mu h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\xi\tau} \sigma^{\rho\sigma} \sigma^\nu\right)$
$(W^+)_\rho (W^-)_\sigma Z^+_{\xi^\tau} \left(D_\mu D_\nu h\right) \mathrm{Tr}\left(\sigma^\rho \bar{\sigma}^\mu \sigma^\sigma \bar{\sigma}^\nu \bar{\sigma}^{\xi\tau}\right)$
$(W^+)^+_{\rho\sigma} (W^-)_\xi Z_\tau \left(D_\mu D_\nu h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\xi \bar{\sigma}^\nu \bar{\sigma}^\tau \bar{\sigma}^{\rho\sigma}\right)$
$(W^+)^-_{\rho\sigma} (W^-)_\xi Z_\tau \left(D_\mu D_\nu h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\rho\sigma} \sigma^\tau \bar{\sigma}^\nu \sigma^\xi\right)$
$(W^+)_\rho (W^-)^-_{\sigma\xi} Z_\tau \left(D_\mu D_\nu h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\sigma\xi} \bar{\sigma}^\nu \sigma^\tau \sigma^\rho\right)$
$(W^+)_\rho (W^-)_\sigma Z^-_{\xi^\tau} \left(D_\mu D_\nu h\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\sigma \bar{\sigma}^\nu \sigma^{\xi\tau} \sigma^\rho\right)$
$(W^-)_\nu (W^+)^+_{\rho\sigma} \left(D_\mu Z^+_{\xi^\tau}\right) h \, \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^-)_\nu (W^+)^+_{\rho\sigma} Z^+_{\xi^\tau} \left(D_\mu h\right) \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$Z_\nu (W^+)^+_{\rho\sigma} \left(D_\mu (W^-)^+_{\xi^\tau}\right) h \, \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^+)_\rho (W^-)^+_{\sigma\xi} \left(D_\mu Z_\tau\right) \left(D_\nu h\right) \mathrm{Tr}\left(\sigma^\rho \bar{\sigma}^\mu \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\nu \bar{\sigma}^\tau\right)$

$(W^+)^+_{\rho\sigma}(W^-)_\xi\,(D_\nu Z_\tau)\,(D_\mu h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\bar\sigma^\xi\bar\sigma^\tau\bar\sigma^{\rho\sigma}\right)$
$(W^+)_\nu(W^-)^-_{\rho\sigma}\left(D_\mu Z^-_{\xi\tau}\right)h\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\xi\tau}\right)$
$Z_\nu(W^+)^-_{\rho\sigma}(W^-)^-_{\xi\tau}\,(D_\mu h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\xi\tau}\right)$
$(W^-)_\nu(W^+)^-_{\rho\sigma}Z^-_{\xi\tau}\,(D_\mu h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\xi\tau}\right)$
$(W^+)_\rho(W^-)_\sigma\left(D_\nu Z^-_{\xi\tau}\right)(D_\mu h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\bar\sigma^\sigma\sigma^{\xi\tau}\sigma^\rho\right)$
$Z_\rho(W^+)^-_{\sigma\xi}(W^-)_\tau\,(D_\mu D_\nu h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\sigma\xi}\sigma^\tau\right)\mathrm{Tr}\left(\bar\sigma^\nu\sigma^\rho\right)$
$Z_\rho(W^+)_\sigma(W^-)^-_{\xi\tau}\,(D_\mu D_\nu h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\xi\tau}\sigma^\sigma\right)\mathrm{Tr}\left(\bar\sigma^\nu\sigma^\rho\right)$
$(W^+)_\rho(W^-)_\sigma\left(D_\nu Z^+_{\xi\tau}\right)(D_\mu h)\,\mathrm{Tr}\left(\sigma^\rho\sigma^\sigma\bar\sigma^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^\mu\bar\sigma^\nu\right)$
$(D_\mu Z_\rho)\,(W^+)_\sigma\left(D_\nu(W^-)^+_{\xi\tau}\right)h\,\mathrm{Tr}\left(\sigma^\sigma\bar\sigma^\mu\bar\sigma^{\xi\tau}\right)\mathrm{Tr}\left(\bar\sigma^\nu\sigma^\rho\right)$
$(W^+)_\nu\left(D_\sigma(W^-)_\xi\right)(D_\mu D_\rho Z_\tau)\,h\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\right)\mathrm{Tr}\left(\bar\sigma^\rho\sigma^\sigma\bar\sigma^\tau\sigma^\xi\right)$
$\left(D_\nu(W^-)_\sigma\right)(W^+)_\xi Z_\tau\,(D_\mu D_\rho h)\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\bar\sigma^\tau\sigma^\xi\right)\mathrm{Tr}\left(\bar\sigma^\rho\sigma^\sigma\right)$
$\left(D_\nu(W^-)_\sigma\right)(W^+)_\xi Z_\tau\,(D_\mu D_\rho h)\,\mathrm{Tr}\left(\sigma^\xi\bar\sigma^\tau\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\bar\sigma^\rho\sigma^\sigma\right)$
$(D_\nu Z_\sigma)\,(W^+)_\xi(W^-)_\tau\,(D_\mu D_\rho h)\,\mathrm{Tr}\left(\sigma^\xi\bar\sigma^\tau\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\bar\sigma^\rho\sigma^\sigma\right)$

A.44 Type: $u\bar{u}W^+W^-$ ($d\bar{d}W^+W^-$)

A.44.1 Dimension = 5, $\mathcal{O}_5^{1\sim4}$

Type: $u\bar{u}W^+W^-$ $\quad d=5$ $\quad \mathcal{O}_5^{1\sim4}$		
$(W^+)_\mu(W^-)_\nu\,(u^a_R\bar\sigma^\mu\bar\sigma^\nu\bar u_{La})$	$(W^+)_\mu(W^-)_\nu\,(u^a_L\sigma^\mu\bar\sigma^\nu\bar u_{Ra})$	$(W^+)_\mu(W^-)_\nu\,(u^a_R\bar u_{La})\,\mathrm{Tr}\,(\sigma^\mu\bar\sigma^\nu)$
$(W^+)_\mu(W^-)_\nu\,(u^a_L\bar u_{Ra})\,\mathrm{Tr}\,(\sigma^\mu\bar\sigma^\nu)$		

A.44.2 Dimension = 6, $\mathcal{O}_6^{1\sim12}$

Type: $u\bar{u}W^+W^-$ $\quad d=6 \quad \mathcal{O}_6^{1\sim 12}$	
$(W^+)_\mu (W^-)^+_{\nu\rho} (\bar{u}_{La}\bar{\sigma}^{\nu\rho}\sigma^\mu u^a_L)$	$(W^+)_\mu (W^-)^-_{\nu\rho} (\bar{u}_{La}\bar{\sigma}^{\mu}\sigma^{\nu\rho} u^a_L)$
$(W^+)_\mu (W^-)^+_{\nu\rho} (u^a_R\bar{\sigma}^{\nu\rho}\sigma^\mu \bar{u}_{Ra})$	$(W^+)_\mu (W^-)^-_{\nu\rho} (u^a_R\bar{\sigma}^{\mu}\sigma^{\nu\rho} \bar{u}_{Ra})$
$(W^+)^+_{\mu\nu} (W^-)_\rho (\bar{u}_{La}\bar{\sigma}^{\mu\nu}\bar{\sigma}^\rho u^a_L)$	$(W^+)_\nu (W^-)_\rho ((D_\mu \bar{u}_{La})\,\bar{\sigma}^\rho\bar{\sigma}^\mu\sigma^\nu u^a_L)$
$(W^+)^+_{\mu\nu} (W^-)_\rho (u^a_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^\rho \bar{u}_{Ra})$	$(W^+)_\nu \left(D_\mu (W^-)_\rho\right) (\bar{u}_{La}\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu u^a_L)$
$(W^+)^-_{\mu\nu} (W^-)_\rho (\bar{u}_{La}\bar{\sigma}^{\rho}\sigma^{\mu\nu} u^a_L)$	$(W^+)_\nu \left(D_\mu (W^-)_\rho\right) (u^a_R\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu \bar{u}_{Ra})$
$(W^+)^-_{\mu\nu} (W^-)_\rho (u^a_R\bar{\sigma}^{\rho}\sigma^{\mu\nu} \bar{u}_{Ra})$	$(W^+)_\nu (W^-)_\rho (u^a_R\bar{\sigma}^\rho (D_\mu\bar{u}_{Ra}))\,\mathrm{Tr}\,(\bar{\sigma}^\mu\sigma^\nu)$

A.44.3 Dimension = 7, $\mathcal{O}_7^{1\sim 24}$

Type: $u\bar{u}W^+W^-$ $\quad d=7 \quad \mathcal{O}_7^{1\sim 24}$	
$(W^+)^+_{\mu\nu} (W^-)^+_{\rho\sigma} (u^a_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma} \bar{u}_{La})$	$(W^+)_\nu (W^-)^-_{\rho\sigma} (u^a_L\sigma^\nu\bar{\sigma}^\mu\sigma^{\rho\sigma} (D_\mu\bar{u}_{Ra}))$
$(W^+)^-_{\mu\nu} (W^-)^-_{\rho\sigma} (u^a_L\sigma^{\mu\nu}\sigma^{\rho\sigma} \bar{u}_{Ra})$	$\left(D_\mu (W^+)^-_{\nu\rho}\right) (W^-)_\sigma (u^a_L\bar{\sigma}^\mu\sigma^\sigma\sigma^{\nu\rho}\bar{u}_{Ra})$
$(W^+)^+_{\mu\nu} (W^-)^+_{\rho\sigma} (u^a_R\bar{u}_{La})\,\mathrm{Tr}\,(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma})$	$(W^+)_\nu \left(D_\mu (W^-)^-_{\rho\sigma}\right) (u^a_L\bar{\sigma}^\mu\sigma^\nu\sigma^{\rho\sigma}\bar{u}_{Ra})$
$(W^+)^+_{\mu\nu} (W^-)^+_{\rho\sigma} (u^a_L\bar{u}_{Ra})\,\mathrm{Tr}\,(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma})$	$(W^+)_\nu (W^-)^+_{\rho\sigma} (u^a_R\bar{\sigma}^{\rho\sigma} (D_\mu\bar{u}_{La}))\,\mathrm{Tr}\,(\bar{\sigma}^\mu\sigma^\nu)$
$(W^+)^+_{\nu\rho} (W^-)_\sigma (u^a_R\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\bar{\sigma}^\sigma (D_\mu\bar{u}_{La}))$	$(W^+)_\nu \left(D_\mu (W^-)^+_{\rho\sigma}\right) (u^a_R\bar{\sigma}^{\rho\sigma}\bar{u}_{La})\,\mathrm{Tr}\,(\bar{\sigma}^\mu\sigma^\nu)$
$(W^+)^-_{\mu\nu} (W^-)^-_{\rho\sigma} (u^a_R\bar{u}_{La})\,\mathrm{Tr}\,(\sigma^{\mu\nu}\sigma^{\rho\sigma})$	$(W^-)_\nu \left(D_\mu (W^+)^+_{\rho\sigma}\right) (u^a_R\bar{\sigma}^{\rho\sigma}\bar{u}_{La})\,\mathrm{Tr}\,(\bar{\sigma}^\mu\sigma^\nu)$
$\left(D_\mu (W^+)_\nu\right) (W^-)^+_{\rho\sigma} (u^a_L\bar{\sigma}^\mu\bar{\sigma}^{\rho\sigma}\sigma^\nu\bar{u}_{Ra})$	$\left(D_\mu (W^+)_\rho\right) (W^-)_\sigma (u^a_R\bar{\sigma}^\sigma\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu (D_\nu\bar{u}_{La}))$
$(W^+)^+_{\nu\rho} \left(D_\mu (W^-)_\sigma\right) (u^a_L\bar{\sigma}^\mu\bar{\sigma}^{\nu\rho}\bar{\sigma}^\sigma\bar{u}_{Ra})$	$(W^+)_\rho \left(D_\mu (W^-)_\sigma\right) (u^a_R\bar{\sigma}^\sigma\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu (D_\nu\bar{u}_{La}))$
$(W^+)^-_{\nu\rho} \left(D_\mu (W^-)_\sigma\right) (u^a_R\bar{\sigma}^\sigma\sigma^{\nu\rho}\bar{\sigma}^\mu\bar{u}_{La})$	$(W^+)_\rho \left(D_\mu (W^-)_\sigma\right) (u^a_R\bar{\sigma}^\rho\bar{\sigma}^\sigma\sigma^\nu\bar{\sigma}^\mu (D_\nu\bar{u}_{La}))$
$\left(D_\mu (W^+)_\nu\right) (W^-)^-_{\rho\sigma} (u^a_R\bar{\sigma}^\nu\sigma^{\rho\sigma}\bar{\sigma}^\mu\bar{u}_{La})$	$(W^+)_\rho \left(D_\mu (W^-)_\sigma\right) (u^a_L\sigma^\rho\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\sigma (D_\nu\bar{u}_{Ra}))$
$(W^+)^-_{\mu\nu} (W^-)^-_{\rho\sigma} (u^a_L\bar{u}_{Ra})\,\mathrm{Tr}\,(\sigma^{\mu\nu}\sigma^{\rho\sigma})$	$\left(D_\nu (W^+)_\rho\right) \left(D_\mu (W^-)_\sigma\right) (\bar{u}_{Ra}\bar{\sigma}^\mu\sigma^\rho\sigma^\sigma\bar{\sigma}^\nu u^a_L)$

$(W^+)^-_{\nu\rho}(W^-)_\sigma\left(u_L^a\sigma^{\nu\rho}\bar{\sigma}^\mu\sigma^\sigma\left(D_\mu\bar{u}_{Ra}\right)\right)$	$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)_\sigma\right)\left(u_L^a\bar{u}_{Ra}\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\sigma\sigma^\rho\right)$

A.44.4 Dimension = 8, $\mathcal{O}_8^{1\sim30}$

Type: $u\bar{u}W^+W^-\quad d=8\quad\mathcal{O}_8^{1\sim30}$
$(W^+)^+_{\nu\rho}\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(\bar{u}_{La}\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu u_L^a\right)$
$(W^+)^+_{\nu\rho}\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(u_R^a\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\bar{u}_{Ra}\right)$
$(W^+)^-_{\nu\rho}(W^-)^+_{\sigma\xi}\left(\left(D_\mu\bar{u}_{La}\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^\mu\sigma^{\nu\rho}u_L^a\right)$
$(W^+)^-_{\nu\rho}(W^-)^+_{\sigma\xi}\left(u_R^a\bar{\sigma}^{\sigma\xi}\bar{\sigma}^\mu\sigma^{\nu\rho}\left(D_\mu\bar{u}_{Ra}\right)\right)$
$(W^+)^+_{\nu\rho}(W^-)^-_{\sigma\xi}\left(\left(D_\mu\bar{u}_{La}\right)\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}u_L^a\right)$
$(W^+)^+_{\nu\rho}(W^-)^-_{\sigma\xi}\left(u_R^a\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}\left(D_\mu\bar{u}_{Ra}\right)\right)$
$(W^+)^-_{\nu\rho}(W^-)^-_{\sigma\xi}\left(u_R^a\bar{\sigma}^\mu\sigma^{\nu\rho}\sigma^{\sigma\xi}\left(D_\mu\bar{u}_{Ra}\right)\right)$
$(W^+)^-_{\rho\sigma}(W^-)_\xi\left(u_R^a\bar{\sigma}^\mu\sigma^{\rho\sigma}\bar{\sigma}^\nu\sigma^\xi\left(D_\mu D_\nu\bar{u}_{Ra}\right)\right)$
$(W^+)_\rho(W^-)^-_{\sigma\xi}\left(u_R^a\bar{\sigma}^\mu\sigma^\rho\bar{\sigma}^\nu\sigma^{\sigma\xi}\left(D_\mu D_\nu\bar{u}_{Ra}\right)\right)$
$(W^+)_\rho\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(\left(D_\nu\bar{u}_{La}\right)\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho u_L^a\right)$
$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(\bar{u}_{La}\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho u_L^a\right)$
$(W^+)_\rho\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(u_R^a\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\left(D_\nu\bar{u}_{Ra}\right)\right)$
$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(u_R^a\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\bar{u}_{Ra}\right)$
$(W^+)^+_{\rho\sigma}\left(D_\mu(W^-)_\xi\right)\left(u_R^a\bar{\sigma}^{\rho\sigma}\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\left(D_\nu\bar{u}_{Ra}\right)\right)$
$\left(D_\mu(W^+)^-_{\nu\rho}\right)(W^-)^-_{\sigma\xi}\left(\bar{u}_{La}\bar{\sigma}^\mu u_L^a\right)\mathrm{Tr}\left(\sigma^{\nu\rho}\sigma^{\sigma\xi}\right)$
$(W^+)^-_{\rho\sigma}\left(D_\mu(W^-)_\xi\right)\left(\left(D_\nu\bar{u}_{La}\right)\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\sigma^{\rho\sigma}u_L^a\right)$
$\left(D_\nu(W^+)^-_{\rho\sigma}\right)\left(D_\mu(W^-)_\xi\right)\left(u_R^a\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\sigma^{\rho\sigma}\bar{u}_{Ra}\right)$

$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)^-_{\sigma\xi}\right)\left(\bar{u}_{La}\bar{\sigma}^\rho\sigma^{\sigma\xi}\bar{\sigma}^\nu\sigma^\mu u^a_L\right)$
$(W^+)_\rho\left(D_\mu(W^-)^-_{\sigma\xi}\right)\left(u^a_R\bar{\sigma}^\rho\sigma^{\sigma\xi}\bar{\sigma}^\nu\sigma^\mu\left(D_\nu\bar{u}_{Ra}\right)\right)$
$(W^+)_\sigma\left(D_\mu(W^-)_\xi\right)\left(\left(D_\nu D_\rho\bar{u}_{La}\right)\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\bar{\sigma}^\rho\sigma^\sigma u^a_L\right)$
$(W^+)_\sigma\left(D_\mu D_\rho(W^-)_\xi\right)\left(u^a_R\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\sigma^\sigma\bar{\sigma}^\rho\left(D_\nu\bar{u}_{Ra}\right)\right)$
$(W^+)^+_{\rho\sigma}\left(D_\nu(W^-)_\xi\right)\left(\left(D_\mu\bar{u}_{La}\right)\bar{\sigma}^\xi u^a_L\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\rho\sigma}\right)$
$(W^+)^+_{\rho\sigma}\left(D_\nu(W^-)_\xi\right)\left(u^a_R\bar{\sigma}^\xi\left(D_\mu\bar{u}_{Ra}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\rho\sigma}\right)$
$\left(D_\mu(W^-)_\rho\right)\left(D_\nu(W^+)^+_{\sigma\xi}\right)\left(\bar{u}_{La}\bar{\sigma}^{\sigma\xi}\bar{\sigma}^\mu u^a_L\right)\mathrm{Tr}\left(\bar{\sigma}^\nu\sigma^\rho\right)$
$\left(D_\mu(W^+)^-_{\rho\sigma}\right)(W^-)_\xi\left(\left(D_\nu\bar{u}_{La}\right)\bar{\sigma}^\mu u^a_L\right)\mathrm{Tr}\left(\bar{\sigma}^\nu\sigma^{\rho\sigma}\sigma^\xi\right)$
$\left(D_\mu(W^+)_\rho\right)(W^-)^-_{\sigma\xi}\left(\left(D_\nu\bar{u}_{La}\right)\bar{\sigma}^\mu u^a_L\right)\mathrm{Tr}\left(\bar{\sigma}^\nu\sigma^{\sigma\xi}\sigma^\rho\right)$
$\left(D_\mu(W^+)_\sigma\right)(W^-)_\xi\left(u^a_R\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\left(D_\nu D_\rho\bar{u}_{Ra}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\rho\sigma^\sigma\right)$
$\left(D_\rho(W^+)_\sigma\right)\left(D_\mu D_\nu(W^-)_\xi\right)\left(\bar{u}_{La}\bar{\sigma}^\mu u^a_L\right)\mathrm{Tr}\left(\bar{\sigma}^\nu\sigma^\rho\bar{\sigma}^\xi\sigma^\sigma\right)$
$\left(D_\rho(W^+)_\sigma\right)\left(D_\mu D_\nu(W^-)_\xi\right)\left(u^a_R\bar{\sigma}^\mu\bar{u}_{Ra}\right)\mathrm{Tr}\left(\bar{\sigma}^\nu\sigma^\rho\bar{\sigma}^\xi\sigma^\sigma\right)$
$\left(D_\mu(W^+)_\rho\right)(W^-)_\xi\left(\left(D_\nu D_\sigma\bar{u}_{La}\right)\bar{\sigma}^\mu u^a_L\right)\mathrm{Tr}\left(\bar{\sigma}^\nu\sigma^\rho\right)\mathrm{Tr}\left(\bar{\sigma}^\sigma\sigma^\xi\right)$

A.45 Type: $u\bar{u}g^+g^+\,(d\bar{d}g^+g^+)$

A.45.1 Dimension = 7, $\mathcal{O}_7^{1\sim5}$

Type: $u\bar{u}g^+g^+\quad d=7\quad \mathcal{O}_7^{1\sim5}$
$\epsilon_{acd}G^{+c}_{\mu\nu f}G^{+d}_{\rho\sigma b}\left(u^f_R\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\mu\nu}\epsilon^{abe}\bar{u}_{Le}\right)$
$\epsilon_{acd}G^{+c}_{\mu\nu f}G^{+d}_{\rho\sigma b}\left(u^f_L\epsilon^{abe}\bar{u}_{Re}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$
$\epsilon_{adg}\epsilon_{beh}\epsilon_{cfi}\epsilon^{kdf}G^{+e}_{\mu\nu k}\epsilon^{lgi}G^{+h}_{\rho\sigma l}\left(u^a_R\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\mu\nu}\epsilon^{bcj}\bar{u}_{Lj}\right)$
$\epsilon_{adg}\epsilon_{beh}\epsilon_{cfi}\epsilon^{kdf}G^{+e}_{\mu\nu k}\epsilon^{lgi}G^{+h}_{\rho\sigma l}\left(u^a_R\epsilon^{bcj}\bar{u}_{Lj}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$

$\epsilon_{adg}\epsilon_{beh}\epsilon_{cfi}\epsilon^{kdf}G^{+e}_{\mu\nu k}\epsilon^{lgi}G^{+h}_{\rho\sigma l}\left(u^a_L\epsilon^{bcj}\bar{u}_{Rj}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$

A.45.2 Dimension = 8, $\mathcal{O}_8^{1\sim2}$

Type: $u\bar{u}g^+g^+ \quad d=8 \quad \mathcal{O}_8^{1\sim2}$
$\epsilon_{adg}\epsilon_{beh}\epsilon_{cfi}\left(D_\mu\epsilon^{kdf}G^{+e}_{\nu\rho k}\right)\epsilon^{lgi}G^{+h}_{\sigma\xi l}\epsilon^{bcj}\left(\bar{u}_{Lj}\bar{\sigma}^\mu u^a_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$
$\epsilon_{adg}\epsilon_{beh}\epsilon_{cfi}\left(D_\mu\epsilon^{kdf}G^{+e}_{\nu\rho k}\right)\epsilon^{lgi}G^{+h}_{\sigma\xi l}\left(u^a_R\bar{\sigma}^\mu\epsilon^{bcj}\bar{u}_{Rj}\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$

A.46 Type: $u\bar{u}g^+g^-\,(d\bar{d}g^+g^-)$

A.46.1 Dimension = 8, $\mathcal{O}_8^{1\sim6}$

Type: $u\bar{u}g^+g^- \quad d=8 \quad \mathcal{O}_8^{1\sim6}$
$\epsilon_{acd}G^{+c}_{\nu\rho f}G^{-d}_{\sigma\xi b}\left(\left(D_\mu\epsilon^{abe}\bar{u}_{Le}\right)\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}u^f_L\right)$
$\epsilon_{acd}G^{+c}_{\nu\rho f}G^{-d}_{\sigma\xi b}\left(u^f_R\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}\left(D_\mu\epsilon^{abe}\bar{u}_{Re}\right)\right)$
$\epsilon_{ace}\epsilon_{bfg}\epsilon^{idf}G^{+e}_{\nu\rho i}G^{-g}_{\sigma\xi d}\left(\left(D_\mu\epsilon^{bch}\bar{u}_{Lh}\right)\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}u^a_L\right)$
$\epsilon_{ace}\epsilon_{bfg}\epsilon^{idf}G^{+e}_{\nu\rho i}G^{-g}_{\sigma\xi d}\left(u^a_R\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}\left(D_\mu\epsilon^{bch}\bar{u}_{Rh}\right)\right)$
$\epsilon_{adg}\epsilon_{beh}\epsilon_{cfi}\epsilon^{kdf}G^{+e}_{\nu\rho k}\epsilon^{lgi}G^{-h}_{\sigma\xi l}\left(\left(D_\mu\epsilon^{bcj}\bar{u}_{Lj}\right)\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}u^a_L\right)$
$\epsilon_{adg}\epsilon_{beh}\epsilon_{cfi}\epsilon^{kdf}G^{+e}_{\nu\rho k}\epsilon^{lgi}G^{-h}_{\sigma\xi l}\left(u^a_R\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}\left(D_\mu\epsilon^{bcj}\bar{u}_{Rj}\right)\right)$

A.47 Type: $u\bar{u}g^+\gamma^+\,(d\bar{d}g^+\gamma^+)$

A.47.1 Dimension = 7, $\mathcal{O}_7^{1\sim3}$

Type: $u\bar{u}g^+\gamma^+ \quad d=7 \quad \mathcal{O}_7^{1\sim3}$	
$\epsilon_{abc}G^{+c}_{\mu\nu e}\gamma^+_{\rho\sigma}\left(u^a_R\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\mu\nu}\epsilon^{ebd}\bar{u}_{Ld}\right)$	$\epsilon_{abc}G^{+c}_{\mu\nu e}\gamma^+_{\rho\sigma}\left(u^a_R\epsilon^{ebd}\bar{u}_{Ld}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$
$\epsilon_{abc}G^{+c}_{\mu\nu e}\gamma^+_{\rho\sigma}\left(u^a_L\epsilon^{ebd}\bar{u}_{Rd}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	

A.47.2 Dimension = 8, $\mathcal{O}_8^{1\sim2}$

Type: $u\bar{u}g^+\gamma^+ \quad d=8 \quad \mathcal{O}_8^{1\sim2}$
$\epsilon_{abc}\left(D_\mu G^{+c}_{\nu\rho e}\right)\gamma^+_{\sigma\xi}\epsilon^{ebd}\left(\bar{u}_{Ld}\bar{\sigma}^\mu u^a_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$
$\epsilon_{abc}\left(D_\mu G^{+c}_{\nu\rho e}\right)\gamma^+_{\sigma\xi}\left(u^a_R\bar{\sigma}^\mu\epsilon^{ebd}\bar{u}_{Rd}\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$

A.48 Type: $u\bar{u}g^+\gamma^-\left(d\bar{d}g^+\gamma^-\right)$

A.48.1 Dimension = 8, $\mathcal{O}_8^{1\sim2}$

Type: $u\bar{u}g^+\gamma^- \quad d=8 \quad \mathcal{O}_8^{1\sim2}$
$\epsilon_{abc}G^{+c}_{\nu\rho e}\gamma^-_{\sigma\xi}\left(\left(D_\mu\epsilon^{ebd}\bar{u}_{Ld}\right)\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}u^a_L\right)$
$\epsilon_{abc}G^{+c}_{\nu\rho e}\gamma^-_{\sigma\xi}\left(u^a_R\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}\left(D_\mu\epsilon^{ebd}\bar{u}_{Rd}\right)\right)$

A.49 Type: $u\bar{u}g^+Z\left(d\bar{d}g^+Z\right)$

A.49.1 Dimension = 6, $\mathcal{O}_6^{1\sim2}$

Type: $u\bar{u}g^+Z \quad d=6 \quad \mathcal{O}_6^{1\sim2}$	
$\epsilon_{abc}Z_\mu G^{+c}_{\nu\rho e}\epsilon^{ebd}\left(\bar{u}_{Ld}\bar{\sigma}^{\nu\rho}\sigma^\mu u^a_L\right)$	$\epsilon_{abc}Z_\mu G^{+c}_{\nu\rho e}\left(u^a_R\bar{\sigma}^{\nu\rho}\sigma^\mu\epsilon^{ebd}\bar{u}_{Rd}\right)$

