A: Datasheet

Algorithm: shaman_4

Developer: Shaman Software

Submission Date: 2018_06_30

Template size: 2048 bytes

Template time (2.5 percentile): 634 msec

Template time (median): 639 msec

Template time (97.5 percentile): 704 msec

Investigation:

Frontal mugshot ranking 237 (out of 259) –– FNIR(1600000, 0, 1) = 0.2221 vs. lowest 0.0009 from sensetime_005
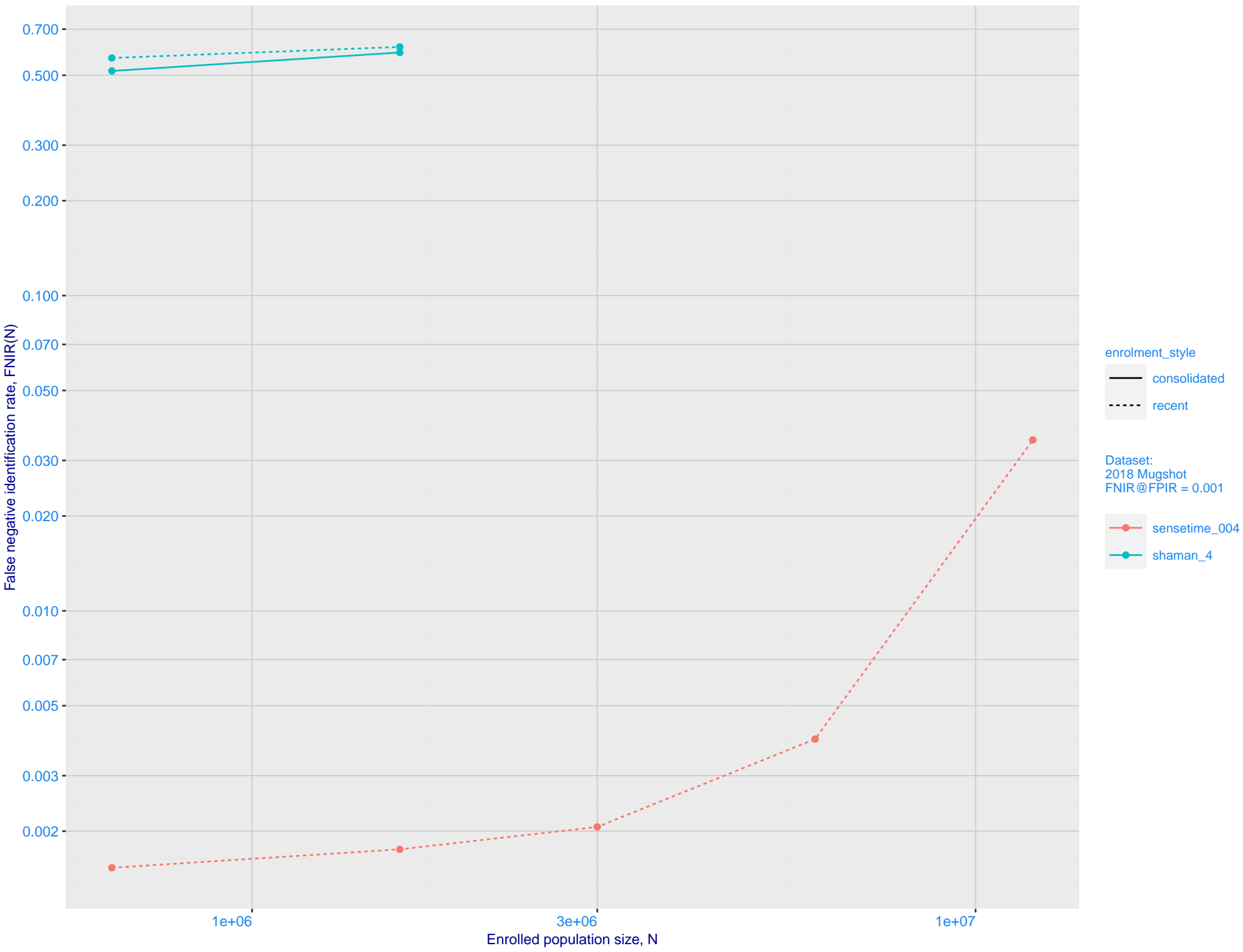
Mugshot webcam ranking 196 (out of 221) –– FNIR(1600000, 0, 1) = 0.3191 vs. lowest 0.0062 from sensetime_005
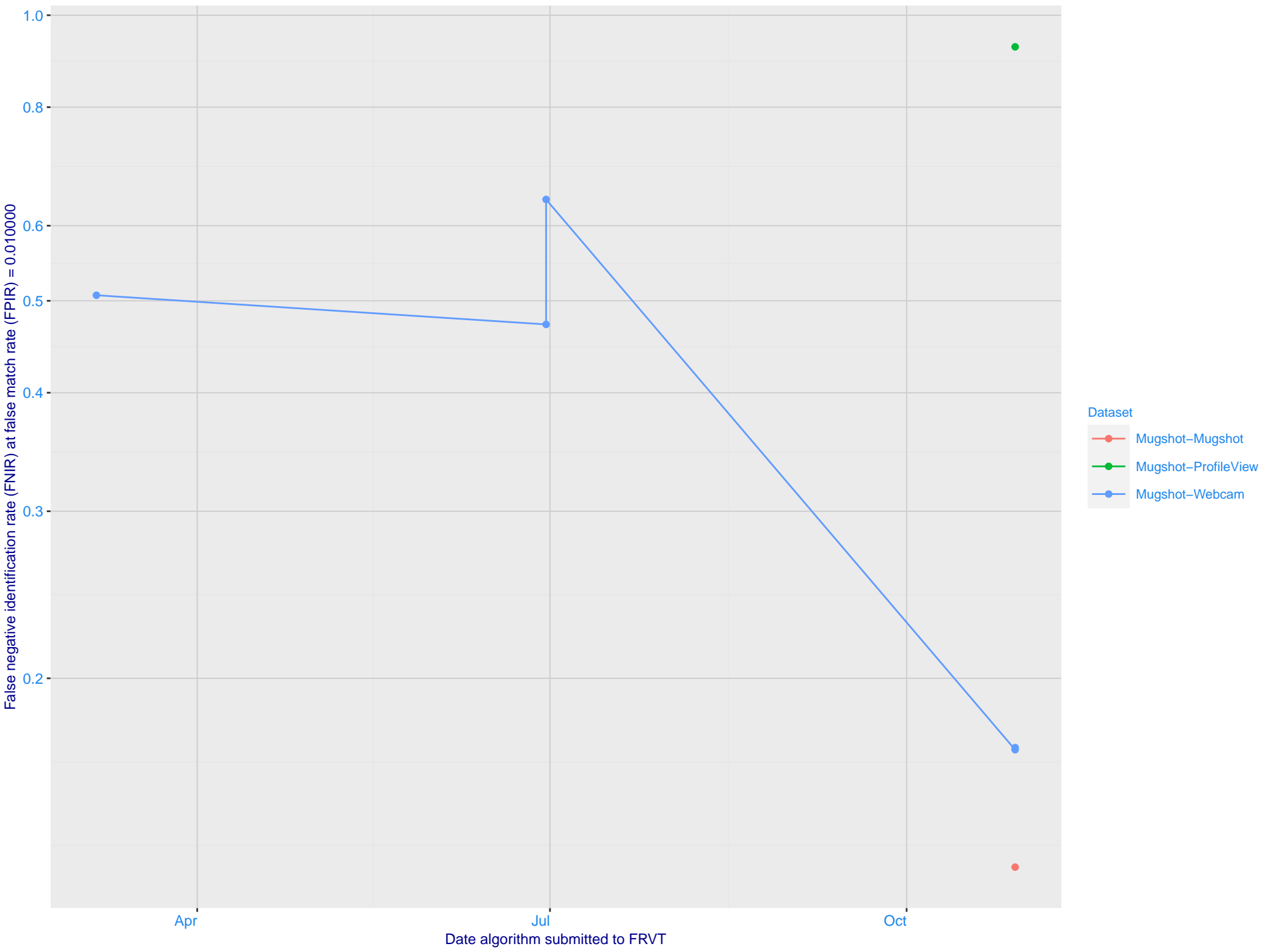
Identification:

Frontal mugshot ranking 222 (out of 259) –– FNIR(1600000, T, L+1) = 0.6150, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 193 (out of 219) –– FNIR(1600000, T, L+1) = 0.7535, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003
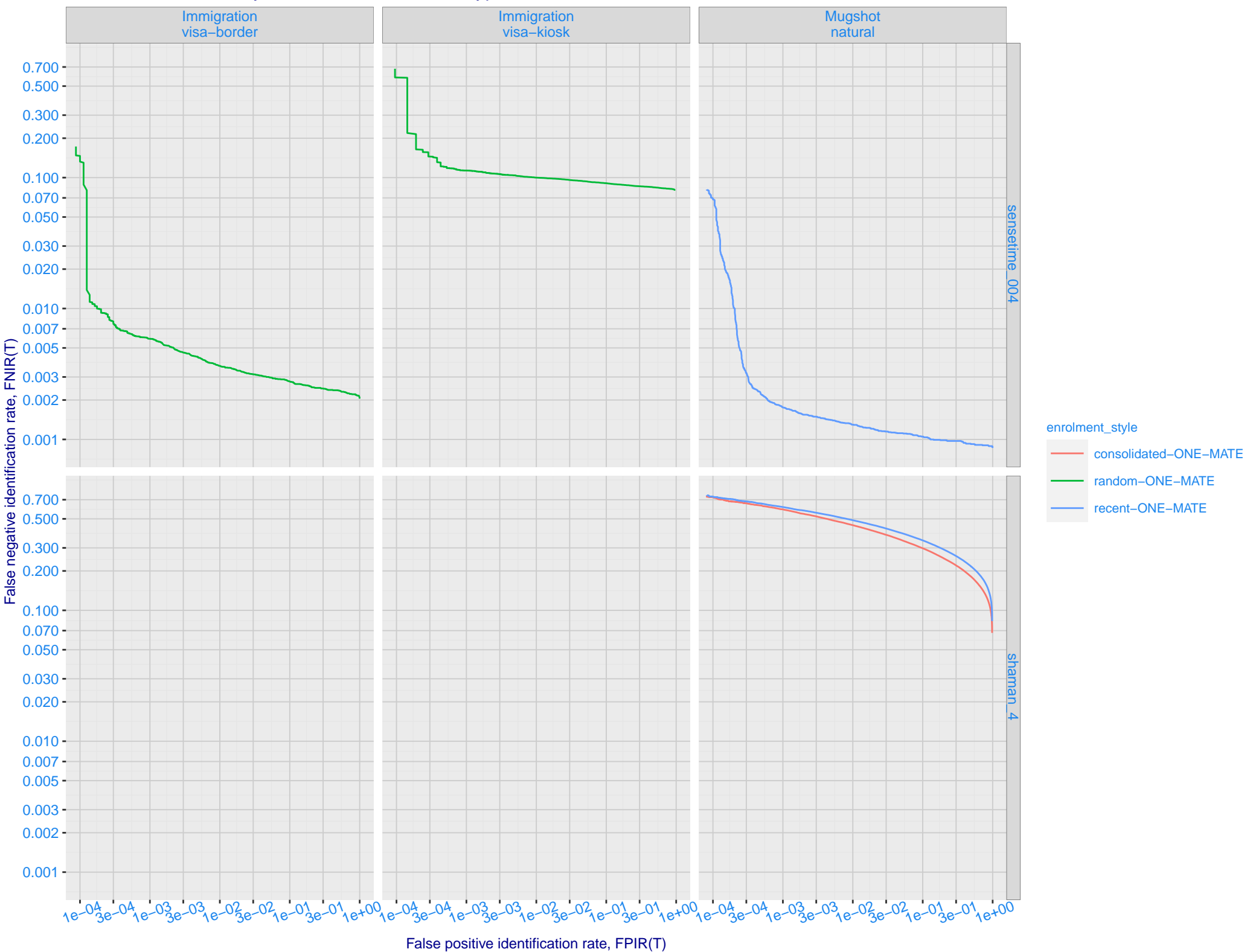
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
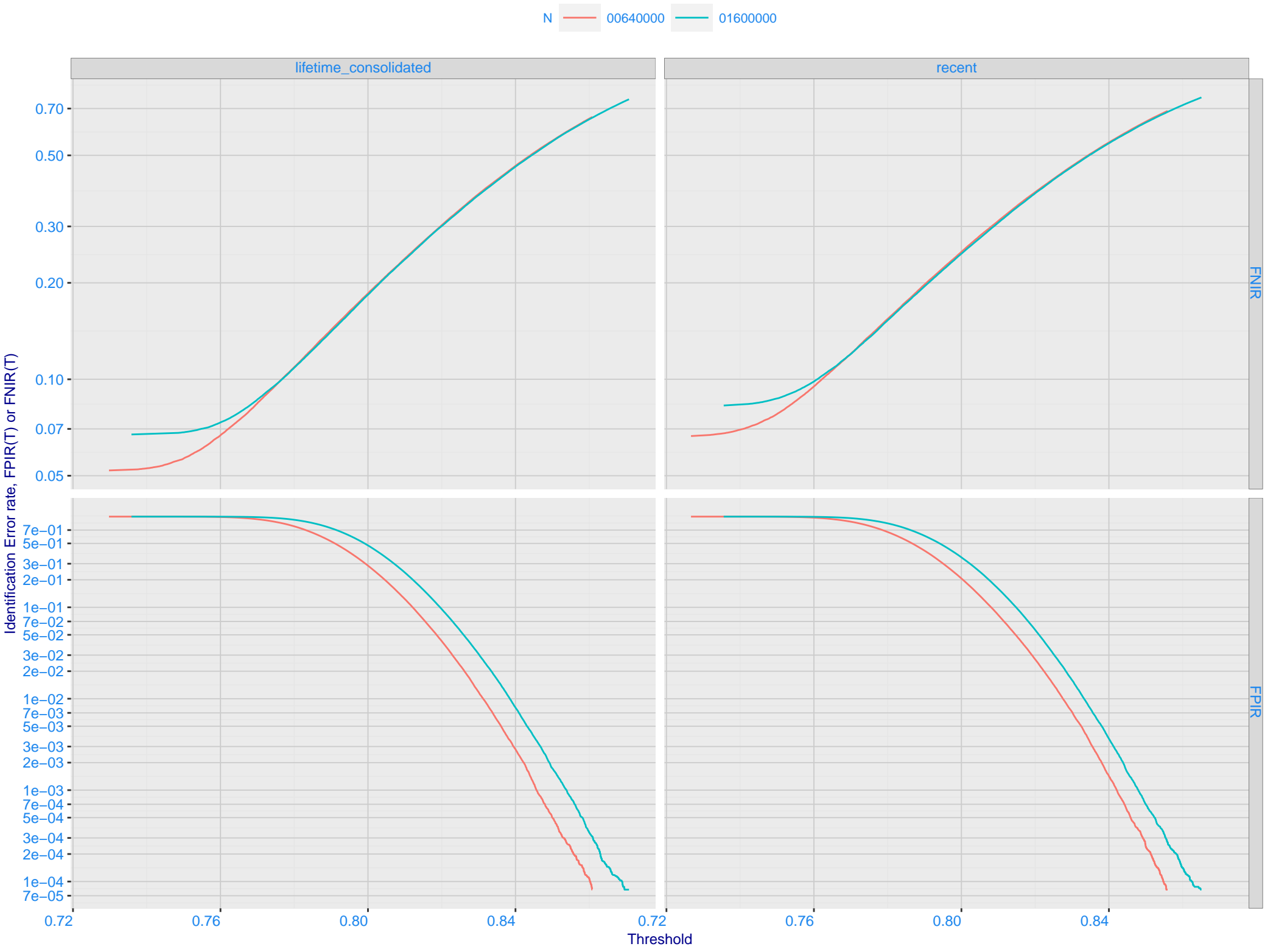
