

diagram 1

NP=1, NPcG=0, NPcGtil=0, NPcH=0, NPcHB=0, NPcHtil=20, NPcHDL=0, NPcHG=0, NPcHGL=0, NP

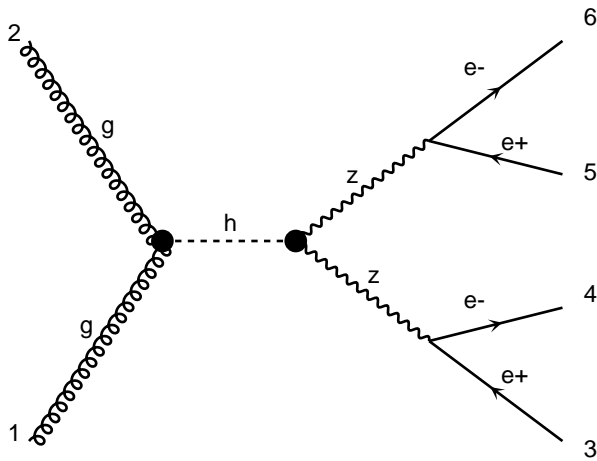
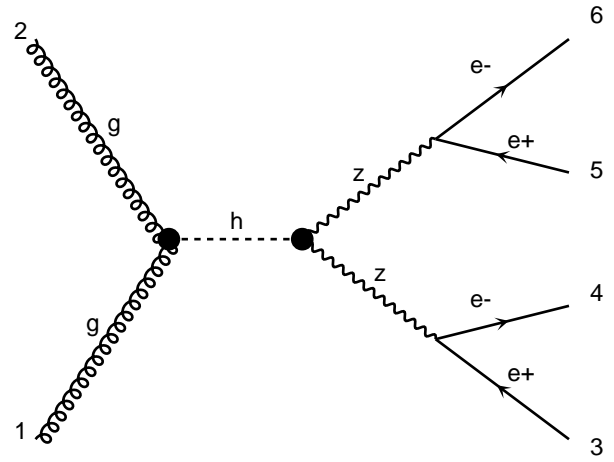


diagram 3

NP=1, NPcG=0, NPcGtil=0, NPcH=0, NPcHB=0, NPcHtil=40, NPcHDL=0, NPcHG=0, NPcHGL=0, NP

