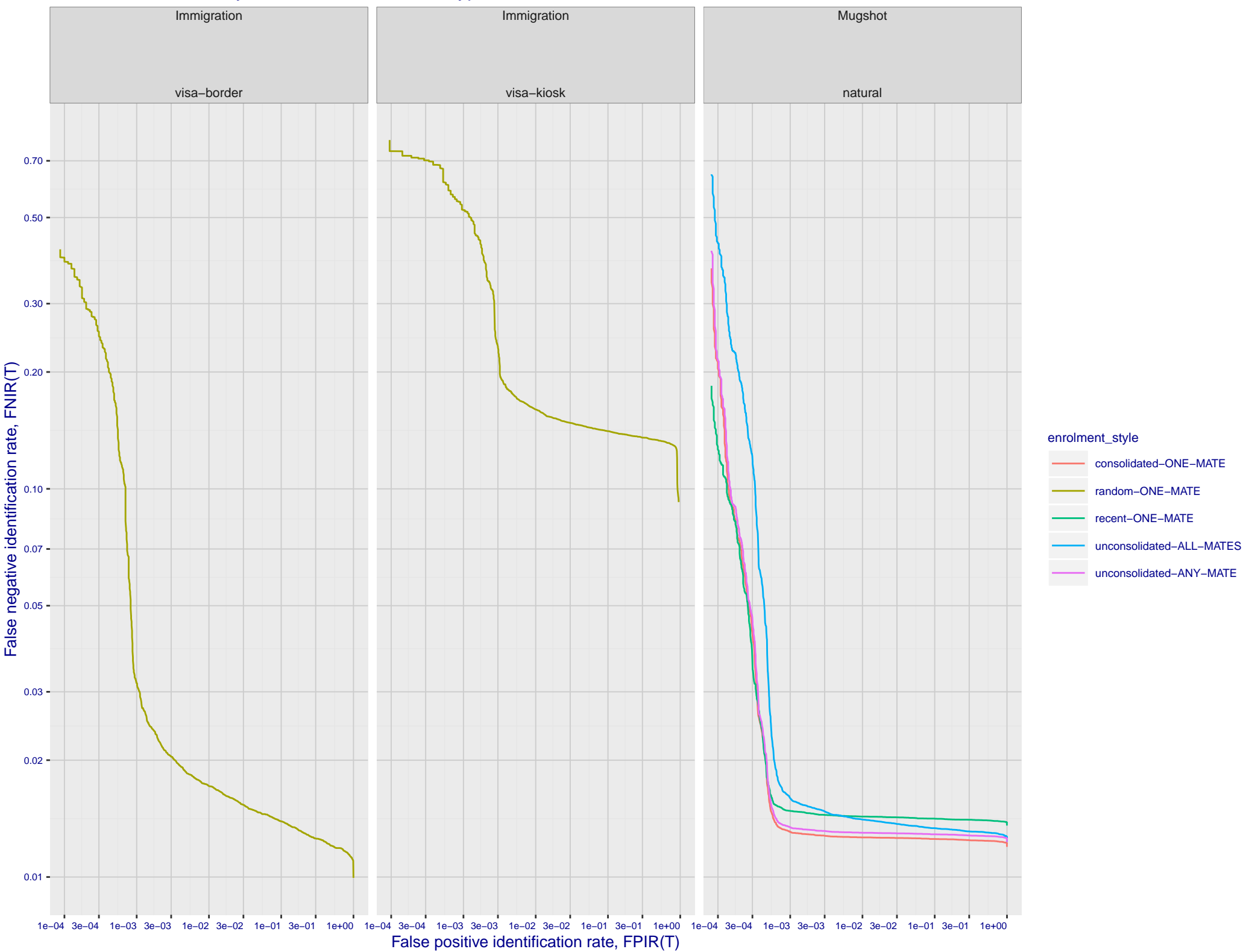
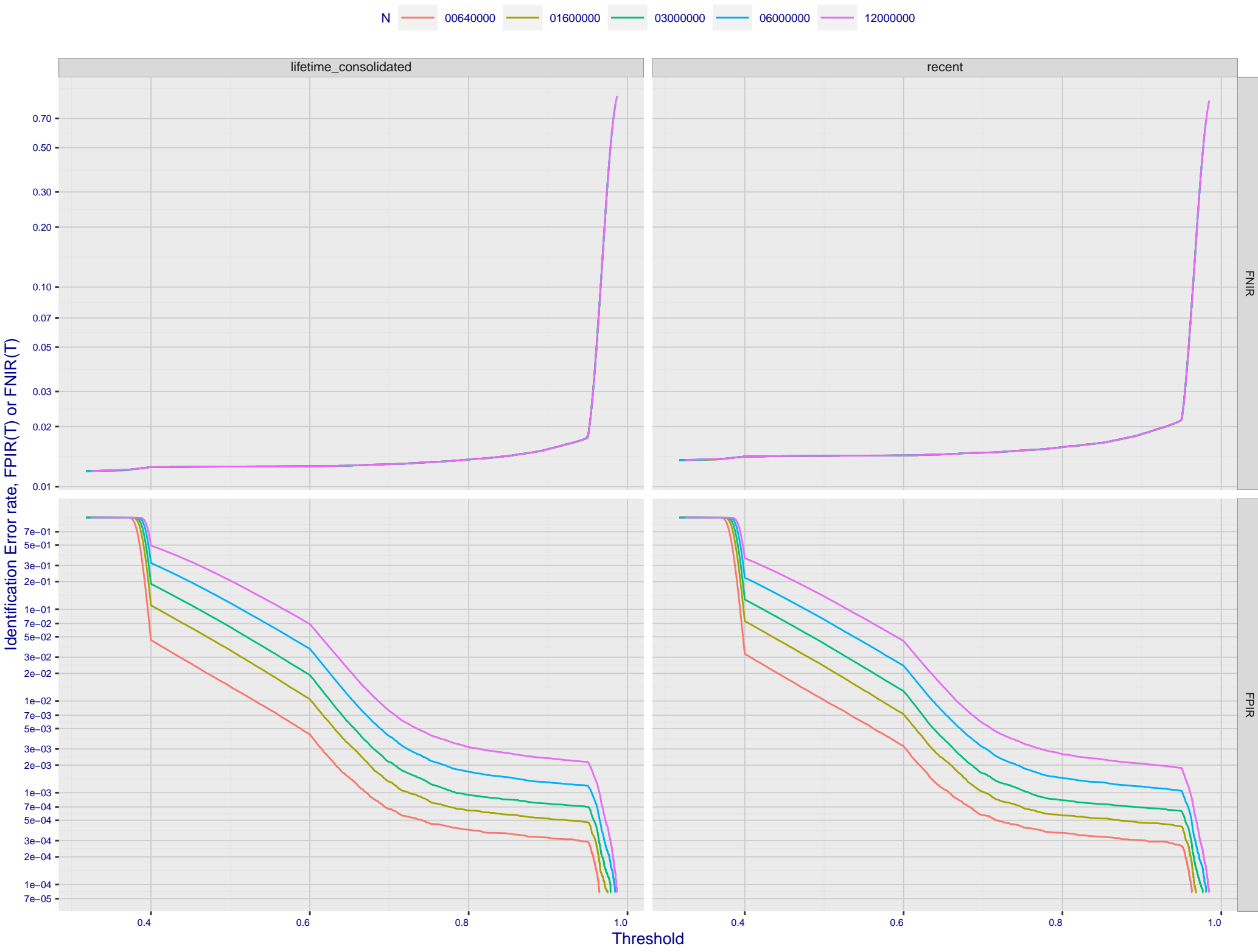


