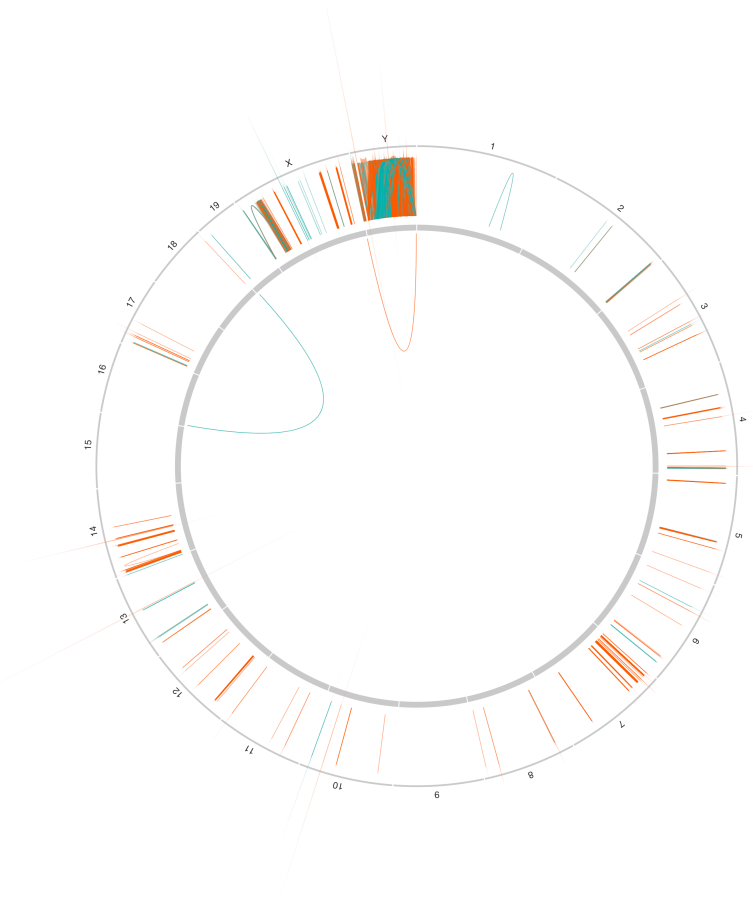
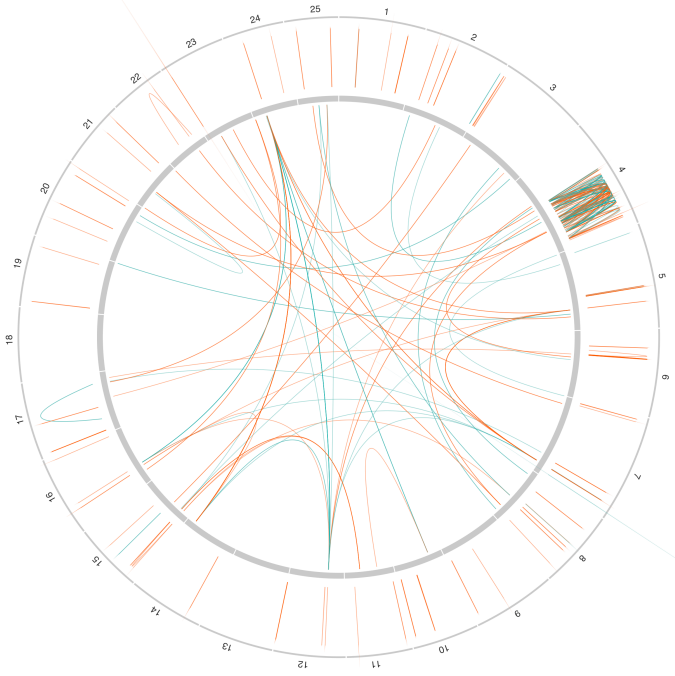
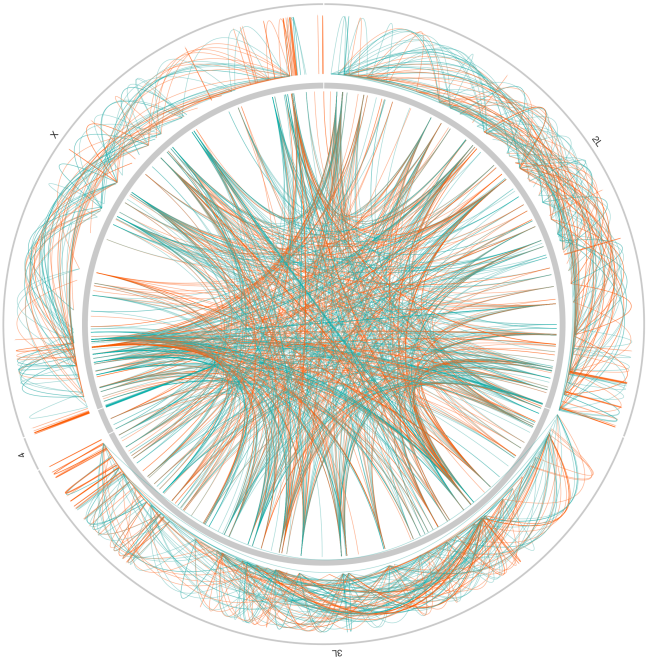
Supplementary Figure 1: SD mapping of *Mus musculus* $\geq$ 10kbp



