A: Datasheet

Algorithm: f8_001

Developer: FarBar Inc

Submission Date: 2019_10_03

Investigation:

Frontal mugshot ranking 137 (out of 259) –– FNIR(1600000, 0, 1) = 0.0120 vs. lowest 0.0009 from sensetime_005

Mugshot profile ranking 67 (out of 190) –– FNIR(1600000, 0, 1) = 0.6689 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 139 (out of 142) –– FNIR(1600000, 0, 1) = 1.0000 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
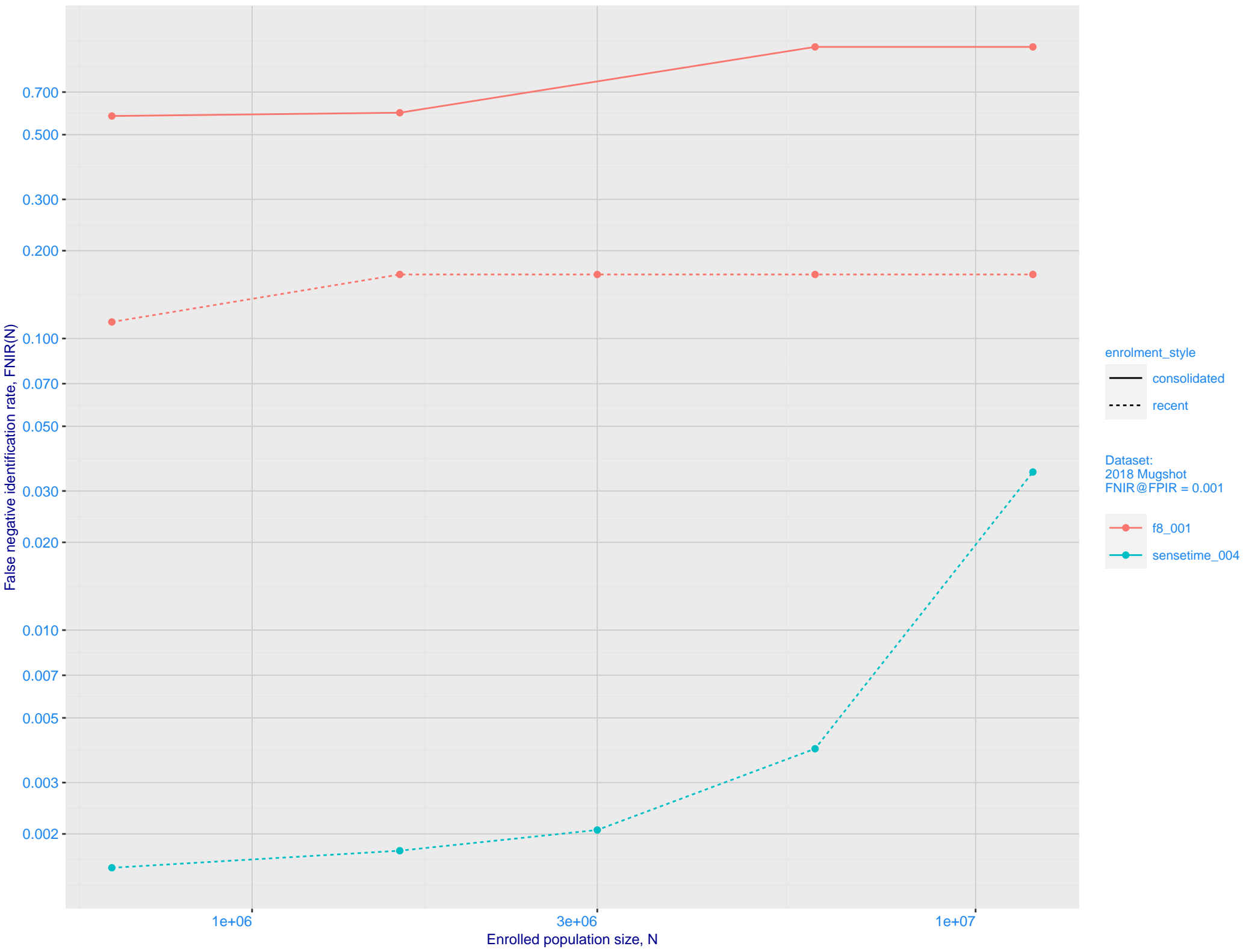
Identification:

Frontal mugshot ranking 158 (out of 259) –– FNIR(1600000, T, L+1) = 0.1658, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot profile ranking 119 (out of 189) –– FNIR(1600000, T, L+1) = 0.9985, FPIR=0.001000 vs. lowest 0.1733 from sensetime_005

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
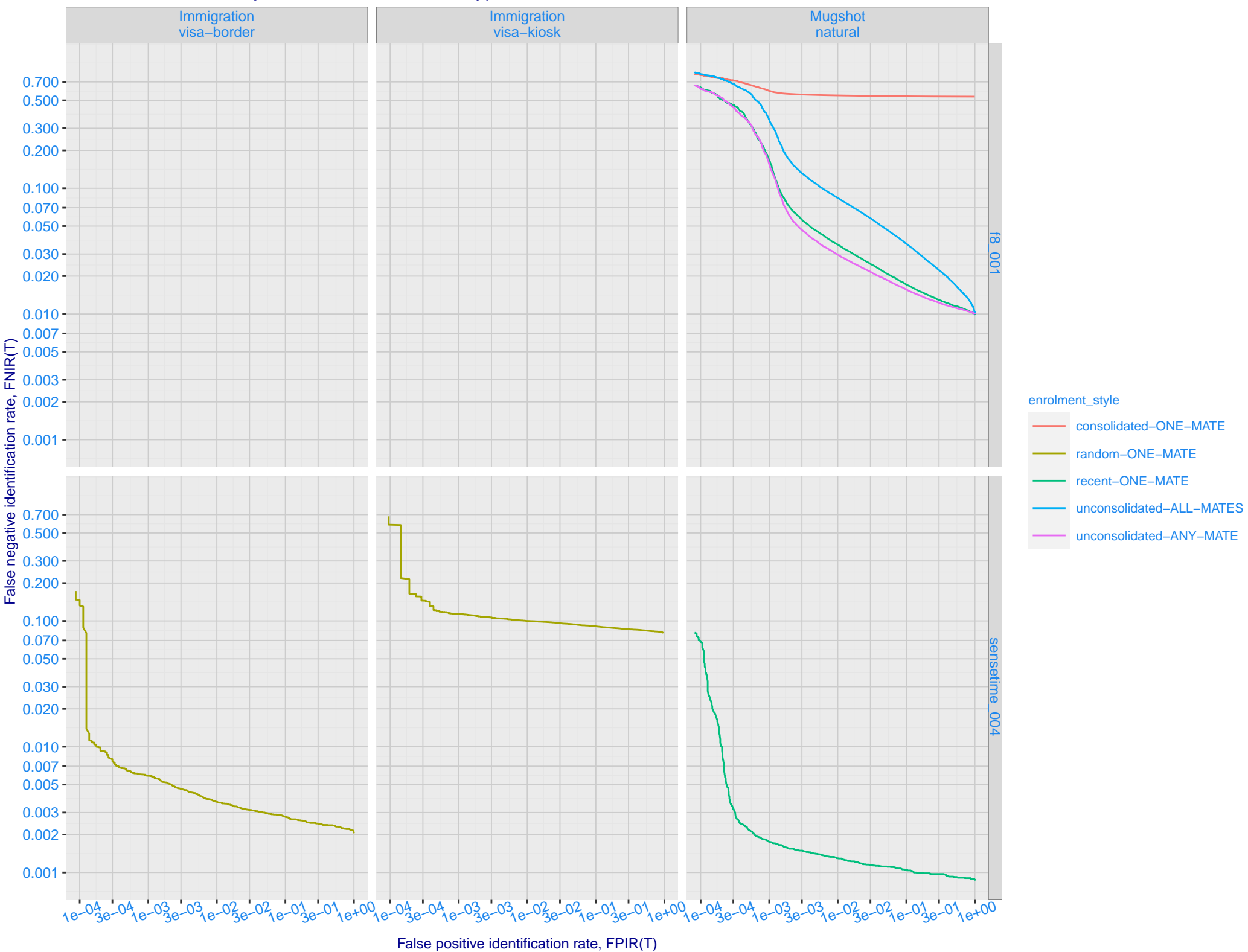
