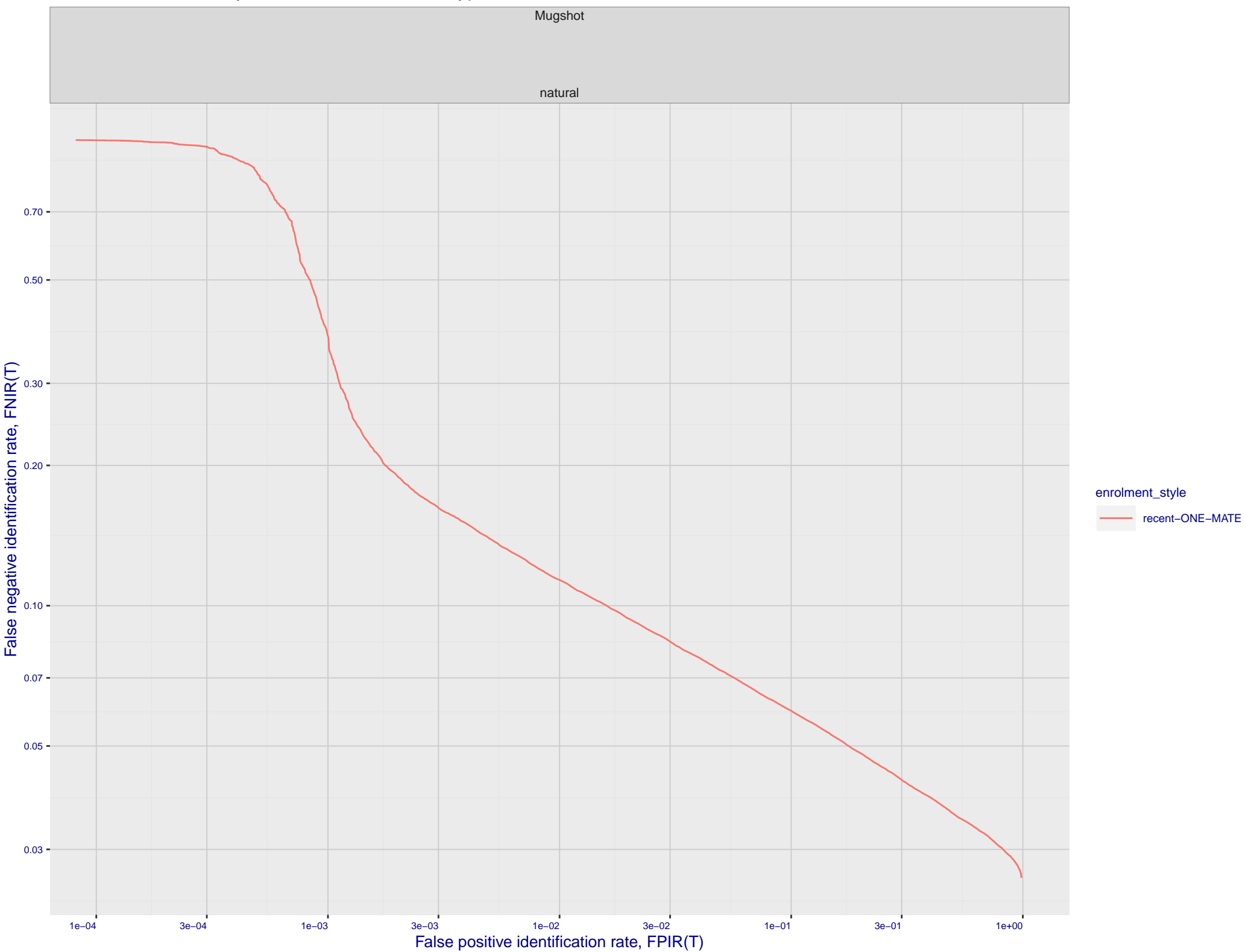A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

Mugshot

natural

False negative identification rate, FNIR(T)

