Part I. Reverse engineer the Moderna SARS-CoV-2 vaccine design principles (identify the relationship between nucleotide and amino acid sequences). You can find both amino acid and nucleotide sequence information by searching online.

Part II. Use the engineering principles learned from part I to design RNA sequences for the following 2 constructs:

>tr|C5MKY7|C5MKY7\_HCMV Enhanced green fluorescent protein OS=Human cytomegalovirus OX=10359 GN=egfp PE=4 SV=1

MVSKGEELFTGVVPILVELDGDVNGHKFSVSGEGEGDATYGKLTLKFICTTGKLPVPWPT

LVTTLTYGVQCFSRYPDHMKQHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTL

VNRIELKGIDFKEDGNILGHKLEYNYNSHNVYIMADKQKNGIKVNFKIRHNIEDGSVQLA

DHYQQNTPIGDGPVLLPDNHYLSTQSALSKDPNEKRDHMVLLEFVTAAGITLGMDELYK

>ENST00000602385.1 TERC-201 cdna:lncRNA

GGGTTGCGGAGGGTGGGCCTGGGAGGGGTGGTGGCCATTTTTTGTCTAACCCTAACTGAG

AAGGGCGTAGGCGCCGTGCTTTTGCTCCCCGCGCGCTGTTTTTCTCGCTGACTTTCAGCG

GGCGGAAAAGCCTCGGCCTGCCGCCTTCCACCGTTCATTCTAGAGCAAACAAAAAATGTC

AGCTGCTGGCCCGTTCGCCCCTCCCGGGGACCTGCGGCGGGTCGCCTGCCCAGCCCCCGA

ACCCCGCCTGGAGGCCGCGGTCGGCCCGGGGCTTCTCCGGAGGCACCCACTGCCACCGCG

AAGAGTTGGGCTCTGTCAGCCGCGGGTCTCTCGGGGGCGAGGGCGAGGTTCAGGCCTTTC

AGGCCGCAGGAAGAGGAACGGAGCGAGTCCCCGCGCGCGGCGCGATTCCCTGAGCTGTGG

GACGTGCACCCAGGACTCGGCTCACACATGCAGTTCGCTTTCCTGTTGGTGGGGGGAACG

CCGATCGTGCGCATCCGTCACCCCTCGCCGGCAATGGGGGCTTGTGAACCCCCAAACCTG

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