A: Datasheet

Algorithm: scanovate_001

Developer: Scanovate Ltd

Submission Date: 2020_09_10

Template size: 2048 bytes

Template time (2.5 percentile): 646 msec

Template time (median): 675 msec

Template time (97.5 percentile): 703 msec

Investigation:

Frontal mugshot ranking 87 (out of 265) –– FNIR(1600000, 0, 1) = 0.0053 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 134 (out of 227) –– FNIR(1600000, 0, 1) = 0.0401 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 62 (out of 196) –– FNIR(1600000, 0, 1) = 0.5849 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 82 (out of 148) –– FNIR(1600000, 0, 1) = 0.0310 vs. lowest 0.0013 from visionlabs_010

Immigration visa–kiosk ranking 72 (out of 145) –– FNIR(1600000, 0, 1) = 0.1782 vs. lowest 0.0568 from hr_000

Identification:

Frontal mugshot ranking 118 (out of 265) –– FNIR(1600000, T, L+1) = 0.0813, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 136 (out of 225) –– FNIR(1600000, T, L+1) = 0.2268, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 34 (out of 195) –– FNIR(1600000, T, L+1) = 0.9115, FPIR=0.001000 vs. lowest 0.1331 from hr_000

Immigration visa–border ranking 85 (out of 146) –– FNIR(1600000, T, L+1) = 0.1924, FPIR=0.001000 vs. lowest 0.0049 from hr_000