C: Evolution of accuracy for SHAMAN algorithms on three datasets 2018 – present
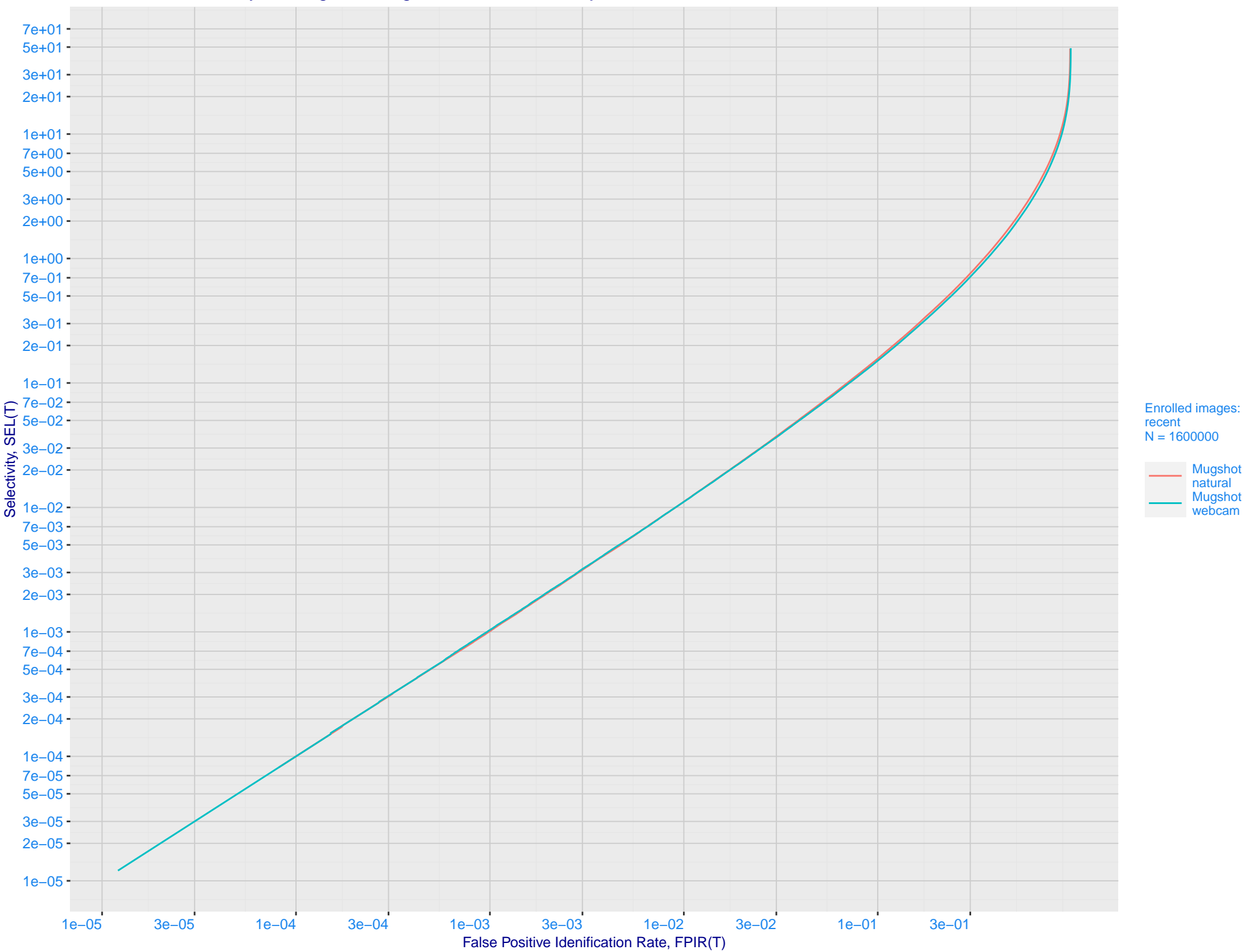
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals
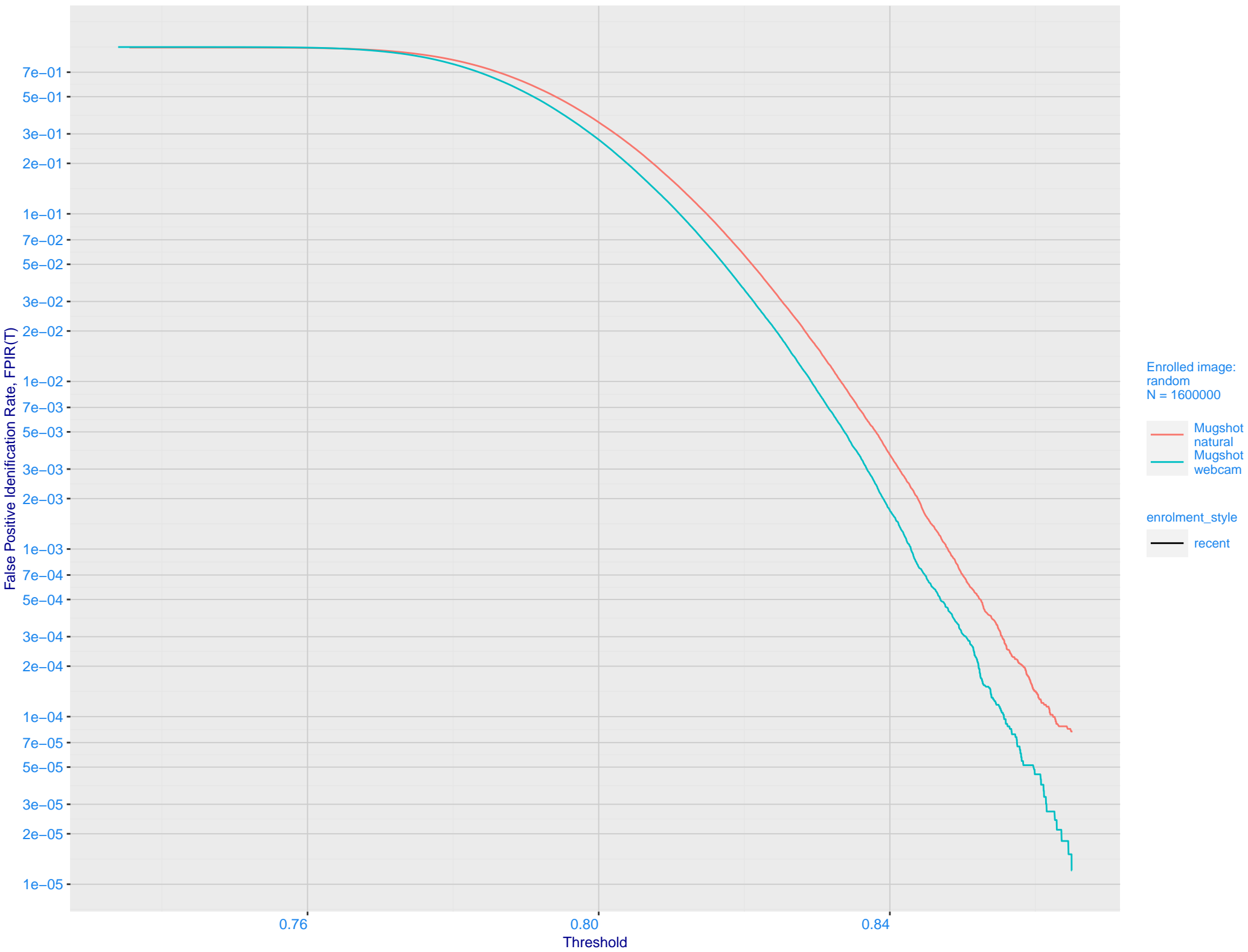
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
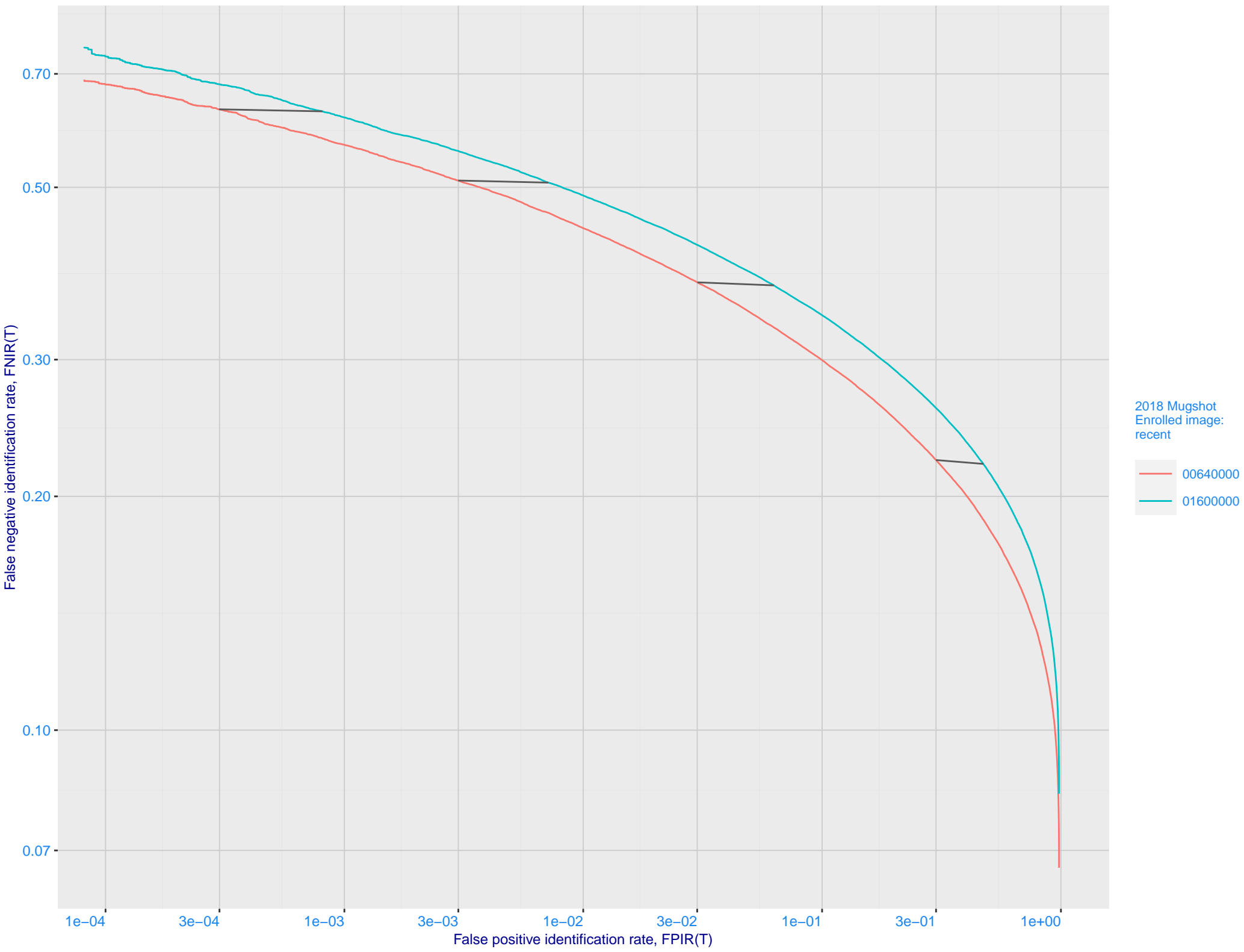
