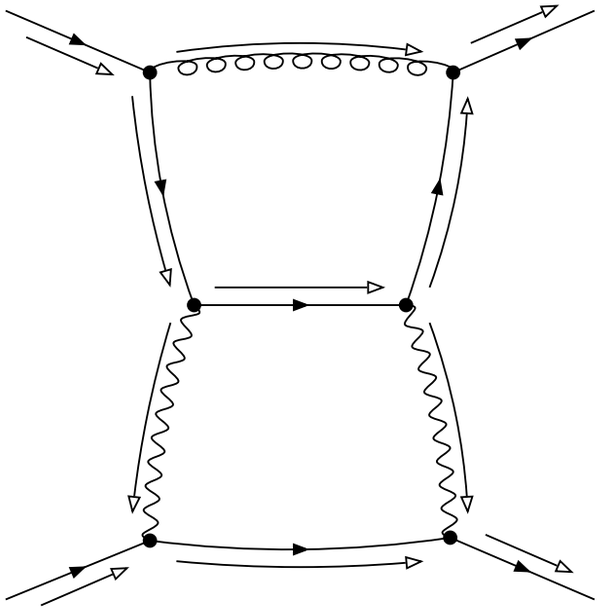
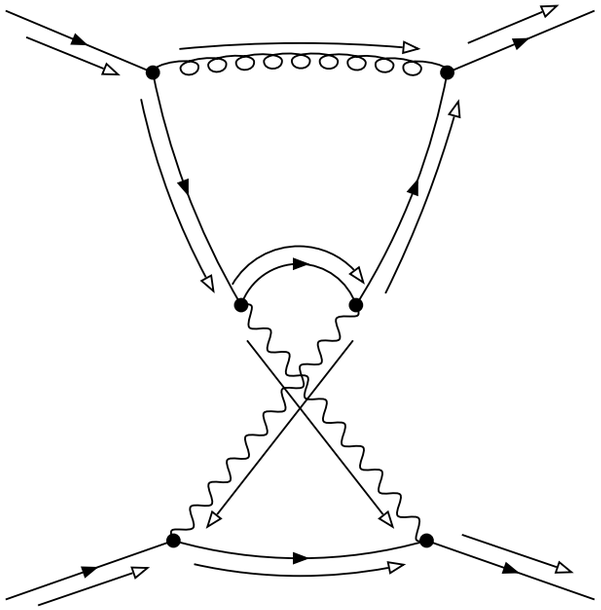
graph 1



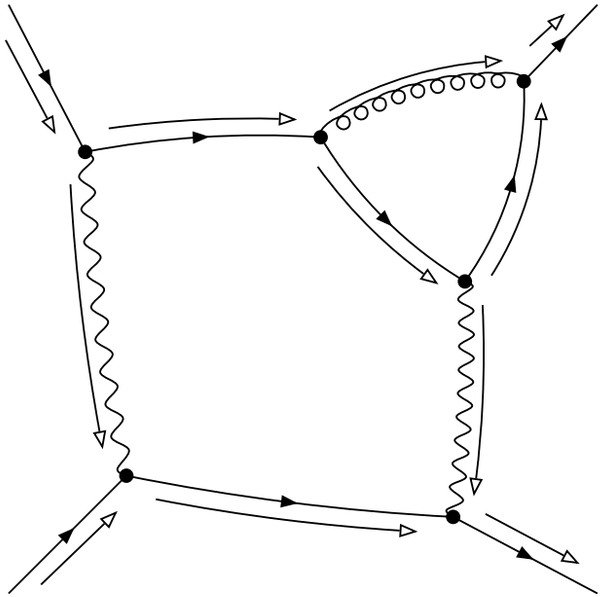
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 2



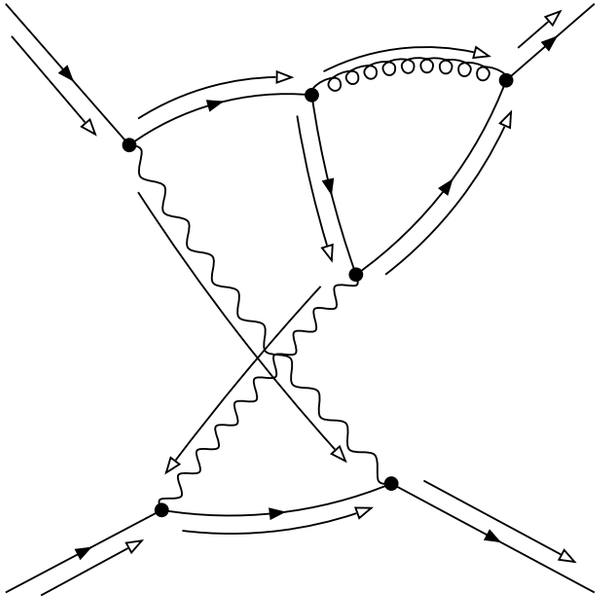
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 3



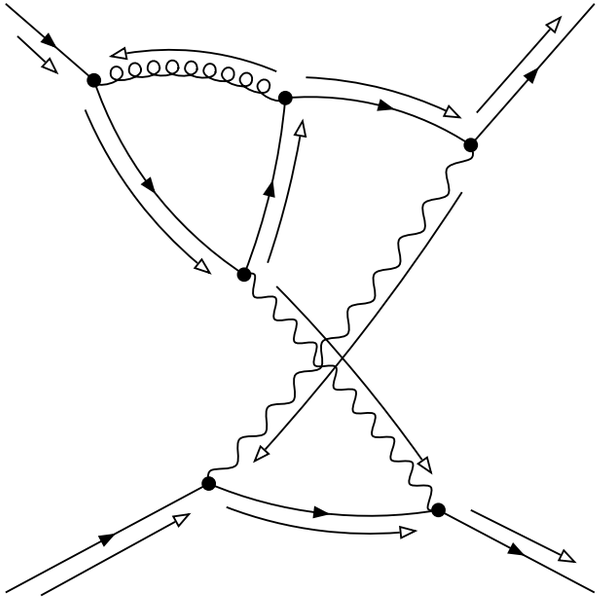
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 4



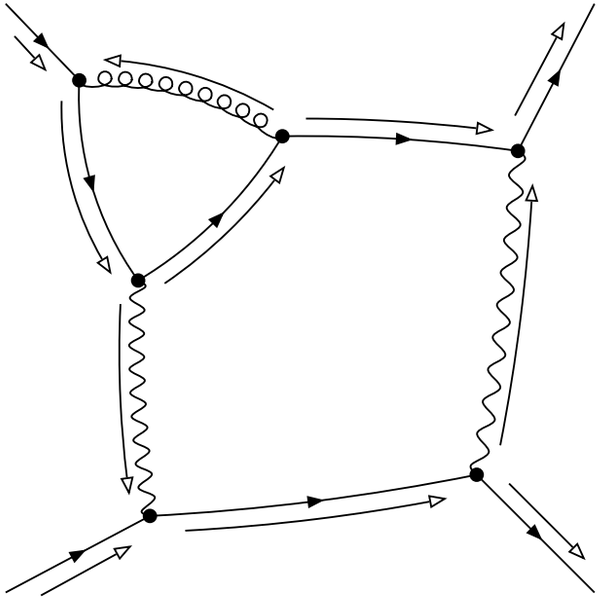
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 5



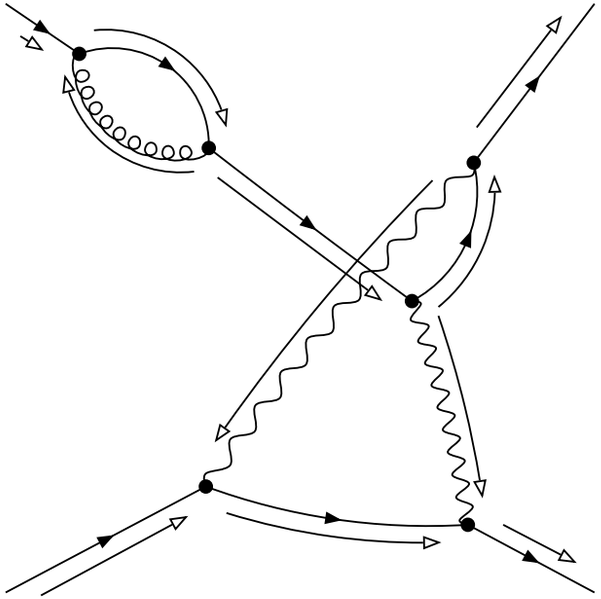
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 6



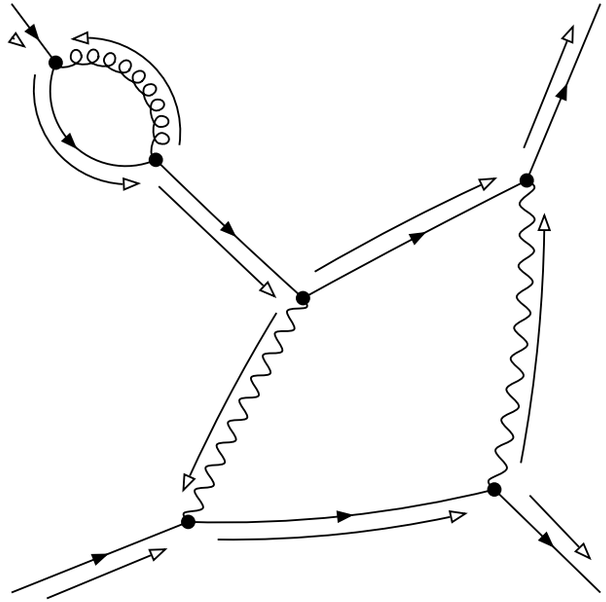
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 7



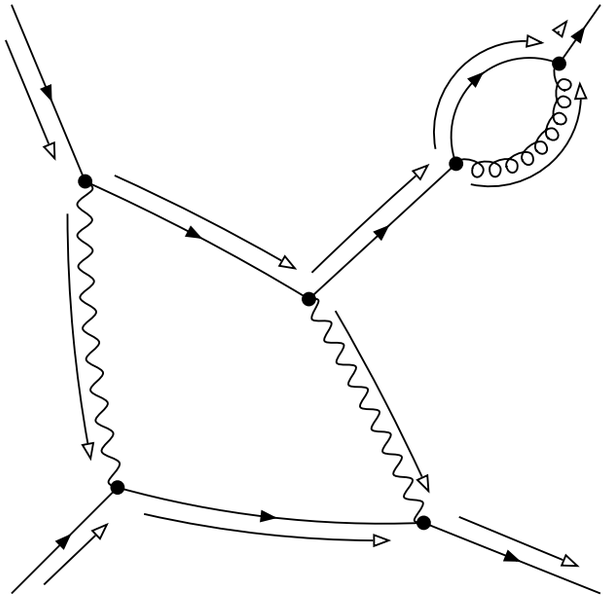
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 8



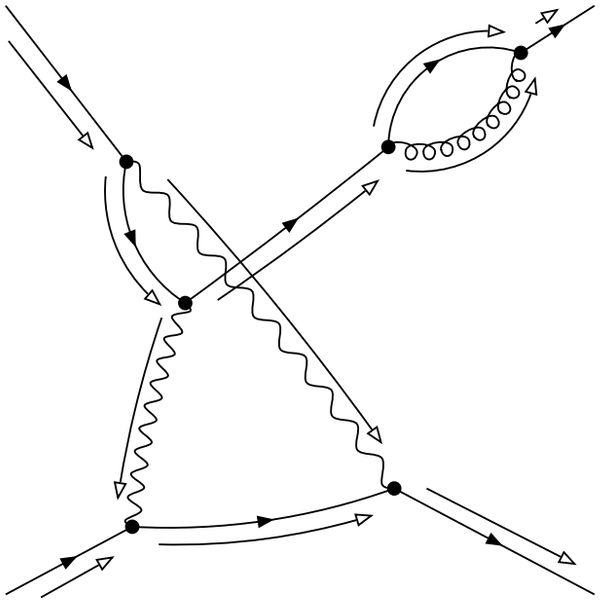
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 9



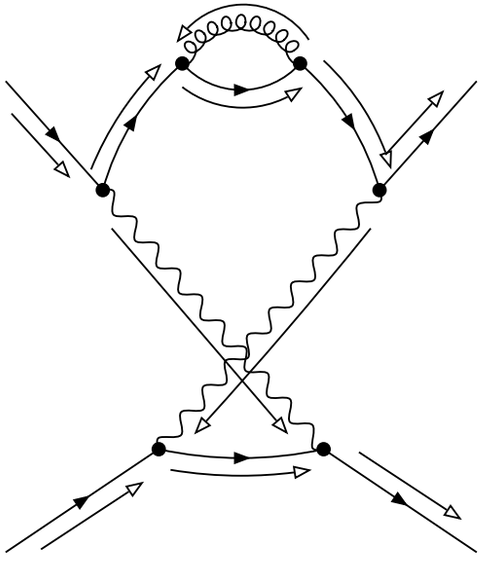
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 10



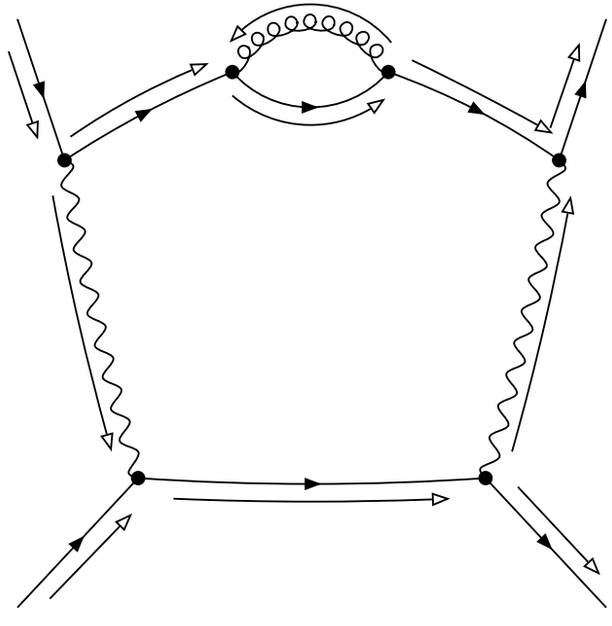
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 11



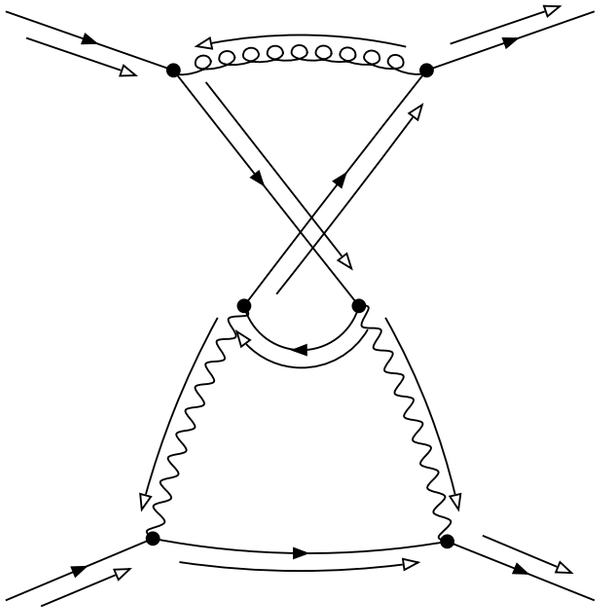
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 12



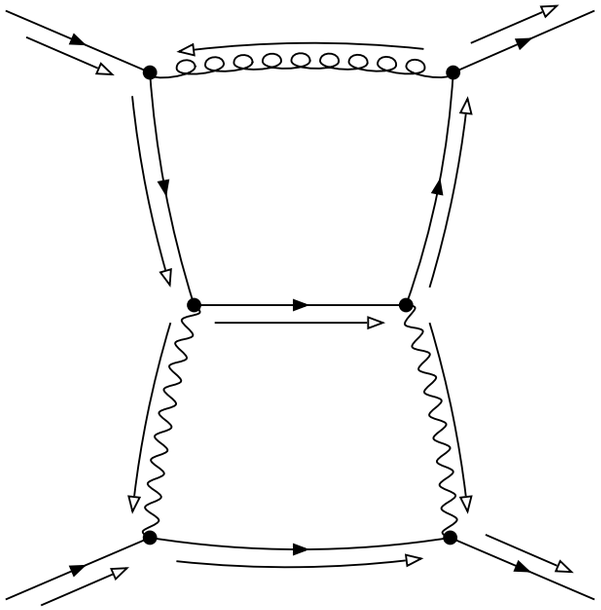
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 13



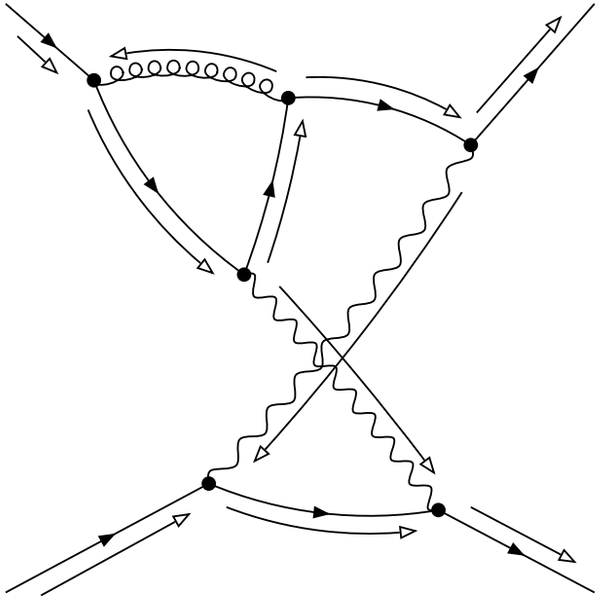
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 14



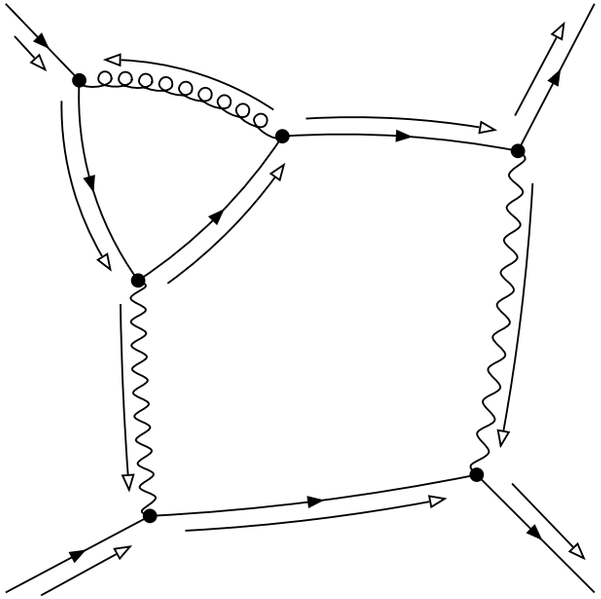
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 15



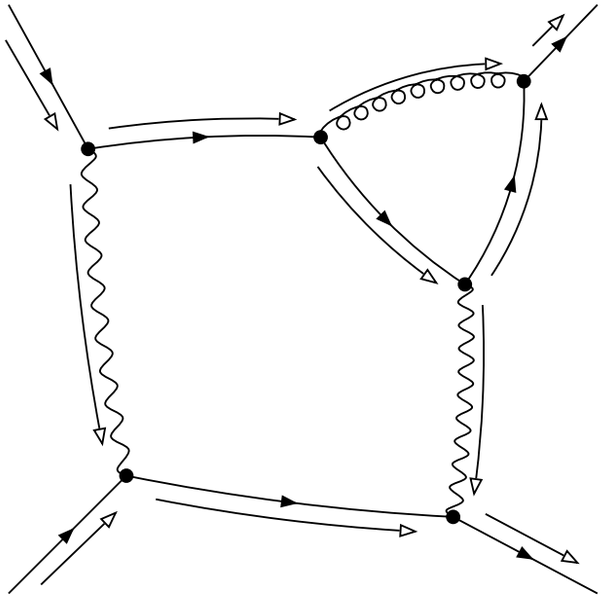
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 16



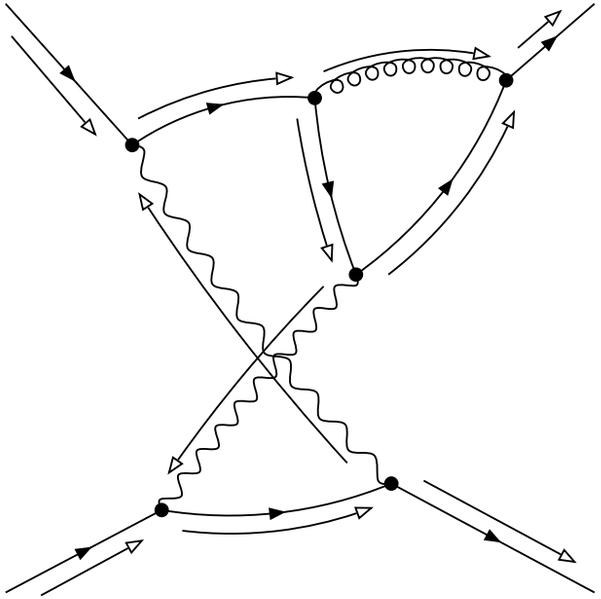
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 17



