A: Datasheet

Algorithm: pixelall_002

Developer: Guangzhou Pixel Solutions Co Ltd

Submission Date: 2019_07_01

Template size: 2560 bytes

Template time (2.5 percentile): 188 msec

Template time (median): 191 msec

Template time (97.5 percentile): 253 msec

Investigation:

Frontal mugshot ranking 76 (out of 265) –– FNIR(1600000, 0, 1) = 0.0045 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 85 (out of 227) –– FNIR(1600000, 0, 1) = 0.0222 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 98 (out of 196) –– FNIR(1600000, 0, 1) = 0.8103 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 64 (out of 148) –– FNIR(1600000, 0, 1) = 0.0110 vs. lowest 0.0013 from visionlabs_010

Immigration visa–kiosk ranking 74 (out of 145) –– FNIR(1600000, 0, 1) = 0.1869 vs. lowest 0.0568 from hr_000

Identification:

Frontal mugshot ranking 137 (out of 265) –– FNIR(1600000, T, L+1) = 0.1048, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
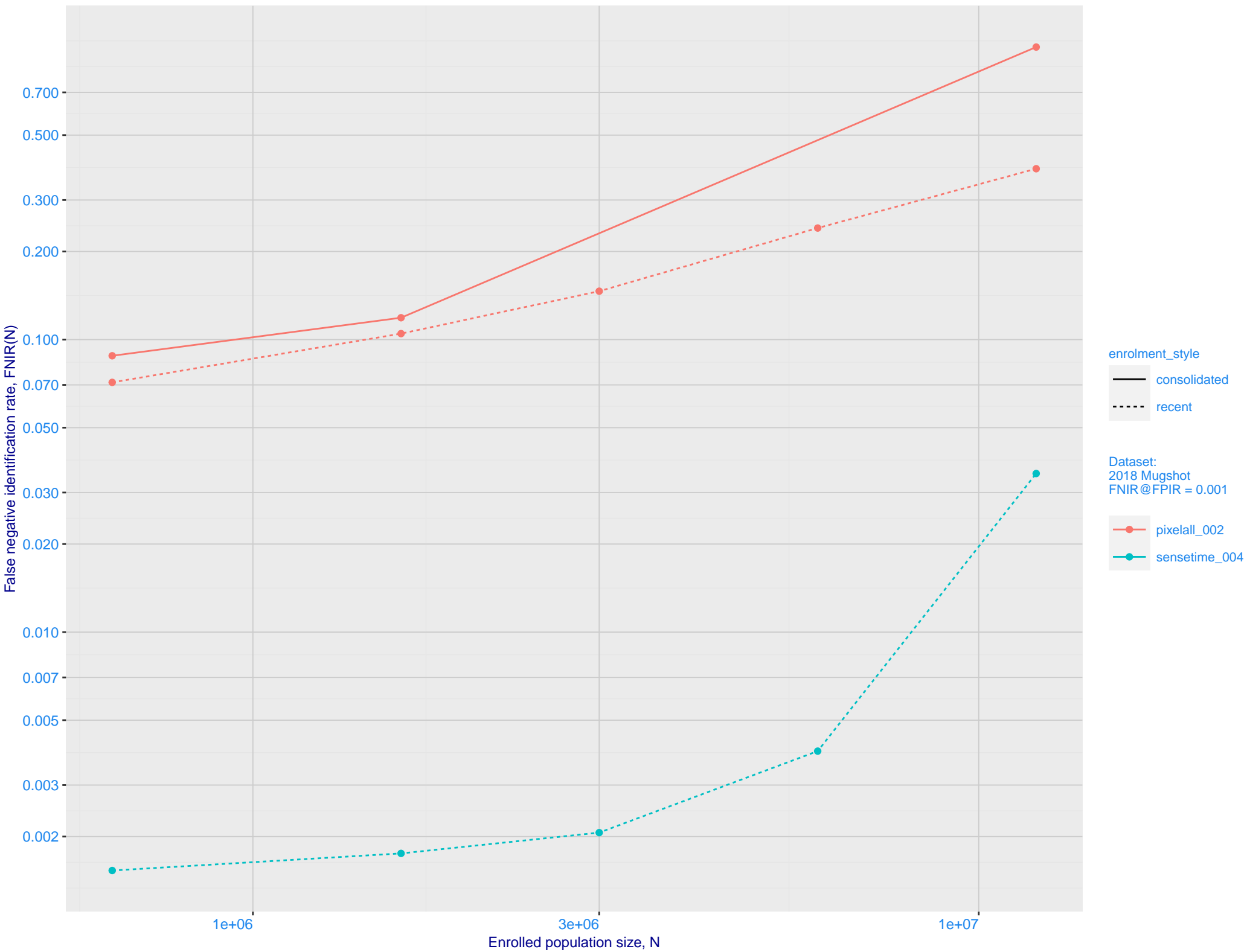
Mugshot webcam ranking 170 (out of 225) –– FNIR(1600000, T, L+1) = 0.3697, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 176 (out of 195) –– FNIR(1600000, T, L+1) = 0.9999, FPIR=0.001000 vs. lowest 0.1331 from hr_000
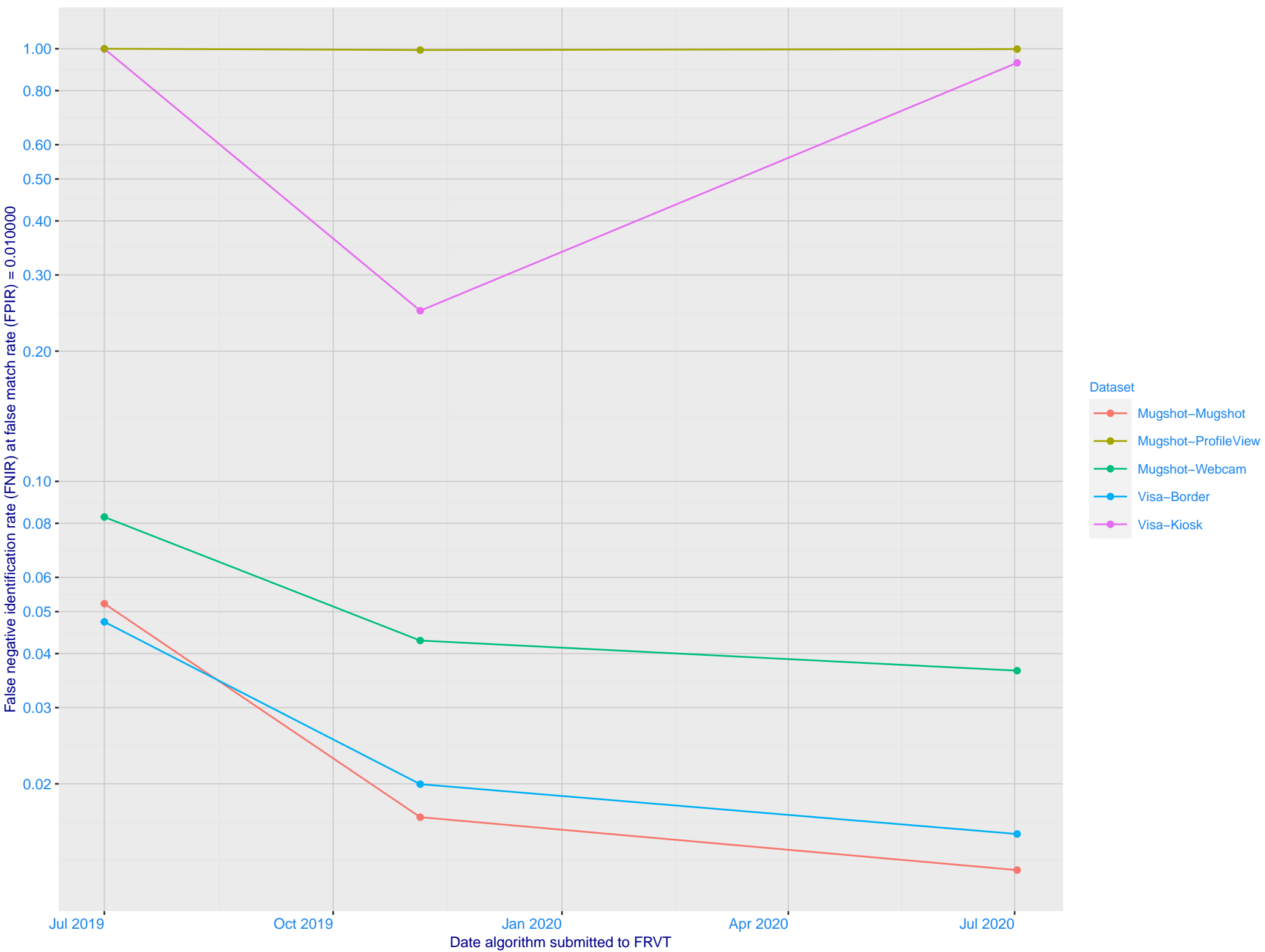
Immigration visa–border ranking 106 (out of 146) –– FNIR(1600000, T, L+1) = 0.6016, FPIR=0.001000 vs. lowest 0.0049 from hr_000

