A: Datasheet

Algorithm: paravision_005

Developer: Paravision (EverAI)

Submission Date: 2019_12_11

Template size: 4096 bytes

Template time (2.5 percentile): 828 msec

Template time (median): 831 msec

Template time (97.5 percentile): 913 msec

Investigation:

Frontal mugshot ranking 36 (out of 329) –– FNIR(1600000, 0, 1) = 0.0015 vs. lowest 0.0009 from sensetime_006

Mugshot webcam ranking 29 (out of 291) –– FNIR(1600000, 0, 1) = 0.0097 vs. lowest 0.0057 from sensetime_006

Mugshot profile ranking 17 (out of 260) –– FNIR(1600000, 0, 1) = 0.0790 vs. lowest 0.0550 from sensetime_006

Immigration visa–border ranking 95 (out of 218) –– FNIR(1600000, 0, 1) = 0.0067 vs. lowest 0.0009 from sensetime_006

Immigration visa–kiosk ranking 70 (out of 215) –– FNIR(1600000, 0, 1) = 0.1061 vs. lowest 0.0487 from cubox_000

Identification:

Frontal mugshot ranking 19 (out of 329) –– FNIR(1600000, T, L+1) = 0.0041, FPIR=0.001000 vs. lowest 0.0017 from nec_005
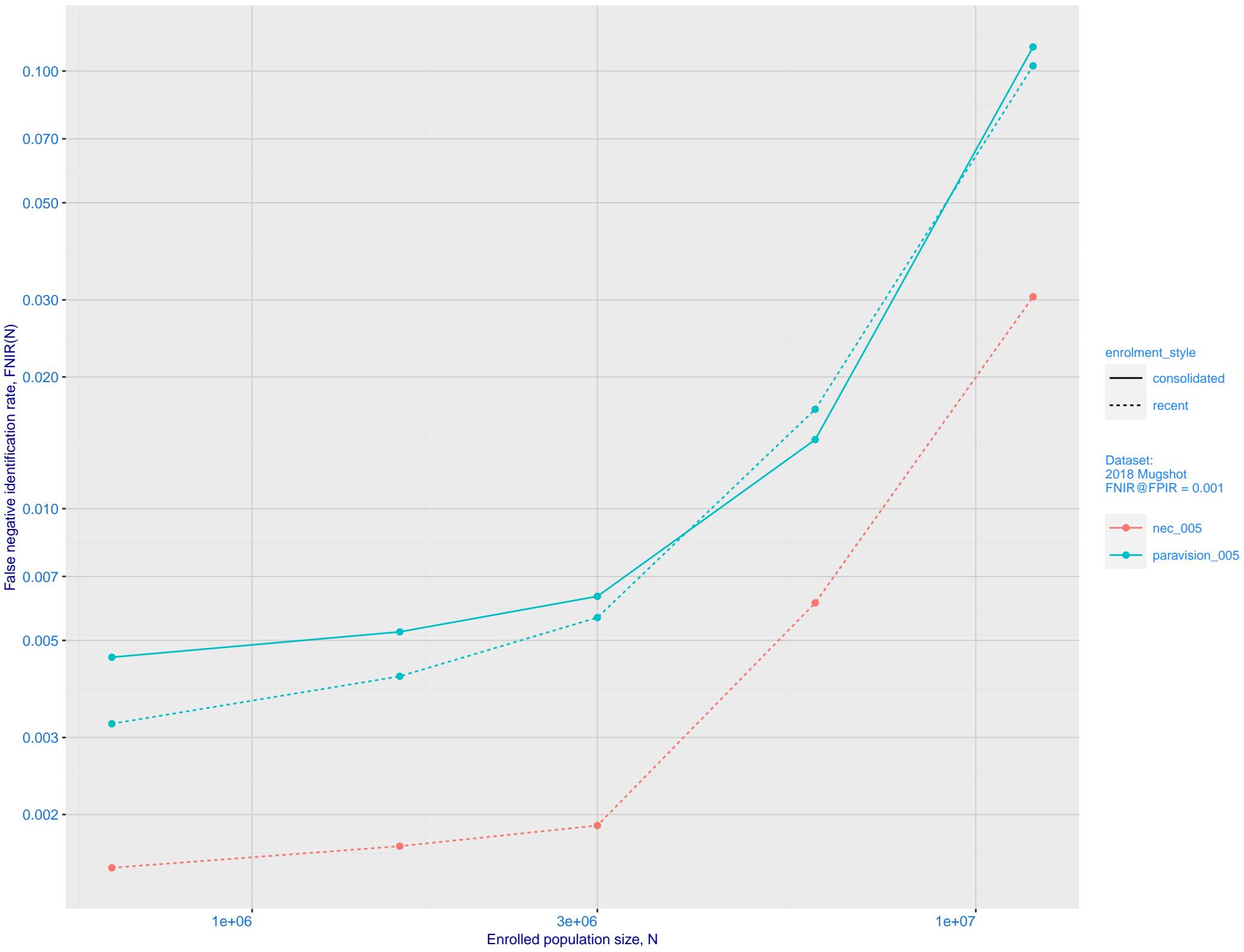
Mugshot webcam ranking 21 (out of 289) –– FNIR(1600000, T, L+1) = 0.0239, FPIR=0.001000 vs. lowest 0.0120 from nec_005