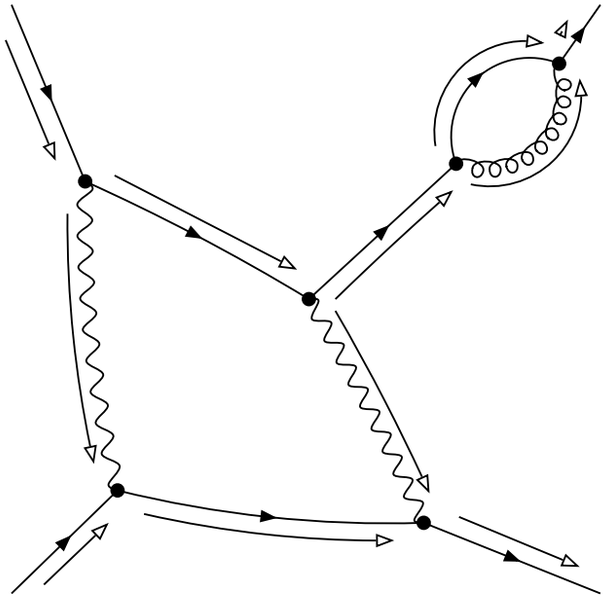
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 18



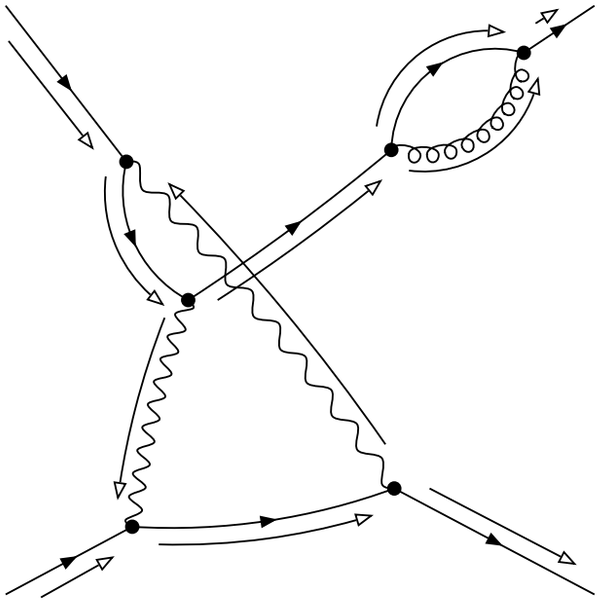
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 19



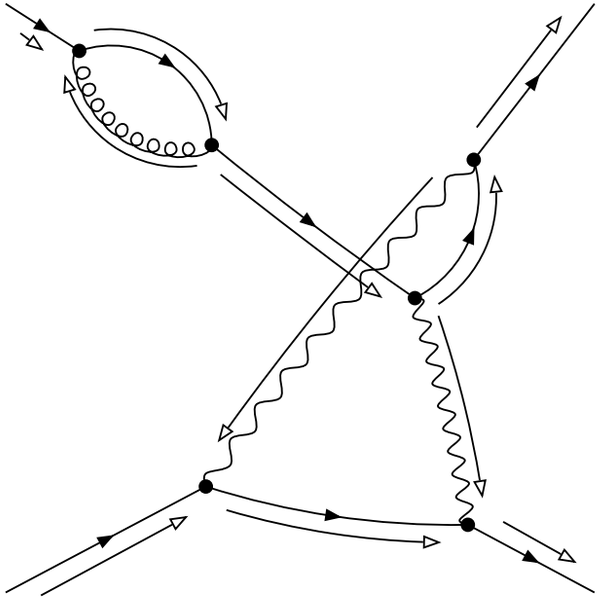
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 20



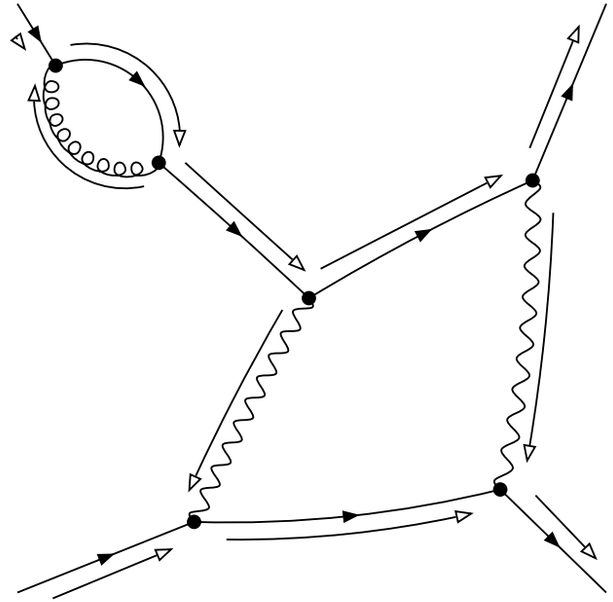
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 21



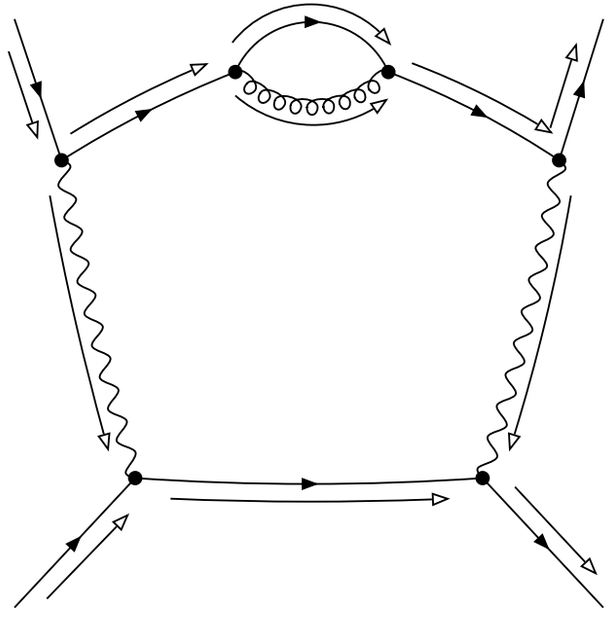
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 22



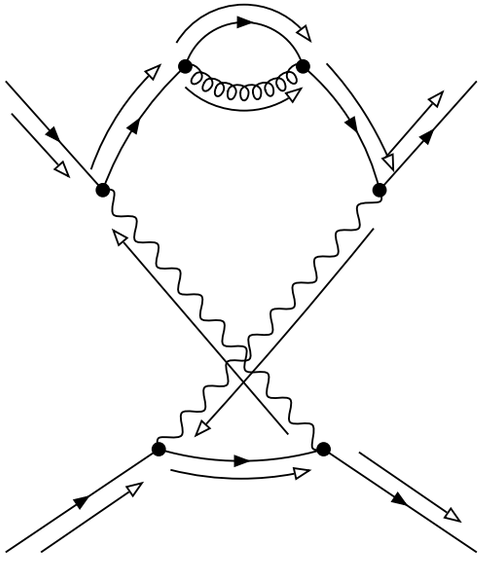
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 23



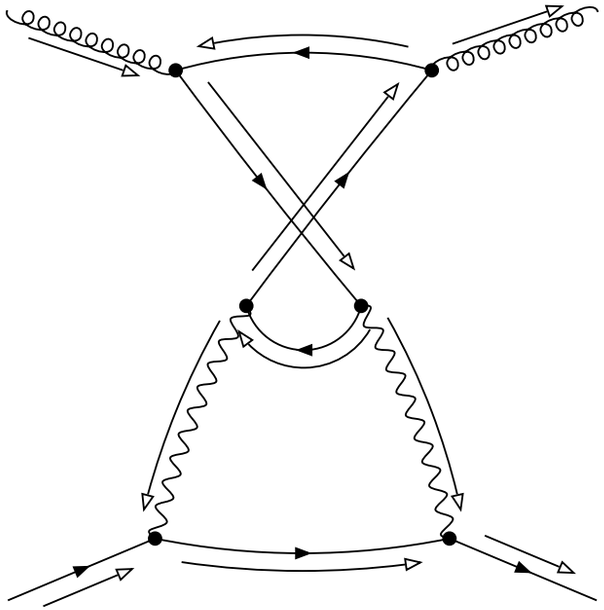
```
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)
```

graph 24



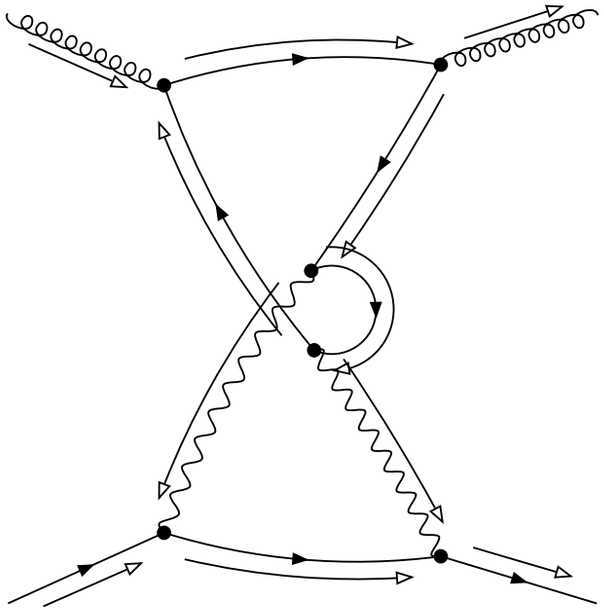
```
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)
```

graph 25



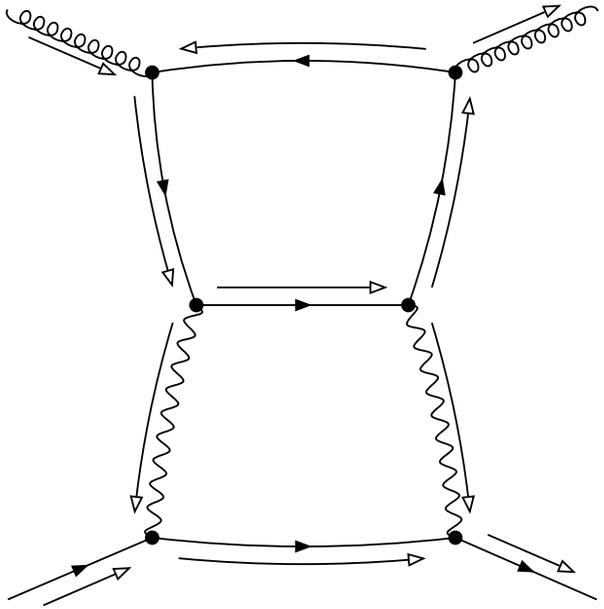
0 [Pdg { pdg: 11 }, Pdg { pdg: 21 }]
AutG(1)^-1*InternalFermionLoopSign(-1)*ExternalFermionOrderingSign(-1)*AntiFermionSpinSumSign(1)

graph 26



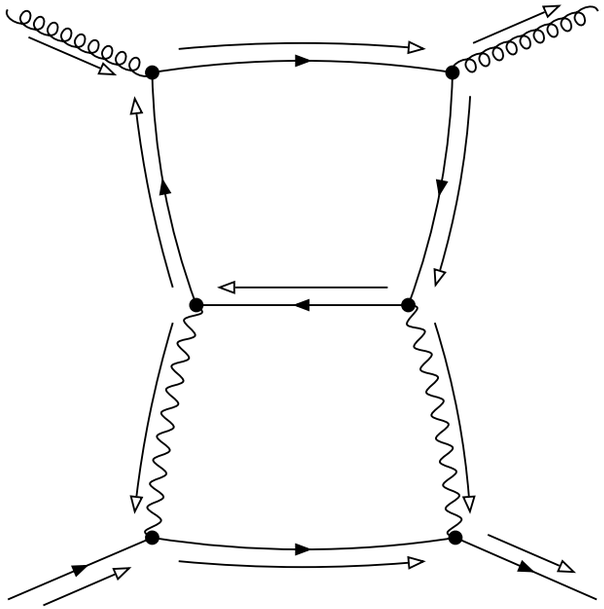
0 [Pdg { pdg: 11 }, Pdg { pdg: 21 }]
AutG(1)^-1*InternalFermionLoopSign(-1)*ExternalFermionOrderingSign(-1)*AntiFermionSpinSumSign(1)

graph 27



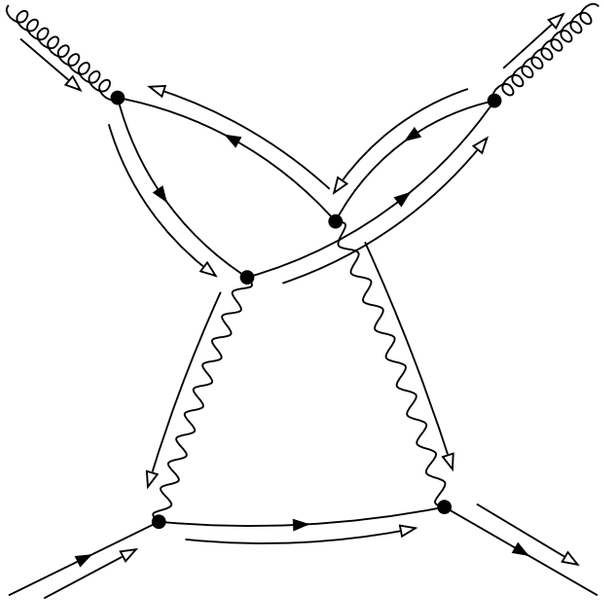
0 [Pdg { pdg: 11 }, Pdg { pdg: 21 }]
AutG(1)^-1*InternalFermionLoopSign(-1)*ExternalFermionOrderingSign(-1)*AntiFermionSpinSumSign(1)

graph 28



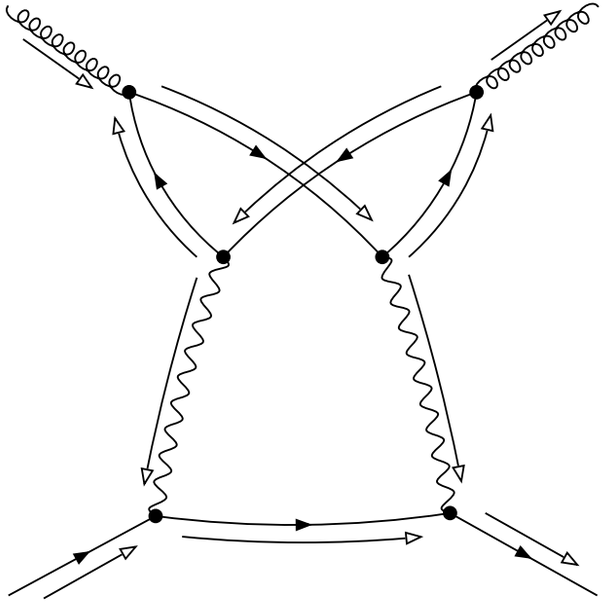
0 [Pdg { pdg: 11 }, Pdg { pdg: 21 }]
AutG(1)^-1*InternalFermionLoopSign(-1)*ExternalFermionOrderingSign(-1)*AntiFermionSpinSumSign(1)

graph 29



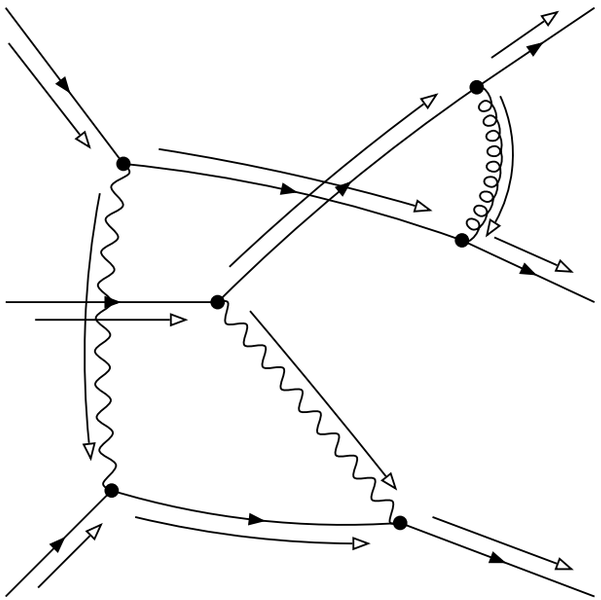
0 [Pdg { pdg: 11 }, Pdg { pdg: 21 }]
AutG(1)^-1*InternalFermionLoopSign(-1)*ExternalFermionOrderingSign(-1)*AntiFermionSpinSumSign(1)

graph 30



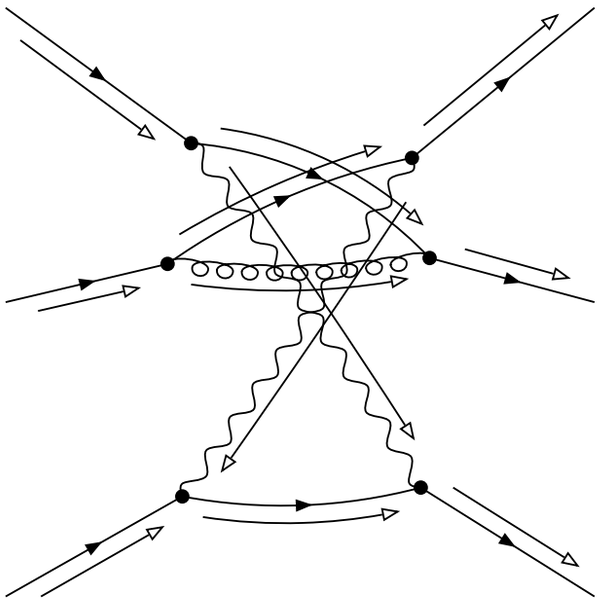
0 [Pdg { pdg: 11 }, Pdg { pdg: 21 }]
AutG(1)^-1*InternalFermionLoopSign(-1)*ExternalFermionOrderingSign(-1)*AntiFermionSpinSumSign(1)

graph 31



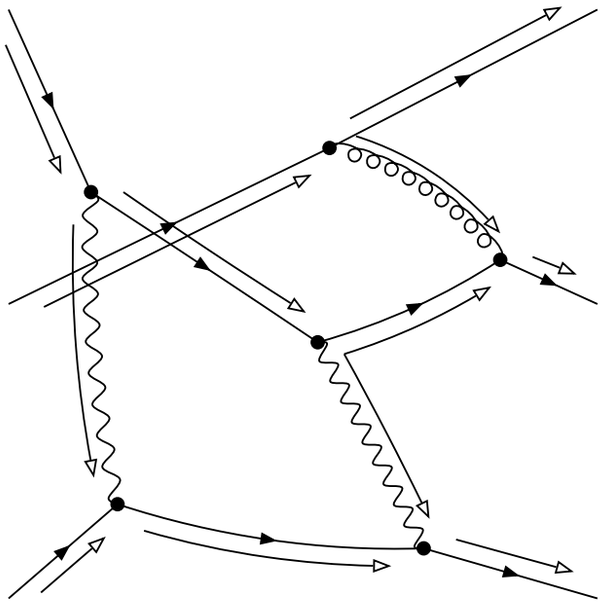
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 32



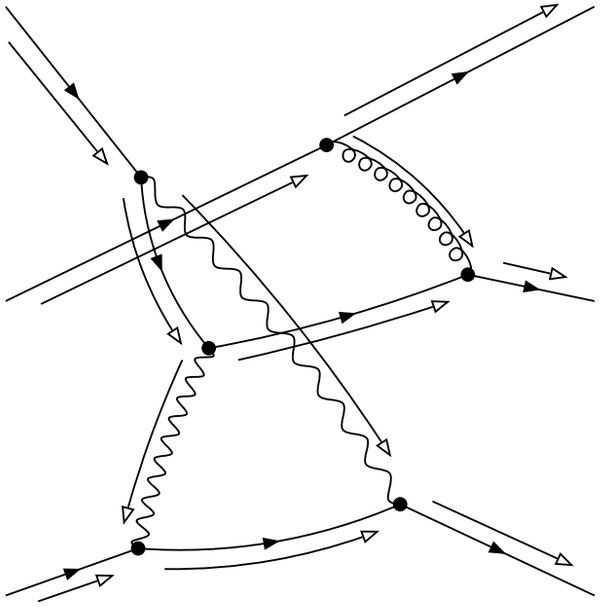
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 33