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
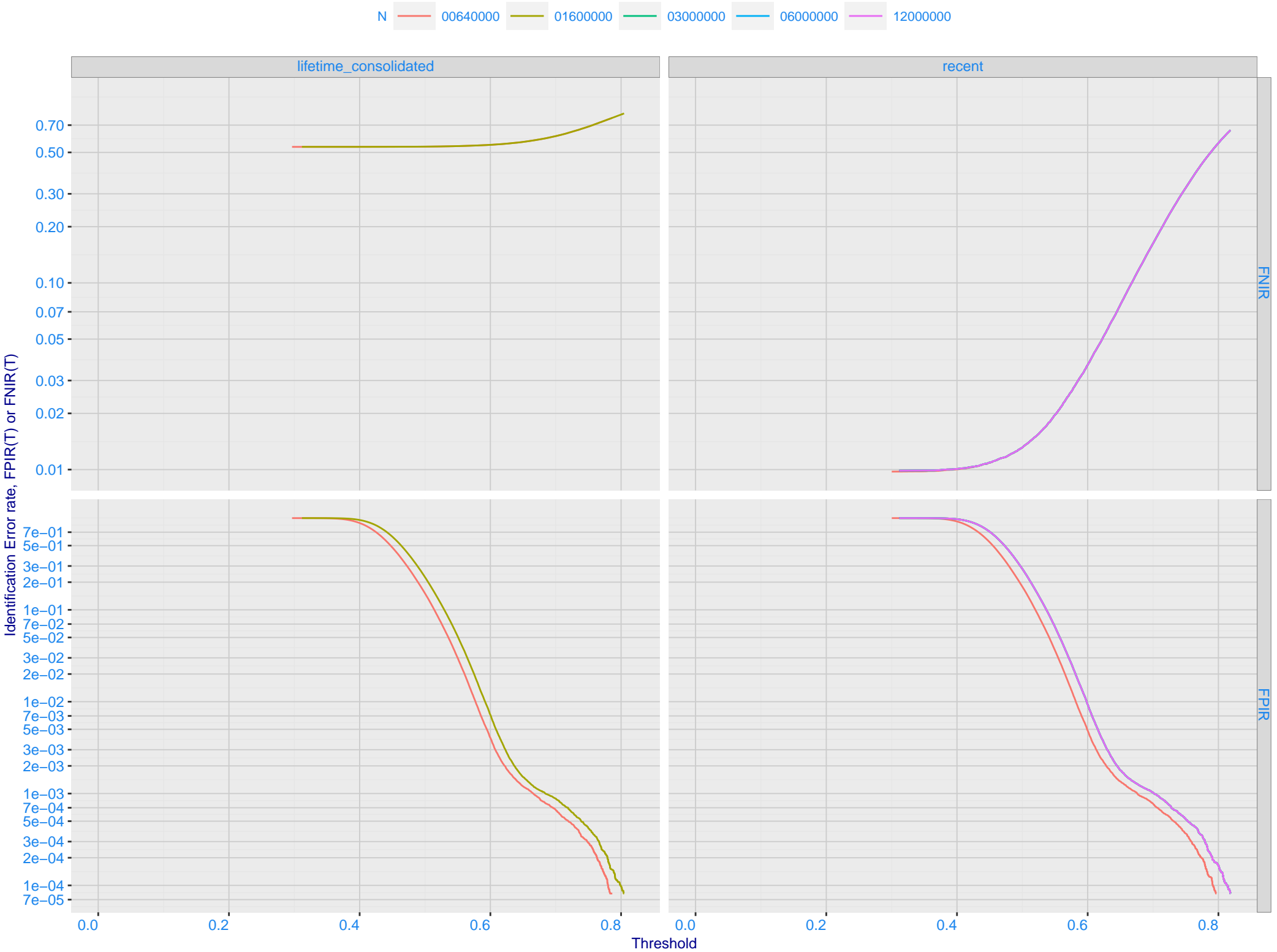
C: Evolution of accuracy for F8 algorithms on three