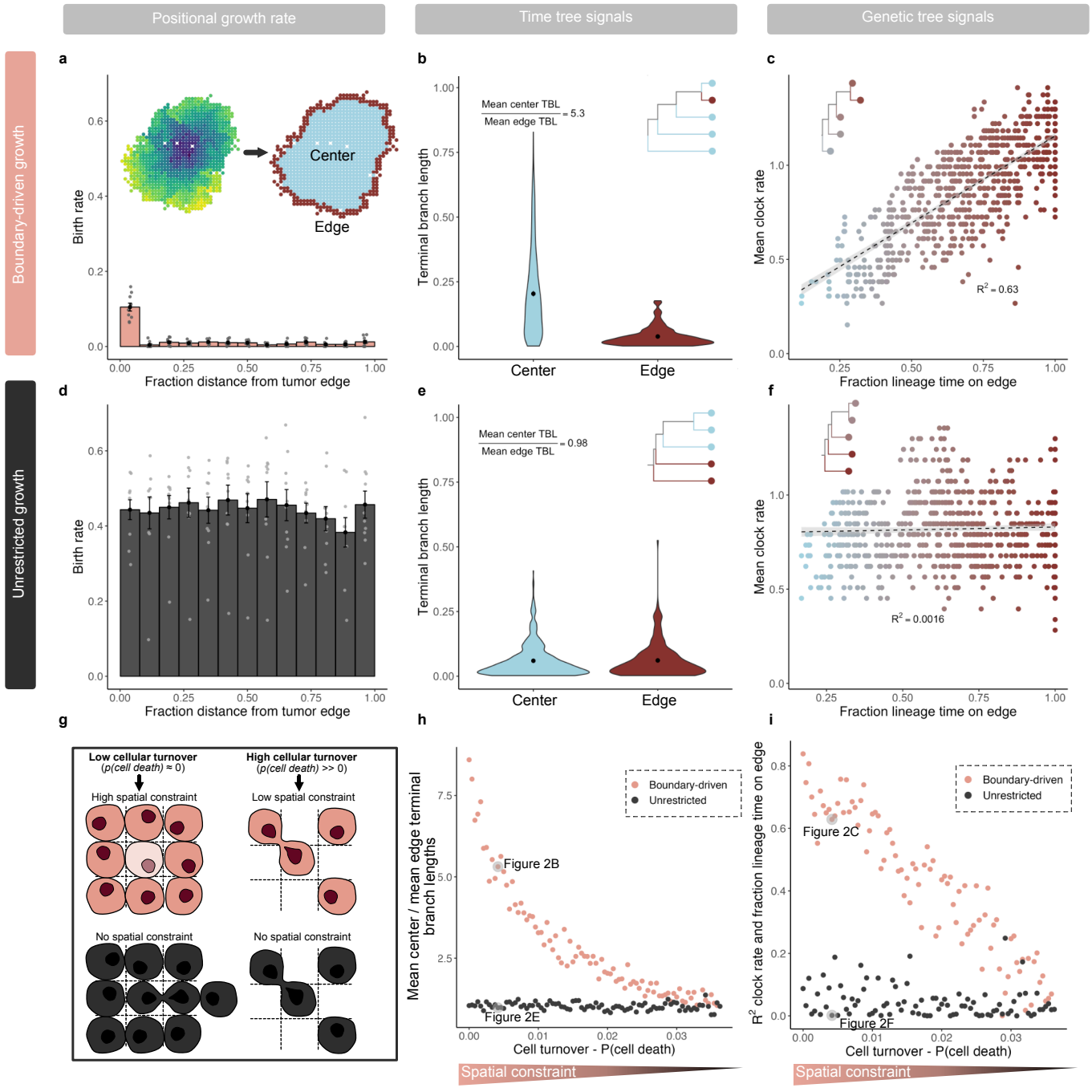
Positional growth rate
Time tree signals
Genetic tree signals
Boundary-driven growth
Unrestricted growth
a
b
c
d
e
f
g
h
i
Birth rate
Fraction distance from tumor edge
Center
Edge
Mean center TBL / Mean edge TBL = 5.3
Terminal branch length
Mean clock rate
Fraction lineage time on edge
R2 = 0.63
Mean center TBL / Mean edge TBL = 0.98
R2 = 0.0016
Low cellular turnover
(p(cell death) ≈ 0)
High cellular turnover
(p(cell death) >> 0)
High spatial constraint
Low spatial constraint
No spatial constraint
No spatial constraint
Boundary-driven
Unrestricted
Figure 2B
Figure 2E
Mean center / mean edge terminal branch lengths
Cell turnover - P(cell death)
Figure 2C
Figure 2F
R2 clock rate and fraction lineage time on edge
Spatial constraint
Spatial constraint