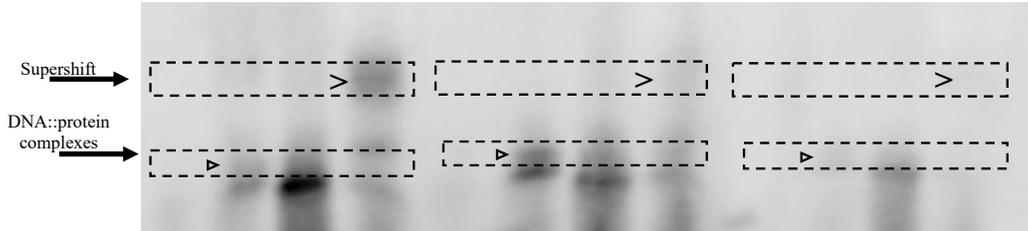
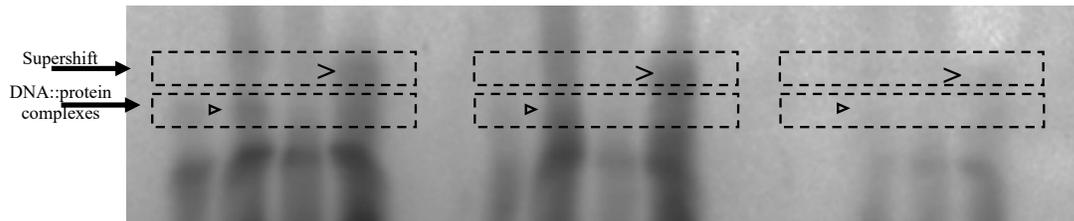


**A***Gigyf1*

Free <i>Gigyf1</i> probes	+	+	+	+	-	-	-	-	-	-	-	-
5mC <i>Gigyf1</i> probes	-	-	-	-	+	+	+	+	-	-	-	-
5hmC <i>Gigyf1</i> probes	-	-	-	-	-	-	-	-	+	+	+	+
Nuclear extracts	-	+	+	+	-	+	+	+	-	+	+	+
Unlabeled probes	-	-	+	-	-	-	+	-	-	-	+	-
Antibody	-	-	-	+	-	-	-	+	-	-	-	+

**B***Fry*

Free <i>Fry</i> probes	+	+	+	+	-	-	-	-	-	-	-	-
5mC <i>Fry</i> probes	-	-	-	-	+	+	+	+	-	-	-	-
5hmC <i>Fry</i> probes	-	-	-	-	-	-	-	-	+	+	+	+
Nuclear extracts	-	+	+	+	-	+	+	+	-	+	+	+
Unlabeled probes	-	-	+	-	-	-	+	-	-	-	+	-
Antibody	-	-	-	+	-	-	-	+	-	-	-	+



**Supplemental Figure 9:** Functional assays reveals that 5hmC represses CLOCK binding. (A-B) Electromobility shift assays with hippocampal lysates. Lysate shift (lanes 2, 6, and 10), cold competition (lanes 3, 7, and 11), and supershift (lanes 4, 8, and 12) of DNA probes corresponding to a CLOCK E-box motif in the DhMR of *Gigyf1* (A) and *Fry* (B) that exhibited differential CLOCK binding. Biotinylated DNA probes contained either an unmodified E-box motif (lanes 1-4), a methylated E-box motif (lanes 5-8), or a hydroxymethylated E-box motif (lanes 9-12). Regions containing bands of interest are highlighted (dashed boxes) with DNA:protein complexes that are abrogated with cold competition are indicated (black arrowheads) and supershift complexes are shown (carat).