False positive identification rate, FPIR(T)
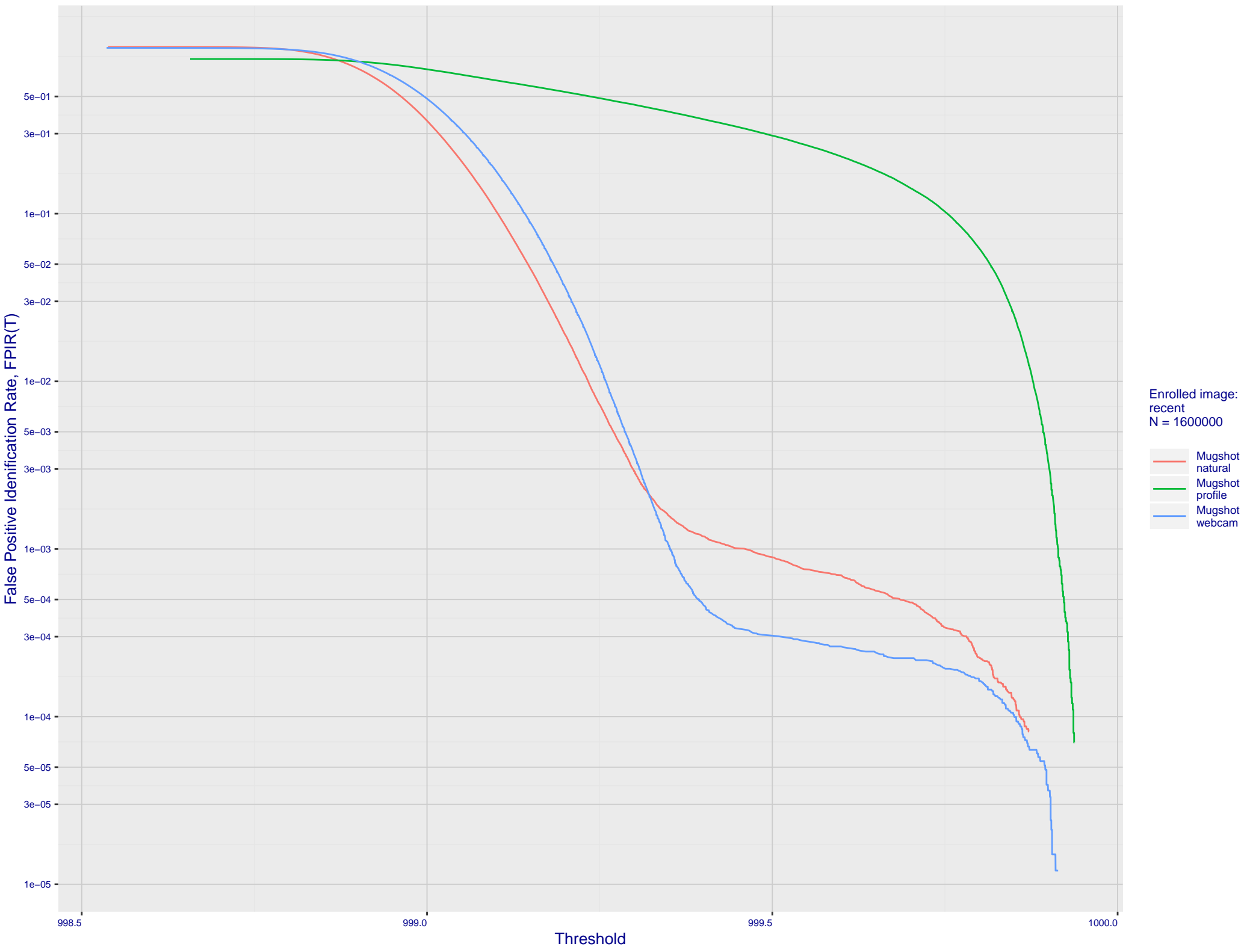
enrolment_style

