A: Datasheet

Algorithm: cogent_1

Developer: Thales

Submission Date: 2018_06_20

Template size: 525 bytes

Template time (2.5 percentile): 542 msec

Template time (median): 551 msec

Template time (97.5 percentile): 579 msec

Investigation:

Frontal mugshot ranking 142 (out of 279) –– FNIR(1600000, 0, 1) = 0.0105 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 154 (out of 241) –– FNIR(1600000, 0, 1) = 0.0461 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 174 (out of 210) –– FNIR(1600000, 0, 1) = 0.9653 vs. lowest 0.0587 from xforwardai_002
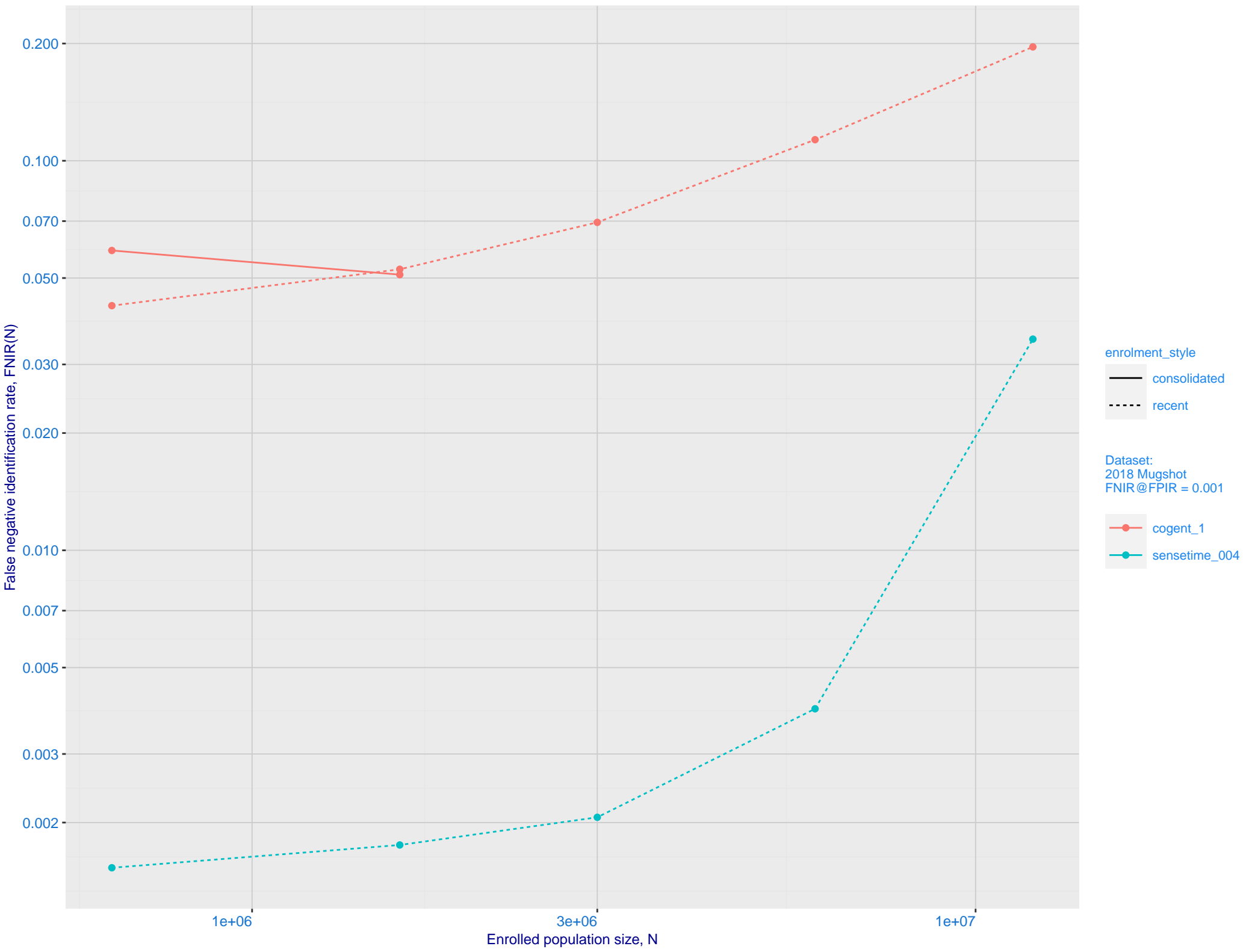
Identification:

