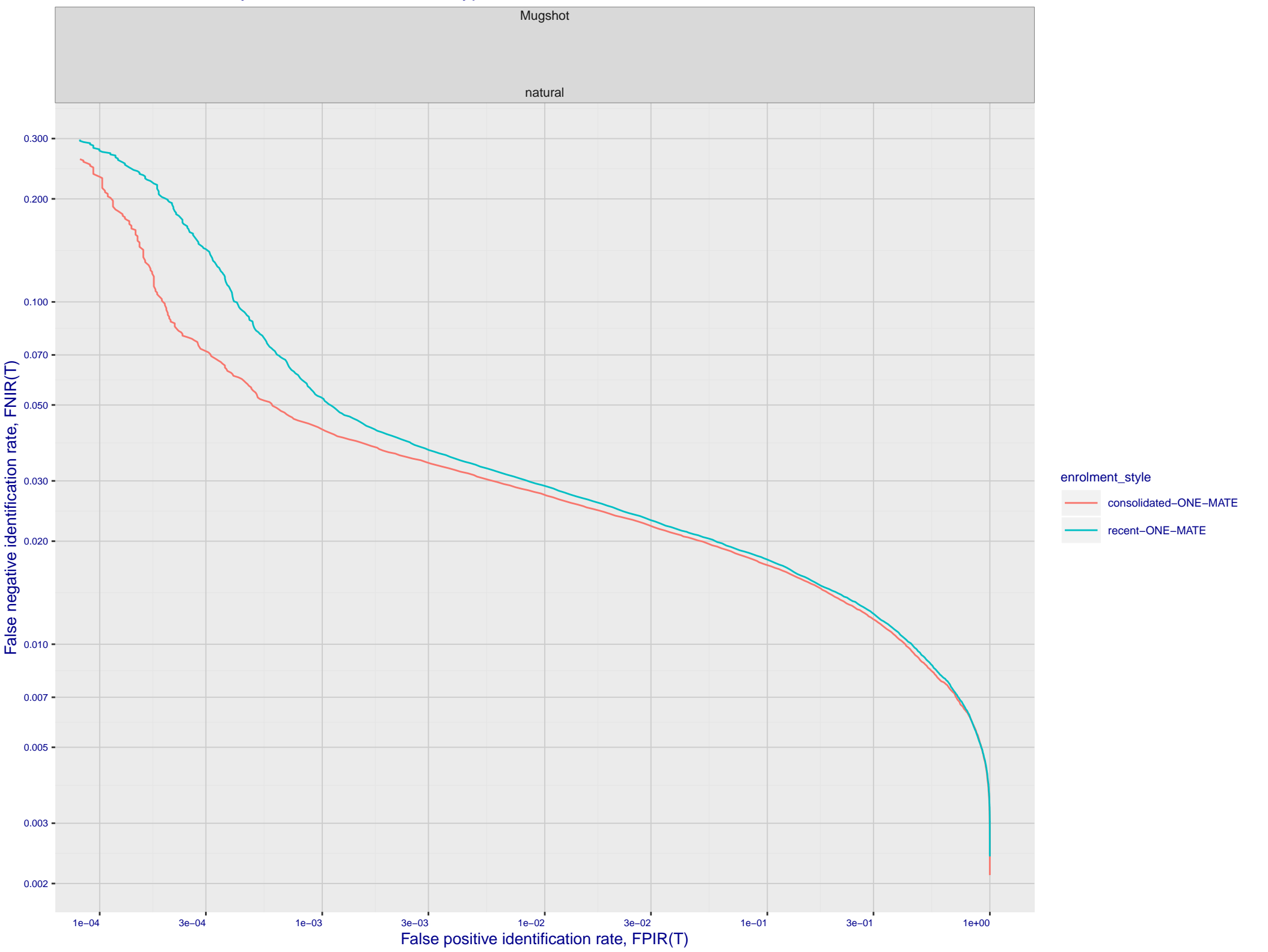
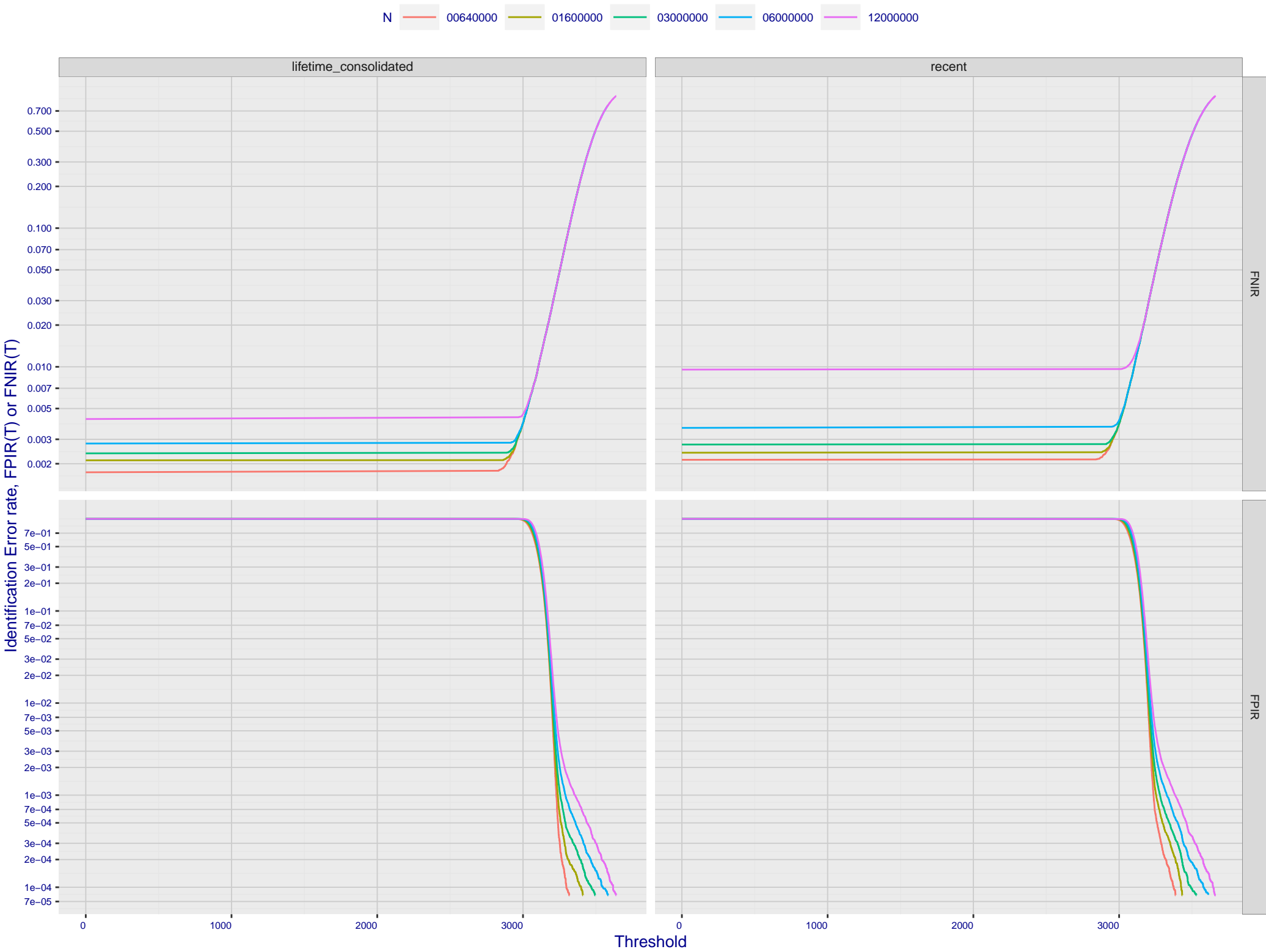