recent−ONE−MATE

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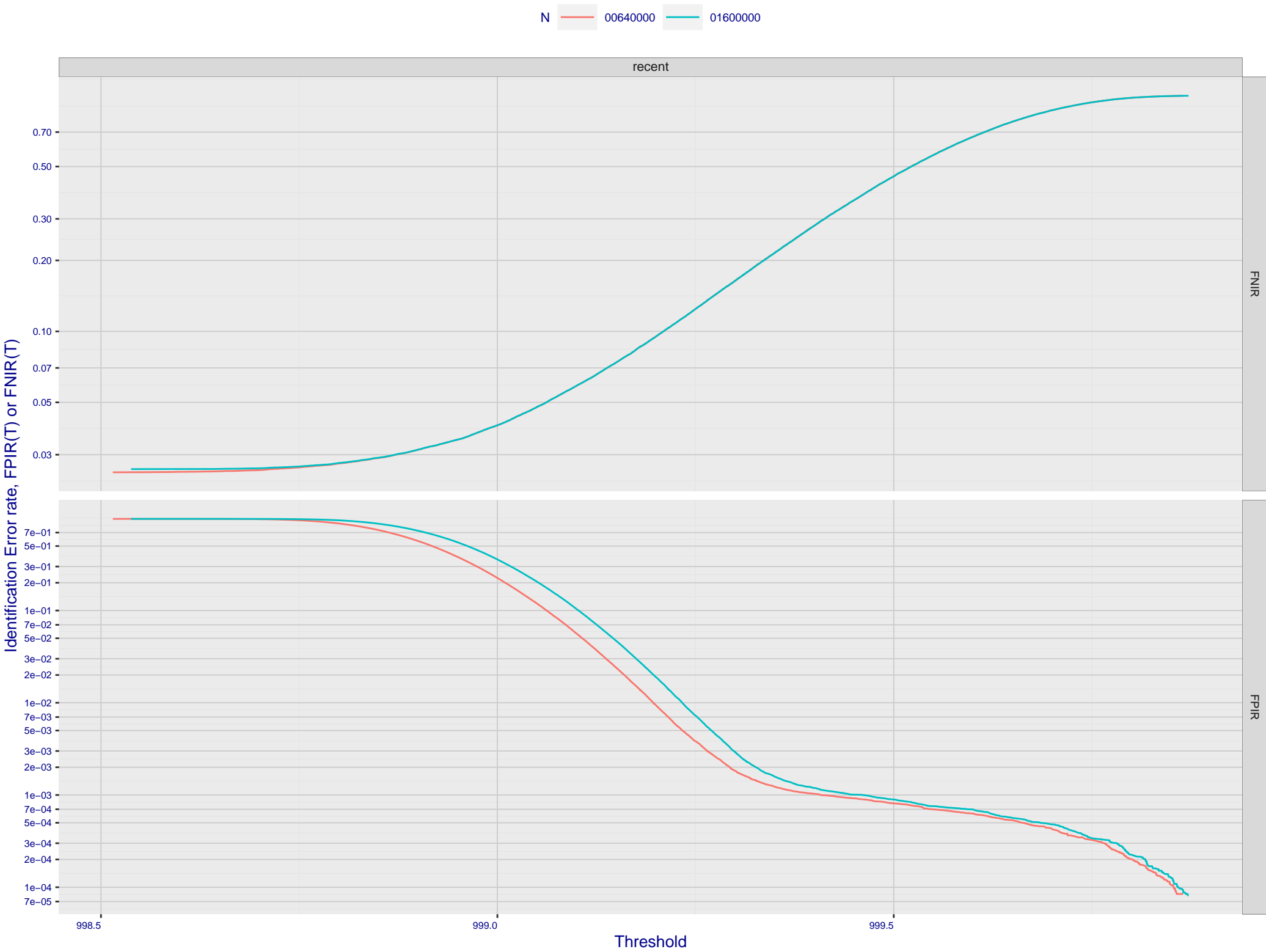