Frontal mugshot ranking 98 (out of 279) –– FNIR(1600000, T, L+1) = 0.0527, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
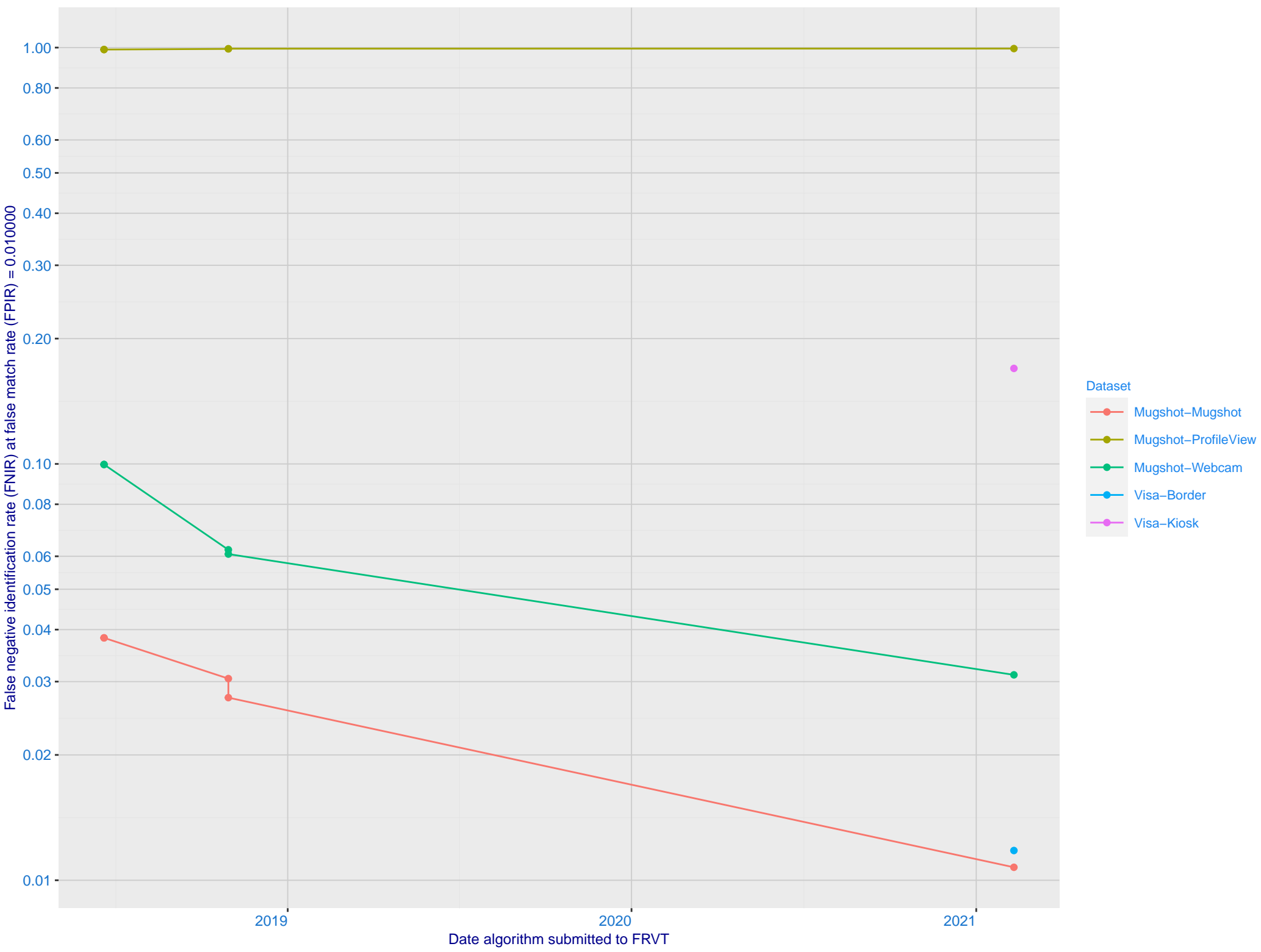
Mugshot webcam ranking 108 (out of 236) –– FNIR(1600000, T, L+1) = 0.1402, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 106 (out of 