

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 258 (out of 259) --- FNIR(1600000, 0, 1) = 0.9869 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 220 (out of 221) --- FNIR(1600000, 0, 1) = 1.0000 vs. lowest 0.0062 from sensetime_005

Immigration visa-border ranking 135 (out of 142) --- FNIR(1600000, 0, 1) = 0.9998 vs. lowest 0.0014 from visionlabs_009

Immigration visa-kiosk ranking 137 (out of 139) --- FNIR(1600000, 0, 1) = 1.0000 vs. lowest 0.0694 from cib_000

Identification:

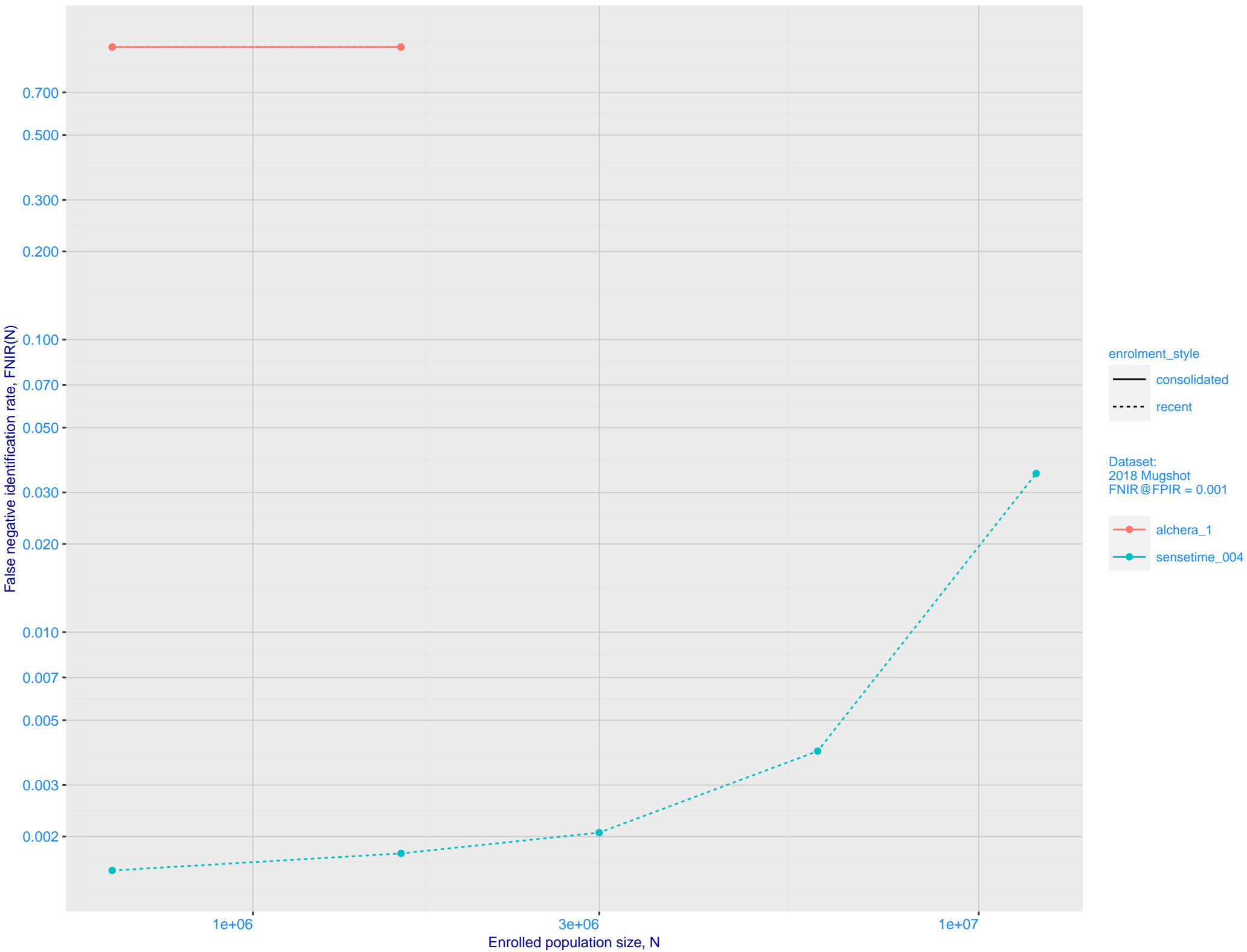
Frontal mugshot ranking 256 (out of 259) --- FNIR(1600000, T, L+1) = 0.9994, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 217 (out of 219) --- FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

