A: Datasheet

Algorithm: isystems_2

Developer: Alivia / Innovation Sys

Submission Date: 2018_06_25

Template size: 2048 bytes

Template time (2.5 percentile): 300 msec

Template time (median): 313 msec

Template time (97.5 percentile): 343 msec

Investigation:

Frontal mugshot ranking 108 (out of 279) –– FNIR(1600000, 0, 1) = 0.0064 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 113 (out of 241) –– FNIR(1600000, 0, 1) = 0.0259 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 117 (out of 210) –– FNIR(1600000, 0, 1) = 0.8437 vs. lowest 0.0587 from xforwardai_002
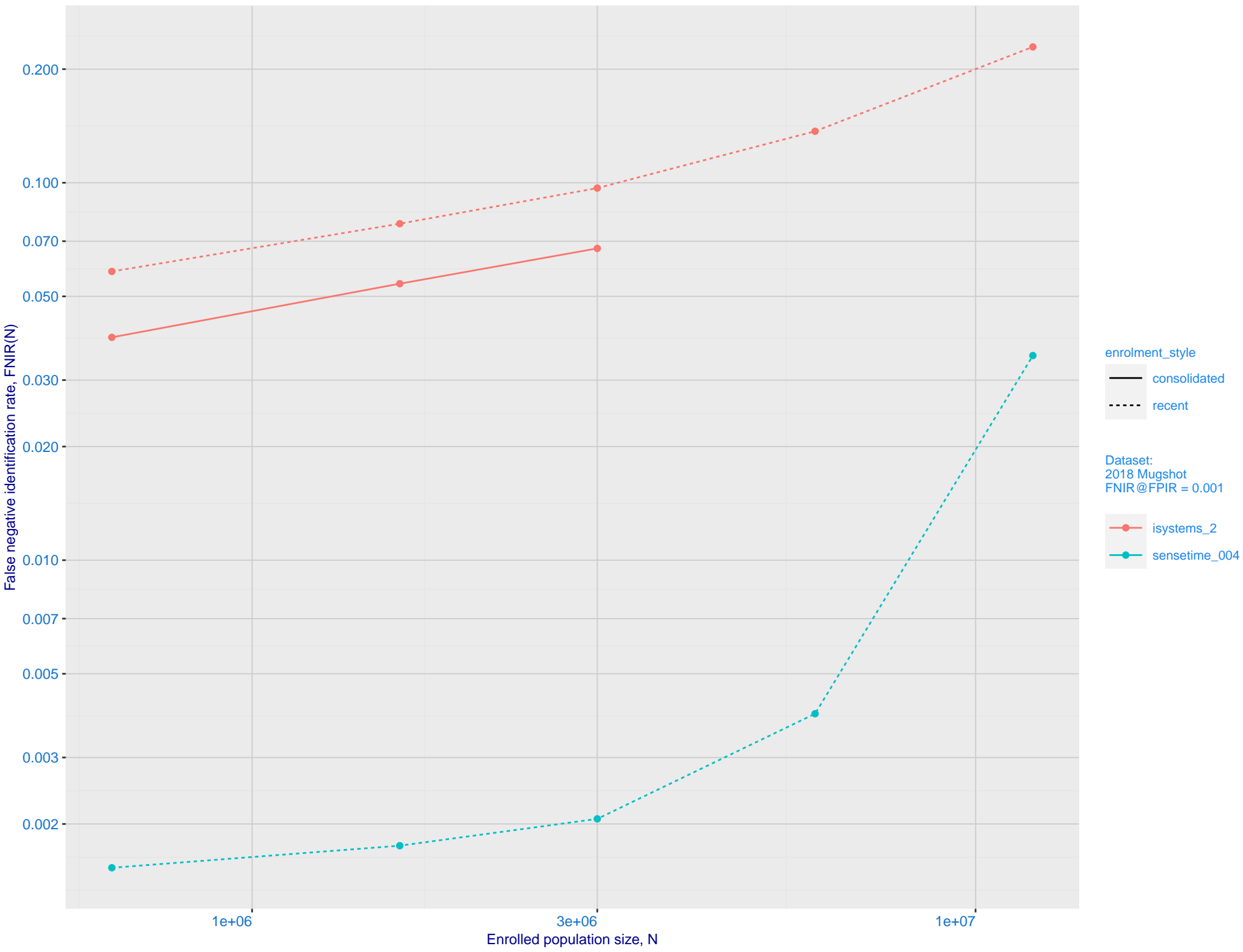
Identification:

Frontal mugshot ranking 126 (out of 279) –– FNIR(1600000, T, L+1) = 0.0779, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
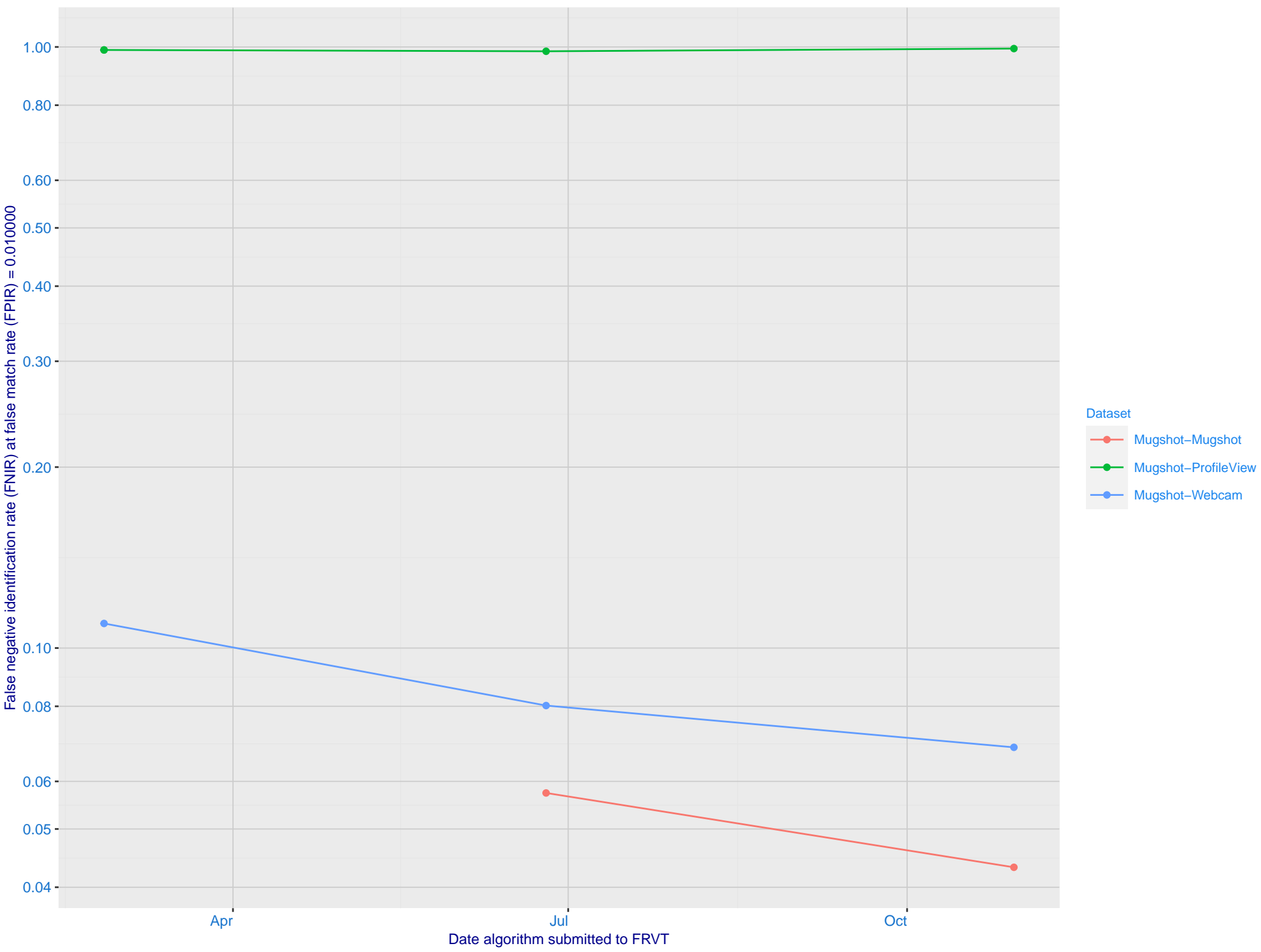
Mugshot webcam ranking 99 (out of 236) –– FNIR(1600000, T, L+1) = 0.1264, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 