

# Supplementary Material for AnoGen

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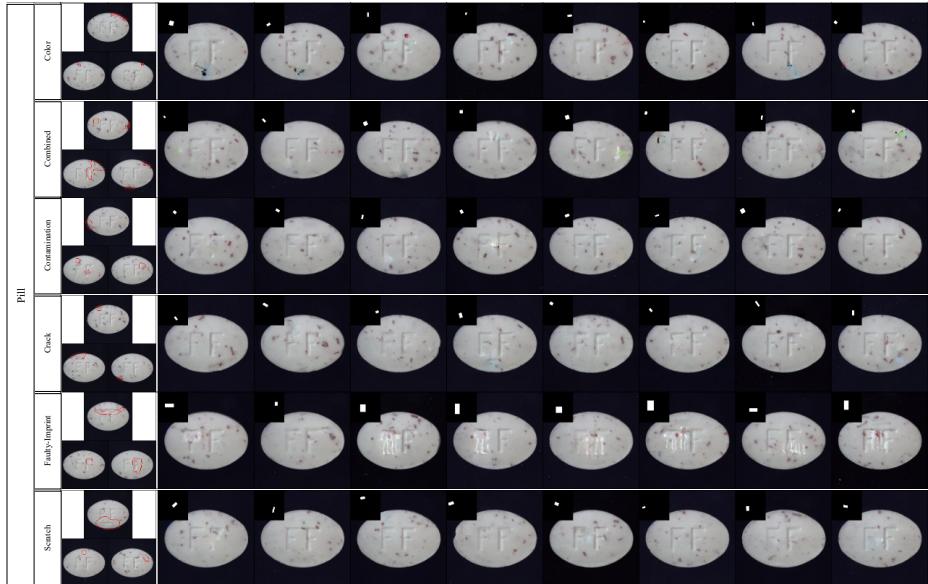
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In this supplementary material, we first show generated anomaly images with our AnoGen for all 73 types of anomalies covering 10 objects and 5 textures of MVTec in Sec. A. Then we give qualitative comparisons of baseline DRAEM and our method on MVTec testing images in Sec. B.

## A. Generated Anomaly Images

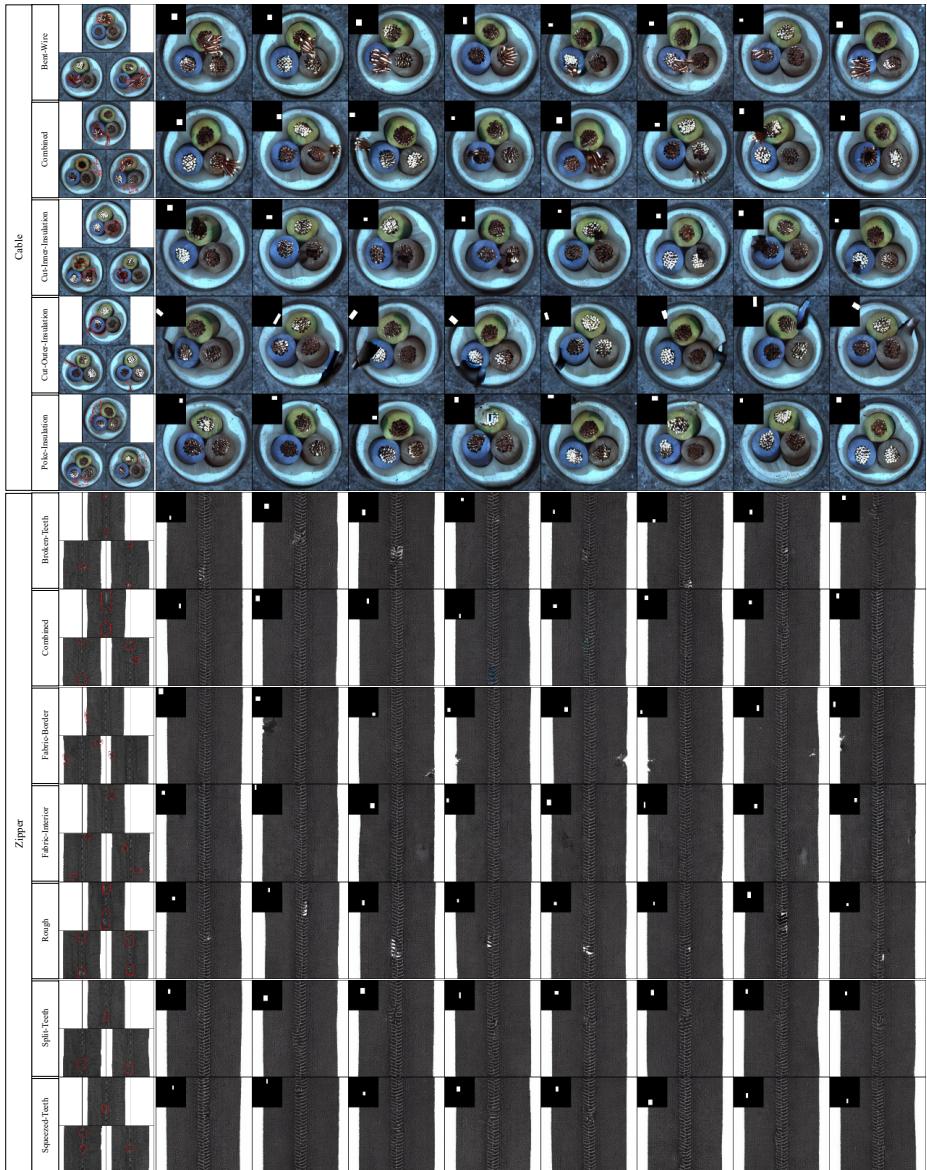
As shown in Figure A1-A7, the generated images exhibit reality and diversity when only 3 real-world support anomalies are available.