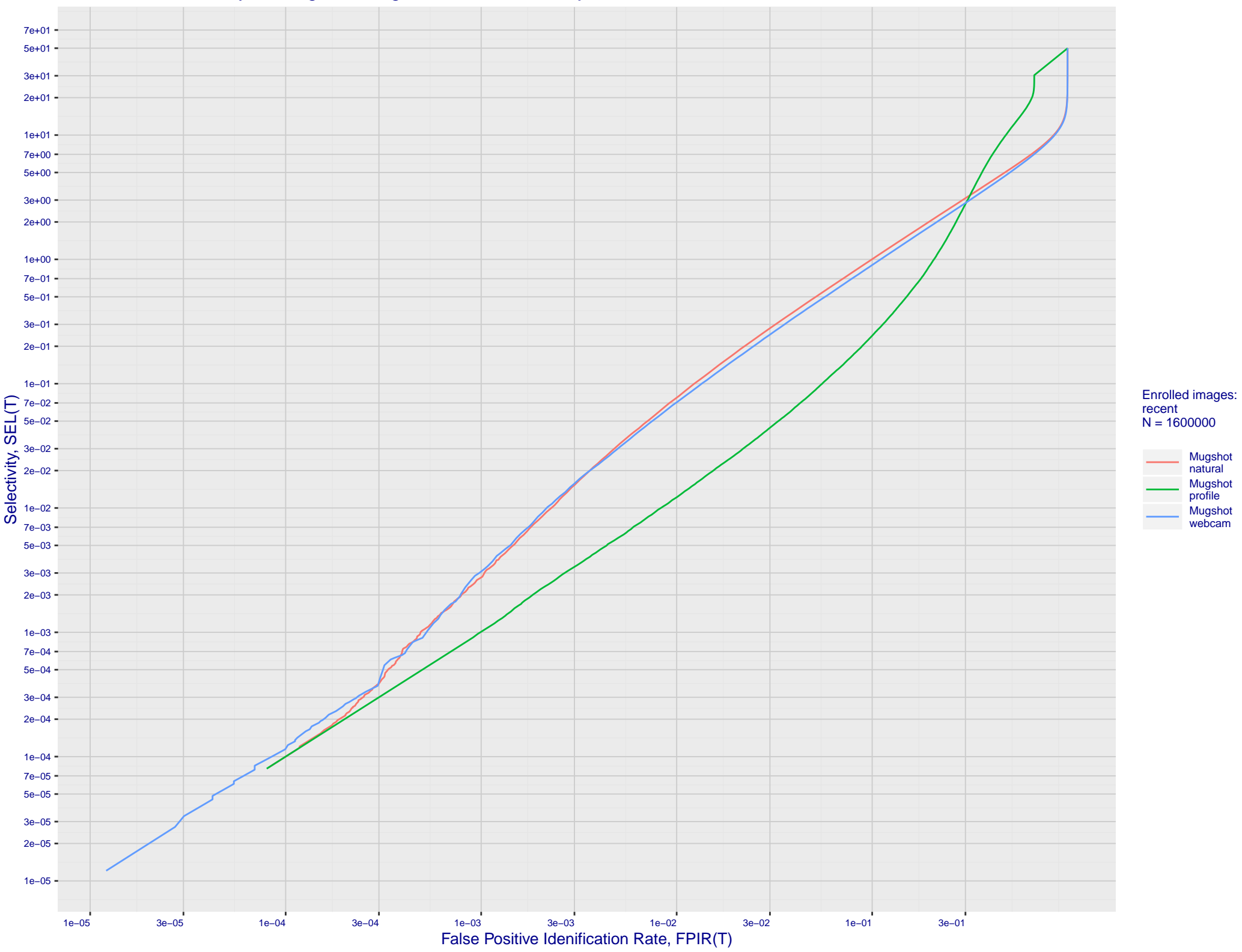
A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