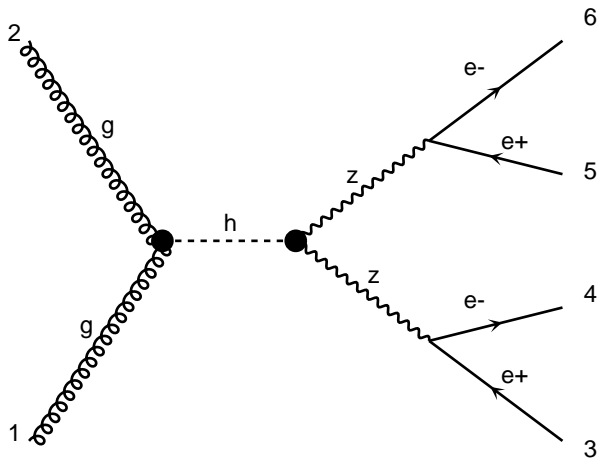
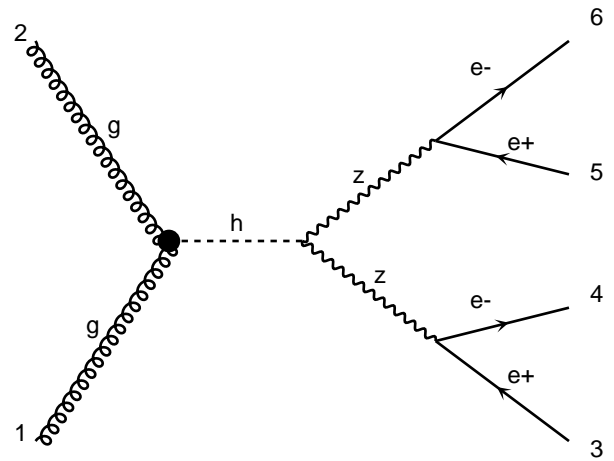
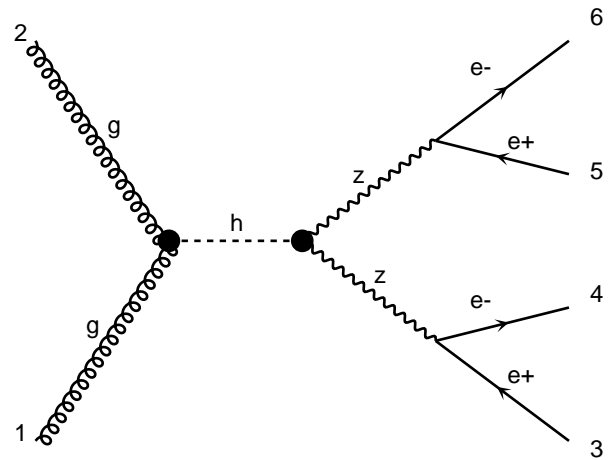
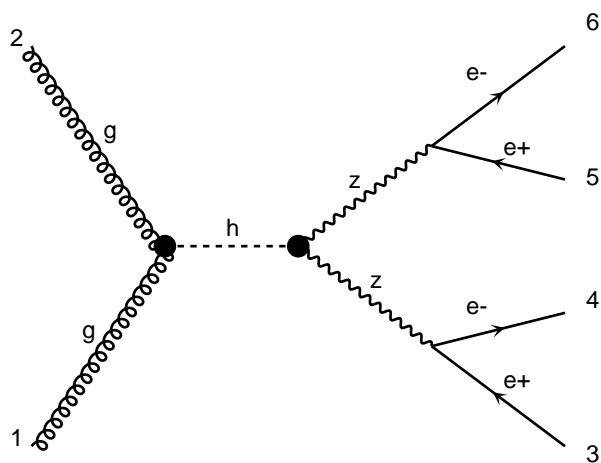


diagram 5

NP=1, NPcG=0, NPcGtil=0, NPcH=0, NPcHB=0, NPcHtil=60, NPcHDL=0, NPcHG=0, NPcHGL=0, NP

