

Specific Results of the Testing Set

1. Faster R-CNN

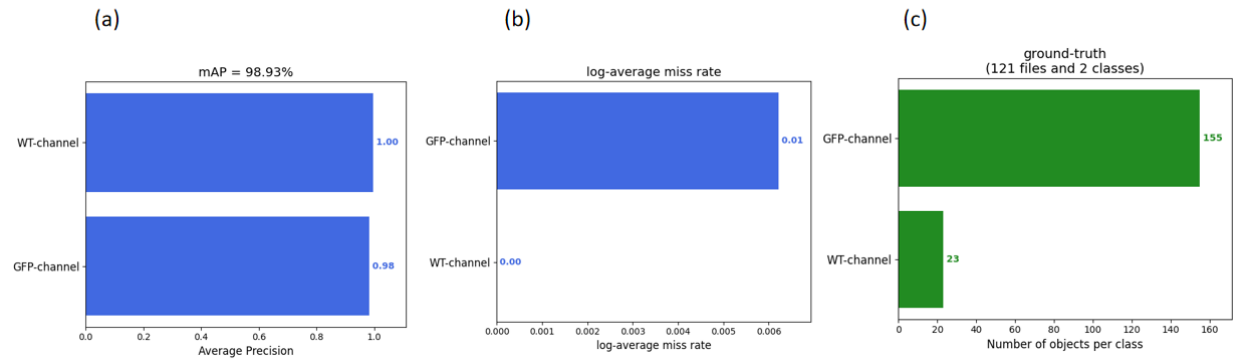


Figure S1. (a) The mAP, (b) the log-average miss rate, and (c) the ground-truth results in Faster R-CNN.

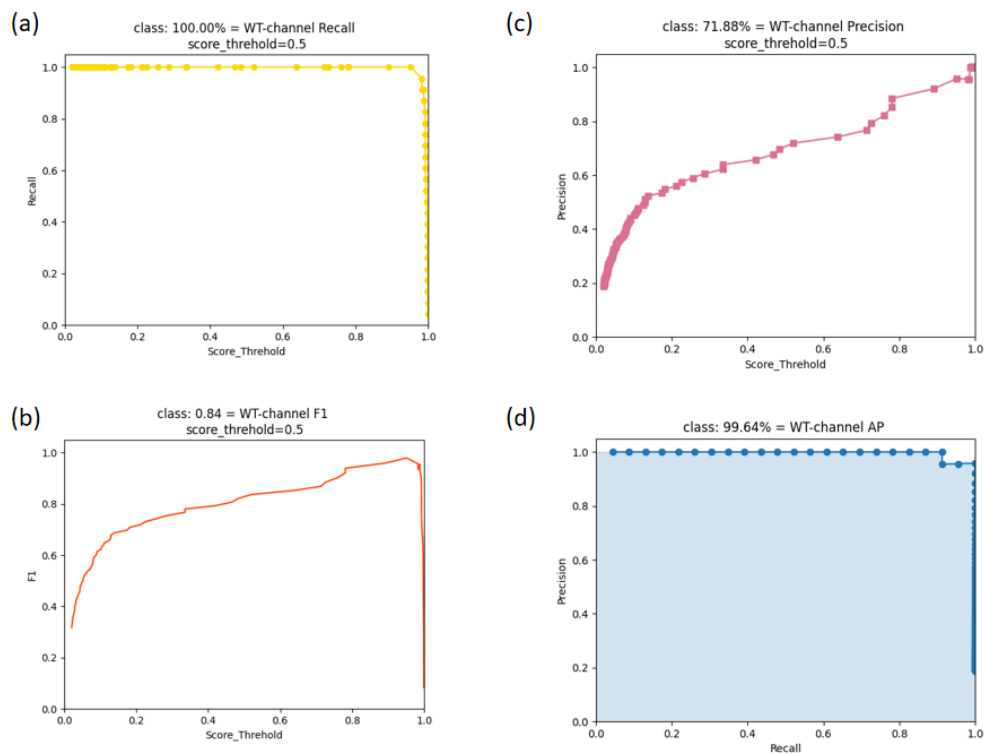


Figure S2. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of WT *C. elegans* detection in Faster R-CNN.

