A: Datasheet

Algorithm: neurotechnology_4

Developer: Neurotechnology

Submission Date: 2018_06_27

Template size: 2048 bytes

Template time (2.5 percentile): 524 msec

Template time (median): 537 msec

Template time (97.5 percentile): 584 msec

Investigation:

Frontal mugshot ranking 99 (out of 279) –– FNIR(1600000, 0, 1) = 0.0056 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 83 (out of 241) –– FNIR(1600000, 0, 1) = 0.0200 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 183 (out of 210) –– FNIR(1600000, 0, 1) = 0.9701 vs. lowest 0.0587 from xforwardai_002
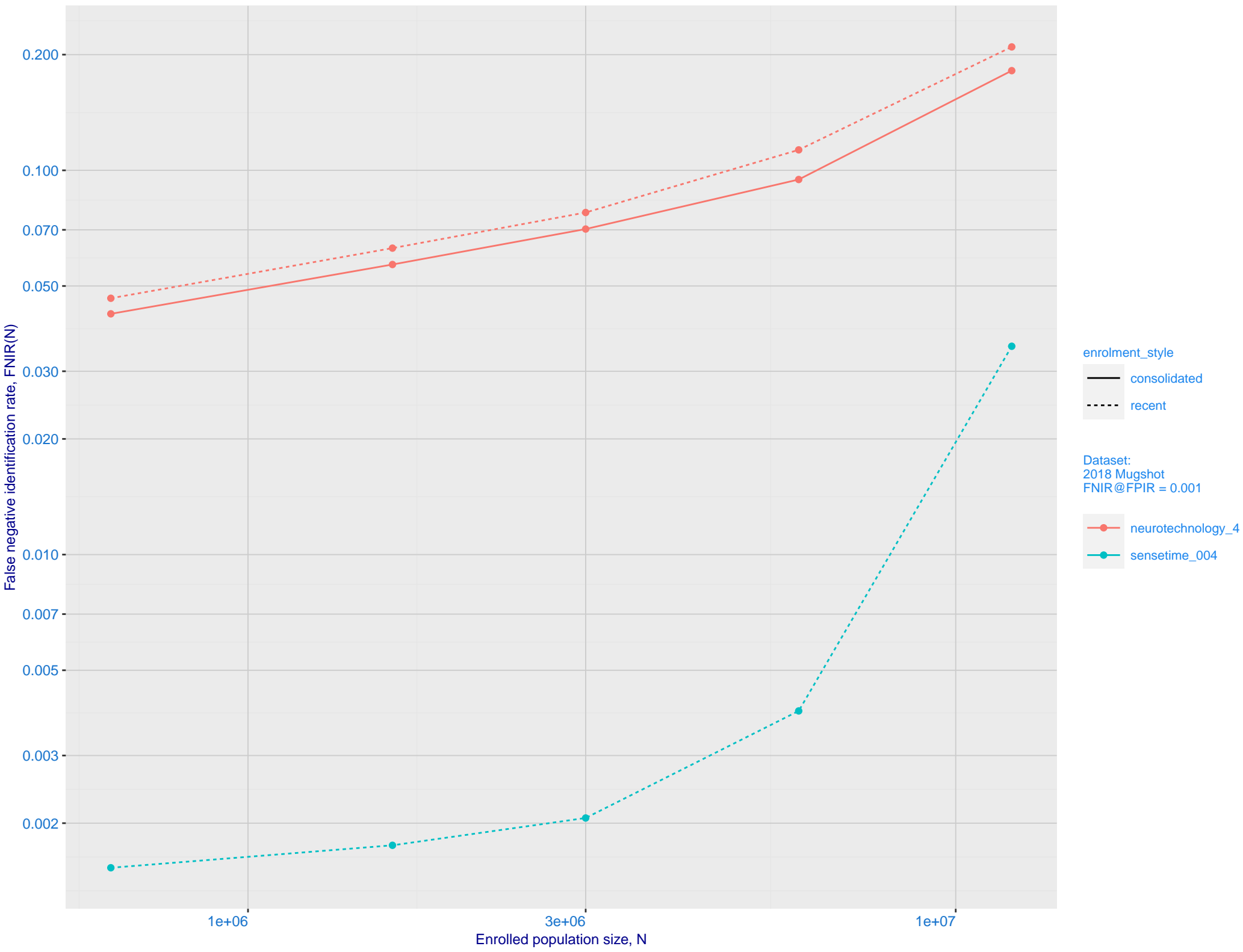
Identification:

