## A: Datasheet

Algorithm: cyberlink_001

Developer: Cyberlink Corp

Submission Date: 2019_10_07

Template size: 2052 bytes

Template time (2.5 percentile): 423 msec

Template time (median): 424 msec

Template time (97.5 percentile): 464 msec

Investigation:

Frontal mugshot ranking 54 (out of 259) –– FNIR(1600000, 0, 1) = 0.0035  vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 57 (out of 221) –– FNIR(1600000, 0, 1) = 0.0175  vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 74 (out of 190) –– FNIR(1600000, 0, 1) = 0.7306  vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 41 (out of 142) –– FNIR(1600000, 0, 1) = 0.0066  vs. lowest 0.0014 from visionlabs_009

Immigration visa–kiosk ranking 47 (out of 139) –– FNIR(1600000, 0, 1) = 0.1330  vs. lowest 0.0694 from cib_000

Identification:

Frontal mugshot ranking 86 (out of 259) –– FNIR(1600000, T, L+1) = 0.0534, FPIR=0.001000  vs. lowest 0.0018 from sensetime_004
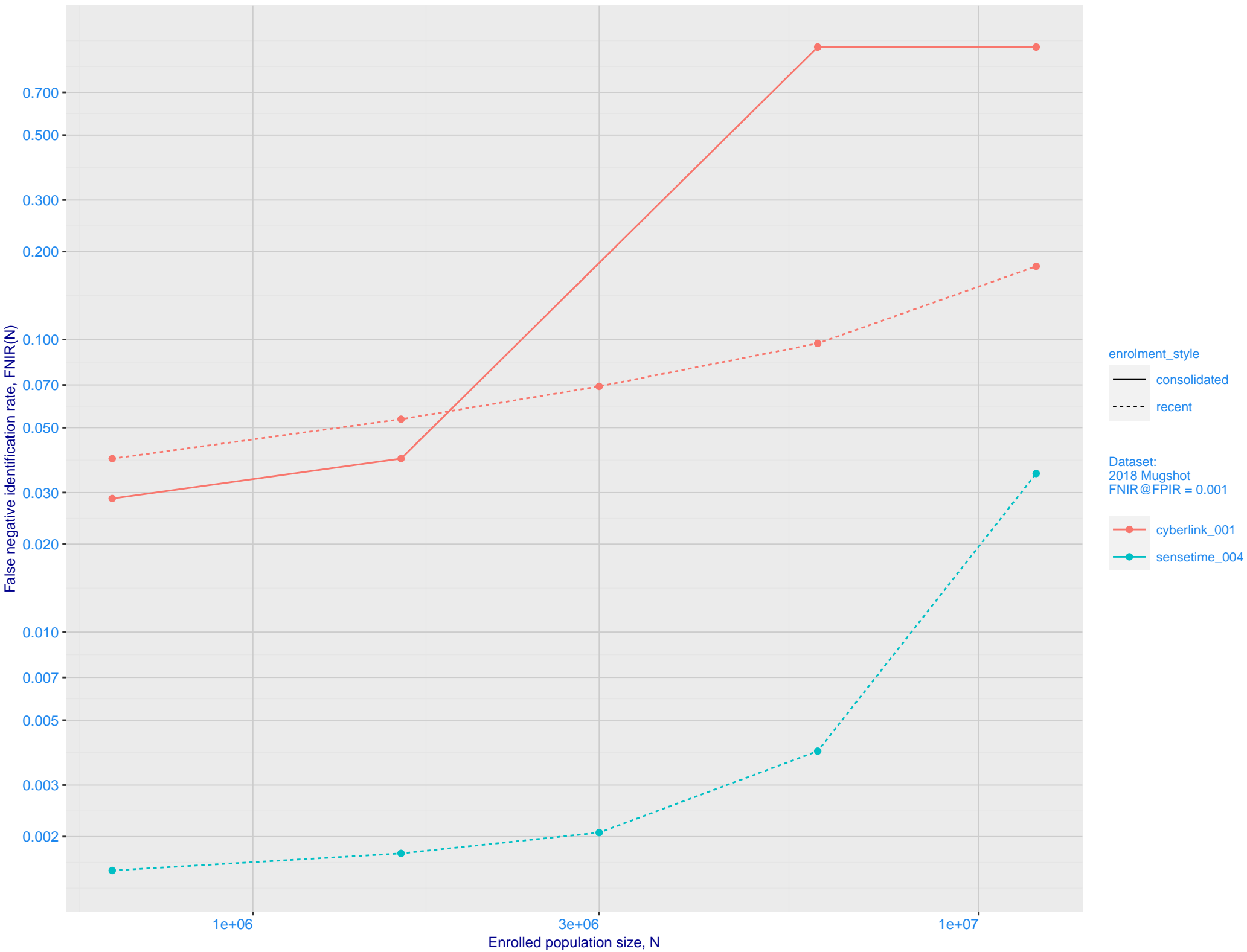
Mugshot webcam ranking 69 (out of 219) –– FNIR(1600000, T, L+1) = 0.1087, FPIR=0.001000  vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 94 (out of 189) –– FNIR(1600000, T, L+1) = 0.9947, FPIR=0.001000  vs. lowest 0.1733 from sensetime_005
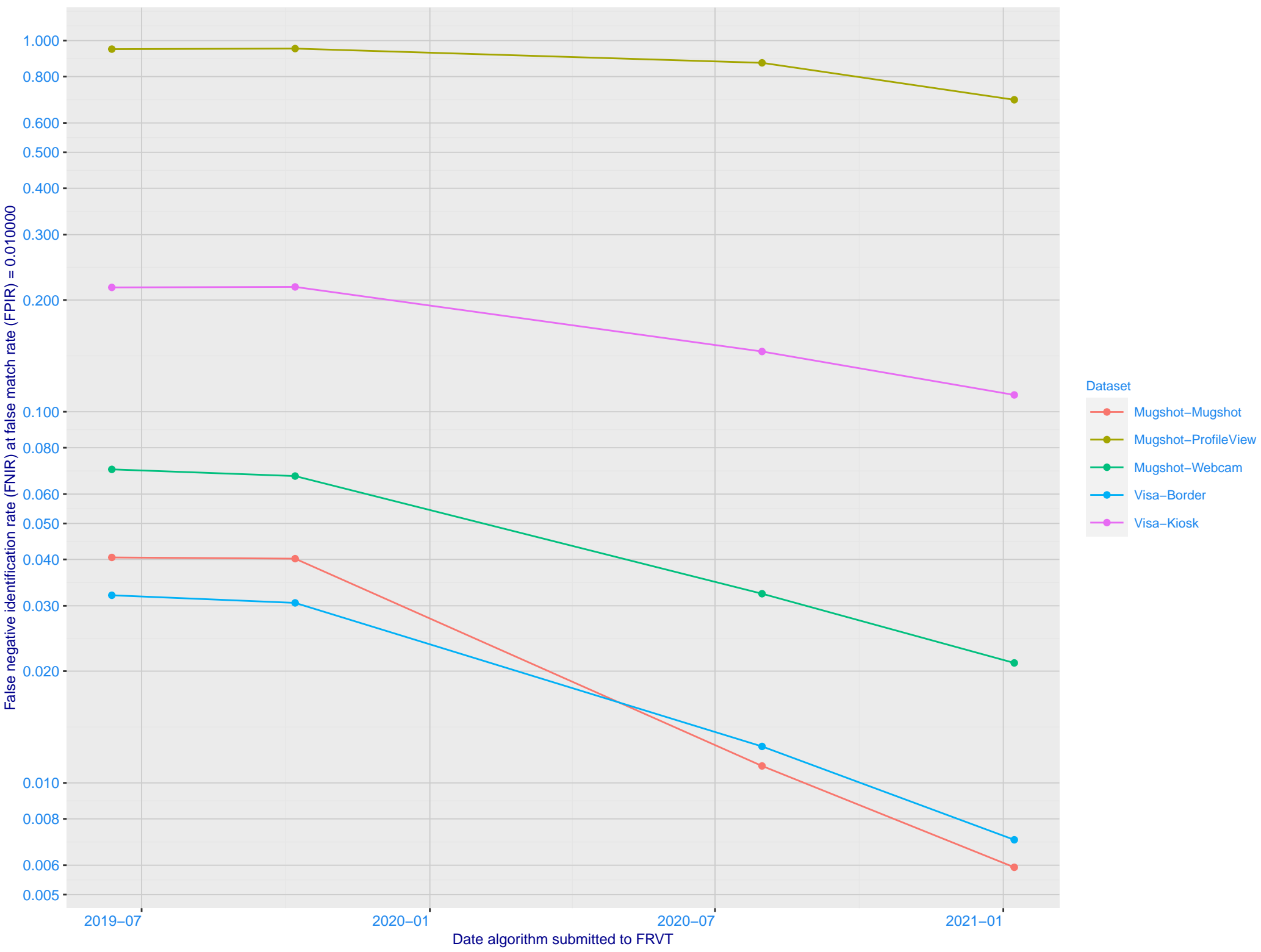
Immigration visa–border ranking 47 (out of 139) –– FNIR(1600000, T, L+1) = 0.0624, FPIR=0.001000  vs. lowest 0.0059 from sensetime_004

