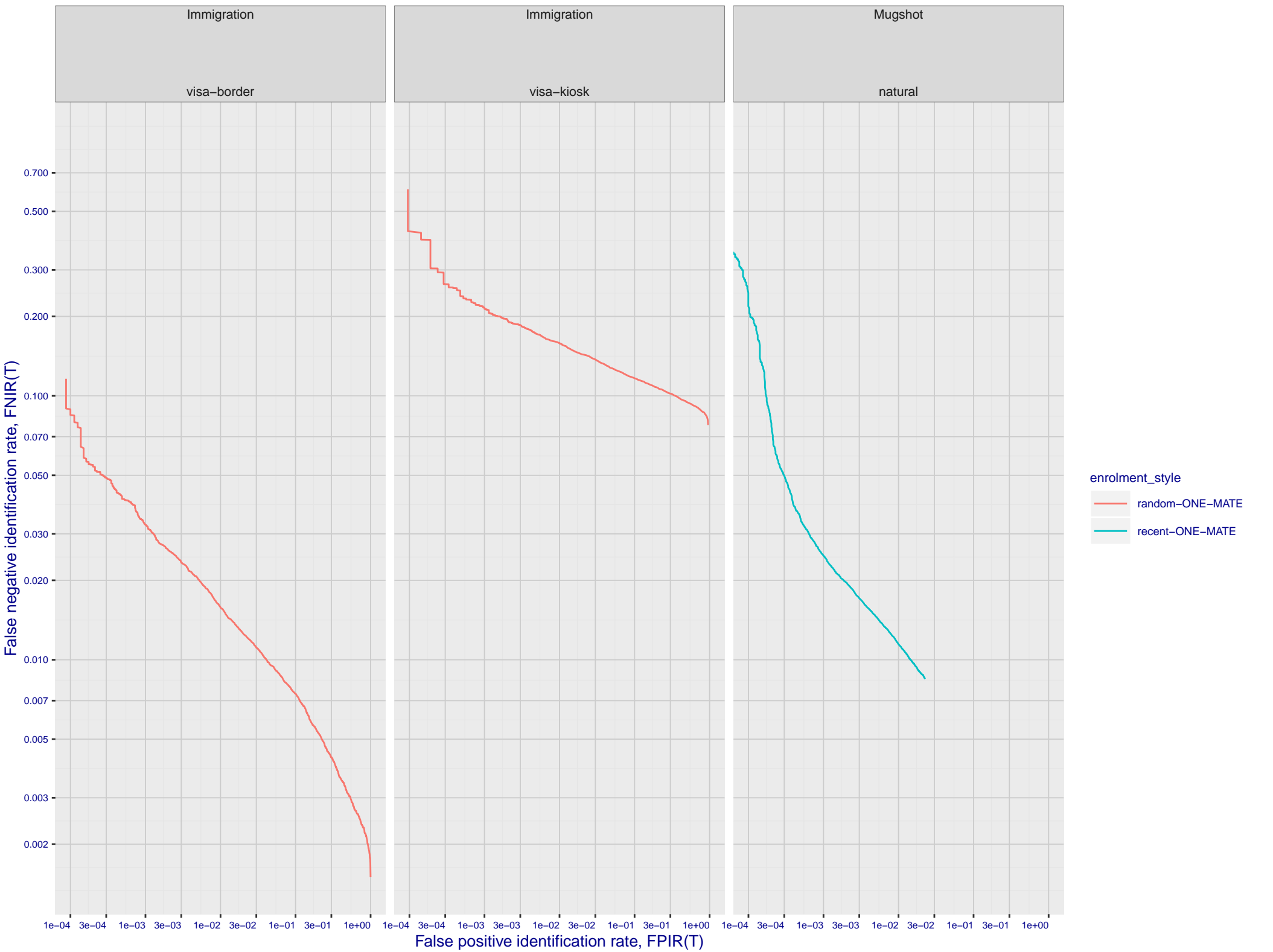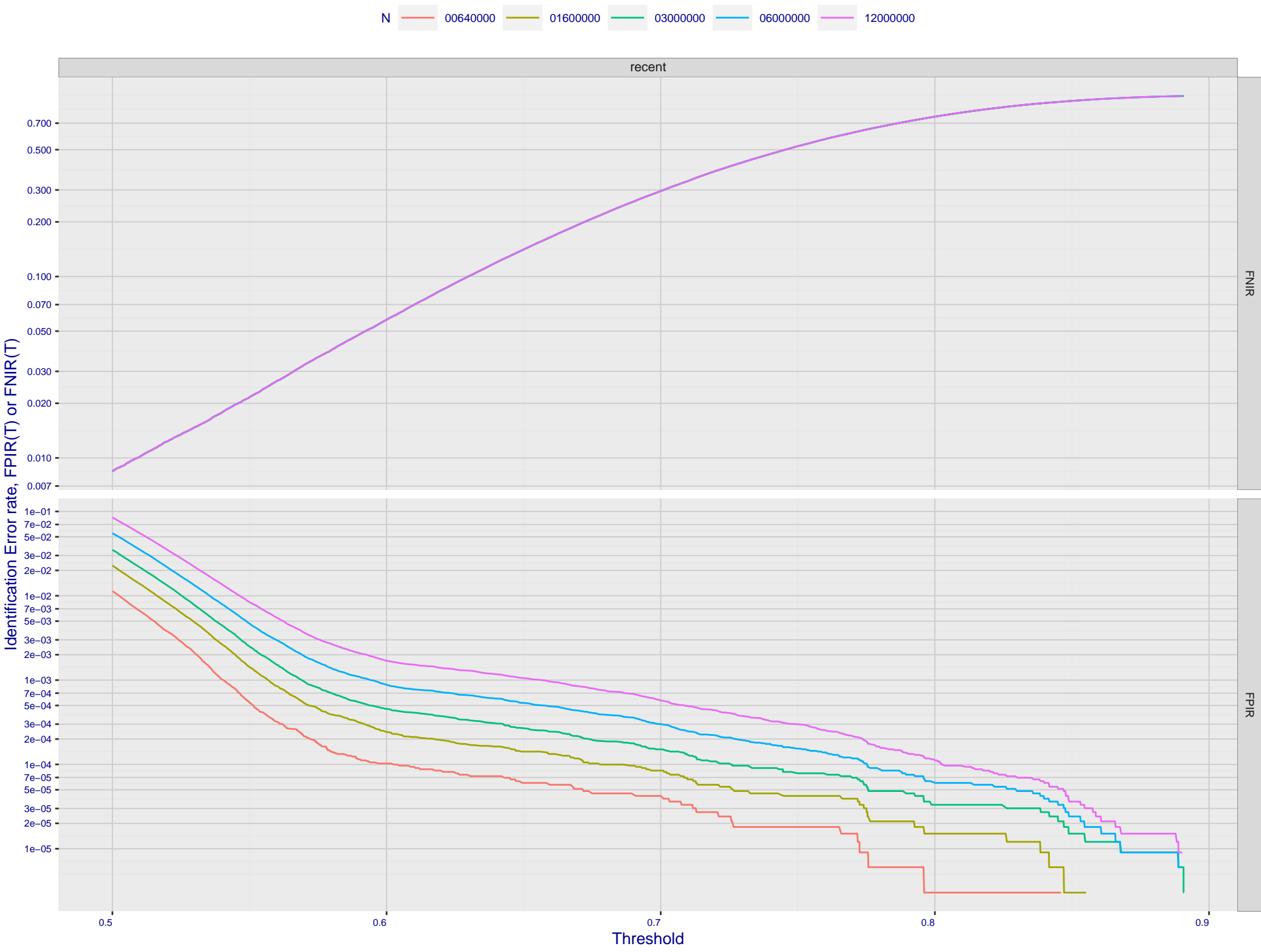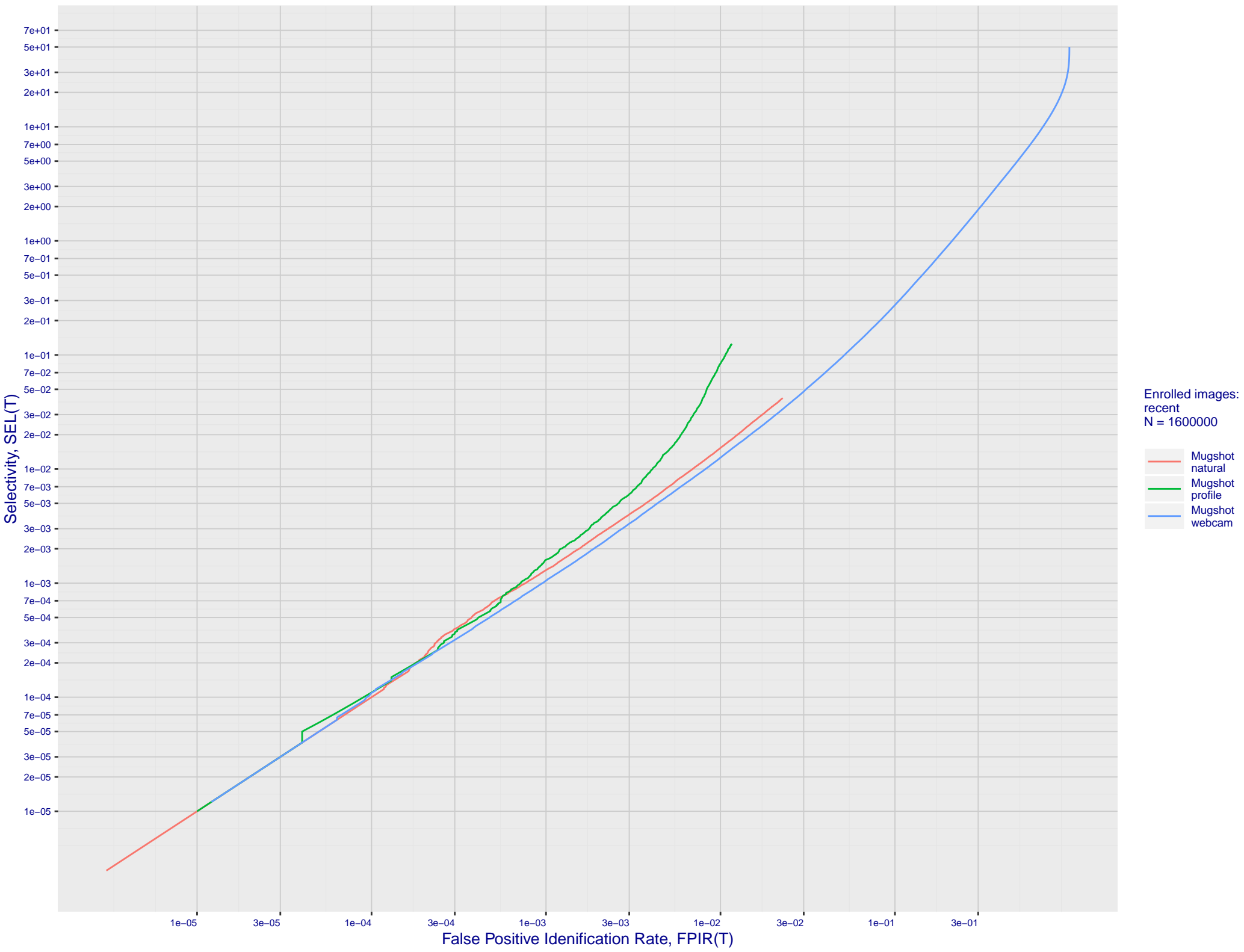A