209) –– FNIR(1600000, T, L+1) = 0.9949, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000
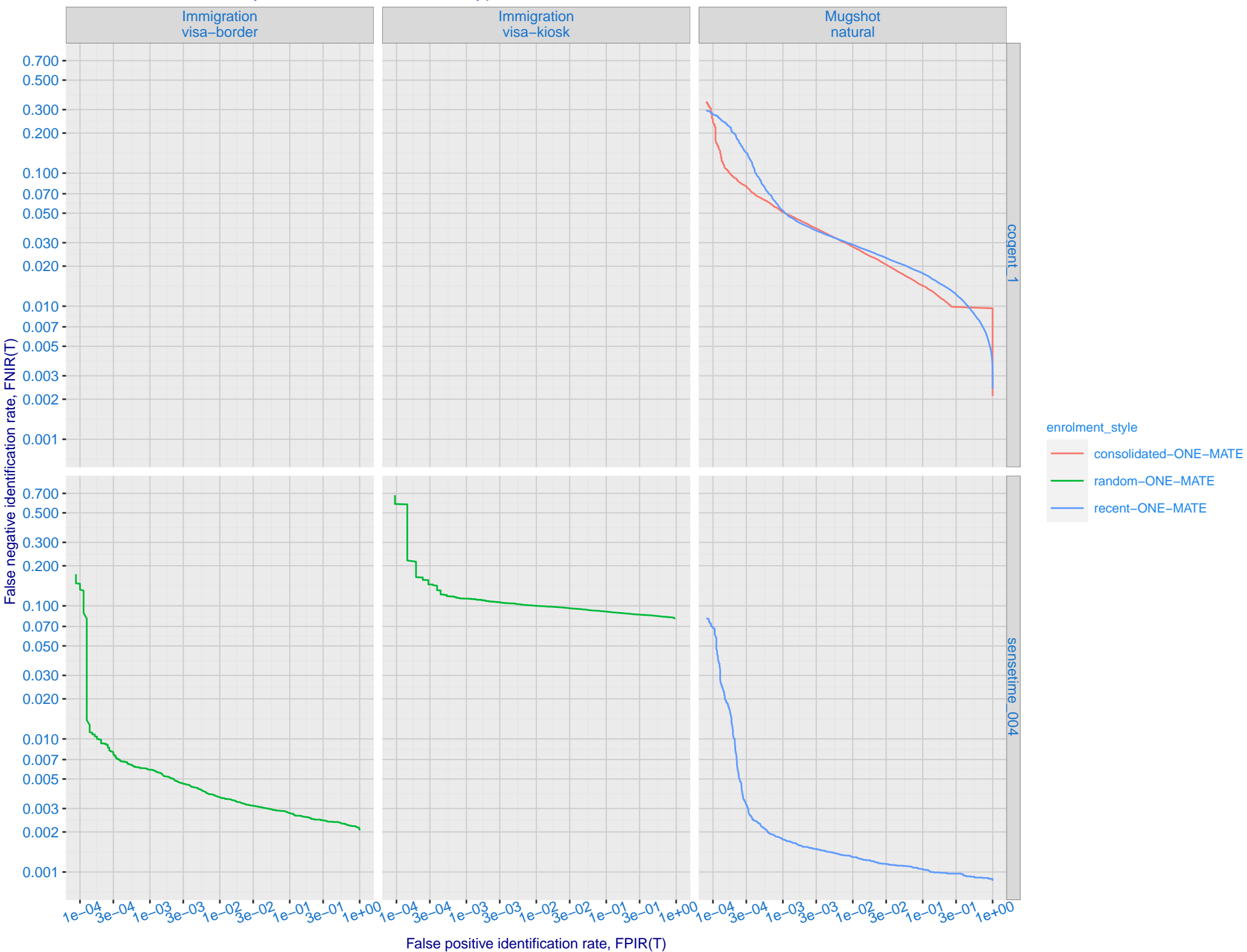
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
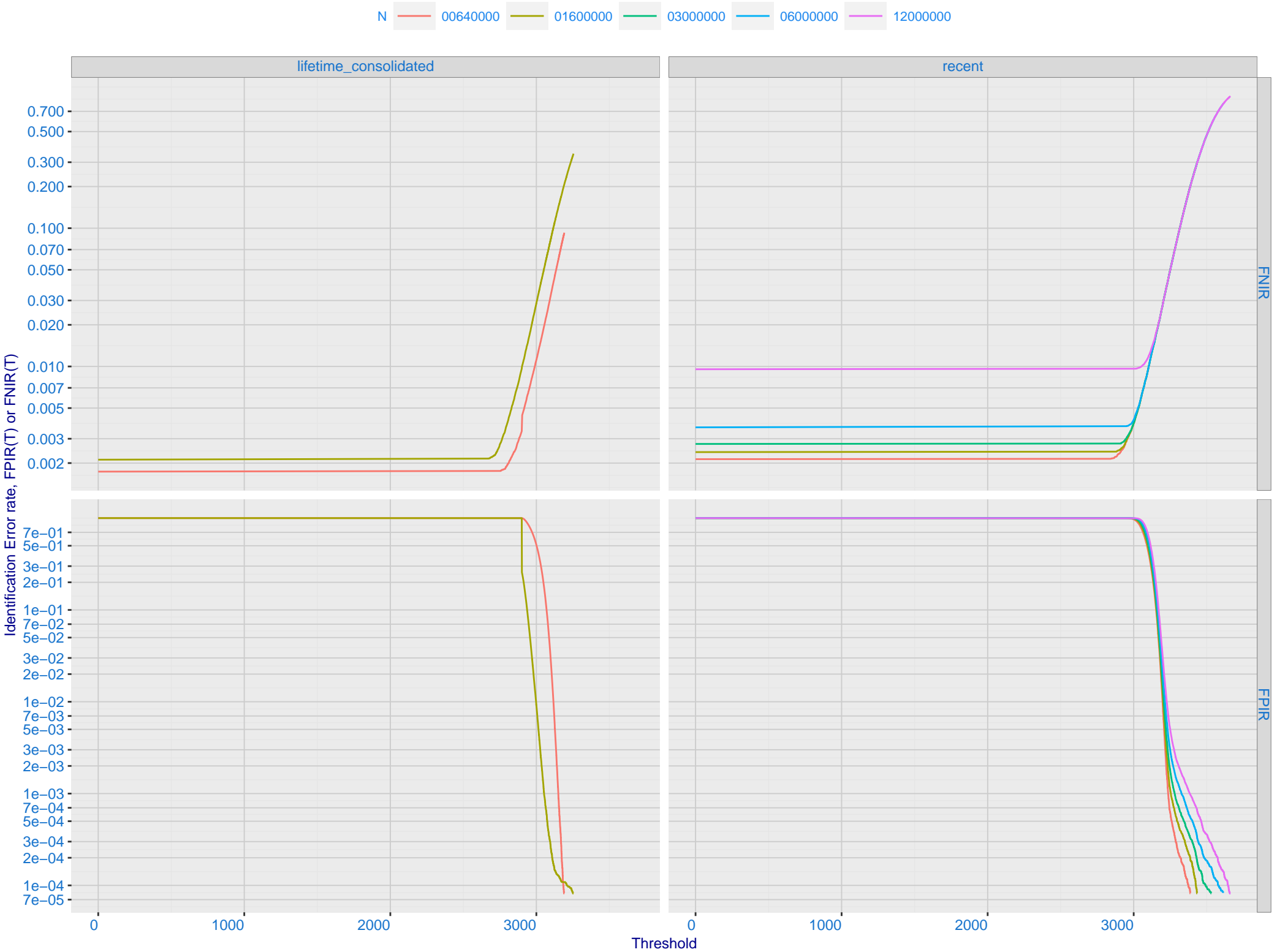
C: Evolution of accuracy for COGENT algorithms on three datasets 2018 – present

