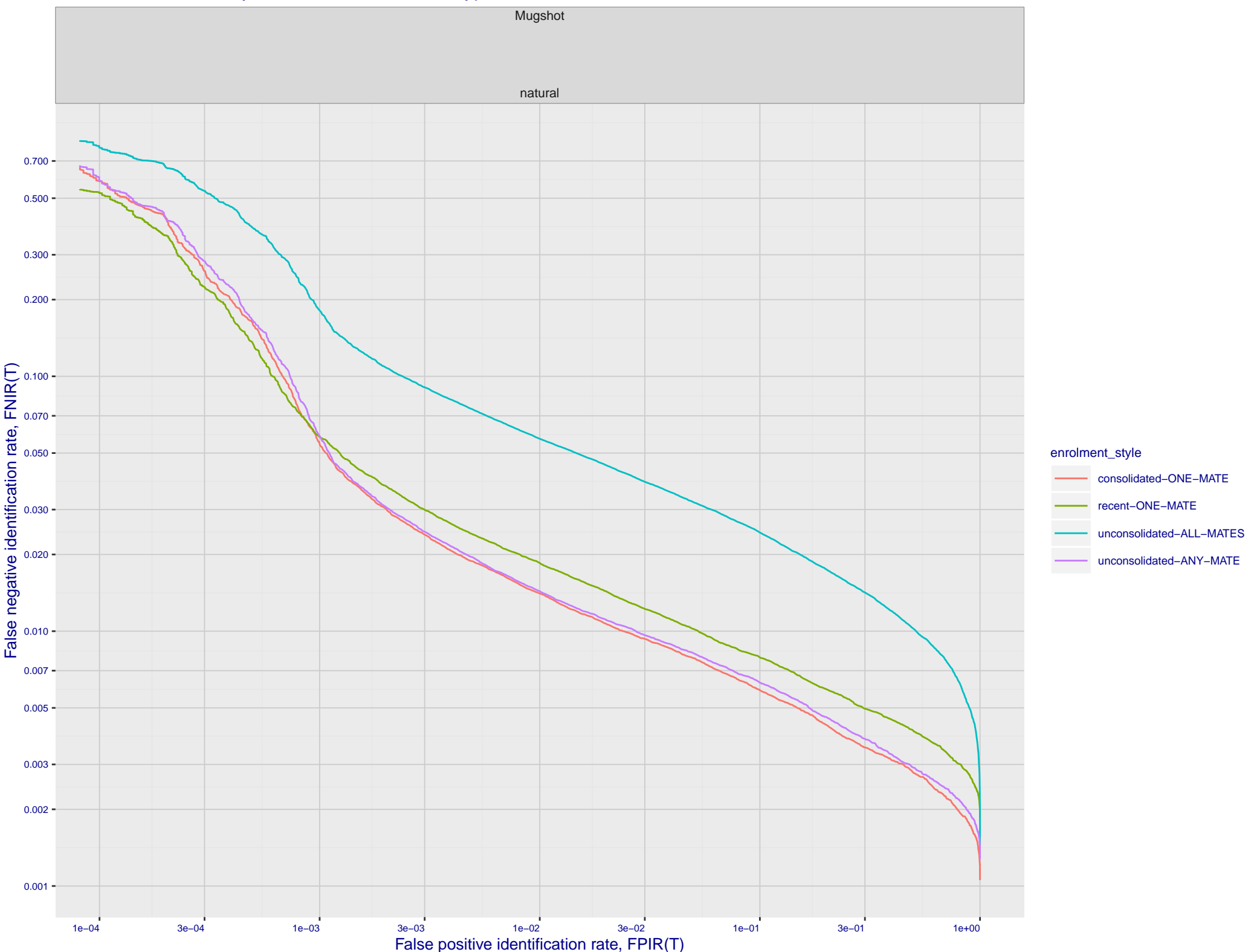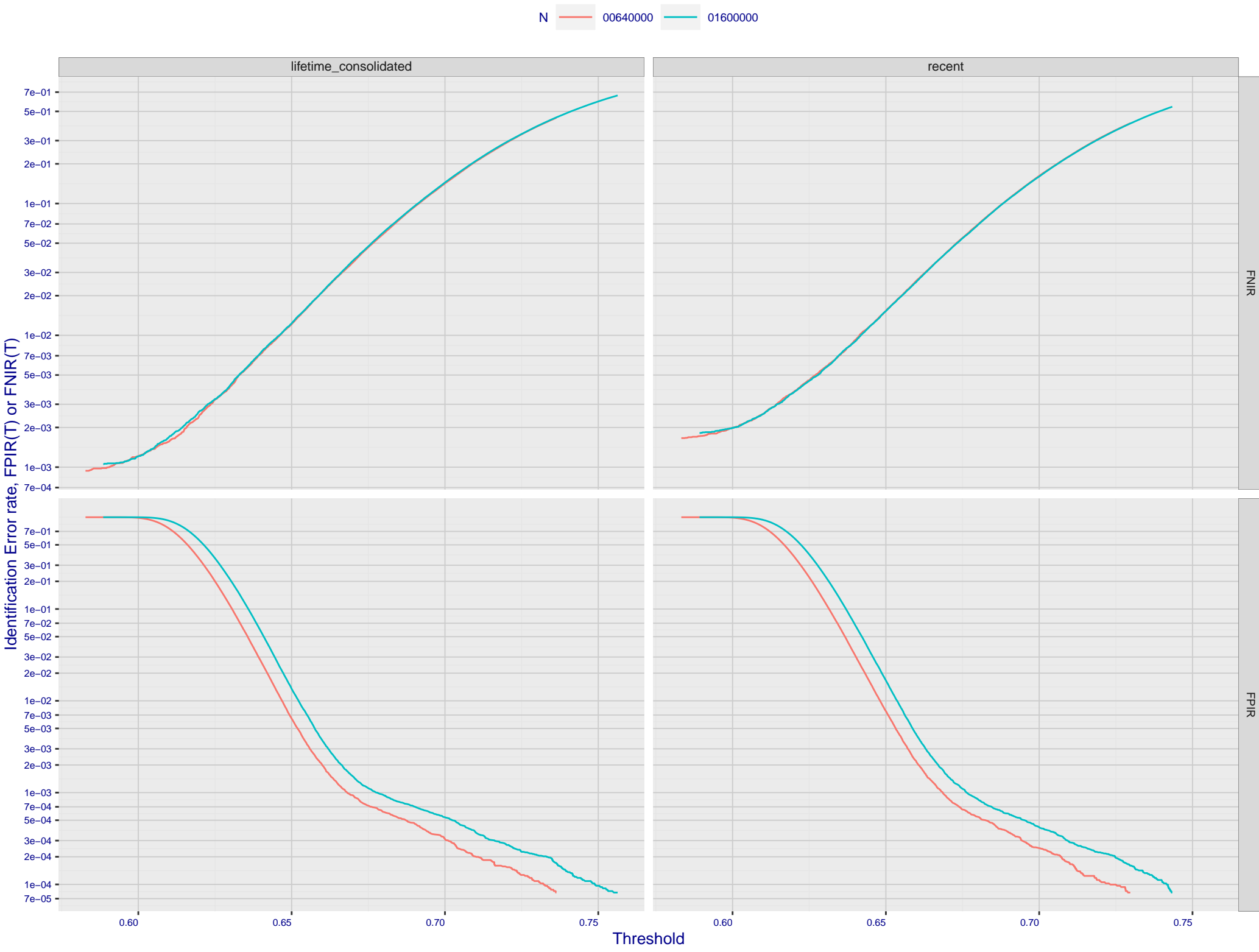