A.49.2 Dimension = 7, $\mathcal{O}_7^{1\sim6}$

Type: $u\bar{u}g^+Z \quad d=7 \quad \mathcal{O}_7^{1\sim6}$
$\epsilon_{abc}Z^+_{\mu\nu}G^{+c}_{\rho\sigma e}\left(u^a_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\epsilon^{ebd}\bar{u}_{Ld}\right)$
$\epsilon_{abc}Z^+_{\mu\nu}G^{+c}_{\rho\sigma e}\left(u^a_R\epsilon^{ebd}\bar{u}_{Ld}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$
$\epsilon_{abc}Z^+_{\mu\nu}G^{+c}_{\rho\sigma e}\left(u^a_L\epsilon^{ebd}\bar{u}_{Rd}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$
$\epsilon_{abc}Z_\nu\left(D_\mu G^{+c}_{\rho\sigma e}\right)\left(u^a_R\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\rho\sigma}\epsilon^{ebd}\bar{u}_{Ld}\right)$

$\epsilon_{abc}\left(D_\mu Z_\nu\right) G^{+c}_{\rho\sigma e}\left(u^a_L \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \sigma^\nu \epsilon^{ebd} \bar{u}_{Rd}\right)$
$\epsilon_{abc} Z_\nu G^{+c}_{\rho\sigma e}\left(u^a_R \bar{\sigma}^{\rho\sigma}\left(D_\mu \epsilon^{ebd} \bar{u}_{Ld}\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$

A.49.3 Dimension = 8, $\mathcal{O}_8^{1\sim 8}$

Type: $u\bar{u}g^+Z \quad d=8 \quad \mathcal{O}_8^{1\sim 8}$
$\epsilon_{abc} Z^-_{\nu\rho} G^{+c}_{\sigma\xi e}\left(\left(D_\mu \epsilon^{ebd} \bar{u}_{Ld}\right) \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu \sigma^{\nu\rho} u^a_L\right)$
$\epsilon_{abc} Z^-_{\nu\rho} G^{+c}_{\sigma\xi e}\left(u^a_R \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu \sigma^{\nu\rho}\left(D_\mu \epsilon^{ebd} \bar{u}_{Rd}\right)\right)$
$\epsilon_{abc} Z^+_{\nu\rho}\left(D_\mu G^{+c}_{\sigma\xi e}\right) \epsilon^{ebd}\left(\bar{u}_{Ld} \bar{\sigma}^\mu u^a_L\right) \mathrm{Tr}\left(\bar{\sigma}^{\nu\rho} \bar{\sigma}^{\sigma\xi}\right)$
$\epsilon_{abc} Z^+_{\nu\rho}\left(D_\mu G^{+c}_{\sigma\xi e}\right)\left(u^a_R \bar{\sigma}^\mu \epsilon^{ebd} \bar{u}_{Rd}\right) \mathrm{Tr}\left(\bar{\sigma}^{\nu\rho} \bar{\sigma}^{\sigma\xi}\right)$
$\epsilon_{abc} Z_\rho\left(D_\mu G^{+c}_{\sigma\xi e}\right)\left(\left(D_\nu \epsilon^{ebd} \bar{u}_{Ld}\right) \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\sigma\xi} \sigma^\rho u^a_L\right)$
$\epsilon_{abc}\left(D_\nu Z_\rho\right)\left(D_\mu G^{+c}_{\sigma\xi e}\right) \epsilon^{ebd}\left(\bar{u}_{Ld} \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\sigma\xi} \sigma^\rho u^a_L\right)$
$\epsilon_{abc} Z_\rho\left(D_\mu G^{+c}_{\sigma\xi e}\right)\left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\sigma\xi} \sigma^\rho\left(D_\nu \epsilon^{ebd} \bar{u}_{Rd}\right)\right)$
$\epsilon_{abc}\left(D_\nu Z_\rho\right)\left(D_\mu G^{+c}_{\sigma\xi e}\right)\left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\sigma\xi} \sigma^\rho \epsilon^{ebd} \bar{u}_{Rd}\right)$

A.50 Type: $u\bar{u}\gamma^+\gamma^+\left(d\bar{d}\gamma^+\gamma^+\right)$

A.50.1 Dimension = 7, $\mathcal{O}_7^{1\sim 2}$

Type: $u\bar{u}\gamma^+\gamma^+ \quad d=7 \quad \mathcal{O}_7^{1\sim 2}$	
$\gamma^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(u^a_R \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\mu\nu} \bar{u}_{La}\right)$	$\gamma^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(u^a_L \bar{u}_{Ra}\right) \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right)$

A.51 Type: $u\bar{u}\gamma^+\gamma^-\left(d\bar{d}\gamma^+\gamma^-\right)$

A.51.1 Dimension = 8, $\mathcal{O}_8^{1\sim 2}$

Type: $u\bar{u}\gamma^+\gamma^-$ $\quad d=8 \quad \mathcal{O}_8^{1\sim2}$	
$\gamma^+_{\nu\rho}\gamma^-_{\sigma\xi}\left(\left(D_\mu\bar{u}_{La}\right)\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\mu}\sigma^{\sigma\xi}u^a_L\right)$	$\gamma^+_{\nu\rho}\gamma^-_{\sigma\xi}\left(u^a_R\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\mu}\sigma^{\sigma\xi}\left(D_\mu\bar{u}_{Ra}\right)\right)$

A.52 Type: $u\bar{u}\gamma^+Z\,(d\bar{d}\gamma^+Z)$

A.52.1 Dimension = 6, $\mathcal{O}_6^{1\sim2}$

Type: $u\bar{u}\gamma^+Z \quad d=6 \quad \mathcal{O}_6^{1\sim2}$	
$Z_\mu\gamma^+_{\nu\rho}\left(\bar{u}_{La}\bar{\sigma}^{\nu\rho}\sigma^{\mu}u^a_L\right)$	$Z_\mu\gamma^+_{\nu\rho}\left(u^a_R\bar{\sigma}^{\nu\rho}\sigma^{\mu}\bar{u}_{Ra}\right)$

A.52.2 Dimension = 7, $\mathcal{O}_7^{1\sim6}$

Type: $u\bar{u}\gamma^+Z \quad d=7 \quad \mathcal{O}_7^{1\sim6}$	
$Z^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(u^a_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\bar{u}_{La}\right)$	$Z_\nu\left(D_\mu\gamma^+_{\rho\sigma}\right)\left(u^a_R\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\rho\sigma}\bar{u}_{La}\right)$
$Z^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(u^a_R\bar{u}_{La}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$\left(D_\mu Z_\nu\right)\gamma^+_{\rho\sigma}\left(u^a_L\bar{\sigma}^{\mu}\bar{\sigma}^{\rho\sigma}\sigma^{\nu}\bar{u}_{Ra}\right)$
$Z^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(u^a_L\bar{u}_{Ra}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$Z_\nu\gamma^+_{\rho\sigma}\left(u^a_R\bar{\sigma}^{\rho\sigma}\left(D_\mu\bar{u}_{La}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$

A.52.3 Dimension = 8, $\mathcal{O}_8^{1\sim8}$

Type: $u\bar{u}\gamma^+Z \quad d=8 \quad \mathcal{O}_8^{1\sim8}$
$Z^-_{\nu\rho}\gamma^+_{\sigma\xi}\left(\left(D_\mu\bar{u}_{La}\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}u^a_L\right)$
$Z^-_{\nu\rho}\gamma^+_{\sigma\xi}\left(u^a_R\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}\left(D_\mu\bar{u}_{Ra}\right)\right)$
$Z^+_{\nu\rho}\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\bar{u}_{La}\bar{\sigma}^{\mu}u^a_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$
$Z^+_{\nu\rho}\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(u^a_R\bar{\sigma}^{\mu}\bar{u}_{Ra}\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$
$Z_\rho\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\left(D_\nu\bar{u}_{La}\right)\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}u^a_L\right)$
$\left(D_\nu Z_\rho\right)\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\bar{u}_{La}\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}u^a_L\right)$

$Z_\rho \left(D_\mu \gamma^+_{\sigma\xi}\right) \left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\sigma\xi} \sigma^\rho \left(D_\nu \bar{u}_{Ra}\right)\right)$
$\left(D_\nu Z_\rho\right) \left(D_\mu \gamma^+_{\sigma\xi}\right) \left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\sigma\xi} \sigma^\rho \bar{u}_{Ra}\right)$

A.53 Type: $u\bar{u}ZZ\,(d\bar{d}ZZ)$

A.53.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $u\bar{u}ZZ \quad d=5 \quad \mathcal{O}_5^{1\sim2}$	
$Z_\mu Z_\nu \left(u^a_R \bar{\sigma}^\mu \bar{\sigma}^\nu \bar{u}_{La}\right)$	$Z_\mu Z_\nu \left(u^a_L \sigma^\mu \bar{\sigma}^\nu \bar{u}_{Ra}\right)$

A.53.2 Dimension = 6, $\mathcal{O}_6^{1\sim6}$

Type: $u\bar{u}ZZ \quad d=6 \quad \mathcal{O}_6^{1\sim6}$	
$Z_\mu Z^+_{\nu\rho} \left(\bar{u}_{La} \bar{\sigma}^{\nu\rho} \sigma^\mu u^a_L\right)$	$Z^-_{\mu\nu} Z_\rho \left(u^a_R \bar{\sigma}^\rho \sigma^{\mu\nu} \bar{u}_{Ra}\right)$
$Z_\mu Z^+_{\nu\rho} \left(u^a_R \bar{\sigma}^{\nu\rho} \sigma^\mu \bar{u}_{Ra}\right)$	$Z_\nu Z_\rho \left(\left(D_\mu \bar{u}_{La}\right) \bar{\sigma}^\rho \bar{\sigma}^\mu \sigma^\nu u^a_L\right)$
$Z^-_{\mu\nu} Z_\rho \left(\bar{u}_{La} \bar{\sigma}^\rho \sigma^{\mu\nu} u^a_L\right)$	$Z_\nu Z_\rho \left(u^a_R \bar{\sigma}^\rho \left(D_\mu \bar{u}_{Ra}\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$

A.53.3 Dimension = 7, $\mathcal{O}_7^{1\sim14}$

Type: $u\bar{u}ZZ \quad d=7 \quad \mathcal{O}_7^{1\sim14}$	
$Z^+_{\mu\nu} Z^+_{\rho\sigma} \left(u^a_R \bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma} \bar{u}_{La}\right)$	$Z_\nu Z^-_{\rho\sigma} \left(u^a_L \sigma^\nu \bar{\sigma}^\mu \sigma^{\rho\sigma} \left(D_\mu \bar{u}_{Ra}\right)\right)$
$Z^-_{\mu\nu} Z^-_{\rho\sigma} \left(u^a_L \sigma^{\mu\nu} \sigma^{\rho\sigma} \bar{u}_{Ra}\right)$	$Z_\nu Z^+_{\rho\sigma} \left(u^a_R \bar{\sigma}^{\rho\sigma} \left(D_\mu \bar{u}_{La}\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$Z^+_{\mu\nu} Z^+_{\rho\sigma} \left(u^a_L \bar{u}_{Ra}\right) \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right)$	$Z_\nu \left(D_\mu Z^+_{\rho\sigma}\right) \left(u^a_R \bar{\sigma}^{\rho\sigma} \bar{u}_{La}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$Z^-_{\mu\nu} Z^-_{\rho\sigma} \left(u^a_R \bar{u}_{La}\right) \mathrm{Tr}\left(\sigma^{\mu\nu} \sigma^{\rho\sigma}\right)$	$\left(D_\mu Z_\rho\right) Z_\sigma \left(u^a_R \bar{\sigma}^\sigma \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \left(D_\nu \bar{u}_{La}\right)\right)$
$\left(D_\mu Z_\nu\right) Z^+_{\rho\sigma} \left(u^a_L \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \sigma^\nu \bar{u}_{Ra}\right)$	$Z_\rho \left(D_\mu Z_\sigma\right) \left(u^a_R \bar{\sigma}^\sigma \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \left(D_\nu \bar{u}_{La}\right)\right)$
$Z^-_{\nu\rho} \left(D_\mu Z_\sigma\right) \left(u^a_R \bar{\sigma}^\sigma \sigma^{\nu\rho} \bar{\sigma}^\mu \bar{u}_{La}\right)$	$Z_\rho \left(D_\mu Z_\sigma\right) \left(u^a_L \sigma^\rho \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\sigma \left(D_\nu \bar{u}_{Ra}\right)\right)$

$Z^-_{\nu\rho} Z_\sigma \left(u^a_L \sigma^{\nu\rho} \bar{\sigma}^\mu \sigma^\sigma \left(D_\mu \bar{u}_{Ra}\right)\right)$	$\left(D_\nu Z_\rho\right) \left(D_\mu Z_\sigma\right) \left(\bar{u}_{Ra} \bar{\sigma}^\mu \sigma^\rho \sigma^\sigma \bar{\sigma}^\nu u^a_L\right)$

A.53.4 Dimension = 8, $\mathcal{O}_8^{1\sim12}$

Type: $u\bar{u}ZZ \quad d=8 \quad \mathcal{O}_8^{1\sim12}$
$Z^-_{\nu\rho} Z^+_{\sigma\xi} \left(\left(D_\mu \bar{u}_{La}\right) \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu \sigma^{\nu\rho} u^a_L\right)$
$Z^-_{\nu\rho} Z^+_{\sigma\xi} \left(u^a_R \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu \sigma^{\nu\rho} \left(D_\mu \bar{u}_{Ra}\right)\right)$
$Z^-_{\rho\sigma} Z_\xi \left(u^a_R \bar{\sigma}^\mu \sigma^{\rho\sigma} \bar{\sigma}^\nu \sigma^\xi \left(D_\mu D_\nu \bar{u}_{Ra}\right)\right)$
$Z_\rho \left(D_\mu Z^+_{\sigma\xi}\right) \left(\left(D_\nu \bar{u}_{La}\right) \bar{\sigma}^{\sigma\xi} \sigma^\nu \bar{\sigma}^\mu \sigma^\rho u^a_L\right)$
$Z_\rho \left(D_\mu Z^+_{\sigma\xi}\right) \left(u^a_R \bar{\sigma}^{\sigma\xi} \sigma^\nu \bar{\sigma}^\mu \sigma^\rho \left(D_\nu \bar{u}_{Ra}\right)\right)$
$\left(D_\nu Z_\rho\right) \left(D_\mu Z^+_{\sigma\xi}\right) \left(u^a_R \bar{\sigma}^{\sigma\xi} \sigma^\nu \bar{\sigma}^\mu \sigma^\rho \bar{u}_{Ra}\right)$
$Z^-_{\rho\sigma} \left(D_\mu Z_\xi\right) \left(\left(D_\nu \bar{u}_{La}\right) \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \sigma^{\rho\sigma} u^a_L\right)$
$\left(D_\nu Z^-_{\rho\sigma}\right) \left(D_\mu Z_\xi\right) \left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \sigma^{\rho\sigma} \bar{u}_{Ra}\right)$
$Z_\sigma \left(D_\mu Z_\xi\right) \left(\left(D_\nu D_\rho \bar{u}_{La}\right) \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \bar{\sigma}^\rho \sigma^\sigma u^a_L\right)$
$Z_\sigma \left(D_\mu D_\rho Z_\xi\right) \left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \sigma^\sigma \bar{\sigma}^\rho \left(D_\nu \bar{u}_{Ra}\right)\right)$
$Z^+_{\rho\sigma} \left(D_\nu Z_\xi\right) \left(\left(D_\mu \bar{u}_{La}\right) \bar{\sigma}^\xi u^a_L\right) \mathrm{Tr} \left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$
$\left(D_\mu Z^-_{\rho\sigma}\right) Z_\xi \left(\left(D_\nu \bar{u}_{La}\right) \bar{\sigma}^\mu u^a_L\right) \mathrm{Tr} \left(\bar{\sigma}^\nu \sigma^{\rho\sigma} \sigma^\xi\right)$

A.54 Type: $e^- e^+ W^+ W^- \left(\nu\bar{\nu} W^+ W^-\right)$

A.54.1 Dimension = 5, $\mathcal{O}_5^{1\sim4}$

Type: $e^- e^+ W^+ W^- \quad d=5 \quad \mathcal{O}_5^{1\sim4}$		
$\left(W^+\right)_\mu \left(W^-\right)_\nu \left(e_R \bar{\sigma}^\mu \bar{\sigma}^\nu \bar{e}_L\right)$	$\left(W^+\right)_\mu \left(W^-\right)_\nu \left(e_L \sigma^\mu \bar{\sigma}^\nu \bar{e}_R\right)$	$\left(W^+\right)_\mu \left(W^-\right)_\nu \left(e_R \bar{e}_L\right) \mathrm{Tr} \left(\sigma^\mu \bar{\sigma}^\nu\right)$

$(W^+)_\mu (W^-)_\nu \left(e_L \bar{e}_R\right) \mathrm{Tr}\left(\sigma^\mu \bar{\sigma}^\nu\right)$		

A.54.2 Dimension = 6, $\mathcal{O}_6^{1\sim12}$

Type: $e^- e^+ W^+ W^-$ $\quad d=6 \quad \mathcal{O}_6^{1\sim12}$	
$(W^+)_\mu (W^-)^+_{\nu\rho} \left(\bar{e}_L \bar{\sigma}^{\nu\rho} \sigma^\mu e_L\right)$	$(W^+)_\mu (W^-)^-_{\nu\rho} \left(\bar{e}_L \bar{\sigma}^{\mu} \sigma^{\nu\rho} e_L\right)$
$(W^+)_\mu (W^-)^+_{\nu\rho} \left(e_R \bar{\sigma}^{\nu\rho} \sigma^\mu \bar{e}_R\right)$	$(W^+)_\mu (W^-)^-_{\nu\rho} \left(e_R \bar{\sigma}^{\mu} \sigma^{\nu\rho} \bar{e}_R\right)$
$(W^+)^+_{\mu\nu} (W^-)_\rho \left(\bar{e}_L \bar{\sigma}^{\mu\nu} \bar{\sigma}^\rho e_L\right)$	$(W^+)_\nu (W^-)_\rho \left(\left(D_\mu \bar{e}_L\right) \bar{\sigma}^\rho \bar{\sigma}^\mu \sigma^\nu e_L\right)$
$(W^+)^+_{\mu\nu} (W^-)_\rho \left(e_R \bar{\sigma}^{\mu\nu} \bar{\sigma}^\rho \bar{e}_R\right)$	$(W^+)_\nu \left(D_\mu (W^-)_\rho\right) \left(\bar{e}_L \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu e_L\right)$
$(W^+)^-_{\mu\nu} (W^-)_\rho \left(\bar{e}_L \bar{\sigma}^\rho \sigma^{\mu\nu} e_L\right)$	$(W^+)_\nu \left(D_\mu (W^-)_\rho\right) \left(e_R \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \bar{e}_R\right)$
$(W^+)^-_{\mu\nu} (W^-)_\rho \left(e_R \bar{\sigma}^\rho \sigma^{\mu\nu} \bar{e}_R\right)$	$(W^+)_\nu (W^-)_\rho \left(e_R \bar{\sigma}^\rho \left(D_\mu \bar{e}_R\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$

A.54.3 Dimension = 7, $\mathcal{O}_7^{1\sim24}$

Type: $e^- e^+ W^+ W^-$ $\quad d=7 \quad \mathcal{O}_7^{1\sim24}$	
$(W^+)^+_{\mu\nu} (W^-)^+_{\rho\sigma} \left(e_R \bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma} \bar{e}_L\right)$	$(W^+)_\nu (W^-)^-_{\rho\sigma} \left(e_L \sigma^\nu \bar{\sigma}^\mu \sigma^{\rho\sigma} \left(D_\mu \bar{e}_R\right)\right)$
$(W^+)^-_{\mu\nu} (W^-)^-_{\rho\sigma} \left(e_L \sigma^{\mu\nu} \sigma^{\rho\sigma} \bar{e}_R\right)$	$\left(D_\mu (W^+)^-_{\nu\rho}\right) (W^-)_\sigma \left(e_L \bar{\sigma}^\mu \sigma^\sigma \sigma^{\nu\rho} \bar{e}_R\right)$
$(W^+)^+_{\mu\nu} (W^-)^+_{\rho\sigma} \left(e_R \bar{e}_L\right) \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right)$	$(W^+)_\nu \left(D_\mu (W^-)^-_{\rho\sigma}\right) \left(e_L \bar{\sigma}^\mu \sigma^\nu \sigma^{\rho\sigma} \bar{e}_R\right)$
$(W^+)^+_{\mu\nu} (W^-)^+_{\rho\sigma} \left(e_L \bar{e}_R\right) \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right)$	$(W^+)_\nu (W^-)^+_{\rho\sigma} \left(e_R \bar{\sigma}^{\rho\sigma} \left(D_\mu \bar{e}_L\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^+)^+_{\nu\rho} (W^-)_\sigma \left(e_R \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu \bar{\sigma}^\sigma \left(D_\mu \bar{e}_L\right)\right)$	$(W^+)_\nu \left(D_\mu (W^-)^+_{\rho\sigma}\right) \left(e_R \bar{\sigma}^{\rho\sigma} \bar{e}_L\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^+)^-_{\mu\nu} (W^-)^-_{\rho\sigma} \left(e_R \bar{e}_L\right) \mathrm{Tr}\left(\sigma^{\mu\nu} \sigma^{\rho\sigma}\right)$	$(W^-)_\nu \left(D_\mu (W^+)^+_{\rho\sigma}\right) \left(e_R \bar{\sigma}^{\rho\sigma} \bar{e}_L\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$\left(D_\mu (W^+)_\nu\right) (W^-)^+_{\rho\sigma} \left(e_L \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \sigma^\nu \bar{e}_R\right)$	$\left(D_\mu (W^+)_\rho\right) (W^-)_\sigma \left(e_R \bar{\sigma}^\sigma \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \left(D_\nu \bar{e}_L\right)\right)$
$(W^+)^+_{\nu\rho} \left(D_\mu (W^-)_\sigma\right) \left(e_L \bar{\sigma}^\mu \bar{\sigma}^{\nu\rho} \bar{\sigma}^\sigma \bar{e}_R\right)$	$(W^+)_\rho \left(D_\mu (W^-)_\sigma\right) \left(e_R \bar{\sigma}^\sigma \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \left(D_\nu \bar{e}_L\right)\right)$

$(W^+)^-_{\nu\rho}\left(D_\mu(W^-)_\sigma\right)\left(e_R\bar{\sigma}^\sigma\sigma^{\nu\rho}\bar{\sigma}^\mu\bar{e}_L\right)$	$(W^+)_\rho\left(D_\mu(W^-)_\sigma\right)\left(e_R\bar{\sigma}^\rho\bar{\sigma}^\sigma\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\bar{e}_L\right)\right)$
$\left(D_\mu(W^+)_\nu\right)(W^-)^-_{\rho\sigma}\left(e_R\bar{\sigma}^\nu\sigma^{\rho\sigma}\bar{\sigma}^\mu\bar{e}_L\right)$	$(W^+)_\rho\left(D_\mu(W^-)_\sigma\right)\left(e_L\sigma^\rho\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\sigma\left(D_\nu\bar{e}_R\right)\right)$
$(W^+)^-_{\mu\nu}(W^-)^-_{\rho\sigma}\left(e_L\bar{e}_R\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$	$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)_\sigma\right)\left(\bar{e}_R\bar{\sigma}^\mu\sigma^\rho\sigma^\sigma\bar{\sigma}^\nu e_L\right)$
$(W^+)^-_{\nu\rho}(W^-)_\sigma\left(e_L\sigma^{\nu\rho}\bar{\sigma}^\mu\sigma^\sigma\left(D_\mu\bar{e}_R\right)\right)$	$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)_\sigma\right)\left(e_L\bar{e}_R\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\sigma\sigma^\rho\right)$

A.54.4 Dimension = 8, $\mathcal{O}_8^{1\sim30}$

Type: $e^-e^+W^+W^-\quad d=8\quad\mathcal{O}_8^{1\sim30}$
$(W^+)^+_{\nu\rho}\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu e_L\right)$
$(W^+)^+_{\nu\rho}\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(e_R\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\bar{e}_R\right)$
$(W^+)^-_{\nu\rho}(W^-)^+_{\sigma\xi}\left(\left(D_\mu\bar{e}_L\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^\mu\sigma^{\nu\rho}e_L\right)$
$(W^+)^-_{\nu\rho}(W^-)^+_{\sigma\xi}\left(e_R\bar{\sigma}^{\sigma\xi}\bar{\sigma}^\mu\sigma^{\nu\rho}\left(D_\mu\bar{e}_R\right)\right)$
$(W^+)^+_{\nu\rho}(W^-)^-_{\sigma\xi}\left(\left(D_\mu\bar{e}_L\right)\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}e_L\right)$
$(W^+)^+_{\nu\rho}(W^-)^-_{\sigma\xi}\left(e_R\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\sigma^{\sigma\xi}\left(D_\mu\bar{e}_R\right)\right)$
$(W^+)^-_{\nu\rho}(W^-)^-_{\sigma\xi}\left(e_R\bar{\sigma}^\mu\sigma^{\nu\rho}\sigma^{\sigma\xi}\left(D_\mu\bar{e}_R\right)\right)$
$(W^+)^-_{\rho\sigma}(W^-)_\xi\left(e_R\bar{\sigma}^\mu\sigma^{\rho\sigma}\bar{\sigma}^\nu\sigma^\xi\left(D_\mu D_\nu\bar{e}_R\right)\right)$
$(W^+)_\rho(W^-)^-_{\sigma\xi}\left(e_R\bar{\sigma}^\mu\sigma^\rho\bar{\sigma}^\nu\sigma^{\sigma\xi}\left(D_\mu D_\nu\bar{e}_R\right)\right)$
$(W^+)_\rho\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(\left(D_\nu\bar{e}_L\right)\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho e_L\right)$
$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho e_L\right)$
$(W^+)_\rho\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(e_R\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\left(D_\nu\bar{e}_R\right)\right)$
$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(e_R\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\bar{e}_R\right)$
$(W^+)^+_{\rho\sigma}\left(D_\mu(W^-)_\xi\right)\left(e_R\bar{\sigma}^{\rho\sigma}\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\left(D_\nu\bar{e}_R\right)\right)$

