

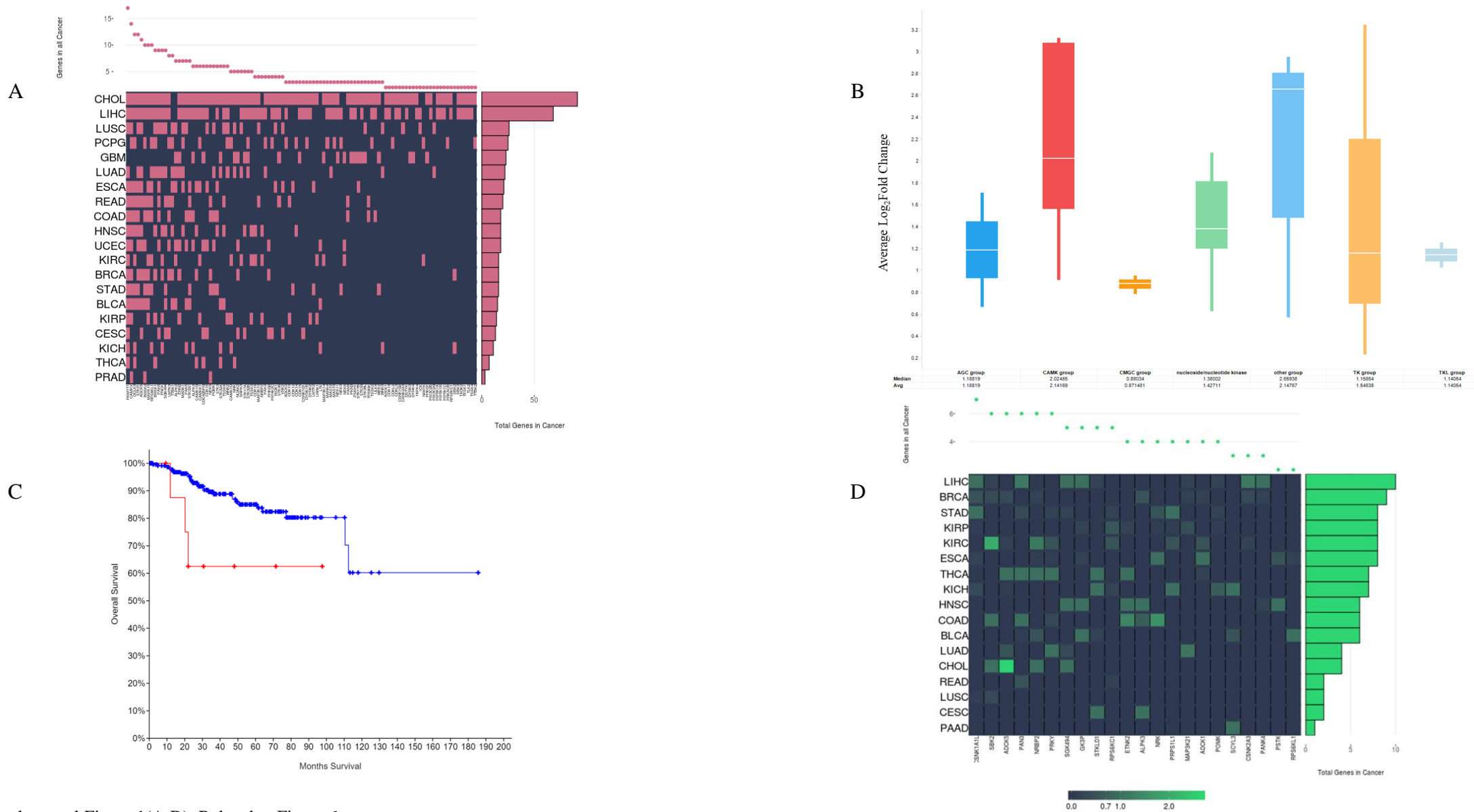
**Cell Reports Medicine, Volume 1**

**Supplemental Information**

**The Clinical Kinase Index:**

**A Method to Prioritize Understudied Kinases  
as Drug Targets for the Treatment of Cancer**

**Derek Essegian, Rimpi Khurana, Vasileios Stathias, and Stephan C. Schürer**



Supplemental Figure 1(A-D). Related to Figure 6.

A: Differential overexpression of Understudied kinases in each cancer cohort. 102 Understudied are significantly overexpressed in at-least two cancers.

B: Several kinase groups appear to be enriched in their overexpression in various cancers. Averaging the  $\log_2FC$  of all kinases across all cancers demonstrates that certain kinase transcripts are consistently very highly upregulated. Kinases from the understudied CAMK group have the highest average  $\log_2FC$  (2.14) and kinases from the Other group have the highest median  $\log_2FC$  (2.66).

C: Dark Kinase DYRK1B was mutated in 4.3% of Endometrial Carcinoma samples (UCEC) with significantly worse overall survival for patients harboring the mutated kinase ( $p < .05$ ).

D: *Dark* Kinases are potential prognostic biomarkers for several cancers. TNM staging scores (0-3) show that dark kinases contribute to tumor progression.

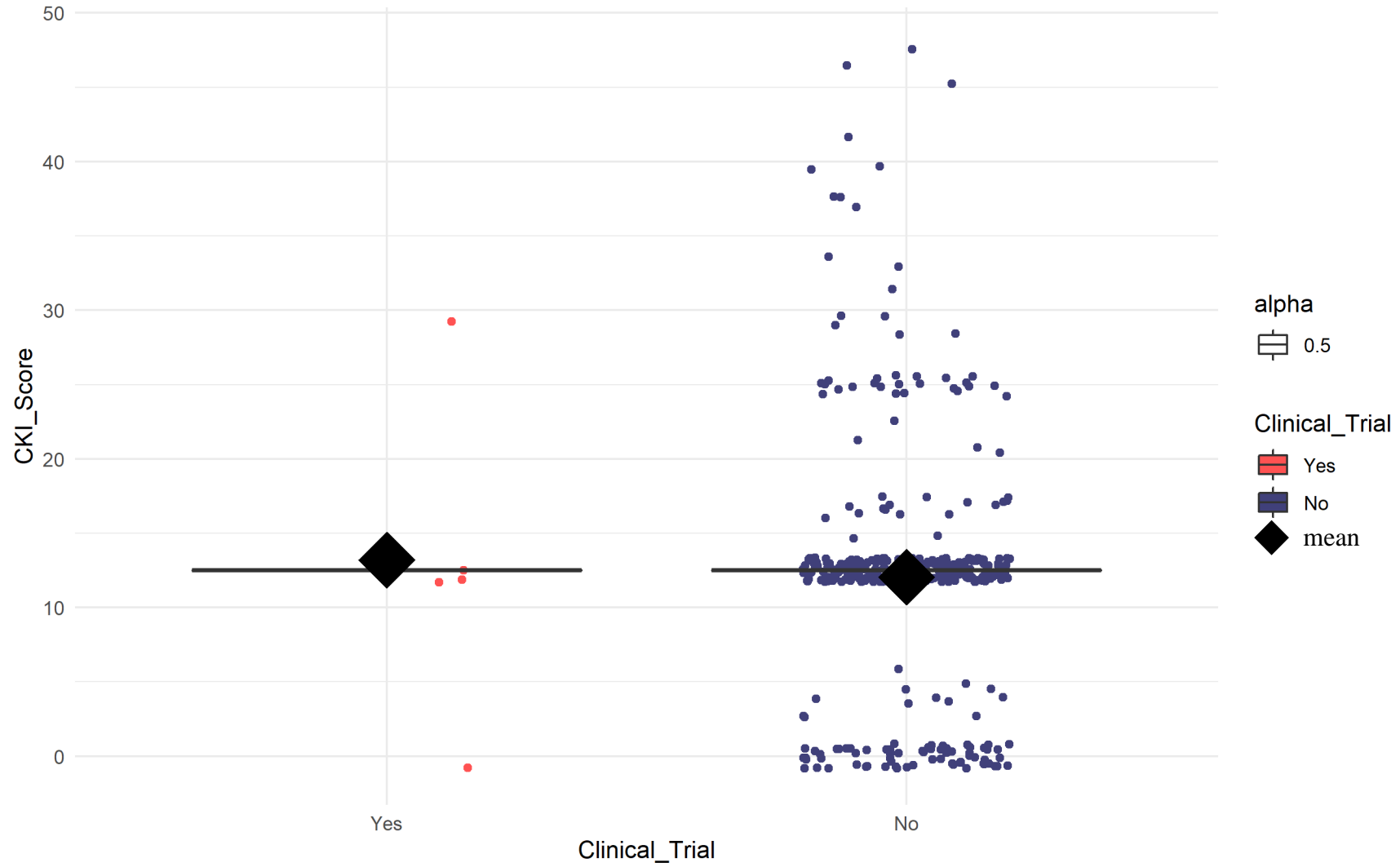
Supplemental Data 1 (A-P) Analysis of Clinically Relevant Understudied Kinases. Related to Figure 5: CKI scores of targets who have been under or are currently under clinical trial investigation versus those that have not been clinically evaluated in humans. Significant differences in distributions are signified by p-values  $<.05$ .





1C.