datasets 2018 – present
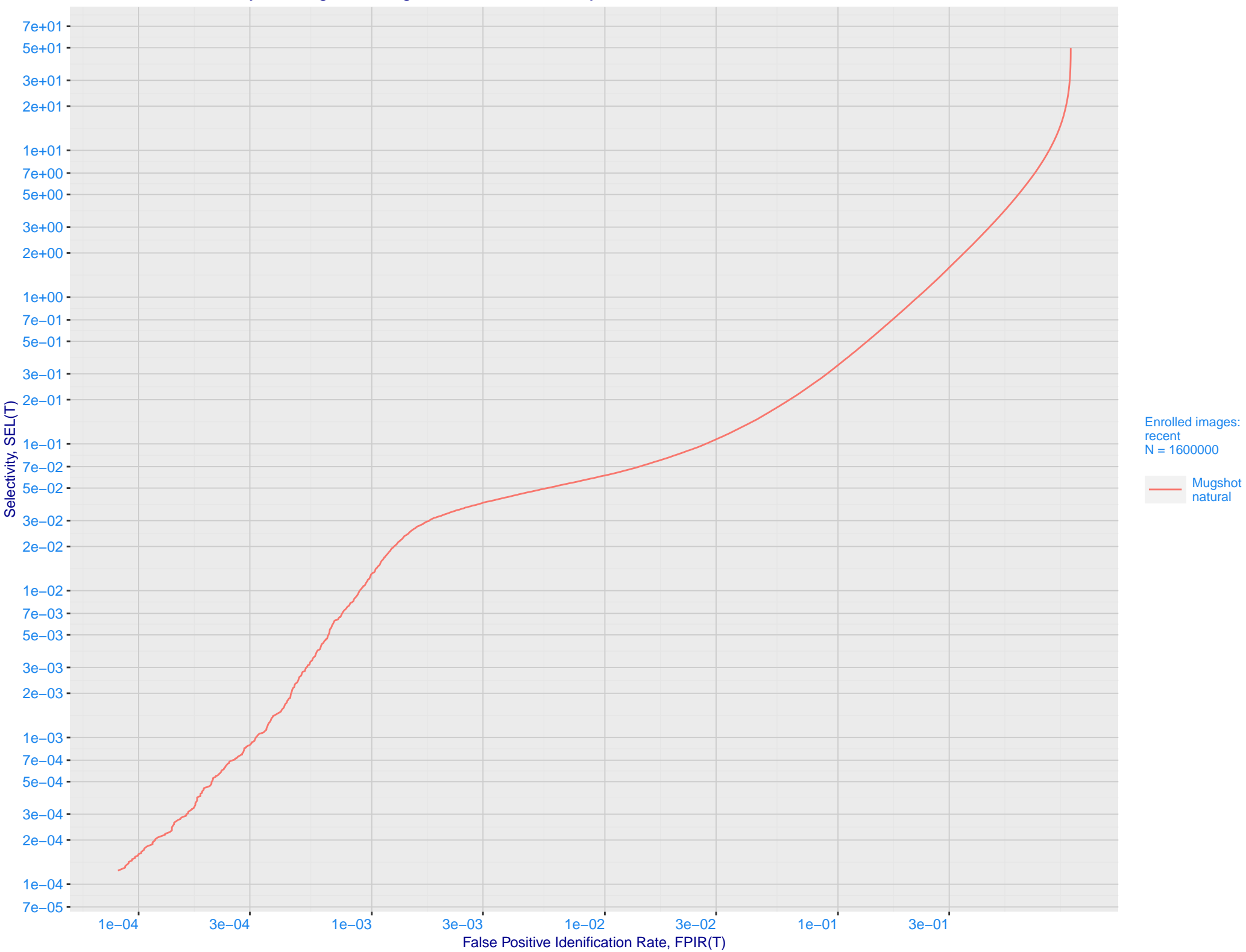
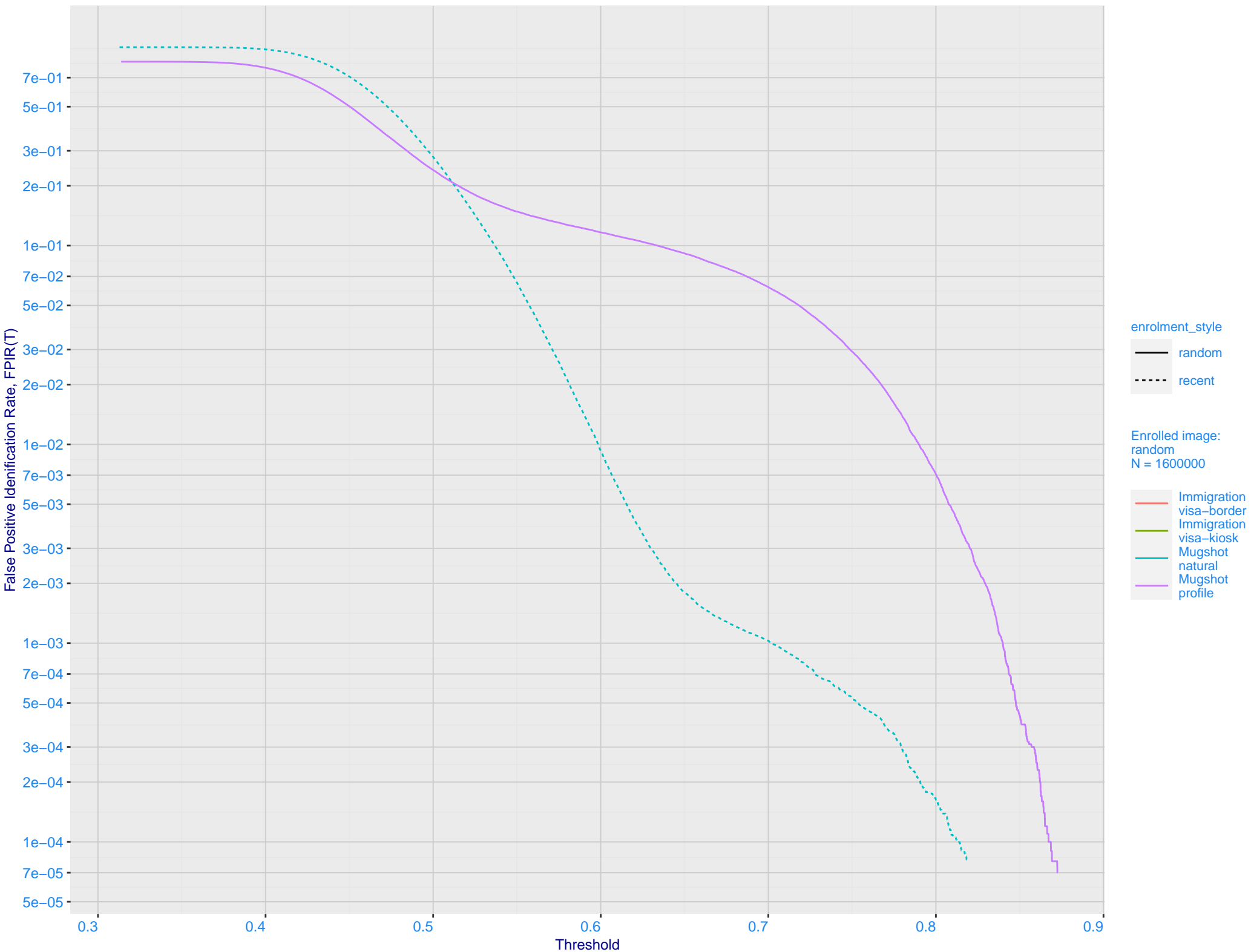D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