$\left(D_\mu (W^+)^-_{\nu\rho}\right) (W^-)^-_{\sigma\xi} (\bar{e}_L \bar{\sigma}^\mu e_L) \operatorname{Tr}\left(\sigma^{\nu\rho}\sigma^{\sigma\xi}\right)$
$(W^+)^-_{\rho\sigma} \left(D_\mu (W^-)_\xi\right) \left((D_\nu \bar{e}_L)\, \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \sigma^{\rho\sigma} e_L\right)$
$\left(D_\nu (W^+)^-_{\rho\sigma}\right) \left(D_\mu (W^-)_\xi\right) \left(e_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \sigma^{\rho\sigma} \bar{e}_R\right)$
$\left(D_\nu (W^+)_\rho\right) \left(D_\mu (W^-)^-_{\sigma\xi}\right) \left(\bar{e}_L \bar{\sigma}^\rho \sigma^{\sigma\xi} \bar{\sigma}^\nu \sigma^\mu e_L\right)$
$(W^+)_\rho \left(D_\mu (W^-)^-_{\sigma\xi}\right) \left(e_R \bar{\sigma}^\rho \sigma^{\sigma\xi} \bar{\sigma}^\nu \sigma^\mu \left(D_\nu \bar{e}_R\right)\right)$
$(W^+)_\sigma \left(D_\mu (W^-)_\xi\right) \left((D_\nu D_\rho \bar{e}_L)\, \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \bar{\sigma}^\rho \sigma^\sigma e_L\right)$
$(W^+)_\sigma \left(D_\mu D_\rho (W^-)_\xi\right) \left(e_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \sigma^\sigma \bar{\sigma}^\rho \left(D_\nu \bar{e}_R\right)\right)$
$(W^+)^+_{\rho\sigma} \left(D_\nu (W^-)_\xi\right) \left((D_\mu \bar{e}_L)\, \bar{\sigma}^\xi e_L\right) \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$
$(W^+)^+_{\rho\sigma} \left(D_\nu (W^-)_\xi\right) \left(e_R \bar{\sigma}^\xi \left(D_\mu \bar{e}_R\right)\right) \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$
$\left(D_\mu (W^-)_\rho\right) \left(D_\nu (W^+)^+_{\sigma\xi}\right) \left(\bar{e}_L \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu e_L\right) \operatorname{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right)$
$\left(D_\mu (W^+)^-_{\rho\sigma}\right) (W^-)_\xi \left((D_\nu \bar{e}_L)\, \bar{\sigma}^\mu e_L\right) \operatorname{Tr}\left(\bar{\sigma}^\nu \sigma^{\rho\sigma} \sigma^\xi\right)$
$\left(D_\mu (W^+)_\rho\right) (W^-)^-_{\sigma\xi} \left((D_\nu \bar{e}_L)\, \bar{\sigma}^\mu e_L\right) \operatorname{Tr}\left(\bar{\sigma}^\nu \sigma^{\sigma\xi} \sigma^\rho\right)$
$\left(D_\mu (W^+)_\sigma\right) (W^-)_\xi \left(e_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \left(D_\nu D_\rho \bar{e}_R\right)\right) \operatorname{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma\right)$
$\left(D_\rho (W^+)_\sigma\right) \left(D_\mu D_\nu (W^-)_\xi\right) (\bar{e}_L \bar{\sigma}^\mu e_L) \operatorname{Tr}\left(\bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\xi \sigma^\sigma\right)$
$\left(D_\rho (W^+)_\sigma\right) \left(D_\mu D_\nu (W^-)_\xi\right) (e_R \bar{\sigma}^\mu \bar{e}_R) \operatorname{Tr}\left(\bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\xi \sigma^\sigma\right)$
$\left(D_\mu (W^+)_\rho\right) (W^-)_\xi \left((D_\nu D_\sigma \bar{e}_L)\, \bar{\sigma}^\mu e_L\right) \operatorname{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right) \operatorname{Tr}\left(\bar{\sigma}^\sigma \sigma^\xi\right)$

A.55 Type: $e^- e^+ g^+ g^+ \left(\nu \bar{\nu} g^+ g^+\right)$

A.55.1 Dimension = 7, $\mathcal{O}_7^{1\sim 2}$

Type: $e^- e^+ g^+ g^+ \quad d = 7 \quad \mathcal{O}_7^{1\sim 2}$	
$G^{+b}_{\mu\nu a} G^{+a}_{\rho\sigma b} \left(e_R \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\mu\nu} \bar{e}_L\right)$	$G^{+b}_{\mu\nu a} G^{+a}_{\rho\sigma b} \left(e_L \bar{e}_R\right) \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right)$

A.56 Type: $e^- e^+ g^+ g^- \, (\nu \bar{\nu} g^+ g^-)$

A.56.1 Dimension = 8, $\mathcal{O}_8^{1\sim 2}$

Type: $e^- e^+ g^+ g^- \quad d=8 \quad \mathcal{O}_8^{1\sim 2}$	
$G^{+b}_{\nu\rho a} G^{-a}_{\sigma\xi b} \left((D_\mu \bar{e}_L) \, \bar{\sigma}^{\nu\rho} \bar{\sigma}^{\mu} \sigma^{\sigma\xi} e_L \right)$	$G^{+b}_{\nu\rho a} G^{-a}_{\sigma\xi b} \left(e_R \bar{\sigma}^{\nu\rho} \bar{\sigma}^{\mu} \sigma^{\sigma\xi} \, (D_\mu \bar{e}_R) \right)$

A.57 Type: $e^- e^+ \gamma^+ \gamma^+ \, (\nu \bar{\nu} \gamma^+ \gamma^+)$

A.57.1 Dimension = 7, $\mathcal{O}_7^{1\sim 2}$

Type: $e^- e^+ \gamma^+ \gamma^+ \quad d=7 \quad \mathcal{O}_7^{1\sim 2}$	
$\gamma^+_{\mu\nu} \gamma^+_{\rho\sigma} \, (e_R \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\mu\nu} \bar{e}_L)$	$\gamma^+_{\mu\nu} \gamma^+_{\rho\sigma} \, (e_L \bar{e}_R) \, \mathrm{Tr} \, (\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma})$

A.58 Type: $e^- e^+ \gamma^+ \gamma^- \, (\nu \bar{\nu} \gamma^+ \gamma^-)$

A.58.1 Dimension = 8, $\mathcal{O}_8^{1\sim 2}$

Type: $e^- e^+ \gamma^+ \gamma^- \quad d=8 \quad \mathcal{O}_8^{1\sim 2}$	
$\gamma^+_{\nu\rho} \gamma^-_{\sigma\xi} \left((D_\mu \bar{e}_L) \, \bar{\sigma}^{\nu\rho} \bar{\sigma}^{\mu} \sigma^{\sigma\xi} e_L \right)$	$\gamma^+_{\nu\rho} \gamma^-_{\sigma\xi} \left(e_R \bar{\sigma}^{\nu\rho} \bar{\sigma}^{\mu} \sigma^{\sigma\xi} \, (D_\mu \bar{e}_R) \right)$

A.59 Type: $e^- e^+ \gamma^+ Z \, (\nu \bar{\nu} \gamma^+ Z)$

A.59.1 Dimension = 6, $\mathcal{O}_6^{1\sim 2}$

Type: $e^- e^+ \gamma^+ Z \quad d=6 \quad \mathcal{O}_6^{1\sim 2}$	
$Z_\mu \gamma^+_{\nu\rho} \, (\bar{e}_L \bar{\sigma}^{\nu\rho} \sigma^{\mu} e_L)$	$Z_\mu \gamma^+_{\nu\rho} \, (e_R \bar{\sigma}^{\nu\rho} \sigma^{\mu} \bar{e}_R)$

A.59.2 Dimension = 7, $\mathcal{O}_7^{1\sim 6}$

Type: $e^- e^+ \gamma^+ Z \quad d=7 \quad \mathcal{O}_7^{1\sim 6}$	
$Z^+_{\mu\nu} \gamma^+_{\rho\sigma} \, (e_R \bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma} \bar{e}_L)$	$Z_\nu \left(D_\mu \gamma^+_{\rho\sigma} \right) (e_R \bar{\sigma}^{\mu} \sigma^{\nu} \bar{\sigma}^{\rho\sigma} \bar{e}_L)$
$Z^+_{\mu\nu} \gamma^+_{\rho\sigma} \, (e_R \bar{e}_L) \, \mathrm{Tr} \, (\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma})$	$(D_\mu Z_\nu) \, \gamma^+_{\rho\sigma} \, (e_L \bar{\sigma}^{\mu} \bar{\sigma}^{\rho\sigma} \sigma^{\nu} \bar{e}_R)$

$Z^{+}_{\mu\nu}\gamma^{+}_{\rho\sigma}\left(e_L\bar{e}_R\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$Z_\nu\gamma^{+}_{\rho\sigma}\left(e_R\bar{\sigma}^{\rho\sigma}\left(D_\mu\bar{e}_L\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$

A.59.3 Dimension = 8, $\mathcal{O}_8^{1\sim8}$

Type: $e^-e^+\gamma^+Z \quad d=8 \quad \mathcal{O}_8^{1\sim8}$	
$Z^{-}_{\nu\rho}\gamma^{+}_{\sigma\xi}\left(\left(D_\mu\bar{e}_L\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}e_L\right)$	$Z_\rho\left(D_\mu\gamma^{+}_{\sigma\xi}\right)\left(\left(D_\nu\bar{e}_L\right)\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}e_L\right)$
$Z^{-}_{\nu\rho}\gamma^{+}_{\sigma\xi}\left(e_R\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}\left(D_\mu\bar{e}_R\right)\right)$	$\left(D_\nu Z_\rho\right)\left(D_\mu\gamma^{+}_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}e_L\right)$
$Z^{+}_{\nu\rho}\left(D_\mu\gamma^{+}_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\mu}e_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$	$Z_\rho\left(D_\mu\gamma^{+}_{\sigma\xi}\right)\left(e_R\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}\left(D_\nu\bar{e}_R\right)\right)$
$Z^{+}_{\nu\rho}\left(D_\mu\gamma^{+}_{\sigma\xi}\right)\left(e_R\bar{\sigma}^{\mu}\bar{e}_R\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$	$\left(D_\nu Z_\rho\right)\left(D_\mu\gamma^{+}_{\sigma\xi}\right)\left(e_R\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}\bar{e}_R\right)$

A.60 Type: $e^-e^+ZZ\,(\nu\bar{\nu}ZZ)$

A.60.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $e^-e^+ZZ \quad d=5 \quad \mathcal{O}_5^{1\sim2}$	
$Z_\mu Z_\nu\left(e_R\bar{\sigma}^{\mu}\bar{\sigma}^{\nu}\bar{e}_L\right)$	$Z_\mu Z_\nu\left(e_L\sigma^{\mu}\bar{\sigma}^{\nu}\bar{e}_R\right)$

A.60.2 Dimension = 6, $\mathcal{O}_6^{1\sim6}$

Type: $e^-e^+ZZ \quad d=6 \quad \mathcal{O}_6^{1\sim6}$	
$Z_\mu Z^{+}_{\nu\rho}\left(\bar{e}_L\bar{\sigma}^{\nu\rho}\sigma^{\mu}e_L\right)$	$Z^{-}_{\mu\nu}Z_\rho\left(e_R\bar{\sigma}^{\rho}\sigma^{\mu\nu}\bar{e}_R\right)$
$Z_\mu Z^{+}_{\nu\rho}\left(e_R\bar{\sigma}^{\nu\rho}\sigma^{\mu}\bar{e}_R\right)$	$Z_\nu Z_\rho\left(\left(D_\mu\bar{e}_L\right)\bar{\sigma}^{\rho}\bar{\sigma}^{\mu}\sigma^{\nu}e_L\right)$
$Z^{-}_{\mu\nu}Z_\rho\left(\bar{e}_L\bar{\sigma}^{\rho}\sigma^{\mu\nu}e_L\right)$	$Z_\nu Z_\rho\left(e_R\bar{\sigma}^{\rho}\left(D_\mu\bar{e}_R\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$

A.60.3 Dimension = 7, $\mathcal{O}_7^{1\sim14}$

Type: $e^-e^+ZZ \quad d=7 \quad \mathcal{O}_7^{1\sim14}$	
$Z^+_{\mu\nu}Z^+_{\rho\sigma}\left(e_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\bar{e}_L\right)$	$Z_\nu Z^-_{\rho\sigma}\left(e_L\sigma^\nu\bar{\sigma}^\mu\sigma^{\rho\sigma}\left(D_\mu\bar{e}_R\right)\right)$
$Z^-_{\mu\nu}Z^-_{\rho\sigma}\left(e_L\sigma^{\mu\nu}\sigma^{\rho\sigma}\bar{e}_R\right)$	$Z_\nu Z^+_{\rho\sigma}\left(e_R\bar{\sigma}^{\rho\sigma}\left(D_\mu\bar{e}_L\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$Z^+_{\mu\nu}Z^+_{\rho\sigma}\left(e_L\bar{e}_R\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$Z_\nu\left(D_\mu Z^+_{\rho\sigma}\right)\left(e_R\bar{\sigma}^{\rho\sigma}\bar{e}_L\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$Z^-_{\mu\nu}Z^-_{\rho\sigma}\left(e_R\bar{e}_L\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$	$\left(D_\mu Z_\rho\right)Z_\sigma\left(e_R\bar{\sigma}^\sigma\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\bar{e}_L\right)\right)$
$\left(D_\mu Z_\nu\right)Z^+_{\rho\sigma}\left(e_L\bar{\sigma}^\mu\bar{\sigma}^{\rho\sigma}\sigma^\nu\bar{e}_R\right)$	$Z_\rho\left(D_\mu Z_\sigma\right)\left(e_R\bar{\sigma}^\sigma\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\bar{e}_L\right)\right)$
$Z^-_{\nu\rho}\left(D_\mu Z_\sigma\right)\left(e_R\bar{\sigma}^\sigma\sigma^{\nu\rho}\bar{\sigma}^\mu\bar{e}_L\right)$	$Z_\rho\left(D_\mu Z_\sigma\right)\left(e_L\sigma^\rho\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\sigma\left(D_\nu\bar{e}_R\right)\right)$
$Z^-_{\nu\rho}Z_\sigma\left(e_L\sigma^{\nu\rho}\bar{\sigma}^\mu\sigma^\sigma\left(D_\mu\bar{e}_R\right)\right)$	$\left(D_\nu Z_\rho\right)\left(D_\mu Z_\sigma\right)\left(\bar{e}_R\bar{\sigma}^\mu\sigma^\rho\sigma^\sigma\bar{\sigma}^\nu e_L\right)$

A.60.4 Dimension = 8, $\mathcal{O}_8^{1\sim12}$

Type: $e^-e^+ZZ \quad d=8 \quad \mathcal{O}_8^{1\sim12}$
$Z^-_{\nu\rho}Z^+_{\sigma\xi}\left(\left(D_\mu\bar{e}_L\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^\mu\sigma^{\nu\rho}e_L\right)$
$Z^-_{\nu\rho}Z^+_{\sigma\xi}\left(e_R\bar{\sigma}^{\sigma\xi}\bar{\sigma}^\mu\sigma^{\nu\rho}\left(D_\mu\bar{e}_R\right)\right)$
$Z^-_{\rho\sigma}Z_\xi\left(e_R\bar{\sigma}^\mu\sigma^{\rho\sigma}\bar{\sigma}^\nu\sigma^\xi\left(D_\mu D_\nu\bar{e}_R\right)\right)$
$Z_\rho\left(D_\mu Z^+_{\sigma\xi}\right)\left(\left(D_\nu\bar{e}_L\right)\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho e_L\right)$
$Z_\rho\left(D_\mu Z^+_{\sigma\xi}\right)\left(e_R\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\left(D_\nu\bar{e}_R\right)\right)$
$\left(D_\nu Z_\rho\right)\left(D_\mu Z^+_{\sigma\xi}\right)\left(e_R\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\bar{e}_R\right)$
$Z^-_{\rho\sigma}\left(D_\mu Z_\xi\right)\left(\left(D_\nu\bar{e}_L\right)\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\sigma^{\rho\sigma}e_L\right)$
$\left(D_\nu Z^-_{\rho\sigma}\right)\left(D_\mu Z_\xi\right)\left(e_R\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\sigma^{\rho\sigma}\bar{e}_R\right)$
$Z_\sigma\left(D_\mu Z_\xi\right)\left(\left(D_\nu D_\rho\bar{e}_L\right)\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\bar{\sigma}^\rho\sigma^\sigma e_L\right)$
$Z_\sigma\left(D_\mu D_\rho Z_\xi\right)\left(e_R\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\sigma^\sigma\bar{\sigma}^\rho\left(D_\nu\bar{e}_R\right)\right)$

$Z^{+}_{\rho\sigma}\left(D_\nu Z_\xi\right)\left(\left(D_\mu \bar{e}_L\right)\bar{\sigma}^\xi e_L\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\rho\sigma}\right)$
$\left(D_\mu Z^{-}_{\rho\sigma}\right)Z_\xi\left(\left(D_\nu \bar{e}_L\right)\bar{\sigma}^\mu e_L\right)\mathrm{Tr}\left(\bar{\sigma}^\nu\sigma^{\rho\sigma}\sigma^\xi\right)$

A.61 Type: $\nu\nu W^+W^-\,(\bar{\nu}\bar{\nu}W^+W^-)$

A.61.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $\nu\nu W^+W^-\quad d=5\quad \mathcal{O}_5^{1\sim2}$	
$(W^+)_\mu(W^-)_\nu\left(\nu_R\bar{\sigma}^\mu\bar{\sigma}^\nu\nu_R\right)$	$(W^+)_\mu(W^-)_\nu\left(\nu_L\sigma^\mu\bar{\sigma}^\nu\nu_L\right)$

A.61.2 Dimension = 6, $\mathcal{O}_6^{1\sim6}$

Type: $\nu\nu W^+W^-\quad d=6\quad \mathcal{O}_6^{1\sim6}$		
$(W^+)_\mu(W^-)^{+}_{\nu\rho}\left(\nu_R\bar{\sigma}^{\nu\rho}\sigma^\mu\nu_L\right)$	$(W^+)^{-}_{\mu\nu}(W^-)_\rho\left(\nu_R\bar{\sigma}^\rho\sigma^{\mu\nu}\nu_L\right)$	$(W^+)_\nu(W^-)_\rho\left(\left(D_\mu\nu_R\right)\bar{\sigma}^\rho\bar{\sigma}^\mu\sigma^\nu\nu_L\right)$
$(W^+)^{+}_{\mu\nu}(W^-)_\rho\left(\nu_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^\rho\nu_L\right)$	$(W^+)_\mu(W^-)^{-}_{\nu\rho}\left(\nu_R\bar{\sigma}^\mu\sigma^{\nu\rho}\nu_L\right)$	$(W^+)_\nu\left(D_\mu(W^-)_\rho\right)\left(\nu_R\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\nu_L\right)$

A.61.3 Dimension = 7, $\mathcal{O}_7^{1\sim12}$

Type: $\nu\nu W^+W^-\quad d=7\quad \mathcal{O}_7^{1\sim12}$	
$(W^+)^{+}_{\mu\nu}(W^-)^{+}_{\rho\sigma}\left(\nu_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\nu_R\right)$	$(W^+)_\nu(W^-)^{-}_{\rho\sigma}\left(\nu_L\sigma^\nu\bar{\sigma}^\mu\sigma^{\rho\sigma}\left(D_\mu\nu_L\right)\right)$
$(W^+)^{-}_{\mu\nu}(W^-)^{-}_{\rho\sigma}\left(\nu_L\sigma^{\mu\nu}\sigma^{\rho\sigma}\nu_L\right)$	$(W^+)_\nu(W^-)^{+}_{\rho\sigma}\left(\nu_R\bar{\sigma}^{\rho\sigma}\left(D_\mu\nu_R\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$(W^+)^{+}_{\mu\nu}(W^-)^{+}_{\rho\sigma}\left(\nu_L\nu_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$\left(D_\mu(W^+)_\rho\right)(W^-)_\sigma\left(\nu_R\bar{\sigma}^\sigma\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\nu_R\right)\right)$
$(W^+)^{+}_{\nu\rho}(W^-)_\sigma\left(\nu_R\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\bar{\sigma}^\sigma\left(D_\mu\nu_R\right)\right)$	$(W^+)_\rho\left(D_\mu(W^-)_\sigma\right)\left(\nu_R\bar{\sigma}^\sigma\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\nu_R\right)\right)$
$(W^+)^{-}_{\mu\nu}(W^-)^{-}_{\rho\sigma}\left(\nu_R\nu_R\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$	$(W^+)_\rho\left(D_\mu(W^-)_\sigma\right)\left(\nu_L\sigma^\rho\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\sigma\left(D_\nu\nu_L\right)\right)$
$(W^+)^{-}_{\nu\rho}(W^-)_\sigma\left(\nu_L\sigma^{\nu\rho}\bar{\sigma}^\mu\sigma^\sigma\left(D_\mu\nu_L\right)\right)$	$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)_\sigma\right)\left(\nu_L\bar{\sigma}^\mu\sigma^\rho\sigma^\sigma\bar{\sigma}^\nu\nu_L\right)$

A.61.4 Dimension = 8, $\mathcal{O}_8^{1\sim15}$

Type: $\nu\nu W^+W^-\quad d=8\quad \mathcal{O}_8^{1\sim15}$
$(W^+)^+_{\nu\rho}\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(\nu_R\bar\sigma^{\sigma\xi}\bar\sigma^{\nu\rho}\bar\sigma^\mu\nu_L\right)$
$(W^+)^-_{\nu\rho}(W^-)^+_{\sigma\xi}\left((D_\mu\nu_R)\,\bar\sigma^{\sigma\xi}\bar\sigma^\mu\sigma^{\nu\rho}\nu_L\right)$
$(W^+)^+_{\nu\rho}(W^-)^-_{\sigma\xi}\left((D_\mu\nu_R)\,\bar\sigma^{\nu\rho}\bar\sigma^\mu\sigma^{\sigma\xi}\nu_L\right)$
$(W^+)^-_{\nu\rho}(W^-)^-_{\sigma\xi}\left(\nu_R\bar\sigma^\mu\sigma^{\nu\rho}\sigma^{\sigma\xi}\,(D_\mu\nu_L)\right)$
$(W^+)^-_{\rho\sigma}(W^-)_\xi\left(\nu_R\bar\sigma^\mu\sigma^{\rho\sigma}\bar\sigma^\nu\sigma^\xi\,(D_\mu D_\nu\nu_L)\right)$
$(W^+)_\rho(W^-)^-_{\sigma\xi}\left(\nu_R\bar\sigma^\mu\sigma^\rho\bar\sigma^\nu\sigma^{\sigma\xi}\,(D_\mu D_\nu\nu_L)\right)$
$(W^+)_\rho\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left((D_\nu\nu_R)\,\bar\sigma^{\sigma\xi}\sigma^\nu\bar\sigma^\mu\sigma^\rho\nu_L\right)$
$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(\nu_R\bar\sigma^{\sigma\xi}\sigma^\nu\bar\sigma^\mu\sigma^\rho\nu_L\right)$
$(W^+)^-_{\rho\sigma}\left(D_\mu(W^-)_\xi\right)\left((D_\nu\nu_R)\,\bar\sigma^\mu\sigma^\nu\bar\sigma^\xi\sigma^{\rho\sigma}\nu_L\right)$
$\left(D_\nu(W^+)_\rho\right)\left(D_\mu(W^-)^-_{\sigma\xi}\right)\left(\nu_R\bar\sigma^\rho\sigma^{\sigma\xi}\bar\sigma^\nu\sigma^\mu\nu_L\right)$
$(W^+)_\sigma\left(D_\mu(W^-)_\xi\right)\left((D_\nu D_\rho\nu_R)\,\bar\sigma^\mu\sigma^\nu\bar\sigma^\xi\bar\sigma^\rho\sigma^\sigma\nu_L\right)$
$(W^+)^+_{\rho\sigma}\left(D_\nu(W^-)_\xi\right)\left((D_\mu\nu_R)\,\bar\sigma^\xi\nu_L\right)\mathrm{Tr}\,(\bar\sigma^\mu\sigma^\nu\bar\sigma^{\rho\sigma})$
$\left(D_\mu(W^-)_\rho\right)\left(D_\nu(W^+)^+_{\sigma\xi}\right)\left(\nu_R\bar\sigma^{\sigma\xi}\bar\sigma^\mu\nu_L\right)\mathrm{Tr}\,(\bar\sigma^\nu\sigma^\rho)$
$\left(D_\rho(W^+)_\sigma\right)\left(D_\mu D_\nu(W^-)_\xi\right)(\nu_R\bar\sigma^\mu\nu_L)\,\mathrm{Tr}\left(\bar\sigma^\nu\sigma^\rho\bar\sigma^\xi\sigma^\sigma\right)$
$\left(D_\mu(W^+)_\rho\right)(W^-)_\xi\left((D_\nu D_\sigma\nu_R)\,\bar\sigma^\mu\nu_L\right)\mathrm{Tr}\,(\bar\sigma^\nu\sigma^\rho)\,\mathrm{Tr}\left(\bar\sigma^\sigma\sigma^\xi\right)$

A.62 Type: $\nu\nu g^+g^+\,(\bar\nu\bar\nu g^+g^+)$

A.62.1 Dimension = 7, $\mathcal{O}_7^{1\sim2}$

Type: $\nu\nu g^+ g^+ \quad d=7 \quad \mathcal{O}_7^{1\sim 2}$	
$G^{+b}_{\mu\nu a} G^{+a}_{\rho\sigma b} \left(\nu_R \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\mu\nu} \nu_R\right)$	$G^{+b}_{\mu\nu a} G^{+a}_{\rho\sigma b} \left(\nu_L \nu_L\right) \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right)$

A.63 Type: $\nu\nu g^+ g^- \left(\bar{\nu}\bar{\nu} g^+ g^-\right)$

A.63.1 Dimension = 8, $\mathcal{O}_8^1$

Type: $\nu\nu g^+ g^- \quad d=8 \quad \mathcal{O}_8^1$
$G^{+b}_{\nu\rho a} G^{-a}_{\sigma\xi b} \left(\left(D_\mu \nu_R\right) \bar{\sigma}^{\nu\rho} \bar{\sigma}^{\mu} \sigma^{\sigma\xi} \nu_L\right)$

A.64 Type: $\nu\nu\gamma^+\gamma^+ \left(\bar{\nu}\bar{\nu}\gamma^+\gamma^+\right)$

A.64.1 Dimension = 7, $\mathcal{O}_7^{1\sim 2}$

Type: $\nu\nu\gamma^+\gamma^+ \quad d=7 \quad \mathcal{O}_7^{1\sim 2}$	
$\gamma^+_{\mu\nu}\gamma^+_{\rho\sigma} \left(\nu_R \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\mu\nu} \nu_R\right)$	$\gamma^+_{\mu\nu}\gamma^+_{\rho\sigma} \left(\nu_L \nu_L\right) \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right)$

A.65 Type: $\nu\nu\gamma^+\gamma^- \left(\bar{\nu}\bar{\nu}\gamma^+\gamma^-\right)$

A.65.1 Dimension = 8, $\mathcal{O}_8^1$

Type: $\nu\nu\gamma^+\gamma^- \quad d=8 \quad \mathcal{O}_8^1$
$\gamma^+_{\nu\rho}\gamma^-_{\sigma\xi} \left(\left(D_\mu \nu_R\right) \bar{\sigma}^{\nu\rho} \bar{\sigma}^{\mu} \sigma^{\sigma\xi} \nu_L\right)$

A.66 Type: $\nu\nu\gamma^+ Z \left(\bar{\nu}\bar{\nu}\gamma^+ Z\right)$

A.66.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $\nu\nu\gamma^+ Z \quad d=6 \quad \mathcal{O}_6^1$
$Z_\mu \gamma^+_{\nu\rho} \left(\nu_R \bar{\sigma}^{\nu\rho} \sigma^{\mu} \nu_L\right)$

A.66.2 Dimension = 7, $\mathcal{O}_7^{1\sim 3}$

Type: $\nu\nu\gamma^+Z \quad d=7 \quad \mathcal{O}_7^{1\sim3}$	
$Z^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(\nu_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\nu_R\right)$	$Z^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(\nu_L\nu_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$
$Z_\nu\gamma^+_{\rho\sigma}\left(\nu_R\bar{\sigma}^{\rho\sigma}\left(D_\mu\nu_R\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$	

A.66.3 Dimension = 8, $\mathcal{O}_8^{1\sim4}$

Type: $\nu\nu\gamma^+Z \quad d=8 \quad \mathcal{O}_8^{1\sim4}$	
$Z^-_{\nu\rho}\gamma^+_{\sigma\xi}\left(\left(D_\mu\nu_R\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}\nu_L\right)$	$Z_\rho\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\left(D_\nu\nu_R\right)\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}\nu_L\right)$
$Z^+_{\nu\rho}\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\nu_R\bar{\sigma}^{\mu}\nu_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$	$\left(D_\nu Z_\rho\right)\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\nu_R\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}\nu_L\right)$

A.67 Type: $\nu\nu ZZ\,(\bar{\nu}\bar{\nu}ZZ)$

A.67.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $\nu\nu ZZ \quad d=5 \quad \mathcal{O}_5^{1\sim2}$	
$Z_\mu Z_\nu\left(\nu_R\bar{\sigma}^{\mu}\bar{\sigma}^{\nu}\nu_R\right)$	$Z_\mu Z_\nu\left(\nu_L\sigma^{\mu}\bar{\sigma}^{\nu}\nu_L\right)$