Immigration visa–kiosk ranking 136 (out of 141) –– FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.0996 from hr_000
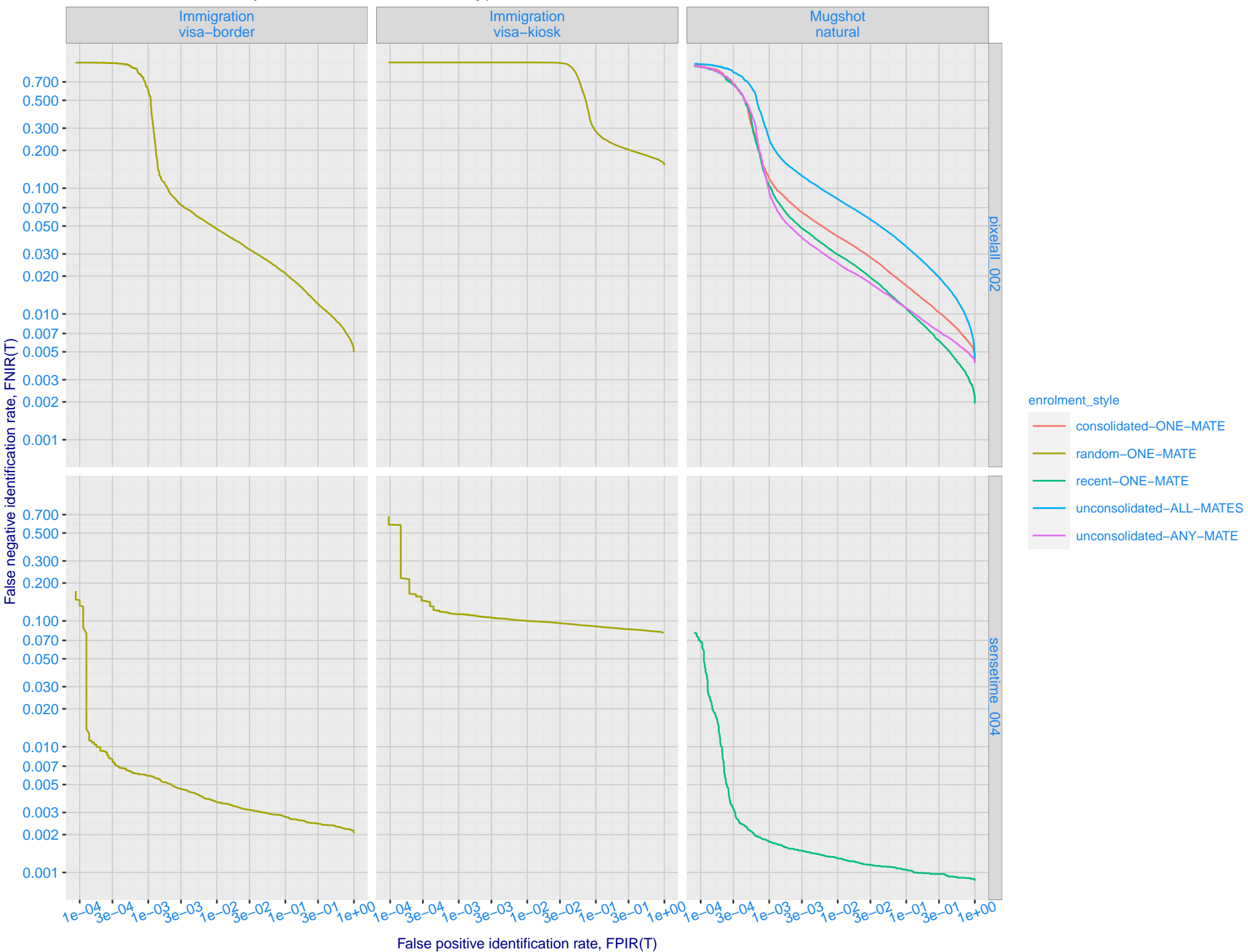
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)

