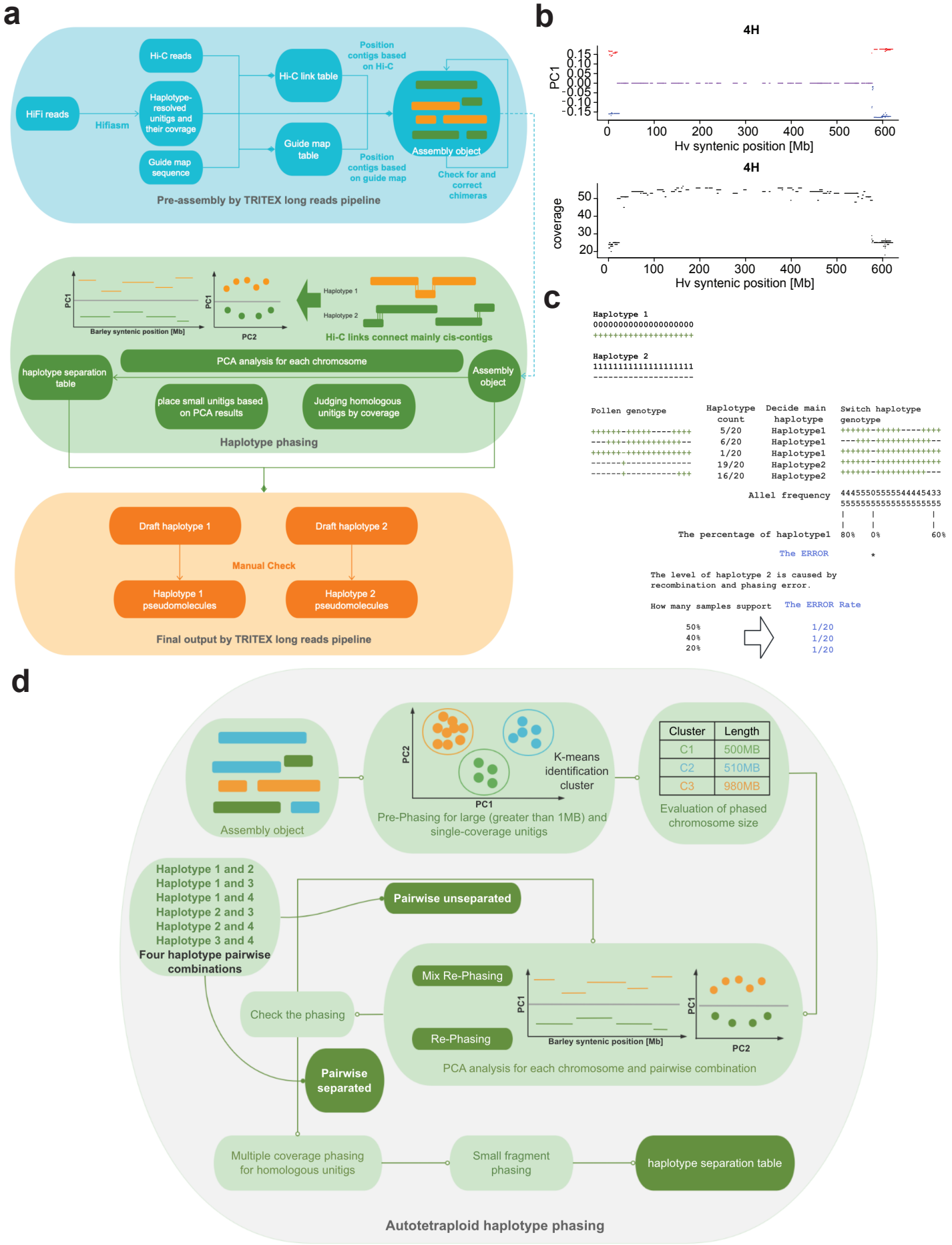

Extended Data Figure 1: Pipeline for haplotype-resolved genome assembly. (a) Flowchart of the diploid phasing pipeline. **(b)** Example of haplotype separation by PCA in diploid samples. An identity-by-descent region has double coverage in the unphased contig-level assembly. **(c)** Schematic overview of the pipeline for estimating phasing error rates from single pollen nuclei sequencing data. **(d)** Flowchart of the tetraploid phasing pipeline.