Immigration visa–kiosk ranking 71 (out of 134) –– FNIR(1600000, T, L+1) = 0.6756, FPIR=0.001000  vs. lowest 0.1048 from sensetime_005
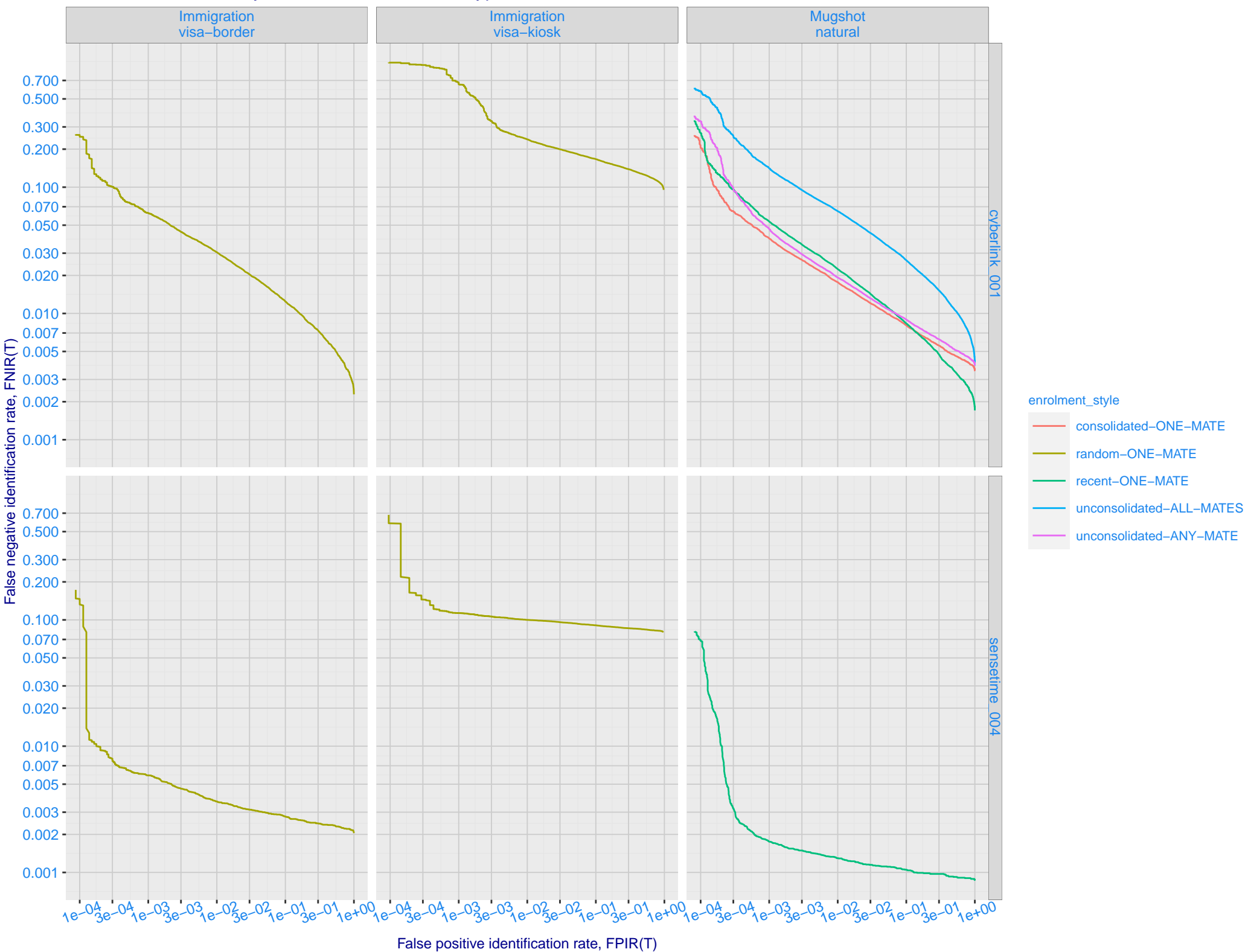
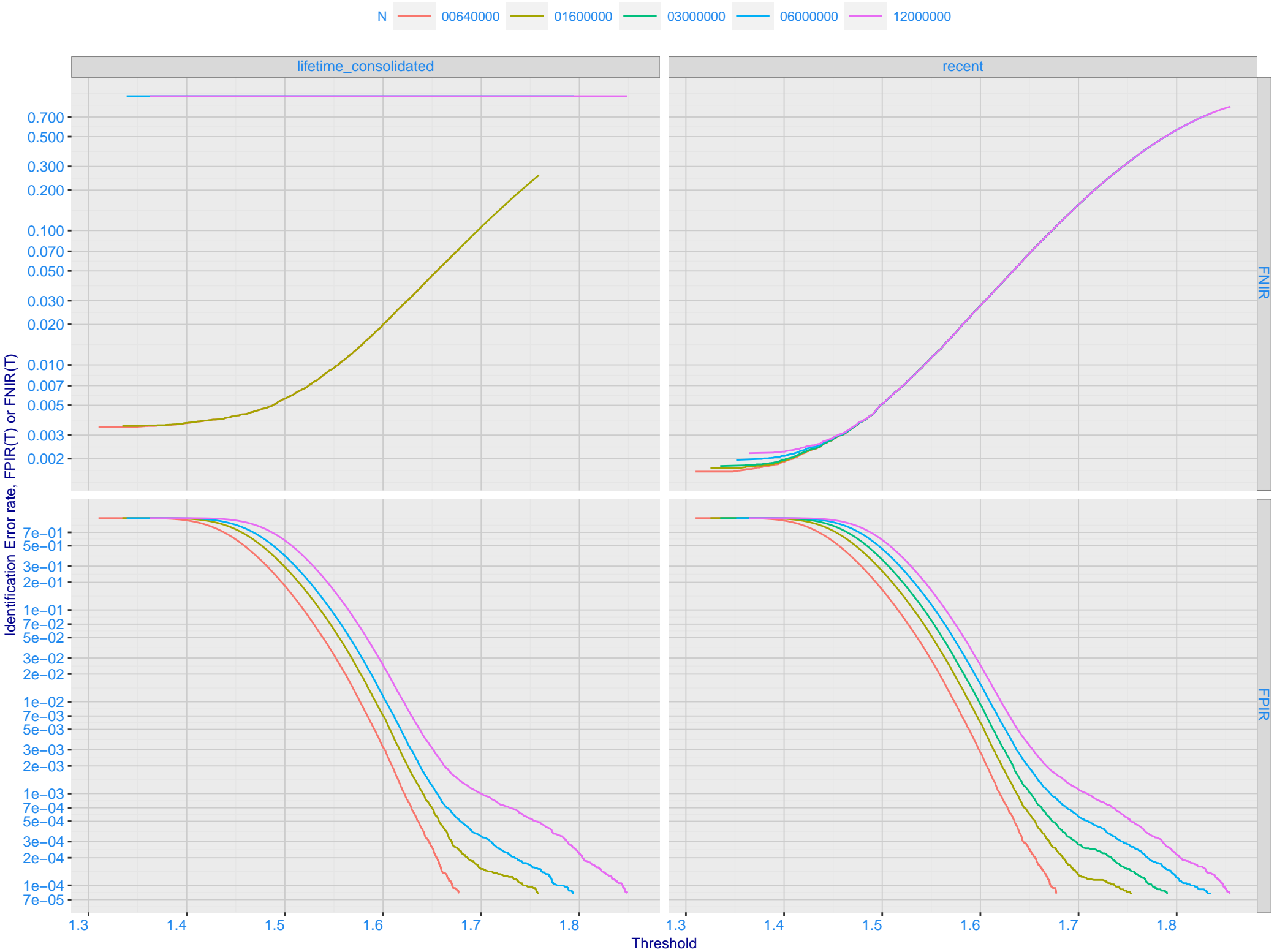B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)

