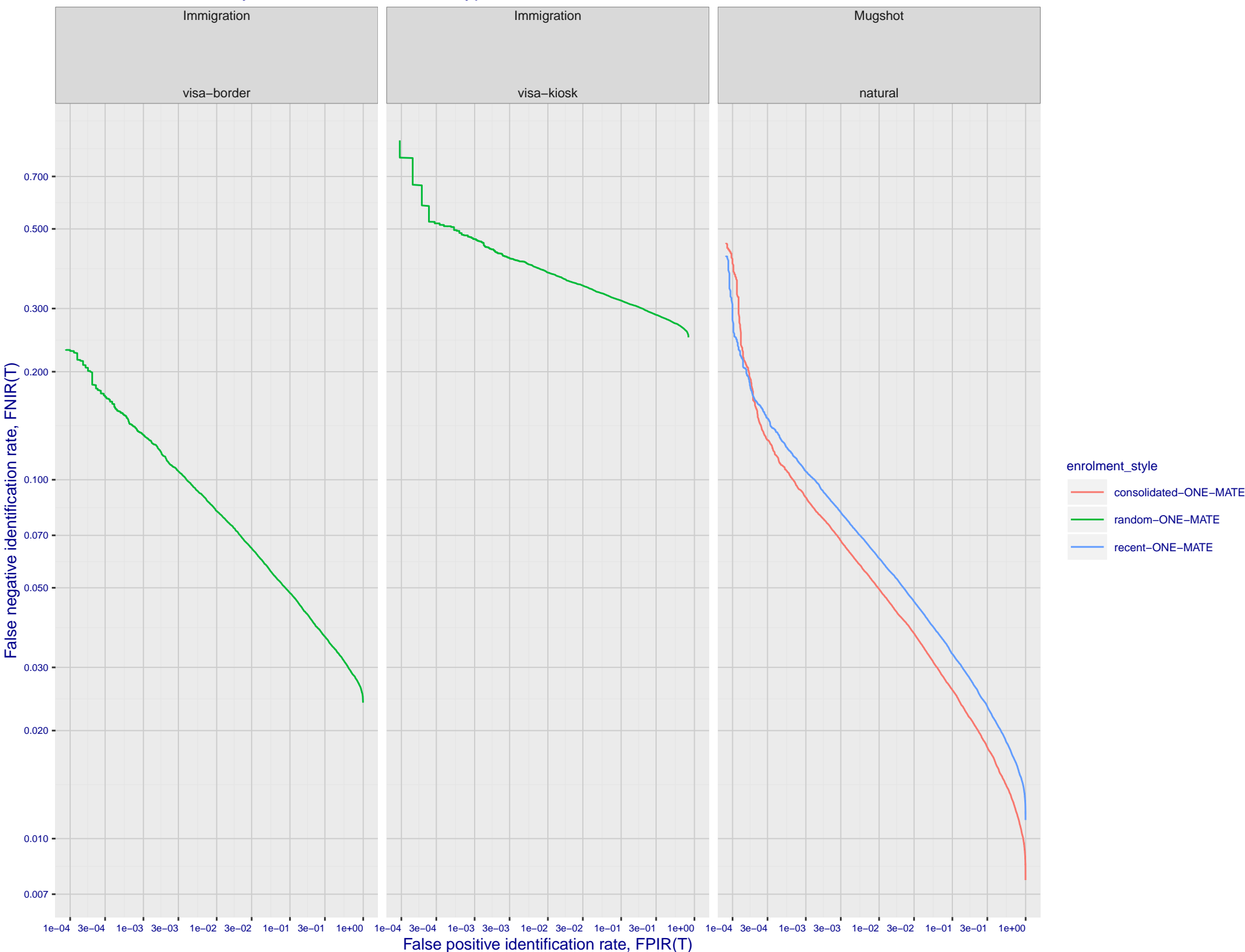
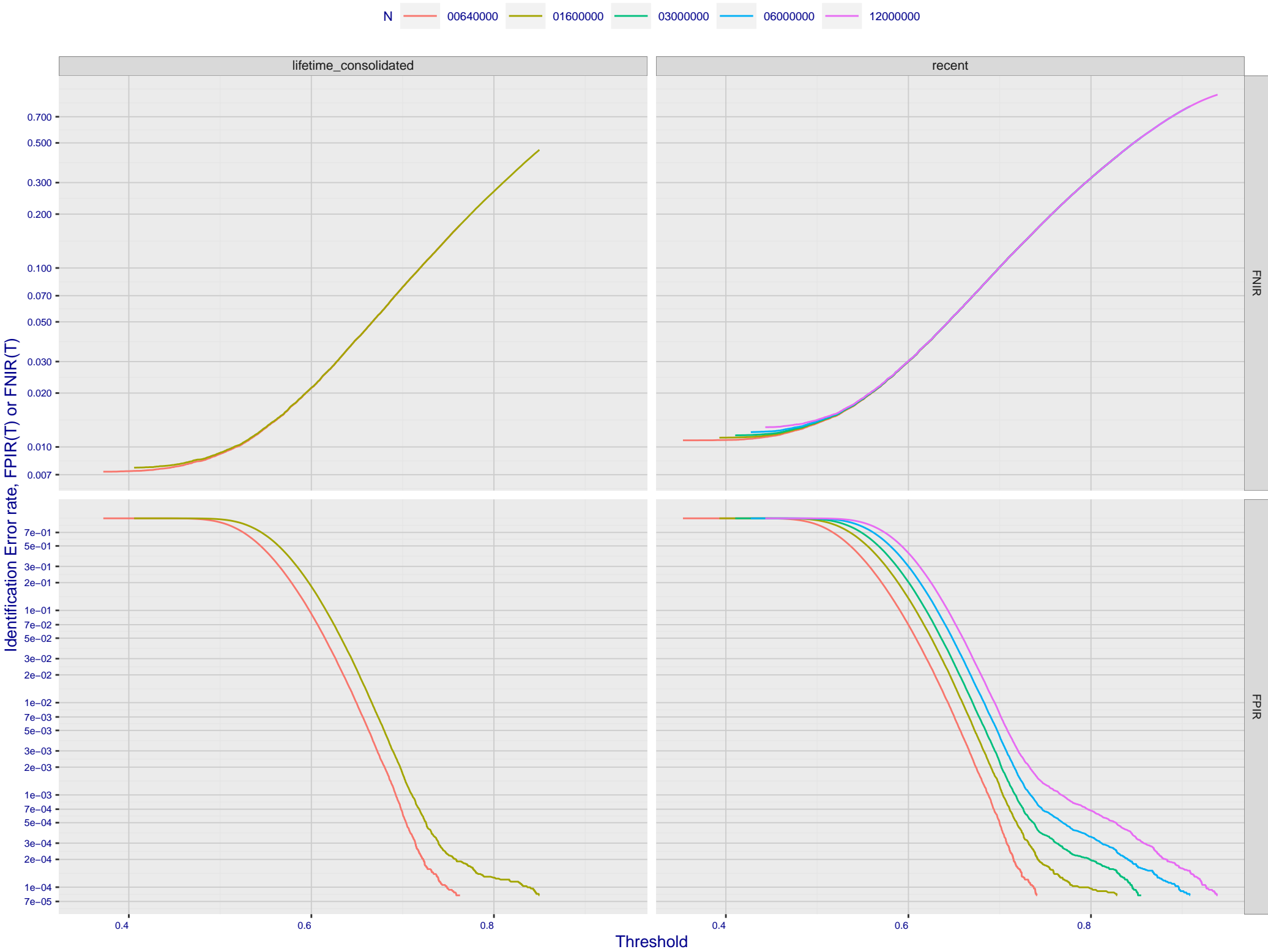