Immigration visa–kiosk ranking 56 (out of 141) –– FNIR(1600000, T, L+1) = 0.4055, FPIR=0.001000 vs. lowest 0.0996 from hr_000
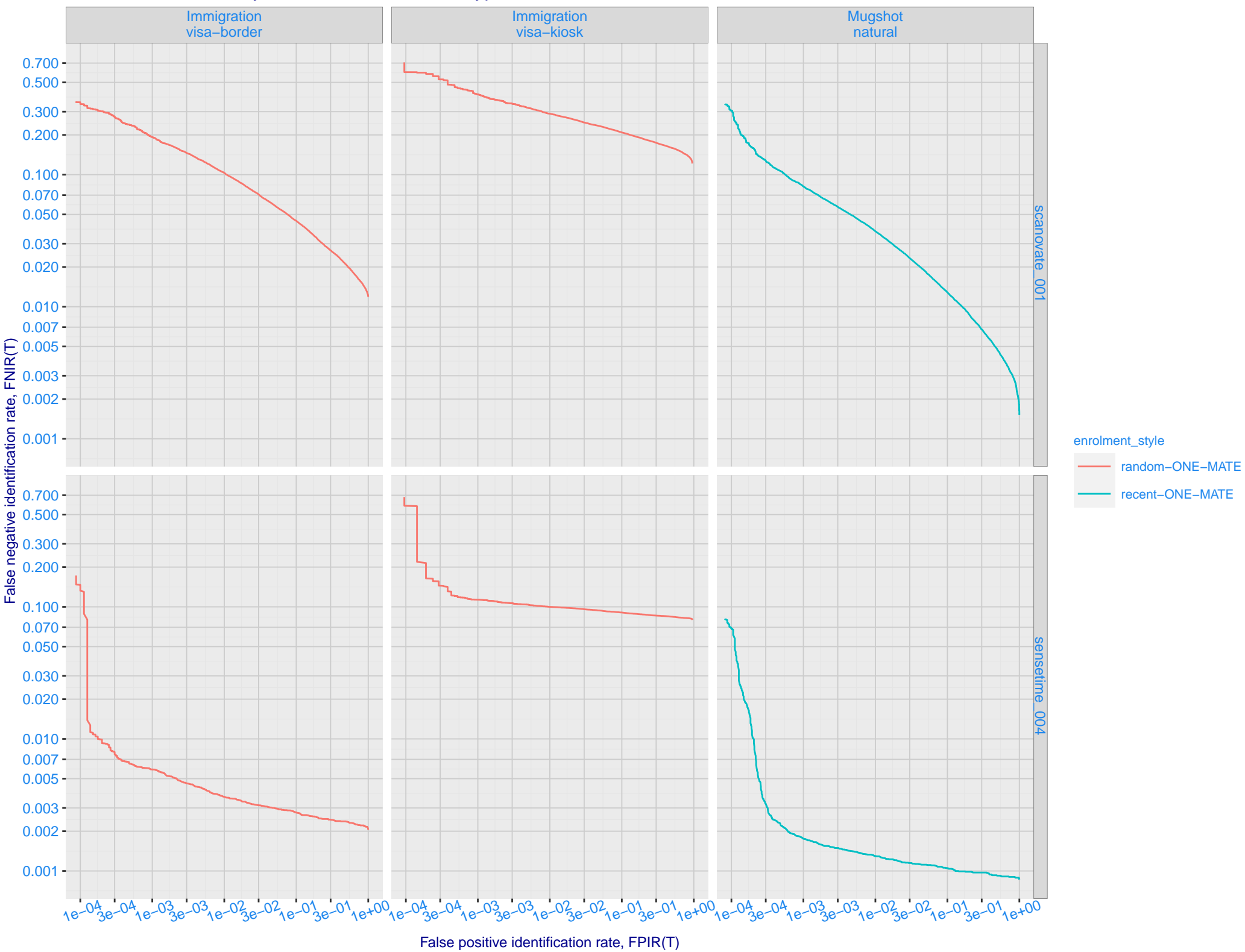
