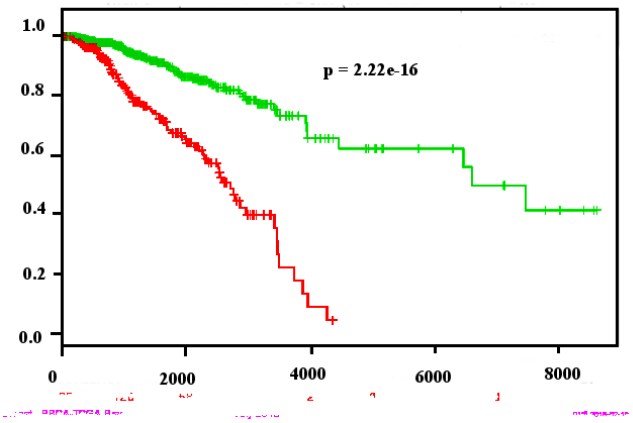

Figure 1a: BRCA Top Gain

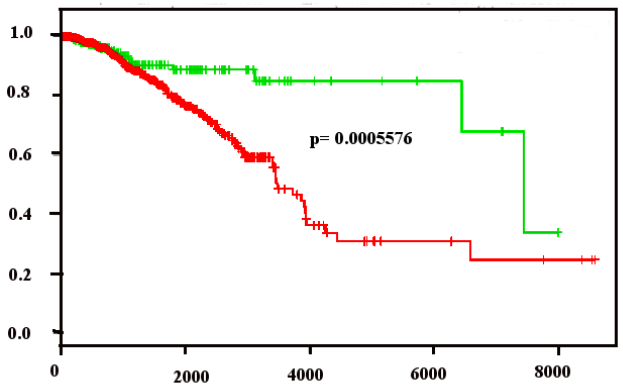

Figure 1b: BRCA Specific Top Gain

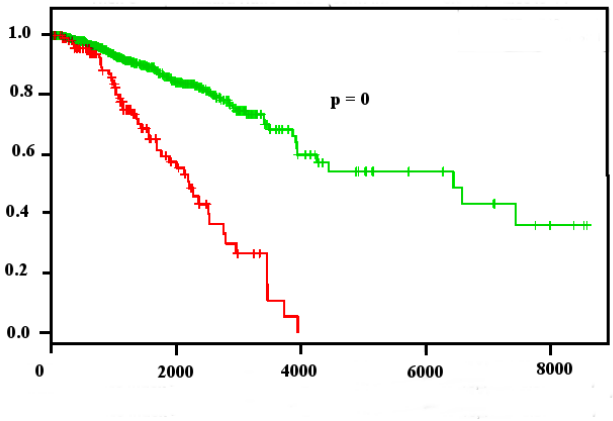

Figure 1c: BRCA Top Lost

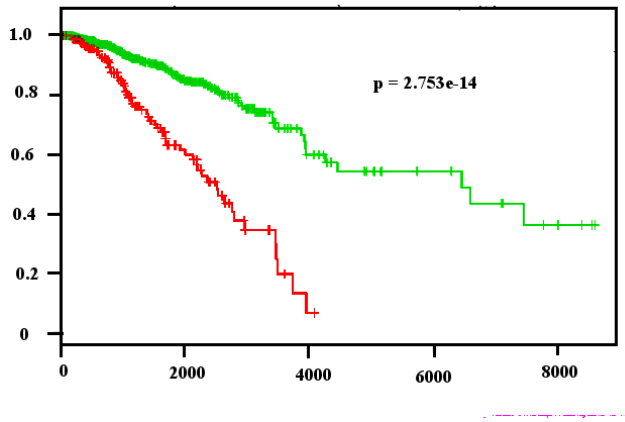

Figure 1d: BRCA Specific Top Lost

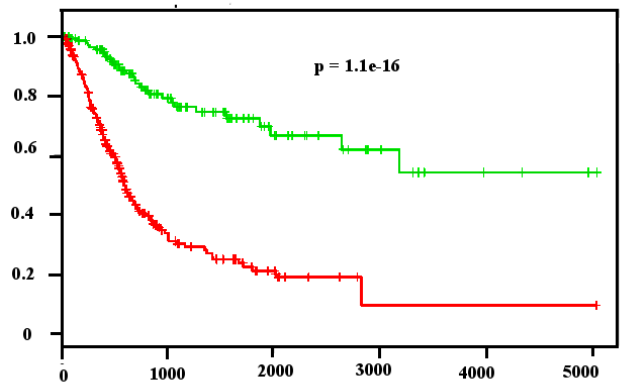

Figure 2a: BLCA Top Gain

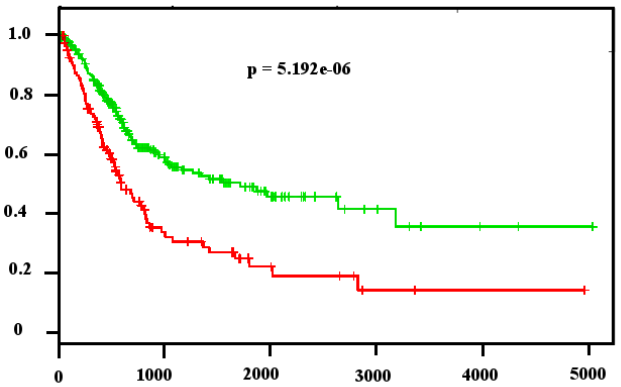

Figure 2b: BLCA Specific Top Gain

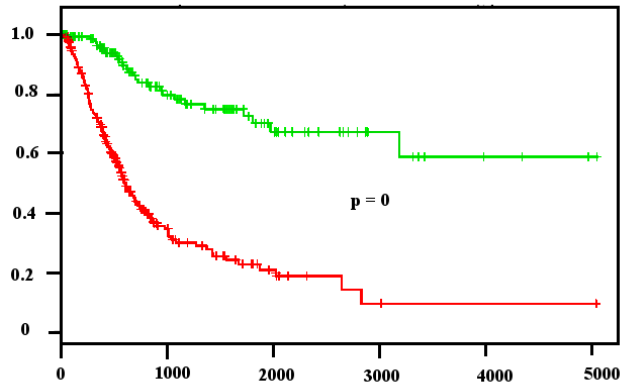

Figure 2c: BLCA Top Lost

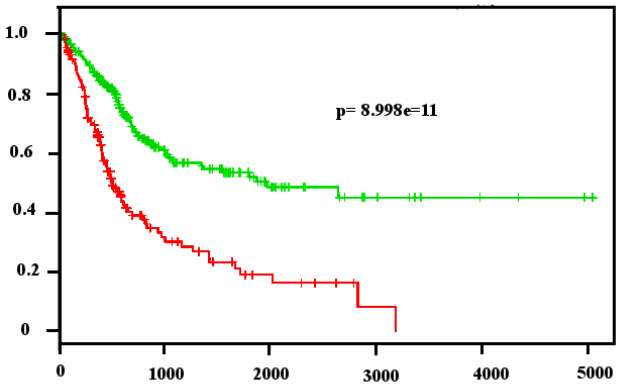

Figure 2d: BLCA Specific Top Lost

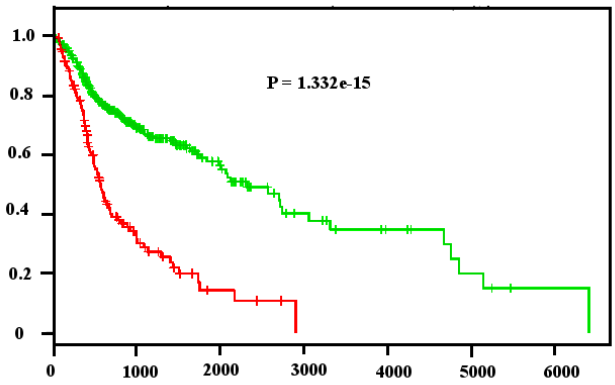

