A: Datasheet

Algorithm: idemia_6

Developer: Idemia

Submission Date: 2018_10_29

Template size: 352 bytes

Template time (2.5 percentile): 359 msec

Template time (median): 370 msec

Template time (97.5 percentile): 402 msec

Investigation:

Frontal mugshot ranking 138 (out of 279) –– FNIR(1600000, 0, 1) = 0.0096 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 178 (out of 241) –– FNIR(1600000, 0, 1) = 0.0723 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 180 (out of 210) –– FNIR(1600000, 0, 1) = 0.9692 vs. lowest 0.0587 from xforwardai_002

Immigration visa–border ranking 96 (out of 168) –– FNIR(1600000, 0, 1) = 0.0304 vs. lowest 0.0013 from visionlabs_010

Immigration visa–kiosk ranking 106 (out of 165) –– FNIR(1600000, 0, 1) = 0.2526 vs. lowest 0.0568 from cloudwalk_hr_000

Identification:

Frontal mugshot ranking 76 (out of 279) –– FNIR(1600000, T, L+1) = 0.0432, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
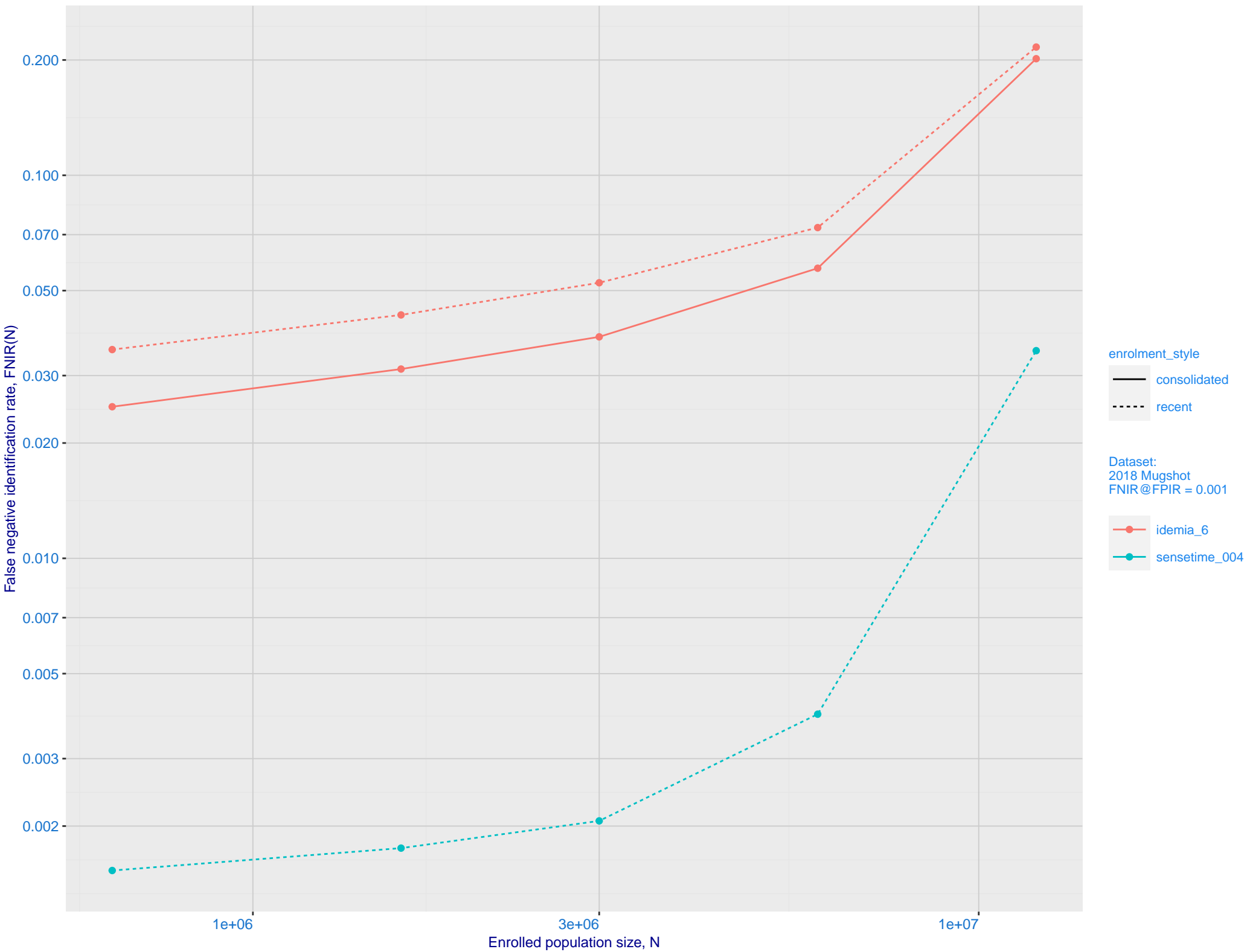
Mugshot webcam ranking 145 (out of 236) –– FNIR(1600000, T, L+1) = 0.2249, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 68 (out of 209) –– FNIR(1600000, T, L+1) = 0.9823, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000
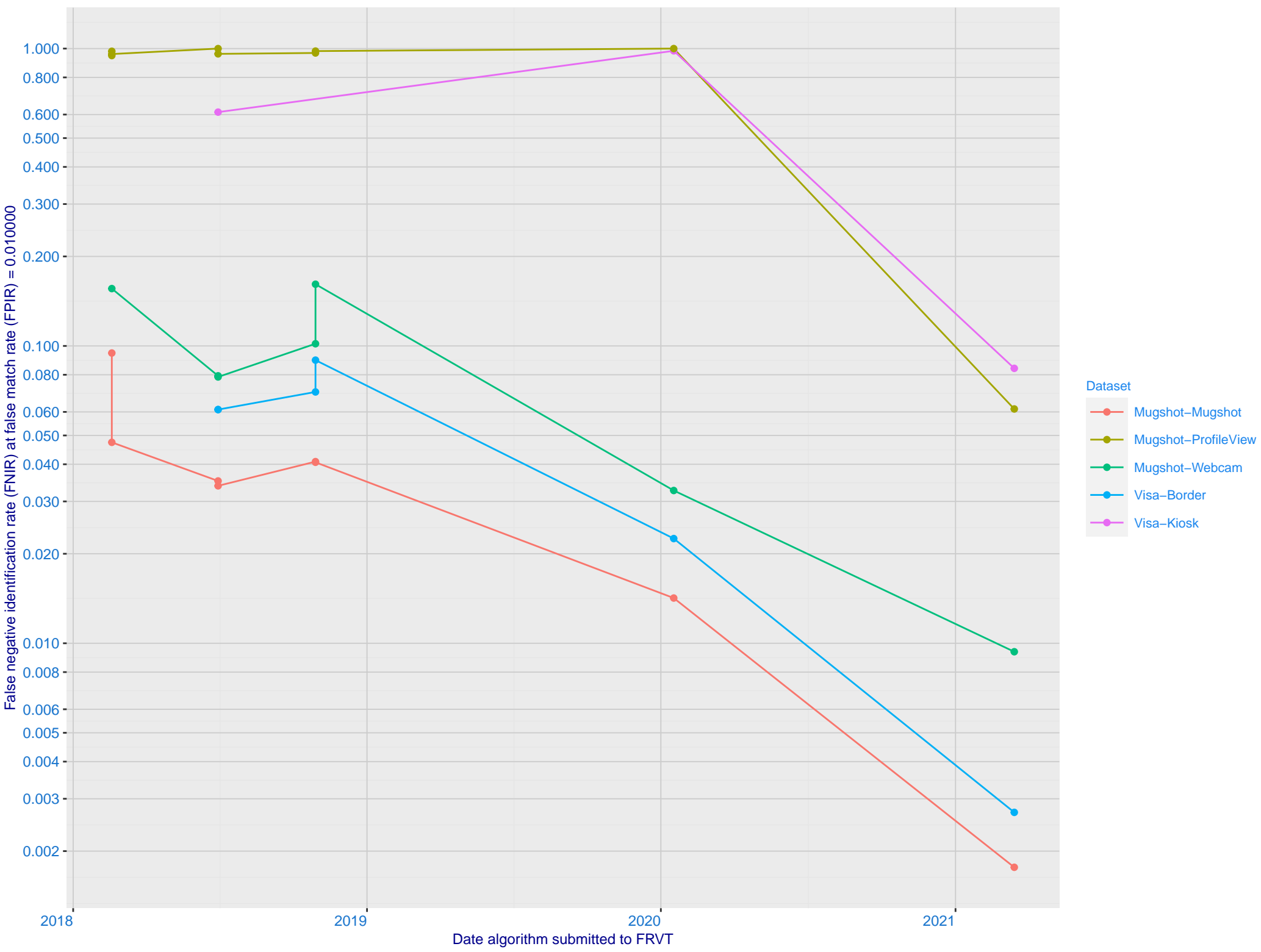
Immigration visa–border ranking 92 (out of 167) –– FNIR(1600000, T, L+1) = 0.1439, FPIR=0.001000 vs. lowest 0.0047 from idemia_008

