A: Datasheet

Algorithm: sensetime_004

Developer: Sensetime Group

Submission Date: 2020_08_10

Template size: 1032 bytes

Template time (2.5 percentile): 688 msec

Template time (median): 690 msec

Template time (97.5 percentile): 738 msec

Investigation:

Frontal mugshot ranking 3 (out of 329) –– FNIR(1600000, 0, 1) = 0.0010 vs. lowest 0.0009 from sensetime_006

Mugshot webcam ranking 7 (out of 291) –– FNIR(1600000, 0, 1) = 0.0069 vs. lowest 0.0057 from sensetime_006

Mugshot profile ranking 16 (out of 260) –– FNIR(1600000, 0, 1) = 0.0725 vs. lowest 0.0550 from sensetime_006

Immigration visa–border ranking 27 (out of 218) –– FNIR(1600000, 0, 1) = 0.0023 vs. lowest 0.0009 from sensetime_006

Immigration visa–kiosk ranking 43 (out of 215) –– FNIR(1600000, 0, 1) = 0.0845 vs. lowest 0.0487 from cubox_000

Identification:

Frontal mugshot ranking 2 (out of 329) –– FNIR(1600000, T, L+1) = 0.0018, FPIR=0.001000 vs. lowest 0.0017 from nec_005
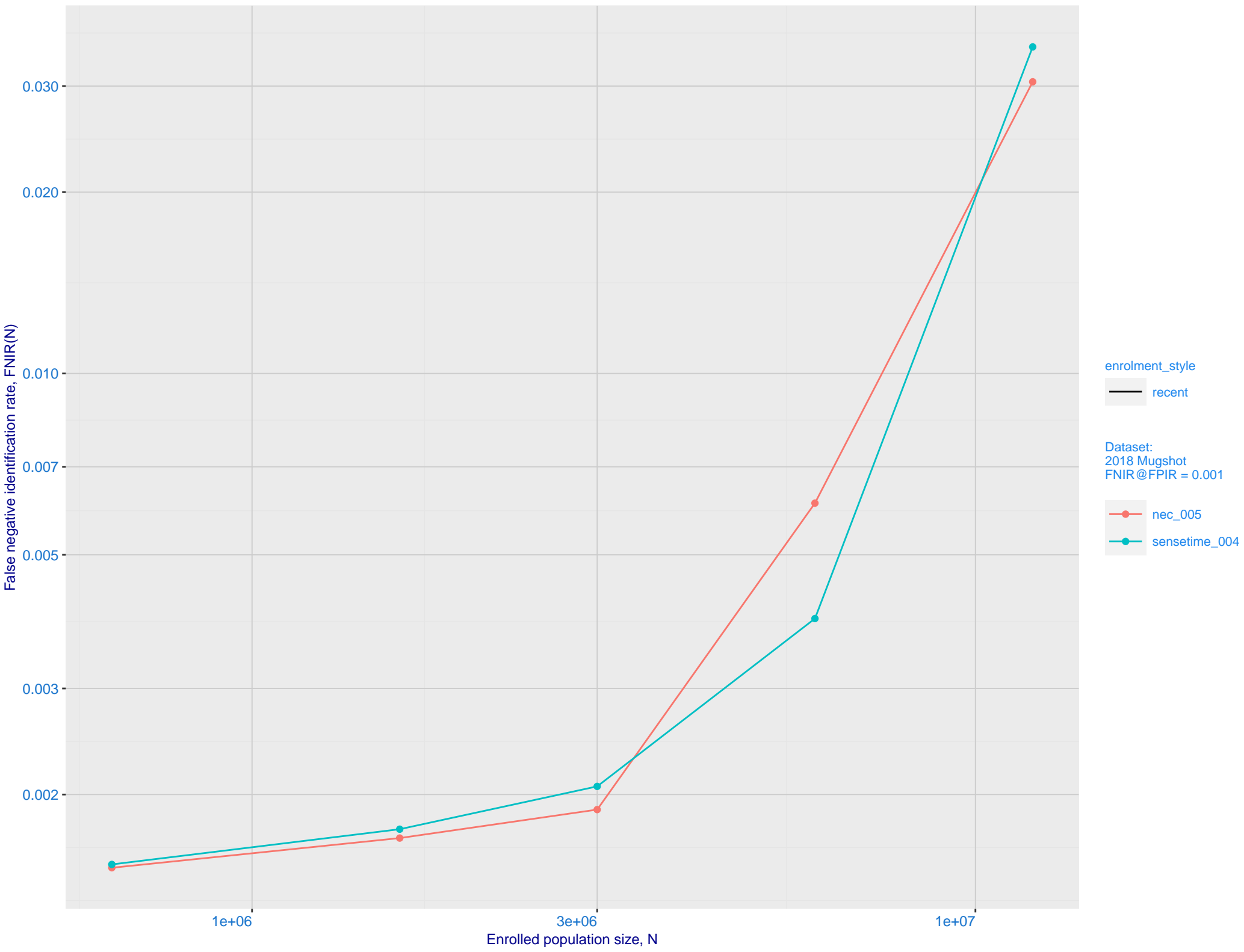
Mugshot webcam ranking 4 (out of 289) –– FNIR(1600000, T, L+1) = 0.0126, FPIR=0.001000 vs. lowest 0.0120 from nec_005

