

Performance of four modern whole genome amplification methods for copy number variant detection in single cells

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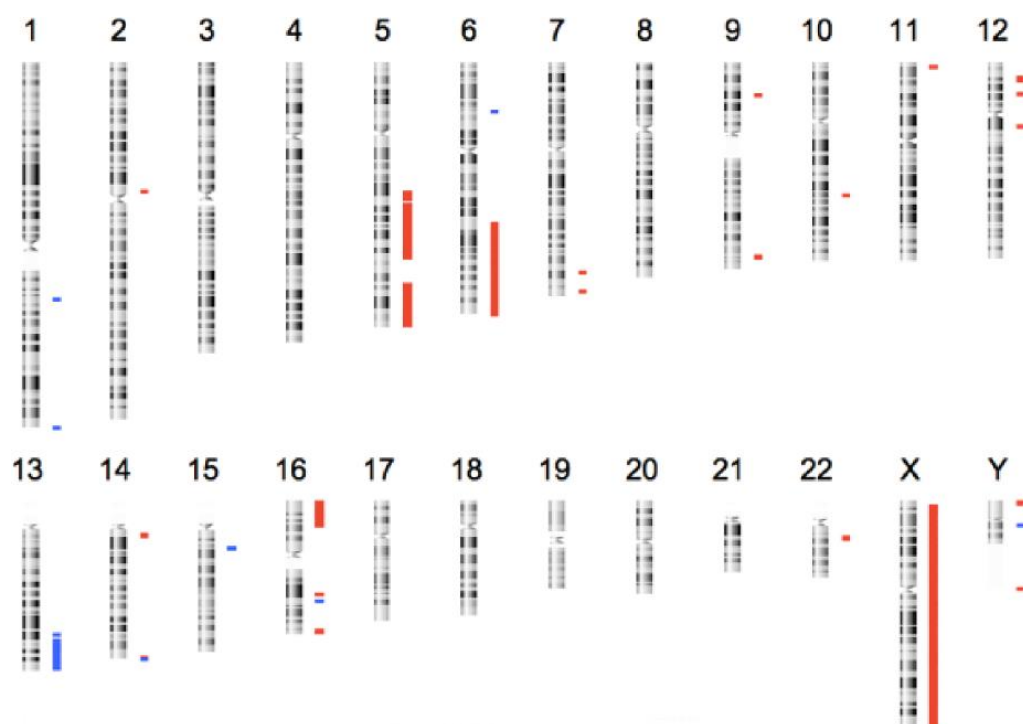
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#These authors contributed equally.

Contact information:

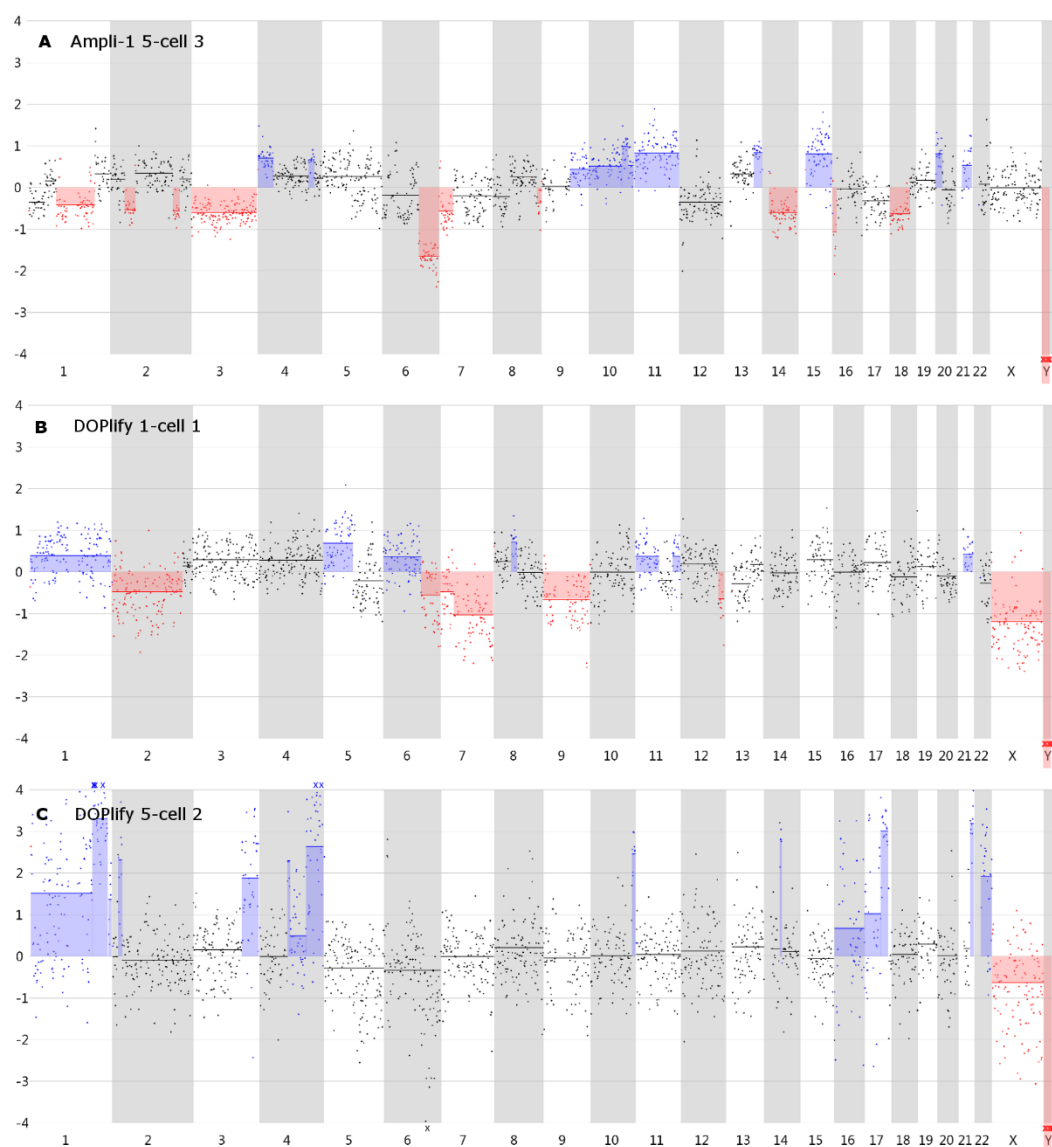
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Supplementary Figure S1: 180K arrayCGH of bulk DNA from the Loucy cell line. This profile shows all CNVs detected in the female Loucy cell line with a resolution of 50 kb. Red bars indicate deletions and blue bars indicate insertions.