Mugshot profile ranking 83 (out of 259) –– FNIR(1600000, T, L+1) = 0.9804, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000
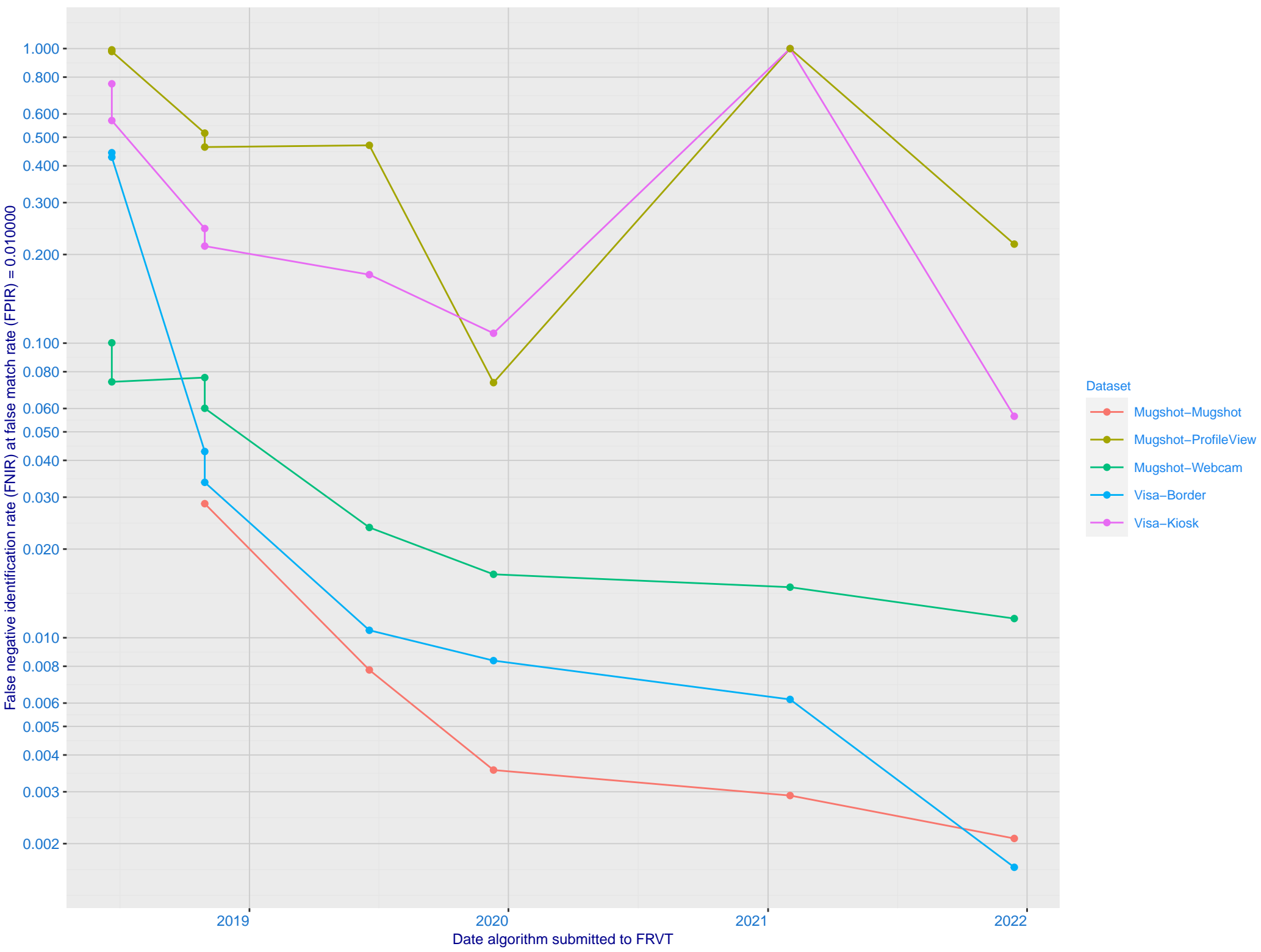
Immigration visa–border ranking 29 (out of 217) –– FNIR(1600000, T, L+1) = 0.0109, FPIR=0.001000 vs. lowest 0.0032 from paravision_009