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
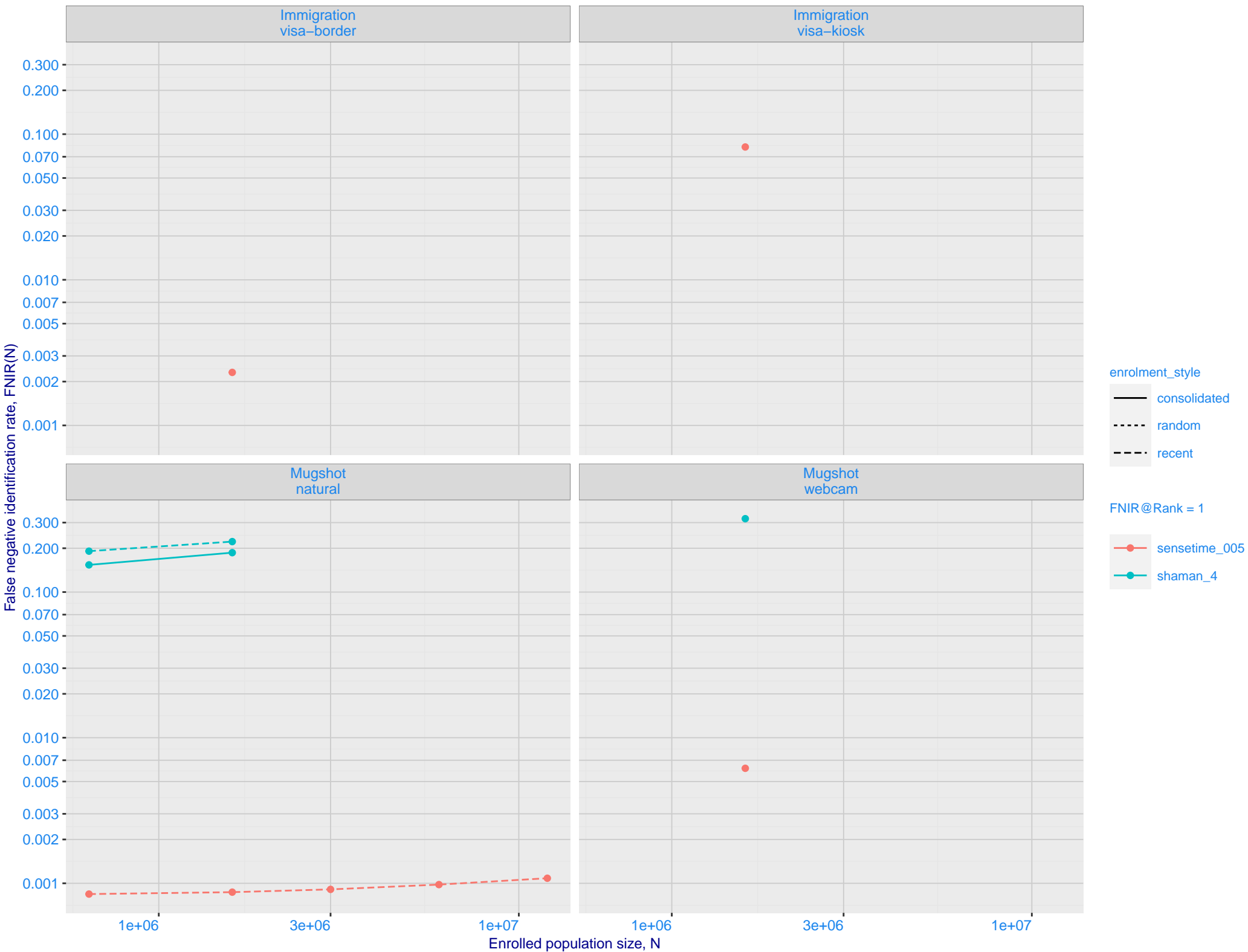
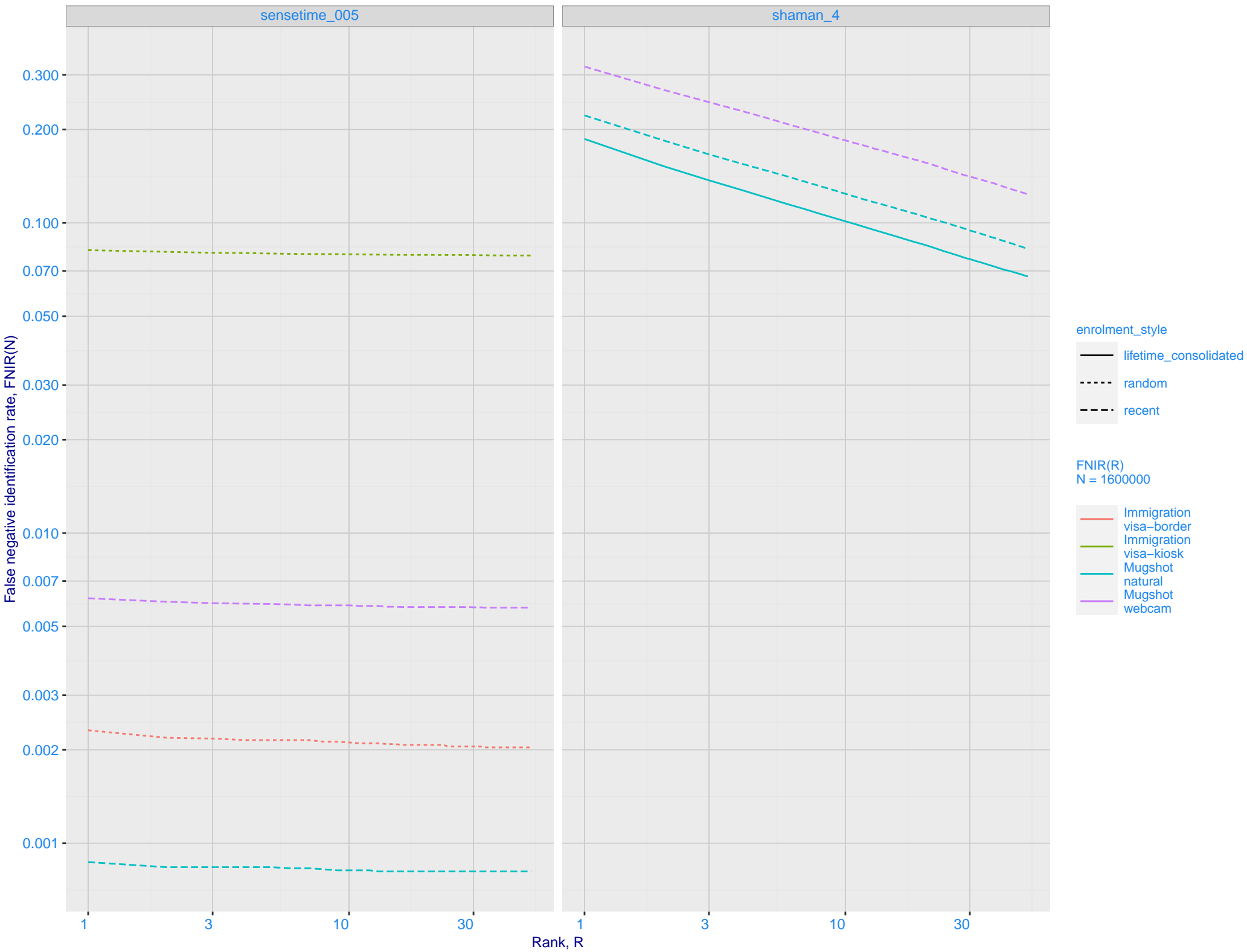G: FPIR dependence on T by probe type for N = 1600000 subjects

