A: Datasheet

Algorithm: incode_0

Developer: Incode Technologies Inc

Submission Date: 2018_06_29

Template size: 1024 bytes

Template time (2.5 percentile): 168 msec

Template time (median): 189 msec

Template time (97.5 percentile): 219 msec

Investigation:

Frontal mugshot ranking 203 (out of 265) –– FNIR(1600000, 0, 1) = 0.0489 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 179 (out of 227) –– FNIR(1600000, 0, 1) = 0.0996 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 141 (out of 196) –– FNIR(1600000, 0, 1) = 0.9513 vs. lowest 0.0591 from sensetime_005

Identification:

Frontal mugshot ranking 197 (out of 265) –– FNIR(1600000, T, L+1) = 0.3104, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
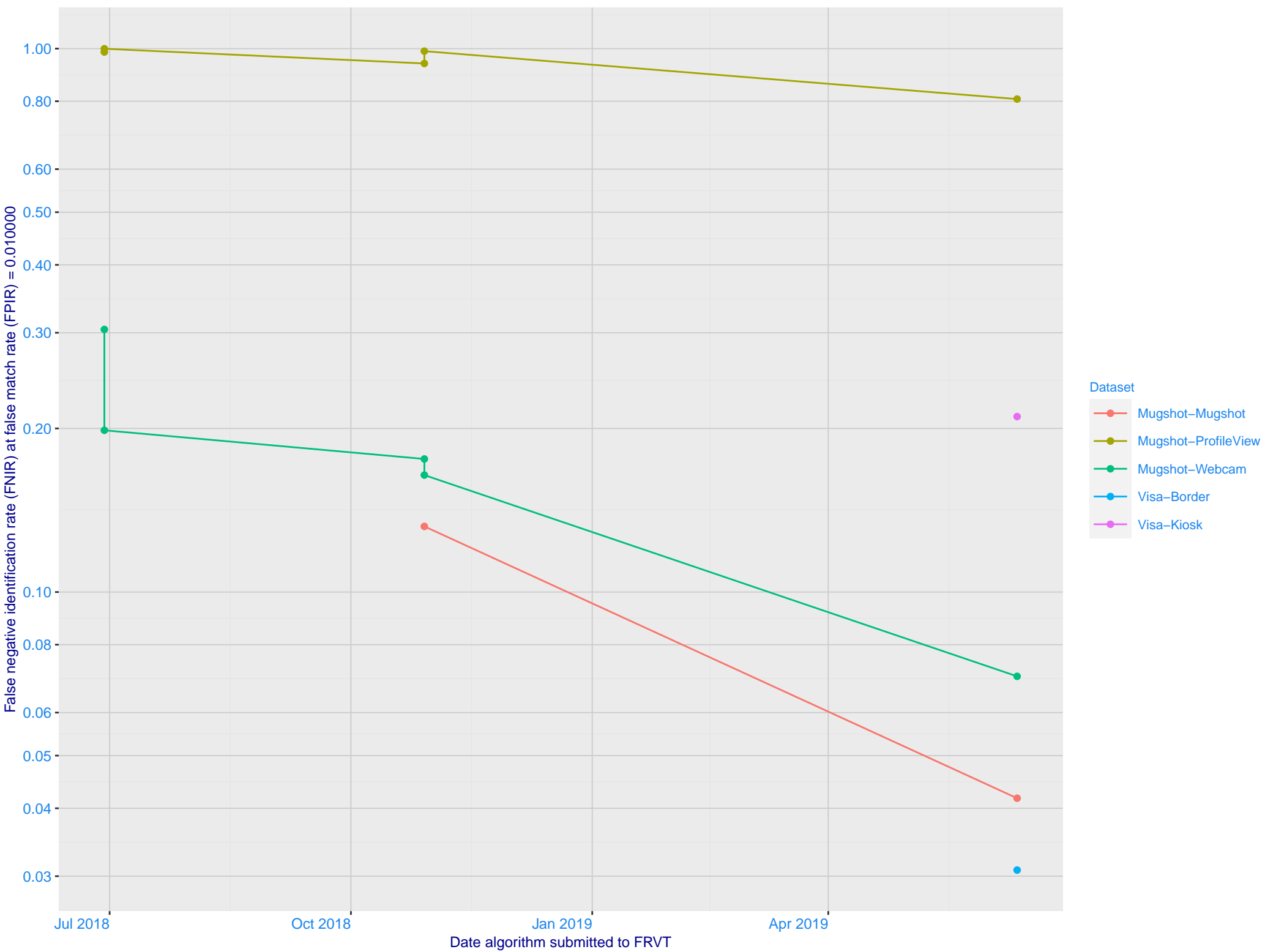
Mugshot webcam ranking 174 (out of 225) –– FNIR(1600000, T, L+1) = 0.4195, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 121 (out of 195) –– FNIR(1600000, T, L+1) = 0.9981, FPIR=0.001000 vs. lowest 0.1331 from hr_000
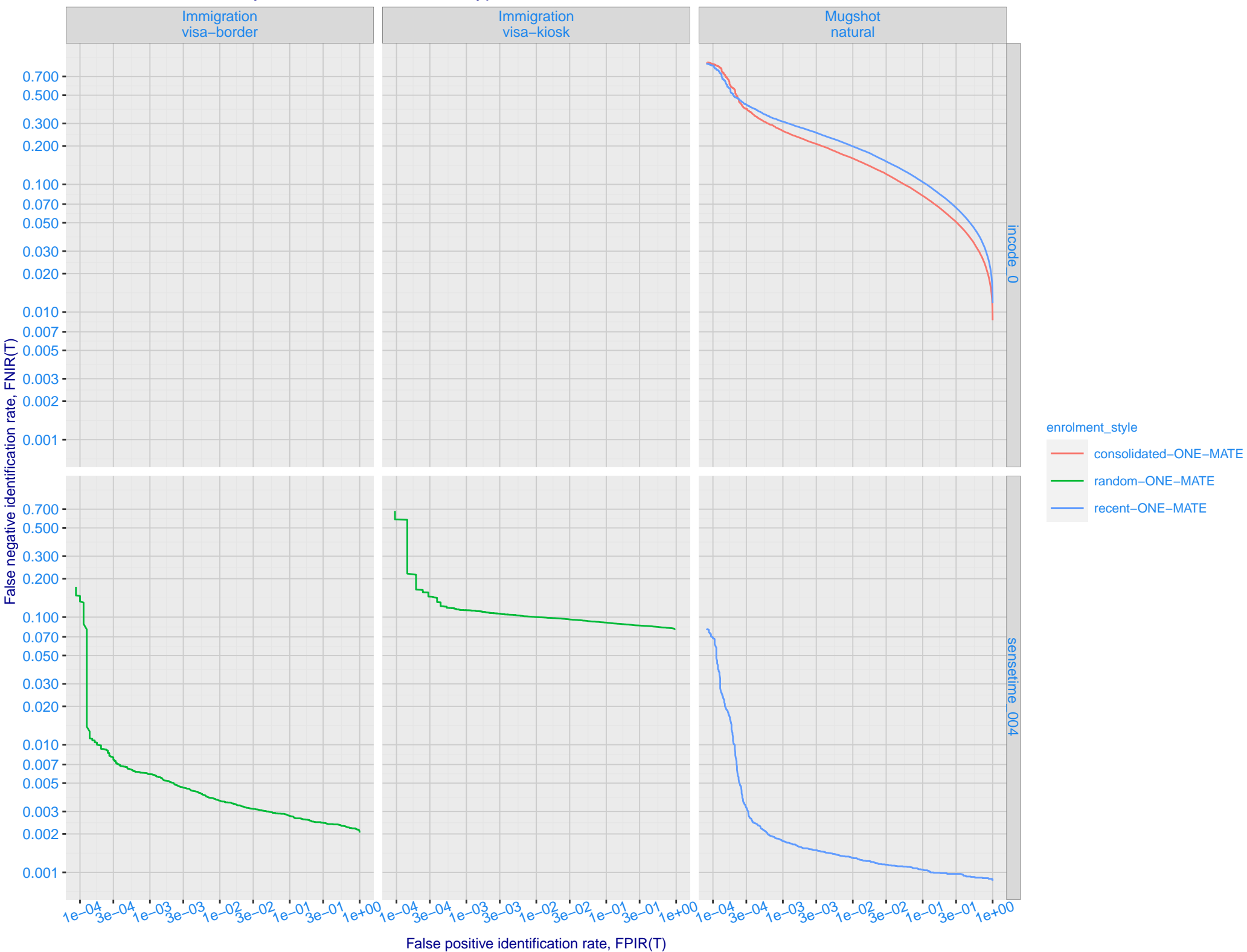
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
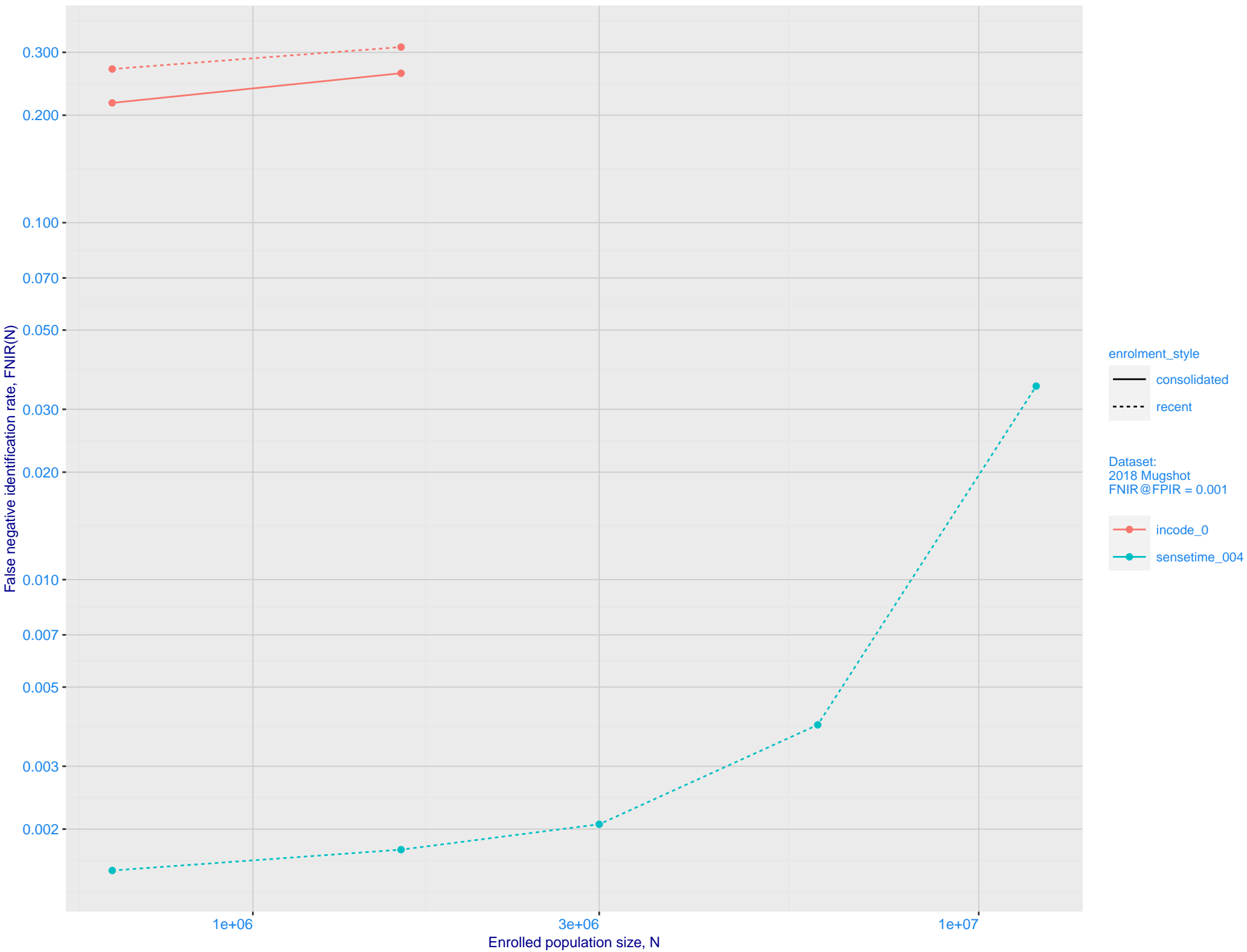
C: Evolution of accuracy for INCODE algorithms on three datasets 2018 – present