Immigration visa–kiosk ranking 91 (out of 162) –– FNIR(1600000, T, L+1) = 0.7396, FPIR=0.001000 vs. lowest 0.0996 from cloudwalk_hr_000
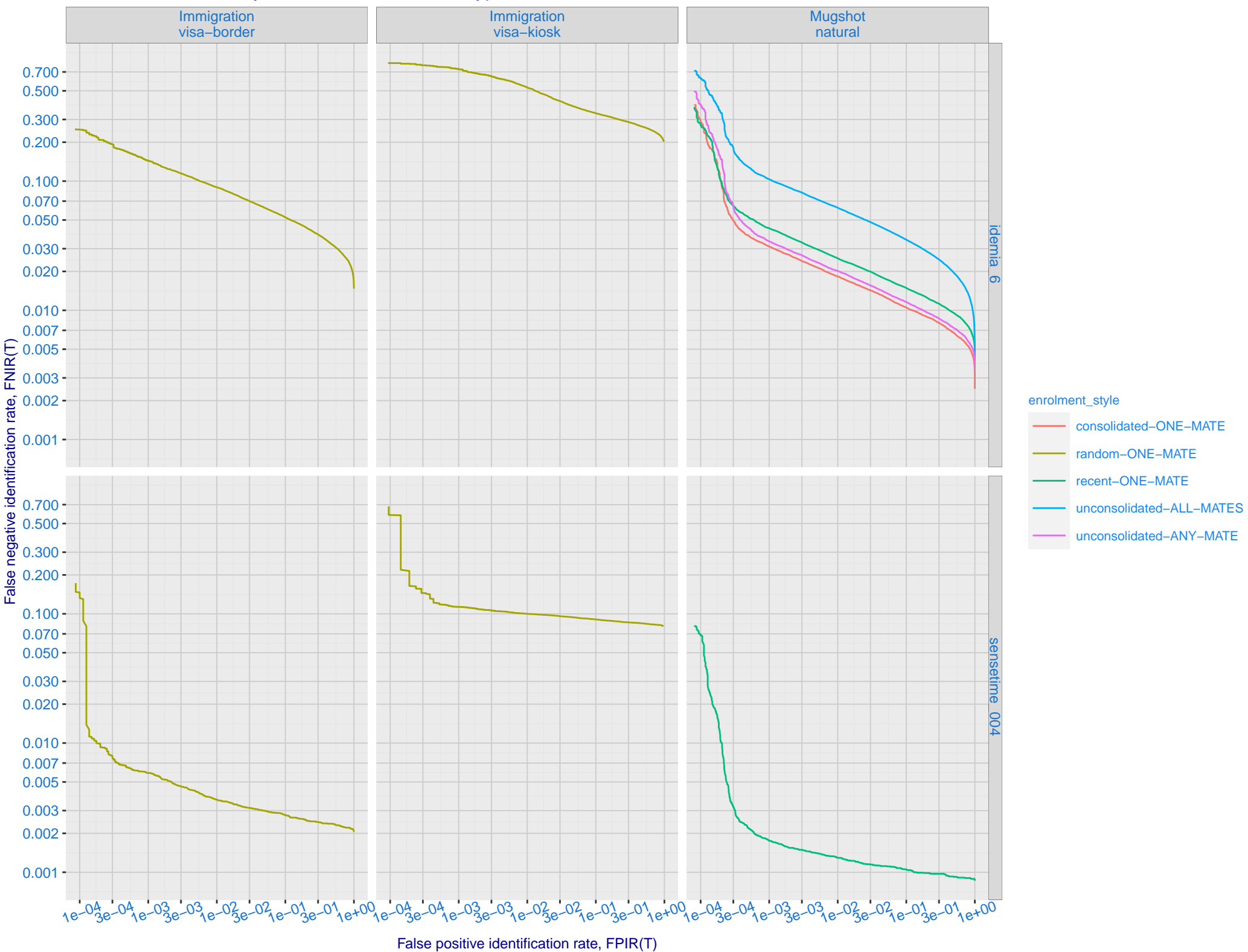
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
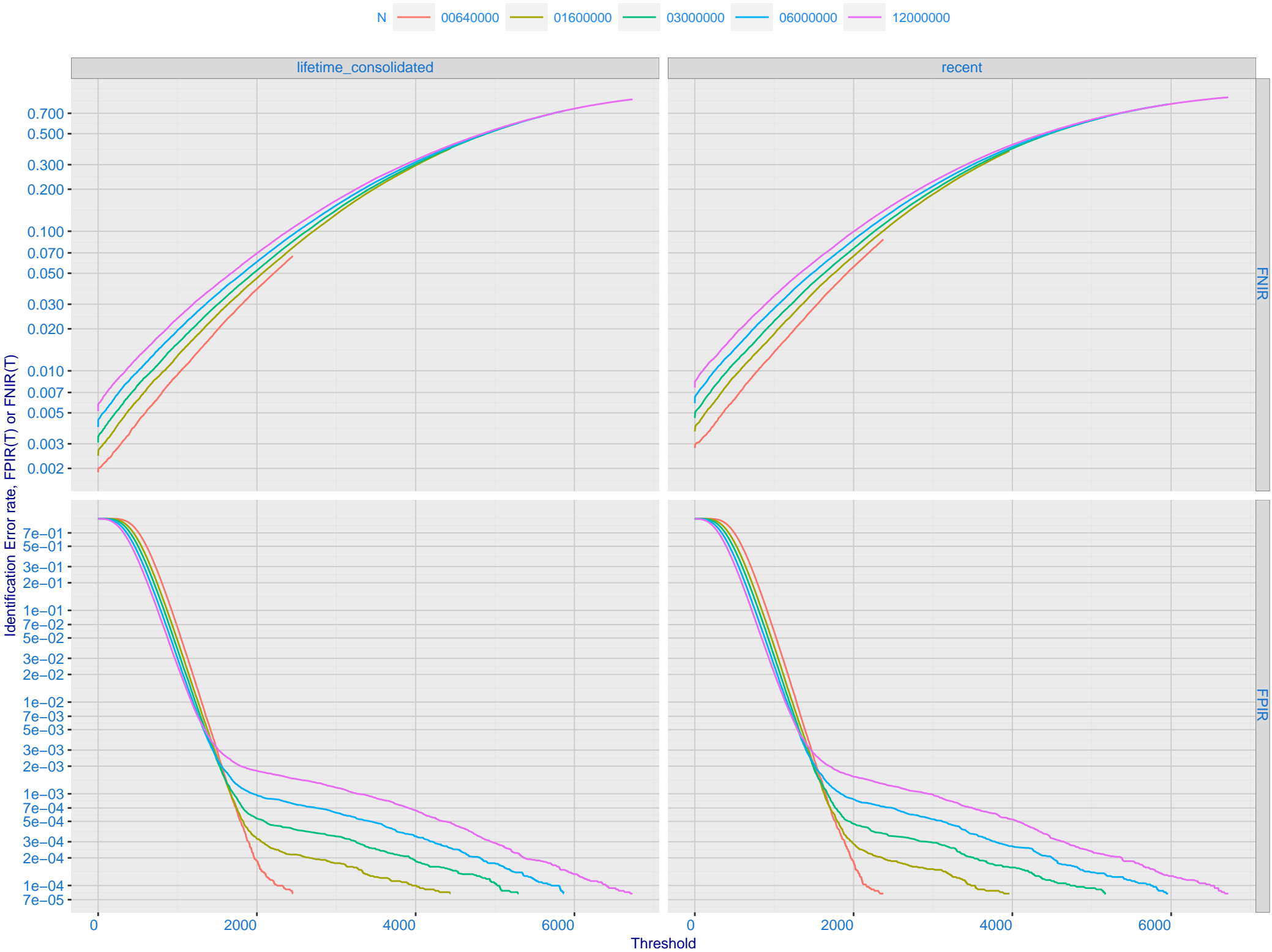
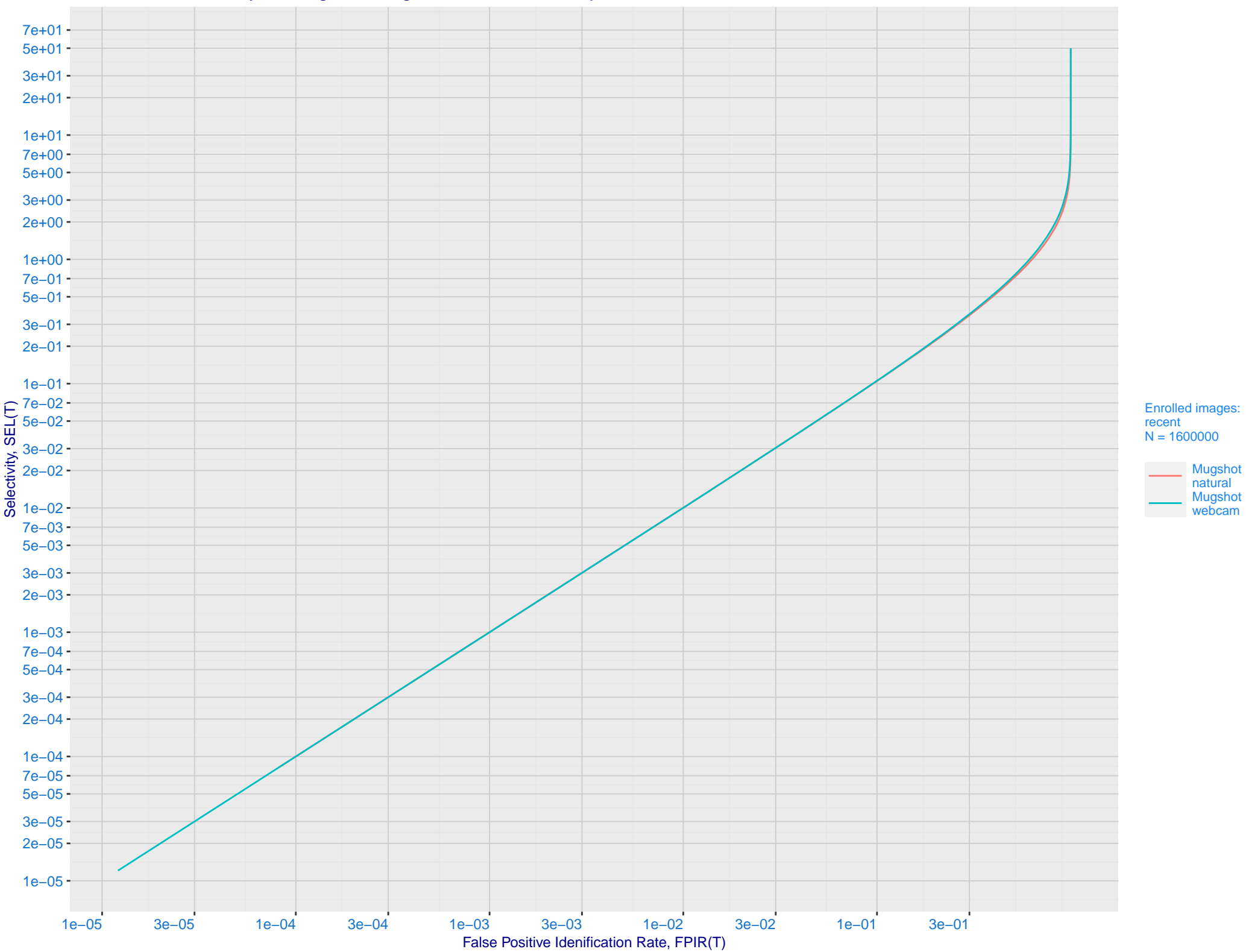C: Evolution of accuracy for IDEMIA algorithms on three datasets 2018 – present