### Cholangiocarcinoma: CHOL







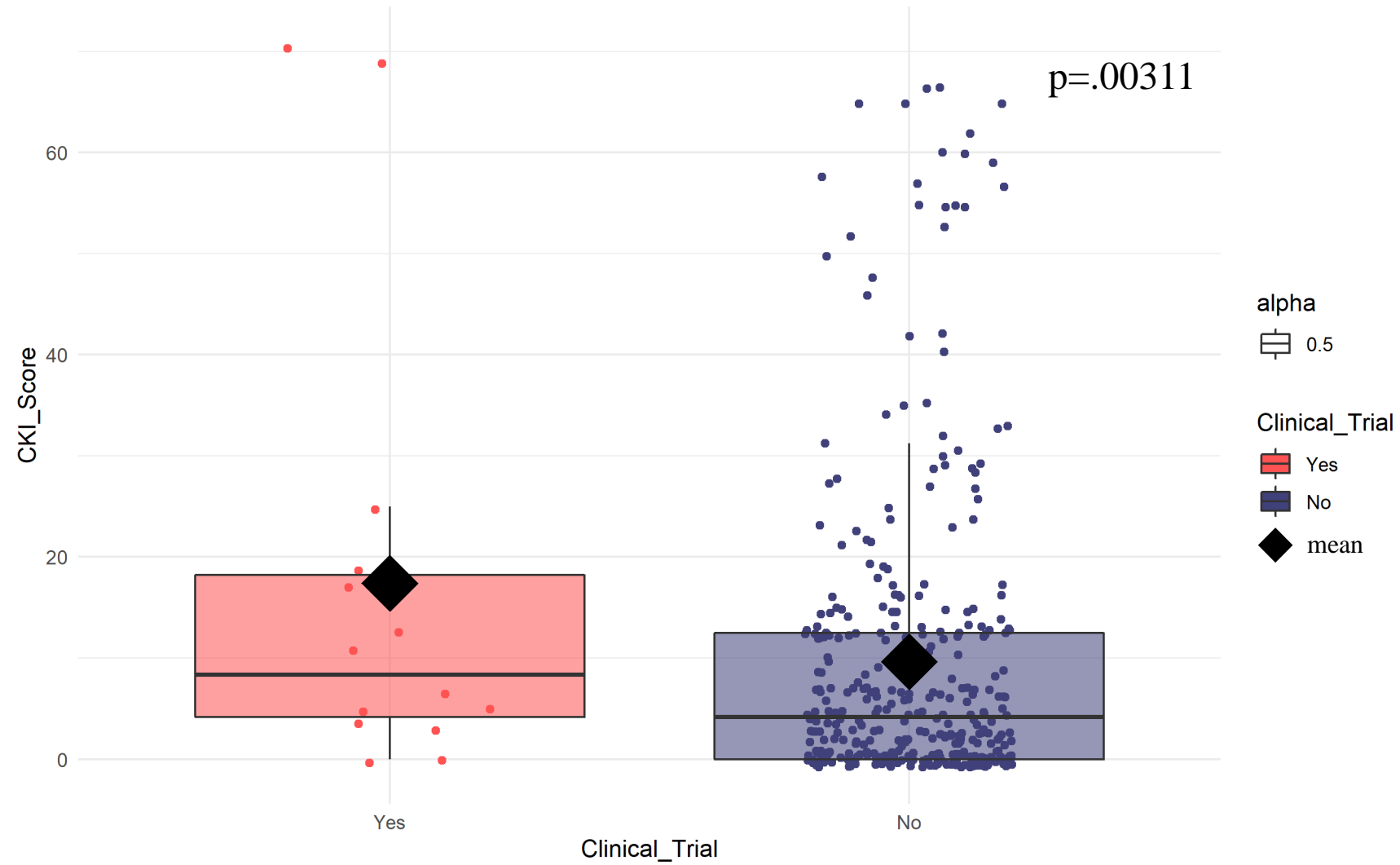






1H.

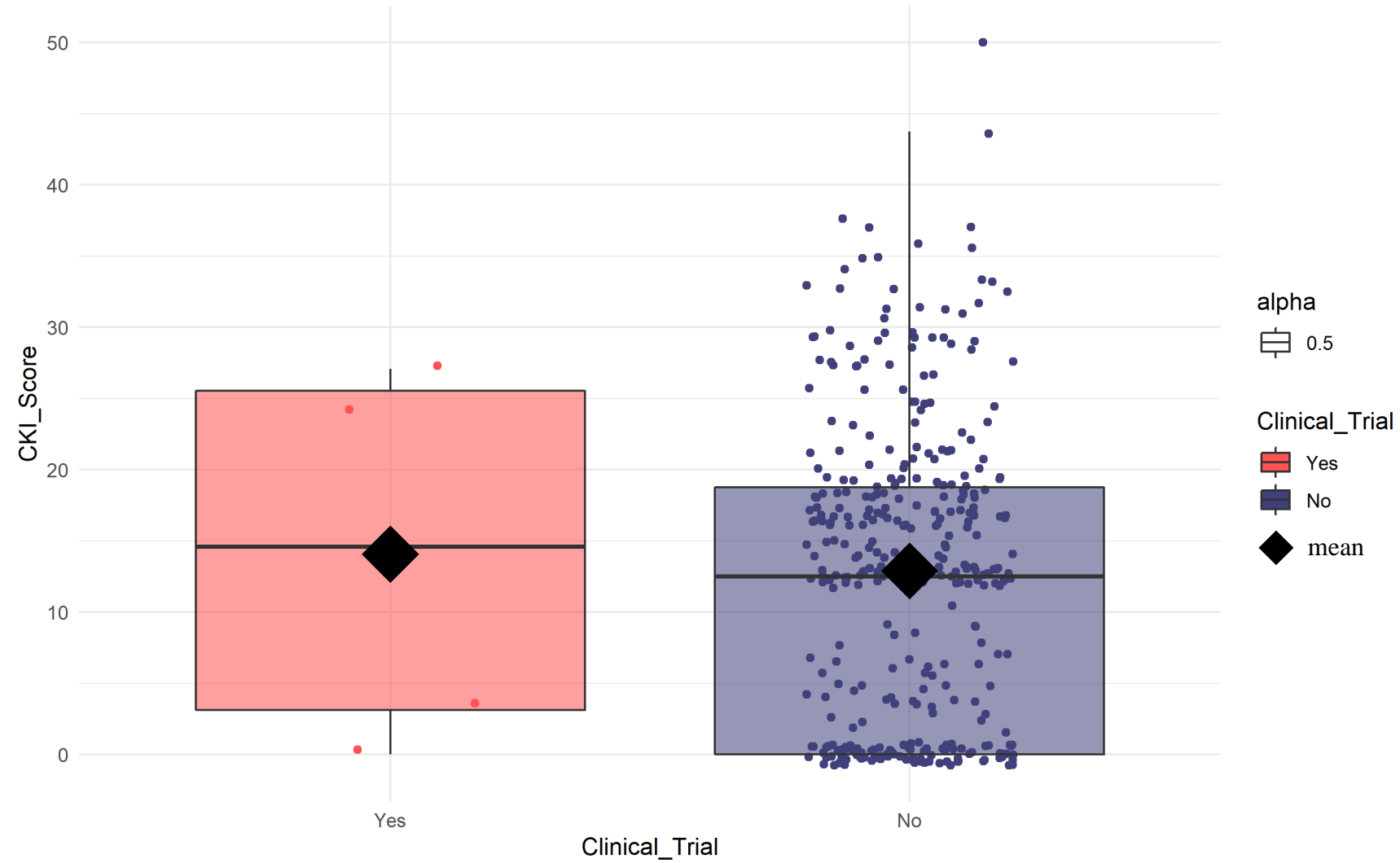
# Kidney Renal Clear Cell: KIRC





1J.

