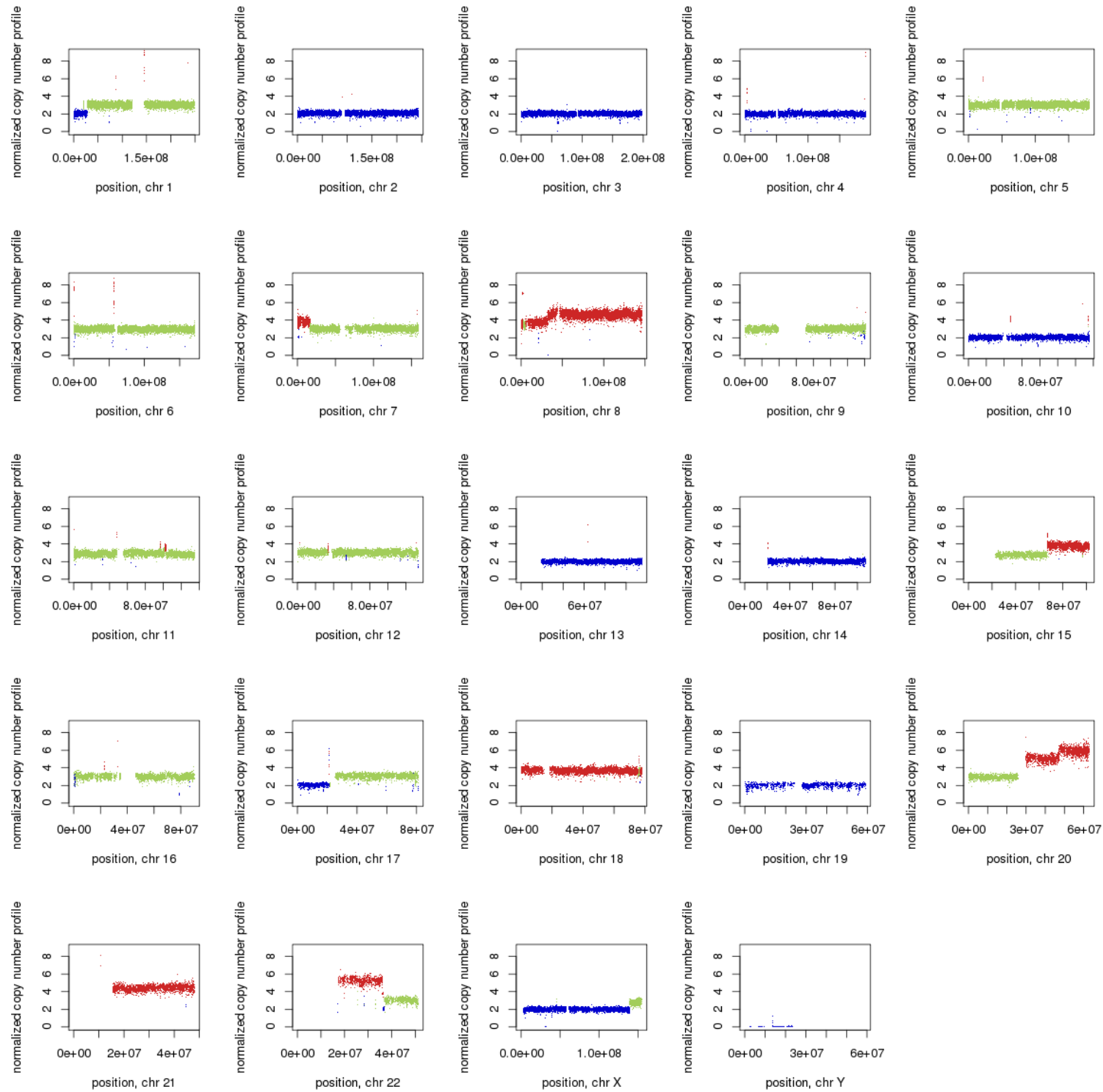


Supplementary Materials 1

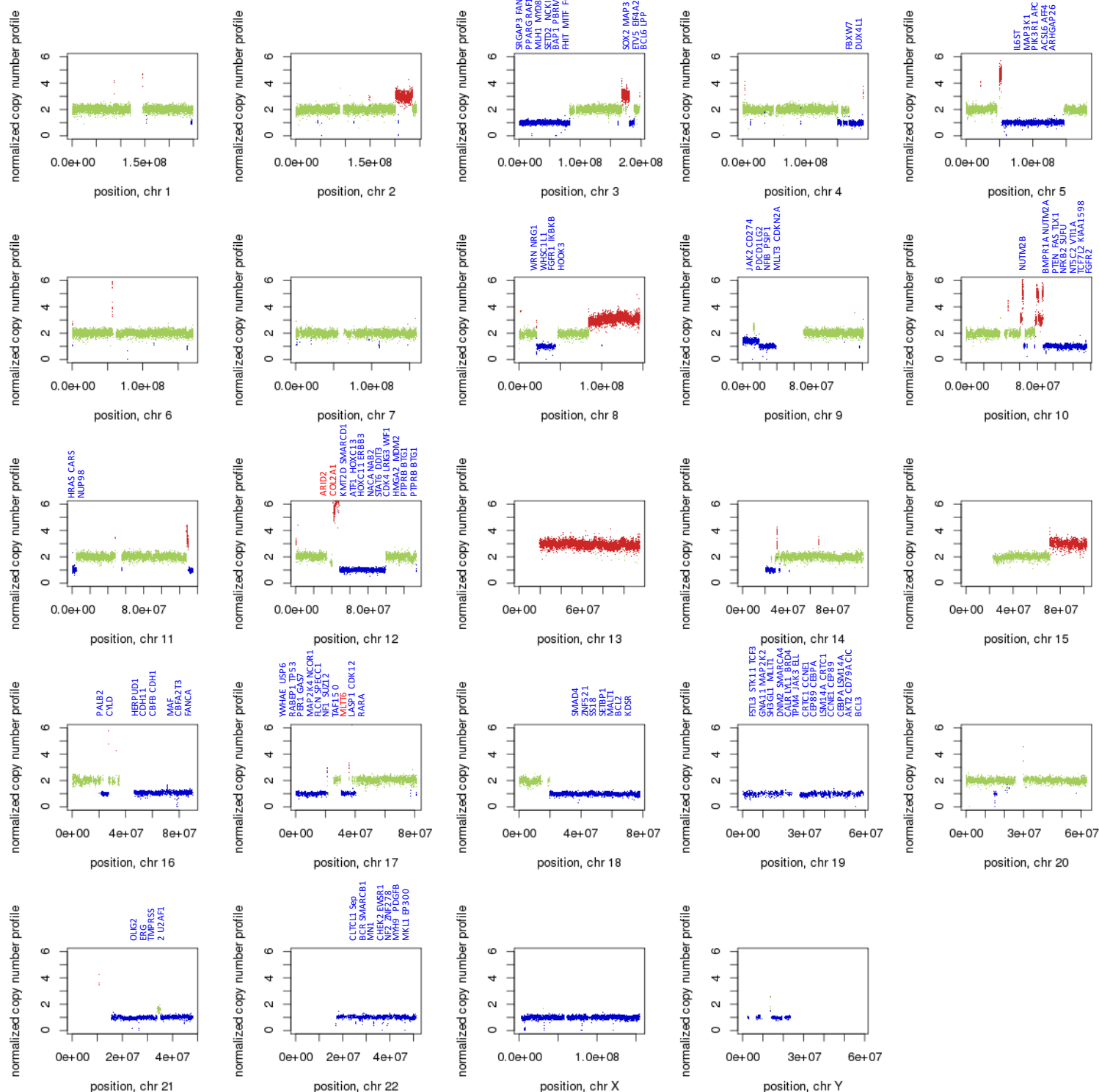
1) CP-D, hypothetraploid



CP-D					
chr_CN	start_CN	end_CN	copynu mber	type	Genes in region
1	0	20640000	2	loss	TNFRSF14 PRDM16 RPL22 CAMTA1 SPEN SDHB PAX7
1	21180000	27480000	2	loss	MDS2 ARID1A
2	5840000	34700000	2	loss	MYCN C2orf44 NCOA1 DNMT3A ALK
2	35990000	89880000	2	loss	STRN EML4 MSH2 MSH6 FBXO11 BCL11A REL XPO1 DCTN1
2	89890000	105460000	2	loss	AFF3
2	105480000	109810000	2	loss	RANBP2
2	109820000	126440000	2	loss	TTL PAX8
2	126450000	146860000	2	loss	ERCC3
2	146880000	200320000	2	loss	ACVR1 CHN1 HOXD13 HOXD11 NFE2L2 PMS1 SF3B1
2	146880000	200320000	2	loss	NFE2L2 PMS1 SF3B1
2	200330000	243199373	2	loss	CASP8
2	200330000	243199373	2	loss	CREB1 IDH1 ATIC FEV PAX3 ACSL3
					SRGAP3 SRGAP3 FANCD2 VHL PPARG RAF1 XPC MLH1 MYD88 CTNNB1 SETD2 NCKIPSD RHOA BAP1
3	0	60220000	2	loss	PBRM1 CACNA1D FHIT
3	60220000	60540000	1	loss	FHIT
3	60540000	162510000	2	loss	MITF FOXP1 TFG CBLB GATA2 RPN1 CNBP FOXL2 ATR WWTR1 GMPS MLF1
3	162630000	174840000	2	loss	MECOM
3	174850000	198022430	2	loss	TBL1XR1 PIK3CA SOX2 MAP3K13 ETV5 EIF4A2 BCL6 LPP TFRG
4	70000	2040000	2	loss	FGFR3 WHSC1
4	10240000	34790000	2	loss	SLC34A2
4	34820000	64690000	2	loss	RHOH PHOX2B FIP1L1 CHIC2 PDGFRA KIT KDR
4	68270000	115170000	2	loss	AFF1 RAP1GDS1 TET2
4	115190000	161050000	2	loss	IL2 FBXW7
4	172380000	190200000	2	loss	DUX4L1
8	32120000	83270000	5	gain	NRG1 WHSC1L1 FGFR1 IKBKB HOOK3 TCEA1 PLAG1 CHCHD7 NCOA2 HEY1
8	83300000	105260000	5	gain	NBN RUNX1T1 COX6C UBR5
8	115540000	135530000	5	gain	RAD21 EXT1 MYC NDRG1
8	140180000	144640000	5	gain	RECQL4
10	0	8090000	2	loss	KLF6 GATA3
10	8100000	46970000	2	loss	MLLT10 ABI1 KIF5B RET
10	47150000	58510000	2	loss	NCOA4
10	58530000	77150000	2	loss	CCDC6 TET1 PRF1 KAT6B
10	77580000	127570000	2	loss	NUTM2B BMPR1A NUTM2A PTEN FAS TLX1 NFKB2 SUFU NT5C2 VTI1A TCF7L2 KIAA1598 FGFR2
13	0	22240000	2	loss	ZNF198
13	22250000	39050000	2	loss	CDX2 FLT3 BRCA2
13	39060000	63630000	2	loss	LHFP FOXO1 LCP1 RB1
13	95370000	110430000	2	loss	ERCC5
14	33410000	99730000	2	loss	NKX2 FOXA1 NIN KTN1 MAX GPHN RAD51B TSHR TRIP11 GOLGA5 DICER1 TCL6 TCL1A BCL11B
14	99740000	104690000	2	loss	HSP90AA1
14	104720000	107349540	2	loss	AKT1
17	0	21190000	2	loss	YWHAE USP6 RABEP1 TP53 PER1 GAS7 MAP2K4 NCOR1 FLCN SPECC1
17	77460000	77490000	1	loss	Sep
19	0	4040000	2	loss	FSTL3 STK11 TCF3 GNA11
					MAP2K2 SH3GL1 MLLT1 DNM2 SMARCA4 CALR LYL1 BRD4 TPM4 JAK3 ELL CRTCL1 CCNE1 CEP89 CEBPA
19	4070000	59128983	2	loss	LSM14A AKT2 CD79A CIC BCL3 CBLC ERCC2 KLK2 PPP2R1A
20	29830000	47260000	5	gain	ASXL1 MAFB TOP1 PLCG1 SDC4
20	47260000	60880000	6	gain	NFATC2 GNAS
20	60900000	63025520	6	gain	SS18L1
22	17280000	25420000	5	gain	CLTCL1 Sep BCR SMARCB1
22	25460000	28190000	5	gain	MN1 CHEK2 EWSR1 NF2 ZNF278
22	36240000	36770000	2	loss	MYH9
X	0	31160000	2	loss	ZRSR2
X	40020000	45340000	2	loss	BCOR KDM6A
					SSX1 WAS GATA1 TFE3 SSX2 KDM5C AMER1 MSN FOXO4 FOXO4 MED12 NONO ATRX Sep STAG2 ELF4
X	45390000	139480000	2	loss	GPC3 PHF6

