inv(9)(q22.32q22.33)

- inversion on Chr9: 94438791(q22.32) - 96949317(q22.33)

- all genes near breakpoints: ['LINC02603', 'GAS2L1P2', 'ZNF782', 'MFSD14C', 'ZNF169', 'NUTM2F', 'FBP2', 'FOXD4L4', 'ZNF510', 'LOC105379443', 'FBP1', 'CTSV', 'PTMAP11', 'LOC100132077', 'LOC100132781', 'CBWD5', 'LOC101929583', 'PCAT7', 'NUTM2G', 'MFSD14B', 'LOC101928381', 'LOC101928195']

- genes near breakpoints documented in DDG2P:
FBP1(611570): FRUCTOSE 1,6 BISPHOSPHATASE DEFICIENCY(229700)

inv(10)(q11.22)

- inversion on Chr10: 46991593(q11.22) - 48060267(q11.22)

- all genes near breakpoints: ['ZMYND11', 'FAM25C', 'AGAP12P', 'FAM25G', 'NPY4R2', 'BMS1P1', 'FRMPD2', 'NPY4R', 'LOC102723376', 'AGAP13P', 'FRMPD2B', 'PTPN20', 'TUBB8', 'LINC02564']

- genes near breakpoints documented in DDG2P:
ZMYND11(608668): INTELLECTUAL DISABILITY(616579)

inv(15)(q24.1q24.2)

- inversion on Chr15: 74085705(q24.1) - 75277880(q24.2)

- all genes near breakpoints: ['PTPN9', 'ISLR', 'TBC1D21', 'NEIL1', 'MAN2C1', 'LOC105376731', 'LOC283731', 'LOC100288637', 'LOXL1-AS1', 'LOXL1', 'GOLGA6A', 'C15orf39', 'SIN3A', 'GOLGA6C', 'CCDC33', 'STRA6', 'COMMD4', 'OTUD7A', 'STOML1', 'MIR631', 'ISLR2', 'GOLGA6D', 'COMMD4P2', 'PML']

- genes near breakpoints documented in DDG2P:
STRA6(610745): MICROPHTHALMIA SYNDROMIC TYPE 9(601186)
SIN3A(607776): SYNDROMIC INTELLECTUAL DISABILITY(612100)
OTUD7A(612024): 15q13.3 deletions phenocopy(No disease mim)
MAN2C1(154580): MAN2C1-associated neurodevelopmental disorder with cerebral malformations(No disease mim)

inv(15)(q24.1q24.2)

- inversion on Chr15: 74085705(q24.1) - 75277880(q24.2)

- all genes near breakpoints: ['PTPN9', 'ISLR', 'TBC1D21', 'NEIL1', 'MAN2C1', 'LOC105376731', 'LOC283731', 'LOC100288637', 'LOXL1-AS1', 'LOXL1', 'GOLGA6A', 'C15orf39', 'SIN3A', 'GOLGA6C', 'CCDC33', 'STRA6', 'COMMD4', 'OTUD7A', 'STOML1', 'MIR631', 'ISLR2', 'GOLGA6D', 'COMMD4P2', 'PML']

- genes near breakpoints documented in DDG2P:

STRA6(610745): MICROPHTHALMIA SYNDROMIC TYPE 9(601186)

SIN3A(607776): SYNDROMIC INTELLECTUAL DISABILITY(612100)

OTUD7A(612024): 15q13.3 deletions phenocopy(No disease mim)

MAN2C1(154580): MAN2C1-associated neurodevelopmental disorder with cerebral malformations(No disease mim)

dup(1)(q21.1)

- tandem duplication on Chr1: 144129403(q21.1) - 145230161(q21.1)

- all genes near breakpoints: ['LSP1P5', 'LOC101927429', 'LOC729737', 'WASH7P', 'FAM72C', 'FAM138F', 'LOC644634', 'SRGAP2D', 'SRGAP2B', 'NBPF20', 'MIR1302-9', 'MIR1302-11', 'DRD5P2', 'PPIAL4E', 'DDX11L1', 'MIR6859-1', 'LOC100996740', 'FAM138A', 'LOC105371215', 'OR4F5', 'PPIAL4F', 'MIR1302-10', 'RNVU1-14', 'DDX11L17', 'MIR6859-4', 'MIR6859-2', 'PPIAL4D', 'FAM72D', 'FAM138D', 'LINC01145', 'FAM138C', 'MIR6859-3', 'MIR1302-2', 'LOC101060524']

- genes near breakpoints documented in DDG2P: None

- all genes with +1 CN: ['LSP1P5', 'LOC101060524', 'DRD5P2', 'LOC101927429', 'LOC105371215', 'PPIAL4E', 'PPIAL4D', 'PPIAL4F', 'RNVU1-15', 'NBPF15', 'RNVU1-2A', 'SRGAP2-AS1', 'SRGAP2B', 'FAM72D', 'FAM72C', 'LINC01145', 'LOC644634', 'LOC100996740']

- genes with +1 CN documented in DDG2P: None

del(X)(q25)

- deletion on ChrX: 127352597(q25) - 127599472(q25)

- all genes near breakpoints: []

- genes near breakpoints documented in DDG2P: None

- all genes with -1 CN: []

- genes with -1 CN documented in DDG2P: None