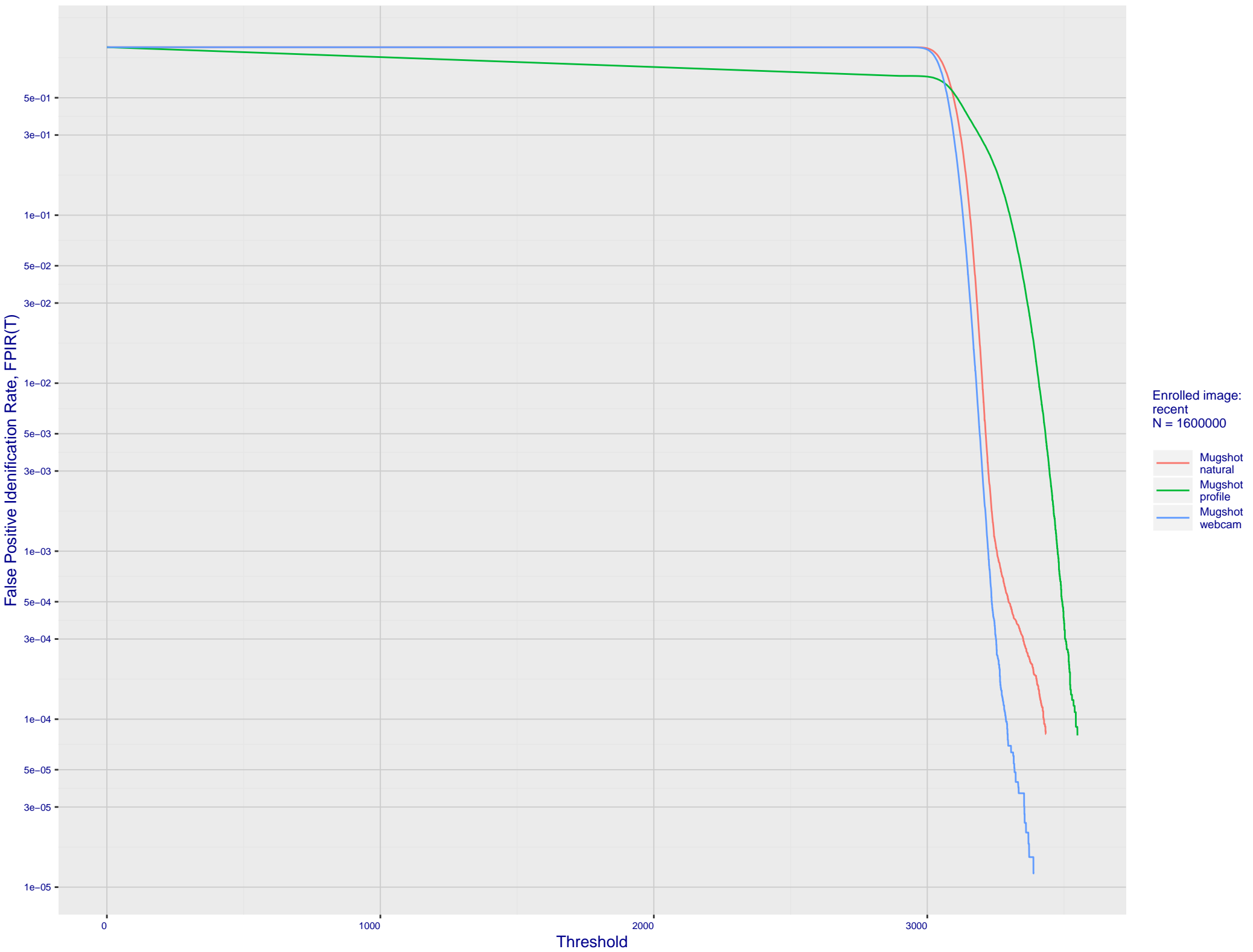
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