−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 34



−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
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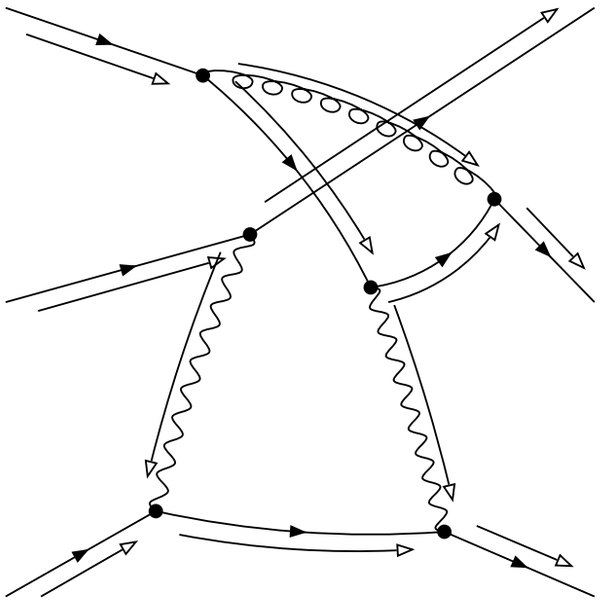
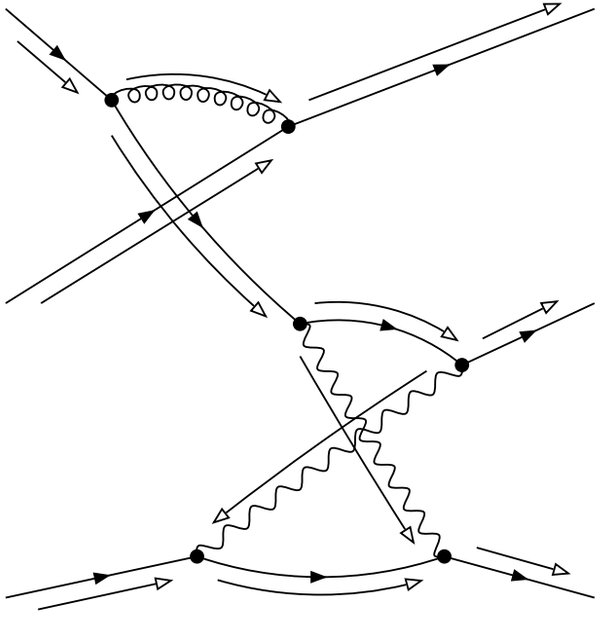
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 35



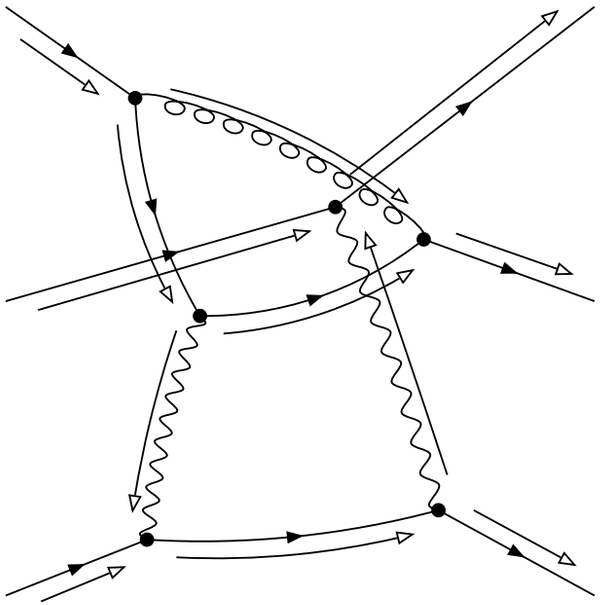
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 36



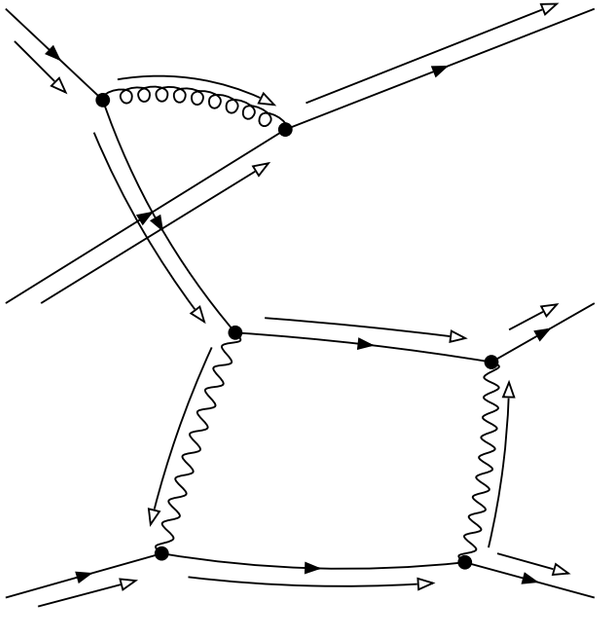
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 37



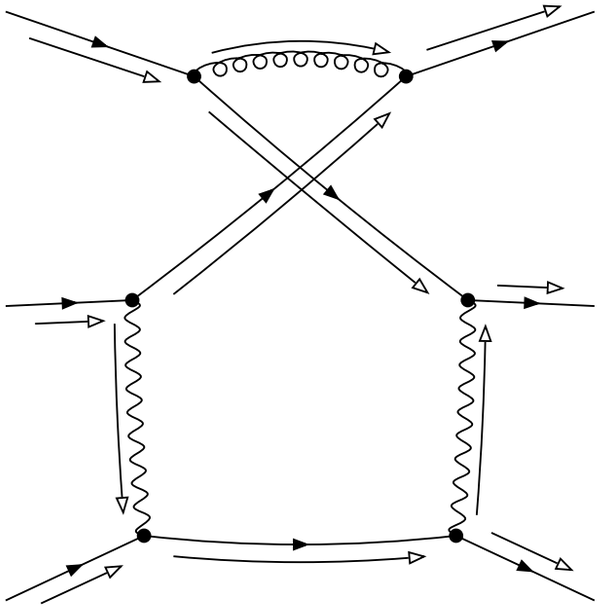
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 38



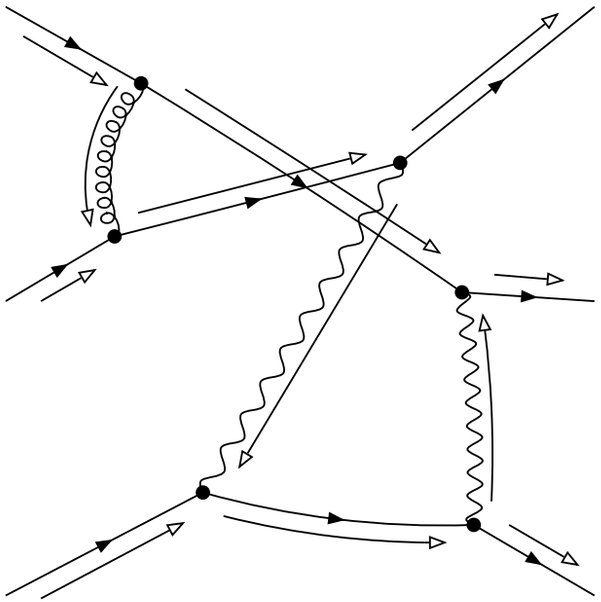
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 39



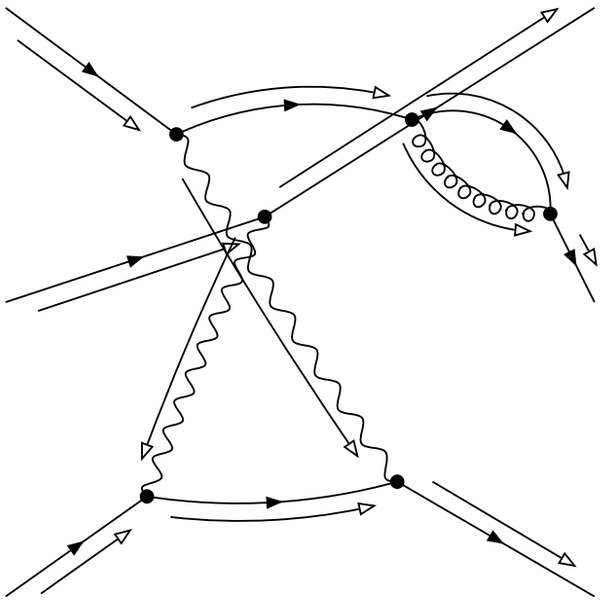
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 40



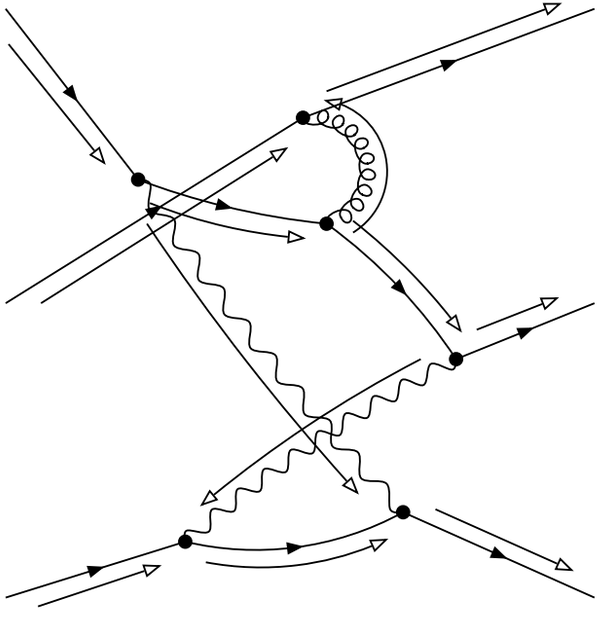
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 41



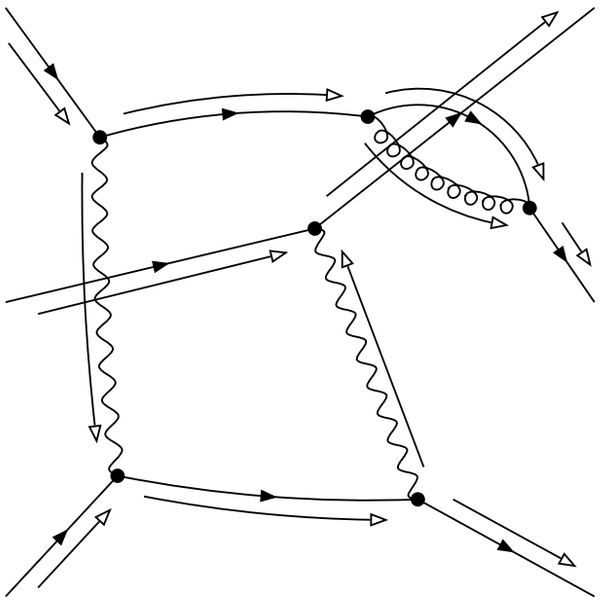
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 42



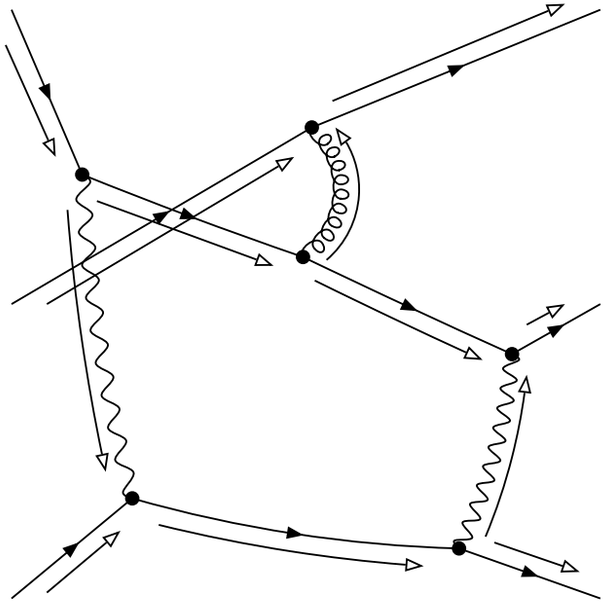
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 43



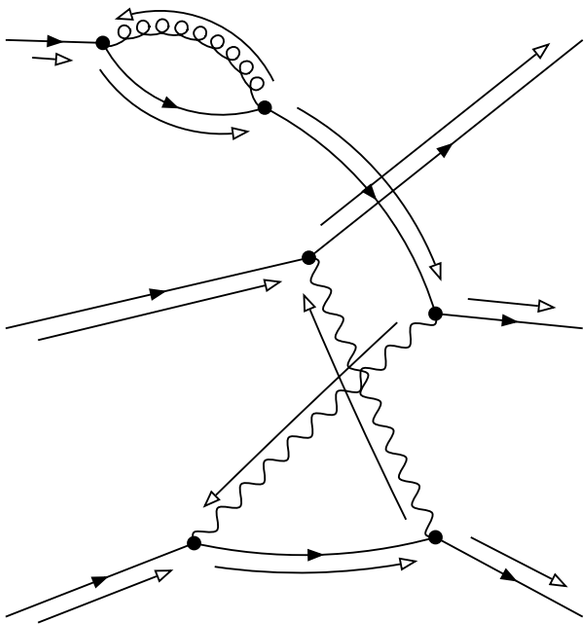
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 44



−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 45



−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
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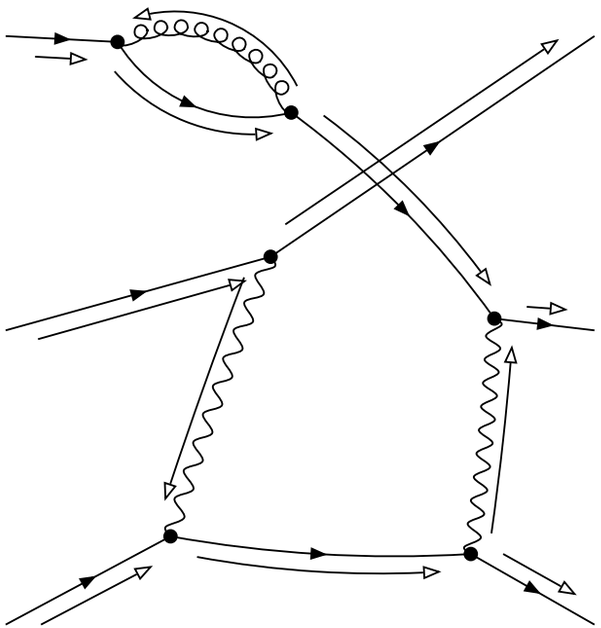
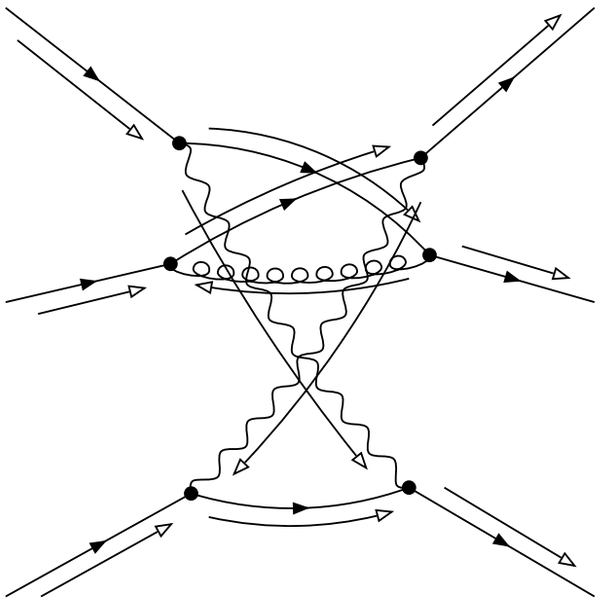
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 46



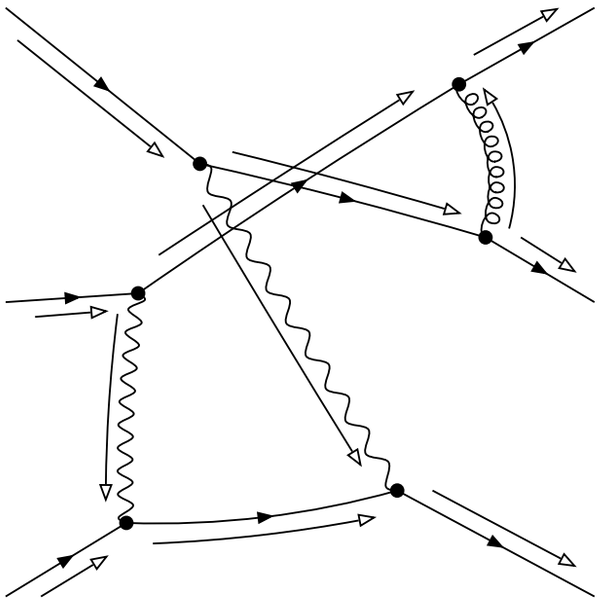
−2 [Pdg { pdg: -1 }, Pdg { pdg: -1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 47



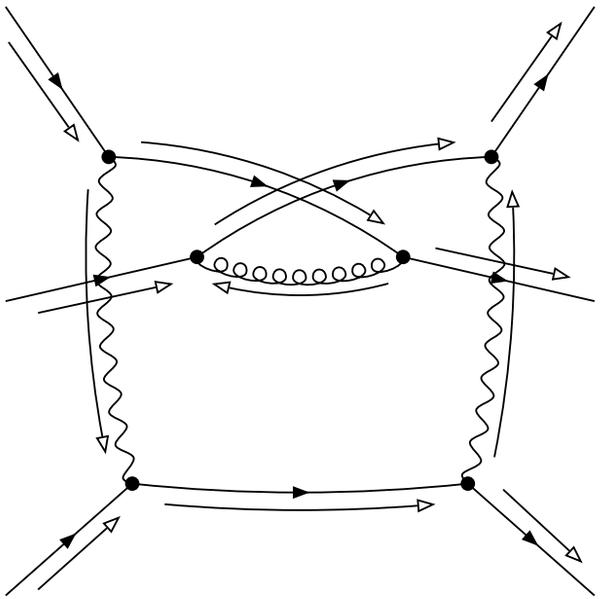
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 48



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 49



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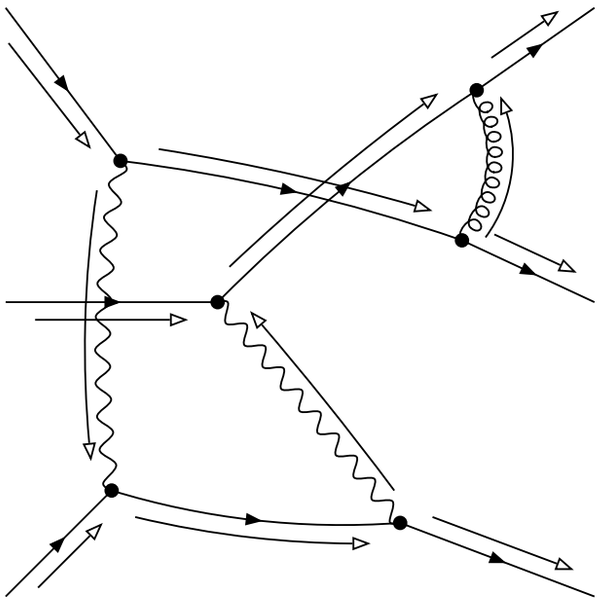
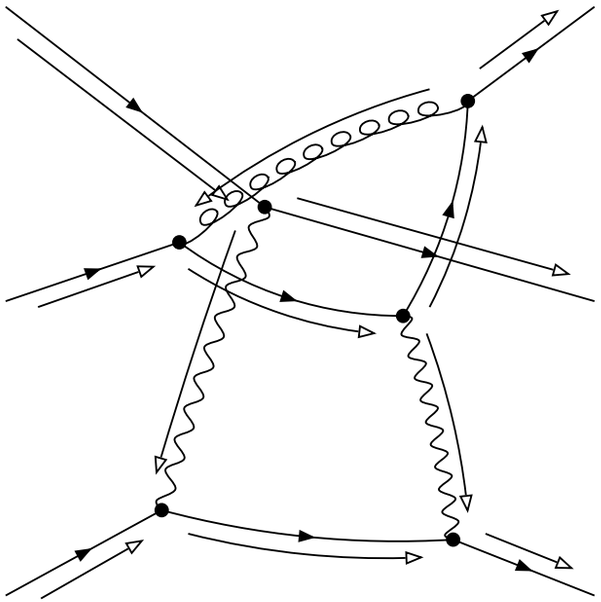
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 50



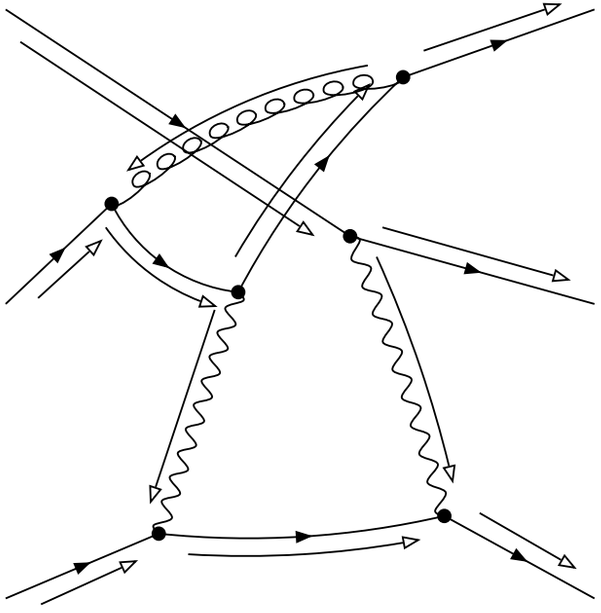
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 51