Figure 3a: HNSC Top Gain

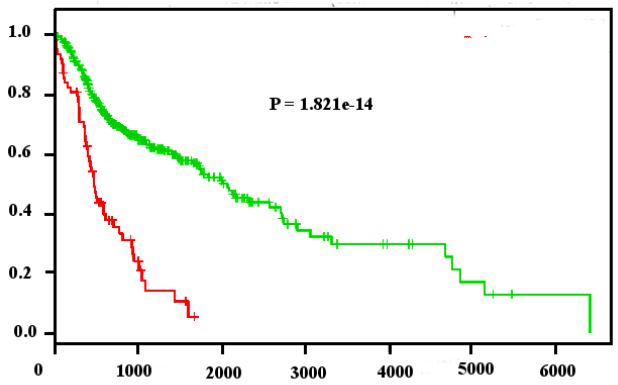

Figure 3b: HNSC Specific Top Gain

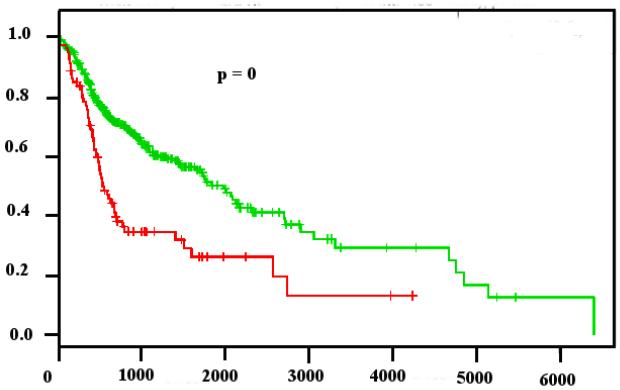

Figure 3c: HNSC Top Lost

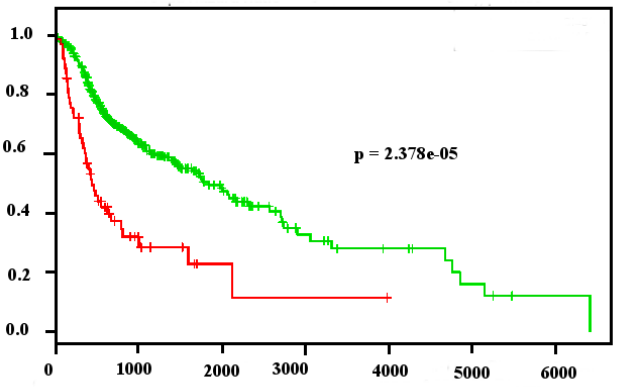

Figure 3d: HNSC Specific Top Lost

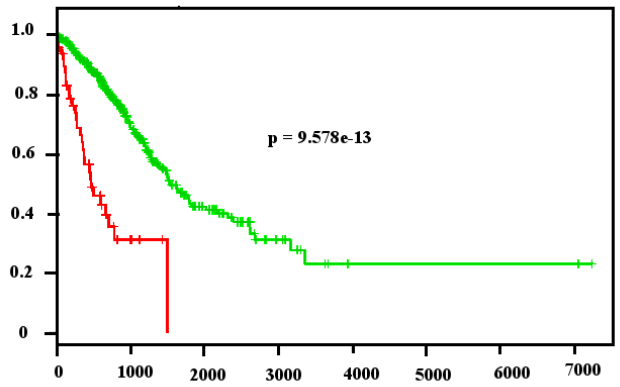

Figure 4a: LUAD Top Gain

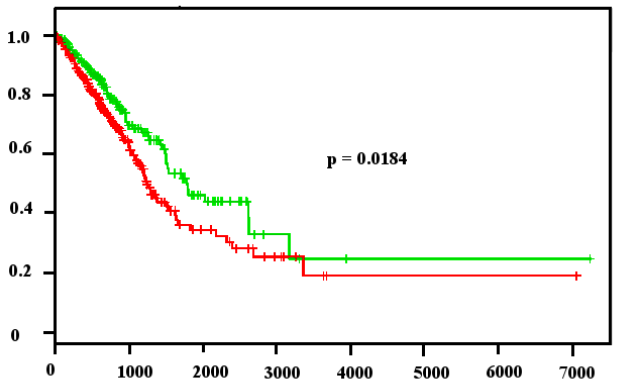

Figure 4b: LUAD Specific Top Gain

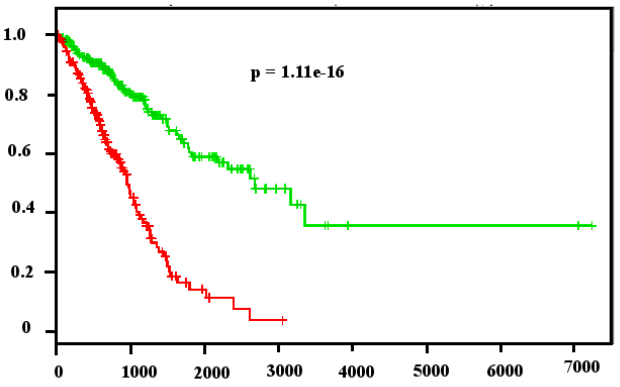

Figure 4c: LUAD Top Lost

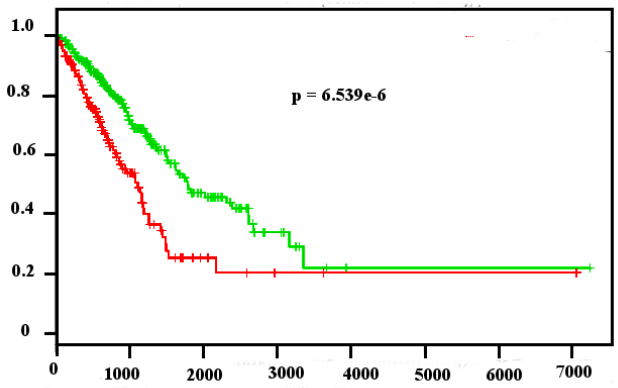

Figure 4d: LUAD Specific Top Lost

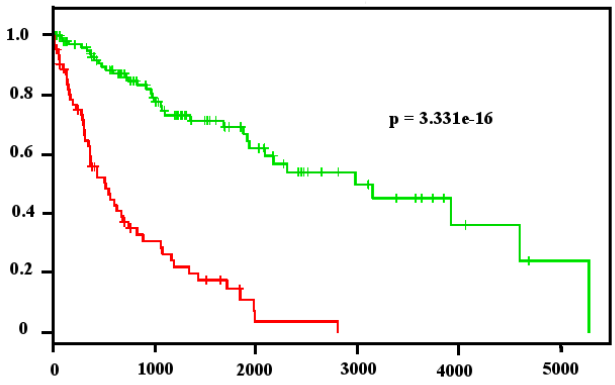

Figure 5a: LUSC Top Gain