Frontal mugshot ranking 116 (out of 279) –– FNIR(1600000, T, L+1) = 0.0627, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
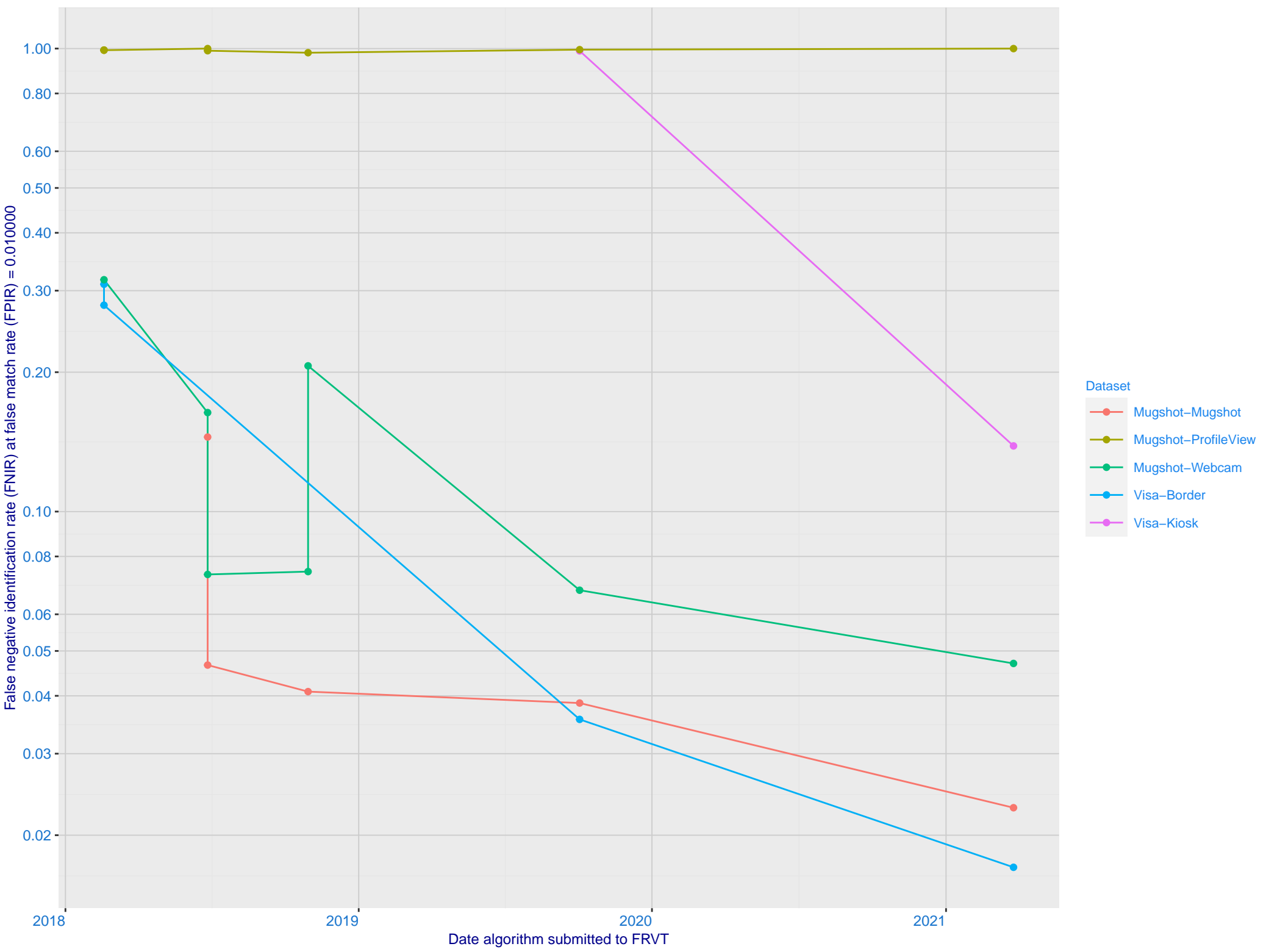
Mugshot webcam ranking 89 (out of 236) –– FNIR(1600000, T, L+1) = 0.1170, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 