## Liver Hepatocellular Carcinoma: LIHC





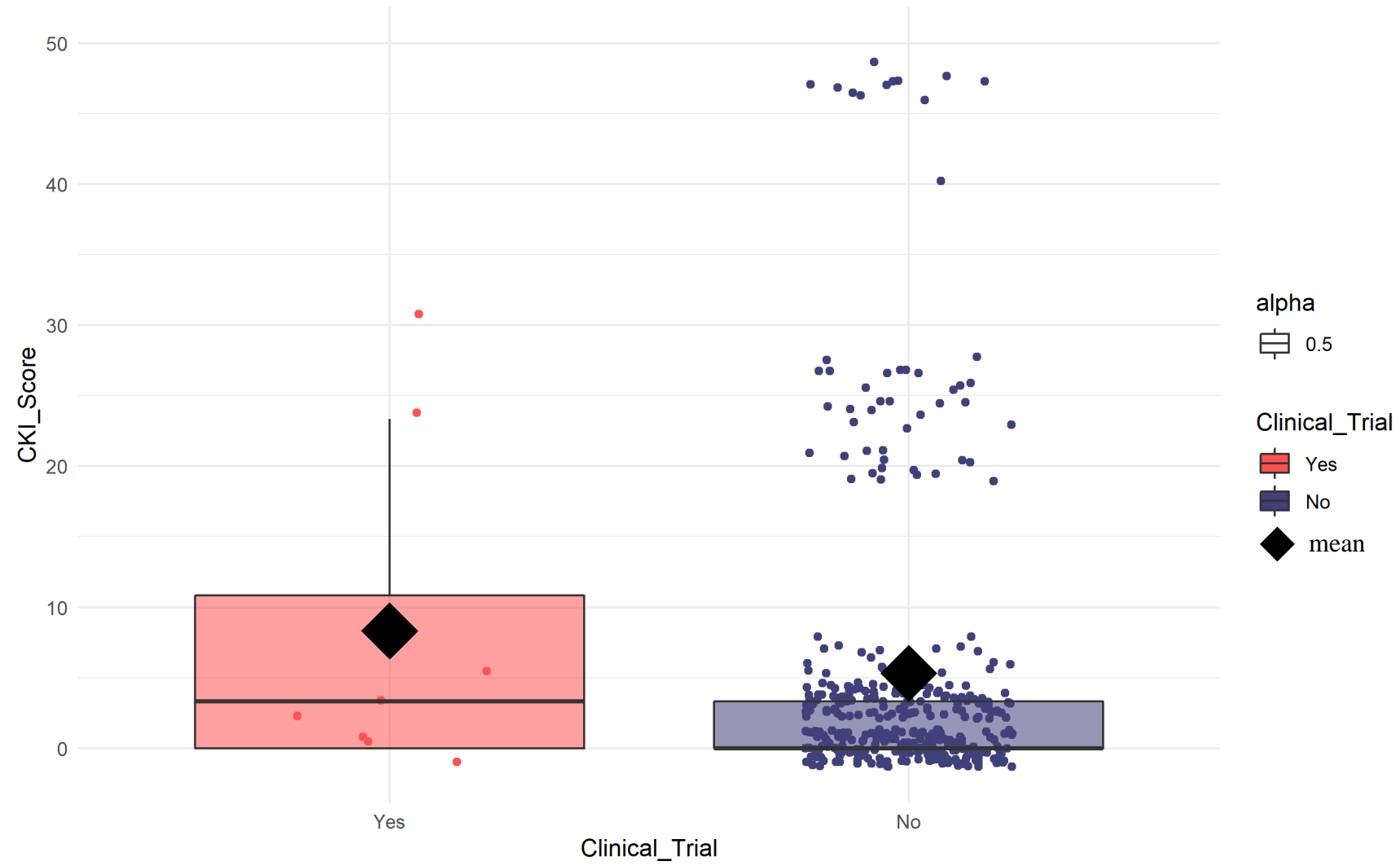






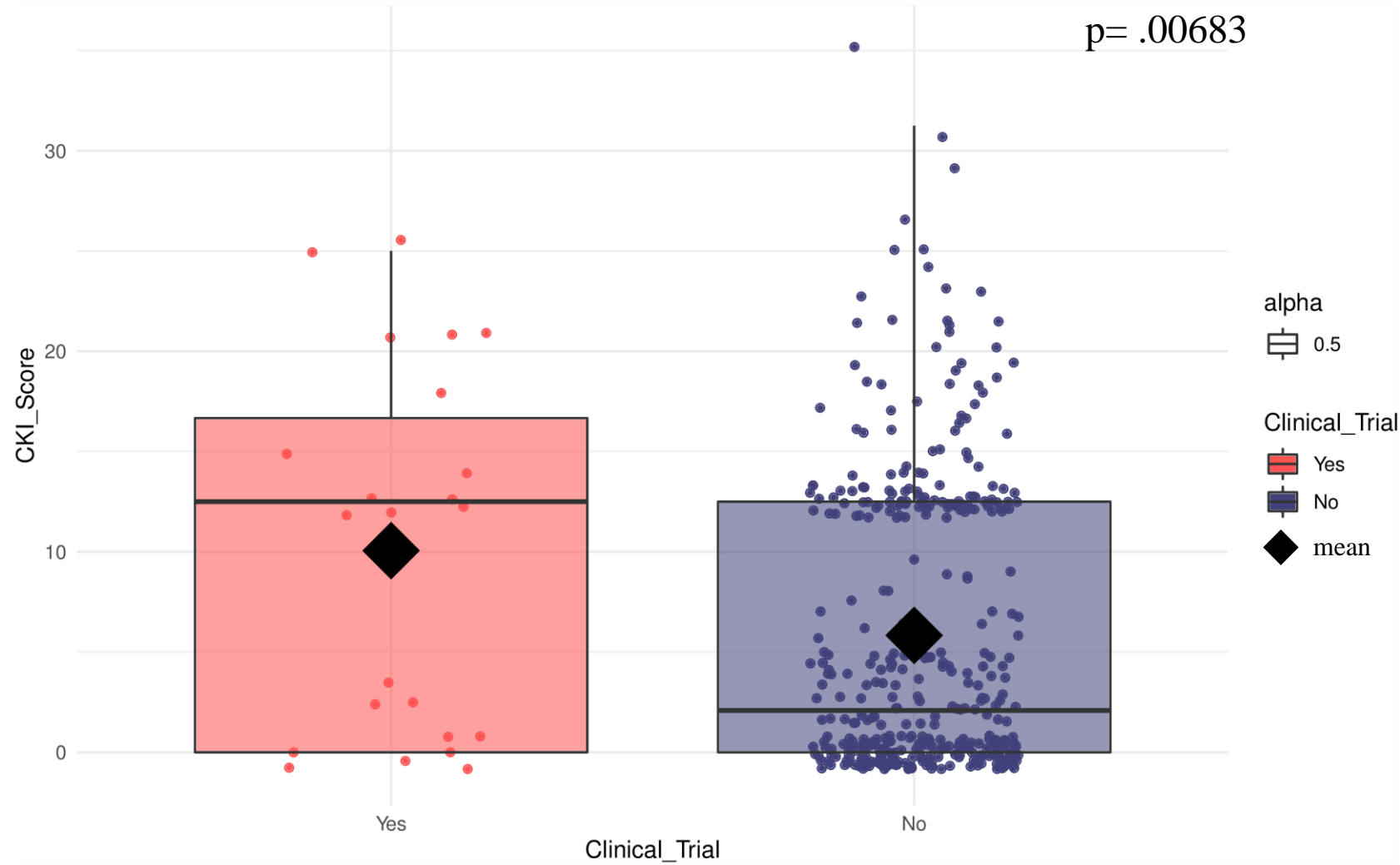
1N.

# Prostate Adenocarcinoma: PRAD



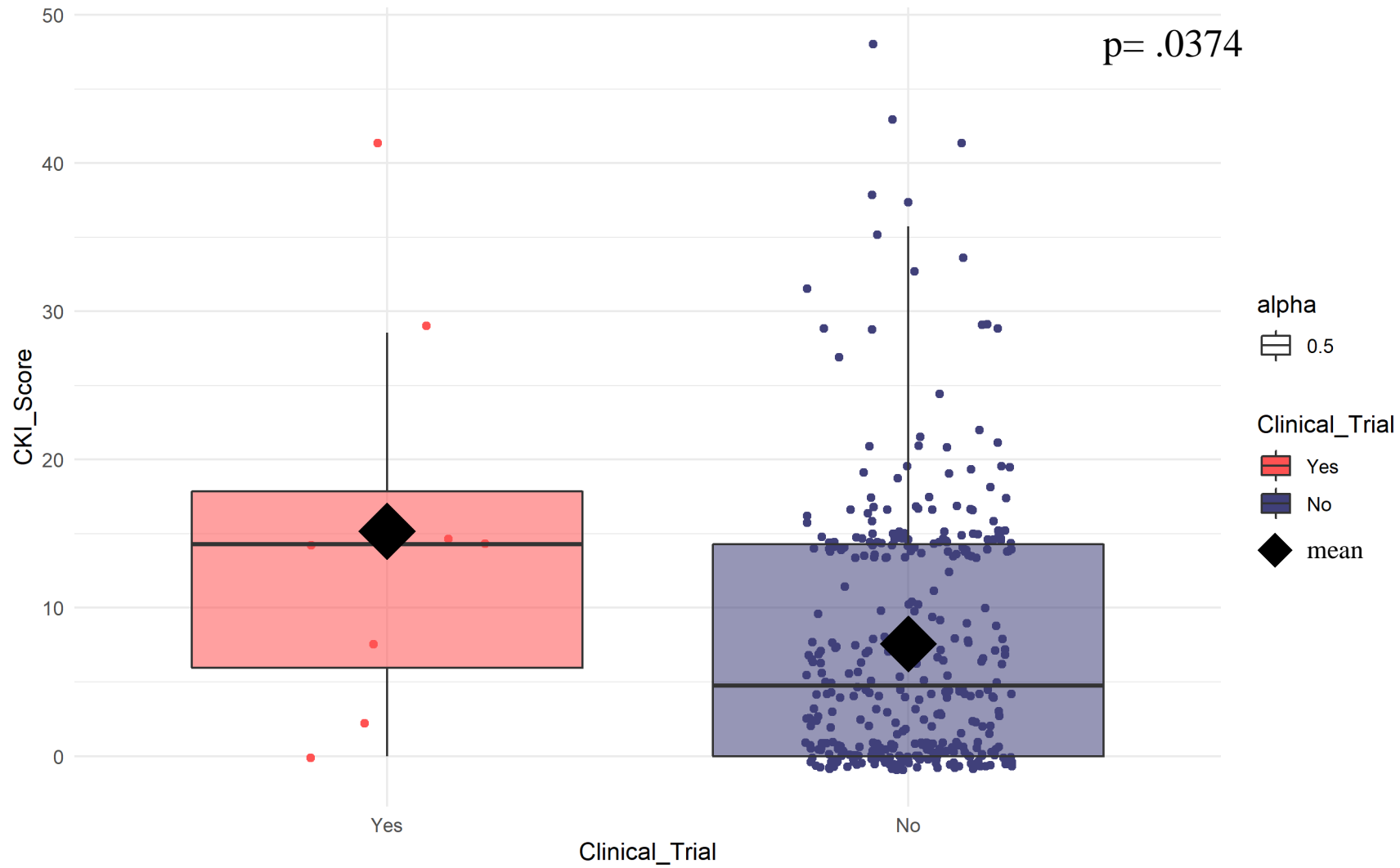
10.

### Stomach Adenocarcinoma: STAD



1P.