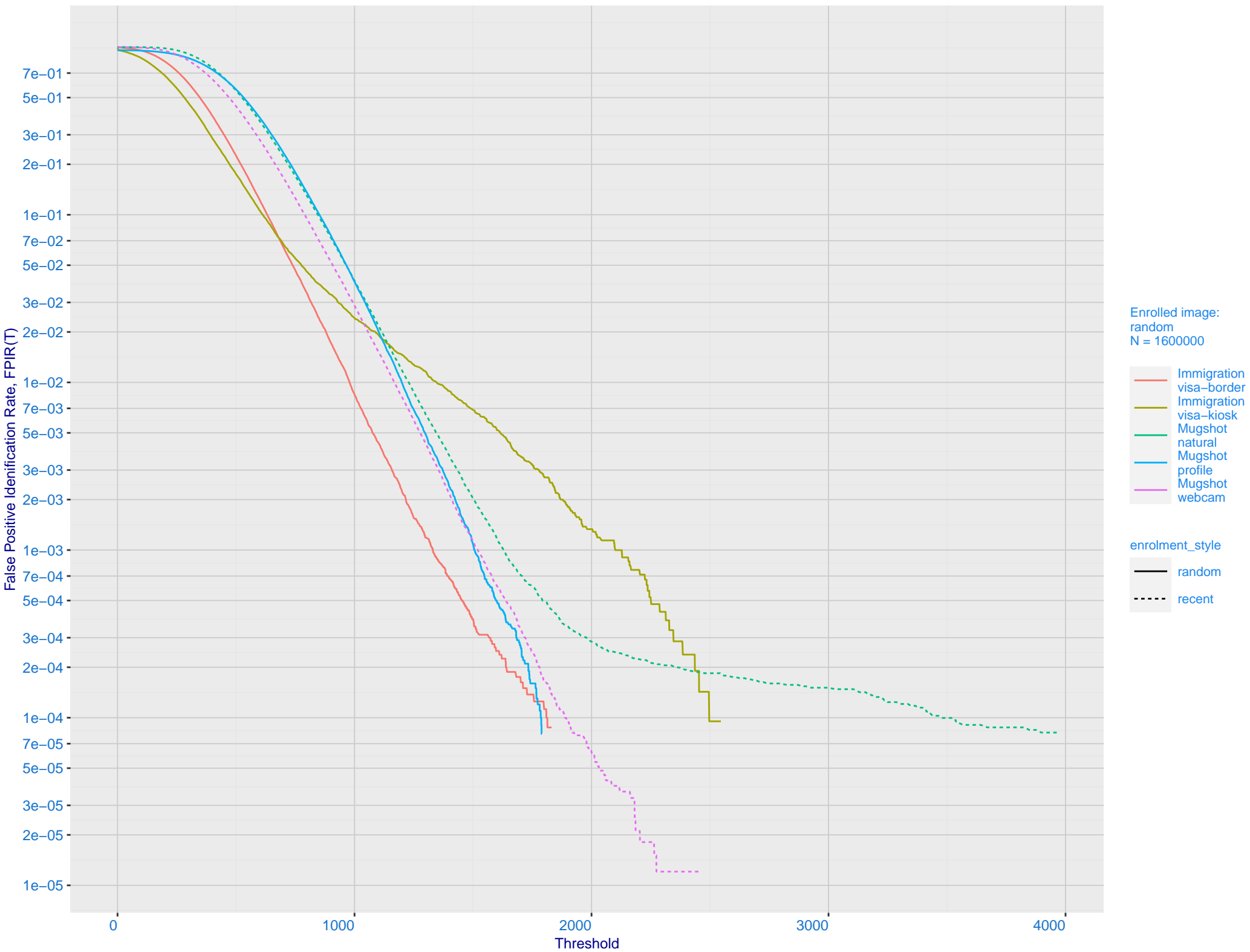D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

