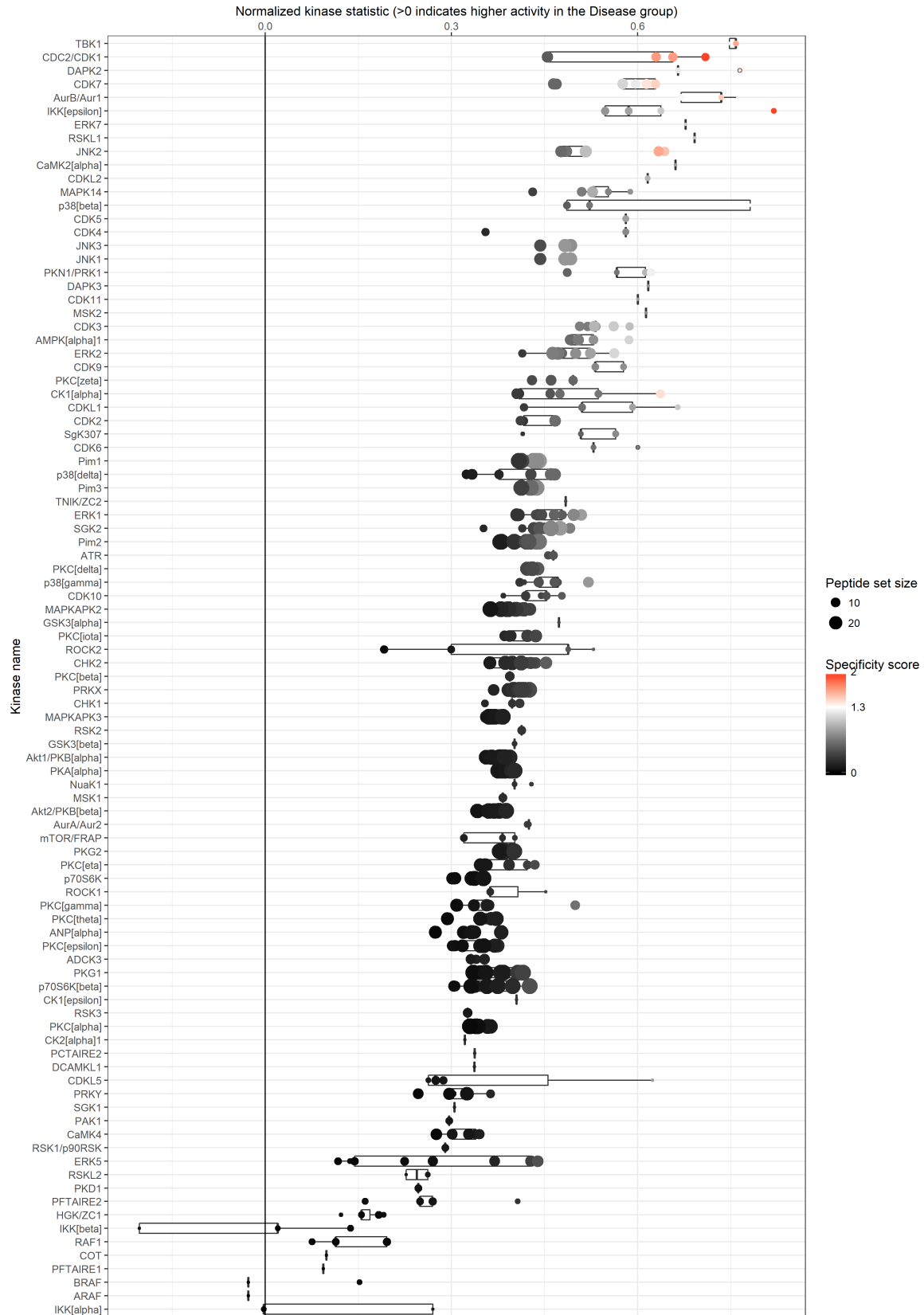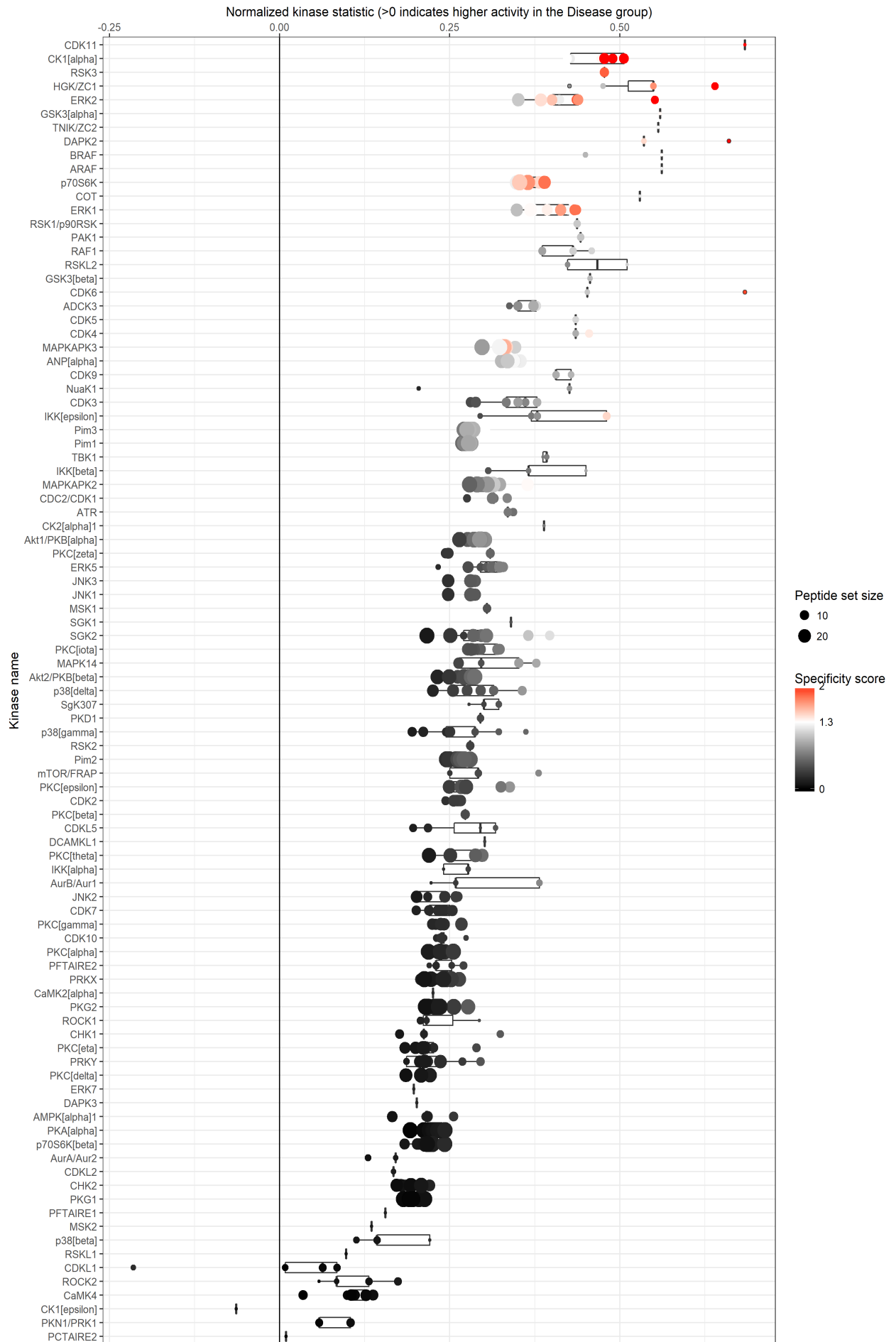# Supplementary Figure 7