99 (out of 209) –– FNIR(1600000, T, L+1) = 0.9940, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000
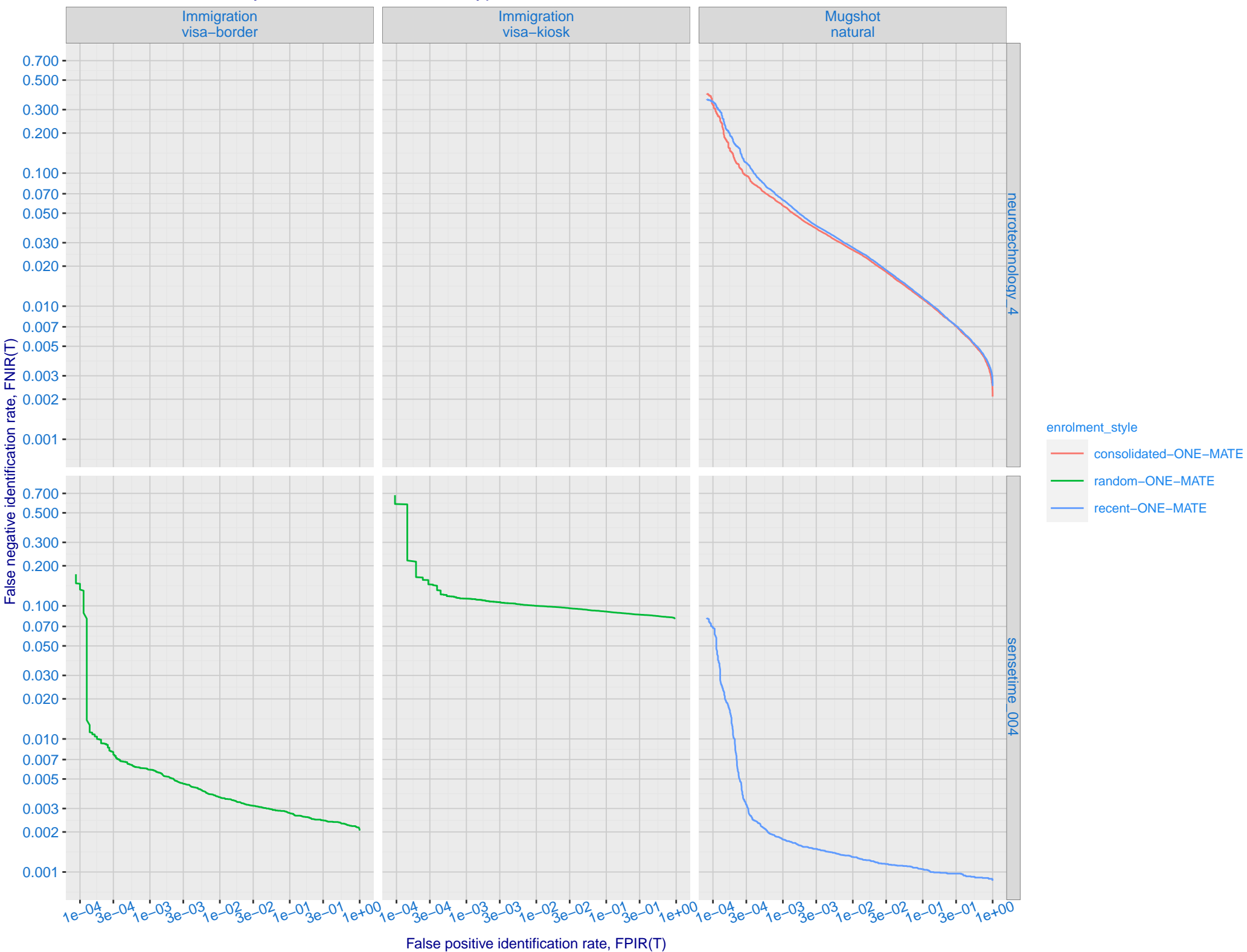
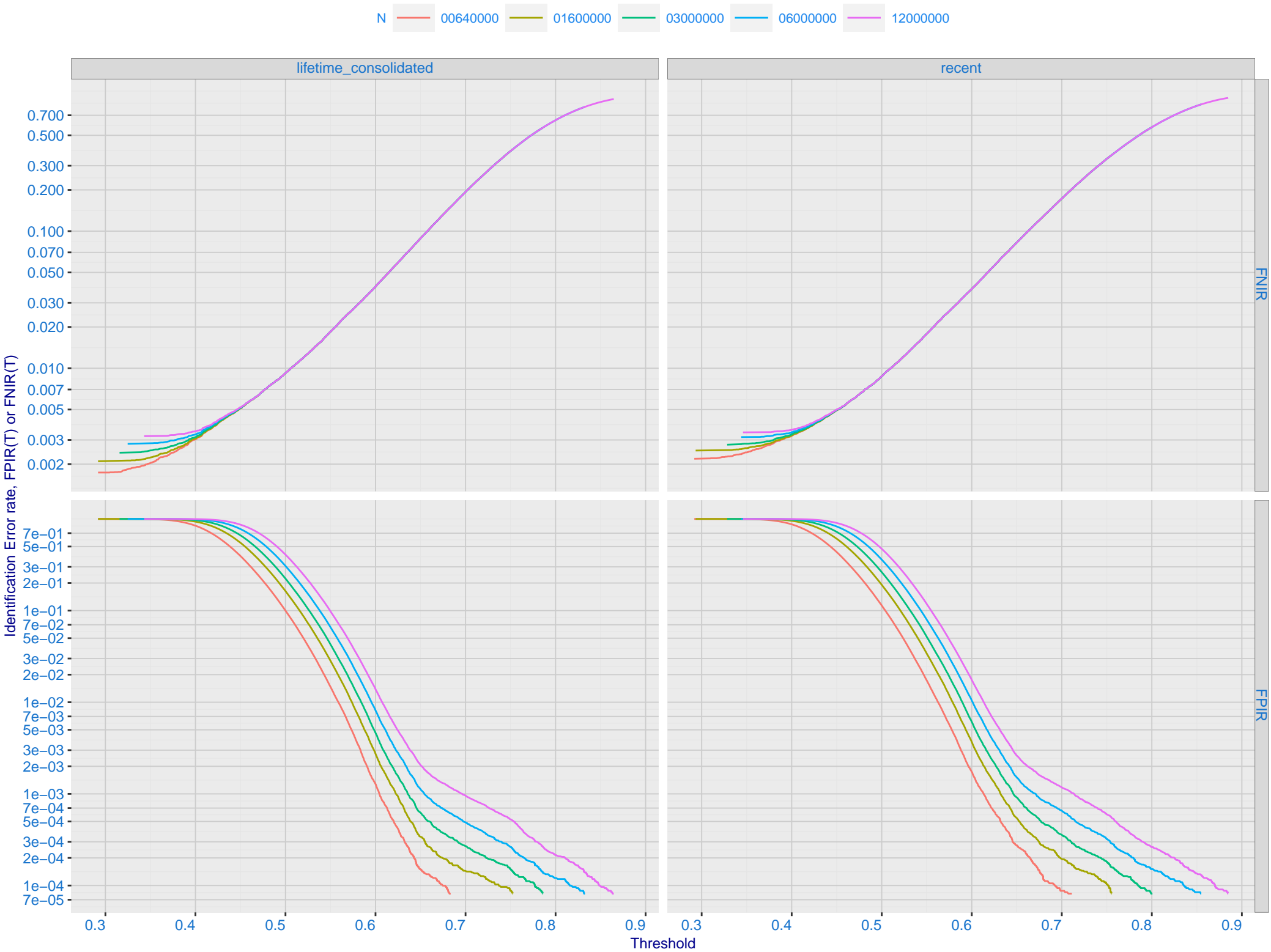B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)

