

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: Interactions between S620 and the selectivity filter during the transition between conducting and non-conducting structures

Movie showing how the S620 sidechain can interact with the backbone of G626 and F627 (H) or the backbone of Y616 (O) in the conductive state (Figure 4 D-G (i), main text). When the sidechain of r620 interacts with the backbone of Y616 (O) ((Figure 4 D-G (ii),(iii) main text), the V625 carbonyl oxygen can flip outward. The sidechain of S620 can then interact with the backbone of V625 (O) (Figure 4 C-F (iv), main text) in the inactivated state.