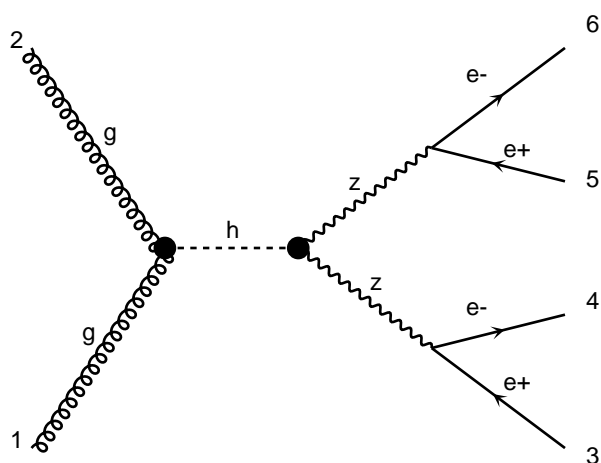


NP=1, NPcG=0, NPcGil=0, NPcH=0, NPcHB=0, NPcHBr=0, NPcHD=0, NPcHG=0, NPcHG=0, NP



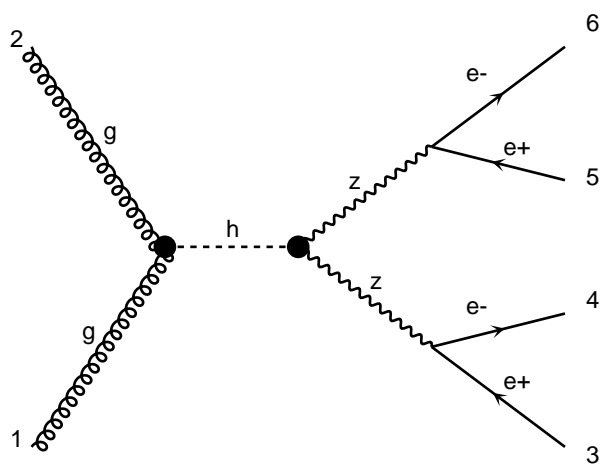
The diagram illustrates the decay chain $h \rightarrow Z Z \rightarrow e^+ e^- e^+ e^-$. On the left, two incoming gluon lines (labeled 'g') with momenta 1 and 2 meet at a vertex. A dashed line representing a Higgs boson (labeled 'h') connects this vertex to another vertex on the right. From the right vertex, two outgoing Z boson lines (labeled 'Z') with momenta 3 and 4 emerge. Each Z boson then decays into an electron-positron pair (labeled 'e-' and 'e+') with momenta 5 and 6 respectively.

NP=1, NPcG=0, NPcGtil=0, NPcH=0, NPcHB=0, NPcHBr=0, NPcHBrtil=0, NPcHDP=11, NPcHG=0, NPcHGT=0, NP

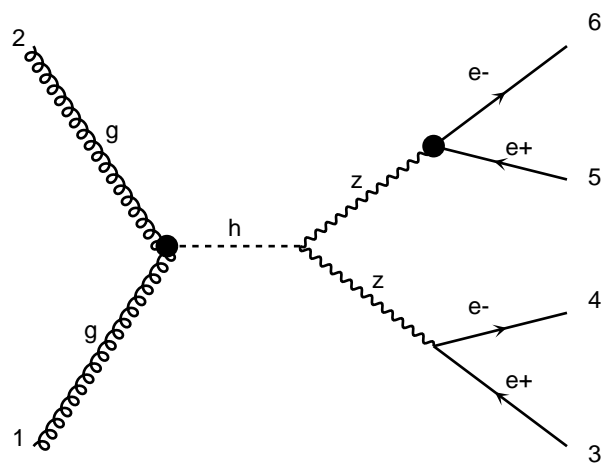


The diagram illustrates the production and decay of a Higgs boson (h). On the left, two incoming gluons (g), labeled 1 and 2, interact at a vertex to produce a Higgs boson (h). The Higgs boson then decays at a second vertex into a Z boson (z) and a photon (γ). The Z boson subsequently decays into an electron-positron pair (e^- and e^+), labeled 3 and 4. The photon decays into another electron-positron pair (e^- and e^+), labeled 5 and 6.

NP=1, NPcG=0, NPcGtil=0, NPcH=0, NPcHB=0, NPcHBr=0, NPcHBrtil=0, NPcHDP=0, NPcHG=0, NPcHGT=0, NP

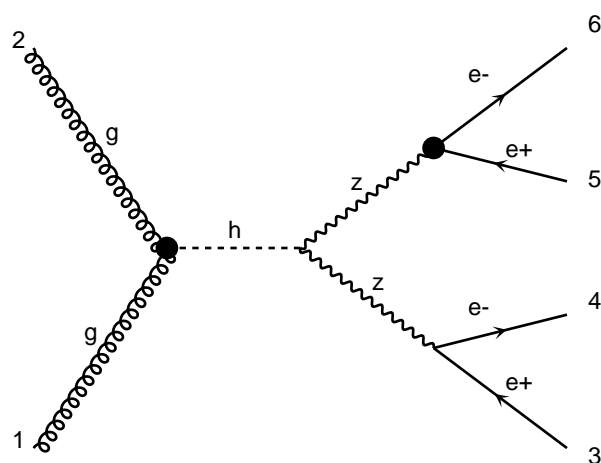


NP=1, NPcG=0, NPcGtil=0, NPcH=0, NPcHB=0, NPcHtil=0, NPcHDP=0, NPcHG=0, NPcHGtil=0, NP