**C: Evolution of accuracy for CYBERLINK algorithms on three datasets 2018 – present**
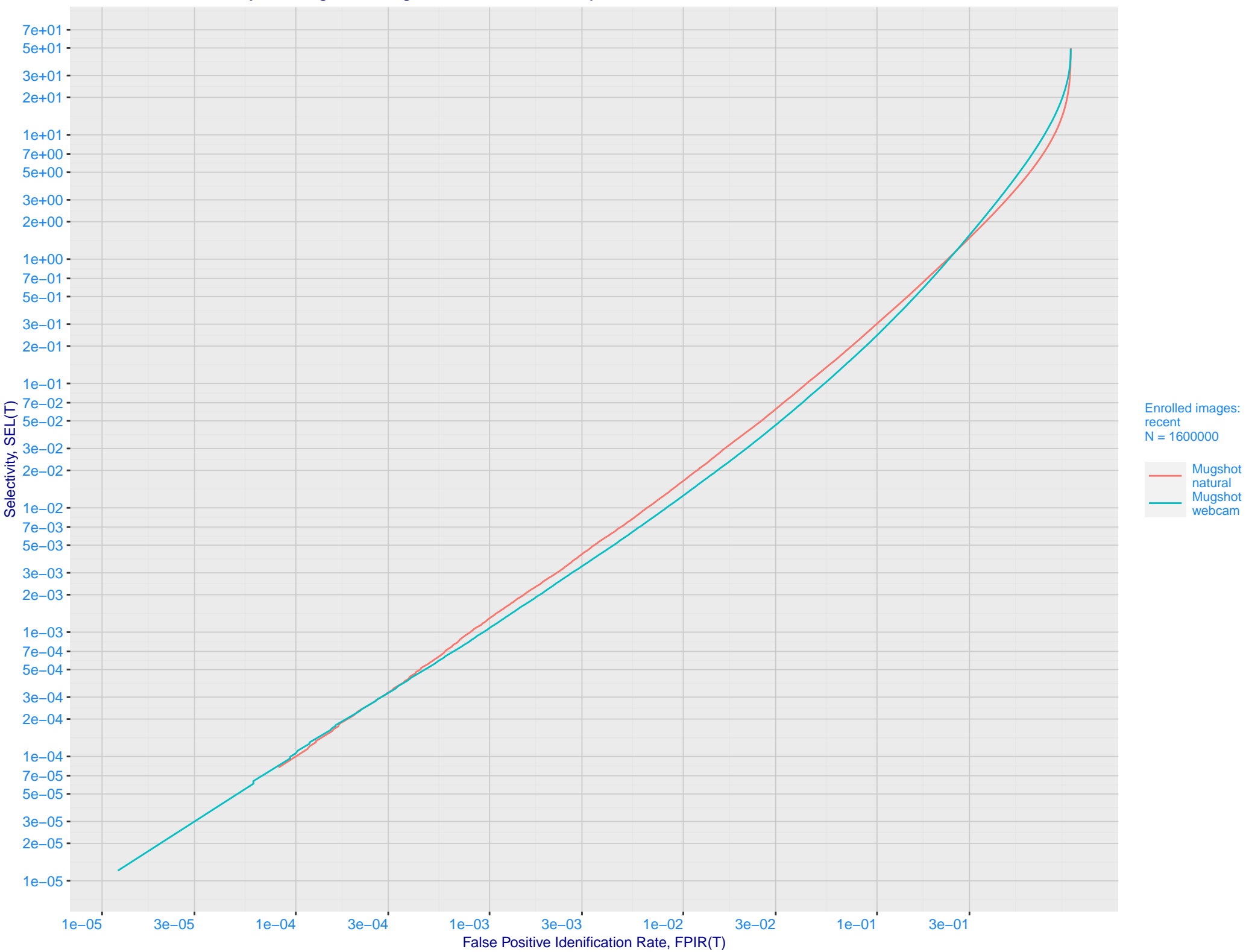
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals
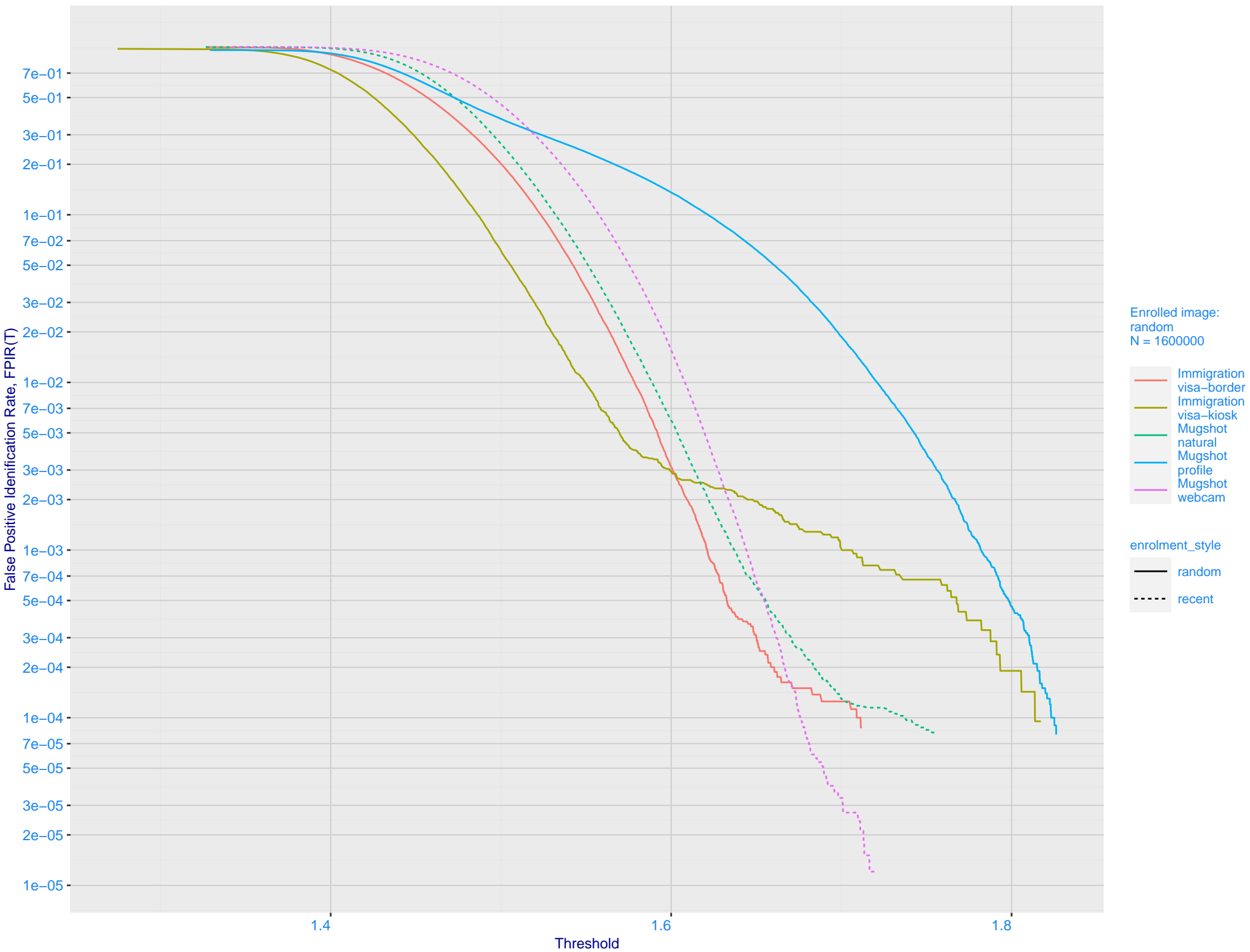
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
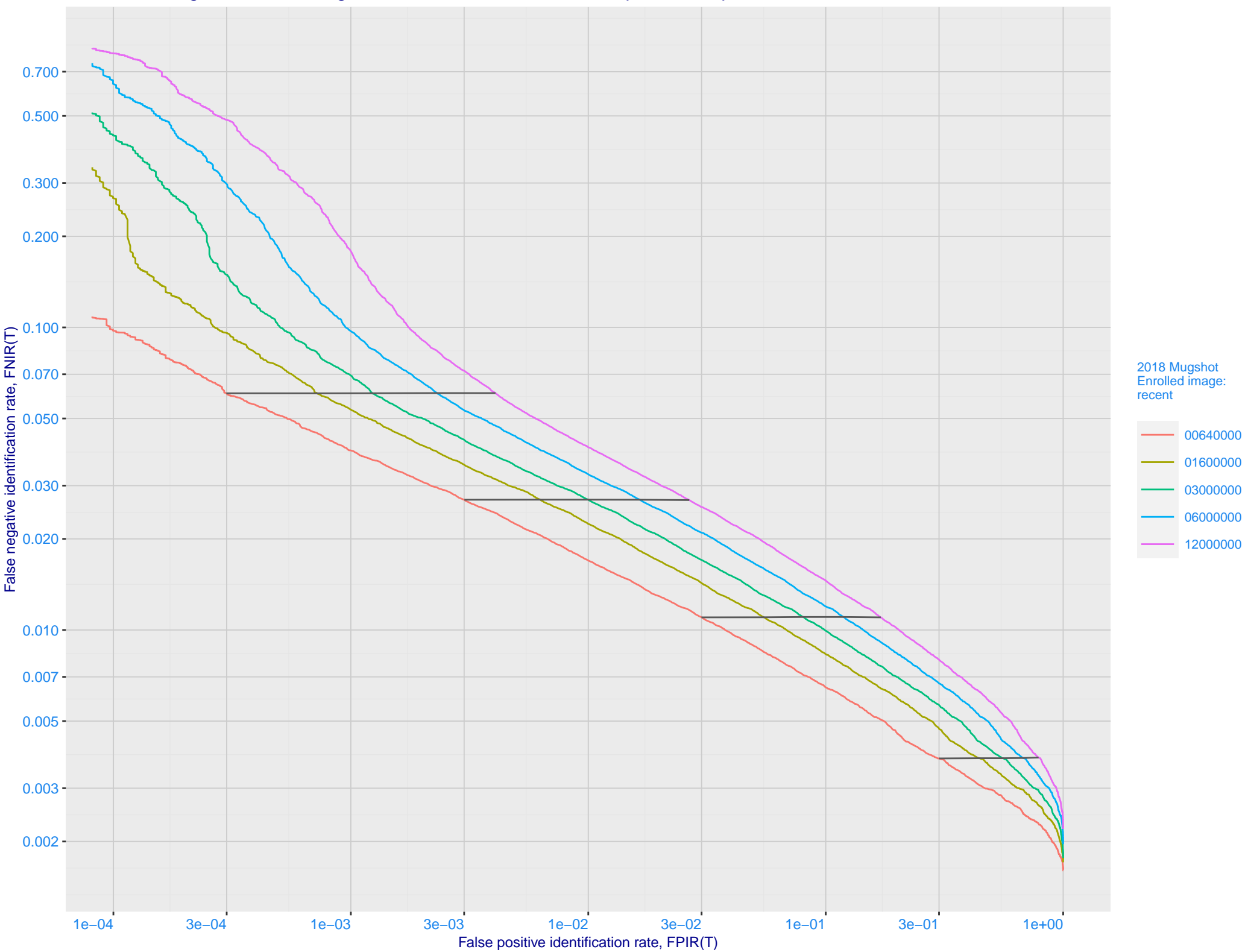
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate

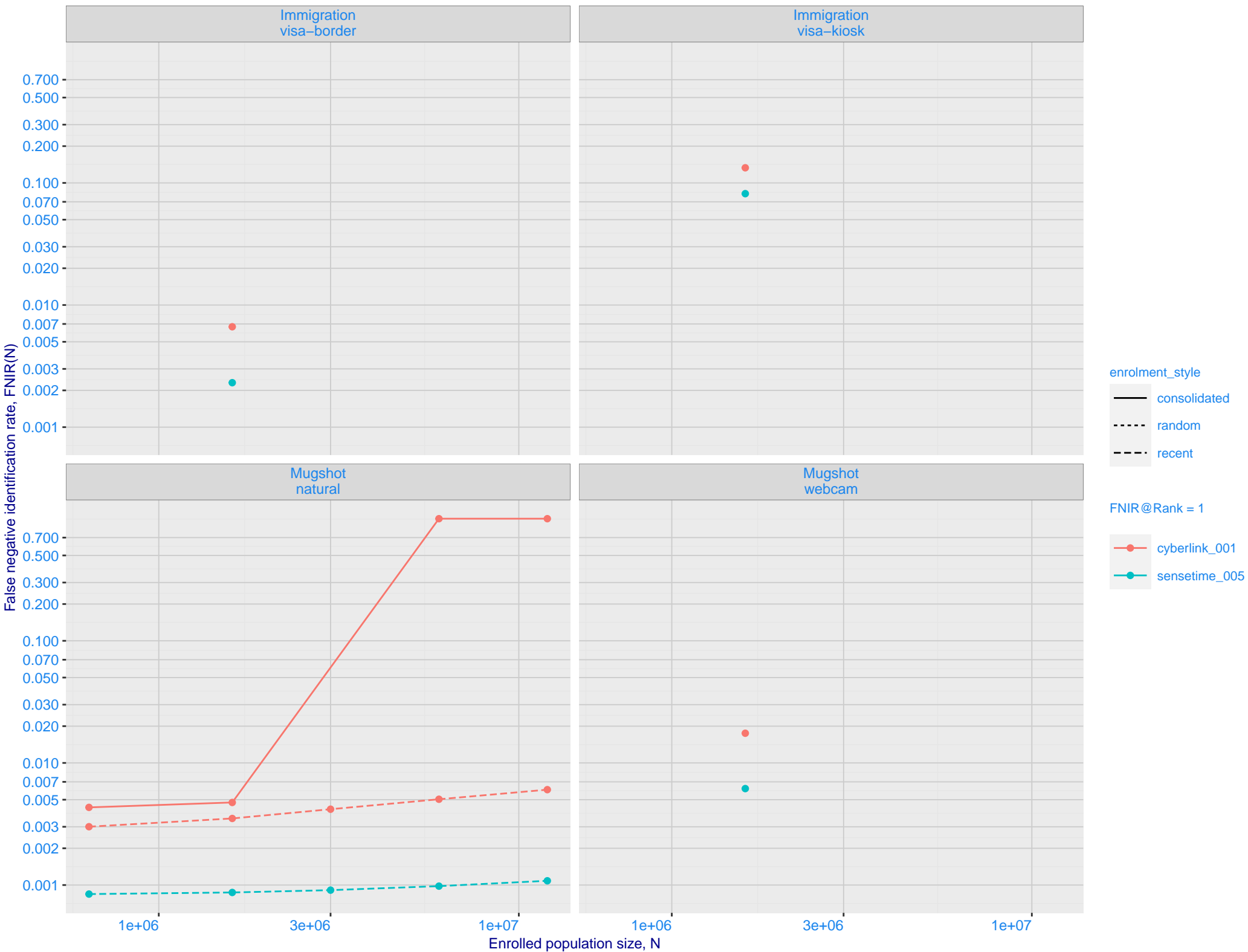G: FPIR dependence on T by probe type for N = 1600000 subjects

