

## **Description of Additional Supplementary Information**

File Name: Supplementary Data 1.

Description: Mutation frequency of the 75 highly (or differentially) mutated genes in CCLE, TCGA, and MET500 dataset.

File Name: Supplementary Data 2.

Description: Characteristics of the 57 CCLE breast cancer cell lines. Information in the first nine columns is from Table3 of Jiang's research paper.

File Name: Supplementary Data 3.

Description: P-value and adjusted FDR derived from subtype-specific TC analysis. Each row is associated with a CCLE breast cancer cell line.

File Name: Supplementary Data 4.

Description: Results of GO enrichment analysis.

File Name: Supplementary Data 5.

Description: Results of DA analysis.

File Name: Supplementary Data 6.

Description: Detailed statistics of the datasets used in our study.