Supplementary Figure S2: Failed samples with an unusable CNV profile.

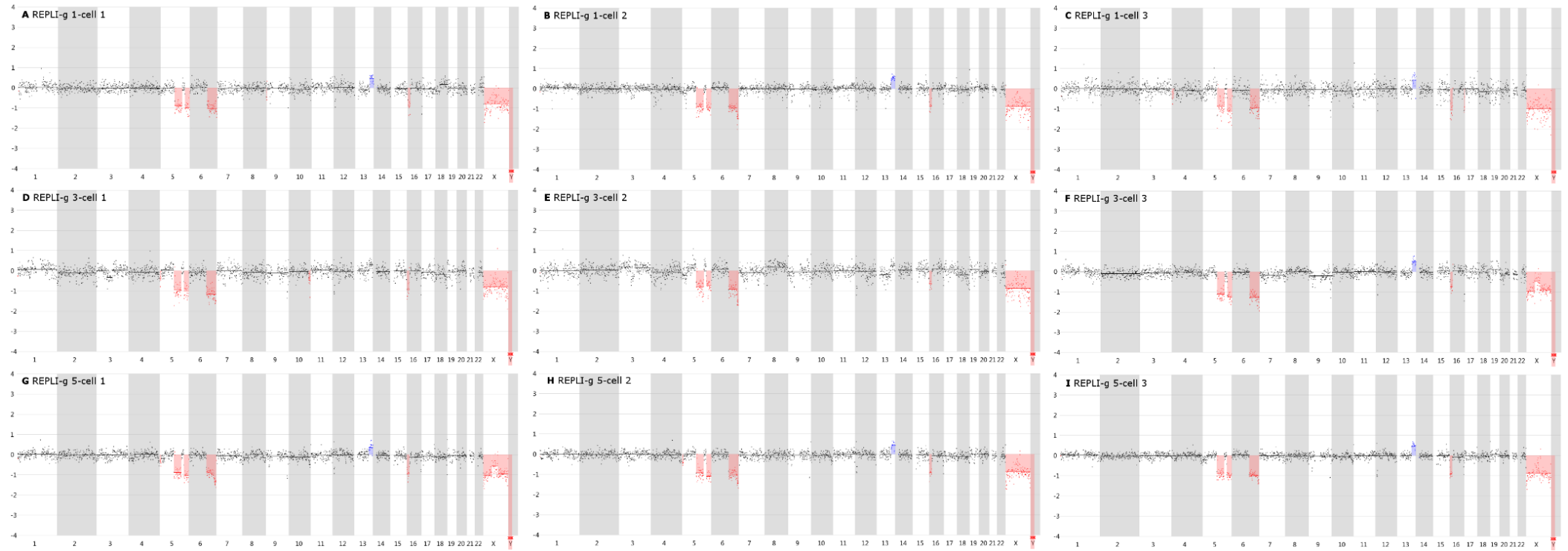
A) An Ampli-1 amplified 5-cell sample. B) & C) A DOPlify amplified 1-cell and 5-cell sample.



