



**Supplementary Figure 1:** Oncoprint plot for 54 non-synonymous changes common for all three cases, each case shown by one lane. The upper bar plot shows the total number of alterations detected in each case. The right panel shows relative prevalence of alterations in each gene (for example, *APC* had both indel and SNVs for case #1, SNVs for case #2, indel for case #3 – thus total of 4 alterations is shown at the right barplot). All three cases (as noted in Table 1) were MMR-deficient, confirmed by immunohistochemistry, and MSI-high according to whole-exome sequencing of tumor tissue. Importantly, all cases also had high tumor mutational burden: 43, 351, and 31 mutations/Mb for cases #1, #2, and #3, respectively. With a wide spectrum of mutations found, 54 non-synonymous mutations were common for all three cases including genes commonly mutated in CRC, such as *APC* and *TP53*. Cases #1 and #2 had missense mutations in both *POLE* and *POLD1* genes. Case #2 also bore mutations *KRAS A59T* and *BRAF P192S*, while case #3 had *BRAF V600E* mutation. The tumor mutational burden (table 1) not surprisingly is different across different platforms.