Immigration visa–kiosk ranking 21 (out of 212) –– FNIR(1600000, T, L+1) = 0.1320, FPIR=0.001000 vs. lowest 0.0728 from paravision_009
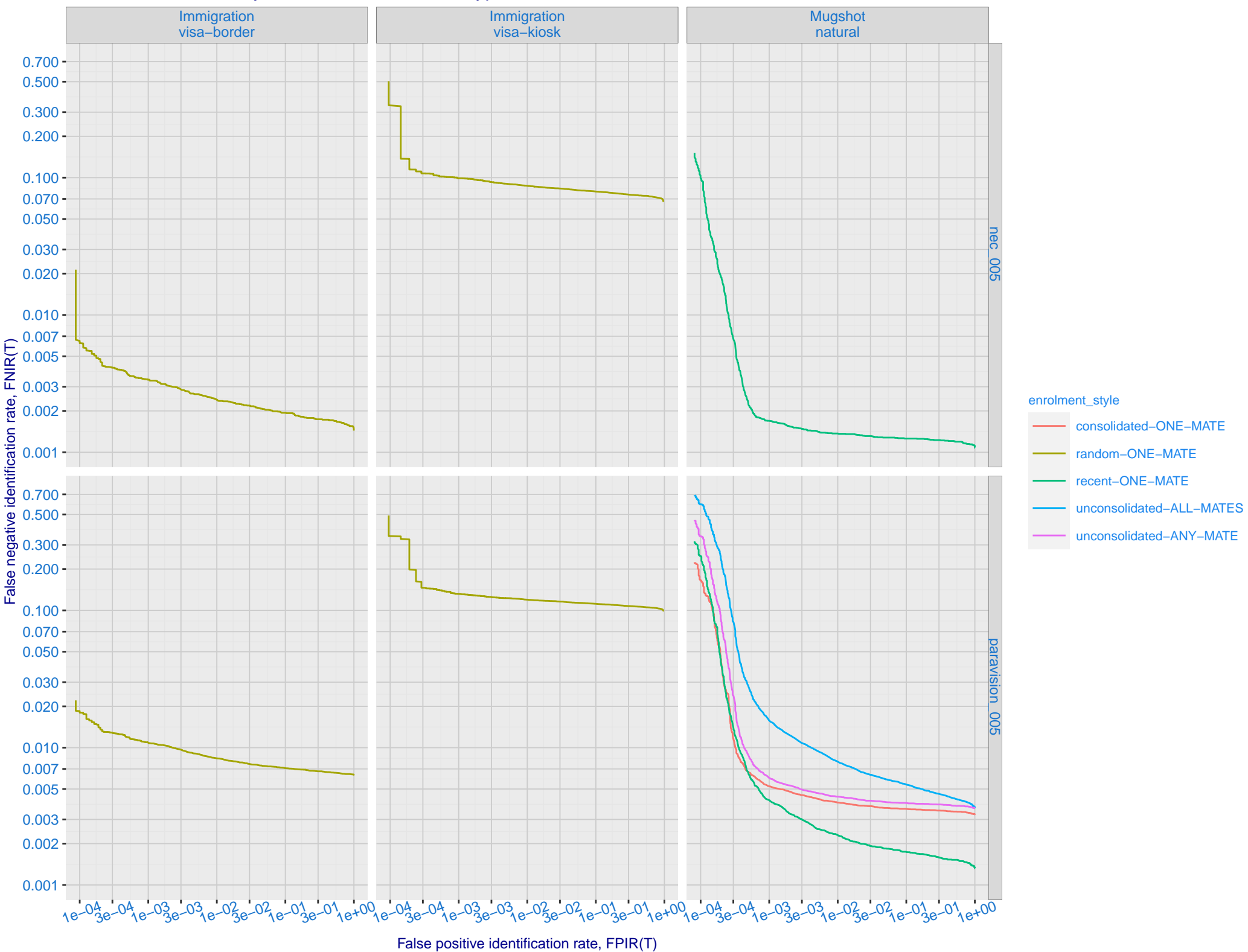
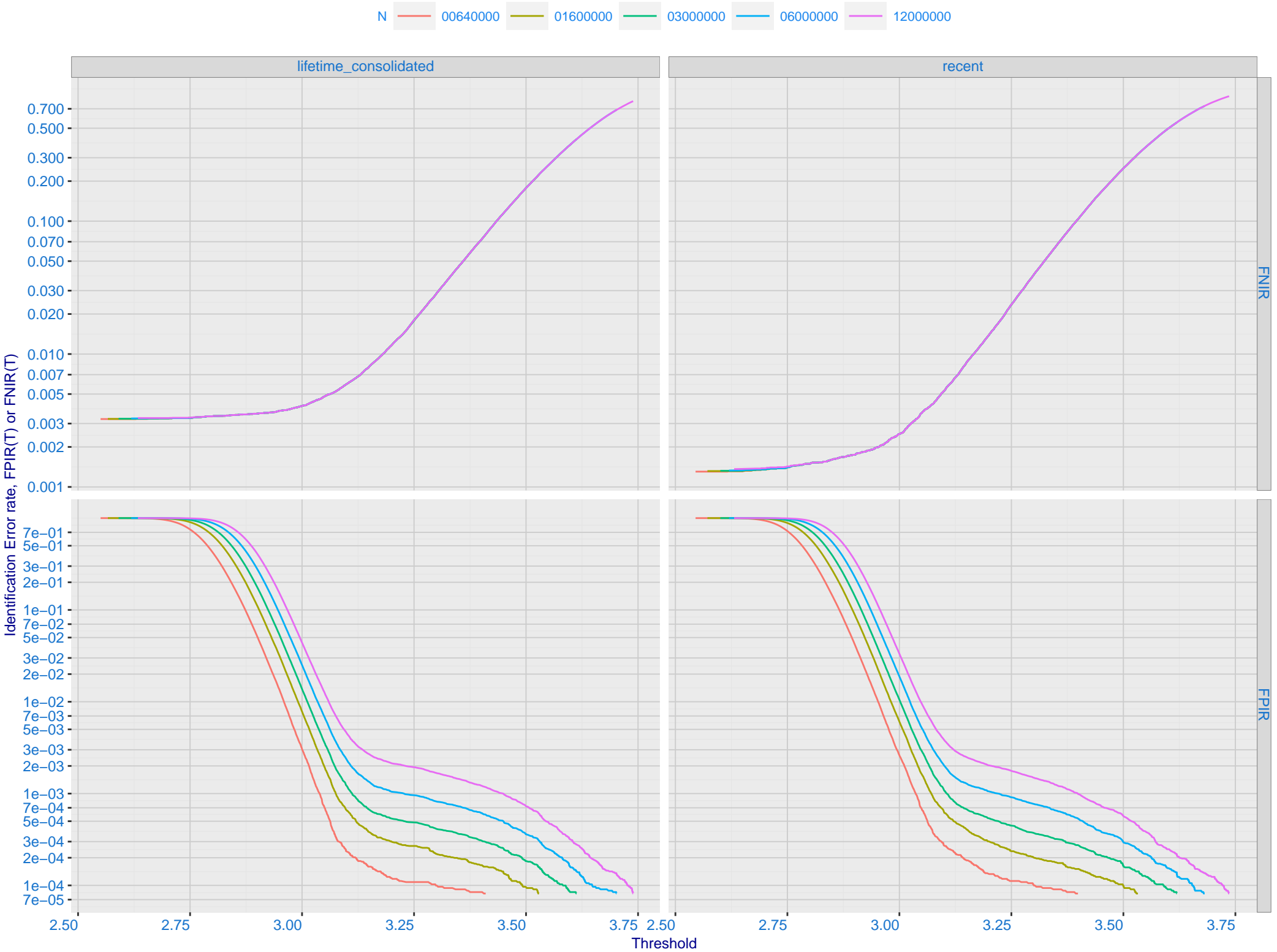B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (nec_005)