C: Evolution of accuracy for PIXELALL algorithms on three datasets 2018 – present

Dataset
- Mugshot–Mugshot
- Mugshot–ProfileView
- Mugshot–Webcam
- Visa–Border
- Visa–Kiosk

X-axis: Date algorithm submitted to FRVT

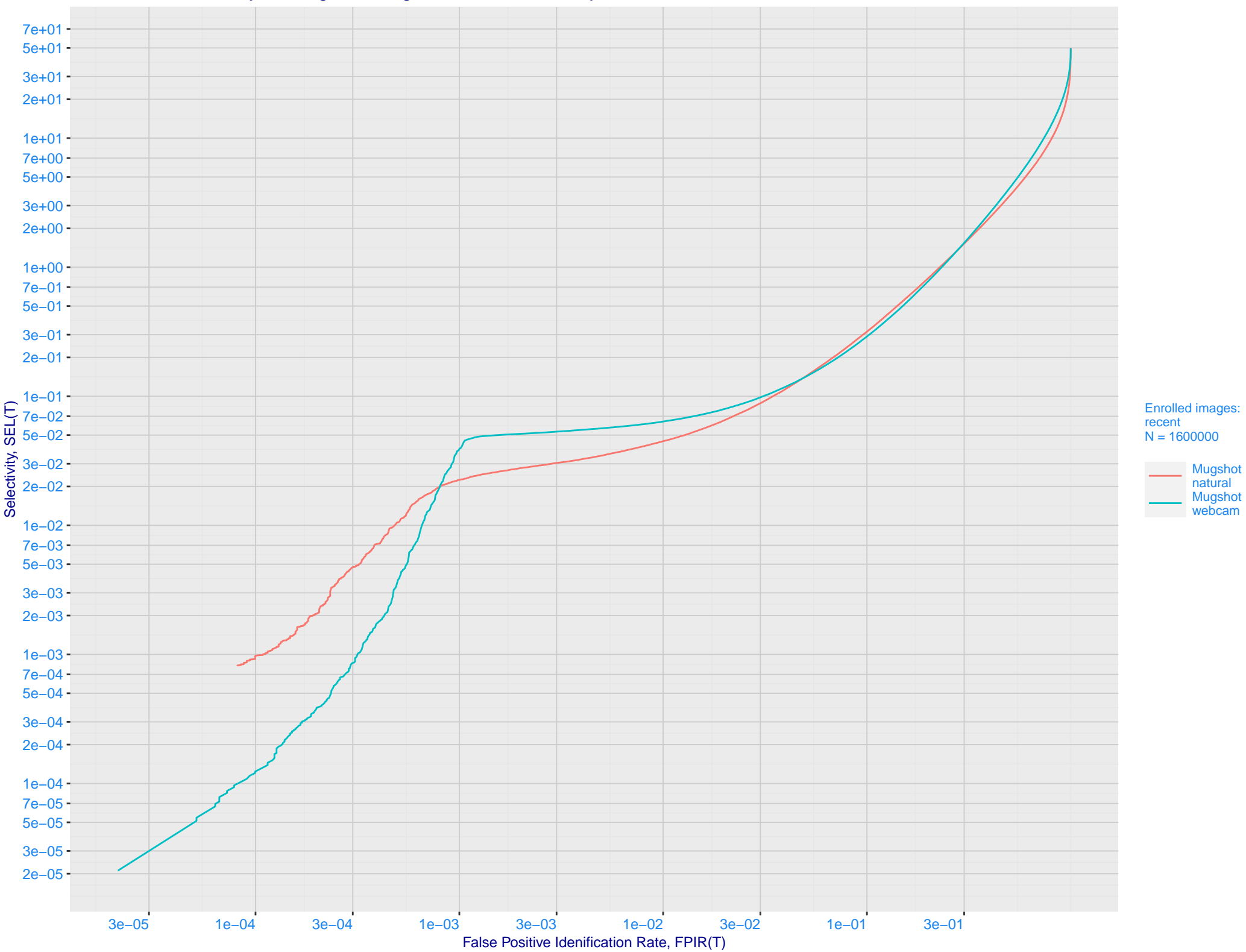Y-axis: False negative identification rate (FNIR) at false match rate (FPIR) = 0.010000