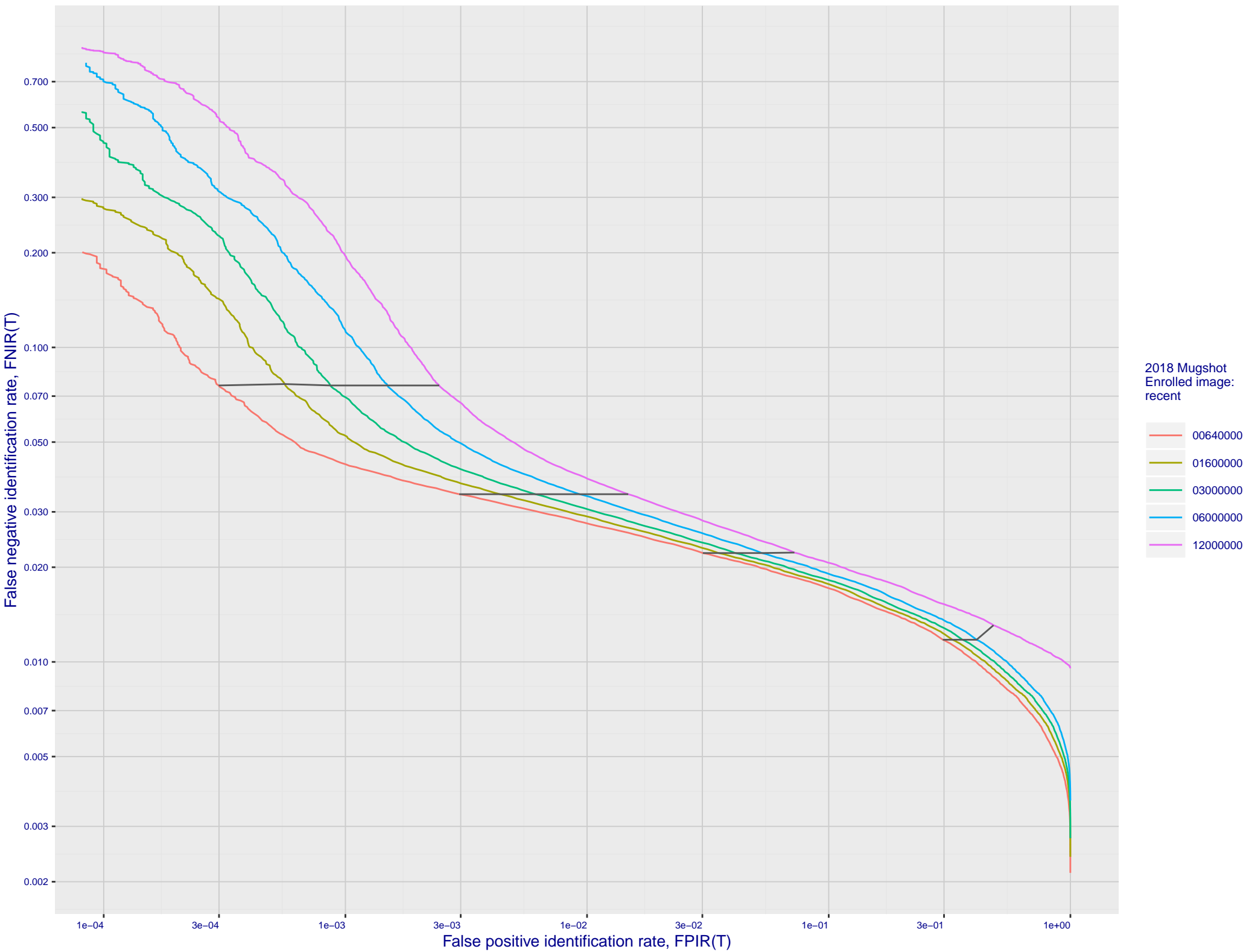
C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate



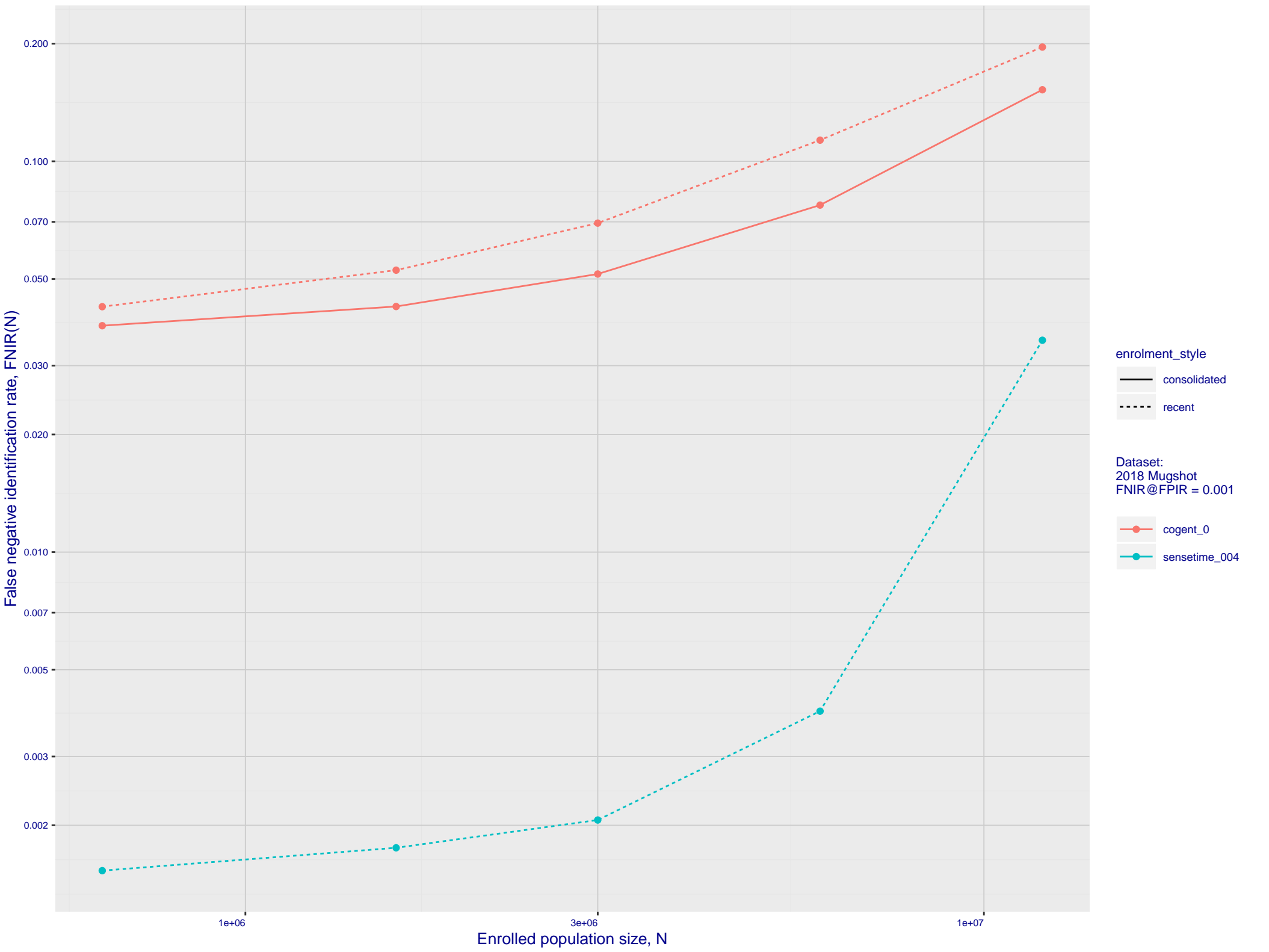
D: FPIR dependence on T by probe type for N = 1600000 subjects



E: DET for Mugshot natural images and various N. Links connect points of equal threshold.



F: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime\_004)



## G: Datasheet

Algorithm: cogent\_0

Developer: Thales

Submission Date: 2018\_06\_20

Template size: 525 bytes

Template time (2.5 percentile): 541 msec

Template time (median): 550 msec

Template time (97.5 percentile): 579 msec

Frontal mugshot investigation rank 118 ---  $\text{FNIR}(1600000, 0, 1) = 0.0105$  vs. lowest 0.0010 from sensetime\_004

natural investigation rank 128 ---  $\text{FNIR}(1600000, 0, 1) = 0.0461$  vs. lowest 0.0067 from sensetime\_003

natural investigation rank 284 ---  $\text{FNIR}(1600000, 0, 1) = 0.9554$  vs. lowest 0.0492 from paravision\_005