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
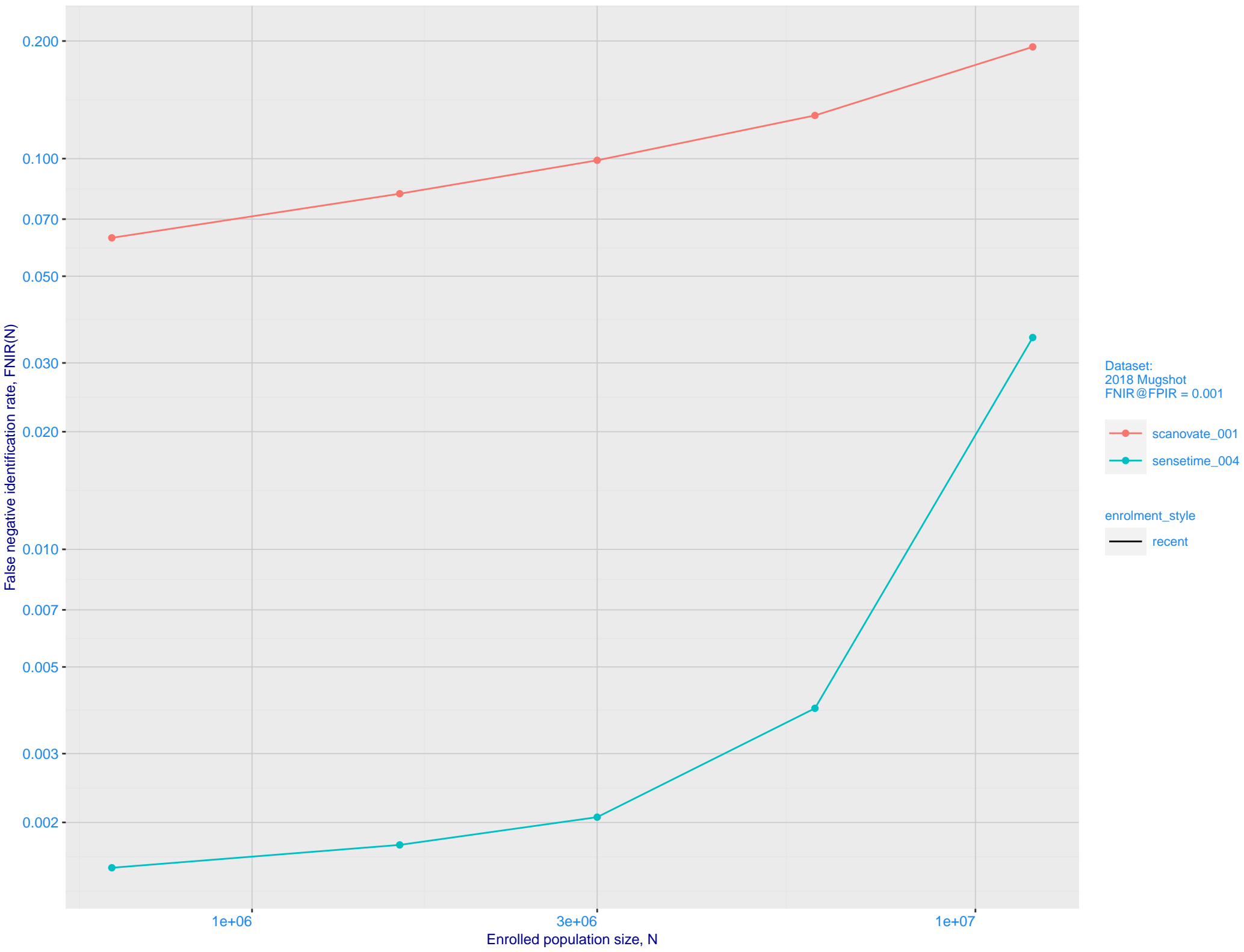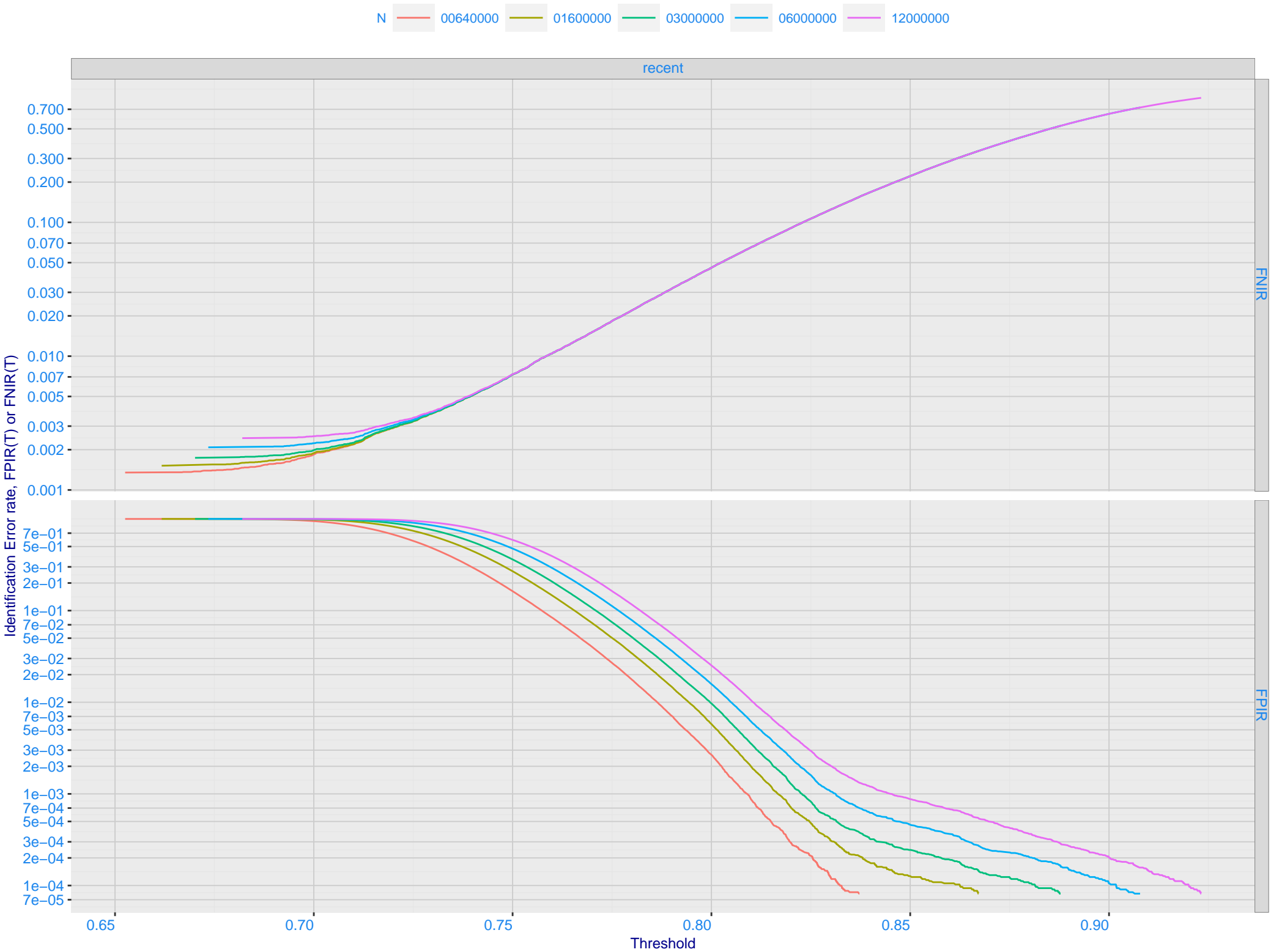
