



**S8 Fig. Electropotential map of DNA pols  $\delta$  and RB69.** The electrostatic potential is shown from +6 (red) to -6 (blue)  $k_B T/e$  ( $T=310$  K). The primer is shown in pink, the template in violet and the dNTP as yellow sticks. DNA pols  $\delta$  and RB69 exhibit a positively charged crevice reaching from the thumb domain along the palm and  $\beta$ -hairpin upwards to the N-terminal domain. In the crevice between the N-terminal and exonuclease domain, the single stranded template may bind. Additionally, DNA pol  $\delta$  shows two positively charged patches at the exonuclease and thumb domain.