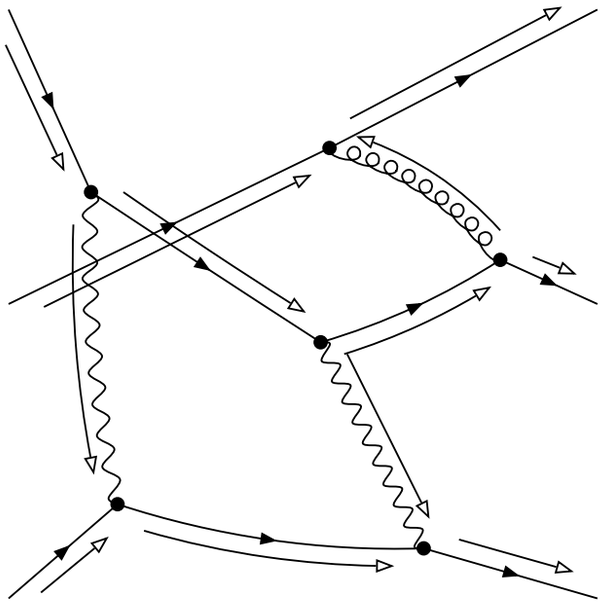
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 52



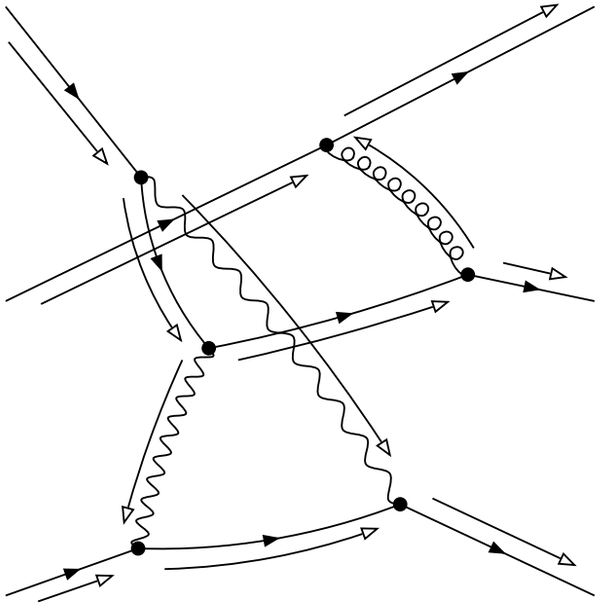
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 53



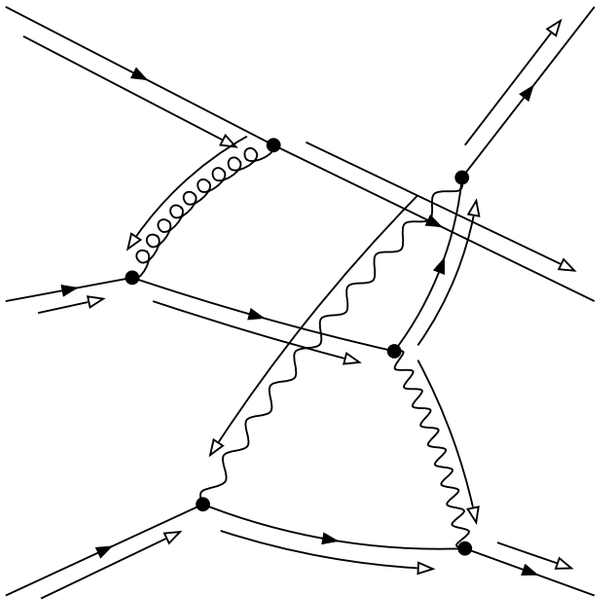
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 54



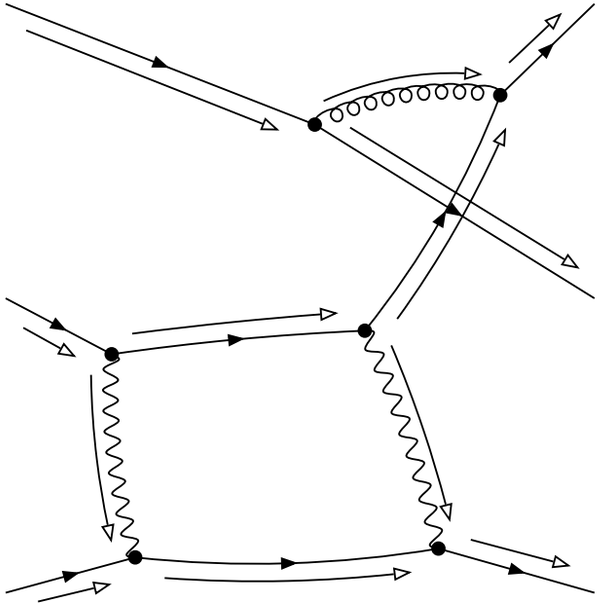
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 55



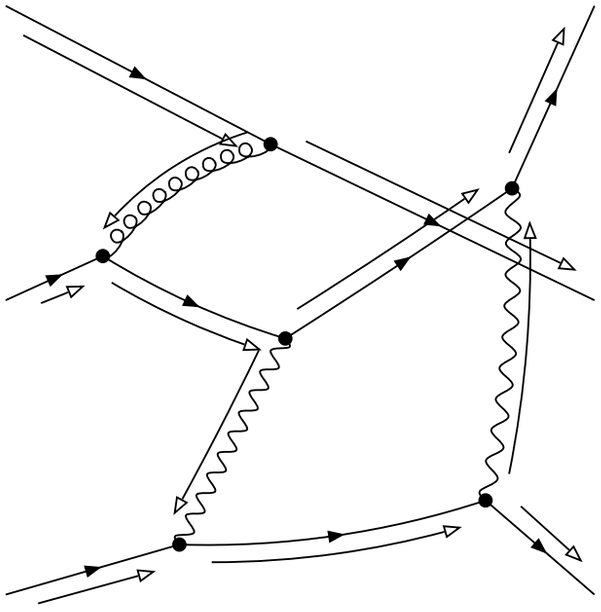
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 56



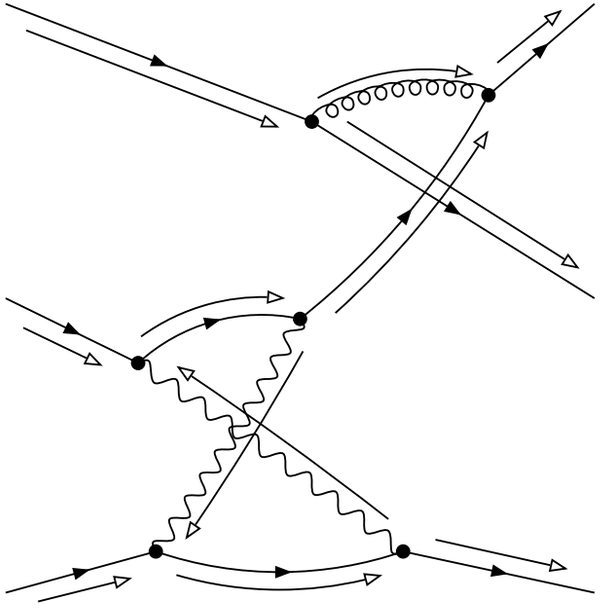
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 57



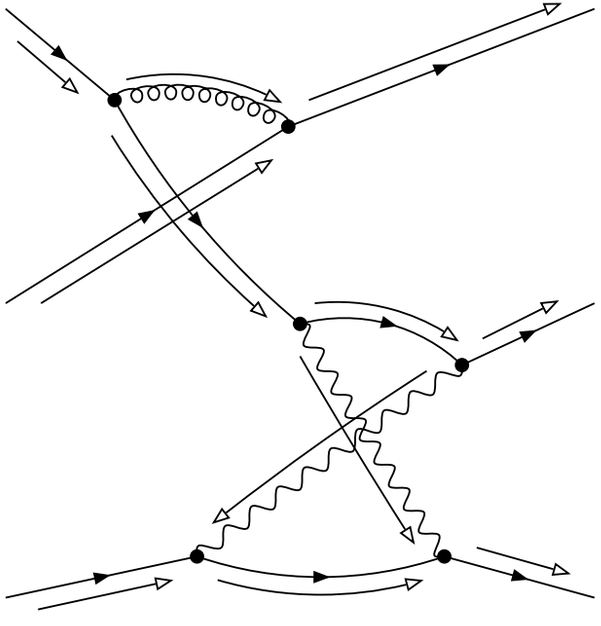
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 58



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 59



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
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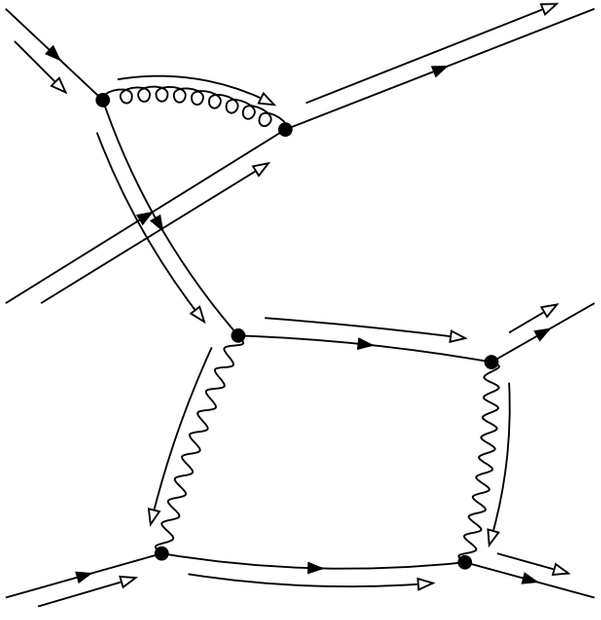
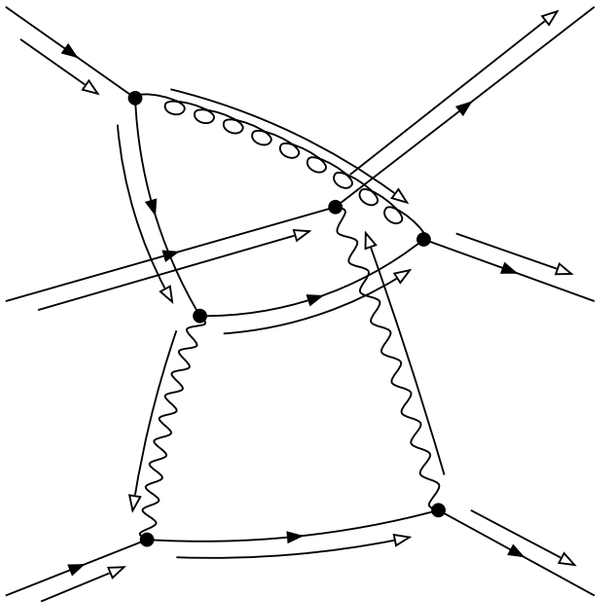
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 60



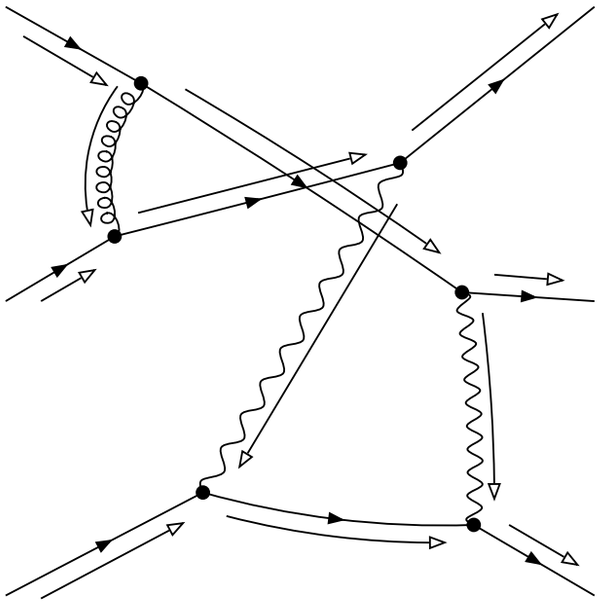
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 61



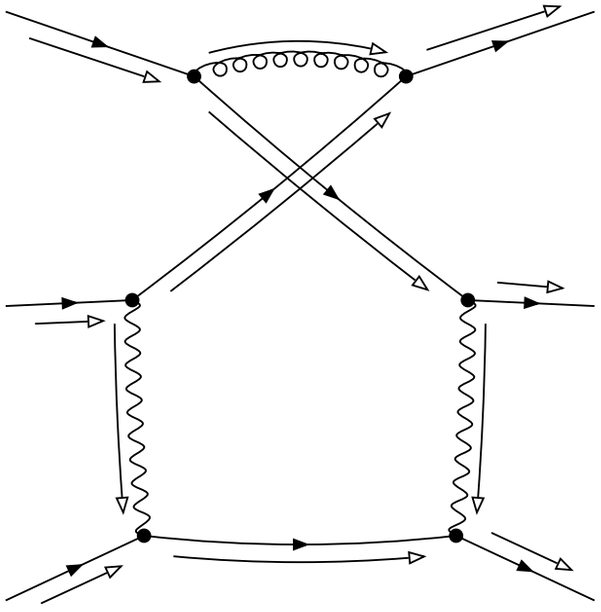
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 62



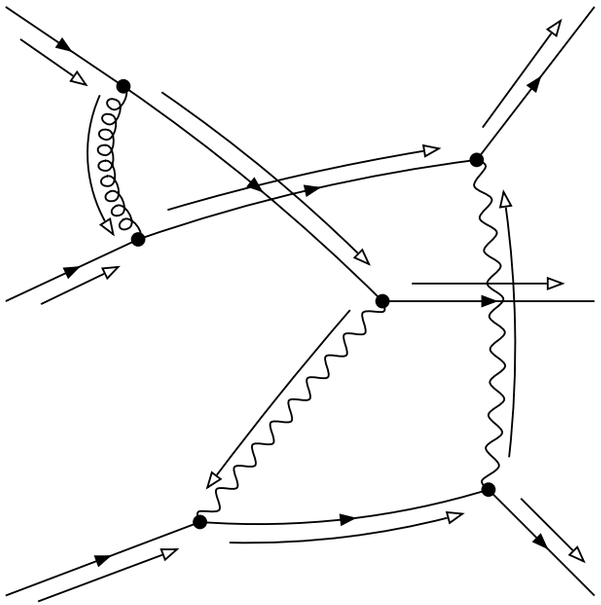
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 63



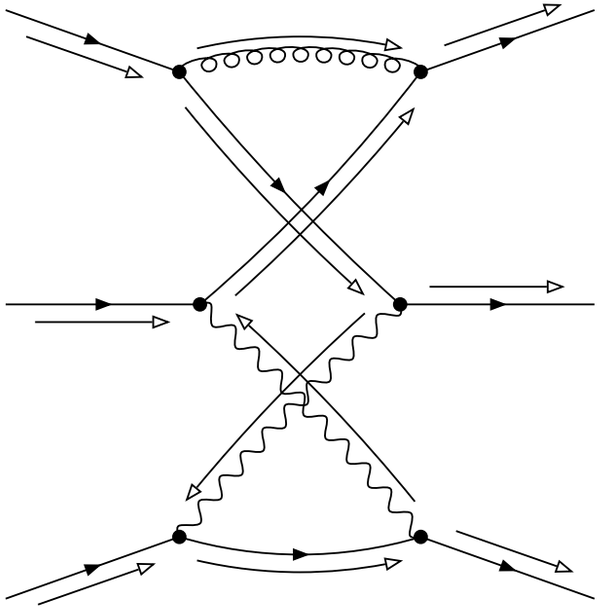
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 64



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 65



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
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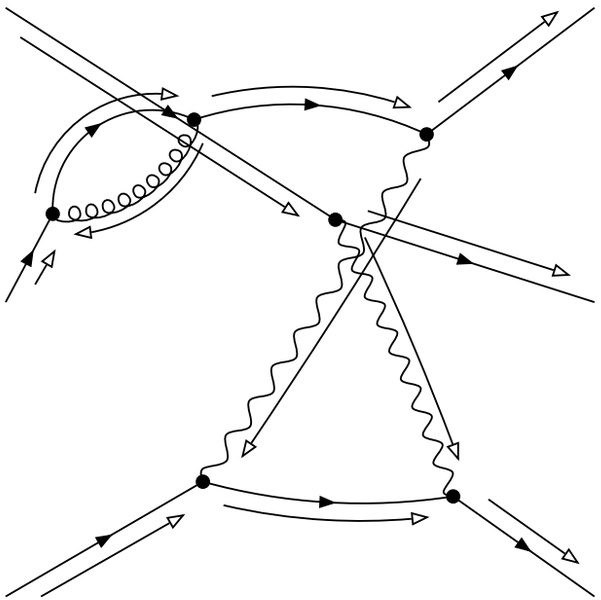
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 66



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
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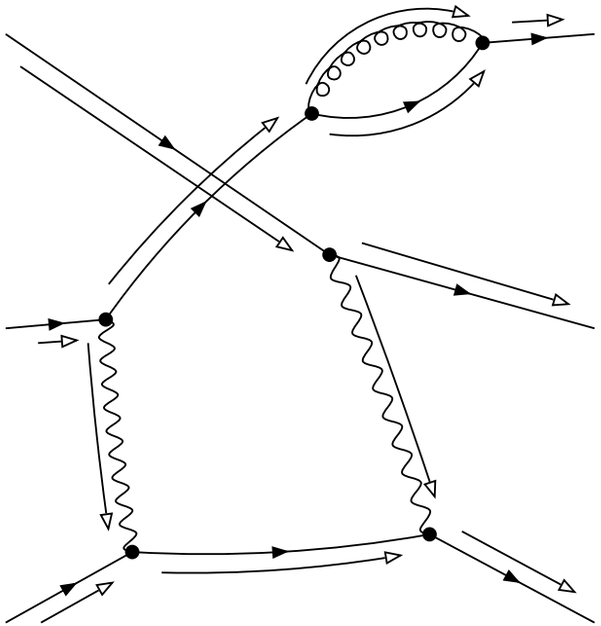
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 67



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
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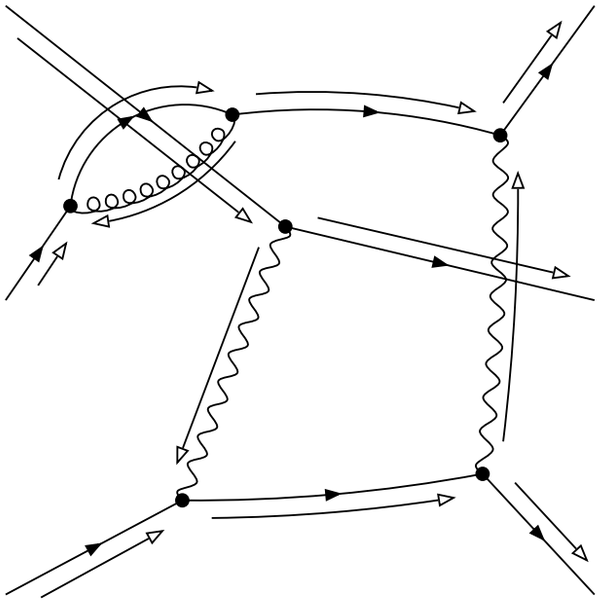
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 68



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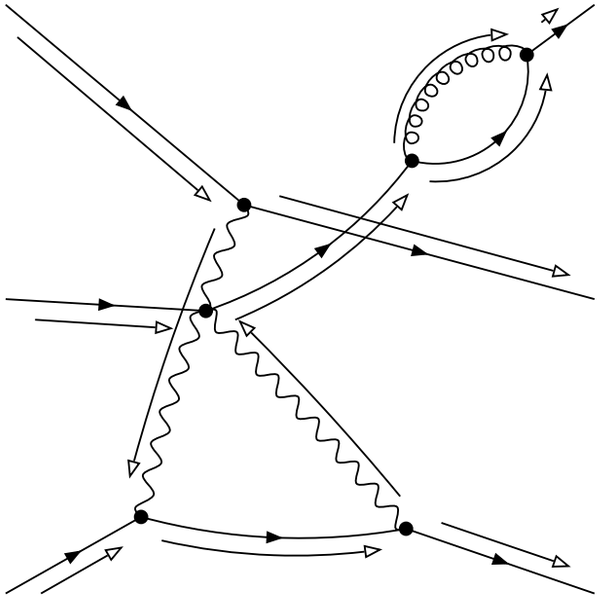
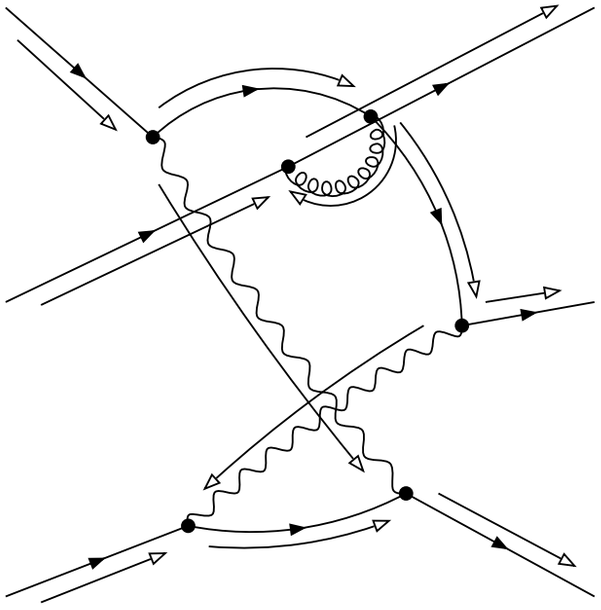
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 69



