



**Figure S2.** *RMSD vs RNA structural similarity.* SARAscore (A) and RMscore are plotted against RMSD in 0.1 million randomly selected pairs, RNA structural alignment are accomplished by SARA. The insets show the fraction of RNA-RNA pairs with RMSD  $\leq 5$  Å are plotted with 0.05 bins to show the phase transition from dissimilar RNA pairs to the similar pairs.