C: Evolution of accuracy for SCANOVATE algorithms on three datasets 2018 – present
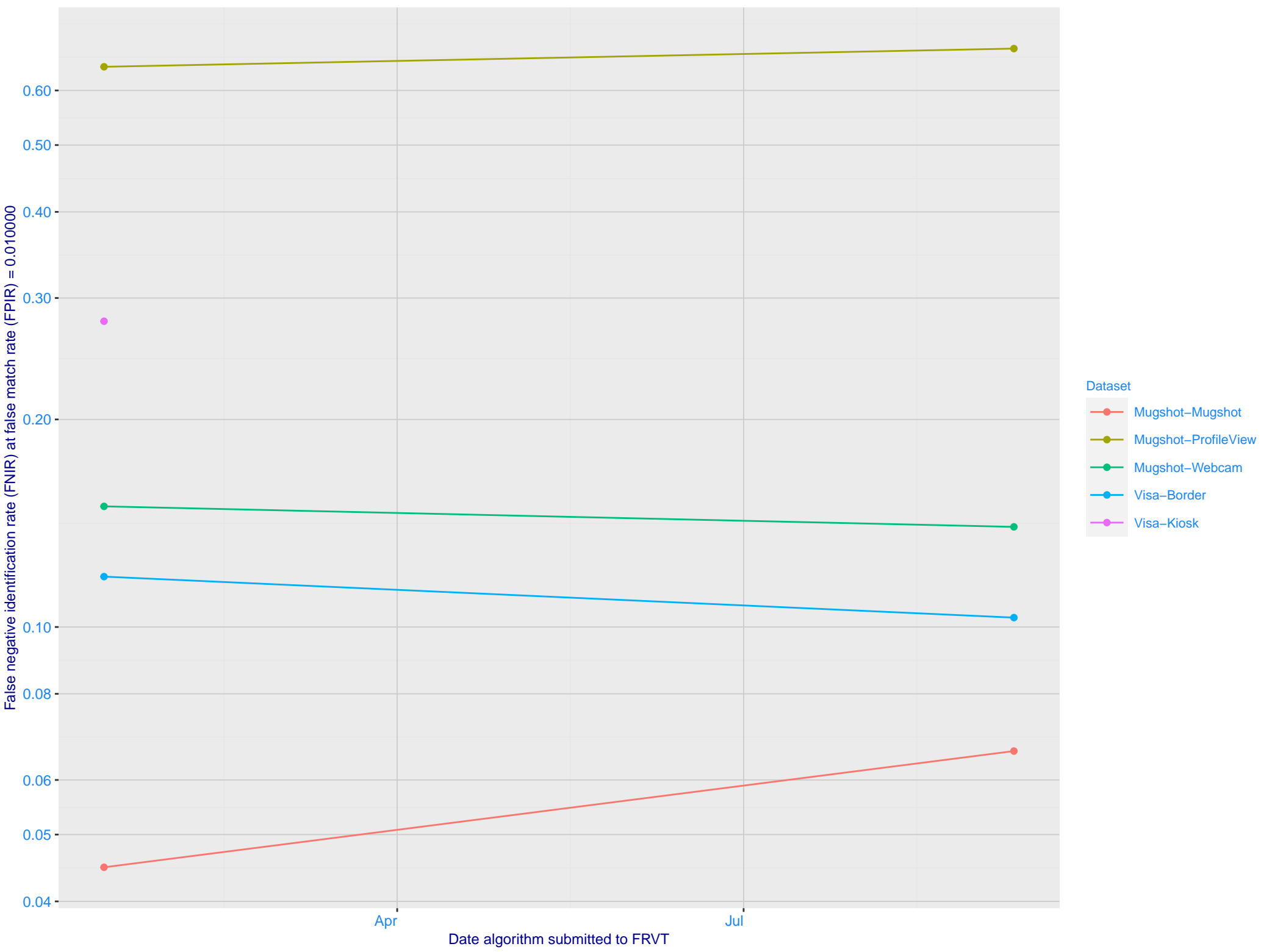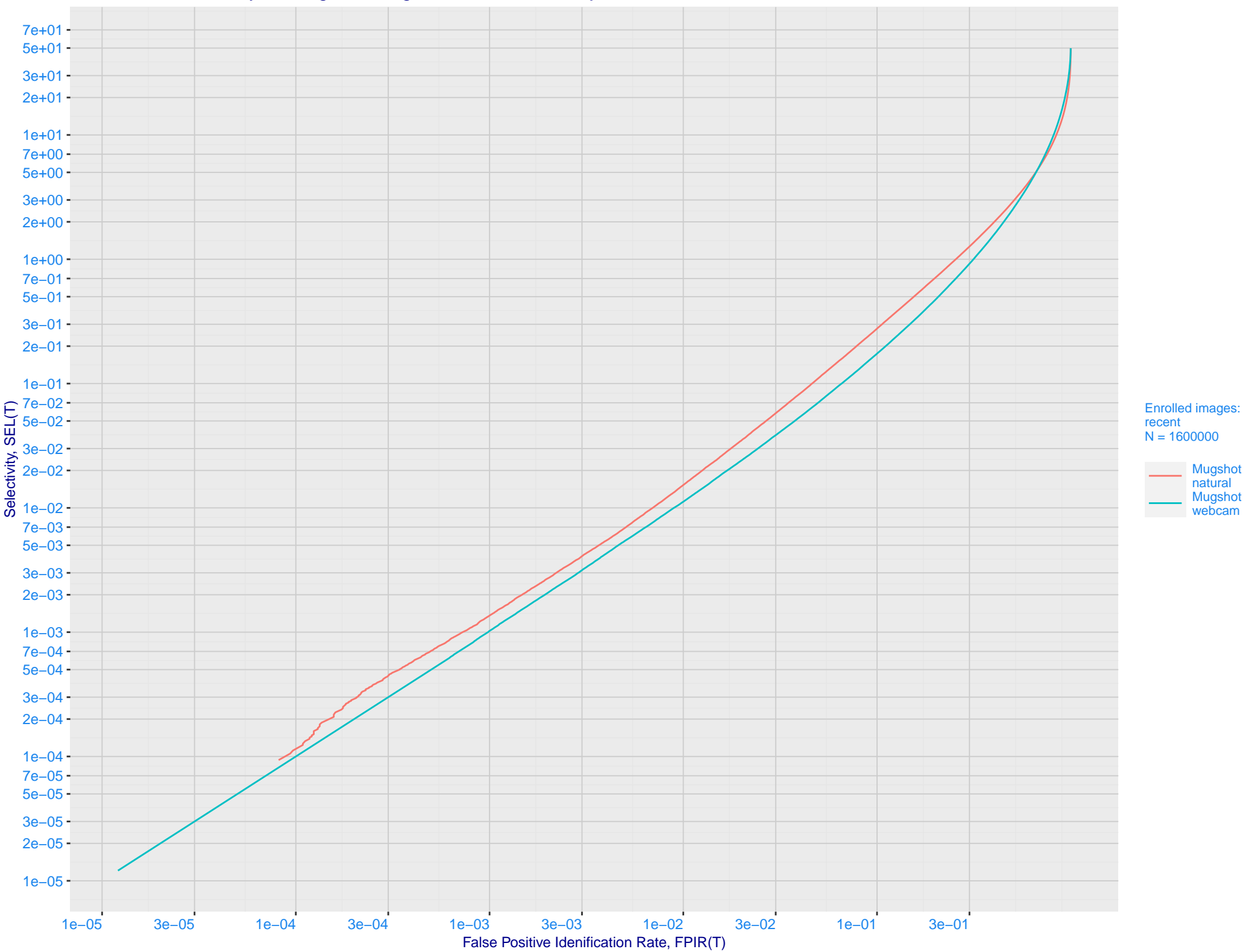