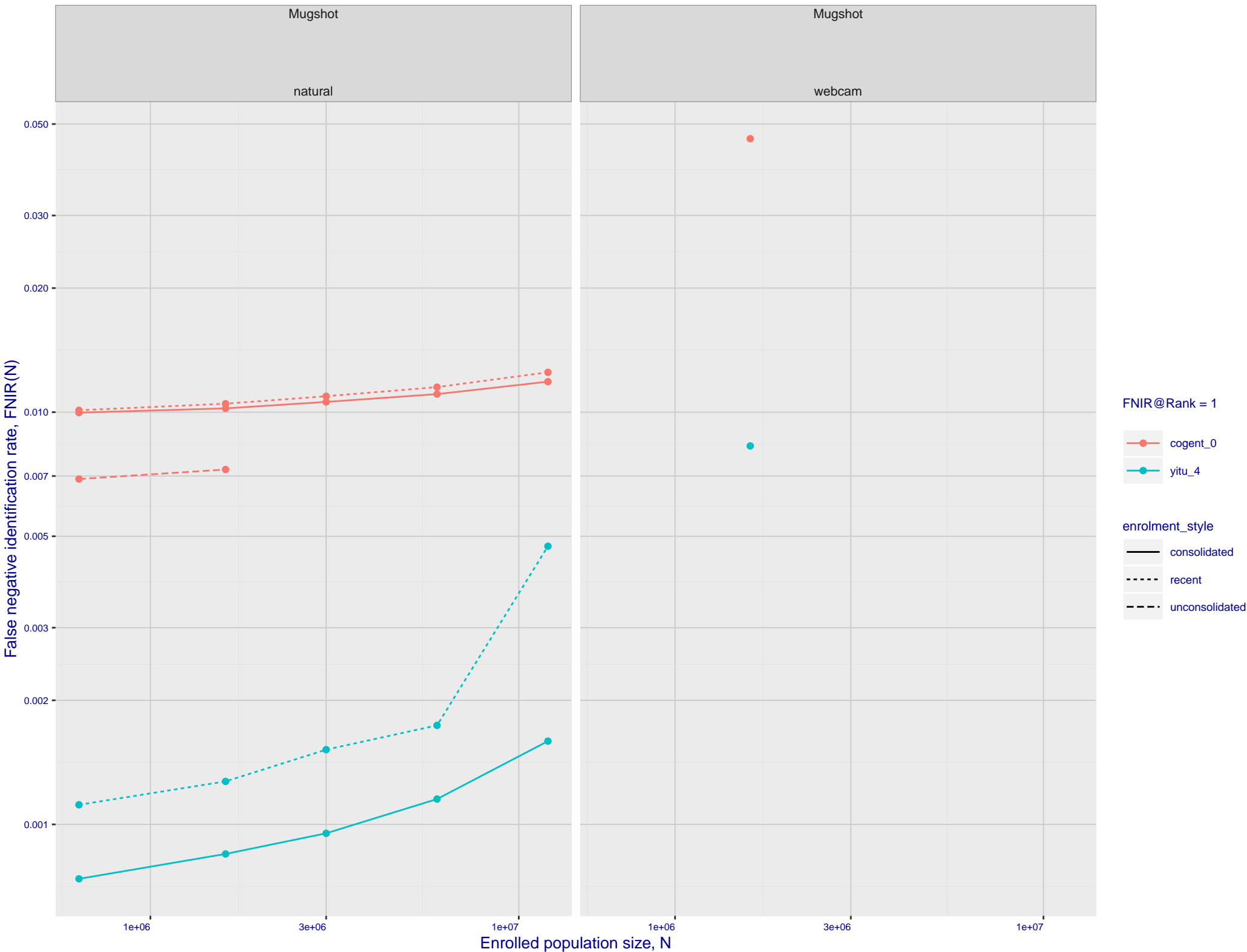
natural investigation rank 284 ---  $\text{FNIR}(1600000, 0, 1) = 0.9554$  vs. lowest 0.0492 from paravision\_005

Frontal mugshot identification rank 76 ---  $\text{FNIR}(1600000, T, L+1) = 0.0527$  vs. lowest 0.0018 from sensetime\_004