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

X-axis: Date algorithm submitted to FRVT

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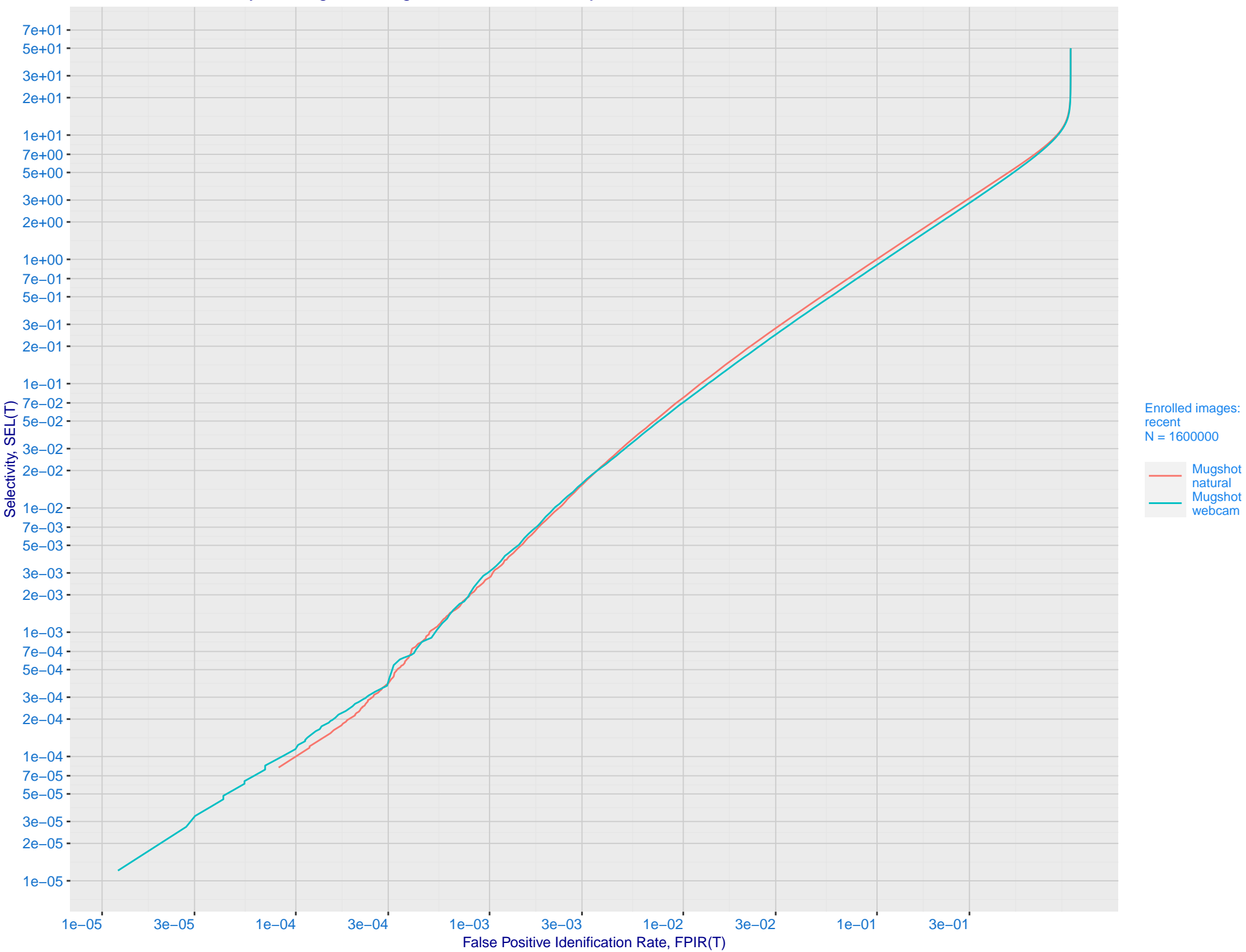- Mugshot–Webcam
- Visa–Border
- Visa–Kiosk