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

Immigration visa–border | Immigration visa–kiosk | Mugshot natural

incode_0 / sensetime_004

enrolment_style
- consolidated–ONE–MATE
- random–ONE–MATE
- recent–ONE–MATE

False negative identification rate, FNIR(T)
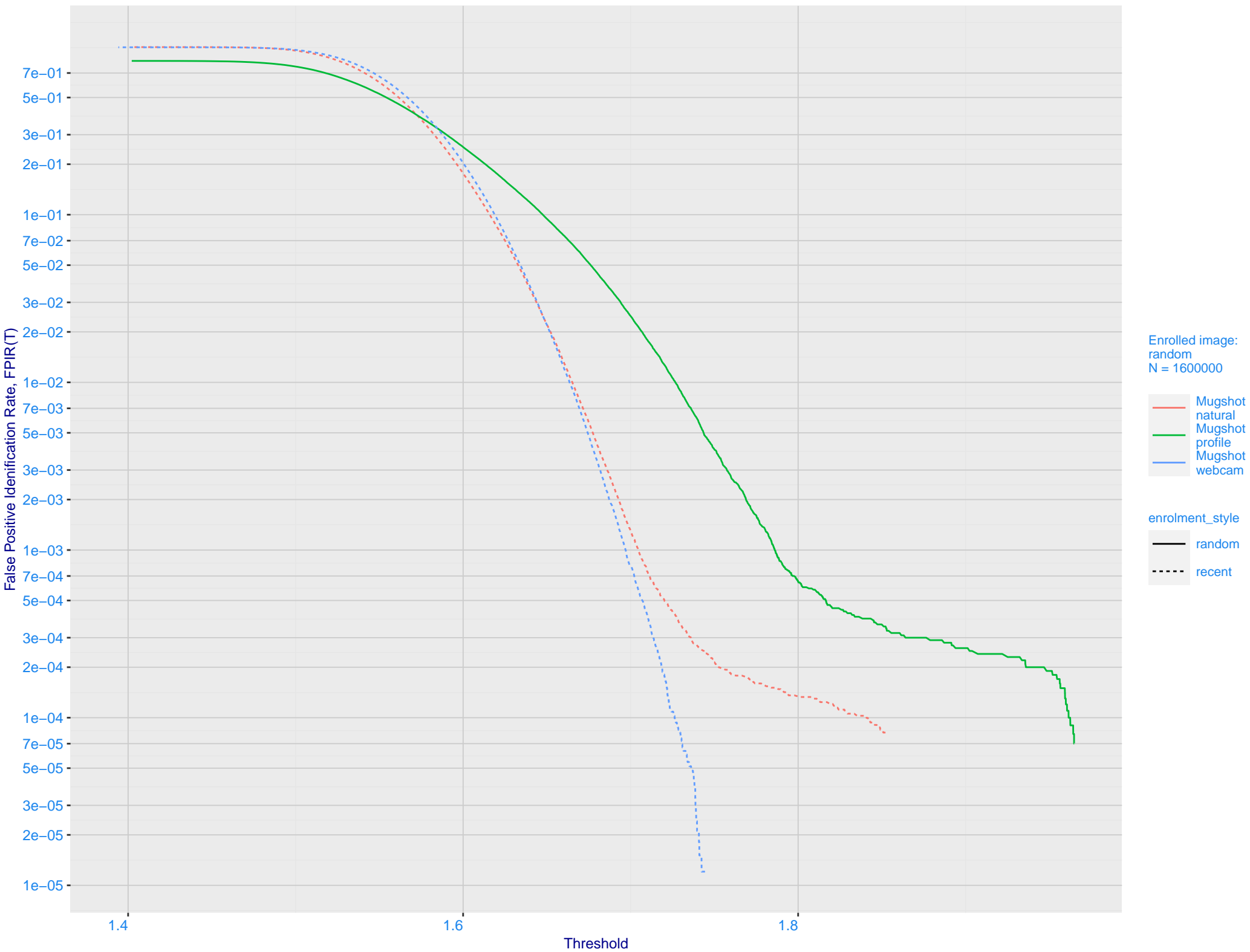
False positive identification rate, FPIR(T)