Supplementary Materials 1

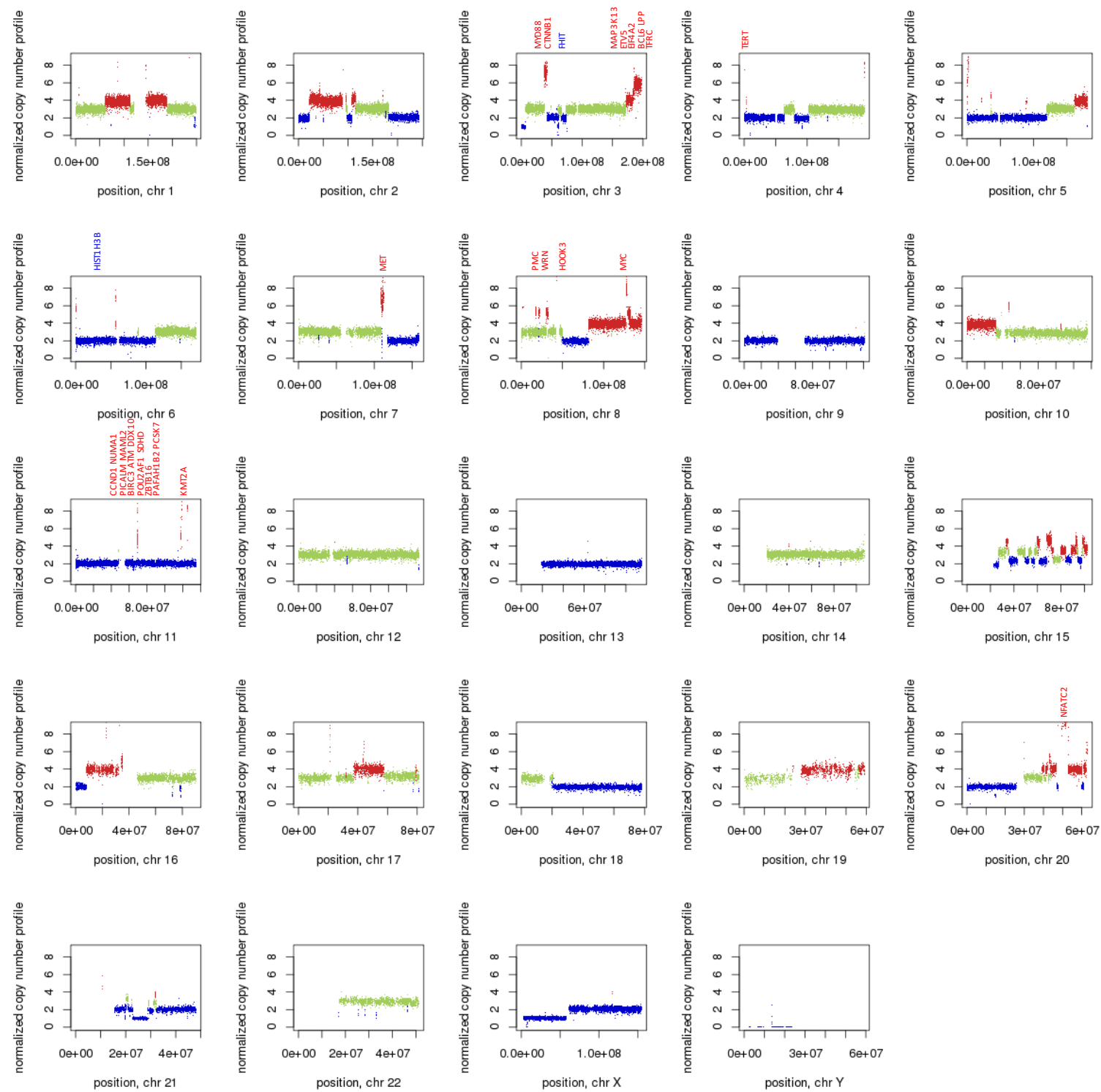
2) ESO-26, hypodiploid



ESO-26				
chr_CN	start_CN	end_CN	Copy Numbe r	LOSS/GAIN
2	206450000	235860000	3 gain	CREB1 IDH1 ATIC FEV PAX3 ACSL3
3	0	20870000	1 loss	SRGAP3 FANCD2 VHL PPARG RAF1 XPC
3	20950000	60360000	1 loss	MLH1 MYD88 CTNNB1 SETD2 NCKIPSD RHOA BAP1 PBRM1 CACNA1D FHIT MITF FOXP1
3	168460000	171020000	3 gain	MECOM
3	175860000	181140000	3 gain	TBL1XR1 PIK3CA
3	181140000	188410000	1 loss	SOX2 MAP3K13 ETV5 EIF4A2 BCL6 LPP
4	151060000	156490000	1 loss	FBXW7
4	168210000	190540000	1 loss	DUX4L1
5	53760000	59560000	1 loss	IL6ST MAP3K1 PIK3R1 APC ACSL6 AFF4 ARHGAP26
8	21610000	43740000	1 loss	WRN NRG1 WHSC1L1 FGFR1 IKBKB HOOK3
8	84060000	100310000	3 gain	NBN RUNX1T1 COX6C
8	100340000	146364022	3 gain	UBR5 RSPO2 EIF3E RAD21 EXT1 MYC NDRG1 RECQL4
9	0	12280000	1 loss	JAK2 CD274 PDCD1LG2
9	13520000	18850000	1 loss	NFIB PSIP1
9	18870000	23370000	1 loss	MLLT3 CDKN2a(p14) CDKN2A
9	28650000	38770000	1 loss	FANCG PAX5
10	79060000	80820000	5 gain	NUTM2B
10	86720000	135534747	1 loss	BMPR1A NUTM2A PTEN FAS TLX1 NFKB2 SUFU NT5C2 VTI1A TCF7L2 KIAA1598 FGFR2
11	0	4680000	1 loss	HRAS CARS NUP98
11	127920000	128840000	4 gain	FLI1
11	128840000	130060000	3 gain	KCNJ5
12	43480000	46120000	7 gain	ARID2
12	46130000	48290000	7 gain	COL2A1
12	48380000	99660000	1 loss	KMT2D SMARCD1 ATF1 HOXC13 HOXC11 ERBB3 NACA NAB2 STAT6 DDIT3 CDK4 LRIG3 WIF1 HMG2A MDM2 PTPRB BTG1 PTPRB BTG1
13	0	63630000	3 gain	ZNF198 CDX2 FLT3 BRCA2 LHFP FOXO1 LCP1 RB1
13	100650000	110430000	3 gain	ERCC5
14	0	25830000	1 loss	CCNB1IP1
14	67840000	68060000	3 gain	RAD51B
15	70820000	96860000	3 gain	PML NTRK3 IDH2 CRT3 BLM
16	22710000	27050000	1 loss	PALB2
16	46500000	78370000	1 loss	CYLD HERPUD1 CDH11 CBFB CDH1
16	78730000	90354753	1 loss	MAF CBFA2T3 FANCA
17	0	21190000	1 loss	YWHAE USP6 RABEP1 TP53 PER1 GAS7 MAP2K4 NCOR1 FLCN SPECC1
17	30530000	35980000	1 loss	NF1 SUZ12 TAF15
17	36560000	37060000	16 gain	MLLT6
17	38510000	39620000	1 loss	LASP1 CDK12
17	39940000	40340000	1 loss	RARA
17	77460000	77490000	1 loss	Sep
18	19720000	78077248	1 loss	SMAD4 ZNF521 SS18 SETBP1 MALT1 BCL2 KDSR
19	0	55300000	1 loss	FSTL3 STK11 TCF3 GNA11 MAP2K2 SH3GL1 MLLT1 DNM2 SMARCA4 CALR LYL1 BRD4 TPM4 JAK3 ELL CRT3 CCNE1 CEP89 CEBPA LSM14A CRT3 CCNE1 CEP89 CEBPA LSM14A AKT2 CD79A CIC BCL3
21	26600000	33770000	1 loss	OLIG2
21	35210000	48129895	1 loss	ERG TMPRSS2 U2AF1
22	17280000	28220000	1 loss	CLTCL1 Sep BCR SMARCB1 MN1
22	28260000	36730000	1 loss	CHEK2 EWSR1 NF2 ZNF278 MYH9
22	38970000	39290000	1 loss	PDGFB
22	39300000	46470000	1 loss	MKL1 EP300
X	7890000	30810000	1 loss	ZRSR2
X	32120000	79160000	1 loss	BCOR KDM6A SSX1 SSX4 WAS GATA1 TFE3 SSX2 KDM5C AMER1 MSN FOXO4 FOXO4 MED12 NONO ATRX ATRX
X	81420000	120860000	1 loss	Sep
X	120930000	155270560	1 loss	STAG2 ELF4 GPC3 PHF6 ATP2B3 RPL10 MTCP1