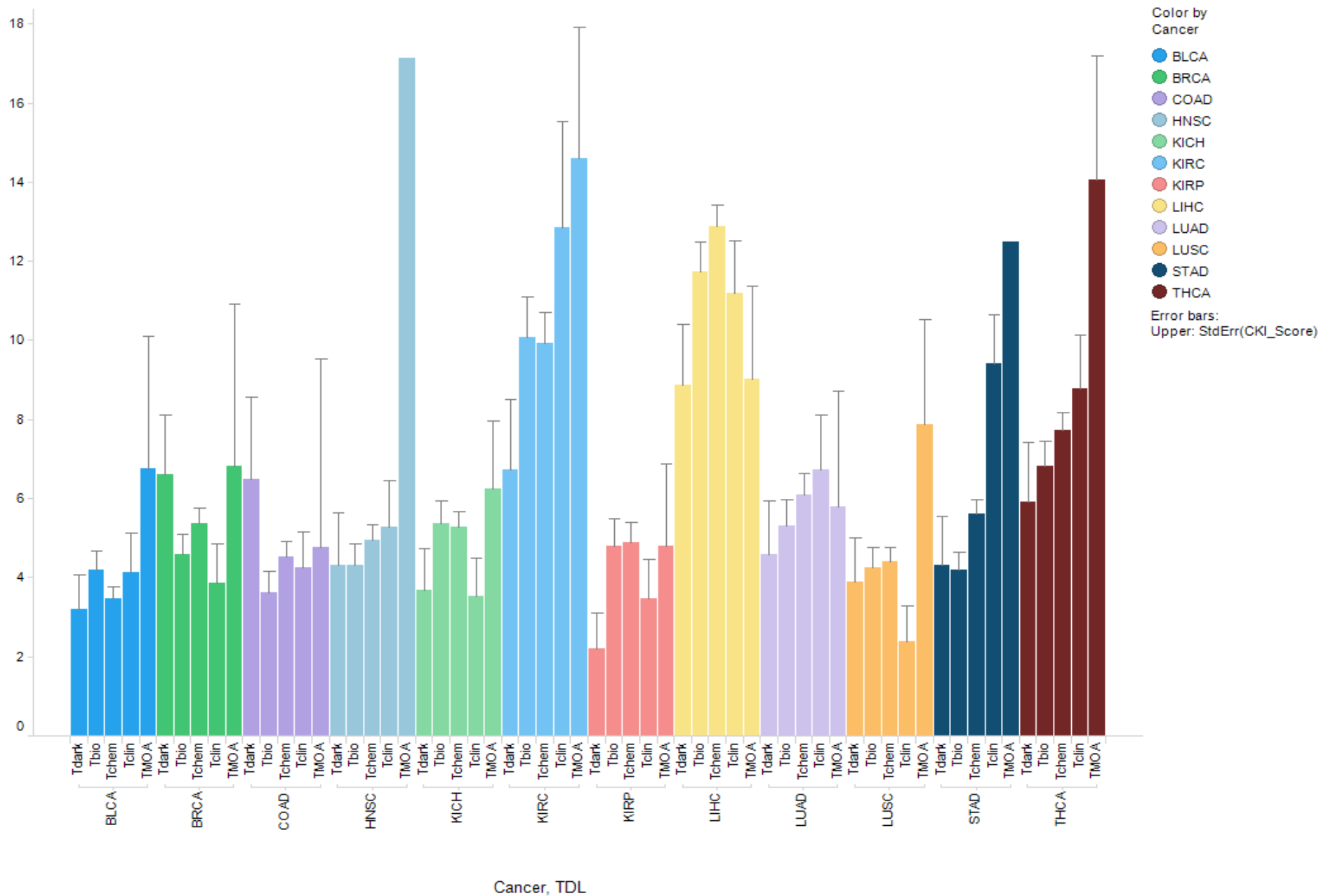
## Thyroid Carcinoma: THCA



Supplemental Data 2 (A-N) CKI Score for MOA Targets. Related to Figure 5.

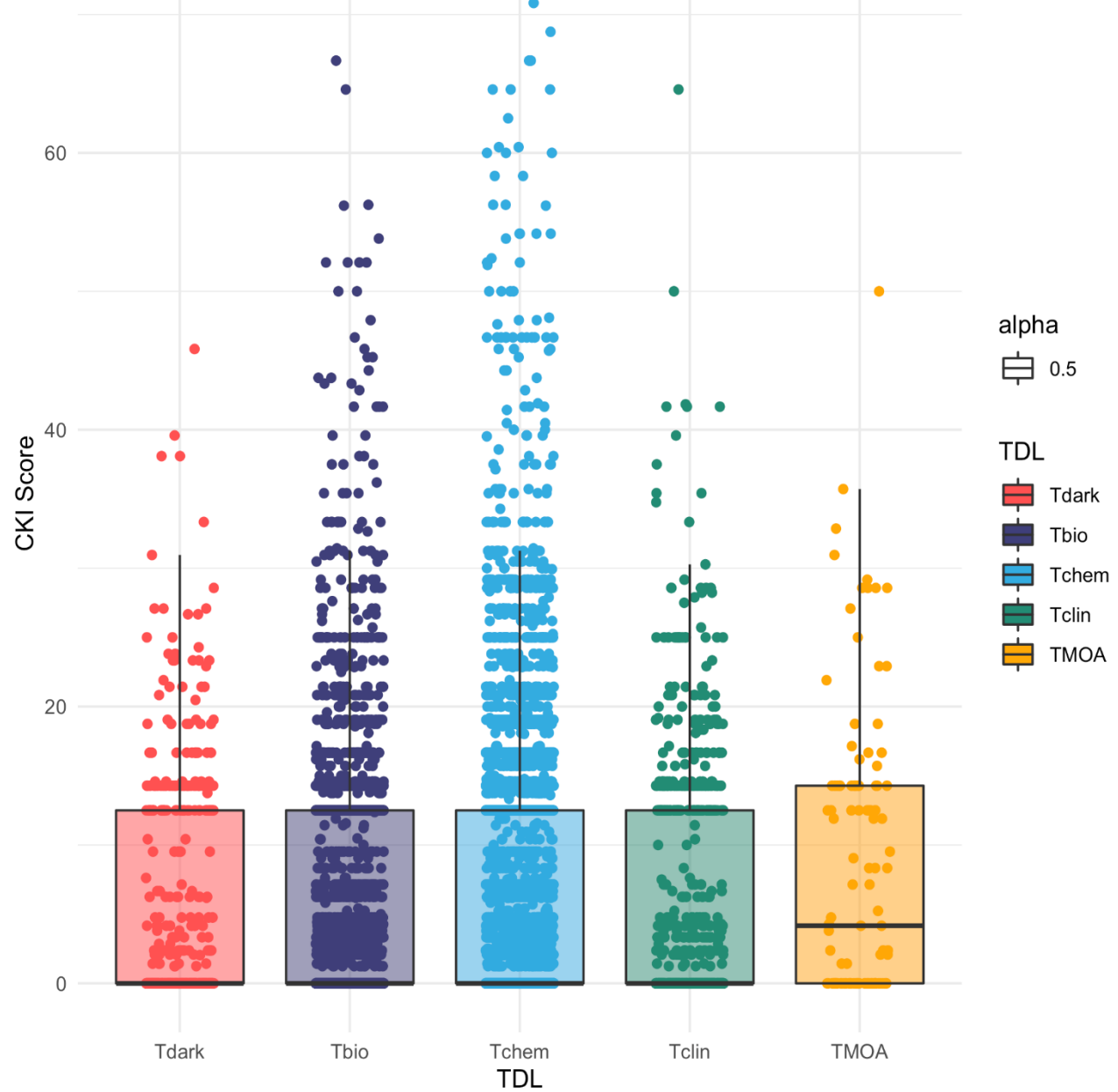
2A.

# Average CKI Score per Cancer, TDL



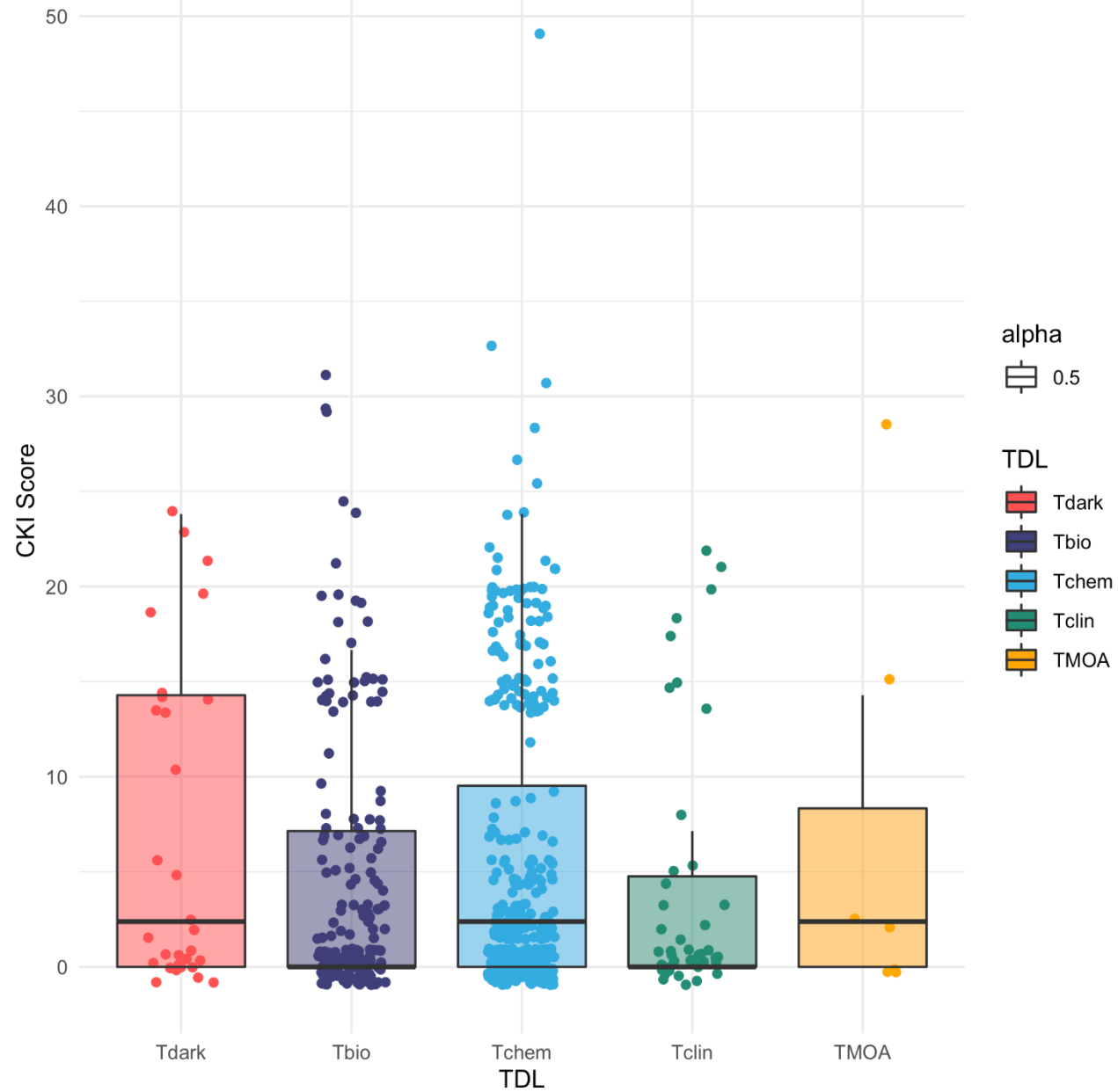
2B.

