

**Figure S5.** Each of the large-scale haplotypes seen at 16p12.2 with single molecule support. A) The 16p12.2 haplotype seen in reference assembly hg38 is shown in blue with dark blue lines representing label sites. Single molecules (yellow lines) from a single sample are shown underneath the haplotype. Light cyan lines in the molecules represent mismatching label sites, while dark blue lines are labels that match the haplotype. The position and orientation of duplicons are shown in colored arrows on top of each segmental duplication, with colors corresponding to Figure 4. Subsequent panels are as described in A), showing molecule support from a single sample for: B) 16p12.2 haplotype S1, C) 16p12.2 haplotype S2, and D) 16p12.2 haplotype S3.