A: Datasheet

Algorithm: dermalog_3

Developer: Dermalog

Submission Date: 2018_06_21

Template size: 128 bytes

Template time (2.5 percentile): 193 msec

Template time (median): 208 msec

Template time (97.5 percentile): 249 msec

Investigation:

Frontal mugshot ranking 235 (out of 279) —– FNIR(1600000, 0, 1) = 0.1259 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 207 (out of 241) —– FNIR(1600000, 0, 1) = 0.2174 vs. lowest 0.0062 from sensetime_005

Immigration visa–border ranking 139 (out of 168) —– FNIR(1600000, 0, 1) = 0.2957 vs. lowest 0.0013 from visionlabs_010

Immigration visa–kiosk ranking 143 (out of 165) —– FNIR(1600000, 0, 1) = 0.5602 vs. lowest 0.0568 from cloudwalk_hr_000
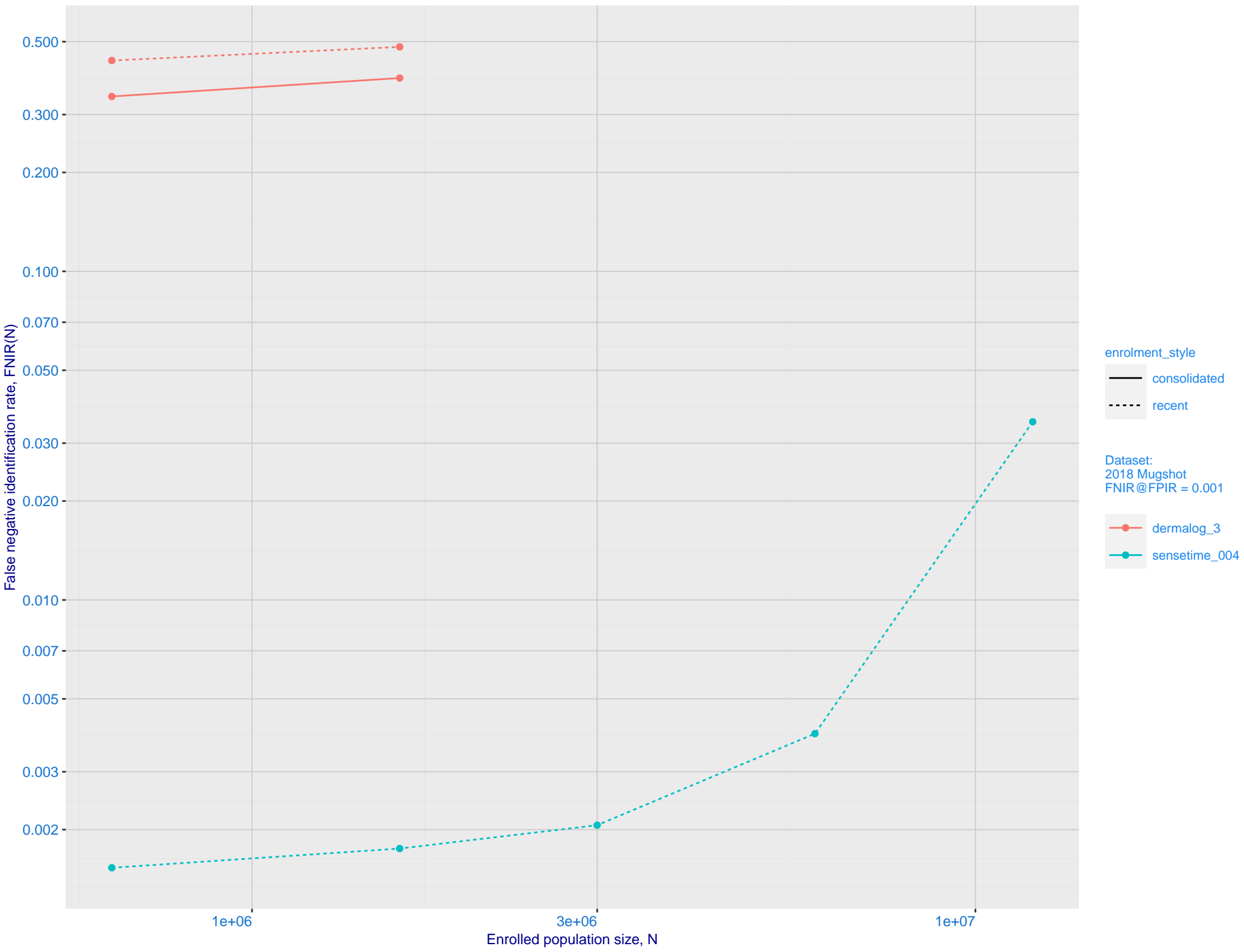
Identification:

Frontal mugshot ranking 229 (out of 279) —– FNIR(1600000, T, L+1) = 0.4819, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 204 (out of 236) —– FNIR(1600000, T, L+1) = 0.6547, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003
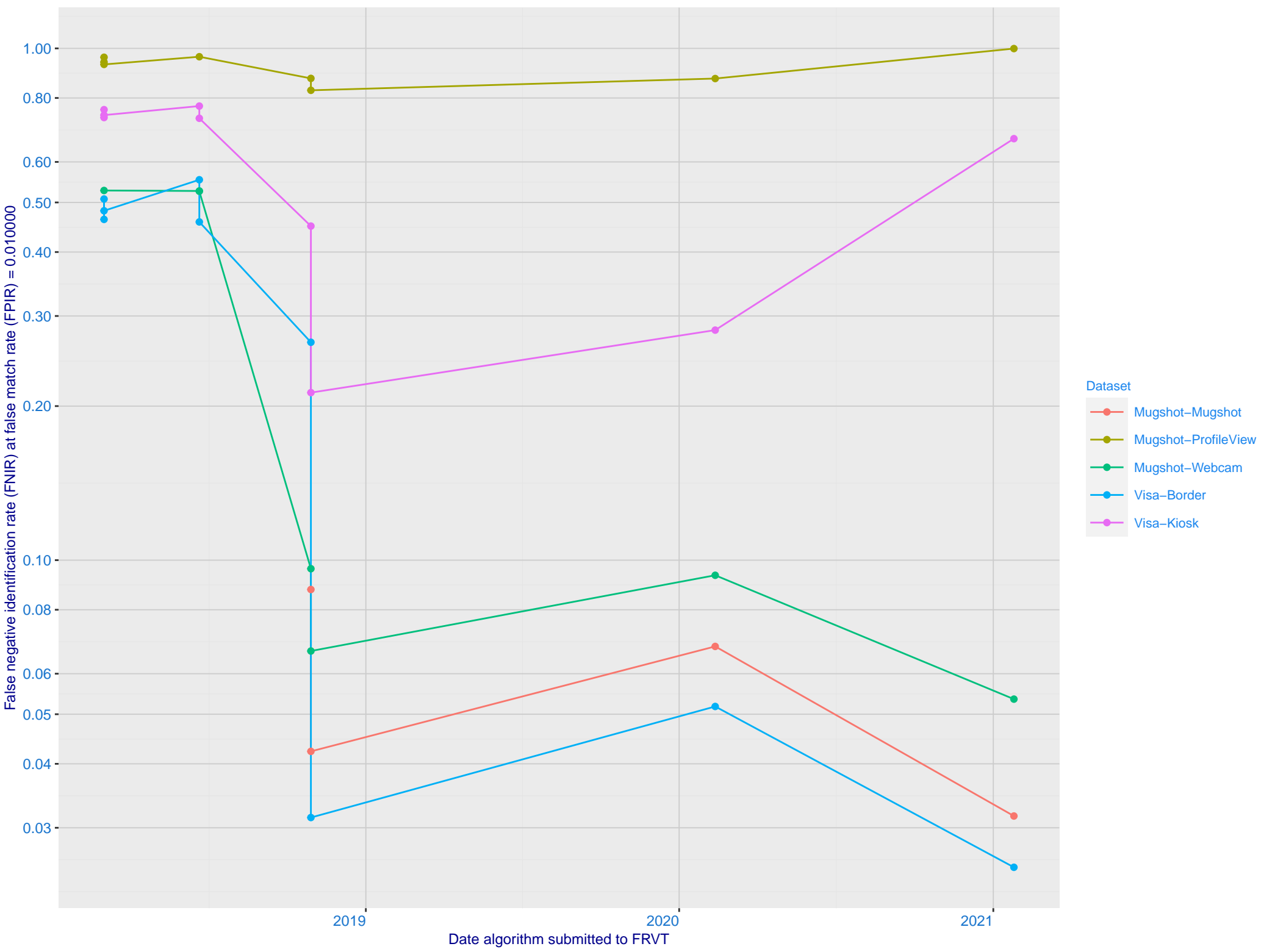
Immigration visa–border ranking 133 (out of 167) —– FNIR(1600000, T, L+1) = 0.6772, FPIR=0.001000 vs. lowest 0.0047 from idemia_008

