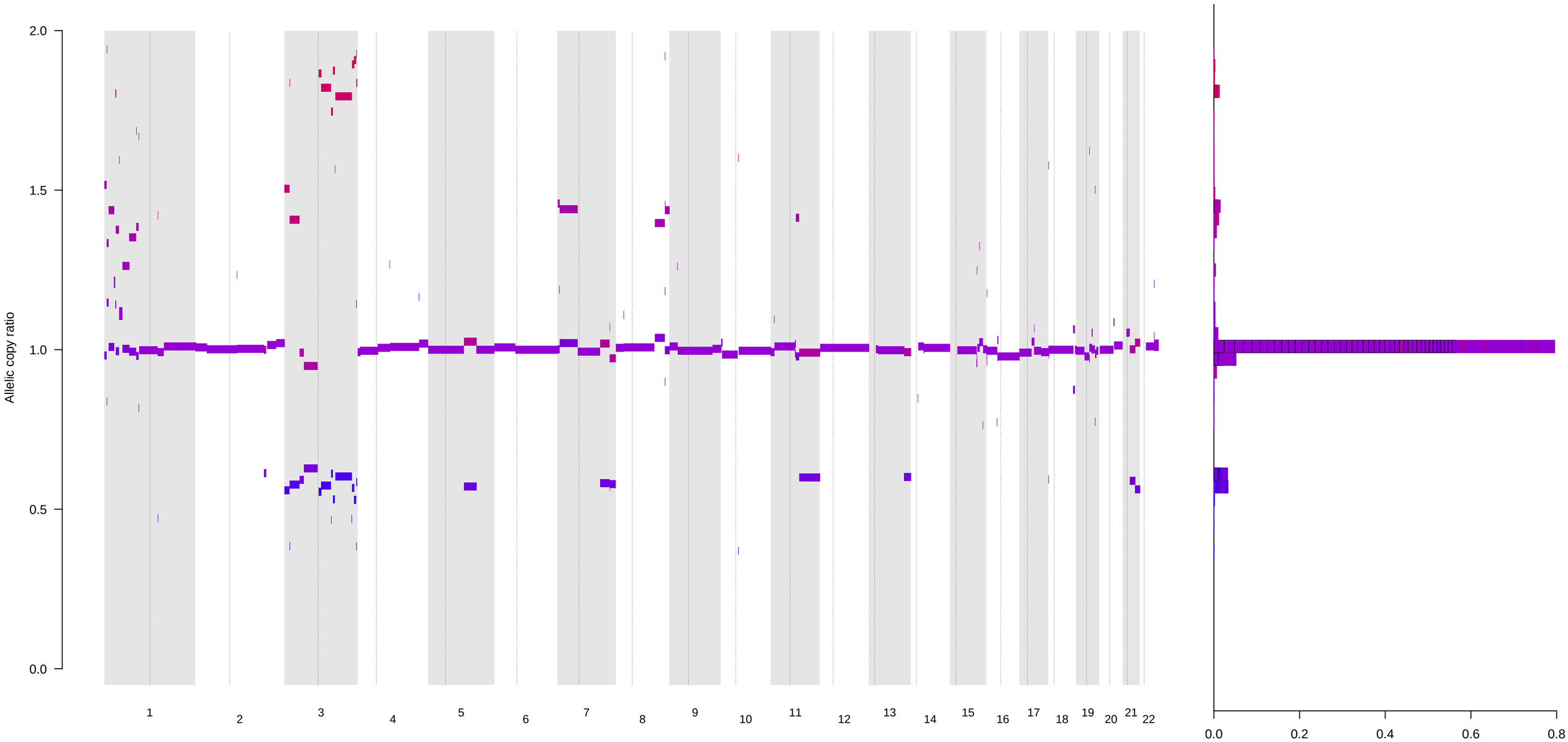
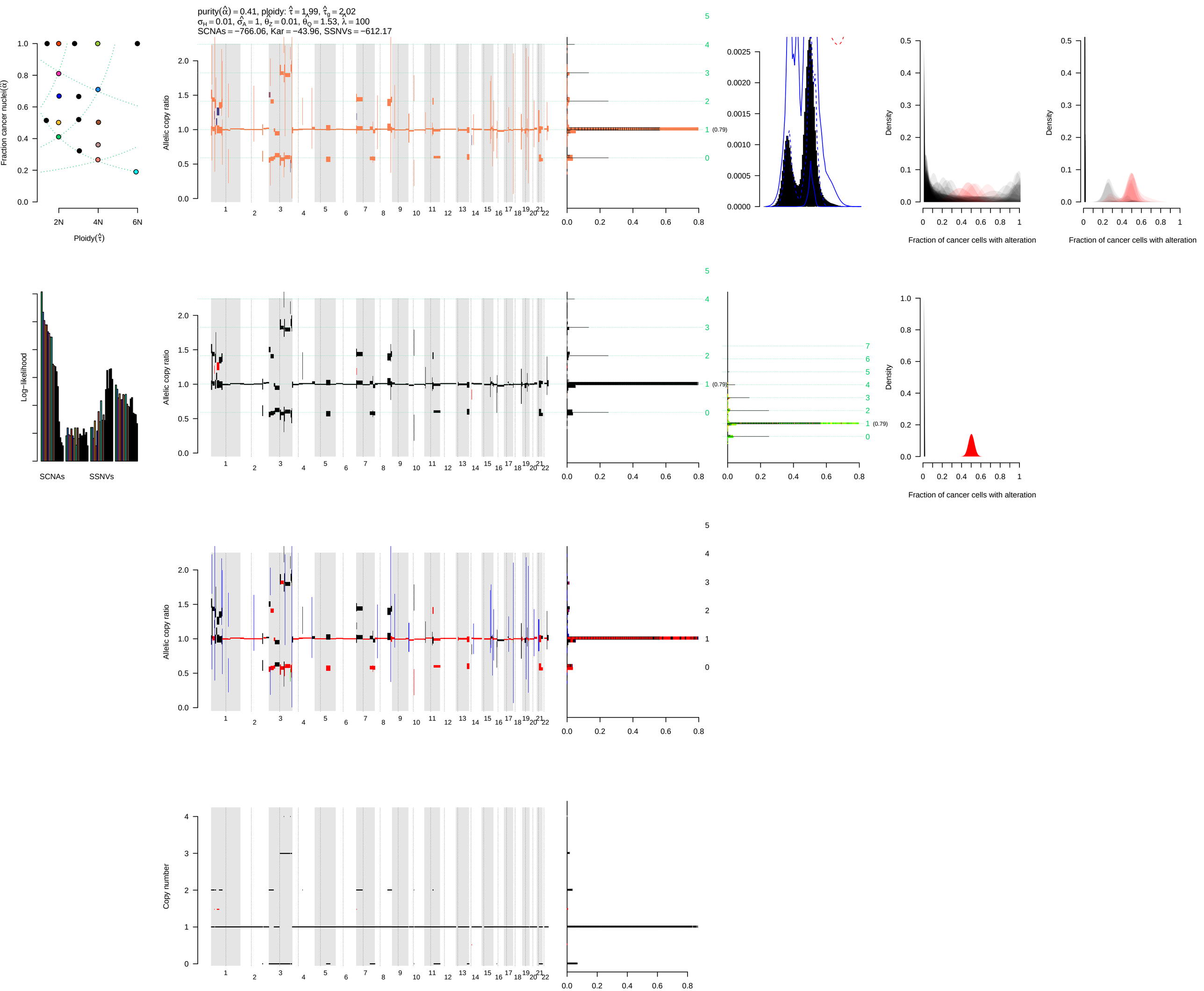
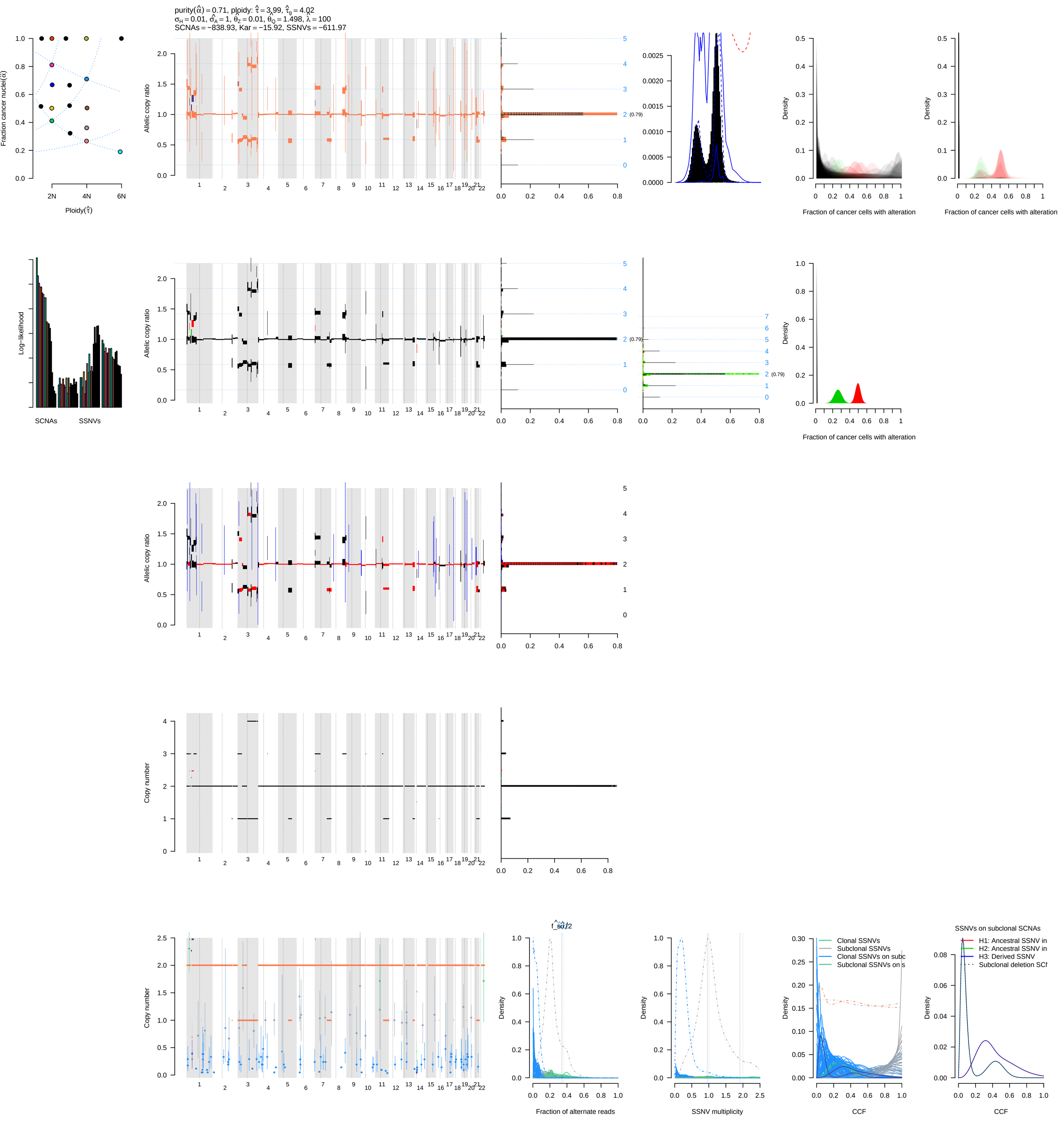