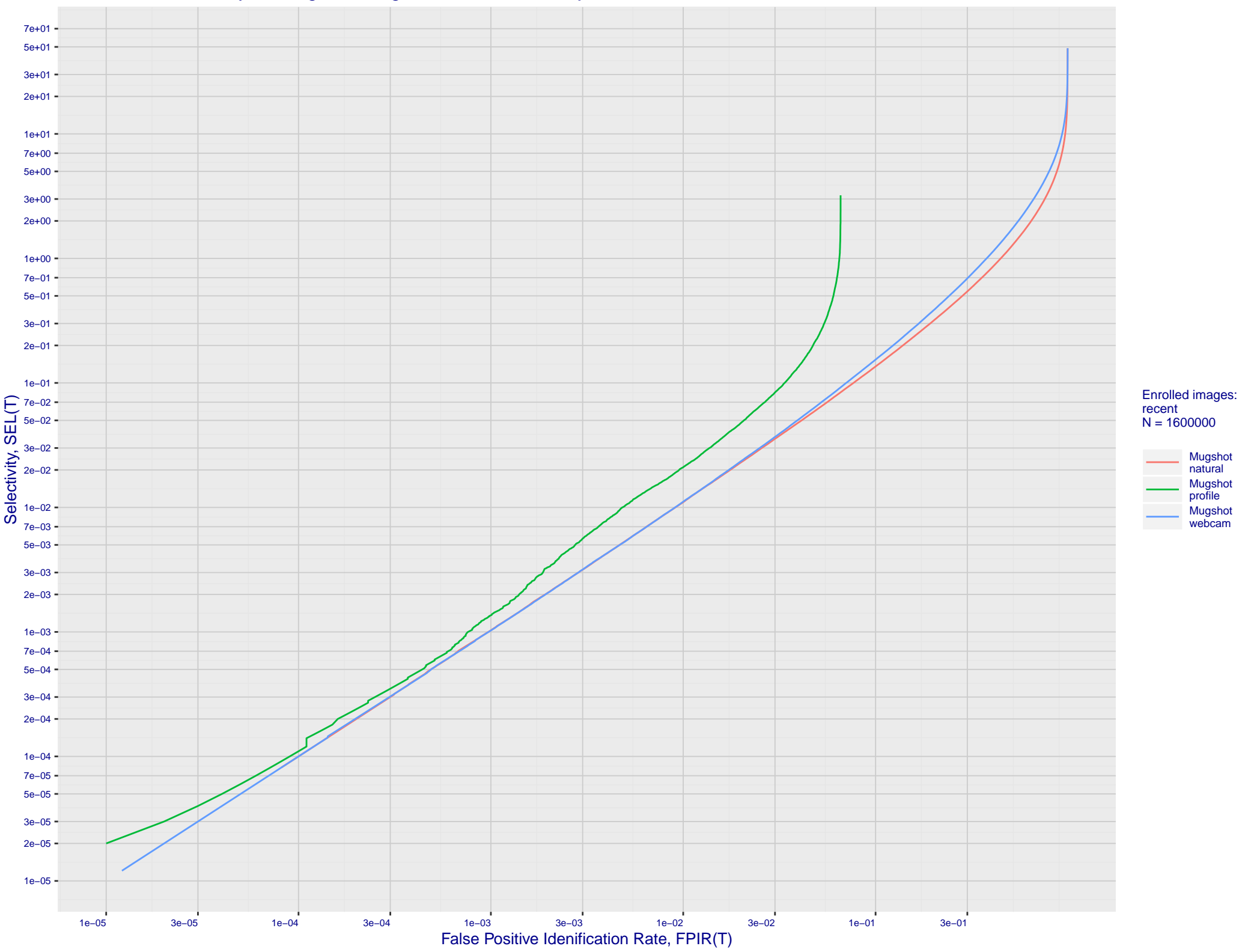
A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