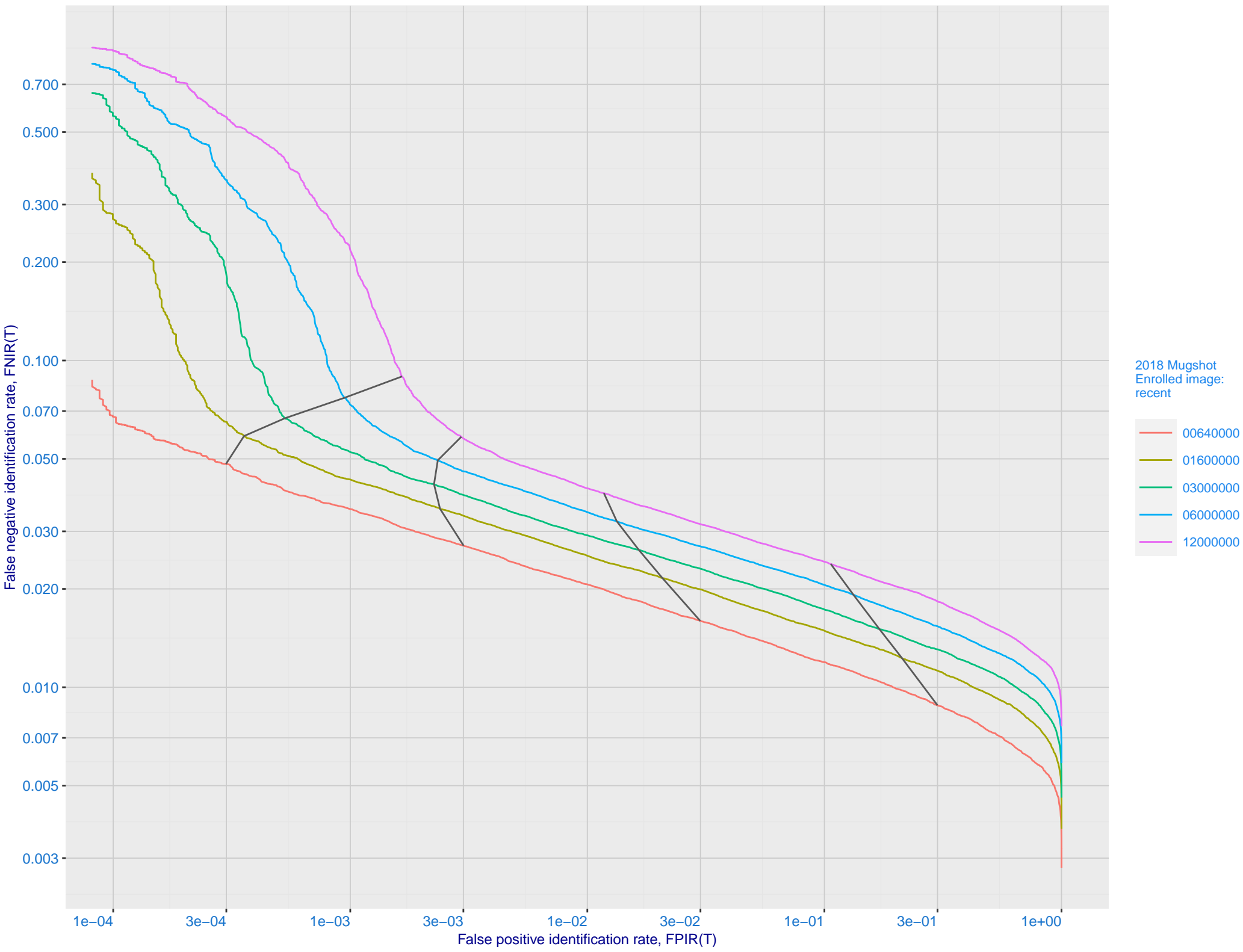E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

