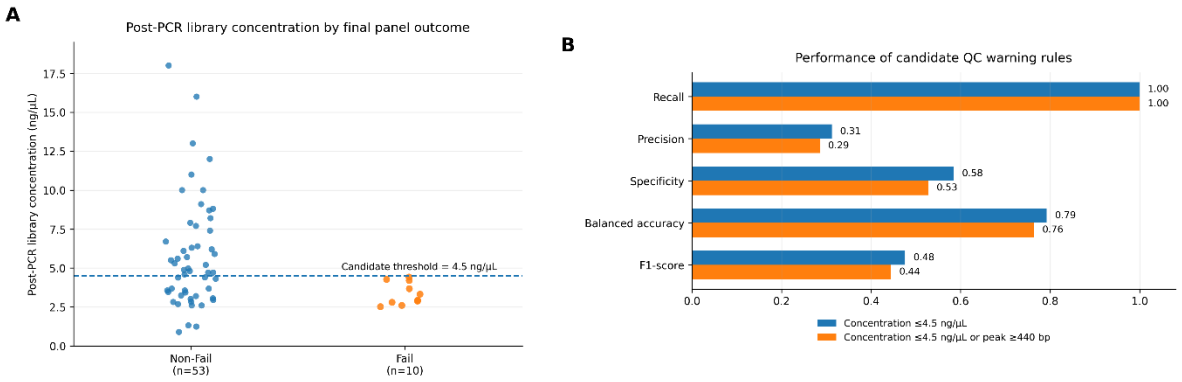


Supplementary Fig. S1. Exploratory quality-control metrics associated with panel failure. (A) The distribution of post-PCR library concentration according to the final panel-level outcome is shown. Each point represents one LymphoTrack panel run. The dashed horizontal line indicates the candidate warning threshold of 4.5 ng/µL. (B) The performance of two candidate warning rules for identifying panel runs classified as Fail is shown: post–polymerase chain reaction (PCR) library concentration ≤4.5 ng/µL alone and post-PCR library concentration ≤4.5 ng/µL or maximum library peak size ≥440 bp. Performance is summarized using recall, precision, specificity, balanced accuracy, and F1-score. Thresholds are selected and evaluated within the same dataset; therefore, these results are exploratory and should not be interpreted as validated decision criteria.