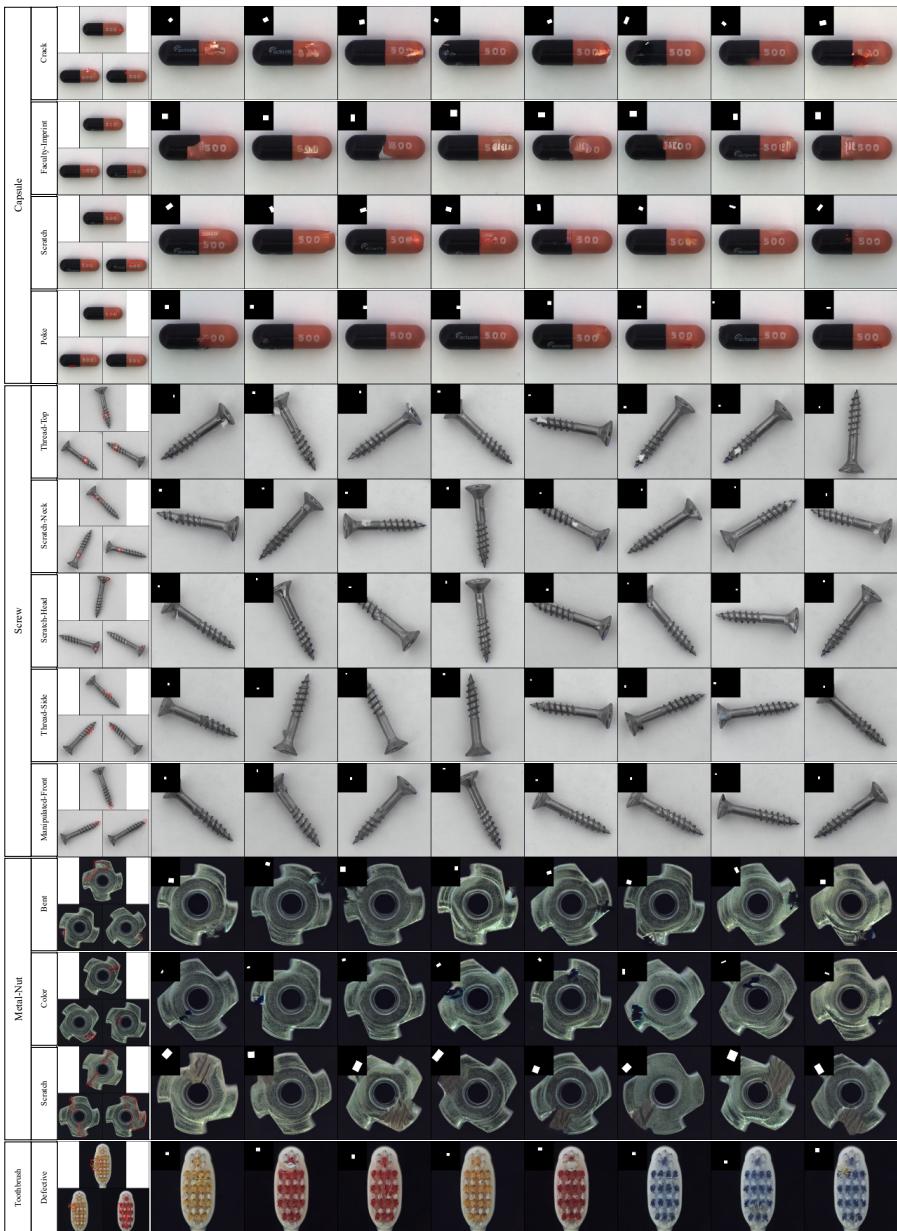
A1. Generated anomaly images for “pill”. The left column shows the 3 real-world support anomalies. The right column shows the corresponding generated anomalous images.