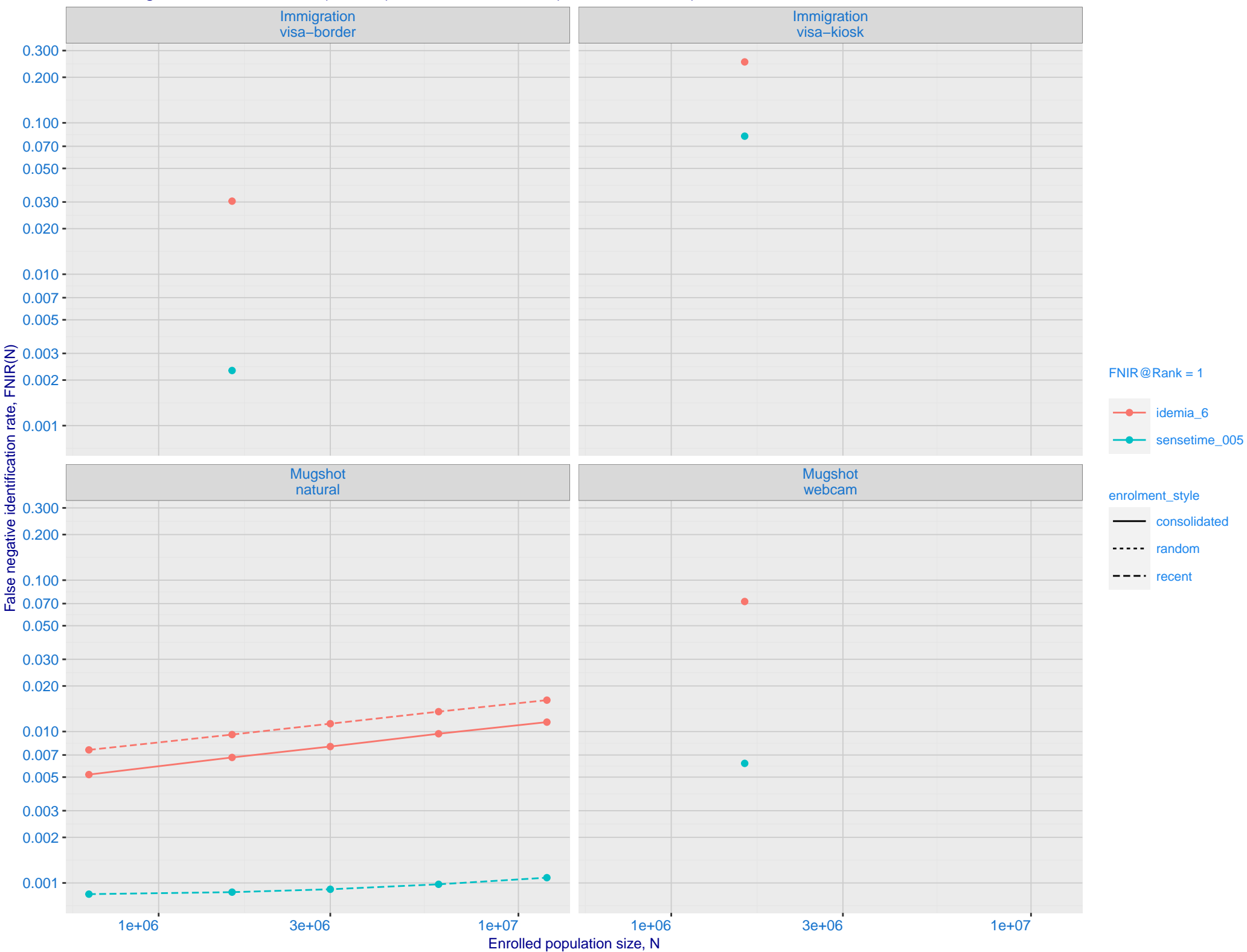F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate

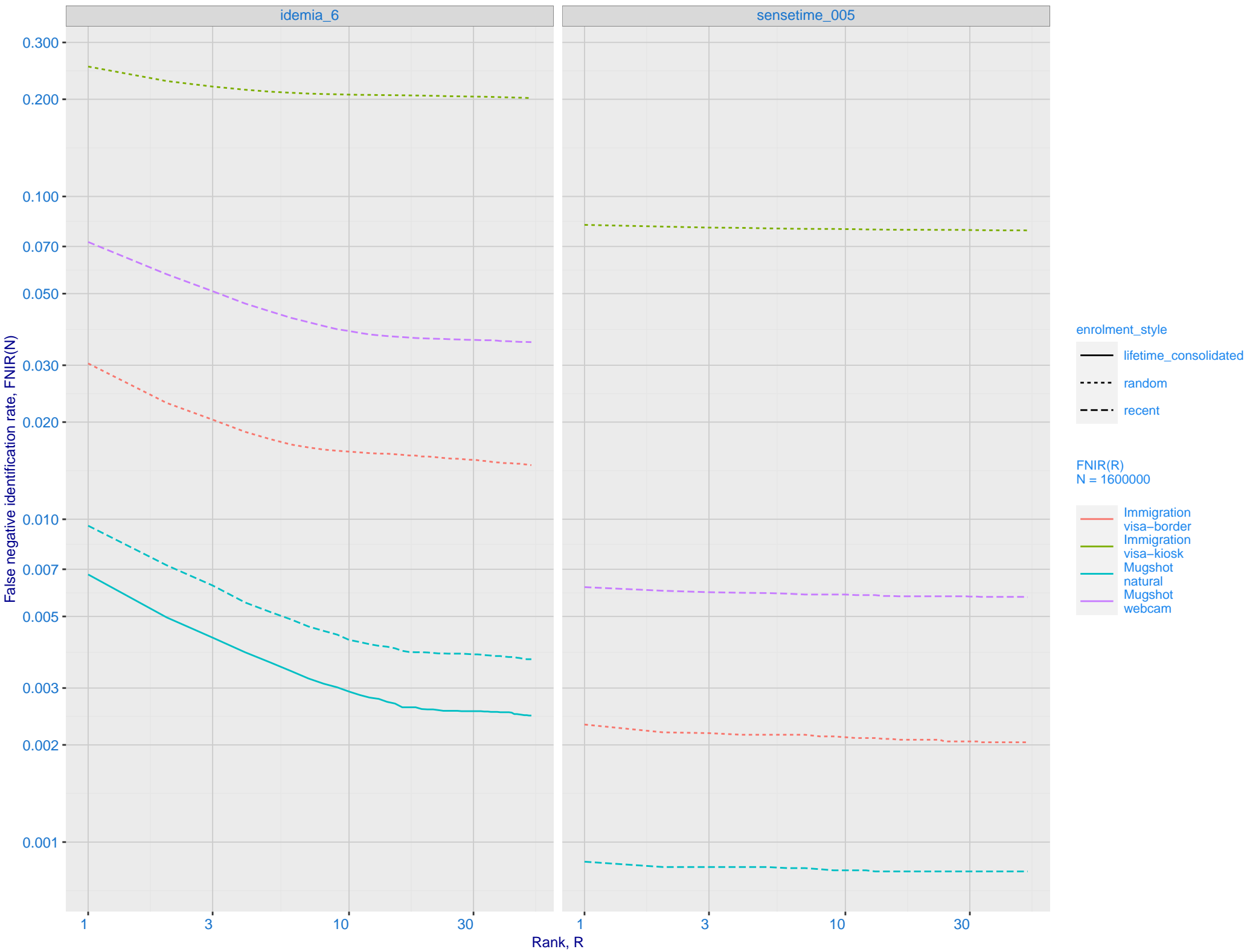G: FPIR dependence on T by probe type for N = 1600000 subjects