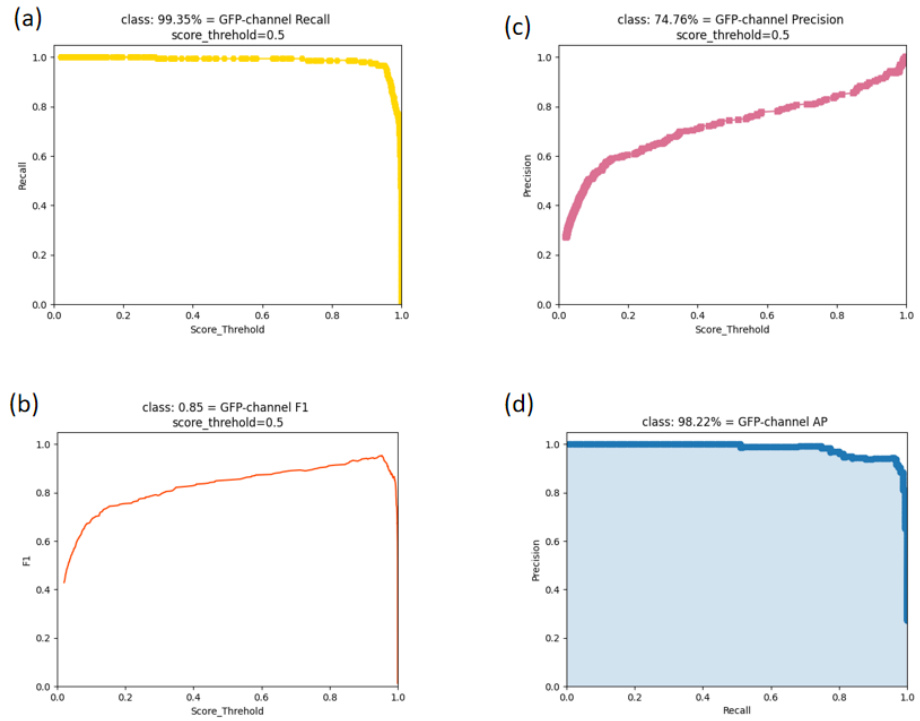


Figure S3. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of GFP *C. elegans* detection in Faster R-CNN.

2. YOLOv5

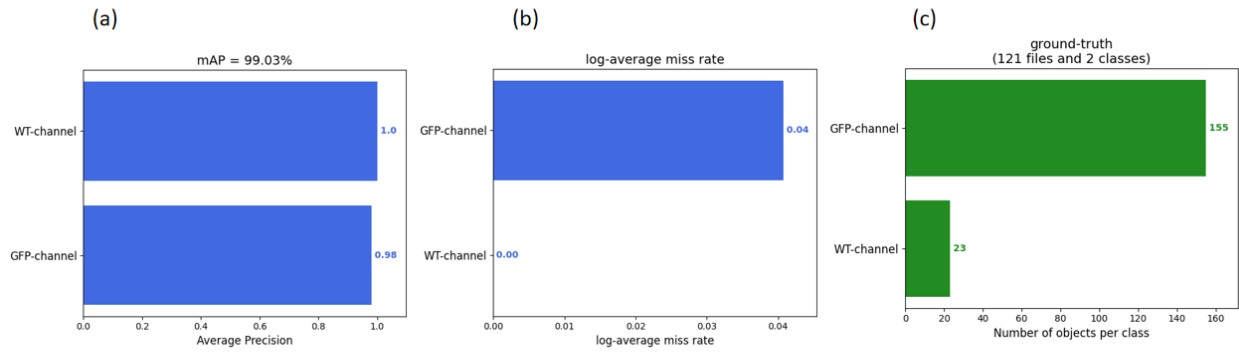


Figure S4. (a) The mAP, (b) the log-average miss rate, and (c) the ground-truth results in YOLOv5.