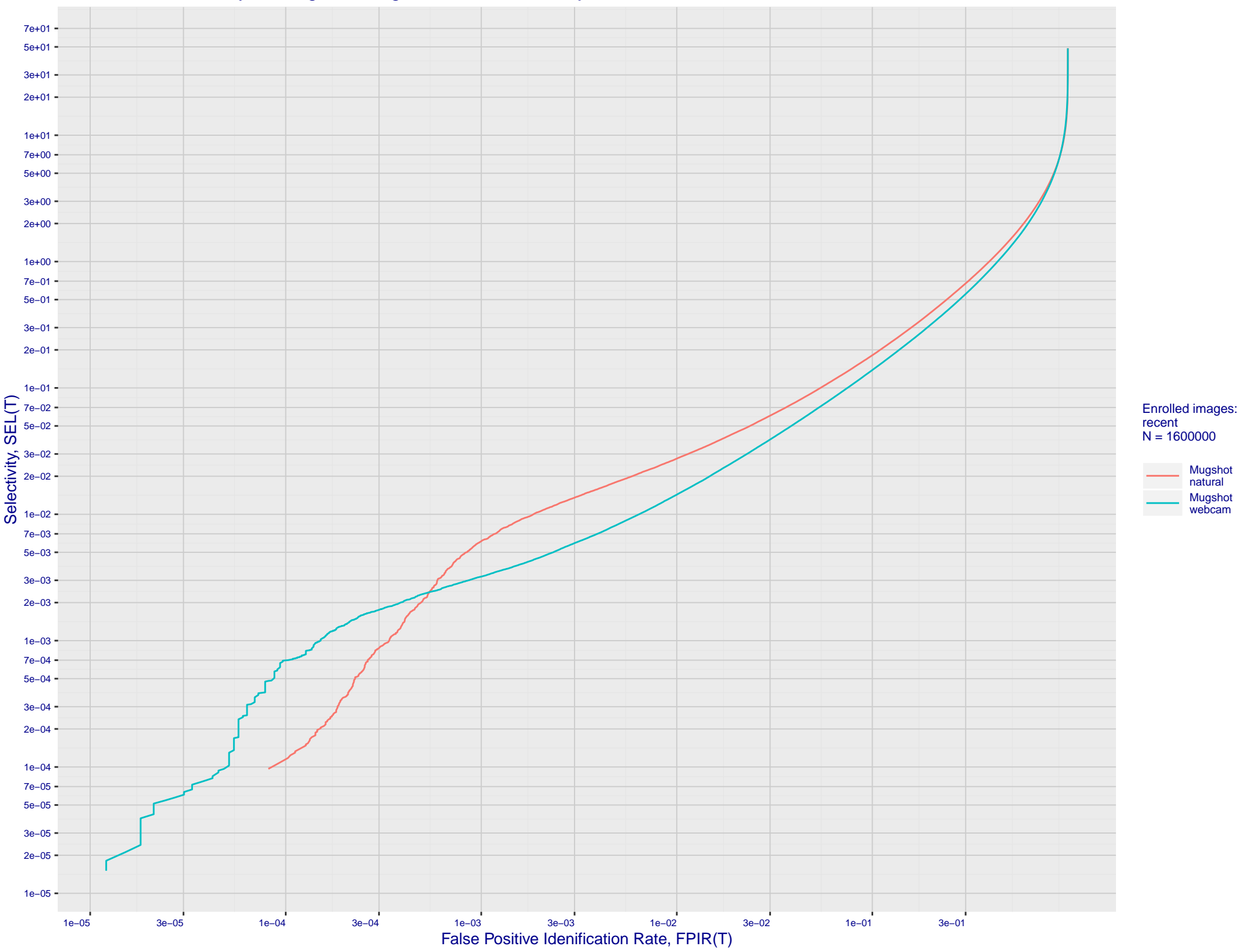A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals
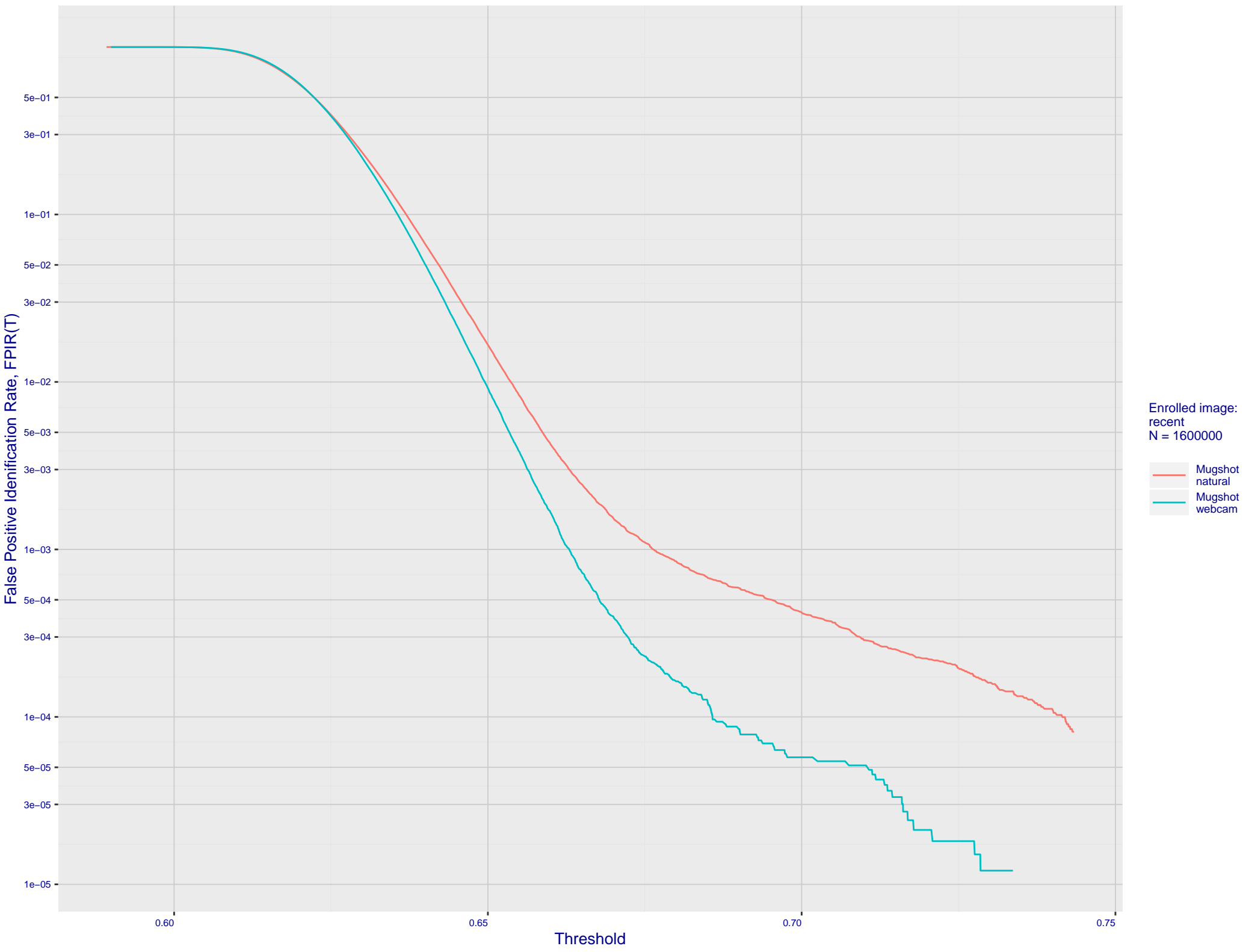
B: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