J: DET for Mugshot natural images and various N. Links connect points of equal threshold.
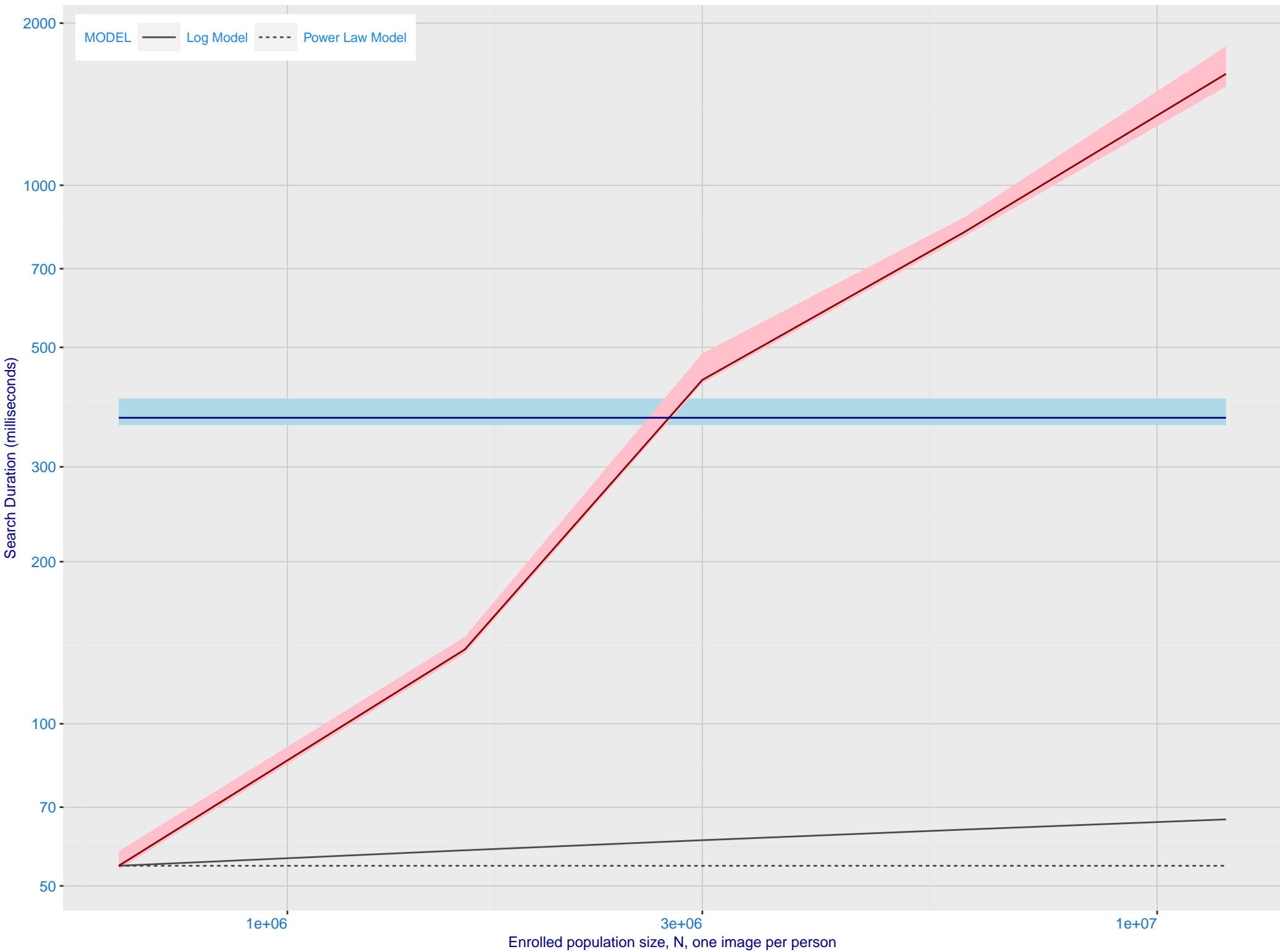
K: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)