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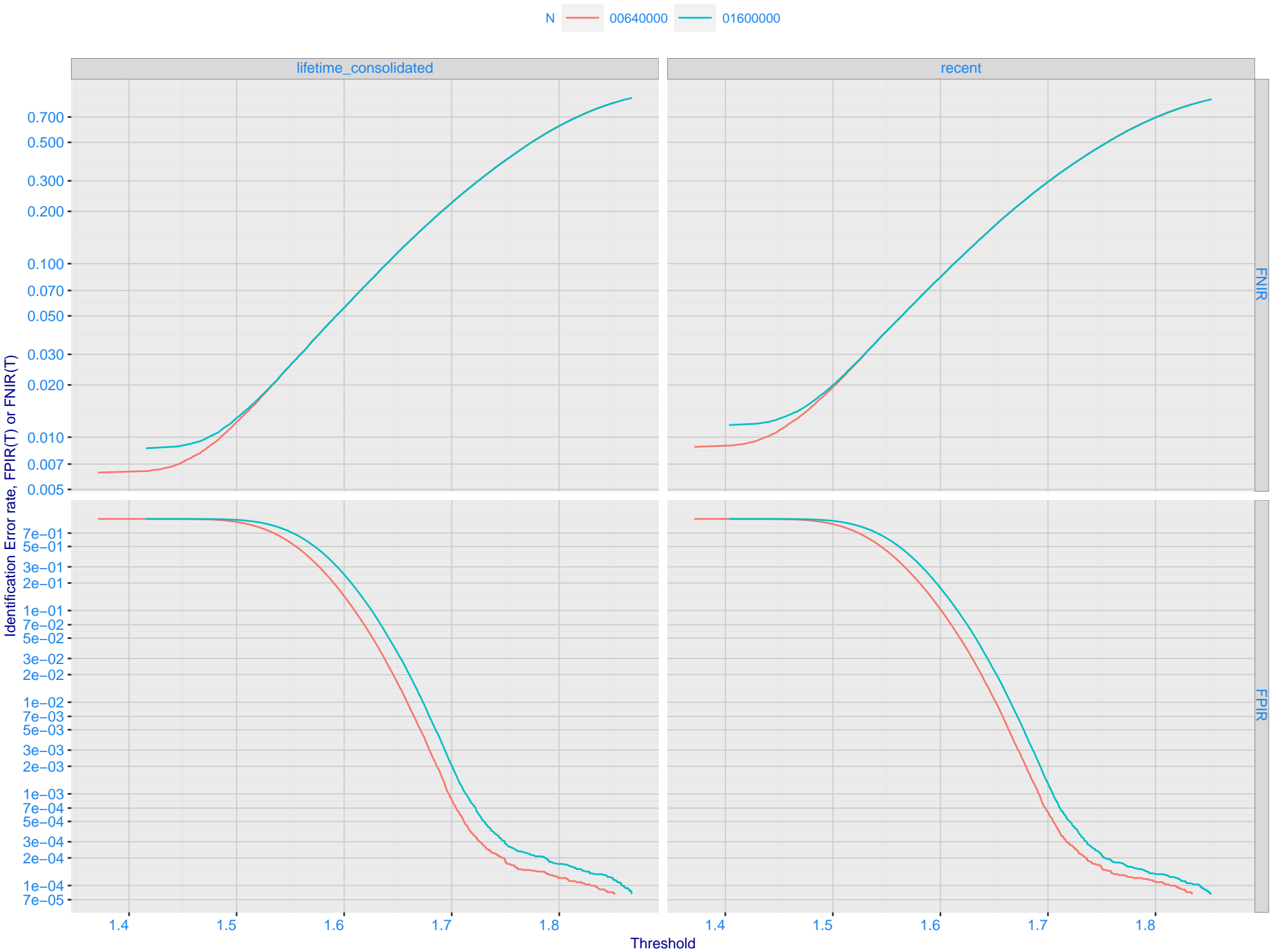