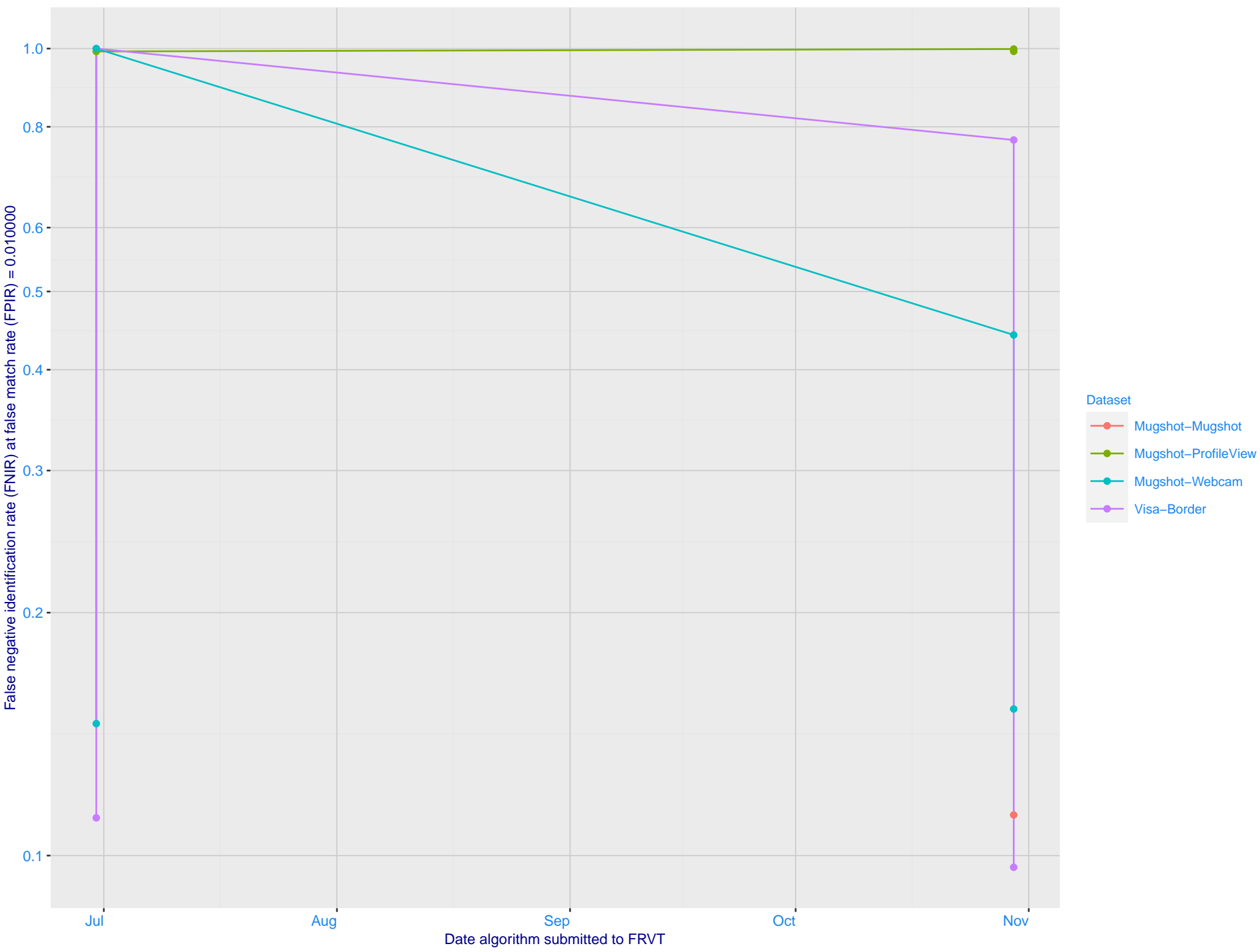
Immigration visa-border ranking 134 (out of 139) --- FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.0059 from sensetime_004

Immigration visa-kiosk ranking 130 (out of 134) --- FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.1048 from sensetime_005