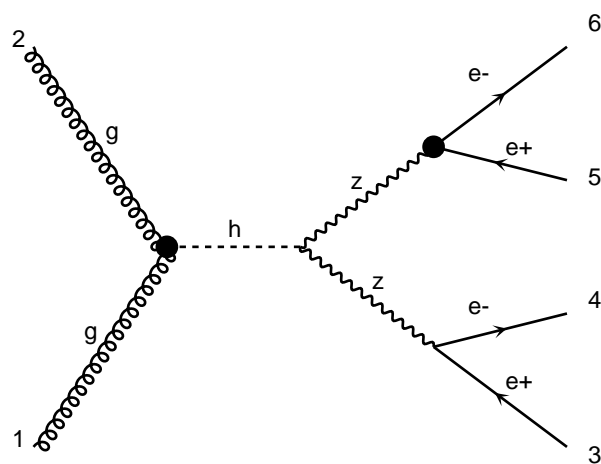
The diagram shows a gluon (g) with momentum 1 entering from the bottom left and another gluon (g) with momentum 2 entering from the top left. They meet at a vertex and produce a Higgs boson (h), represented by a dashed line. The Higgs boson then decays at another vertex into two Z bosons (z). Each Z boson subsequently decays into an electron-positron pair (e- and e+). The outgoing particles are labeled with momenta: 3 and 4 for the electrons, and 5 and 6 for the positrons.

NP=1, NPcG=0, NPcGtil=0, NPcH=0, NPcHB=0, NPcHBr=0, NPcHBrtil=0, NPcHDP=0, NPcHG=0, NPcHGT=0, NP



The diagram illustrates a gluon-gluon fusion process. Two incoming gluons, labeled 1 and 2, interact at a vertex. This interaction produces a top quark (labeled t) and an anti-top quark (labeled \bar{t}). These particles then interact at a second vertex to produce two Z bosons, labeled 3 and 4. The Z bosons subsequently decay into electron-positron pairs, labeled 5 and 6.

NP=1, NPcG=0, NPcGtil=0, NPcH=0, NPcHB=0, NPcHBr=0, NPcHDI=0, NPcG=0, NPcHIG=0, NP



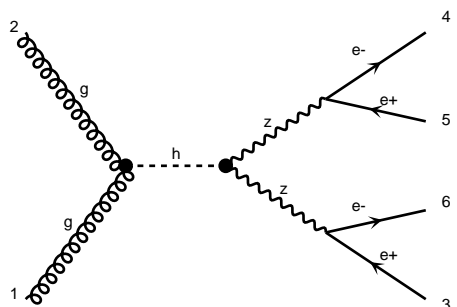


diagram 46

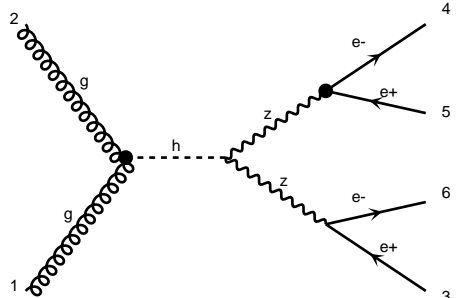
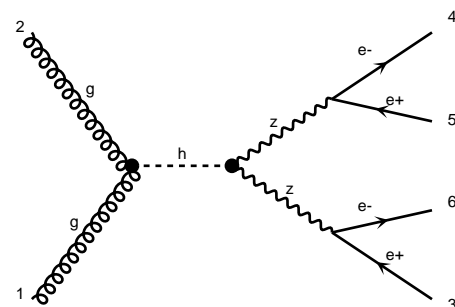
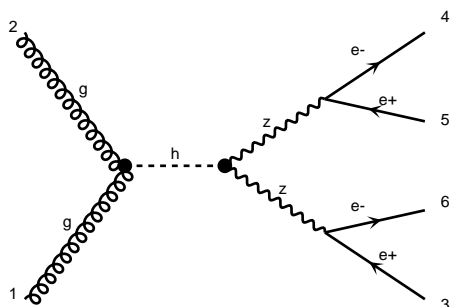
[illegible]

