Supplemental Item Inventory

For the paper "A generative neural network for maximizing fitness and diversity of synthetic DNA and protein sequences".

Figure S1 - Diversity cost illustrations.
Figure S2 - Additional details for the APA isoform design task.
Figure S3 - Additional benchmark comparisons.
Figure S4 - Additional details for the 3' Cleavage design task.
Figure S5 - Additional analysis of the KL-bounded DEN.
Figure S6 - Additional details for the differential splicing design task.
Figure S7 - The inverse regression DEN model.

Table S1 - Primer sequences for the APA qPCR assay.
Table S2 - APARENT predictor architecture.
Table S3 - VAE decoder architecture.
Table S4 - VAE decoder ResBlock architecture.
Table S5 - VAE encoder architecture.
Table S6 - VAE encoder ResBlock architecture.
Table S7 - DEN generator architecture.
Table S8 - Inverse regression DEN architecture.
Table S9 - Class-conditional DEN architecture.
Table S10 - Protein Design DEN generator architecture.
Table S11 - Splicing CNN predictor architecture.
Table S12 - Splicing hexamer regression predictor architecture.

Movie S1 - Training progression for the APA isoform design task (random seeds).
Movie S2 - Training progression for the APA isoform design task (fixed seeds).
Movie S3 - Training progression for the 3' cleavage design task (random seeds).
Movie S4 - Training progression for the 3' cleavage design task (fixed seeds).