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3) ESO-51, hypotriploid

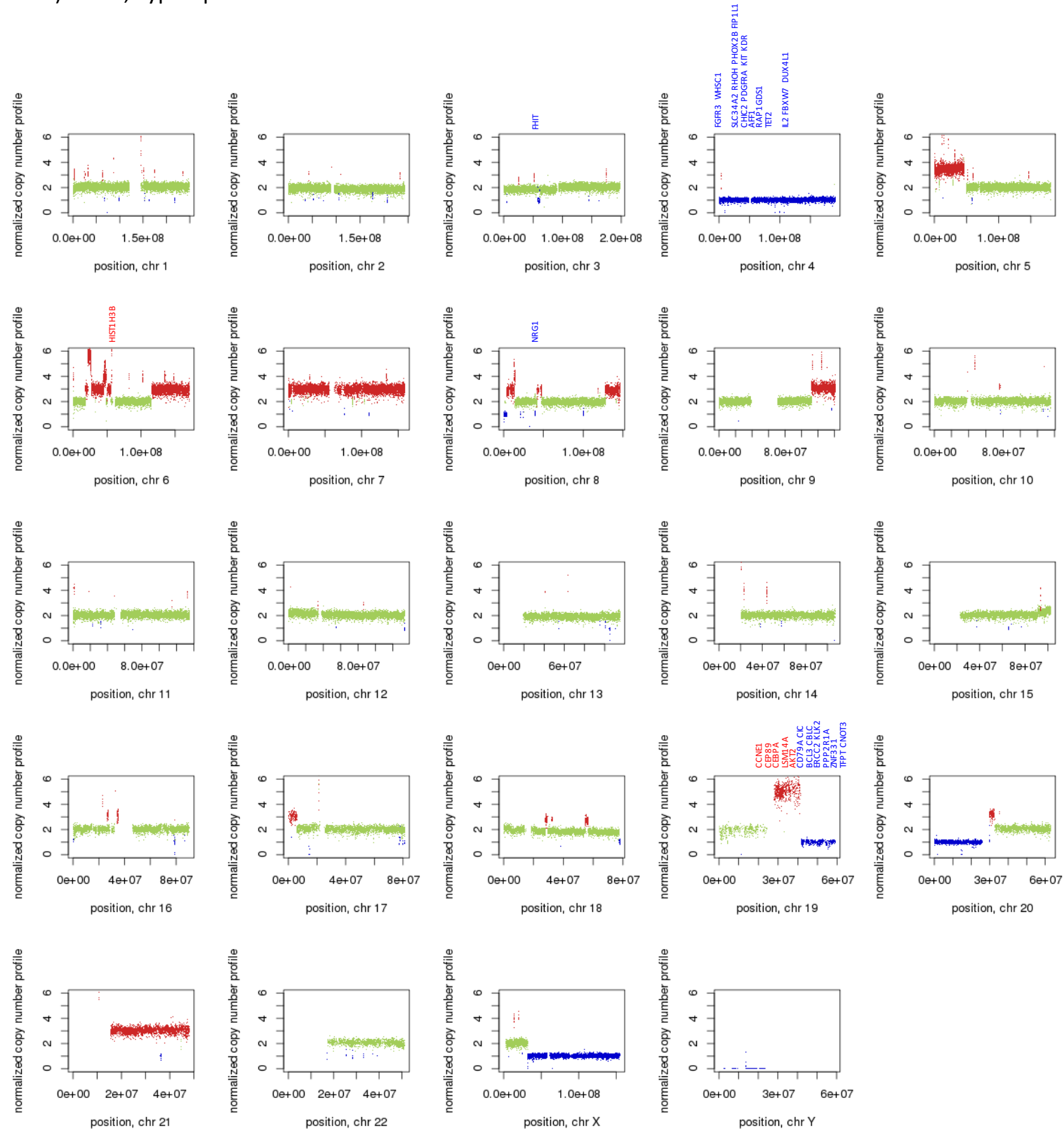


ESO-51				
chr_CN	start_CN	end_CN	copynumber	Loss/gain Gene symbol
1	61550000	72760000	4	gainJAK1
1	72810000	85980000	4	gainFUBP1 BCL10
1	86010000	112850000	4	gainRPL5 RBM15
1	145110000	152550000	4	gainBCL9 PDE4DIP ARNT MLLT11
1	152770000	189330000	4	gainTPM3 MUC1 LMNA PRCC NTRK1 FCRL4 SDHC FCGR2B PBX1 PRRX1 ABL2 TPR
2	0	22410000	2	lossMYCN
2	22410000	34700000	4	gainC2orf44 NCOA1 DNMT3A ALK
2	34730000	50880000	4	gainSTRN EML4 MSH2 MSH6 FBXO11
2	51080000	89880000	4	gainBCL11A REL XPO1 DCTN1
2	98530000	107790000	2	lossAFF3
2	107790000	115000000	4	gainRANBP2 TTL PAX8
2	187500000	243199373	2	lossPMS1 SF3B1 CASP8 CREB1 IDH1 ATIC FEV PAX3 ACSL3
3	37850000	42210000	7	gainMYD88 CTNNB1
3	42210000	48480000	2	lossSETD2
3	48630000	59540000	2	lossNCKIPSD RHOA BAP1 PBRM1 CACNA1D
3	59720000	60540000	1	lossFHIT
3	66120000	73690000	2	lossMITF FOXP1
3	174730000	183850000	4	gainTBL1XR1 PIK3CA SOX2
3	185060000	185540000	6	gainMAP3K13 ETV5 EIF4A2 BCL6 LPP
3	193860000	198022430	6	gainTFRC
4	70000	3580000	2	lossFGFR3 WHSC1
4	10230000	34790000	2	lossSLC34A2
4	34820000	64040000	2	lossRHOH PHOX2B FIP1L1 CHIC2 PDGFRA KIT KDR
4	79510000	91640000	2	lossAFF1
4	92780000	102650000	2	lossRAP1GDS1
5	1170000	1340000	6	gainTERT
5	21570000	36180000	2	lossIL7R
5	36870000	88980000	2	lossLIFR IL6ST MAP3K1 PIK3R1
5	89500000	119740000	2	lossAPC
5	170900000	180380000	4	gainRANBP17 TLX3 NPM1 FGFR4 NSD1
5	180400000	180915260	4	gainFLT4
6	370000	26010000	2	lossIRF4 DEK
6	26010000	26290000	1	lossHIST1H3B
6	26290000	57210000	2	lossHIST1H4I TRIM27 HLA POU5F1 DAXX HMGA1 FANCE SRSF3 PIM1 TFEB CCND3 HSP90AB1 NFKBIE
6	89520000	112930000	2	lossPRDM1 FOXO3
7	27130000	27260000	2	lossHOXA9 HOXA11 HOXA13
7	116170000	117520000	50	gainMET MET
7	117520000	159138663	2	lossPOT1 SND1 SMO CREB3L2 TRIM24 KIAA1549 BRAF FAM131B EZH2 KMT2C MNX1
8	17700000	18080000	5	gainPCM1
8	30730000	32400000	5	gainWRN
8	42750000	43740000	11	gainHOOK3
8	50270000	81510000	2	lossTCEA1 PLAG1 CHCHD7 NCOA2 HEY1
8	81510000	109090000	4	gainNBN RUNX1T1 COX6C UBR5 RSPO2 EIF3E
8	109260000	127440000	4	gainRAD21 EXT1
8	127440000	127910000	8	gainMYC
8	132150000	146364022	4	gainNDRG1 RECQL4
9	0	21080000	2	lossJAK2 CD274 PDCD1LG2 NFIB PSIP1 MLLT3
9	21120000	78000000	2	lossCDKN2a(p14) CDKN2A FANCG PAX5 GNAQ
9	78000000	78010000	1	lossGNAQ
9	78010000	82990000	2	lossGNAQ
9	83010000	95970000	2	lossSYK OMD FNBP1 FANCC
9	96080000	98260000	2	lossXPA
9	98280000	104710000	2	lossNR4A3
9	104730000	118910000	2	lossKLF4 TAL2
9	118920000	130890000	2	lossCNTRL PPP6C SET ABL1
9	130900000	136420000	2	lossNUP214 TSC1 RALGDS BRD3
9	136460000	140770000	2	lossNOTCH1
10	0	32670000	4	gainKLF6 GATA3 MLLT10 ABI1 KIF5B HRAS CARS NUP98 LMO1 MYOD1 FANCF WT1 LMO2 EXT2 CREB3L1 DDB2
11	48390000	69020000	2	lossCLP1 SDHAF2 MEN1 MALAT1
11	69360000	69680000	5	gainCCND1 NUMA1 PICALM MAML2 BIRC3 ATM DDX10 POU2AF1 SDHD ZBTB16 PAFAH1B2 PCSK7
11	118390000	118530000	8	gainKMT2A
11	118670000	125520000	2	lossDDX6 CBL ARHGEF12
11	125650000	135006516	2	lossFLI1 KCNJ5
13	0	63630000	2	lossZNF198 CDX2 FLT3 BRCA2 LHFP FOXO1 LCP1 RB1
13	100650000	115169878	2	lossERCC5
14	66850000	67010000	2	lossGPHN

ESO-51				
chr_C N	start_CN	end_CN	copynumbe r	Loss/gai n Gene symbol
15	33420000	34650000	4	gainNUTM1
15	35990000	43040000	2	lossBUB1B
15	35990000	43040000	2	lossCASC5
15	49660000	52560000	2	lossMYO5A
15	54710000	57560000	2	lossTCF12
15	62420000	67870000	2	lossMAP2K1
15	84200000	88480000	2	lossNTRK3
15	88480000	92540000	4	gainIDH2 CRTC3 BLM
16	0	8030000	2	lossAXIN1 TSC2 TRAF7 CREBBP
16	8030000	19950000	4	gainGRIN2A CIITA SOCS1 RMI2 TNFRSF17 RUNDC2A ERCC4 MYH11
16	22710000	32550000	4	gainPALB2 IL21R FUS
17	31990000	32260000	4	gainSUZ12
17	37250000	43720000	4	gainLASP1 CDK12 ERBB2 RARA SMARCE1 STAT5B STAT3 BRCA1 ETV4
17	47100000	57690000	4	gainSPOP COL1A1 HLF MSI2
17	77460000	77490000	2	lossSep
18	20710000	78077248	2	lossSMAD4 ZNF521 SS18 SETBP1 MALT1 BCL2 KDSR
19	23700000	54040000	4	gainCCNE1 CEP89 CEBPA LSM14A AKT2 CD79A CIC BCL3 CBLC ERCC2 KLK2 PPP2R1A ZNF331
20	41130000	42460000	4	gainPLCG1
20	43980000	46910000	4	gainSDC4
20	49170000	52890000	10	gainNFATC2
20	52920000	60040000	4	gainGNAS
20	60950000	62660000	4	gainSS18L1
21	32180000	48129895	2	lossOLIG2 RUNX1 ERG TMPRSS2 U2AF1
X	7780000	61920000	1	lossZRSR2 BCOR KDM6A SSX1 SSX4 WAS GATA1 TFE3 SSX2 KDM5C
X	61920000	67120000	2	lossAMER1 MSN
X	67130000	117350000	2	lossFOXO4 FOXO4 MED12 NONO ATRX
X	117370000	120990000	2	lossSep
X	121010000	155270560	2	lossSTAG2 ELF4 GPC3 PHF6 ATP2B3 RPL10 MTCP1

