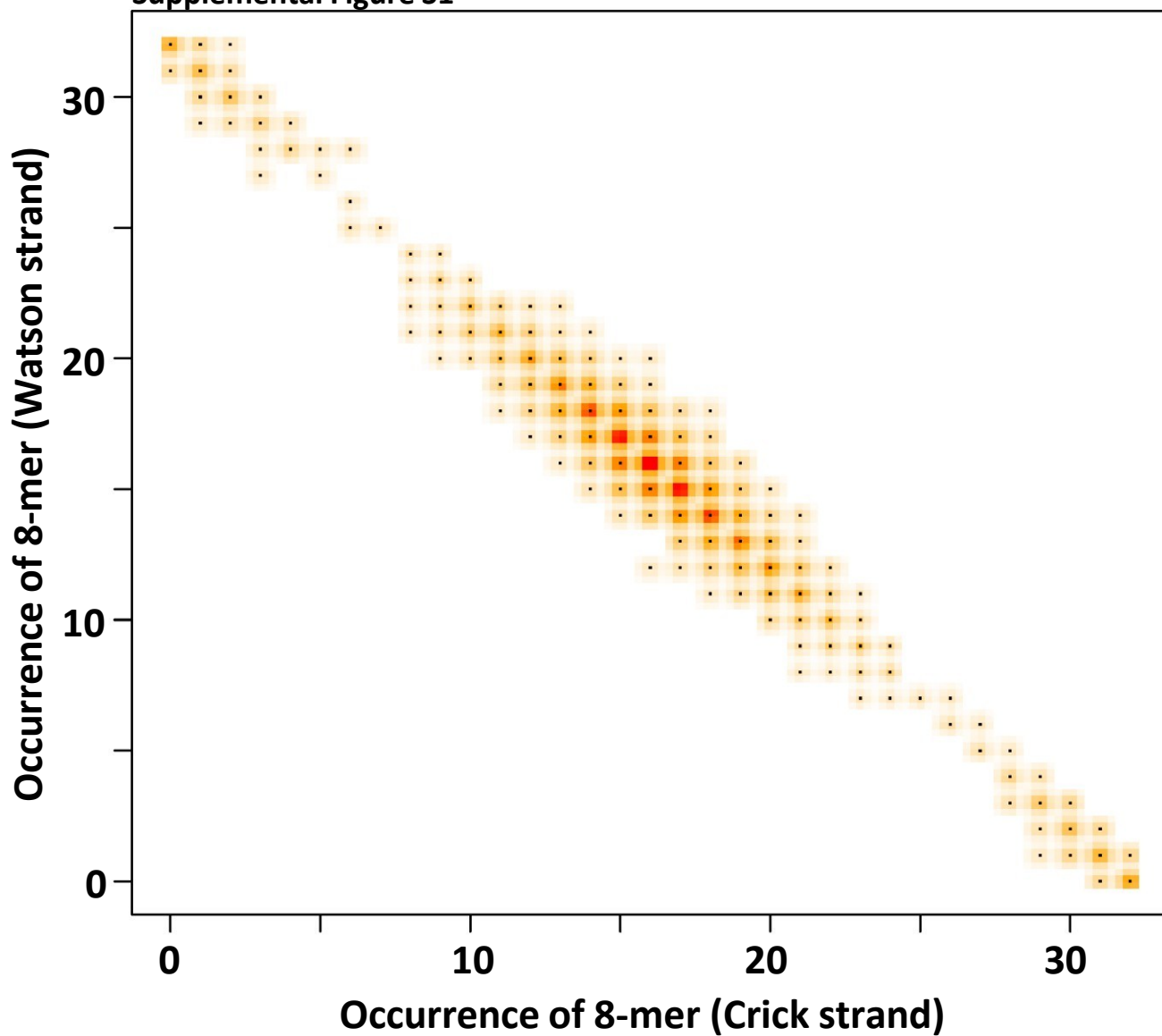
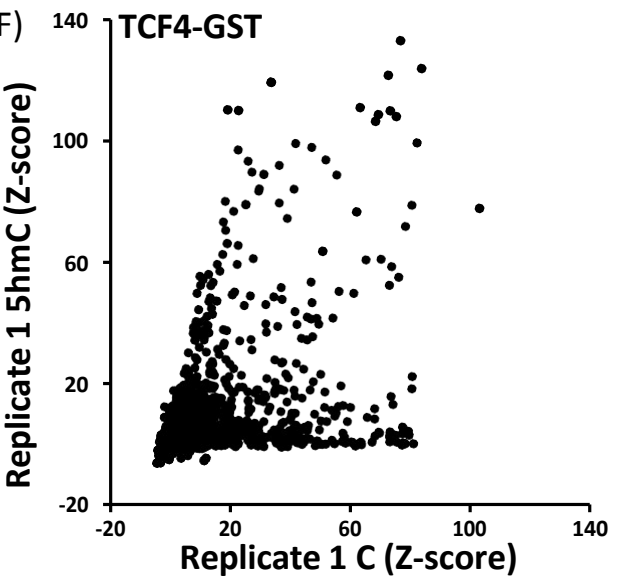
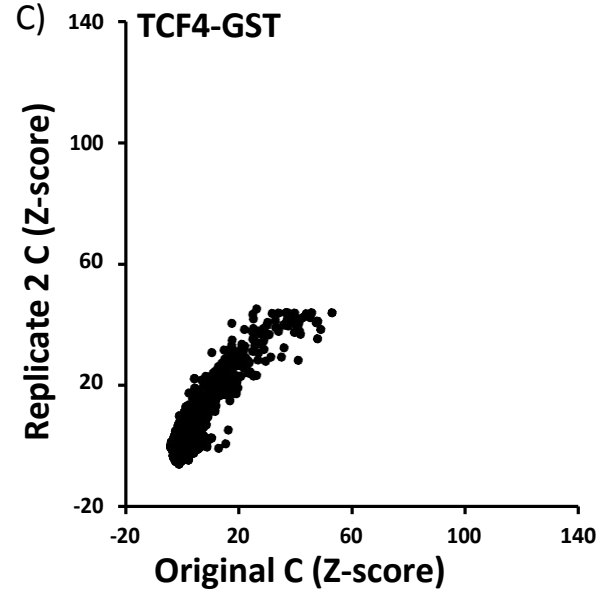
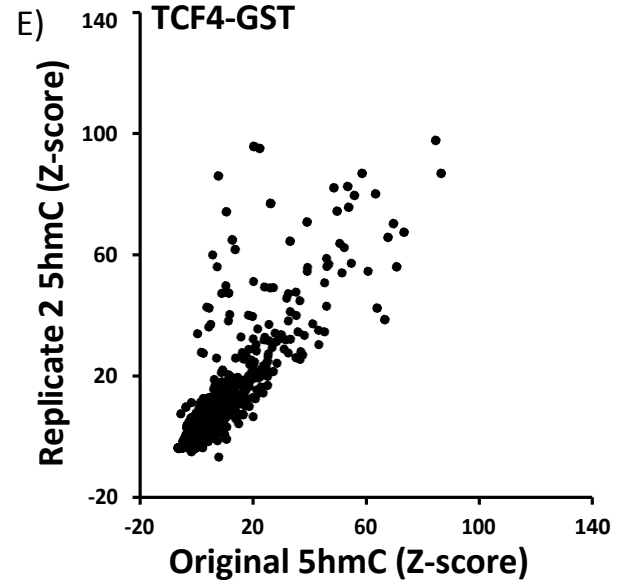