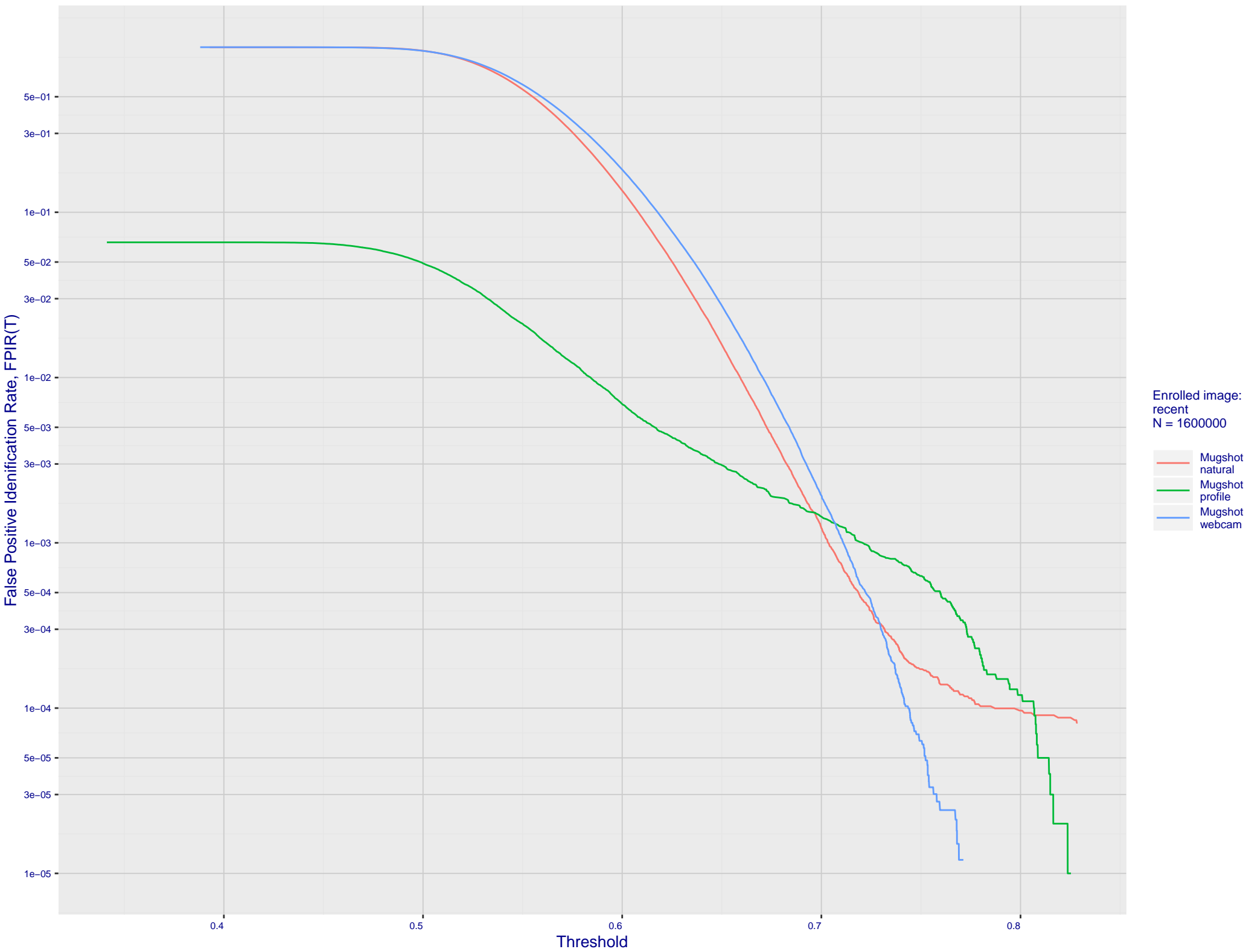
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