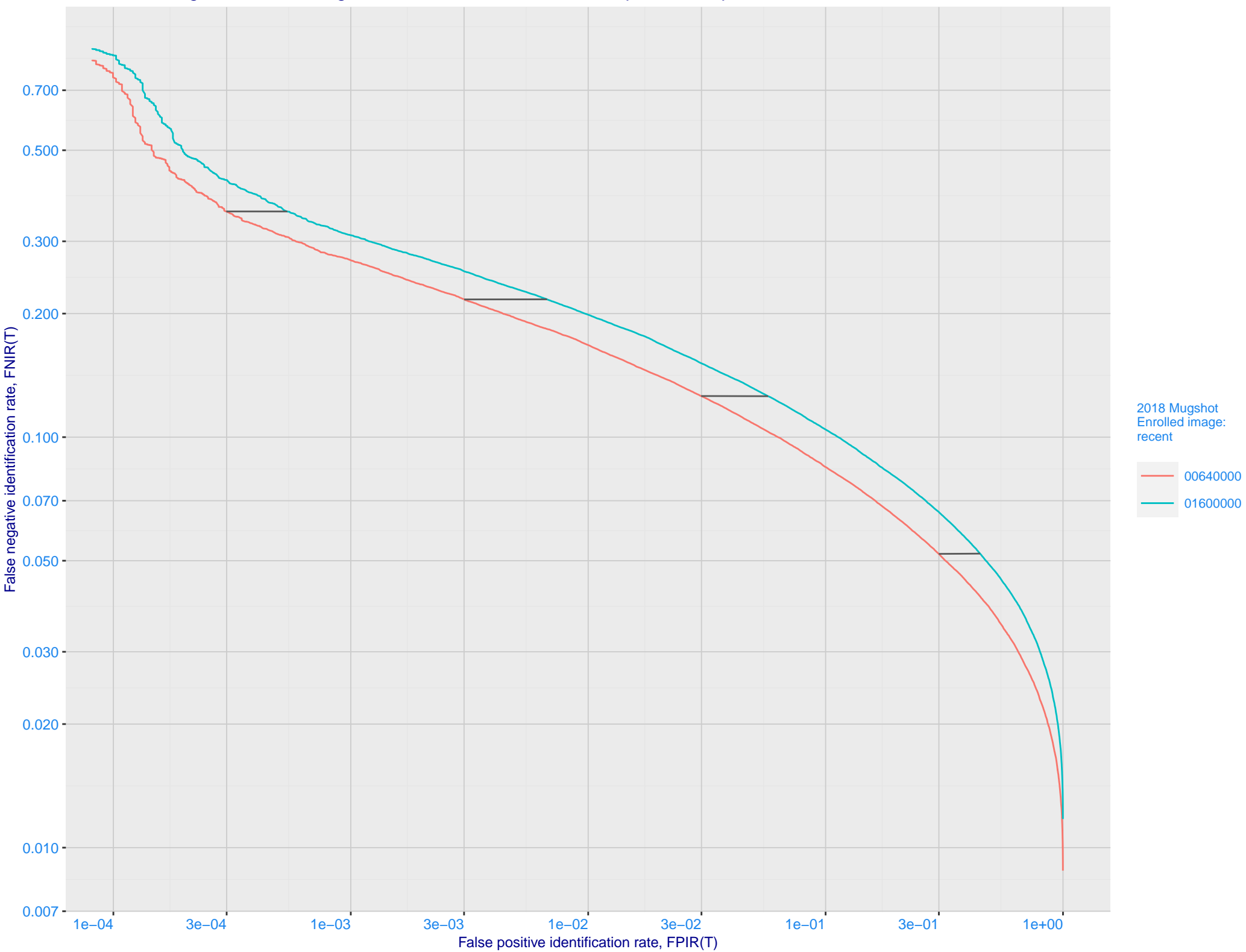
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
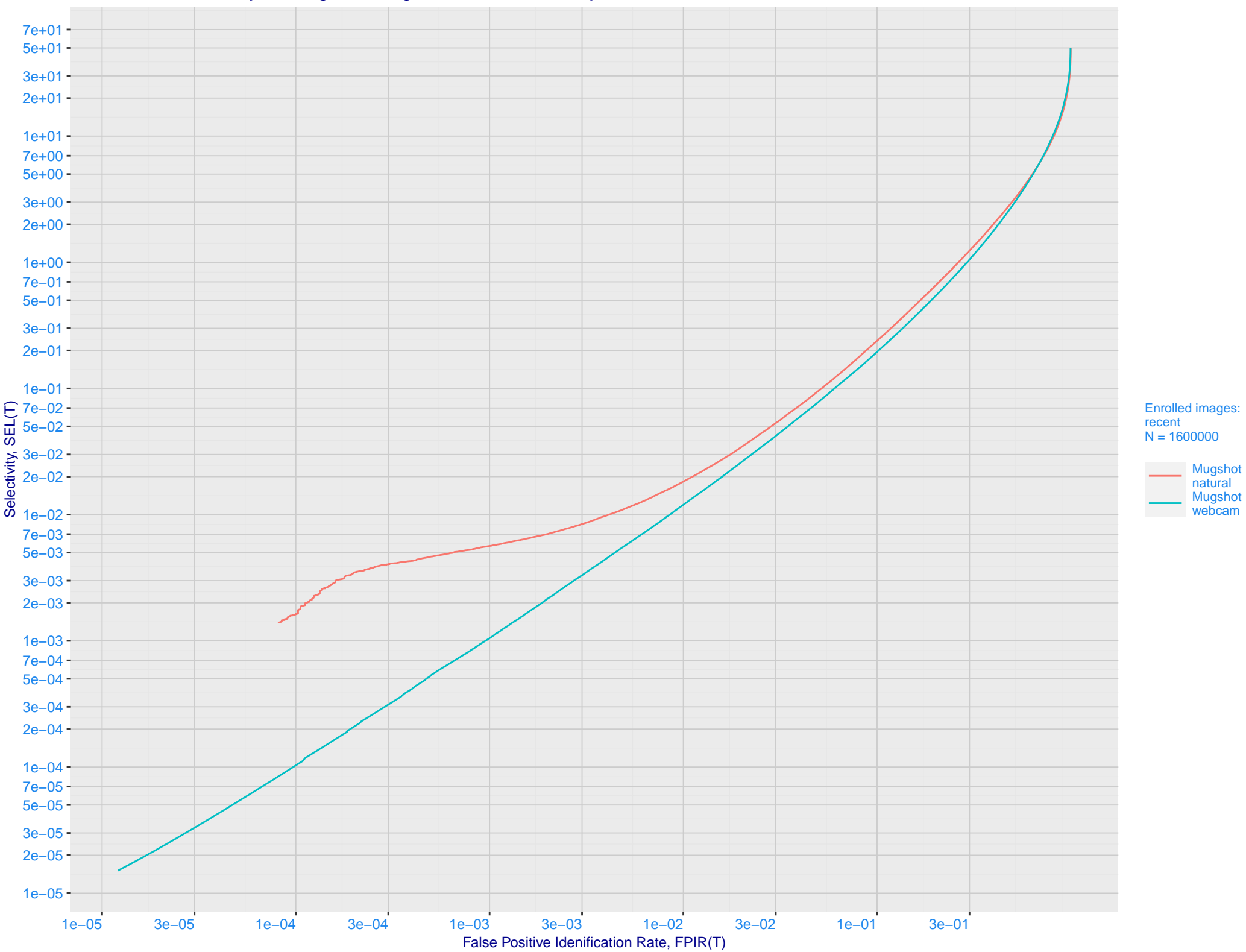