### Distribution of CKI Scores for all Cancers by TDL



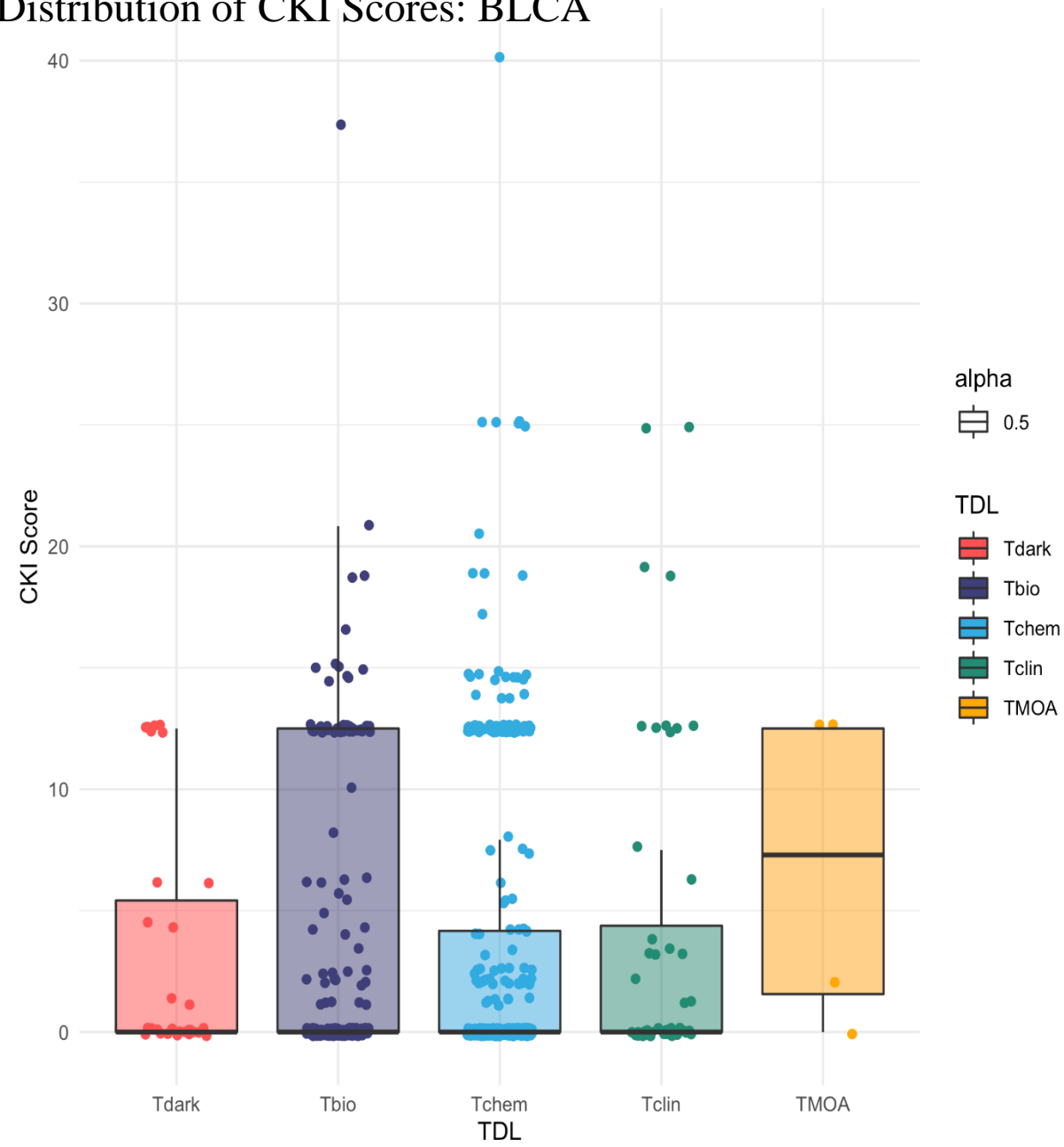
2C.

### Distribution of CKI Scores: BRCA



2D.