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals
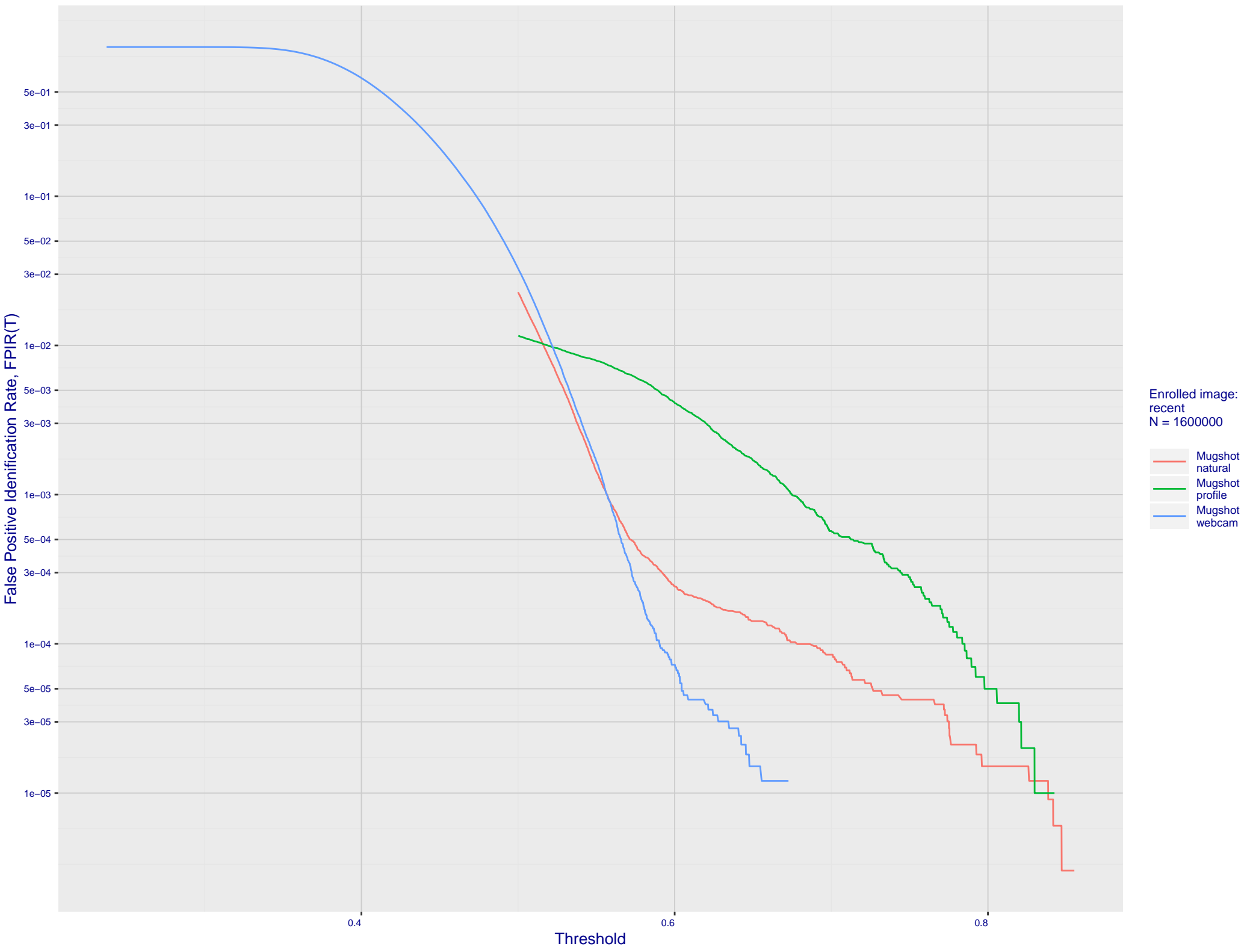
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

