A: Datasheet

Algorithm: alchera_1

Developer: Alchera Inc

Submission Date: 2018_06_30

Template size: 2048 bytes

Template time (2.5 percentile): 62 msec

Template time (median): 66 msec

Template time (97.5 percentile): 77 msec

Investigation:

Frontal mugshot ranking 278 (out of 279) –– FNIR(1600000, 0, 1) = 0.9869 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 240 (out of 241) –– FNIR(1600000, 0, 1) = 1.0000 vs. lowest 0.0062 from sensetime_005

Immigration visa–border ranking 161 (out of 168) –– FNIR(1600000, 0, 1) = 0.9998 vs. lowest 0.0013 from visionlabs_010

Immigration visa–kiosk ranking 163 (out of 165) –– FNIR(1600000, 0, 1) = 1.0000 vs. lowest 0.0568 from cloudwalk_hr_000
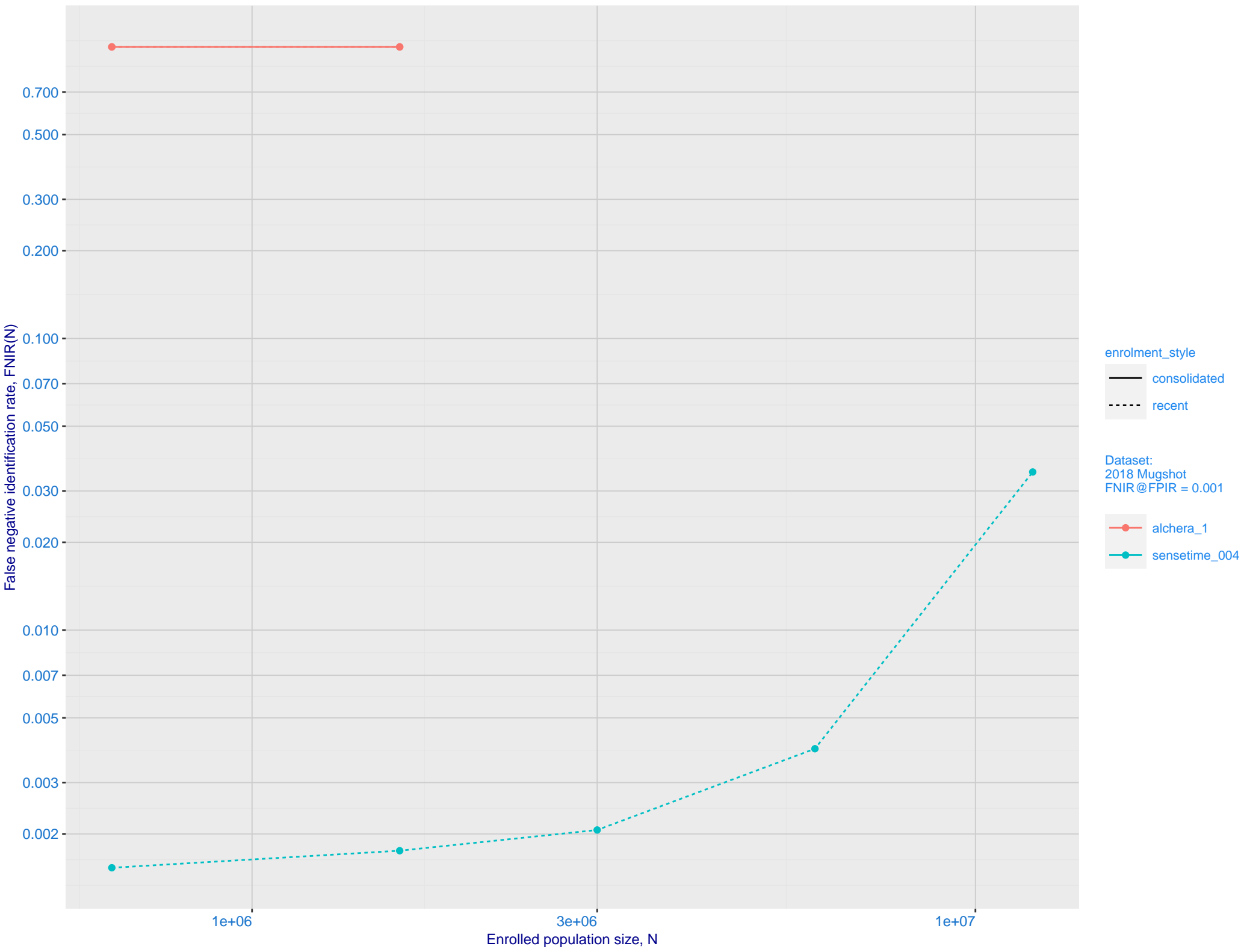
Identification:

Frontal mugshot ranking 275 (out of 279) –– FNIR(1600000, T, L+1) = 0.9994, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 234 (out of 236) –– FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003
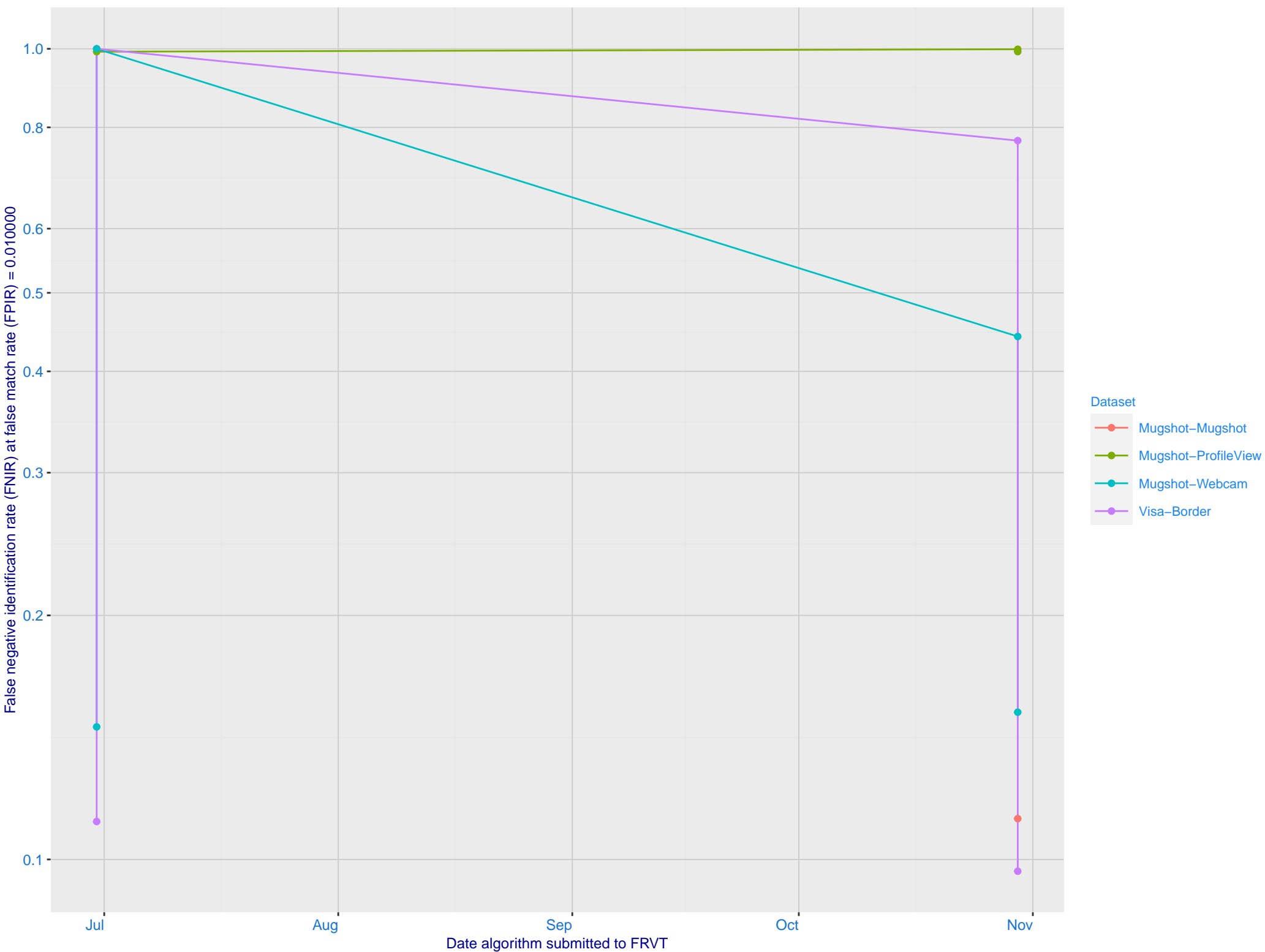
Immigration visa–border ranking 162 (out of 167) –– FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.0047 from idemia_008