Upstream Kinase Analysis (UKA) generated list of putative kinases based on peptides targeted for phosphorylation in patients with different breast cancer subtypes.
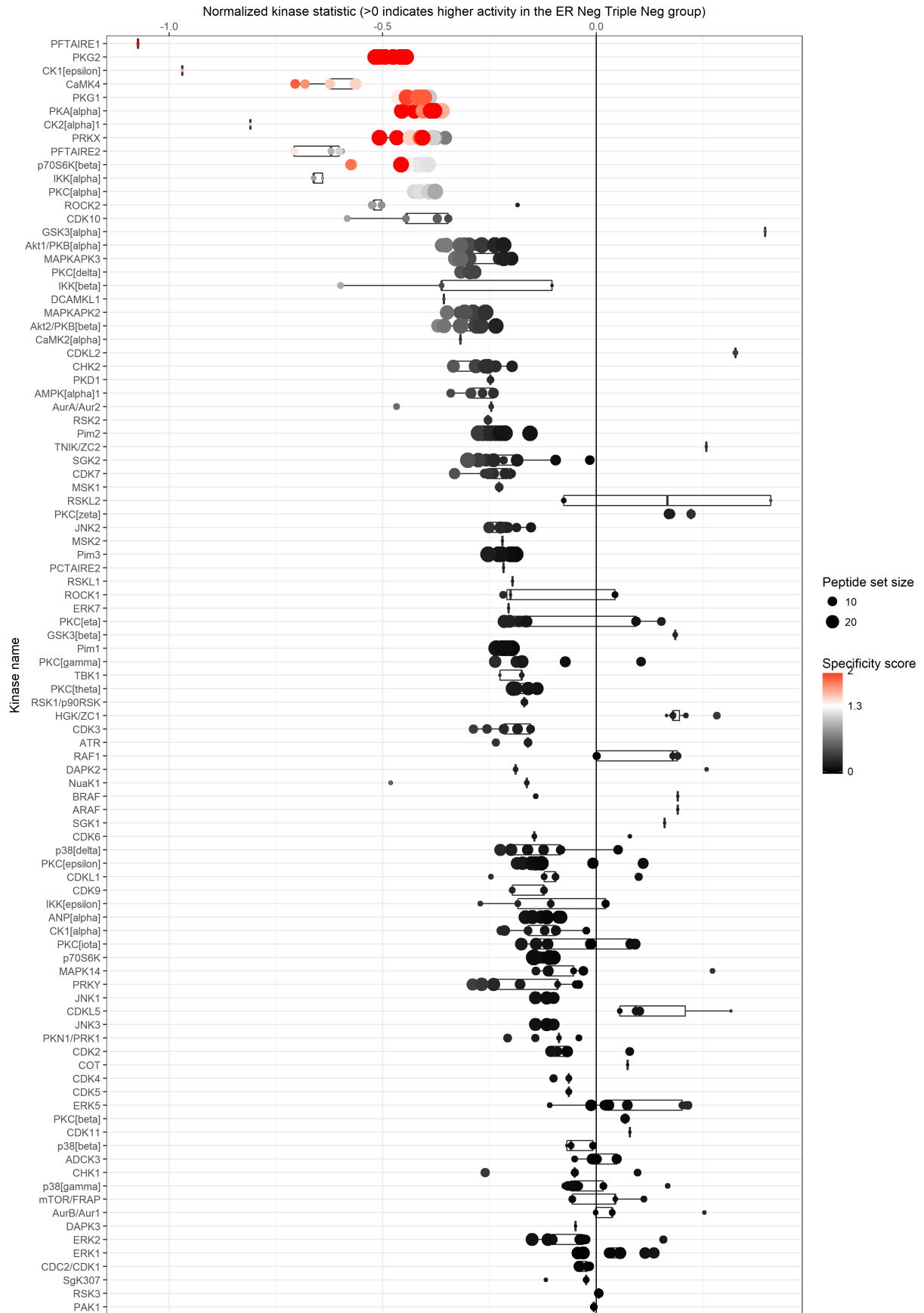
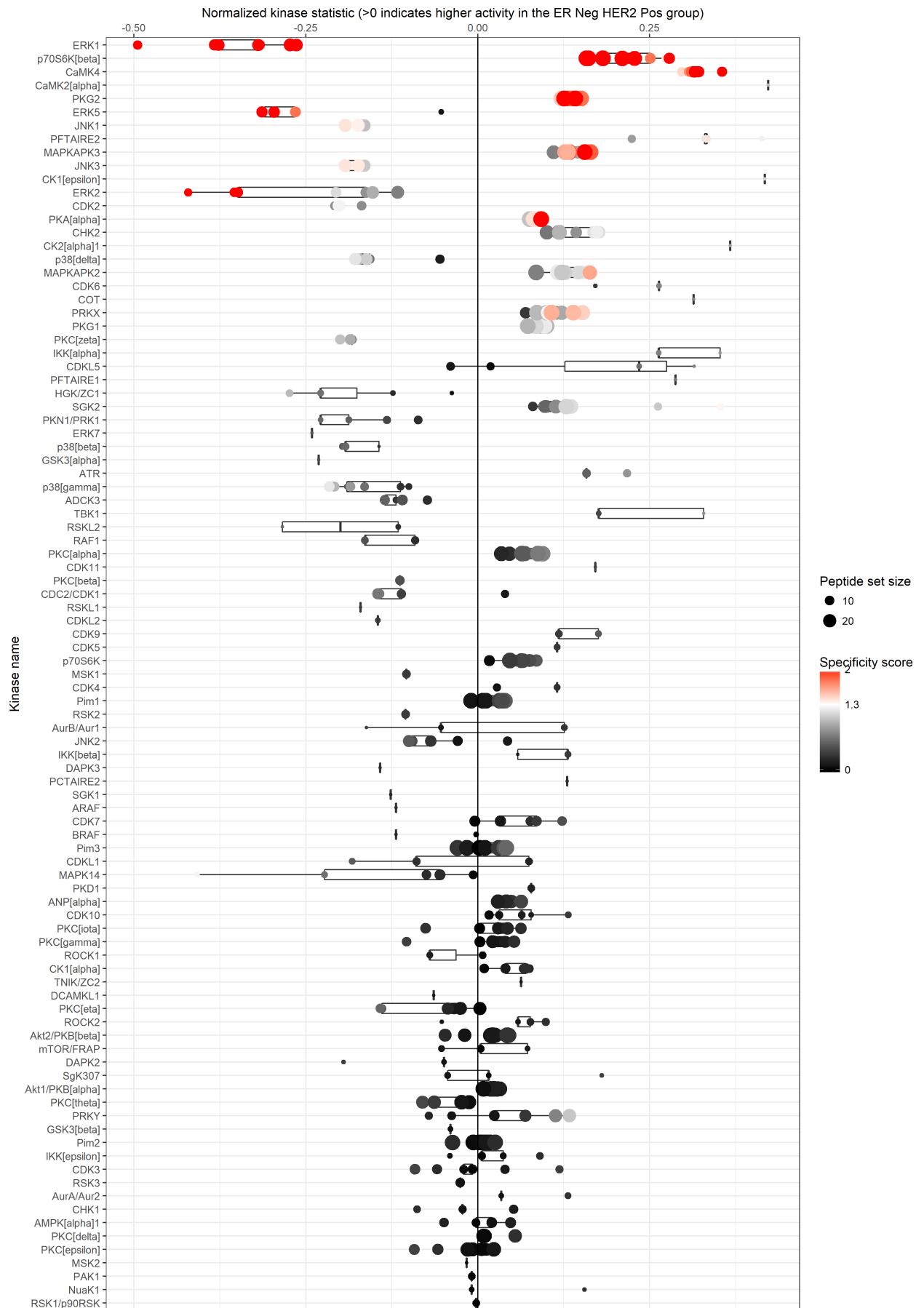## Serine Threonine kinase (STK)