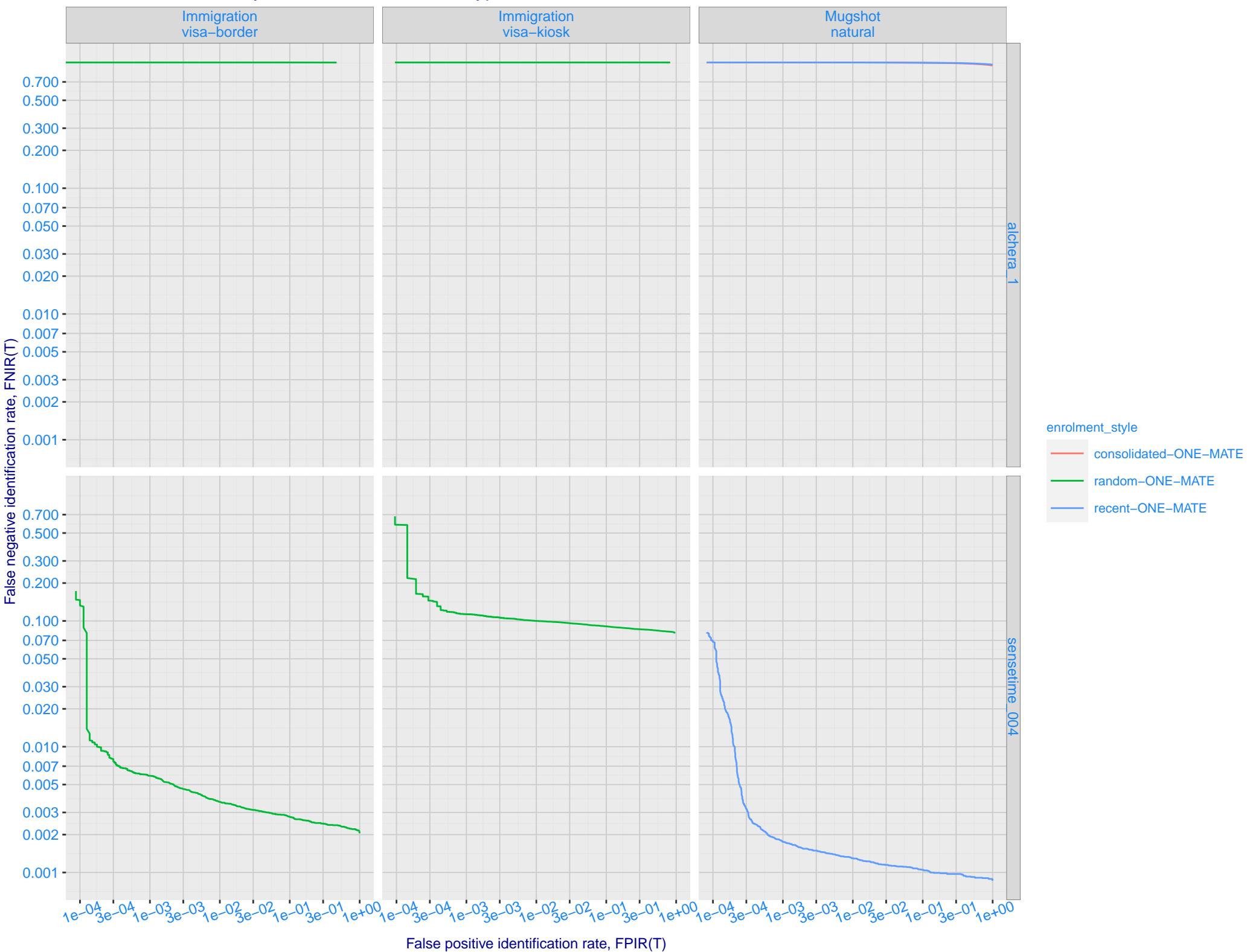
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)



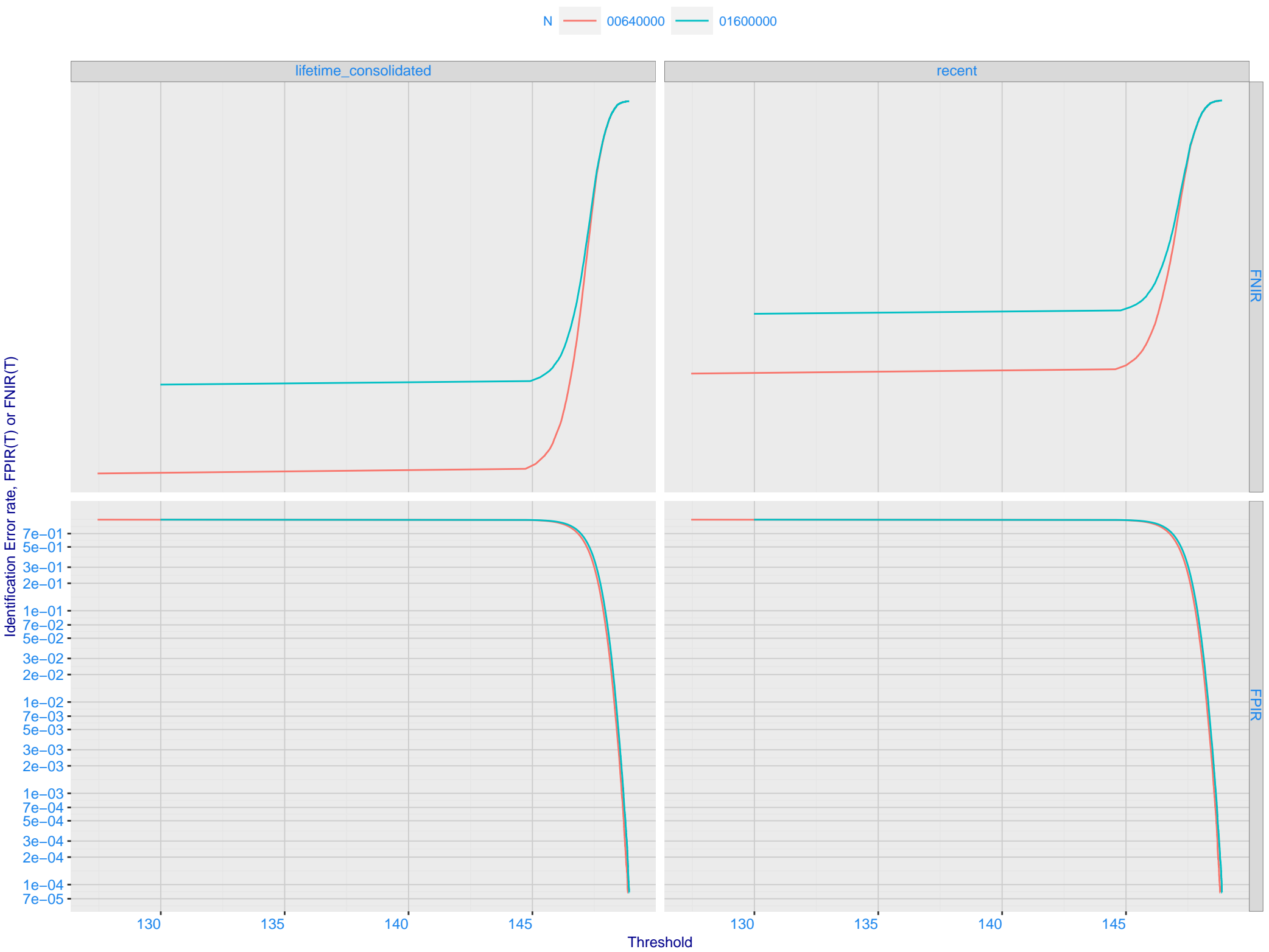
C: Evolution of accuracy for ALCHERA algorithms on three datasets 2018 – present