Immigration visa–kiosk ranking 109 (out of 162) —– FNIR(1600000, T, L+1) = 0.8700, FPIR=0.001000 vs. lowest 0.0996 from cloudwalk_hr_000
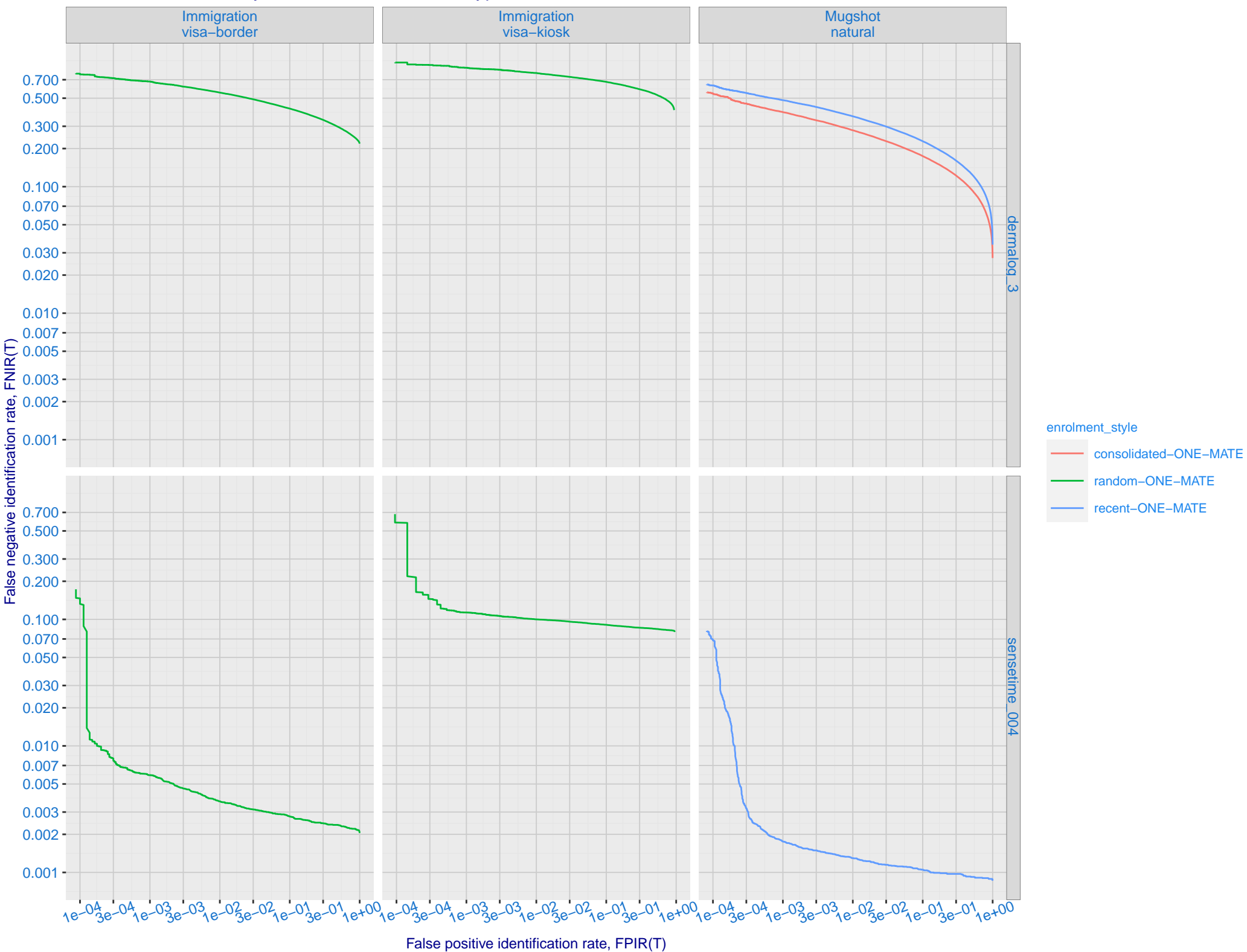
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
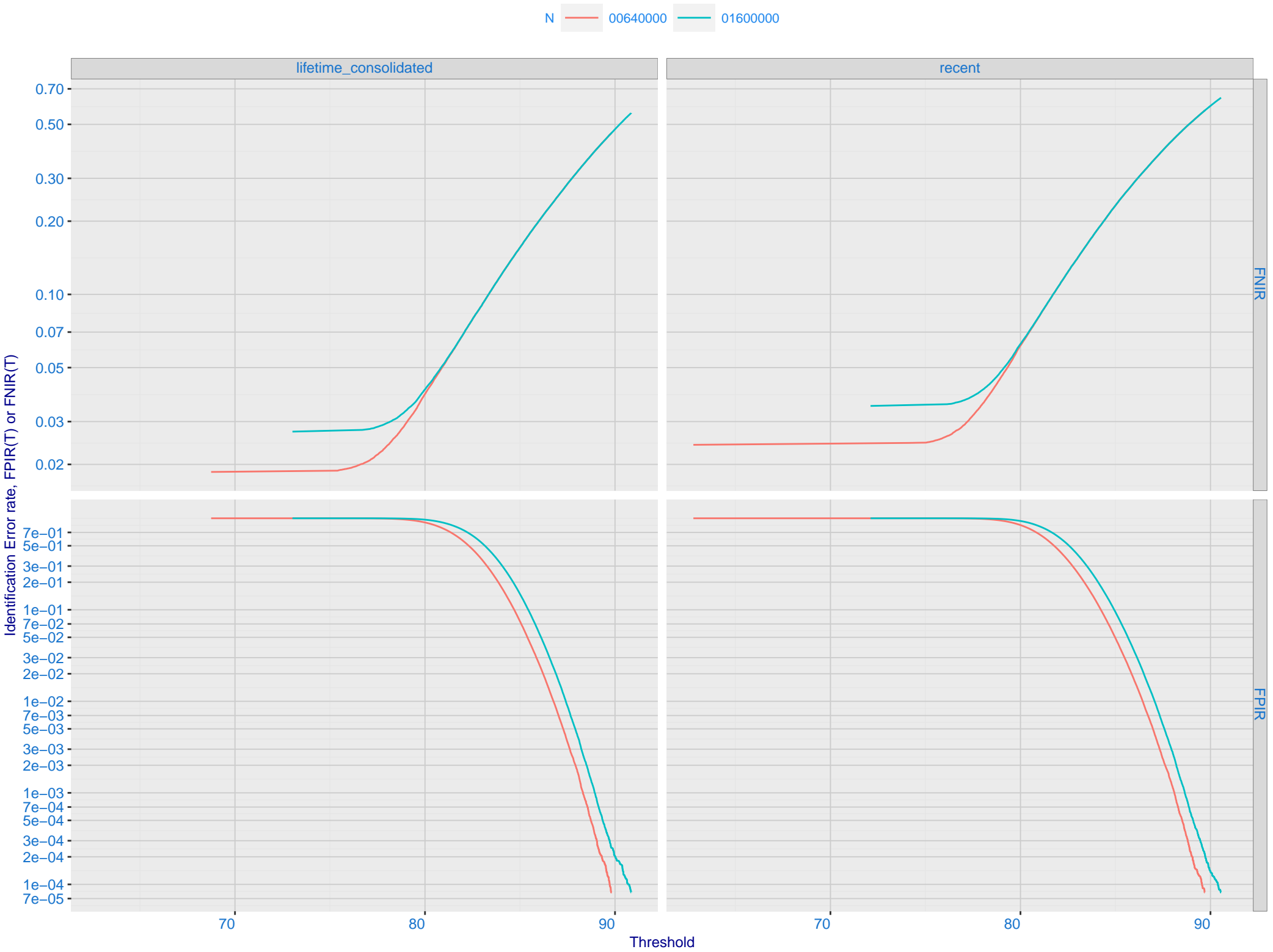
C: Evolution of accuracy for DERMALOG algorithms on three datasets 2018 – present

