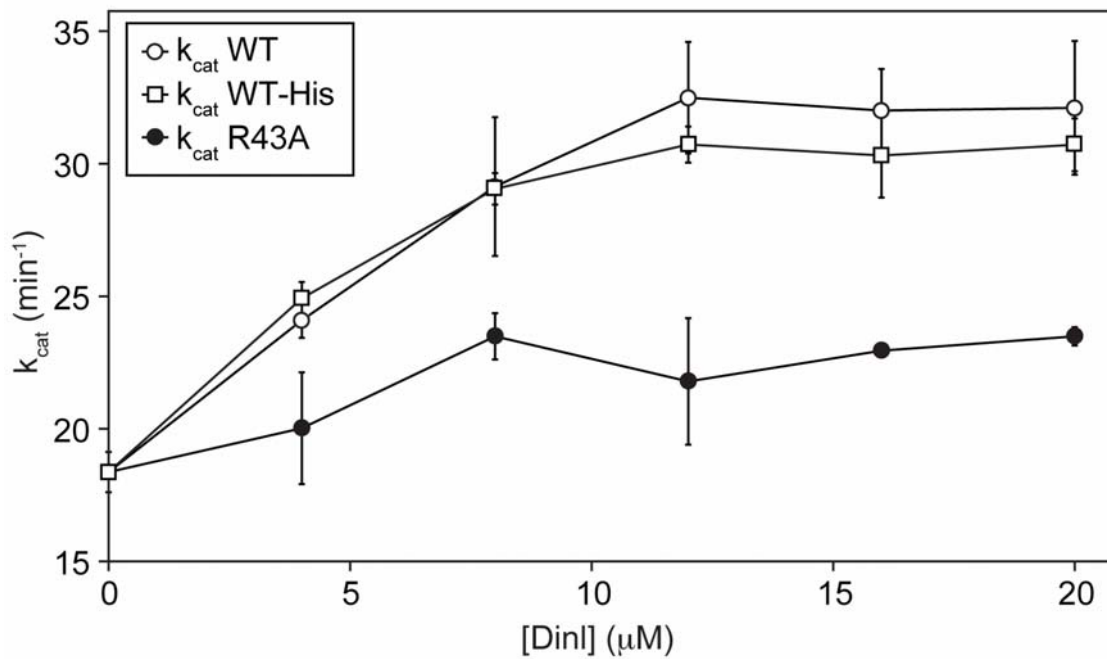


## Supplementary data

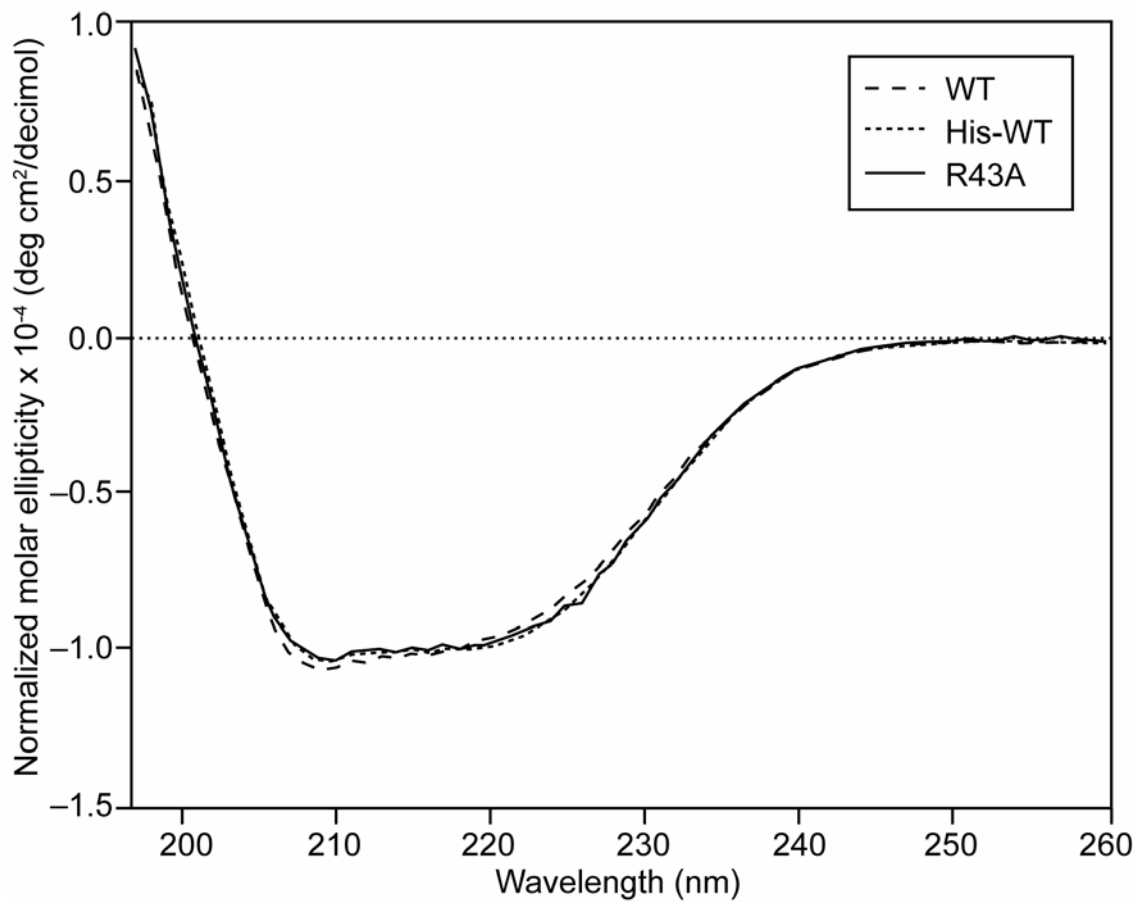
### Supplementary figure captions

**Suppl. Fig. 1** Stimulation of RecA-mediated ATP hydrolysis on lssDNA is diminished in the DinI R43A mutant protein. ATP hydrolysis catalyzed by RecA was measured using a coupled spectrophotometric assay as described in “Materials and Methods.” Each reaction contained 3  $\mu\text{M}$  poly-dT DNA, 1  $\mu\text{M}$  RecA protein, and 3 mM ATP. The concentration of wild type DinI (WT, open circles), his-tagged wild type DinI (WT-His, open squares), or DinI R43A (R43A, closed circles) was varied from 0 to 20  $\mu\text{M}$ , and the rate of RecA-mediated ATP hydrolysis (shown as a  $k_{\text{cat}}$ ) was measured. The  $k_{\text{cat}}$  for ATP hydrolysis is plotted vs. the concentration of DinI protein. Error bars represent the standard deviation of at least three independent trials.

**Suppl. Fig. 2** The DinI R43A protein is properly folded as compared to wild type DinI protein. Wild type DinI (WT, dashed line), his-tagged wild type DinI (His-WT, dotted line), or DinI R43A (R43A, solid line) were diluted in storage buffer to a concentration between 0.1 and 0.2 mg/ml and submitted for analysis by circular dichroism (CD). The CD spectra for the DinI proteins were normalized by arbitrarily setting the molar ellipticity at 218 nm to  $-1 \text{ deg cm}^2 \text{ decimol}^{-1}$ .



Supplementary figure 1



Supplementary figure 2