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4) FLO-1, hypodiploid

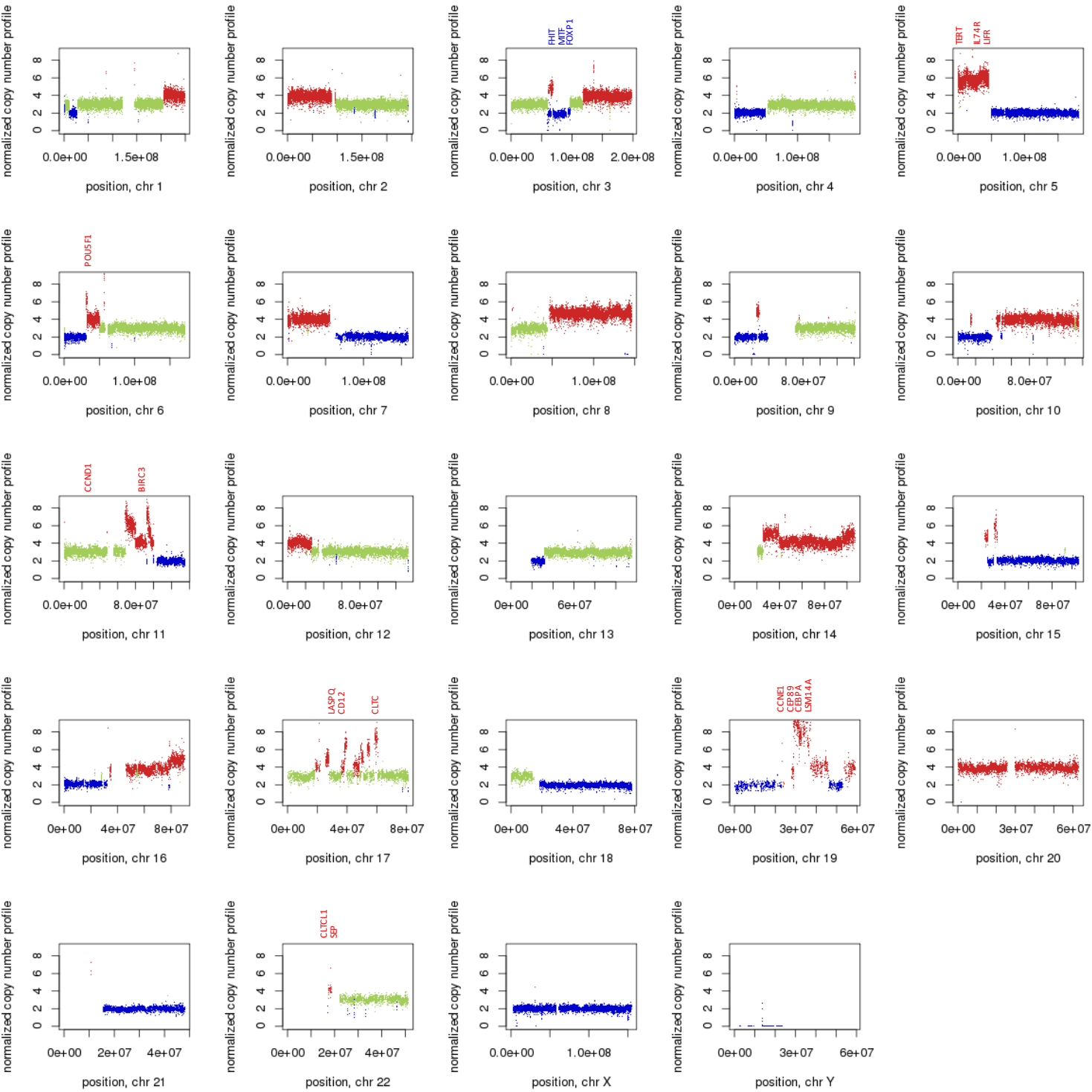


FLO-1

chr_CN	start_CN	end_CN	copynumber	Loss/gain	
3	59750000	60160000	1 loss	FHIT	
4	70000	3580000	1 loss	FGFR3 WHSC1	
4	10230000	68260000	1 loss	SLC34A2 RHOH PHOX2B FIP1L1 CHIC2 PDGFRA KIT KDR	
4	68270000	91840000	1 loss	AFF1	
4	91990000	99290000	1 loss	RAP1GDS1	
4	99370000	107290000	1 loss	TET2	
4	107620000	190200000	1 loss	IL2 FBXW7 DUX4L1	
5	0	1870000	4 gain		
5	31810000	45870000	4 gain	IL7R LIFR	
6	25750000	26660000	5 gain	HIST1H3B	
6	26660000	32410000	3 gain	HIST1H4I TRIM27 HLA POU5F1	
6	32680000	45320000	3 gain	DAXX HMGA1 FANCE SRSF3 PIM1 TFEB CCND3 HSP90AB1 NFKBIE	
6	115300000	134630000	3 gain	ROS1 GOPC RSPO3 PTPRK MYB TNFAIP3 ECT2L	
6	148600000	171115067	3 gain	ESR1 ARID1B EZR FGFR1OP MLLT4	
7	1710000	3740000	3 gain	CARD11	
7	5470000	20810000	3 gain	PMS2 RAC1 ETV1	
7	20840000	27130000	3 gain	HNRNPA2B1	
7	27290000	28650000	3 gain	JAZF1	
7	28740000	77140000	3 gain	IKZF1 EGFR SBDS ELN HIP1	
7	88120000	96620000	3 gain	AKAP9 CDK6	
7	96660000	104020000	3 gain	TRRAP CUX1	
7	110820000	134080000	3 gain	MET POT1 SND1 SMO	
7	134200000	159138663	3 gain	CREB3L2 TRIM24 KIAA1549 BRAF FAM131B EZH2 KMT2C MNX1	
8	32680000	32690000	0 loss	NRG1	
8	42140000	47450000	3 gain	IKBK3 HOOK3	
8	127840000	141240000	3 gain	NDRG1	
8	141350000	144990000	3 gain	RECQL4	
9	113440000	124000000	3 gain	CNTRL	
9	124140000	126760000	3 gain	PPP6C SET ABL1 NUP214 TSC1 RALGDS BRD3 NOTCH1	
17	0	1950000	3 gain	YWHAE	
17	1960000	5830000	3 gain	USP6 RABEP1	
17	77460000	77490000	1 loss	Sep	
19	28220000	33160000	5 gain	CCNE1 CEP89	
19	33170000	41310000	5 gain	CEBPA LSM14A AKT2	
19	41310000	59128983	1 loss	CD79A CIC BCL3 CBLC ERCC2 KLK2 PPP2R1A ZNF331 TFPT CNOT3	
20	29890000	32590000	3 gain	ASXL1	
21	10810000	36190000	3 gain	OLIG2	
21	10810000	36190000	3 gain	RUNX1 ERG TMPRSS2 U2AF1	
X	32050000	64630000	1 loss	BCOR KDM6A SSX1 SSX4 WAS GATA1 TFE3 SSX2 KDM5C AMER1	
X	64640000	155270560	1 loss	MSN FOXO4 FOXO4 MED12 NONO ATRX Sep STAG2 ELF4 GPC3 PHF6 ATP2B3 RPL10	
X				MTCP1	