\* indicates equal contribution (G. Gui and B.-B. Gao). This research was done when G. Gui was an intern at YouTu Lab, Tencent, under the supervision of B.-B. Gao.

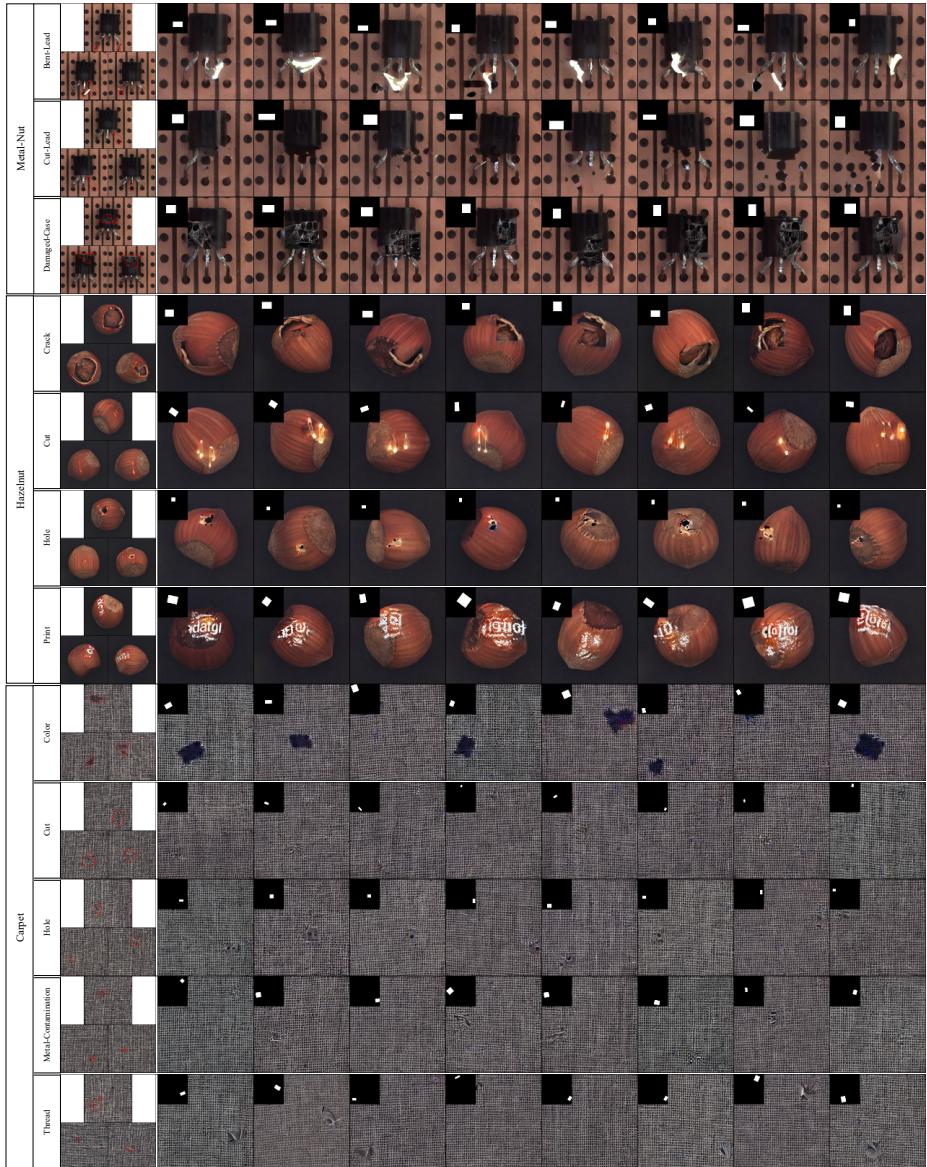
✉ indicates corresponding authors.