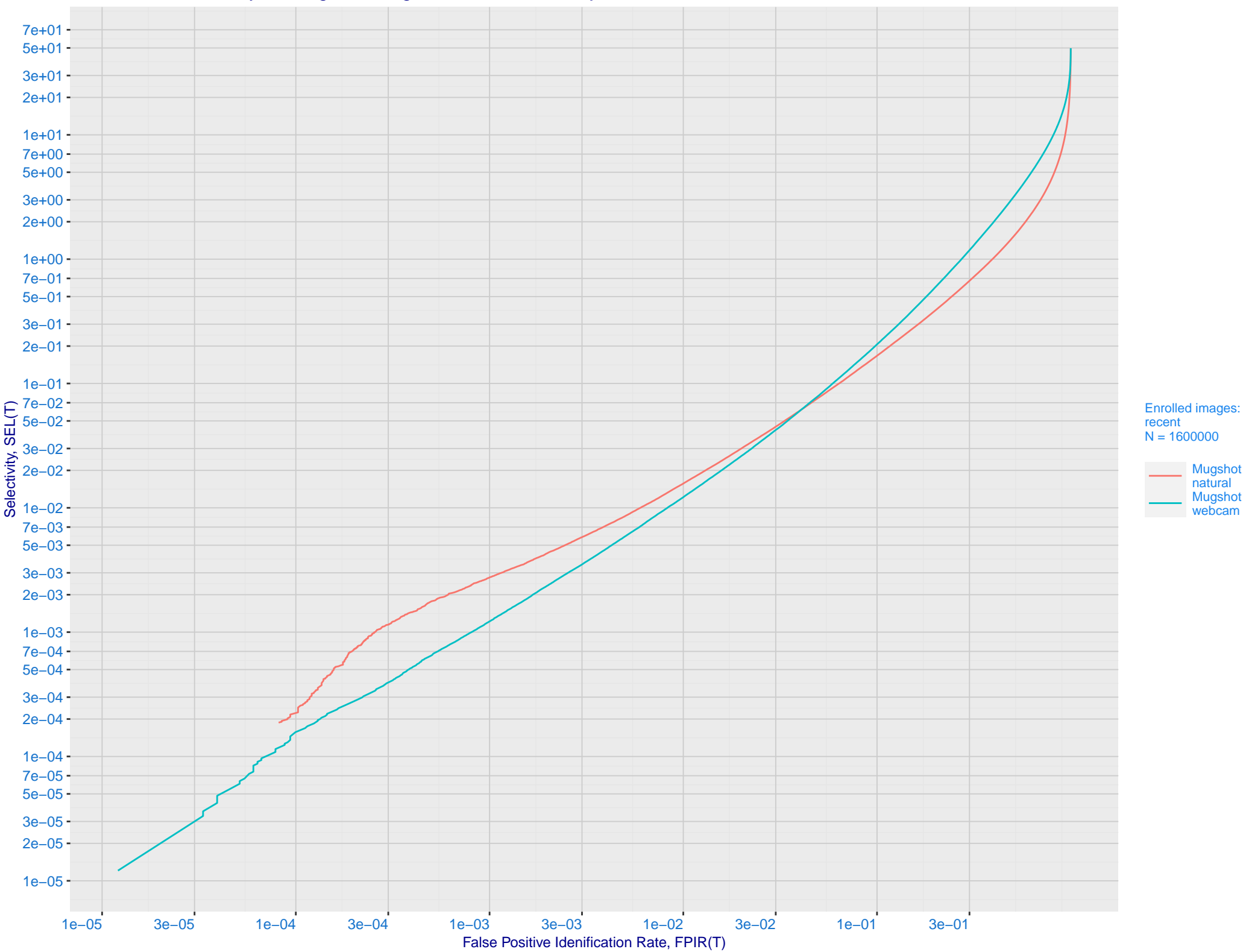**C: Evolution of accuracy for PARAVISION algorithms on three datasets 2018 – present**