A.67.2 Dimension = 6, $\mathcal{O}_6^{1\sim3}$

Type: $\nu\nu ZZ \quad d=6 \quad \mathcal{O}_6^{1\sim3}$		
$Z_\mu Z^+_{\nu\rho}\left(\nu_R\bar{\sigma}^{\nu\rho}\sigma^{\mu}\nu_L\right)$	$Z^-_{\mu\nu}Z_\rho\left(\nu_R\bar{\sigma}^{\rho}\sigma^{\mu\nu}\nu_L\right)$	$Z_\nu Z_\rho\left(\left(D_\mu\nu_R\right)\bar{\sigma}^{\rho}\bar{\sigma}^{\mu}\sigma^{\nu}\nu_L\right)$

A.67.3 Dimension = 7, $\mathcal{O}_7^{1\sim10}$

Type: $\nu\nu ZZ \quad d=7 \quad \mathcal{O}_7^{1\sim10}$	
$Z^+_{\mu\nu}Z^+_{\rho\sigma}\left(\nu_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\nu_R\right)$	$Z_\nu Z^+_{\rho\sigma}\left(\nu_R\bar{\sigma}^{\rho\sigma}\left(D_\mu\nu_R\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$
$Z^-_{\mu\nu}Z^-_{\rho\sigma}\left(\nu_L\sigma^{\mu\nu}\sigma^{\rho\sigma}\nu_L\right)$	$\left(D_\mu Z_\rho\right)Z_\sigma\left(\nu_R\bar{\sigma}^{\sigma}\bar{\sigma}^{\rho}\sigma^{\nu}\bar{\sigma}^{\mu}\left(D_\nu\nu_R\right)\right)$
$Z^+_{\mu\nu}Z^+_{\rho\sigma}\left(\nu_L\nu_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$Z_\rho\left(D_\mu Z_\sigma\right)\left(\nu_R\bar{\sigma}^{\sigma}\bar{\sigma}^{\rho}\sigma^{\nu}\bar{\sigma}^{\mu}\left(D_\nu\nu_R\right)\right)$

$Z^-_{\mu\nu}Z^-_{\rho\sigma}\left(\nu_R\nu_R\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$	$Z_\rho\left(D_\mu Z_\sigma\right)\left(\nu_L\sigma^\rho\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\sigma\left(D_\nu\nu_L\right)\right)$
$Z^-_{\nu\rho}Z_\sigma\left(\nu_L\sigma^{\nu\rho}\bar{\sigma}^\mu\sigma^\sigma\left(D_\mu\nu_L\right)\right)$	$\left(D_\nu Z_\rho\right)\left(D_\mu Z_\sigma\right)\left(\nu_L\bar{\sigma}^\mu\sigma^\rho\sigma^\sigma\bar{\sigma}^\nu\nu_L\right)$

A.67.4 Dimension = 8, $\mathcal{O}_8^{1\sim6}$

Type: $\nu\nu ZZ \quad d=8 \quad \mathcal{O}_8^{1\sim6}$
$Z^-_{\nu\rho}Z^+_{\sigma\xi}\left(\left(D_\mu\nu_R\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^\mu\sigma^{\nu\rho}\nu_L\right)$
$Z^-_{\rho\sigma}Z_\xi\left(\nu_R\bar{\sigma}^\mu\sigma^{\rho\sigma}\bar{\sigma}^\nu\sigma^\xi\left(D_\mu D_\nu\nu_L\right)\right)$
$Z_\rho\left(D_\mu Z^+_{\sigma\xi}\right)\left(\left(D_\nu\nu_R\right)\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\nu_L\right)$
$Z^-_{\rho\sigma}\left(D_\mu Z_\xi\right)\left(\left(D_\nu\nu_R\right)\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\sigma^{\rho\sigma}\nu_L\right)$
$Z_\sigma\left(D_\mu Z_\xi\right)\left(\left(D_\nu D_\rho\nu_R\right)\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\bar{\sigma}^\rho\sigma^\sigma\nu_L\right)$
$Z^+_{\rho\sigma}\left(D_\nu Z_\xi\right)\left(\left(D_\mu\nu_R\right)\bar{\sigma}^\xi\nu_L\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\rho\sigma}\right)$

A.68 Type: $ud\bar{W}^-g^+\left(d\bar{u}W^+g^+\right)$

A.68.1 Dimension = 6, $\mathcal{O}_6^{1\sim2}$

Type: $ud\bar{W}^-g^+ \quad d=6 \quad \mathcal{O}_6^{1\sim2}$	
$\epsilon_{abc}(W^-)_\mu G^{+c}_{\nu\rho e}\epsilon^{ebd}\left(\bar{d}_{Ld}\bar{\sigma}^{\nu\rho}\sigma^\mu u^a_L\right)$	$\epsilon_{abc}(W^-)_\mu G^{+c}_{\nu\rho e}\left(u^a_R\bar{\sigma}^{\nu\rho}\sigma^\mu\epsilon^{ebd}\bar{d}_{Rd}\right)$

A.68.2 Dimension = 7, $\mathcal{O}_7^{1\sim6}$

Type: $ud\bar{W}^-g^+ \quad d=7 \quad \mathcal{O}_7^{1\sim6}$
$\epsilon_{abc}(W^-)^+_{\mu\nu}G^{+c}_{\rho\sigma e}\left(u^a_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\epsilon^{ebd}\bar{d}_{Ld}\right)$
$\epsilon_{abc}(W^-)^+_{\mu\nu}G^{+c}_{\rho\sigma e}\left(u^a_R\epsilon^{ebd}\bar{d}_{Ld}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$
$\epsilon_{abc}(W^-)^+_{\mu\nu}G^{+c}_{\rho\sigma e}\left(u^a_L\epsilon^{ebd}\bar{d}_{Rd}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$

$\epsilon_{abc}(W^-)_\nu \left(D_\mu G^{+c}_{\rho\sigma e}\right) \left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma} \epsilon^{ebd} \bar{d}_{Ld}\right)$
$\epsilon_{abc} \left(D_\mu (W^-)_\nu\right) G^{+c}_{\rho\sigma e} \left(u^a_L \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \sigma^\nu \epsilon^{ebd} \bar{d}_{Rd}\right)$
$\epsilon_{abc}(W^-)_\nu G^{+c}_{\rho\sigma e} \left(u^a_R \bar{\sigma}^{\rho\sigma} \left(D_\mu \epsilon^{ebd} \bar{d}_{Ld}\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$

A.68.3 Dimension = 8, $\mathcal{O}_8^{1\sim 8}$

Type: $ud\bar{W}^- g^+ \quad d=8 \quad \mathcal{O}_8^{1\sim 8}$
$\epsilon_{abc}(W^-)^-_{\nu\rho} G^{+c}_{\sigma\xi e} \left(\left(D_\mu \epsilon^{ebd} \bar{d}_{Ld}\right) \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu \sigma^{\nu\rho} u^a_L\right)$
$\epsilon_{abc}(W^-)^-_{\nu\rho} G^{+c}_{\sigma\xi e} \left(u^a_R \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu \sigma^{\nu\rho} \left(D_\mu \epsilon^{ebd} \bar{d}_{Rd}\right)\right)$
$\epsilon_{abc}(W^-)^+_{\nu\rho} \left(D_\mu G^{+c}_{\sigma\xi e}\right) \epsilon^{ebd} \left(\bar{d}_{Ld} \bar{\sigma}^\mu u^a_L\right) \mathrm{Tr}\left(\bar{\sigma}^{\nu\rho} \bar{\sigma}^{\sigma\xi}\right)$
$\epsilon_{abc}(W^-)^+_{\nu\rho} \left(D_\mu G^{+c}_{\sigma\xi e}\right) \left(u^a_R \bar{\sigma}^\mu \epsilon^{ebd} \bar{d}_{Rd}\right) \mathrm{Tr}\left(\bar{\sigma}^{\nu\rho} \bar{\sigma}^{\sigma\xi}\right)$
$\epsilon_{abc}(W^-)_\rho \left(D_\mu G^{+c}_{\sigma\xi e}\right) \left(\left(D_\nu \epsilon^{ebd} \bar{d}_{Ld}\right) \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\sigma\xi} \sigma^\rho u^a_L\right)$
$\epsilon_{abc} \left(D_\nu (W^-)_\rho\right) \left(D_\mu G^{+c}_{\sigma\xi e}\right) \epsilon^{ebd} \left(\bar{d}_{Ld} \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\sigma\xi} \sigma^\rho u^a_L\right)$
$\epsilon_{abc}(W^-)_\rho \left(D_\mu G^{+c}_{\sigma\xi e}\right) \left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\sigma\xi} \sigma^\rho \left(D_\nu \epsilon^{ebd} \bar{d}_{Rd}\right)\right)$
$\epsilon_{abc} \left(D_\nu (W^-)_\rho\right) \left(D_\mu G^{+c}_{\sigma\xi e}\right) \left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\sigma\xi} \sigma^\rho \epsilon^{ebd} \bar{d}_{Rd}\right)$

A.69 Type: $ud\bar{W}^-\gamma^+ \, (d\bar{u}W^+\gamma^+)$

A.69.1 Dimension = 6, $\mathcal{O}_6^{1\sim 2}$

Type: $ud\bar{W}^-\gamma^+ \quad d=6 \quad \mathcal{O}_6^{1\sim 2}$	
$(W^-)_\mu \gamma^+_{\nu\rho} \left(\bar{d}_{La} \bar{\sigma}^{\nu\rho} \sigma^\mu u^a_L\right)$	$(W^-)_\mu \gamma^+_{\nu\rho} \left(u^a_R \bar{\sigma}^{\nu\rho} \sigma^\mu \bar{d}_{Ra}\right)$

A.69.2 Dimension = 7, $\mathcal{O}_7^{1\sim 6}$

Type: $u\bar{d}W^-\gamma^+ \quad d=7 \quad \mathcal{O}_7^{1\sim 6}$	
$(W^-)^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(u^a_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\bar{d}_{La}\right)$	$(W^-)_\nu\left(D_\mu\gamma^+_{\rho\sigma}\right)\left(u^a_R\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\rho\sigma}\bar{d}_{La}\right)$
$(W^-)^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(u^a_R\bar{d}_{La}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$\left(D_\mu(W^-)_\nu\right)\gamma^+_{\rho\sigma}\left(u^a_L\bar{\sigma}^{\mu}\bar{\sigma}^{\rho\sigma}\sigma^{\nu}\bar{d}_{Ra}\right)$
$(W^-)^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(u^a_L\bar{d}_{Ra}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$(W^-)_\nu\gamma^+_{\rho\sigma}\left(u^a_R\bar{\sigma}^{\rho\sigma}\left(D_\mu\bar{d}_{La}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$

A.69.3 Dimension = 8, $\mathcal{O}_8^{1\sim 8}$

Type: $u\bar{d}W^-\gamma^+ \quad d=8 \quad \mathcal{O}_8^{1\sim 8}$
$(W^-)^-_{\nu\rho}\gamma^+_{\sigma\xi}\left(\left(D_\mu\bar{d}_{La}\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}u^a_L\right)$
$(W^-)^-_{\nu\rho}\gamma^+_{\sigma\xi}\left(u^a_R\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}\left(D_\mu\bar{d}_{Ra}\right)\right)$
$(W^-)^+_{\nu\rho}\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\bar{d}_{La}\bar{\sigma}^{\mu}u^a_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$
$(W^-)^+_{\nu\rho}\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(u^a_R\bar{\sigma}^{\mu}\bar{d}_{Ra}\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$
$(W^-)_\rho\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\left(D_\nu\bar{d}_{La}\right)\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}u^a_L\right)$
$\left(D_\nu(W^-)_\rho\right)\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\bar{d}_{La}\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}u^a_L\right)$
$(W^-)_\rho\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(u^a_R\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}\left(D_\nu\bar{d}_{Ra}\right)\right)$
$\left(D_\nu(W^-)_\rho\right)\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(u^a_R\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}\bar{d}_{Ra}\right)$

A.70 Type: $u\bar{d}W^-Z\,(d\bar{u}W^+Z)$

A.70.1 Dimension = 5, $\mathcal{O}_5^{1\sim 4}$

Type: $u\bar{d}W^-Z \quad d=5 \quad \mathcal{O}_5^{1\sim 4}$		
$(W^-)_\mu Z_\nu\left(u^a_R\bar{\sigma}^{\mu}\bar{\sigma}^{\nu}\bar{d}_{La}\right)$	$(W^-)_\mu Z_\nu\left(u^a_L\sigma^{\mu}\bar{\sigma}^{\nu}\bar{d}_{Ra}\right)$	$(W^-)_\mu Z_\nu\left(u^a_R\bar{d}_{La}\right)\mathrm{Tr}\left(\sigma^{\mu}\bar{\sigma}^{\nu}\right)$
$(W^-)_\mu Z_\nu\left(u^a_L\bar{d}_{Ra}\right)\mathrm{Tr}\left(\sigma^{\mu}\bar{\sigma}^{\nu}\right)$		

A.70.2 Dimension = 6, $\mathcal{O}_6^{1\sim 12}$

Type: $u\bar{d}W^-Z \quad d=6 \quad \mathcal{O}_6^{1\sim12}$	
$(W^-)_\mu Z^+_{\nu\rho}\left(\bar{d}_{La}\bar{\sigma}^{\nu\rho}\sigma^\mu u^a_L\right)$	$(W^-)_\mu Z^-_{\nu\rho}\left(\bar{d}_{La}\bar{\sigma}^{\mu}\sigma^{\nu\rho} u^a_L\right)$
$(W^-)_\mu Z^+_{\nu\rho}\left(u^a_R\bar{\sigma}^{\nu\rho}\sigma^\mu \bar{d}_{Ra}\right)$	$(W^-)_\mu Z^-_{\nu\rho}\left(u^a_R\bar{\sigma}^{\mu}\sigma^{\nu\rho} \bar{d}_{Ra}\right)$
$(W^-)^+_{\mu\nu} Z_\rho\left(\bar{d}_{La}\bar{\sigma}^{\mu\nu}\bar{\sigma}^\rho u^a_L\right)$	$(W^-)_\nu Z_\rho\left(\left(D_\mu\bar{d}_{La}\right)\bar{\sigma}^\rho\bar{\sigma}^\mu\sigma^\nu u^a_L\right)$
$(W^-)^+_{\mu\nu} Z_\rho\left(u^a_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^\rho \bar{d}_{Ra}\right)$	$(W^-)_\nu \left(D_\mu Z_\rho\right)\left(\bar{d}_{La}\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu u^a_L\right)$
$(W^-)^-_{\mu\nu} Z_\rho\left(\bar{d}_{La}\bar{\sigma}^{\rho}\sigma^{\mu\nu} u^a_L\right)$	$(W^-)_\nu \left(D_\mu Z_\rho\right)\left(u^a_R\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu \bar{d}_{Ra}\right)$
$(W^-)^-_{\mu\nu} Z_\rho\left(u^a_R\bar{\sigma}^{\rho}\sigma^{\mu\nu} \bar{d}_{Ra}\right)$	$(W^-)_\nu Z_\rho\left(u^a_R\bar{\sigma}^\rho\left(D_\mu\bar{d}_{Ra}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$

A.70.3 Dimension = 7, $\mathcal{O}_7^{1\sim24}$

Type: $u\bar{d}W^-Z \quad d=7 \quad \mathcal{O}_7^{1\sim24}$	
$(W^-)^+_{\mu\nu} Z^+_{\rho\sigma}\left(u^a_R\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\bar{d}_{La}\right)$	$(W^-)_\nu Z^-_{\rho\sigma}\left(u^a_L\sigma^\nu\bar{\sigma}^\mu\sigma^{\rho\sigma}\left(D_\mu\bar{d}_{Ra}\right)\right)$
$(W^-)^-_{\mu\nu} Z^-_{\rho\sigma}\left(u^a_L\sigma^{\mu\nu}\sigma^{\rho\sigma}\bar{d}_{Ra}\right)$	$\left(D_\mu(W^-)^-_{\nu\rho}\right) Z_\sigma\left(u^a_L\bar{\sigma}^\mu\sigma^\sigma\sigma^{\nu\rho}\bar{d}_{Ra}\right)$
$(W^-)^+_{\mu\nu} Z^+_{\rho\sigma}\left(u^a_R\bar{d}_{La}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$(W^-)_\nu\left(D_\mu Z^-_{\rho\sigma}\right)\left(u^a_L\bar{\sigma}^\mu\sigma^\nu\sigma^{\rho\sigma}\bar{d}_{Ra}\right)$
$(W^-)^+_{\mu\nu} Z^+_{\rho\sigma}\left(u^a_L\bar{d}_{Ra}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$(W^-)_\nu Z^+_{\rho\sigma}\left(u^a_R\bar{\sigma}^{\rho\sigma}\left(D_\mu\bar{d}_{La}\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$(W^-)^+_{\nu\rho} Z_\sigma\left(u^a_R\bar{\sigma}^{\nu\rho}\bar{\sigma}^\mu\bar{\sigma}^\sigma\left(D_\mu\bar{d}_{La}\right)\right)$	$(W^-)_\nu\left(D_\mu Z^+_{\rho\sigma}\right)\left(u^a_R\bar{\sigma}^{\rho\sigma}\bar{d}_{La}\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$(W^-)^-_{\mu\nu} Z^-_{\rho\sigma}\left(u^a_R\bar{d}_{La}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$	$Z_\nu\left(D_\mu(W^-)^+_{\rho\sigma}\right)\left(u^a_R\bar{\sigma}^{\rho\sigma}\bar{d}_{La}\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$\left(D_\mu(W^-)_\nu\right) Z^+_{\rho\sigma}\left(u^a_L\bar{\sigma}^\mu\bar{\sigma}^{\rho\sigma}\sigma^\nu\bar{d}_{Ra}\right)$	$\left(D_\mu(W^-)_\rho\right) Z_\sigma\left(u^a_R\bar{\sigma}^\sigma\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\bar{d}_{La}\right)\right)$
$(W^-)^+_{\nu\rho}\left(D_\mu Z_\sigma\right)\left(u^a_L\bar{\sigma}^\mu\bar{\sigma}^{\nu\rho}\bar{\sigma}^\sigma\bar{d}_{Ra}\right)$	$(W^-)_\rho\left(D_\mu Z_\sigma\right)\left(u^a_R\bar{\sigma}^\sigma\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\bar{d}_{La}\right)\right)$
$(W^-)^-_{\nu\rho}\left(D_\mu Z_\sigma\right)\left(u^a_R\bar{\sigma}^\sigma\sigma^{\nu\rho}\bar{\sigma}^\mu\bar{d}_{La}\right)$	$(W^-)_\rho\left(D_\mu Z_\sigma\right)\left(u^a_R\bar{\sigma}^\rho\bar{\sigma}^\sigma\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\bar{d}_{La}\right)\right)$
$\left(D_\mu(W^-)_\nu\right) Z^-_{\rho\sigma}\left(u^a_R\bar{\sigma}^\nu\sigma^{\rho\sigma}\bar{\sigma}^\mu\bar{d}_{La}\right)$	$(W^-)_\rho\left(D_\mu Z_\sigma\right)\left(u^a_L\sigma^\rho\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\sigma\left(D_\nu\bar{d}_{Ra}\right)\right)$
$(W^-)^-_{\mu\nu} Z^-_{\rho\sigma}\left(u^a_L\bar{d}_{Ra}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$	$\left(D_\nu(W^-)_\rho\right)\left(D_\mu Z_\sigma\right)\left(\bar{d}_{Ra}\bar{\sigma}^\mu\sigma^\rho\sigma^\sigma\bar{\sigma}^\nu u^a_L\right)$

$(W^-)^-_{\nu\rho} Z_\sigma \left(u^a_L \sigma^{\nu\rho} \bar{\sigma}^\mu \sigma^\sigma \left(D_\mu \bar{d}_{Ra}\right)\right)$	$\left(D_\nu (W^-)_\rho\right) \left(D_\mu Z_\sigma\right) \left(u^a_L \bar{d}_{Ra}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\sigma \sigma^\rho\right)$

A.70.4 Dimension = 8, $\mathcal{O}_8^{1\sim30}$

Type: $u\bar{d}W^-Z \quad d=8 \quad \mathcal{O}_8^{1\sim30}$
$(W^-)^+_{\nu\rho} \left(D_\mu Z^+_{\sigma\xi}\right) \left(\bar{d}_{La} \bar{\sigma}^{\sigma\xi} \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu u^a_L\right)$
$(W^-)^+_{\nu\rho} \left(D_\mu Z^+_{\sigma\xi}\right) \left(u^a_R \bar{\sigma}^{\sigma\xi} \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu \bar{d}_{Ra}\right)$
$(W^-)^-_{\nu\rho} Z^+_{\sigma\xi} \left(\left(D_\mu \bar{d}_{La}\right) \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu \sigma^{\nu\rho} u^a_L\right)$
$(W^-)^-_{\nu\rho} Z^+_{\sigma\xi} \left(u^a_R \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu \sigma^{\nu\rho} \left(D_\mu \bar{d}_{Ra}\right)\right)$
$(W^-)^+_{\nu\rho} Z^-_{\sigma\xi} \left(\left(D_\mu \bar{d}_{La}\right) \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu \sigma^{\sigma\xi} u^a_L\right)$
$(W^-)^+_{\nu\rho} Z^-_{\sigma\xi} \left(u^a_R \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu \sigma^{\sigma\xi} \left(D_\mu \bar{d}_{Ra}\right)\right)$
$(W^-)^-_{\nu\rho} Z^-_{\sigma\xi} \left(u^a_R \bar{\sigma}^\mu \sigma^{\nu\rho} \sigma^{\sigma\xi} \left(D_\mu \bar{d}_{Ra}\right)\right)$
$(W^-)^-_{\rho\sigma} Z_\xi \left(u^a_R \bar{\sigma}^\mu \sigma^{\rho\sigma} \bar{\sigma}^\nu \sigma^\xi \left(D_\mu D_\nu \bar{d}_{Ra}\right)\right)$
$(W^-)_\rho Z^-_{\sigma\xi} \left(u^a_R \bar{\sigma}^\mu \sigma^\rho \bar{\sigma}^\nu \sigma^{\sigma\xi} \left(D_\mu D_\nu \bar{d}_{Ra}\right)\right)$
$(W^-)_\rho \left(D_\mu Z^+_{\sigma\xi}\right) \left(\left(D_\nu \bar{d}_{La}\right) \bar{\sigma}^{\sigma\xi} \sigma^\nu \bar{\sigma}^\mu \sigma^\rho u^a_L\right)$
$\left(D_\nu (W^-)_\rho\right) \left(D_\mu Z^+_{\sigma\xi}\right) \left(\bar{d}_{La} \bar{\sigma}^{\sigma\xi} \sigma^\nu \bar{\sigma}^\mu \sigma^\rho u^a_L\right)$
$(W^-)_\rho \left(D_\mu Z^+_{\sigma\xi}\right) \left(u^a_R \bar{\sigma}^{\sigma\xi} \sigma^\nu \bar{\sigma}^\mu \sigma^\rho \left(D_\nu \bar{d}_{Ra}\right)\right)$
$\left(D_\nu (W^-)_\rho\right) \left(D_\mu Z^+_{\sigma\xi}\right) \left(u^a_R \bar{\sigma}^{\sigma\xi} \sigma^\nu \bar{\sigma}^\mu \sigma^\rho \bar{d}_{Ra}\right)$
$(W^-)^+_{\rho\sigma} \left(D_\mu Z_\xi\right) \left(u^a_R \bar{\sigma}^{\rho\sigma} \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \left(D_\nu \bar{d}_{Ra}\right)\right)$
$\left(D_\mu (W^-)^-_{\nu\rho}\right) Z^-_{\sigma\xi} \left(\bar{d}_{La} \bar{\sigma}^\mu u^a_L\right) \mathrm{Tr}\left(\sigma^{\nu\rho} \sigma^{\sigma\xi}\right)$
$(W^-)^-_{\rho\sigma} \left(D_\mu Z_\xi\right) \left(\left(D_\nu \bar{d}_{La}\right) \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \sigma^{\rho\sigma} u^a_L\right)$
$\left(D_\nu (W^-)^-_{\rho\sigma}\right) \left(D_\mu Z_\xi\right) \left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \sigma^{\rho\sigma} \bar{d}_{Ra}\right)$

$\left(D_\nu (W^-)_\rho\right) \left(D_\mu Z^-_{\sigma\xi}\right) \left(\bar{d}_{La} \bar{\sigma}^\rho \sigma^{\sigma\xi} \bar{\sigma}^\nu \sigma^\mu u^a_L\right)$
$(W^-)_\rho \left(D_\mu Z^-_{\sigma\xi}\right) \left(u^a_R \bar{\sigma}^\rho \sigma^{\sigma\xi} \bar{\sigma}^\nu \sigma^\mu \left(D_\nu \bar{d}_{Ra}\right)\right)$
$(W^-)_\sigma \left(D_\mu Z_\xi\right) \left(\left(D_\nu D_\rho \bar{d}_{La}\right) \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \bar{\sigma}^\rho \sigma^\sigma u^a_L\right)$
$(W^-)_\sigma \left(D_\mu D_\rho Z_\xi\right) \left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \sigma^\sigma \bar{\sigma}^\rho \left(D_\nu \bar{d}_{Ra}\right)\right)$
$(W^-)^+_{\rho\sigma} \left(D_\nu Z_\xi\right) \left(\left(D_\mu \bar{d}_{La}\right) \bar{\sigma}^\xi u^a_L\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$
$(W^-)^+_{\rho\sigma} \left(D_\nu Z_\xi\right) \left(u^a_R \bar{\sigma}^\xi \left(D_\mu \bar{d}_{Ra}\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$
$\left(D_\mu Z_\rho\right) \left(D_\nu (W^-)^+_{\sigma\xi}\right) \left(\bar{d}_{La} \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu u^a_L\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right)$
$\left(D_\mu (W^-)^-_{\rho\sigma}\right) Z_\xi \left(\left(D_\nu \bar{d}_{La}\right) \bar{\sigma}^\mu u^a_L\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^{\rho\sigma} \sigma^\xi\right)$
$\left(D_\mu (W^-)_\rho\right) Z^-_{\sigma\xi} \left(\left(D_\nu \bar{d}_{La}\right) \bar{\sigma}^\mu u^a_L\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^{\sigma\xi} \sigma^\rho\right)$
$\left(D_\mu (W^-)_\sigma\right) Z_\xi \left(u^a_R \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \left(D_\nu D_\rho \bar{d}_{Ra}\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma\right)$
$\left(D_\rho (W^-)_\sigma\right) \left(D_\mu D_\nu Z_\xi\right) \left(\bar{d}_{La} \bar{\sigma}^\mu u^a_L\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\xi \sigma^\sigma\right)$
$\left(D_\rho (W^-)_\sigma\right) \left(D_\mu D_\nu Z_\xi\right) \left(u^a_R \bar{\sigma}^\mu \bar{d}_{Ra}\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\xi \sigma^\sigma\right)$
$\left(D_\mu (W^-)_\rho\right) Z_\xi \left(\left(D_\nu D_\sigma \bar{d}_{La}\right) \bar{\sigma}^\mu u^a_L\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right) \mathrm{Tr}\left(\bar{\sigma}^\sigma \sigma^\xi\right)$

A.71 Type: $e^+\nu W^-\gamma^+$ ($e^+\bar{\nu}W^-\gamma^+$, $e^-\nu W^+\gamma^+$, $e^-\bar{\nu}W^+\gamma^+$)

A.71.1 Dimension = 6, $\mathcal{O}_6^{1\sim2}$

Type: $e^+\nu W^-\gamma^+ \quad d=6 \quad \mathcal{O}_6^{1\sim2}$	
$(W^-)_\mu \gamma^+_{\nu\rho} \left(\nu_R \bar{\sigma}^{\nu\rho} \sigma^\mu \bar{e}_R\right)$	$(W^-)_\mu \gamma^+_{\nu\rho} \left(\bar{e}_L \bar{\sigma}^{\nu\rho} \sigma^\mu \nu_L\right)$