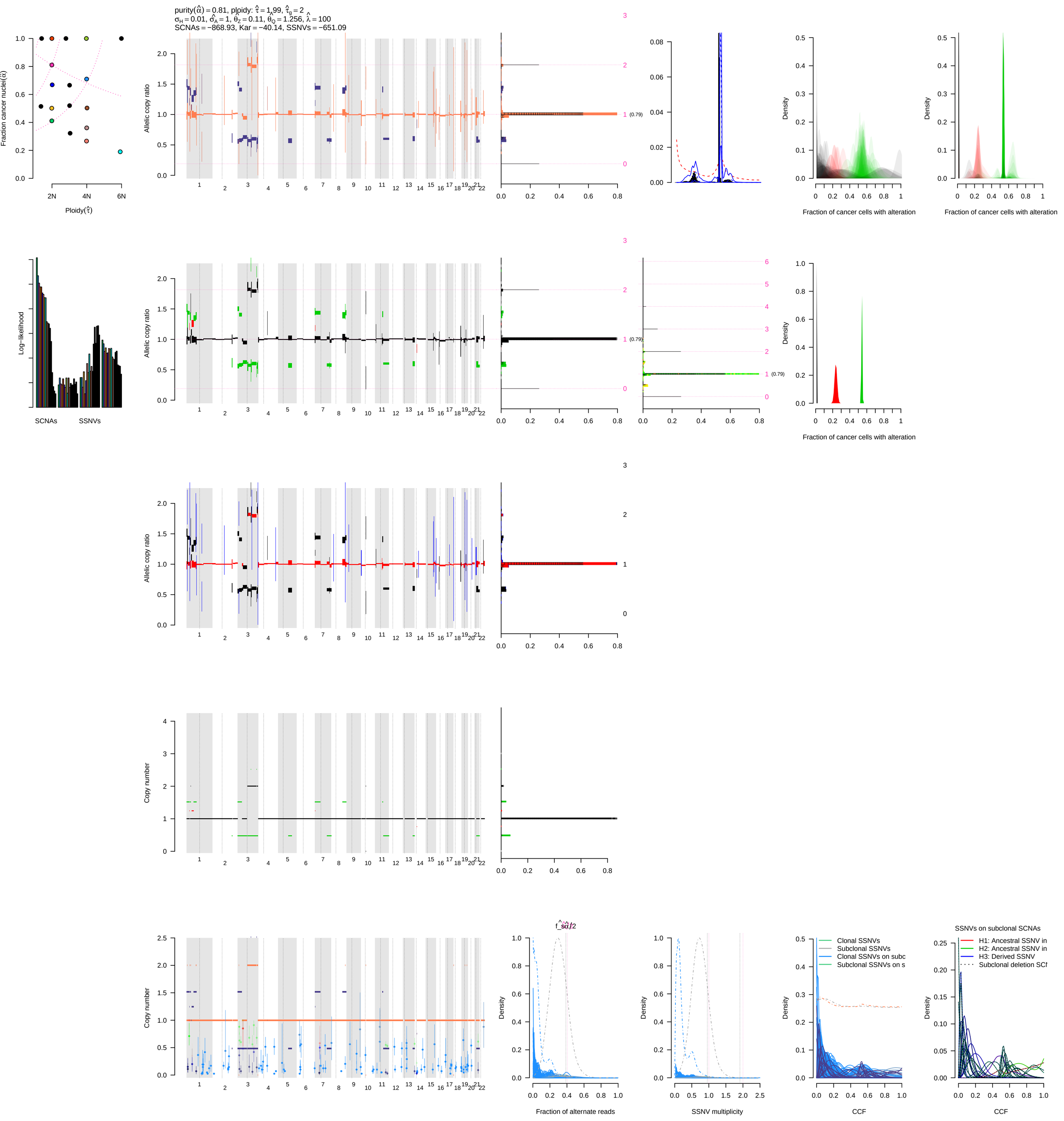
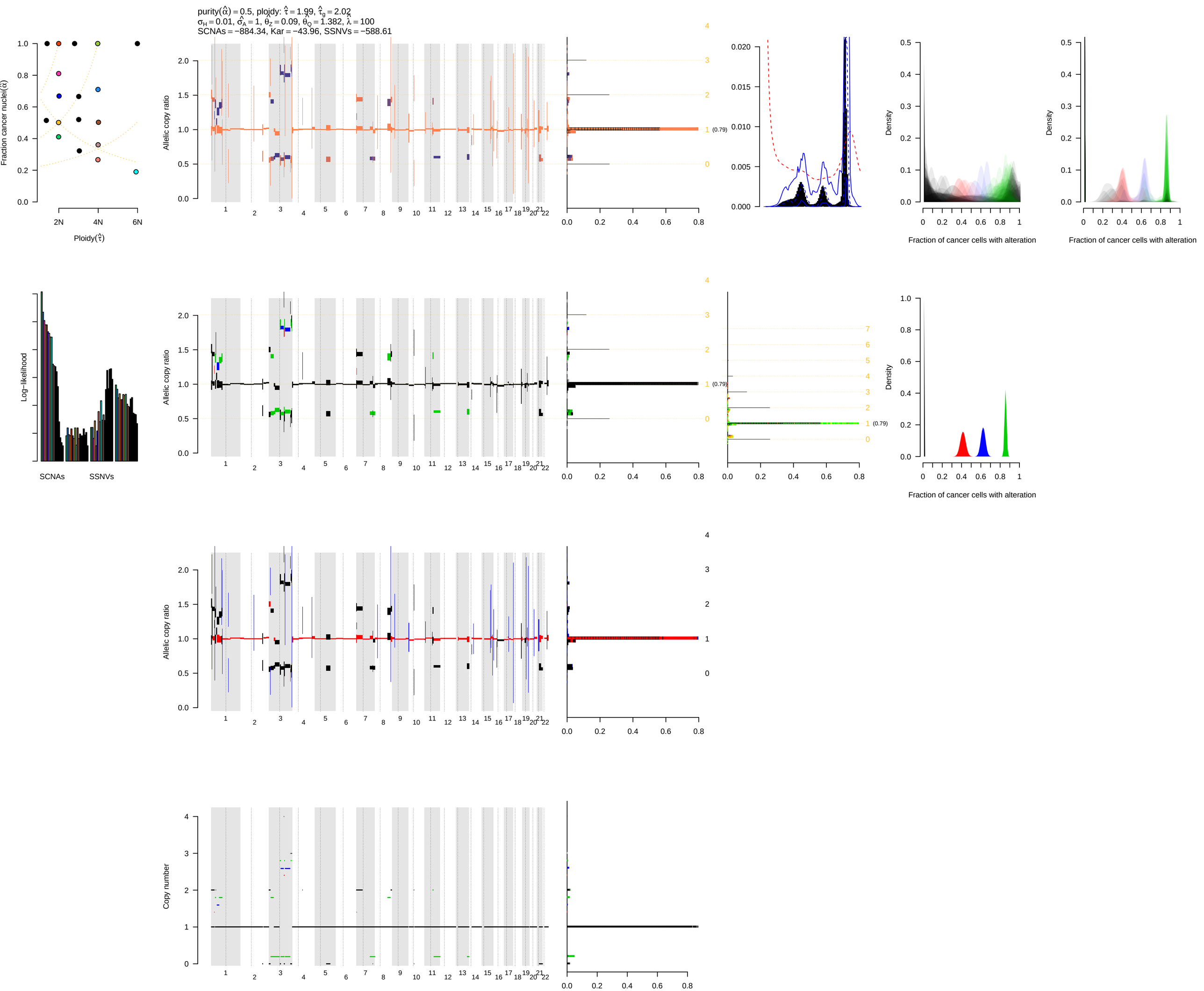
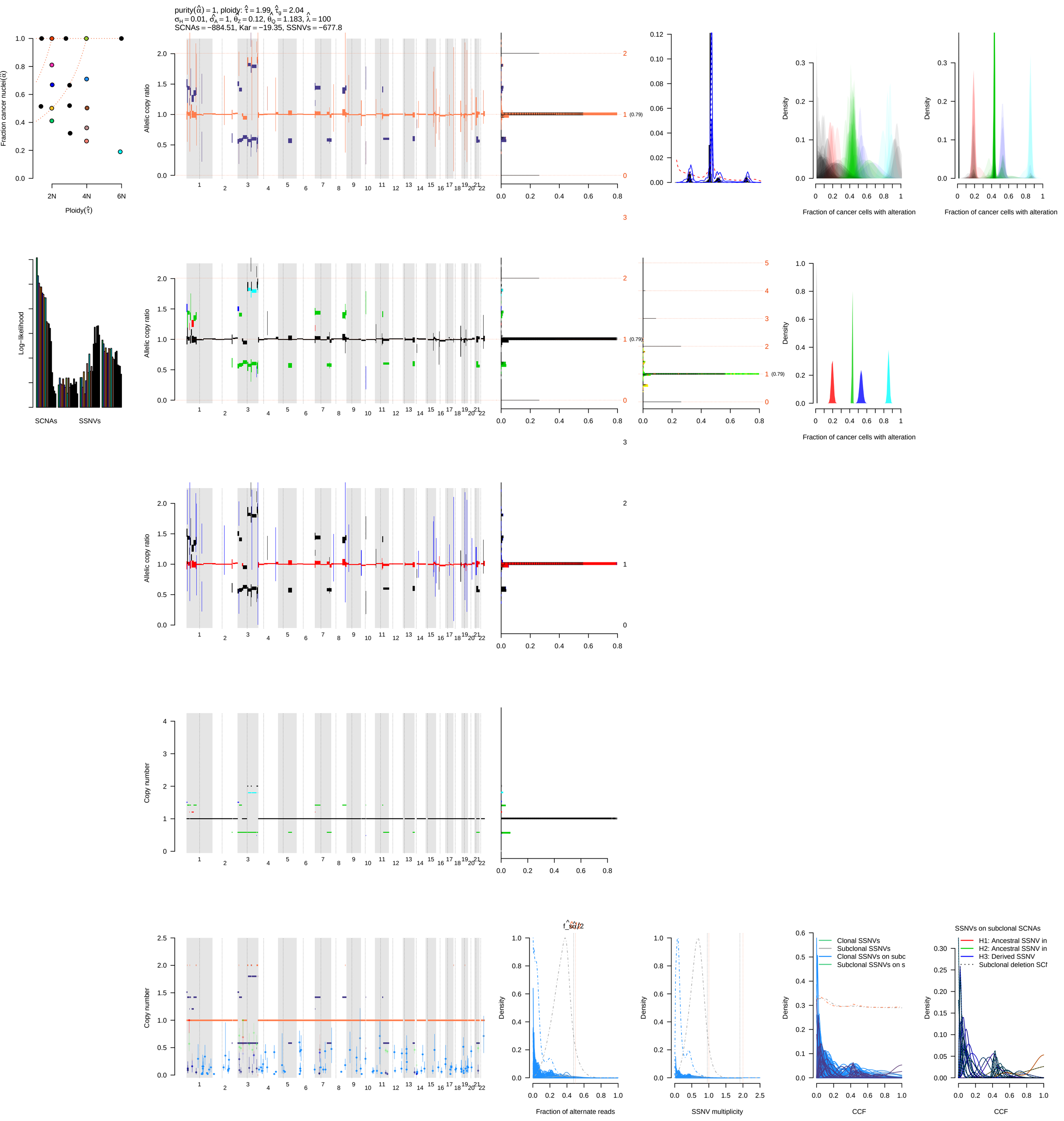