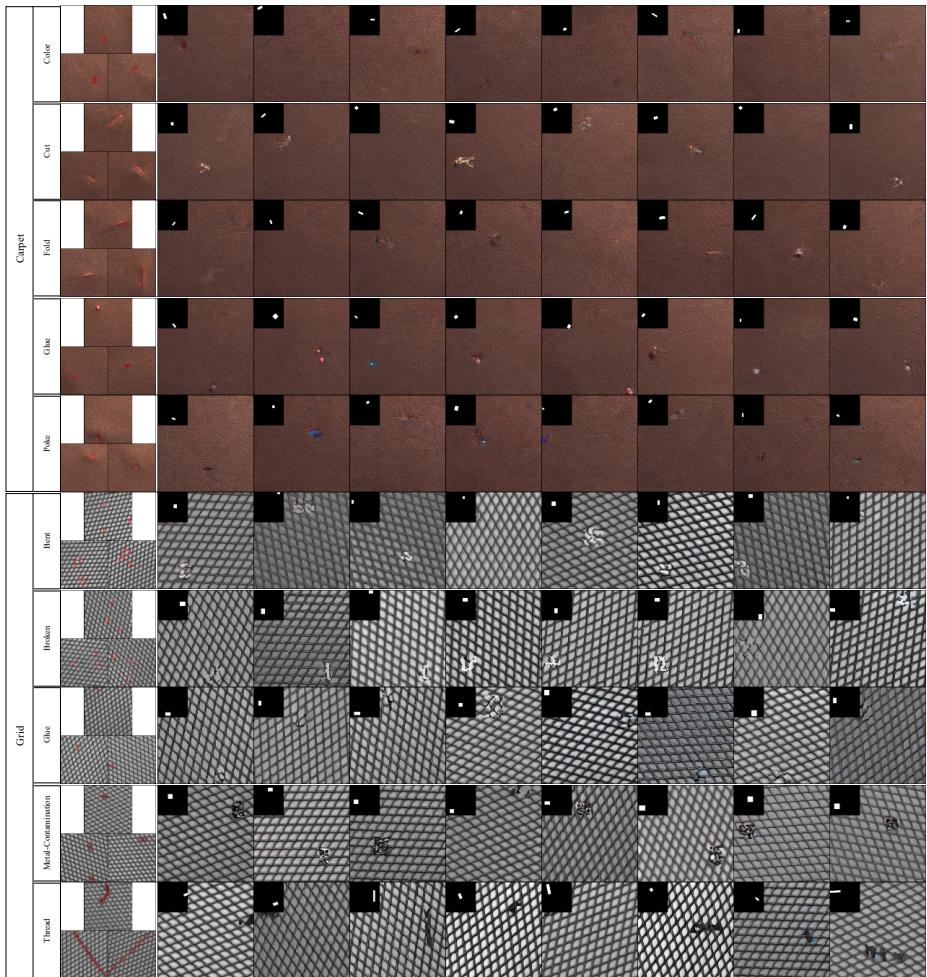
A2. Generated anomaly images for “cable” and “zipper”. The left column shows the 3 real-world support anomalies. The right column shows the corresponding generated anomalous images.