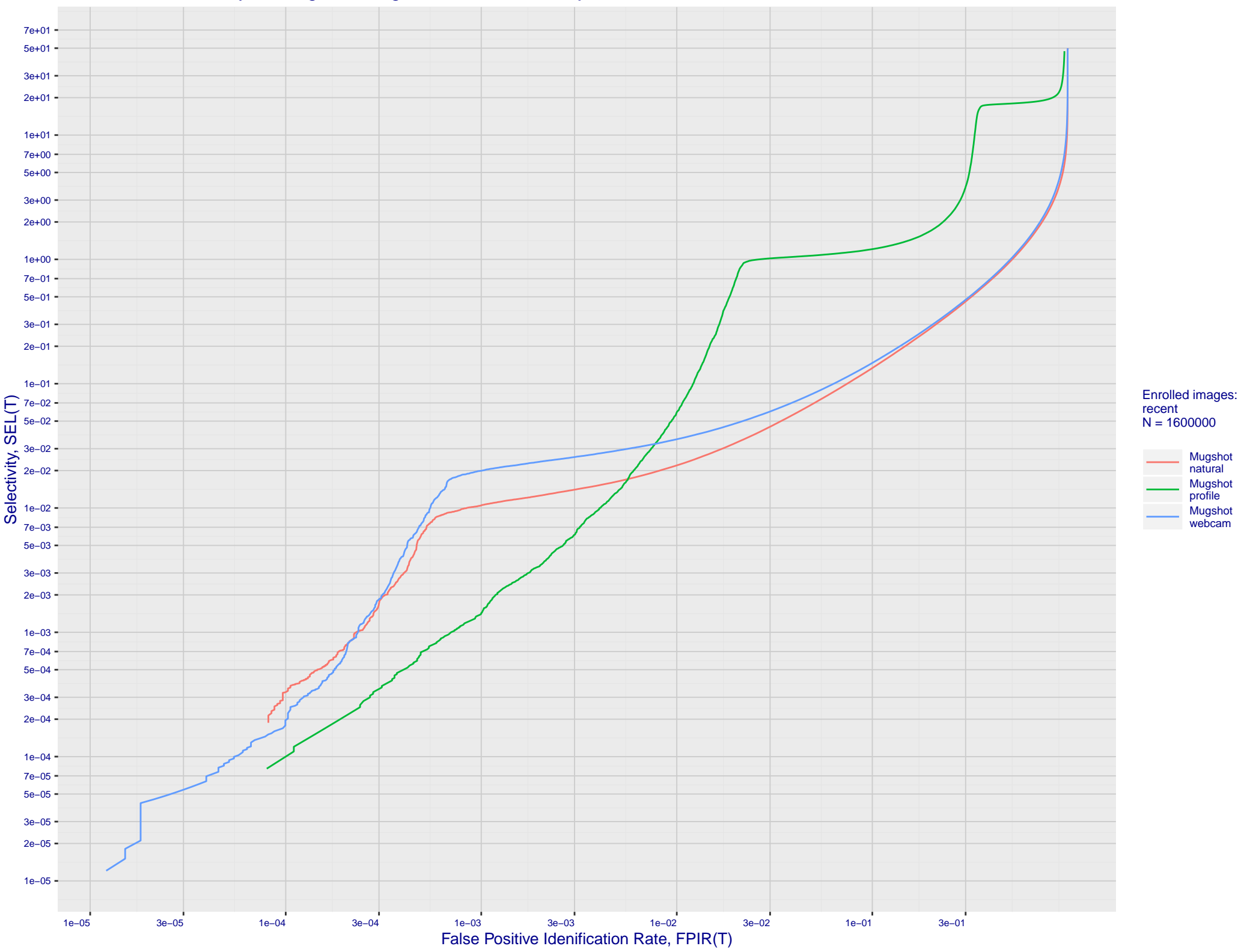
A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