Dataset
- Mugshot–Mugshot
- Mugshot–ProfileView
- Mugshot–Webcam
- Visa–Border
- Visa–Kiosk

x-axis: Date algorithm submitted to FRVT

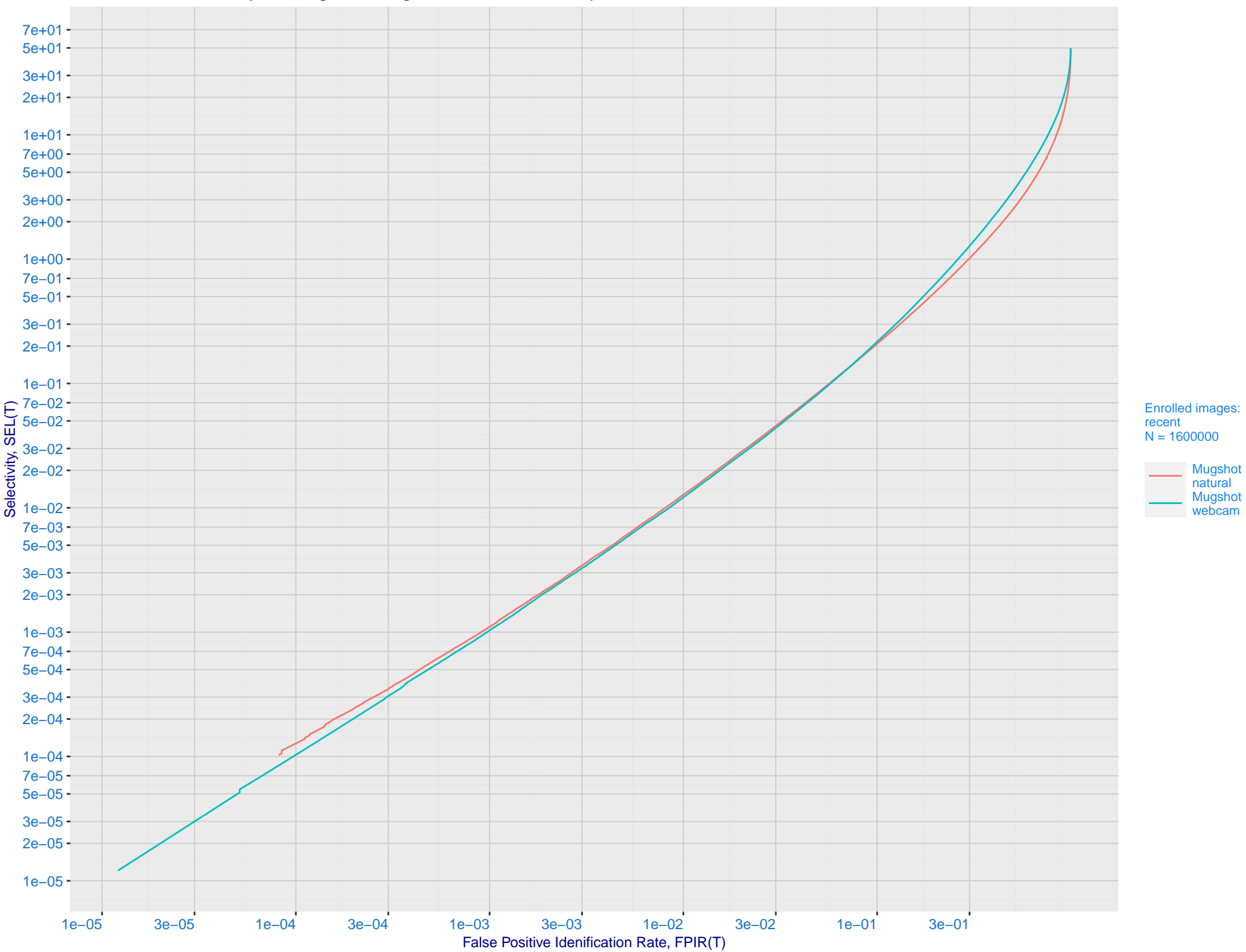*y-axis: False negative identification rate (FNIR) at false match rate (FPIR) = 0.010000*