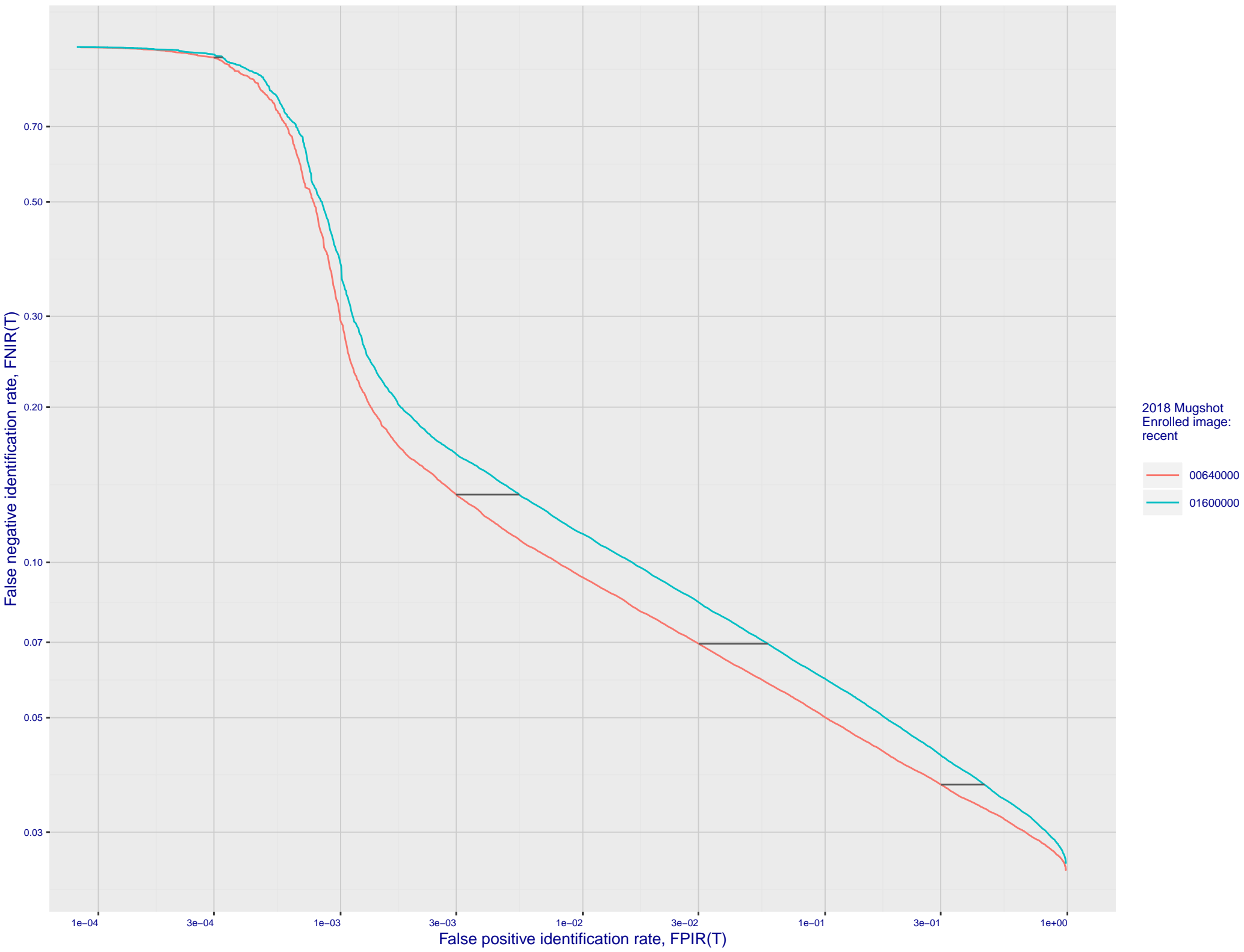
C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