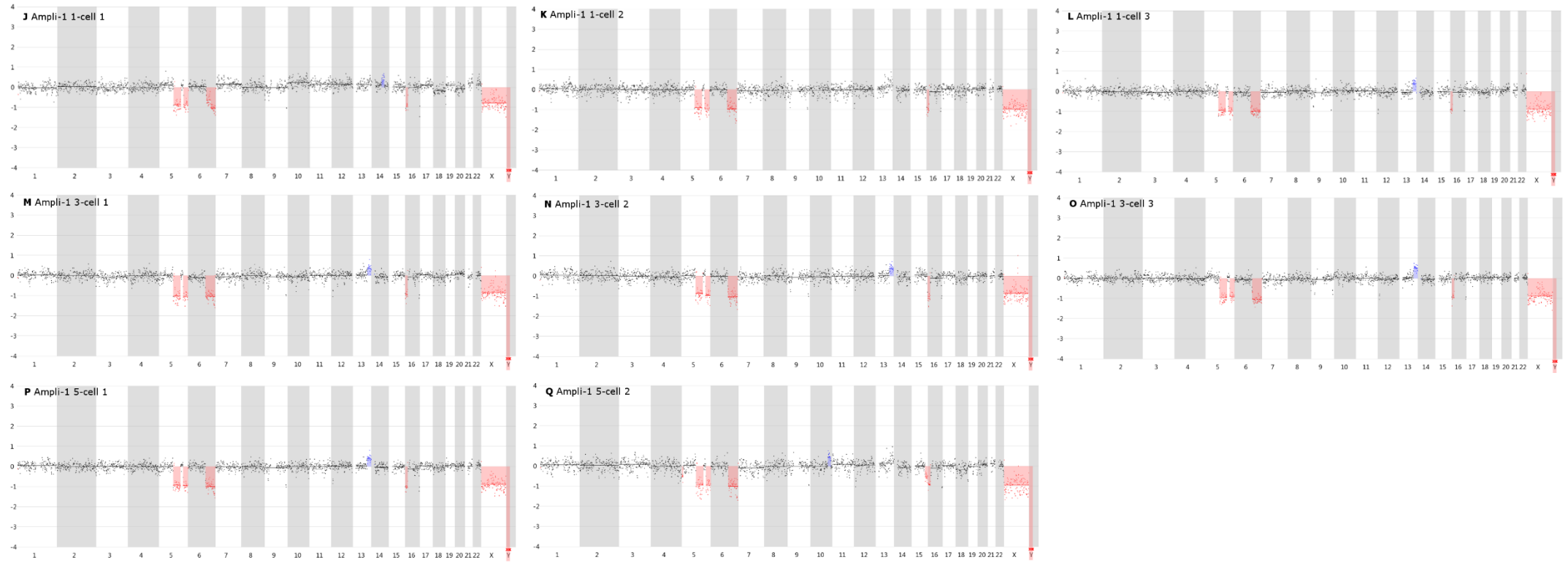
Supplementary Table S1: Average read count variances across the genome in 1Mb and 500Kb windows.

		1Mb	500Kb
Ampli-1	1 cell	0.025±0.001	0.029±0.003
	3 cell	0.022±0.004	0.026±0.002
	5 cell	0.024±0.009	0.030±0.012
REPLI-g	1 cell	0.035±0.150	0.034±0.015
	3 cell	0.034±0.110	0.048±0.012
	5 cell	0.018±0.002	0.019±0.004
DOPlify	1 cell	0.029±0.009	0.045±0.014
	3 cell	0.025±0.003	0.026±0.005
	5 cell	0.019±0.004	0.021±0.003
Picoseq	1 cell	0.044±0.028	0.054±0.029
	3 cell	0.021±0.007	0.032±0.110
	5 cell	0.025±0.003	0.036±0.004