Mugshot profile ranking 7 (out of 259) –– FNIR(1600000, T, L+1) = 0.2301, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000
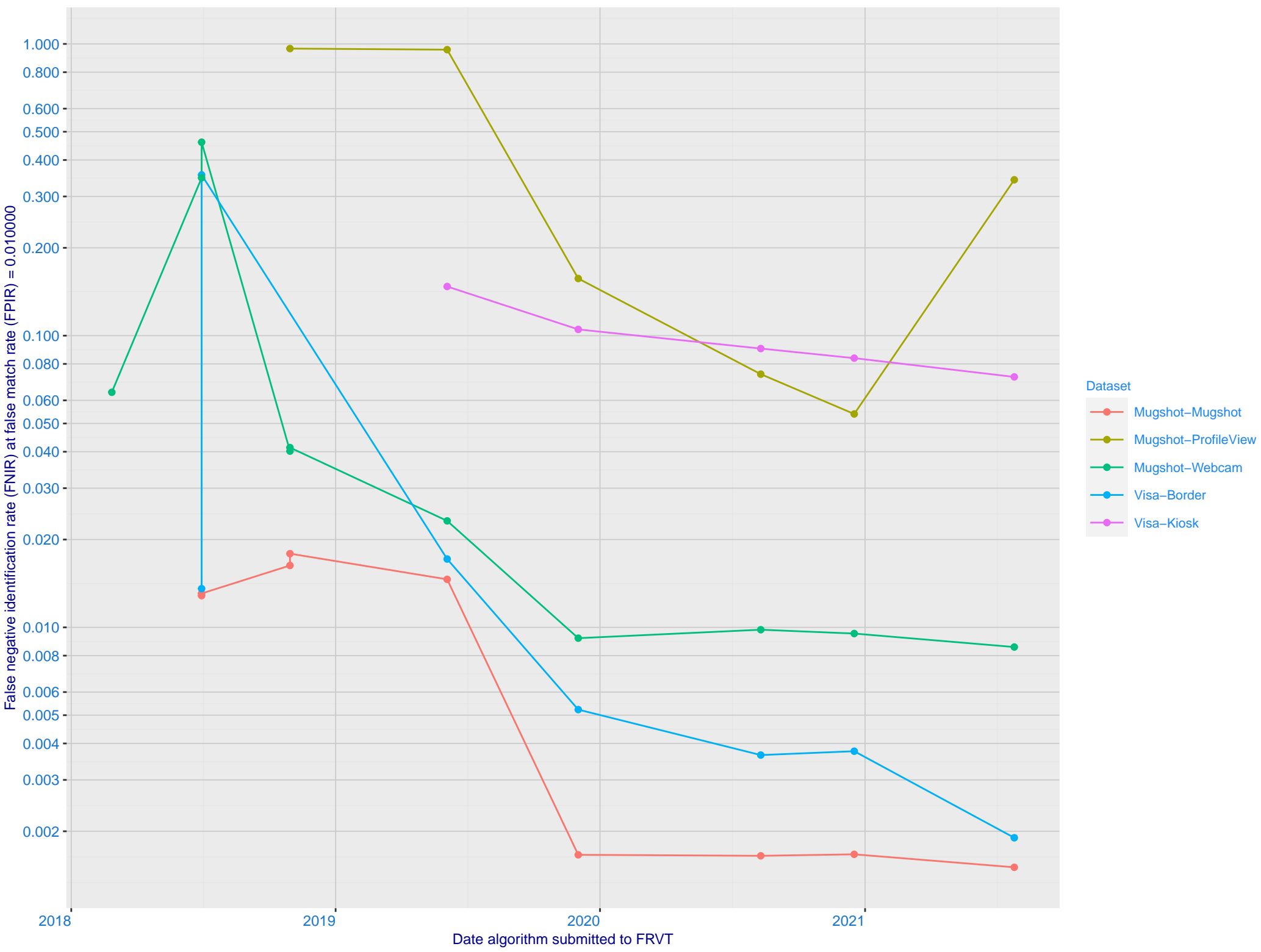
Immigration visa–border ranking 10 (out of 217) –– FNIR(1600000, T, L+1) = 0.0059, FPIR=0.001000 vs. lowest 0.0032 from paravision_009