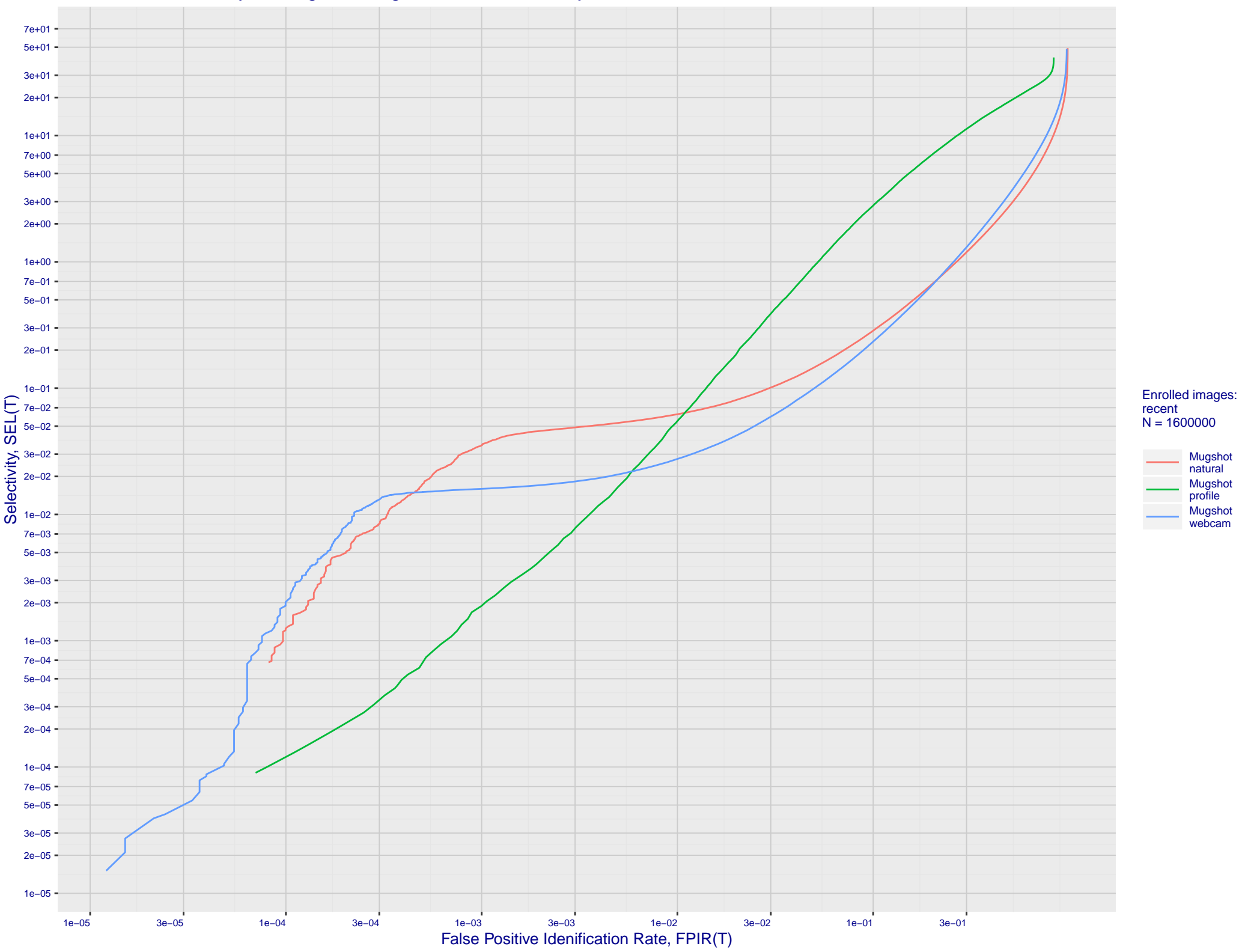
D: FPIR dependence on T by probe type for N = 1600000 subjects