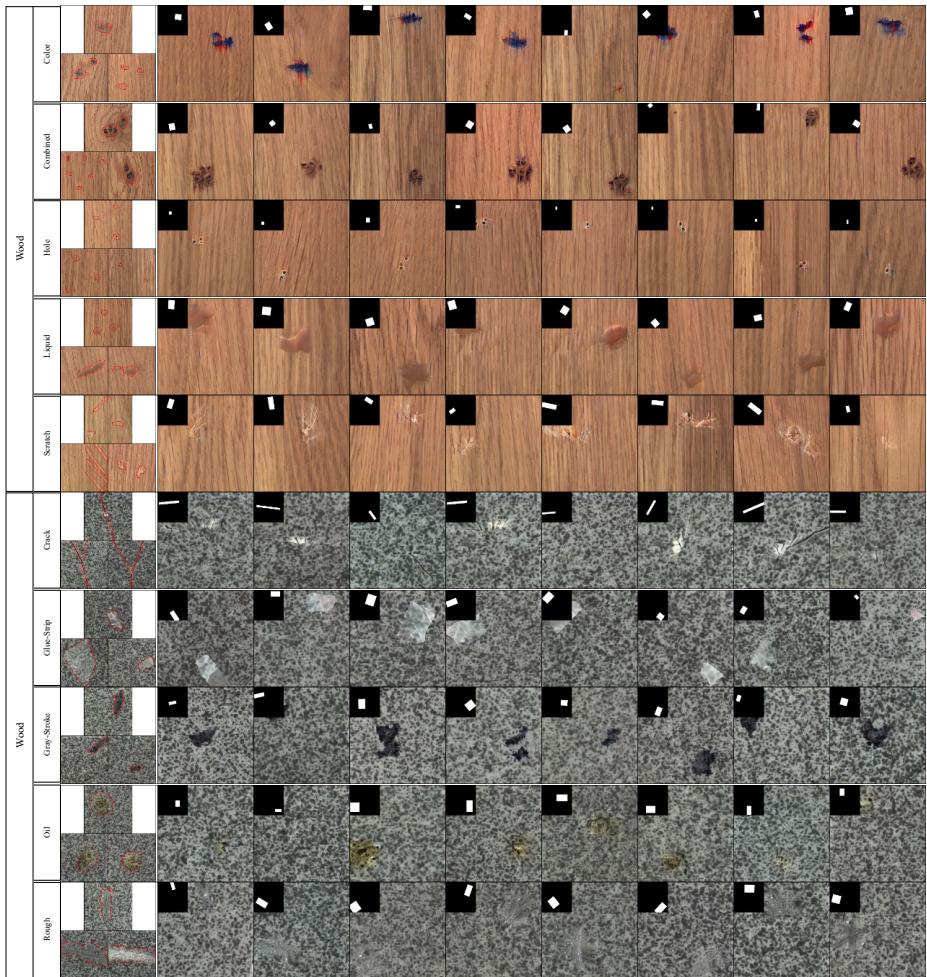
A3. Generated anomaly images for “*capsule*”, “*screw*”, “*metal-nut*” and “*toothbrush*”. The left column shows the 3 real-world support anomalies. The right column shows the corresponding generated anomalous images.



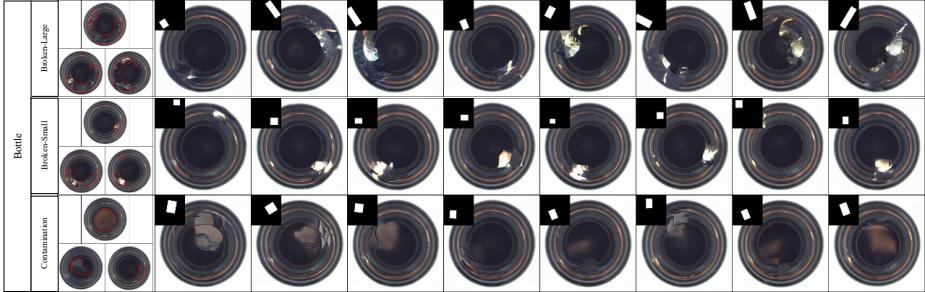
A4. Generated anomaly images for “*transistor*”, “*hazelnut*” and “*carpet*”. The left column shows the 3 real-world support anomalies. The right column shows the corresponding generated anomalous images.



A5. Generated anomaly images for “leather” and “grid”. The left column shows the 3 real-world support anomalies. The right column shows the corresponding generated anomalous images.