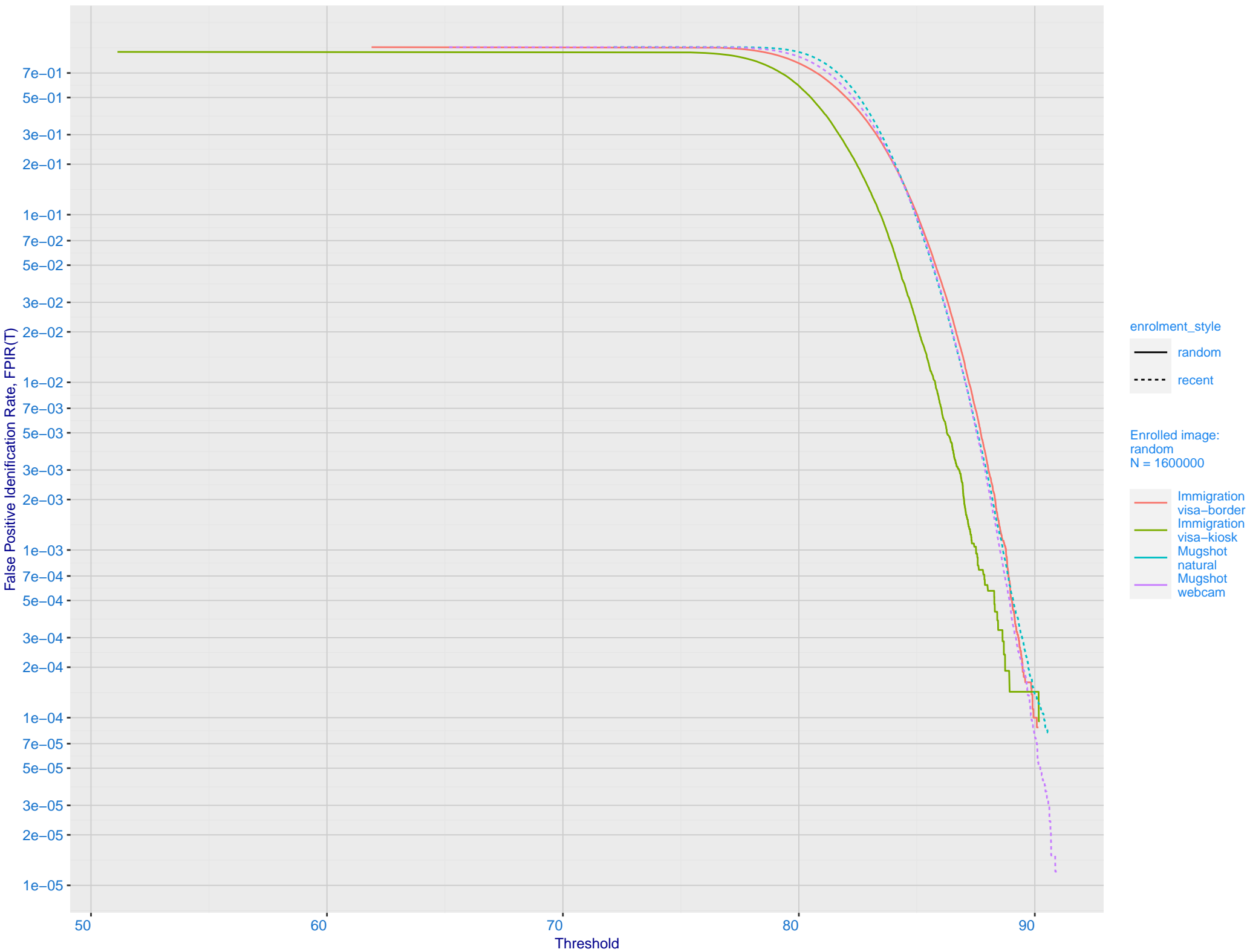D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