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

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

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

2018 Mugshot
Enrolled image:
recent

— 00640000
— 01600000

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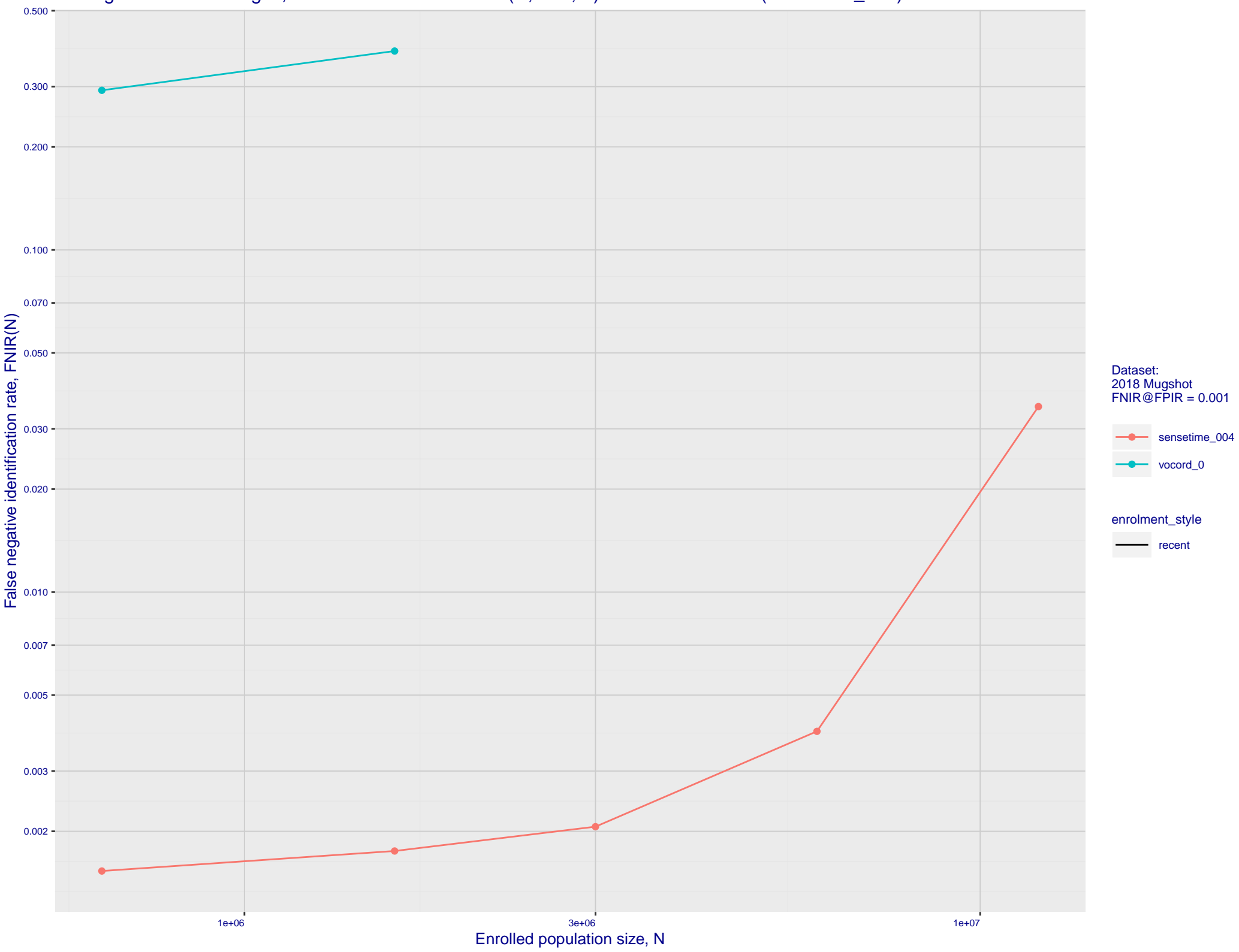
## G: Datasheet

Algorithm: vocord_0

Developer: Vocord

Submission Date: 2018_02_16

Template size: 608 bytes

Template time (2.5 percentile): 518 msec

Template time (median): 528 msec

Template time (97.5 percentile): 558 msec

Frontal mugshot investigation rank 174 –– FNIR(1600000, 0, 1) = 0.0378  vs. lowest 0.0010 from sensetime_004

natural investigation rank 149 –– FNIR(1600000, 0, 1) = 0.0681  vs. lowest 0.0067 from sensetime_003

natural investigation rank 221 –– FNIR(1600000, 0, 1) = 0.8955  vs. lowest 0.0492 from paravision_005

natural investigation rank 221 –– FNIR(1600000, 0, 1) = 0.8955  vs. lowest 0.0492 from paravision_005

