Title
Reconfiguration timescales in chromatin architecture

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Abstract
The dynamics and organization of chromosomes within the nucleus are crucial regulators of biological function in eukaryotes. In this work, we modeled an ensemble of 1.2 million diploid human whole-genome structures at 50 kb resolution. We observe phase separation between heterochromatin and euchromatin, forming compartments both inside and between chromosomes. These compartments are consistent with observed Hi-C maps for intra- and interchromosomal contacts. Additionally, we estimate the time scales for the reorganization of megabase-long chromatin segments, intrachromosomal compartments, and chromosome territories. While segments and compartments reach equilibration within a single cell cycle, the full reorganization of chromosome territories inside the nucleus is estimated to be much longer than a typical cell cycle.