D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals
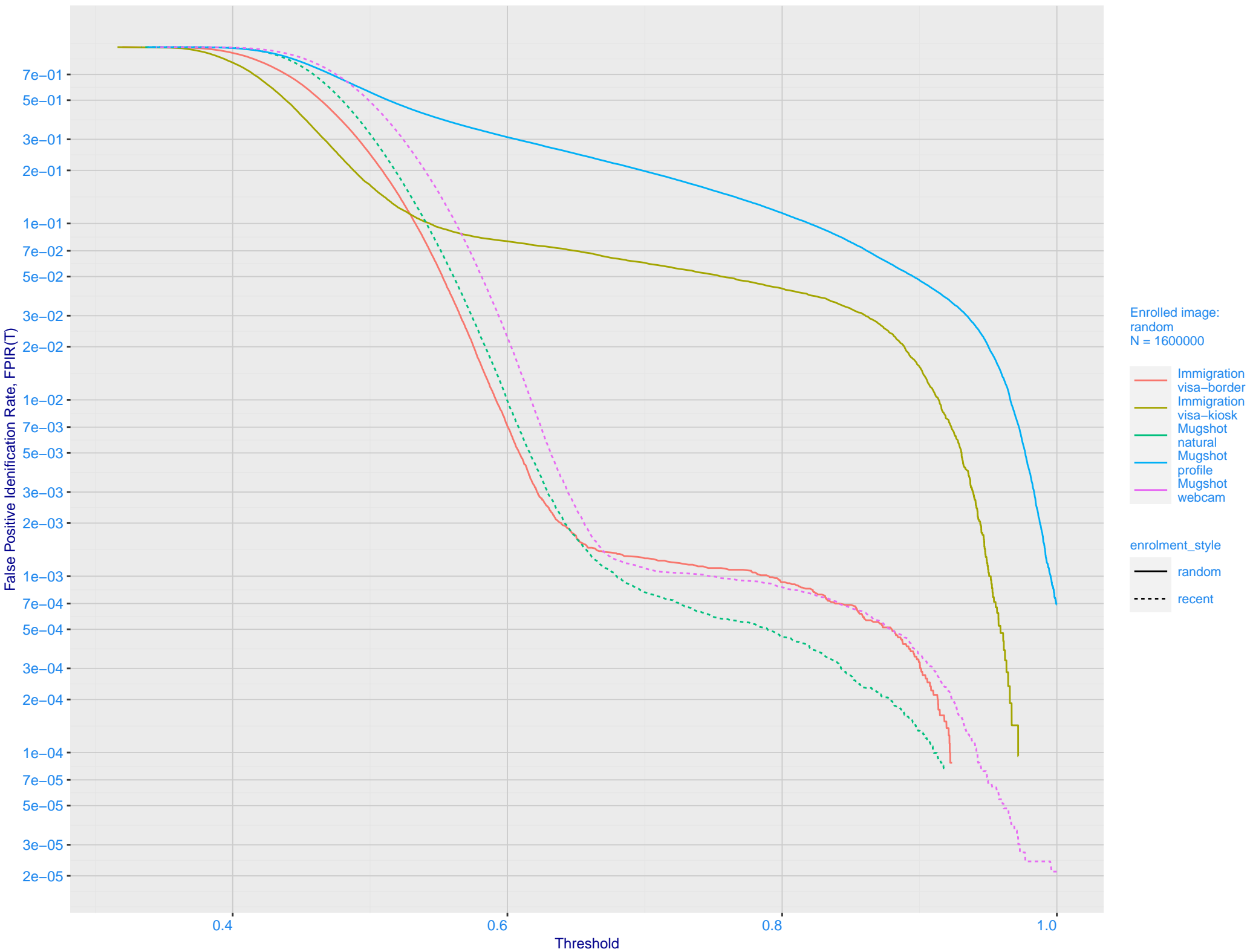
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
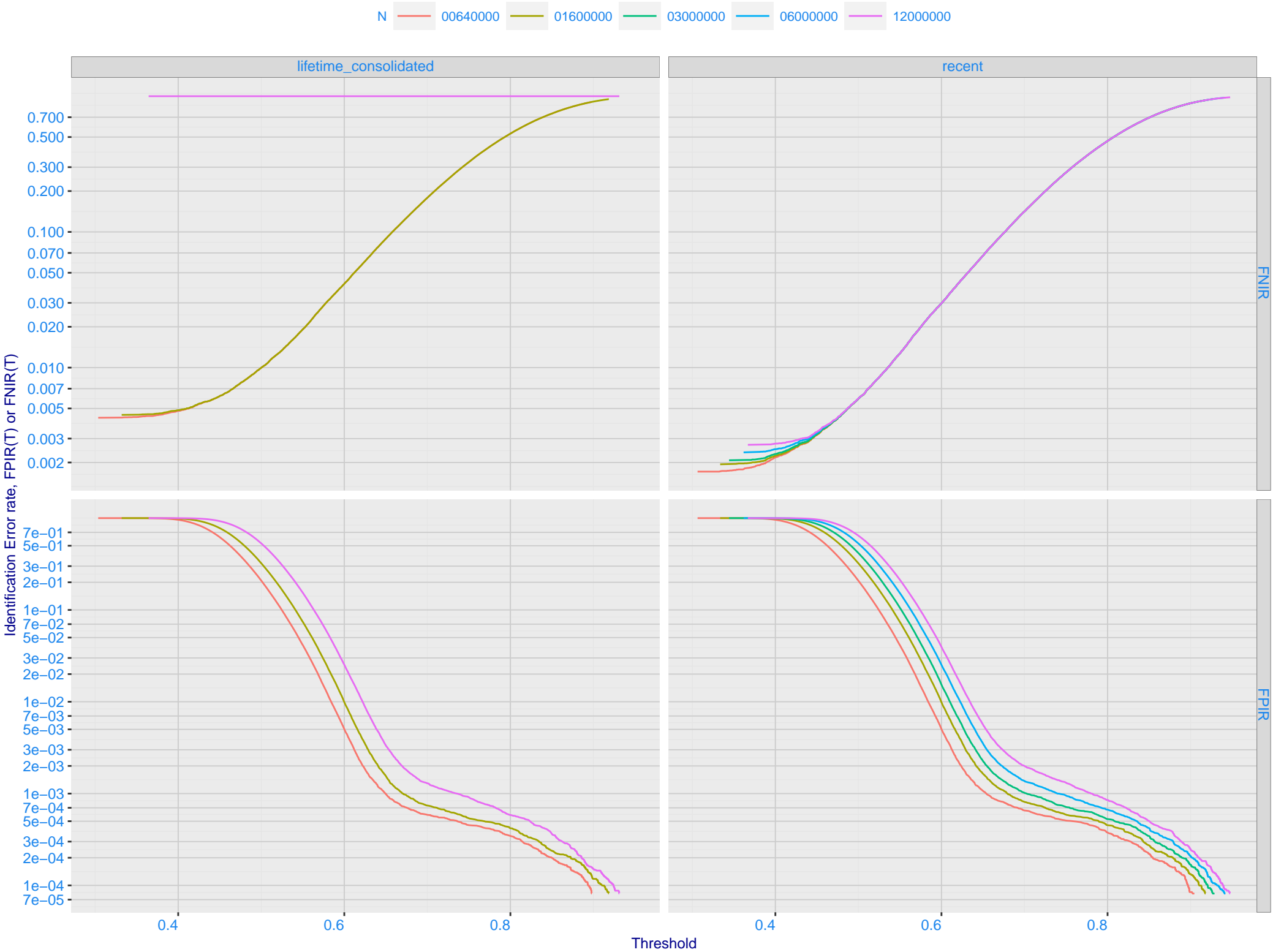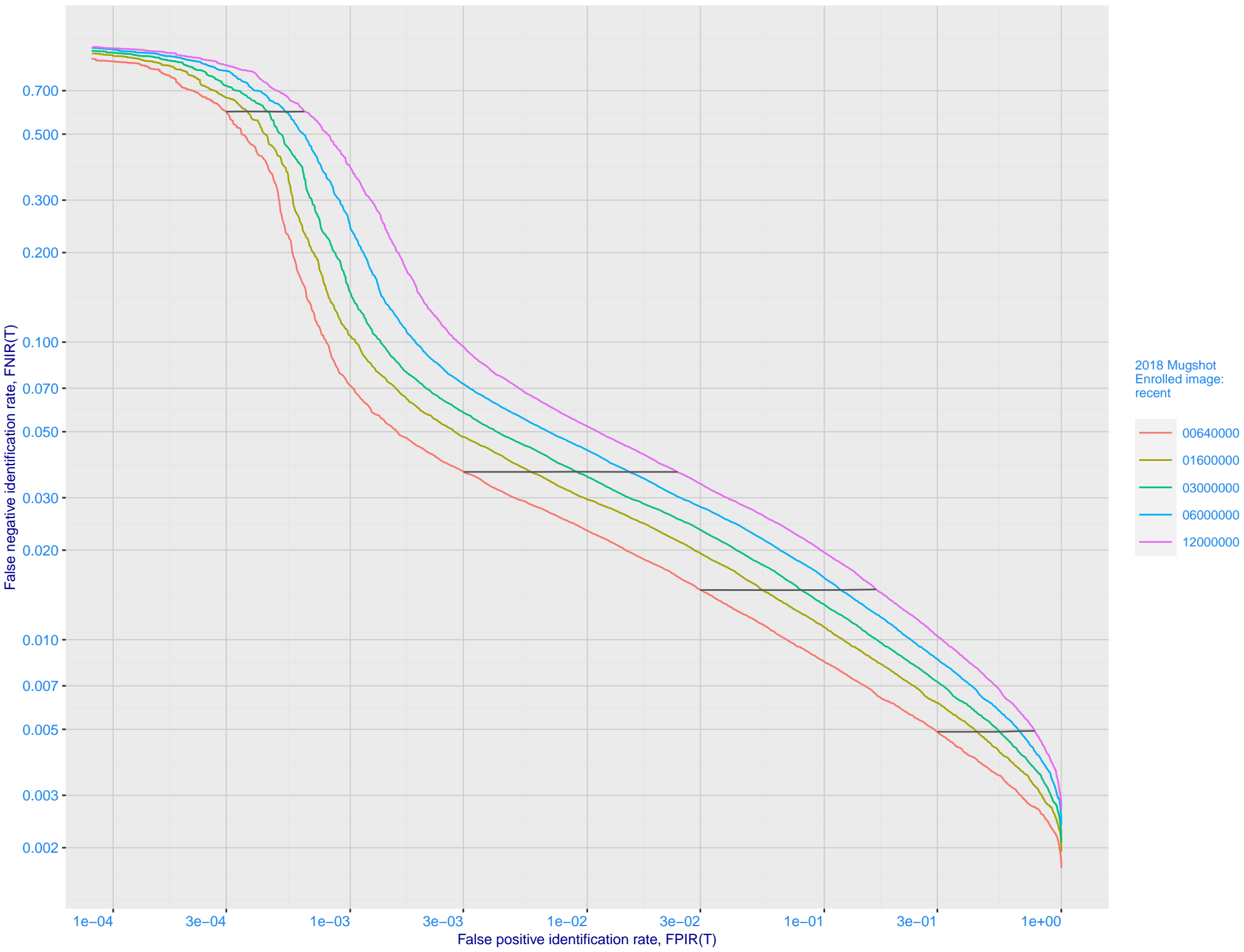
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate

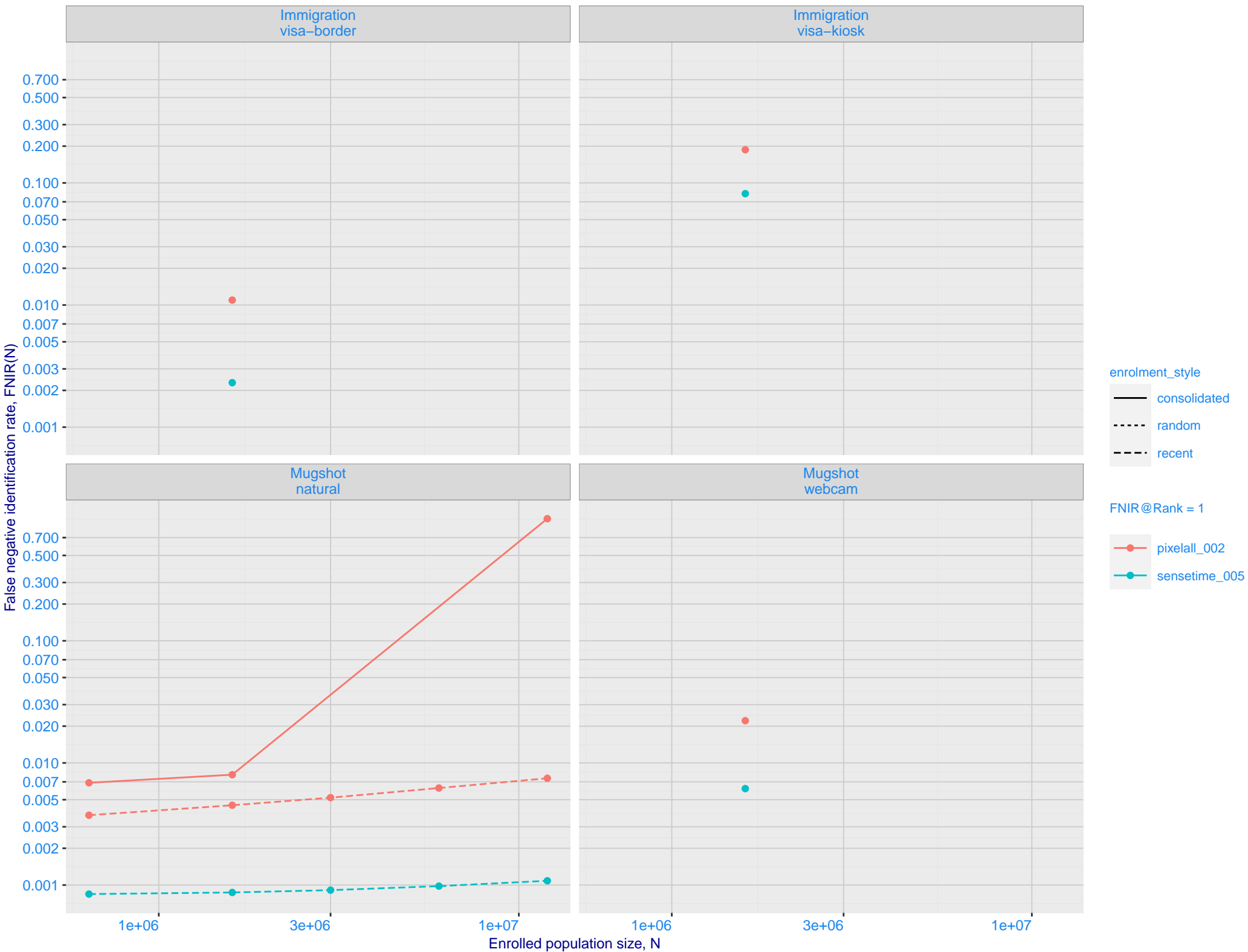G: FPIR dependence on T by probe type for N = 1600000 subjects

