## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Aneuploidy and clinical data for 8686 TCGA tumor samples considered

File Name: Supplementary Data 2

Description: Gene grouping into DNA damage response pathways

File Name: Supplementary Data 3

Description: Pan cancer driver genes considered

File Name: Supplementary Data 4

Description: Selection p-values assigned to selected DNA damage response genes in each tumor type

(binomial p-value) and tumor cluster (X<sup>2</sup> P-values)