Supplementary Materials 1

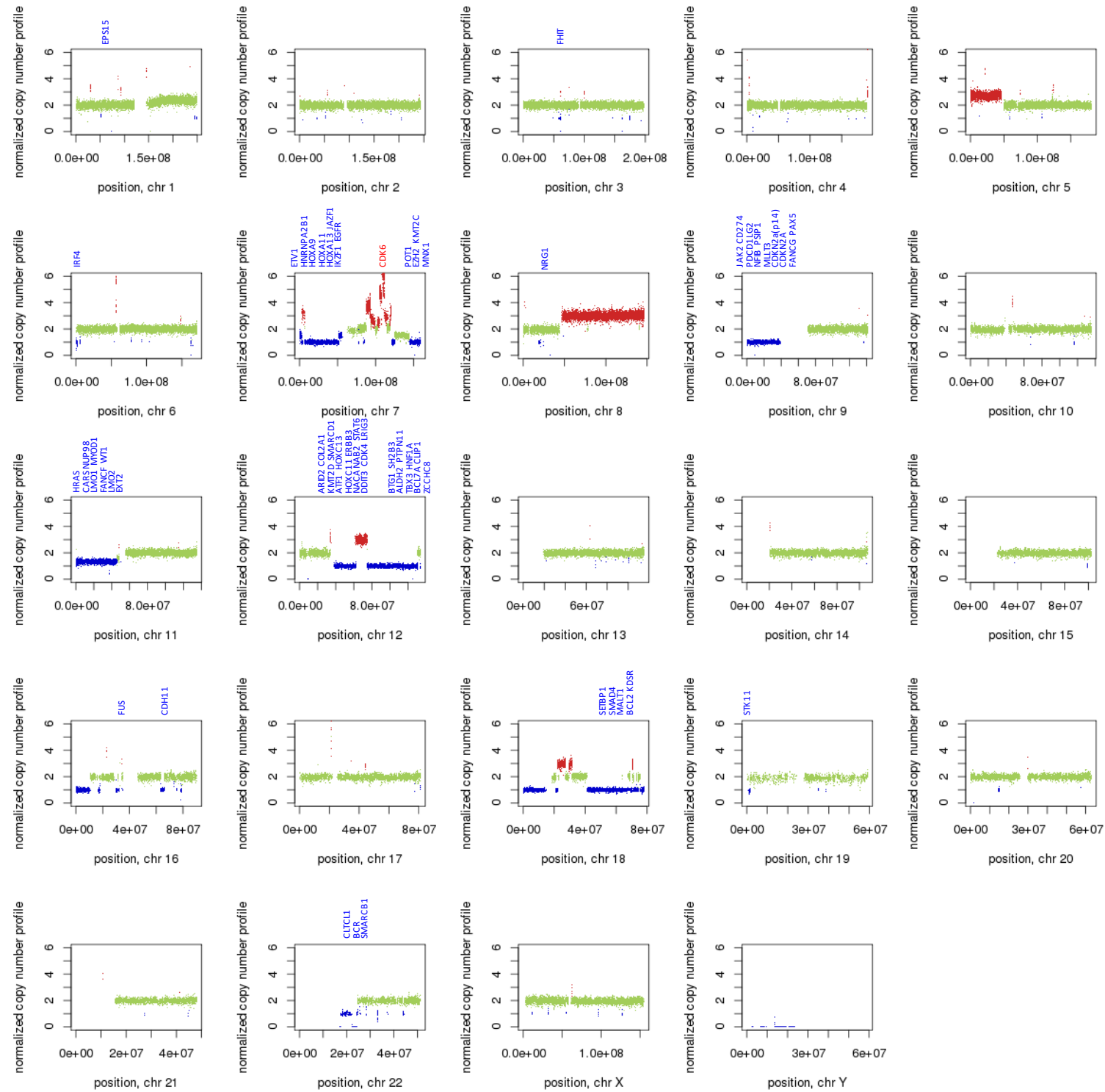
5) JH-EsoAd1, near triploid



Jh-EsoAd1					
chr_CN	start_CN	end_CN	copynumber	type	Genes in region
1	11340000	27190000		2loss	SPEN SDHB PAX7 MDS2 ARID1A
1	205110000	249250621		4gain	ELK4 SLC45A3 H3F3A FH
2	0	52750000		4gain	MYCN MYCN C2orf44 NCOA1 DNMT3A ALK STRN EML4 MSH2 MSH6 FBXO11
2	52790000	89880000		4gain	BCL11A BCL11A REL XPO1 DCTN1
3	60330000	60790000		0loss	FHIT MITF FOXP1
3	117880000	132090000		4gain	GATA2 RPN1 CNBP
3	135730000	162510000		4gain	FOXL2 ATR WWTR1 GMPS MLF1
3	162610000	198022430		4gain	MECOM
4	70000	3580000		2loss	FGFR3 WHSC1
4	3640000	34790000		2loss	SLC34A2
4	34820000	49070000		2loss	RHOH PHOX2B
5	530000	1720000		6gain	TERT
5	21570000	46310000		6gain	IL7R LIFR
5	46310000	180915260		2loss	IL6ST IL6ST MAP3K1 PIK3R1 APC ACSL6 AFF4 ARHGAP26 PDGFRB CD74 ITK EBF1 PWWP2A RANBP17 TLX3 NPM1 FGFR4 NSD1 FLT4
6	380000	31000000		2loss	IRF4 DEK DEK HIST1H3B HIST1H4I TRIM27 HLA
6	31000000	31280000		7gain	POU5F1
6	32410000	50640000		4gain	DAXX HMGA1 FANCE SRSF3 PIM1 TFEB CCND3 HSP90A1 NFKBIE
7	1290000	20810000		4gain	CARD11 PMS2 RAC1 ETV1
7	20840000	27130000		4gain	HNRNPA2B1
7	27290000	62840000		4gain	JAZF1 JAZF1 IKZF1 EGFR
7	62840000	110610000		2loss	SBDS ELN HIP1 AKAP9 CDK6 TRRAP CUX1
7	110750000	159138663		2loss	MET POT1 SND1 SMO CREB3L2 TRIM24 KIAA1549 BRAF FAM131B EZH2 KMT2C MNX1
8	46920000	132870000		5gain	TCEA1 PLAG1 CHCHD7 NCOA2 HEY1 NBN RUNX1T1 COX6C UBR5 RSPQ2 EIF3E RAD21 EXT1 MYC
8	132870000	137680000		4gain	NDRG1
8	141360000	146364022		5gain	RECQL4
9	0	21680000		2loss	JAK2 CD274 PDCD1LG2 NFIB PSIP1 MLLT3
9	21680000	22540000		0loss	CDKN2a(p14)
9	21680000	22540000		0loss	CDKN2A CDKN2A FANCG PAX5
10	0	10970000		2loss	KLF6 GATA3
10	15000000	39140000		2loss	MLLT10 ABI1 KIF5B
10	39140000	48330000		4gain	RET
10	49570000	83960000		4gain	NCOA4 CCDC6 TET1 PRF1 KAT6B NUTM2B
10	84230000	130320000		4gain	BMPRI1A NUTM2A PTEN FAS TLX1 NFKB2 SUFU NT5C2 VT1A TCF7L2 KIAA1598 FGFR2
11	69460000	70710000		7gain	CCND1
11	70710000	79490000		6gain	NUMA1
11	79490000	92090000		4gain	PICALM
11	94800000	96850000		5gain	MAML2
11	100560000	103590000		28gain	BIRC3
11	103590000	135006516		2loss	ATM DDX10 POU2AF1 SDHD ZBTB16 PAFAH1B2 PCSK7 KMT2A DDX6 CBL ARHGEF12 FLU1 KCNJ5
12	0	20840000		4gain	KDM5A ERC1 CCND2 ZNF384 ETV6 CDKN1B
12	21030000	26620000		4gain	ETNK1 KRAS
13	0	31780000		2loss	ZNF198 CDX2 FLT3
14	25300000	36970000		5gain	NKX2
14	37140000	38050000		5gain	FOXA1
14	45320000	95830000		4gain	NIN KTN1 MAX GPHN RAD51B TSHR TRIP11 GOLGA5 DICER1 TCL6 TCL1A
14	97390000	99780000		4gain	BCL11B
14	99780000	107349540		5gain	HSP90AA1 AKT1
15	33120000	90590000		2loss	NUTM1 BUB1B CASC5 MYO5A TCF12 MAP2K1 PML NTRK3 IDH2 CRT3
16	0	22420000		2loss	AXIN1 TSC2 TRAF7 CREBBP GRIN2A CIITA SOCS1 RMI2 TNFRSF17 RUNC2A ERCC4 MYH11
16	22710000	28080000		2loss	PALB2 IL21R
16	28830000	31940000		2loss	FUS
16	32560000	54070000		4gain	CYLD
16	55550000	78530000		4gain	HERPUD1 CDH11 CBFB CDH1
16	79230000	79660000		4gain	MAF CBFA2T3 FANCA
17	18220000	21190000		4gain	SPECC1
17	36150000	38140000		4gain	MLLT6
17	38620000	39650000		7gain	LASP1 CDK12
17	49350000	49630000		6gain	SPOP COL1A1
17	59570000	60660000		7gain	CLTC
17	77460000	77490000		1loss	Sep
18	18540000	78077248		2loss	SMAD4 ZNF521 SS18 SETBP1 MALT1 BCL2 KDSR

Jh-EsoAd1					
chr_CN	start_CN	end_CN	copynumber	type	Genes in region
19	0	23230000	2	loss	FSTL3 STK11 TCF3 GNA11 MAP2K2 SH3GL1 MLLT1 DNM2 SMARCA4 CALR LYL1 BRD4 TPM4 JAK3 ELL CRTC1
19	28980000	30710000	10	gain	CCNE1
19	32840000	35290000	9	gain	CEP89 CEBPA LSM14A
19	37370000	46140000	4	gain	AKT2 CD79A CIC BCL3 CBLC ERCC2
19	46140000	53590000	2	loss	KLK2 PPP2R1A ZNF331
19	53590000	59128983	4	gain	TFPT CNOT3
20	29830000	63025520	4	gain	ASXL1 MAFB TOP1 PLCG1 SDC4 NFATC2 GNAS SS18L1
21	10810000	41340000	2	loss	OLIG2 RUNX1 ERG
21	41350000	44690000	2	loss	TMPRSS2 U2AF1
22	18610000	20050000	16	gain	CLTCL1 Sep
X	7570000	25010000	2	loss	ZRSR2
X	40040000	150450000	2	loss	BCOR KDM6A SSX1 SSX4 WAS GATA1 TFE3 SSX2 KDM5C AMER1 MSN FOXO4 FOXO4 MED12 NONO ATRX Sep STAG2 ELF4 GPC3 PHF6
X	150890000	155270560	2	loss	ATP2B3 RPL10 MTCP1

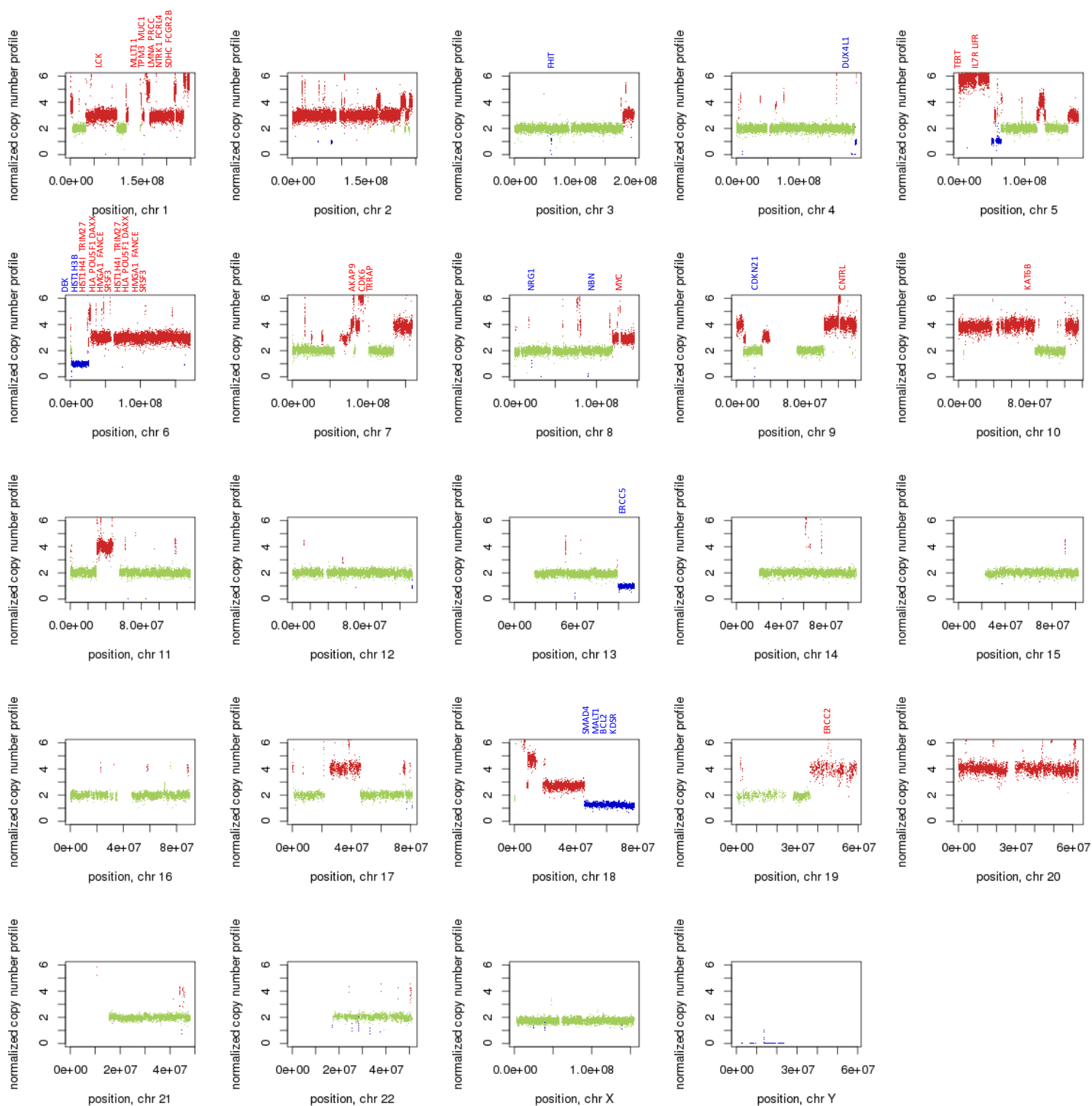
Supplementary Materials 1
6) OACM5.1 C, hypodiploid