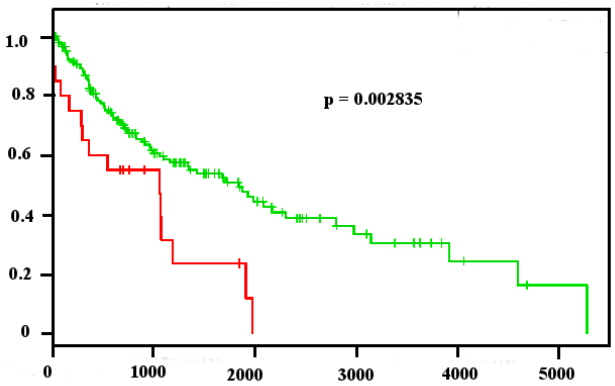

Figure 5b: LUSC Specific Top Gain

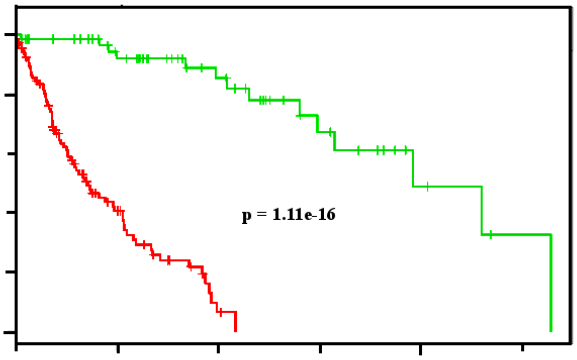

Figure 5c: LUSC Top Lost

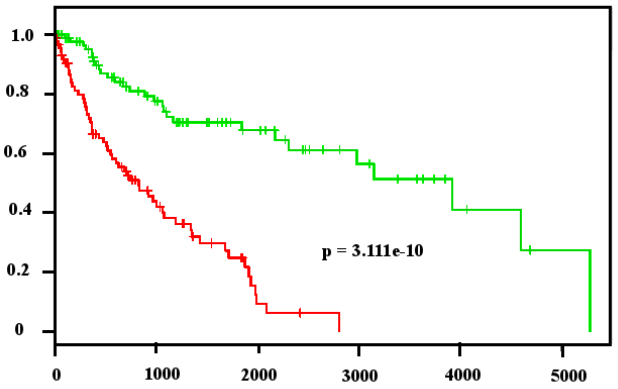

Figure 5d: LUSC Specific Top Lost

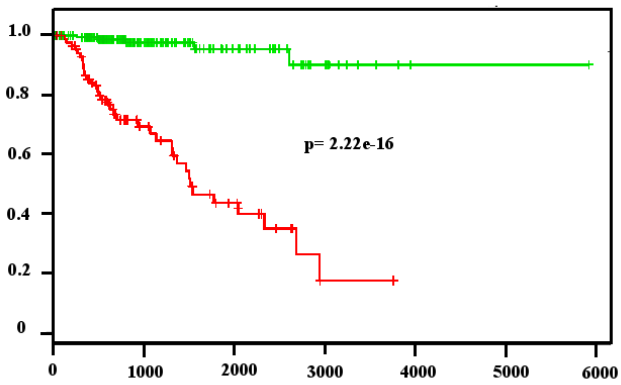

Figure 6a: KIRP Top Gain

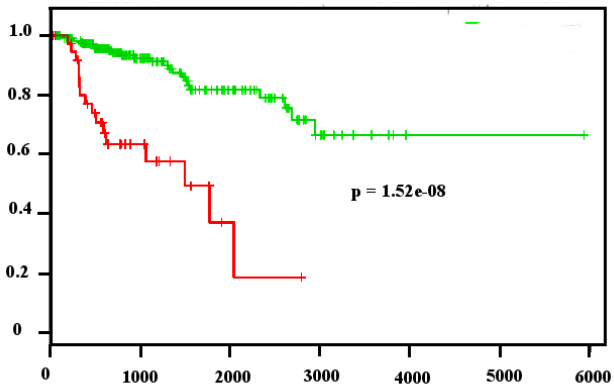

Figure 6b: KIRP Specific Top Gain

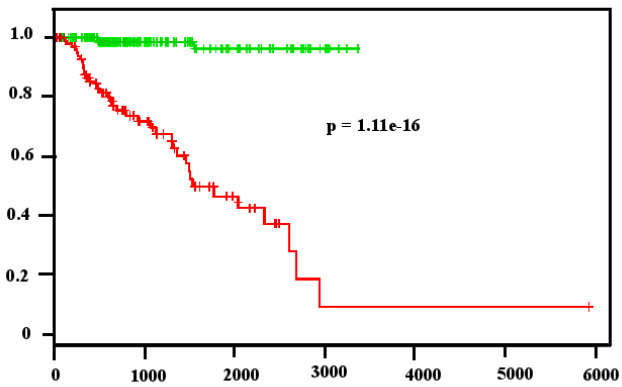

Figure 6c: KIRP Top Lost

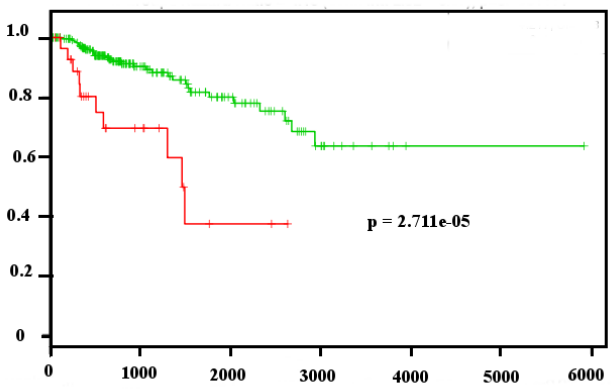

Figure 6d: KIRP Specific Top Lost

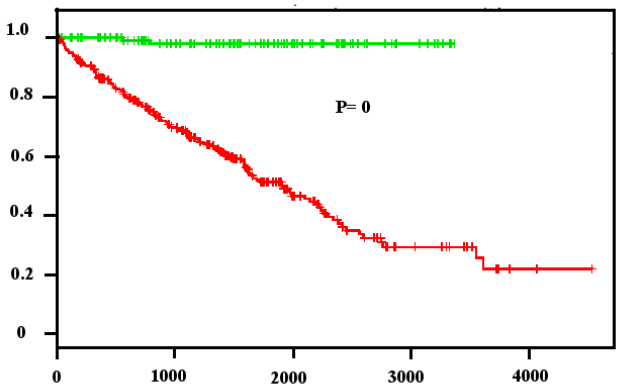

Figure 7a: KIRC Top Gain