C: Evolution of accuracy for NEUROTECHNOLOGY algorithms on three datasets 2018 – present
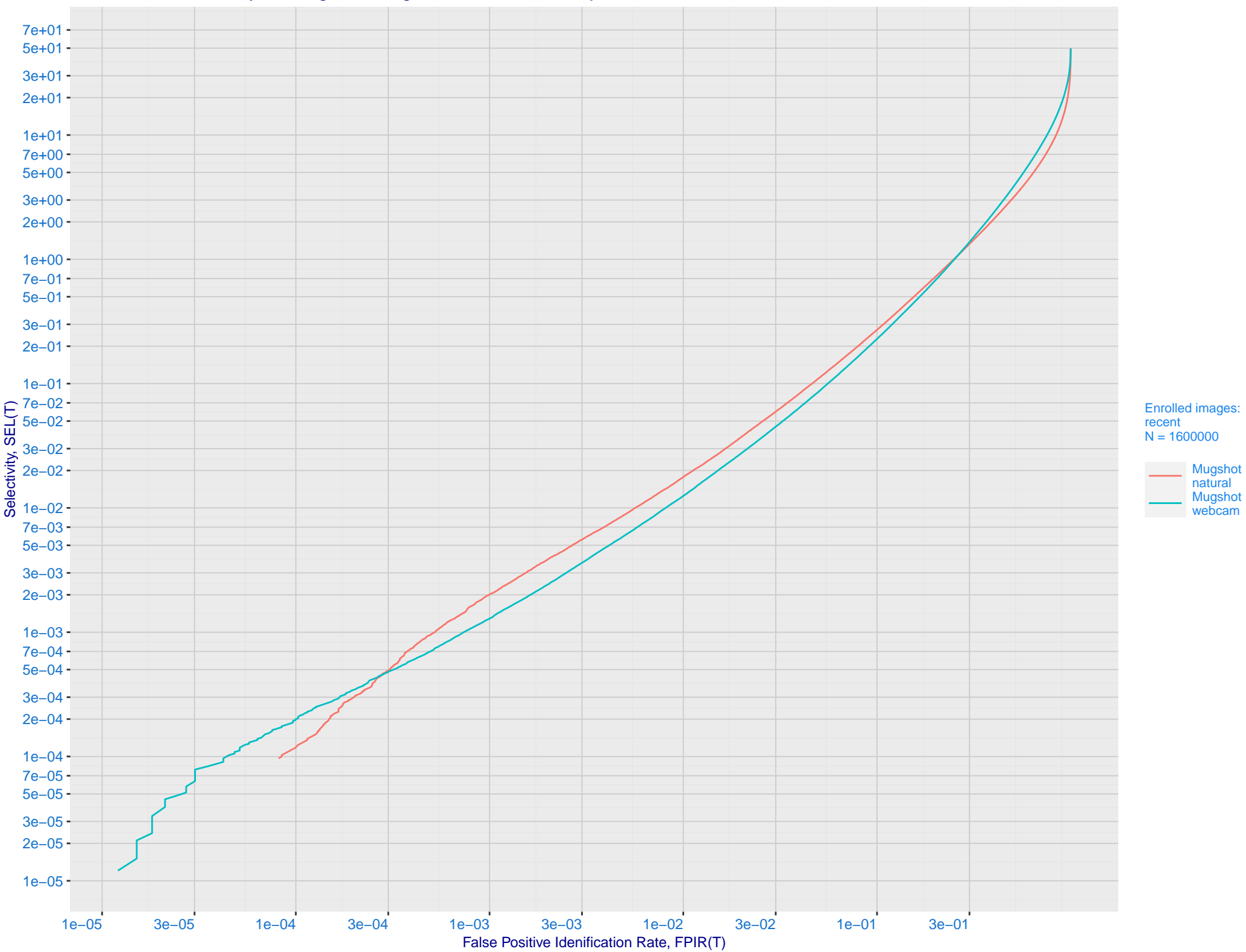