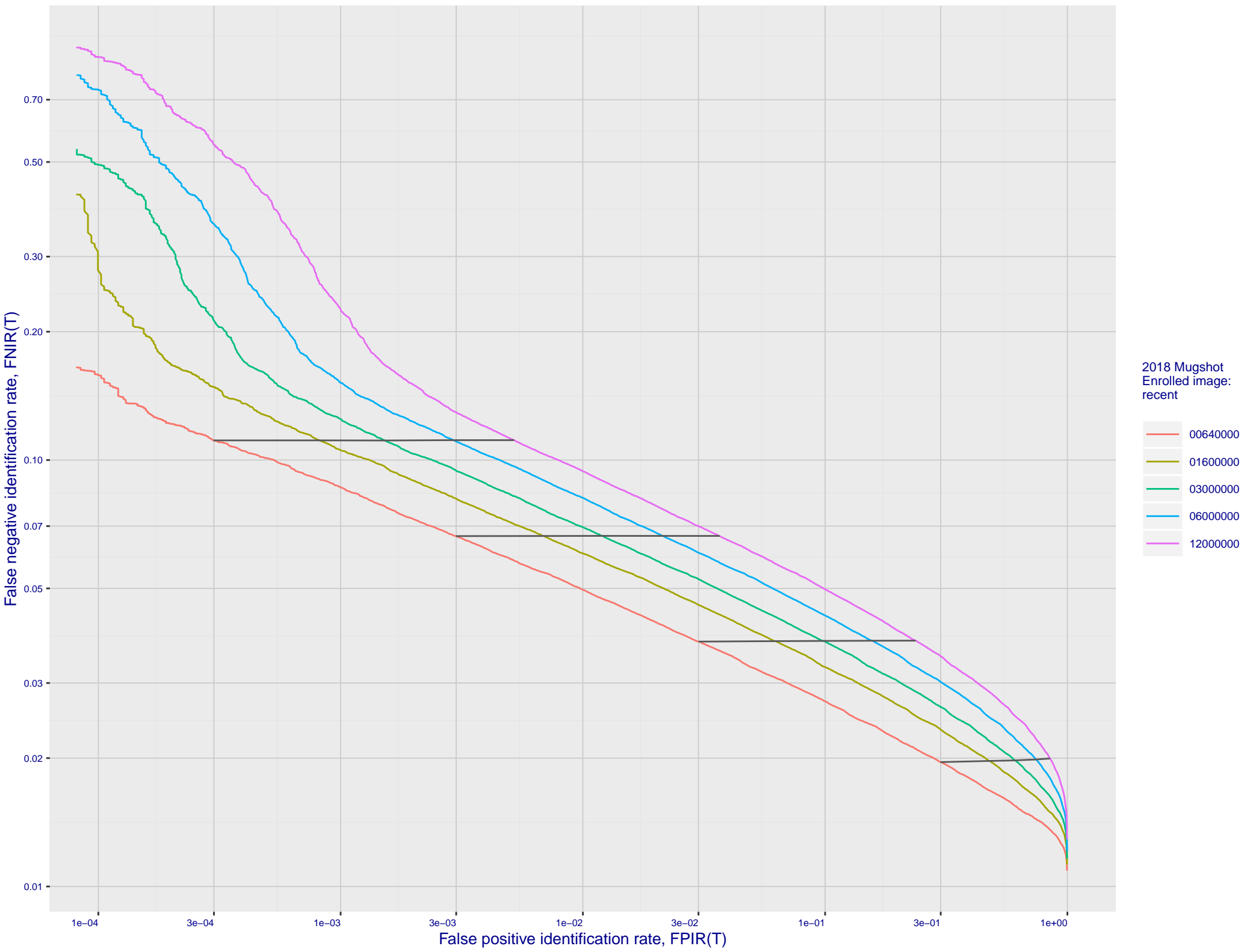
C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate



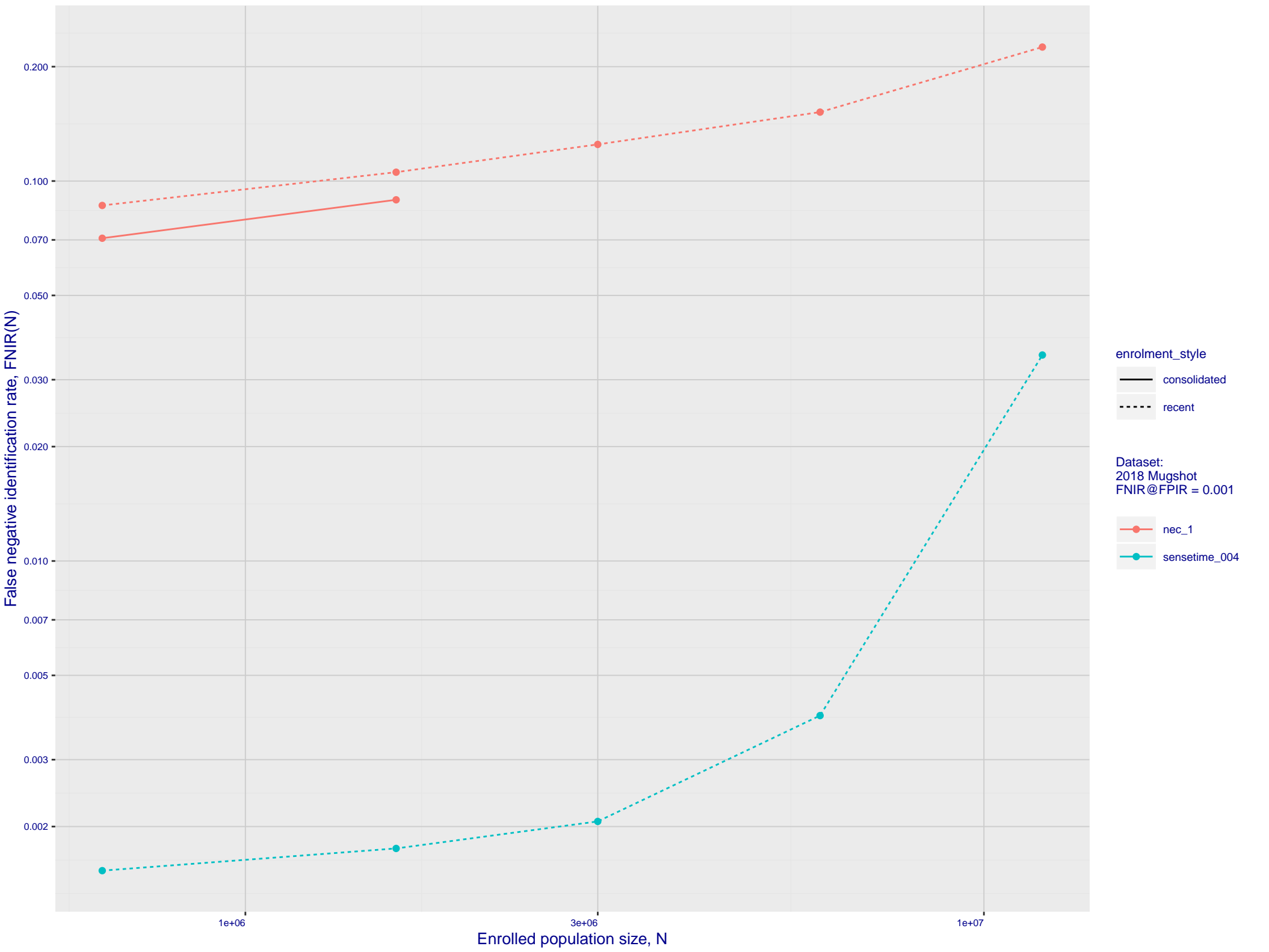
D: FPIR dependence on T by probe type for N = 1600000 subjects



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: nec\_1

Developer: NEC

Submission Date: 2018\_06\_29

Template size: 2592 bytes

Template time (2.5 percentile): 83 msec

Template time (median): 87 msec

Template time (97.5 percentile): 96 msec

Frontal mugshot investigation rank 155 -- FNIR(1600000, 0, 1) = 0.0209 vs. lowest 0.0010 from sensetime\_004

natural investigation rank 136 -- FNIR(1600000, 0, 1) = 0.0560 vs. lowest 0.0067 from sensetime\_003

natural investigation rank 291 -- FNIR(1600000, 0, 1) = 0.9579 vs. lowest 0.0492 from paravision\_005

natural investigation rank 291 -- FNIR(1600000, 0, 1) = 0.9579 vs. lowest 0.0492 from paravision\_005

natural investigation rank 68 -- FNIR(1600000, 0, 1) = 0.0325 vs. lowest 0.0014 from visionlabs\_009

natural investigation rank 74 -- FNIR(1600000, 0, 1) = 0.2767 vs. lowest 0.0694 from cib\_000

Frontal mugshot identification rank 125 -- FNIR(1600000, T, L+1) = 0.1055 vs. lowest 0.0018 from sensetime\_004