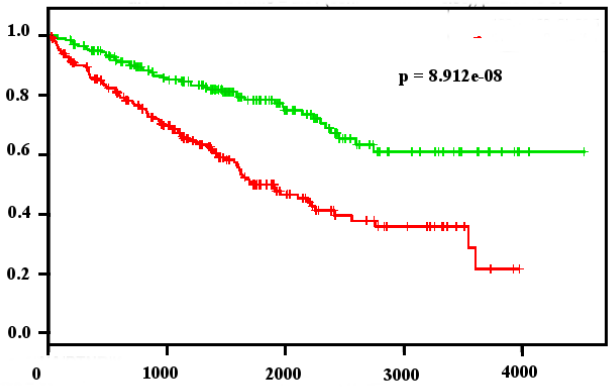

Figure 7b: KIRC Specific Top Gain

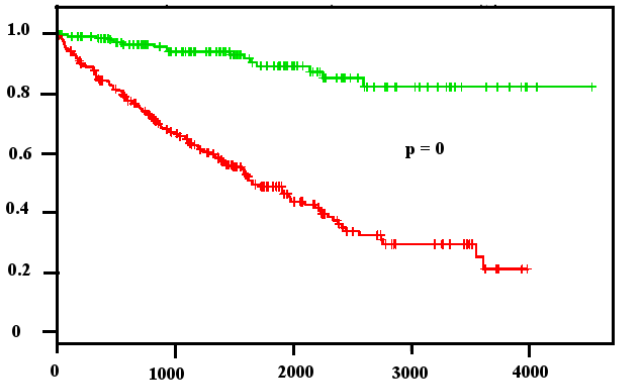

Figure 7c: KIRC Top Lost

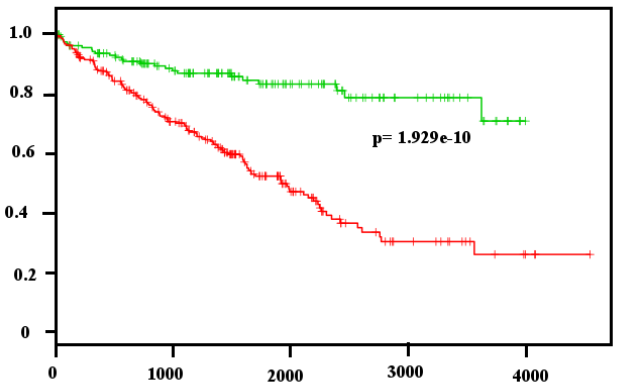

Figure 7d: KIRC Specific Top Lost

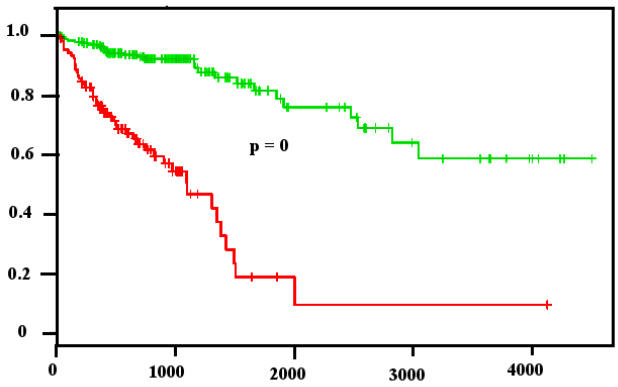

Figure 8a: COAD Top Gain

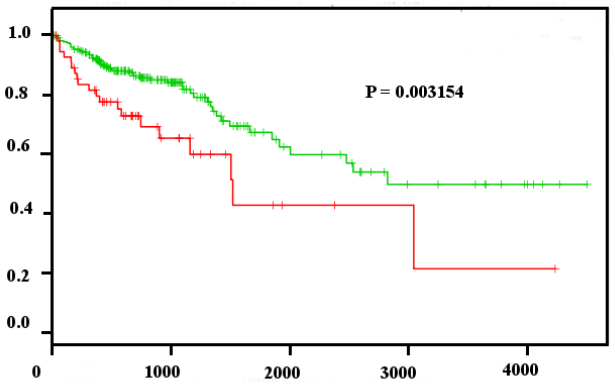

Figure 8b: COAD Specific Top Gain

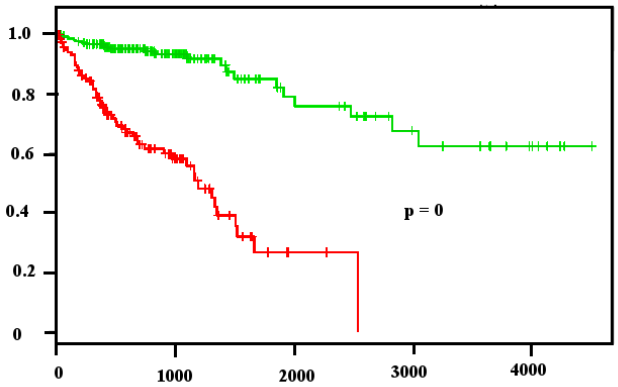

Figure 8c: COAD Top Lost

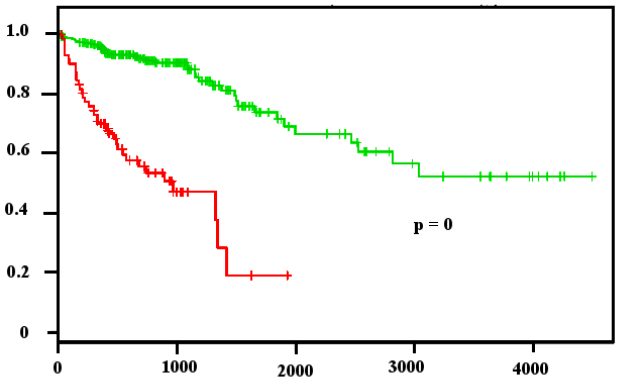

Figure 8d: COAD Specific Top Lost

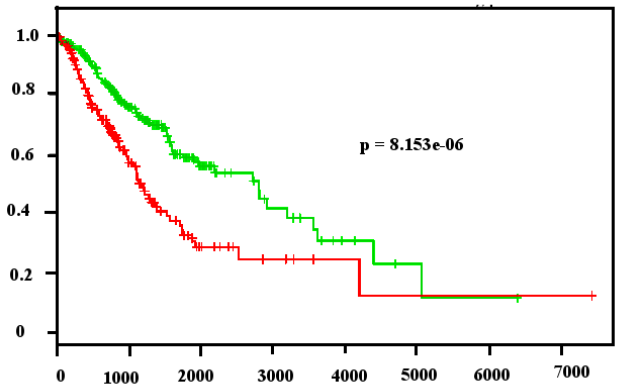

Figure 9a: STES Top Gain

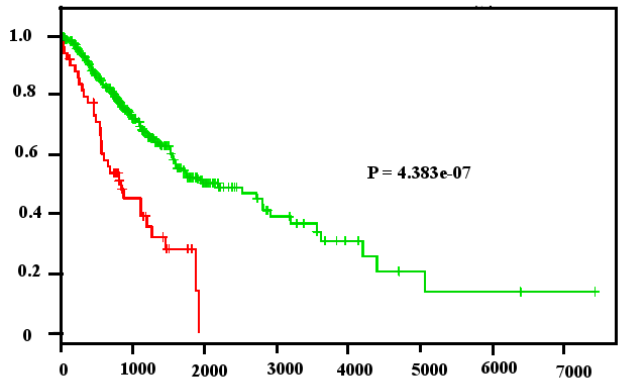