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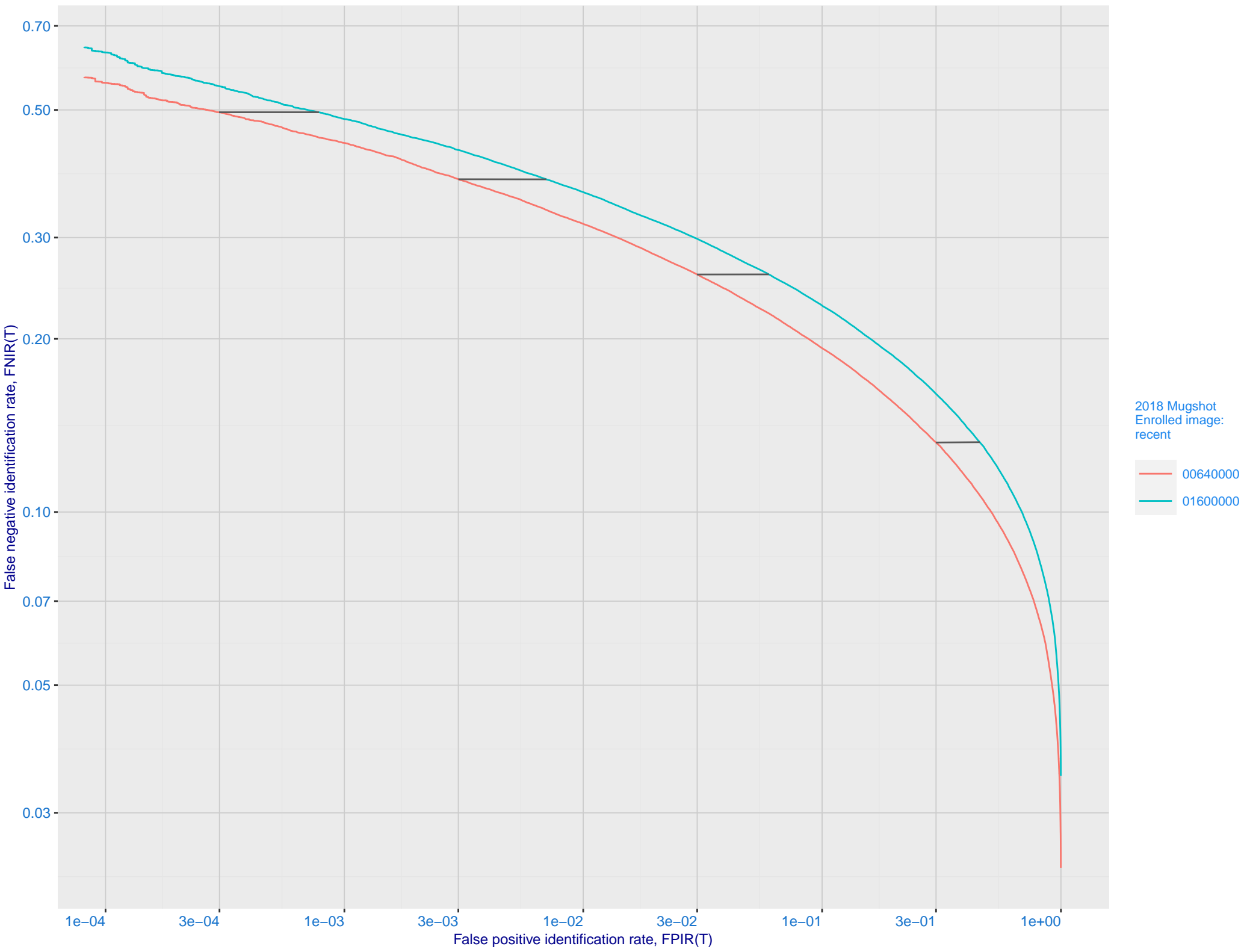
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