OACM5.1

chr_CN	start_CN	end_CN	Copy number	Loss/gain	Gene symbol
1	51160000	51370000	1	loss	EPS15
3	60300000	60470000	1	loss	FHIT
3	60470000	60510000	0	loss	FHIT
3	60510000	60610000	1	loss	FHIT
5	0	12810000	3	gain	TERT
5	21570000	46310000	3	gain	IL7R LIFR
6	380000	1980000	1	loss	IRF4
7	0	2950000	1	loss	CARD11
7	2950000	3030000	3	gain	CARD11
7	3970000	6250000	3	gain	PMS2
7	6310000	6750000	3	gain	RAC1
7	6750000	56610000	1	loss	ETV1 HNRNPA2B1 HOXA9 HOXA11 HOXA13 JAZF1 IKZF1 EGFR
7	87760000	92720000	4	gain	AKAP9 CDK6
7	92720000	92890000	5	gain	CDK6
7	120930000	125600000	1	loss	POT1
7	144620000	159138663	1	loss	EZH2 KMT2C MNX1
8	32680000	32690000	0	loss	NRG1
8	48210000	77900000	3	gain	TCEA1 PLAG1 CHCHD7 NCOA2
8	78120000	106690000	3	gain	HEY1 NBN RUNX1T1 COX6C UBR5
8	106840000	140740000	3	gain	RSPO2 EIF3E RAD21 EXT1 MYC NDRG1
8	140830000	146364022	3	gain	RECQL4
9	0	9400000	1	loss	JAK2 CD274 PDCD1LG2
9	9700000	38770000	1	loss	NFIB PSIP1 MLLT3 CDKN2a(p14) CDKN2A FANCG PAX5
11	0	1010000	1	loss	HRAS
11	1020000	37500000	1	loss	CARS NUP98 LMO1 MYOD1 FANCF WT1 LMO2
11	37550000	45630000	1	loss	EXT2
12	34760000	61280000	1	loss	ARID2 COL2A1 KMT2D SMARCD1 ATF1 HOXC13 HOXC11 ERBB3 NACA NAB2 STAT6 DDIT3 CDK4 LRIG3
12	62640000	74640000	3	gain	WIF1 HMGA2 MDM2 PTPRB
12	74650000	124830000	1	loss	BTG1 SH2B3 ALDH2 PTPN11 TBX3 HNF1A BCL7A CLIP1 ZCCHC8
14	0	20400000	4	gain	CCNB1IP1 AXIN1 TSC2 TRAF7 CREBBP GRIN2A
16	29800000	31220000	1	loss	FUS
16	63500000	66070000	1	loss	CDH11
17	77460000	77490000	1	loss	Sep
18	22970000	27270000	3	gain	ZNF521 SS18
18	41080000	64030000	1	loss	SETBP1 SMAD4 MALT1 BCL2 KDSR
19	880000	1480000	1	loss	STK11
22	0	22150000	1	loss	CLTCL1 Sep
22	22150000	24120000	0	loss	BCR SMARCB1

7) OACP4 C, ~diploid (53-57 Chromosomes)

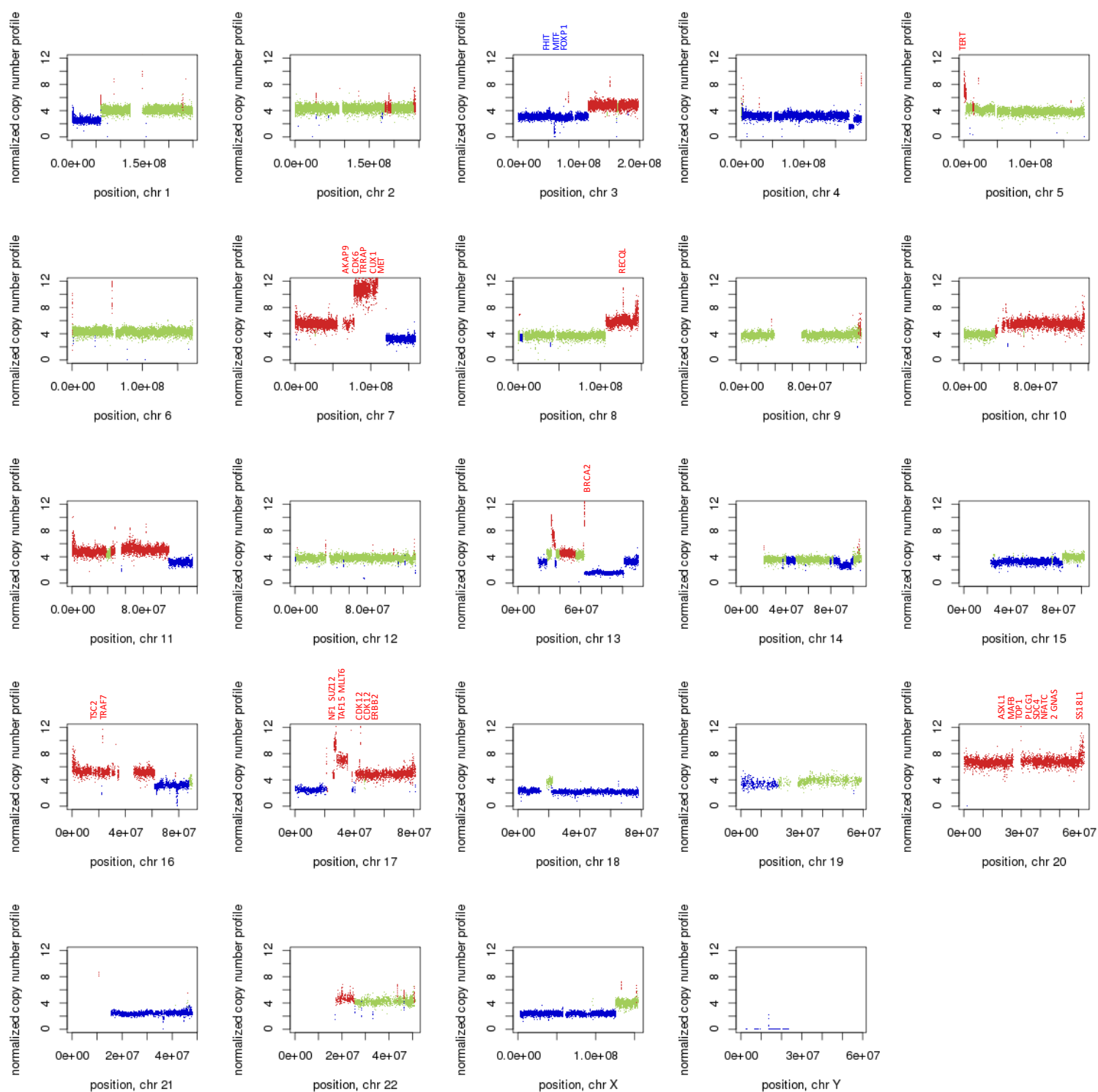


OACP4-C				
chr_CN	start_CN	end_CN	Copy number	Loss/gain
1	1290000	5660000	4	gainTNFRSF14 PRDM16
1	32090000	32330000	7	gainLCK
1	33240000	41340000	3	gainSFPQ THRAP3 CSF3R MYCL
1	43320000	72770000	3	gainMPL MUTYH TAL1 STIL CDKN2C EPS15 JUN JAK1
1	72810000	85980000	3	gainFUBP1 BCL10
1	86010000	96470000	3	gainRPL5
1	116020000	116700000	5	gainATP1A1 FAM46C NOTCH2
1	147390000	150970000	3	gainBCL9 PDE4DIP ARNT
1	150970000	151290000	7	gainMLLT11
1	153730000	158900000	7	gainTPM3 MUC1 LMNA PRCC NTRK1 FCRL4
1	158900000	164500000	5	gainSDHC FCGR2B
1	164500000	178910000	3	gainPBX1 PRRX1
1	179030000	215260000	3	gainABL2 TPR CDC73 PTPRC MDM4 ELK4 SLC45A3
1	219270000	234630000	3	gainH3F3A
1	239770000	242030000	8	gainFH
2	0	20150000	3	gainMYCN
2	20610000	25950000	3	gainC2orf44 NCOA1 DNMT3A
2	26440000	52750000	3	gainALK STRN EML4 MSH2 MSH6 FBXO11
2	54960000	62750000	3	gainBCL11A REL
2	54960000	62750000	3	gainXPO1
2	65550000	79400000	3	gainDCTN1
2	99520000	105940000	3	gainAFF3
2	106310000	131480000	3	gainRANBP2 TTL PAX8 ERCC3
2	153610000	170000000	3	gainACVR1
2	172150000	176930000	4	gainCHN1 HOXD13 HOXD11
2	177040000	178680000	4	gainNFE2L2
2	178680000	205450000	3	gainPMS1 SF3B1 CASP8
2	206280000	219020000	3	gainCREB1 IDH1 ATIC FEV
2	219020000	227580000	4	gainPAX3 ACSL3
3	60410000	60440000	1	lossFHIT
3	60470000	60590000	0	lossFHIT
3	179090000	184270000	3	gainPIK3CA SOX2
3	184560000	192880000	3	gainMAP3K13 ETV5 EIF4A2 BCL6 LPP
3	192890000	198022430	3	gainTFRC
4	189600000	190540000	1	lossDUX4L1
5	670000	1560000	15	gainTERT
5	30240000	49610000	6	gainIL7R LIFR
5	53810000	56610000	3	gainIL6ST MAP3K1
5	165540000	180915260	3	gainRANBP17 TLX3 NPM1 FGFR4 NSD1 FLT4
6	1840000	24220000	1	lossDEK
6	24800000	26110000	1	lossHIST1H3B
6	26350000	29370000	5	gainHIST1H4I TRIM27 HLA POU5F1 DAXX HMGA1 FANCE SRSF3
6	37000000	44200000	3	gainPIM1 TFEB CCND3
6	44200000	44260000	5	gainHSP90AB1 NFKBIE
6	44260000	46980000	3	gainNFKBIE
6	79040000	107110000	3	gainPRDM1
6	107310000	145850000	3	gainFOXO3 ROS1 GOPC RSPO3 PTPRK MYB TNFAIP3 ECT2L
6	145980000	162650000	3	gainESR1 ARID1B EZR
6	162690000	171115067	3	gainFGFR1OP MLLT4
7	62830000	77360000	3	gainSBDS ELN HIP1
7	90390000	94280000	6	gainAKAP9 CDK6
7	98260000	99150000	14	gainTRRAP
7	134530000	150660000	4	gainCREB3L2 TRIM24 KIAA1549 BRAF FAM131B EZH2
7	150970000	157930000	4	gainKMT2C MNX1
8	32680000	32690000	0	lossNRG1
8	89850000	90160000	0	lossNBN
8	116610000	116950000	4	gainRAD21
8	127300000	128630000	7	gainMYC
8	129580000	146364022	3	gainNDRG1 RECQL4
9	0	7920000	4	gainJAK2 CD274 PDCD1LG2
9	21860000	22050000	0	lossCDKN2a(p14) CDKN2A
9	30860000	38770000	3	gainFANCG PAX5
9	104730000	113020000	4	gainKLF4 TAL2
9	120180000	121930000	6	gainCNTRL
9	124600000	130280000	4	gainPPP6C SET
9	130660000	136420000	4	gainABL1 NUP214 TSC1 RALGDS BRD3
9	136450000	139740000	4	gainNOTCH1