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 70



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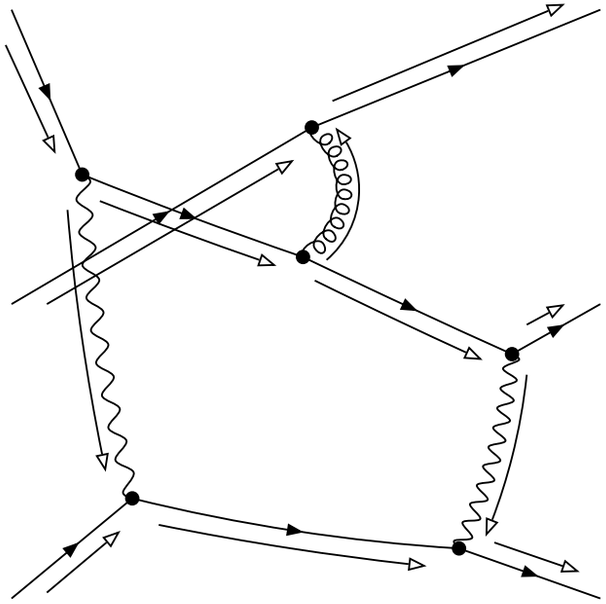
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 71



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
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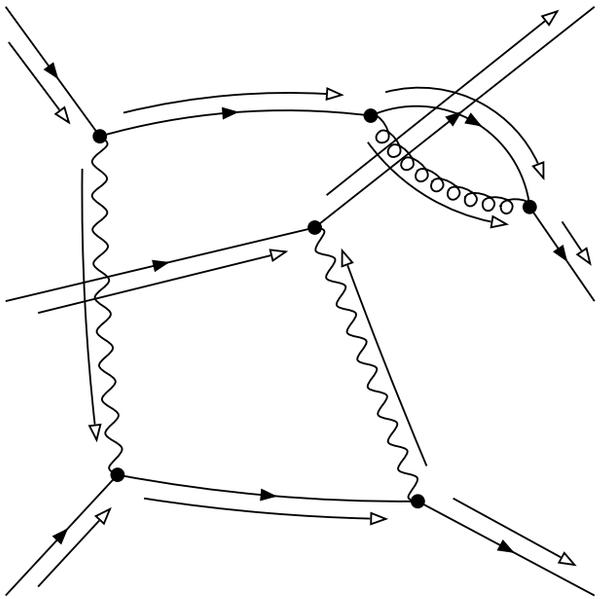
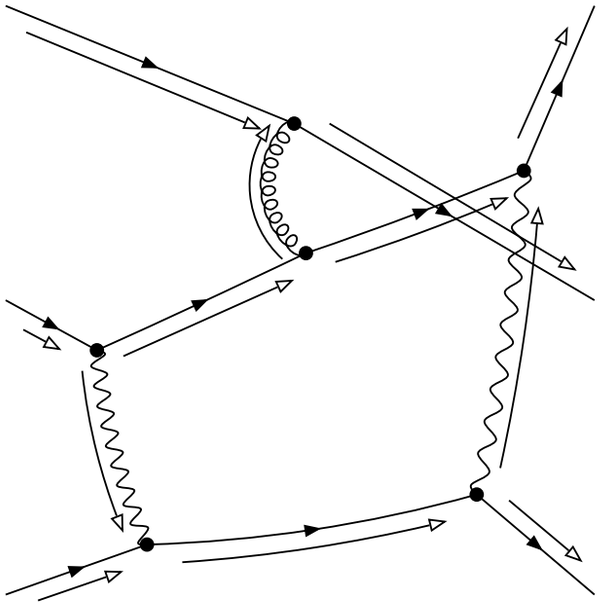
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 72



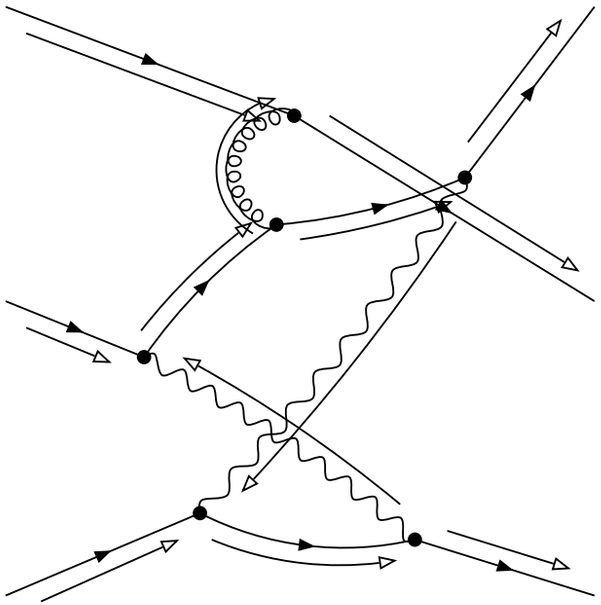
0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 73



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 74



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
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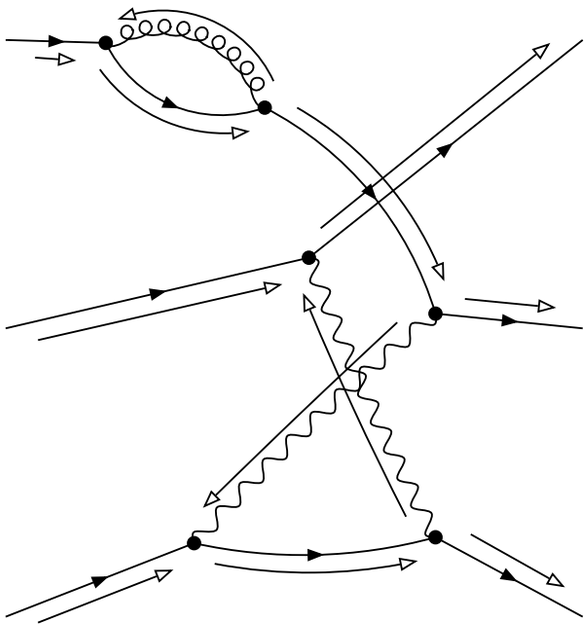
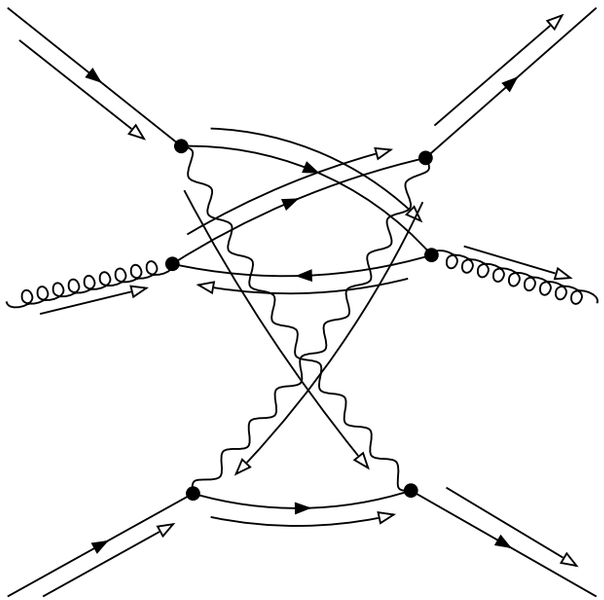
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 75



0 [Pdg { pdg: -1 }, Pdg { pdg: 1 }, Pdg
{ pdg: 11 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 76



−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
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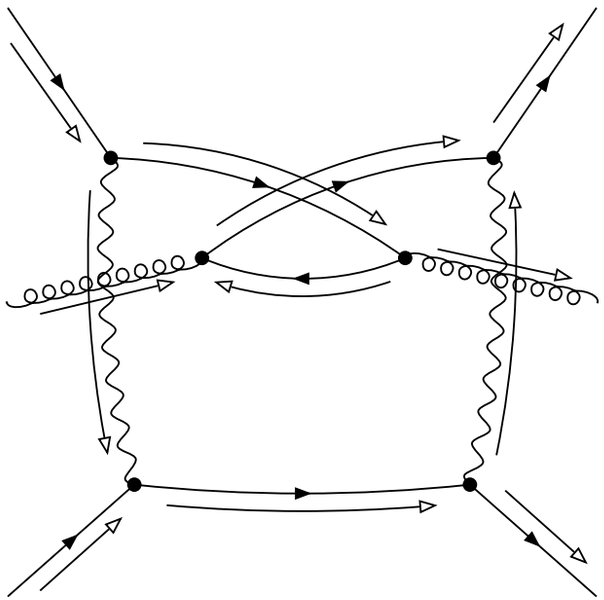
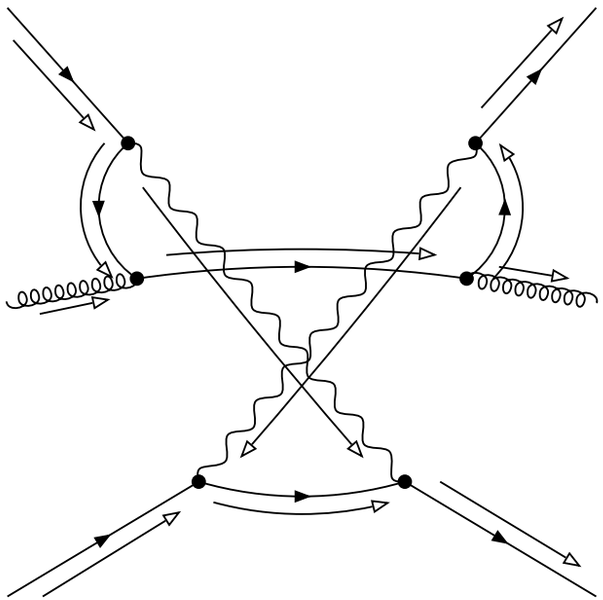
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 77



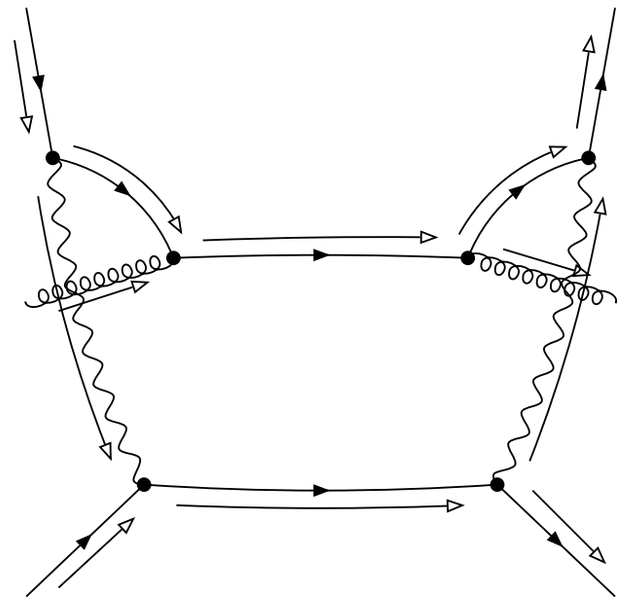
−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 78



−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 79



−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
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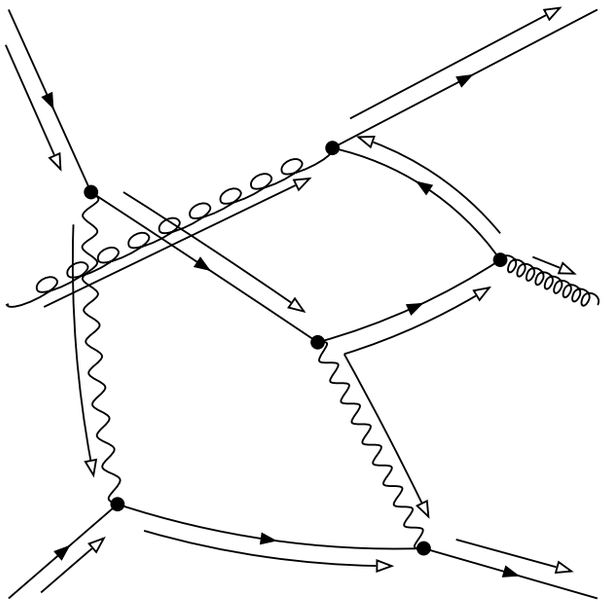
graph 80



−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
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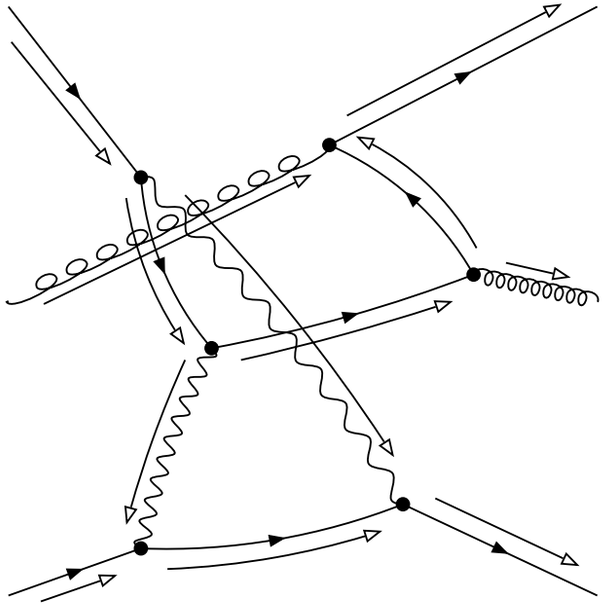
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 81



−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
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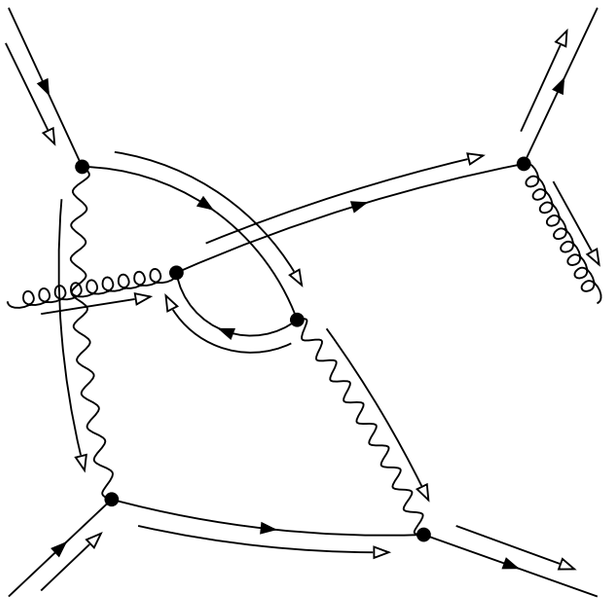
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 82



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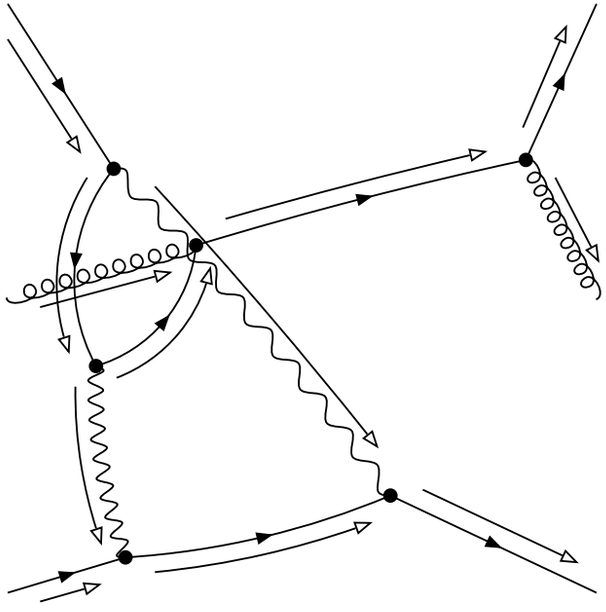
graph 83



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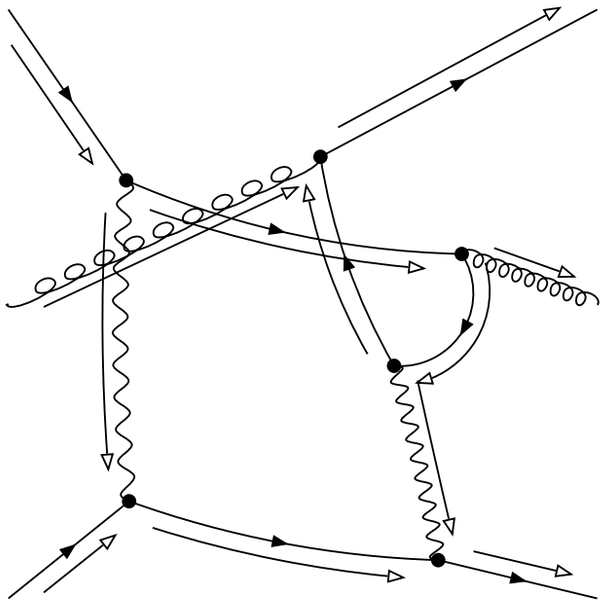
graph 84



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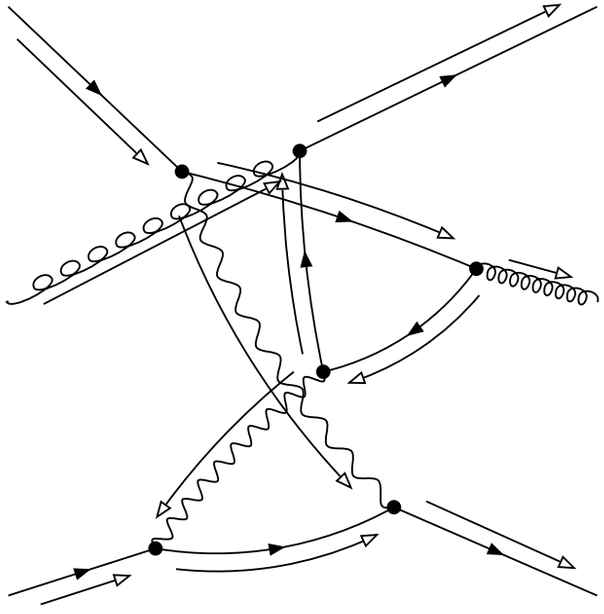
graph 85



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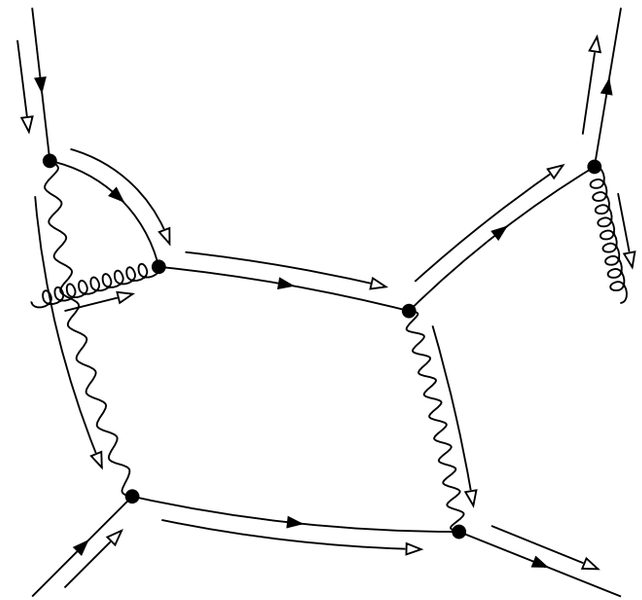
graph 86



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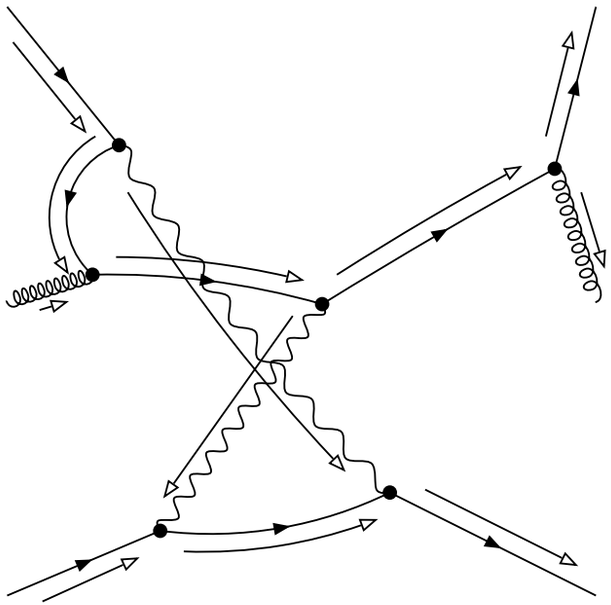
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 87