natural identification rank 86 ---  $\text{FNIR}(1600000, T, L+1) = 0.1402$  vs. lowest 0.0122 from sensetime\_003

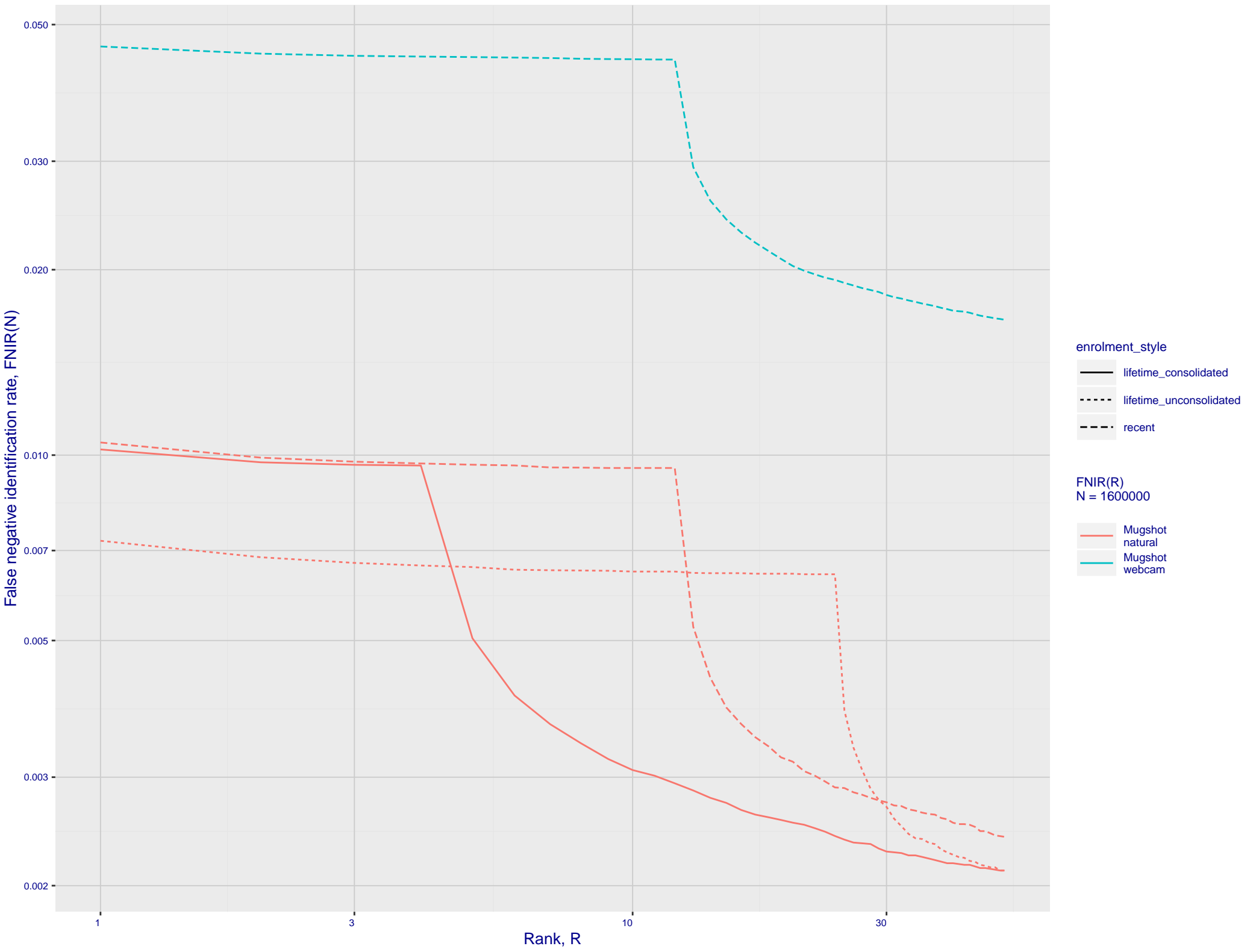
natural identification rank 96 ---  $\text{FNIR}(1600000, T, L+1) = 0.9933$  vs. lowest 0.1020 from sensetime\_004

