

**Figure S1** ssDNA profiles for Chr X of rad53K227A cells after exposure to 200 mM HU using the current in-gel labeling methodology (green) in comparison with the previously described DNA preparation and ssDNA labeling (orange) in Feng et al., 2006. Log phase rad53 cells were synchronized with  $\alpha$  factor and released into S phase in the presence of 200 mM HU for 1 hr. Cells collected from a G1 control sample as well as the S phase sample (HU 1hr) were collected and embedded in agarose, followed by spheroplasting, in-gel random-primed labeling by Klenow, differentially with Cy dyes, electroelution and cohybridization to microarray as described in Methods. Ratios of ssDNA from the published data were plotted on the left Y axis and those from the current experiment were plotted on the right Y axis. The orange dot on the X axis denotes the centromere.