Immigration visa–kiosk ranking 16 (out of 212) –– FNIR(1600000, T, L+1) = 0.1133, FPIR=0.001000 vs. lowest 0.0728 from paravision_009
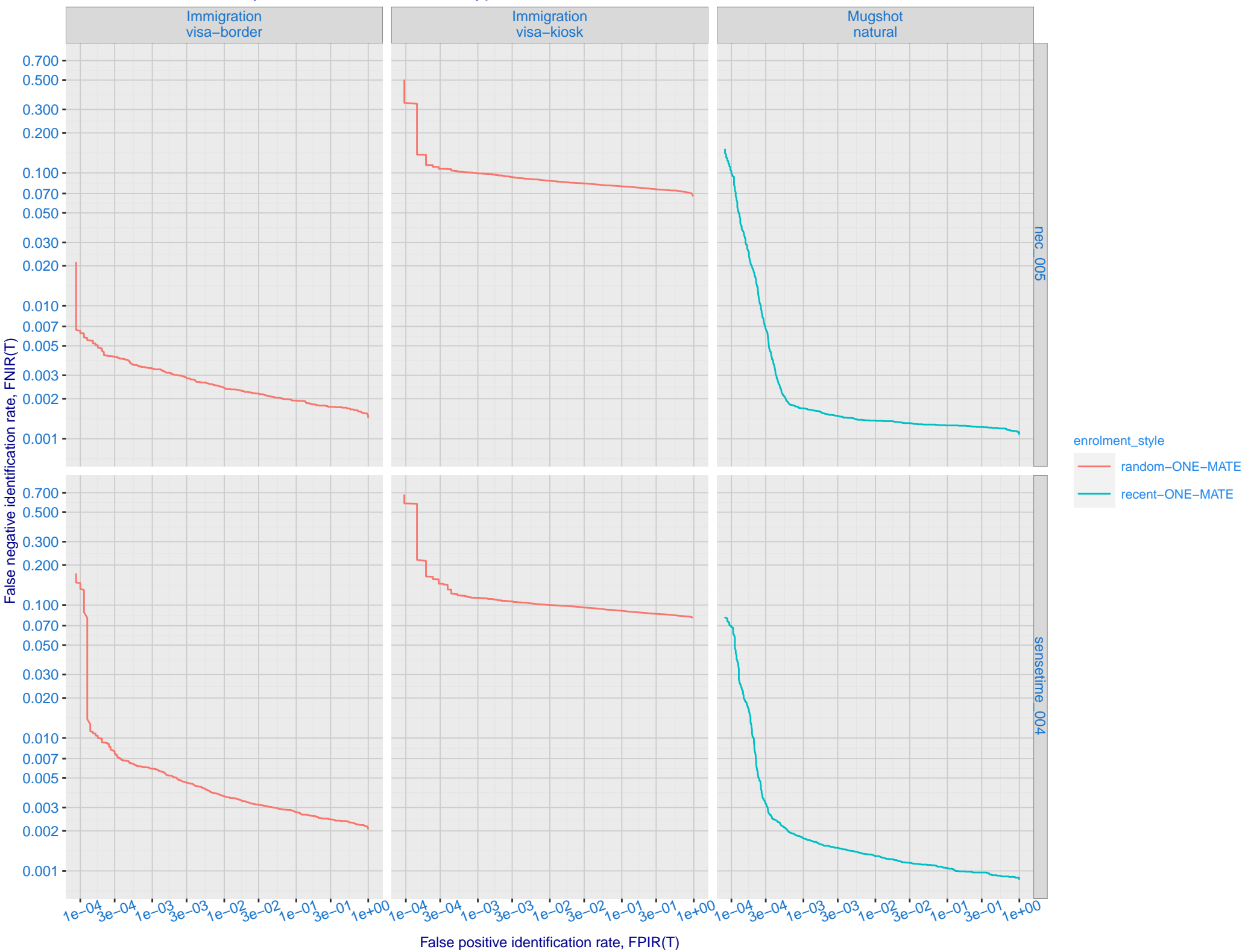
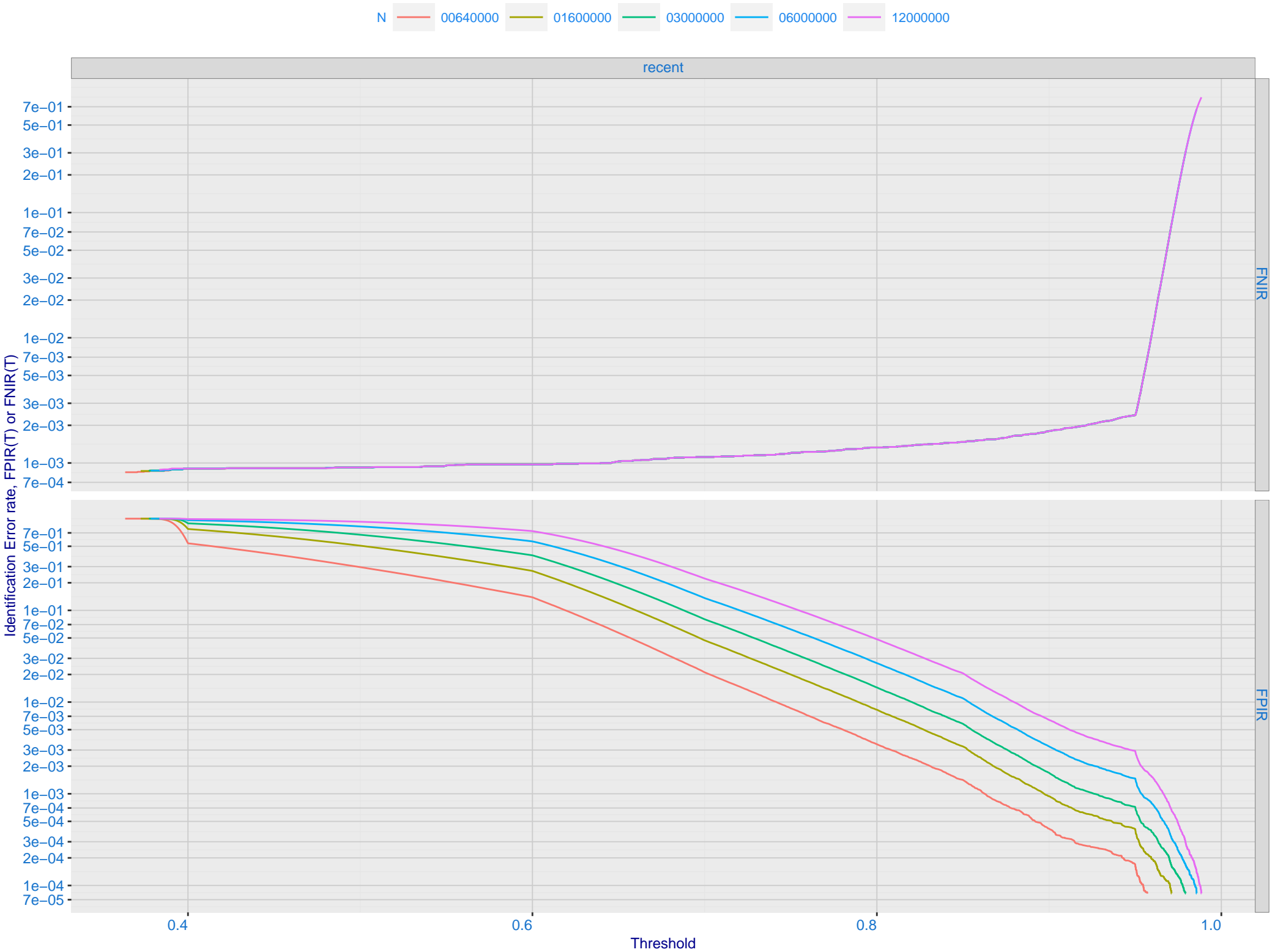B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (nec_005)