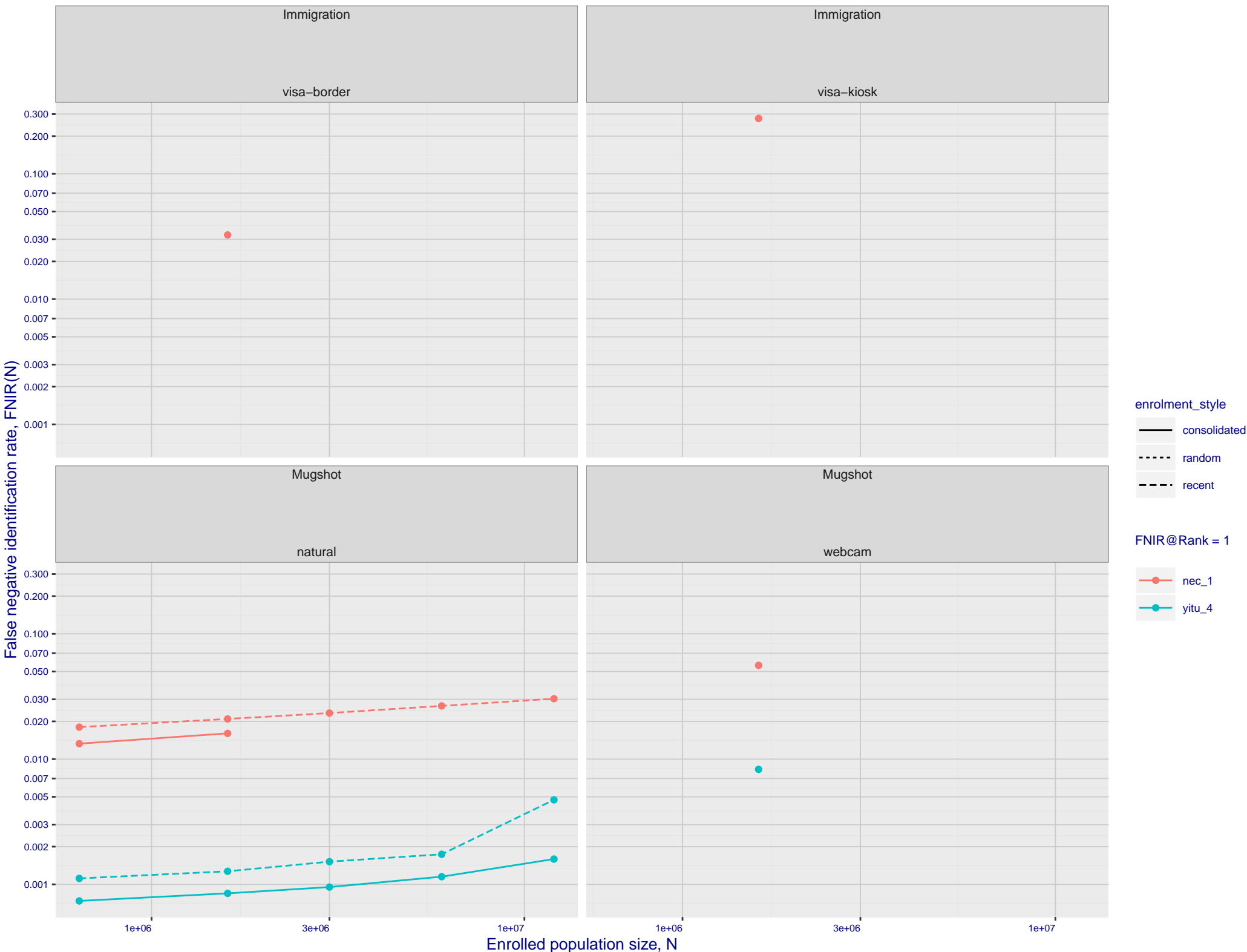
natural identification rank 114 -- FNIR(1600000, T, L+1) = 0.1971 vs. lowest 0.0122 from sensetime\_003

natural identification rank 68 -- FNIR(1600000, T, L+1) = 0.9781 vs. lowest 0.1020 from sensetime\_004

natural identification rank 56 -- FNIR(1600000, T, L+1) = 0.1335 vs. lowest 0.0059 from sensetime\_004