Frontal mugshot identification rank 193 –– FNIR(1600000, T, L+1) = 0.3812  vs. lowest 0.0018 from sensetime_004
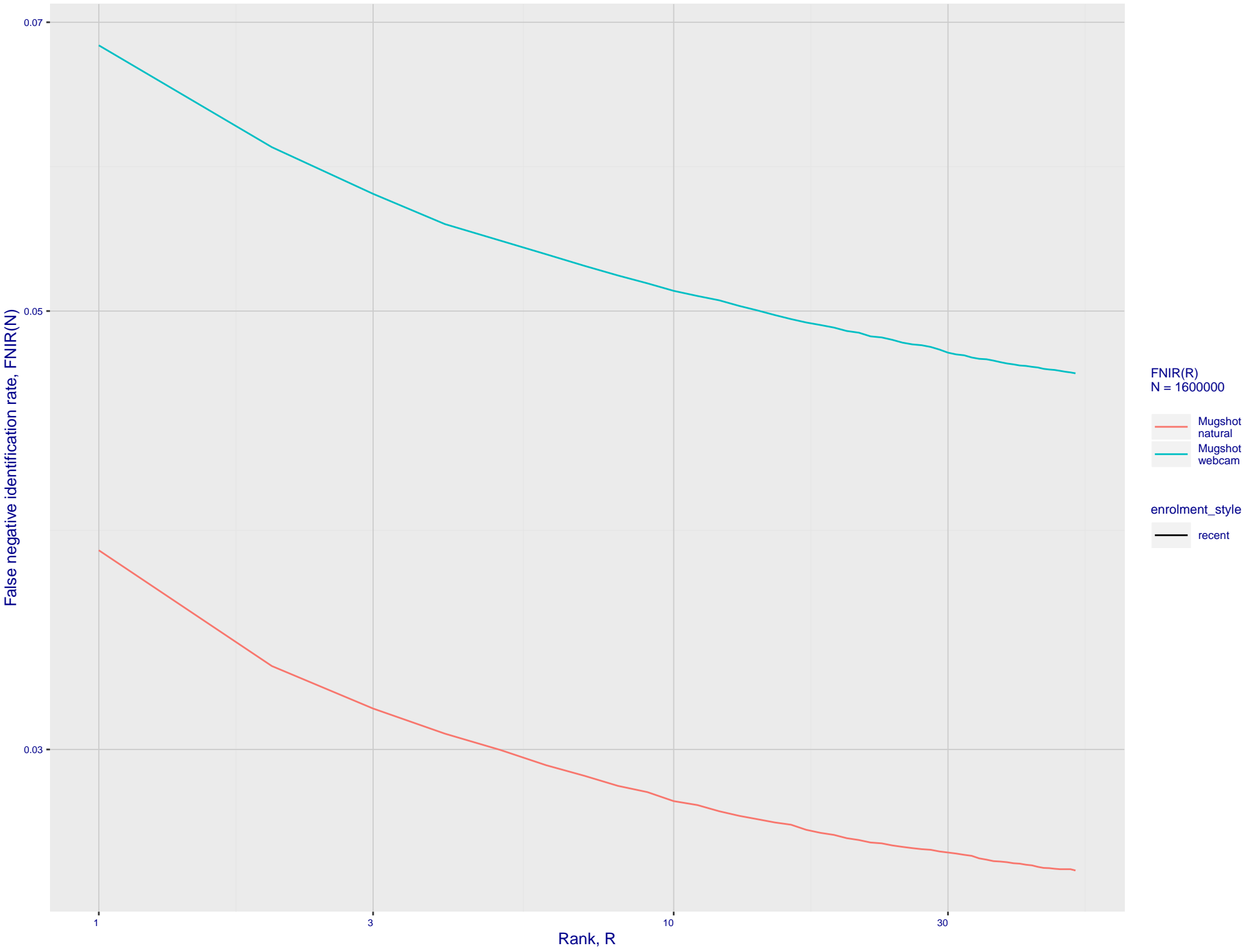
natural identification rank 140 –– FNIR(1600000, T, L+1) = 0.2846  vs. lowest 0.0122 from sensetime_003

natural identification rank 173 –– FNIR(1600000, T, L+1) = 0.9999  vs. lowest 0.1020 from sensetime_004