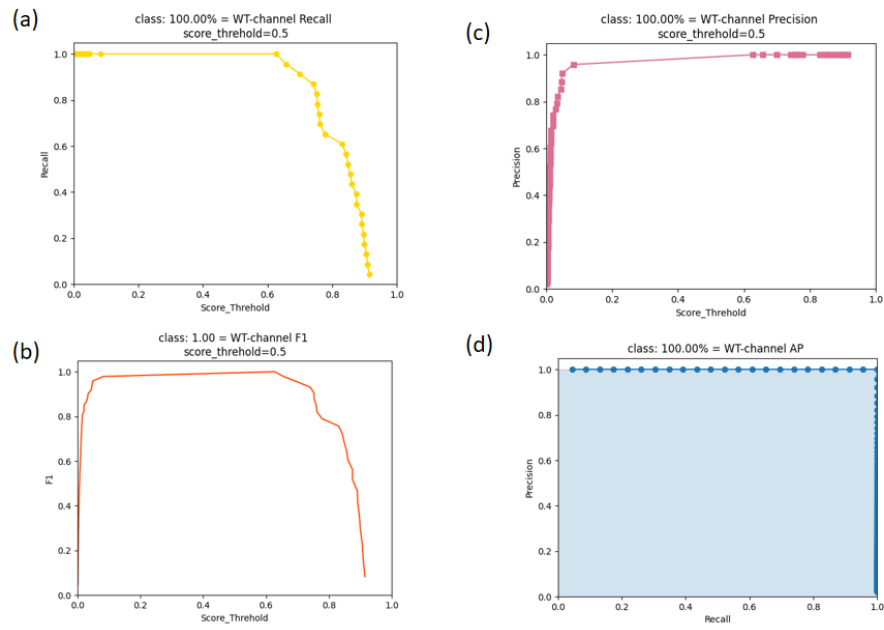


Figure S5. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of WT *C. elegans* detection in YOLOv5.

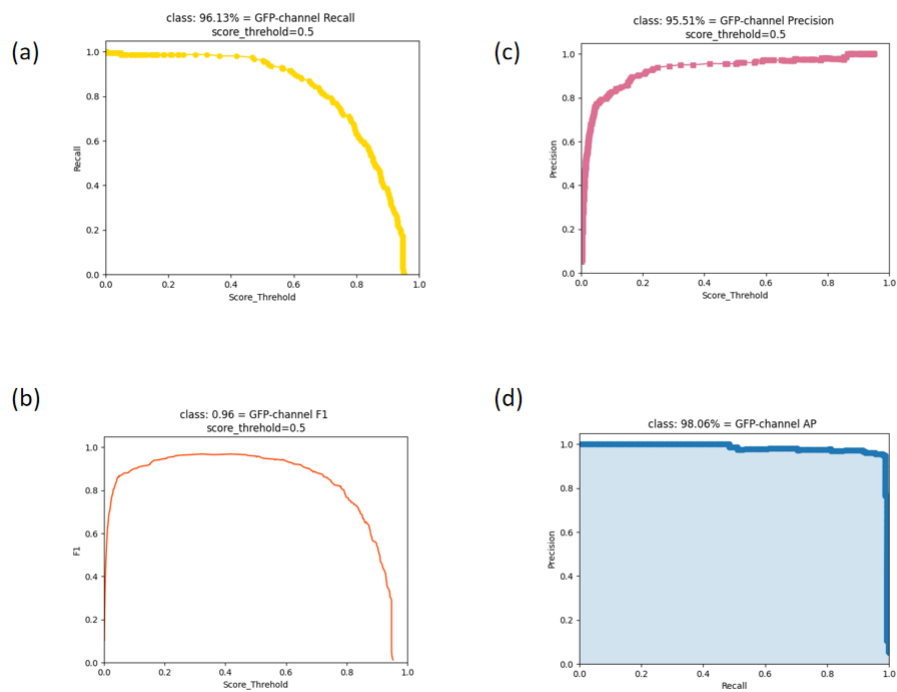


Figure S6. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of GFP *C. elegans* detection in YOLOv5.

3. YOLOv7

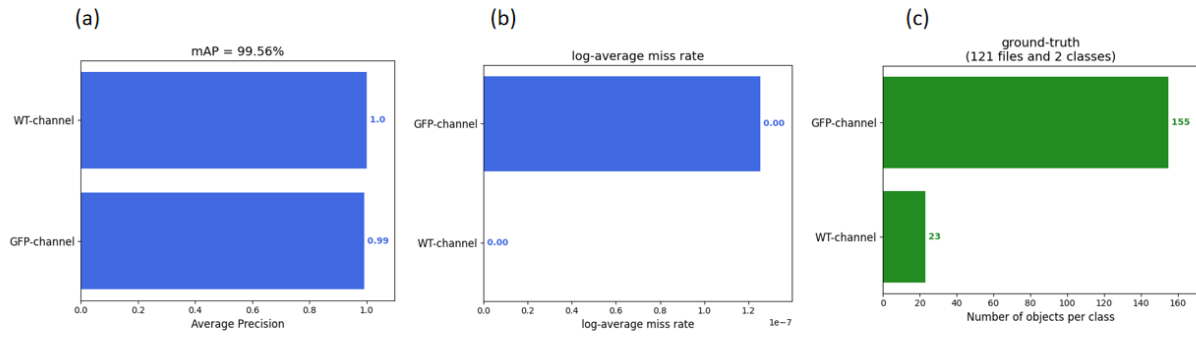


Figure S7. (a) The mAP, (b) the log-average miss rate, and (c) the ground-truth results in YOLOv7.

