



## Supplemental Figure S9.

 $A \rightarrow C$  mutation is a minor signature of MMR. a, Ratio of mutational rate for  $A \rightarrow C$  mutation in all possible contexts in MSI caners to MSS cancers. Red frames denote the extreme values. b, The ratios of  $A \rightarrow C$  mutation rate to  $T \rightarrow G$  mutation rate on the leading strand in regions belonging to the most extreme replication direction bin in different contexts.