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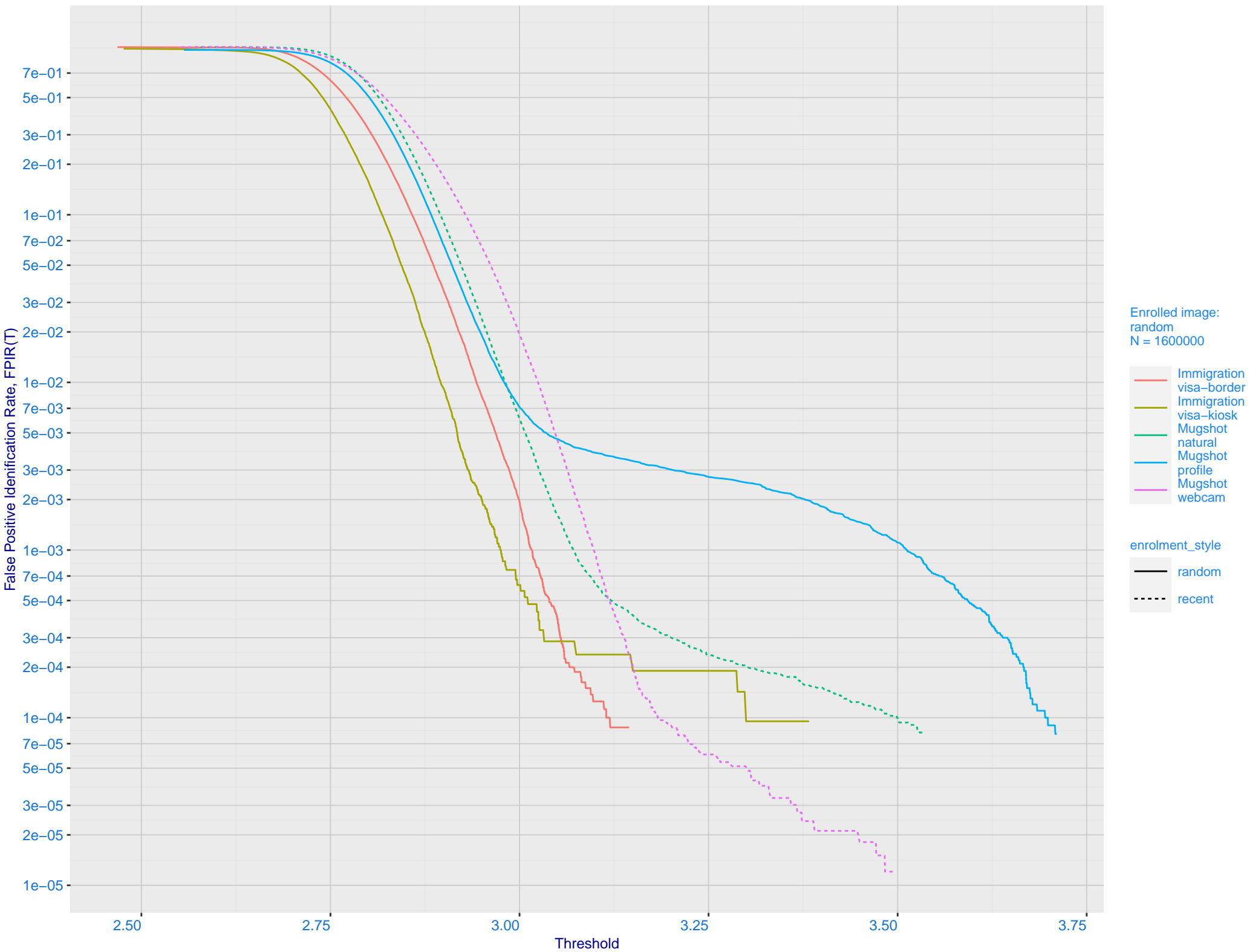
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
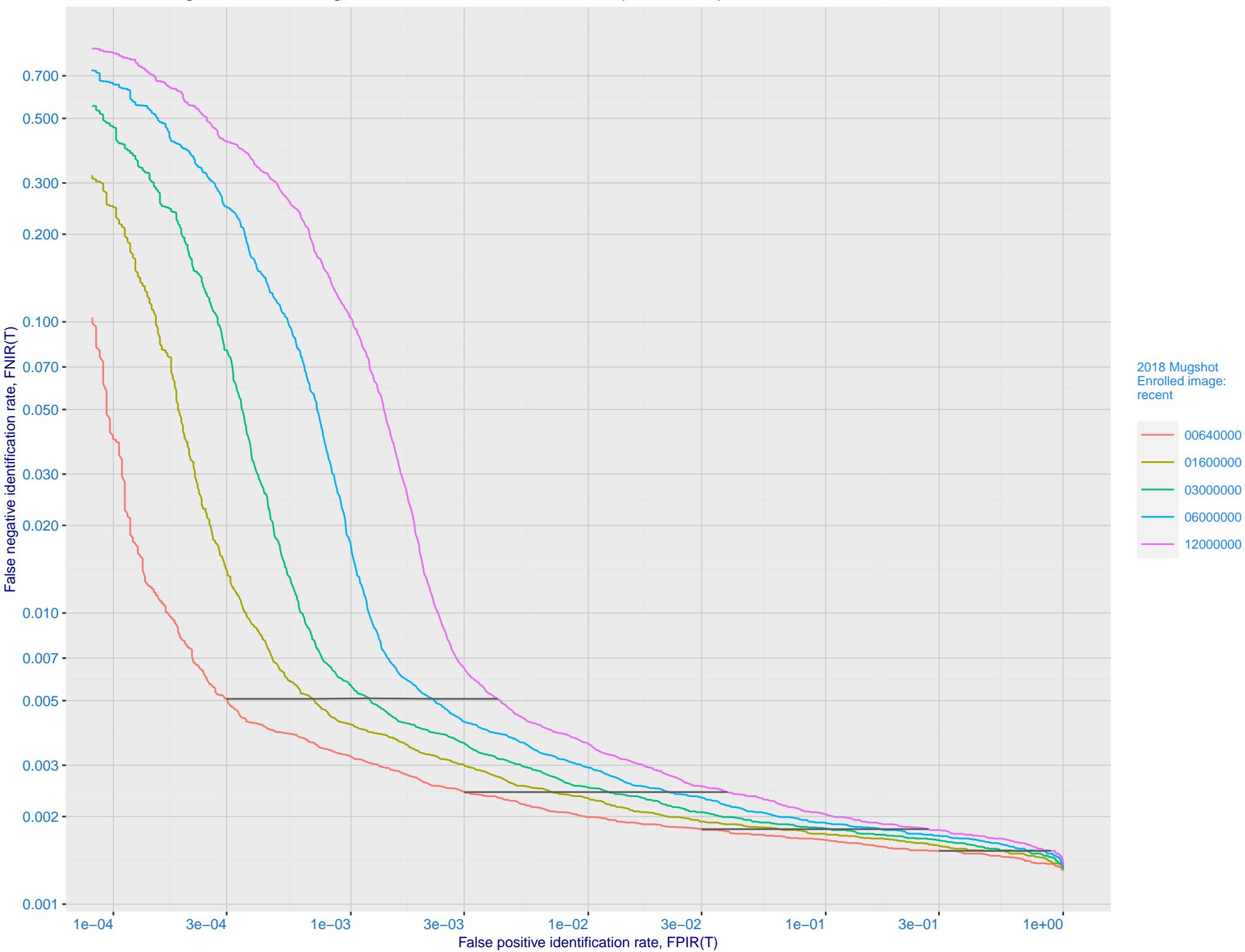