A.71.2 Dimension = 7, $\mathcal{O}_7^{1\sim6}$

Type: $e^+\nu W^-\gamma^+ \quad d=7 \quad \mathcal{O}_7^{1\sim6}$	
$(W^-)^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(\bar{e}_L\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\nu_R\right)$	$(W^-)_\nu\left(D_\mu\gamma^+_{\rho\sigma}\right)\left(\bar{e}_L\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\rho\sigma}\nu_R\right)$
$(W^-)^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(\bar{e}_L\nu_R\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$\left(D_\mu(W^-)_\nu\right)\gamma^+_{\rho\sigma}\left(\bar{e}_R\bar{\sigma}^{\mu}\bar{\sigma}^{\rho\sigma}\sigma^{\nu}\nu_L\right)$
$(W^-)^+_{\mu\nu}\gamma^+_{\rho\sigma}\left(\bar{e}_R\nu_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$(W^-)_\nu\gamma^+_{\rho\sigma}\left(\bar{e}_L\bar{\sigma}^{\rho\sigma}\left(D_\mu\nu_R\right)\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$

A.71.3 Dimension = 8, $\mathcal{O}_8^{1\sim8}$

Type: $e^+\nu W^-\gamma^+ \quad d=8 \quad \mathcal{O}_8^{1\sim8}$	
$(W^-)^-_{\nu\rho}\gamma^+_{\sigma\xi}\left(\left(D_\mu\nu_R\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}\bar{e}_R\right)$	$(W^-)_\rho\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\left(D_\nu\nu_R\right)\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}\bar{e}_R\right)$
$(W^-)^-_{\nu\rho}\gamma^+_{\sigma\xi}\left(\bar{e}_L\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}\left(D_\mu\nu_L\right)\right)$	$\left(D_\nu(W^-)_\rho\right)\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\nu_R\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}\bar{e}_R\right)$
$(W^-)^+_{\nu\rho}\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\nu_R\bar{\sigma}^{\mu}\bar{e}_R\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$	$(W^-)_\rho\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}\left(D_\nu\nu_L\right)\right)$
$(W^-)^+_{\nu\rho}\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\mu}\nu_L\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$	$\left(D_\nu(W^-)_\rho\right)\left(D_\mu\gamma^+_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\sigma\xi}\sigma^{\rho}\nu_L\right)$

A.72 Type: $e^+\nu W^- Z$ ($e^+\bar{\nu}W^- Z$, $e^-\nu W^+ Z$, $e^-\bar{\nu}W^+ Z$)

A.72.1 Dimension = 5, $\mathcal{O}_5^{1\sim4}$

Type: $e^+\nu W^- Z \quad d=5 \quad \mathcal{O}_5^{1\sim4}$		
$(W^-)_\mu Z_\nu\left(\bar{e}_L\bar{\sigma}^{\mu}\bar{\sigma}^{\nu}\nu_R\right)$	$(W^-)_\mu Z_\nu\left(\bar{e}_R\sigma^{\mu}\bar{\sigma}^{\nu}\nu_L\right)$	$(W^-)_\mu Z_\nu\left(\bar{e}_L\nu_R\right)\mathrm{Tr}\left(\sigma^{\mu}\bar{\sigma}^{\nu}\right)$
$(W^-)_\mu Z_\nu\left(\bar{e}_R\nu_L\right)\mathrm{Tr}\left(\sigma^{\mu}\bar{\sigma}^{\nu}\right)$		

A.72.2 Dimension = 6, $\mathcal{O}_6^{1\sim12}$

Type: $e^+\nu W^- Z \quad d=6 \quad \mathcal{O}_6^{1\sim12}$	
$(W^-)_\mu Z^+_{\nu\rho}\left(\nu_R\bar{\sigma}^{\nu\rho}\sigma^{\mu}\bar{e}_R\right)$	$(W^-)_\mu Z^-_{\nu\rho}\left(\nu_R\bar{\sigma}^{\mu}\sigma^{\nu\rho}\bar{e}_R\right)$
$(W^-)_\mu Z^+_{\nu\rho}\left(\bar{e}_L\bar{\sigma}^{\nu\rho}\sigma^{\mu}\nu_L\right)$	$(W^-)_\mu Z^-_{\nu\rho}\left(\bar{e}_L\bar{\sigma}^{\mu}\sigma^{\nu\rho}\nu_L\right)$

$(W^-)^+_{\mu\nu} Z_\rho \left(\nu_R \bar{\sigma}^{\mu\nu} \bar{\sigma}^\rho \bar{e}_R\right)$	$(W^-)_\nu Z_\rho \left(\left(D_\mu \nu_R\right) \bar{\sigma}^\rho \bar{\sigma}^\mu \sigma^\nu \bar{e}_R\right)$
$(W^-)^+_{\mu\nu} Z_\rho \left(\bar{e}_L \bar{\sigma}^{\mu\nu} \bar{\sigma}^\rho \nu_L\right)$	$(W^-)_\nu \left(D_\mu Z_\rho\right) \left(\nu_R \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \bar{e}_R\right)$
$(W^-)^-_{\mu\nu} Z_\rho \left(\nu_R \bar{\sigma}^\rho \sigma^{\mu\nu} \bar{e}_R\right)$	$(W^-)_\nu \left(D_\mu Z_\rho\right) \left(\bar{e}_L \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \nu_L\right)$
$(W^-)^-_{\mu\nu} Z_\rho \left(\bar{e}_L \bar{\sigma}^\rho \sigma^{\mu\nu} \nu_L\right)$	$(W^-)_\nu Z_\rho \left(\bar{e}_L \bar{\sigma}^\rho \left(D_\mu \nu_L\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$

A.72.3 Dimension = 7, $\mathcal{O}_7^{1\sim24}$

Type: $e^+ \nu W^- Z \quad d=7 \quad \mathcal{O}_7^{1\sim24}$	
$(W^-)^+_{\mu\nu} Z^+_{\rho\sigma} \left(\bar{e}_L \bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma} \nu_R\right)$	$(W^-)_\nu Z^-_{\rho\sigma} \left(\bar{e}_R \sigma^\nu \bar{\sigma}^\mu \sigma^{\rho\sigma} \left(D_\mu \nu_L\right)\right)$
$(W^-)^-_{\mu\nu} Z^-_{\rho\sigma} \left(\bar{e}_R \sigma^{\mu\nu} \sigma^{\rho\sigma} \nu_L\right)$	$\left(D_\mu (W^-)^-_{\nu\rho}\right) Z_\sigma \left(\bar{e}_R \bar{\sigma}^\mu \sigma^\sigma \sigma^{\nu\rho} \nu_L\right)$
$(W^-)^+_{\mu\nu} Z^+_{\rho\sigma} \left(\bar{e}_L \nu_R\right) \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right)$	$(W^-)_\nu \left(D_\mu Z^-_{\rho\sigma}\right) \left(\bar{e}_R \bar{\sigma}^\mu \sigma^\nu \sigma^{\rho\sigma} \nu_L\right)$
$(W^-)^+_{\mu\nu} Z^+_{\rho\sigma} \left(\bar{e}_R \nu_L\right) \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right)$	$(W^-)_\nu Z^+_{\rho\sigma} \left(\bar{e}_L \bar{\sigma}^{\rho\sigma} \left(D_\mu \nu_R\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^-)^+_{\nu\rho} Z_\sigma \left(\bar{e}_L \bar{\sigma}^{\nu\rho} \bar{\sigma}^\mu \bar{\sigma}^\sigma \left(D_\mu \nu_R\right)\right)$	$(W^-)_\nu \left(D_\mu Z^+_{\rho\sigma}\right) \left(\bar{e}_L \bar{\sigma}^{\rho\sigma} \nu_R\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^-)^-_{\mu\nu} Z^-_{\rho\sigma} \left(\bar{e}_L \nu_R\right) \mathrm{Tr}\left(\sigma^{\mu\nu} \sigma^{\rho\sigma}\right)$	$Z_\nu \left(D_\mu (W^-)^+_{\rho\sigma}\right) \left(\bar{e}_L \bar{\sigma}^{\rho\sigma} \nu_R\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$\left(D_\mu (W^-)_\nu\right) Z^+_{\rho\sigma} \left(\bar{e}_R \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \sigma^\nu \nu_L\right)$	$\left(D_\mu (W^-)_\rho\right) Z_\sigma \left(\bar{e}_L \bar{\sigma}^\sigma \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \left(D_\nu \nu_R\right)\right)$
$(W^-)^+_{\nu\rho} \left(D_\mu Z_\sigma\right) \left(\bar{e}_R \bar{\sigma}^\mu \bar{\sigma}^{\nu\rho} \bar{\sigma}^\sigma \nu_L\right)$	$(W^-)_\rho \left(D_\mu Z_\sigma\right) \left(\bar{e}_L \bar{\sigma}^\sigma \bar{\sigma}^\rho \sigma^\nu \bar{\sigma}^\mu \left(D_\nu \nu_R\right)\right)$
$(W^-)^-_{\nu\rho} \left(D_\mu Z_\sigma\right) \left(\bar{e}_L \bar{\sigma}^\sigma \sigma^{\nu\rho} \bar{\sigma}^\mu \nu_R\right)$	$(W^-)_\rho \left(D_\mu Z_\sigma\right) \left(\bar{e}_L \bar{\sigma}^\rho \bar{\sigma}^\sigma \sigma^\nu \bar{\sigma}^\mu \left(D_\nu \nu_R\right)\right)$
$\left(D_\mu (W^-)_\nu\right) Z^-_{\rho\sigma} \left(\bar{e}_L \bar{\sigma}^\nu \sigma^{\rho\sigma} \bar{\sigma}^\mu \nu_R\right)$	$(W^-)_\rho \left(D_\mu Z_\sigma\right) \left(\bar{e}_R \sigma^\rho \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\sigma \left(D_\nu \nu_L\right)\right)$
$(W^-)^-_{\mu\nu} Z^-_{\rho\sigma} \left(\bar{e}_R \nu_L\right) \mathrm{Tr}\left(\sigma^{\mu\nu} \sigma^{\rho\sigma}\right)$	$\left(D_\nu (W^-)_\rho\right) \left(D_\mu Z_\sigma\right) \left(\nu_L \bar{\sigma}^\mu \sigma^\rho \sigma^\sigma \bar{\sigma}^\nu \bar{e}_R\right)$
$(W^-)^-_{\nu\rho} Z_\sigma \left(\bar{e}_R \sigma^{\nu\rho} \bar{\sigma}^\mu \sigma^\sigma \left(D_\mu \nu_L\right)\right)$	$\left(D_\nu (W^-)_\rho\right) \left(D_\mu Z_\sigma\right) \left(\bar{e}_R \nu_L\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\sigma \sigma^\rho\right)$

A.72.4 Dimension = 8, $\mathcal{O}_8^{1\sim30}$

Type: $e^+\nu W^- Z \quad d=8 \quad \mathcal{O}_8^{1\sim 30}$
$(W^-)^+_{\nu\rho}\left(D_\mu Z^+_{\sigma\xi}\right)\left(\nu_R\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\mu}\bar{e}_R\right)$
$(W^-)^+_{\nu\rho}\left(D_\mu Z^+_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\mu}\nu_L\right)$
$(W^-)^-_{\nu\rho}Z^+_{\sigma\xi}\left(\left(D_\mu\nu_R\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}\bar{e}_R\right)$
$(W^-)^-_{\nu\rho}Z^+_{\sigma\xi}\left(\bar{e}_L\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\mu}\sigma^{\nu\rho}\left(D_\mu\nu_L\right)\right)$
$(W^-)^+_{\nu\rho}Z^-_{\sigma\xi}\left(\left(D_\mu\nu_R\right)\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\mu}\sigma^{\sigma\xi}\bar{e}_R\right)$
$(W^-)^+_{\nu\rho}Z^-_{\sigma\xi}\left(\bar{e}_L\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\mu}\sigma^{\sigma\xi}\left(D_\mu\nu_L\right)\right)$
$(W^-)^-_{\nu\rho}Z^-_{\sigma\xi}\left(\bar{e}_L\bar{\sigma}^{\mu}\sigma^{\nu\rho}\sigma^{\sigma\xi}\left(D_\mu\nu_L\right)\right)$
$(W^-)^-_{\rho\sigma}Z_{\xi}\left(\bar{e}_L\bar{\sigma}^{\mu}\sigma^{\rho\sigma}\bar{\sigma}^{\nu}\sigma^{\xi}\left(D_\mu D_\nu\nu_L\right)\right)$
$(W^-)_\rho Z^-_{\sigma\xi}\left(\bar{e}_L\bar{\sigma}^{\mu}\sigma^{\rho}\bar{\sigma}^{\nu}\sigma^{\sigma\xi}\left(D_\mu D_\nu\nu_L\right)\right)$
$(W^-)_\rho\left(D_\mu Z^+_{\sigma\xi}\right)\left(\left(D_\nu\nu_R\right)\bar{\sigma}^{\sigma\xi}\sigma^{\nu}\bar{\sigma}^{\mu}\sigma^{\rho}\bar{e}_R\right)$
$\left(D_\nu(W^-)_\rho\right)\left(D_\mu Z^+_{\sigma\xi}\right)\left(\nu_R\bar{\sigma}^{\sigma\xi}\sigma^{\nu}\bar{\sigma}^{\mu}\sigma^{\rho}\bar{e}_R\right)$
$(W^-)_\rho\left(D_\mu Z^+_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\sigma\xi}\sigma^{\nu}\bar{\sigma}^{\mu}\sigma^{\rho}\left(D_\nu\nu_L\right)\right)$
$\left(D_\nu(W^-)_\rho\right)\left(D_\mu Z^+_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\sigma\xi}\sigma^{\nu}\bar{\sigma}^{\mu}\sigma^{\rho}\nu_L\right)$
$(W^-)^+_{\rho\sigma}\left(D_\mu Z_\xi\right)\left(\bar{e}_L\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\xi}\left(D_\nu\nu_L\right)\right)$
$\left(D_\mu(W^-)^-_{\nu\rho}\right)Z^-_{\sigma\xi}\left(\nu_R\bar{\sigma}^{\mu}\bar{e}_R\right)\mathrm{Tr}\left(\sigma^{\nu\rho}\sigma^{\sigma\xi}\right)$
$(W^-)^-_{\rho\sigma}\left(D_\mu Z_\xi\right)\left(\left(D_\nu\nu_R\right)\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\xi}\sigma^{\rho\sigma}\bar{e}_R\right)$
$\left(D_\nu(W^-)^-_{\rho\sigma}\right)\left(D_\mu Z_\xi\right)\left(\bar{e}_L\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\xi}\sigma^{\rho\sigma}\nu_L\right)$
$\left(D_\nu(W^-)_\rho\right)\left(D_\mu Z^-_{\sigma\xi}\right)\left(\nu_R\bar{\sigma}^{\rho}\sigma^{\sigma\xi}\bar{\sigma}^{\nu}\sigma^{\mu}\bar{e}_R\right)$
$(W^-)_\rho\left(D_\mu Z^-_{\sigma\xi}\right)\left(\bar{e}_L\bar{\sigma}^{\rho}\sigma^{\sigma\xi}\bar{\sigma}^{\nu}\sigma^{\mu}\left(D_\nu\nu_L\right)\right)$
$(W^-)_\sigma\left(D_\mu Z_\xi\right)\left(\left(D_\nu D_\rho\nu_R\right)\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\xi}\bar{\sigma}^{\rho}\sigma^{\sigma}\bar{e}_R\right)$

$(W^-)_\sigma \left(D_\mu D_\rho Z_\xi\right) \left(\bar{e}_L \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \sigma^\sigma \bar{\sigma}^\rho \left(D_\nu \nu_L\right)\right)$
$(W^-)^+_{\rho\sigma} \left(D_\nu Z_\xi\right) \left(\left(D_\mu \nu_R\right) \bar{\sigma}^\xi \bar{e}_R\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$
$(W^-)^+_{\rho\sigma} \left(D_\nu Z_\xi\right) \left(\bar{e}_L \bar{\sigma}^\xi \left(D_\mu \nu_L\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$
$\left(D_\mu Z_\rho\right) \left(D_\nu (W^-)^+_{\sigma\xi}\right) \left(\nu_R \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\mu \bar{e}_R\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right)$
$\left(D_\mu (W^-)^-_{\rho\sigma}\right) Z_\xi \left(\left(D_\nu \nu_R\right) \bar{\sigma}^\mu \bar{e}_R\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^{\rho\sigma} \sigma^\xi\right)$
$\left(D_\mu (W^-)_\rho\right) Z^-_{\sigma\xi} \left(\left(D_\nu \nu_R\right) \bar{\sigma}^\mu \bar{e}_R\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^{\sigma\xi} \sigma^\rho\right)$
$\left(D_\mu (W^-)_\sigma\right) Z_\xi \left(\bar{e}_L \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\xi \left(D_\nu D_\rho \nu_L\right)\right) \mathrm{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma\right)$
$\left(D_\rho (W^-)_\sigma\right) \left(D_\mu D_\nu Z_\xi\right) \left(\nu_R \bar{\sigma}^\mu \bar{e}_R\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\xi \sigma^\sigma\right)$
$\left(D_\rho (W^-)_\sigma\right) \left(D_\mu D_\nu Z_\xi\right) \left(\bar{e}_L \bar{\sigma}^\mu \nu_L\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\xi \sigma^\sigma\right)$
$\left(D_\mu (W^-)_\rho\right) Z_\xi \left(\left(D_\nu D_\sigma \nu_R\right) \bar{\sigma}^\mu \bar{e}_R\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right) \mathrm{Tr}\left(\bar{\sigma}^\sigma \sigma^\xi\right)$

A.73 Type: $e^+e^+W^-W^-$ $(e^-e^-W^+W^+)$

A.73.1 Dimension = 5, $\mathcal{O}_5^{1\sim2}$

Type: $e^+e^+W^-W^-$ $\quad d=5 \quad \mathcal{O}_5^{1\sim2}$	
$(W^-)_\mu (W^-)_\nu \left(\bar{e}_L \bar{\sigma}^\mu \bar{\sigma}^\nu \bar{e}_L\right)$	$(W^-)_\mu (W^-)_\nu \left(\bar{e}_R \sigma^\mu \bar{\sigma}^\nu \bar{e}_R\right)$

A.73.2 Dimension = 6, $\mathcal{O}_6^{1\sim3}$

Type: $e^+e^+W^-W^-$ $\quad d=6 \quad \mathcal{O}_6^{1\sim3}$		
$(W^-)_\mu (W^-)^+_{\nu\rho} \left(\bar{e}_L \bar{\sigma}^{\nu\rho} \sigma^\mu \bar{e}_R\right)$	$(W^-)^-_{\mu\nu} (W^-)_\rho \left(\bar{e}_L \bar{\sigma}^\rho \sigma^{\mu\nu} \bar{e}_R\right)$	$(W^-)_\nu (W^-)_\rho \left(\left(D_\mu \bar{e}_L\right) \bar{\sigma}^\rho \bar{\sigma}^\mu \sigma^\nu \bar{e}_R\right)$

A.73.3 Dimension = 7, $\mathcal{O}_7^{1\sim10}$

Type: $e^+e^+W^-W^-$ $d=7$ $\mathcal{O}_7^{1\sim10}$	
$(W^-)^+_{\mu\nu}(W^-)^+_{\rho\sigma}\left(\bar{e}_L\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\bar{e}_L\right)$	$(W^-)_\nu(W^-)^+_{\rho\sigma}\left(\bar{e}_L\bar{\sigma}^{\rho\sigma}\left(D_\mu\bar{e}_L\right)\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)$
$(W^-)^-_{\mu\nu}(W^-)^-_{\rho\sigma}\left(\bar{e}_R\sigma^{\mu\nu}\sigma^{\rho\sigma}\bar{e}_R\right)$	$\left(D_\mu(W^-)_\rho\right)(W^-)_\sigma\left(\bar{e}_L\bar{\sigma}^\sigma\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\bar{e}_L\right)\right)$
$(W^-)^+_{\mu\nu}(W^-)^+_{\rho\sigma}\left(\bar{e}_R\bar{e}_R\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right)$	$(W^-)_\rho\left(D_\mu(W^-)_\sigma\right)\left(\bar{e}_L\bar{\sigma}^\sigma\bar{\sigma}^\rho\sigma^\nu\bar{\sigma}^\mu\left(D_\nu\bar{e}_L\right)\right)$
$(W^-)^-_{\mu\nu}(W^-)^-_{\rho\sigma}\left(\bar{e}_L\bar{e}_L\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$	$(W^-)_\rho\left(D_\mu(W^-)_\sigma\right)\left(\bar{e}_R\sigma^\rho\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\sigma\left(D_\nu\bar{e}_R\right)\right)$
$(W^-)^-_{\nu\rho}(W^-)_\sigma\left(\bar{e}_R\sigma^{\nu\rho}\bar{\sigma}^\mu\sigma^\sigma\left(D_\mu\bar{e}_R\right)\right)$	$\left(D_\nu(W^-)_\rho\right)\left(D_\mu(W^-)_\sigma\right)\left(\bar{e}_R\bar{\sigma}^\mu\sigma^\rho\sigma^\sigma\bar{\sigma}^\nu\bar{e}_R\right)$

A.73.4 Dimension = 8, $\mathcal{O}_8^{1\sim6}$

Type: $e^+e^+W^-W^-$ $d=8$ $\mathcal{O}_8^{1\sim6}$
$(W^-)^-_{\nu\rho}(W^-)^+_{\sigma\xi}\left(\left(D_\mu\bar{e}_L\right)\bar{\sigma}^{\sigma\xi}\bar{\sigma}^\mu\sigma^{\nu\rho}\bar{e}_R\right)$
$(W^-)^-_{\rho\sigma}(W^-)_\xi\left(\bar{e}_L\bar{\sigma}^\mu\sigma^{\rho\sigma}\bar{\sigma}^\nu\sigma^\xi\left(D_\mu D_\nu\bar{e}_R\right)\right)$
$(W^-)_\rho\left(D_\mu(W^-)^+_{\sigma\xi}\right)\left(\left(D_\nu\bar{e}_L\right)\bar{\sigma}^{\sigma\xi}\sigma^\nu\bar{\sigma}^\mu\sigma^\rho\bar{e}_R\right)$
$(W^-)^-_{\rho\sigma}\left(D_\mu(W^-)_\xi\right)\left(\left(D_\nu\bar{e}_L\right)\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\sigma^{\rho\sigma}\bar{e}_R\right)$
$(W^-)_\sigma\left(D_\mu(W^-)_\xi\right)\left(\left(D_\nu D_\rho\bar{e}_L\right)\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^\xi\bar{\sigma}^\rho\sigma^\sigma\bar{e}_R\right)$
$(W^-)^+_{\rho\sigma}\left(D_\nu(W^-)_\xi\right)\left(\left(D_\mu\bar{e}_L\right)\bar{\sigma}^\xi\bar{e}_R\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\rho\sigma}\right)$

A.74 Type: $Zg^+g^+g^+$

A.74.1 Dimension = 8, $\mathcal{O}_8^1$

Type: $Zg^+g^+g^+$ $d=8$ $\mathcal{O}_8^1$
$\epsilon_{acd}Z^+_{\mu\nu}\epsilon^{efb}G^{+a}_{\rho\sigma e}G^{+c}_{\xi\tau f}G^{+d}_{\zeta\eta b}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\zeta\eta}\right)$

A.75 Type: $Zg^+g^+g^-$

A.75.1 Dimension = 8, $\mathcal{O}_8^{1\sim2}$

Type: $Zg^+g^+g^-$ $\quad d=8 \quad \mathcal{O}_8^{1\sim 2}$
$\epsilon_{acd} Z^-_{\mu\nu} \epsilon^{efb} G^{+a}_{\rho\sigma e} G^{+c}_{\xi\tau f} G^{-d}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right) \operatorname{Tr}\left(\sigma^{\mu\nu}\sigma^{\zeta\eta}\right)$
$\epsilon_{acd} Z_\nu \left(D_\mu \epsilon^{efb} G^{+a}_{\rho\sigma e}\right) G^{+c}_{\xi\tau f} G^{-d}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\zeta\eta}\sigma^{\nu}\right) \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$

A.76 Type: $Z\gamma^+g^+g^+$

A.76.1 Dimension = 8, $\mathcal{O}_8^{1\sim 3}$

Type: $Z\gamma^+g^+g^+$ $\quad d=8 \quad \mathcal{O}_8^{1\sim 3}$	
$Z^+_{\mu\nu}\gamma^+_{\rho\sigma} G^{+b}_{\xi\tau a} G^{+a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\zeta\eta}\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$	$Z^+_{\mu\nu}\gamma^+_{\rho\sigma} G^{+b}_{\xi\tau a} G^{+a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\xi\tau}\right) \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\zeta\eta}\right)$
$Z_\nu \gamma^+_{\rho\sigma} G^{+b}_{\xi\tau a} \left(D_\mu G^{+a}_{\zeta\eta b}\right) \operatorname{Tr}\left(\sigma^{\nu}\bar{\sigma}^{\mu}\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\zeta\eta}\bar{\sigma}^{\xi\tau}\right)$	

A.77 Type: $Z\gamma^+g^+g^-$

A.77.1 Dimension = 8, $\mathcal{O}_8^{1\sim 2}$

Type: $Z\gamma^+g^+g^-$ $\quad d=8 \quad \mathcal{O}_8^{1\sim 2}$
$Z^-_{\mu\nu}\gamma^+_{\rho\sigma} G^{+b}_{\xi\tau a} G^{-a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right) \operatorname{Tr}\left(\sigma^{\mu\nu}\sigma^{\zeta\eta}\right)$
$Z_\nu \left(D_\mu \gamma^+_{\rho\sigma}\right) G^{+b}_{\xi\tau a} G^{-a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\zeta\eta}\sigma^{\nu}\right) \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$

A.78 Type: $Z\gamma^+g^-g^-$

A.78.1 Dimension = 8, $\mathcal{O}_8^1$

Type: $Z\gamma^+g^-g^-$ $\quad d=8 \quad \mathcal{O}_8^{1}$
$Z^+_{\mu\nu}\gamma^+_{\rho\sigma} G^{-b}_{\xi\tau a} G^{-a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\right) \operatorname{Tr}\left(\sigma^{\xi\tau}\sigma^{\zeta\eta}\right)$

A.79 Type: ZZg^+g^+

A.79.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $ZZg^+g^+ \quad d=6 \quad \mathcal{O}_6^1$
$Z_\mu Z_\nu G^{+b}_{\rho\sigma a} G^{+a}_{\xi\tau b} \operatorname{Tr}\left(\sigma^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right)$

A.79.2 Dimension = 8, $\mathcal{O}_8^{1\sim6}$

Type: $ZZg^+g^+ \quad d=8 \quad \mathcal{O}_8^{1\sim6}$
$Z^+_{\mu\nu} Z^+_{\rho\sigma} G^{+b}_{\xi\tau a} G^{+a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$
$Z^+_{\mu\nu} Z^+_{\rho\sigma} G^{+b}_{\xi\tau a} G^{+a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\zeta\eta}\right) \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right)$
$Z_\nu Z^+_{\rho\sigma} \left(D_\mu G^{+b}_{\xi\tau a}\right) G^{+a}_{\zeta\eta b} \operatorname{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$
$Z^-_{\mu\nu} Z^-_{\rho\sigma} G^{+b}_{\xi\tau a} G^{+a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^{\mu\nu} \sigma^{\rho\sigma}\right)$
$Z_\rho Z_\sigma \left(D_\nu G^{+b}_{\xi\tau a}\right) \left(D_\mu G^{+a}_{\zeta\eta b}\right) \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\zeta\eta} \bar{\sigma}^{\xi\tau} \sigma^\sigma \sigma^\rho\right)$
$Z_\nu Z_\sigma \left(D_\mu D_\rho G^{+b}_{\xi\tau a}\right) G^{+a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \operatorname{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma\right) \operatorname{Tr}\left(\bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$

A.80 Type: ZZg^+g^-

A.80.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $ZZg^+g^- \quad d=6 \quad \mathcal{O}_6^1$
$Z_\mu Z_\nu G^{+b}_{\rho\sigma a} G^{-a}_{\xi\tau b} \operatorname{Tr}\left(\sigma^\mu \sigma^{\xi\tau} \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$