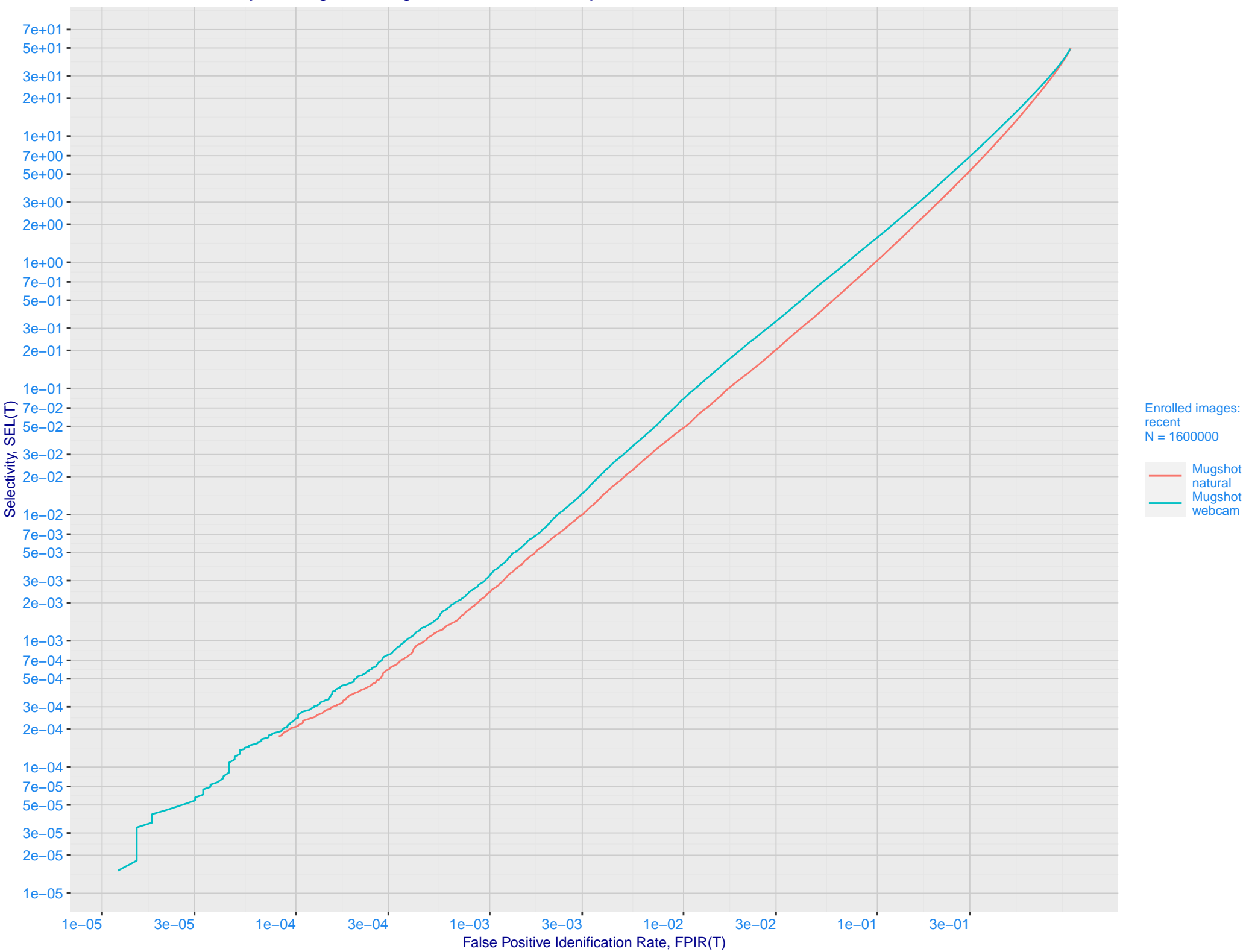
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