HR-pos **HER2 neg** pts Vs HVs

HR-pos **HER2 pos** pts Vs HVs

Normalized kinase statistic (>0 indicates higher activity in the Disease group)

Triple negative pts Vs HVs

Normalized kinase statistic (>0 indicates higher activity in the ER Neg Triple Neg group)

Peptide set size
- 10
- 20

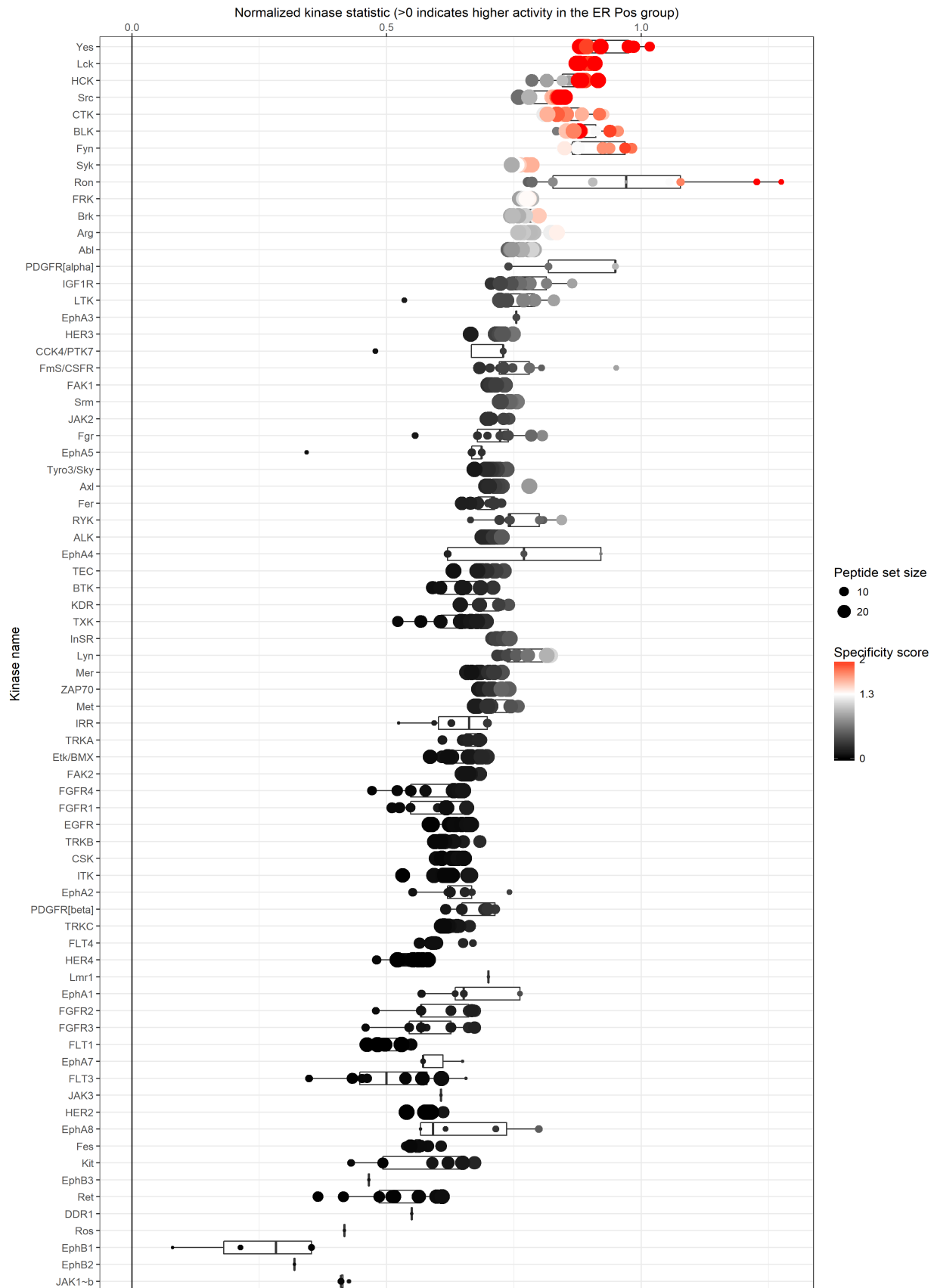**Specificity score**
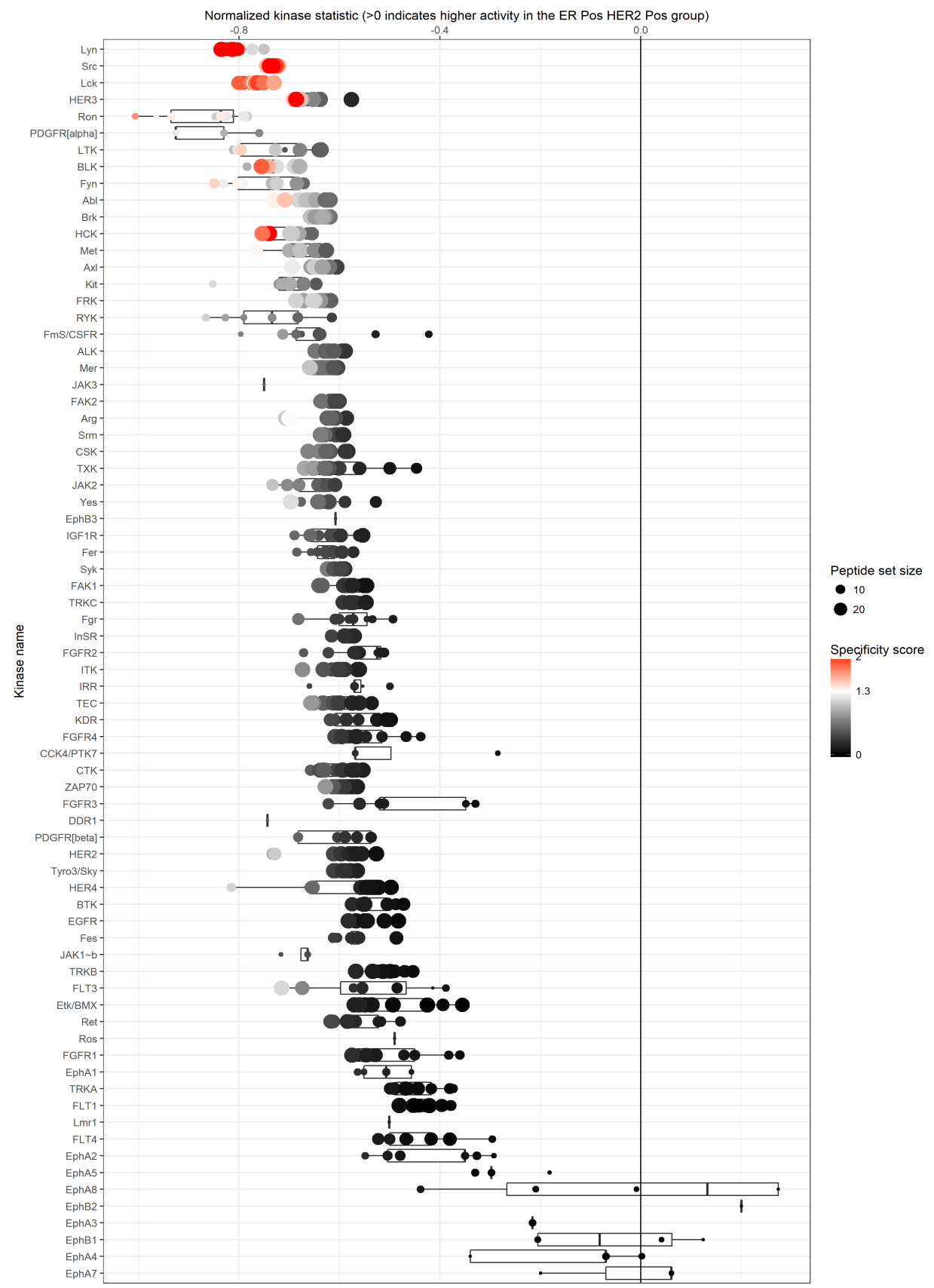- 2
- 1.3
- 0

HR-neg **HER2 pos** pts Vs HVs

Phosphotyrosine kinase (PTK)

HR-pos **HER2 neg** pts Vs HVs

HR-pos **HER2 pos** pts Vs HVs

Normalized kinase statistic (>0 indicates higher activity in the ER Pos HER2 Pos group)