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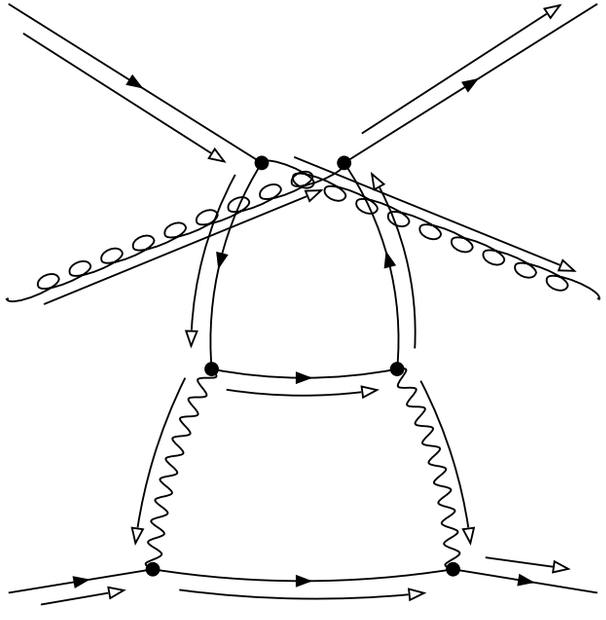
graph 88



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−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
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AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)
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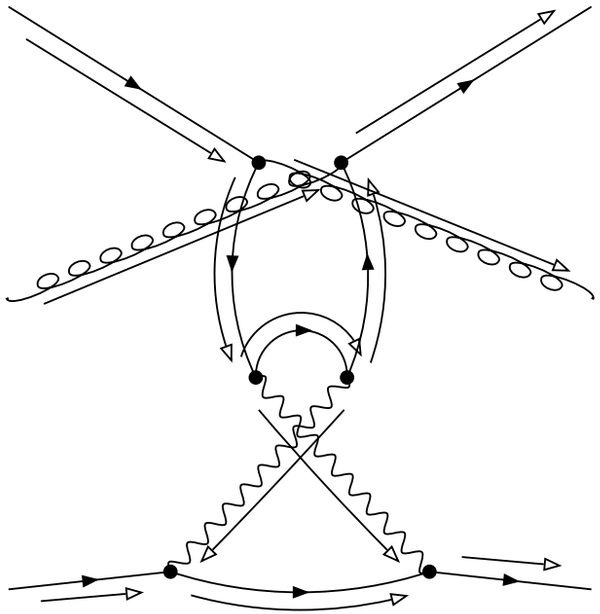
graph 89



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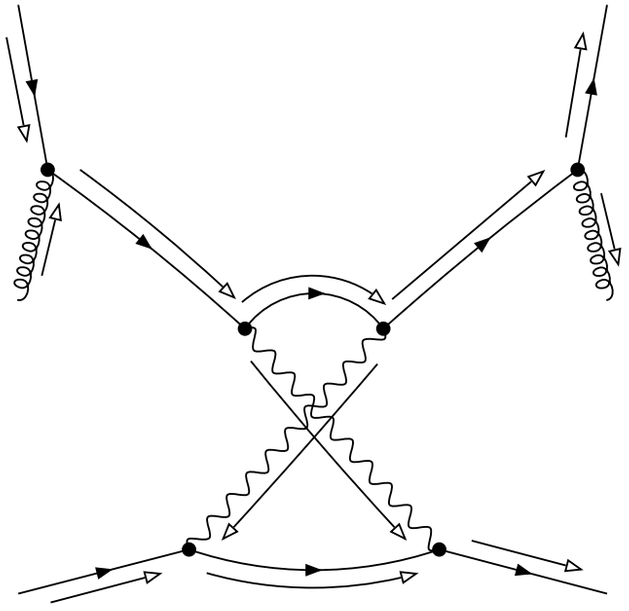
graph 90



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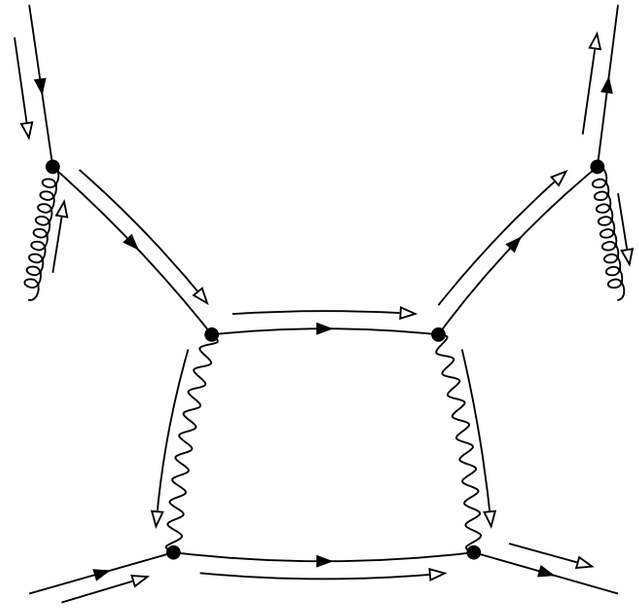
graph 91



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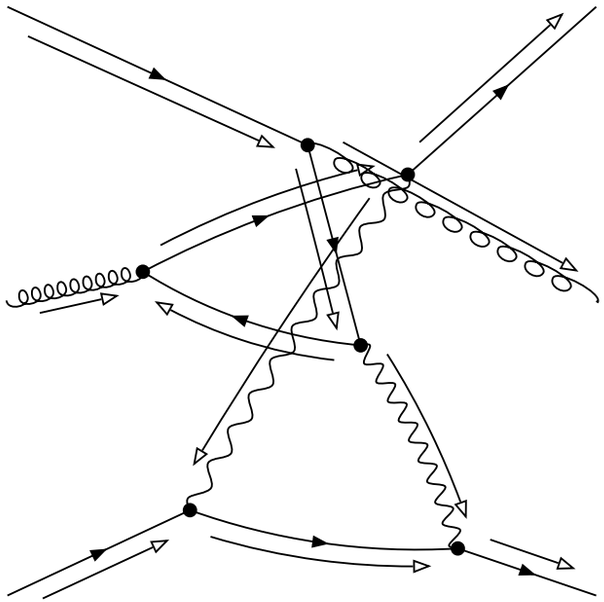
graph 92



−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
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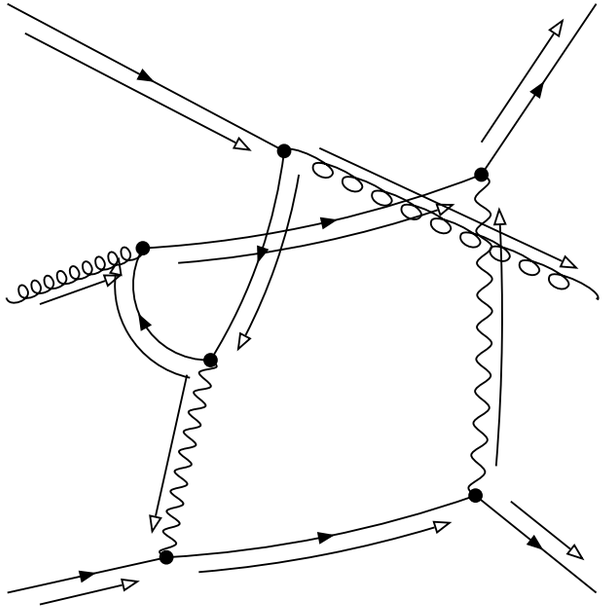
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 93



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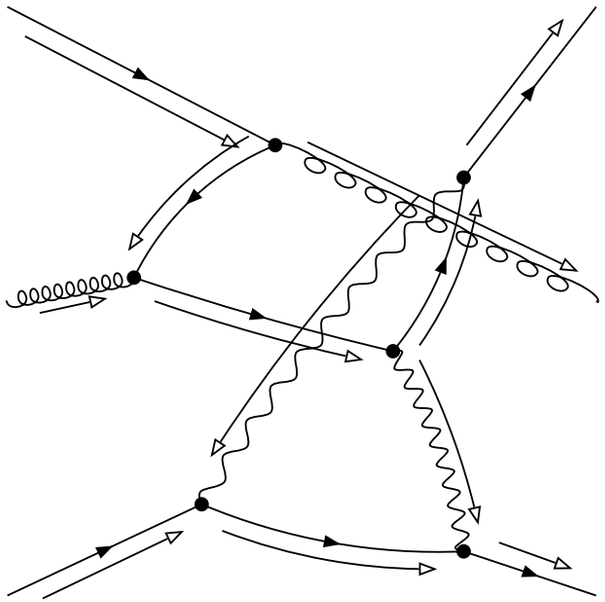
graph 94



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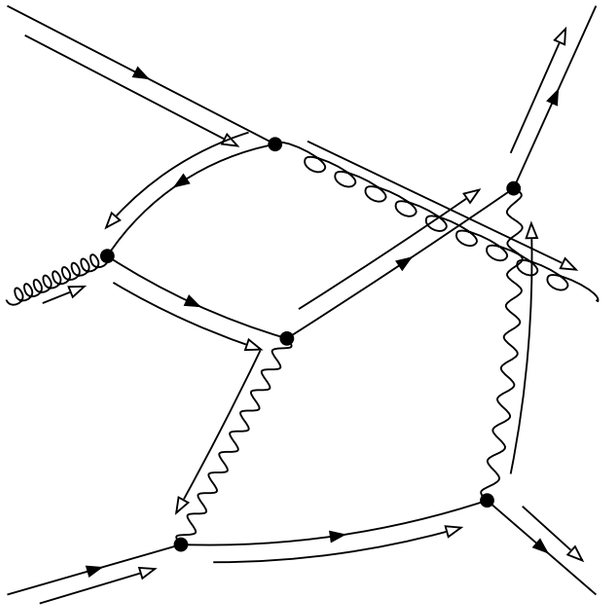
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 95



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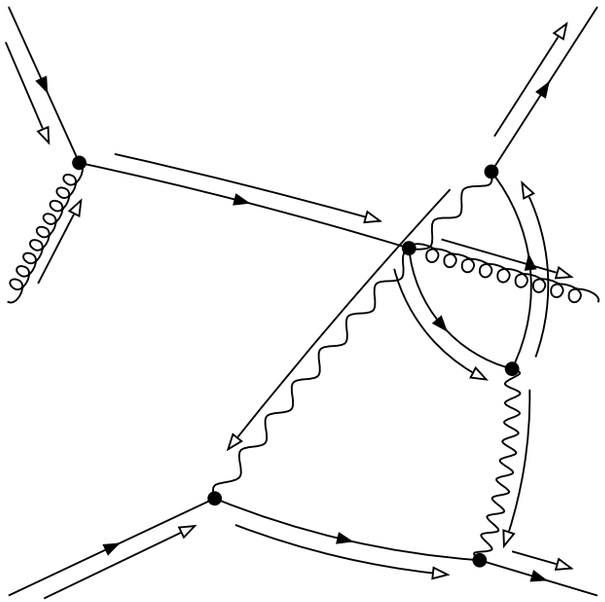
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 96



−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
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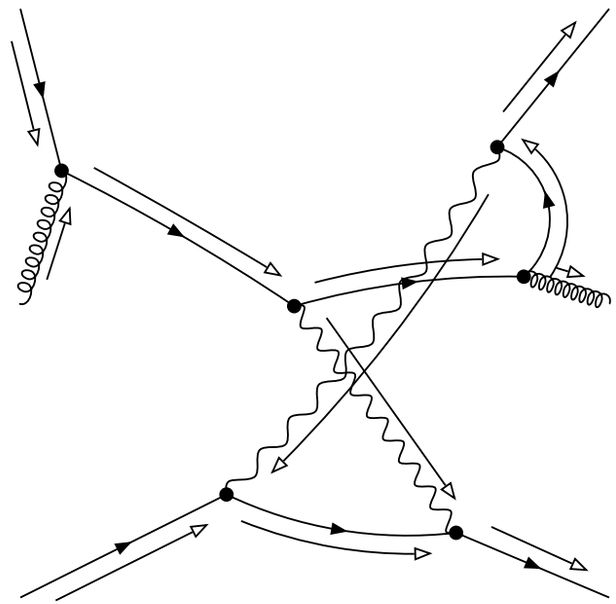
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 97



−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
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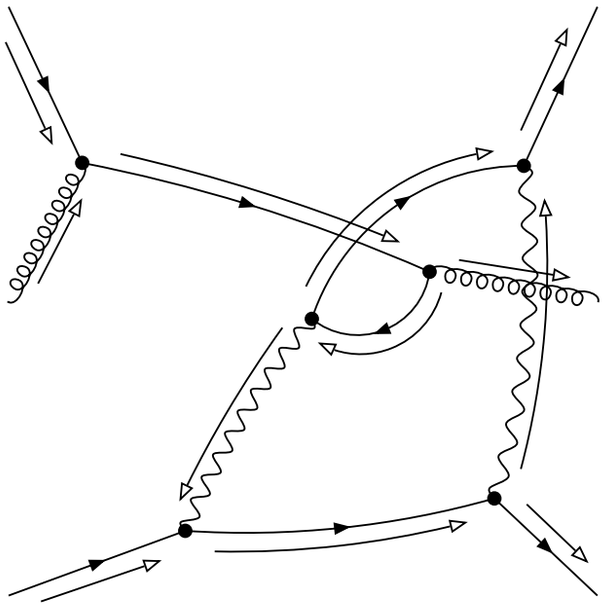
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(-1)

graph 98



−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
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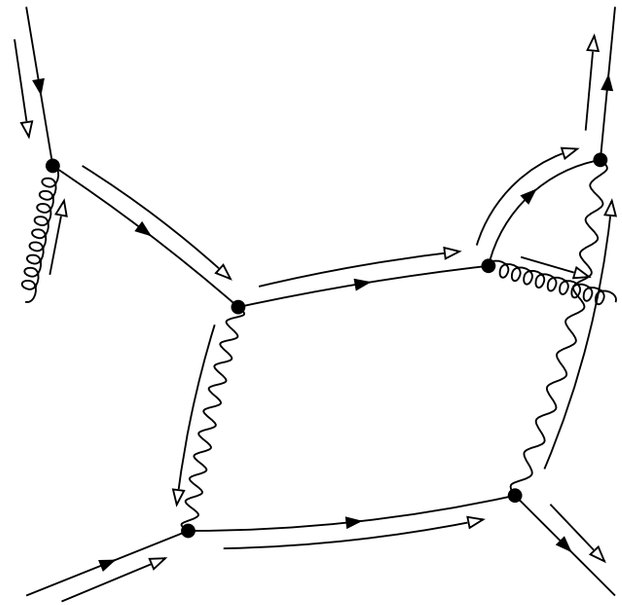
graph 99



−1 [Pdg { pdg: -1 }, Pdg { pdg: 11 }, Pdg
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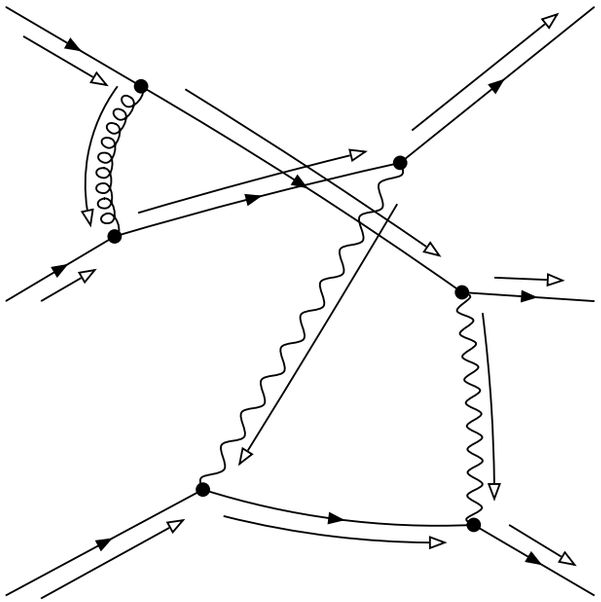
graph 100



2 [Pdg { pdg: 1 }, Pdg { pdg: 1 }, Pdg
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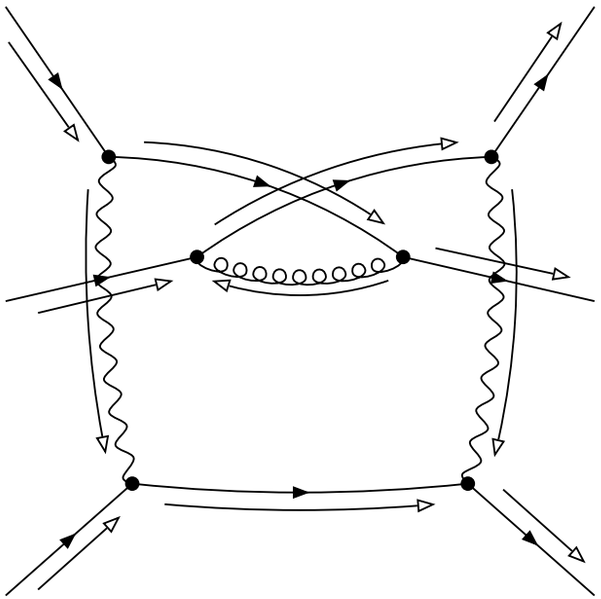
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 101



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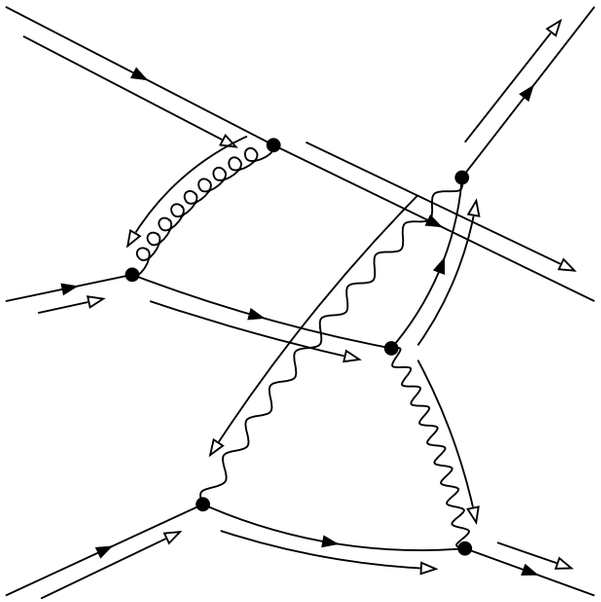
graph 102



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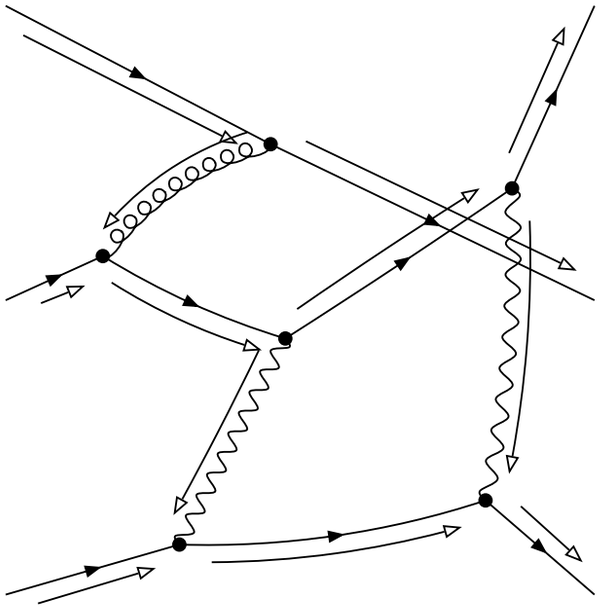
graph 103



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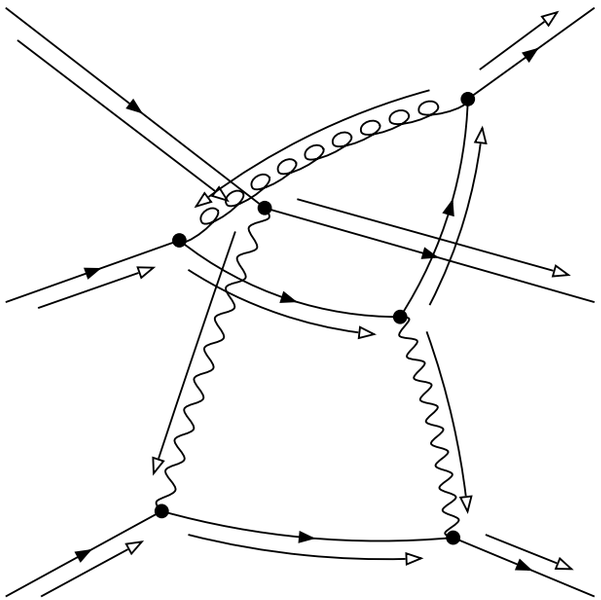
graph 104