OACP4-C				
chr_CN	start_CN	end_CN	Copy number	Loss/gain
10	0	5810000	4	gain KLF6
10	6250000	46970000	4	gain GATA3 MLLT10 ABI1 KIF5B RET
10	47150000	73730000	4	gain NCOA4 CCDC6 TET1 PRF1
10	73730000	75080000	8	gain KAT6B
10	75080000	86100000	4	gain NUTM2B
10	121040000	135534747	4	gain FGFR2
11	31850000	33870000	4	gain WT1 LMO2
11	34700000	46140000	4	gain EXT2
11	46150000	46740000	4	gain CREB3L1
11	47010000	47410000	4	gain DDB2
11	61340000	61520000	4	gain SDHAF2
11	118080000	118670000	4	gain KMT2A
13	99310000	115169878	1	loss ERCC5
17	28660000	37680000	4	gain NF1 SUZ12 TAF15 MLLT6
17	38710000	39790000	4	gain LASP1 CDK12 ERBB2
17	39820000	46010000	4	gain RARA SMARCE1 STAT5B STAT3 BRCA1 ETV4
17	75500000	76350000	4	gain H3F3B
17	77460000	77490000	1	loss Sep
18	19690000	45690000	3	gain ZNF521 SS18 SETBP1
18	45690000	78077248	1	loss SMAD4 MALT1 BCL2 KDSR
19	3050000	3210000	4	gain GNA11
19	36270000	44930000	4	gain AKT2 CD79A CIC BCL3 CBLC
19	44930000	45500000	6	gain ERCC2
19	45500000	54400000	4	gain KLK2 PPP2R1A ZNF331 TFPT CNOT3
20	29830000	34020000	4	gain ASXL1
20	35490000	43900000	4	gain MAFB TOP1 PLCG1
20	44100000	48810000	4	gain SDC4
20	48960000	57460000	4	gain NFATC2
20	58500000	60630000	4	gain GNAS
20	61420000	63025520	4gain	SS18L1

Supplementary Materials 1

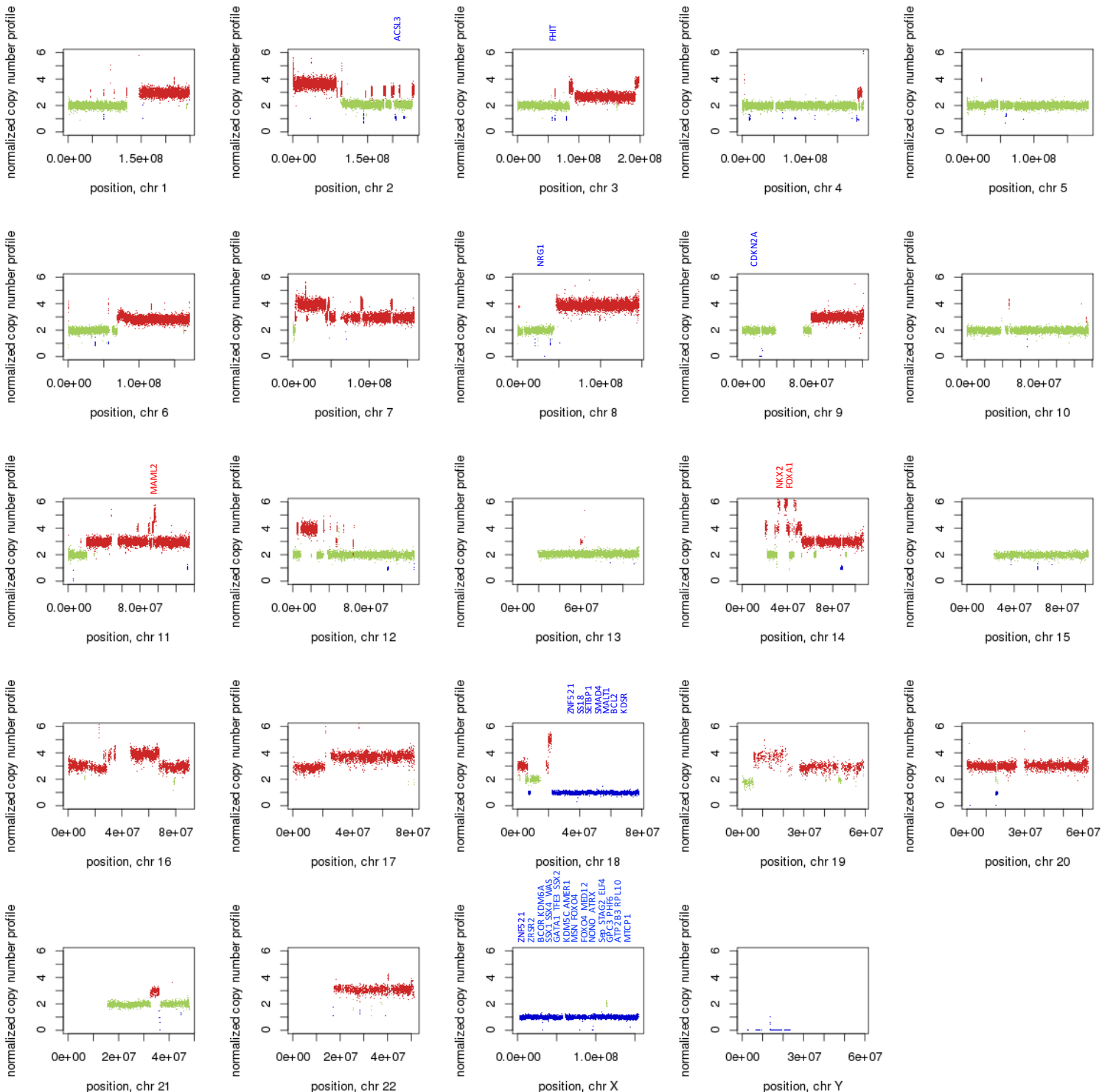
8) OE33, hypothetraploid



OE33					
chr_CN	start_CN	end_CN	Copy number	Loss/gain	Gene symbol
1	0	47660000	3	loss	TNFRSF14 PRDM16 RPL22 CAMTA1 SPEN SDHB PAX7 MD52 ARID1A LCK SFPQ THRAP3 CSF3R MYCL MPL MUTYH TAL1 STIL
1	47660000	59230000	2	loss	CDKN2C EPS15 JUN
2	186610000	190380000	5	gain	PMS1
3	0	60030000	3	loss	SRGAP3 FANCD2 VHL PPARG RAF1 XPC MLH1 MYD88 CTNNB1 SETD2 NCKIPSD RHOA BAP1 PBRM1 CACNA1D FHIT
3	60030000	60120000	2	loss	FHIT
3	60120000	60360000	1	loss	FHIT
3	60360000	60590000	0	loss	FHIT
3	60630000	78280000	3	loss	MITF FOXP1
3	83680000	115010000	3	loss	TFG CBLB
3	126760000	147070000	5	gain	GATA2 RPN1 CNBP FOXL2 ATR
3	147150000	151500000	5	gain	WWTR1
3	151710000	162520000	5	gain	GMPS MLF1 MLF1
3	165570000	181410000	5	gain	MECOM TBL1XR1 PIK3CA
3	181450000	198022430	5	gain	SOX2 MAP3K13 ETV5 EIF4A2 BCL6 LPP TFRC
4	1790000	3430000	3	loss	FGFR3 WHSC1
4	10230000	29320000	3	loss	SLC34A2 RHOH PHOX2B FIP1L1 CHIC2 PDGFRA KIT KDR
4	68270000	171350000	3	loss	AFF1 RAP1GDS1 TET2 IL2 FBXW7
5	550000	1520000	8	gain	TERT
7	1290000	27130000	6	gain	CARD11 PMS2 RAC1 ETV1 HNRNPA2B1
7	27290000	36990000	6	gain	JAZF1
7	48600000	71180000	5	gain	IKZF1 EGFR SBDS
7	71180000	78000000	6	gain	ELN HIP1
7	87290000	92460000	11	gain	AKAP9
7	92470000	96620000	11	gain	CDK6
7	96660000	99700000	11	gain	TRRAP
7	101460000	106830000	11	gain	CUX1
7	115760000	120120000	21	gain	MET
7	120130000	159138663	3	loss	POT1 SND1 SMO CREB3L2 TRIM24 KIAA1549 BRAF FAM131B EZH2 KMT2C MNX1
8	106620000	128160000	6	gain	RSPO2 EIF3E RAD21 EXT1 MYC
8	128350000	136120000	6	gain	NDRG1
8	142320000	145840000	7	gain	RECQL4
10	35440000	46970000	5	gain	RET
10	49540000	59270000	5	gain	NCOA4
10	59270000	67570000	6	gain	CCDC6
10	67750000	68730000	5	gain	TET1
10	68730000	83420000	6	gain	PRF1 KAT6B NUTM2B
10	85070000	107410000	6	gain	BMPR1A NUTM2A PTEN FAS TLX1 NFKB2 SUFU NTSC2
10	109920000	130320000	6	gain	VTI1A TCF7L2 KIAA1598 FGFR2
11	0	1010000	6	gain	HRAS
11	1440000	26270000	5	gain	CARS NUP98 LMO1 MYOD1 FANCF
11	26410000	38090000	5	gain	WT1 LMO2
11	43710000	48340000	5	gain	EXT2 CREB3L1 DDB2
11	55450000	65140000	5	gain	CLP1 SDHAF2 MEN1
11	65430000	83450000	5	gain	MALAT1 CCND1 NUMA1
11	83500000	108260000	5	gain	PICALM MAML2 BIRC3 ATM
11	108260000	135006516	3	loss	ATM DDX10
11	108260000	135006516	3	loss	POU2AF1 POU2AF1 SDHD ZBTB16 PAFAH1B2 PCSK7 KMT2A DDX6 CBL ARHGEF12 FLI1 KCNJ5
12	121950000	122270000	3	loss	BCL7A
13	0	27630000	3	loss	ZNF198
13	31850000	32470000	10	gain	BRCA2
13	40270000	54510000	5	gain	FOXO1 LCP1 RB1
13	101090000	115169878	3	loss	ERCC5
14	0	20400000	5	gain	CCNB1IP1
14	82470000	99980000	3	loss	TRIP11 GOLGA5 DICER1 TCL6 TCL1A BCL11B
15	29820000	42120000	3	loss	NUTM1 BUB1B CASC5
15	50100000	74440000	3	loss	MYO5A TCF12 MAP2K1 PML