H: Investigational mode: FNIR(N, 1, 0) vs. most accurate (yitu\_4)

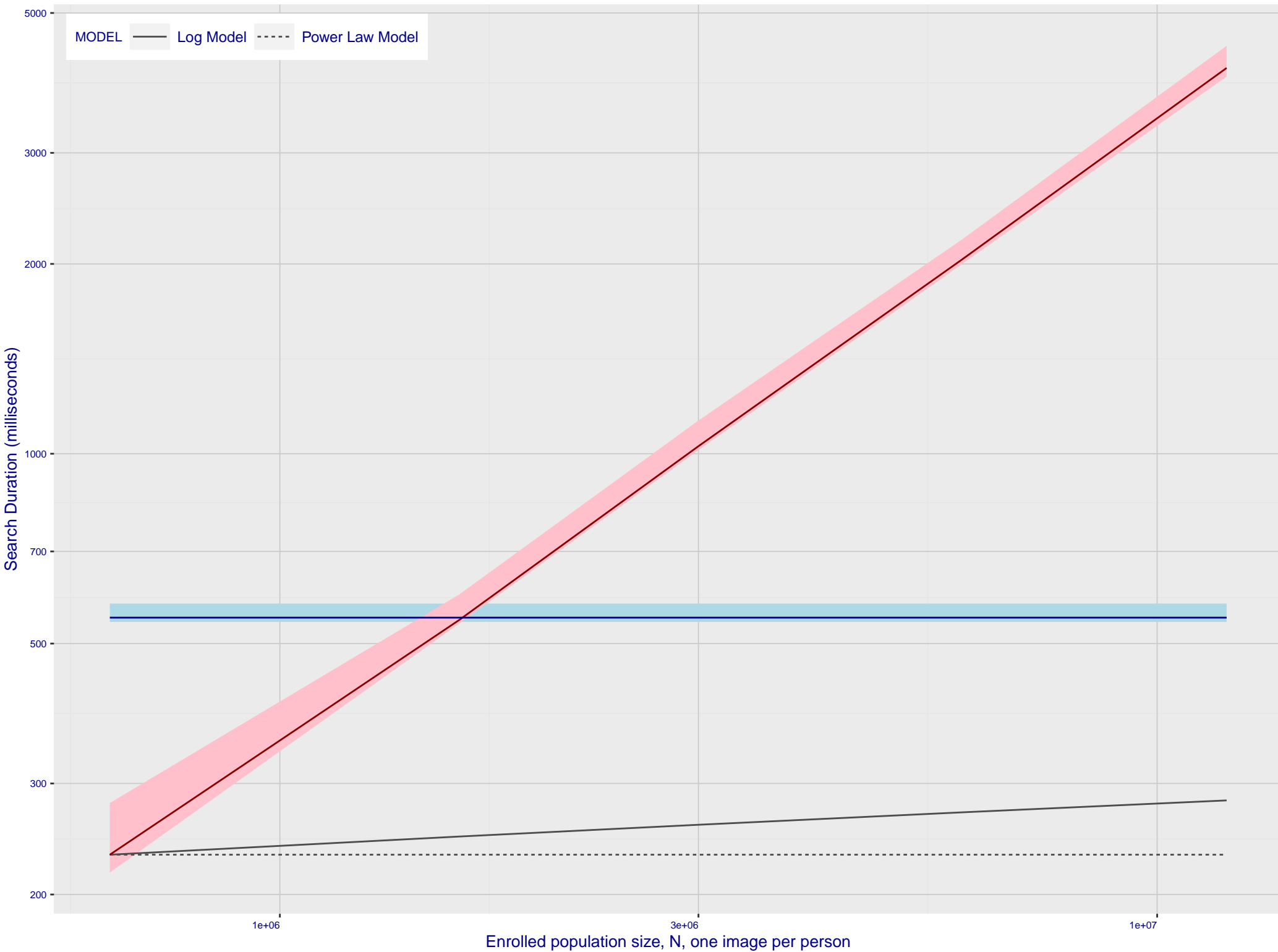




I: Investigational mode: FNIR(1600000, R, 0) by probe type

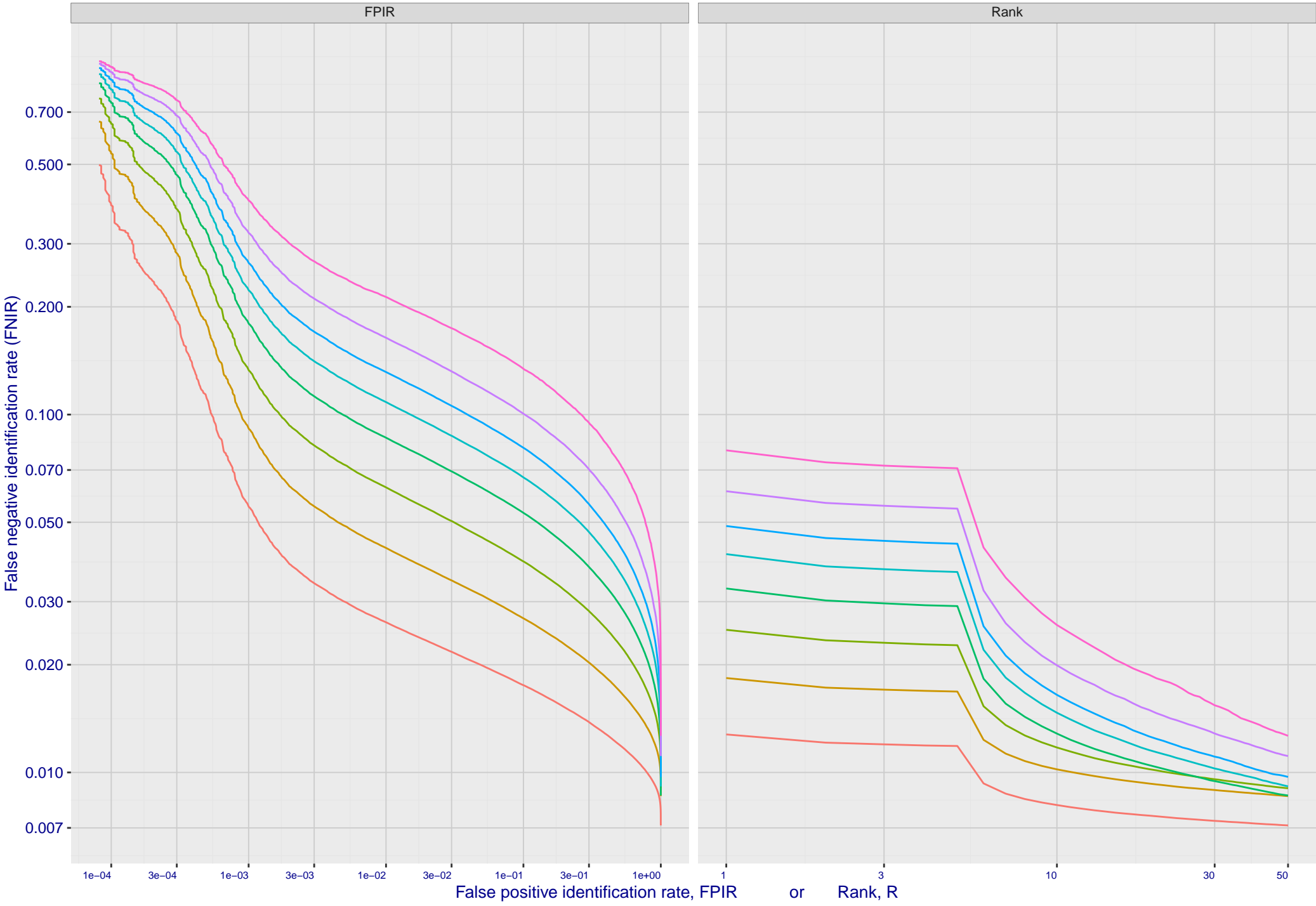


Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements.  
The template generation time is independent of N. The log and power-law models are fit to the first two (N,T) observations



M: Identification FNIR(N, T, L+1) and Investigational FNIR(N, 0, R) under ageing

Dataset: 2018 Mugshot N = 3068801



N: Decline of genuine scores with ageing