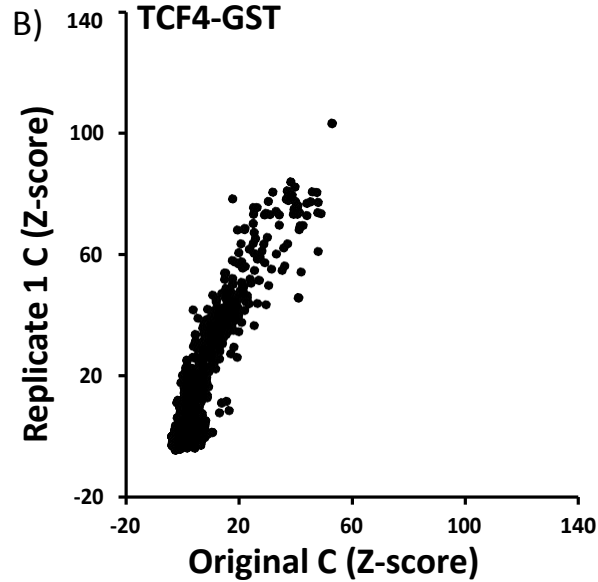
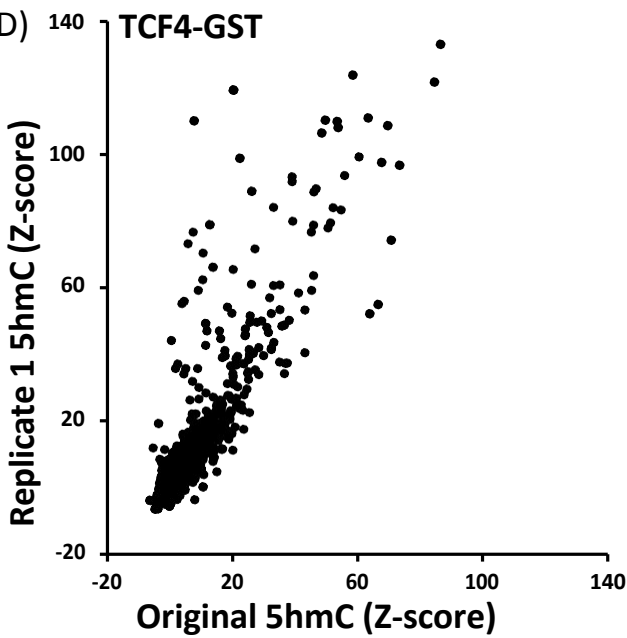
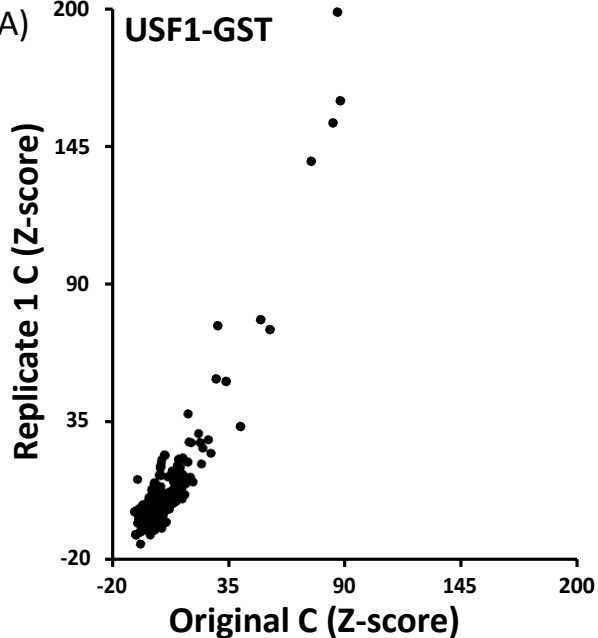