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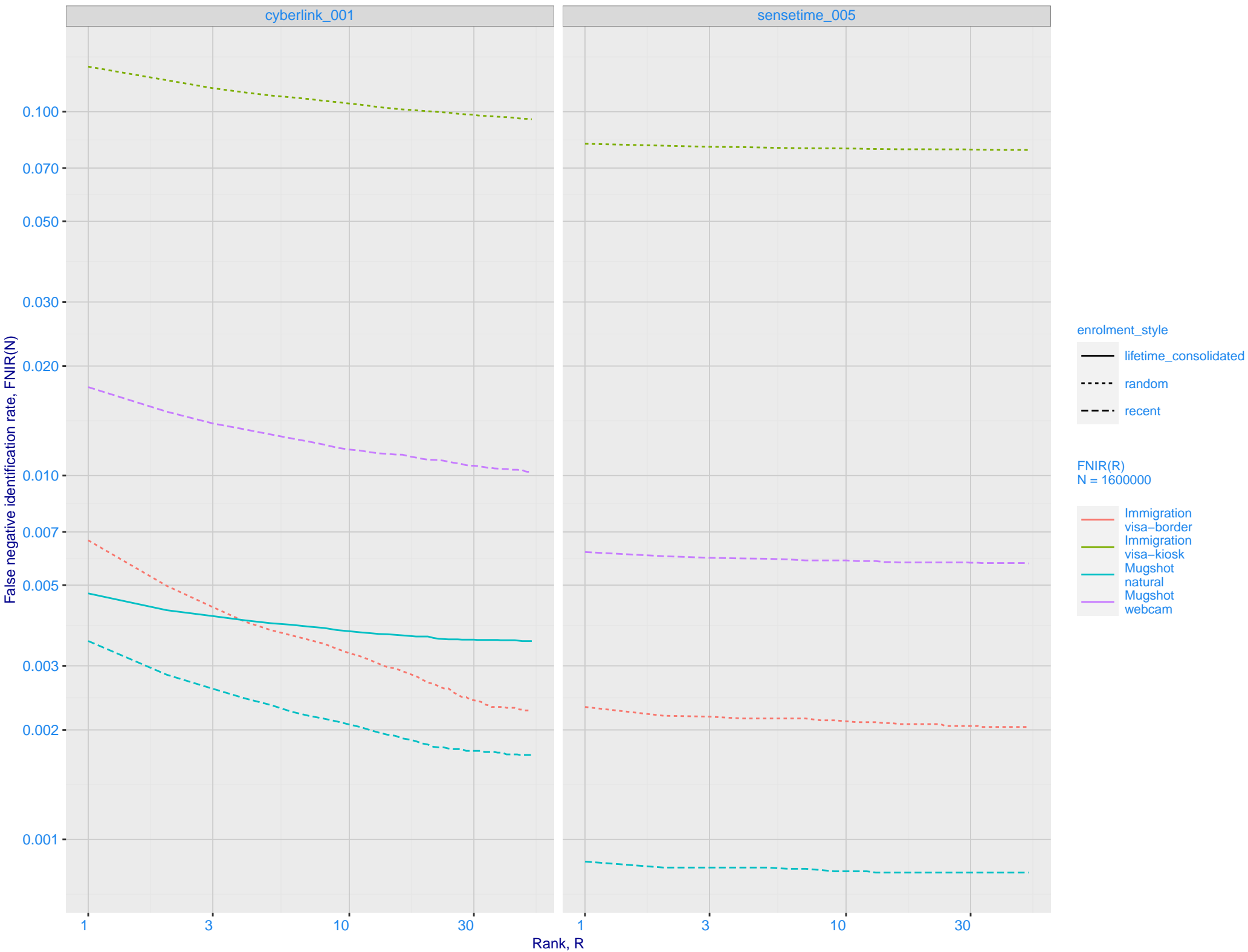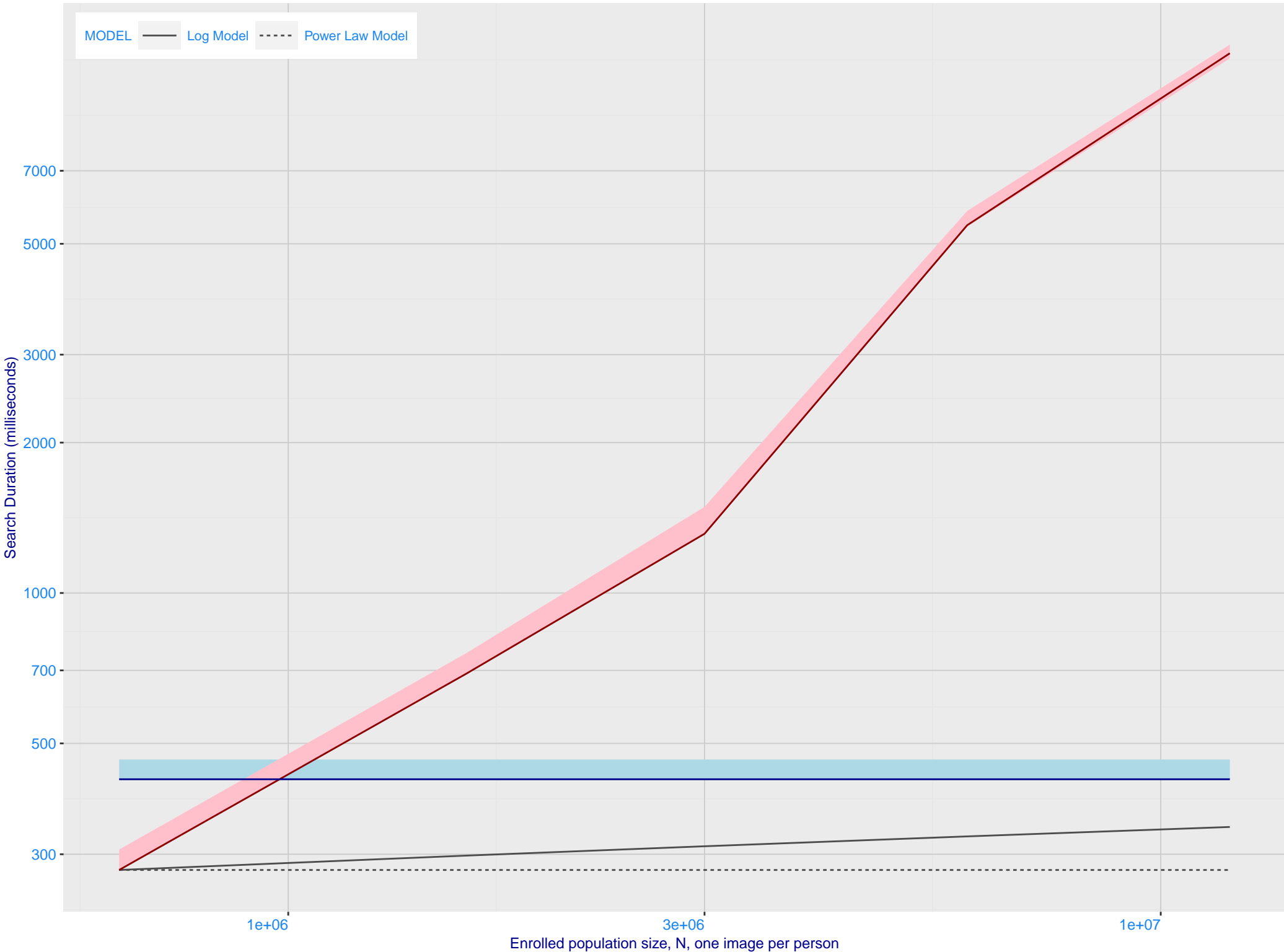
I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)

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

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