Kirby_Figure S1

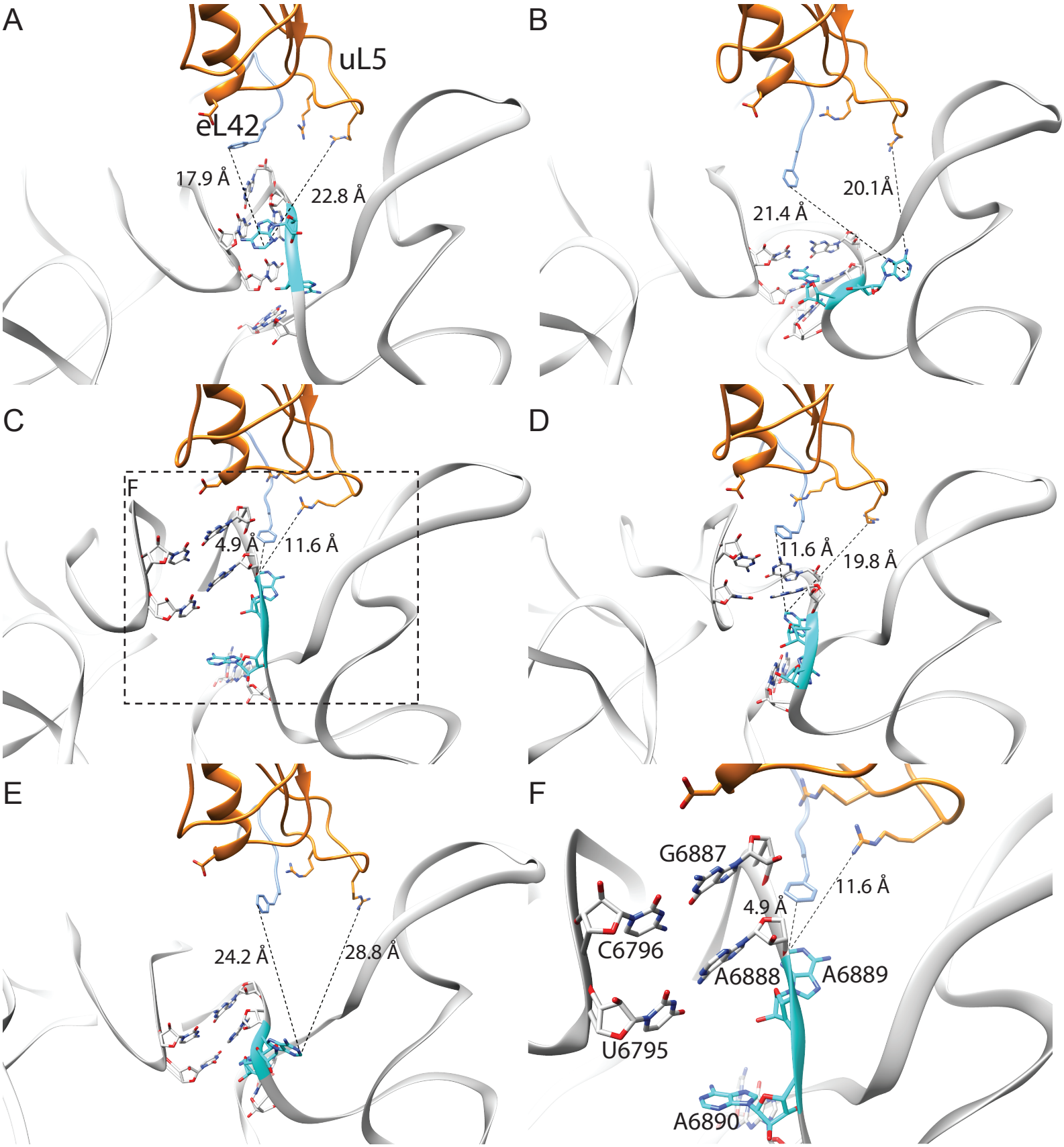

Figure S1: Intermediate states of the TSV IRES involved in eEF2-mediated pseudotranslocation. The five states characterizing the inchworm like translocation mechanism proposed for the TSV IRES as determined by cryo-EM are shown (A-E; PDBs 5juo, 5jup, 5jus, 5jut, 5juu) (1). These illustrate a significant degree of structural rearrangements in the hinge region to facilitate the conformation changes involved. eL42 (blue) and uL5 (orange) are observed to approach the upstream region of the hinge (nucleotides GA6886-7) but do not contact AA6889-90 directly, which instead adopt different orientations that could be involved in mediating the specific interactions required for translocation. A zoomed view of the state with the closest contact between eL42/uL5 and the hinge is shown in F (boxed in C). Distances between A6889 and el42 Phe106 or uL5 Arg55 are indicated. Also see Supplemental Movie 2.

Movie S1: Morph between the IAPV IRES pre-translocation states shown in Figure 10. Distances between U6547, A6548, A6546 and U6451 shown highlighting tight packing around UA6547-8. The structures were superposed on nucleotides immediately upstream of the hinge and a morph interpolating between the states was calculated using Chimera (2). The morph loops forward then reverse between states to illustrate conformational changes involved.

Movie S2: Morph between the five TSV IRES states shown in Figure S1. The distances between A6889 and el42 Phe106 or uL5 Arg55 are indicated. The structures were superposed based on the uL5 structure and a morph interpolating between the

states was calculated using Chimera (2). The morph loops forward then reverse between states to illustrate conformational changes involved.

REFERENCES

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