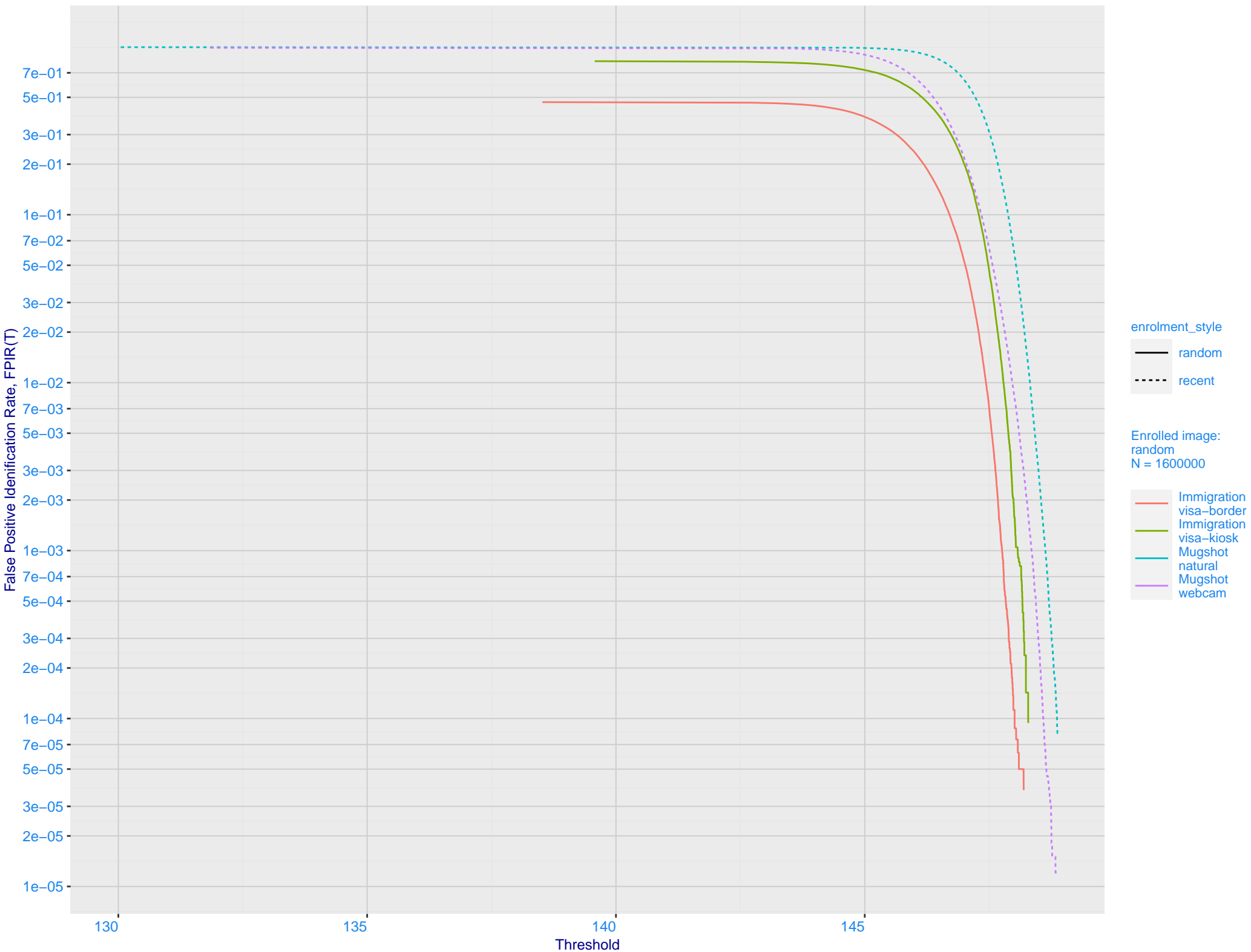
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