H: Investigational mode: FNIR(N, 1, 0) vs. most accurate (yitu_4)
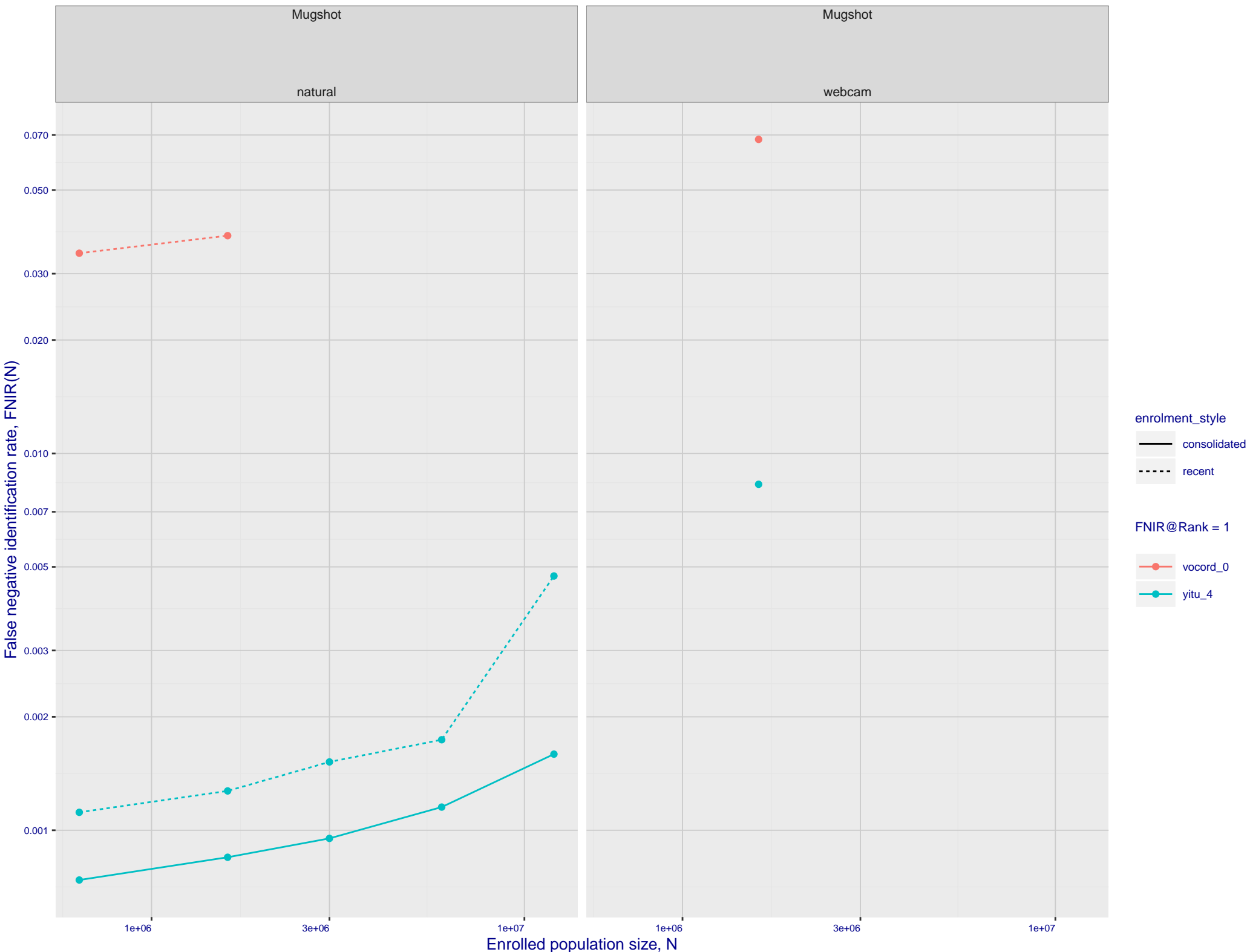
I: Investigational mode: FNIR(1600000, R, 0) by probe type

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)

500

300

200

100

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

Enrolled population size, N, one image per person