



**Figure S5: Location of *lptB1* suppressors.** Cartoon representation of the structure an His<sub>8</sub>-LptB<sup>E163Q</sup> dimer (**A**) and monomer (**B**) showing the location of the suppressors of *lptB1* (represented as forest green spheres). The Walker A (cyan), signature motif (marine), and CTD (red) are colored in the X-ray structure. ATP is shown in yellow sticks. The location of additional motifs important for function of ABC transporters is also shown on the cartoons on the left: WB marks the Walker B motif, DL the D loop, Sw the switch loop, and CH a coupling helix of either LptF or LptG. Numbers in green shown in (**B**) represent the residue number altered in the suppressors.