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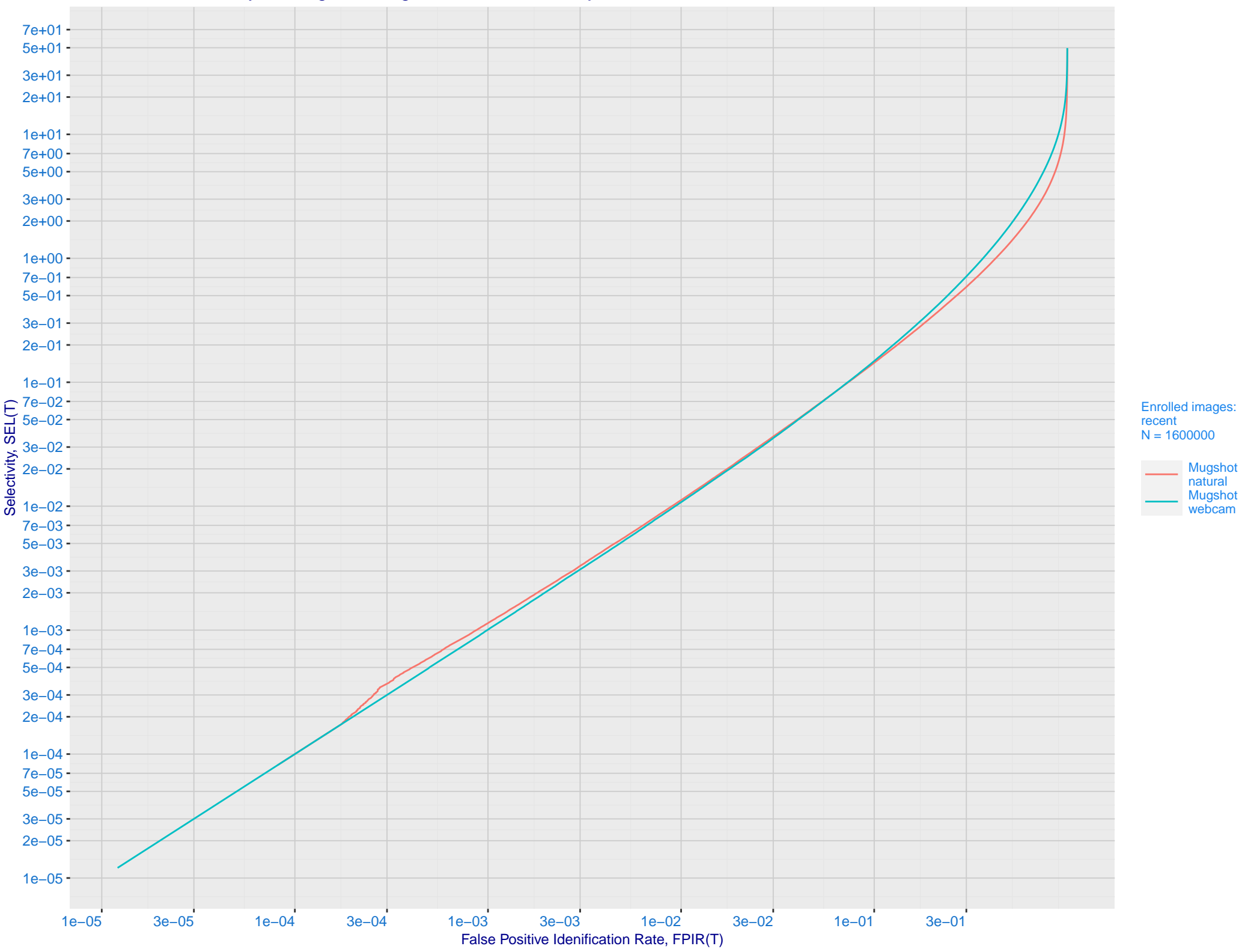
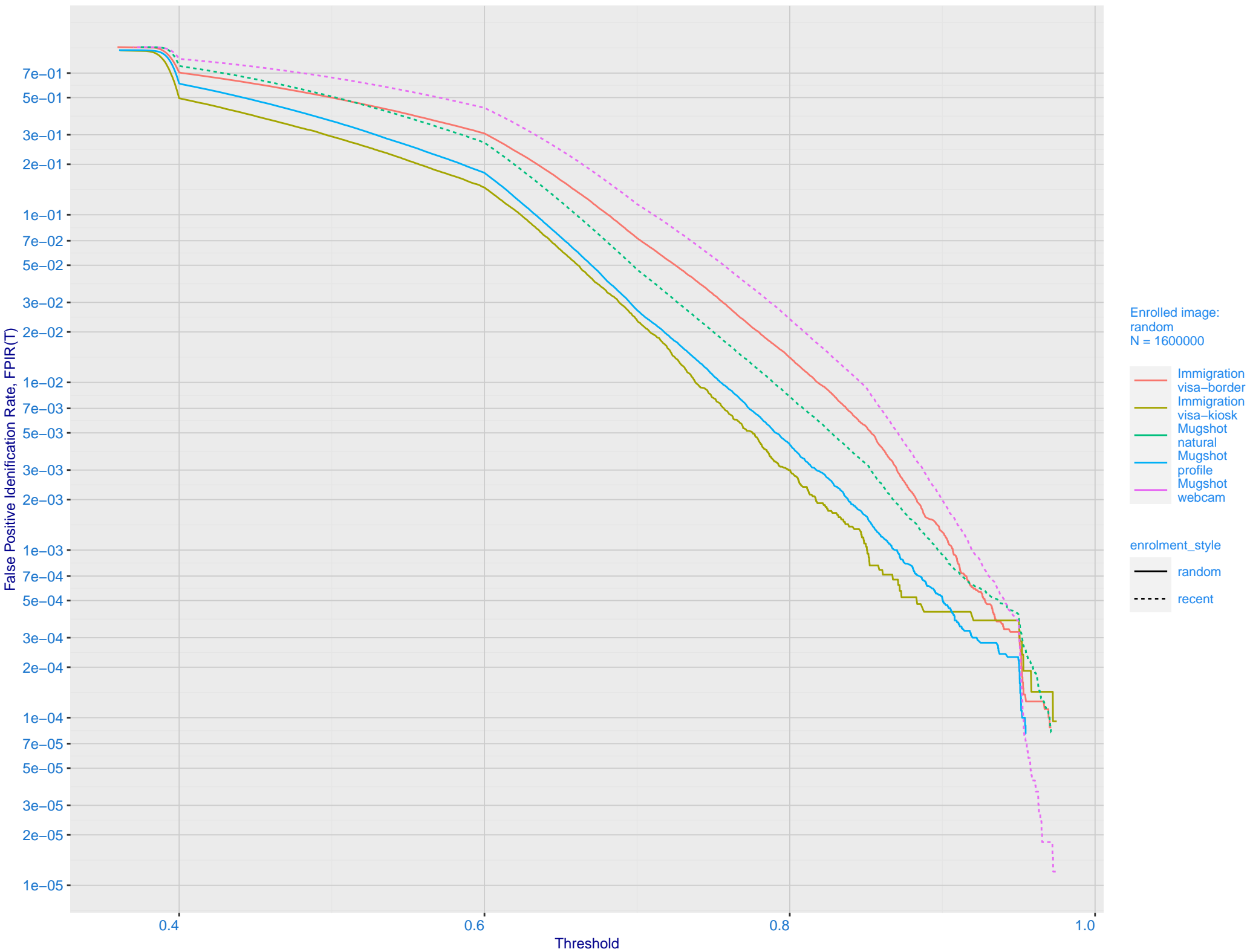D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