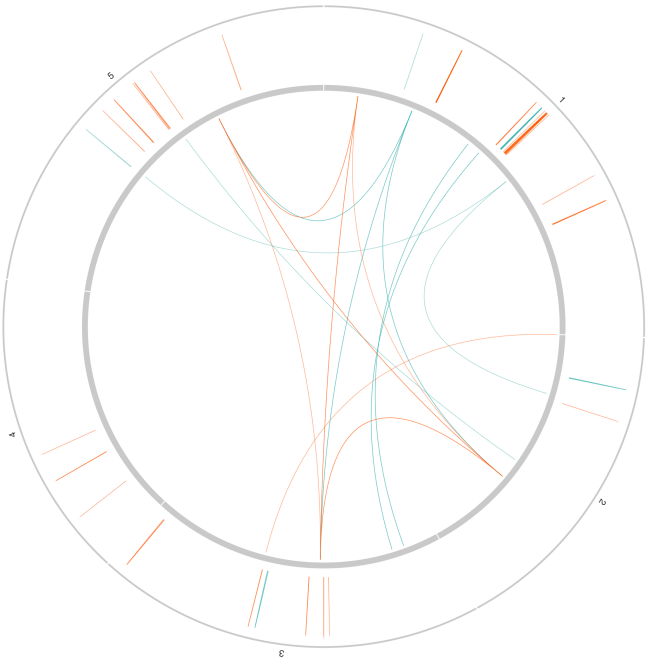
Supplementary Figure 2: SD mapping of *Danio rerio* $\geq$ 10kbp



Supplementary Figure 3: SD mapping of *Drosophilia melanogaster* $\geq$ 5kbp



Supplementary Figure 4: SD mapping of *Arabidopsis thaliana* $\geq$ 5kbp



DNA generator pseudocode

```
dna = rand(['A', 'T', 'G', 'C']) * STRAND_LENGTH

for i in (0..SD_count)
  length = rand(MIN_LENGTH..MAX_LENGTH)
  first_arm = rand(['A', 'T', 'G', 'C']) * length

  count = rand(1..MAX_SD_REPETITIONS)
  arms = [first_arm]
  for j in (0..count)
    arms << fuzzy(first_arm, identity_rate)
  end

  for arm in arms
    if rand() < INDEL_PROBABILITY
      if rand() > 0.5 then
        add_insertion(arm)
      else
        add_deletion(arm)
      end
    end

    position =
      get_random_non_overlapping_position()
    dna[position] = arm
  end
end
```