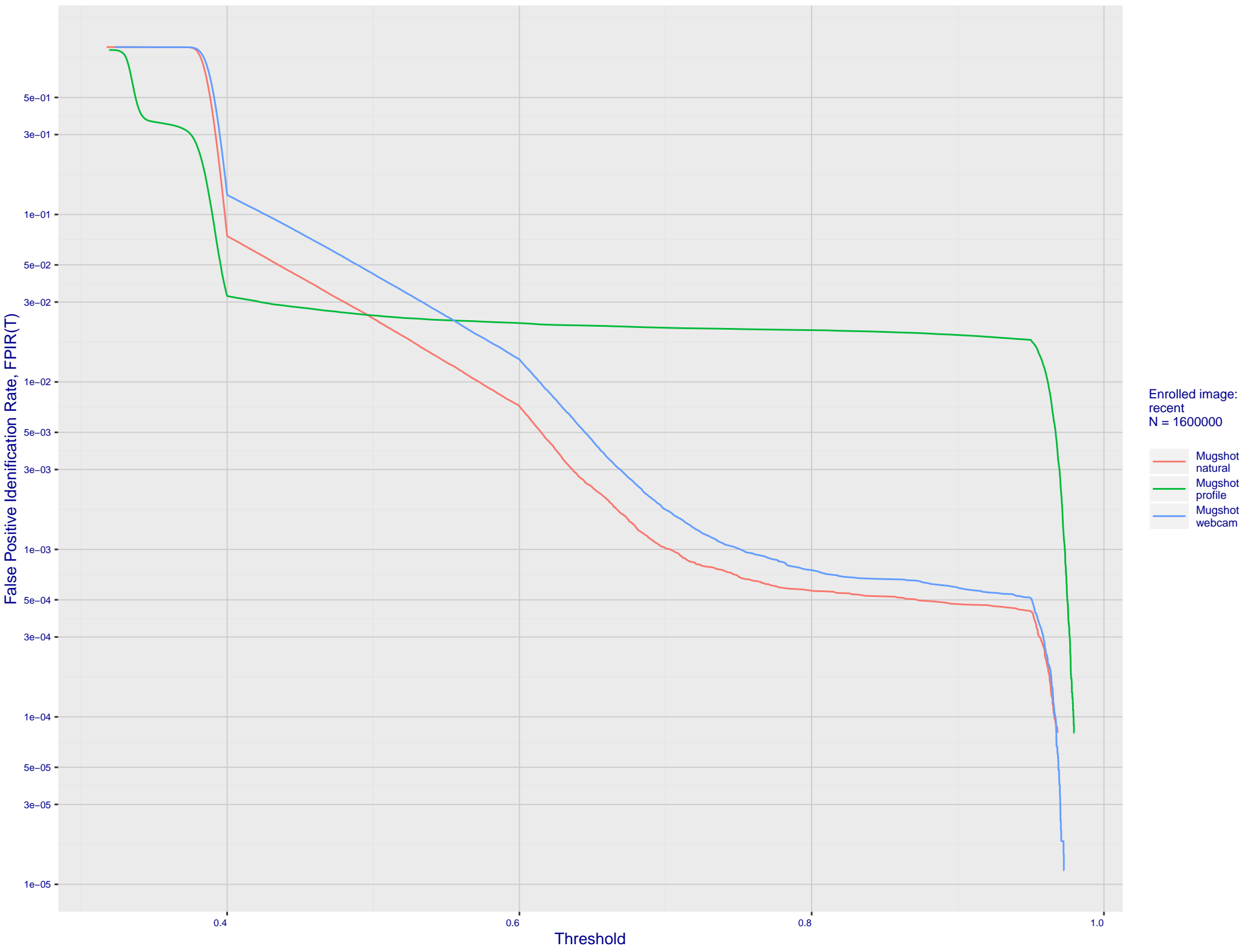
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