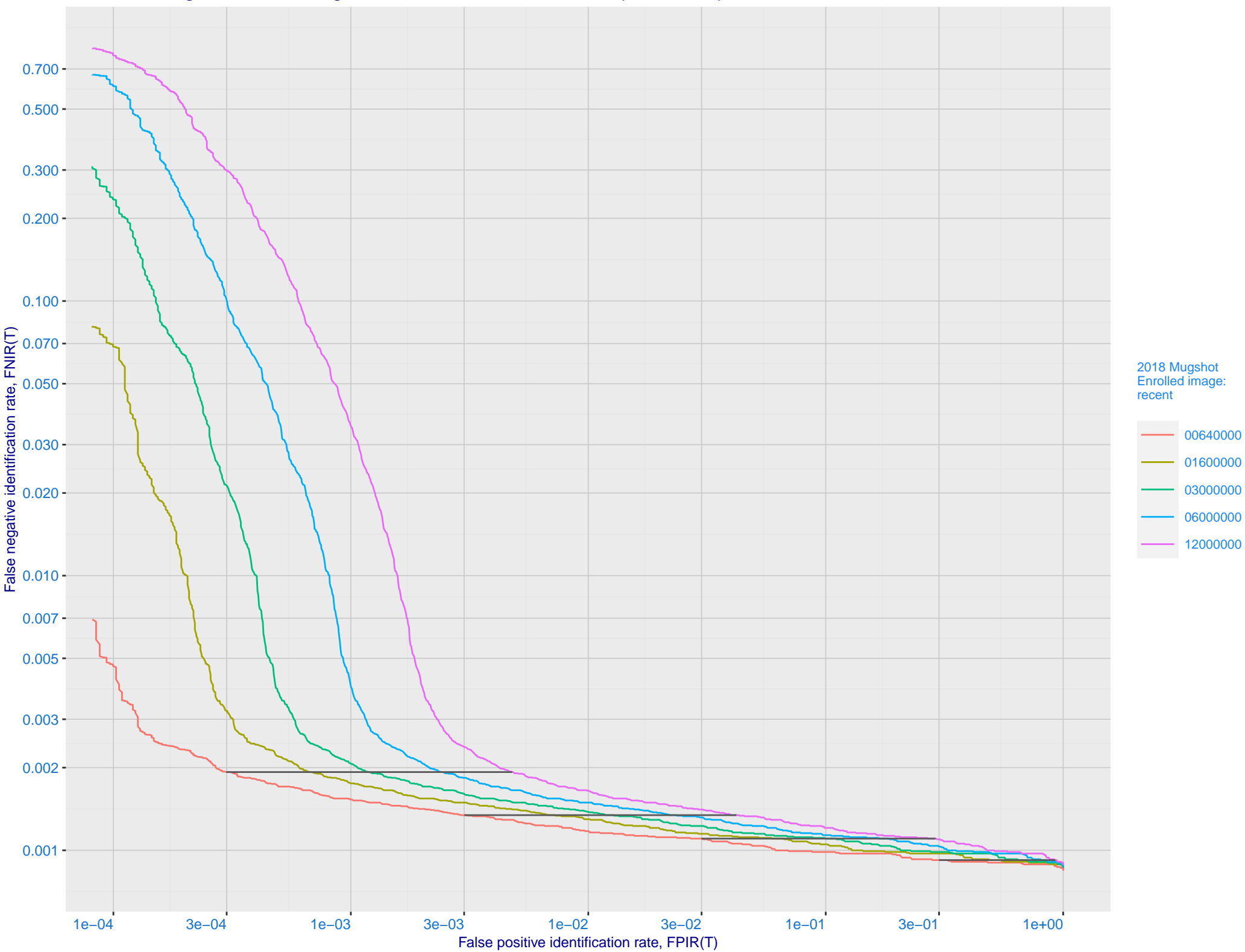E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