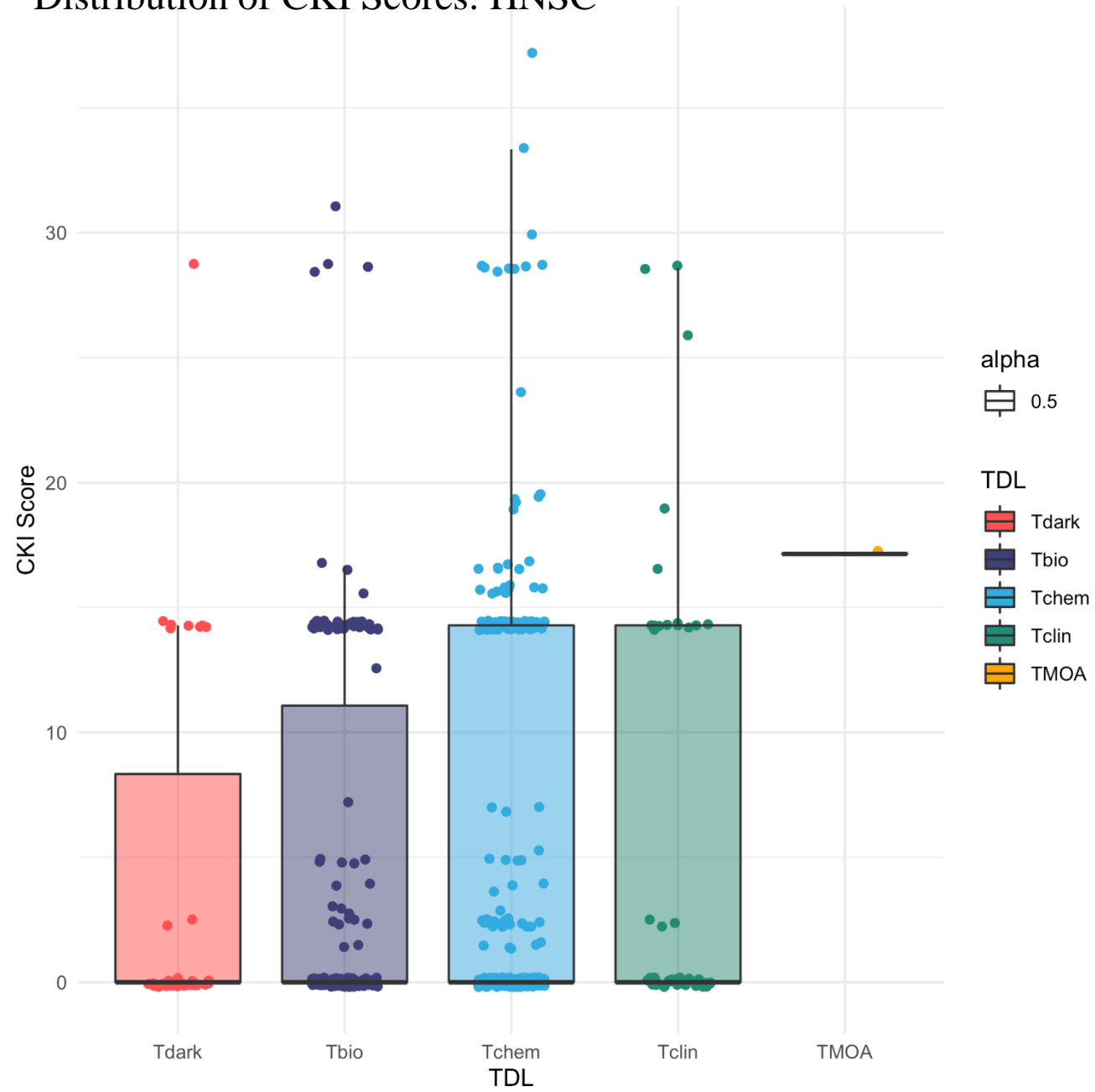
### Distribution of CKI Scores: BLCA





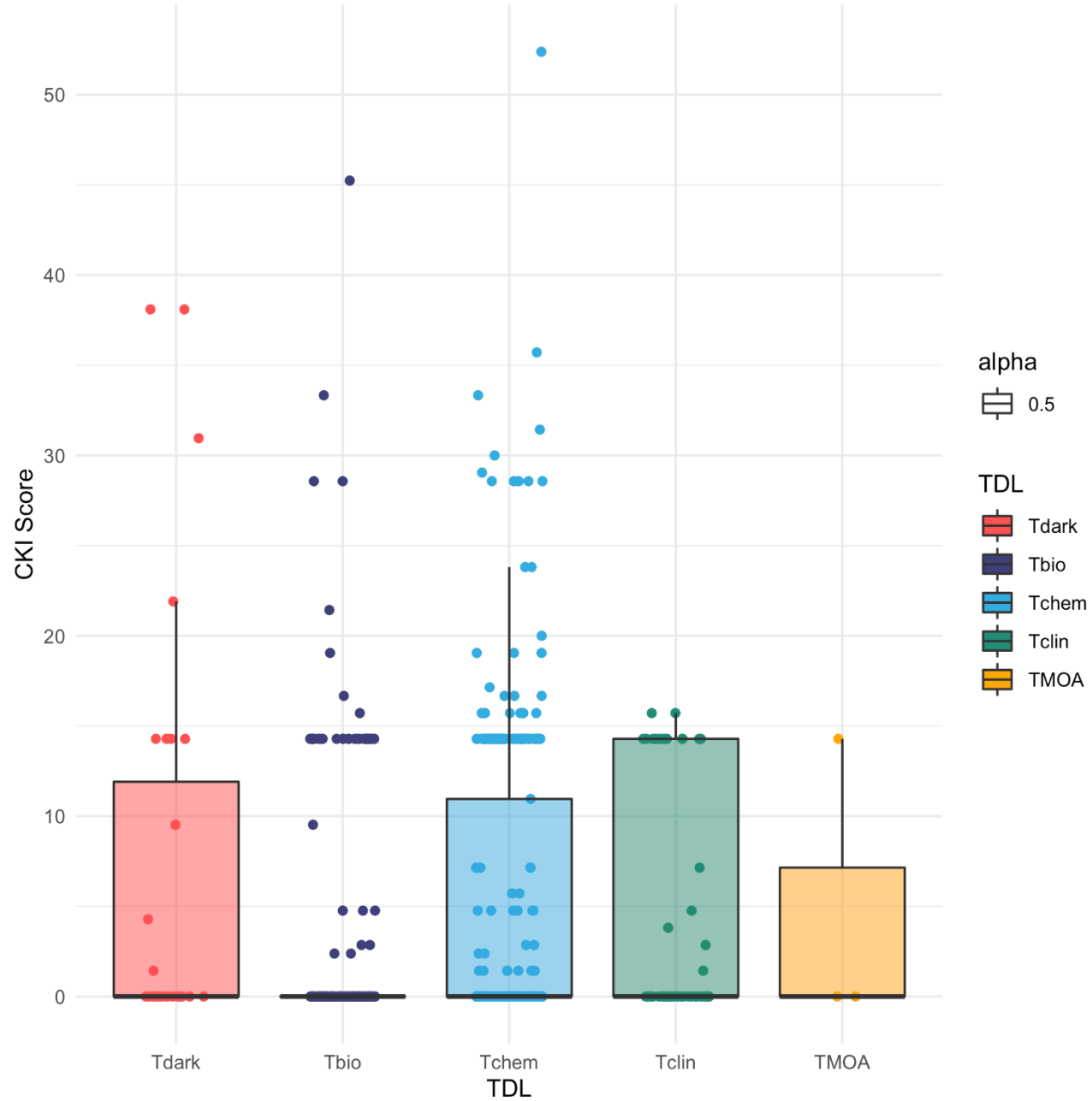
2E.

Distribution of CKI Scores: HNSC



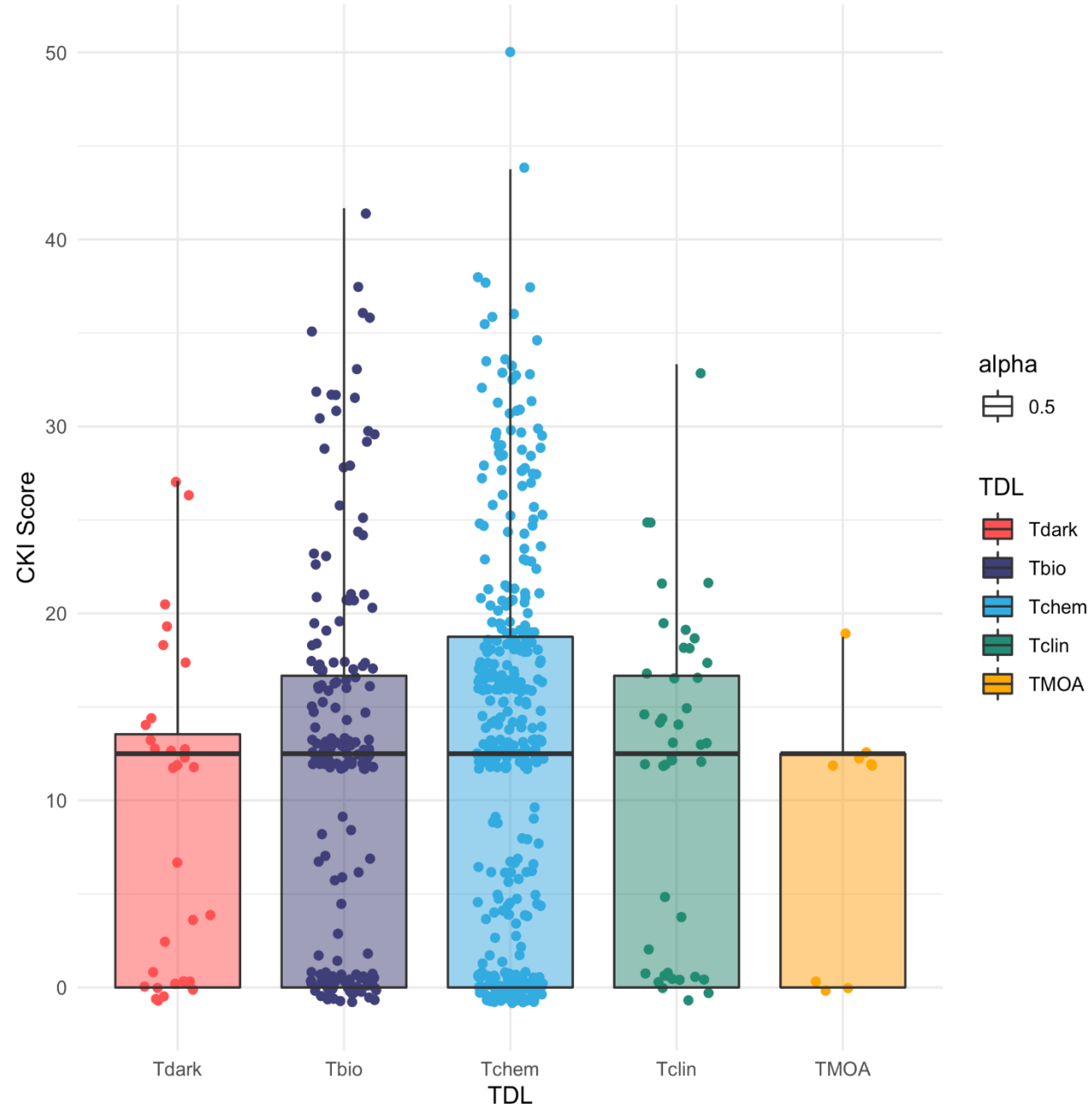
2F.

Distribution of CKI Scores: COAD



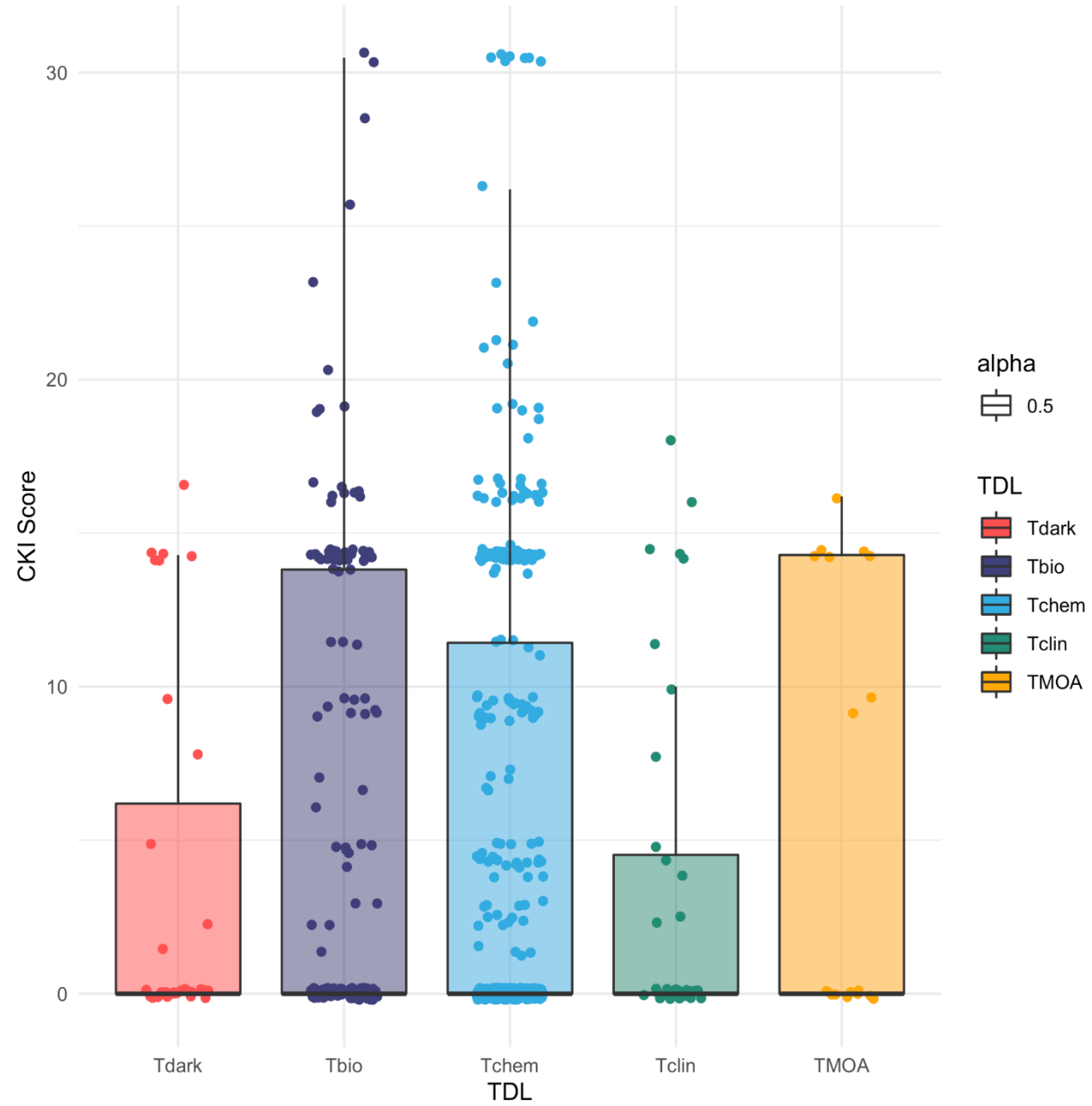
2G.