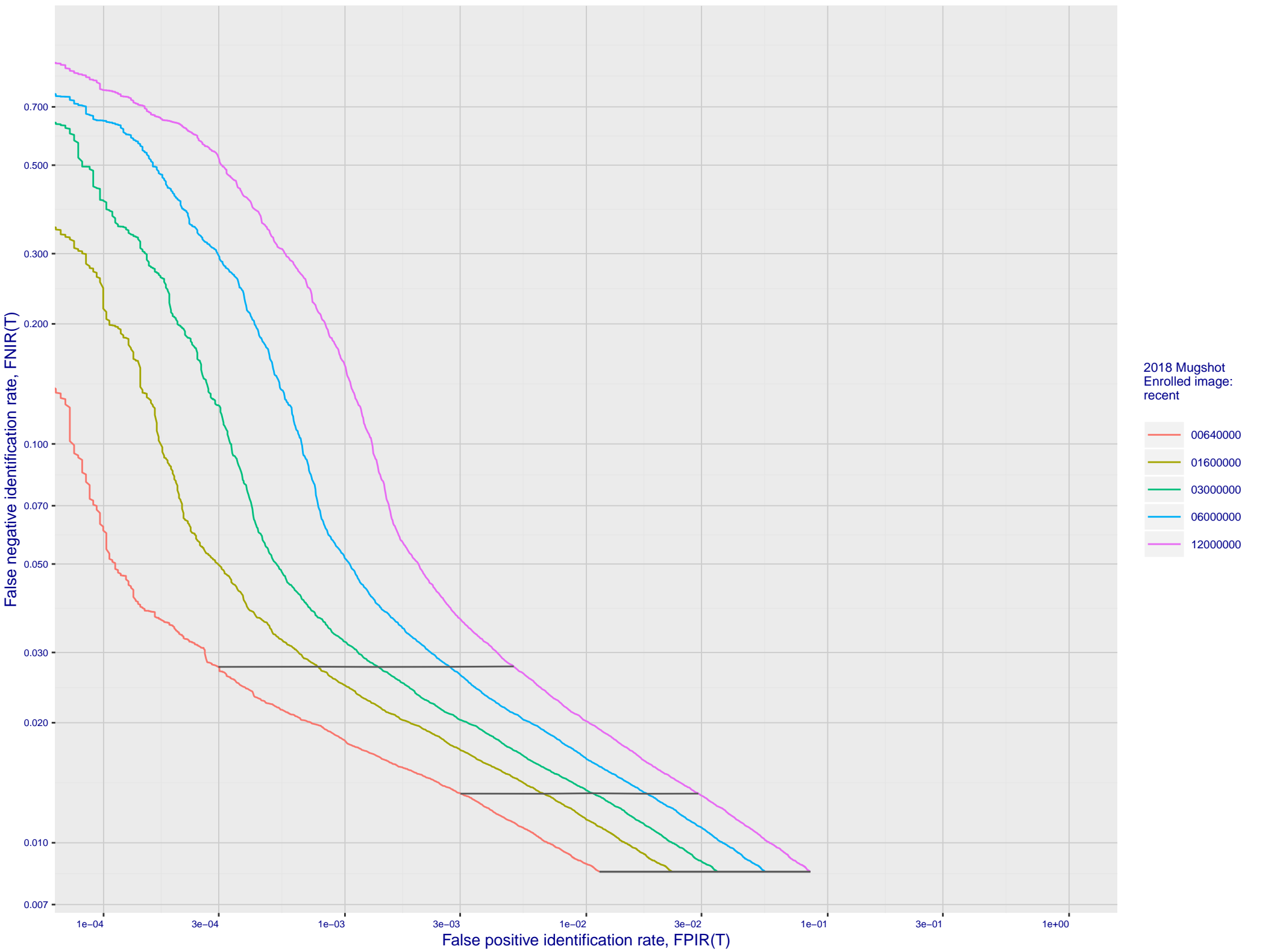N ── 00640000 ── 01600000 ── 03000000 ── 06000000 ── 12000000