Triple negative pts Vs HVs

HR-neg **HER2 pos** pts Vs HVs

Normalized kinase statistic (>0 indicates higher activity in the ER Neg HER2 Pos group)
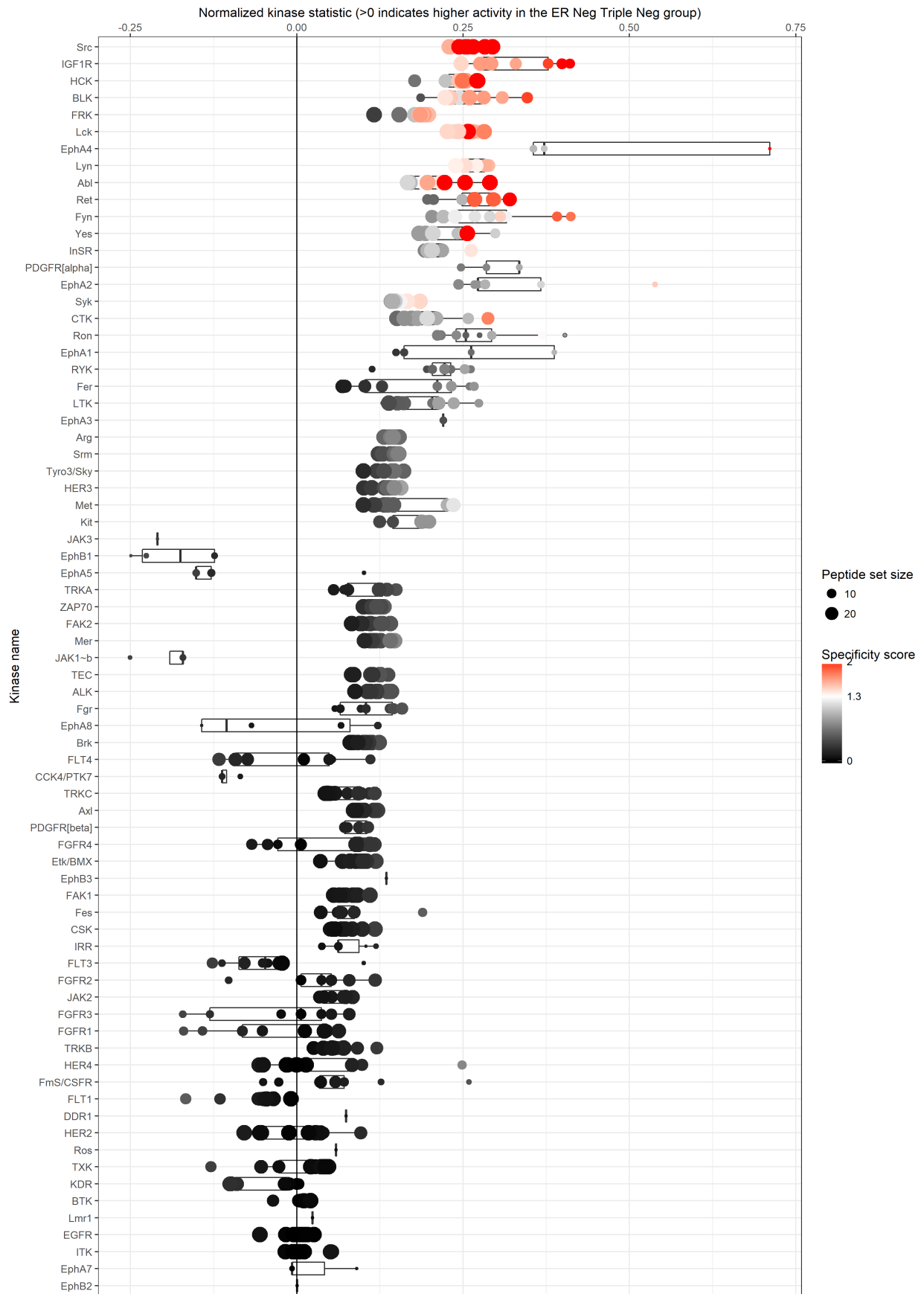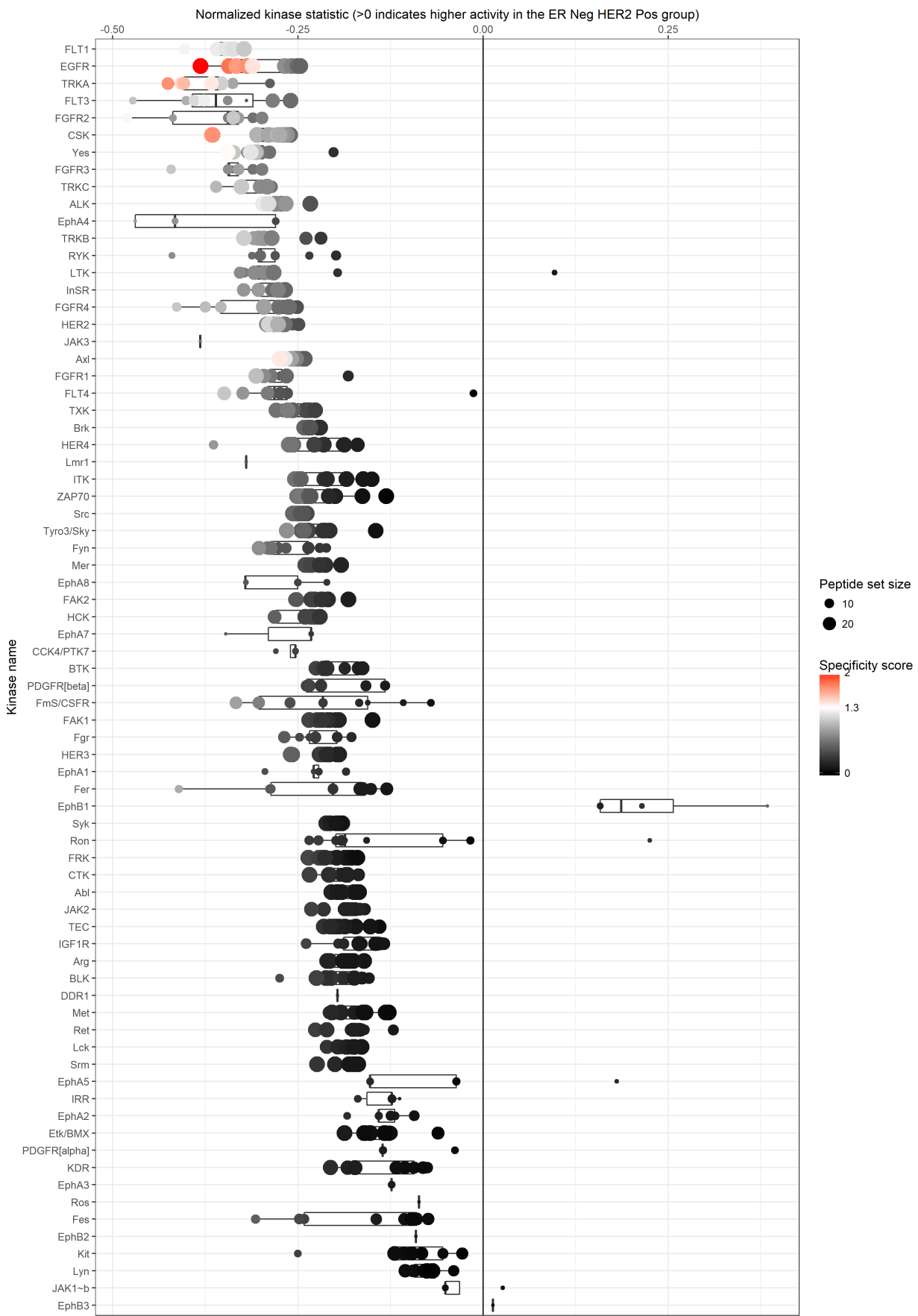
Benign breast disease compared to HVs for **STK family**