diagram 49

NP=1, NPcG=0, NPcGtl=0, NPcH=0, NPcHB=0, NPcHtl=0, NPcHDD=0, NPcHSeG=0, NPcHGtl=0, NPcHW=0, NPcHBAG=0, NPcHBAD=0, NPcHID=0, NPcHIDC=0, NPcHNEB=0, NPcHPCGE=0, NP

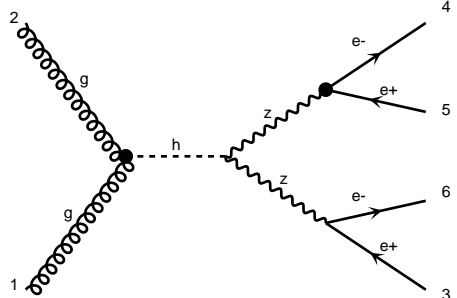
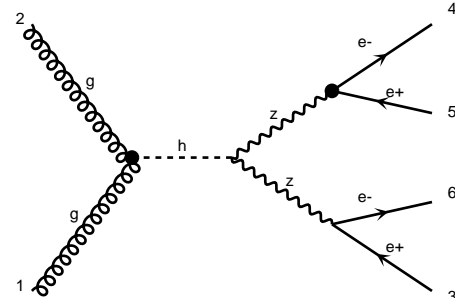
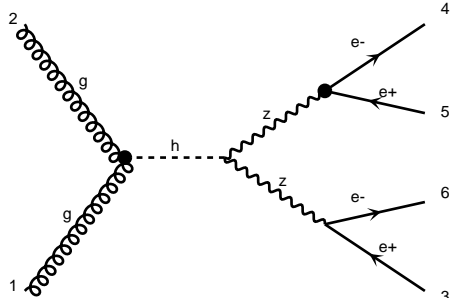


diagram 52

NP=1, NPcG=0, NPcGil=0, NPcH=0, NPcHB=0, NPcHH=0, NPcHDD=0, NPcHSeG=0, NPcHGil=0, NPcHW=0, NPcHBAB=0, NPcHBH=0, NPcHID=0, NPcHNEB=0, NPcHPC=0, NP

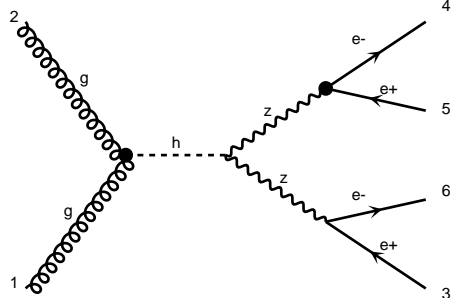
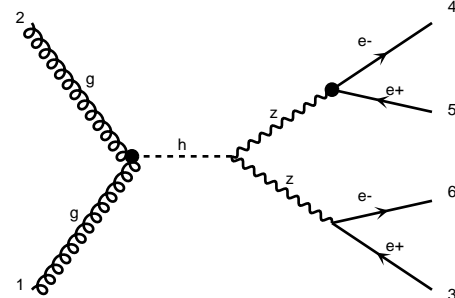
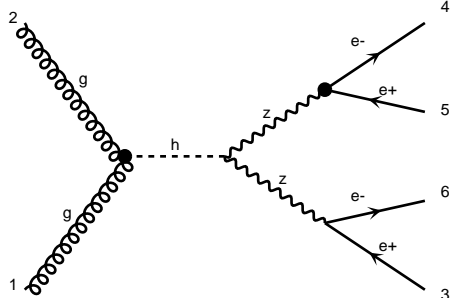


diagram 55

NP=1, NPcG=0, NPcGtl=0, NPcH=0, NPcHB=0, NPcHtm=56, NPcHDD=0, NPcNEC=0, NPcPGtl=0, NPcHW=0, NPcHBAG=0, NPcFHV=0, NPcHDP=0, NPcNFB=0, NPcPGEC=0