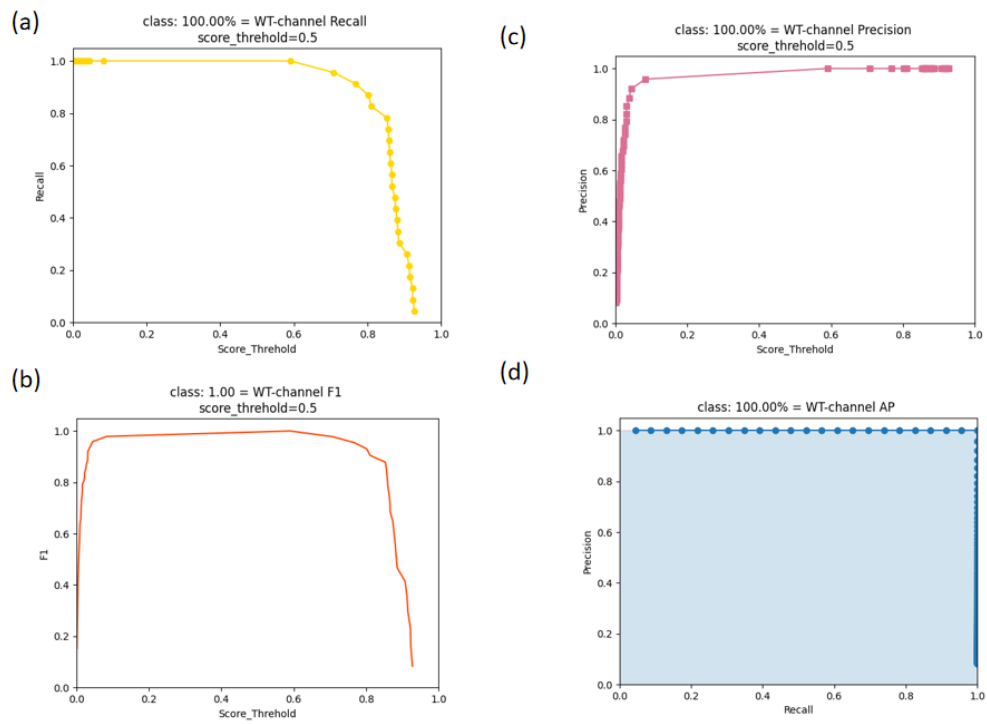


Figure S8. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of WT *C. elegans* detection in YOLOv7.