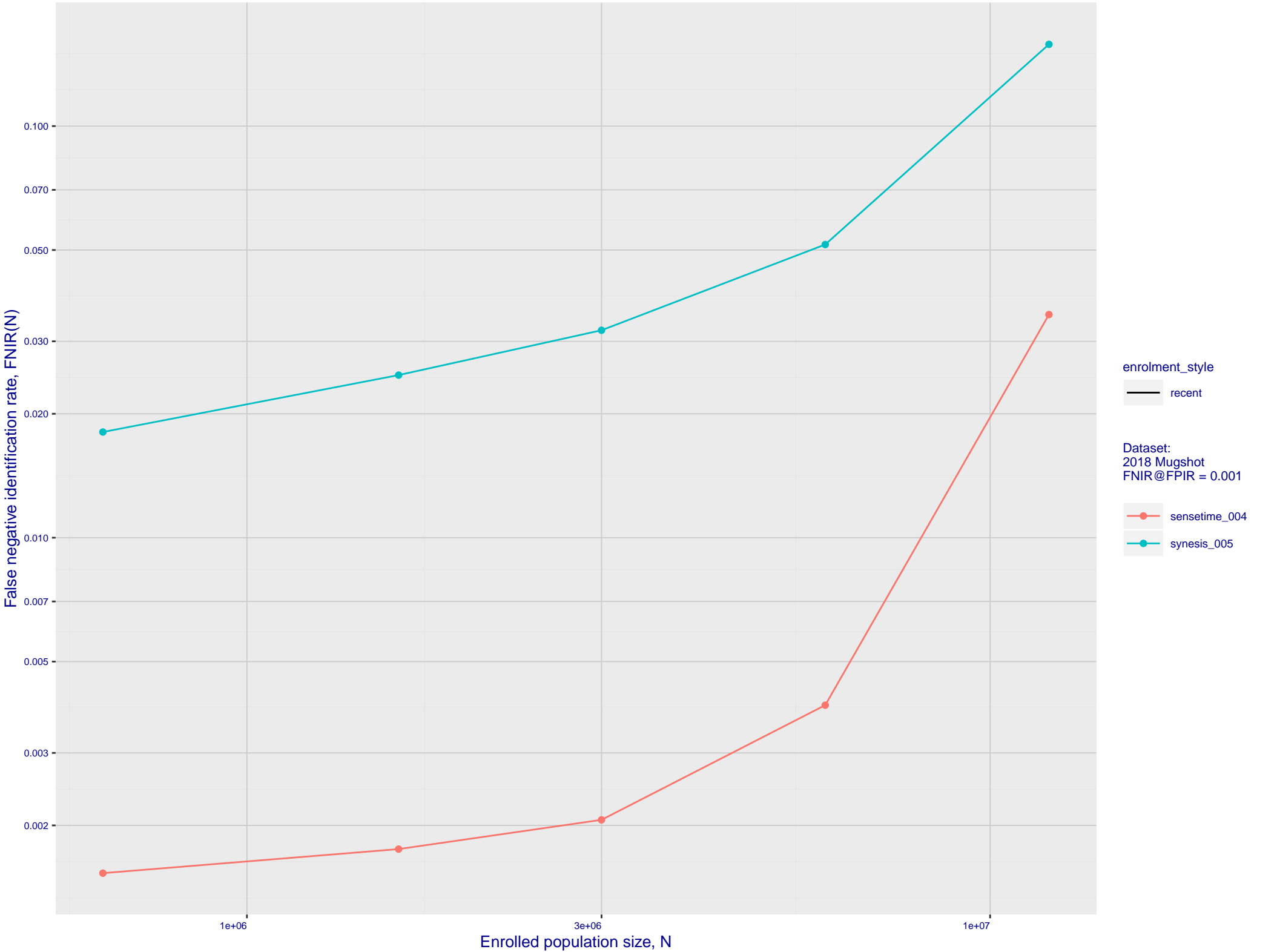C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate

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: synesis_005

Developer: Synesis

Submission Date: 2020_09_08

Template size: 4104 bytes

Template time (2.5 percentile): 754 msec

Template time (median): 757 msec

Template time (97.5 percentile): 808 msec

Frontal mugshot investigation rank 101 –– FNIR(1600000, 0, 1) = 0.0085 vs. lowest 0.0010 from sensetime_004

natural investigation rank 23 –– FNIR(1600000, 0, 1) = 0.0127 vs. lowest 0.0067 from sensetime_003

natural investigation rank 105 –– FNIR(1600000, 0, 1) = 0.5302 vs. lowest 0.0492 from paravision_005

natural investigation rank 105 –– FNIR(1600000, 0, 1) = 0.5302 vs. lowest 0.0492 from paravision_005

natural investigation rank 10 –– FNIR(1600000, 0, 1) = 0.0032 vs. lowest 0.0014 from visionlabs_009

natural investigation rank 10 –– FNIR(1600000, 0, 1) = 0.0923 vs. lowest 0.0694 from cib_000

Frontal mugshot identification rank 34 –– FNIR(1600000, T, L+1) = 0.0248 vs. lowest 0.0018 from sensetime_004

natural identification rank 29 –– FNIR(1600000, T, L+1) = 0.0714 vs. lowest 0.0122 from sensetime_003