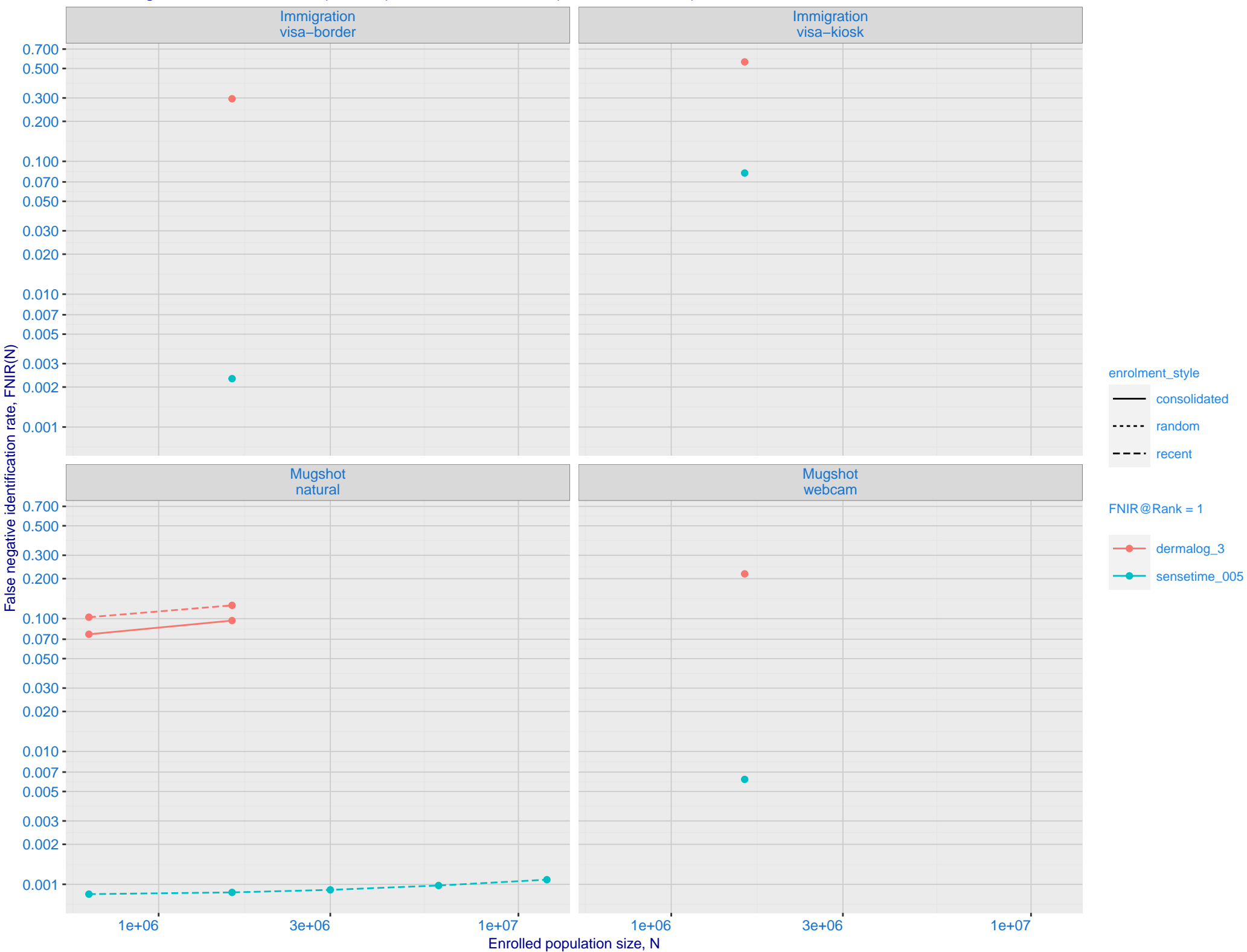
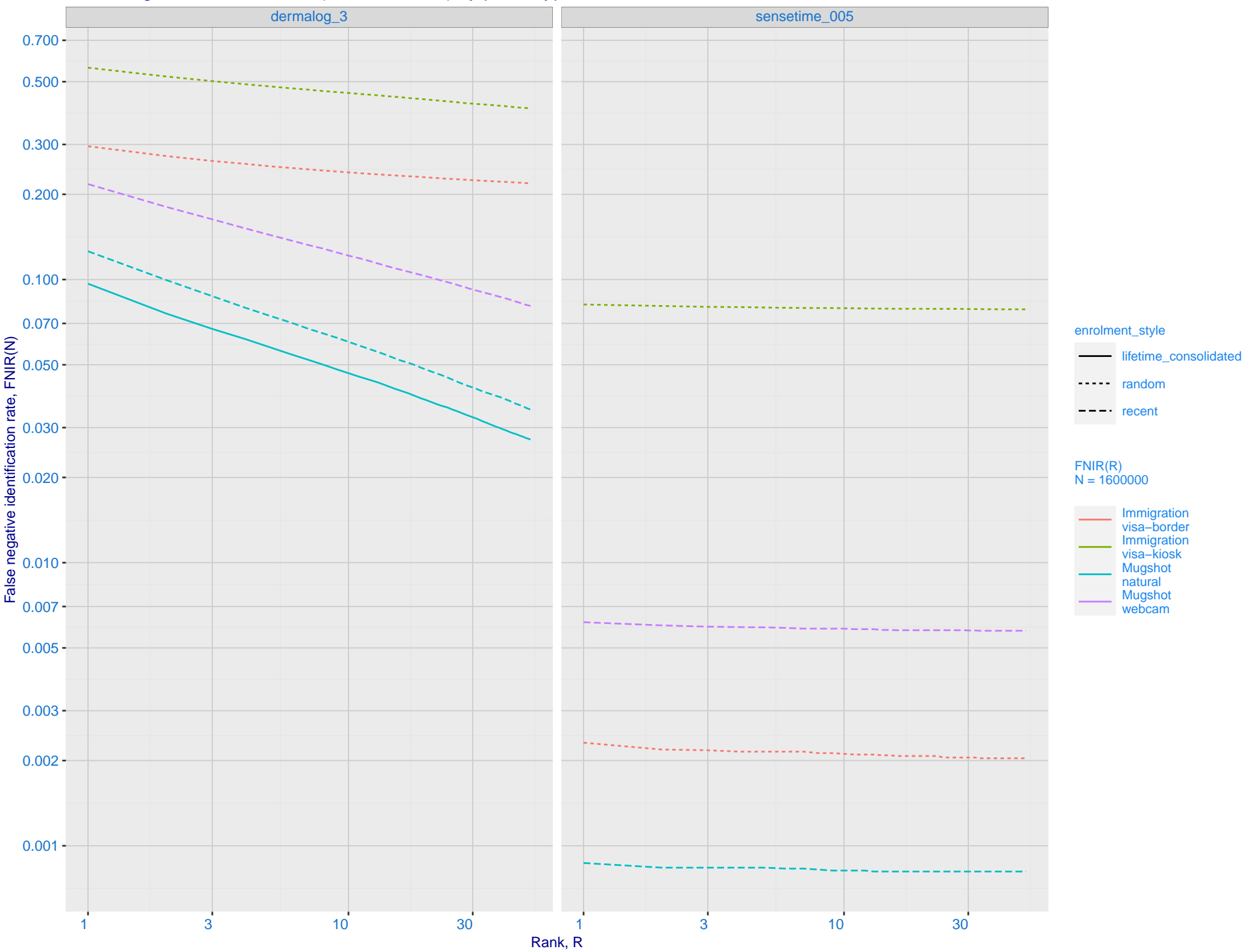G: FPIR dependence on T by probe type for N = 1600000 subjects