A.80.2 Dimension = 8, $\mathcal{O}_8^{1\sim4}$

Type: $ZZg^+g^- \quad d=8 \quad \mathcal{O}_8^{1\sim4}$
$Z^-_{\mu\nu} Z^+_{\rho\sigma} G^{+b}_{\xi\tau a} G^{-a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right) \operatorname{Tr}\left(\sigma^{\mu\nu} \sigma^{\zeta\eta}\right)$
$Z^-_{\nu\rho} Z_\sigma G^{+b}_{\xi\tau a} \left(D_\mu G^{-a}_{\zeta\eta b}\right) \operatorname{Tr}\left(\sigma^\sigma \sigma^{\zeta\eta} \sigma^{\nu\rho} \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau}\right)$
$Z_\nu Z^+_{\rho\sigma} \left(D_\mu G^{+b}_{\xi\tau a}\right) G^{-a}_{\zeta\eta b} \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\zeta\eta} \sigma^\nu\right) \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right)$

$Z_\rho \left(D_\nu Z_\sigma\right) G^{+b}_{\xi\tau a} \left(D_\mu G^{-a}_{\zeta\eta b}\right) \mathrm{Tr}\left(\sigma^\rho \sigma^\mu \bar{\sigma}^\nu \sigma^{\zeta\eta} \sigma^\sigma \bar{\sigma}^{\xi\tau}\right)$

A.81 Type: $W^+W^-g^+g^+$

A.81.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $W^+W^-g^+g^+ \quad d=6 \quad \mathcal{O}_6^1$
$(W^+)_\mu (W^-)_\nu G^{+b}_{\rho\sigma a} G^{+a}_{\xi\tau b} \mathrm{Tr}\left(\sigma^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right)$

A.81.2 Dimension = 8, $\mathcal{O}_8^{1\sim7}$

Type: $W^+W^-g^+g^+ \quad d=8 \quad \mathcal{O}_8^{1\sim7}$
$(W^+)^+_{\mu\nu} (W^-)^+_{\rho\sigma} G^{+b}_{\xi\tau a} G^{+a}_{\zeta\eta b} \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^+_{\mu\nu} (W^-)^+_{\rho\sigma} G^{+b}_{\xi\tau a} G^{+a}_{\zeta\eta b} \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right)$
$(W^+)_\nu (W^-)^+_{\rho\sigma} \left(D_\mu G^{+b}_{\xi\tau a}\right) G^{+a}_{\zeta\eta b} \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^+_{\nu\rho} (W^-)_\sigma \left(D_\mu G^{+b}_{\xi\tau a}\right) G^{+a}_{\zeta\eta b} \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\sigma \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta} \bar{\sigma}^{\nu\rho}\right)$
$(W^+)^-_{\mu\nu} (W^-)^-_{\rho\sigma} G^{+b}_{\xi\tau a} G^{+a}_{\zeta\eta b} \mathrm{Tr}\left(\bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^{\mu\nu} \sigma^{\rho\sigma}\right)$
$(W^+)_\rho (W^-)_\sigma \left(D_\nu G^{+b}_{\xi\tau a}\right) \left(D_\mu G^{+a}_{\zeta\eta b}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\zeta\eta} \bar{\sigma}^{\xi\tau} \sigma^\sigma \sigma^\rho\right)$
$(W^+)_\nu (W^-)_\sigma \left(D_\mu D_\rho G^{+b}_{\xi\tau a}\right) G^{+a}_{\zeta\eta b} \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma\right) \mathrm{Tr}\left(\bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$

A.82 Type: $W^+W^-g^+g^-$

A.82.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $W^+W^-g^+g^- \quad d=6 \quad \mathcal{O}_6^1$
$(W^+)_\mu (W^-)_\nu G^{+b}_{\rho\sigma a} G^{-a}_{\xi\tau b} \mathrm{Tr}\left(\sigma^\mu \sigma^{\xi\tau} \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$

A.82.2 Dimension = 8, $\mathcal{O}_8^{1\sim8}$

Type: $W^+W^-g^+g^-$ $\quad d=8 \quad \mathcal{O}_8^{1\sim 8}$
$(W^+)^-_{\mu\nu}(W^-)^+_{\rho\sigma}G^{+b}_{\xi\tau a}G^{-a}_{\zeta\eta b}\,\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\zeta\eta}\right)$
$(W^+)^+_{\mu\nu}(W^-)^-_{\rho\sigma}G^{+b}_{\xi\tau a}G^{-a}_{\zeta\eta b}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\zeta\eta}\right)$
$(W^+)^+_{\nu\rho}(W^-)_{\sigma}\left(D_\mu G^{+b}_{\xi\tau a}\right)G^{-a}_{\zeta\eta b}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\zeta\eta}\sigma^{\sigma}\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\nu\rho}\right)$
$(W^+)^-_{\nu\rho}(W^-)_{\sigma}G^{+b}_{\xi\tau a}\left(D_\mu G^{-a}_{\zeta\eta b}\right)\mathrm{Tr}\left(\sigma^{\sigma}\sigma^{\zeta\eta}\sigma^{\nu\rho}\bar{\sigma}^{\mu}\bar{\sigma}^{\xi\tau}\right)$
$(W^+)_{\nu}(W^-)^+_{\rho\sigma}\left(D_\mu G^{+b}_{\xi\tau a}\right)G^{-a}_{\zeta\eta b}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\zeta\eta}\sigma^{\nu}\right)\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$
$(W^+)_{\nu}(W^-)^-_{\rho\sigma}G^{+b}_{\xi\tau a}\left(D_\mu G^{-a}_{\zeta\eta b}\right)\mathrm{Tr}\left(\sigma^{\nu}\bar{\sigma}^{\mu}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\zeta\eta}\right)$
$(W^+)_{\rho}\left(D_\nu(W^-)_{\sigma}\right)G^{+b}_{\xi\tau a}\left(D_\mu G^{-a}_{\zeta\eta b}\right)\mathrm{Tr}\left(\sigma^{\rho}\sigma^{\mu}\bar{\sigma}^{\nu}\sigma^{\zeta\eta}\sigma^{\sigma}\bar{\sigma}^{\xi\tau}\right)$
$(W^+)_{\rho}(W^-)_{\sigma}\left(D_\mu G^{+b}_{\xi\tau a}\right)\left(D_\nu G^{-a}_{\zeta\eta b}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\xi\tau}\sigma^{\sigma}\sigma^{\zeta\eta}\sigma^{\rho}\right)$

A.83 Type: $Z\gamma^+\gamma^+\gamma^+$

A.83.1 Dimension = 8, $\mathcal{O}_8^1$

Type: $Z\gamma^+\gamma^+\gamma^+$ $\quad d=8 \quad \mathcal{O}_8^1$
$Z^+_{\mu\nu}\gamma^+_{\rho\sigma}\gamma^+_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\zeta\eta}\right)$

A.84 Type: $Z\gamma^+\gamma^+\gamma^-$

A.84.1 Dimension = 8, $\mathcal{O}_8^1$

Type: $Z\gamma^+\gamma^+\gamma^-$ $\quad d=8 \quad \mathcal{O}_8^1$
$Z^-_{\mu\nu}\gamma^+_{\rho\sigma}\gamma^+_{\xi\tau}\gamma^-_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\zeta\eta}\right)$

A.85 Type: $ZZ\gamma^+\gamma^+$

A.85.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $ZZ\gamma^+\gamma^+ \quad d=6 \quad \mathcal{O}_6^1$
$Z_\mu Z_\nu \gamma^+_{\rho\sigma}\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^\nu\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$

A.85.2 Dimension = 8, $\mathcal{O}_8^{1\sim6}$

Type: $ZZ\gamma^+\gamma^+ \quad d=8 \quad \mathcal{O}_8^{1\sim6}$
$Z^+_{\mu\nu}Z^+_{\rho\sigma}\gamma^+_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)$
$Z^+_{\mu\nu}Z^+_{\rho\sigma}\gamma^+_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$
$Z_\nu Z^+_{\rho\sigma}\left(D_\mu\gamma^+_{\xi\tau}\right)\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\sigma^\nu\bar{\sigma}^\mu\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)$
$Z^-_{\mu\nu}Z^-_{\rho\sigma}\gamma^+_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$
$Z_\rho Z_\sigma\left(D_\nu\gamma^+_{\xi\tau}\right)\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\bar{\sigma}^{\zeta\eta}\bar{\sigma}^{\xi\tau}\sigma^\sigma\sigma^\rho\right)$
$Z_\nu Z_\sigma\left(D_\mu D_\rho\gamma^+_{\xi\tau}\right)\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^\nu\right)\mathrm{Tr}\left(\bar{\sigma}^\rho\sigma^\sigma\right)\mathrm{Tr}\left(\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)$

A.86 Type: $ZZ\gamma^+\gamma^-$

A.86.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $ZZ\gamma^+\gamma^- \quad d=6 \quad \mathcal{O}_6^1$
$Z_\mu Z_\nu \gamma^+_{\rho\sigma}\gamma^-_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^{\xi\tau}\sigma^\nu\bar{\sigma}^{\rho\sigma}\right)$

A.86.2 Dimension = 8, $\mathcal{O}_8^{1\sim4}$

Type: $ZZ\gamma^+\gamma^- \quad d=8 \quad \mathcal{O}_8^{1\sim4}$
$Z^-_{\mu\nu}Z^+_{\rho\sigma}\gamma^+_{\xi\tau}\gamma^-_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\zeta\eta}\right)$
$Z^-_{\nu\rho}Z_\sigma\gamma^+_{\xi\tau}\left(D_\mu\gamma^-_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^\sigma\sigma^{\zeta\eta}\sigma^{\nu\rho}\bar{\sigma}^\mu\bar{\sigma}^{\xi\tau}\right)$
$Z_\nu Z^+_{\rho\sigma}\left(D_\mu\gamma^+_{\xi\tau}\right)\gamma^-_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^\mu\sigma^{\zeta\eta}\sigma^\nu\right)\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$

$Z_\rho \left(D_\nu Z_\sigma\right) \gamma^+_{\xi\tau} \left(D_\mu \gamma^-_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\rho \sigma^\mu \bar{\sigma}^\nu \sigma^{\zeta\eta} \sigma^\sigma \bar{\sigma}^{\xi\tau}\right)$

A.87 Type: $W^+W^-\gamma^+\gamma^+$

A.87.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $W^+W^-\gamma^+\gamma^+ \quad d=6 \quad \mathcal{O}_6^1$
$\left(W^+\right)_\mu \left(W^-\right)_\nu \gamma^+_{\rho\sigma} \gamma^+_{\xi\tau} \mathrm{Tr}\left(\sigma^\mu \sigma^\nu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right)$

A.87.2 Dimension = 8, $\mathcal{O}_8^{1\sim7}$

Type: $W^+W^-\gamma^+\gamma^+ \quad d=8 \quad \mathcal{O}_8^{1\sim7}$
$\left(W^+\right)^+_{\mu\nu} \left(W^-\right)^+_{\rho\sigma} \gamma^+_{\xi\tau} \gamma^+_{\zeta\eta} \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$
$\left(W^+\right)^+_{\mu\nu} \left(W^-\right)^+_{\rho\sigma} \gamma^+_{\xi\tau} \gamma^+_{\zeta\eta} \mathrm{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right)$
$\left(W^+\right)_\nu \left(W^-\right)^+_{\rho\sigma} \left(D_\mu \gamma^+_{\xi\tau}\right) \gamma^+_{\zeta\eta} \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$
$\left(W^+\right)^+_{\nu\rho} \left(W^-\right)_\sigma \left(D_\mu \gamma^+_{\xi\tau}\right) \gamma^+_{\zeta\eta} \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\sigma \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta} \bar{\sigma}^{\nu\rho}\right)$
$\left(W^+\right)^-_{\mu\nu} \left(W^-\right)^-_{\rho\sigma} \gamma^+_{\xi\tau} \gamma^+_{\zeta\eta} \mathrm{Tr}\left(\bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^{\mu\nu} \sigma^{\rho\sigma}\right)$
$\left(W^+\right)_\rho \left(W^-\right)_\sigma \left(D_\nu \gamma^+_{\xi\tau}\right) \left(D_\mu \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\zeta\eta} \bar{\sigma}^{\xi\tau} \sigma^\sigma \sigma^\rho\right)$
$\left(W^+\right)_\nu \left(W^-\right)_\sigma \left(D_\mu D_\rho \gamma^+_{\xi\tau}\right) \gamma^+_{\zeta\eta} \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma\right) \mathrm{Tr}\left(\bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$

A.88 Type: $W^+W^-\gamma^+\gamma^-$

A.88.1 Dimension = 6, $\mathcal{O}_6^1$

Type: $W^+W^-\gamma^+\gamma^- \quad d=6 \quad \mathcal{O}_6^1$
$\left(W^+\right)_\mu \left(W^-\right)_\nu \gamma^+_{\rho\sigma} \gamma^-_{\xi\tau} \mathrm{Tr}\left(\sigma^\mu \sigma^{\xi\tau} \sigma^\nu \bar{\sigma}^{\rho\sigma}\right)$

A.88.2 Dimension = 8, $\mathcal{O}_8^{1\sim8}$

Type: $W^+W^-\gamma^+\gamma^-$ $d=8$ $\mathcal{O}_8^{1\sim 8}$
$(W^+)^-_{\mu\nu}(W^-)^+_{\rho\sigma}\gamma^+_{\xi\tau}\gamma^-_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\zeta\eta}\right)$
$(W^+)^+_{\mu\nu}(W^-)^-_{\rho\sigma}\gamma^+_{\xi\tau}\gamma^-_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\zeta\eta}\right)$
$(W^+)^+_{\nu\rho}(W^-)_\sigma\left(D_\mu\gamma^+_{\xi\tau}\right)\gamma^-_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\zeta\eta}\sigma^{\sigma}\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\nu\rho}\right)$
$(W^+)^-_{\nu\rho}(W^-)_\sigma\gamma^+_{\xi\tau}\left(D_\mu\gamma^-_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\sigma}\sigma^{\zeta\eta}\sigma^{\nu\rho}\bar{\sigma}^{\mu}\bar{\sigma}^{\xi\tau}\right)$
$(W^+)_\nu(W^-)^+_{\rho\sigma}\left(D_\mu\gamma^+_{\xi\tau}\right)\gamma^-_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\zeta\eta}\sigma^{\nu}\right)\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\right)$
$(W^+)_\nu(W^-)^-_{\rho\sigma}\gamma^+_{\xi\tau}\left(D_\mu\gamma^-_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\nu}\bar{\sigma}^{\mu}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\zeta\eta}\right)$
$(W^+)_\rho\left(D_\nu(W^-)_\sigma\right)\gamma^+_{\xi\tau}\left(D_\mu\gamma^-_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\rho}\sigma^{\mu}\bar{\sigma}^{\nu}\sigma^{\zeta\eta}\sigma^{\sigma}\bar{\sigma}^{\xi\tau}\right)$
$(W^+)_\rho(W^-)_\sigma\left(D_\mu\gamma^+_{\xi\tau}\right)\left(D_\nu\gamma^-_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\xi\tau}\sigma^{\sigma}\sigma^{\zeta\eta}\sigma^{\rho}\right)$

A.89 Type: $ZZZ\gamma^+$

A.89.1 Dimension = 6, $\mathcal{O}_6^{1\sim 2}$

Type: $ZZZ\gamma^+$ $d=6$ $\mathcal{O}_6^{1\sim 2}$	
$Z_\mu Z_\nu Z^+_{\rho\sigma}\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^{\mu}\sigma^{\nu}\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\rho\sigma}\right)$	$Z^-_{\mu\nu}Z_\rho Z_\sigma\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^{\rho}\sigma^{\mu\nu}\sigma^{\sigma}\bar{\sigma}^{\xi\tau}\right)$

A.89.2 Dimension = 8, $\mathcal{O}_8^{1\sim 7}$

Type: $ZZZ\gamma^+$ $d=8$ $\mathcal{O}_8^{1\sim 7}$
$Z^+_{\mu\nu}Z^+_{\rho\sigma}Z^+_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\xi\tau}\right)\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\zeta\eta}\right)$
$Z_\nu Z^+_{\rho\sigma}Z^+_{\xi\tau}\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\nu}\bar{\sigma}^{\mu}\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\zeta\eta}\bar{\sigma}^{\xi\tau}\right)$
$Z^-_{\mu\nu}Z^-_{\rho\sigma}Z^+_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$
$Z^-_{\nu\rho}Z_\sigma Z^+_{\xi\tau}\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu\rho}\sigma^{\sigma}\right)\mathrm{Tr}\left(\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)$
$\left(D_\mu Z_\rho\right)Z_\sigma\left(D_\nu Z^+_{\xi\tau}\right)\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\sigma^{\sigma}\bar{\sigma}^{\mu}\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu}\sigma^{\rho}\right)$

$Z_\nu Z^-_{\sigma\xi}\left(D_\rho Z_\tau\right)\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\right)\mathrm{Tr}\left(\sigma^\tau\sigma^{\sigma\xi}\bar\sigma^\rho\bar\sigma^{\zeta\eta}\right)$
$Z_\nu Z_\sigma Z^+_{\xi\tau}\left(D_\mu D_\rho\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\right)\mathrm{Tr}\left(\bar\sigma^\rho\sigma^\sigma\right)\mathrm{Tr}\left(\bar\sigma^{\xi\tau}\bar\sigma^{\zeta\eta}\right)$

A.90 Type: $W^+W^-Z\gamma^+$

A.90.1 Dimension = 6, $\mathcal{O}_6^{1\sim11}$

Type: $W^+W^-Z\gamma^+ \quad d=6 \quad \mathcal{O}_6^{1\sim11}$	
$(W^+)_\mu(W^-)_\nu Z^+_{\rho\sigma}\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^\nu\bar\sigma^{\xi\tau}\bar\sigma^{\rho\sigma}\right)$	$(W^+)_\mu(W^-)^-_{\nu\rho}Z_\sigma\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^{\nu\rho}\sigma^\sigma\bar\sigma^{\xi\tau}\right)$
$(W^+)^+_{\mu\nu}(W^-)_\rho Z_\sigma\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\bar\sigma^{\mu\nu}\bar\sigma^\sigma\sigma^\rho\bar\sigma^{\xi\tau}\right)$	$(W^+)_\mu(W^-)_\nu Z^-_{\rho\sigma}\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^{\rho\sigma}\sigma^\nu\bar\sigma^{\xi\tau}\right)$
$(W^+)_\mu(W^-)^+_{\nu\rho}Z_\sigma\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^\sigma\bar\sigma^{\xi\tau}\bar\sigma^{\nu\rho}\right)$	$(W^+)_\mu(W^-)^+_{\nu\rho}Z_\sigma\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\bar\sigma^\sigma\right)\mathrm{Tr}\left(\bar\sigma^{\nu\rho}\bar\sigma^{\xi\tau}\right)$
$(W^+)^+_{\mu\nu}(W^-)_\rho Z_\sigma\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\bar\sigma^{\mu\nu}\bar\sigma^\rho\sigma^\sigma\bar\sigma^{\xi\tau}\right)$	$(W^+)_\mu(W^-)_\nu Z^+_{\rho\sigma}\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\bar\sigma^\nu\right)\mathrm{Tr}\left(\bar\sigma^{\rho\sigma}\bar\sigma^{\xi\tau}\right)$
$(W^+)^-_{\mu\nu}(W^-)_\rho Z_\sigma\gamma^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\rho\sigma^{\mu\nu}\sigma^\sigma\bar\sigma^{\xi\tau}\right)$	$(W^+)_\nu(W^-)_\rho Z_\sigma\left(D_\mu\gamma^+_{\xi\tau}\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\rho\bar\sigma^{\xi\tau}\sigma^\sigma\sigma^\nu\right)$
$(W^+)_\nu(W^-)_\rho Z_\sigma\left(D_\mu\gamma^+_{\xi\tau}\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\sigma\bar\sigma^{\xi\tau}\sigma^\rho\sigma^\nu\right)$	

A.90.2 Dimension = 8, $\mathcal{O}_8^{1\sim39}$

Type: $W^+W^-Z\gamma^+ \quad d=8 \quad \mathcal{O}_8^{1\sim39}$
$(W^+)^+_{\mu\nu}(W^-)^+_{\rho\sigma}Z^+_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^{\mu\nu}\bar\sigma^{\rho\sigma}\bar\sigma^{\zeta\eta}\bar\sigma^{\xi\tau}\right)$
$(W^+)^+_{\mu\nu}(W^-)^+_{\rho\sigma}Z^+_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^{\mu\nu}\bar\sigma^{\xi\tau}\right)\mathrm{Tr}\left(\bar\sigma^{\rho\sigma}\bar\sigma^{\zeta\eta}\right)$
$(W^+)^+_{\mu\nu}(W^-)^+_{\rho\sigma}Z^+_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^{\mu\nu}\bar\sigma^{\rho\sigma}\right)\mathrm{Tr}\left(\bar\sigma^{\xi\tau}\bar\sigma^{\zeta\eta}\right)$
$(W^+)_\nu(W^-)^+_{\rho\sigma}Z^+_{\xi\tau}\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^\nu\bar\sigma^\mu\bar\sigma^{\rho\sigma}\bar\sigma^{\zeta\eta}\bar\sigma^{\xi\tau}\right)$
$(W^+)^+_{\nu\rho}(W^-)_\sigma Z^+_{\xi\tau}\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\sigma\bar\sigma^{\zeta\eta}\bar\sigma^{\xi\tau}\bar\sigma^{\nu\rho}\right)$
$(W^+)^-_{\mu\nu}(W^-)^-_{\rho\sigma}Z^+_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^{\xi\tau}\bar\sigma^{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$

$(W^+)^-_{\mu\nu}(W^-)^+_{\rho\sigma}Z^-_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\xi\tau}\right)$
$(W^+)^+_{\mu\nu}(W^-)^-_{\rho\sigma}Z^-_{\xi\tau}\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\xi\tau}\right)$
$(W^+)^-_{\nu\rho}(W^-)^+_{\sigma\xi}Z_\tau\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu\rho}\sigma^{\tau}\bar{\sigma}^{\zeta\eta}\bar{\sigma}^{\sigma\xi}\right)$
$(W^+)^+_{\nu\rho}(W^-)^-_{\sigma\xi}Z_\tau\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\sigma\xi}\sigma^{\tau}\bar{\sigma}^{\zeta\eta}\bar{\sigma}^{\nu\rho}\right)$
$(W^+)^+_{\nu\rho}(W^-)_{\sigma}Z^-_{\xi\tau}\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\xi\tau}\sigma^{\sigma}\bar{\sigma}^{\zeta\eta}\bar{\sigma}^{\nu\rho}\right)$
$(W^+)^-_{\nu\rho}(W^-)^-_{\sigma\xi}\left(D_\mu Z_\tau\right)\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\sigma^{\tau}\sigma^{\sigma\xi}\sigma^{\nu\rho}\bar{\sigma}^{\mu}\bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^-_{\nu\rho}(W^-)_{\sigma}\left(D_\mu Z^-_{\xi\tau}\right)\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\sigma^{\sigma}\sigma^{\xi\tau}\sigma^{\nu\rho}\bar{\sigma}^{\mu}\bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^+_{\rho\sigma}(W^-)_{\xi}Z_\tau\left(D_\mu D_\nu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\xi}\bar{\sigma}^{\zeta\eta}\sigma^{\tau}\bar{\sigma}^{\nu}\bar{\sigma}^{\rho\sigma}\right)$
$(W^+)^+_{\nu\rho}(W^-)^+_{\sigma\xi}Z_\tau\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\bar{\sigma}^{\tau}\bar{\sigma}^{\nu\rho}\right)\mathrm{Tr}\left(\bar{\sigma}^{\sigma\xi}\bar{\sigma}^{\zeta\eta}\right)$
$(W^+)_{\nu}(W^-)^+_{\rho\sigma}Z^+_{\xi\tau}\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\nu}\bar{\sigma}^{\mu}\bar{\sigma}^{\rho\sigma}\right)\mathrm{Tr}\left(\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^+_{\nu\rho}(W^-)_{\sigma}Z^+_{\xi\tau}\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\bar{\sigma}^{\sigma}\bar{\sigma}^{\nu\rho}\right)\mathrm{Tr}\left(\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)$
$Z_\nu(W^+)^+_{\rho\sigma}\left(D_\mu(W^-)^+_{\xi\tau}\right)\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\right)$
$(W^+)^-_{\nu\rho}(W^-)_{\sigma}Z^+_{\xi\tau}\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu\rho}\sigma^{\sigma}\right)\mathrm{Tr}\left(\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)$
$(W^+)_{\nu}(W^-)^-_{\rho\sigma}Z^+_{\xi\tau}\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\rho\sigma}\sigma^{\nu}\right)\mathrm{Tr}\left(\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\zeta\eta}\right)$
$(W^+)_{\nu}(W^-)^+_{\rho\sigma}Z^-_{\xi\tau}\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\xi\tau}\sigma^{\nu}\right)\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^+_{\rho\sigma}\left(D_\nu(W^-)_{\xi}\right)Z_\tau\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\tau}\sigma^{\xi}\bar{\sigma}^{\zeta\eta}\bar{\sigma}^{\rho\sigma}\right)$
$(W^+)_{\nu}(W^-)^-_{\rho\sigma}\left(D_\mu Z^-_{\xi\tau}\right)\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\sigma^{\nu}\bar{\sigma}^{\mu}\bar{\sigma}^{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\xi\tau}\right)$
$(W^+)^-_{\rho\sigma}(W^-)_{\xi}\left(D_\nu Z_\tau\right)\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\nu}\bar{\sigma}^{\zeta\eta}\sigma^{\tau}\sigma^{\rho\sigma}\sigma^{\xi}\right)$
$(W^+)_{\rho}\left(D_\nu(W^-)_{\sigma}\right)\left(D_\mu Z^-_{\xi\tau}\right)\gamma^+_{\zeta\eta}\,\mathrm{Tr}\left(\sigma^{\rho}\bar{\sigma}^{\mu}\sigma^{\sigma}\sigma^{\xi\tau}\bar{\sigma}^{\nu}\bar{\sigma}^{\zeta\eta}\right)$
$(W^+)_{\rho}(W^-)^-_{\sigma\xi}\left(D_\nu Z_\tau\right)\left(D_\mu\gamma^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar{\sigma}^{\mu}\sigma^{\sigma\xi}\sigma^{\tau}\bar{\sigma}^{\zeta\eta}\bar{\sigma}^{\nu}\sigma^{\rho}\right)$

$(W^+)_\rho (W^-)^-_{\sigma\xi} \left(D_\nu Z_\tau\right) \left(D_\mu \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\zeta\eta} \sigma^\tau \sigma^{\sigma\xi} \sigma^\rho\right)$
$(W^+)_\rho \left(D_\nu (W^-)_\sigma\right) Z^-_{\xi\tau} \left(D_\mu \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\zeta\eta} \sigma^\sigma \sigma^{\xi\tau} \sigma^\rho\right)$
$(W^+)_\sigma \left(D_\nu (W^-)_\xi\right) Z_\tau \left(D_\mu D_\rho \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\rho \sigma^\xi \bar{\sigma}^{\zeta\eta} \sigma^\tau \sigma^\sigma\right)$
$(W^+)_\sigma (W^-)_\xi \left(D_\rho Z_\tau\right) \left(D_\mu D_\nu \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\xi \bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^{\zeta\eta} \sigma^\tau \sigma^\sigma\right)$
$(W^+)_\sigma (W^-)_\xi \left(D_\nu Z_\tau\right) \left(D_\mu D_\rho \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\rho \sigma^\tau \bar{\sigma}^{\zeta\eta} \sigma^\xi \sigma^\sigma\right)$
$\left(D_\mu Z_\rho\right) (W^+)_\sigma \left(D_\nu (W^-)^+_{\xi\tau}\right) \gamma^+_{\zeta\eta} \mathrm{Tr}\left(\sigma^\sigma \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right)$
$(W^+)_\rho \left(D_\nu (W^-)^+_{\sigma\xi}\right) Z_\tau \left(D_\mu \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\tau \sigma^\rho\right) \mathrm{Tr}\left(\bar{\sigma}^{\sigma\xi} \bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^+_{\rho\sigma} \left(D_\nu (W^-)_\xi\right) \left(D_\mu Z_\tau\right) \gamma^+_{\zeta\eta} \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\tau \sigma^\xi\right)$
$(W^-)_\nu (W^+)_\sigma \left(D_\rho Z^+_{\xi\tau}\right) \left(D_\mu \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\sigma \bar{\sigma}^\rho \bar{\sigma}^{\zeta\eta} \bar{\sigma}^{\xi\tau}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right)$
$(W^+)_\rho \left(D_\nu (W^-)^+_{\sigma\xi}\right) Z_\tau \left(D_\mu \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\rho \bar{\sigma}^\tau\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\zeta\eta} \bar{\sigma}^{\sigma\xi}\right)$
$(W^+)_\rho (W^-)_\sigma \left(D_\nu Z^+_{\xi\tau}\right) \left(D_\mu \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\rho \bar{\sigma}^\sigma\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\zeta\eta} \bar{\sigma}^{\xi\tau}\right)$
$(W^-)_\nu (W^+)^-_{\sigma\xi} \left(D_\rho Z_\tau\right) \left(D_\mu \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\sigma^\tau \sigma^{\sigma\xi} \bar{\sigma}^\rho \bar{\sigma}^{\zeta\eta}\right)$
$(W^+)_\nu (W^-)_\sigma Z^+_{\xi\tau} \left(D_\mu D_\rho \gamma^+_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma\right) \mathrm{Tr}\left(\bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$