H: DET for Mugshot natural images and various N. Links connect points of equal threshold.
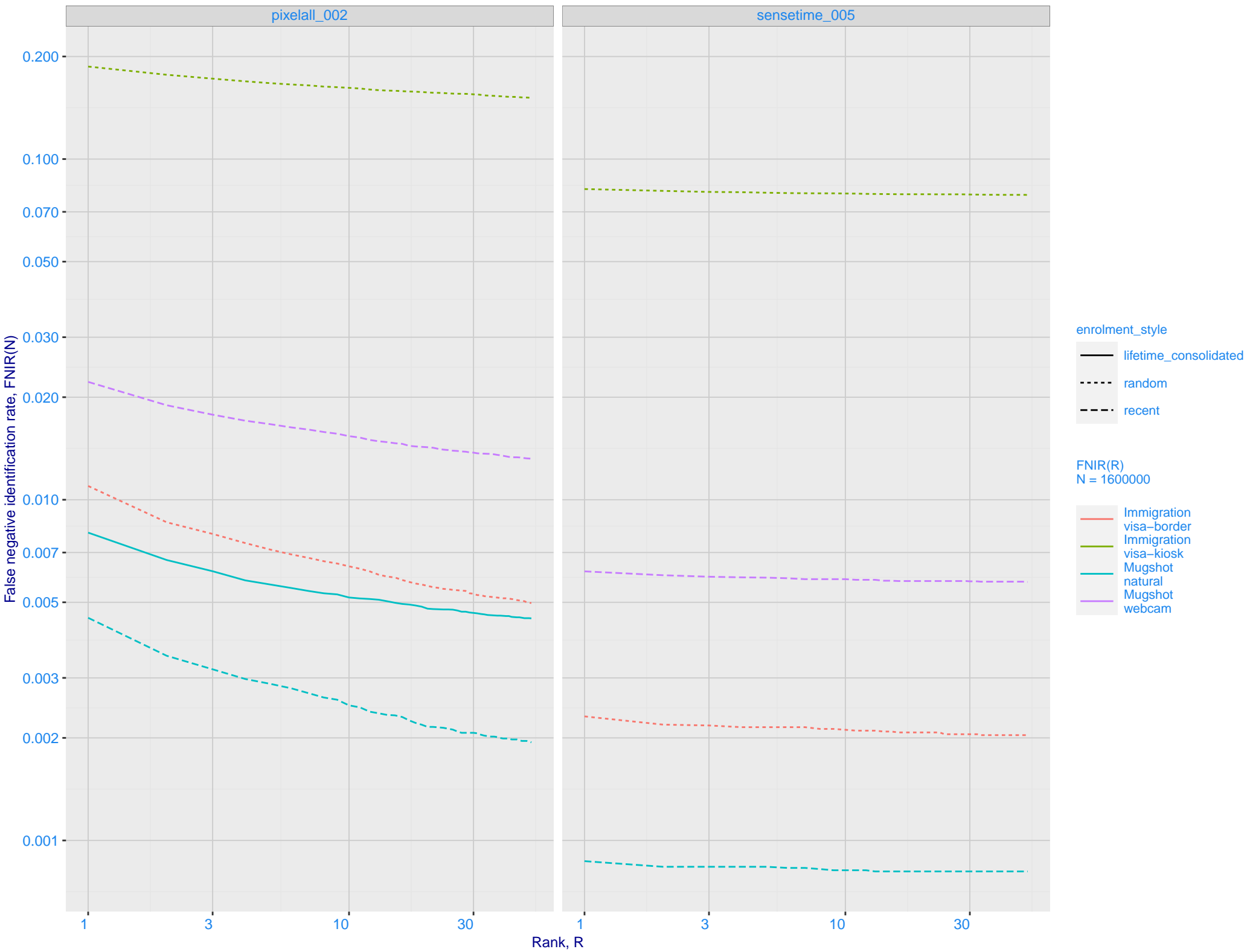
False negative identification rate, FNIR(T)