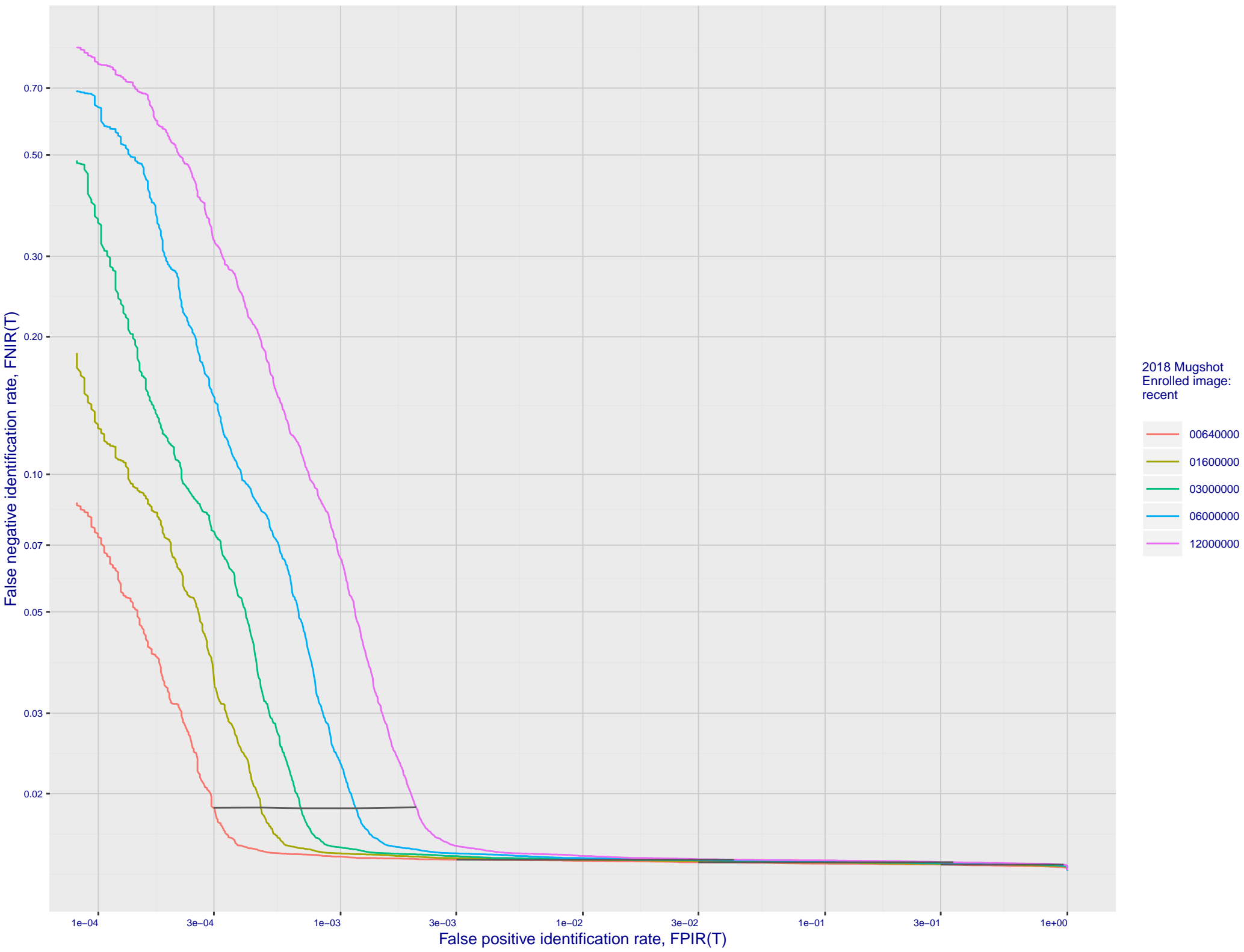
C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate



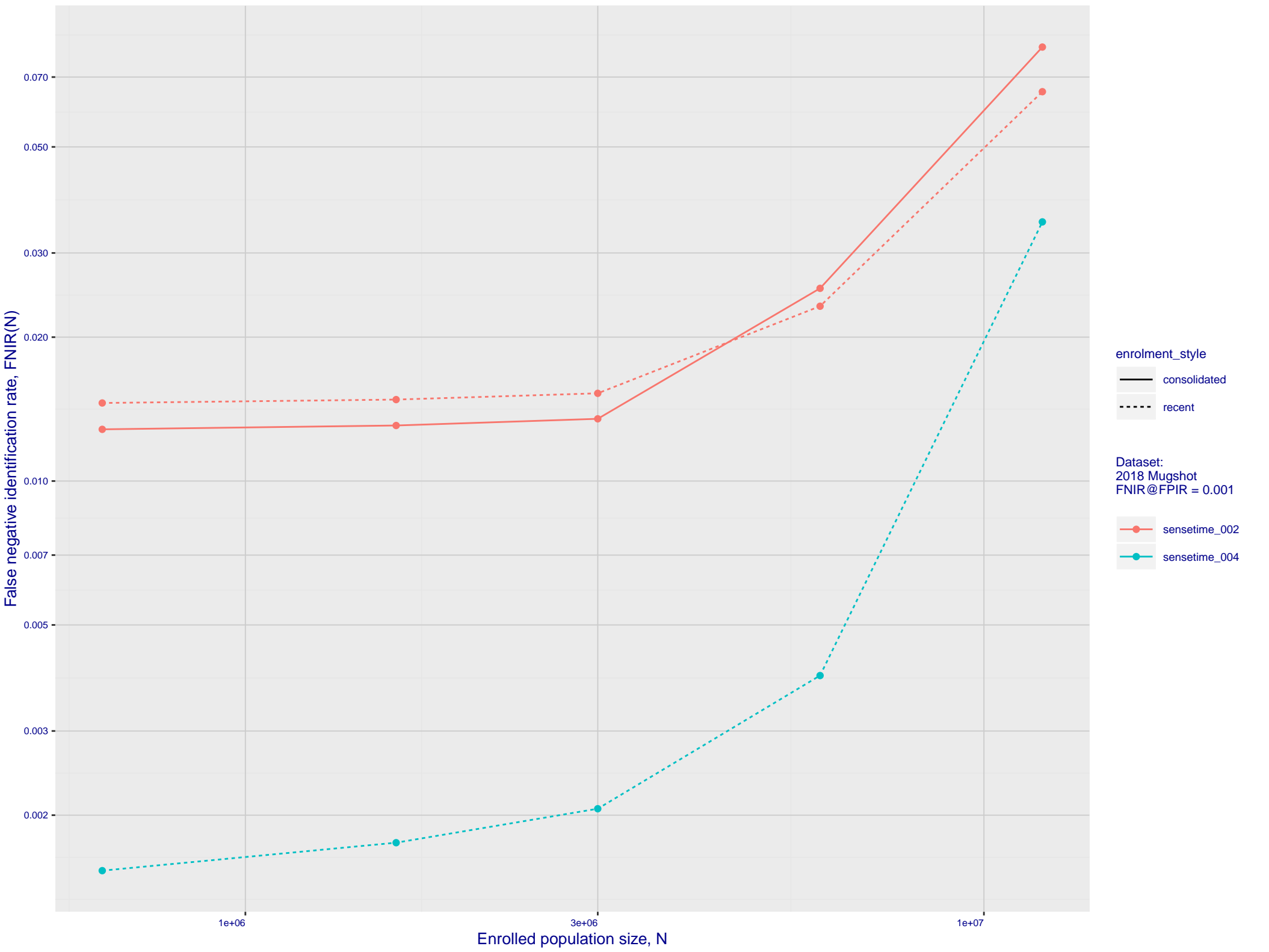
D: FPIR dependence on T by probe type for N = 1600000 subjects



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: `sensetime_002`

Developer: Sensetime Group

Submission Date: 2019\_06\_03

Template size: 2056 bytes

Template time (2.5 percentile): 600 msec

Template time (median): 603 msec

Template time (97.5 percentile): 847 msec

Frontal mugshot investigation rank 135 ---  $\text{FNIR}(1600000, 0, 1) = 0.0137$  vs. lowest 0.0010 from `sensetime_004`

natural investigation rank 56 ---  $\text{FNIR}(1600000, 0, 1) = 0.0196$  vs. lowest 0.0067 from `sensetime_003`

natural investigation rank 55 ---  $\text{FNIR}(1600000, 0, 1) = 0.3083$  vs. lowest 0.0492 from `paravision_005`

natural investigation rank 55 ---  $\text{FNIR}(1600000, 0, 1) = 0.3083$  vs. lowest 0.0492 from `paravision_005`

natural investigation rank 49 ---  $\text{FNIR}(1600000, 0, 1) = 0.0108$  vs. lowest 0.0014 from `visionlabs_009`

natural investigation rank 20 ---  $\text{FNIR}(1600000, 0, 1) = 0.1037$  vs. lowest 0.0694 from `cib_000`

Frontal mugshot identification rank 18 ---  $\text{FNIR}(1600000, T, L+1) = 0.0148$  vs. lowest 0.0018 from `sensetime_004`