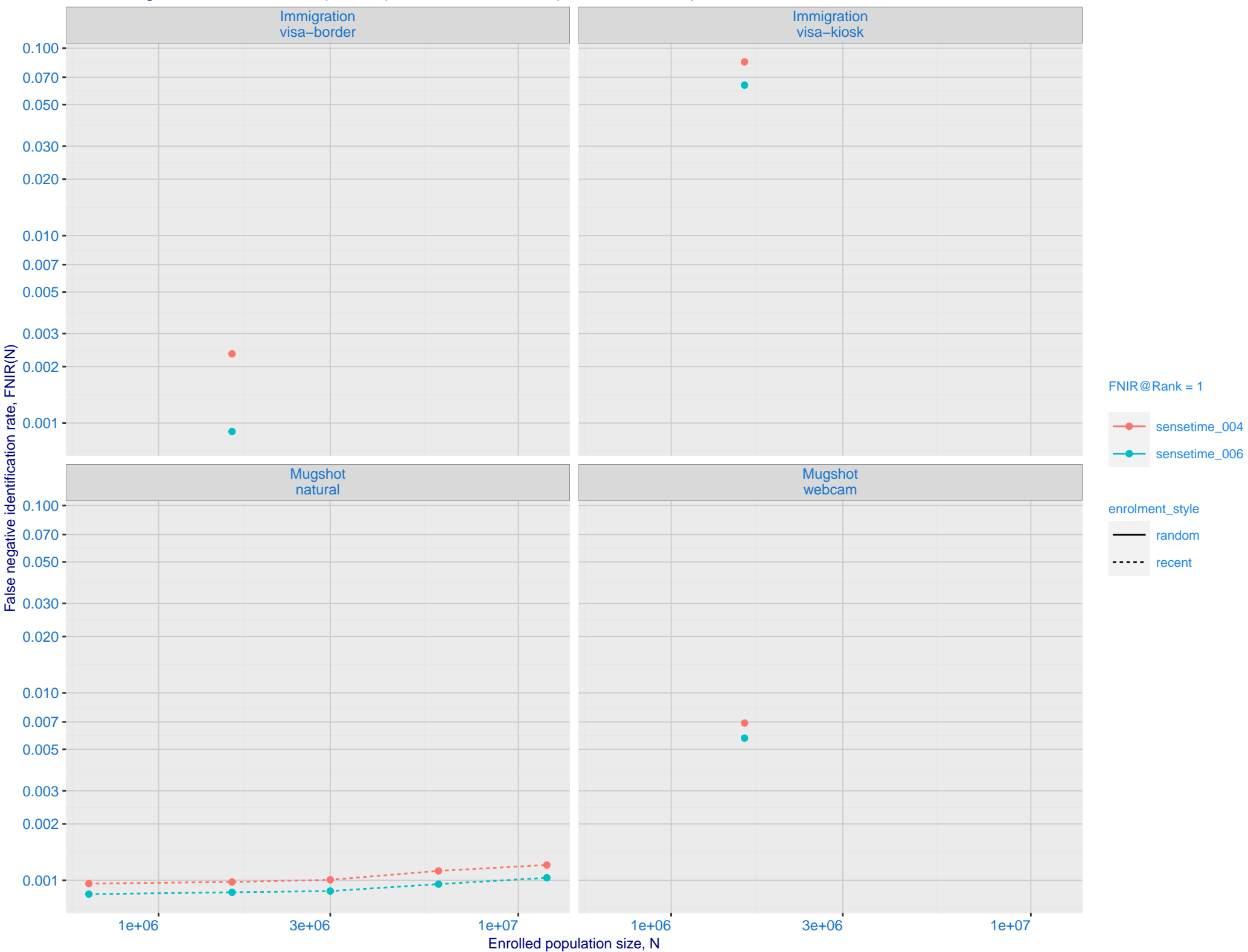F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate