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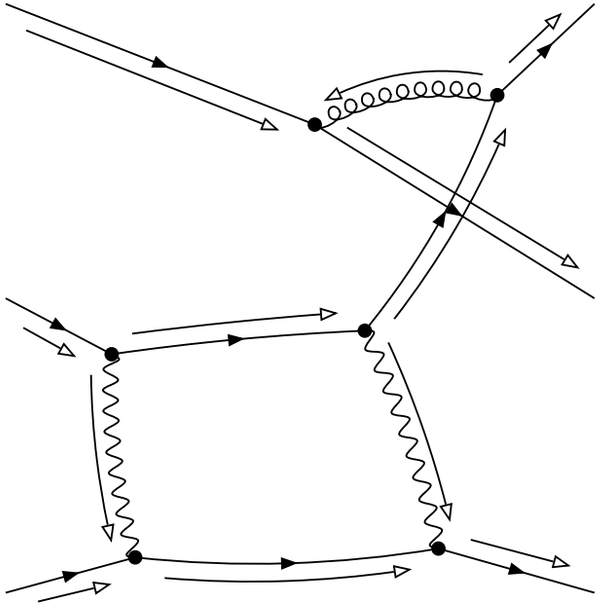
graph 105



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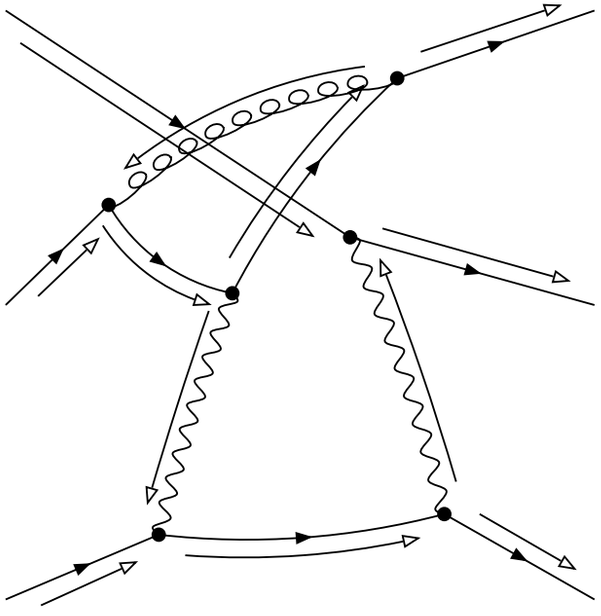
graph 106



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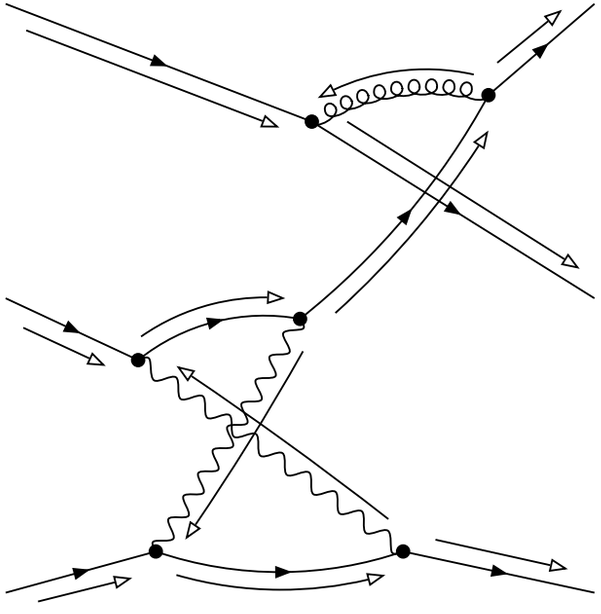
graph 107



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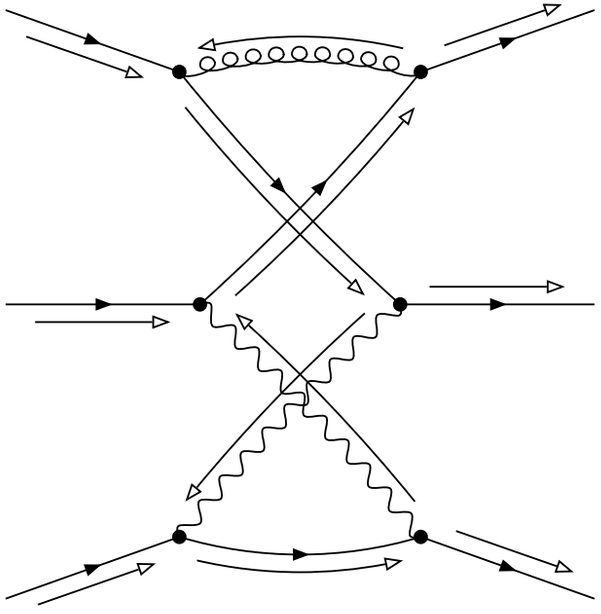
graph 108



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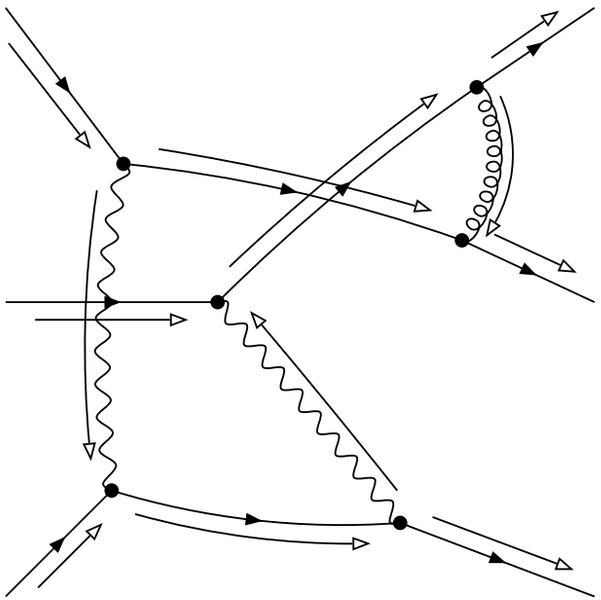
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 109



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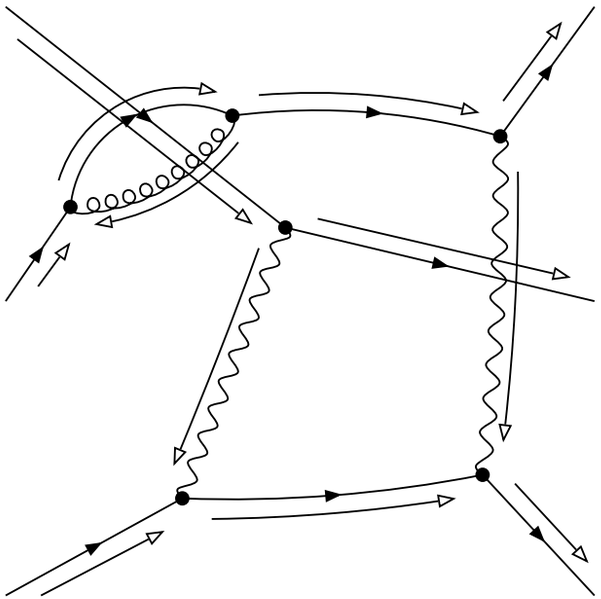
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 110



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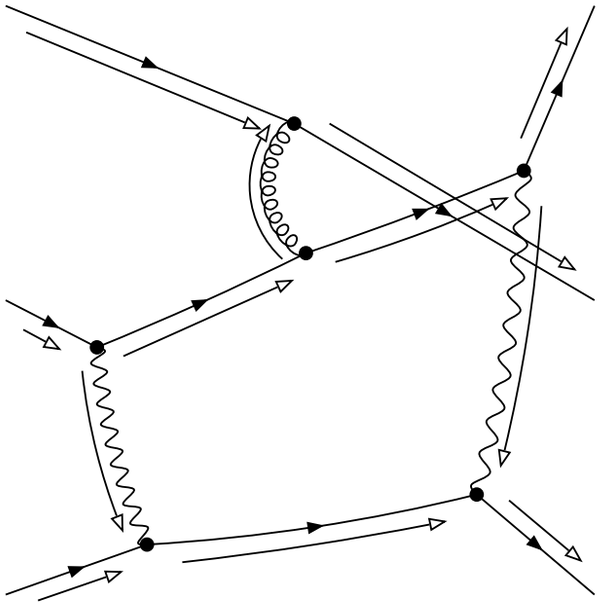
graph 111



2 [Pdg { pdg: 1 }, Pdg { pdg: 1 }, Pdg
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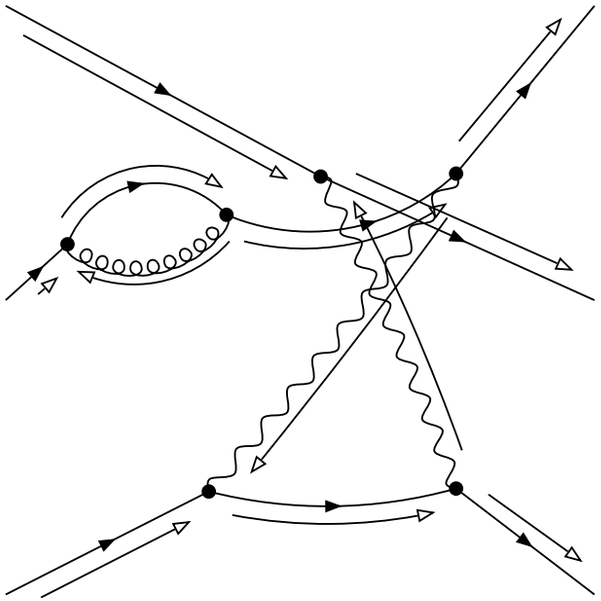
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 112



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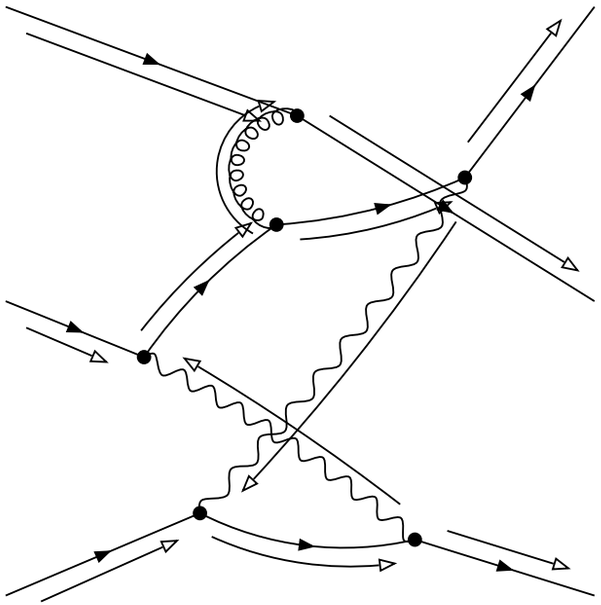
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)*NumeratorIndependentSymmetryGrouping(2)

graph 113



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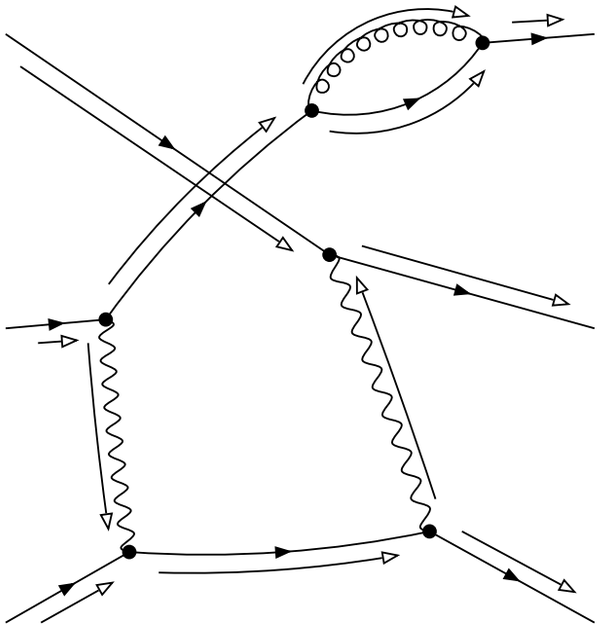
graph 114



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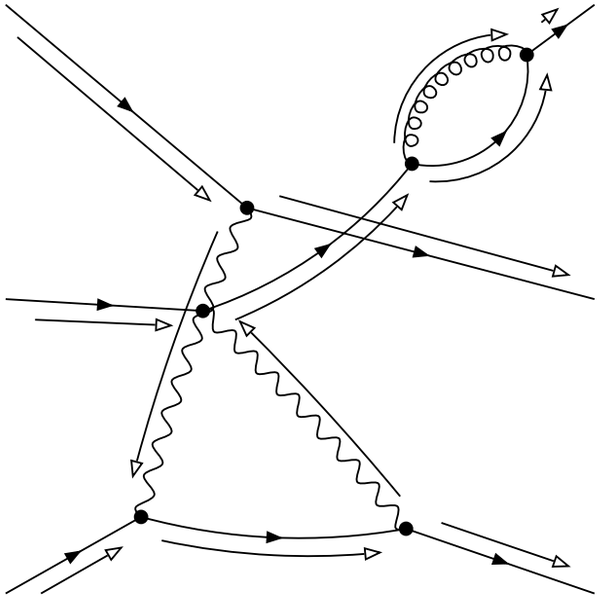
graph 115



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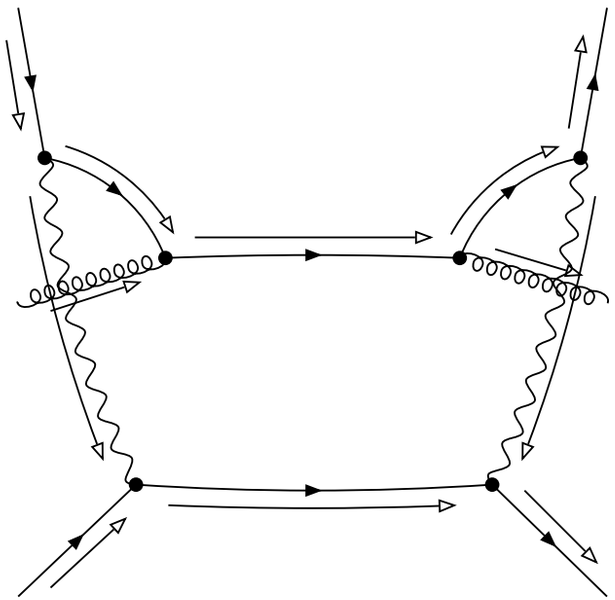
graph 116



1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
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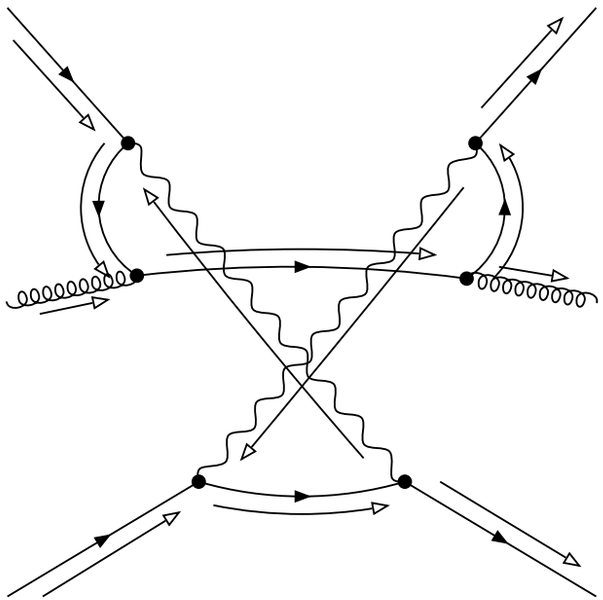
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 117



1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
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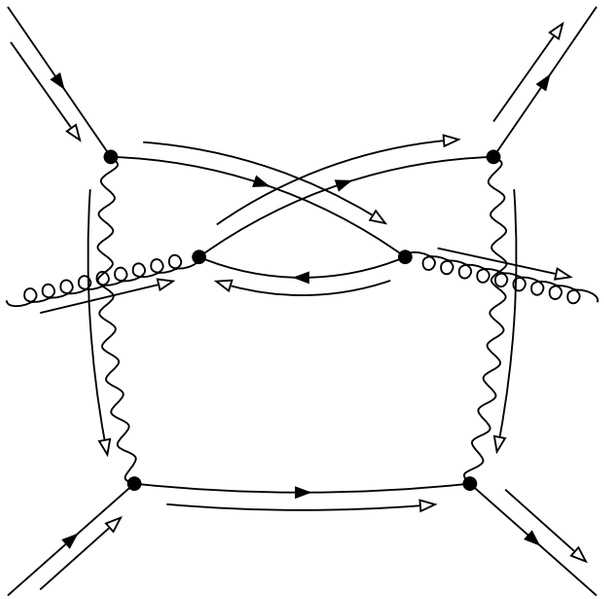
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 118



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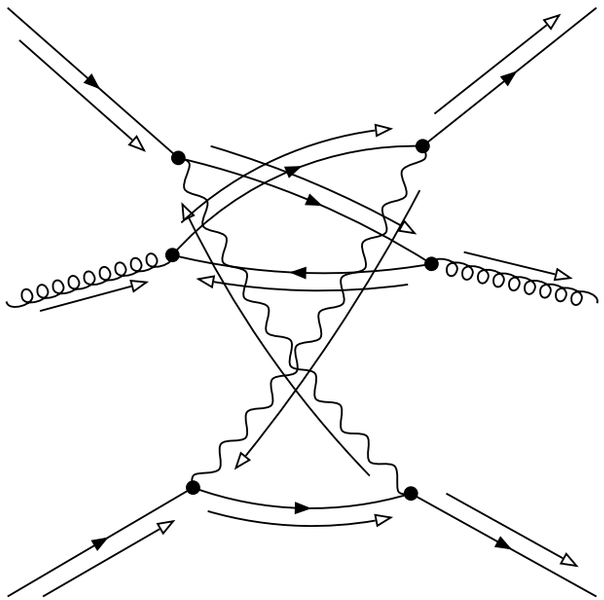
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 119



1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
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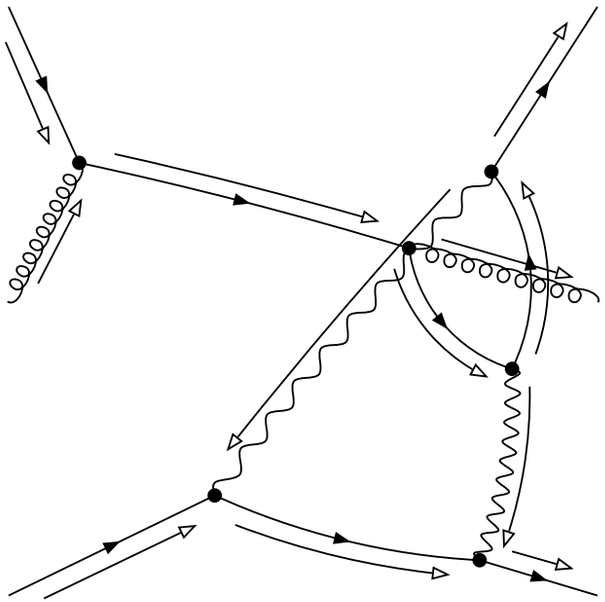
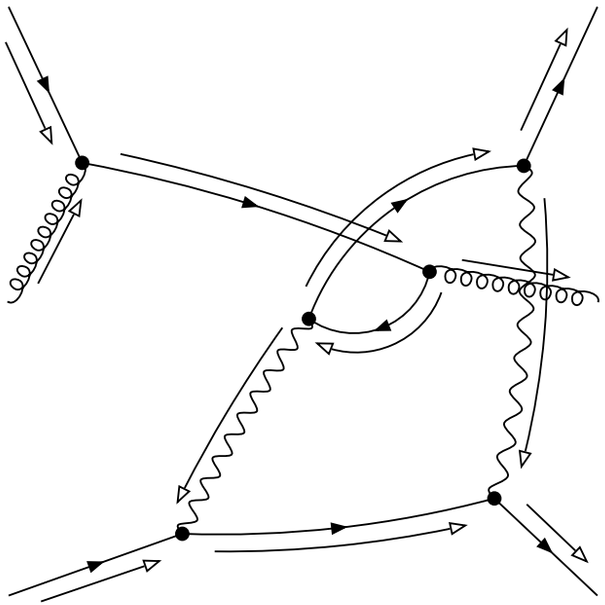
graph 120



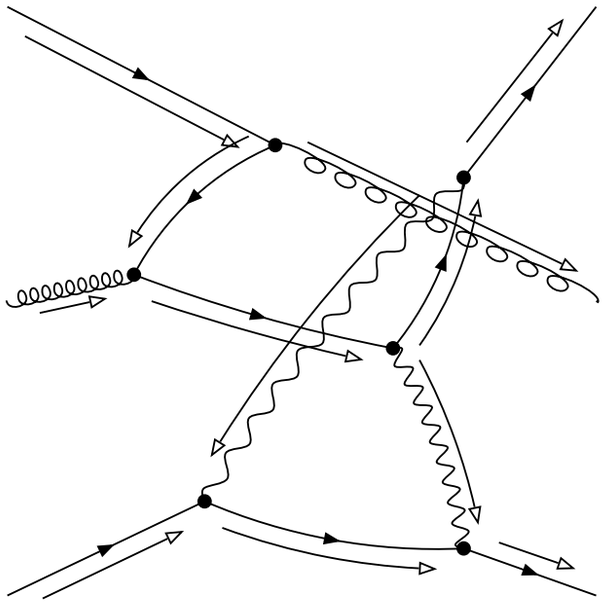
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 121