C: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate

Selectivity, SEL(T)

False Positive Idenification Rate, FPIR(T)

Enrolled images:
recent
N = 1600000

Mugshot
natural

Mugshot
webcam

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

False Positive Idenification Rate, FPIR(T)

Threshold

Enrolled image: recent
N = 1600000

Mugshot natural

Mugshot webcam

E: DET for Mugshot natural images and various N. Links connect points of equal threshold.
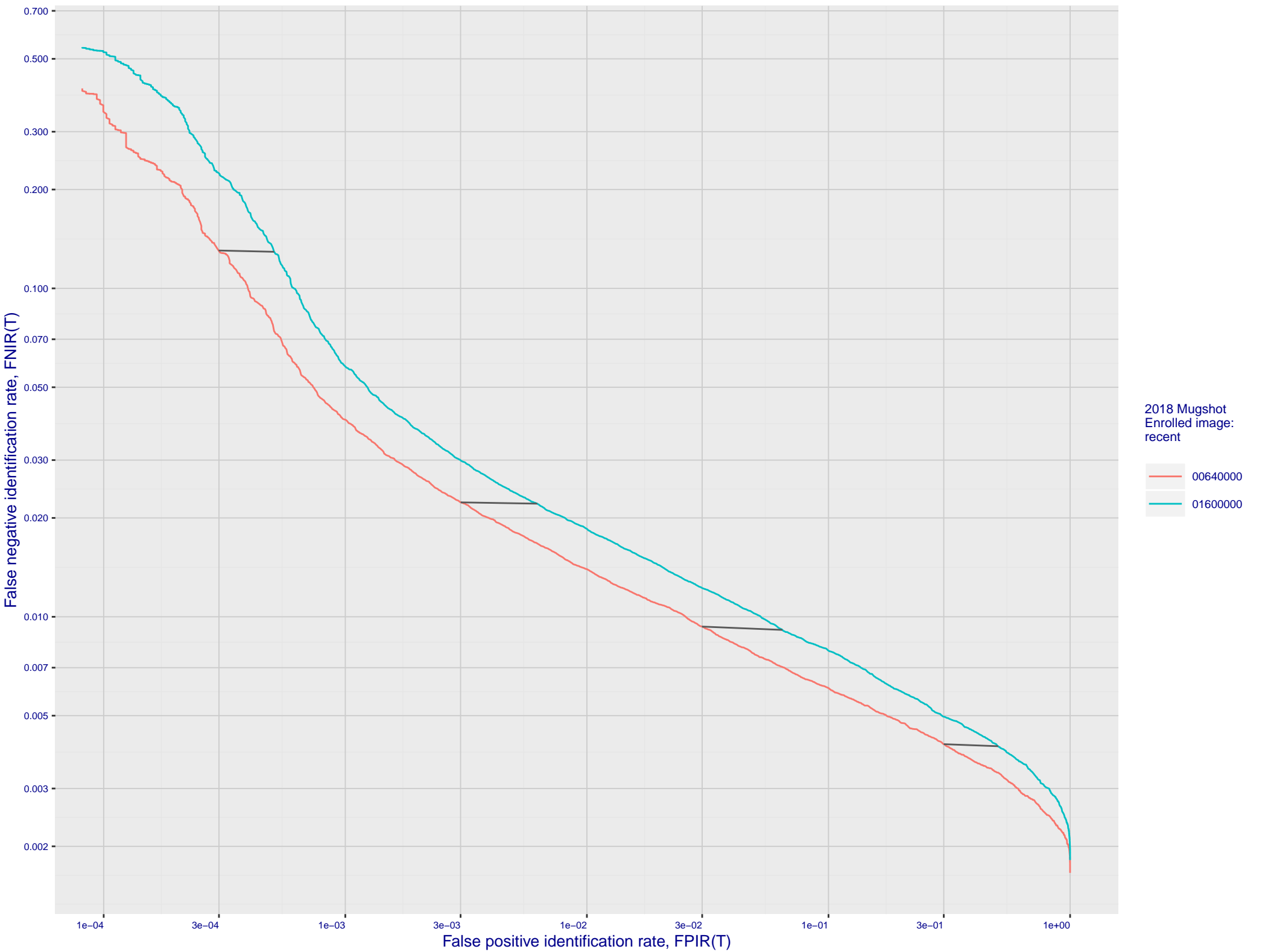
F: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
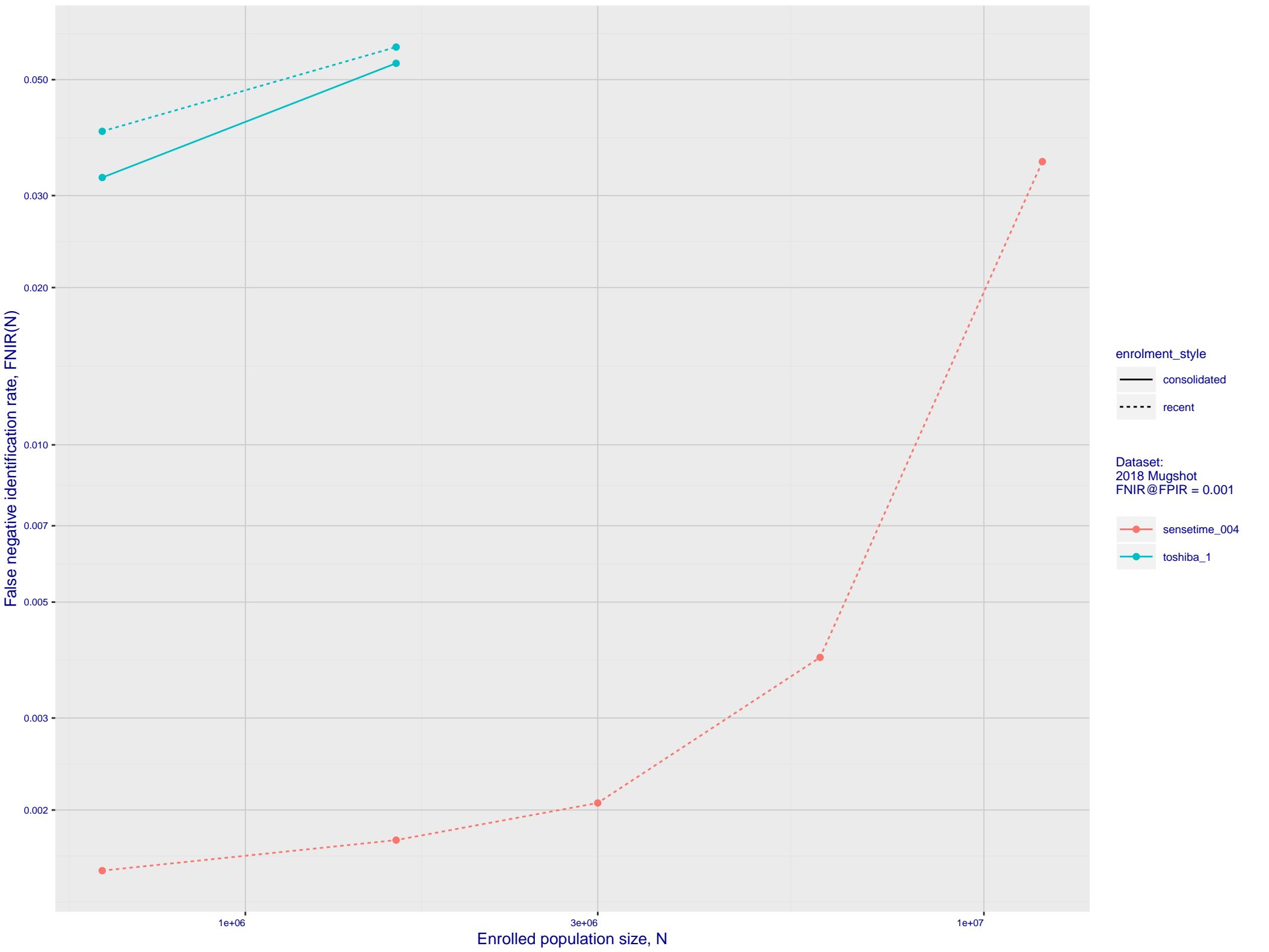
G: Datasheet