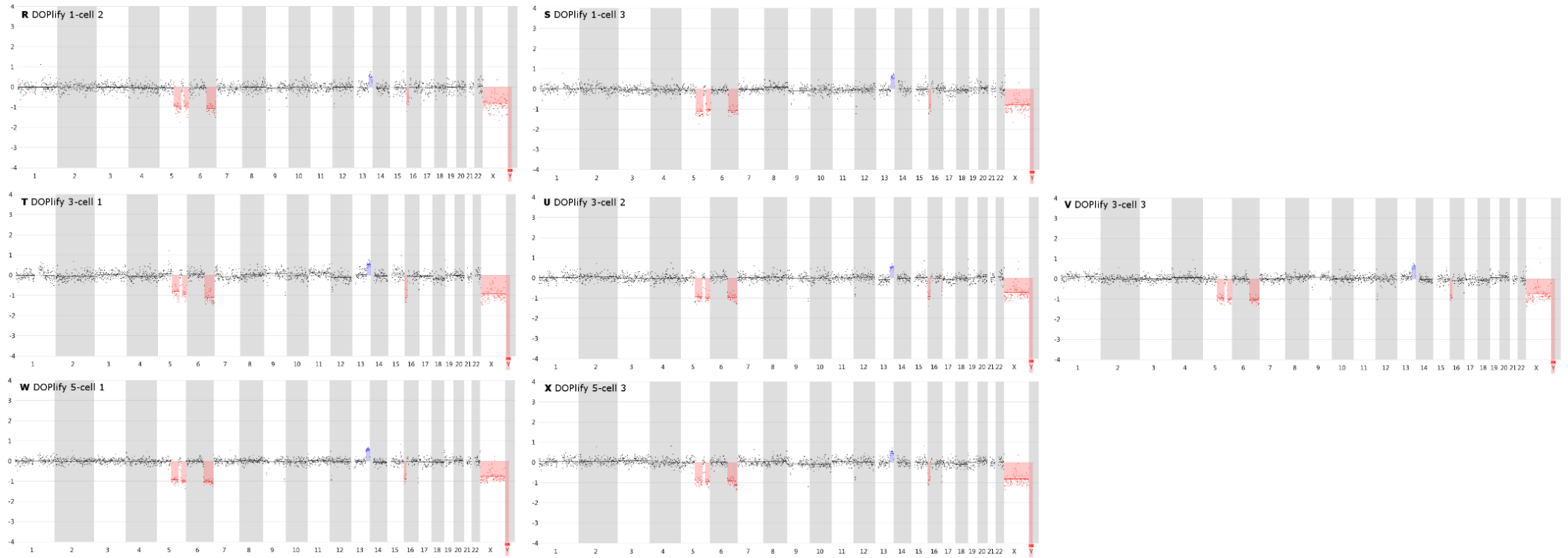
Supplementary Figure S3: CNV line profiles of all samples for a 1Mb window. REPLI-g CNV profiles



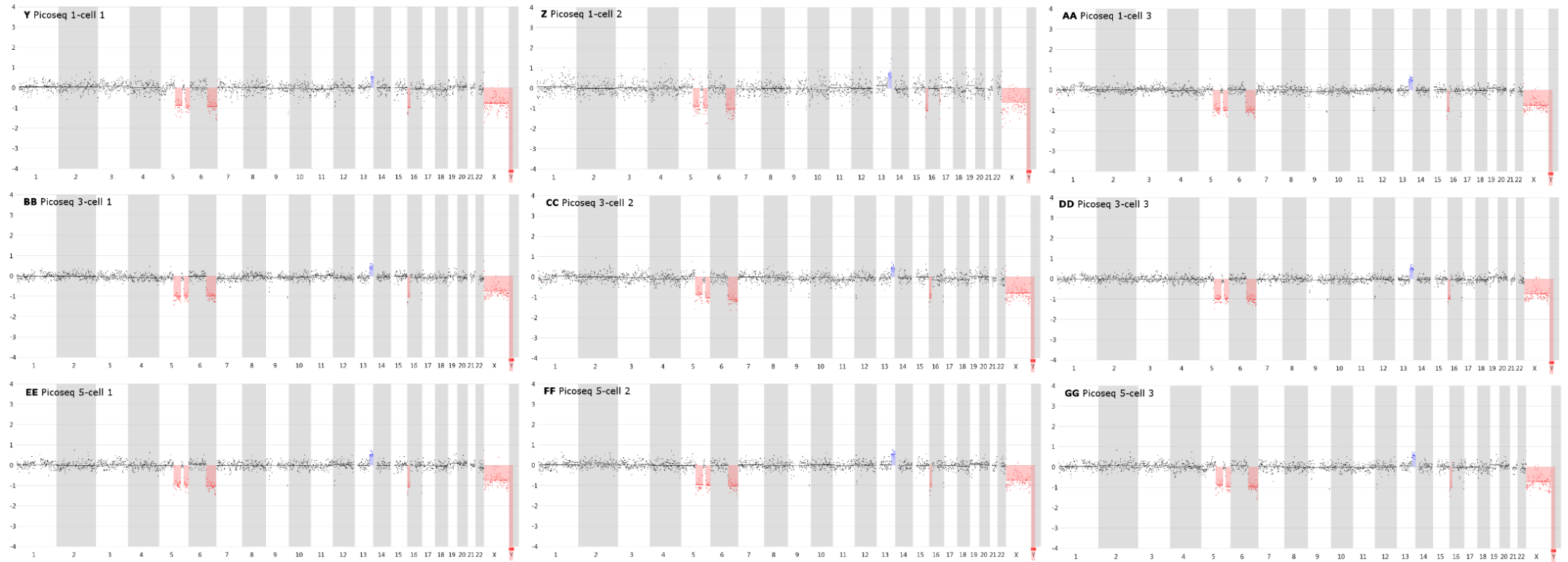
Supplementary Figure S3: CNV line profiles of all samples for a 1Mb window. Ampli-1 CNV profiles