natural identification rank 45 –– FNIR(1600000, T, L+1) = 0.9464 vs. lowest 0.1020 from sensetime_004
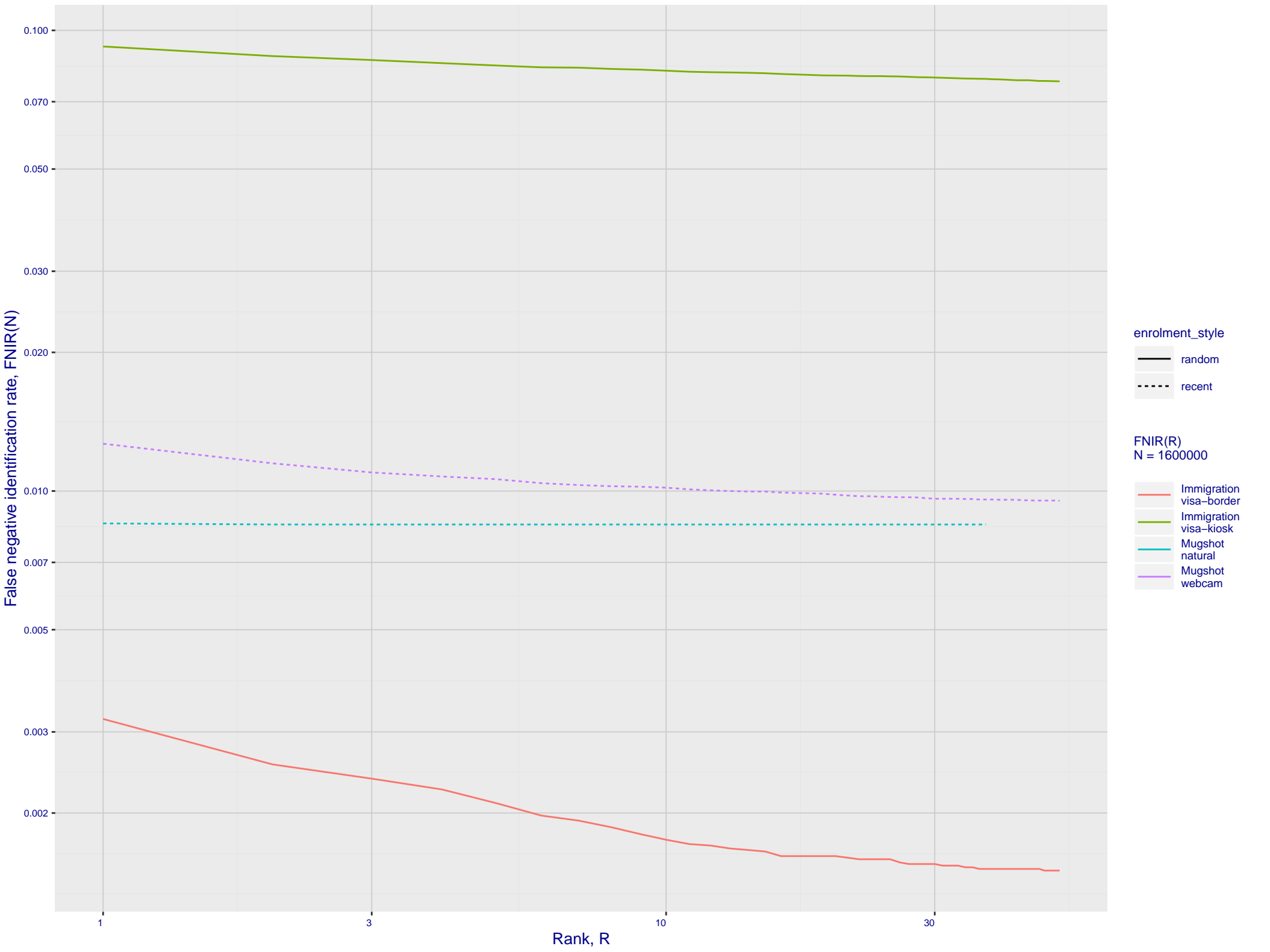
natural identification rank 22 –– FNIR(1600000, T, L+1) = 0.0325 vs. lowest 0.0059 from sensetime_004