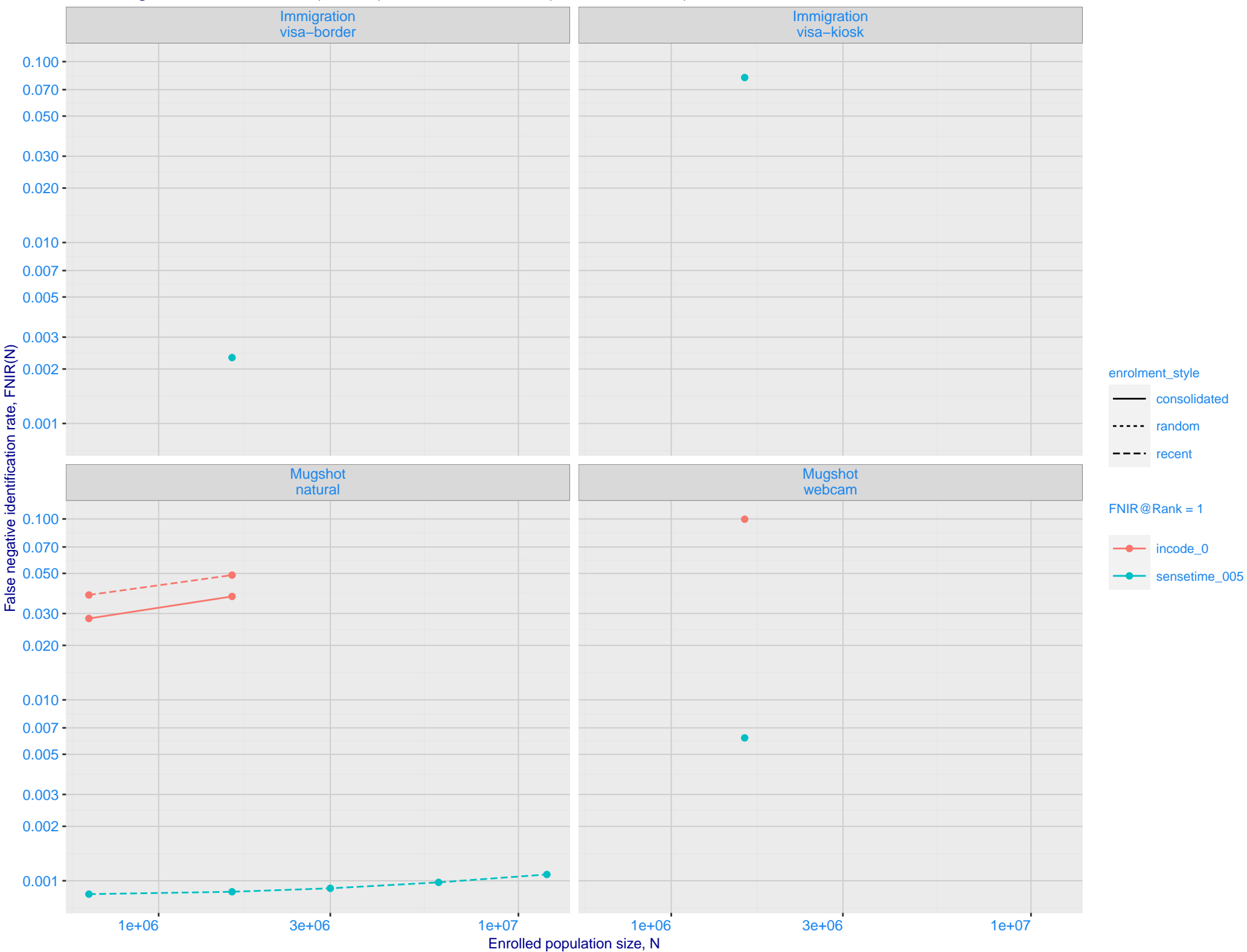
G: FPIR dependence on T by probe type for N = 1600000 subjects