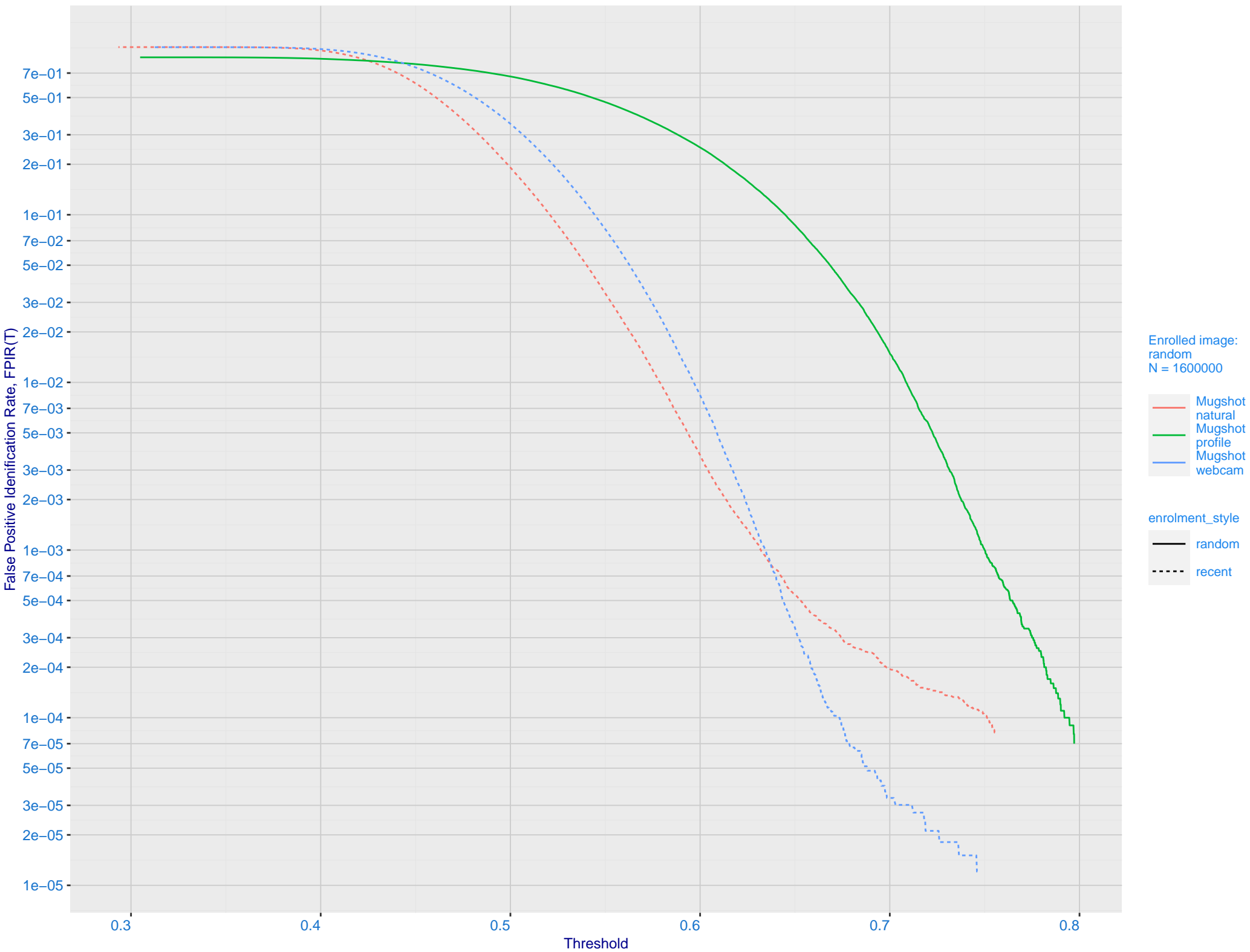D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