Algorithm: toshiba_1

Developer: Toshiba

Submission Date: 2018_10_30

Template size: 2060 bytes

Template time (2.5 percentile): 873 msec

Template time (median): 875 msec

Template time (97.5 percentile): 1659 msec

Frontal mugshot investigation rank 69 –– FNIR(1600000, 0, 1) = 0.0048 vs. lowest 0.0010 from sensetime_004

natural investigation rank 70 –– FNIR(1600000, 0, 1) = 0.0220 vs. lowest 0.0067 from sensetime_003

Frontal mugshot identification rank 87 –– FNIR(1600000, T, L+1) = 0.0577 vs. lowest 0.0018 from sensetime_004

natural identification rank 44 –– FNIR(1600000, T, L+1) = 0.0919 vs. lowest 0.0122 from sensetime_003
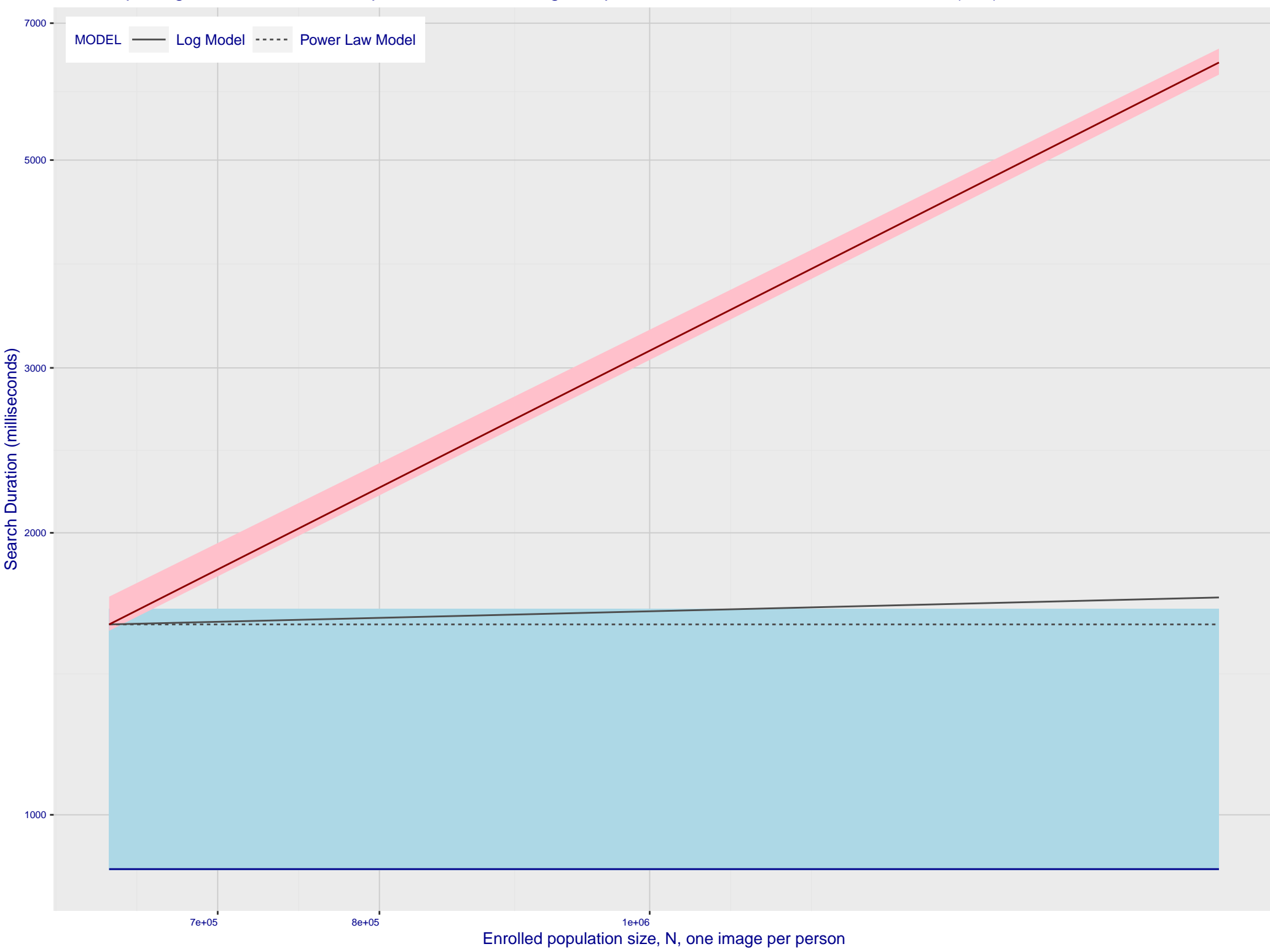
H: Investigational mode: FNIR(N, 1, 0) vs. most accurate (yitu_4)
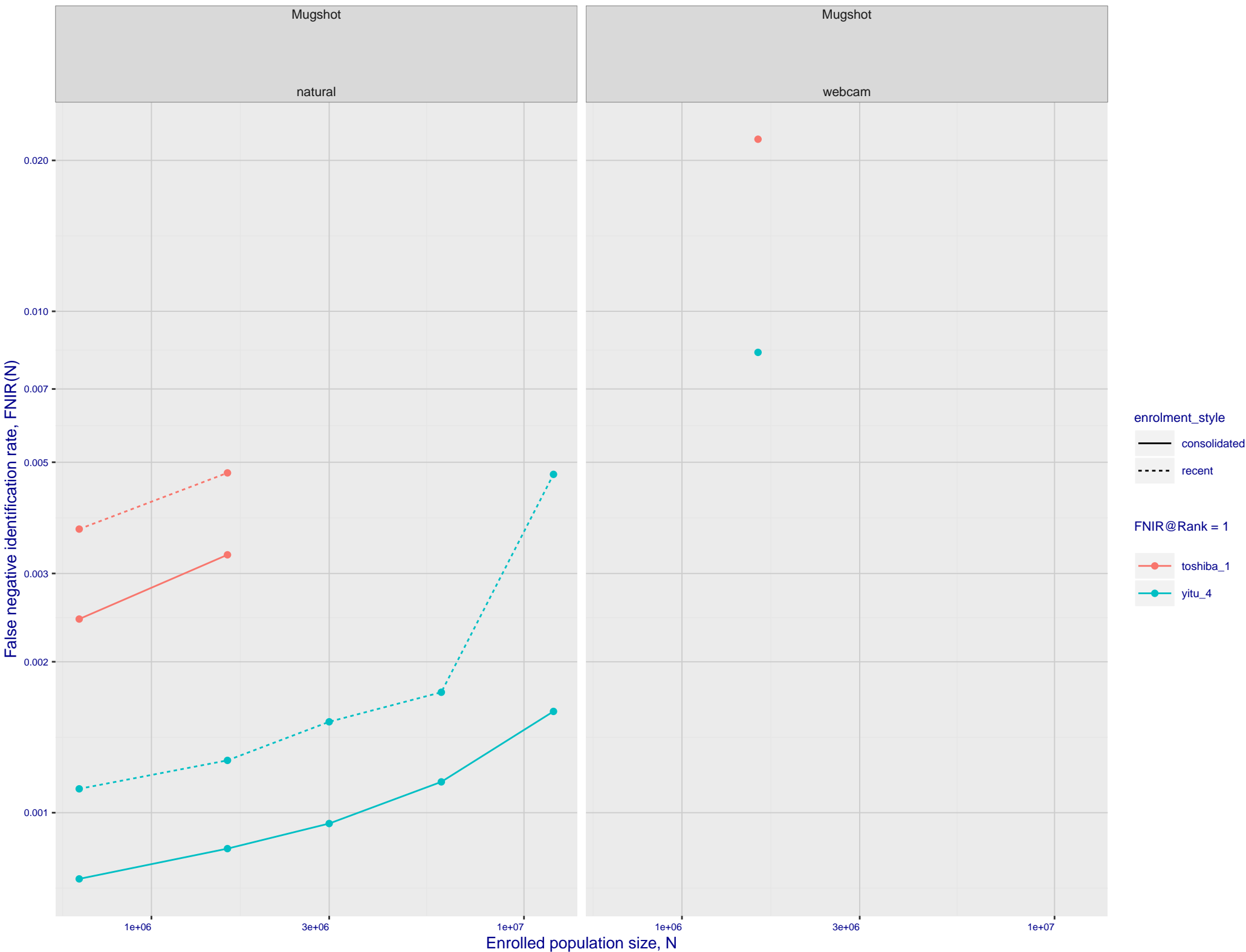