Immigration visa–kiosk ranking 154 (out of 162) –– FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.0996 from cloudwalk_hr_000
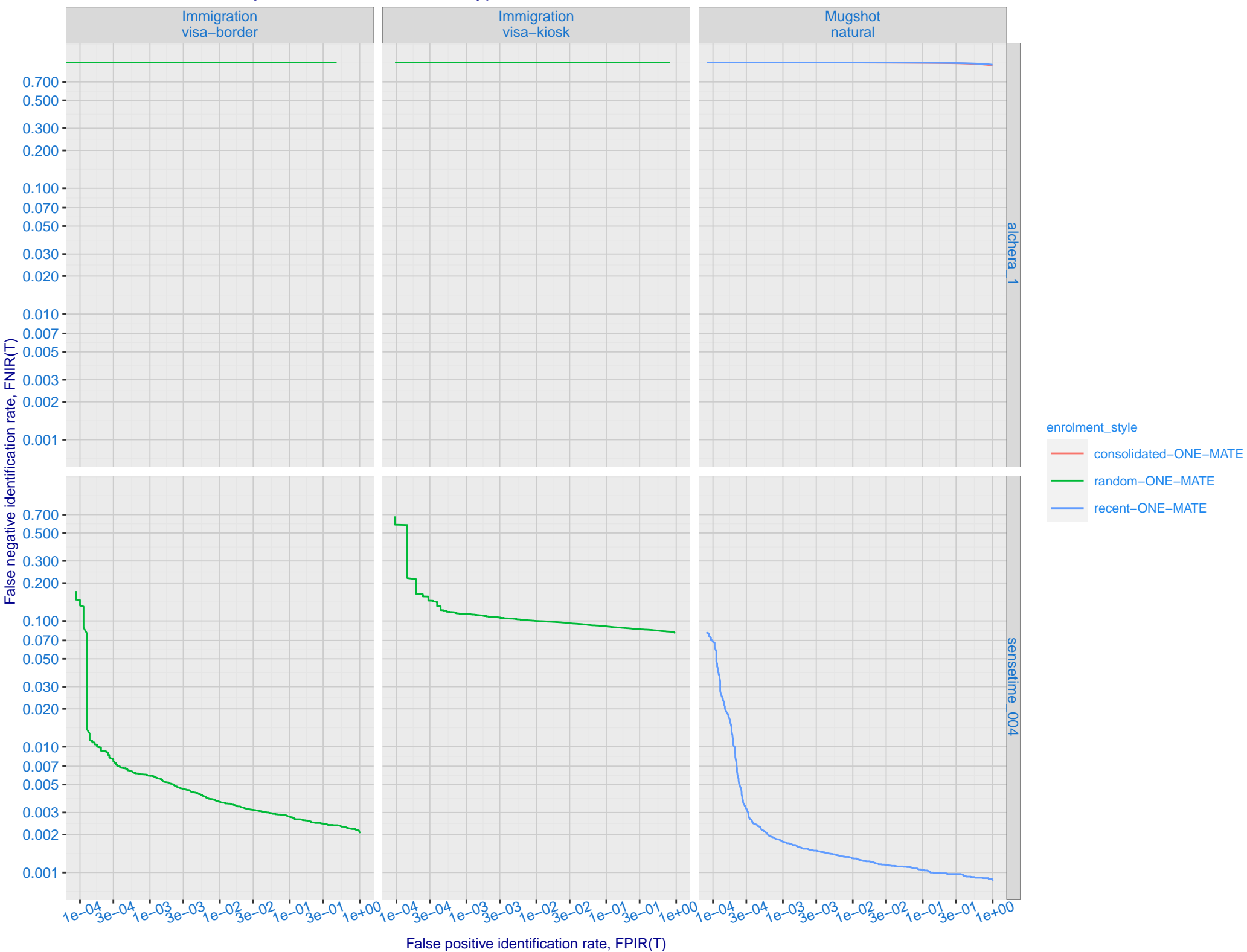