Supplemental Figure S1



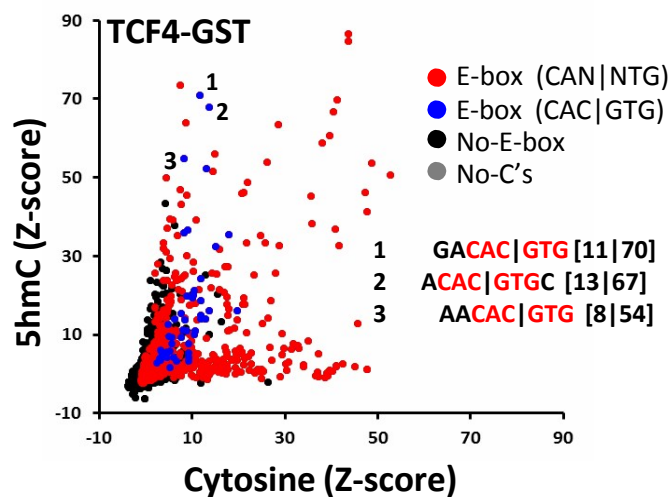
Supplemental Figure S1. Occurrence of all 8-mers on the Watson and Crick strands in the **HK** array. DNA 8-mers that occur less than 10 times (1,168 8-mers) on either strand were excluded for data analysis.