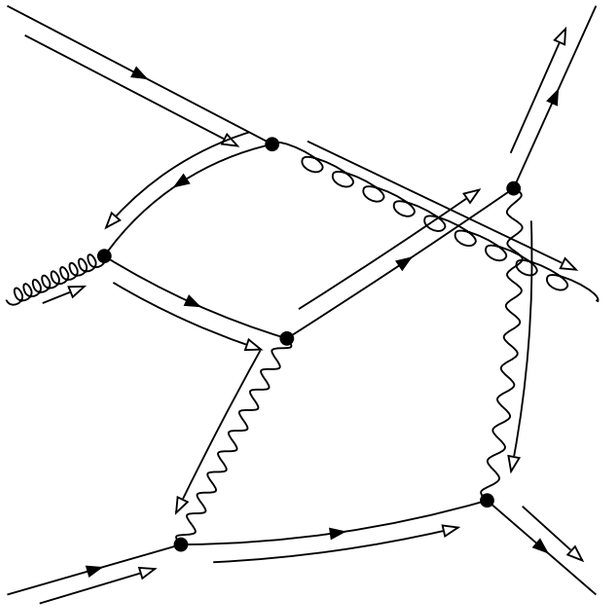
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 122



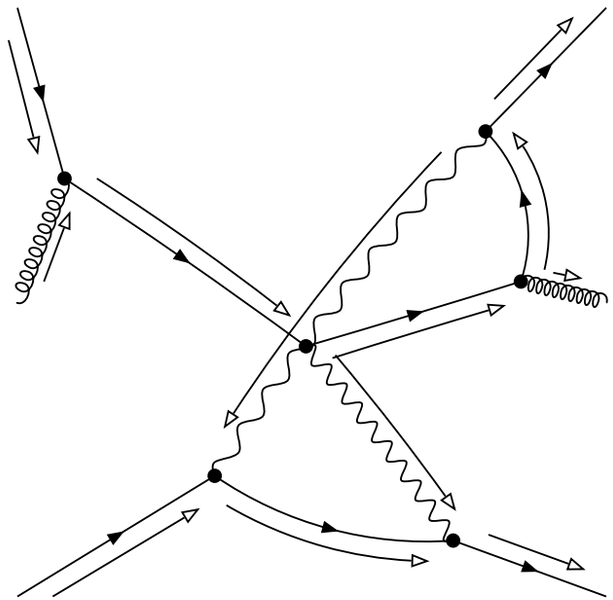
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 123



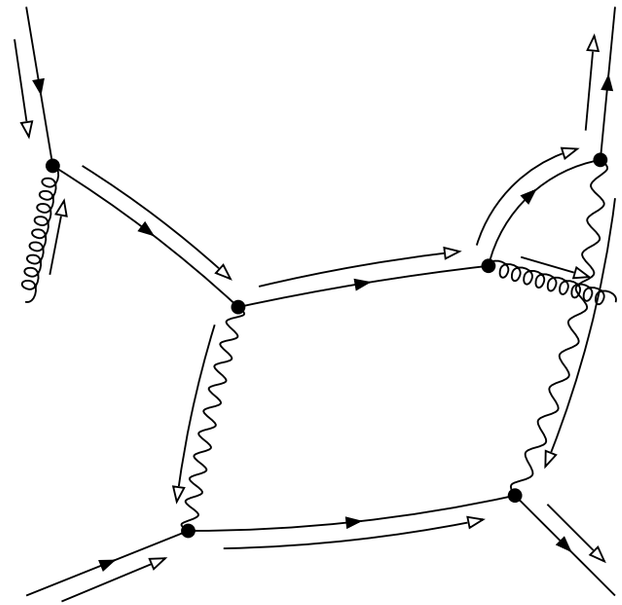
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 124



1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 125



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1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)
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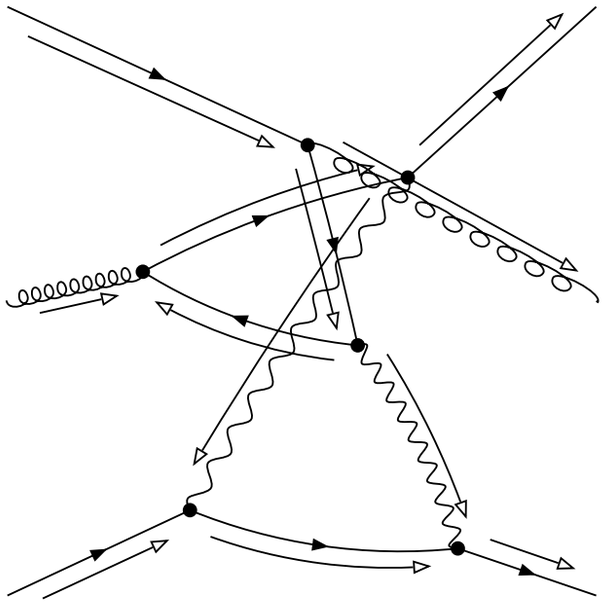
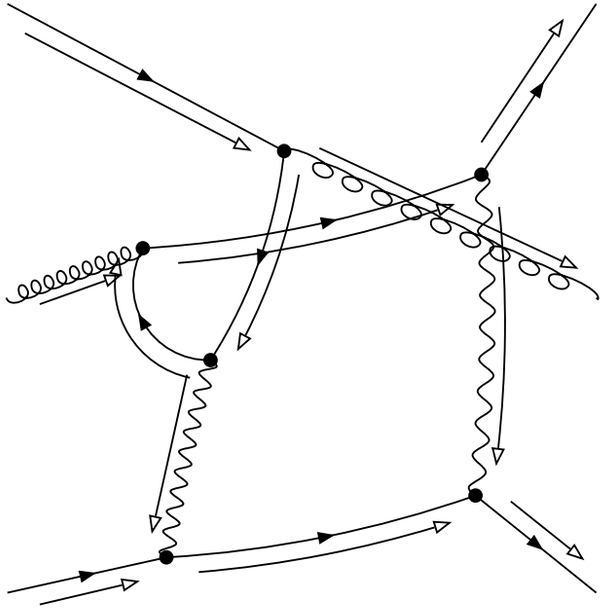
graph 126



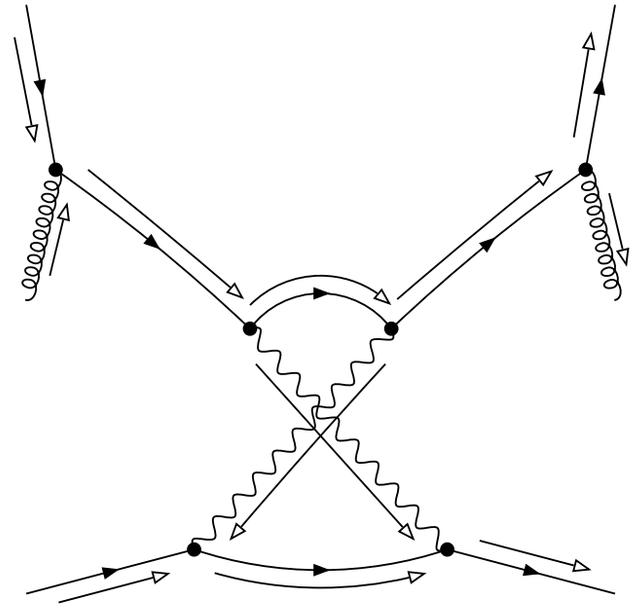
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 127



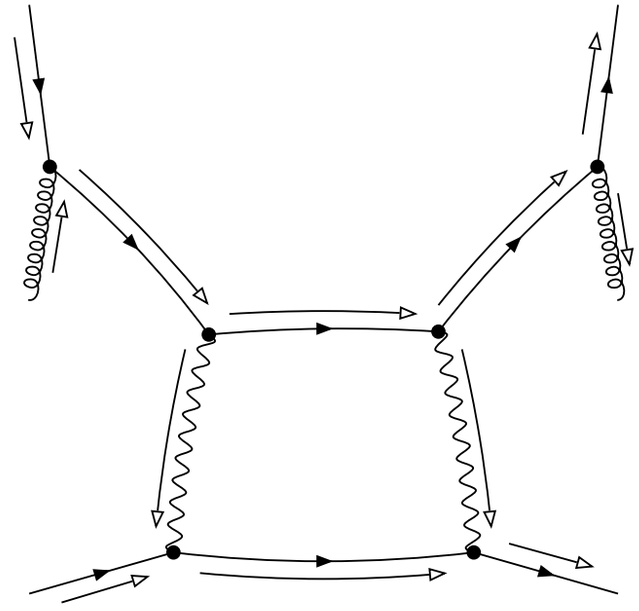
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 128



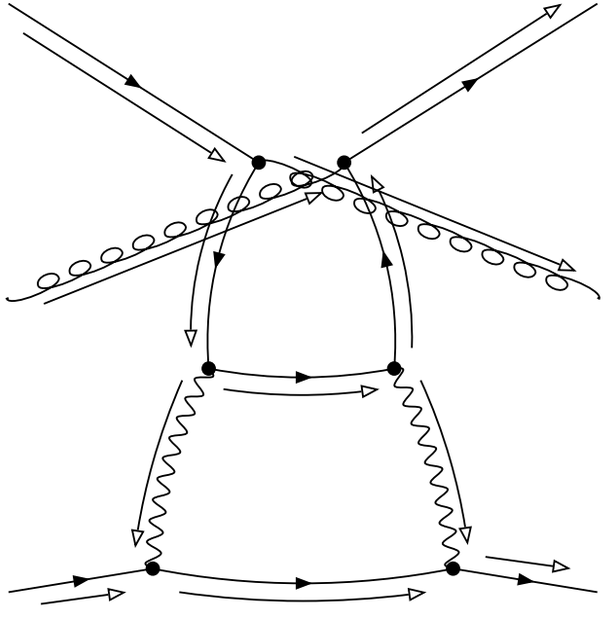
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 129



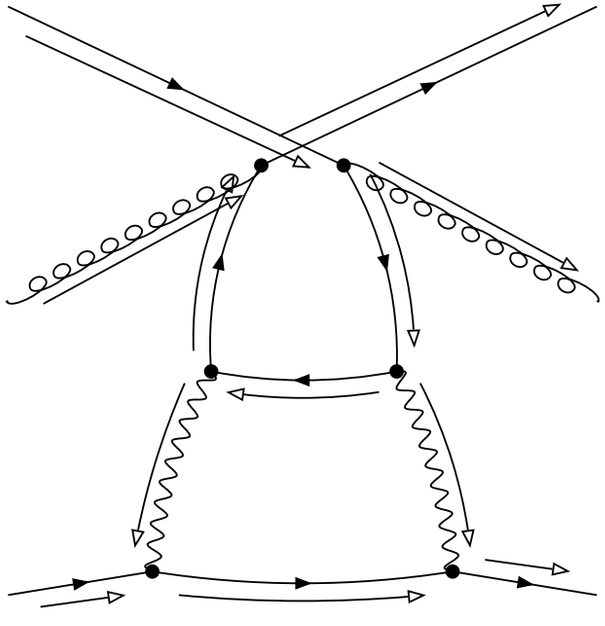
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 130



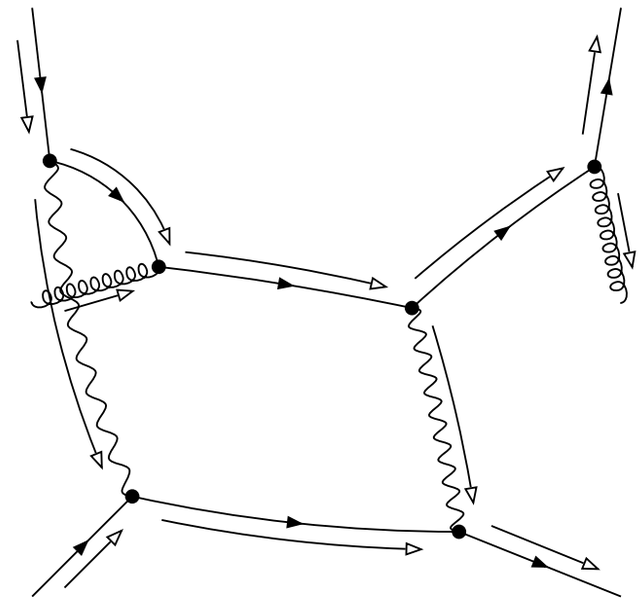
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 131



1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 132



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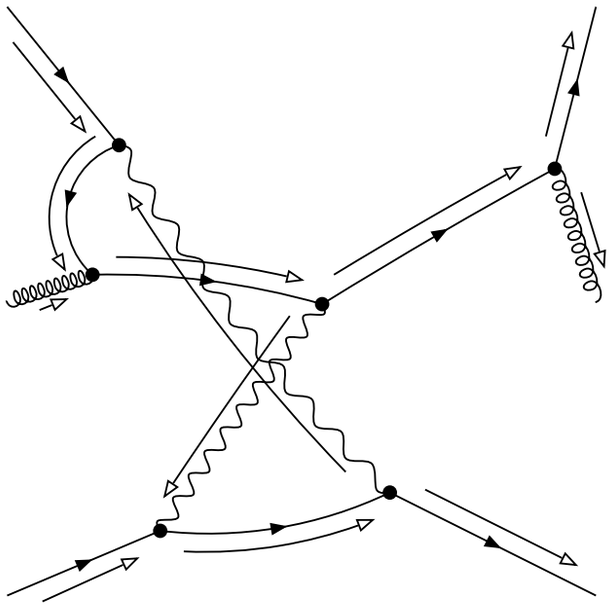
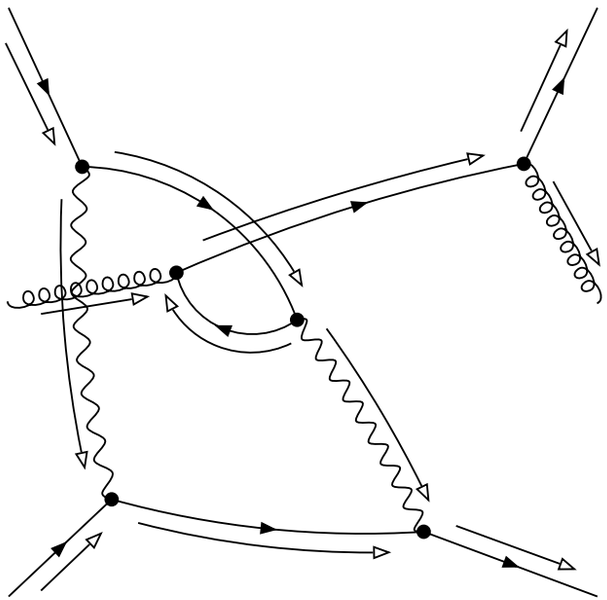
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)
```

graph 133



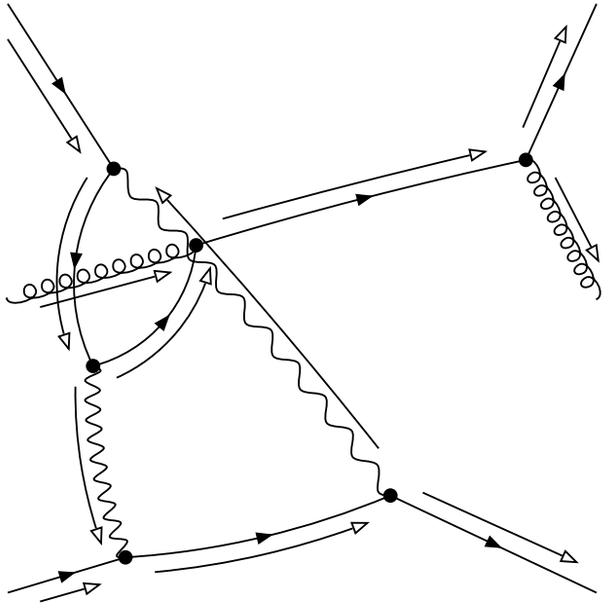
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 134



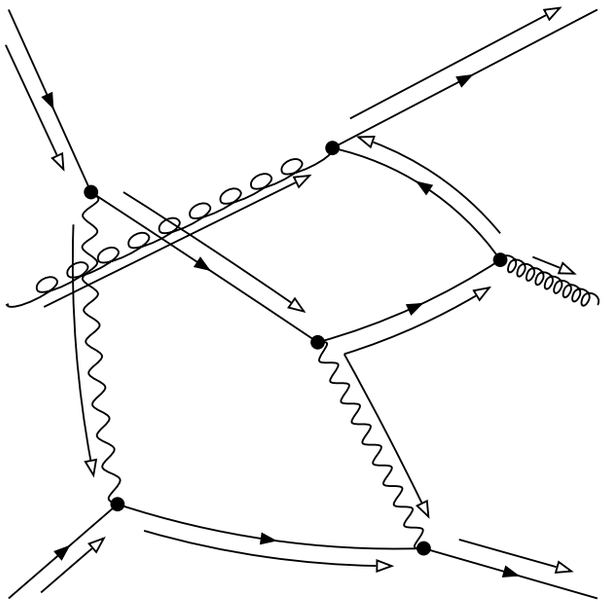
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 135



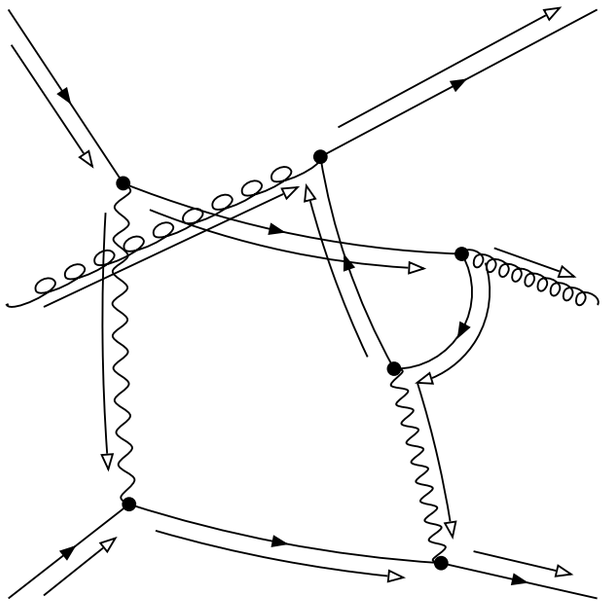
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 136



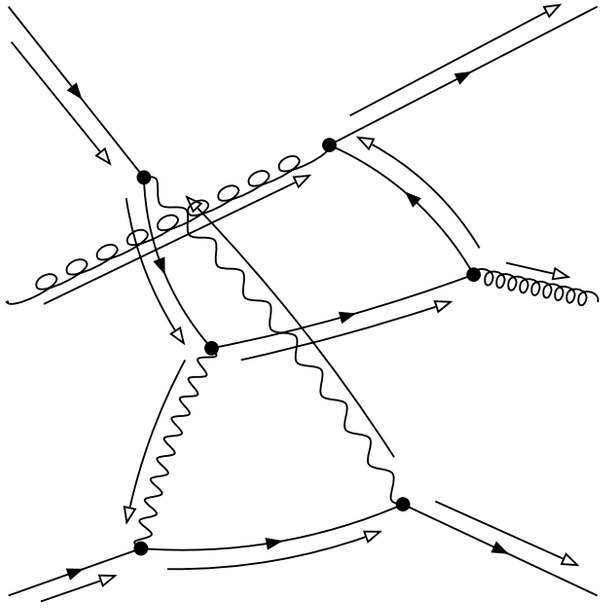
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 137



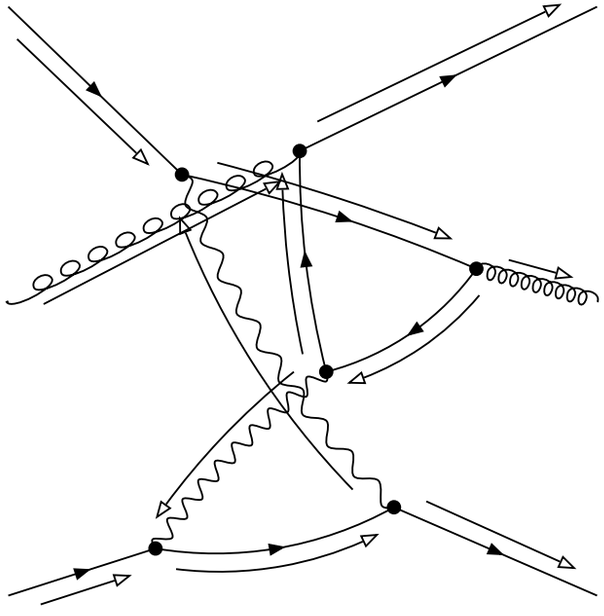
1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 138



1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)

graph 139



1 [Pdg { pdg: 1 }, Pdg { pdg: 11 }, Pdg
{ pdg: 21 }]
AutG(1)^-1*ExternalFermionOrderingSign(1)*AntiFermionSpinSumSign(1)