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
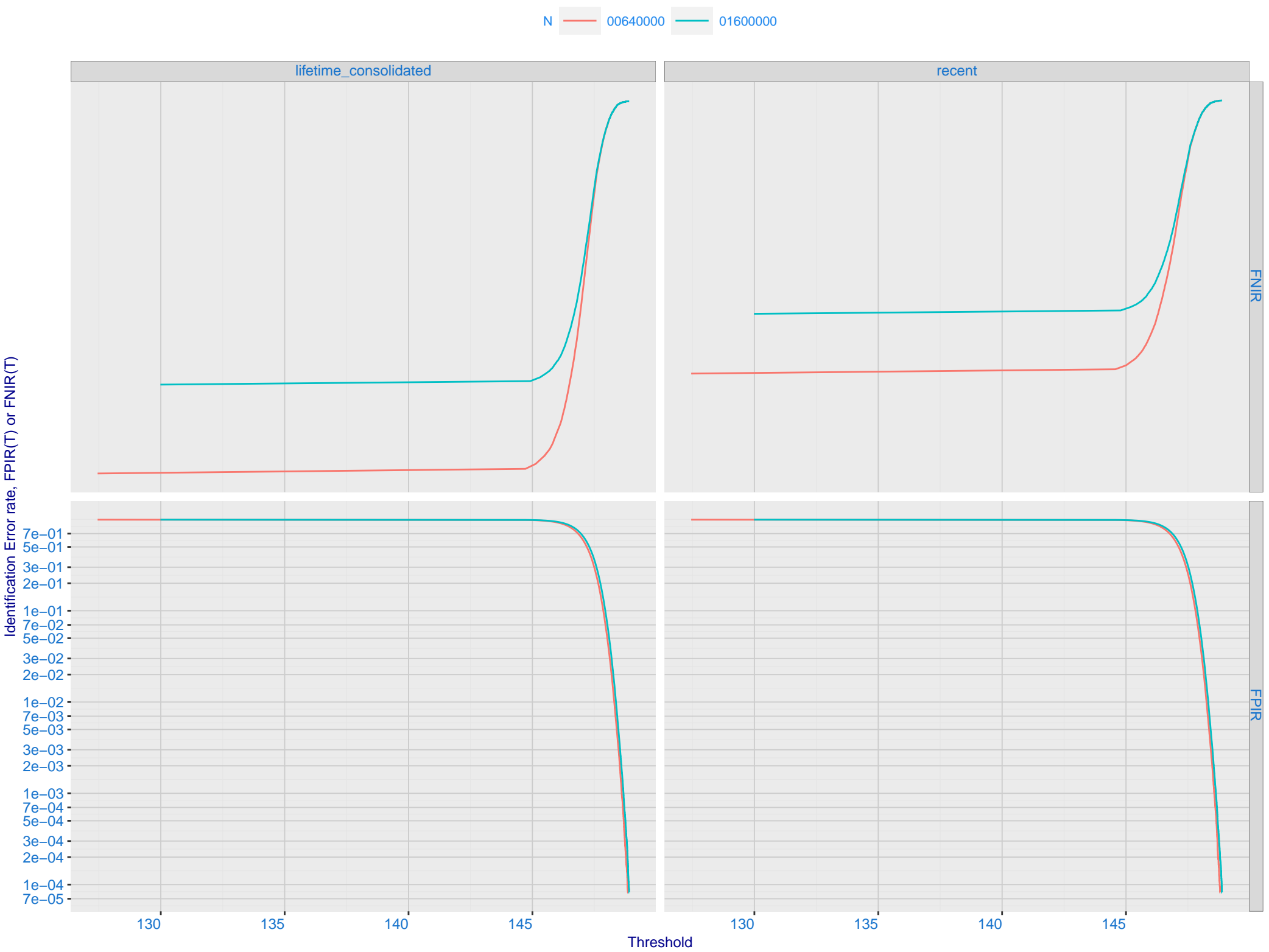
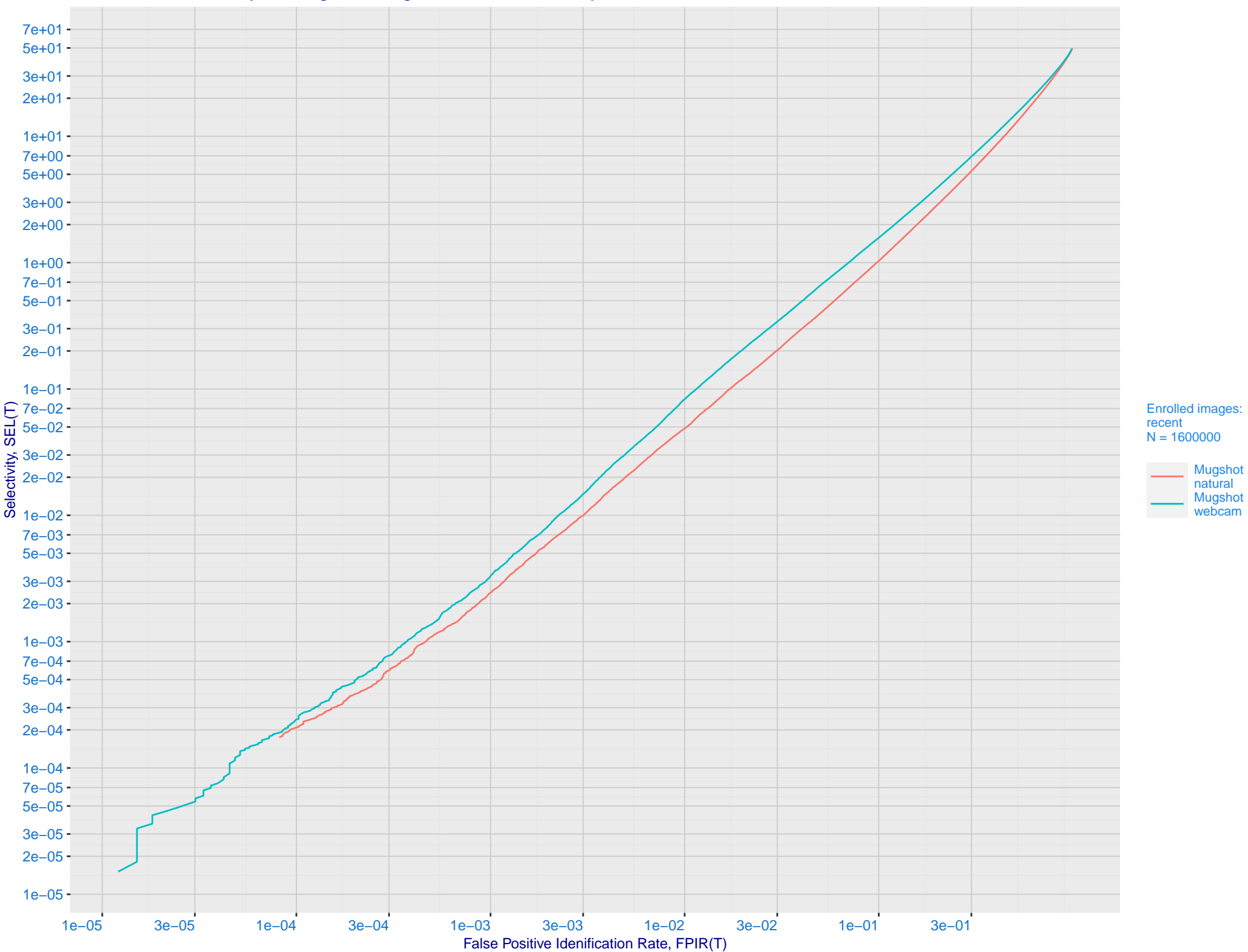**C: Evolution of accuracy for ALCHERA algorithms on three datasets 2018 – present**