Normalized kinase statistic (>0 indicates higher activity in the Disease group)
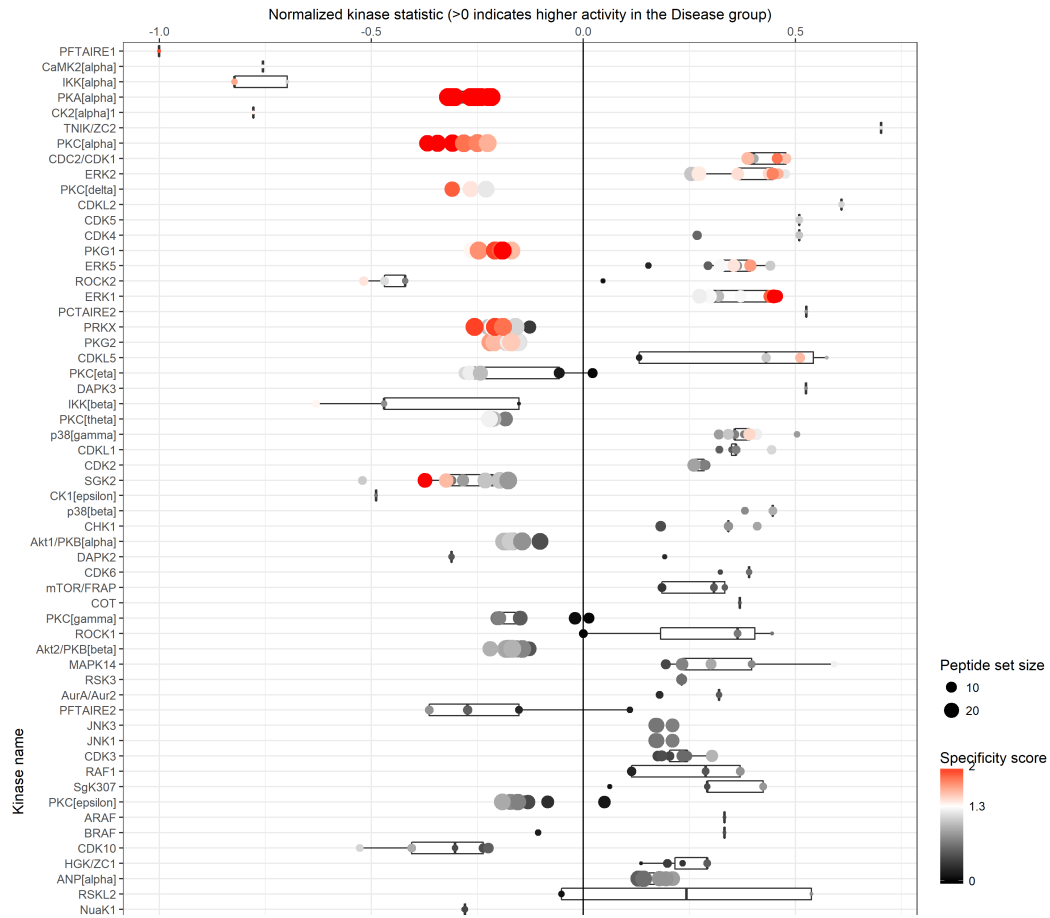
Benign breast disease compared to HVs for **PTK family**