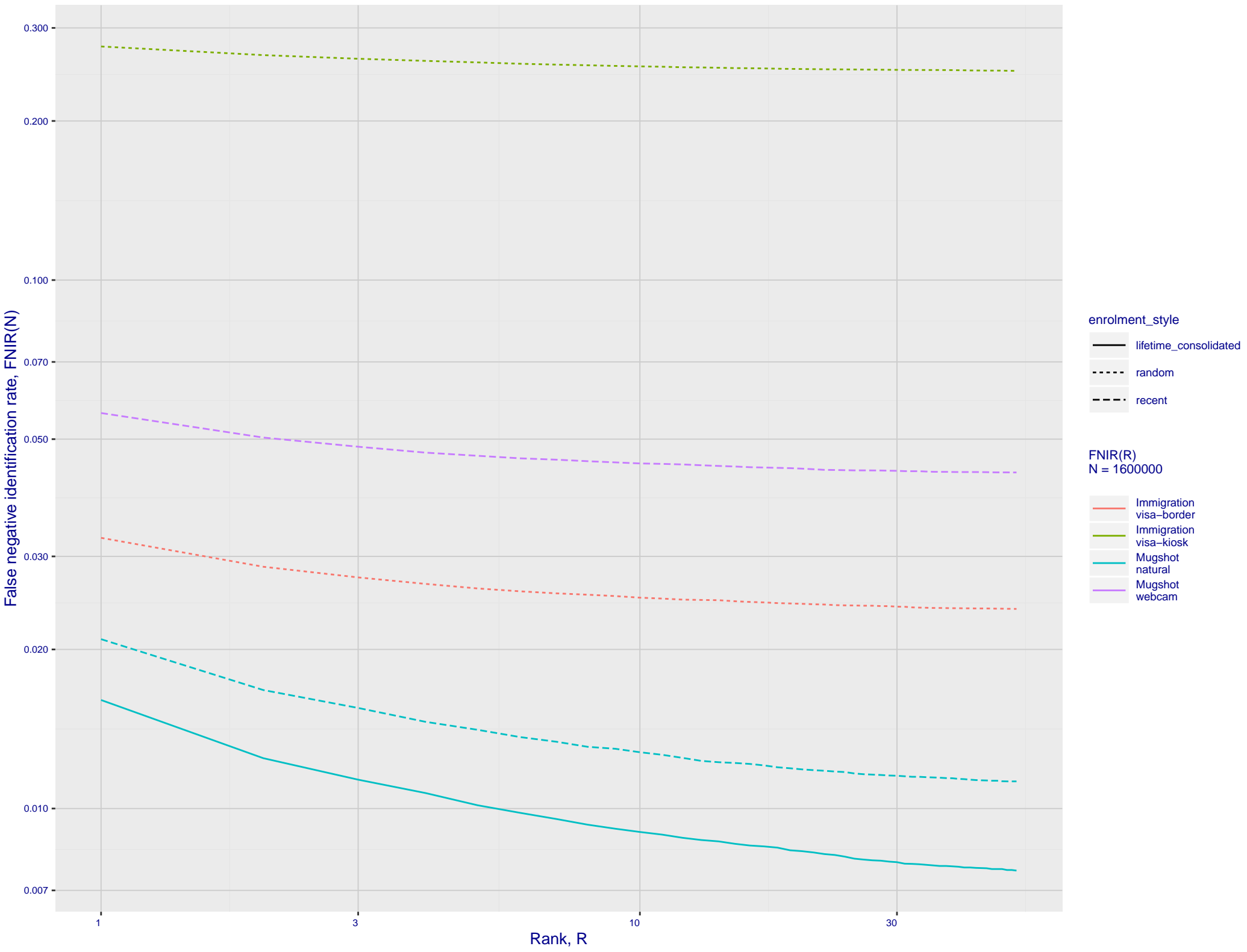
natural identification rank 45 -- FNIR(1600000, T, L+1) = 0.4685 vs. lowest 0.1129 from visionlabs\_009