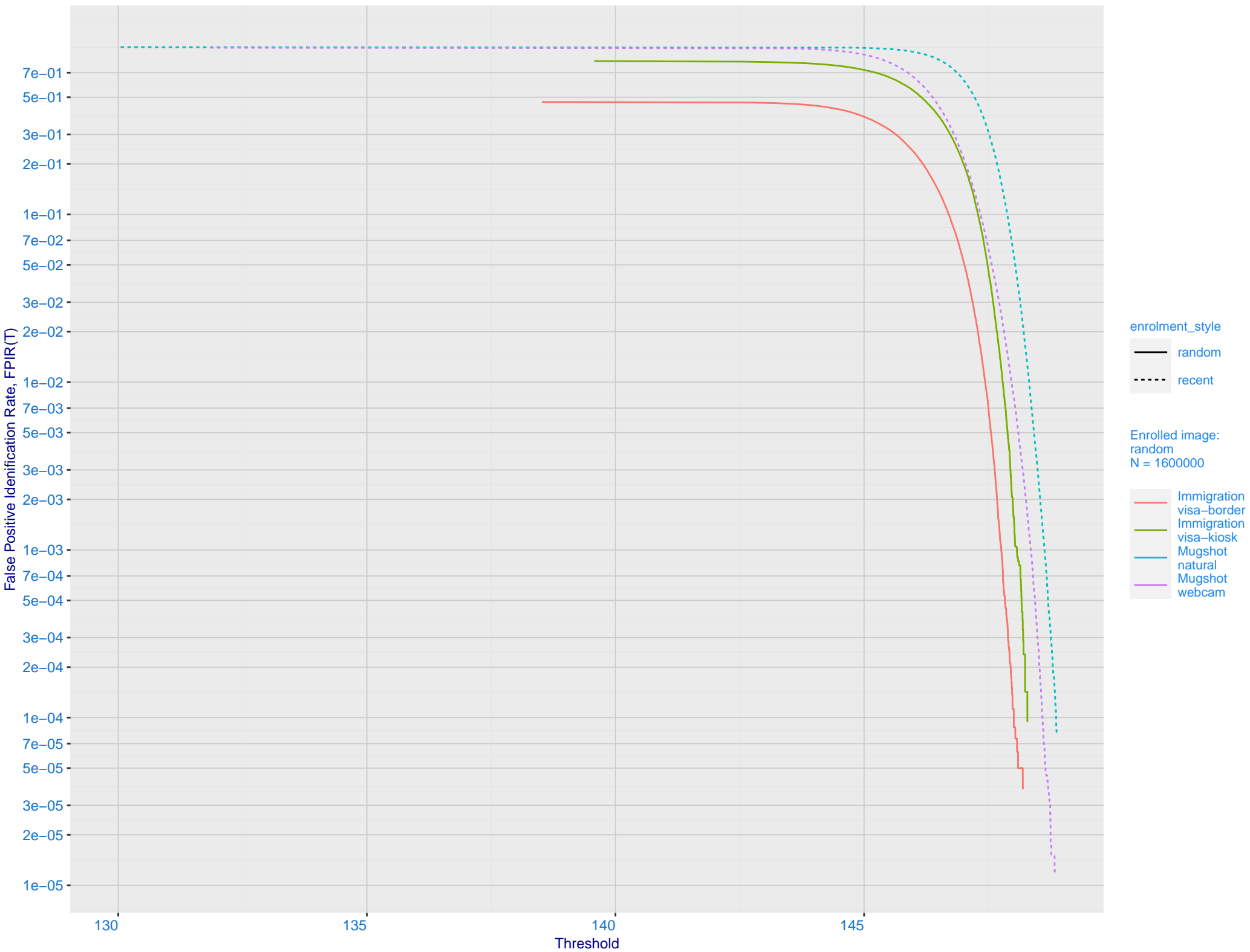D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