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
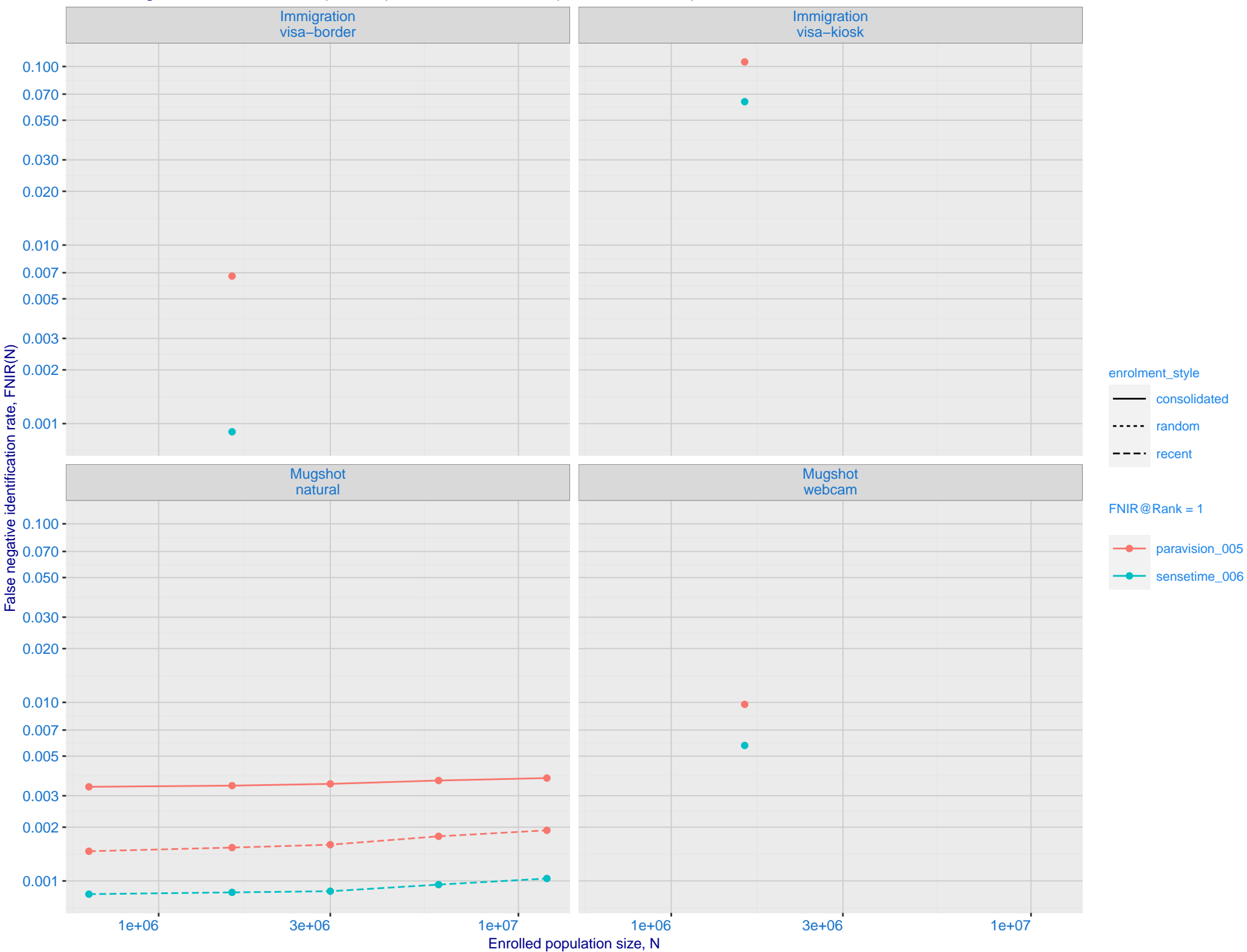
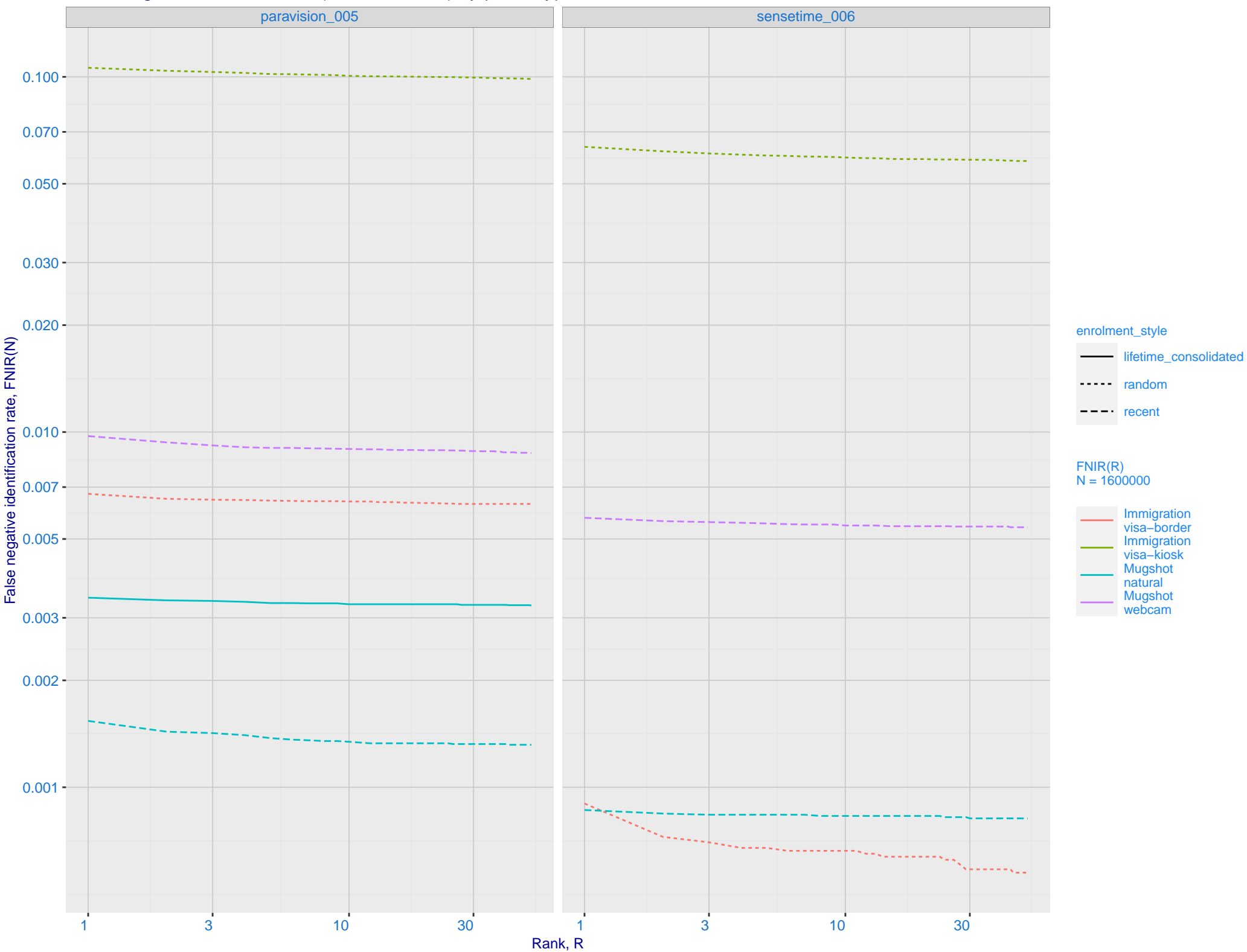G: FPIR dependence on T by probe type for N = 1600000 subjects