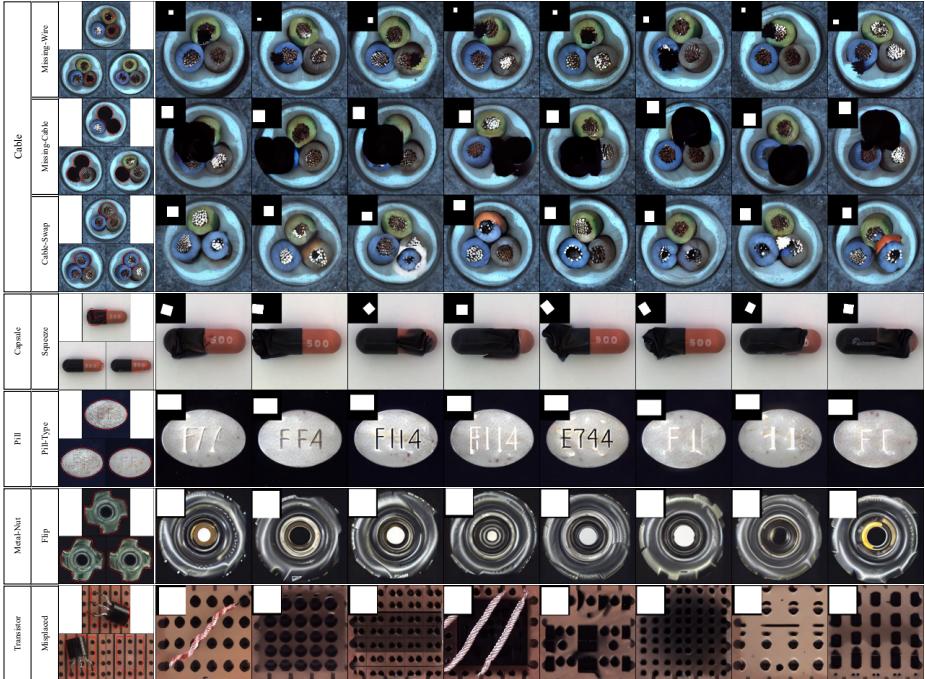


A6. Generated anomaly images for “wood” and “tile”. The left column shows the 3 real-world support anomalies. The right column shows the corresponding generated anomalous images.



A7. Generated anomaly images for “*bottle*”. The left column shows the 3 real-world support anomalies. The right column shows the generated anomalous images.

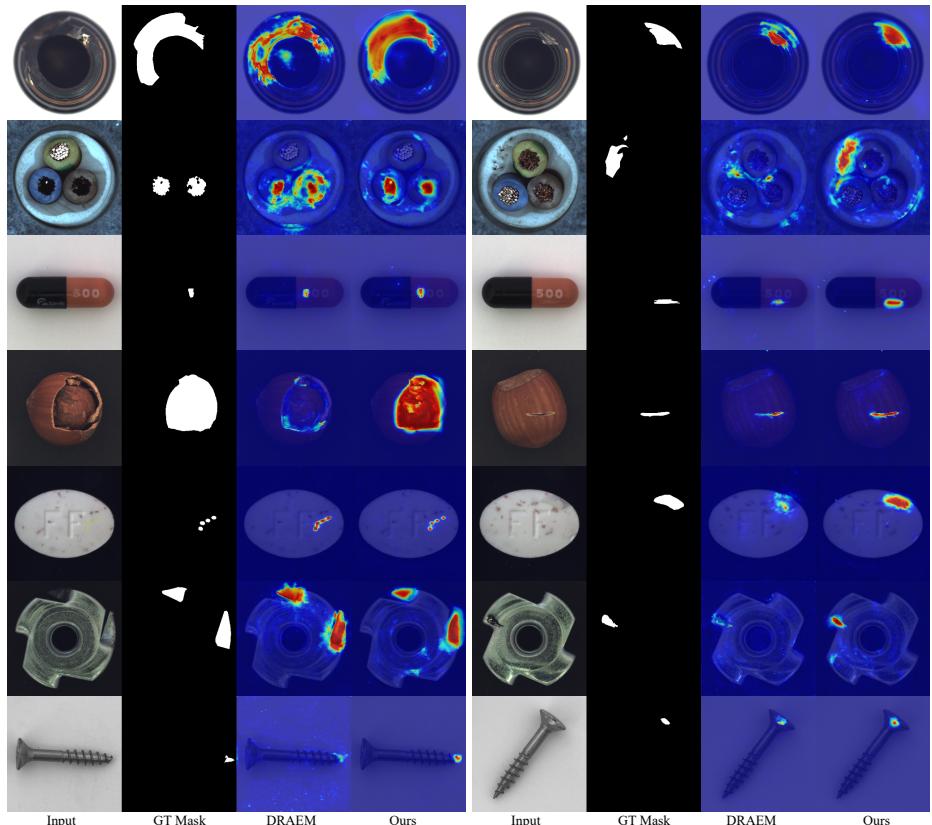
We also show some failed anomaly generations in Figure A8. For example, in the case of “*cable-swap*”, the actual anomaly is a misplaced cable within a specific location. However, the anomalous region reflects a normal cable, as we have learned the data distribution of normal cables. Therefore, when generating anomalies within a given box, the model generates a normal cable. Similarly, for “*transistor-misplaced*”, if the target disappears or is positioned at an angle, the anomalous region may show the background or a normal transistor. As a result, we have learned the joint distribution of the background and transistors, leading to the generation of unrealistic images.