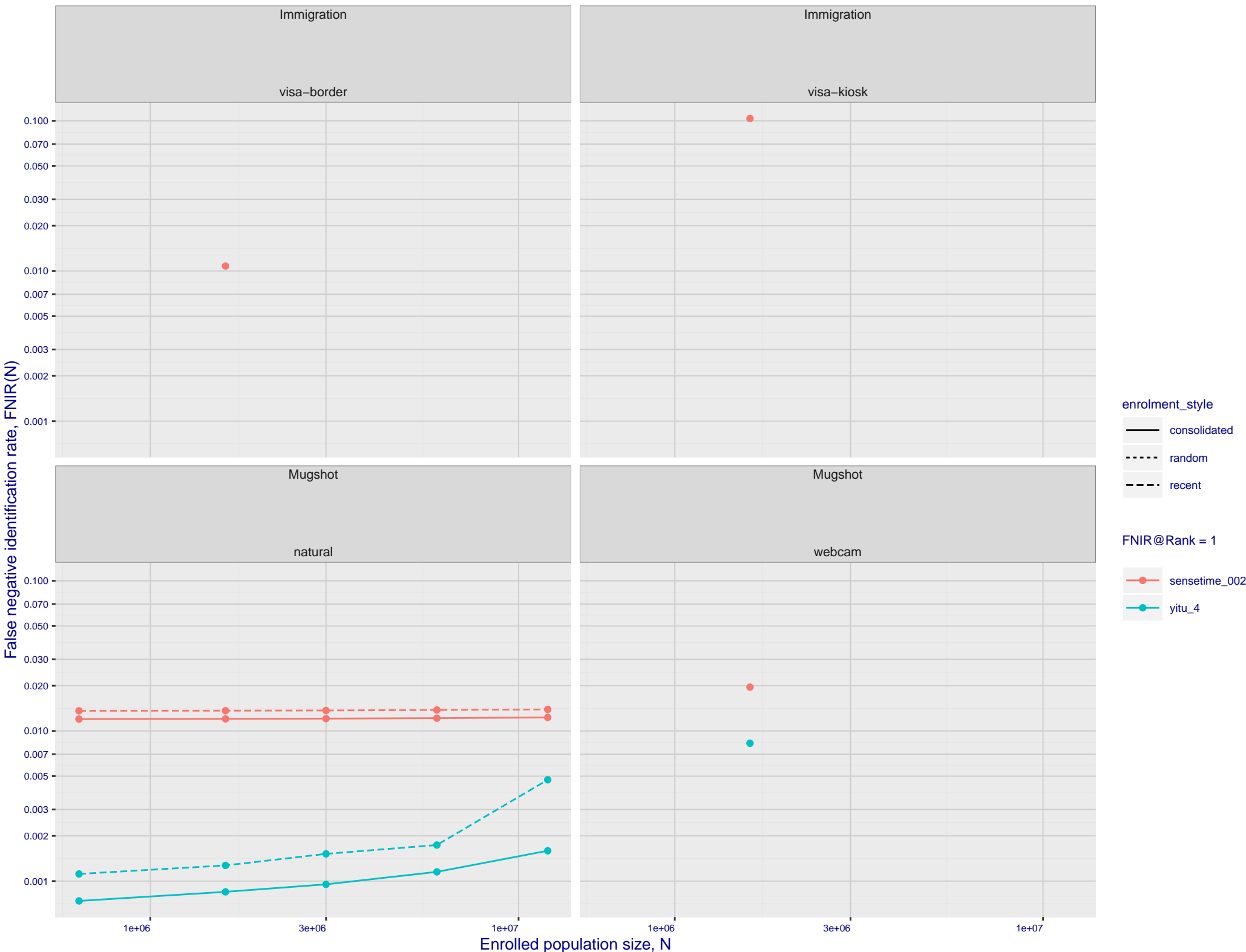
natural identification rank 9 ---  $\text{FNIR}(1600000, T, L+1) = 0.0277$  vs. lowest 0.0122 from `sensetime_003`

natural identification rank 86 ---  $\text{FNIR}(1600000, T, L+1) = 0.9884$  vs. lowest 0.1020 from `sensetime_004`

natural identification rank 19 ---  $\text{FNIR}(1600000, T, L+1) = 0.0316$  vs. lowest 0.0059 from `sensetime_004`