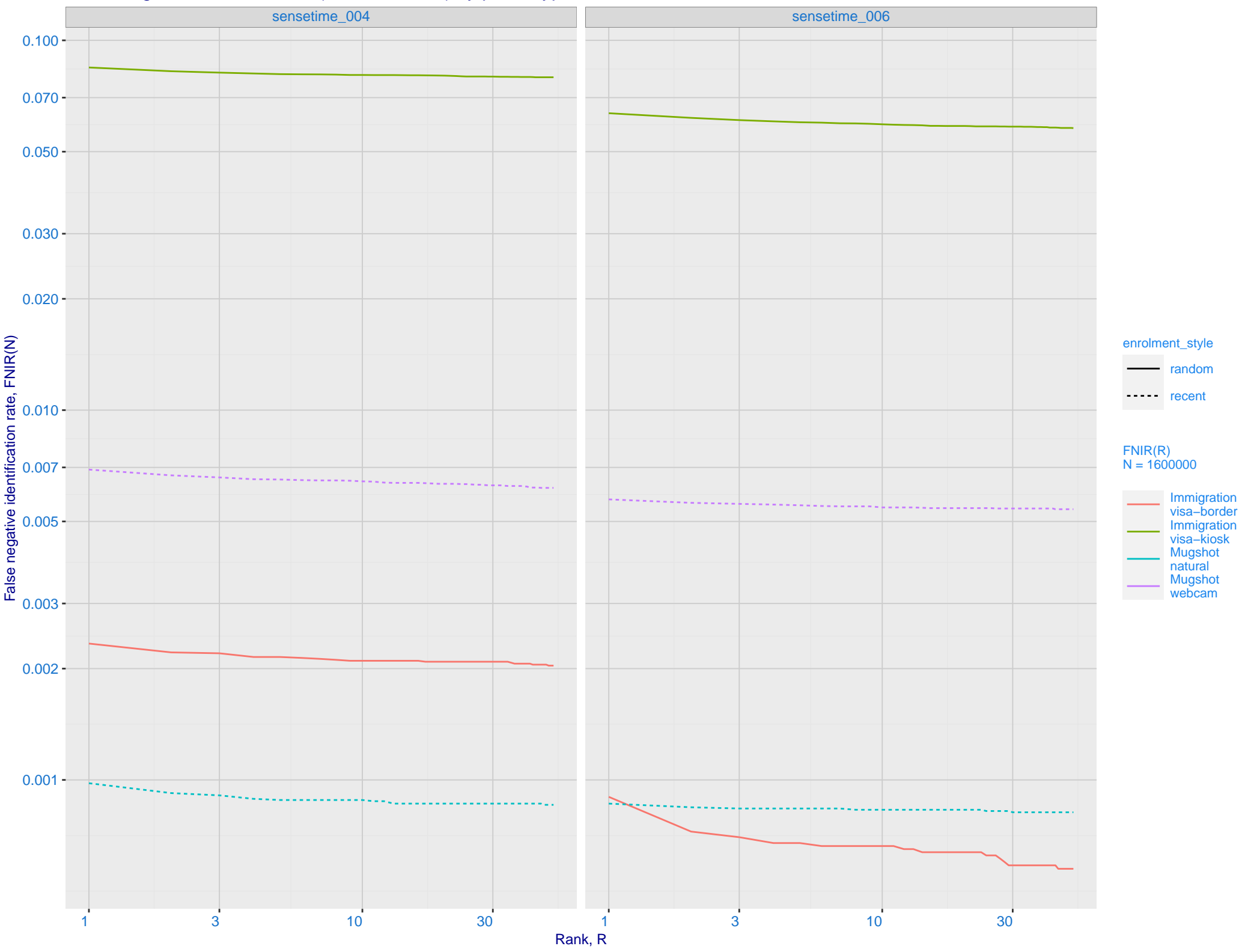G: FPIR dependence on T by probe type for N = 1600000 subjects

J: DET for Mugshot natural images and various N. Links connect points of equal threshold.
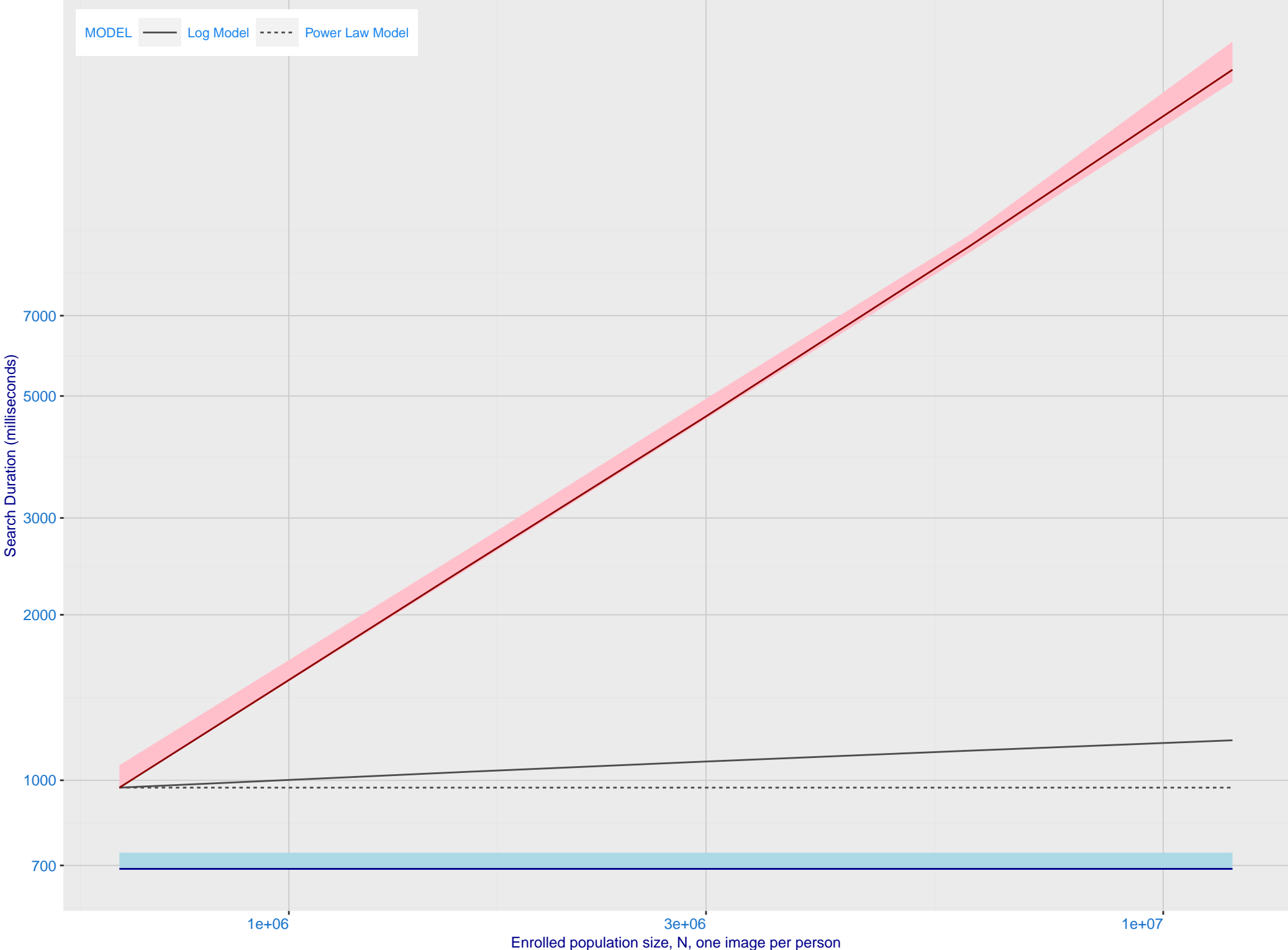
K: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_006)