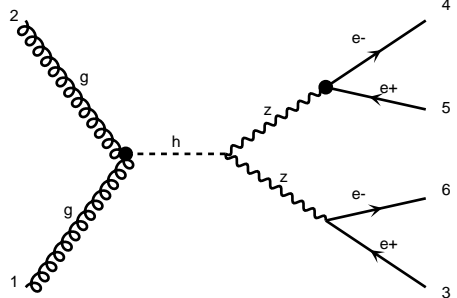
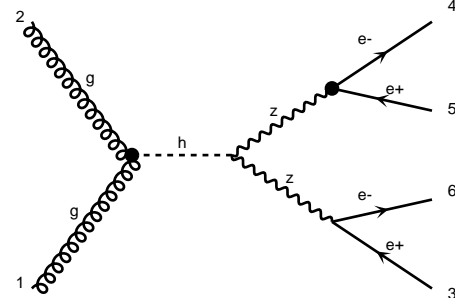
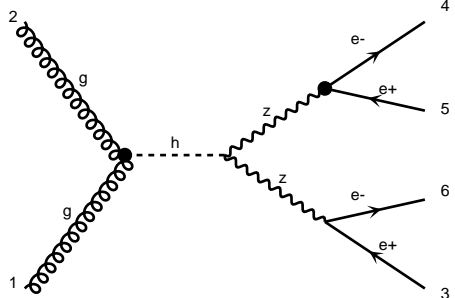
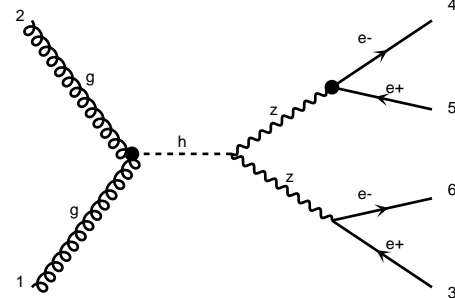
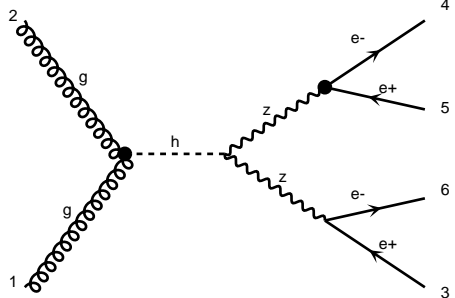
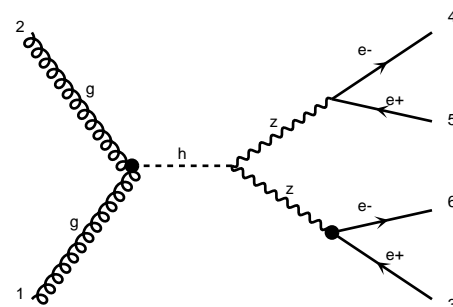


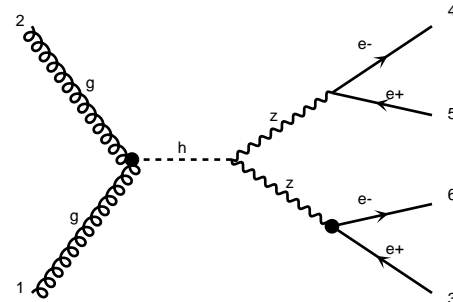
diagram 58

NP=1, NPcG=0, NPcGtl=0, NPcH=0, NPcHB=0, NPcHm=0, NPcHDD=1, NPcNCG=0, NPcPGtl=0, NPcHW=0, NPcHBAB=0, NPcHBABD=0, NPcHIDC=0, NPcHPCB=0, NPcPGMPC=0