OE33					Gene symbol
chr_CN	start_CN	end_CN	Copy number	Loss/gain	
16	0	1140000	6	gain	AXIN1
16	1760000	2340000	7	gain	TSC2 TRAF7
16	2340000	22320000	5	gain	CREBBP GRIN2A CIITA SOCS1 RMI2 TNFRSF17 RUNDC2A ERCC4 MYH11
16	22710000	32550000	5	gain	PALB2 IL21R FUS
16	32570000	61810000	5	gain	CYLD HERPUD1
16	61810000	77660000	3	loss	CDH11 CBFB CDH1
16	79090000	87680000	3	loss	MAF
17	0	21180000	2	loss	YWHAE USP6 RABEP1 TP53 PER1 GAS7 MAP2K4 NCOR1 FLCN SPECC1
17	28170000	35610000	7	gain	NF1 SUZ12
17	35610000	37790000	20	gain	TAF15 MLLT6
17	38720000	39440000	3	loss	LASP1
17	39440000	39510000	72	gain	CDK12
17	39510000	40060000	51	gain	CDK12 ERBB2
17	40060000	40470000	3	loss	RARA SMARCE1 STAT5B STAT3 BRCA1
17	43480000	44190000	5	gain	ETV4
17	47110000	77460000	5	gain	SPOP COL1A1 HLF MSI2 RNF43 CLTC BRIP1 CD79B DDX5 AXIN2 PRKAR1A H3F3B SRSF2 Sep
17	77460000	77490000	2	loss	Sep
17	77490000	79010000	5	gain	Sep CANT1
17	79140000	81110000	5	gain	RNF213
18	22380000	36990000	2	loss	ZNF521 SS18
18	40680000	65360000	2	loss	SETBP1 SMAD4 MALT1 BCL2 KDSR
19	0	18340000	3	loss	FSTL3 STK11 TCF3 GNA11 MAP2K2 SH3GL1 MLLT1 DNM2 SMARCA4 CALR LYL1 BRD4 TPM4 JAK3
20	29830000	60900000	7	gain	ASXL1 MAFB TOP1 PLCG1 SDC4 NFATC2 GNAS
20	61780000	62360000	8	gain	SS18L1
21	32130000	36230000	2	loss	OLIG2 RUNX1
21	36290000	41340000	2	loss	ERG
21	41350000	44690000	3	loss	TMPRSS2 U2AF1
22	17280000	20120000	5	gain	CLTCL1 Sep
22	20250000	23420000	5	gain	BCR
22	23460000	25340000	5	gain	SMARCB1
X	0	96080000	2	loss	ZRSR2 BCOR KDM6A SXX1 SXX4 WAS GATA1 TFE3 SXX2 KDM5C AMER1 MSN FOXO4 FOXO4 MED12 NONO ATRX
X	96110000	125840000	2	loss	Sep STAG2

9) SK-GT-4, ~ diploid (mode 59)



SKGT-4

chr_CN	start_CN	end_CN	copynumber	type	Genes in region
1	119740000	144920000		3gain	NOTCH2
1	145110000	152550000		3gain	BCL9 PDE4DIP ARNT MLLT11
1	152580000	217160000		3gain	TPM3 MUC1 LMNA PRCC NTRK1 FCRL4 SDHC FCGR2B PBX1 PRRX1 ABL2 TPR CDC73 PTPRC MDM4 ELK4 SLC45A3
1	217290000	234910000		3gain	H3F3A
1	234920000	243030000		3gain	FH
2	7170000	34700000		4gain	MYCN C2orf44 NCOA1 DNMT3A ALK
2	35990000	37960000		4gain	STRN
2	38000000	88330000		4gain	EML4 MSH2 MSH6 FBXO11 BCL11A REL XPO1 DCTN1
2	156790000	158880000		3gain	ACVR1
2	196760000	203360000		3gain	SF3B1 CASP8
2	222670000	223010000		1loss	ACSL3
3	60530000	60720000		1loss	FHIT
3	83910000	162510000		3gain	TFG CBLB GATA2 RPN1 CNBP FOXL2 ATR WWTR1 GMPS MLF1
3	162620000	192190000		3gain	MECOM TBL1XR1 PIK3CA SOX2 MAP3K13 ETV5 EIF4A2 BCL6 LPP
3	192190000	198022430		4gain	TFRC
6	69380000	117630000		3gain	PRDM1 FOXO3 ROS1 GOPC
6	117960000	136580000		3gain	RSPO3 PTPRK MYB
6	136600000	163060000		3gain	TNFAIP3 ECT2L ESR1 ARID1B EZR
6	163270000	171115067		3gain	FGFR1OP MLLT4
7	2740000	3570000		3gain	CARD11
7	3890000	16760000		4gain	PMS2 RAC1 ETV1
7	18870000	43150000		4gain	HNRNPA2B1 HOXA9 HOXA11 HOXA13 JAZF1
7	47980000	70420000		3gain	IKZF1 EGFR SBDS
7	70430000	88530000		3gain	ELN HIP1
7	91800000	128330000		3gain	AKAP9 CDK6 TRRAP CUX1 MET POT1 SND1
7	128330000	130790000		4gain	SMO
7	130790000	159138663		3gain	CREB3L2 TRIM24 KIAA1549 BRAF FAM131B EZH2 KMT2C MNX1
8	32680000	32690000		0loss	NRG1
8	51040000	57290000		4gain	TCEA1 PLAG1 CHCHD7
8	57320000	86840000		4gain	NCOA2 HEY1
8	86850000	99520000		4gain	NBN RUNX1T1
8	99790000	146364022		4gain	COX6C UBR5 RSPO2 EIF3E RAD21 EXT1 MYC NDRG1 RECQL4
9	20660000	22590000		0loss	CDKN2a(p14) CDKN2A
9	80340000	100250000		3gain	SYK OMD FNBP1 FANCC XPA NR4A3
9	100280000	130890000		3gain	KLF4 TAL2 CNTRL PPP6C SET ABL1
9	130900000	140780000		3gain	NUP214 TSC1 RALGDS BRD3 NOTCH1
11	20380000	29420000		3gain	FANCF
11	31850000	48340000		3gain	WT1 LMO2 EXT2 CREB3L1 DDB2
11	48390000	77130000		3gain	CLP1 SDHAF2 MEN1 MALAT1 CCND1 NUMA1
11	77920000	89180000		3gain	PICALM
11	95420000	97160000		5gain	MAML2
11	98190000	114420000		3gain	BIRC3 ATM DDX10 POU2AF1 SDHD ZBTB16
11	114440000	131550000		3gain	PAFAH1B2 PCSK7 KMT2A DDX6 CBL ARHGEF12 FLI1 KCNJ5
12	9250000	20150000		4gain	ETV6 CDKN1B
12	20290000	26610000		4gain	ETNK1 KRAS
14	0	21910000		4gain	CCNB1IP1
14	34940000	36850000		10gain	NKX2
14	36850000	37630000		8gain	FOXA1
14	47390000	52320000		4gain	NIN
14	52650000	63680000		3gain	KTN1
14	65520000	87260000		3gain	GPHN RAD51B TSHR
14	92150000	107349540		3gain	GOLGA5 DICER1 TCL6 TCL1A BCL11B HSP90AA1 AKT1

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chr_CN	start_CN	end_CN	copynumber	type	Genes in region
16	0	12190000	3gain		AXIN1 TSC2 TRAF7 CREBBP GRIN2A CIITA SOCS1 RMI2 TNFRSF17 RUNDC2A
16	12450000	22630000	3gain		ERCC4 MYH11
16	22710000	26400000	3gain		PALB2
16	26530000	27700000	3gain		IL21R
16	28120000	32550000	4gain		FUS CBFβ
16	32570000	67580000	4gain		CYLD HERPUD1 CDH11
16	67580000	78370000	3gain		CDH1
16	78980000	90354753	3gain		MAF CBFA2T3 FANCA
17	0	21190000	3gain		YWHAE USP6 RABEP1 TP53 PER1 GAS7 MAP2K4 NCOR1 FLCN SPECC1
17	22020000	44190000	4gain		NF1 SUZ12 TAF15 MLLT6 LASP1 CDK12 ERBB2 RARA SMARCE1 STAT5B STAT3 BRCA1 ETV4
17	46720000	81030000	4gain		SPOP COL1A1 HLF MSI2 RNF43 CLTC BRIP1 CD79B DDX5 AXIN2 PRKAR1A H3F3B SRSF2 Sep CANT1 RNF213
18	22010000	78077248	1loss		ZNF521 SS18 SETBP1 SMAD4 MALT1 BCL2 KDSR
19	5580000	10900000	4gain		MLLT1 DNM2
19	10950000	21780000	4gain		SMARCA4 CALR LYL1 BRD4 TPM4 JAK3 ELL CRTCL
19	21780000	40700000	3gain		CCNE1 CEP89 CEBPA LSM14A AKT2
19	40820000	46730000	3gain		CD79A CIC BCL3 CBLC ERCC2 KLK2 PPP2R1A ZNF331 TFPT CNOT3
20	29830000	63025520	3gain		ASXL1 MAFB TOP1 PLCG1 SDC4 NFATC2 GNAS SS18L1
21	32580000	36170000	3gain		OLIG2 RUNX1
22	17280000	25420000	3gain		CLTCL1 Sep BCR SMARCB1
22	25460000	28220000	3gain		MN1 CHEK2 EWSR1 NF2 ZNF278
22	33090000	37140000	3gain		MYH9
22	37750000	39360000	3gain		PDGFB
22	40170000	40520000	4gain		MKL1
22	40520000	51304566	3gain		EP300
X	0	31870000	1loss		ZRSR2
X	31990000	79160000	1loss		BCOR KDM6A SSX1 SSX4 WAS GATA1 TFE3 SSX2 KDM5C AMER1 MSN FOXO4 FOXO4 MED12 NONO ATRX
X	114400000	143630000	1loss		Sep STAG2 ELF4 GPC3 PHF6
X	143640000	155270560	1loss		ATP2B3 RPL10 MTCP1