Supplementary Figure S3: CNV line profiles of all samples for a 1Mb window. DOPlify CNV profiles



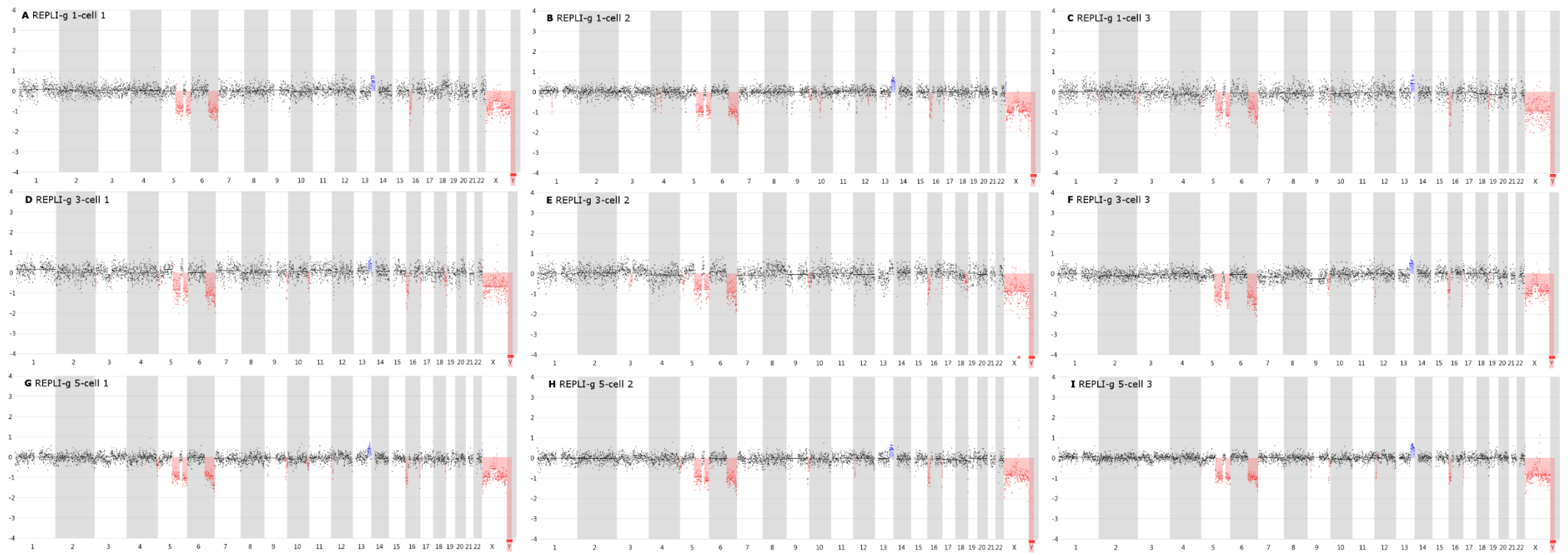
Supplementary Figure S3: CNV line profiles of all samples for a 1Mb window. Picoseq CNV profiles



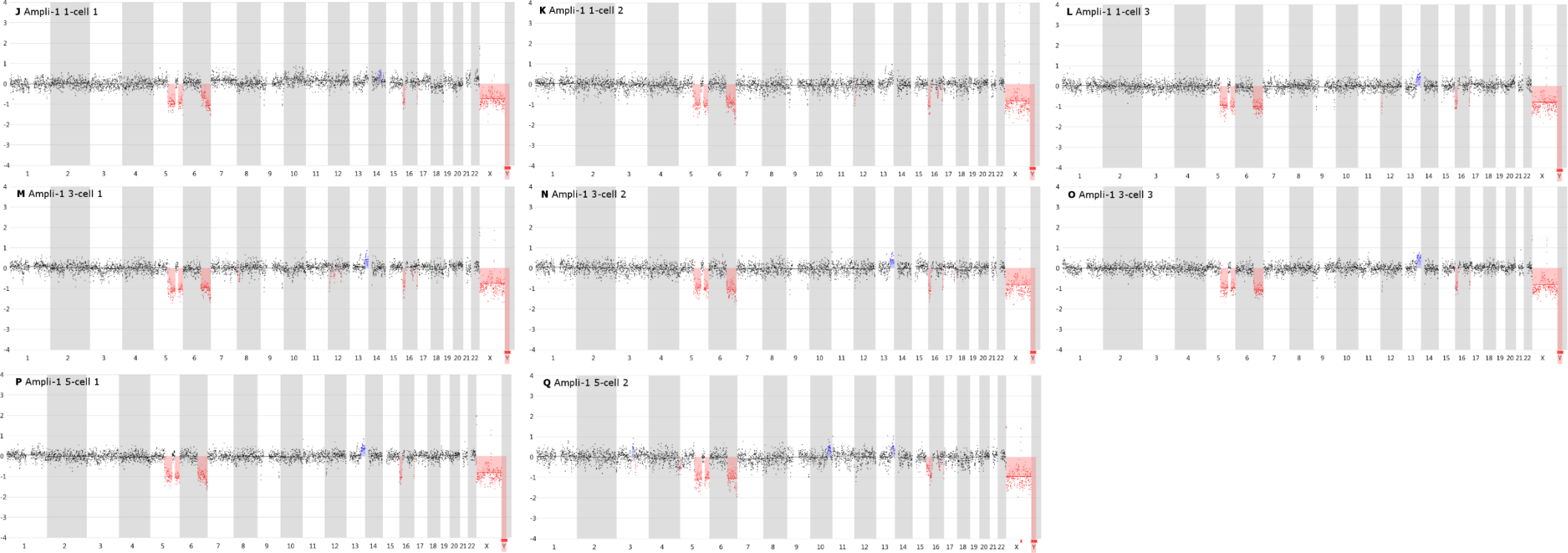
Supplementary Table S2: True and false positives called by Vivar using 1Mb windows. The left side of the table contains all the true positives that are larger than 3Mb. The right side shows the false positives. The column headers indicate the location of the insertion (**in bold**) or the deletion. Two CNVs located on the same chromosomal arm are distinguished by subscript (1) or (2).