A.91 Type: $ZZZZ$

A.91.1 Dimension = 4, $\mathcal{O}_4^1$

Type: $ZZZZ$ $\quad d=4$ $\quad \mathcal{O}_4^1$
$Z_\mu Z_\nu Z_\rho Z_\sigma \mathrm{Tr}\left(\sigma^\mu \bar{\sigma}^\rho\right) \mathrm{Tr}\left(\sigma^\nu \bar{\sigma}^\sigma\right)$

A.91.2 Dimension = 6, $\mathcal{O}_6^{1\sim4}$

Type: $ZZZZ \quad d=6 \quad \mathcal{O}_6^{1\sim4}$
$Z_\mu Z_\nu Z^+_{\rho\sigma} Z^+_{\xi\tau} \operatorname{Tr}\left(\sigma^\mu \sigma^\nu \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\rho\sigma}\right)$
$Z^-_{\mu\nu} Z_\rho Z_\sigma Z^+_{\xi\tau} \operatorname{Tr}\left(\sigma^\rho \sigma^{\mu\nu} \sigma^\sigma \bar{\sigma}^{\xi\tau}\right)$
$Z^-_{\mu\nu} Z^-_{\rho\sigma} Z_\xi Z_\tau \operatorname{Tr}\left(\sigma^\xi \sigma^{\mu\nu} \sigma^{\rho\sigma} \bar{\sigma}^\tau\right)$
$\left(D_\mu Z_\rho\right) Z_\sigma \left(D_\nu Z_\xi\right) Z_\tau \operatorname{Tr}\left(\sigma^\sigma \bar{\sigma}^\mu \sigma^\xi \bar{\sigma}^\tau\right) \operatorname{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right)$

A.91.3 Dimension = 8, $\mathcal{O}_8^{1\sim9}$

Type: $ZZZZ \quad d=8 \quad \mathcal{O}_8^{1\sim9}$
$Z^+_{\mu\nu} Z^+_{\rho\sigma} Z^+_{\xi\tau} Z^+_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\xi\tau}\right) \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\zeta\eta}\right)$
$Z^-_{\mu\nu} Z^-_{\rho\sigma} Z^+_{\xi\tau} Z^+_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^{\mu\nu} \sigma^{\rho\sigma}\right)$
$Z^-_{\mu\nu} Z^-_{\rho\sigma} Z^-_{\xi\tau} Z^-_{\zeta\eta} \operatorname{Tr}\left(\sigma^{\mu\nu} \sigma^{\xi\tau}\right) \operatorname{Tr}\left(\sigma^{\rho\sigma} \sigma^{\zeta\eta}\right)$
$Z_\rho Z_\sigma Z^+_{\xi\tau} \left(D_\mu D_\nu Z^+_{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^\rho \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau} \bar{\sigma}^\nu \sigma^\sigma \bar{\sigma}^{\zeta\eta}\right)$
$Z^-_{\rho\sigma} \left(D_\nu Z^+_{\xi\tau}\right) \left(D_\mu Z_\zeta\right) Z_\eta \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\rho\sigma} \sigma^\zeta \bar{\sigma}^\nu \bar{\sigma}^\eta \bar{\sigma}^{\xi\tau}\right)$
$Z^-_{\rho\sigma} \left(D_\nu Z_\xi\right) \left(D_\mu Z^-_{\tau\zeta}\right) Z_\eta \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\rho\sigma} \sigma^{\tau\zeta} \bar{\sigma}^\nu \sigma^\eta \sigma^\xi\right)$
$Z^-_{\rho\sigma} \left(D_\nu Z_\xi\right) \left(D_\mu Z_\tau\right) Z^-_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\rho\sigma} \sigma^\tau \bar{\sigma}^\nu \sigma^{\zeta\eta} \sigma^\xi\right)$
$\left(D_\mu Z_\rho\right) Z_\sigma \left(D_\nu Z^+_{\xi\tau}\right) Z^+_{\zeta\eta} \operatorname{Tr}\left(\sigma^\sigma \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right) \operatorname{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right)$
$Z_\nu \left(D_\mu D_\rho Z_\tau\right) \left(D_\sigma D_\xi Z_\zeta\right) Z_\eta \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \operatorname{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma \bar{\sigma}^\eta \sigma^\zeta\right) \operatorname{Tr}\left(\bar{\sigma}^\xi \sigma^\tau\right)$

A.92 Type: ZZW^+W^-

A.92.1 Dimension = 4, $\mathcal{O}_4^{1\sim2}$

Type: $ZZW^+W^- \quad d=4 \quad \mathcal{O}_4^{1\sim2}$	
$Z_\mu Z_\nu (W^+)_\rho (W^-)_\sigma \operatorname{Tr}\left(\sigma^\mu \sigma^\nu \bar{\sigma}^\sigma \bar{\sigma}^\rho\right)$	$Z_\mu Z_\nu (W^+)_\rho (W^-)_\sigma \operatorname{Tr}\left(\sigma^\mu \bar{\sigma}^\rho\right) \operatorname{Tr}\left(\sigma^\nu \bar{\sigma}^\sigma\right)$

A.92.2 Dimension = 6, $\mathcal{O}_6^{1\sim 29}$

Type: ZZW^+W^- $\quad d=6$ $\quad \mathcal{O}_6^{1\sim 29}$
$Z_\mu Z_\nu (W^+)^+_{\rho\sigma}(W^-)^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^\nu\bar{\sigma}^{\xi\tau}\bar{\sigma}^{\rho\sigma}\right)$
$Z^+_{\mu\nu} Z_\rho (W^+)_\sigma (W^-)^+_{\xi\tau}\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\sigma}\sigma^{\rho}\bar{\sigma}^{\xi\tau}\right)$
$Z_\mu Z^+_{\nu\rho} (W^+)^+_{\sigma\xi}(W^-)_\tau\,\mathrm{Tr}\left(\sigma^\mu\bar{\sigma}^{\tau}\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\sigma\xi}\right)$
$Z^+_{\mu\nu} Z^+_{\rho\sigma} (W^+)_\xi (W^-)_\tau\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\tau}\bar{\sigma}^{\xi}\right)$
$Z^-_{\mu\nu} Z_\rho (W^+)_\sigma (W^-)^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\rho\sigma^{\mu\nu}\sigma^{\sigma}\bar{\sigma}^{\xi\tau}\right)$
$Z_\mu Z_\nu (W^+)^-_{\rho\sigma}(W^-)^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^{\rho\sigma}\sigma^{\nu}\bar{\sigma}^{\xi\tau}\right)$
$Z^-_{\mu\nu} Z_\rho (W^+)^+_{\sigma\xi}(W^-)_\tau\,\mathrm{Tr}\left(\sigma^\rho\sigma^{\mu\nu}\bar{\sigma}^{\tau}\bar{\sigma}^{\sigma\xi}\right)$
$Z^-_{\mu\nu} Z^+_{\rho\sigma} (W^+)_\xi (W^-)_\tau\,\mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma}\bar{\sigma}^{\xi}\sigma^{\mu\nu}\bar{\sigma}^{\tau}\right)$
$Z_\mu Z_\nu (W^+)^+_{\rho\sigma}(W^-)^-_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^{\xi\tau}\sigma^{\nu}\bar{\sigma}^{\rho\sigma}\right)$
$Z_\mu Z^+_{\nu\rho} (W^+)^-_{\sigma\xi}(W^-)_\tau\,\mathrm{Tr}\left(\sigma^\mu\sigma^{\sigma\xi}\bar{\sigma}^{\tau}\bar{\sigma}^{\nu\rho}\right)$
$Z_\mu Z^+_{\nu\rho} (W^+)_\sigma (W^-)^-_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^{\xi\tau}\bar{\sigma}^{\sigma}\bar{\sigma}^{\nu\rho}\right)$
$Z^-_{\mu\nu} Z^-_{\rho\sigma} (W^+)_\xi (W^-)_\tau\,\mathrm{Tr}\left(\sigma^\xi\sigma^{\mu\nu}\sigma^{\rho\sigma}\bar{\sigma}^{\tau}\right)$
$Z^-_{\mu\nu} Z_\rho (W^+)^-_{\sigma\xi}(W^-)_\tau\,\mathrm{Tr}\left(\sigma^\rho\sigma^{\mu\nu}\sigma^{\sigma\xi}\bar{\sigma}^{\tau}\right)$
$Z^-_{\mu\nu} Z_\rho (W^+)_\sigma (W^-)^-_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\rho\sigma^{\xi\tau}\sigma^{\mu\nu}\bar{\sigma}^{\sigma}\right)$
$Z^-_{\mu\nu} Z_\rho (W^+)_\sigma (W^-)^-_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\rho\sigma^{\mu\nu}\sigma^{\xi\tau}\bar{\sigma}^{\sigma}\right)$
$Z_\mu Z_\nu (W^+)^-_{\rho\sigma}(W^-)^-_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\sigma^{\rho\sigma}\sigma^{\xi\tau}\bar{\sigma}^{\nu}\right)$
$Z_\mu Z^+_{\nu\rho} (W^+)_\sigma (W^-)^+_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\mu\bar{\sigma}^{\sigma}\right)\mathrm{Tr}\left(\bar{\sigma}^{\nu\rho}\bar{\sigma}^{\xi\tau}\right)$
$Z^+_{\mu\nu} Z_\rho (W^+)^+_{\sigma\xi}(W^-)_\tau\,\mathrm{Tr}\left(\bar{\sigma}^{\mu\nu}\bar{\sigma}^{\sigma\xi}\right)\mathrm{Tr}\left(\sigma^{\rho}\bar{\sigma}^{\tau}\right)$
$Z_\nu Z_\rho (W^+)_\sigma \left(D_\mu (W^-)^+_{\xi\tau}\right)\mathrm{Tr}\left(\sigma^\nu\sigma^{\sigma}\bar{\sigma}^{\mu}\sigma^{\rho}\bar{\sigma}^{\xi\tau}\right)$

$Z_\nu Z^+_{\rho\sigma}\left(D_\mu(W^+)_\xi\right)(W^-)_\tau \,\mathrm{Tr}\left(\sigma^\nu\bar\sigma^\mu\bar\sigma^{\rho\sigma}\bar\sigma^\tau\bar\sigma^\xi\right)$
$Z^-_{\mu\nu}Z_\rho(W^+)^-_{\sigma\xi}(W^-)_\tau \,\mathrm{Tr}\left(\sigma^\rho\bar\sigma^\tau\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\sigma\xi}\right)$
$Z^-_{\nu\rho}Z_\sigma(W^+)_\xi\left(D_\mu(W^-)_\tau\right)\mathrm{Tr}\left(\sigma^\sigma\sigma^{\nu\rho}\bar\sigma^\mu\sigma^\xi\bar\sigma^\tau\right)$
$Z_\nu Z_\rho\left(D_\mu(W^+)^-_{\sigma\xi}\right)(W^-)_\tau \,\mathrm{Tr}\left(\sigma^\nu\bar\sigma^\mu\sigma^\rho\sigma^{\sigma\xi}\bar\sigma^\tau\right)$
$Z_\nu Z_\rho\left(D_\mu(W^+)_\sigma\right)(W^-)^-_{\xi\tau}\,\mathrm{Tr}\left(\sigma^\nu\bar\sigma^\mu\sigma^\rho\sigma^{\xi\tau}\bar\sigma^\sigma\right)$
$Z_\nu Z_\rho(W^+)^+_{\sigma\xi}\left(D_\mu(W^-)_\tau\right)\mathrm{Tr}\left(\sigma^\nu\bar\sigma^\mu\bar\sigma^{\sigma\xi}\right)\mathrm{Tr}\left(\sigma^\rho\bar\sigma^\tau\right)$
$Z_\nu Z^+_{\rho\sigma}(W^+)_\xi\left(D_\mu(W^-)_\tau\right)\mathrm{Tr}\left(\bar\sigma^{\rho\sigma}\bar\sigma^\xi\bar\sigma^\tau\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\right)$
$Z^-_{\nu\rho}Z_\sigma(W^+)_\xi\left(D_\mu(W^-)_\tau\right)\mathrm{Tr}\left(\sigma^\sigma\bar\sigma^\tau\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\nu\rho}\sigma^\xi\right)$
$\left(D_\mu(W^+)_\rho\right)Z_\sigma\left(D_\nu Z_\xi\right)(W^-)_\tau\,\mathrm{Tr}\left(\sigma^\sigma\bar\sigma^\mu\sigma^\xi\bar\sigma^\tau\right)\mathrm{Tr}\left(\bar\sigma^\nu\sigma^\rho\right)$
$Z_\rho\left(D_\nu Z_\sigma\right)(W^+)_\xi\left(D_\mu(W^-)_\tau\right)\mathrm{Tr}\left(\sigma^\rho\bar\sigma^\xi\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\bar\sigma^\tau\sigma^\sigma\right)$

A.92.3 Dimension = 8, $\mathcal{O}_8^{1\sim71}$

Type: $ZZW^+W^-\quad d=8\quad \mathcal{O}_8^{1\sim71}$
$Z^+_{\mu\nu}Z^+_{\rho\sigma}(W^+)^+_{\xi\tau}(W^-)^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^{\mu\nu}\bar\sigma^{\rho\sigma}\bar\sigma^{\zeta\eta}\bar\sigma^{\xi\tau}\right)$
$Z^-_{\mu\nu}Z^-_{\rho\sigma}(W^+)^-_{\xi\tau}(W^-)^-_{\zeta\eta}\,\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\xi\tau}\sigma^{\zeta\eta}\sigma^{\rho\sigma}\right)$
$Z^+_{\mu\nu}Z^+_{\rho\sigma}(W^+)^+_{\xi\tau}(W^-)^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^{\mu\nu}\bar\sigma^{\xi\tau}\right)\mathrm{Tr}\left(\bar\sigma^{\rho\sigma}\bar\sigma^{\zeta\eta}\right)$
$Z^+_{\nu\rho}Z_\sigma(W^+)^+_{\xi\tau}\left(D_\mu(W^-)^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar\sigma^{\nu\rho}\bar\sigma^{\xi\tau}\bar\sigma^\mu\sigma^\sigma\bar\sigma^{\zeta\eta}\right)$
$Z^+_{\nu\rho}Z^+_{\sigma\xi}(W^+)_\tau\left(D_\mu(W^-)^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar\sigma^{\nu\rho}\bar\sigma^\tau\bar\sigma^\mu\bar\sigma^{\sigma\xi}\bar\sigma^{\zeta\eta}\right)$
$Z^-_{\mu\nu}Z^-_{\rho\sigma}(W^+)^+_{\xi\tau}(W^-)^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^{\xi\tau}\bar\sigma^{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\rho\sigma}\right)$
$Z^-_{\mu\nu}Z^+_{\rho\sigma}(W^+)^-_{\xi\tau}(W^-)^+_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^{\rho\sigma}\bar\sigma^{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\xi\tau}\right)$
$Z^-_{\mu\nu}Z^+_{\rho\sigma}(W^+)^+_{\xi\tau}(W^-)^-_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^{\rho\sigma}\bar\sigma^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\zeta\eta}\right)$

$Z^+_{\mu\nu} Z^+_{\rho\sigma} (W^+)^-_{\xi\tau} (W^-)^-_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right) \operatorname{Tr}\left(\sigma^{\xi\tau} \sigma^{\zeta\eta}\right)$
$Z^-_{\nu\rho} Z_\sigma (W^+)^+_{\xi\tau} \left(D_\mu (W^-)^+_{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^\sigma \sigma^{\nu\rho} \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right)$
$Z_\nu Z^+_{\rho\sigma} (W^+)^-_{\xi\tau} \left(D_\mu (W^-)^+_{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^\nu \sigma^{\xi\tau} \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\zeta\eta}\right)$
$Z^-_{\nu\rho} Z^+_{\sigma\xi} (W^+)^+_{\tau\zeta} \left(D_\mu (W^-)_\eta\right) \operatorname{Tr}\left(\bar{\sigma}^{\sigma\xi} \bar{\sigma}^{\tau\zeta} \bar{\sigma}^\mu \sigma^{\nu\rho} \bar{\sigma}^\eta\right)$
$Z_\nu Z^+_{\rho\sigma} \left(D_\mu (W^+)^+_{\xi\tau}\right) (W^-)^-_{\zeta\eta} \operatorname{Tr}\left(\sigma^\nu \sigma^{\zeta\eta} \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\xi\tau}\right)$
$Z^-_{\nu\rho} Z_\sigma \left(D_\mu (W^+)^-_{\xi\tau}\right) (W^-)^+_{\zeta\eta} \operatorname{Tr}\left(\sigma^\sigma \sigma^{\xi\tau} \sigma^{\nu\rho} \bar{\sigma}^\mu \bar{\sigma}^{\zeta\eta}\right)$
$Z^-_{\nu\rho} Z^+_{\sigma\xi} \left(D_\mu (W^+)^-_{\tau\zeta}\right) (W^-)_\eta \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\nu\rho} \sigma^{\tau\zeta} \bar{\sigma}^\eta \bar{\sigma}^{\sigma\xi}\right)$
$Z^-_{\nu\rho} Z^+_{\sigma\xi} \left(D_\mu (W^+)_\tau\right) (W^-)^-_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\nu\rho} \sigma^{\zeta\eta} \bar{\sigma}^\tau \bar{\sigma}^{\sigma\xi}\right)$
$Z^-_{\nu\rho} Z_\sigma (W^+)^+_{\xi\tau} \left(D_\mu (W^-)^-_{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^\sigma \sigma^{\zeta\eta} \sigma^{\nu\rho} \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau}\right)$
$Z^+_{\nu\rho} \left(D_\mu Z_\sigma\right) (W^+)^-_{\xi\tau} (W^-)^-_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\xi\tau} \sigma^{\zeta\eta} \bar{\sigma}^\sigma \bar{\sigma}^{\nu\rho}\right)$
$Z^-_{\mu\nu} Z^-_{\rho\sigma} (W^+)^-_{\xi\tau} (W^-)^-_{\zeta\eta} \operatorname{Tr}\left(\sigma^{\mu\nu} \sigma^{\xi\tau}\right) \operatorname{Tr}\left(\sigma^{\rho\sigma} \sigma^{\zeta\eta}\right)$
$Z^-_{\nu\rho} Z^-_{\sigma\xi} \left(D_\mu (W^+)^-_{\tau\zeta}\right) (W^-)_\eta \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\nu\rho} \sigma^{\tau\zeta} \sigma^{\sigma\xi} \sigma^\eta\right)$
$Z^-_{\nu\rho} Z_\sigma \left(D_\mu (W^+)^-_{\xi\tau}\right) (W^-)^-_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\nu\rho} \sigma^{\xi\tau} \sigma^{\zeta\eta} \sigma^\sigma\right)$
$Z_\rho Z_\sigma (W^+)^+_{\xi\tau} \left(D_\mu D_\nu (W^-)^+_{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^\rho \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau} \bar{\sigma}^\nu \sigma^\sigma \bar{\sigma}^{\zeta\eta}\right)$
$Z^-_{\rho\sigma} Z^+_{\xi\tau} (W^+)_\zeta \left(D_\mu D_\nu (W^-)_\eta\right) \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\rho\sigma} \bar{\sigma}^\nu \sigma^\zeta \bar{\sigma}^\eta \bar{\sigma}^{\xi\tau}\right)$
$Z_\rho Z^+_{\sigma\xi} \left(D_\mu D_\nu (W^+)_\tau\right) (W^-)^-_{\zeta\eta} \operatorname{Tr}\left(\sigma^\rho \bar{\sigma}^\mu \bar{\sigma}^{\sigma\xi} \bar{\sigma}^\nu \sigma^{\zeta\eta} \bar{\sigma}^\tau\right)$
$Z^-_{\rho\sigma} Z_\xi \left(D_\mu D_\nu (W^+)^-_{\tau\zeta}\right) (W^-)_\eta \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\rho\sigma} \bar{\sigma}^\nu \sigma^\eta \sigma^{\tau\zeta} \sigma^\xi\right)$
$Z_\nu Z^+_{\rho\sigma} (W^+)^+_{\xi\tau} \left(D_\mu (W^-)^+_{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau}\right) \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\zeta\eta}\right)$
$Z^+_{\nu\rho} Z^+_{\sigma\xi} \left(D_\mu (W^+)^+_{\tau\zeta}\right) (W^-)_\eta \operatorname{Tr}\left(\bar{\sigma}^{\nu\rho} \bar{\sigma}^{\tau\zeta}\right) \operatorname{Tr}\left(\bar{\sigma}^\mu \bar{\sigma}^\eta \bar{\sigma}^{\sigma\xi}\right)$
$Z^-_{\nu\rho} Z^+_{\sigma\xi} (W^+)_\tau \left(D_\mu (W^-)^+_{\zeta\eta}\right) \operatorname{Tr}\left(\bar{\sigma}^{\sigma\xi} \bar{\sigma}^{\zeta\eta}\right) \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\nu\rho} \sigma^\tau\right)$

$Z_\rho \left(D_\nu Z^+_{\sigma\xi}\right) (W^+)_\tau \left(D_\mu (W^-)^+_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\rho \bar\sigma^\tau \sigma^\nu \bar\sigma^\mu \bar\sigma^{\sigma\xi} \bar\sigma^{\zeta\eta}\right)$
$Z_\rho \left(D_\nu Z^+_{\sigma\xi}\right) \left(D_\mu (W^+)^+_{\tau\zeta}\right) (W^-)_\eta \mathrm{Tr}\left(\sigma^\rho \bar\sigma^\mu \bar\sigma^{\sigma\xi} \bar\sigma^\eta \bar\sigma^\nu \bar\sigma^{\tau\zeta}\right)$
$Z_\rho Z_\sigma \left(D_\nu (W^+)^+_{\xi\tau}\right) \left(D_\mu (W^-)^+_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\rho \bar\sigma^\nu \bar\sigma^{\zeta\eta} \sigma^\sigma \bar\sigma^\mu \bar\sigma^{\xi\tau}\right)$
$Z^+_{\rho\sigma} \left(D_\nu Z_\xi\right) (W^+)^+_{\tau\zeta} \left(D_\mu (W^-)_\eta\right) \mathrm{Tr}\left(\bar\sigma^{\rho\sigma} \bar\sigma^{\tau\zeta} \sigma^\nu \bar\sigma^\mu \sigma^\xi \bar\sigma^\eta\right)$
$Z^+_{\rho\sigma} \left(D_\nu Z^+_{\xi\tau}\right) \left(D_\mu (W^+)_\zeta\right) (W^-)_\eta \mathrm{Tr}\left(\bar\sigma^{\rho\sigma} \bar\sigma^{\xi\tau} \bar\sigma^\mu \sigma^\nu \bar\sigma^\zeta \bar\sigma^\eta\right)$
$Z^-_{\rho\sigma} \left(D_\nu Z^+_{\xi\tau}\right) \left(D_\mu (W^+)_\zeta\right) (W^-)_\eta \mathrm{Tr}\left(\bar\sigma^\mu \sigma^{\rho\sigma} \sigma^\zeta \bar\sigma^\nu \bar\sigma^\eta \bar\sigma^{\xi\tau}\right)$
$Z^-_{\rho\sigma} Z_\xi \left(D_\nu (W^+)_\tau\right) \left(D_\mu (W^-)^+_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\xi \bar\sigma^\mu \sigma^\tau \sigma^{\rho\sigma} \bar\sigma^\nu \bar\sigma^{\zeta\eta}\right)$
$Z^-_{\rho\sigma} Z_\xi \left(D_\nu (W^+)_\tau\right) \left(D_\mu (W^-)^+_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\xi \sigma^{\rho\sigma} \sigma^\tau \bar\sigma^\mu \sigma^\nu \bar\sigma^{\zeta\eta}\right)$
$Z_\rho \left(D_\nu Z_\sigma\right) \left(D_\mu (W^+)^-_{\xi\tau}\right) (W^-)^+_{\zeta\eta} \mathrm{Tr}\left(\sigma^\rho \bar\sigma^\mu \sigma^\sigma \sigma^{\xi\tau} \bar\sigma^\nu \bar\sigma^{\zeta\eta}\right)$
$Z_\rho Z^+_{\sigma\xi} \left(D_\mu (W^+)^-_{\tau\zeta}\right) \left(D_\nu (W^-)_\eta\right) \mathrm{Tr}\left(\sigma^\rho \bar\sigma^\mu \bar\sigma^{\sigma\xi} \bar\sigma^\nu \sigma^{\tau\zeta} \bar\sigma^\eta\right)$
$Z^+_{\rho\sigma} Z_\xi \left(D_\nu (W^+)^-_{\tau\zeta}\right) \left(D_\mu (W^-)_\eta\right) \mathrm{Tr}\left(\bar\sigma^\mu \sigma^\nu \bar\sigma^\xi \sigma^{\tau\zeta} \bar\sigma^\eta \bar\sigma^{\rho\sigma}\right)$
$Z_\rho \left(D_\nu Z_\sigma\right) \left(D_\mu (W^+)^+_{\xi\tau}\right) (W^-)^-_{\zeta\eta} \mathrm{Tr}\left(\sigma^\rho \bar\sigma^\mu \sigma^\sigma \sigma^{\zeta\eta} \bar\sigma^\nu \bar\sigma^{\xi\tau}\right)$
$Z_\rho Z^+_{\sigma\xi} \left(D_\nu (W^+)_\tau\right) \left(D_\mu (W^-)^-_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\rho \sigma^\mu \bar\sigma^\nu \sigma^{\zeta\eta} \bar\sigma^\tau \bar\sigma^{\sigma\xi}\right)$
$Z_\nu \left(D_\mu Z^-_{\rho\sigma}\right) (W^+)^-_{\xi\tau} (W^-)^-_{\zeta\eta} \mathrm{Tr}\left(\bar\sigma^\mu \sigma^{\xi\tau} \sigma^\nu\right) \mathrm{Tr}\left(\sigma^{\rho\sigma} \sigma^{\zeta\eta}\right)$
$Z^-_{\nu\rho} Z^-_{\sigma\xi} (W^+)_\tau \left(D_\mu (W^-)^-_{\zeta\eta}\right) \mathrm{Tr}\left(\bar\sigma^\mu \sigma^{\nu\rho} \sigma^\tau\right) \mathrm{Tr}\left(\sigma^{\sigma\xi} \sigma^{\zeta\eta}\right)$
$Z^-_{\rho\sigma} \left(D_\nu Z_\xi\right) \left(D_\mu (W^+)^-_{\tau\zeta}\right) (W^-)_\eta \mathrm{Tr}\left(\bar\sigma^\mu \sigma^{\rho\sigma} \sigma^{\tau\zeta} \bar\sigma^\nu \sigma^\eta \sigma^\xi\right)$
$Z^-_{\rho\sigma} \left(D_\nu Z_\xi\right) \left(D_\mu (W^+)_\tau\right) (W^-)^-_{\zeta\eta} \mathrm{Tr}\left(\bar\sigma^\mu \sigma^{\rho\sigma} \sigma^\tau \bar\sigma^\nu \sigma^{\zeta\eta} \sigma^\xi\right)$
$Z^-_{\rho\sigma} Z^-_{\xi\tau} \left(D_\nu (W^+)_\zeta\right) \left(D_\mu (W^-)_\eta\right) \mathrm{Tr}\left(\bar\sigma^\mu \sigma^{\xi\tau} \sigma^\eta \bar\sigma^\nu \sigma^{\rho\sigma} \sigma^\zeta\right)$
$Z^-_{\rho\sigma} Z^-_{\xi\tau} \left(D_\nu (W^+)_\zeta\right) \left(D_\mu (W^-)_\eta\right) \mathrm{Tr}\left(\bar\sigma^\mu \sigma^{\xi\tau} \sigma^{\rho\sigma} \bar\sigma^\nu \sigma^\eta \sigma^\zeta\right)$
$Z^-_{\rho\sigma} Z_\xi \left(D_\nu (W^+)_\tau\right) \left(D_\mu (W^-)^-_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\xi \sigma^{\rho\sigma} \sigma^\mu \bar\sigma^\nu \sigma^{\zeta\eta} \bar\sigma^\tau\right)$