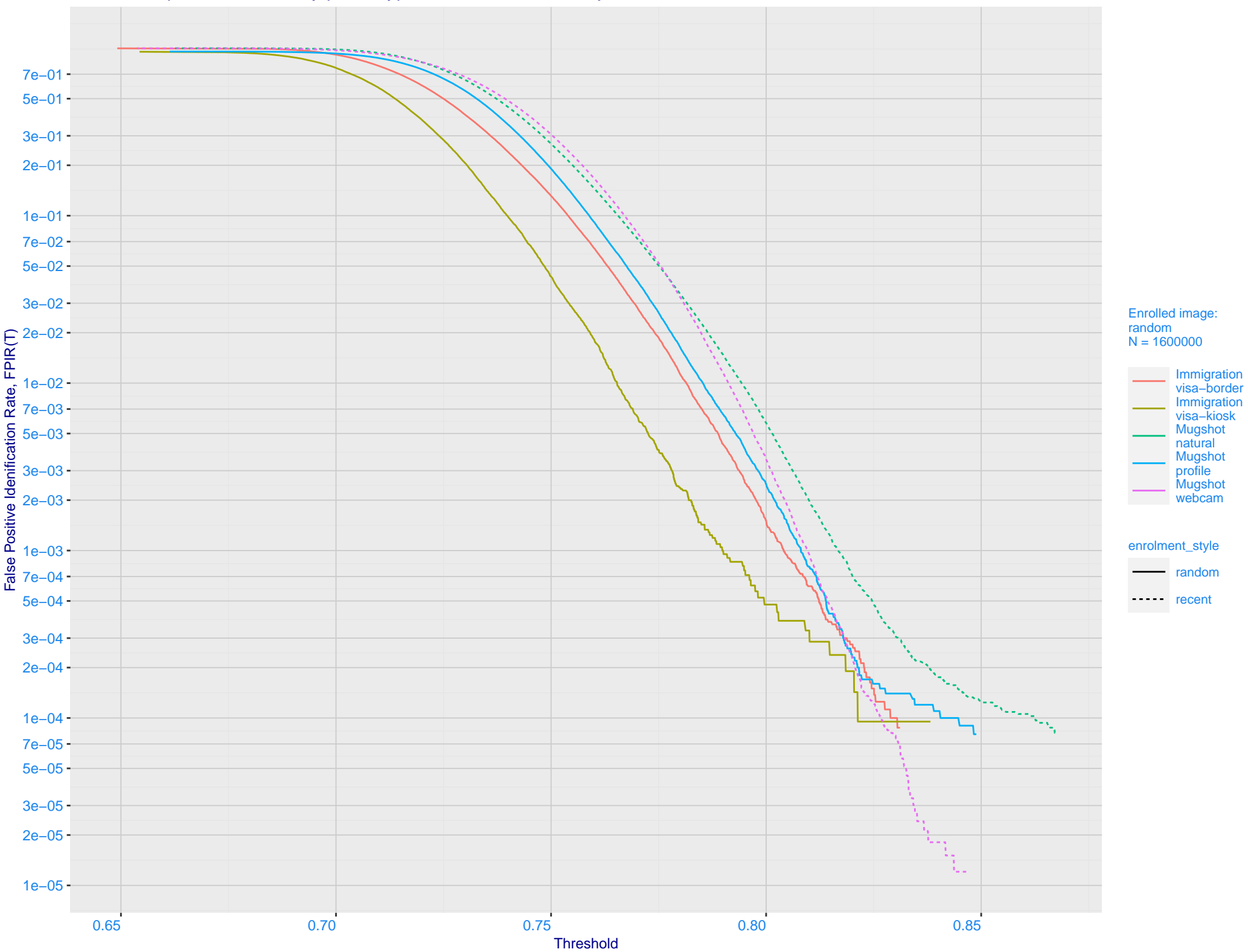D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
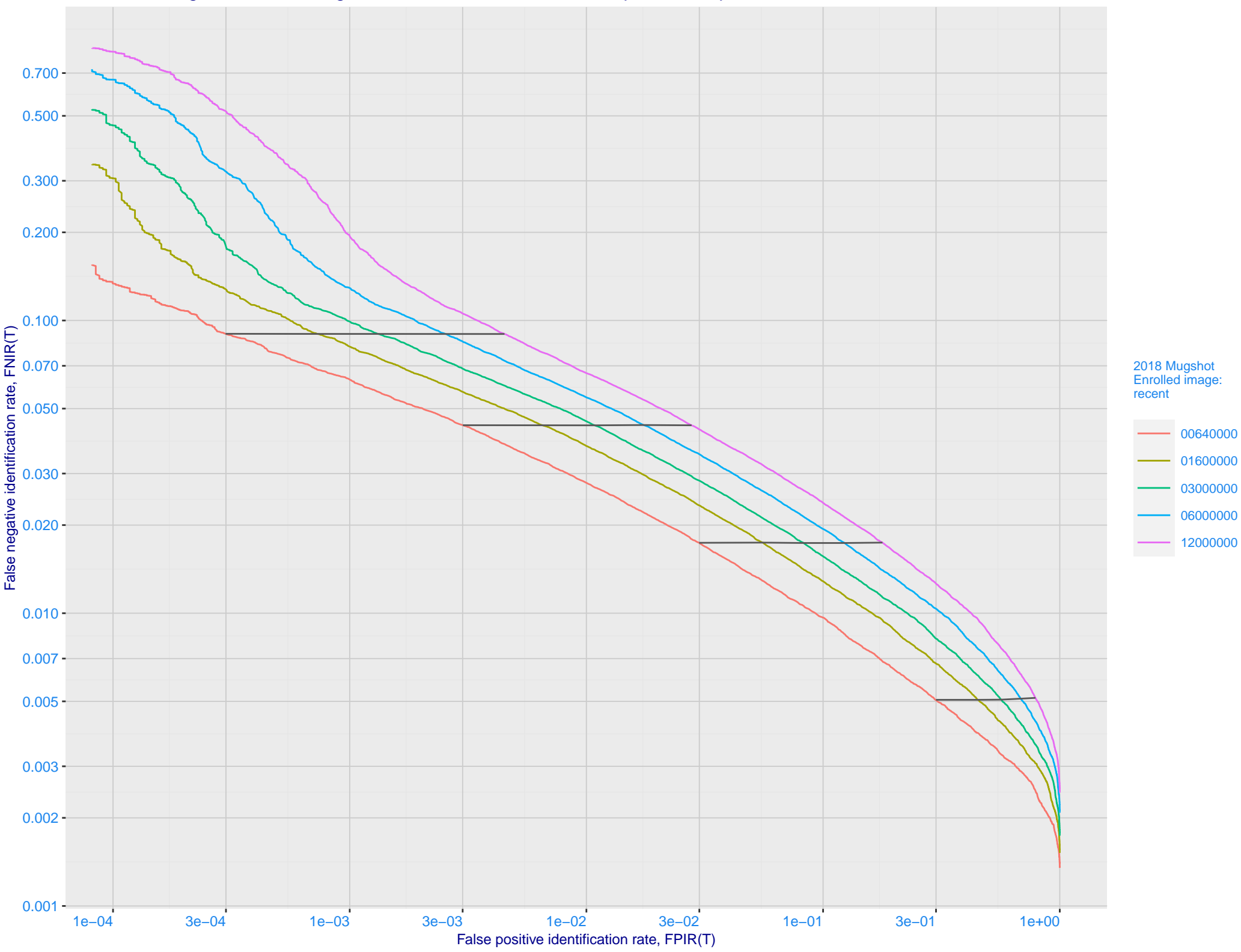
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
