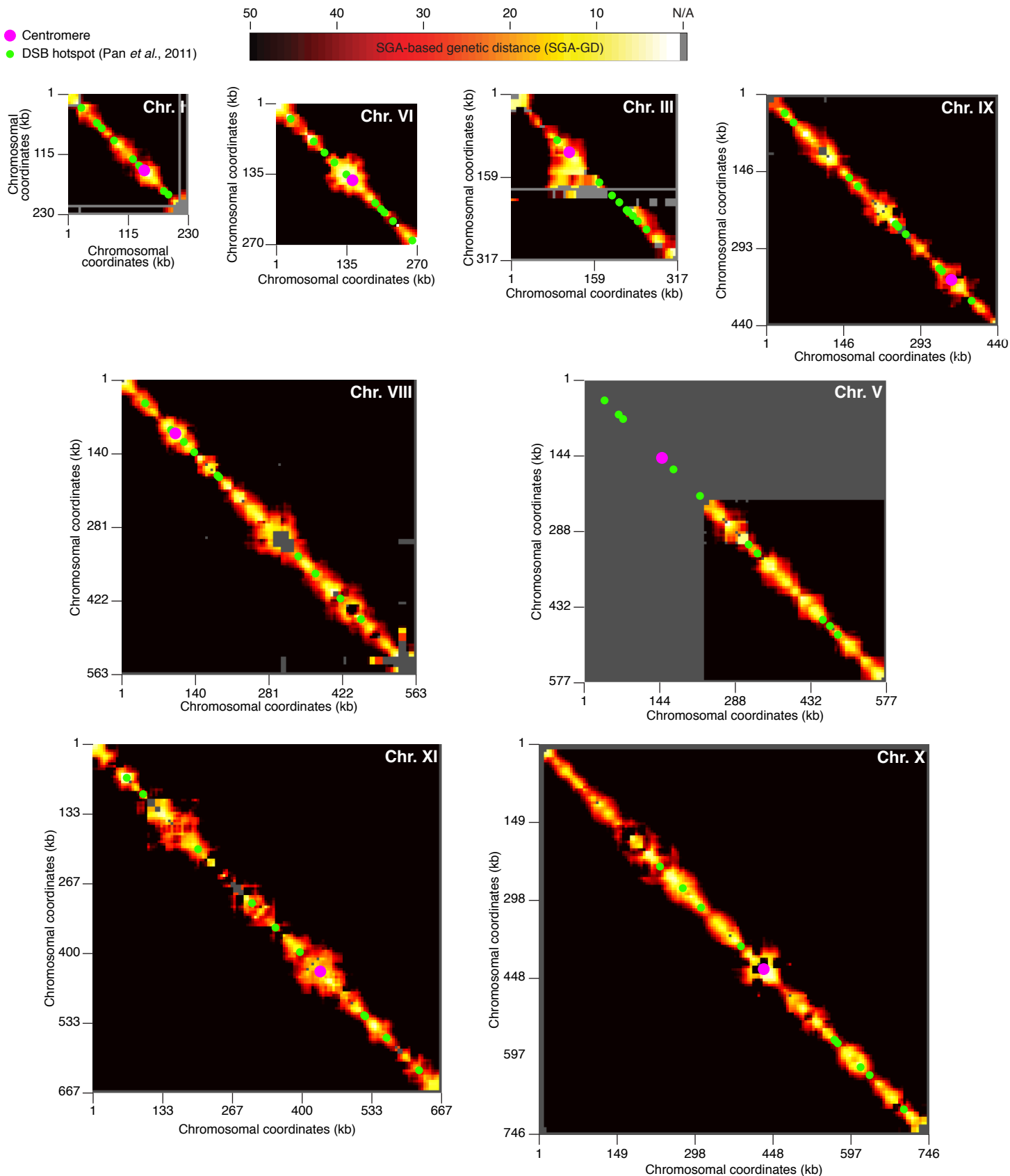
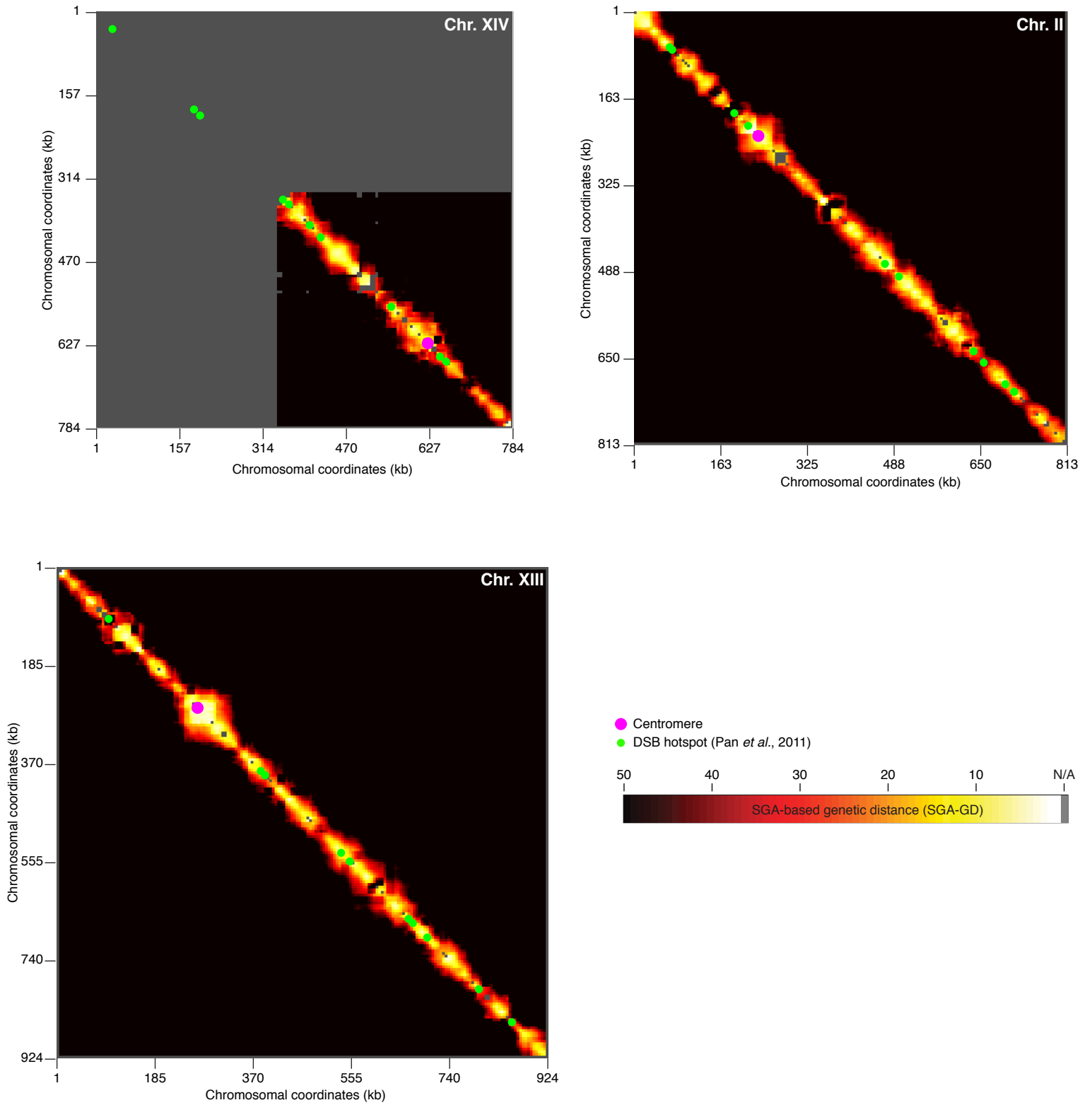
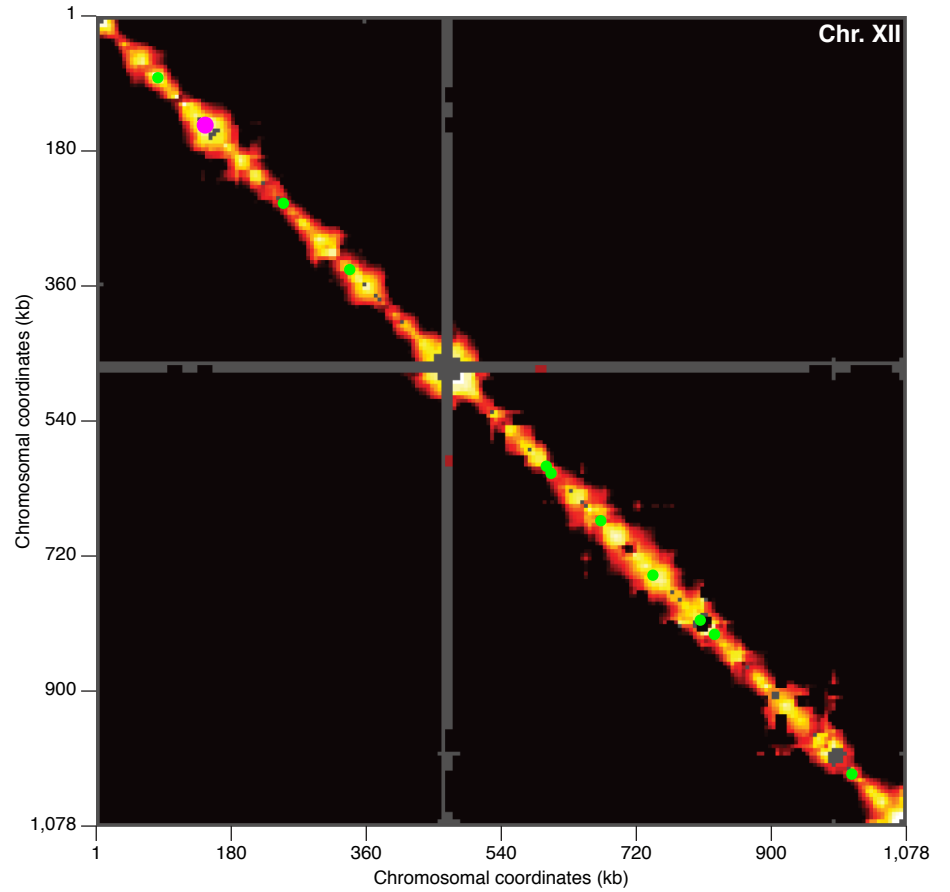
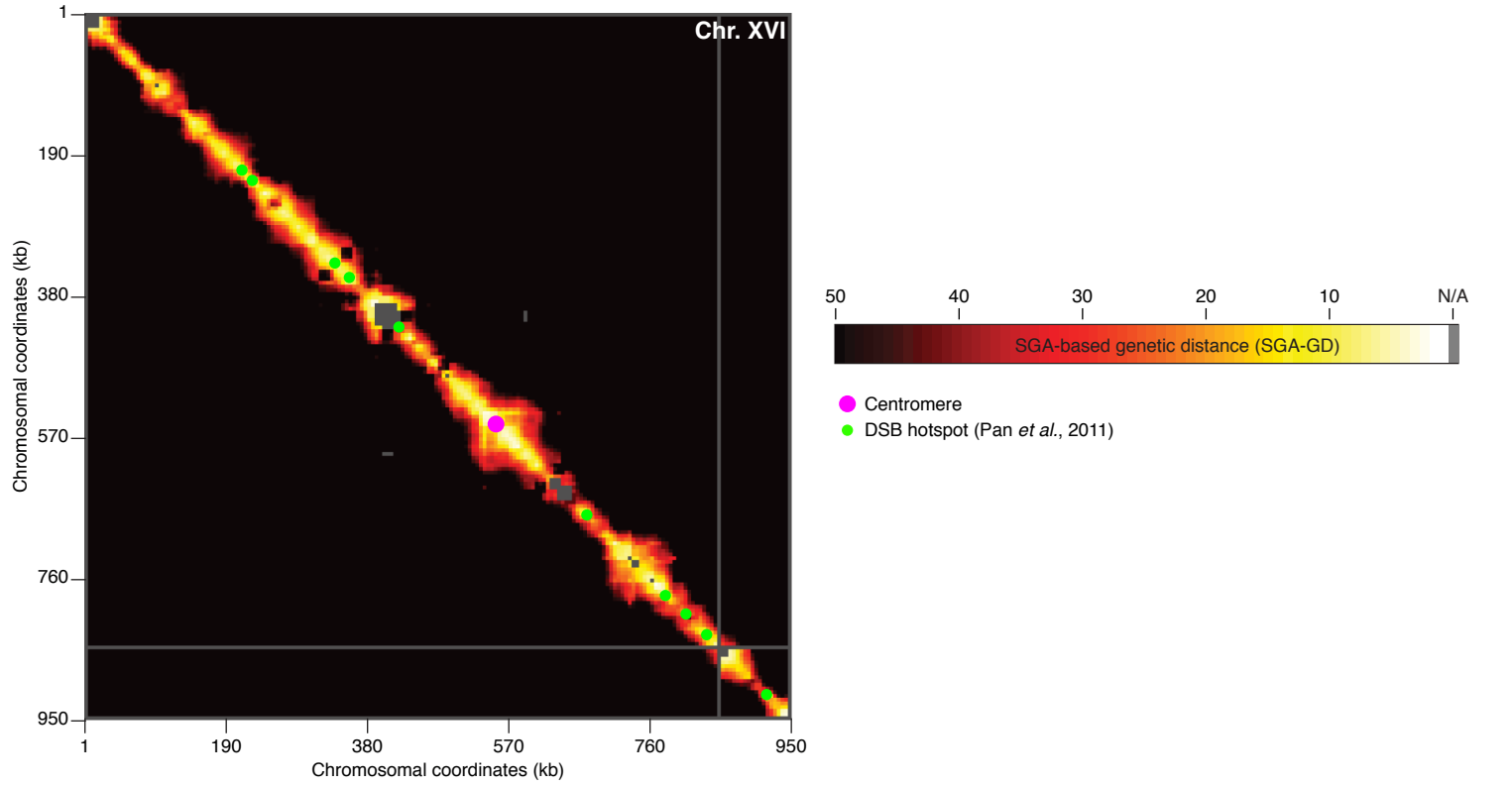


**Figure S1 (A)** A genetic linkage map for each chromosome was constructed as described in Methods and visualized as a heatmap. The horizontal and the vertical axes of the heatmap represent chromosomal coordinates; a third dimension indicating the SGA-based genetic distance (SGA-GD) between the corresponding chromosomal regions is represented by the intensity of color of each point in the image. Grey corresponds to missing data due to the experimental constraints of the SGA method (Methods). Each chromosome is drawn to scale. Purple dots represent centromeres. Green dots correspond to the top 10 highest double-strand break hotspots as reported by Pan et al., 2011.