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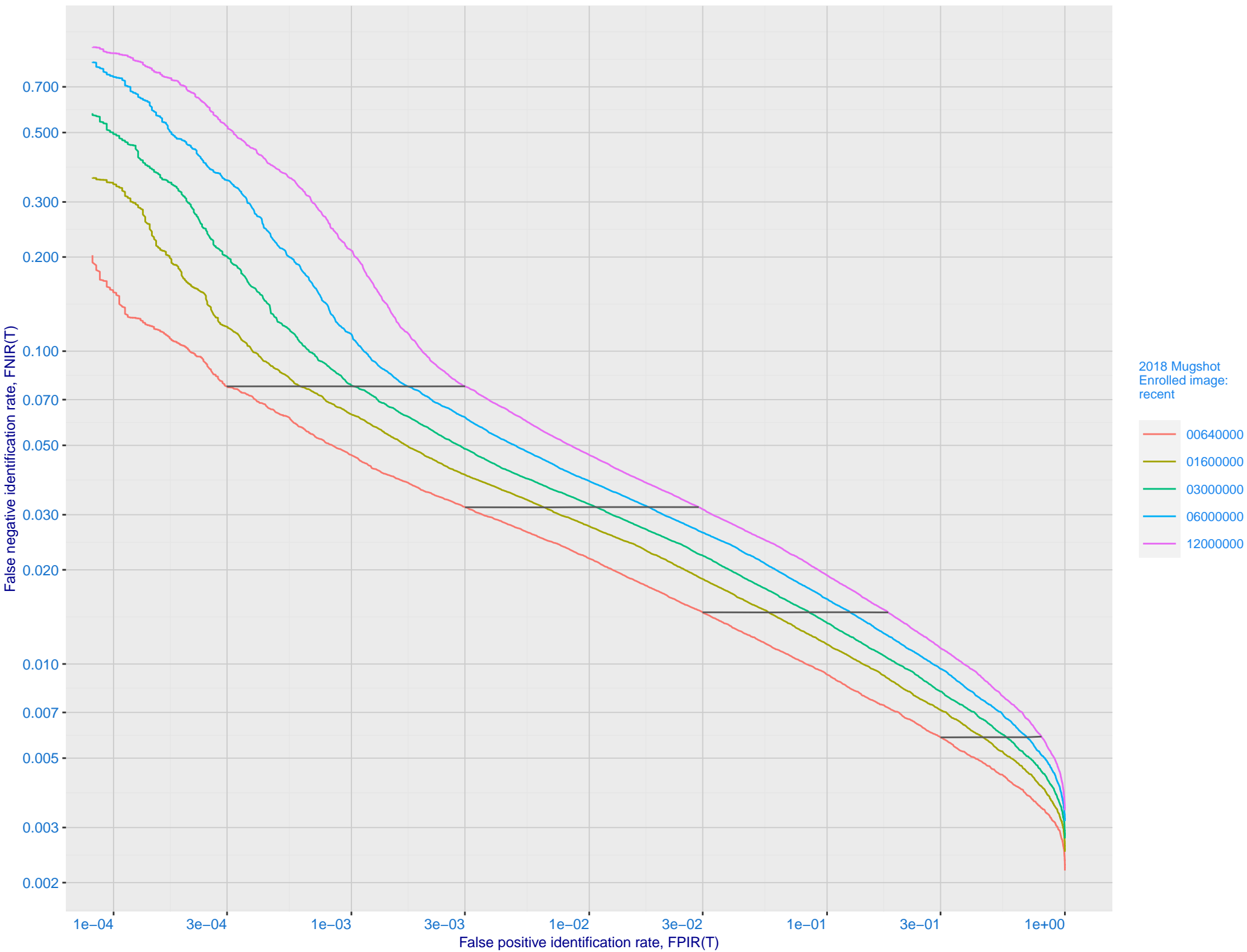
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