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

False negative identification rate, FNIR(T) (y-axis)

False positive identification rate, FPIR(T) (x-axis)

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
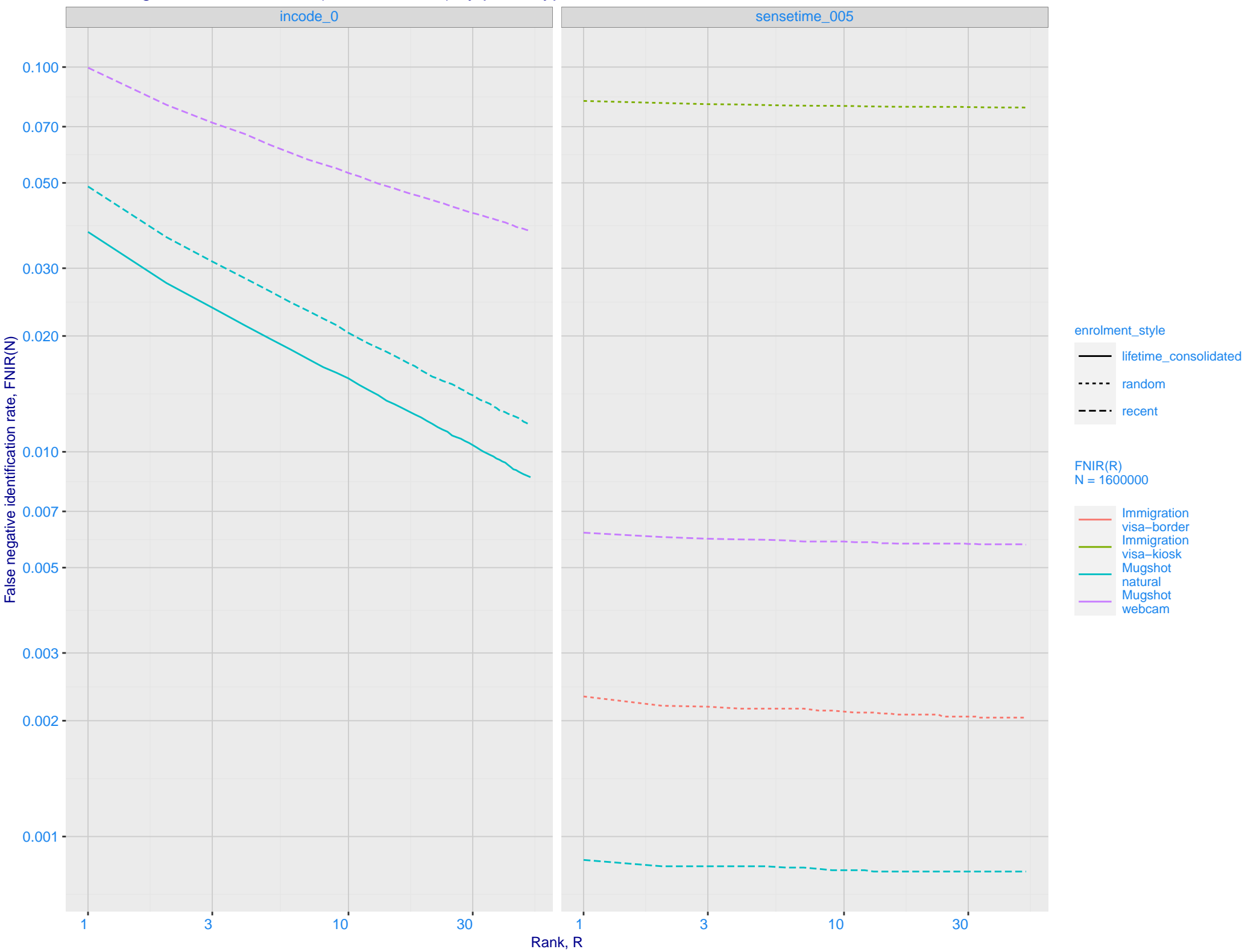
Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power–law models are fit to the first two (N,T) observations
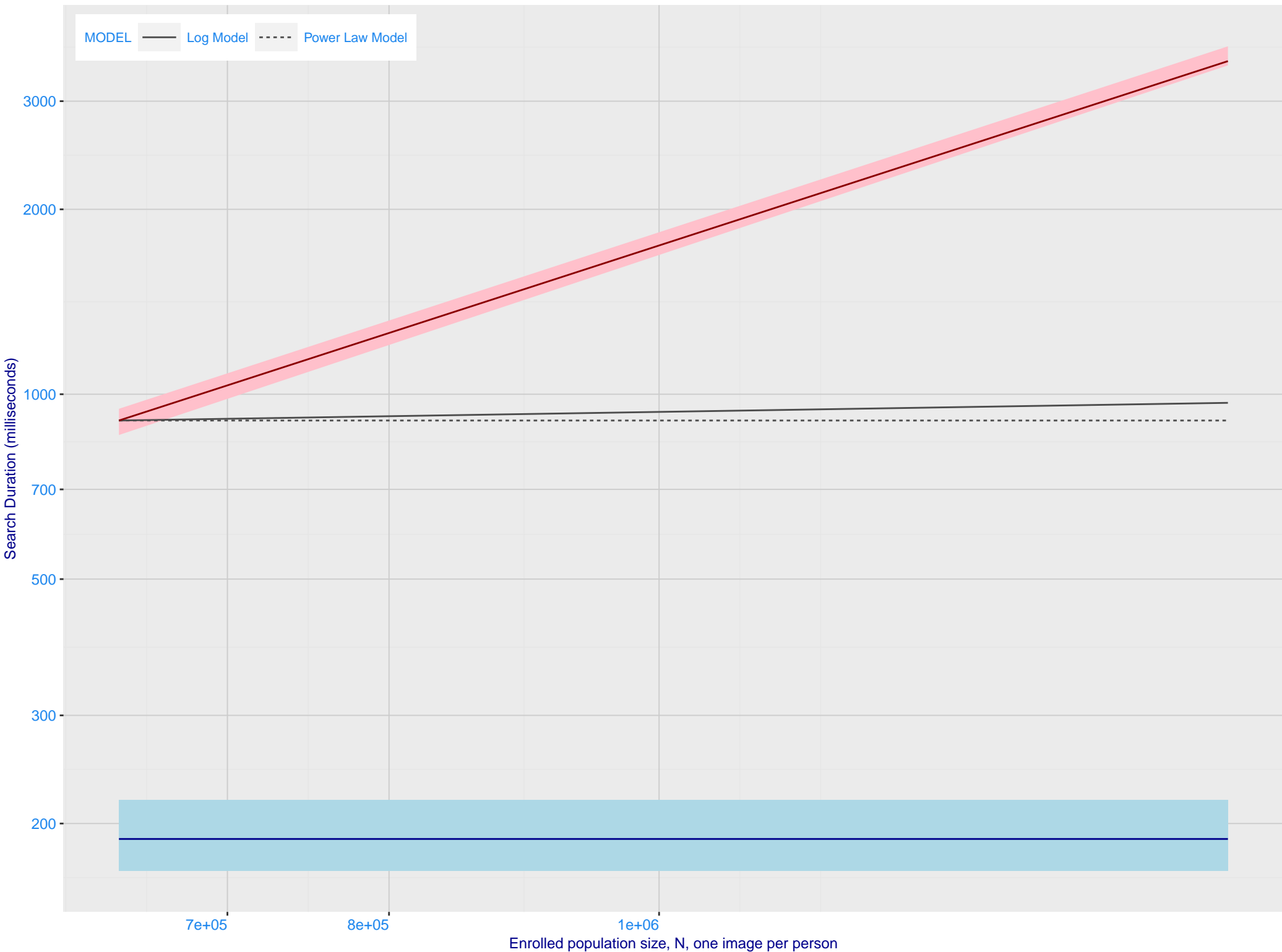
M: Identification FNIR(N, T, L+1) and Investigational FNIR(N, 0, R) under ageing