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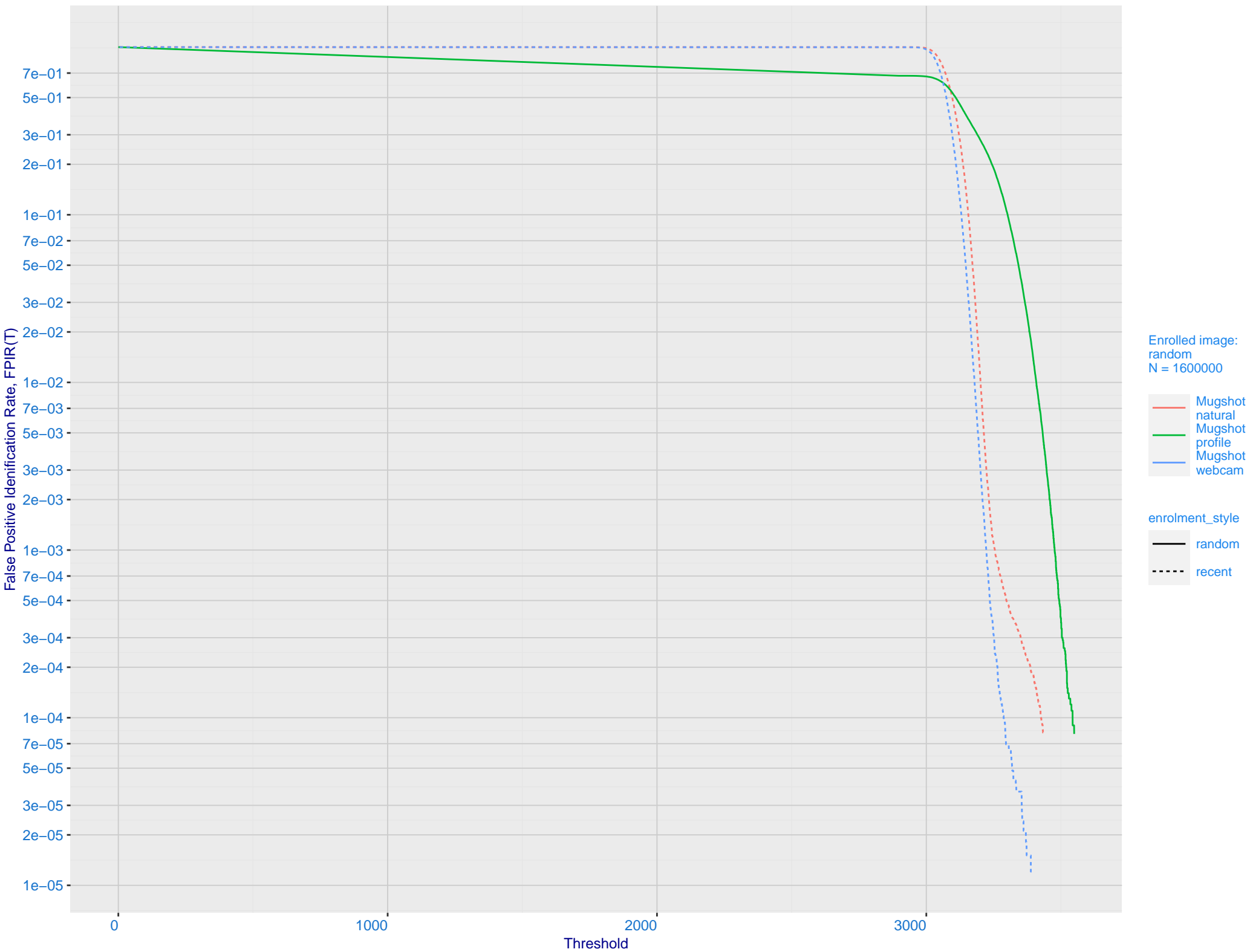
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
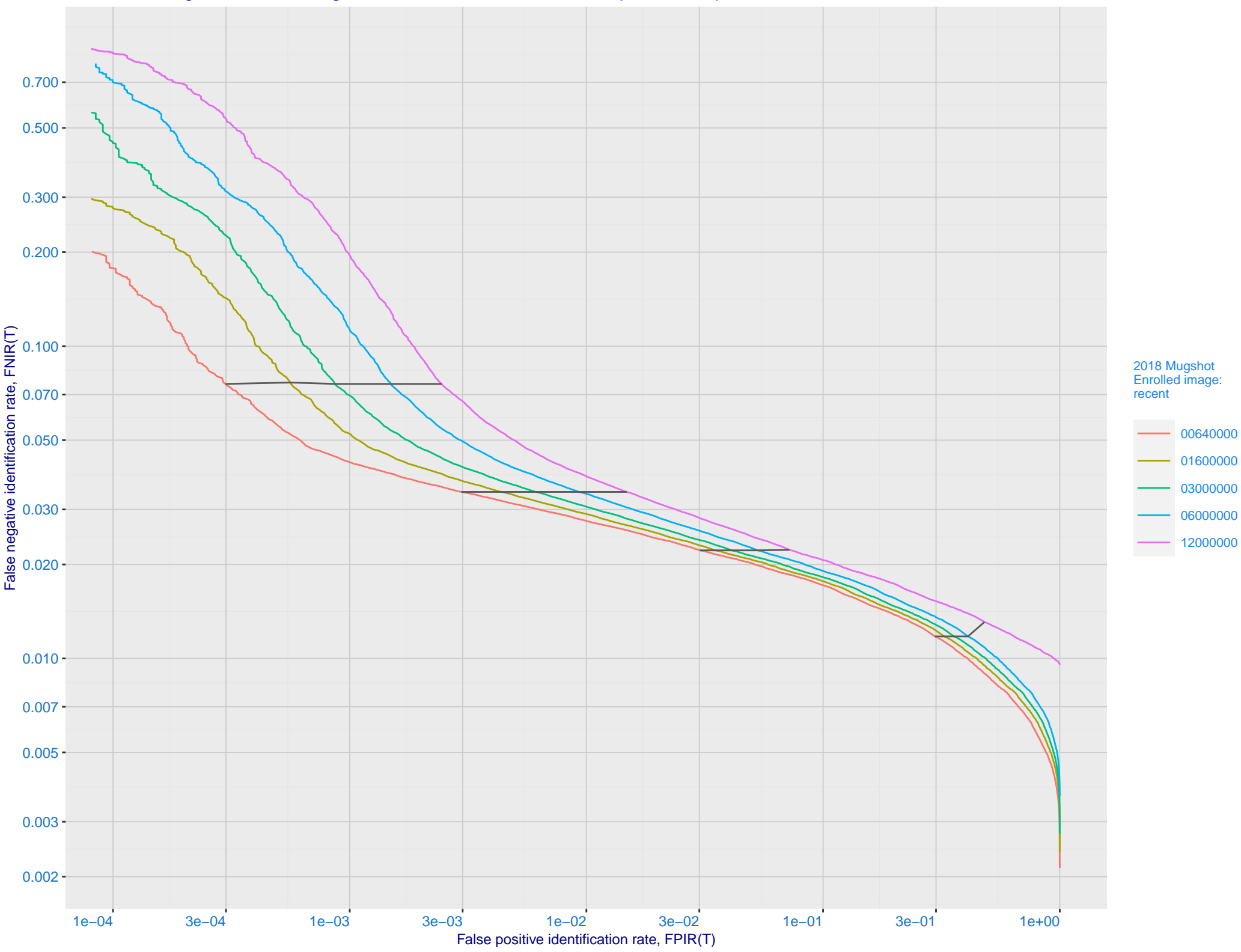