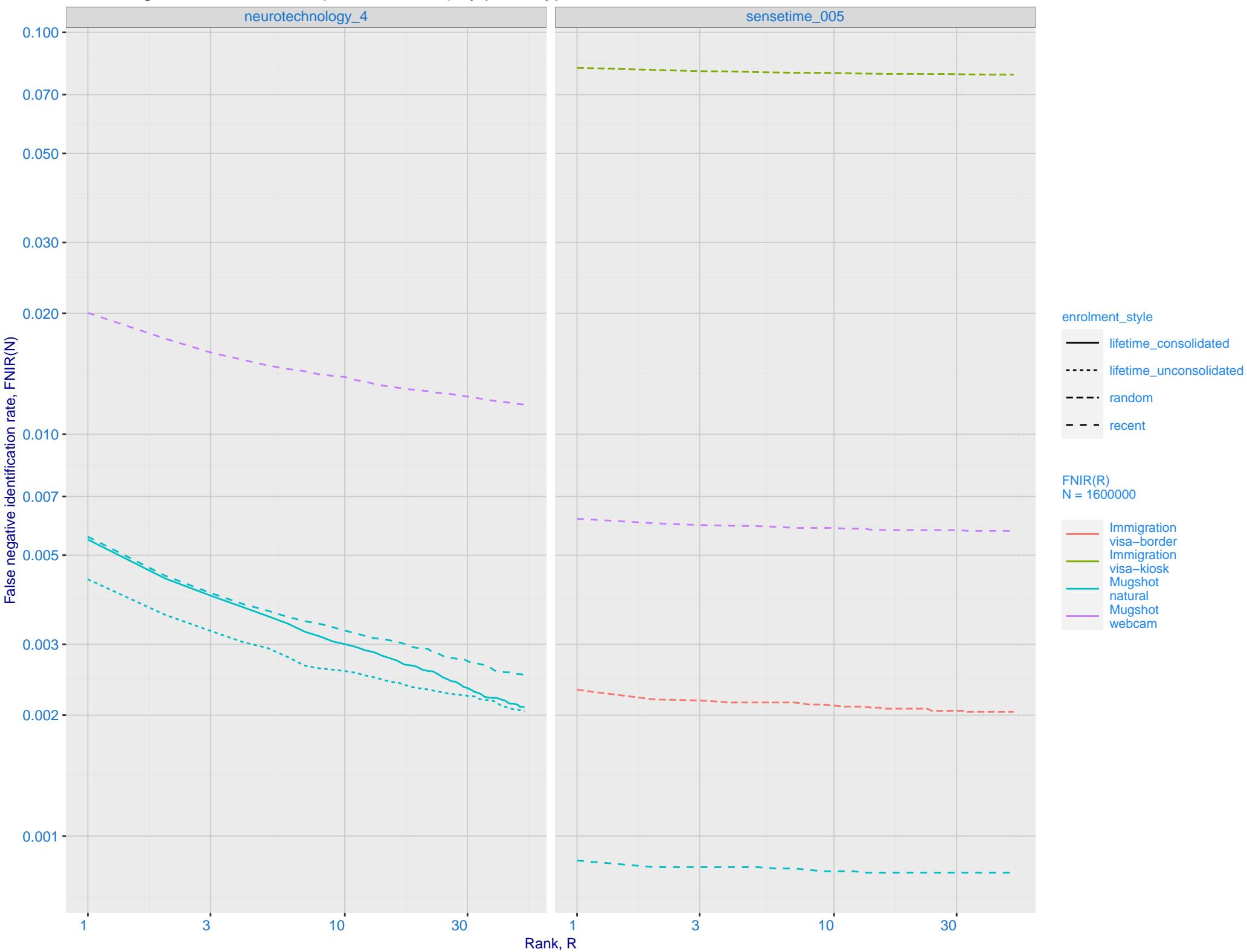
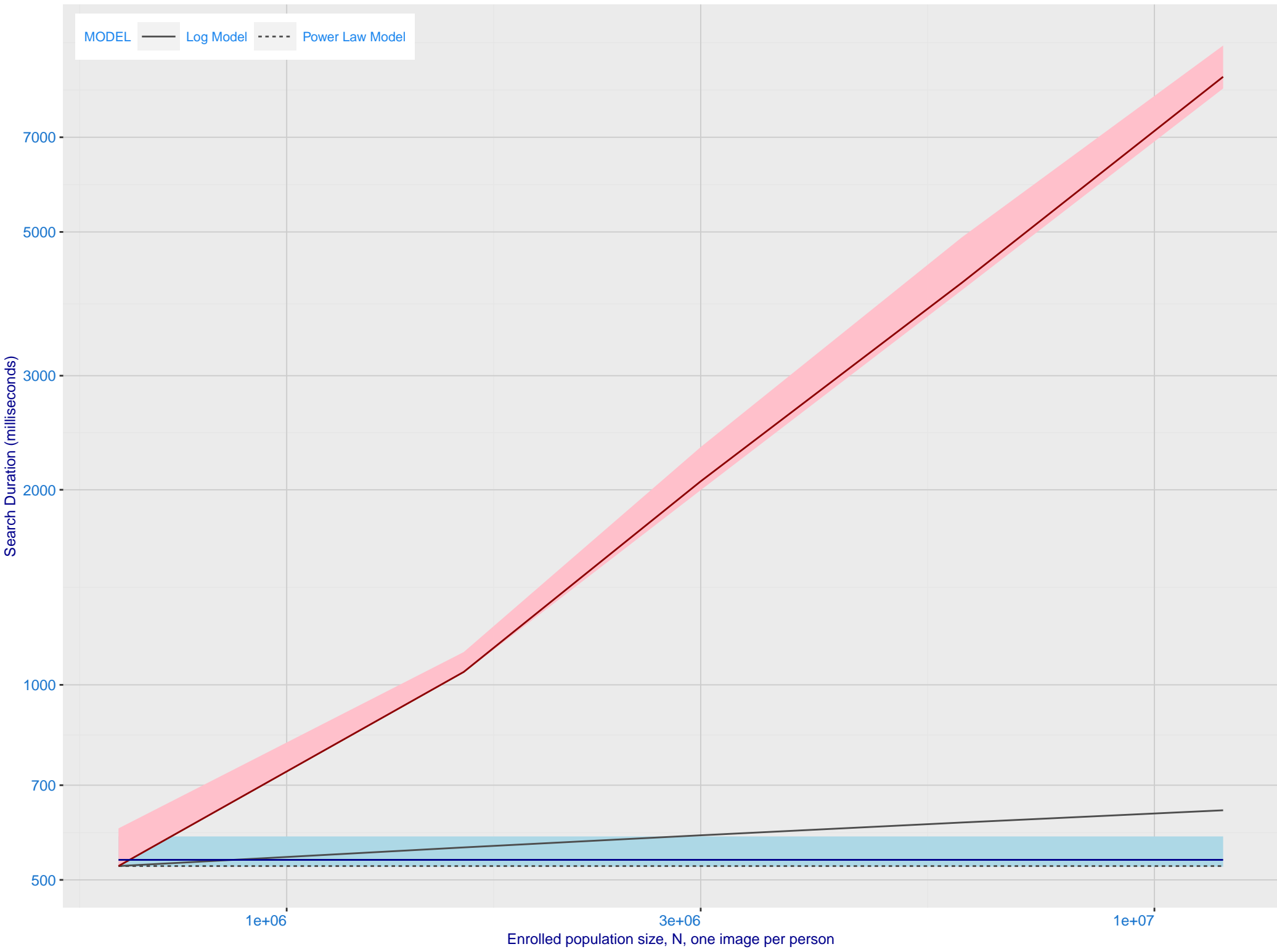G: FPIR dependence on T by probe type for N = 1600000 subjects