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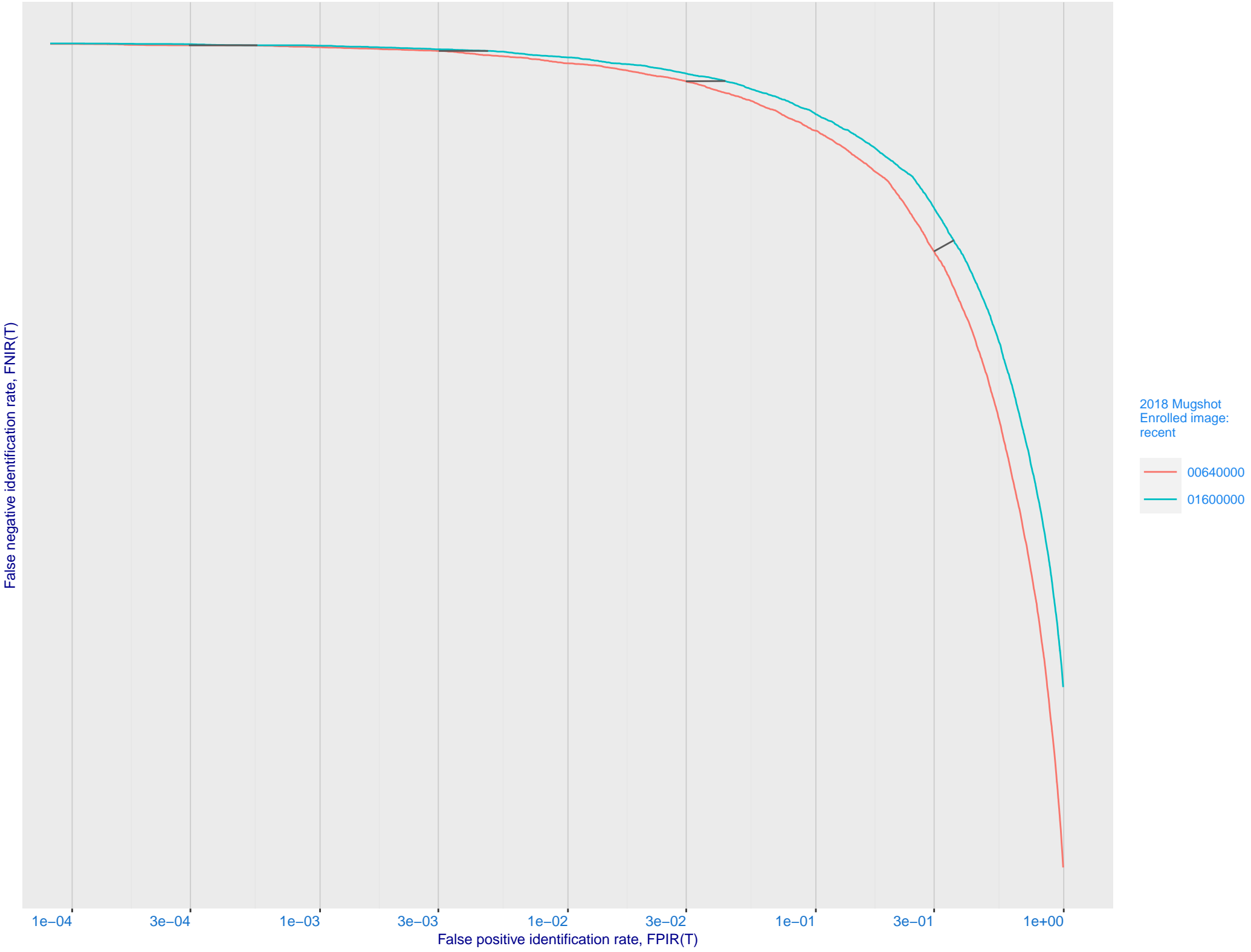
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