False positive identification rate, FPIR(T)

2018 Mugshot
Enrolled image:
recent

— 00640000
— 01600000
— 03000000
— 06000000
— 12000000

I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)

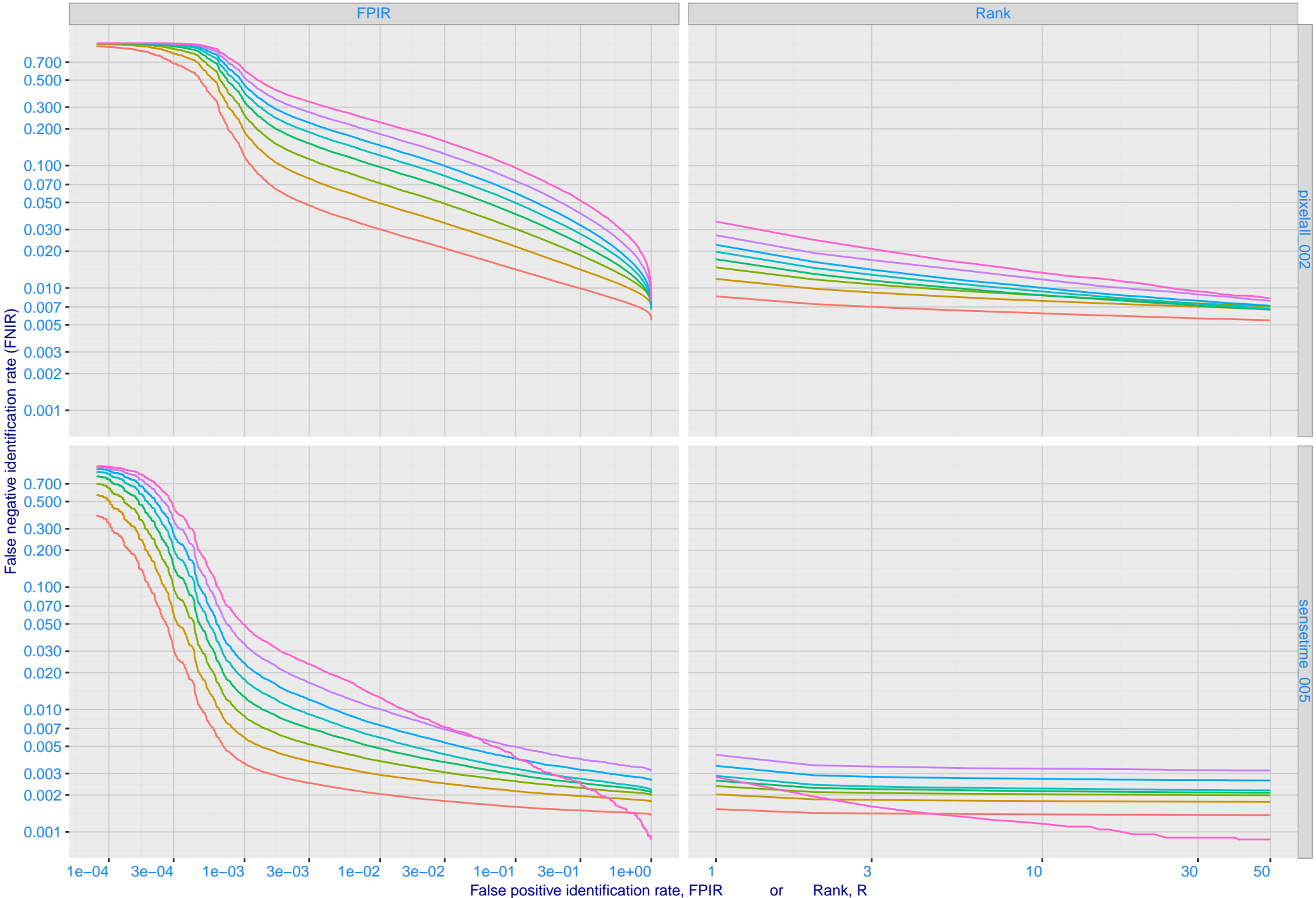J: Investigational mode: FNIR(1600000, R, 0) by probe type