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
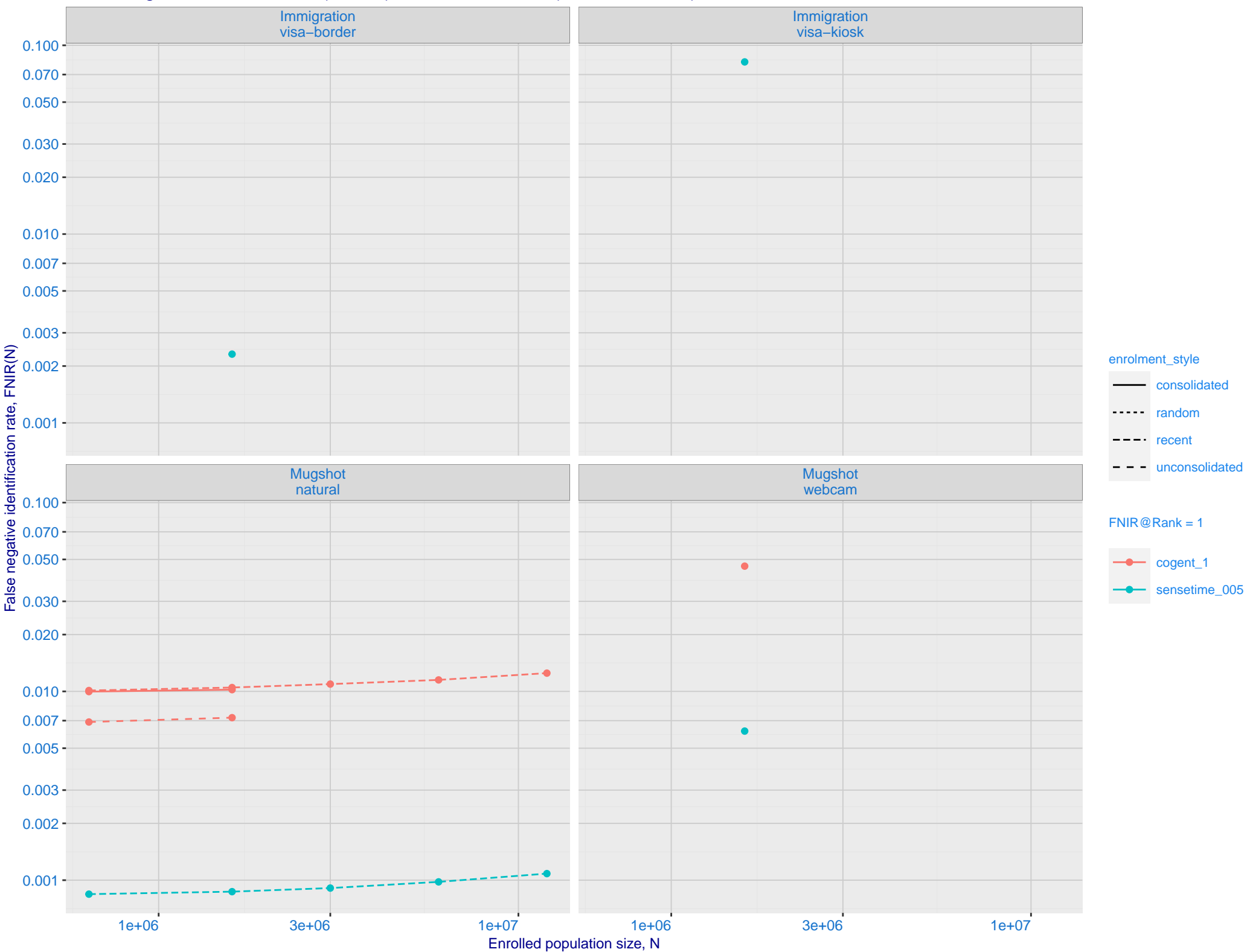
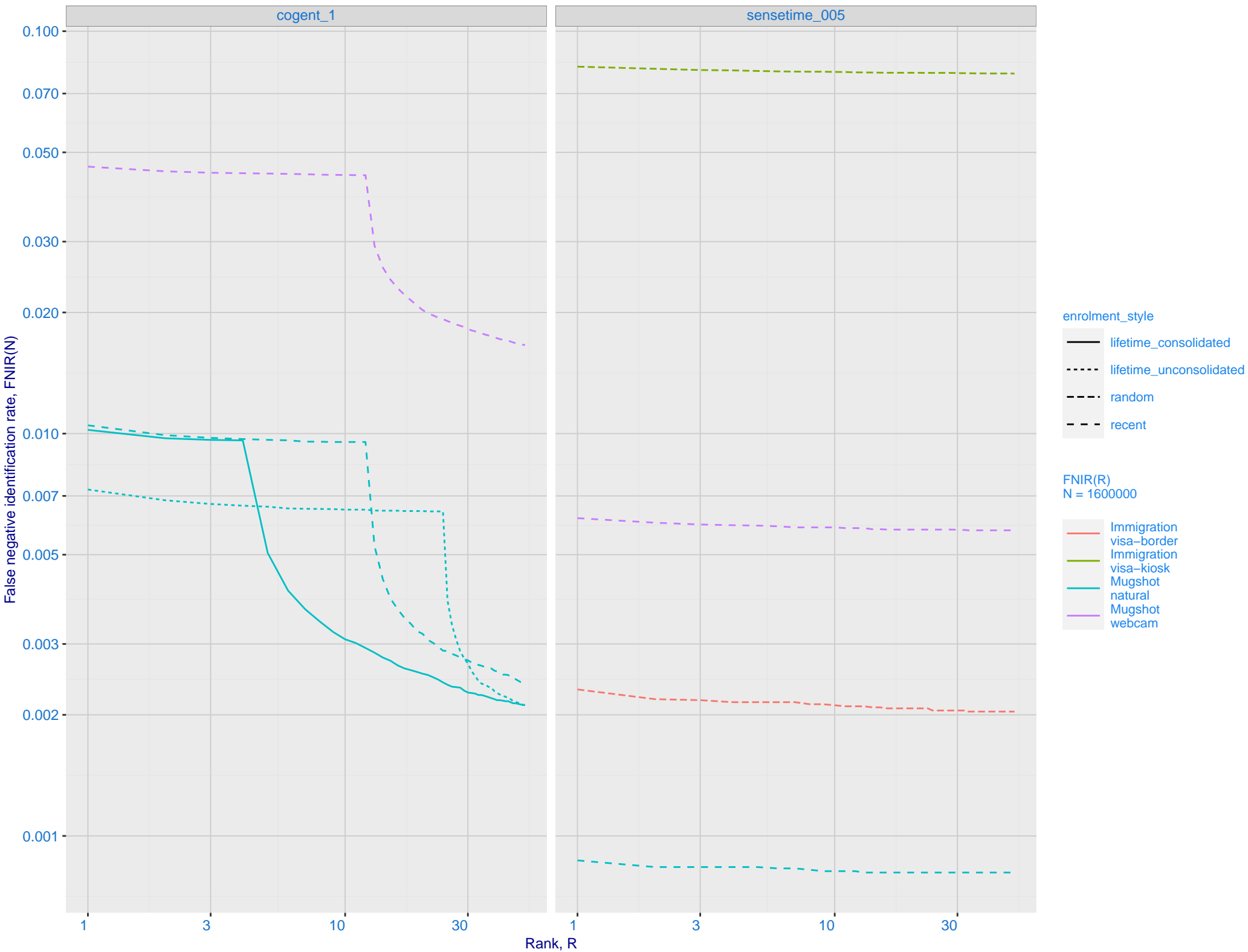G: FPIR dependence on T by probe type for N = 1600000 subjects

