

**Supplementary Dataset 1: Annotated list of promoter-interactions in naive and primed PSCs.**

**Supplementary Dataset 2: GO analysis of genes contained within the Polycomb-associated interaction network.** The adjusted *P*-value is the z-score of the deviation from the expected rank by the Fisher exact test as implemented in Enrichr (Chen et al. 2013; Kuleshov et al. 2016).

**Supplementary Dataset 3: Definitions used to classify enhancers.**

**Supplementary Dataset 4: Further information related to the methods.**