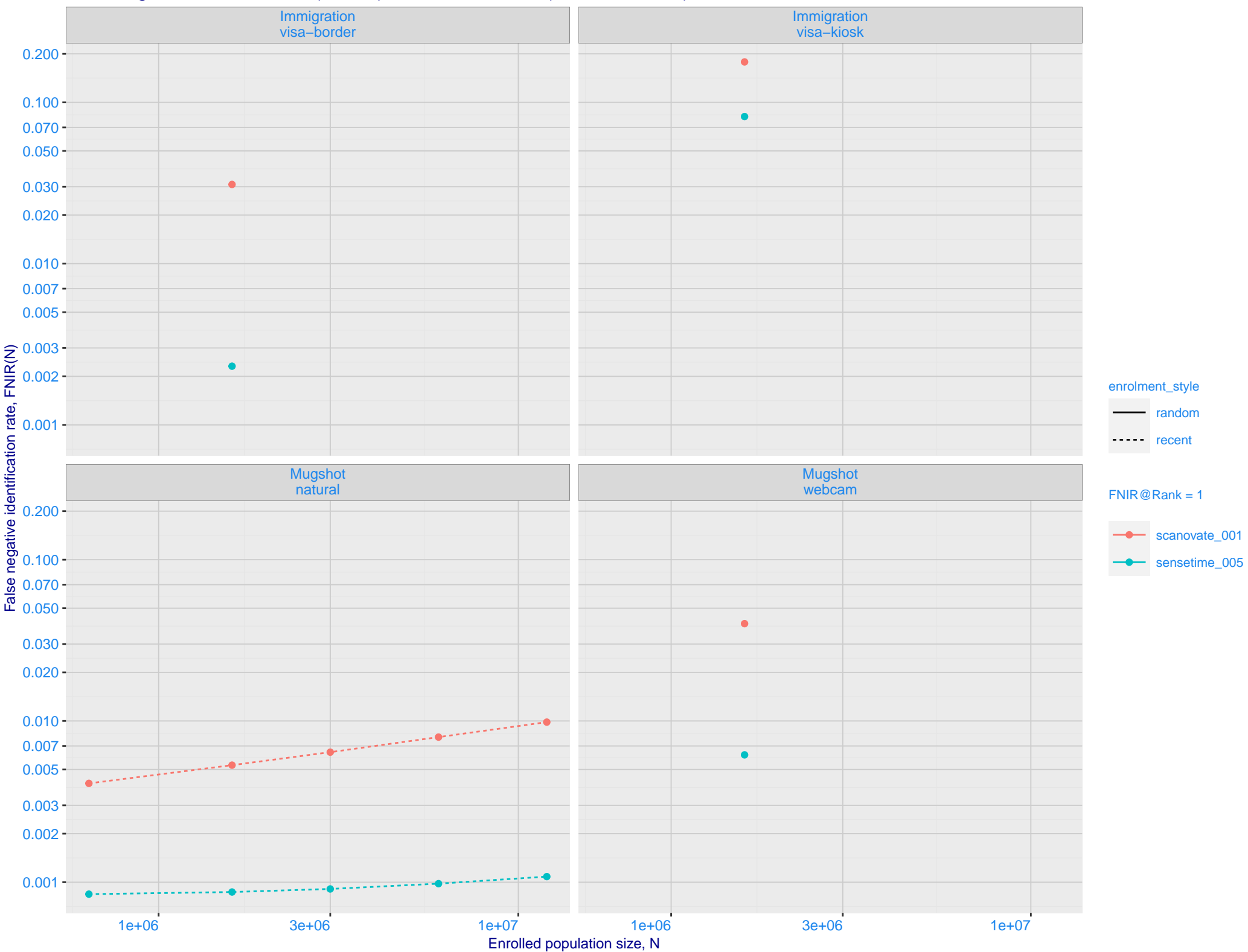
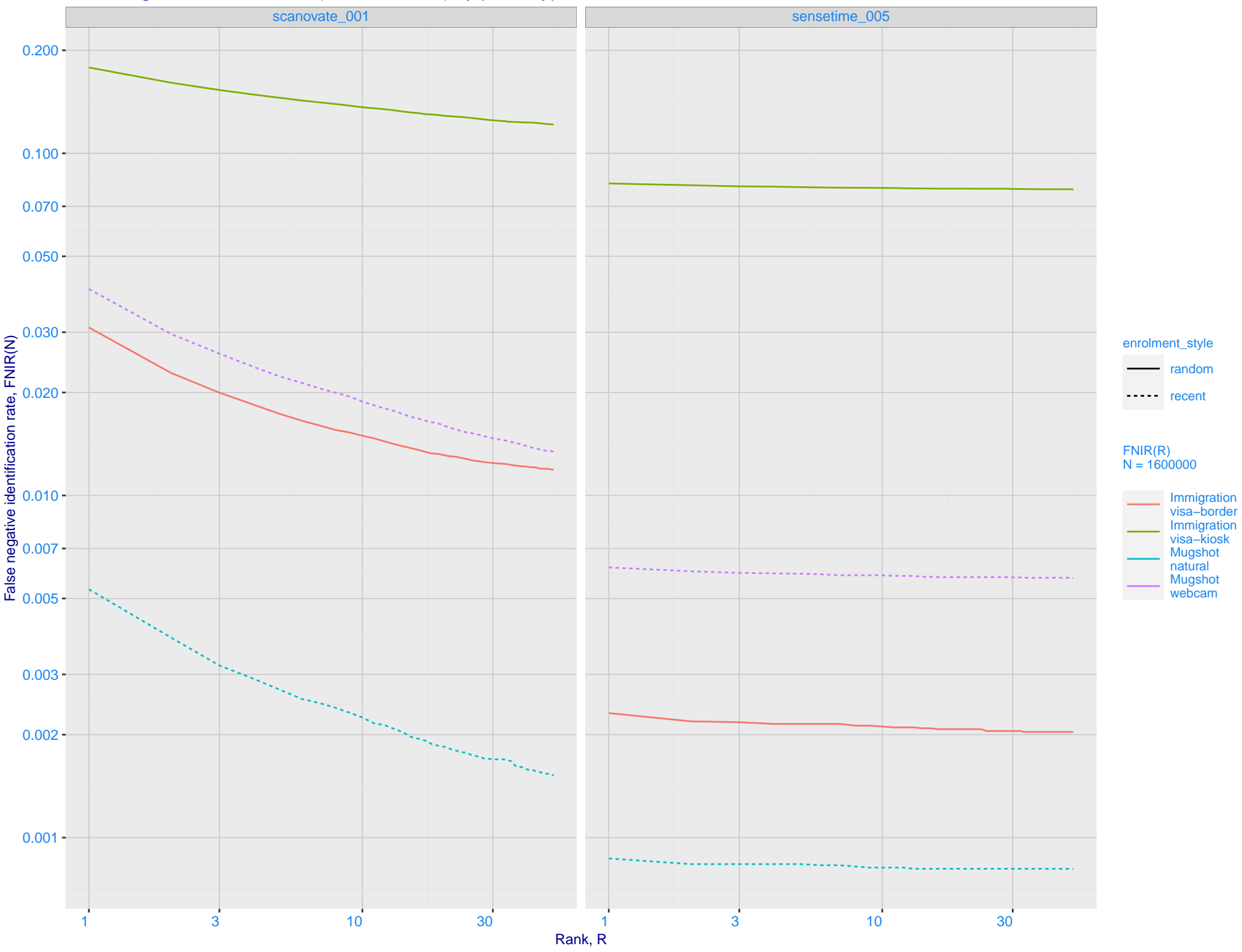G: FPIR dependence on T by probe type for N = 1600000 subjects