118 (out of 209) –– FNIR(1600000, T, L+1) = 0.9975, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000
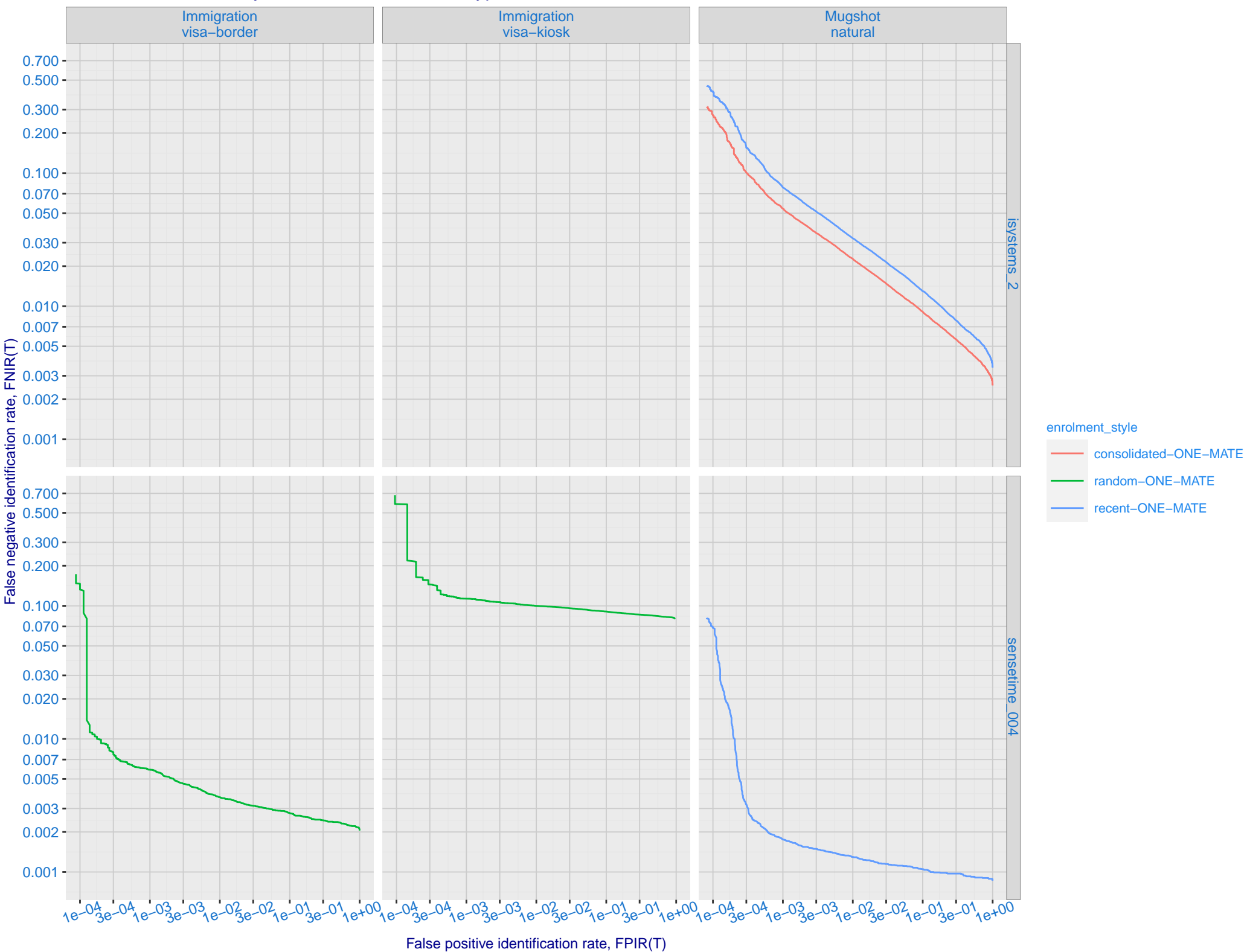
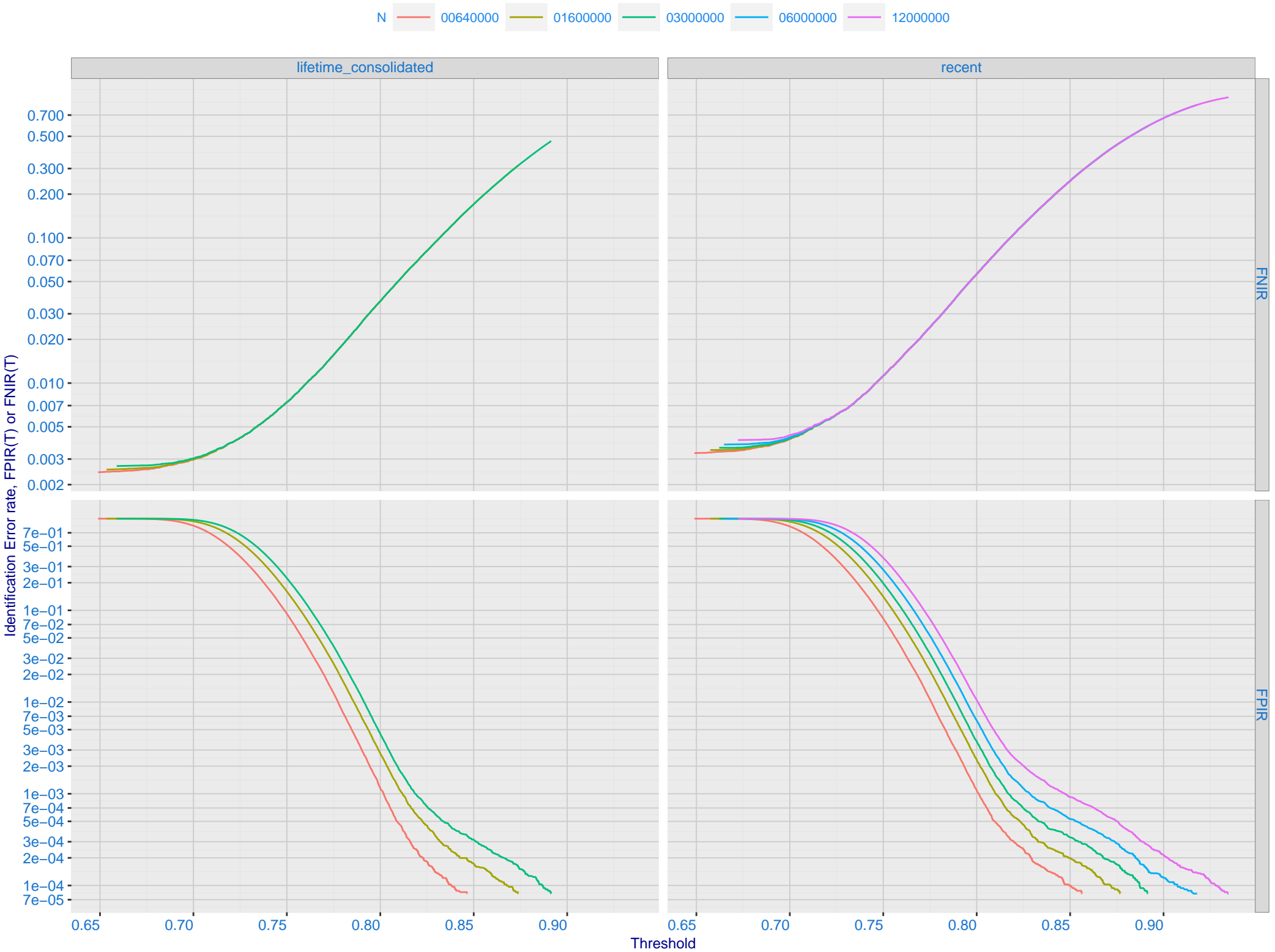B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)