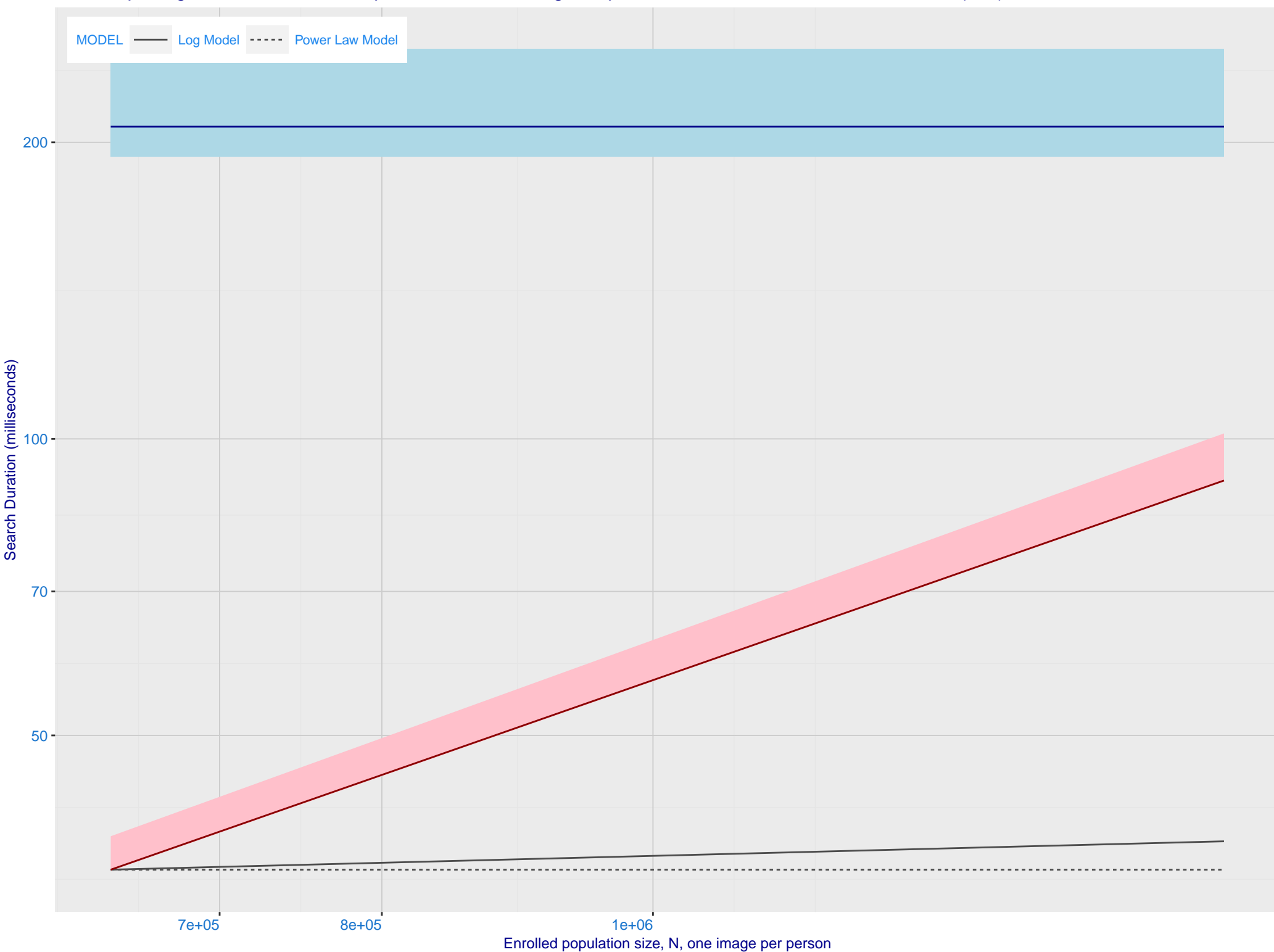J: DET for Mugshot natural images and various N. Links connect points of equal threshold.

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

MODEL — Log Model ----- Power Law Model

Search Duration (milliseconds)

Enrolled population size, N, one image per person

Q: Identification FNIR(N, T, L+1) and Investigational FNIR(N, 0, R) under ageing