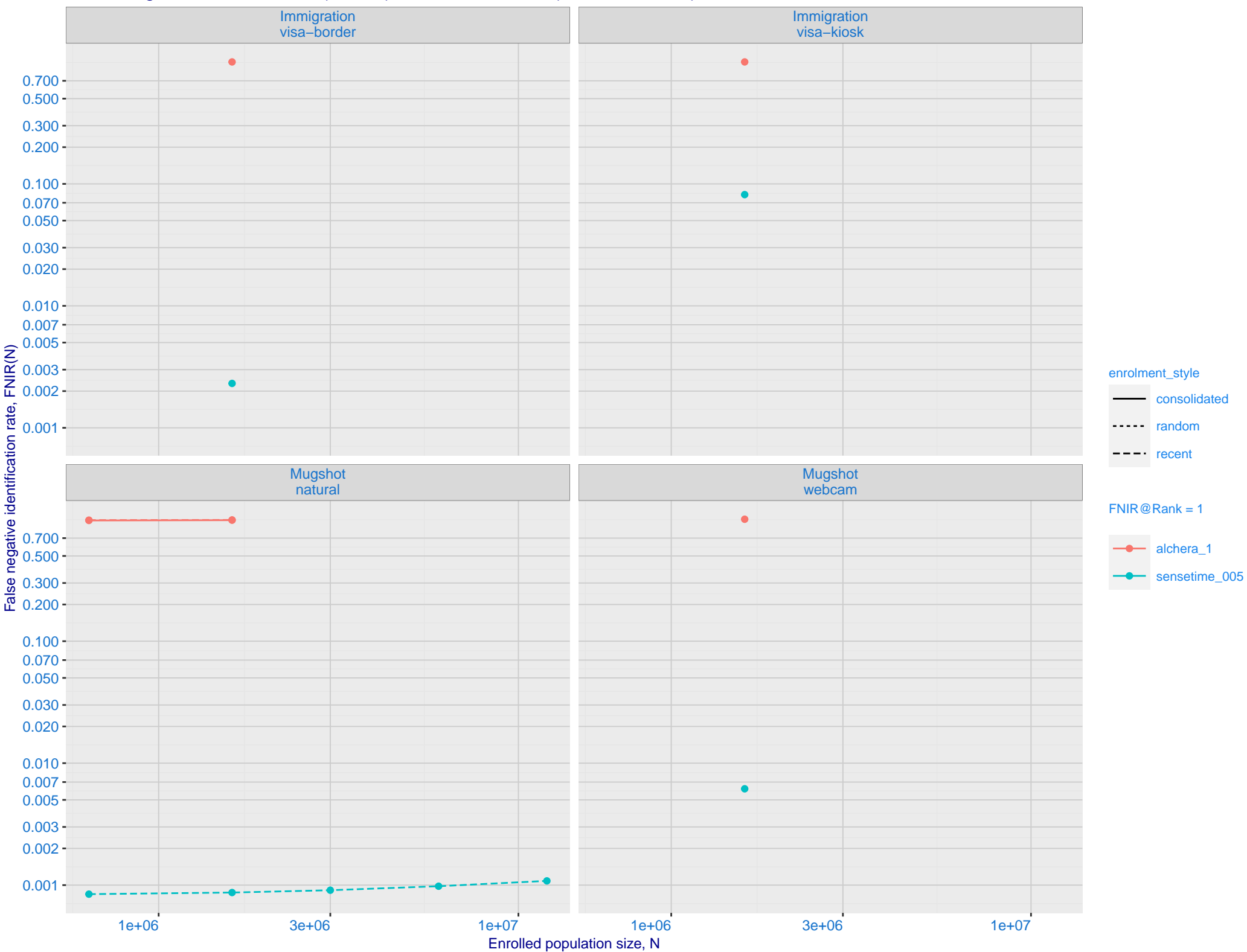
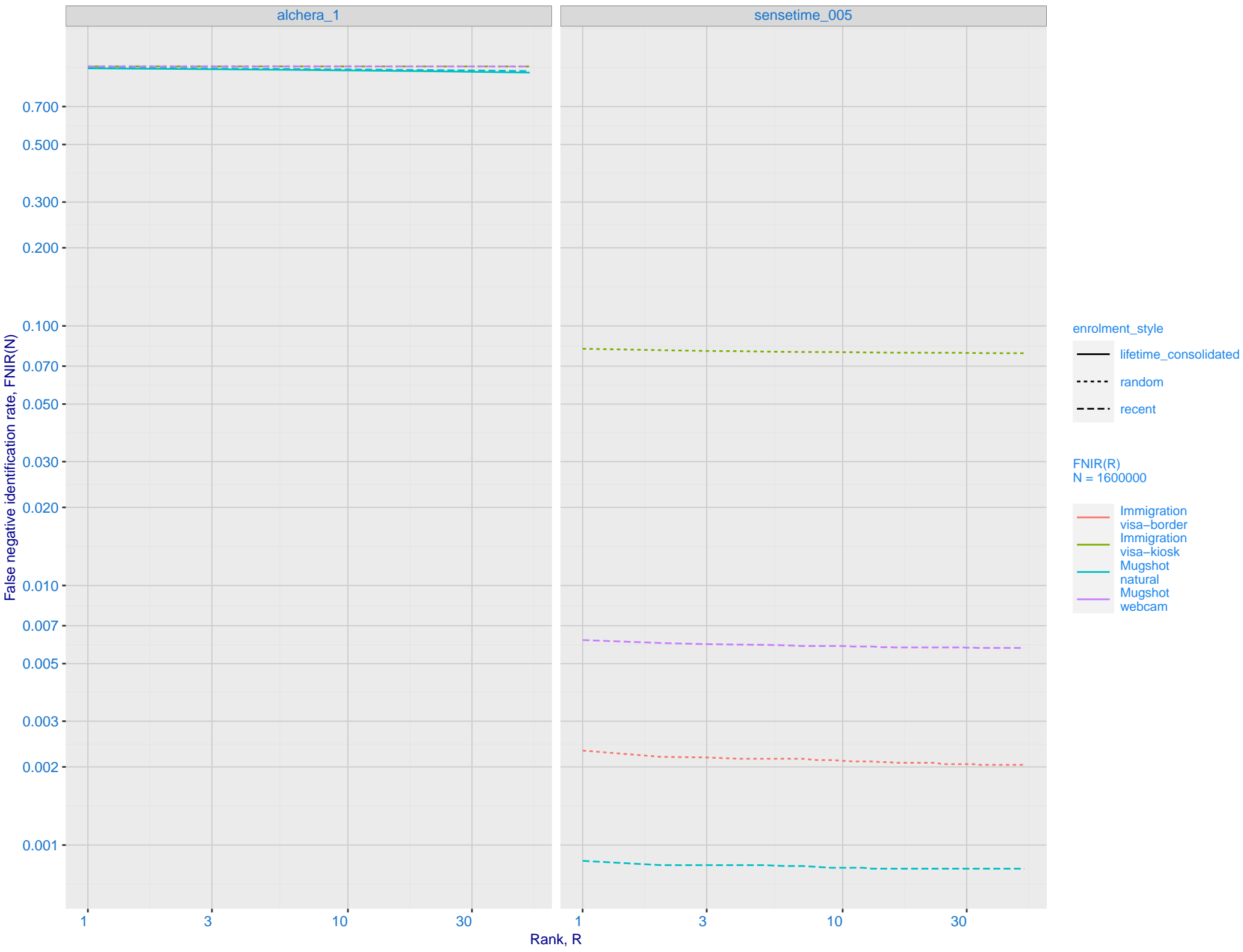G: FPIR dependence on T by probe type for N = 1600000 subjects