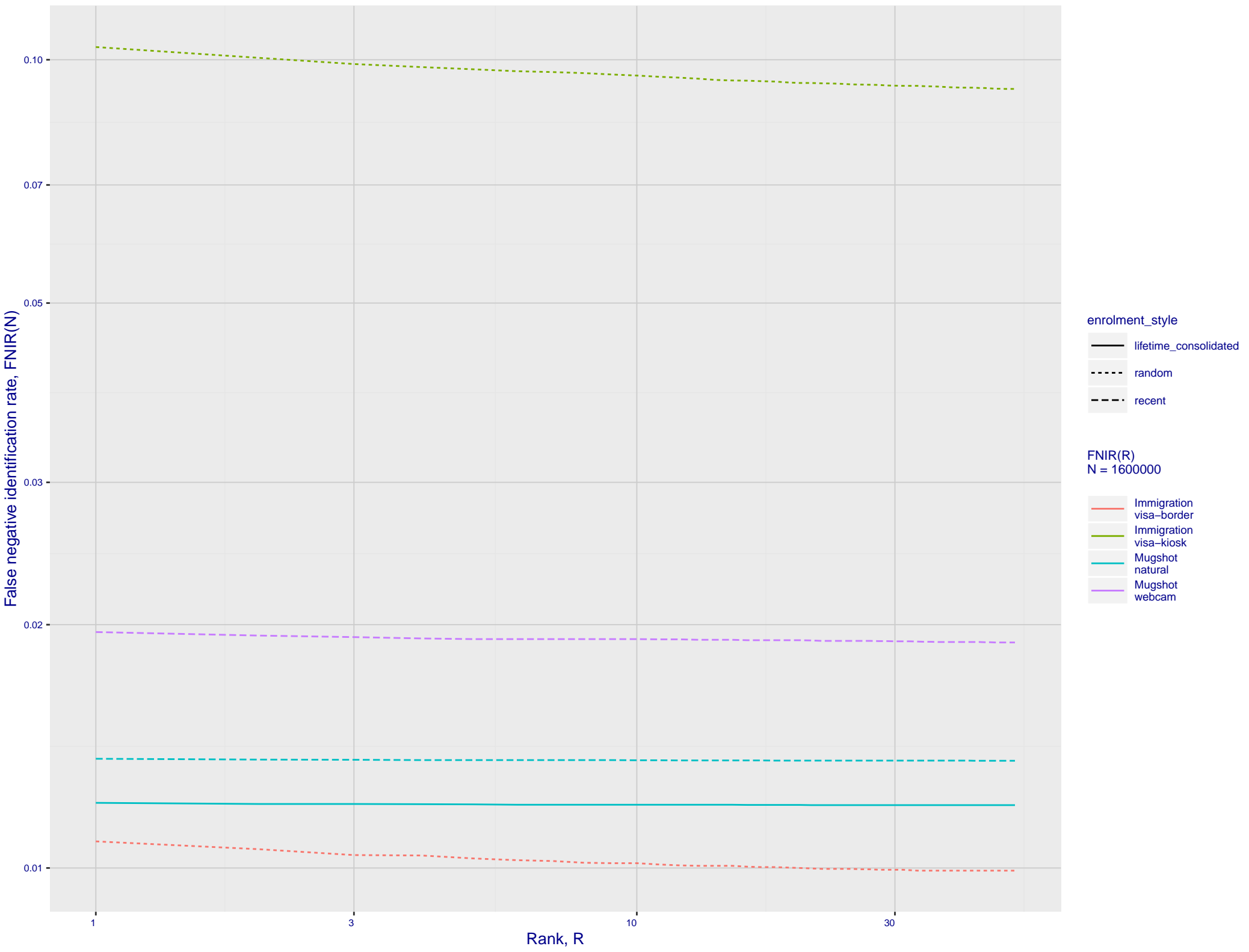
natural identification rank 51 ---  $\text{FNIR}(1600000, T, L+1) = 0.5228$  vs. lowest 0.1129 from `visionlabs_009`