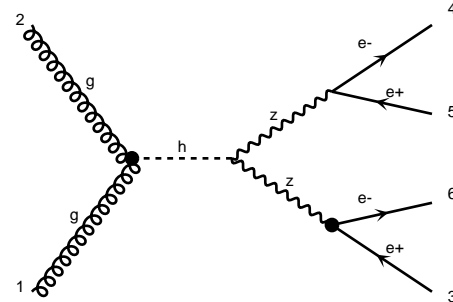




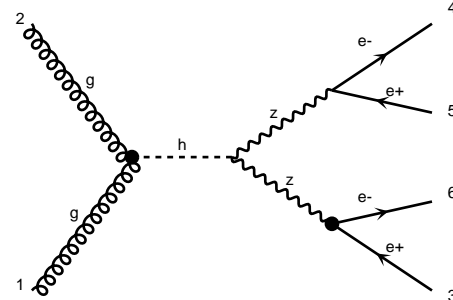
NP=1, NPcG=0, NPcGil=0, NPcH=0, NPcHB=0, NPcHil=0, NPcHDD=0, NPcNEC=0, NPcPGil=0, NPcPH=0, NPcPBA=0, NPcPBB=0, NPcPGB=0, NPcPHE=0, NPcPIB=0, NPcPIL=0, NPcPMB=0, NPcPPE=0, NPcPPH=0, NPcPPL=0, NPcPPO=0, NPcPRA=0, NPcPRB=0, NPcPRC=0, NPcPRD=0, NPcPRE=0, NPcPRF=0, NPcPRG=0, NPcPRH=0, NPcPRI=0, NPcPRJ=0, NPcPRK=0, NPcPRL=0, NPcPRM=0, NPcPRN=0, NPcPRO=0, NPcPRP=0, NPcPRQ=0, NPcPRT=0, NPcPRU=0, NPcPRV=0, NPcPRW=0, NPcPRX=0, NPcPRY=0, NPcPRZ=0, NPcR=0, NPcRB=0, NPcRC=0, NPcRD=0, NPcRE=0, NPcRF=0, NPcRG=0, NPcRH=0, NPcRI=0, NPcRJ=0, NPcRK=0, NPcRL=0, NPcRM=0, NPcRN=0, NPcRO=0, NPcRP=0, NPcRQ=0, NPcRR=0, NPcRS=0, NPcRT=0, NPcRU=0, NPcRV=0, NPcRW=0, NPcRX=0, NPcRY=0, NPcRZ=0, NPcS=0, NPcSB=0, NPcSC=0, NPcSD=0, NPcSE=0, NPcSF=0, NPcSG=0, NPcSH=0, NPcSI=0, NPcSJ=0, NPcSK=0, NPcSL=0, NPcSM=0, NPcSN=0, NPcSO=0, NPcSP=0, NPcSQ=0, NPcSR=0, NPcSS=0, NPcST=0, NPcSU=0, NPcSV=0, NPcSW=0, NPcSX=0, NPcSY=0, NPcSZ=0, NPcT=0, NPcTB=0, NPcTC=0, NPcTD=0, NPcTE=0, NPcTF=0, NPcTG=0, NPcTH=0, NPcTI=0, NPcTJ=0, NPcTK=0, NPcTL=0, NPcTM=0, NPcTN=0, NPcTO=0, NPcTP=0, NPcTQ=0, NPcTR=0, NPcTS=0, NPcTT=0, NPcTU=0, NPcTV=0, NPcTW=0, NPcTX=0, NPcTY=0, NPcTZ=0, NPcU=0, NPcUB=0, NPcUC=0, NPcUD=0, NPcUE=0, NPcUF=0, NPcUG=0, NPcUH=0, NPcUI=0, NPcUJ=0, NPcUK=0, NPcUL=0, NPcUM=0, NPcUN=0, NPcUO=0, NPcUP=0, NPcUQ=0, NPcUR=0, NPcUS=0, NPcUT=0, NPcUU=0, NPcUV=0, NPcUW=0, NPcUX=0, NPcUY=0, NPcUZ=0, NPcV=0, NPcVB=0, NPcVC