J: 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
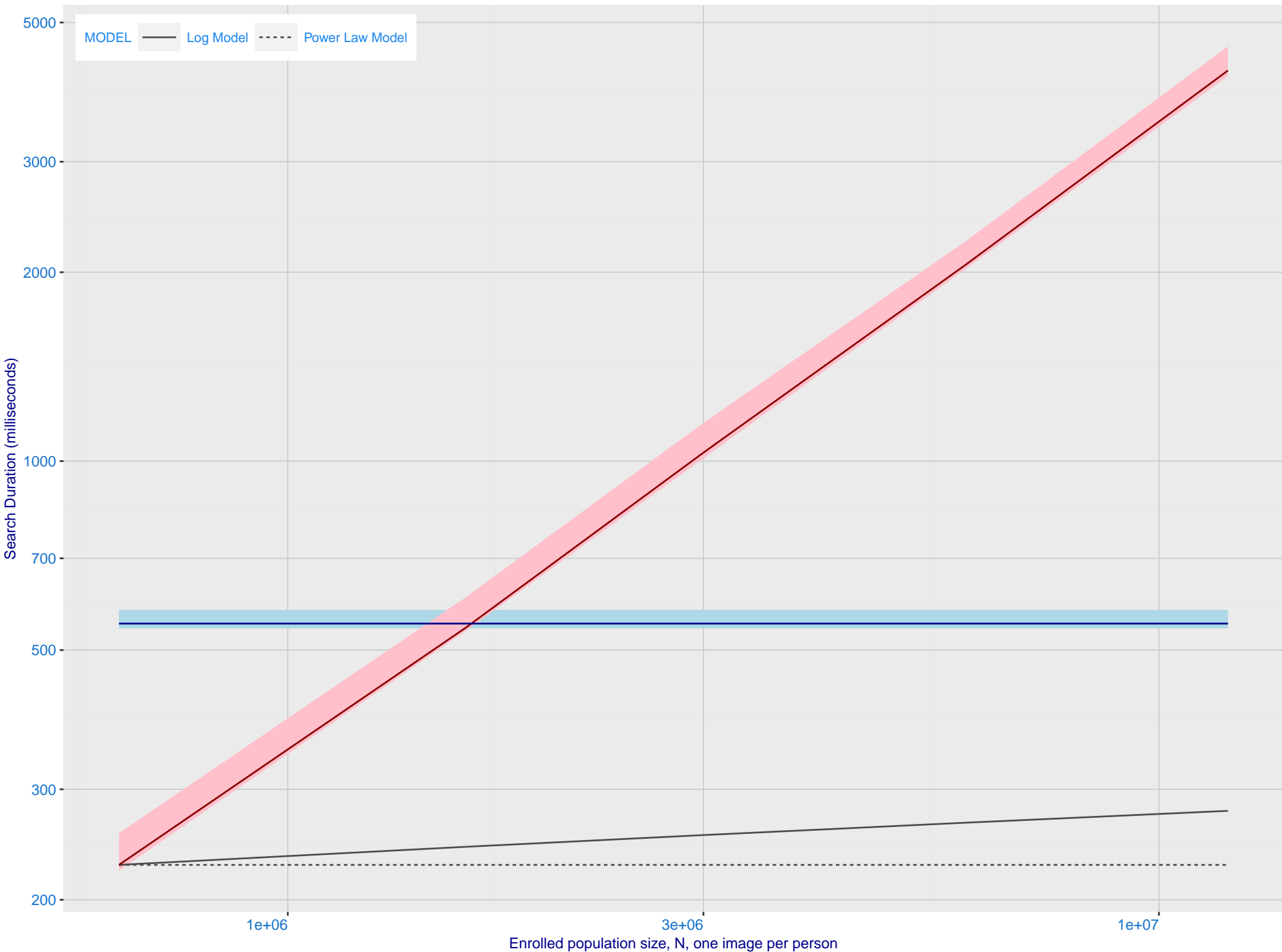01600000
03000000
06000000
12000000