## Distribution of CKI Scores: LIHC

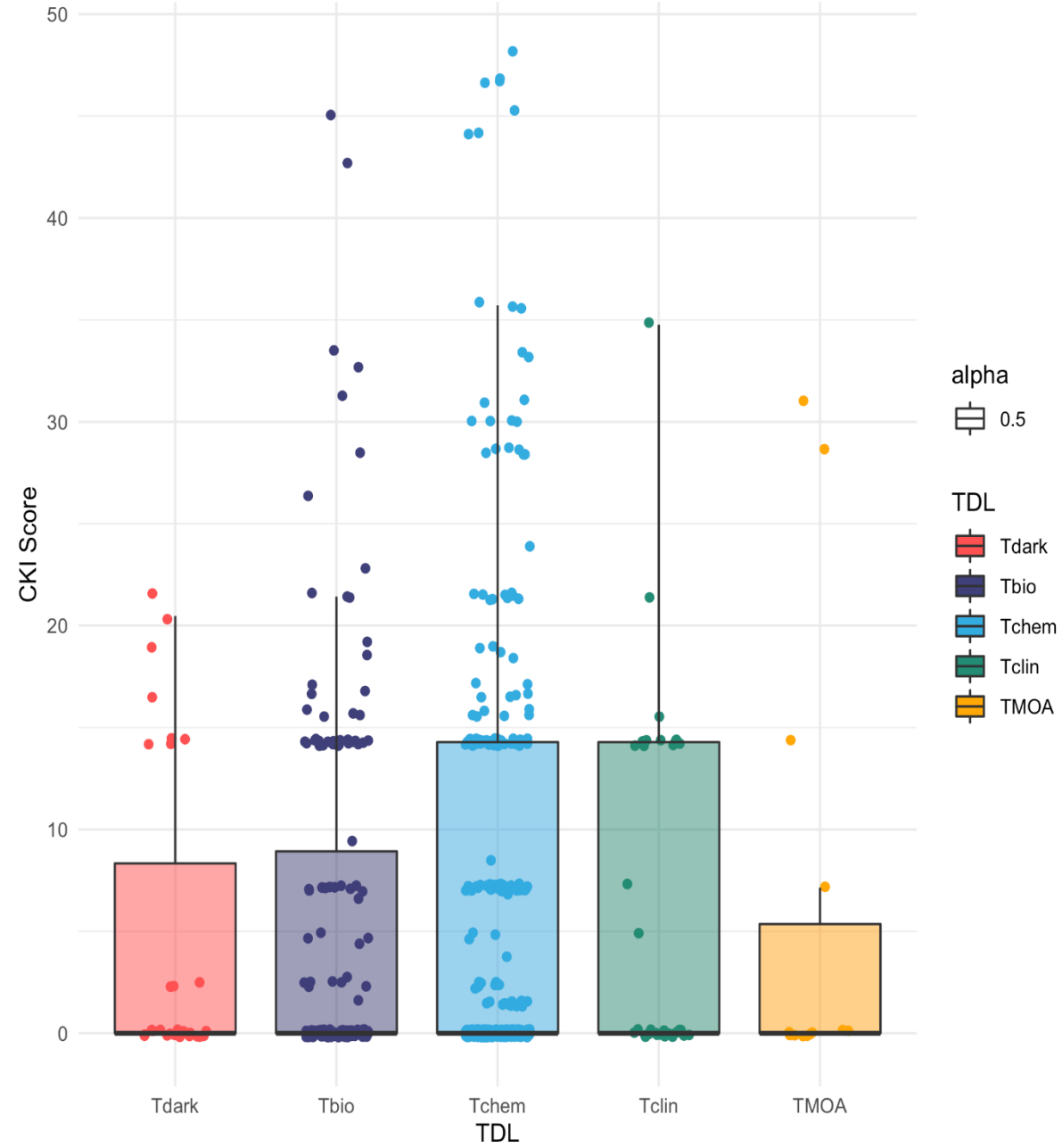


2H.