Normalized kinase statistic (>0 indicates higher activity in the C Healthy group)
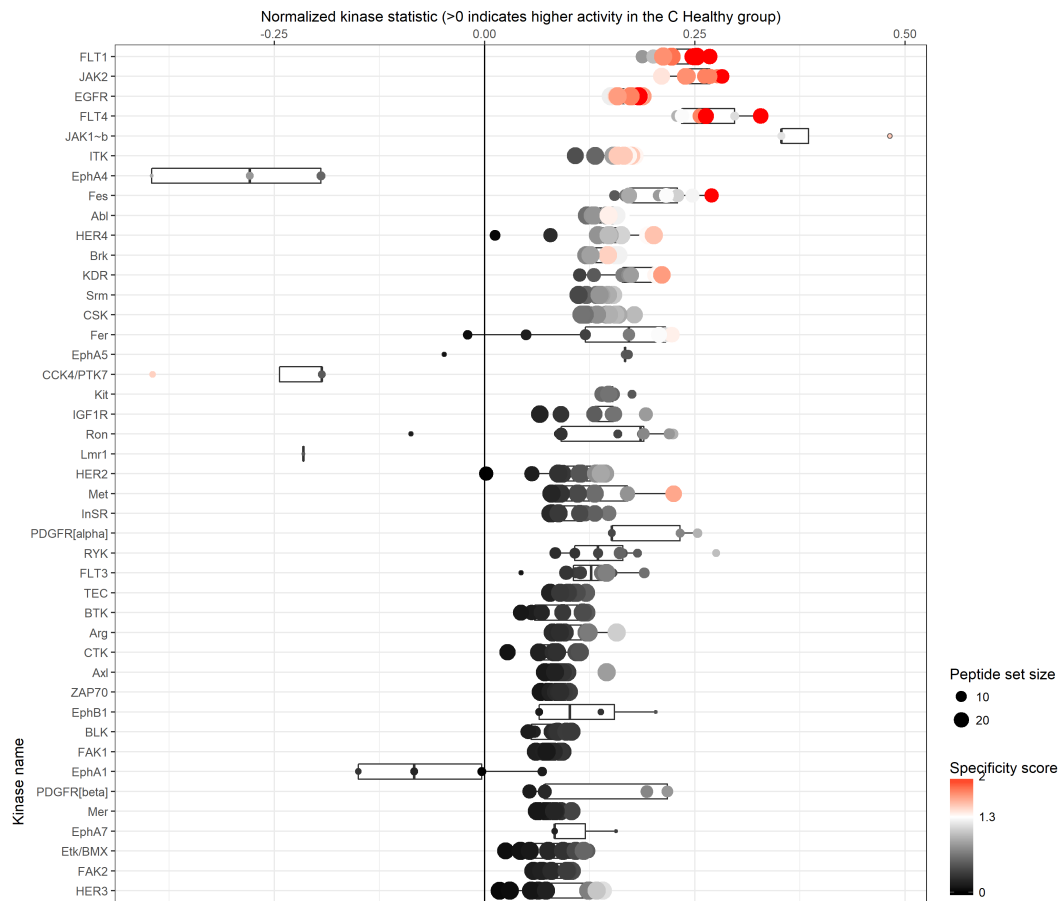
Upstream Kinase Analysis showing a list of putative kinases for either the STK or PTK families based on the peptides phosphorylated differently in patients compared to HVs. The analysis is done for each subtype of breast cancer or patients with benign disease separately as indicated. Size of circle represents peptide data set belonging to each kinase and colour scale represents the specificity of the kinase for that peptide set (red highly specific).