Supplemental Figure S2



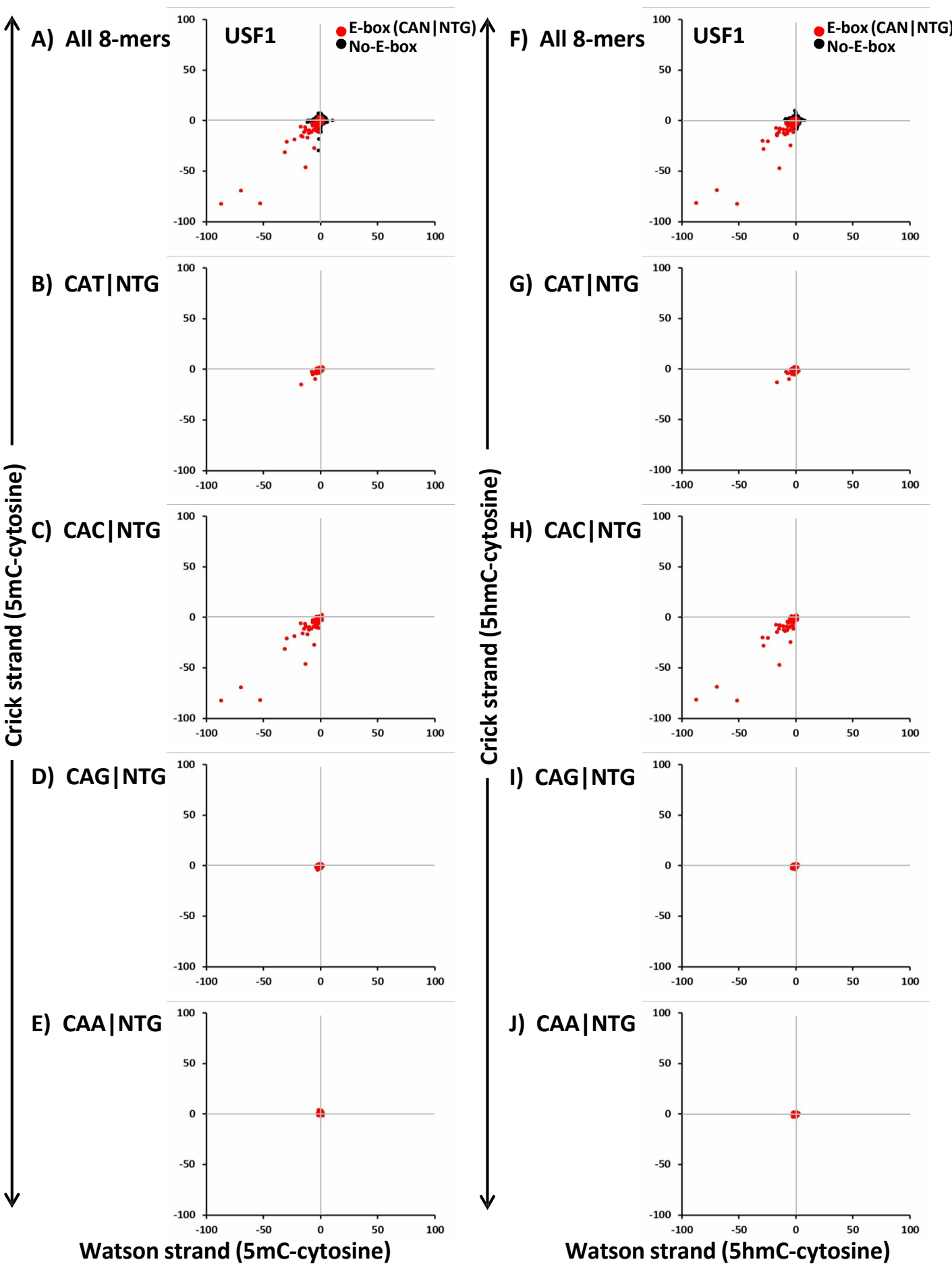
Supplemental Figure S2. Graphs of TCF4 and USF1 Replicates. **A)** USF1 binding to cytosine. **B)** TCF4 replicate 1 binding to cytosine. **C)** TCF4 replicate 2 binding to cytosine. **D)** TCF4 replicate 1 binding to 5hmC. **E)** TCF4 replicate 2 binding to 5hmC. **F)** TCF4 5hmC to cytosine for replicates 1.