		Chr5q ₍₁₎	Chr5q ₍₂₎	Chr6q	Chr12p	Chr13q	Chr16p	Chr16q	X-Chr	Chr4p	Chr5p	Chr8p	Chr10q	Chr10q	Chr14q	Chr15q
Bulk		√	√	√		√	√		√							
Ampli-1	1c1	√	√	√			√		√						√	
	1c2	√	√	√			√		√							
	1c3	√	√	√		√	√		√							
	3c1	√	√	√		√	√		√							
	3c2	√	√	√		√	√		√							
	3c3	√	√	√		√	√		√							
	5c1	√	√	√		√	√		√							
	5c2	√	√	√			√		√		√		√			√
REPLI-g	1c1	√	√	√		√	√		√			√				
	1c2	√	√	√		√	√		√							
	1c3	√	√	√		√	√		√	√						
	3c1	√	√	√			√		√		√			√		
	3c2	√	√	√			√		√							
	3c3	√	√	√		√	√		√							
	5c1	√	√	√		√	√		√							
	5c2	√	√	√		√	√		√		√					
	5c3	√	√	√		√	√		√		√					
DOPlify	1c2	√	√	√		√	√		√							
	1c3	√	√	√		√	√		√							
	3c1	√	√	√		√	√		√							
	3c2	√	√	√		√	√		√							
	3c3	√	√	√		√	√		√							
	5c1	√	√	√		√	√		√							
	5c3	√	√	√		√	√		√							
Picoseq	1c1	√	√	√		√	√		√							
	1c2	√	√	√		√	√		√							
	1c3	√	√	√		√	√		√							
	3c1	√	√	√		√	√		√							
	3c2	√	√	√		√	√		√							
	3c3	√	√	√		√	√		√							
	5c1	√	√	√		√	√		√							
	5c2	√	√	√		√	√		√							
	5c3	√	√	√		√	√		√							