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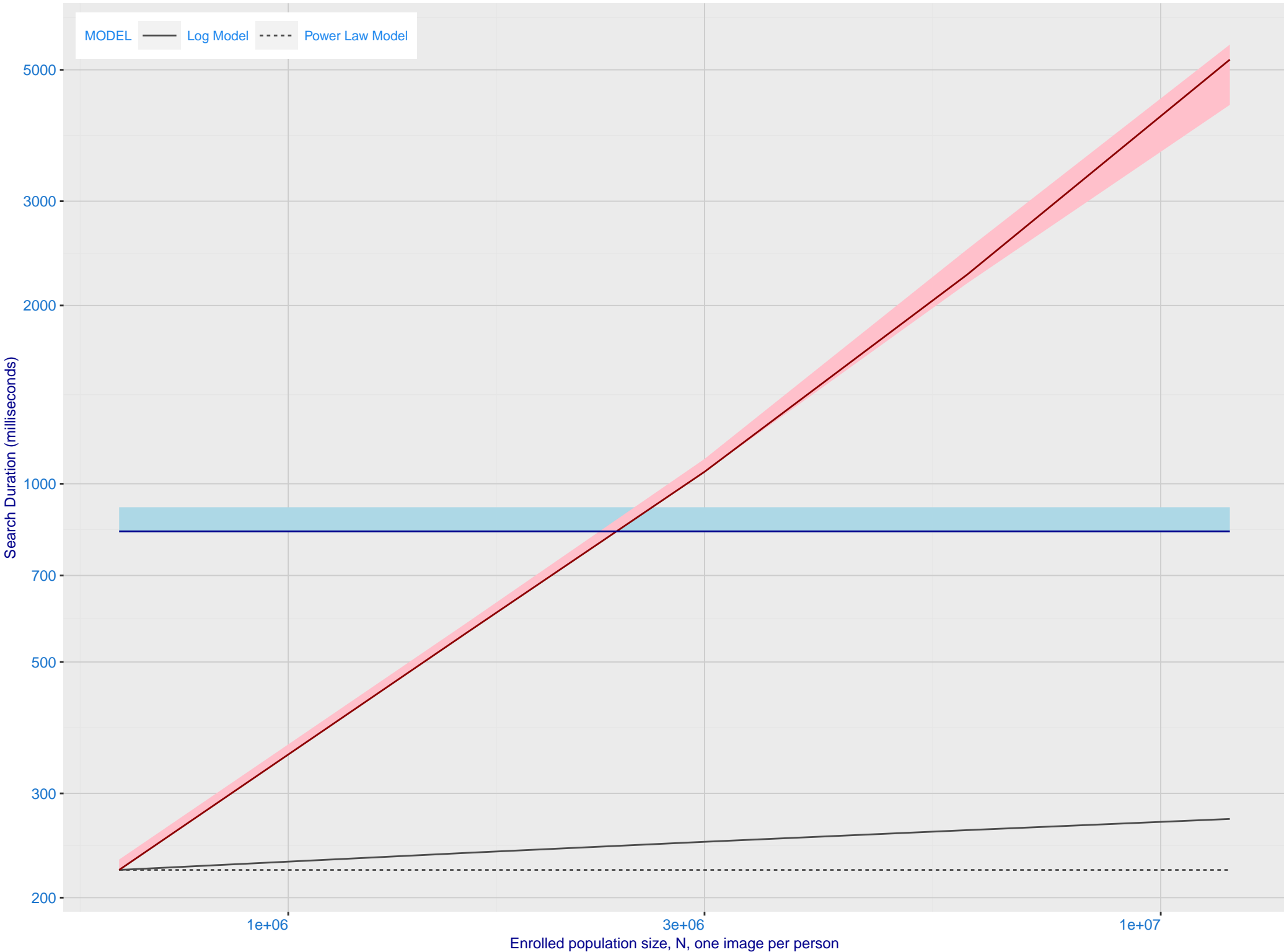
K: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_006)