Supplemental Figure S3



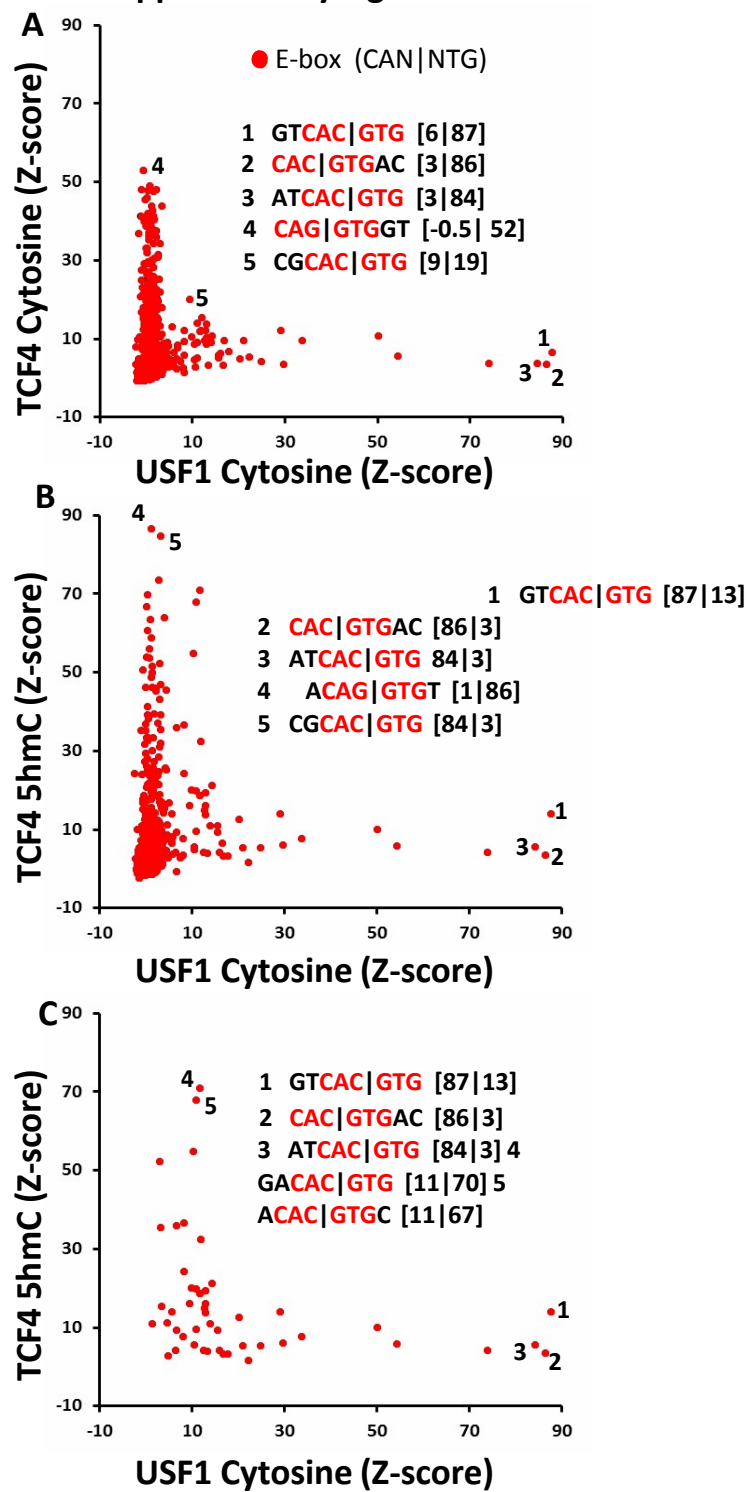
Supplemental Figure S3. TCF4-GST B-HLH domain binding to DNA 8-mers containing 5hmC on one strand. TCF4-GST binding to DNA 8-mers containing cytosine (X-axis) or 5hmC on one DNA strand (Y-axis). 8-mers with an E-box are highlighted in red. A subset of E-boxes containing 8-mers with CAC|GTG are highlighted in blue. 8-mers with a cytosine are black and 8-mers without a cytosine are grey.

Supplemental Figure S4



Supplemental Figure S4. USF1-GST binding to complementary DNA 8-mers containing cytosine or 5mC or 5hmC on one strand. **A)** The difference in Z-scores (5mC-cytosine) for 8-mers from Watson-strand plotted against the difference in Z-scores for the complimentary Crick strand. 8-mers shown are the Watson strand. Red spots contain the E-Box CAN|NTG. **B)** E-Box CAT|NTG. **C)** E-Box CAC|NTG. **D)** E-Box CAG|NTG. **E)** E-Box CAA|NTG. **F)** The difference in Z-scores (5hmC-cytosine) for 8-mers from Watson-strand plotted against the difference in Z-scores for the complimentary Crick strand. **G)** E-Box CAT|NTG. **H)** E-Box CAC|NTG. **I)** E-Box CAG|NTG. **J)** E-Box CAA|NTG.

Supplementary Figure S5



Supplemental Figure S5. USF1-GST and TCF4-GST binding to DNA 8-mers containing cytosine or 5hmC on one strand. **A.** USF1 (X-axis) and TCF4 (Y-axis) binding to E-Box 8-mers containing cytosine. USF1 binds preferentially to CG dinucleotides containing CAC|GTG E-boxes, and TCF4 binds to motifs that contain either CC or GG within the E-box (CAN|NTG) **B.** Comparison of USF1 (X-axis) binding to E-Box 8-mers containing cytosine and TCF4 (Y-axis) binding to E-Box 8-mers containing 5hmC. **C.** USF1 (X-axis) and TCF4 (Y-axis) binding to E-Box 8-mers containing CG dinucleotide with cytosine and 5hmC, respectively. DNA 8-mers containing E-boxes are labeled as red spots.