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

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

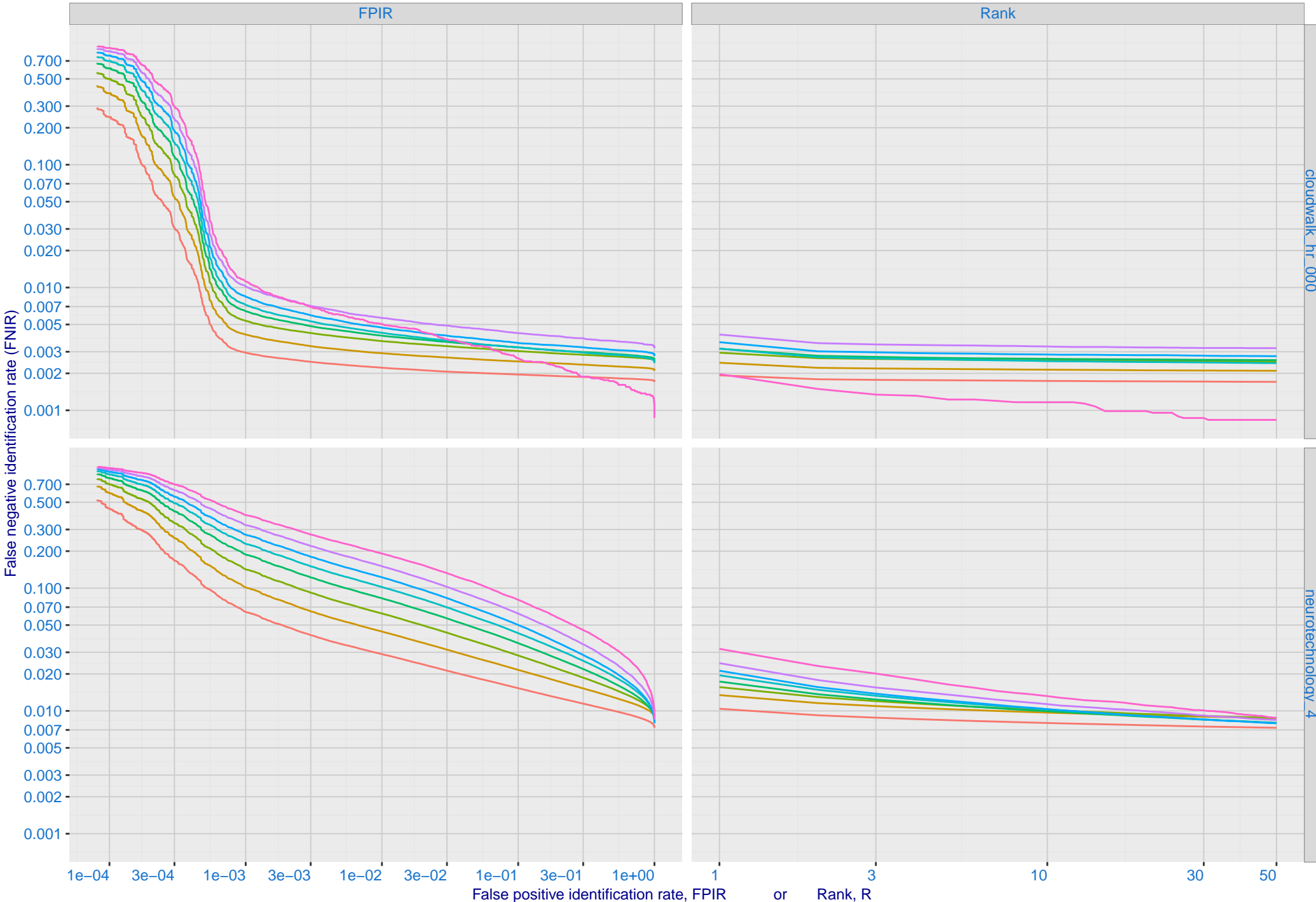L: Investigational mode: FNIR(1600000, R, 0) by probe type

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