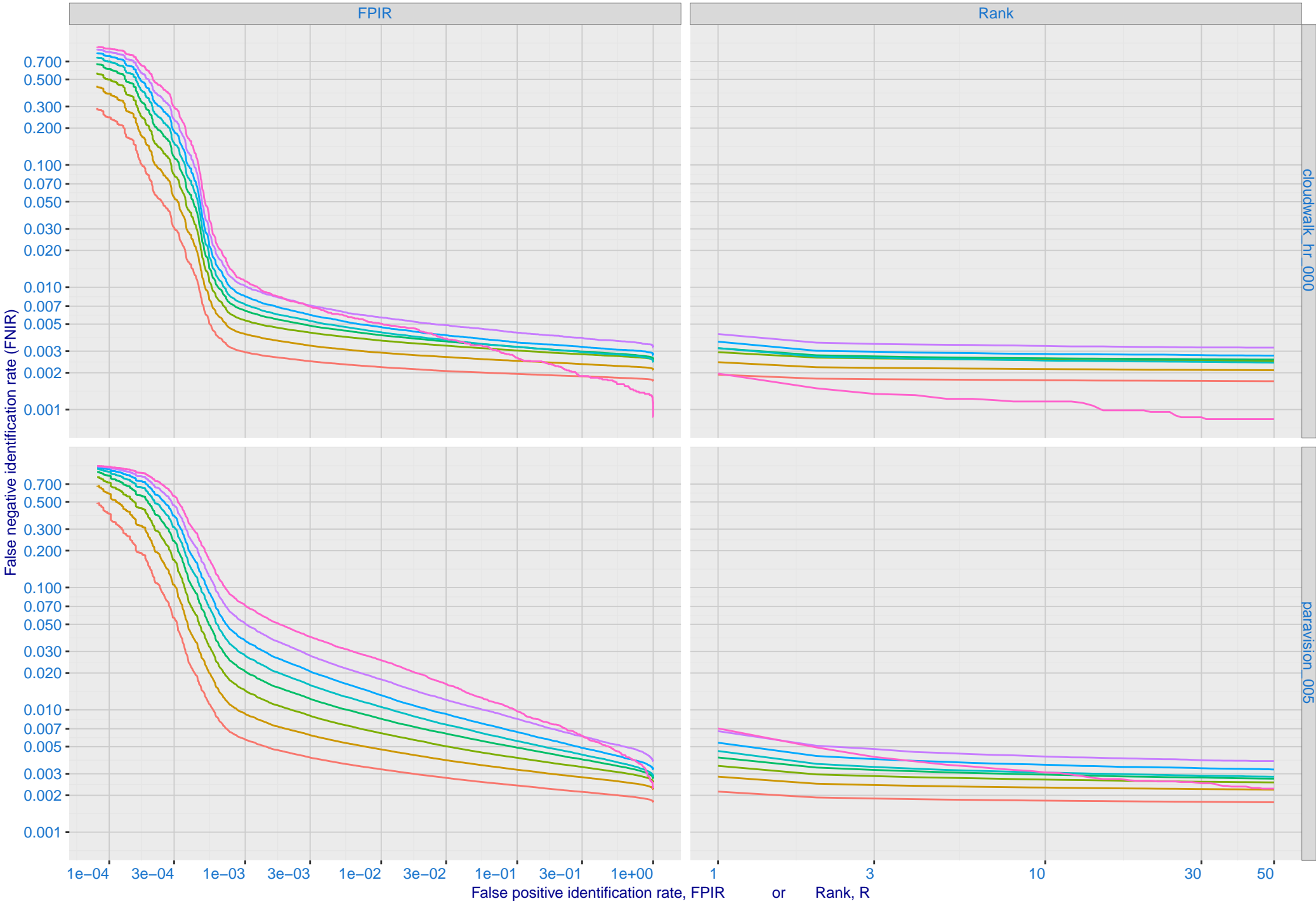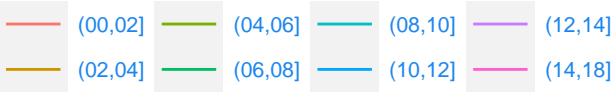L: Investigational mode: FNIR(1600000, R, 0) by probe type

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

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