## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Known cancer driver genes, with significantly mutated genes identified that

were collected from TCGA projects. (Excel file)

File Name: Supplementary Data 2

Description: Final patient-specific disease modules across 15 cancer types are identified by

the GPSnet algorithm. (Excel file)

File Name: Supplementary Data 3

Description: Known cancer-associated genes were collected from four public databases: the Online Mendelian Inheritance in Man (OMIM) database, HuGE Navigator,

PharmGKB, and Comparative Toxicogenomics Database (CTD). (Excel file)

File Name: Supplementary Data 4

Description: FDA-approved cancer type/subtype specific drugs. (Excel file)

File Name: Supplementary Data 5

Description: Computationally predicted anticancer indications across 15 cancer types by

both network proximity and gene-set enrichment analysis approaches. (Excel file)

File Name: Supplementary Data 6

Description: Differentially expressed analysis in LUAD patients and correlation analysis

between gene expression and metabolite abundance in ~70 NSCLC cell lines. (Excel file)