**Figure S1** Cross scheme used to generate males for sequencing and preservation of X chromosomes that have experienced one round of female meiosis. Isogenized Canton-S females and $w^{1118}$ males were crossed and male progeny were then singly mated to $C(1)DX$ females for five days before the male was removed and stored at -80°C. Male progeny were collected from each stock as needed for sequencing the recombinant X chromosome within the stock.