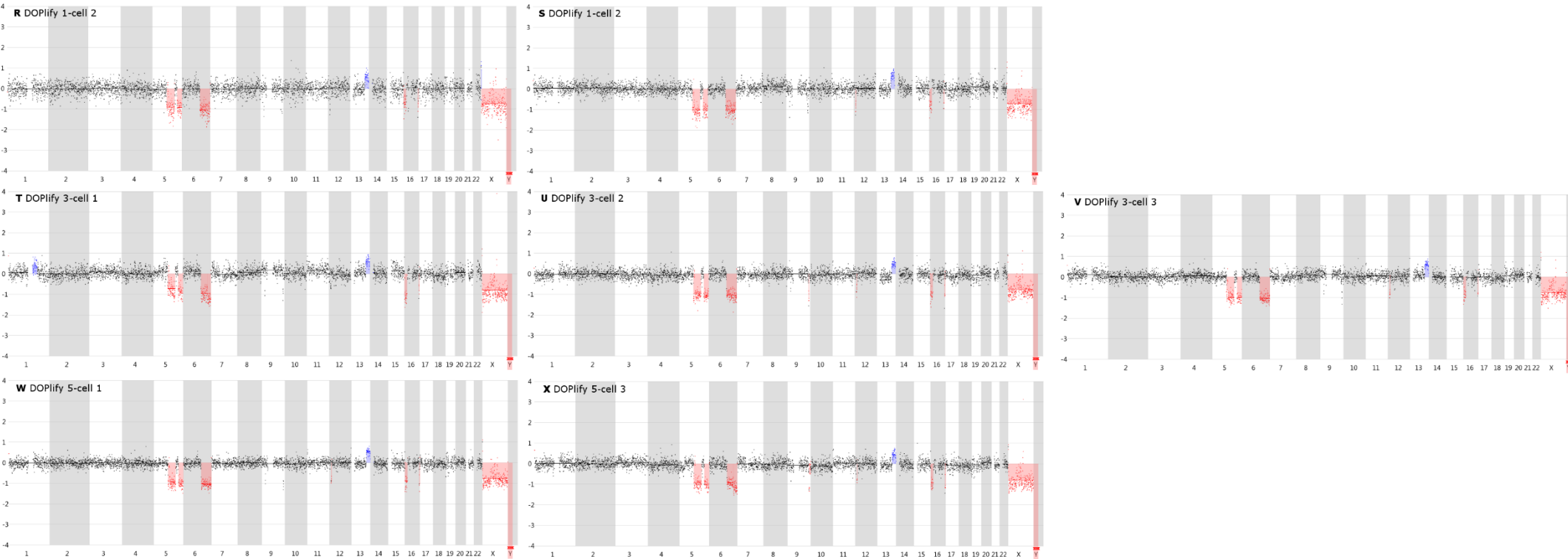
Supplementary Figure S4: CNV line profiles of all samples for a 500Kb window. REPLI-g CNV profiles



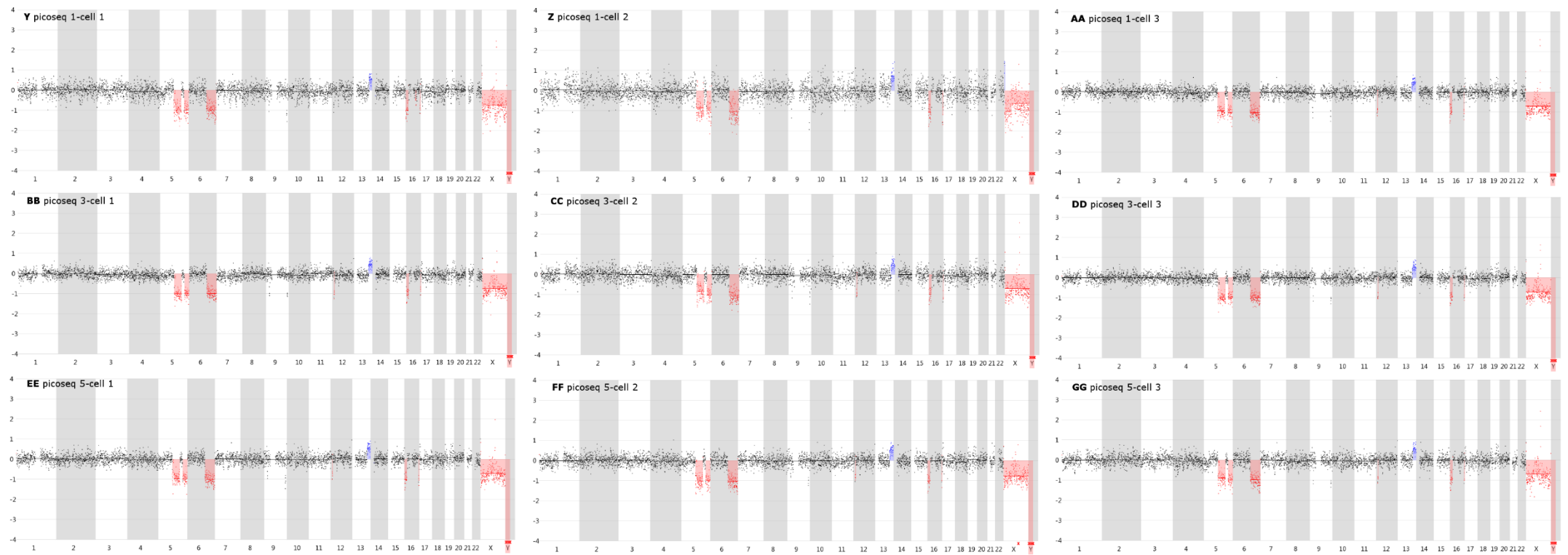
Supplementary Figure S4: CNV line profiles of all samples for a 500Kb window. Ampli-1 CNV profiles



Supplementary Figure S4: CNV line profiles of all samples for a 500Kb window. DOPlify CNV profiles



Supplementary figure S4: CNV line profiles of all samples for a 500Kb window. Picoseq CNV profiles



Supplementary Table S3: True and false positives called by Vivar using 500Kb windows. From left to right, separated by a black line: all true positives that are larger than 3Mb; true positives smaller than 3Mb that are called in at least 1 sample; false positives. The column headers indicate the location of the insertion (**in bold**) or the deletion. Two CNVs located on the same chromosomal arm are distinguished by subscript (1) or (2).