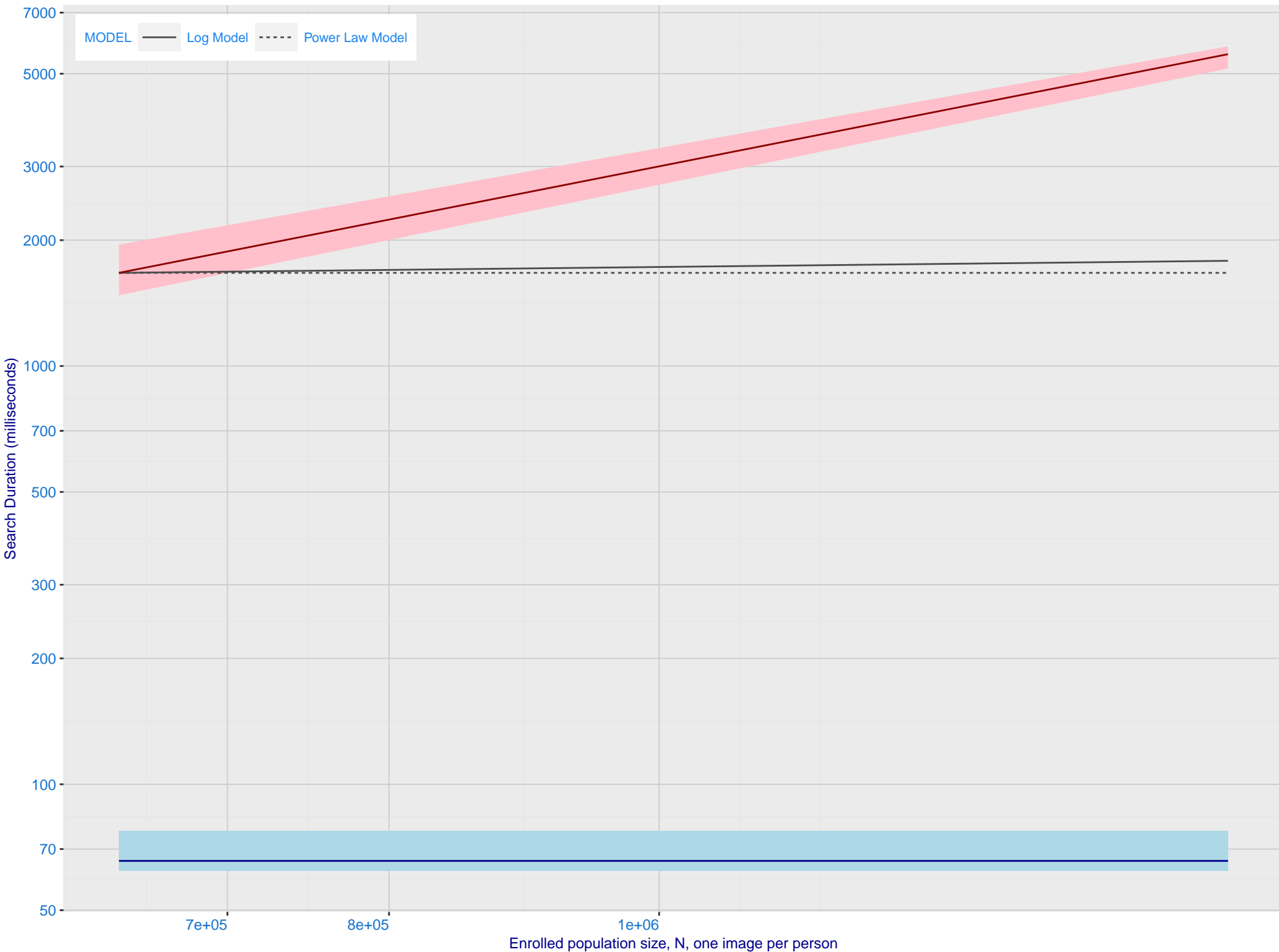J: DET for Mugshot natural images and various N. Links connect points of equal threshold.

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

Legend: (00,02] (02,04] (04,06] (06,08] (08,10] (10,12] (12,14] (14,18]

FPIR

Rank

cloudwalk_hr_000

False negative identification rate (FNIR)

False positive identification rate, FPIR   or   Rank, R