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

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

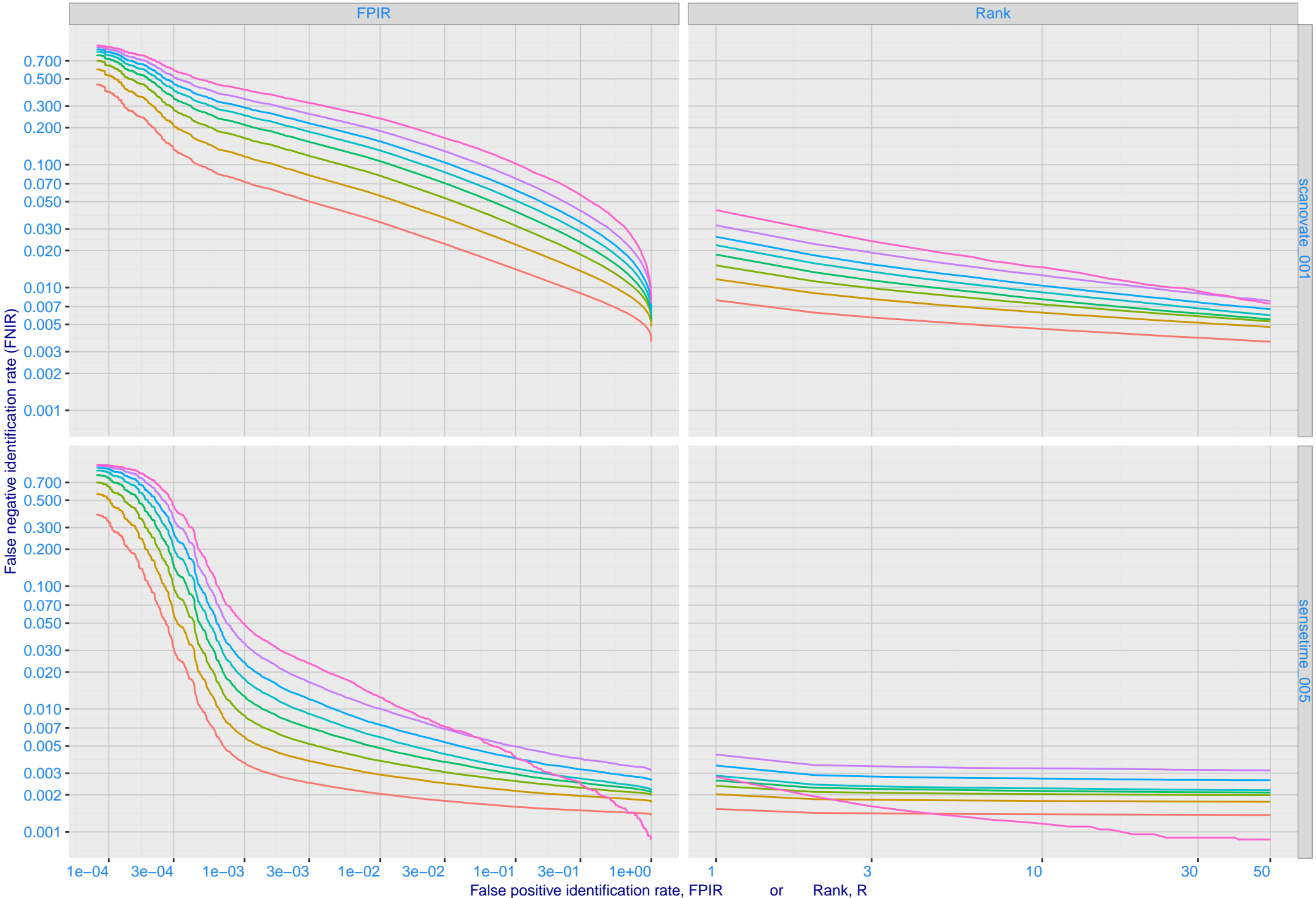J: Investigational mode: FNIR(1600000, R, 0) by probe type

