



F_1
PD-L1-
tumor

F_1
PD-L1+
tumor

F_1
PD-L1+
immune

F_1
PD-L1-
immune

- YOLOv5 (F_1 macro = 0.598)
- μ PEN without edge loss (F_1 macro = 0.555)
- μ PEN with edge loss (F_1 macro = 0.631)
- μ PEN with edge loss and false positive loss (F_1 macro = 0.654)