$Z^-_{\rho\sigma} Z_\xi (W^+)^+_{\tau\zeta} \left(D_\mu D_\nu (W^-)_\eta\right) \mathrm{Tr}\left(\sigma^\xi \bar{\sigma}^\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\rho\sigma} \bar{\sigma}^\nu \bar{\sigma}^{\tau\zeta}\right)$
$Z_\sigma \left(D_\rho Z^+_{\xi\tau}\right) \left(D_\mu D_\nu (W^+)_\zeta\right) (W^-)_\eta \mathrm{Tr}\left(\sigma^\sigma \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau} \bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\zeta \bar{\sigma}^\eta\right)$
$Z_\sigma \left(D_\nu Z_\xi\right) (W^+)_\tau \left(D_\mu D_\rho (W^-)^+_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\sigma \sigma^\tau \bar{\sigma}^\rho \sigma^\xi \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\zeta\eta}\right)$
$Z_\sigma \left(D_\rho Z_\xi\right) (W^+)^+_{\tau\zeta} \left(D_\mu D_\nu (W^-)_\eta\right) \mathrm{Tr}\left(\sigma^\sigma \bar{\sigma}^\mu \sigma^\xi \bar{\sigma}^\eta \sigma^\rho \bar{\sigma}^\nu \bar{\sigma}^{\tau\zeta}\right)$
$Z^-_{\sigma\xi} \left(D_\rho Z_\tau\right) (W^+)_\zeta \left(D_\mu D_\nu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\sigma\xi} \sigma^\zeta \bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\eta \sigma^\tau\right)$
$Z^-_{\sigma\xi} Z_\tau \left(D_\rho (W^+)_\zeta\right) \left(D_\mu D_\nu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\sigma\xi} \bar{\sigma}^\rho \sigma^\eta \sigma^\zeta \bar{\sigma}^\nu \sigma^\tau\right)$
$Z_\sigma Z_\xi \left(D_\nu D_\rho (W^+)^-_{\tau\zeta}\right) \left(D_\mu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\eta \sigma^{\tau\zeta} \sigma^\xi \bar{\sigma}^\rho \sigma^\sigma\right)$
$\left(D_\mu (W^+)_\rho\right) Z_\sigma \left(D_\nu Z^+_{\xi\tau}\right) (W^-)^+_{\zeta\eta} \mathrm{Tr}\left(\sigma^\sigma \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right)$
$Z^+_{\rho\sigma} \left(D_\nu Z_\xi\right) \left(D_\mu (W^+)_\tau\right) (W^-)^+_{\zeta\eta} \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\tau \sigma^\xi\right)$
$Z^+_{\rho\sigma} Z^+_{\xi\tau} \left(D_\mu (W^+)_\zeta\right) \left(D_\nu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^\zeta \bar{\sigma}^\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\xi\tau}\right)$
$Z^+_{\rho\sigma} \left(D_\nu Z_\xi\right) (W^+)^+_{\tau\zeta} \left(D_\mu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\tau\zeta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\eta \sigma^\xi\right)$
$\left(D_\mu (W^-)_\rho\right) Z^-_{\sigma\xi} Z_\tau \left(D_\nu (W^+)^+_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\tau \sigma^{\sigma\xi} \bar{\sigma}^\mu \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right)$
$Z_\sigma \left(D_\rho Z^+_{\xi\tau}\right) \left(D_\mu (W^+)_\zeta\right) \left(D_\nu (W^-)_\eta\right) \mathrm{Tr}\left(\sigma^\sigma \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau} \bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\zeta \bar{\sigma}^\eta\right)$
$Z^-_{\rho\sigma} \left(D_\nu Z_\xi\right) (W^+)^-_{\tau\zeta} \left(D_\mu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\eta \sigma^\xi\right) \mathrm{Tr}\left(\sigma^{\rho\sigma} \sigma^{\tau\zeta}\right)$
$Z_\rho Z_\sigma \left(D_\nu (W^+)^-_{\xi\tau}\right) \left(D_\mu (W^-)^-_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\sigma \sigma^\rho\right) \mathrm{Tr}\left(\sigma^{\xi\tau} \sigma^{\zeta\eta}\right)$
$Z_\sigma \left(D_\rho Z_\xi\right) \left(D_\mu (W^+)_\tau\right) \left(D_\nu (W^-)^-_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\sigma \bar{\sigma}^\mu \sigma^\xi \sigma^\nu \bar{\sigma}^\rho \sigma^{\zeta\eta} \bar{\sigma}^\tau\right)$
$Z_\xi \left(D_\nu D_\sigma Z_\tau\right) (W^+)_\zeta \left(D_\mu D_\rho (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\eta \sigma^\tau \bar{\sigma}^\rho \sigma^\sigma \bar{\sigma}^\zeta \sigma^\xi\right)$
$\left(D_\nu Z_\sigma\right) Z^+_{\xi\tau} \left(D_\mu D_\rho (W^+)_\zeta\right) (W^-)_\eta \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\zeta \bar{\sigma}^\eta \bar{\sigma}^{\xi\tau}\right) \mathrm{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma\right)$
$Z_\nu Z_\sigma \left(D_\mu D_\rho (W^+)^-_{\xi\tau}\right) (W^-)^-_{\zeta\eta} \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma\right) \mathrm{Tr}\left(\sigma^{\xi\tau} \sigma^{\zeta\eta}\right)$
$Z^-_{\sigma\xi} Z_\tau \left(D_\rho (W^+)_\zeta\right) \left(D_\mu D_\nu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\sigma\xi} \sigma^\tau\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\eta \sigma^\zeta\right)$

$Z_\nu \left(D_\mu (W^+)_\sigma\right) \left(D_\rho Z^-_{\xi\tau}\right) (W^-)^-_{\zeta\eta} \operatorname{Tr}\left(\bar\sigma^\mu \sigma^\nu\right) \operatorname{Tr}\left(\bar\sigma^\rho \sigma^\sigma\right) \operatorname{Tr}\left(\sigma^{\xi\tau} \sigma^{\zeta\eta}\right)$
$Z_\xi \left(D_\nu D_\sigma Z_\tau\right) (W^+)_\zeta \left(D_\mu D_\rho (W^-)_\eta\right) \operatorname{Tr}\left(\sigma^\xi \bar\sigma^\zeta\right) \operatorname{Tr}\left(\bar\sigma^\mu \sigma^\nu \bar\sigma^\rho \sigma^\sigma \bar\sigma^\eta \sigma^\tau\right)$
$Z_\nu \left(D_\mu D_\rho (W^+)_\tau\right) \left(D_\sigma D_\xi Z_\zeta\right) (W^-)_\eta \operatorname{Tr}\left(\bar\sigma^\mu \sigma^\nu\right) \operatorname{Tr}\left(\bar\sigma^\rho \sigma^\sigma \bar\sigma^\eta \sigma^\zeta\right) \operatorname{Tr}\left(\bar\sigma^\xi \sigma^\tau\right)$

A.93 Type: $W^+W^+W^-W^-$

A.93.1 Dimension = 4, $\mathcal{O}_4^{1\sim2}$

Type: $W^+W^+W^-W^-$ $\quad d=4 \quad \mathcal{O}_4^{1\sim2}$	
$(W^+)_\mu (W^+)_\nu (W^-)_\rho (W^-)_\sigma \operatorname{Tr}\left(\sigma^\mu \sigma^\nu \bar\sigma^\sigma \bar\sigma^\rho\right)$	$(W^+)_\mu (W^+)_\nu (W^-)_\rho (W^-)_\sigma \operatorname{Tr}\left(\sigma^\mu \bar\sigma^\rho\right) \operatorname{Tr}\left(\sigma^\nu \bar\sigma^\sigma\right)$

A.93.2 Dimension = 6, $\mathcal{O}_6^{1\sim18}$

Type: $W^+W^+W^-W^-$ $\quad d=6 \quad \mathcal{O}_6^{1\sim18}$
$(W^+)_\mu (W^+)_\nu (W^-)^+_{\rho\sigma} (W^-)^+_{\xi\tau} \operatorname{Tr}\left(\sigma^\mu \sigma^\nu \bar\sigma^{\xi\tau} \bar\sigma^{\rho\sigma}\right)$
$(W^+)^+_{\mu\nu} (W^+)_\rho (W^-)_\sigma (W^-)^+_{\xi\tau} \operatorname{Tr}\left(\bar\sigma^{\mu\nu} \bar\sigma^\sigma \sigma^\rho \bar\sigma^{\xi\tau}\right)$
$(W^+)^+_{\mu\nu} (W^+)^+_{\rho\sigma} (W^-)_\xi (W^-)_\tau \operatorname{Tr}\left(\bar\sigma^{\mu\nu} \bar\sigma^{\rho\sigma} \bar\sigma^\tau \bar\sigma^\xi\right)$
$(W^+)^-_{\mu\nu} (W^+)_\rho (W^-)_\sigma (W^-)^+_{\xi\tau} \operatorname{Tr}\left(\sigma^\rho \sigma^{\mu\nu} \sigma^\sigma \bar\sigma^{\xi\tau}\right)$
$(W^+)_\mu (W^+)_\nu (W^-)^-_{\rho\sigma} (W^-)^+_{\xi\tau} \operatorname{Tr}\left(\sigma^\mu \sigma^{\rho\sigma} \sigma^\nu \bar\sigma^{\xi\tau}\right)$
$(W^+)^-_{\mu\nu} (W^+)^+_{\rho\sigma} (W^-)_\xi (W^-)_\tau \operatorname{Tr}\left(\bar\sigma^{\rho\sigma} \bar\sigma^\xi \sigma^{\mu\nu} \bar\sigma^\tau\right)$
$(W^+)_\mu (W^+)^+_{\nu\rho} (W^-)^-_{\sigma\xi} (W^-)_\tau \operatorname{Tr}\left(\sigma^\mu \sigma^{\sigma\xi} \bar\sigma^\tau \bar\sigma^{\nu\rho}\right)$
$(W^+)^-_{\mu\nu} (W^+)^-_{\rho\sigma} (W^-)_\xi (W^-)_\tau \operatorname{Tr}\left(\sigma^\xi \sigma^{\mu\nu} \sigma^{\rho\sigma} \bar\sigma^\tau\right)$
$(W^+)^-_{\mu\nu} (W^+)_\rho (W^-)^-_{\sigma\xi} (W^-)_\tau \operatorname{Tr}\left(\sigma^\rho \sigma^{\mu\nu} \sigma^{\sigma\xi} \bar\sigma^\tau\right)$
$(W^+)_\mu (W^+)_\nu (W^-)^-_{\rho\sigma} (W^-)^-_{\xi\tau} \operatorname{Tr}\left(\sigma^\mu \sigma^{\rho\sigma} \sigma^{\xi\tau} \bar\sigma^\nu\right)$

$(W^+)_\mu (W^+)^+_{\nu\rho} (W^-)_\sigma (W^-)^+_{\xi\tau} \operatorname{Tr}\left(\sigma^\mu \bar{\sigma}^\sigma\right) \operatorname{Tr}\left(\bar{\sigma}^{\nu\rho} \bar{\sigma}^{\xi\tau}\right)$
$(W^+)_\nu (W^+)_\rho (W^-)_\sigma \left(D_\mu (W^-)^+_{\xi\tau}\right) \operatorname{Tr}\left(\sigma^\nu \sigma^\sigma \bar{\sigma}^\mu \sigma^\rho \bar{\sigma}^{\xi\tau}\right)$
$(W^+)_\nu (W^+)^+_{\rho\sigma} \left(D_\mu (W^-)_\xi\right) (W^-)_\tau \operatorname{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^\tau \bar{\sigma}^\xi\right)$
$(W^+)^-_{\mu\nu} (W^+)_\rho (W^-)^-_{\sigma\xi} (W^-)_\tau \operatorname{Tr}\left(\sigma^\rho \bar{\sigma}^\tau\right) \operatorname{Tr}\left(\sigma^{\mu\nu} \sigma^{\sigma\xi}\right)$
$(W^+)_\nu (W^+)_\rho \left(D_\mu (W^-)^-_{\sigma\xi}\right) (W^-)_\tau \operatorname{Tr}\left(\sigma^\nu \bar{\sigma}^\mu \sigma^\rho \sigma^{\sigma\xi} \bar{\sigma}^\tau\right)$
$(W^+)^-_{\nu\rho} (W^+)_\sigma (W^-)_\xi \left(D_\mu (W^-)_\tau\right) \operatorname{Tr}\left(\sigma^\sigma \bar{\sigma}^\tau\right) \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\nu\rho} \sigma^\xi\right)$
$\left(D_\mu (W^-)_\rho\right) (W^+)_\sigma \left(D_\nu (W^+)_\xi\right) (W^-)_\tau \operatorname{Tr}\left(\sigma^\sigma \bar{\sigma}^\mu \sigma^\xi \bar{\sigma}^\tau\right) \operatorname{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right)$
$(W^+)_\rho \left(D_\nu (W^+)_\sigma\right) (W^-)_\xi \left(D_\mu (W^-)_\tau\right) \operatorname{Tr}\left(\sigma^\rho \bar{\sigma}^\xi\right) \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\tau \sigma^\sigma\right)$

A.93.3 Dimension = 8, $\mathcal{O}_8^{1\sim42}$

Type: $W^+W^+W^-W^-$ $\quad d=8 \quad \mathcal{O}_8^{1\sim42}$
$(W^+)^+_{\mu\nu} (W^+)^+_{\rho\sigma} (W^-)^+_{\xi\tau} (W^-)^+_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\zeta\eta} \bar{\sigma}^{\xi\tau}\right)$
$(W^+)^-_{\mu\nu} (W^+)^-_{\rho\sigma} (W^-)^-_{\xi\tau} (W^-)^-_{\zeta\eta} \operatorname{Tr}\left(\sigma^{\mu\nu} \sigma^{\xi\tau} \sigma^{\zeta\eta} \sigma^{\rho\sigma}\right)$
$(W^+)^+_{\mu\nu} (W^+)^+_{\rho\sigma} (W^-)^+_{\xi\tau} (W^-)^+_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\xi\tau}\right) \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^+_{\nu\rho} (W^+)^+_{\sigma\xi} (W^-)_\tau \left(D_\mu (W^-)^+_{\zeta\eta}\right) \operatorname{Tr}\left(\bar{\sigma}^{\nu\rho} \bar{\sigma}^\tau \bar{\sigma}^\mu \bar{\sigma}^{\sigma\xi} \bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^-_{\mu\nu} (W^+)^-_{\rho\sigma} (W^-)^+_{\xi\tau} (W^-)^+_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^{\mu\nu} \sigma^{\rho\sigma}\right)$
$(W^+)^-_{\mu\nu} (W^+)^+_{\rho\sigma} (W^-)^-_{\xi\tau} (W^-)^+_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^{\mu\nu} \sigma^{\xi\tau}\right)$
$(W^+)^+_{\mu\nu} (W^+)^+_{\rho\sigma} (W^-)^-_{\xi\tau} (W^-)^-_{\zeta\eta} \operatorname{Tr}\left(\bar{\sigma}^{\mu\nu} \bar{\sigma}^{\rho\sigma}\right) \operatorname{Tr}\left(\sigma^{\xi\tau} \sigma^{\zeta\eta}\right)$
$(W^+)_\nu (W^+)^+_{\rho\sigma} (W^-)^-_{\xi\tau} \left(D_\mu (W^-)^+_{\zeta\eta}\right) \operatorname{Tr}\left(\sigma^\nu \sigma^{\xi\tau} \bar{\sigma}^\mu \bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^-_{\nu\rho} (W^+)_\sigma \left(D_\mu (W^-)^-_{\xi\tau}\right) (W^-)^+_{\zeta\eta} \operatorname{Tr}\left(\sigma^\sigma \sigma^{\xi\tau} \sigma^{\nu\rho} \bar{\sigma}^\mu \bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^-_{\nu\rho} (W^+)^+_{\sigma\xi} \left(D_\mu (W^-)^-_{\tau\zeta}\right) (W^-)_\eta \operatorname{Tr}\left(\bar{\sigma}^\mu \sigma^{\nu\rho} \sigma^{\tau\zeta} \bar{\sigma}^\eta \bar{\sigma}^{\sigma\xi}\right)$

$(W^+)^-_{\mu\nu}(W^+)^-_{\rho\sigma}(W^-)^-_{\xi\tau}(W^-)^-_{\zeta\eta}\,\mathrm{Tr}\left(\sigma^{\mu\nu}\sigma^{\xi\tau}\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\zeta\eta}\right)$
$(W^+)^-_{\nu\rho}(W^+)^-_{\sigma\xi}\left(D_\mu(W^-)^-_{\tau\zeta}\right)(W^-)_\eta\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\nu\rho}\sigma^{\tau\zeta}\sigma^{\sigma\xi}\sigma^\eta\right)$
$(W^+)_\rho(W^+)_\sigma(W^-)^+_{\xi\tau}\left(D_\mu D_\nu(W^-)^+_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^\rho\bar\sigma^\mu\bar\sigma^{\xi\tau}\bar\sigma^\nu\sigma^\sigma\bar\sigma^{\zeta\eta}\right)$
$(W^+)_\nu(W^+)^+_{\rho\sigma}(W^-)^+_{\xi\tau}\left(D_\mu(W^-)^+_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^\nu\bar\sigma^\mu\bar\sigma^{\xi\tau}\right)\mathrm{Tr}\left(\bar\sigma^{\rho\sigma}\bar\sigma^{\zeta\eta}\right)$
$(W^+)^-_{\nu\rho}(W^+)^+_{\sigma\xi}(W^-)_\tau\left(D_\mu(W^-)^+_{\zeta\eta}\right)\mathrm{Tr}\left(\bar\sigma^{\sigma\xi}\bar\sigma^{\zeta\eta}\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\nu\rho}\sigma^\tau\right)$
$(W^+)_\rho\left(D_\nu(W^+)^+_{\sigma\xi}\right)(W^-)_\tau\left(D_\mu(W^-)^+_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^\rho\bar\sigma^\tau\sigma^\nu\bar\sigma^\mu\bar\sigma^{\sigma\xi}\bar\sigma^{\zeta\eta}\right)$
$(W^+)_\rho(W^+)_\sigma\left(D_\nu(W^-)^+_{\xi\tau}\right)\left(D_\mu(W^-)^+_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^\rho\bar\sigma^\nu\bar\sigma^{\zeta\eta}\sigma^\sigma\bar\sigma^\mu\bar\sigma^{\xi\tau}\right)$
$(W^+)^+_{\rho\sigma}\left(D_\nu(W^+)^+_{\xi\tau}\right)\left(D_\mu(W^-)_\zeta\right)(W^-)_\eta\,\mathrm{Tr}\left(\bar\sigma^{\rho\sigma}\bar\sigma^{\xi\tau}\bar\sigma^\mu\sigma^\nu\bar\sigma^\zeta\bar\sigma^\eta\right)$
$(W^+)^-_{\rho\sigma}\left(D_\nu(W^+)^+_{\xi\tau}\right)\left(D_\mu(W^-)_\zeta\right)(W^-)_\eta\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\rho\sigma}\sigma^\zeta\bar\sigma^\nu\bar\sigma^\eta\bar\sigma^{\xi\tau}\right)$
$(W^+)^-_{\rho\sigma}(W^+)_\xi\left(D_\nu(W^-)_\tau\right)\left(D_\mu(W^-)^+_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^\xi\bar\sigma^\mu\sigma^\tau\sigma^{\rho\sigma}\bar\sigma^\nu\bar\sigma^{\zeta\eta}\right)$
$(W^+)^-_{\rho\sigma}(W^+)_\xi\left(D_\nu(W^-)_\tau\right)\left(D_\mu(W^-)^+_{\zeta\eta}\right)\mathrm{Tr}\left(\sigma^\xi\sigma^{\rho\sigma}\sigma^\tau\bar\sigma^\mu\sigma^\nu\bar\sigma^{\zeta\eta}\right)$
$(W^+)_\rho\left(D_\nu(W^+)_\sigma\right)\left(D_\mu(W^-)^-_{\xi\tau}\right)(W^-)^+_{\zeta\eta}\,\mathrm{Tr}\left(\sigma^\rho\bar\sigma^\mu\sigma^\sigma\sigma^{\xi\tau}\bar\sigma^\nu\bar\sigma^{\zeta\eta}\right)$
$(W^+)_\rho(W^+)^+_{\sigma\xi}\left(D_\mu(W^-)^-_{\tau\zeta}\right)\left(D_\nu(W^-)_\eta\right)\mathrm{Tr}\left(\sigma^\rho\bar\sigma^\mu\bar\sigma^{\sigma\xi}\bar\sigma^\nu\sigma^{\tau\zeta}\bar\sigma^\eta\right)$
$(W^+)^+_{\rho\sigma}(W^+)_\xi\left(D_\nu(W^-)^-_{\tau\zeta}\right)\left(D_\mu(W^-)_\eta\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^\nu\bar\sigma^\xi\sigma^{\tau\zeta}\bar\sigma^\eta\bar\sigma^{\rho\sigma}\right)$
$(W^+)_\nu\left(D_\mu(W^+)^-_{\rho\sigma}\right)(W^-)^-_{\xi\tau}(W^-)^-_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\xi\tau}\sigma^\nu\right)\mathrm{Tr}\left(\sigma^{\rho\sigma}\sigma^{\zeta\eta}\right)$
$(W^+)^-_{\rho\sigma}\left(D_\nu(W^+)_\xi\right)\left(D_\mu(W^-)^-_{\tau\zeta}\right)(W^-)_\eta\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\rho\sigma}\sigma^{\tau\zeta}\bar\sigma^\nu\sigma^\eta\sigma^\xi\right)$
$(W^+)^-_{\rho\sigma}\left(D_\nu(W^+)_\xi\right)\left(D_\mu(W^-)_\tau\right)(W^-)^-_{\zeta\eta}\,\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\rho\sigma}\sigma^\tau\bar\sigma^\nu\sigma^{\zeta\eta}\sigma^\xi\right)$
$(W^+)^-_{\rho\sigma}(W^+)^-_{\xi\tau}\left(D_\nu(W^-)_\zeta\right)\left(D_\mu(W^-)_\eta\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\xi\tau}\sigma^\eta\bar\sigma^\nu\sigma^{\rho\sigma}\sigma^\zeta\right)$
$(W^+)^-_{\rho\sigma}(W^+)^-_{\xi\tau}\left(D_\nu(W^-)_\zeta\right)\left(D_\mu(W^-)_\eta\right)\mathrm{Tr}\left(\bar\sigma^\mu\sigma^{\xi\tau}\sigma^{\rho\sigma}\bar\sigma^\nu\sigma^\eta\sigma^\zeta\right)$
$(W^+)_\sigma\left(D_\rho(W^+)^+_{\xi\tau}\right)\left(D_\mu D_\nu(W^-)_\zeta\right)(W^-)_\eta\,\mathrm{Tr}\left(\sigma^\sigma\bar\sigma^\mu\bar\sigma^{\xi\tau}\bar\sigma^\nu\sigma^\rho\bar\sigma^\zeta\bar\sigma^\eta\right)$

$(W^+)_\sigma \left(D_\nu (W^+)_\xi\right) (W^-)_\tau \left(D_\mu D_\rho (W^-)^+_{\zeta\eta}\right) \mathrm{Tr}\left(\sigma^\sigma \sigma^\tau \bar{\sigma}^\rho \sigma^\xi \bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\zeta\eta}\right)$
$(W^+)^-_{\sigma\xi} \left(D_\rho (W^+)_\tau\right) (W^-)_\zeta \left(D_\mu D_\nu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^{\sigma\xi} \sigma^\zeta \bar{\sigma}^\nu \sigma^\rho \bar{\sigma}^\eta \sigma^\tau\right)$
$(W^+)_\sigma (W^+)_\xi \left(D_\nu D_\rho (W^-)^-_{\tau\zeta}\right) \left(D_\mu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\eta \sigma^{\tau\zeta} \sigma^\xi \bar{\sigma}^\rho \sigma^\sigma\right)$
$\left(D_\mu (W^-)_\rho\right) (W^+)_\sigma \left(D_\nu (W^+)^+_{\xi\tau}\right) (W^-)^+_{\zeta\eta} \mathrm{Tr}\left(\sigma^\sigma \bar{\sigma}^\mu \bar{\sigma}^{\xi\tau} \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\nu \sigma^\rho\right)$
$(W^+)^+_{\rho\sigma} \left(D_\nu (W^+)_\xi\right) \left(D_\mu (W^-)_\tau\right) (W^-)^+_{\zeta\eta} \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\tau \sigma^\xi\right)$
$(W^+)^+_{\rho\sigma} (W^+)^+_{\xi\tau} \left(D_\mu (W^-)_\zeta\right) \left(D_\nu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^{\rho\sigma} \bar{\sigma}^\zeta \bar{\sigma}^\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^{\xi\tau}\right)$
$(W^+)^-_{\rho\sigma} \left(D_\nu (W^+)_\xi\right) (W^-)^-_{\tau\zeta} \left(D_\mu (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\eta \sigma^\xi\right) \mathrm{Tr}\left(\sigma^{\rho\sigma} \sigma^{\tau\zeta}\right)$
$(W^+)_\rho (W^+)_\sigma \left(D_\nu (W^-)^-_{\xi\tau}\right) \left(D_\mu (W^-)^-_{\zeta\eta}\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\sigma \sigma^\rho\right) \mathrm{Tr}\left(\sigma^{\xi\tau} \sigma^{\zeta\eta}\right)$
$(W^+)_\xi \left(D_\nu D_\sigma (W^+)_\tau\right) (W^-)_\zeta \left(D_\mu D_\rho (W^-)_\eta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\eta \sigma^\tau \bar{\sigma}^\rho \sigma^\sigma \bar{\sigma}^\zeta \sigma^\xi\right)$
$(W^+)_\nu (W^+)_\sigma \left(D_\mu D_\rho (W^-)^-_{\xi\tau}\right) (W^-)^-_{\zeta\eta} \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma\right) \mathrm{Tr}\left(\sigma^{\xi\tau} \sigma^{\zeta\eta}\right)$
$(W^+)_\xi \left(D_\nu D_\sigma (W^+)_\tau\right) (W^-)_\zeta \left(D_\mu D_\rho (W^-)_\eta\right) \mathrm{Tr}\left(\sigma^\xi \bar{\sigma}^\zeta\right) \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu \bar{\sigma}^\rho \sigma^\sigma \bar{\sigma}^\eta \sigma^\tau\right)$
$(W^+)_\nu \left(D_\mu D_\rho (W^-)_\tau\right) \left(D_\sigma D_\xi (W^+)_\zeta\right) (W^-)_\eta \mathrm{Tr}\left(\bar{\sigma}^\mu \sigma^\nu\right) \mathrm{Tr}\left(\bar{\sigma}^\rho \sigma^\sigma \bar{\sigma}^\eta \sigma^\zeta\right) \mathrm{Tr}\left(\bar{\sigma}^\xi \sigma^\tau\right)$