Allelic copy ratio
2.0
1.5
1.0
0.5
0.0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
0.0
0.2
0.4
0.6
0.8

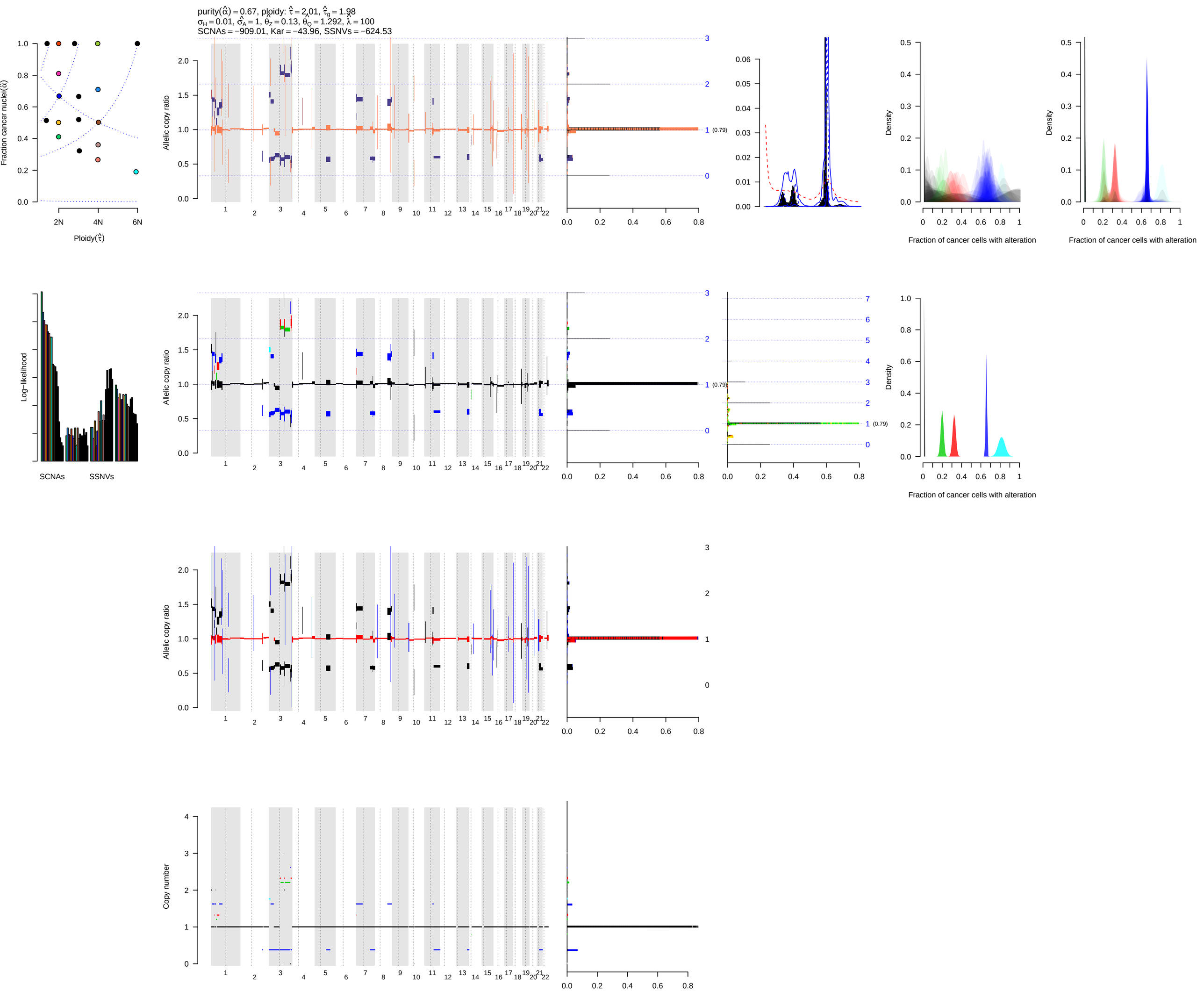

purity($\hat{\alpha}$) = 0.41, ploidy: $\hat{\tau}$ = 1.99, $\hat{\tau}_g$ = 2.02
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.01, θ_Q = 1.53, $\hat{\lambda}$ = 100
SCNAs = −766.06, Kar = −43.96, SSNVs = −612.17
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
2N
4N
6N
Allelic copy ratio
(0.79)
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_scr2
Fraction of alternate reads
SSNV multiplicity
CCF
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI

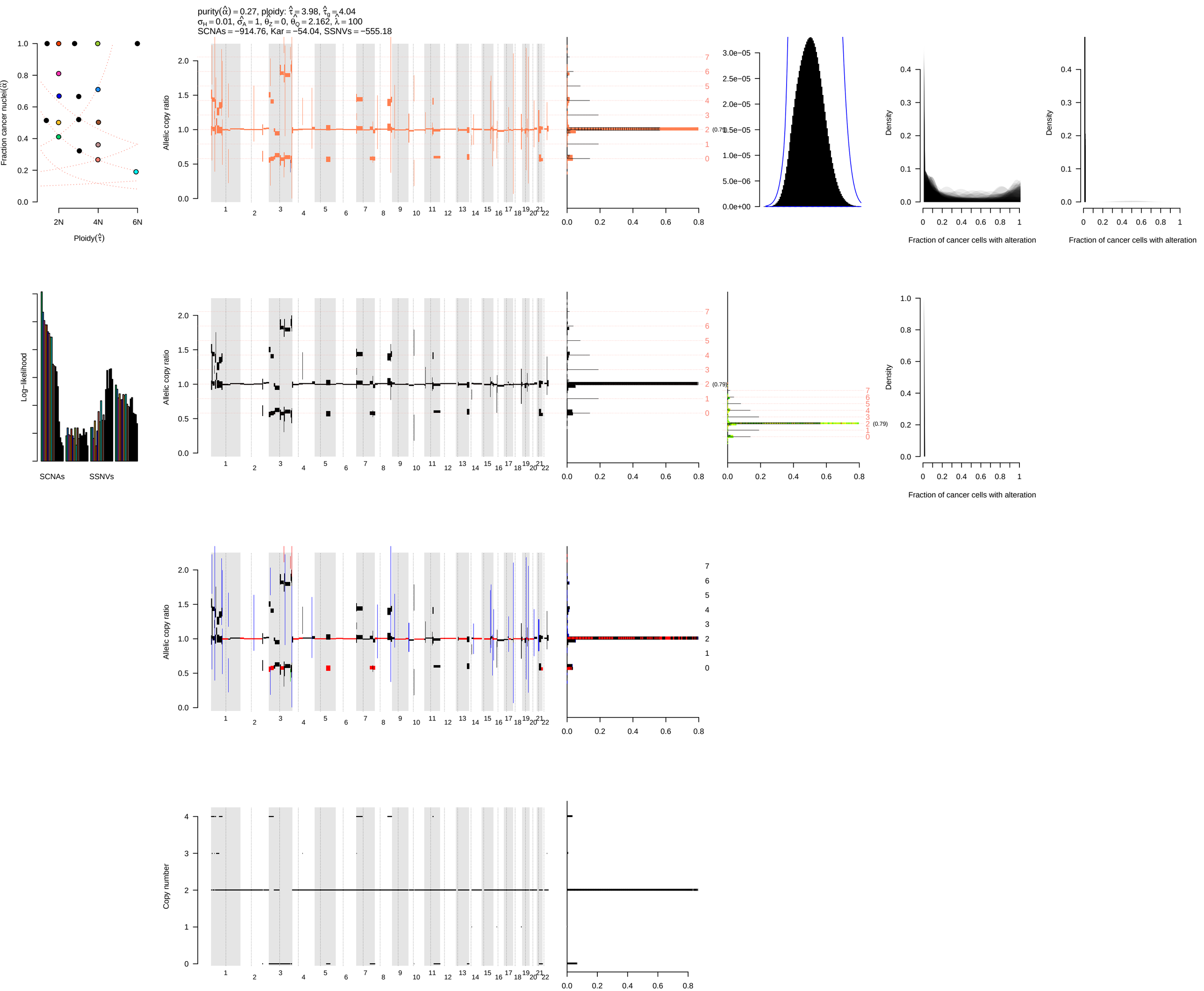

purity($\hat{\alpha}$) = 0.71, ploidy: $\hat{\tau}$ = 3.99, $\hat{\tau}_g$ = 4.02
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.01, θ_Q = 1.498, $\hat{\lambda}$ = 100
SCNAs = −838.93, Kar = −15.92, SSNVs = −611.97
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_sol
Fraction of alternate reads
SSNV multiplicity
CCF
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI