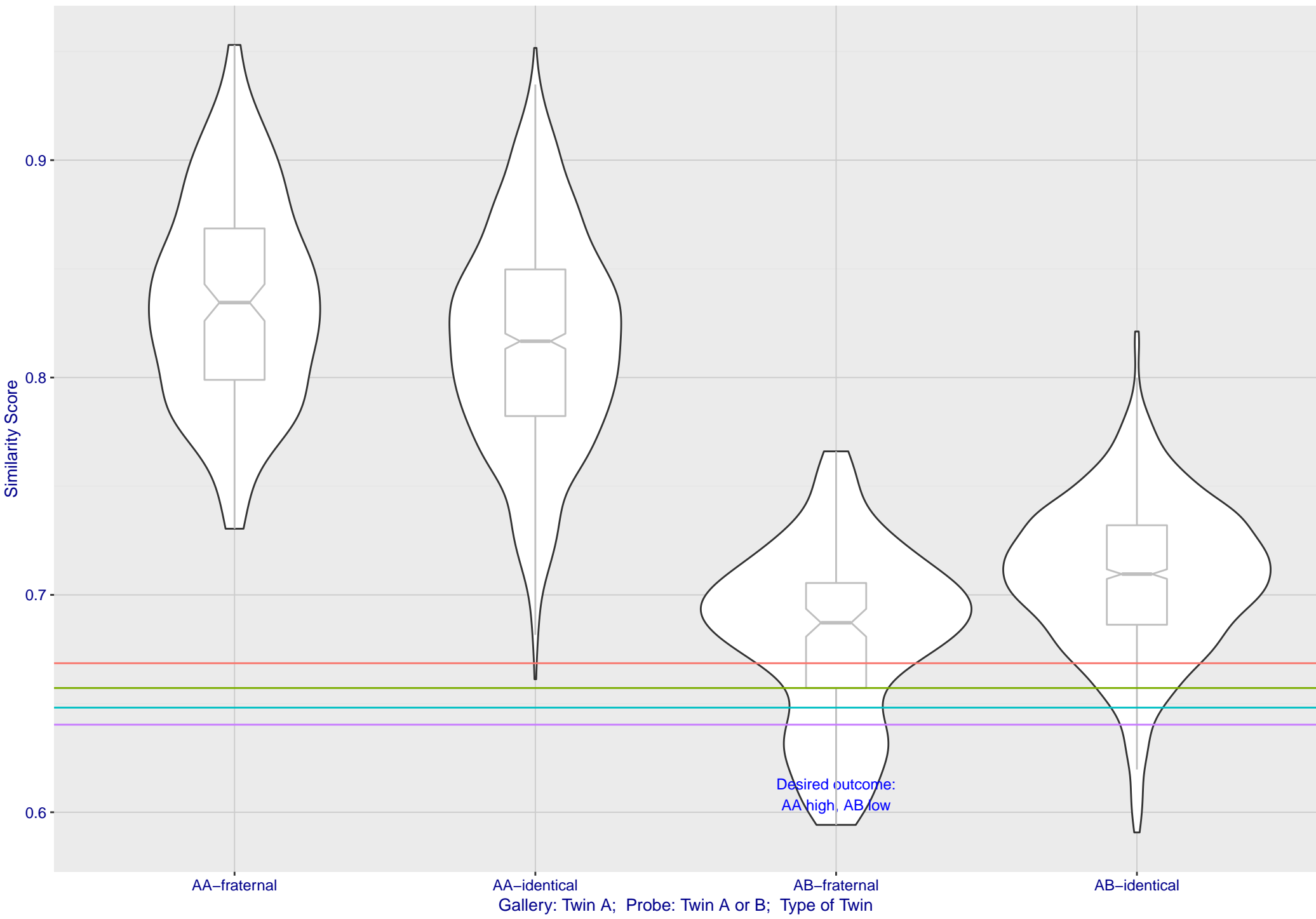I: Investigational mode: FNIR(1600000, R, 0) by probe type
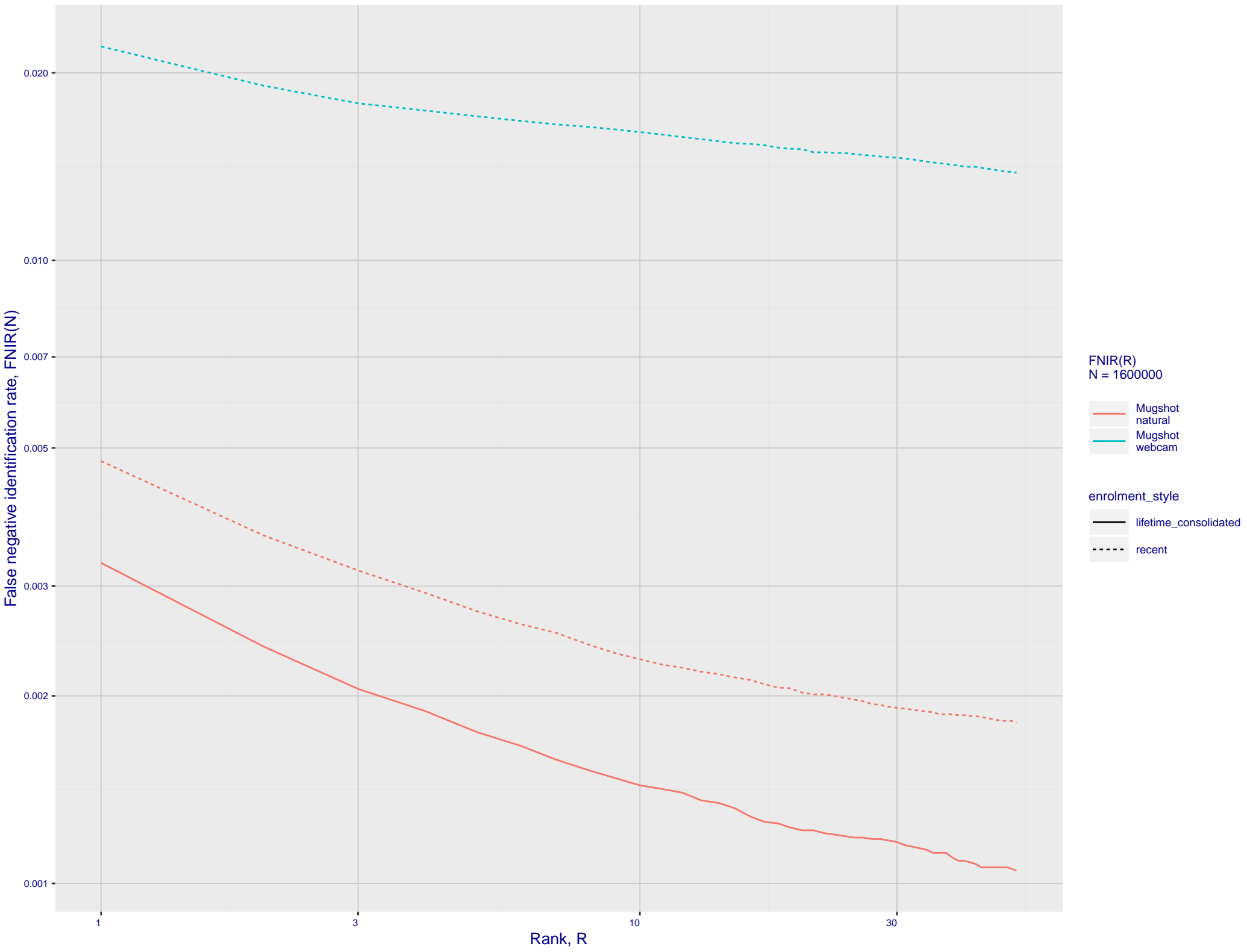
Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power–law models are fit to the first two (N,T) observations

MODEL — Log Model ···· Power Law Model

Search Duration (milliseconds)

Enrolled population size, N, one image per person

Solo–Twin and Twin–Twin similarity scores

N: Decline of genuine scores with ageing