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

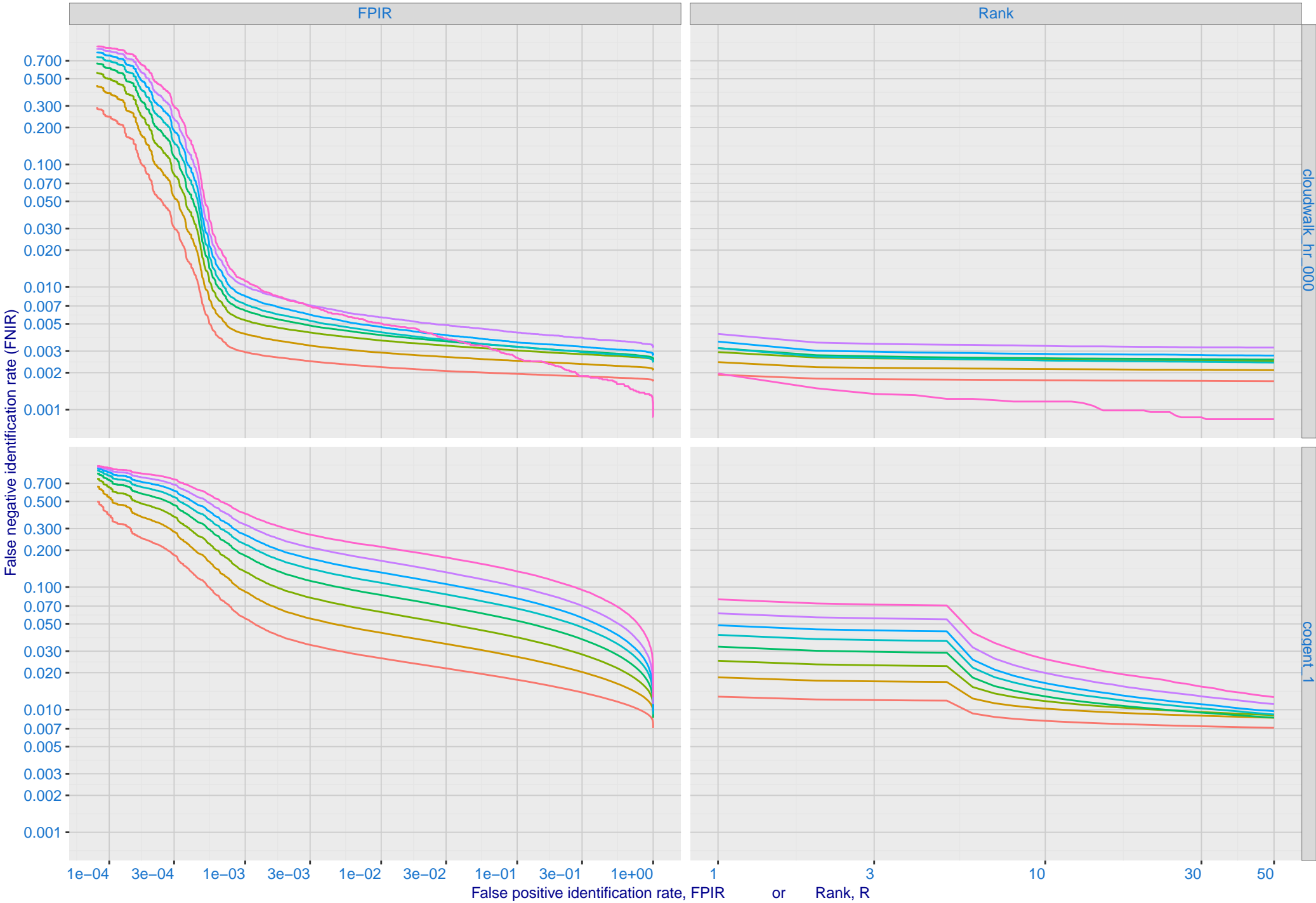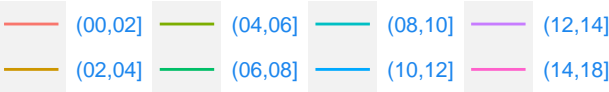L: Investigational mode: FNIR(1600000, R, 0) by probe type

M: 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

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

R: Decline of genuine scores with ageing, with some eventually dropping below typical thresholds shown by the horizontal lines