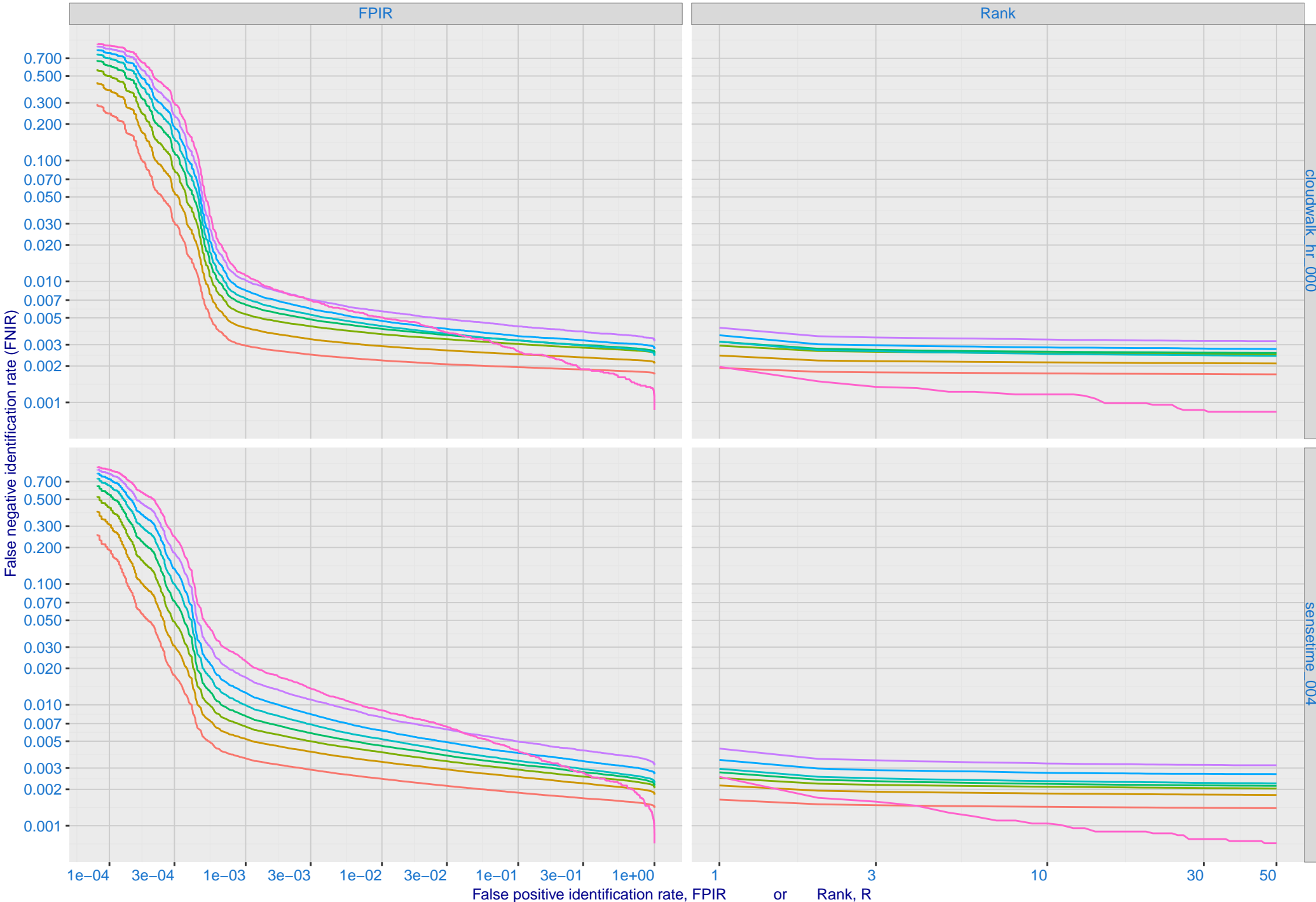L: Investigational mode: FNIR(1600000, R, 0) by probe type

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