





**Figure 3. The monomer-graph of cenX in the CHM13 (top) and HG002 (bottom) genomes.** The monomer-graphs of cenX were constructed on the monocentromere that was generated from the monomer-sets consisting of two infrequent hybrid monomers (labeled as MX and NX) and twelve frequent canonical monomers (labeled as AX, BX, CX, ... , KX, and LX) that contribute to the canonical DXZ1 HOR in cenX (Dvorkina et al., 2021). Small font corresponds to the naming conventions introduced in Shepelev et al., 2015. The hybrid monomers M and N are inferred in Dvorkina et al., 2020. A hybrid monomer formed by frequent monomers X and Y is represented as a bicolored vertex (two colors correspond to the colors of X and Y) and is denoted as (X/Y). Only edges of the monomer-graph with multiplicity exceeding 1 are shown (edges with multiplicity exceeding 100 are shown in bold). The cycle formed by bold edges (with multiplicities above 1500) traverses the twelve most frequent monomers that form the canonical cenX HOR.