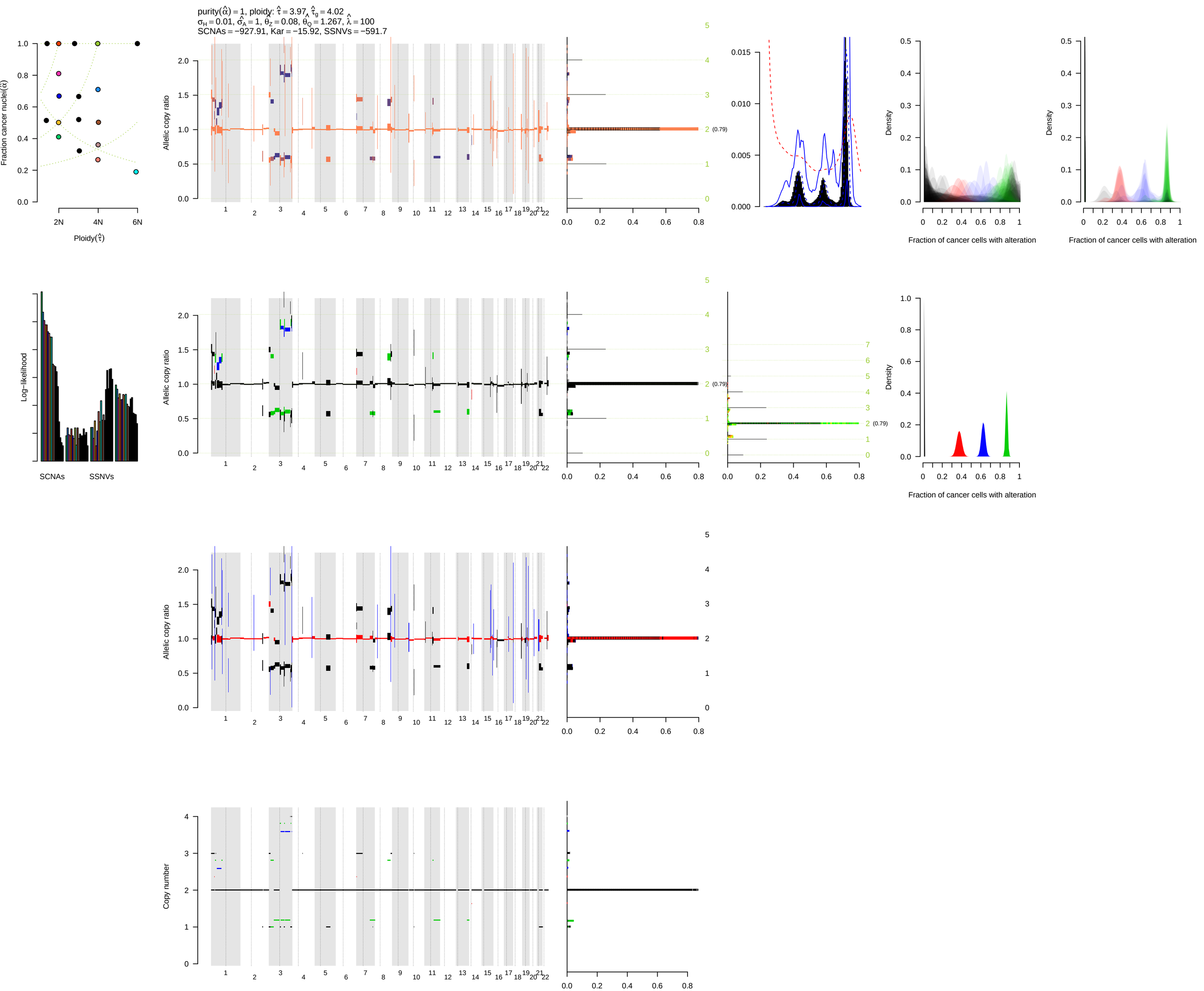

purity($\hat{\alpha}$) = 0.81, ploidy: $\hat{\tau}$ = 1.99, $\hat{\tau}_g$ = 2
σ_H = 0.01, $\hat{\sigma}_A$ = 1, $\hat{\theta}_Z$ = 0.11, $\hat{\theta}_Q$ = 1.256, $\hat{\lambda}$ = 100
SCNAs = −868.93, Kar = −40.14, SSNVs = −651.09
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_sc/2
Fraction of alternate reads
SSNV multiplicity
CCF
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI

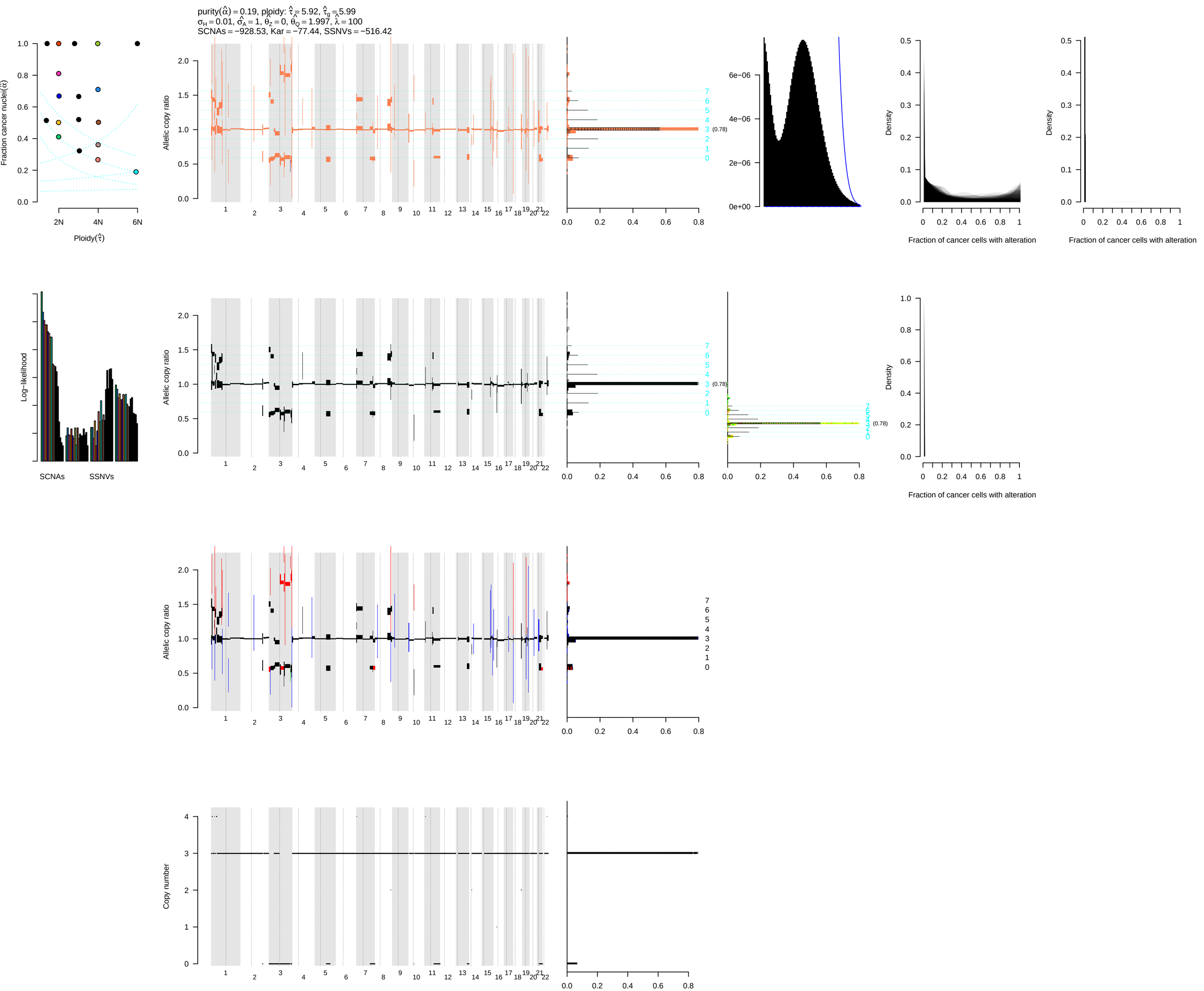

purity($\hat{\alpha}$) = 0.5, ploidy: $\hat{\tau}$ = 1.99, $\hat{\tau}_g$ = 2.02
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.09, θ_Q = 1.382, $\hat{\lambda}$ = 100
SCNAs = −884.34, Kar = −43.96, SSNVs = −588.61
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_s$\hat{\alpha}$/2
Fraction of alternate reads
SSNV multiplicity
CCF
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI

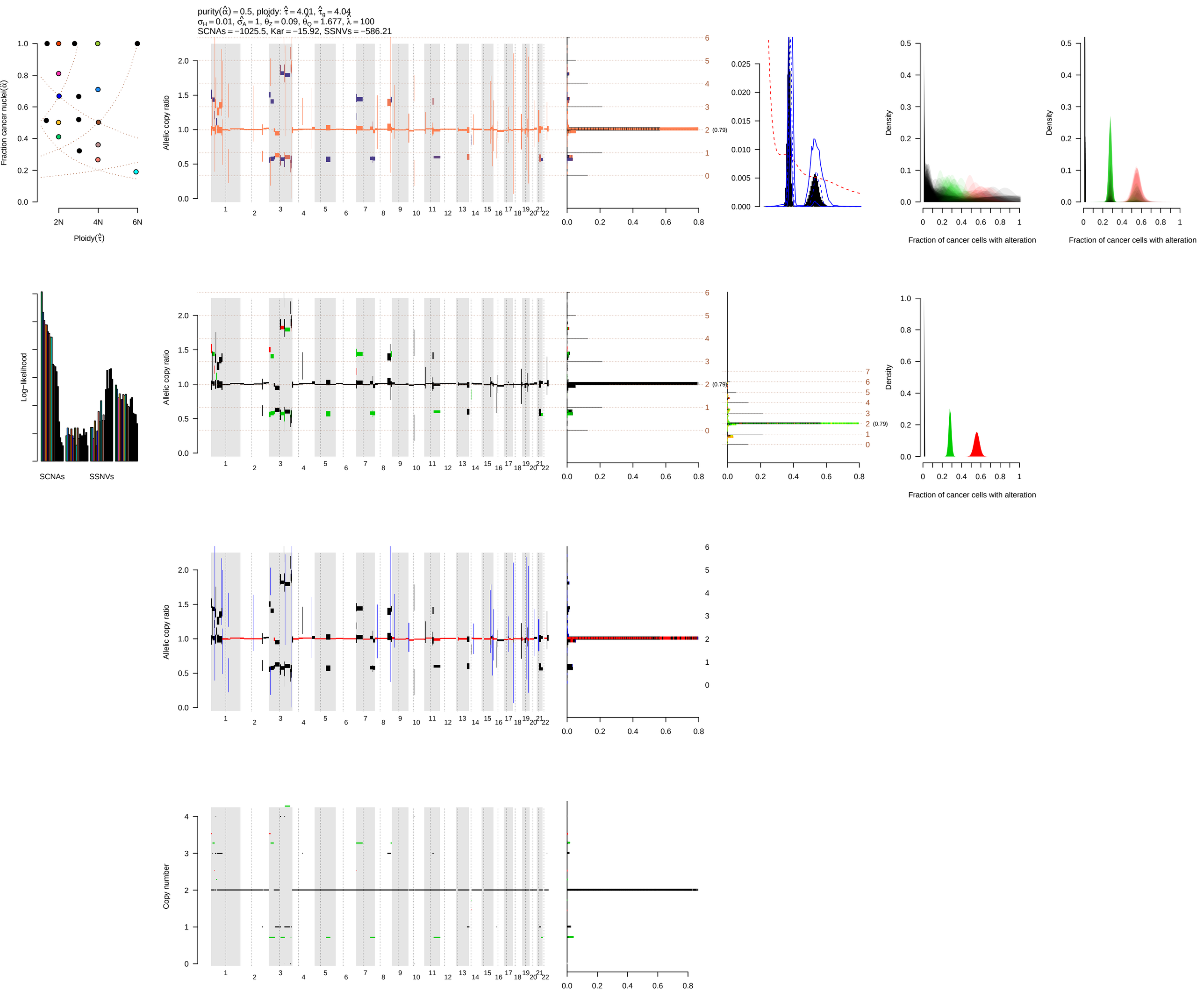

purity($\hat{\alpha}$) = 1, ploidy: $\hat{\tau}$ = 1.99, $\hat{\tau}_g$ = 2.04
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.12, θ_Q = 1.183, $\hat{\lambda}$ = 100
SCNAs = −884.51, Kar = −19.35, SSNVs = −677.8
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
2N
4N
6N
Allelic copy ratio
(0.79)
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_sol/2
Fraction of alternate reads
SSNV multiplicity
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
CCF
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI

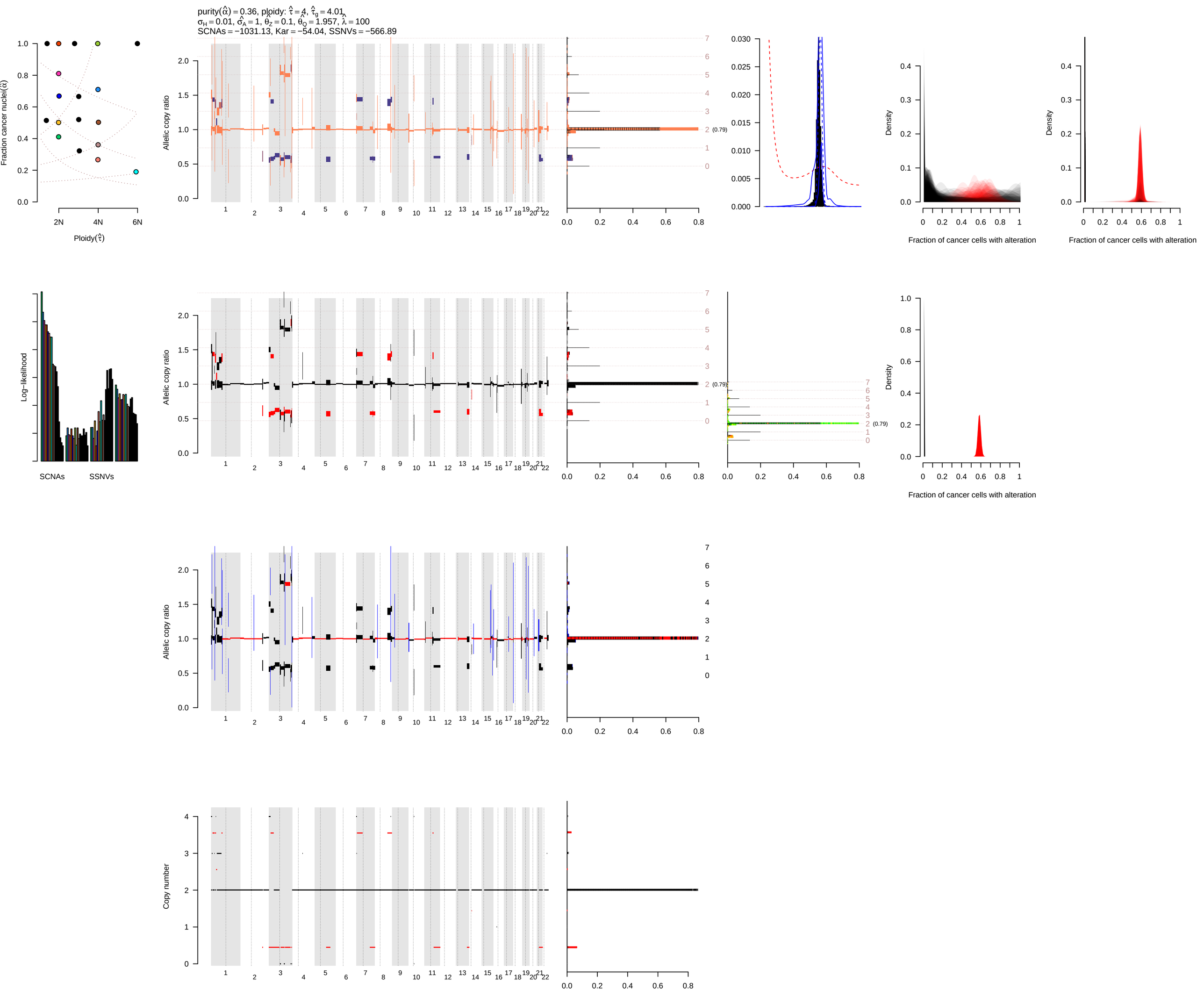

purity($\hat{\alpha}$) = 0.67, ploidy: $\hat{\tau}$ = 2.01, $\hat{\tau}_g$ = 1.98
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.13, θ_Q = 1.292, $\hat{\lambda}$ = 100
SCNAs = −909.01, Kar = −43.96, SSNVs = −624.53
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
2N
4N
6N
Allelic copy ratio
(0.79)
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_cn
f_ss
Fraction of alternate reads
SSNV multiplicity
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
CCF
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI

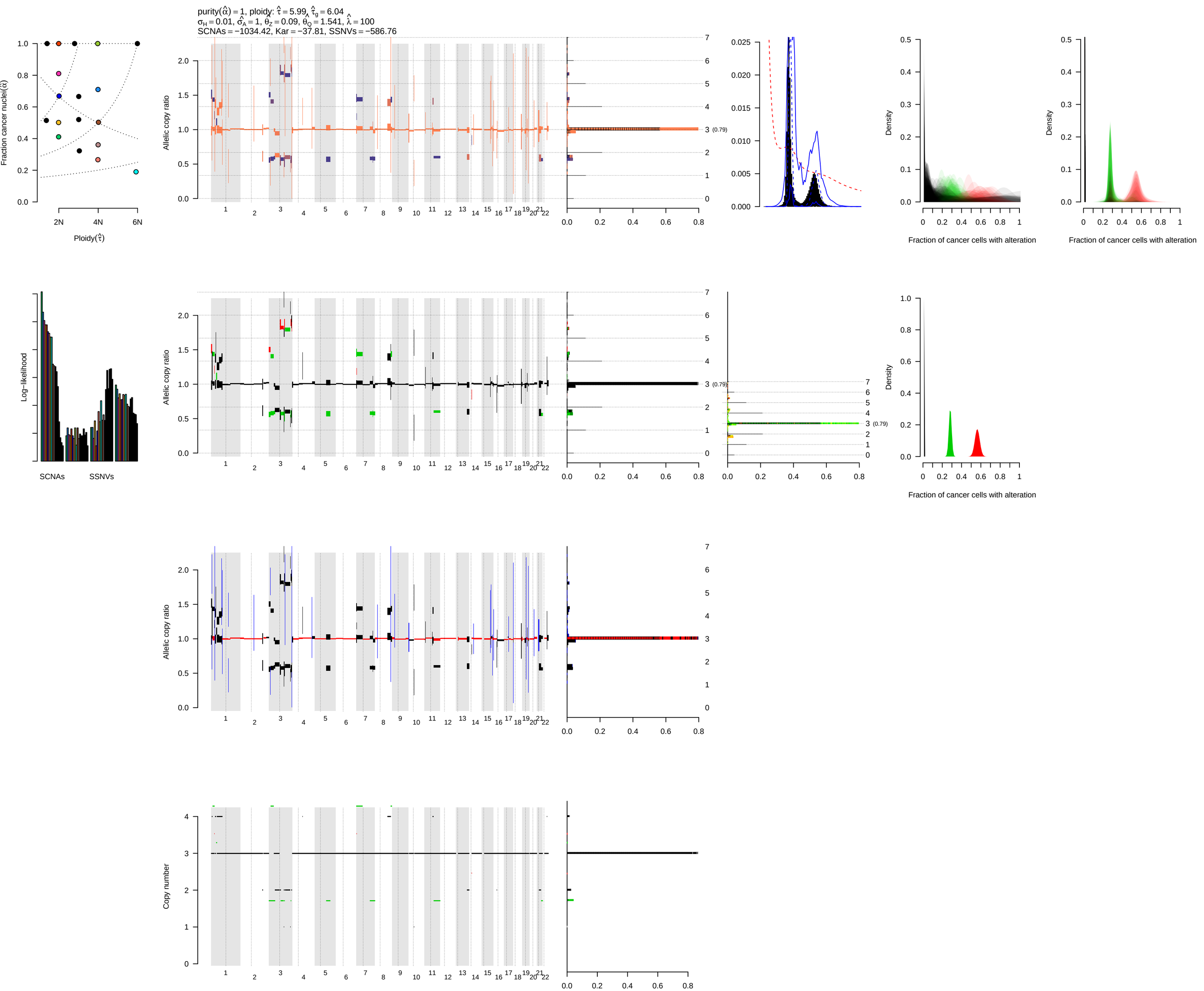

purity($\hat{\alpha}$) = 0.27, ploidy: $\hat{\tau}$ = 3.98, $\hat{\tau}_g$ = 4.04
σ_H = 0.01, $\hat{\sigma}_A$ = 1, $\hat{\theta}_Z$ = 0, $\hat{\theta}_Q$ = 2.162, $\hat{\lambda}$ = 100
SCNAs = −914.76, Kar = −54.04, SSNVs = −555.18
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
2N
4N
6N
Allelic copy ratio
(0.79)
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_sc/2
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
Fraction of alternate reads
SSNV multiplicity
CCF

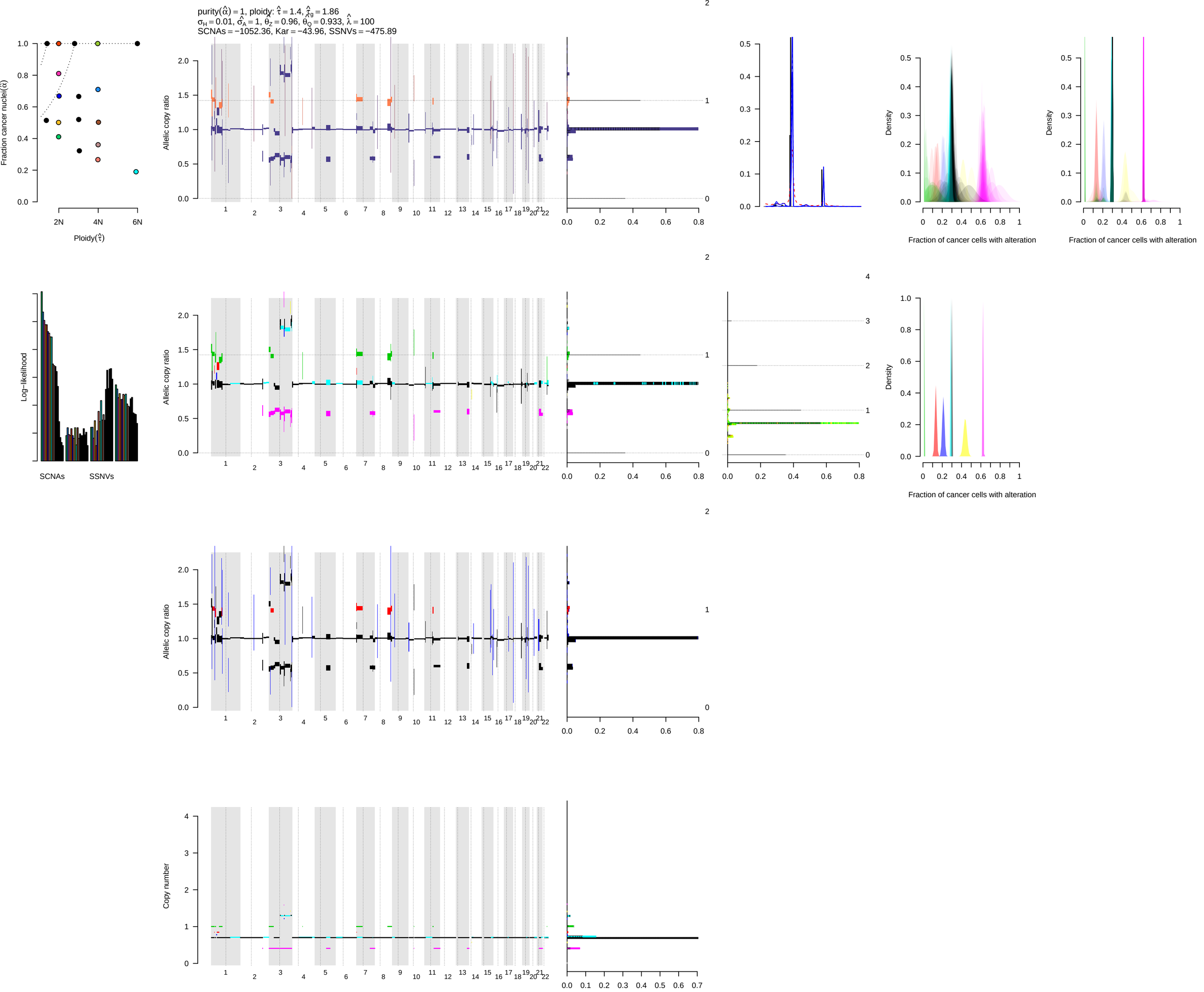

purity($\hat{\alpha}$) = 1, ploidy: $\hat{\tau}$ = 3.97, $\hat{\tau}_g$ = 4.02
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.08, θ_Q = 1.267, $\hat{\lambda}$ = 100
SCNAs = −927.91, Kar = −15.92, SSNVs = −591.7
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_s$\hat{\alpha}$/2
Fraction of alternate reads
SSNV multiplicity
CCF
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI

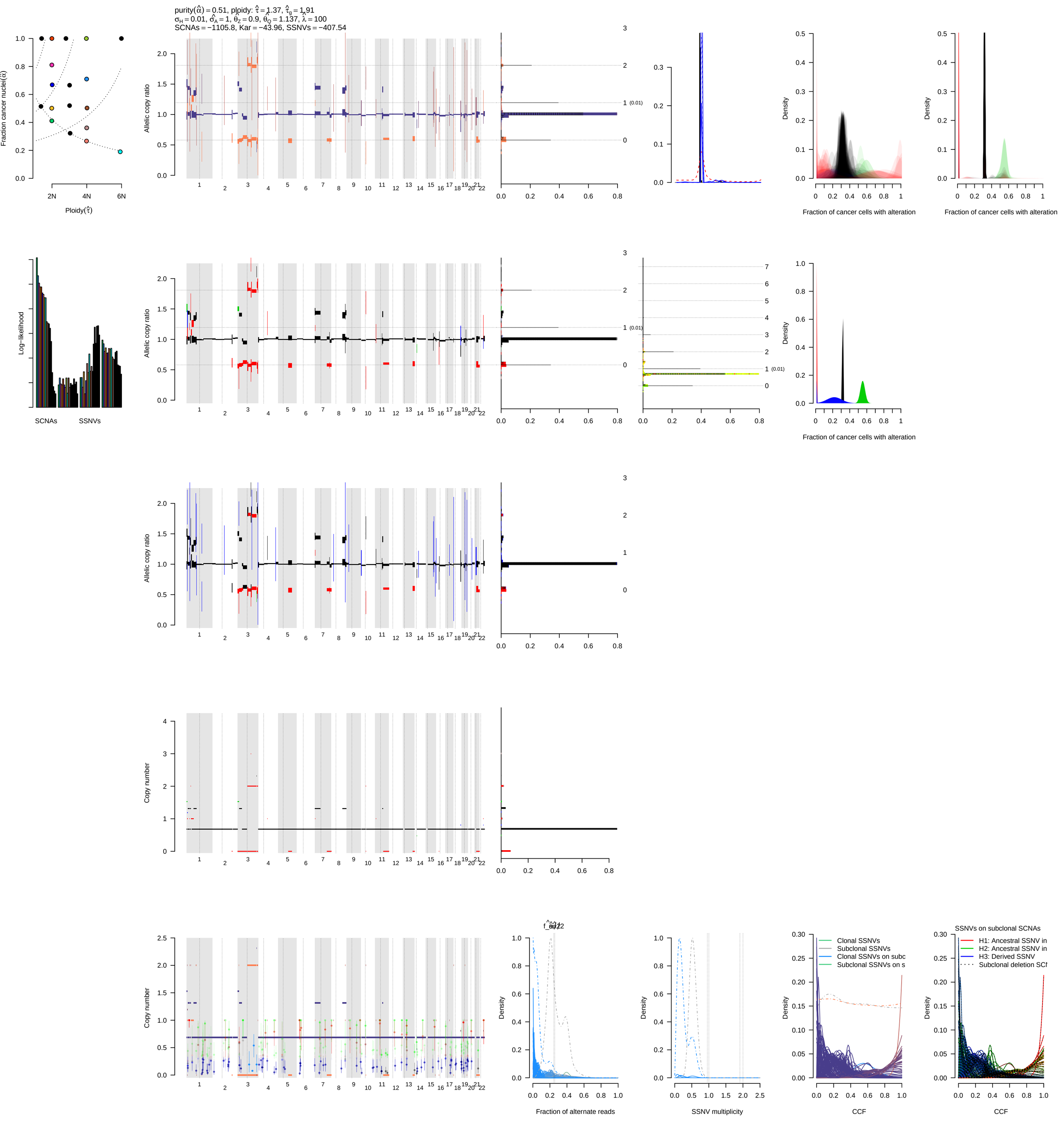

purity($\hat{\alpha}$) = 0.19, ploidy: $\hat{\tau}$ = 5.92, $\hat{\tau}_g$ = 5.99
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0, θ_Q = 1.997, $\hat{\lambda}$ = 100
SCNAs = −928.53, Kar = −77.44, SSNVs = −516.42
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_s
Fraction of alternate reads
SSNV multiplicity
CCF
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s