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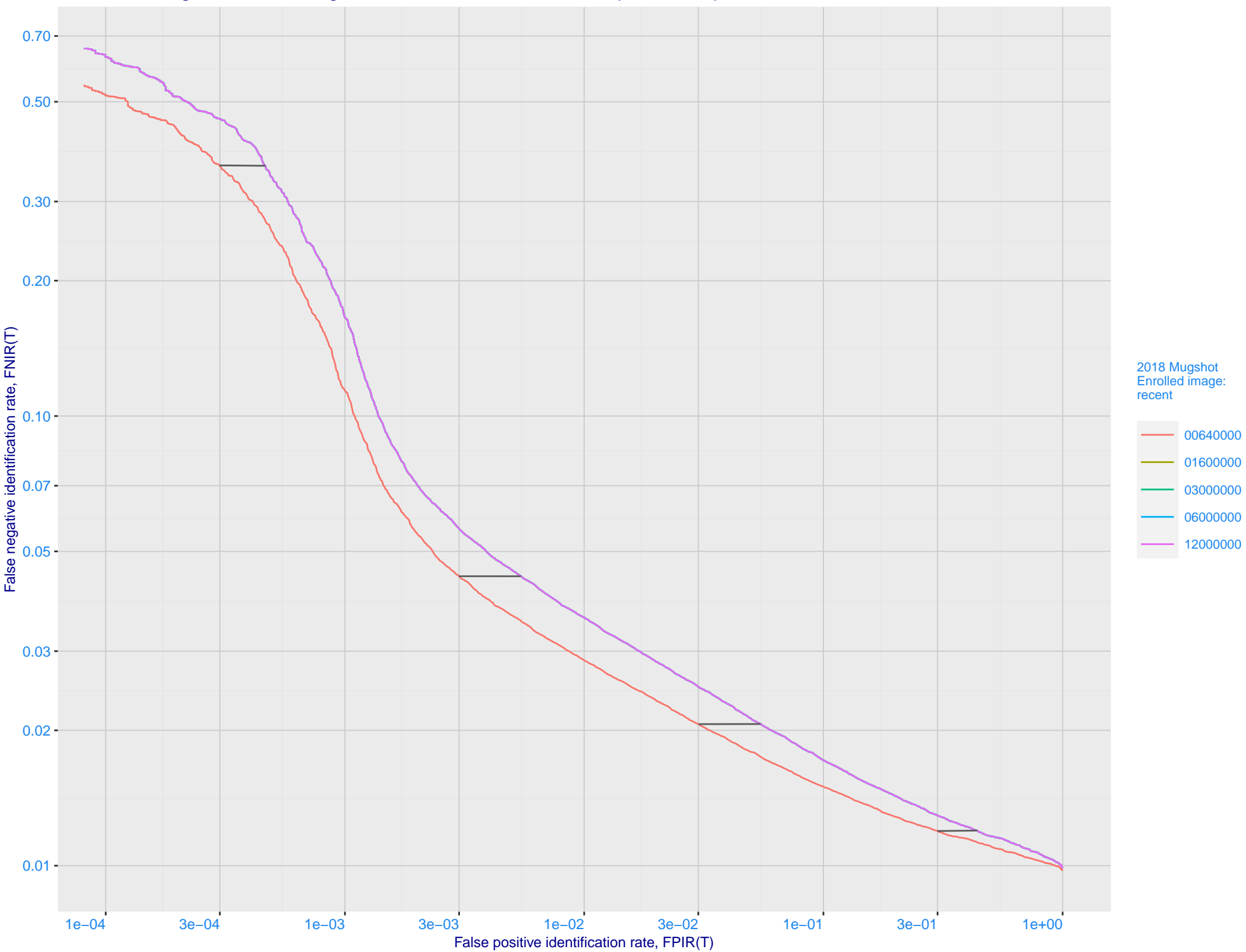
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate

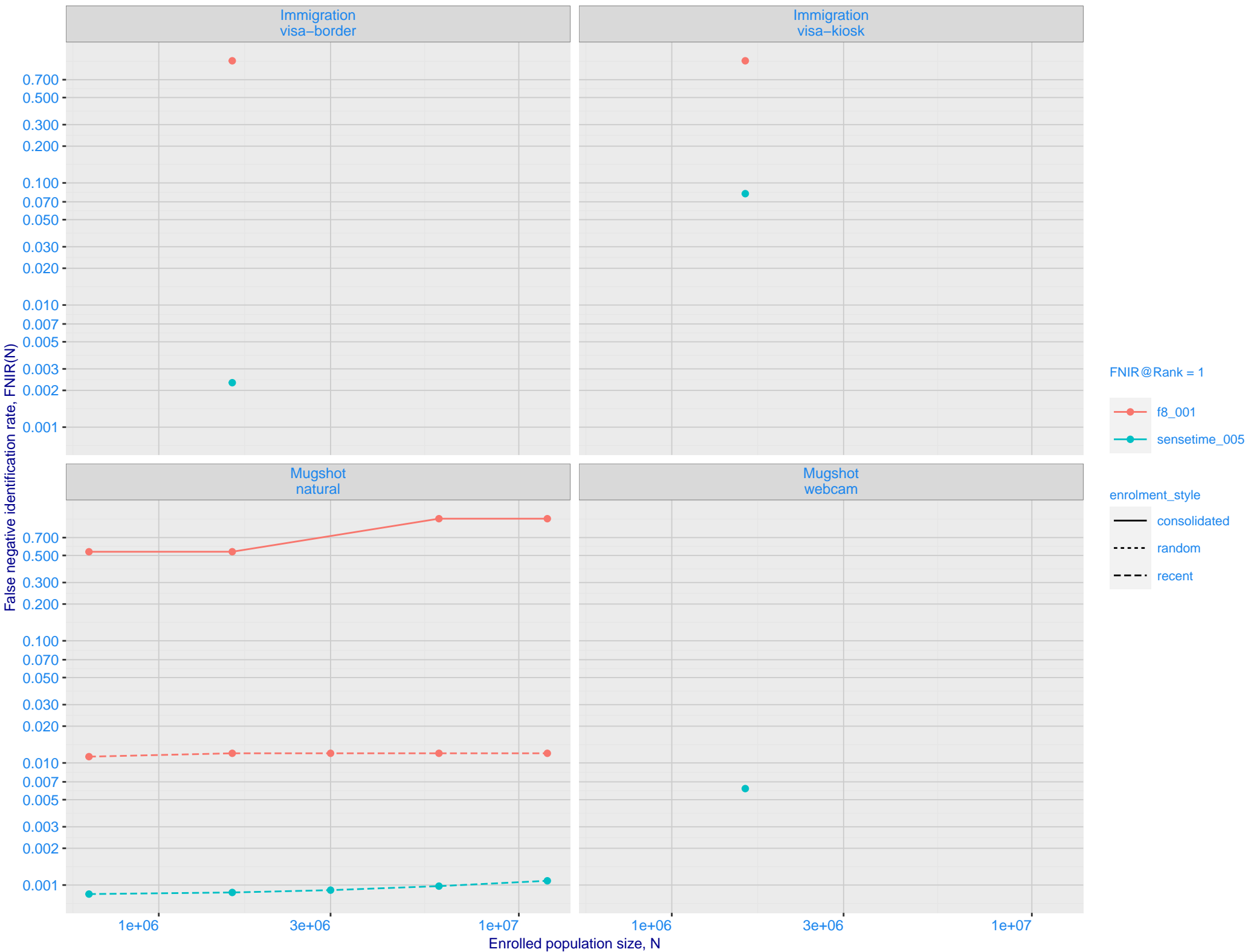G: FPIR dependence on T by probe type for N = 1600000 subjects