C: Evolution of accuracy for ISYSTEMS algorithms on three datasets 2018 – present
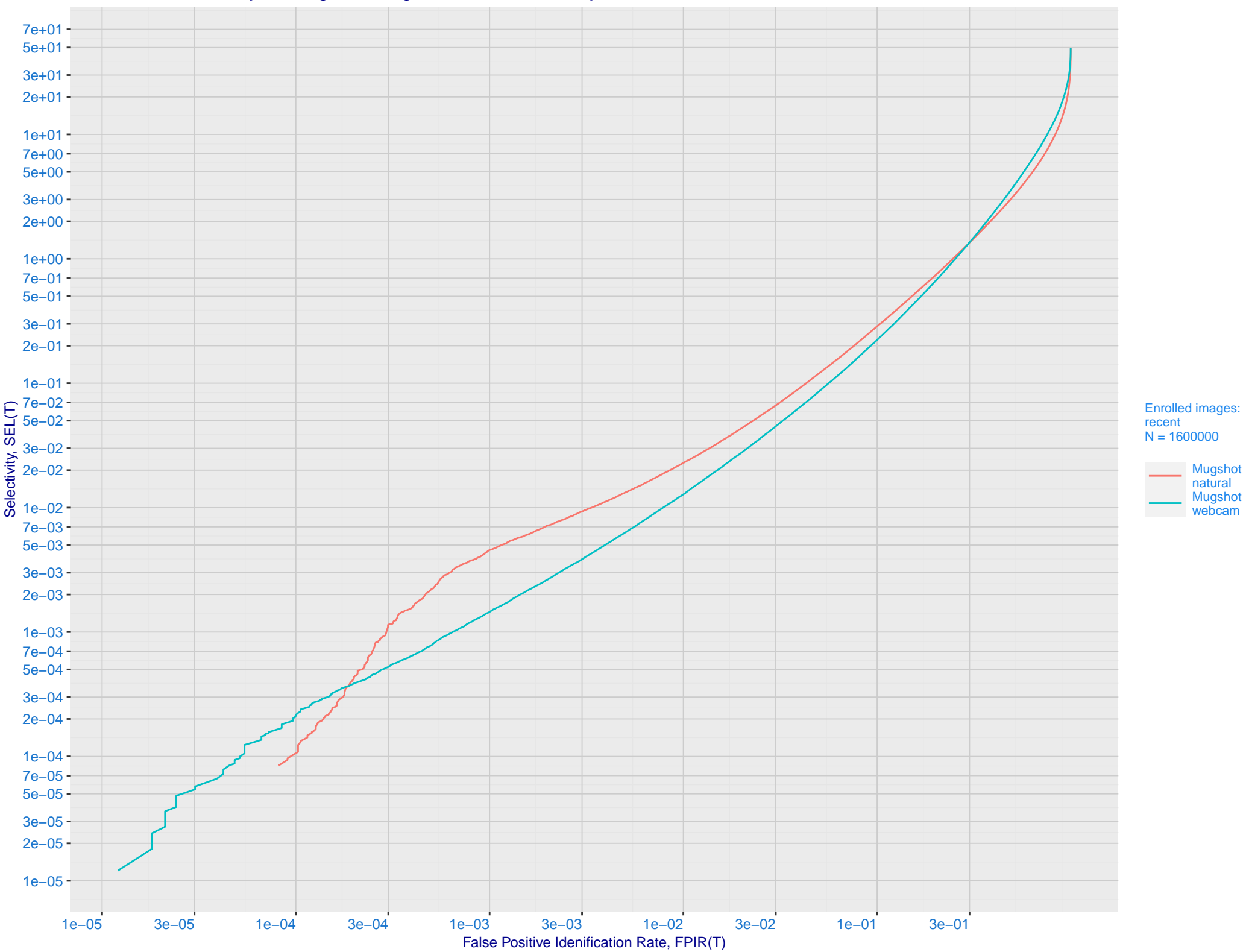
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals
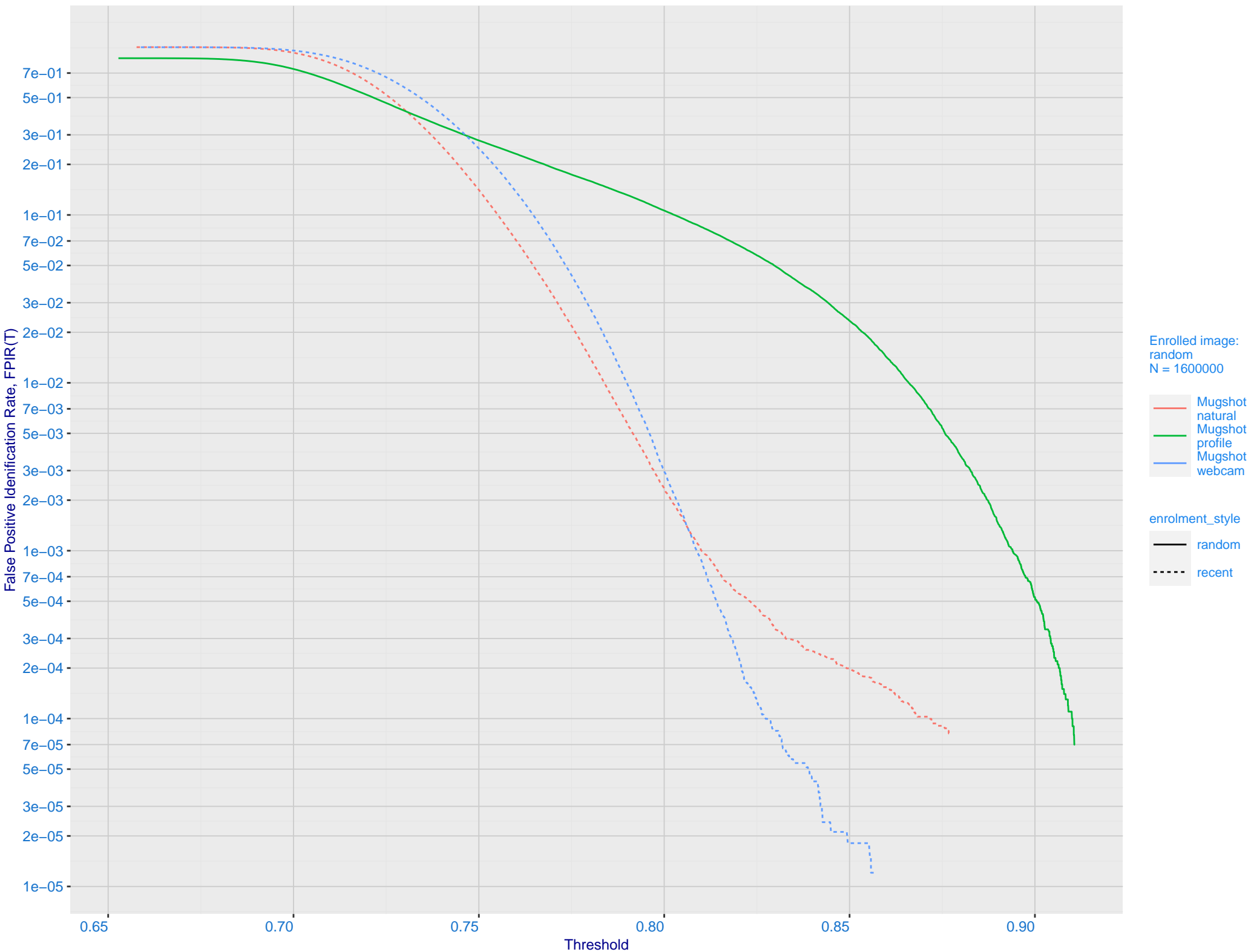
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
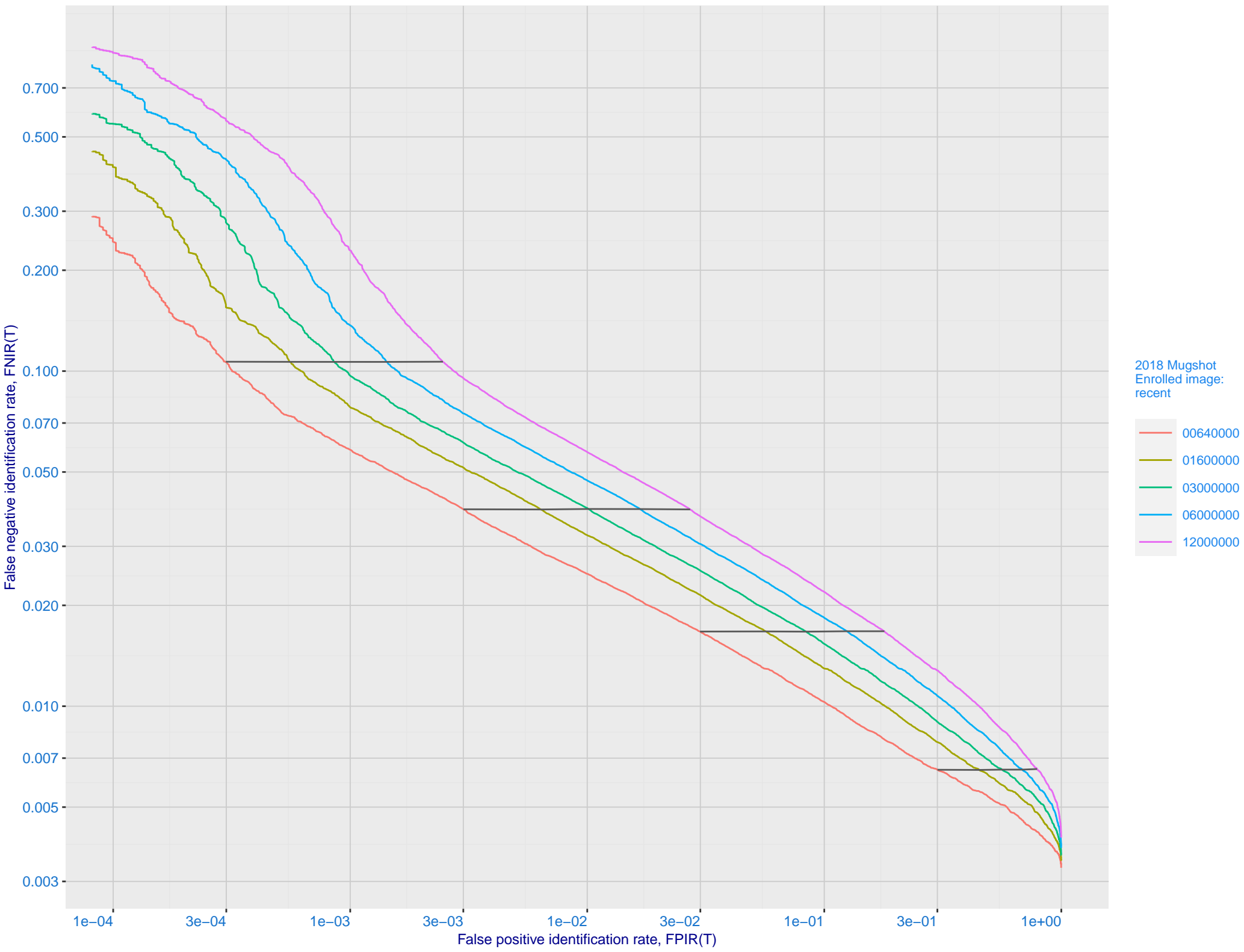
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