		Chr5q ₍₁₎	Chr5q ₍₂₎	Chr6q	Chr12p	Chr13q	Chr16p	Chr16q ₍₂₎	X-Chr	Chr9p	Chr9q	Chr16q ₍₁₎	Chr1p	Chr1q	Chr2p	Chr2q
Bulk		✓	✓	✓		✓	✓	✓	✓							
Ampli-1	1c1	✓	✓	✓	✓		✓	✓	✓							
	1c2	✓	✓	✓	✓		✓	✓	✓			✓				
	1c3	✓	✓	✓	✓	✓	✓	✓	✓			✓				
	3c1	✓	✓	✓	✓	✓	✓	✓	✓			✓				
	3c2	✓	✓	✓		✓	✓	✓	✓							
	3c3	✓	✓	✓		✓	✓	✓	✓							
	5c1	✓	✓	✓		✓	✓	✓	✓							
	5c2	✓	✓	✓		✓	✓	✓	✓			✓				
REPLI-g	1c1	✓	✓	✓		✓	✓	✓	✓							
	1c2	✓	✓	✓		✓	✓	✓	✓							
	1c3	✓	✓	✓		✓	✓		✓				✓			
	3c1	✓	✓	✓		✓	✓	✓	✓		✓				✓	✓
	3c2	✓	✓	✓			✓	✓	✓		✓					
	3c3	✓	✓	✓	✓	✓	✓	✓	✓		✓					
	5c1	✓	✓	✓	✓	✓	✓	✓	✓							
	5c2	✓	✓	✓	✓	✓	✓	✓	✓		✓					
	5c3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
DOPlify	1c2	✓	✓	✓		✓	✓	✓	✓							
	1c3	✓	✓	✓	✓	✓	✓	✓	✓							
	3c1	✓	✓	✓		✓	✓	✓	✓							
	3c2	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓		
	3c3	✓	✓	✓	✓	✓	✓	✓	✓							
	5c1	✓	✓	✓	✓	✓	✓	✓	✓							
	5c3	✓	✓	✓	✓	✓	✓	✓	✓		✓					
Picoseq	1c1	✓	✓	✓		✓	✓	✓	✓			✓				
	1c2	✓	✓	✓		✓	✓	✓	✓							
	1c3	✓	✓	✓	✓	✓	✓	✓	✓							
	3c1	✓	✓	✓	✓	✓	✓	✓	✓							
	3c2	✓	✓	✓	✓	✓	✓	✓	✓							
	3c3	✓	✓	✓	✓	✓	✓	✓	✓							
	5c1	✓	✓	✓	✓	✓	✓	✓	✓							
	5c2	✓	✓	✓	✓	✓	✓	✓	✓							
	5c3	✓	✓	✓	✓	✓	✓	✓	✓							

		Chr3p	Chr3pq	Chr3q	Chr3q	Chr4p	Chr4q ₍₁₎	Chr5p ₍₁₎	Chr5p ₍₂₎	Chr8p	Chr9q ₍₂₎	Chr10q ₍₁₎	Chr10q ₍₂₎	Chr12pq	Chr12q ₍₁₎			
Ampli-1	1c1																	
	1c2																	
	1c3																	
	3c1											✓					✓	✓
	3c2																	
	3c3																	
	5c1																	
	5c2				✓	✓				✓								
REPLI-g	1c1																	
	1c2							✓	✓				✓	✓				
	1c3											✓						
	3c1								✓						✓			
	3c2	✓							✓									
	3c3	✓																
	5c1								✓						✓			
	5c2								✓						✓			
	5c3								✓									
DOPlify	1c2																	
	1c3																	
	3c1																	
	3c2																	
	3c3																	
	5c1																	
	5c3																	
Picoseq	1c1																	
	1c2																	
	1c3																	
	3c1																	
	3c2																	
	3c3																	
	5c1																	
	5c2																	
	5c3																	

		Chr12q ₍₂₎	Chr13q ₍₁₎	Chr13q ₍₂₎	Chr17q	Chr18q ₍₁₎	Chr18q ₍₂₎
Ampli-1	1c1						
	1c2						
	1c3						
	3c1						
	3c2				√		
	3c3						
	5c1						
	5c2						
REPLI-g	1c1						
	1c2	√		√			
	1c3						
	3c1					√	
	3c2					√	
	3c3		√			√	
	5c1						√
	5c2						√
	5c3						
DOPlify	1c2						
	1c3						
	3c1						
	3c2						
	3c3						
	5c1						
	5c3						
Picoseq	1c1						
	1c2						
	1c3						
	3c1						
	3c2						
	3c3						
	5c1						
	5c2						
	5c3						