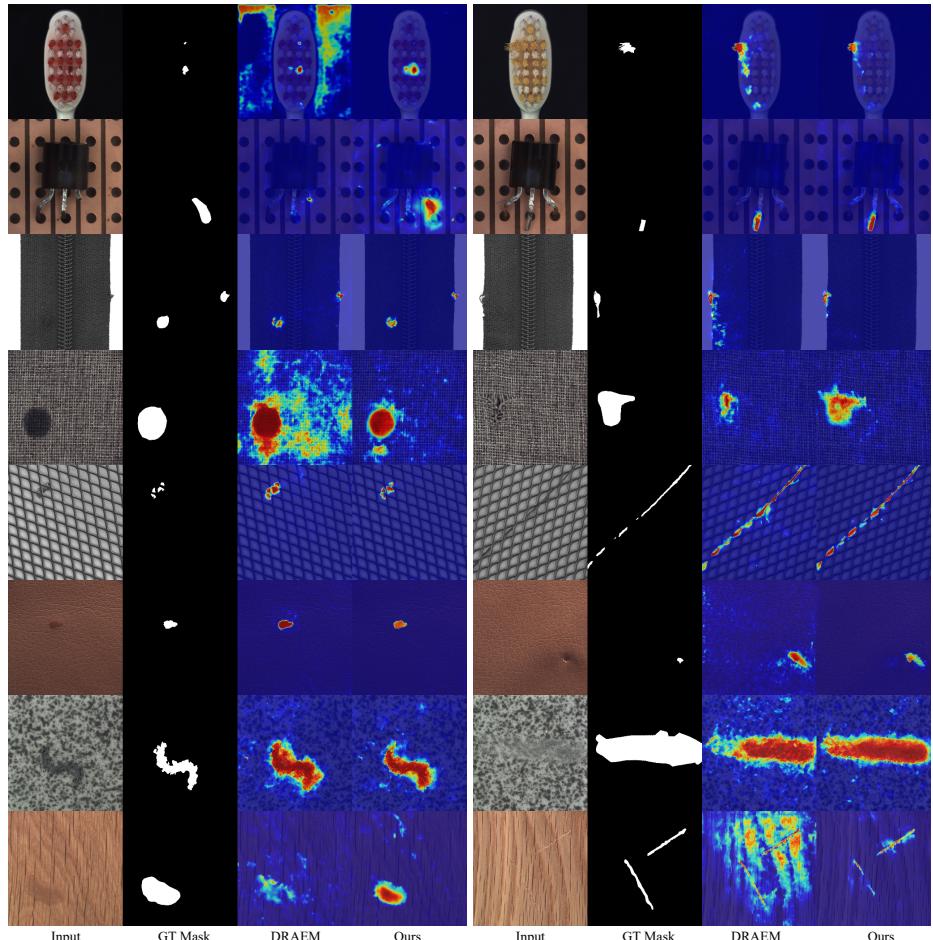
A8. Some failed anomaly generations. The left column shows the 3 real-world support anomalies. The right column shows the corresponding generated anomalous images.

## B. Qualitative Evaluation

We visualize the prediction heatmap of DRAEM and Ours in Figures B1 and B2. Compared to DRAEM, our model achieves more accurate detection of anomalous regions due to the use of more realistic and diverse anomalous images. For example, in the case of “*hazelnut*” (the 4th row in Figure B1), DRAEM almost fails to detect anomalous regions. In contrast, our method provides accurate prediction for similar anomalous regions (as shown in Figure A4), resulting in superior results.



B1. Qualitative comparisons of baseline DRAEM and our method on MVTec testing images.



B2. Qualitative comparisons of baseline DRAEM and our method on MVTec testing images.