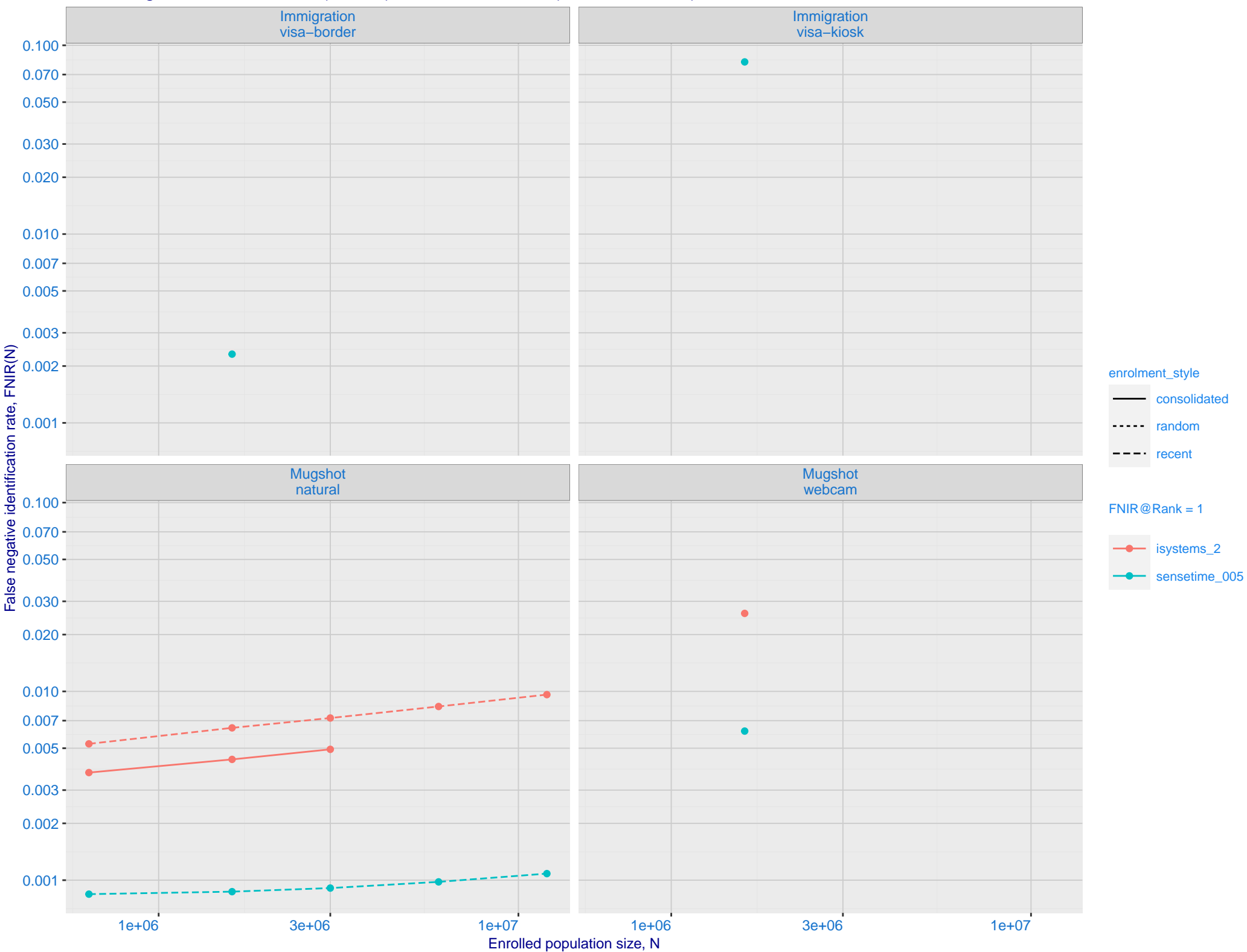
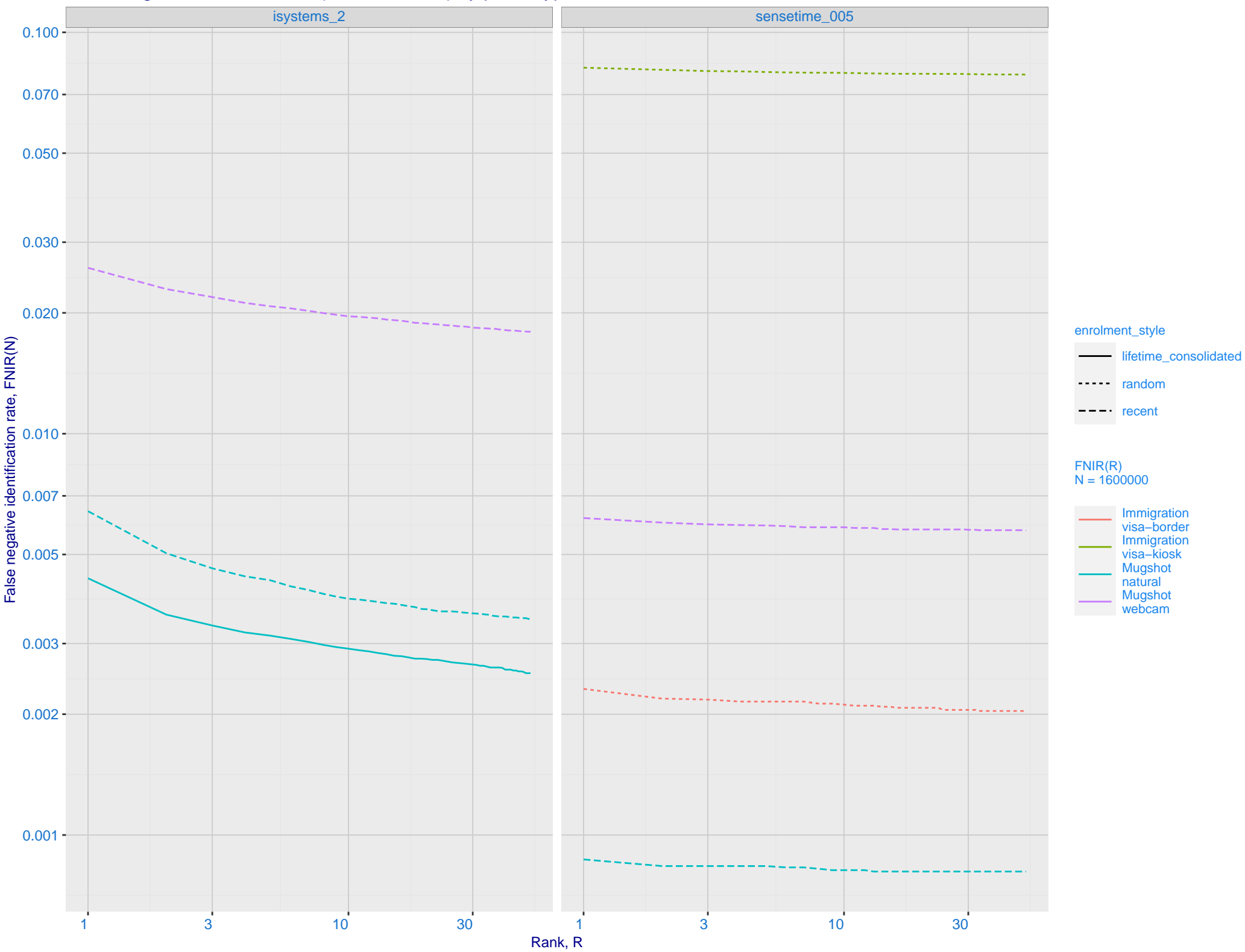G: FPIR dependence on T by probe type for N = 1600000 subjects