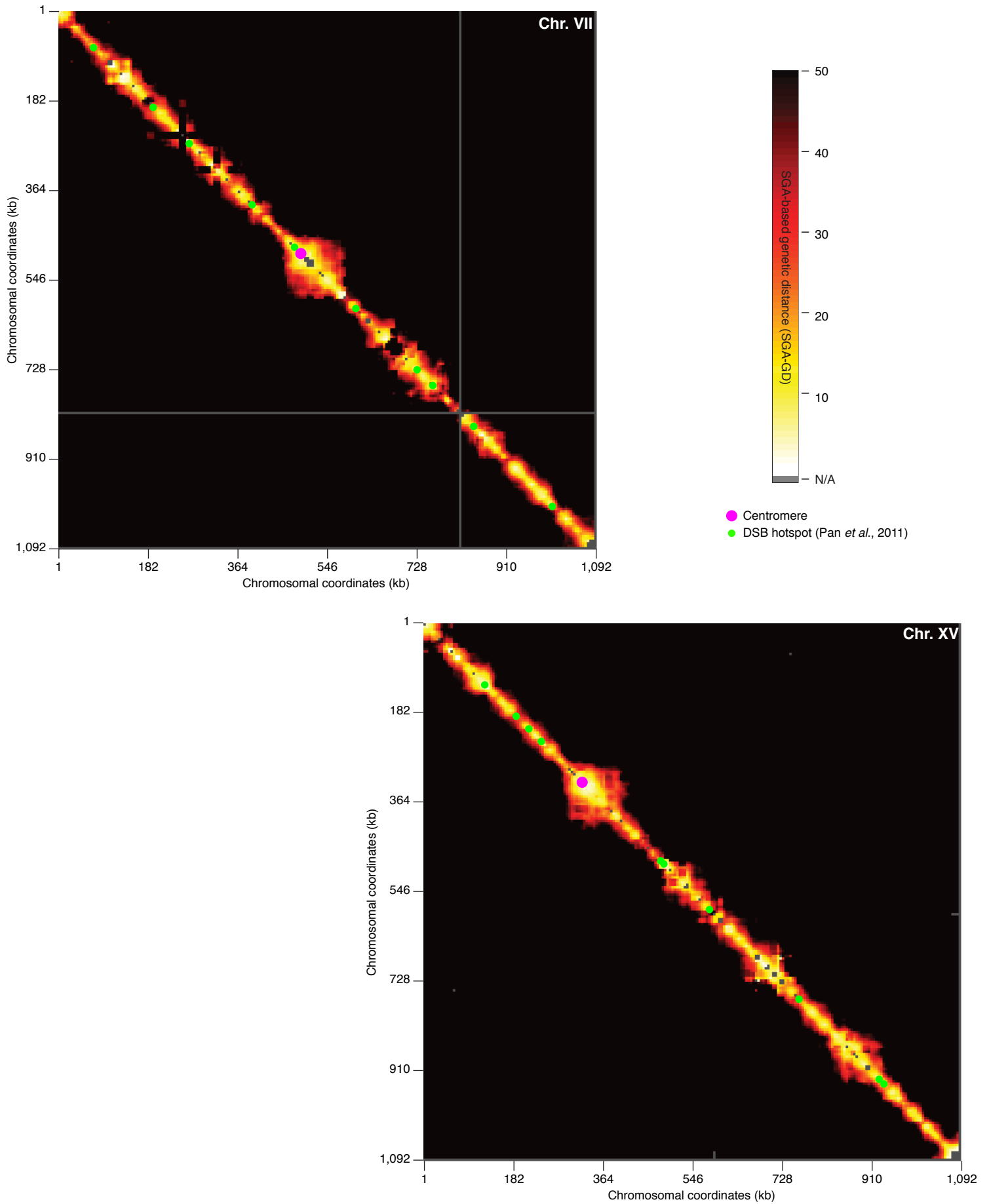


**B**

C



D



E