H: DET for Mugshot natural images and various N. Links connect points of equal threshold.
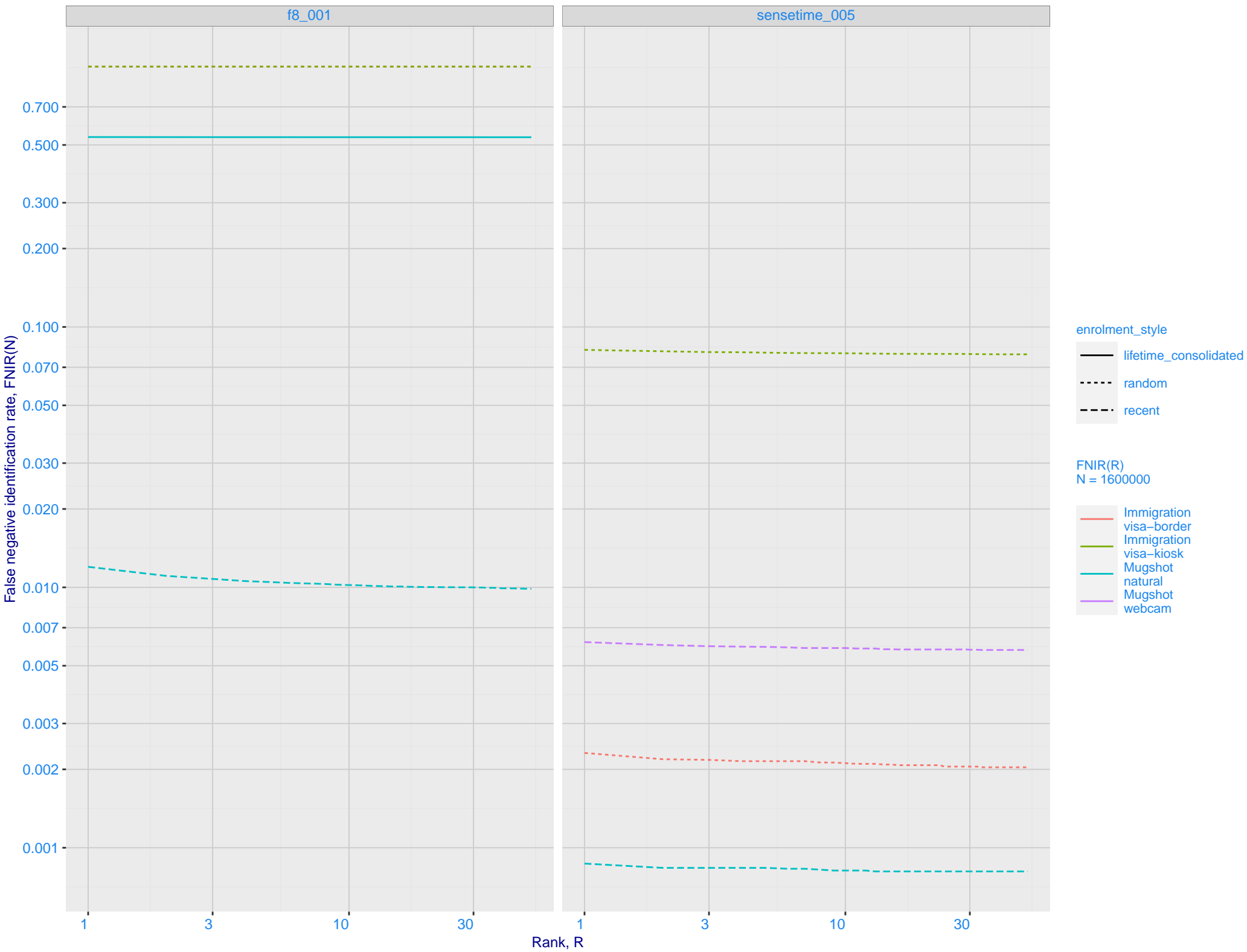
2018 Mugshot
Enrolled image:
recent

— 00640000
— 01600000
— 03000000
— 06000000
— 12000000

False negative identification rate, FNIR(T)

False positive identification rate, FPIR(T)

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

Search Duration (milliseconds)

Enrolled population size, N, one image per person

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