natural identification rank 15 –– FNIR(1600000, T, L+1) = 0.2160 vs. lowest 0.1129 from visionlabs_009
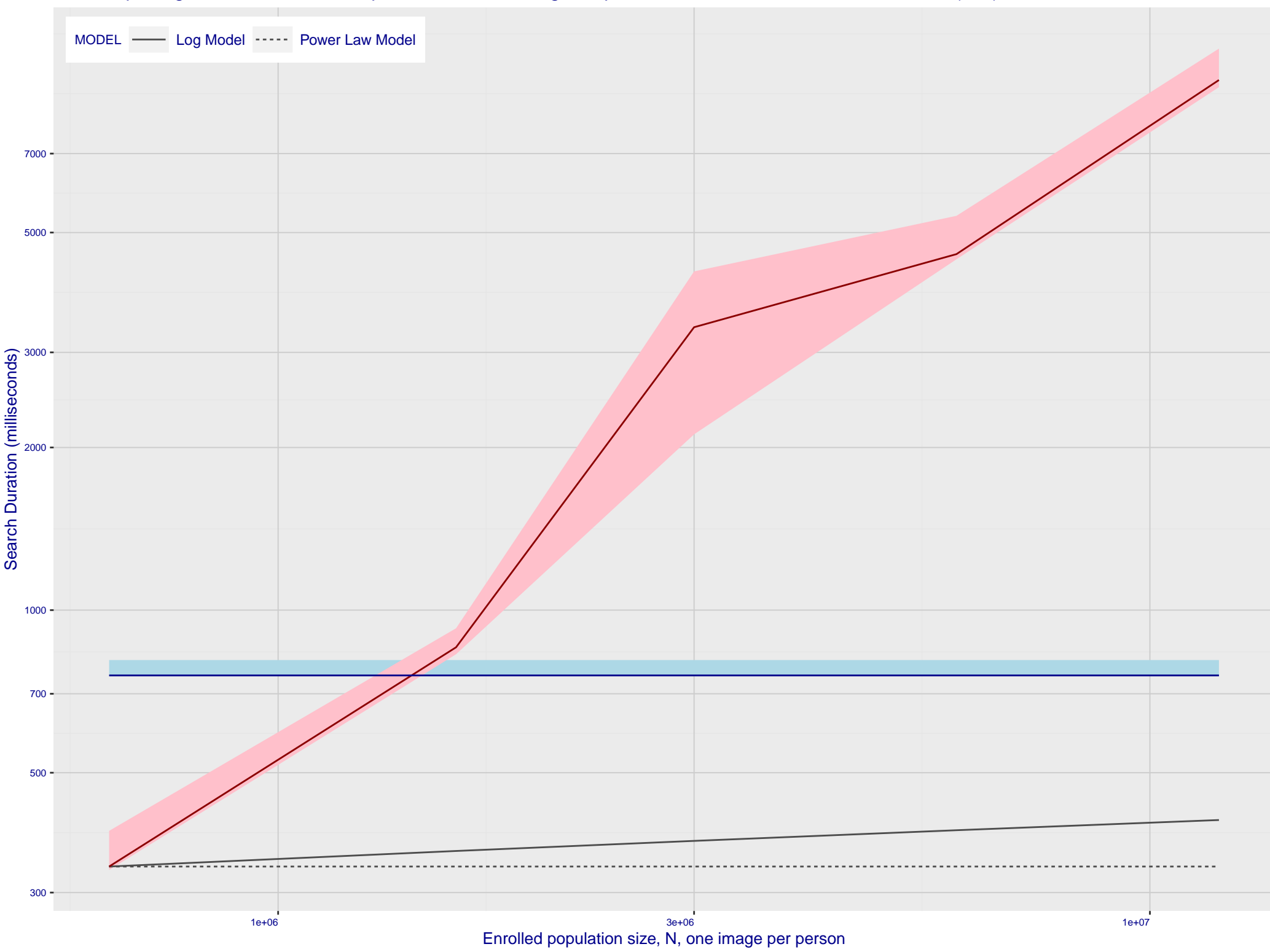
H: Investigational mode: FNIR(N, 1, 0) vs. most accurate (yitu_4)
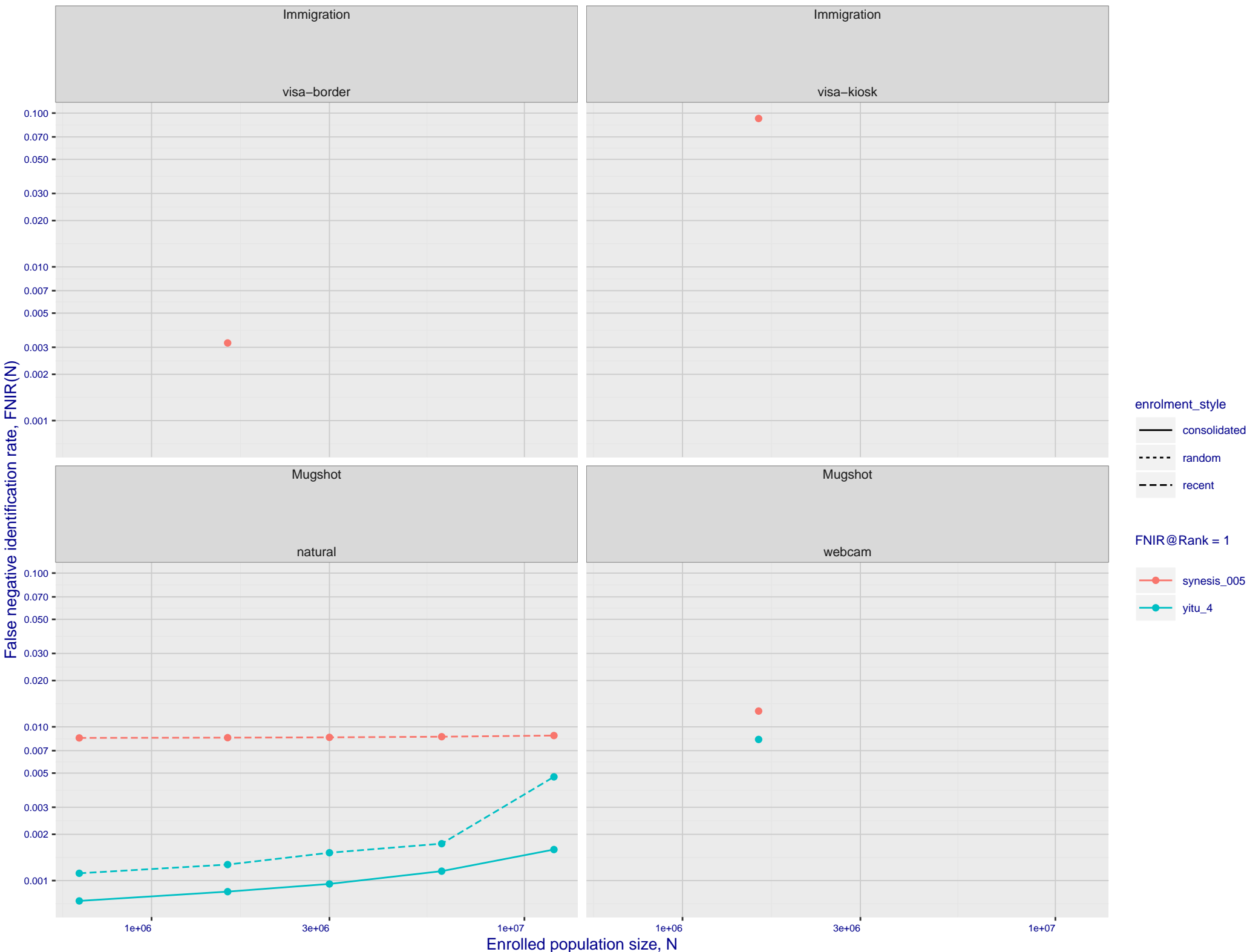
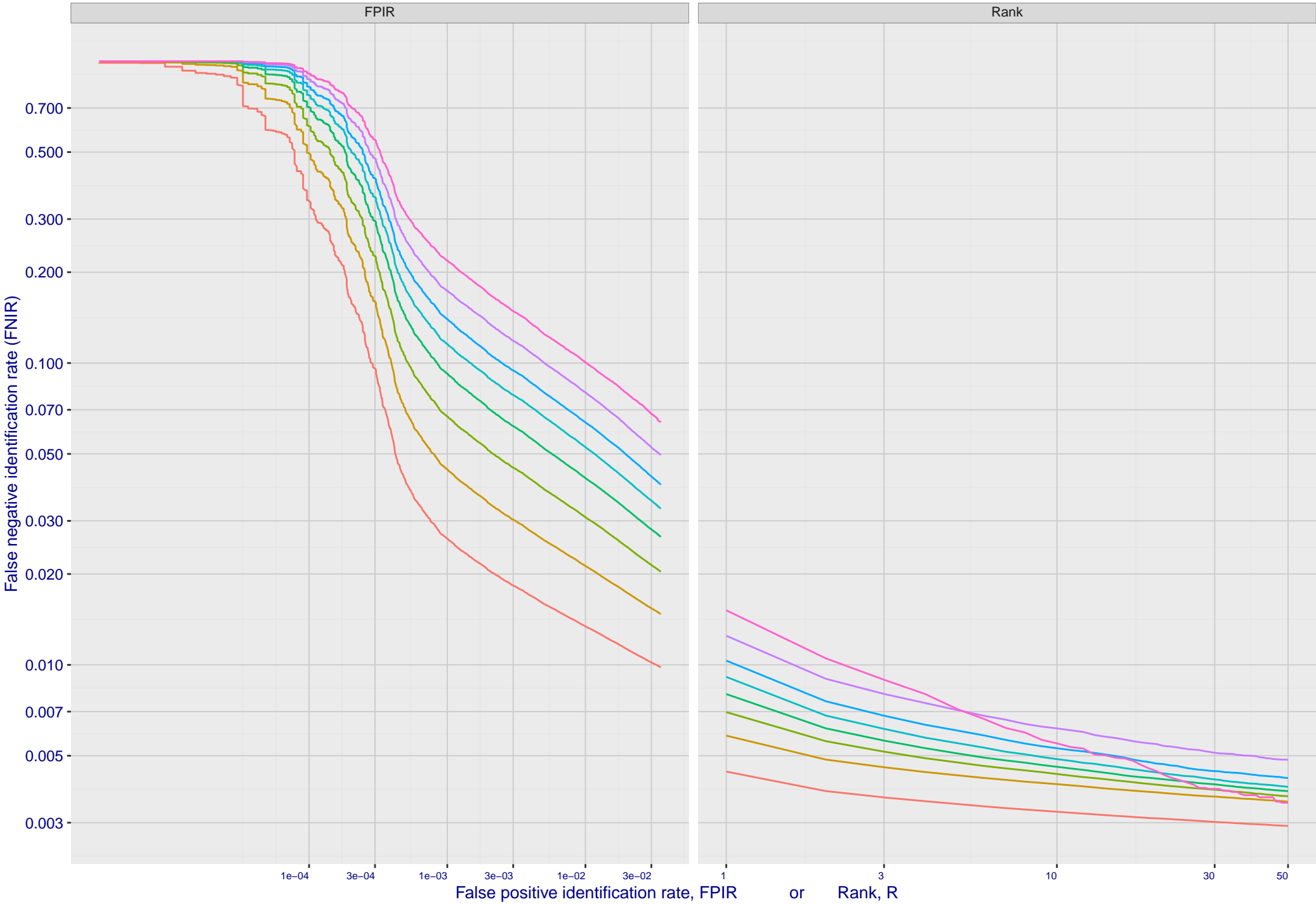I: Investigational mode: FNIR(1600000, R, 0) by probe type

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

Legend:
- (00,02]
- (02,04]
- (04,06]
- (06,08]
- (08,10]
- (10,12]
- (12,14]
- (14,18]

False negative identification rate (FNIR)

FPIR — False positive identification rate, FPIR   or   Rank, R

N: Decline of genuine scores with ageing

TVAL
— FPIR = 0.001
— FPIR = 0.003
— FPIR = 0.010
— FPIR = 0.030

Dataset:
2018 Mugshot
N= 3.1M
FNIR (Rank = 1)

0.20
0.15
0.10
0.05
0.00

Score

Time lapse between search and initial encounter enrollment (years)