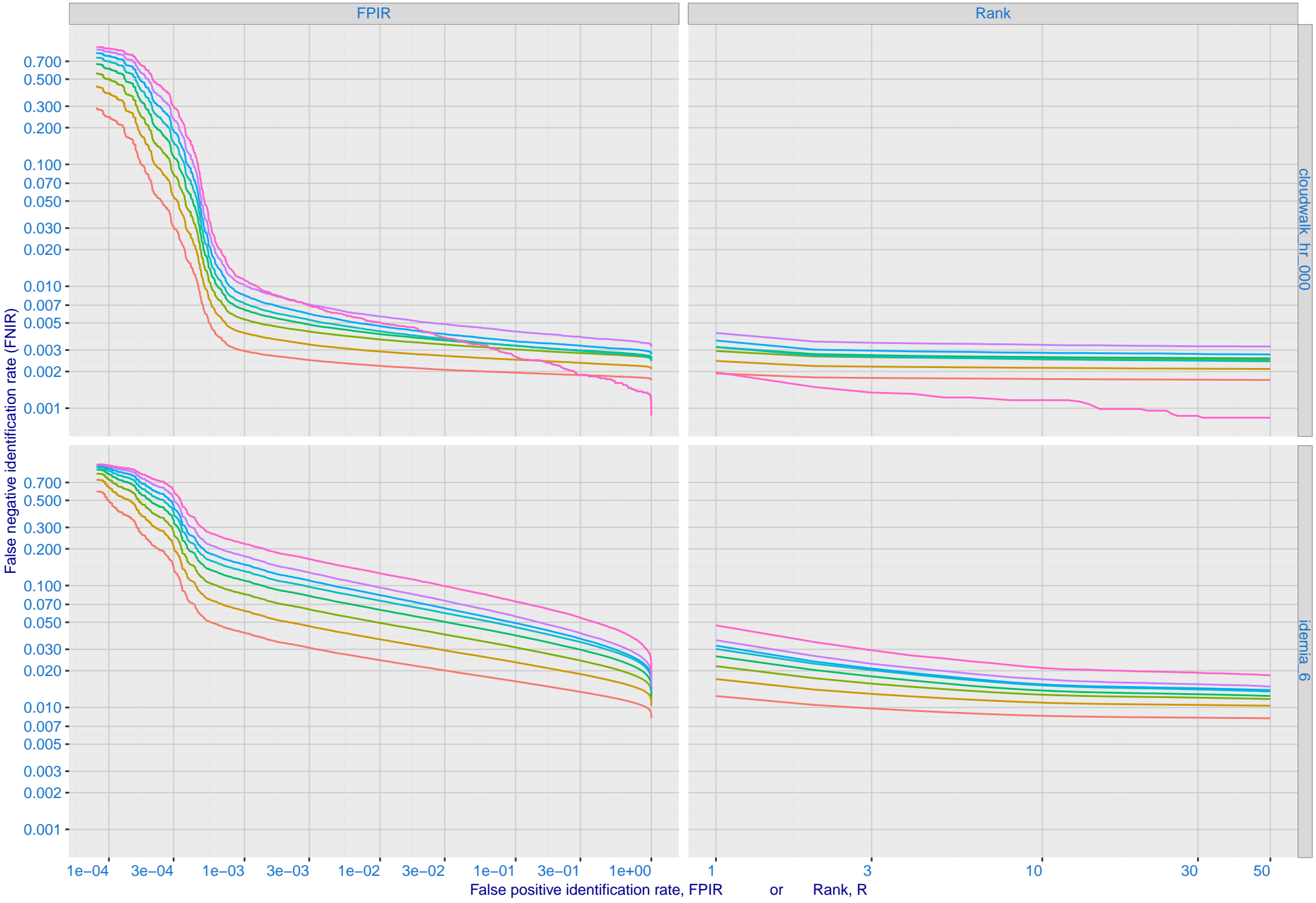L: Investigational mode: FNIR(1600000, R, 0) by probe type

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

R: Decline of genuine scores with ageing, with some eventually dropping below typical thresholds shown by the horizontal lines