## Supplementary material

## **Unconditional Synthesis**

We show more unconditional synthesis results of Energy (Figure 1), AQ (Figure 2) and ETT (Figure 3). For each figure, visualization metrics contain the PCA (left), t-SNE (middle) and UMAP (right).

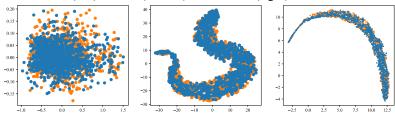


Figure 1: Visualization of synthetic Energy.

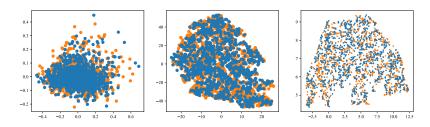


Figure 2: Visualization of synthetic AQ.

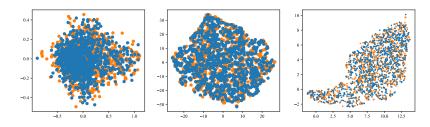


Figure 3: Visualization of synthetic ETT.

## **Autoencoding Reconstruction Quality**

We show more autoencoding reconstruction results of SP500 (Figure 4), Energy (Figure 5) and ETT (Figure 6). For each figure, we show one reconstructed sample from inversion step t=199 to 0 (begin from top left to penultimate in bottom right) and the original sample (bottom right).

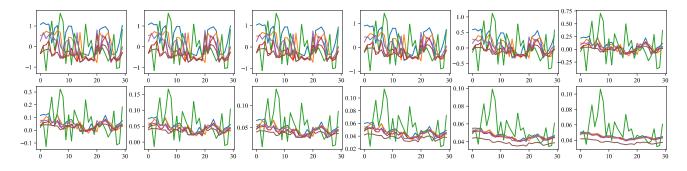


Figure 4: Comparison between one original sample (bottom right) and its gradual reconstruction (begin from top left to penultimate in bottom right) of SP500.

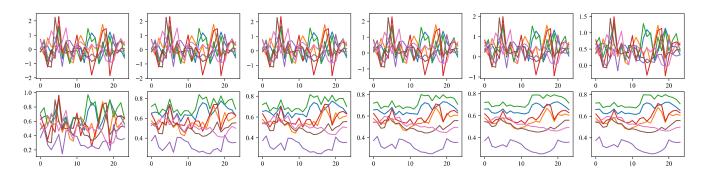


Figure 5: Comparison between one original sample (bottom right) and its gradual reconstruction (begin from top left to penultimate in bottom right) of ETT.

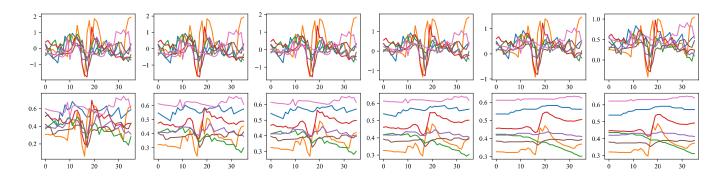


Figure 6: Comparison between one original sample (bottom right) and its gradual reconstruction (begin from top left to penultimate in bottom right) of Energy.