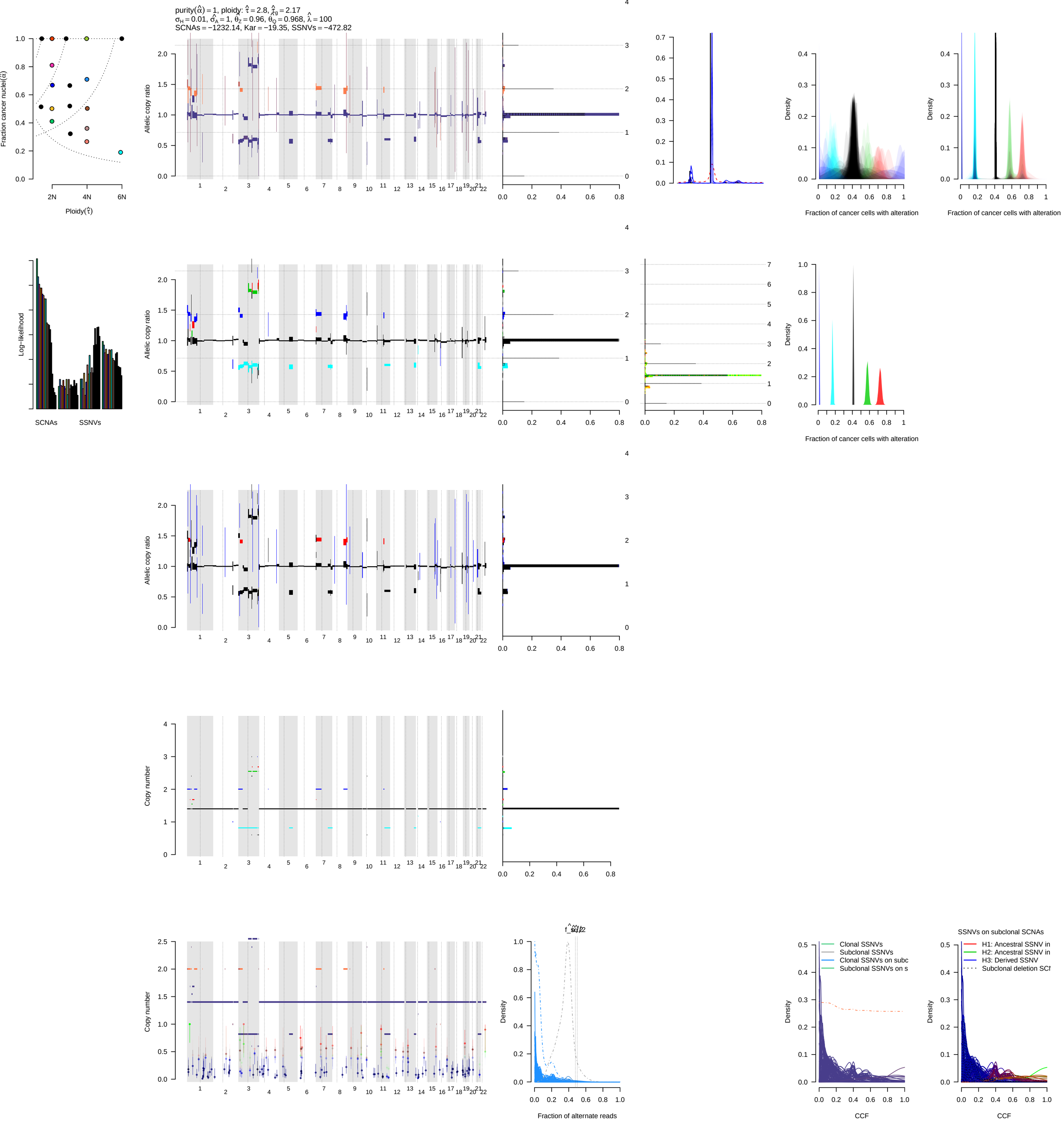

purity($\hat{\alpha}$) = 0.5, ploidy: $\hat{\tau}$ = 4.01, $\hat{\tau}_g$ = 4.04
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.09, θ_Q = 1.677, $\hat{\lambda}$ = 100
SCNAs = −1025.5, Kar = −15.92, SSNVs = −586.21
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
(0.79)
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_sol
Fraction of alternate reads
SSNV multiplicity
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
CCF
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI

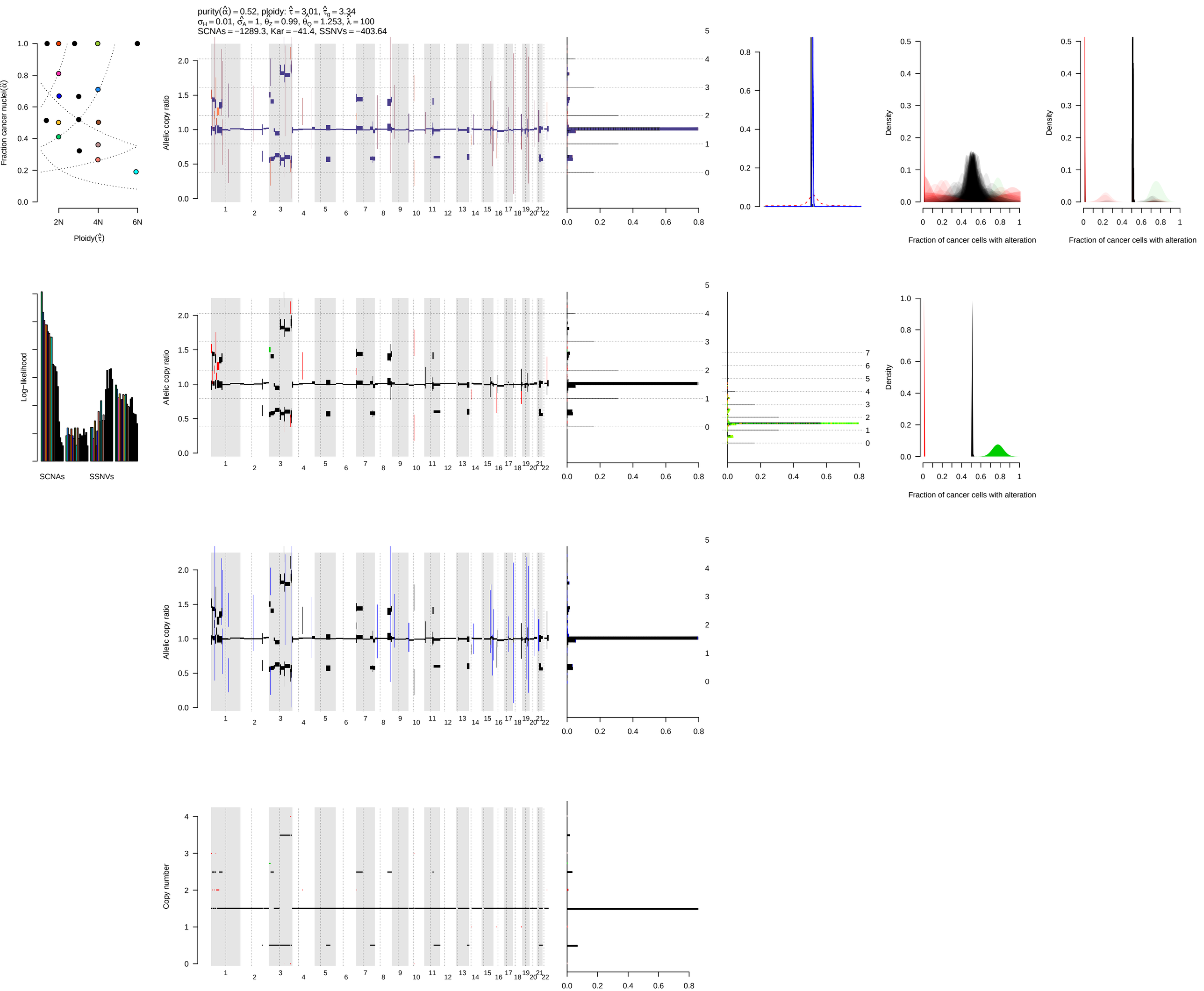

purity($\hat{\alpha}$) = 0.36, ploidy: $\hat{\tau}$ = 4, $\hat{\tau}_g$ = 4.01
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.1, θ_Q = 1.957, $\hat{\lambda}$ = 100
SCNAs = −1031.13, Kar = −54.04, SSNVs = −566.89
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
2N
4N
6N
Allelic copy ratio
(0.79)
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_s$\hat{\alpha}$/2
Fraction of alternate reads
SSNV multiplicity
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
CCF
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI

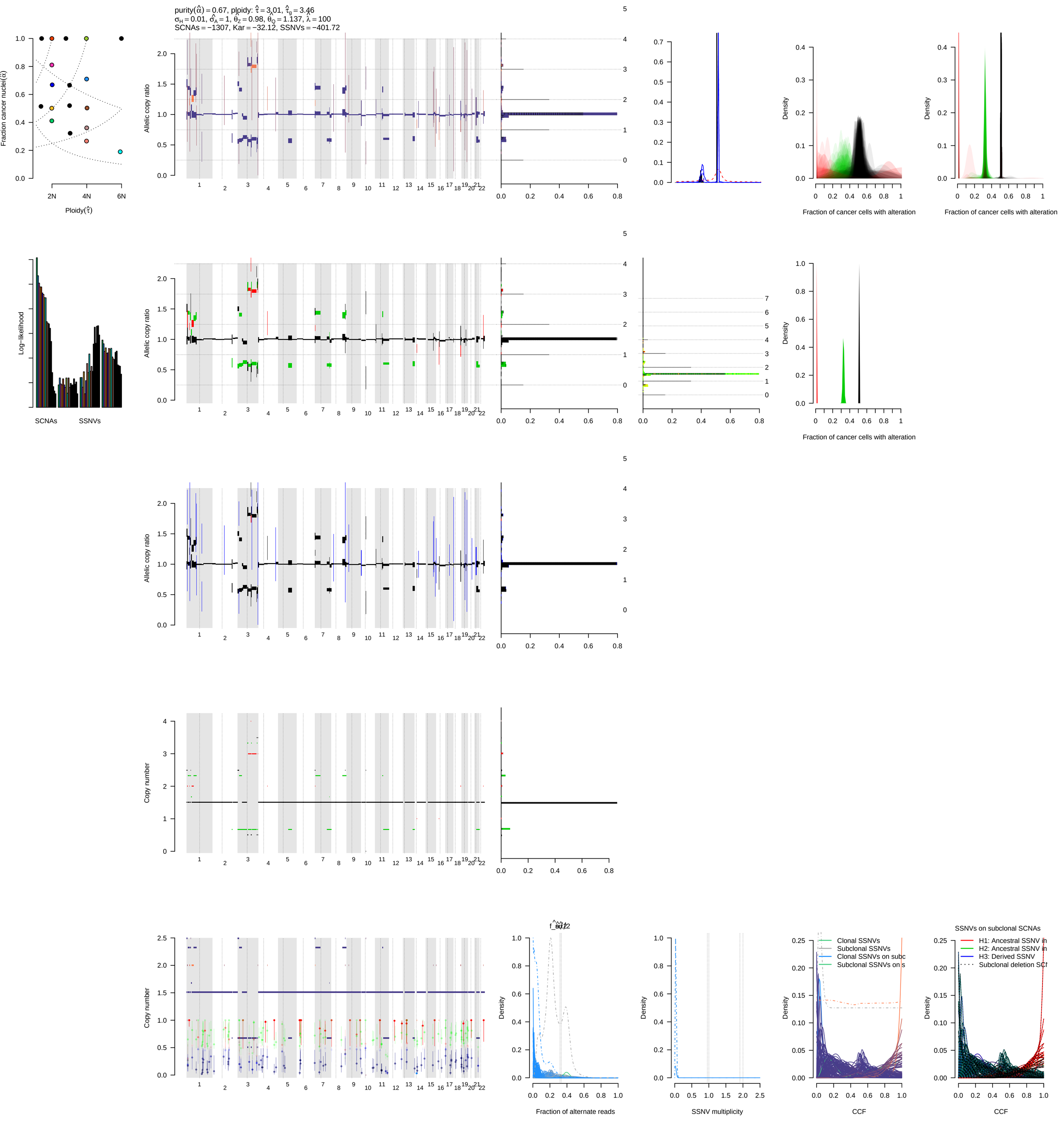

purity($\hat{\alpha}$) = 1, ploidy: $\hat{\tau}$ = 5.99, $\hat{\tau}_g$ = 6.04
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.09, θ_Q = 1.541, $\hat{\lambda}$ = 100
SCNAs = −1034.42, Kar = −37.81, SSNVs = −586.76
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_sol
Fraction of alternate reads
SSNV multiplicity
CCF
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI

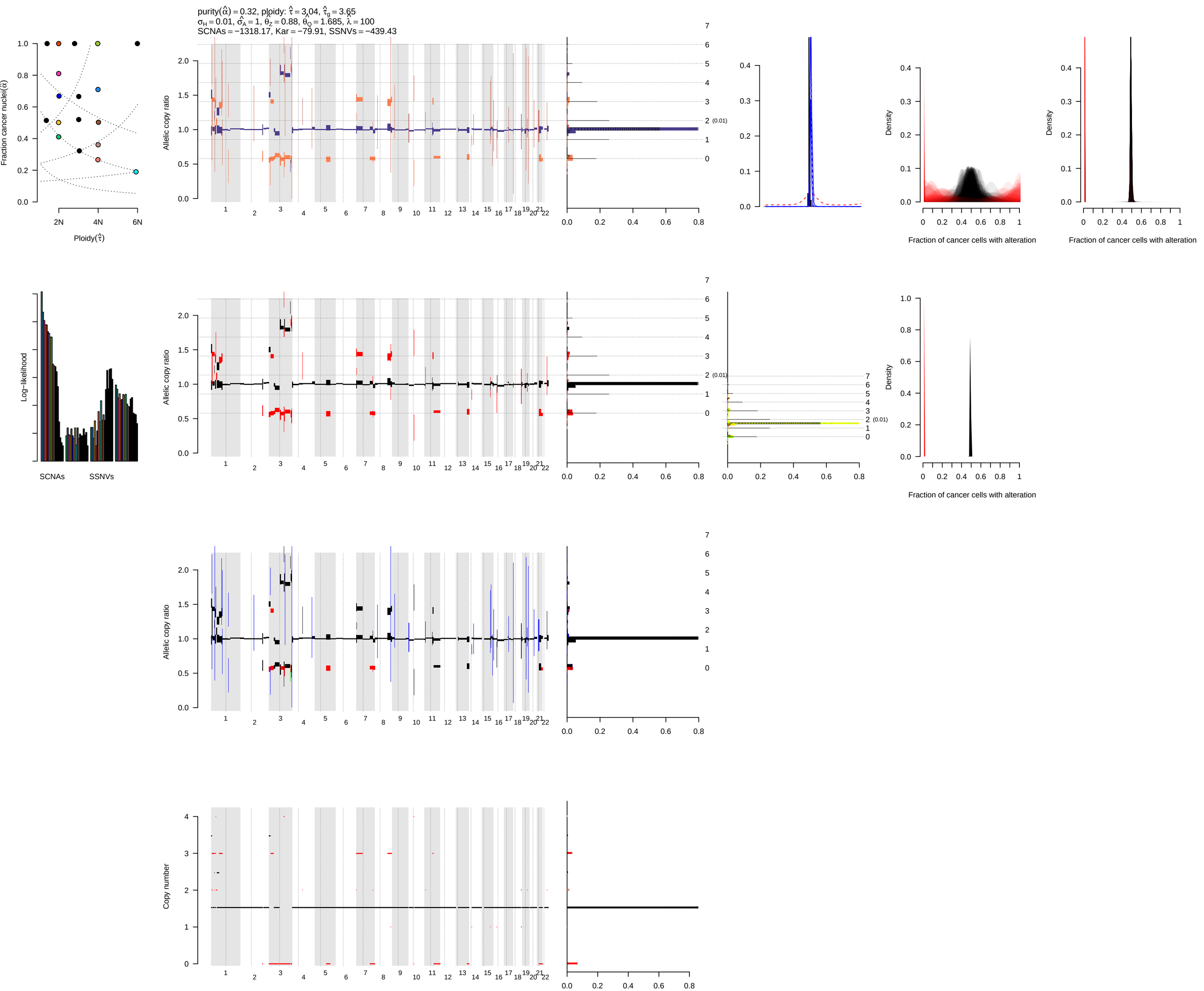

purity($\hat{\alpha}$) = 1, ploidy: $\hat{\tau}$ = 1.4, $\hat{\lambda}_g$ = 1.86
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.96, θ_Q = 0.933, $\hat{\lambda}$ = 100
SCNAs = −1052.36, Kar = −43.96, SSNVs = −475.89
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
2N
4N
6N
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
Fraction of alternate reads
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI
CCF


purity($\hat{\alpha}$) = 0.51, ploidy: $\hat{\tau}$ = 1.37, $\hat{\tau}_g$ = 1.91
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.9, θ_Q = 1.137, $\hat{\lambda}$ = 100
SCNAs = −1105.8, Kar = −43.96, SSNVs = −407.54
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
2N
4N
6N
Allelic copy ratio
(0.01)
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
f_{0,1,2}
Fraction of alternate reads
SSNV multiplicity
CCF
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI


purity($\hat{\alpha}$) = 1, ploidy: $\hat{\tau}$ = 2.8, $\hat{\lambda}_g$ = 2.17
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.96, θ_Q = 0.968, $\hat{\lambda}$ = 100
SCNAs = −1232.14, Kar = −19.35, SSNVs = −472.82
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
Fraction of alternate reads
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI
CCF


purity($\hat{\alpha}$) = 0.52, ploidy: $\hat{\tau}$ = 3.01, $\hat{\tau}_g$ = 3.34
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.99, θ_Q = 1.253, $\hat{\lambda}$ = 100
SCNAs = −1289.3, Kar = −41.4, SSNVs = −403.64
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
Fraction of alternate reads
SSNV multiplicity
CCF
SSNVs on subclonal SCNAs
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI


purity($\hat{\alpha}$) = 0.67, ploidy: $\hat{\tau}$ = 3.01, $\hat{\tau}_g$ = 3.46
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.98, θ_Q = 1.137, $\hat{\lambda}$ = 100
SCNAs = −1307, Kar = −32.12, SSNVs = −401.72
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
Fraction of alternate reads
SSNV multiplicity
CCF
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
SSNVs on subclonal SCNAs
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI


purity($\hat{\alpha}$) = 0.32, ploidy: $\hat{\tau}$ = 3.04, $\hat{\tau}_g$ = 3.65
σ_H = 0.01, $\hat{\sigma}_A$ = 1, θ_Z = 0.88, θ_Q = 1.685, $\hat{\lambda}$ = 100
SCNAs = −1318.17, Kar = −79.91, SSNVs = −439.43
Fraction cancer nuclei($\hat{\alpha}$)
Ploidy($\hat{\tau}$)
Allelic copy ratio
Density
Fraction of cancer cells with alteration
Log−likelihood
SCNAs
SSNVs
Copy number
Fraction of alternate reads
SSNV multiplicity
CCF
SSNVs on subclonal SCNAs
Clonal SSNVs
Subclonal SSNVs
Clonal SSNVs on subc
Subclonal SSNVs on s
H1: Ancestral SSNV in
H2: Ancestral SSNV in
H3: Derived SSNV
Subclonal deletion SCI