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

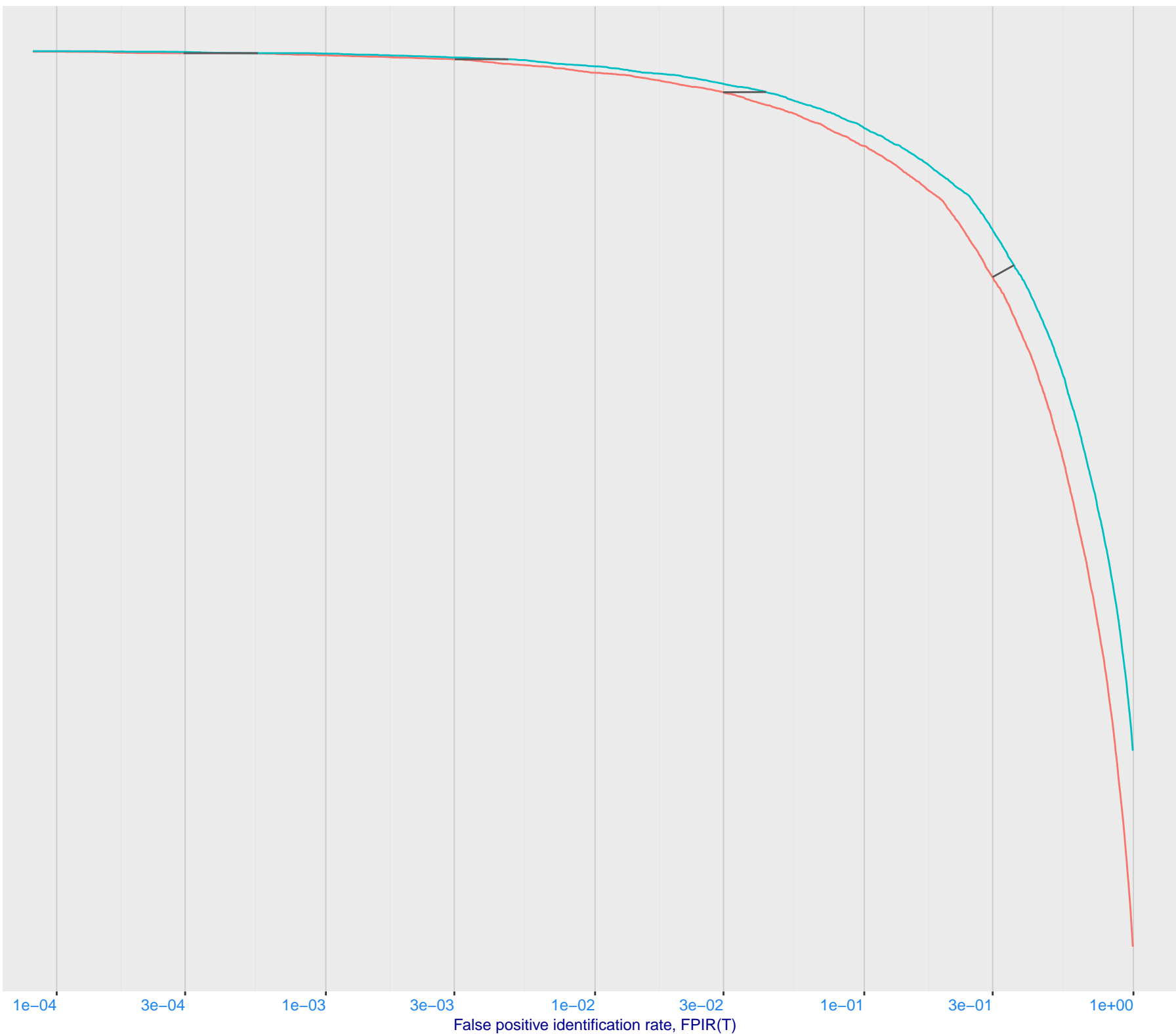


G: FPIR dependence on T by probe type for N = 1600000 subjects



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

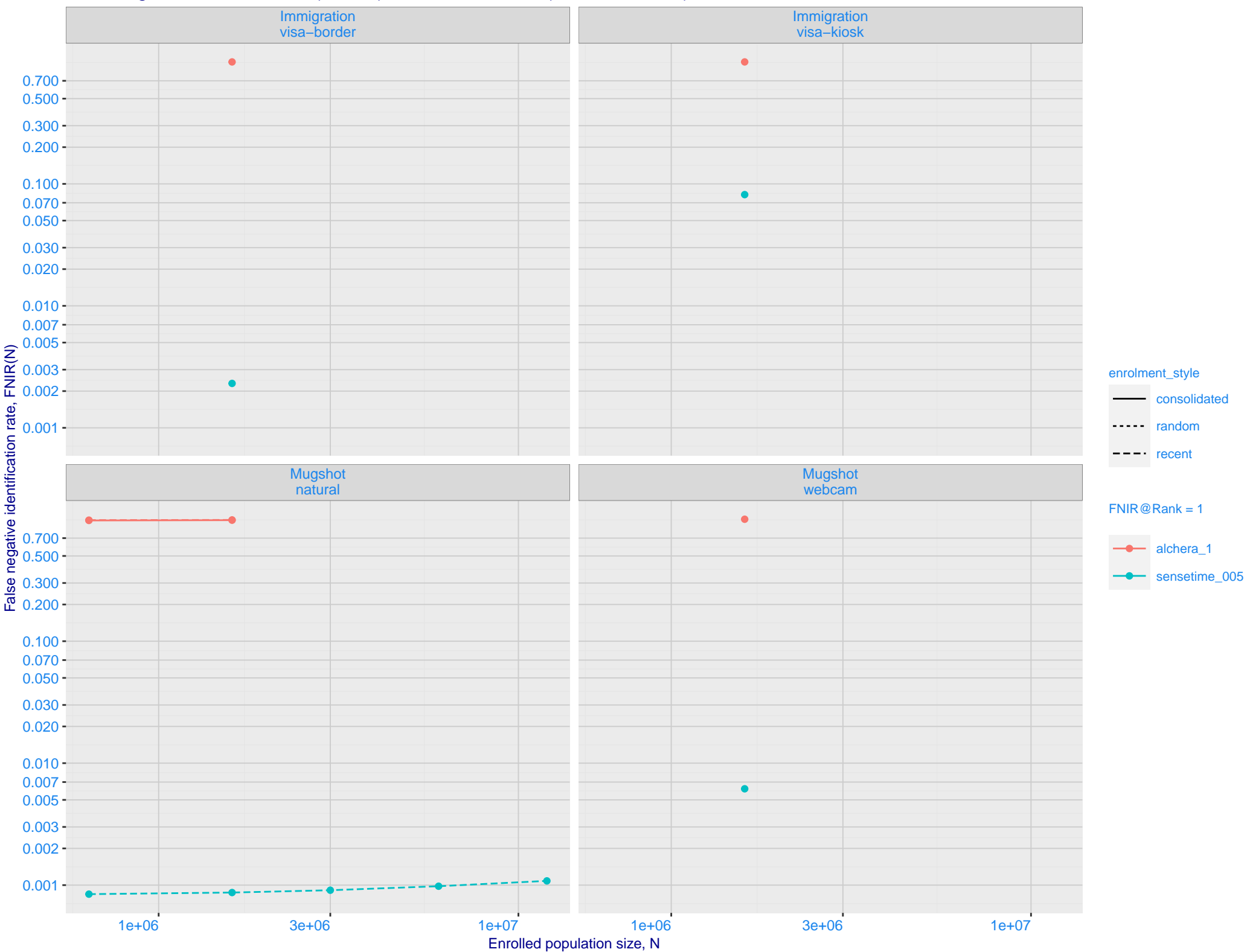
False negative identification rate, FNIR(T)



