

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Apparent Fitness Landscape of the MS2 CP. Residue number is indicated in column A, while amino acid identity is indicated in Row 2. "Not Observed" indicates the variant was not sequenced in the plasmid library.

File Name: Supplementary Data 2

Description: Mutability Index of the MS2 CP. Residue number is indicated in column A, and Mutability Index (Shannon Entropy plasmid – Shannon Entropy VLP) is indicated in column B.

File Name: Supplementary Data 3

Description: Mutability Index mapped onto the MS2 CP capsid. Each residue is colored according to its Mutability Index (Figure 4B).

File Name: Supplementary Data 4

Description: Primers used to generate and confirm the Apparent Fitness Landscape.