=0, NPcVD=0, NPcVE=0, NPcVF=0, NPcVG=0, NPcVH=0, NPcVI=0, NPcVJ=0, NPcVK=0, NPcVL=0, NPcVM=0, NPcVN=0, NPcVO=0, NPcVP=0, NPcVQ=0, NPcVR=0, NPcVS=0, NPcVT=0, NPcVV=0, NPcVW=0, NPcVX=0, NPcVY=0, NPcVZ=0, NPcW=0, NPcWB=0, NPcWC=0, NPcWD=0, NPcWE=0, NPcWF=0, NPcWG=0, NPcWH=0, NPcWI=0, NPcWJ=0, NPcWK=0, NPcWL=0, NPcWM=0, NPcWN=0, NPcWO=0, NPcWP=0, NPcWQ=0, NPcWR=0, NPcWS=0, NPcWT=0, NPcWW=0, NPcWX=0, NPcWY=0, NPcWZ=0, NPcX=0, NPcXB=0, NPcXC=0, NPcXD=0, NPcXE=0, NPcXF=0, NPcXG=0, NPcXH=0, NPcXI=0, NPcXJ=0, NPcXK=0, NPcXL=0, NPcXM=0, NPcXN=0, NPcXO=0, NPcXP=0, NPcXQ=0, NPcXR=0, NPcXS=0, NPcXT=0, NPcXX=0, NPcXY=0, NPcXZ=0, NPcY=0, NPcYB=0, NPcYC=0, NPcYD=0, NPcYE=0, NPcYF=0, NPcYG=0, NPcYH=0, NPcYI=0, NPcYJ=0, NPcYK=0, NPcYL=0, NPcYM=0, NPcYN=0, NPcYO=0, NPcYP=0, NPcYQ=0, NPcYR=0, NPcYS=0, NPcYT=0, NPcYY=0, NPcYZ=0, NPcZ=0, NPcZB=0, NPcZC=0, NPcZD=0, NPcZE=0, NPcZF=0, NPcZG=0, NPcZH=0, NPcZI=0, NPcZJ=0, NPcZK=0, NPcZL=0, NPcZM=0, NPcZN=0, NPcZO=0, NPcZP=0, NPcZQ=0, NPcZR=0, NPcZS=0, NPcZT=0, NPcZZ=0



NP=1, NPcG=0, NPcGtil=0, NPcH=0, NPcHB=0, NPcHtil=0, NPcHDD=0, NPcHNEC=0, NPcHGGtil=0, NPcHW=0, NPcHBAB=0, NPcHtilGG=0, NPcHDDC=0, NPcHNEC=0, NPcHGGPC=0, NP



NP=1, NPcG=0, NPcGil=0, NPcH=0, NPcHB=0, NPcHm=0, NPcHDD=0, NPcN=0, NPcO=0, NPcOGil=0, NPcOH=0, NPcOBAB=0, NPcOBH=0, NPcOIDC=0, NPcON=0, NPcOS=0, NPcPGMPC=0, NP



NP=1, NPcG=0, NPcGil=0, NPcH=0, NPcHB=0, NPcHil=71, NPcHDD=1, NPcNEC=0, NPcPGil=0, NPcPH=90, NPcPBA=4, NPcPFI=78, NPcHDD=1, NPcNEC=0, NPcPGil=0, NP