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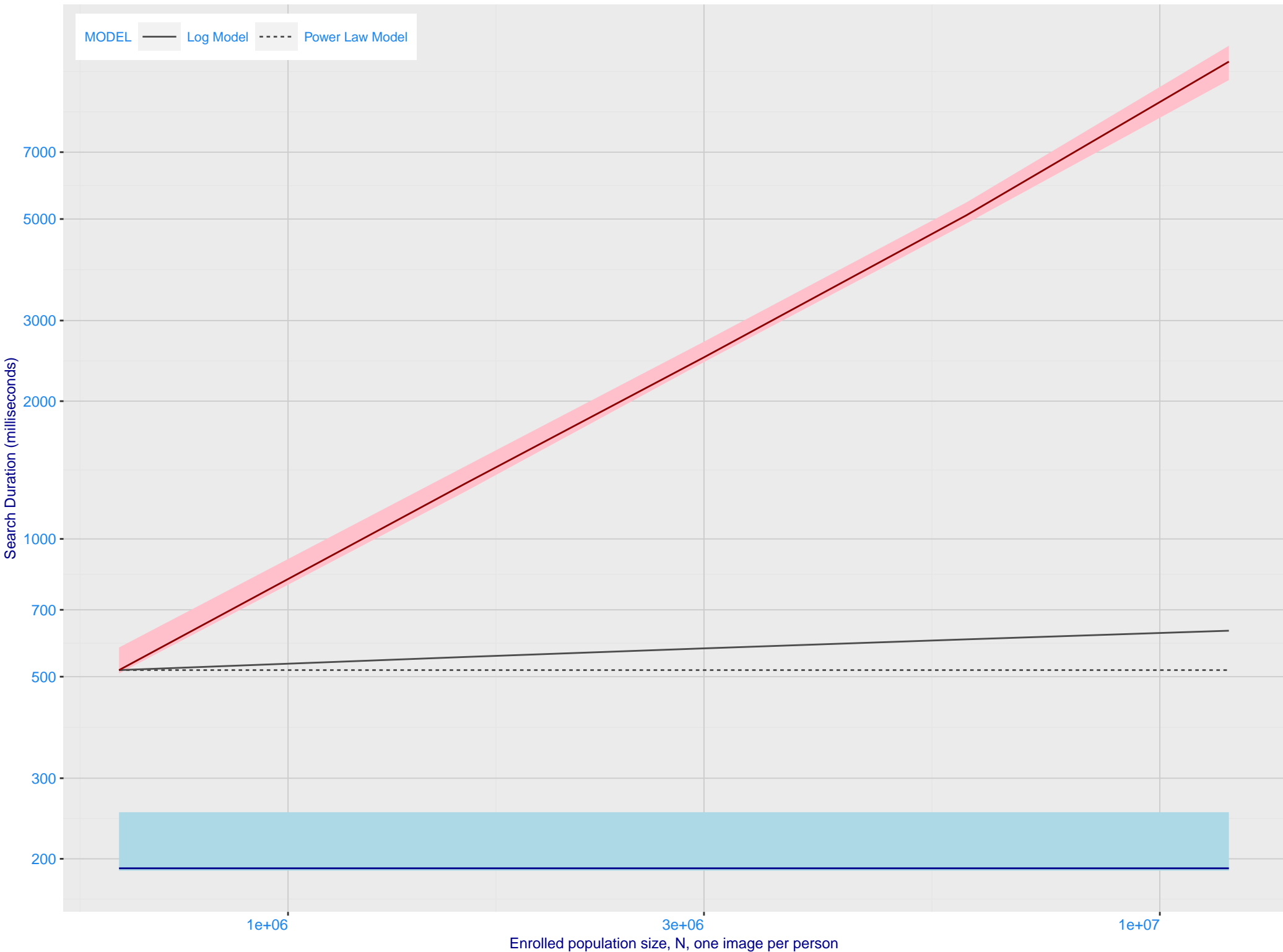
M: Identification FNIR(N, T, L+1) and Investigational FNIR(N, 0, R) under ageing

N: Decline of genuine scores with ageing