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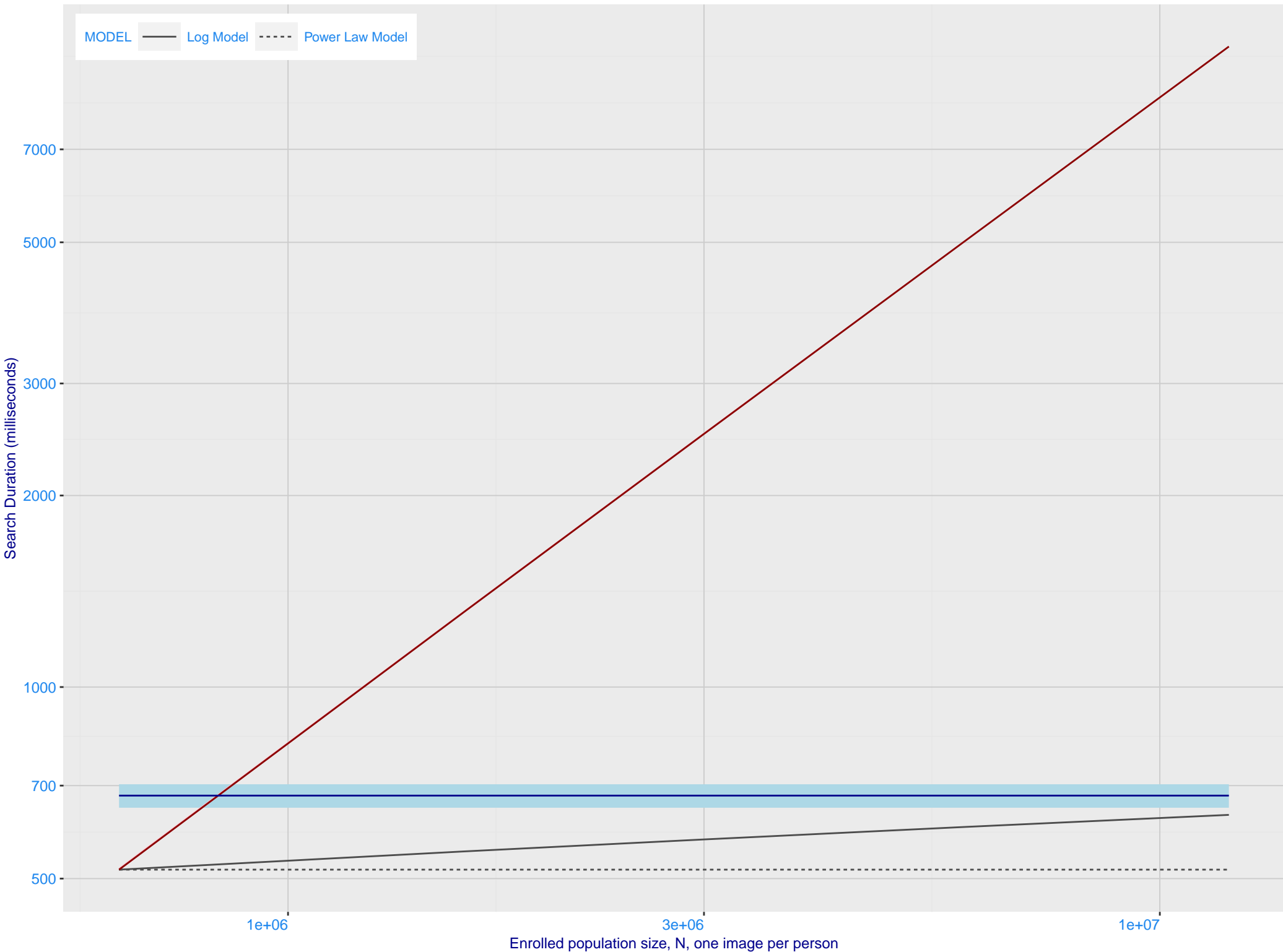
M: Identification FNIR(N, T, L+1) and Investigational FNIR(N, 0, R) under ageing

N: Decline of genuine scores with ageing

Time lapse between search and initial encounter enrollment (years)

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

0.20
0.15
0.10
0.05
0.00

TVAL

FPIR = 0.001
FPIR = 0.003
FPIR = 0.010
FPIR = 0.030