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

2018 Mugshot Enrolled image: recent

- 00640000
- 01600000
- 03000000
- 06000000
- 12000000

False negative identification rate, FNIR(T)
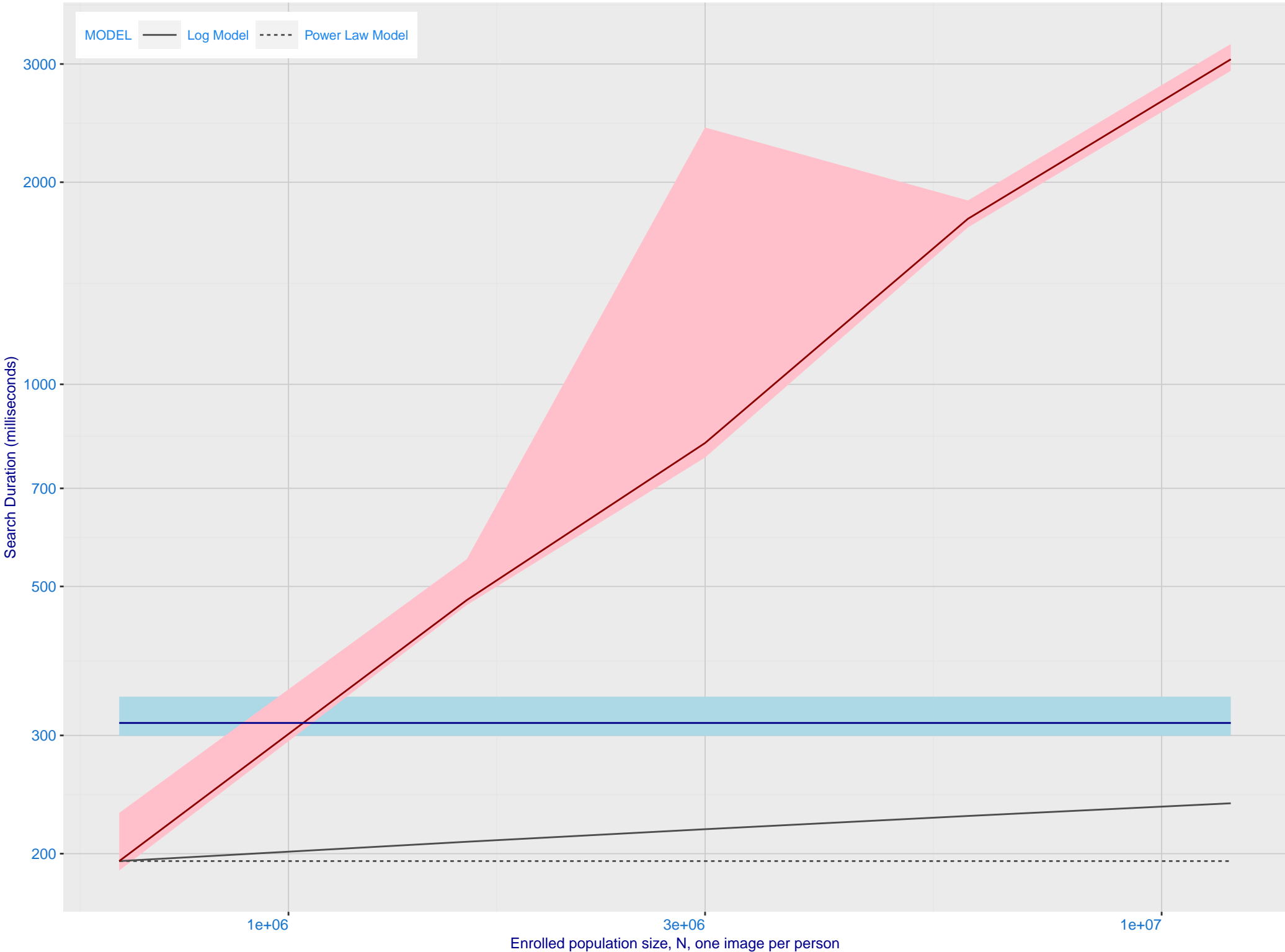
False positive identification rate, FPIR(T)