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

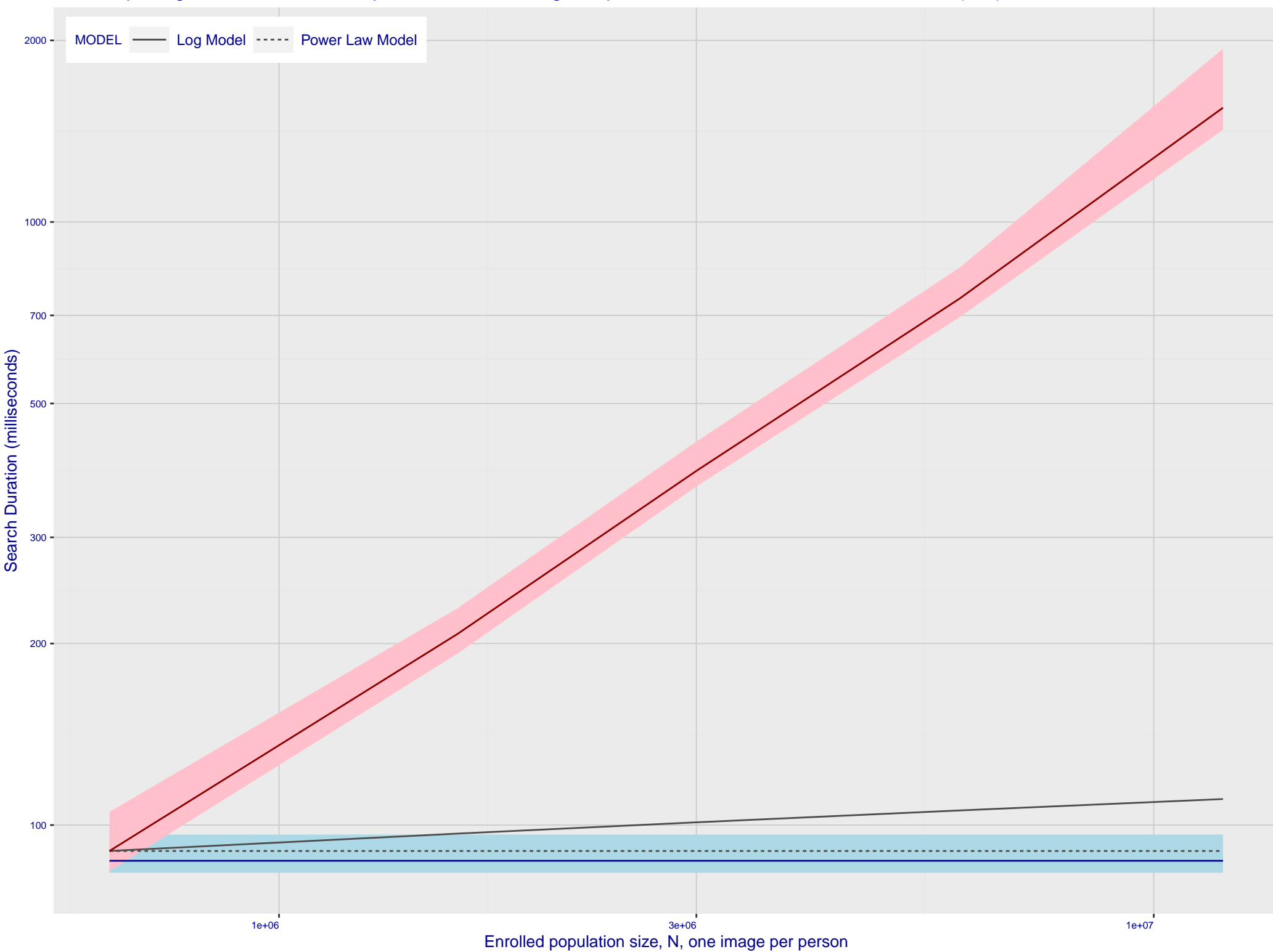




I: Investigational mode: FNIR(1600000, R, 0) by probe type

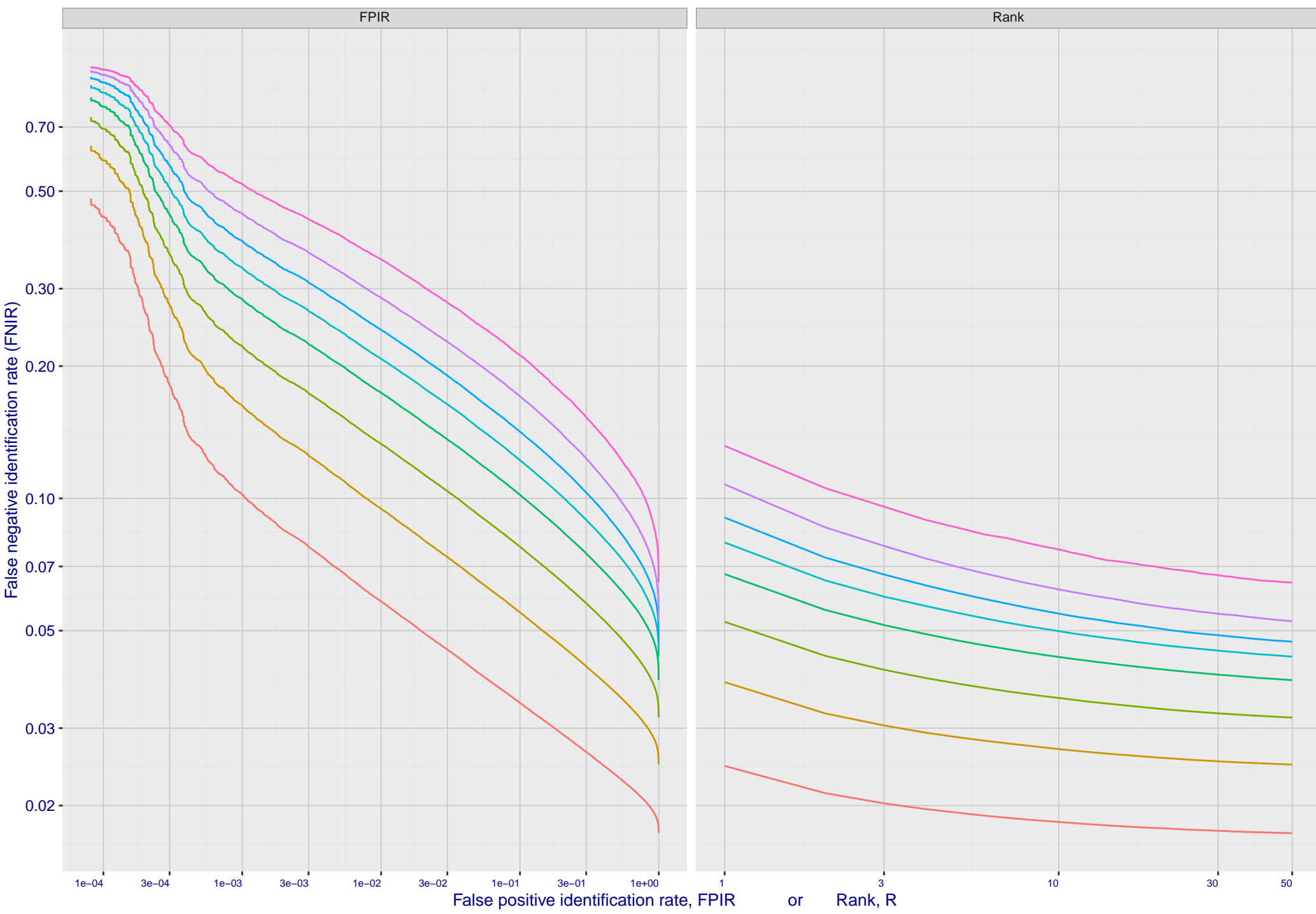
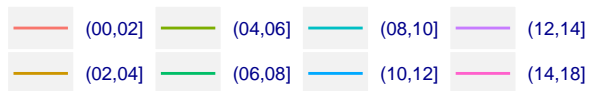


Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power-law models are fit to the first two (N,T) observations



# 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