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

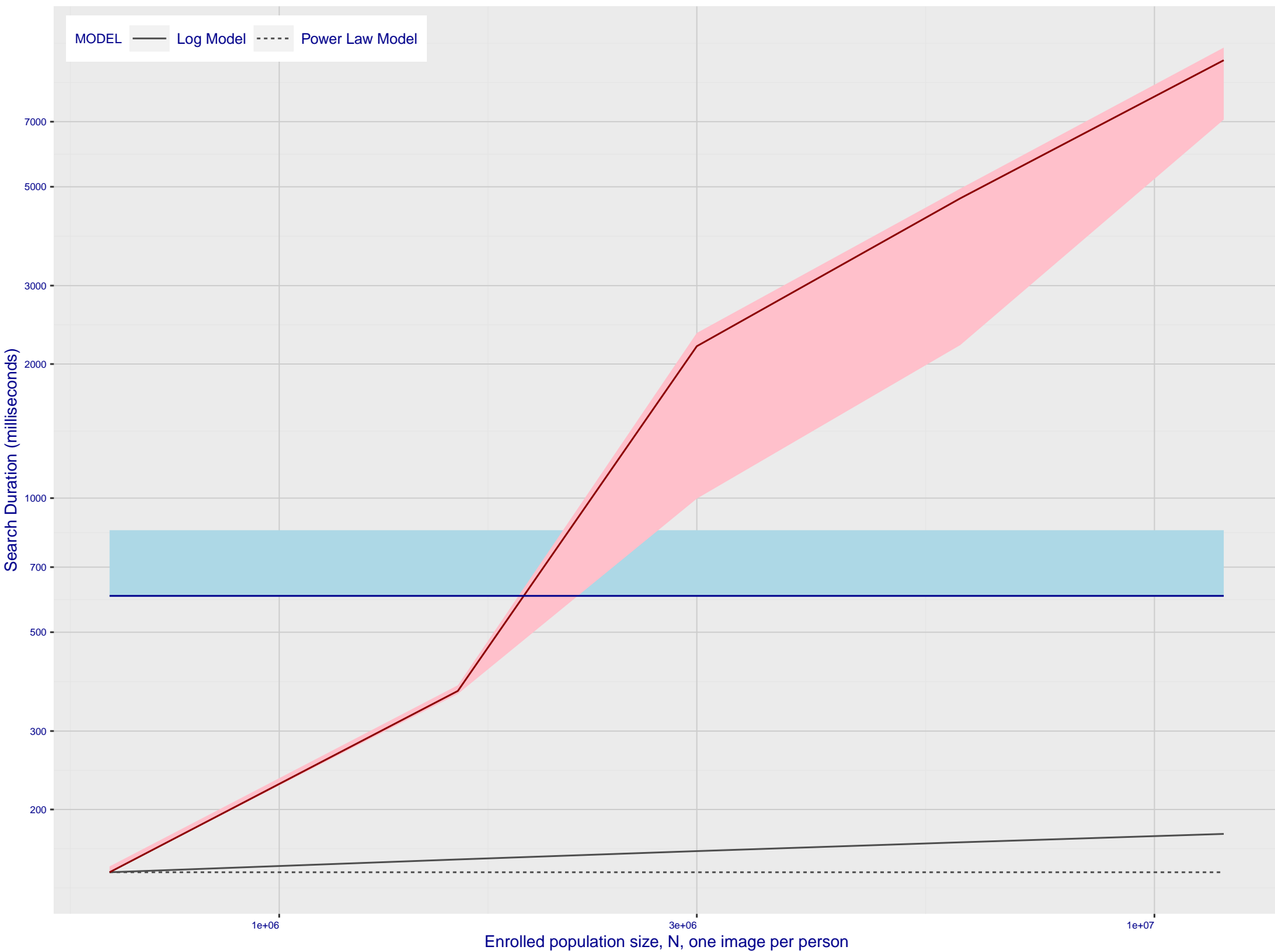




I: Investigational mode: FNIR(1600000, R, 0) by probe type

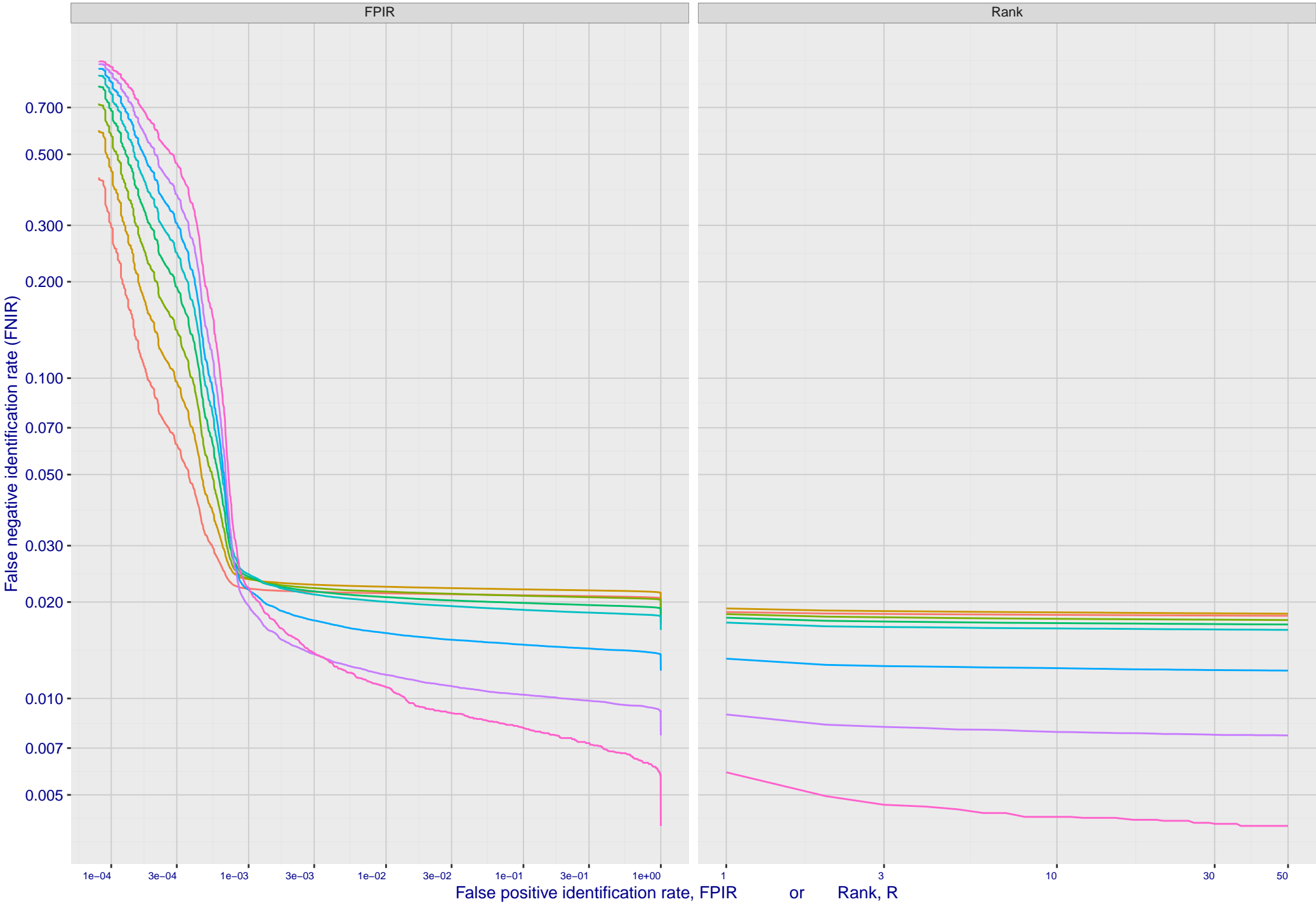


Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power-law models are fit to the first two (N,T) observations



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