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

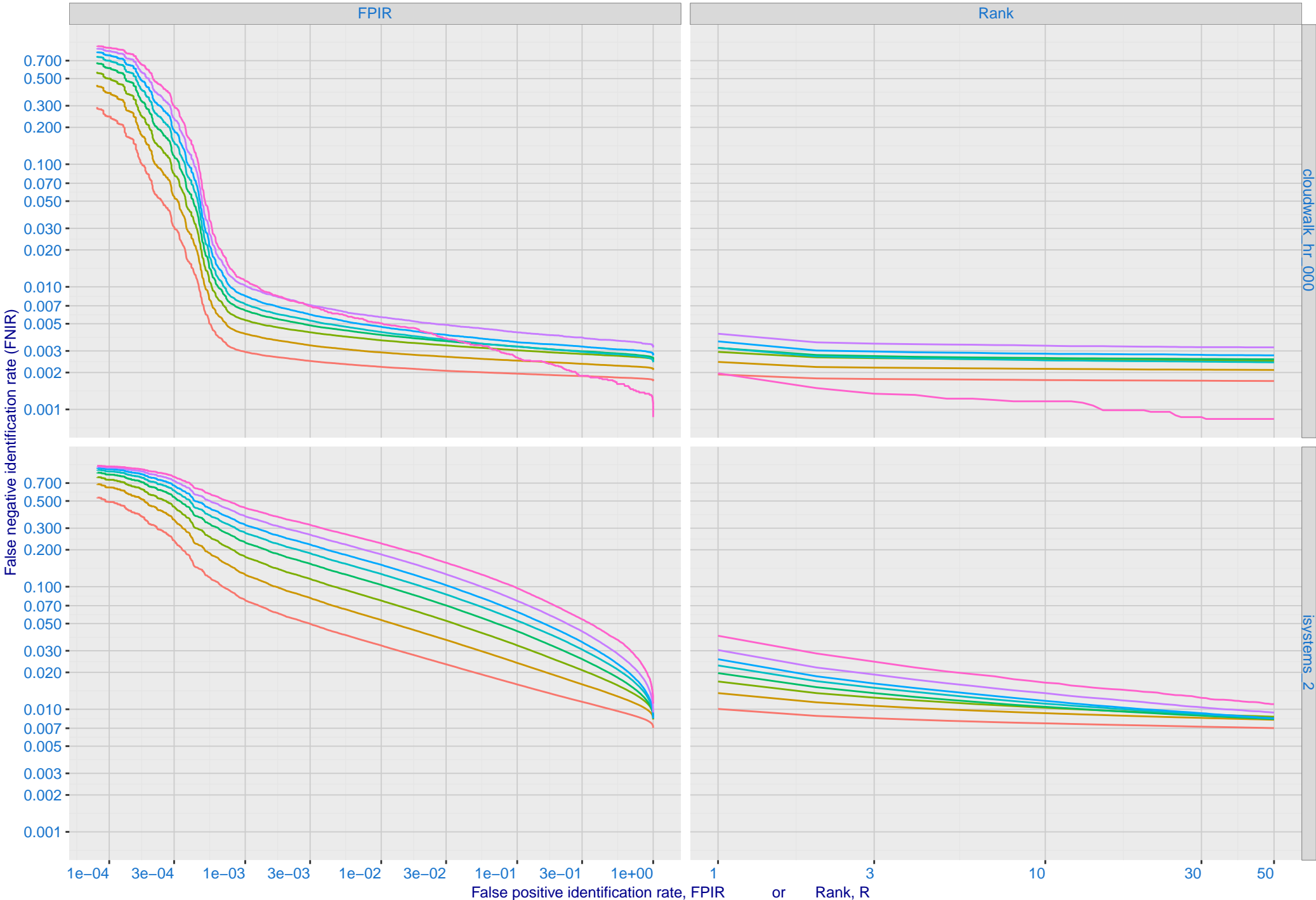L: Investigational mode: FNIR(1600000, R, 0) by probe type

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

Dataset: 2018 Mugshot   N = 3068801   (00,02]   (04,06]   (08,10]   (12,14]
                                         (02,04]   (06,08]   (10,12]   (14,18]

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