



Fig. S2. Hemi-methylation of recognition sequence is sufficient for genome protection in Type III R-M systems. (A) Type III R-M, EcoP1I recognizes the site AGACC. (B) For efficient cleavage of DNA, the recognition sites on both the strands of the DNA should be oriented convergently so as to position the two enzyme molecules in a head-to-head manner. (C) After replication, the newly synthesized DNA strand, *i.e.*, daughter strand (indicated as dashed line) is transiently devoid of methylation. The methylated sites on the parent strand can protect the genome, as all the sites from the newly synthesized would be oriented in a head to tail manner. (D) T7 phage exhibits strand-bias for the EcoP1I sites *i.e.*, all the sites are in the same orientation rather than in the head to head formation which is required for cleavage.