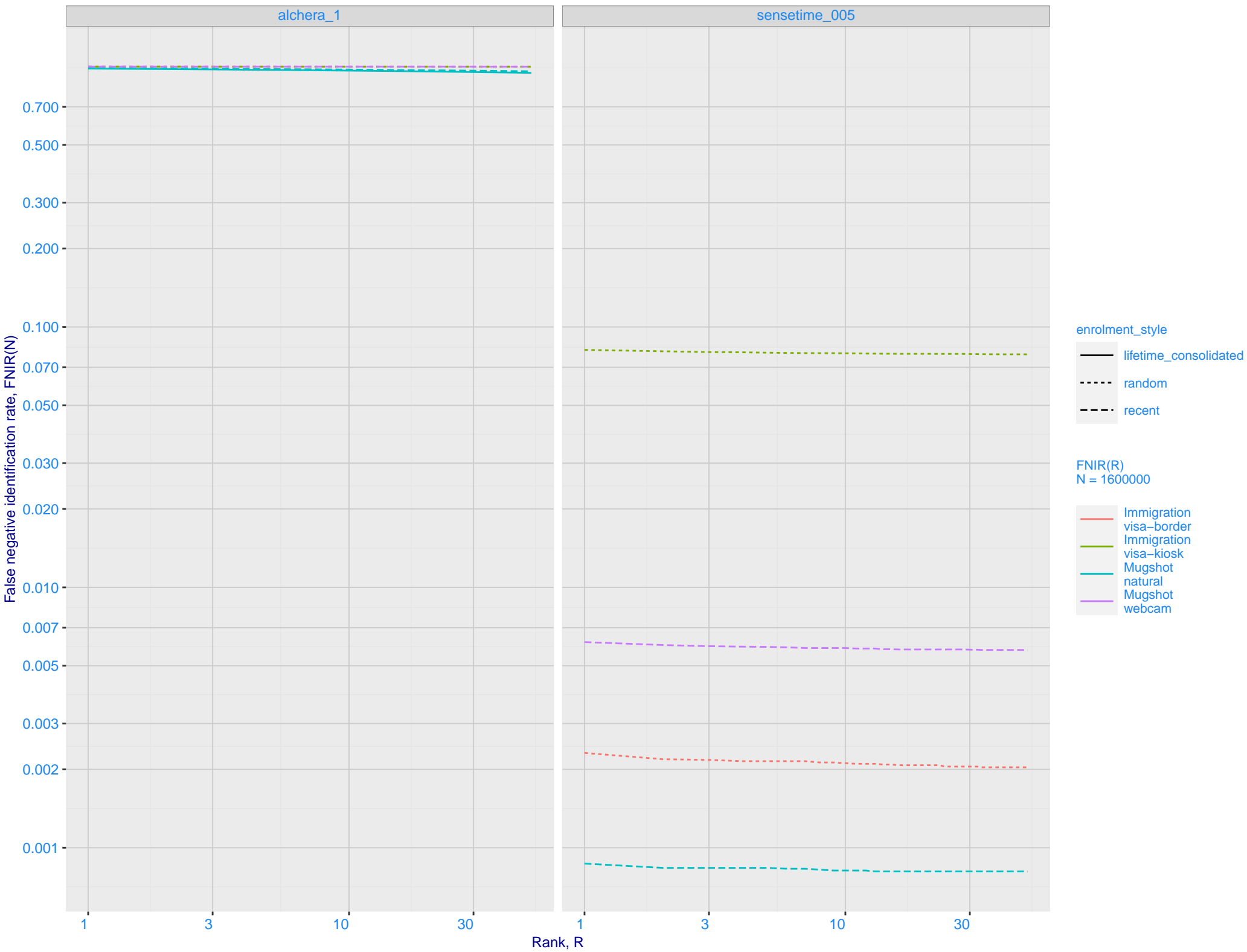
2018 Mugshot
Enrolled image:
recent

00640000
01600000

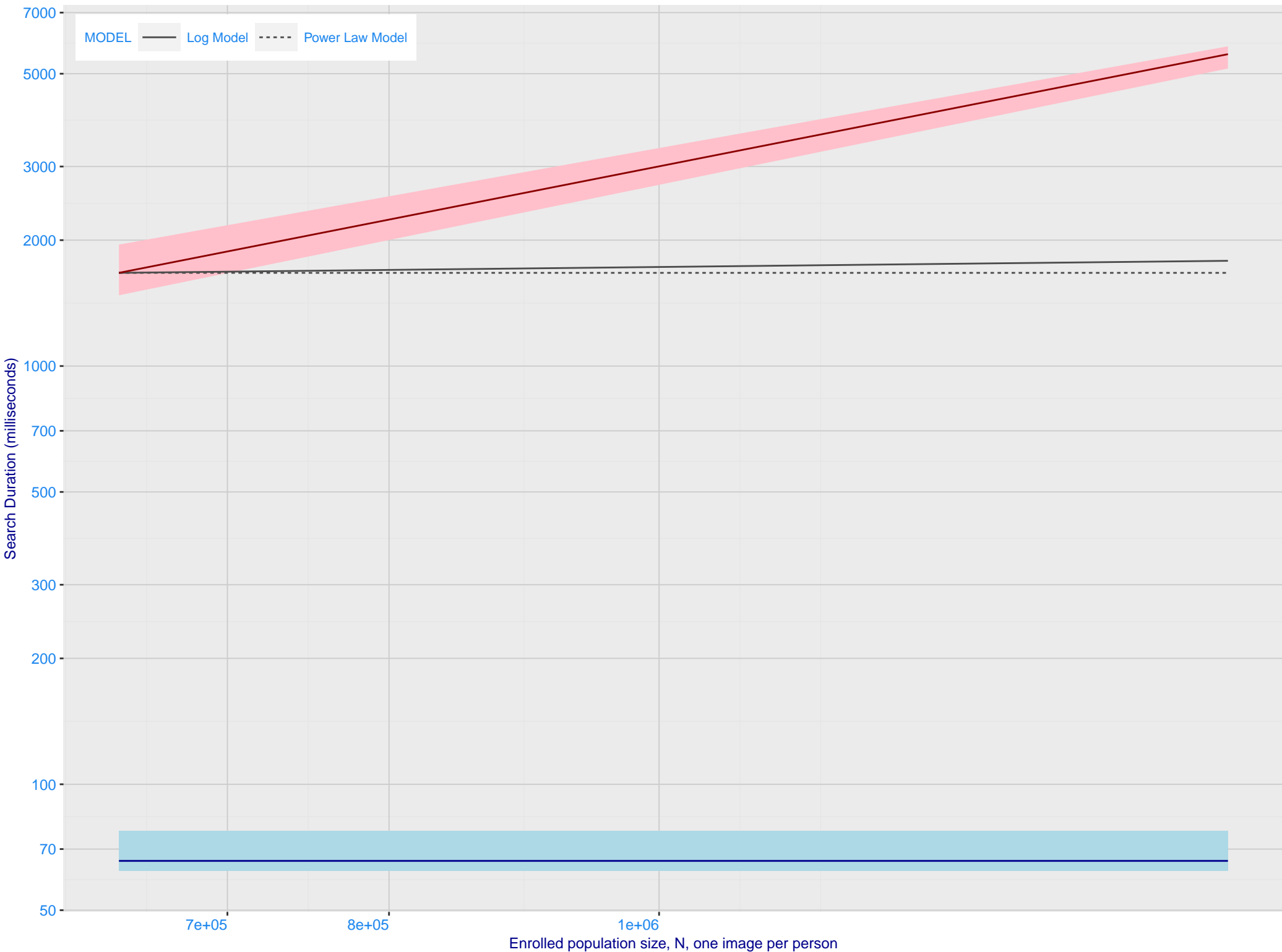
I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)



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



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



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

Dataset: 2018 Mugshot N = 3068801

