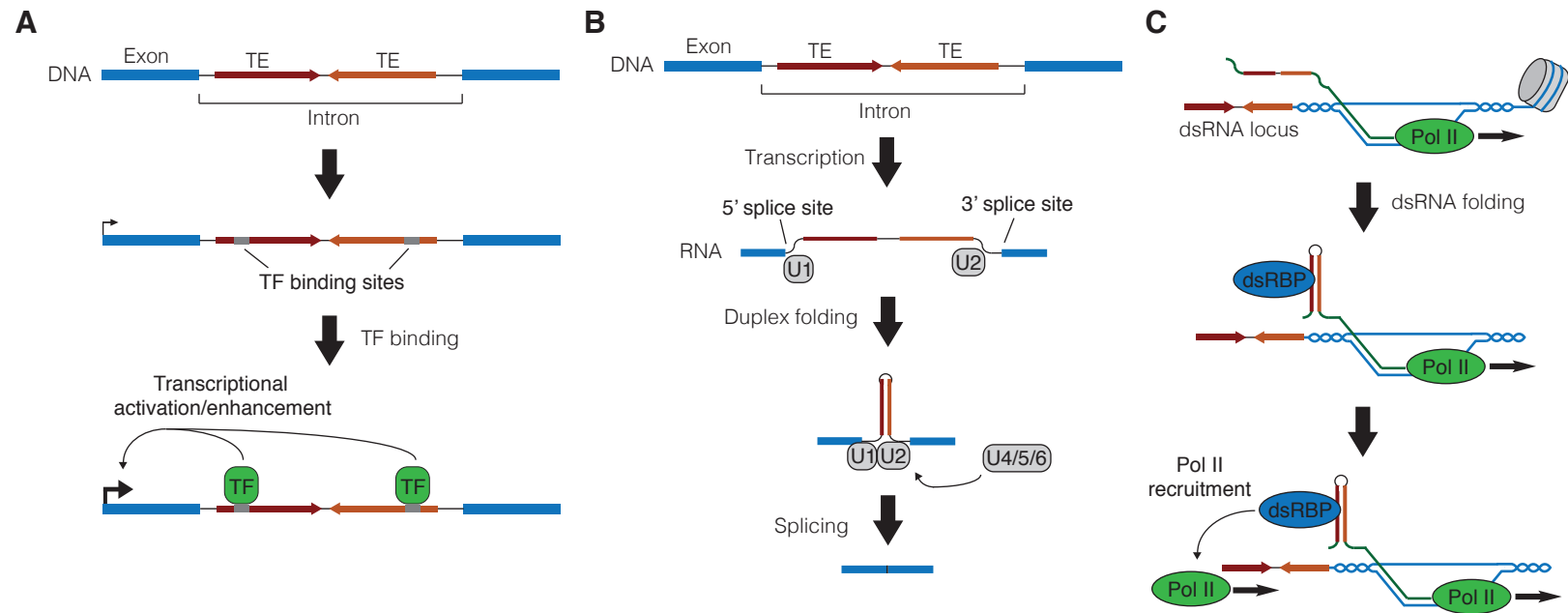




Supplemental Figure S5. Models for gene expression regulation by dsRNA loci. (A) A dsRNA-containing gene houses two transposable elements (TEs) in an intron. Each TE contains sequence functioning as a transcription factor (TF) binding site. TF binding to TE sequences leads to transcriptional activation, promoting gene expression. (B) A locus containing inverted TEs in its intron is transcribed to RNA. The U1 and U2 small nuclear ribonucleoproteins (snRNPs) bind sequences around the 5' and 3' splice sites. Fold back of complementary sequences in the intron brings U1 and U2 snRNPs in close proximity, promoting their association and recruiting the U4/U5/U6 tri-snRNP to catalyze splicing. Efficient splicing due to dsRNA formation promotes elevated gene expression. (C) Transcription of a dsRNA locus leads to dsRNA formation in the nascent transcript. An undetermined dsRBP binds the dsRNA structure and recruits Pol II and other components of the transcription machinery to further promote gene expression.