### Distribution of CKI Scores: KICH

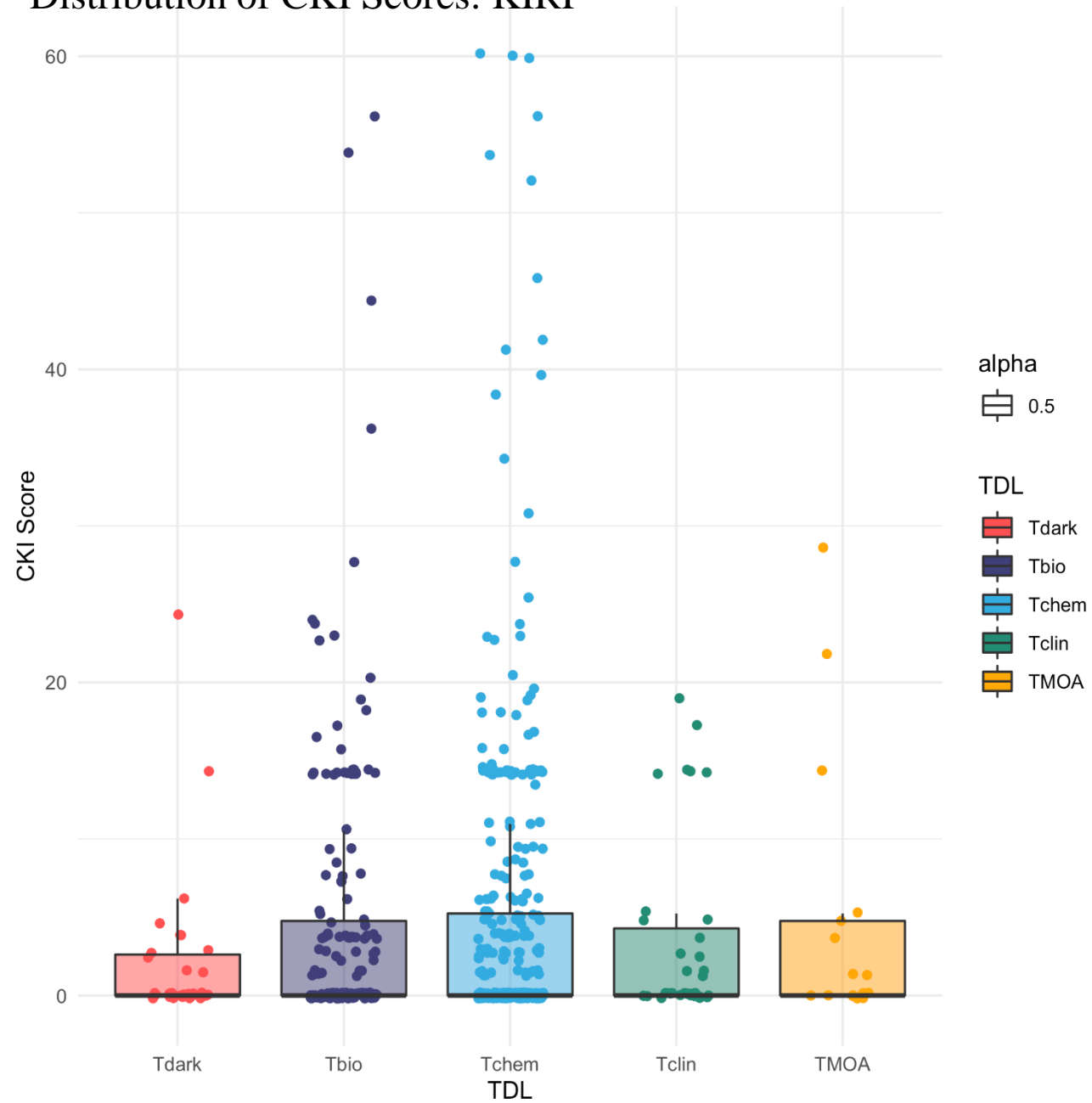


## Distribution of CKI Scores: LUAD



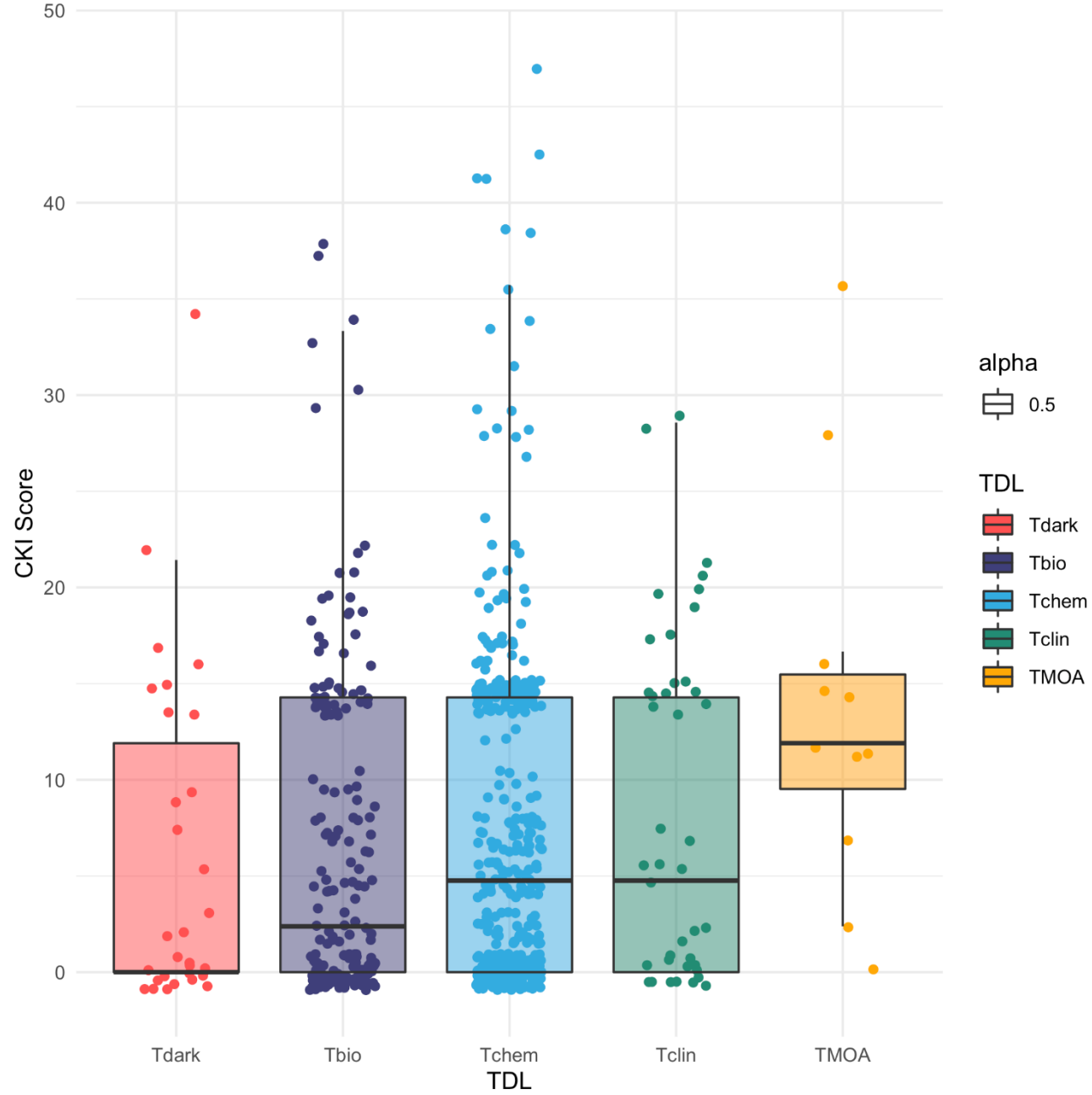
2J.

### Distribution of CKI Scores: KIRP

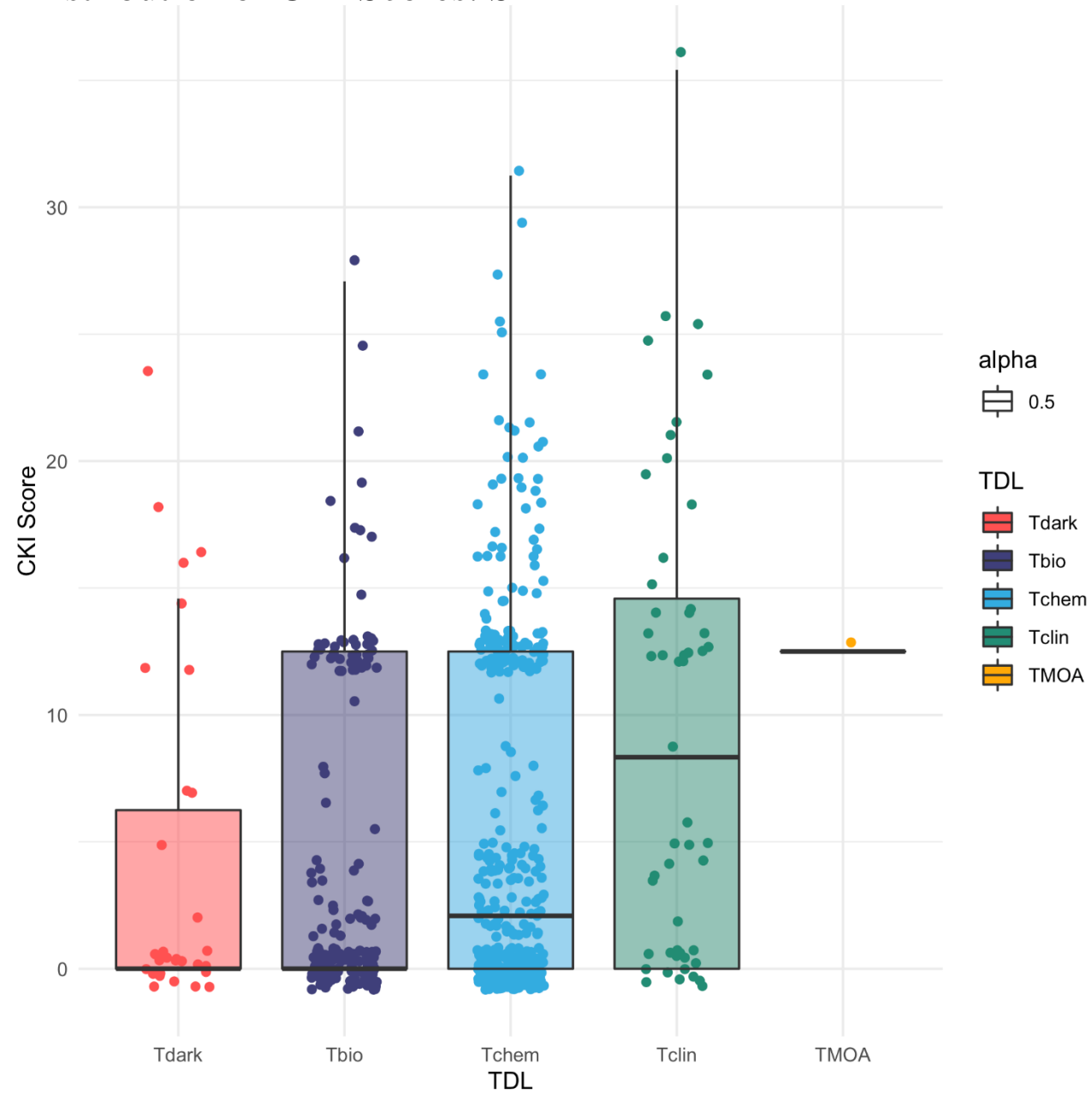


2K.

### Distribution of CKI Scores: THCA



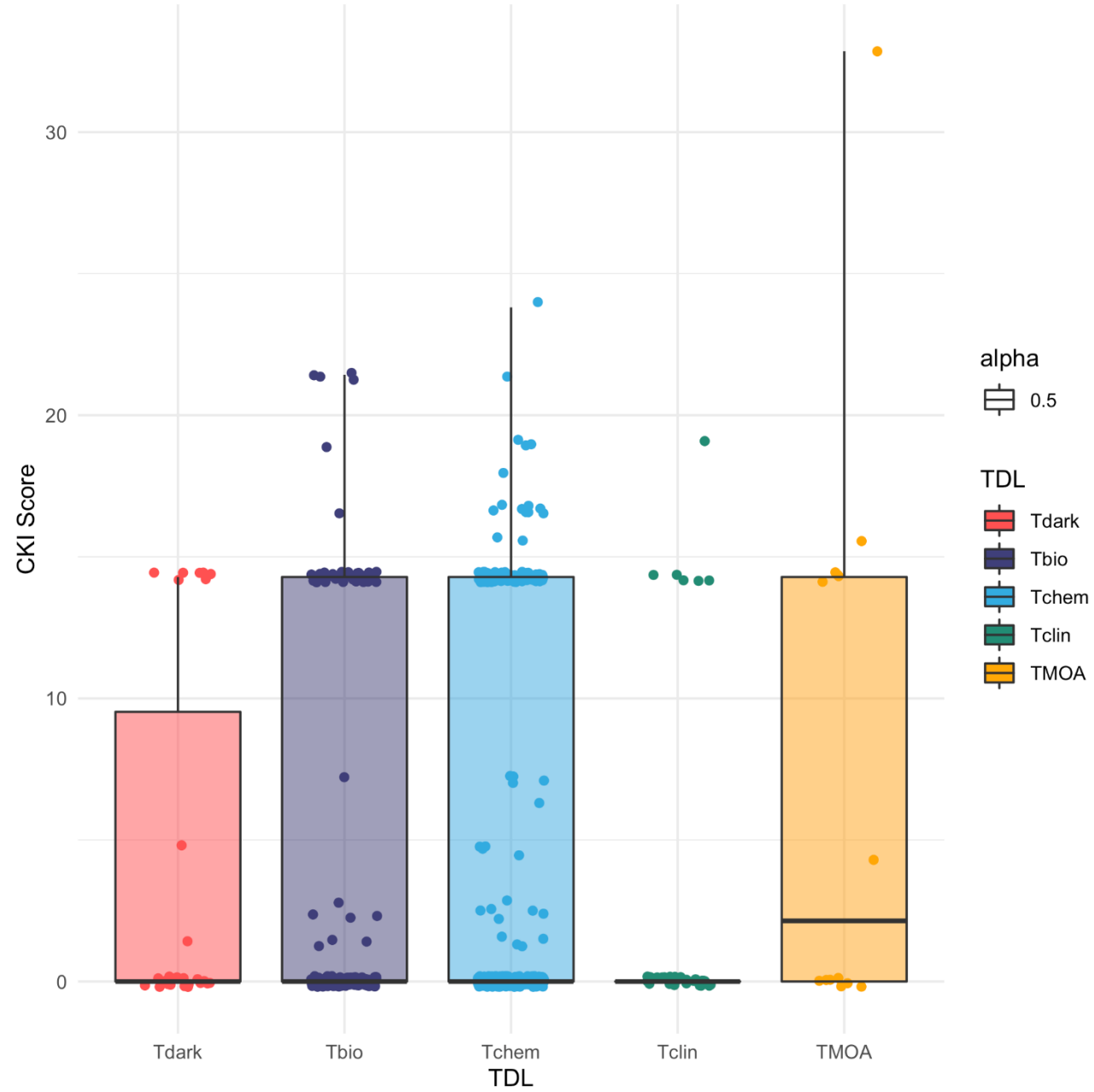
## Distribution of CKI Scores: STAD





2M.

## Distribution of CKI Scores: LUSC



2N.

### Distribution of CKI Scores: KIRC