Figure 9b: STES Specific Top Gain

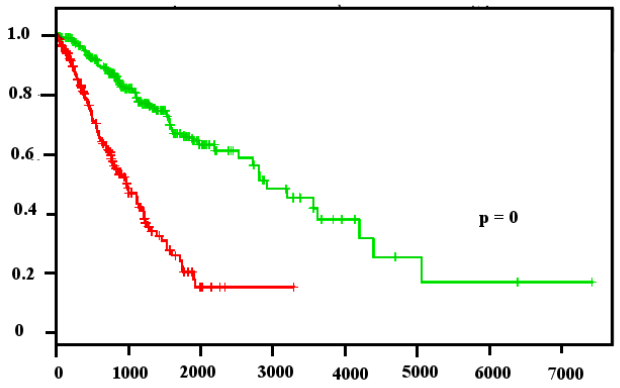

Figure 9c: STES Top Lost

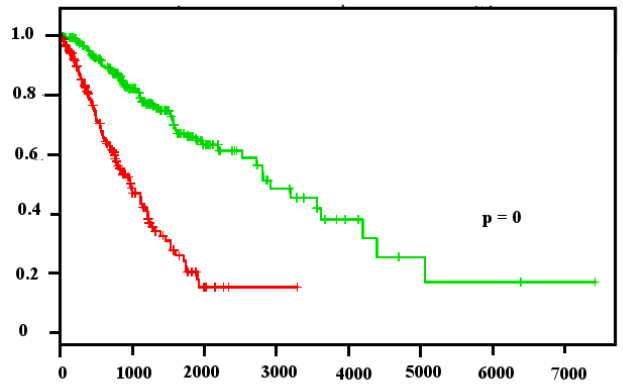

Figure 9d: STES Specific Top Lost

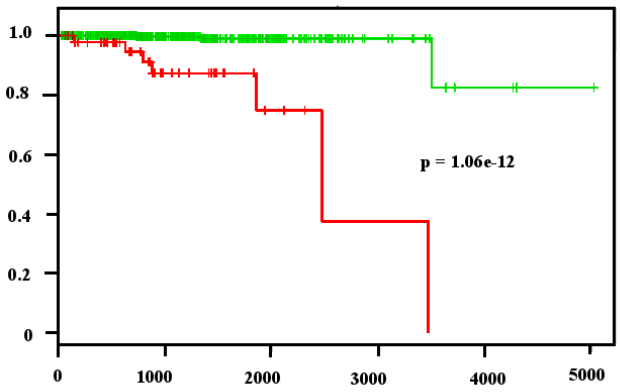

Figure 10a: PRAD Top Gain

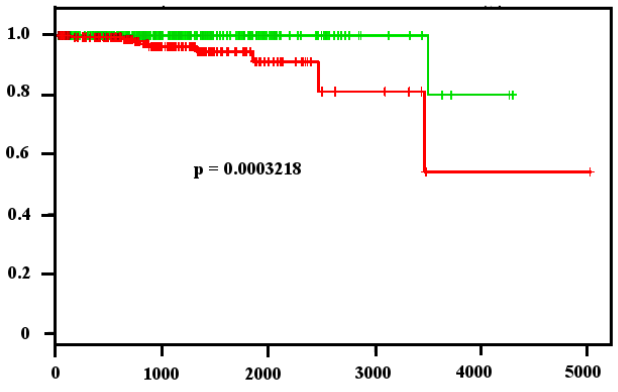

Figure 10b: PRAD Specific Top Gain

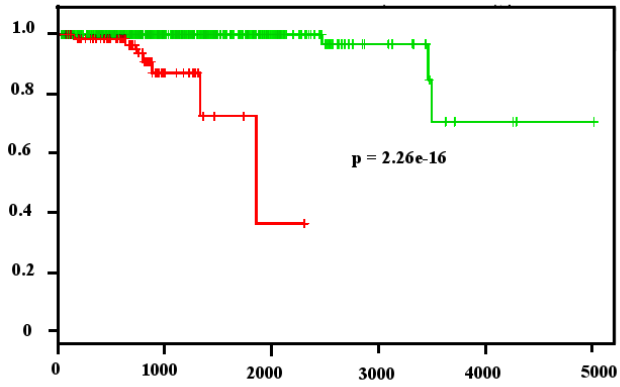

Figure 10c: PRAD Top Lost

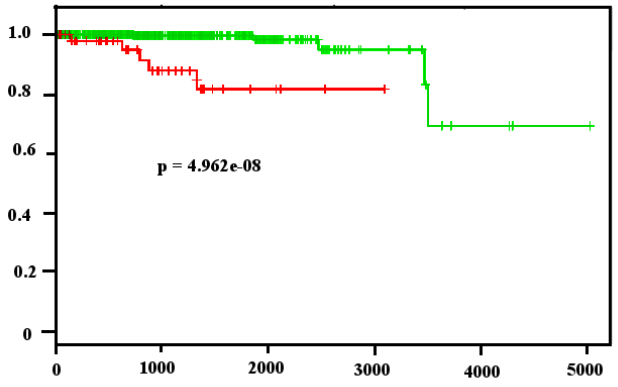

Figure 10d: PRAD Specific Top Lost

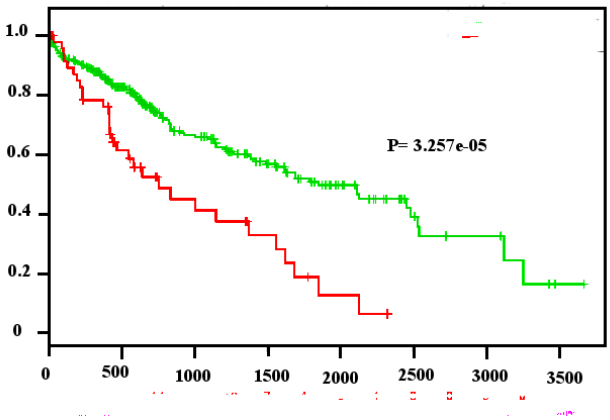

Figure 11a: LIHC Top Gain

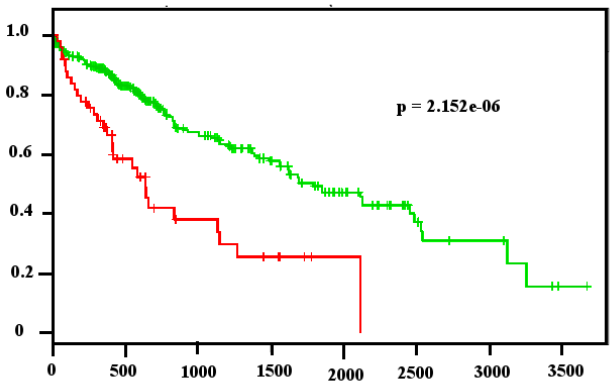

Figure 11b: LIHC Specific Top Gain