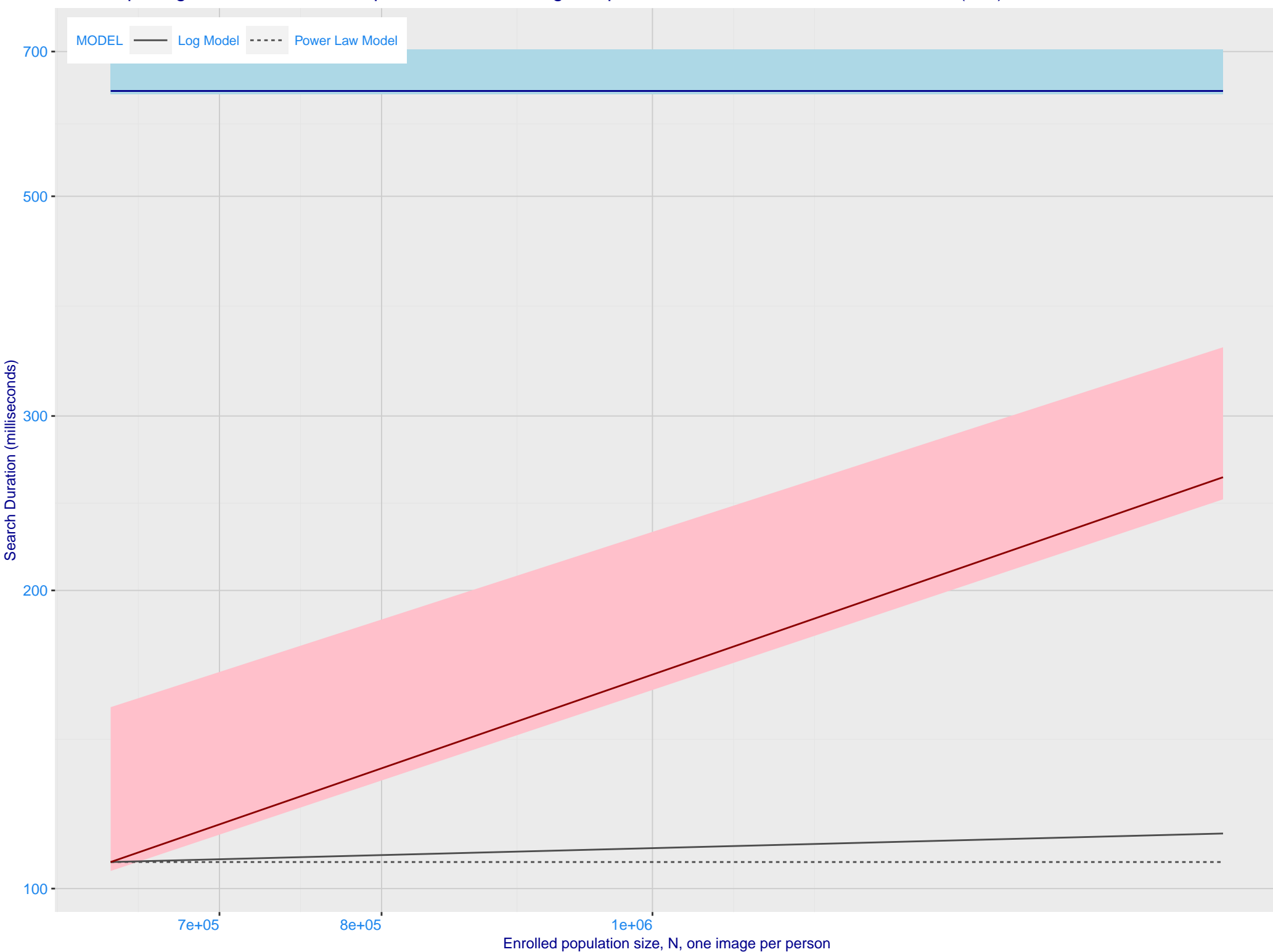H: DET for Mugshot natural images and various N. Links connect points of equal threshold.

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

MODEL — Log Model ⋯⋯ Power Law Model

Search Duration (milliseconds)

700

500

300

200

100

7e+05   8e+05   1e+06

Enrolled population size, N, one image per person

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