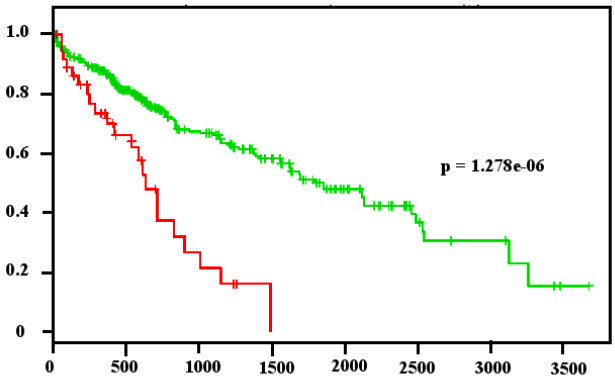

Figure 11c: LIHC Top Lost

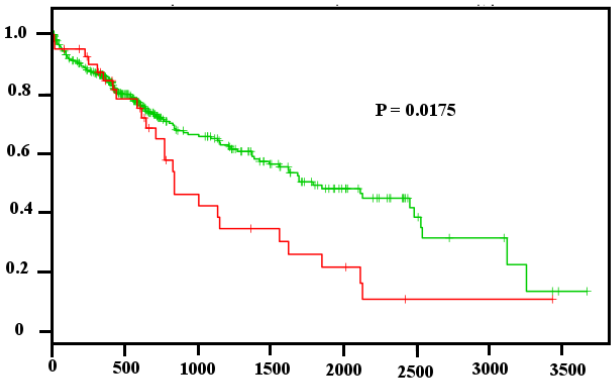

Figure 11d: LIHC Specific Top Lost

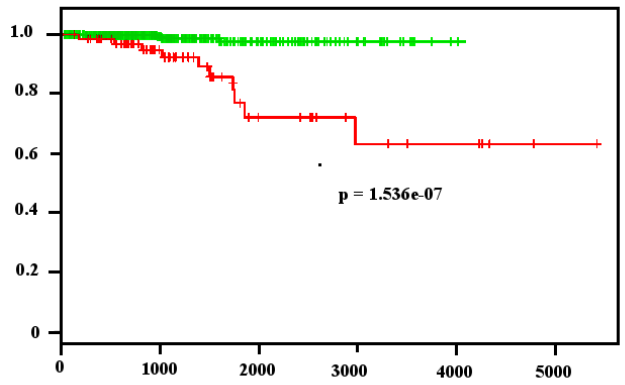

Figure 12a: THCA Top Gain

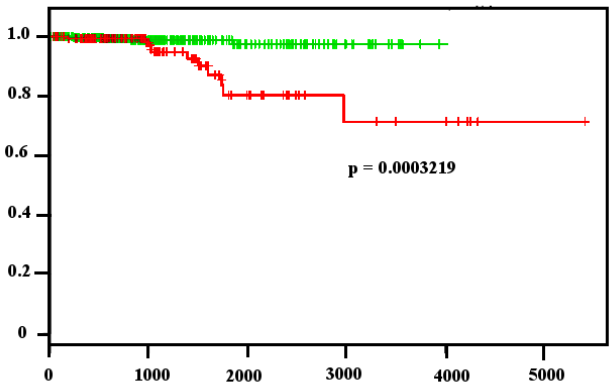

Figure 12b: THCA Specific Top Gain

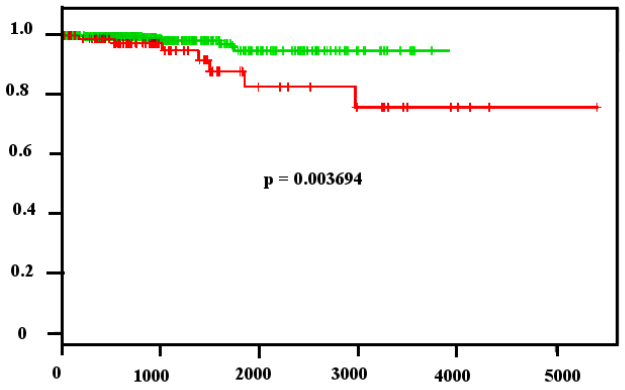

Figure 12c: THCA Top Lost

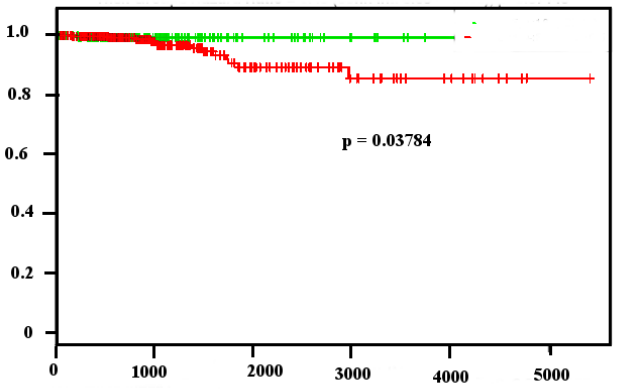

Figure 12d: THCA Specific Top Lost

Supplementary Figure 2 (1 - 12): Kaplan-Meier survival analysis plots of multigene cancer biomarkers involved in edgetic perturbations. The x axes indicate the number of days until patient death whereas the y axes indicate the probability of patient survival. In all the Figures, the green lines indicate better survival (longer life-span) after cancer diagnosis while the red lines indicate poor survival (shorter life-span) after cancer diagnosis as a result of the proteins involved in edgetic gains or losses. In all the cases, the proteins involved in edgteic perturbations predicted poor survival of the patients (Logrank test p-value < 0.05), indicating their importance in cancer monitoring and prognosis. (a) Overall survival predicted from gene signatures involved in edgetic gains across most patients of a cancer type, (b) Overall survival predicted from gene signatures involved in edgetic losses across most patients of a cancer type, (c) Overall survival predicted from gene signatures involved in edgetic gains across patients showing cancer-specific perturbations, (d) Overall survival predicted from gene signatures involved in edgetic losses across patients showing cancer-specific perturbations. The names of the prominent proteins with multiple perturbations responsible for the above observations can be found in Supplementary File 7.xls (Tables 7a and 7b).