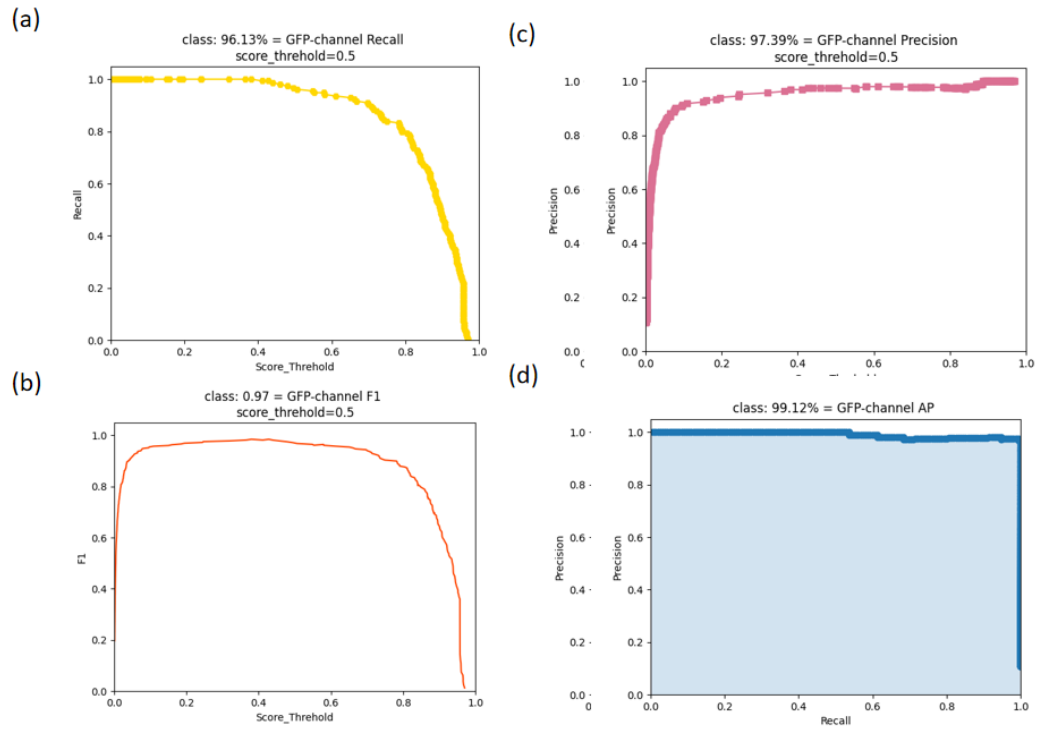


Figure S9. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of GFP *C. elegans* detection in YOLOv7.

Specific Results of the External Validation Set

4. Faster R-CNN

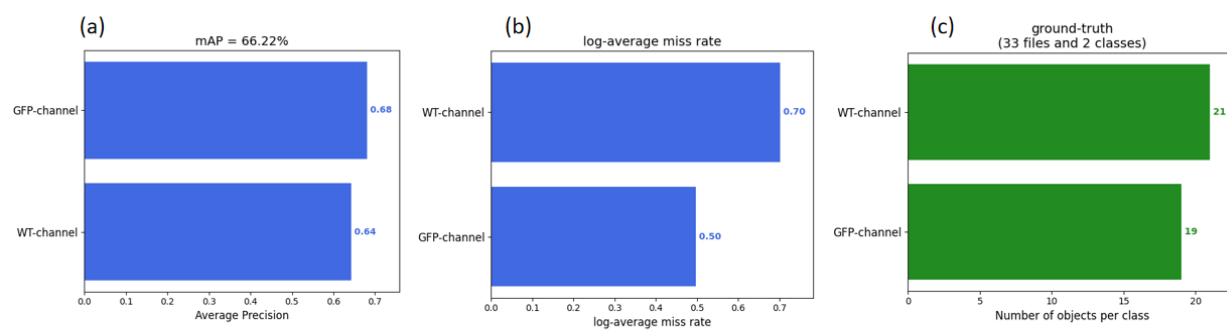


Figure S10. (a) The mAP, (b) the log-average miss rate, and (c) the ground-truth results in Faster R-CNN.

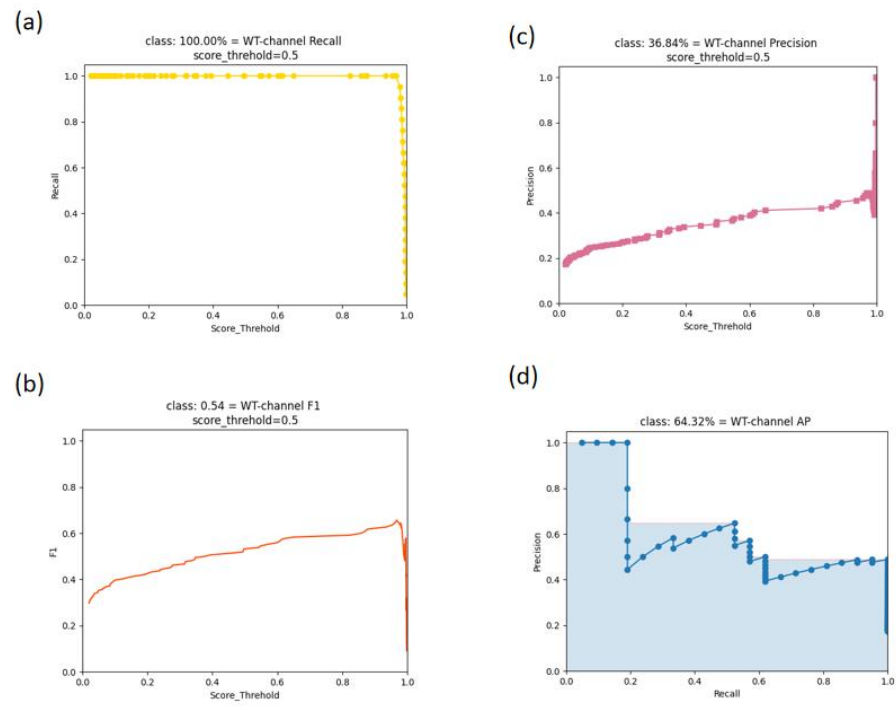


Figure S11. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of WT *C. elegans* detection in Faster R-CNN.

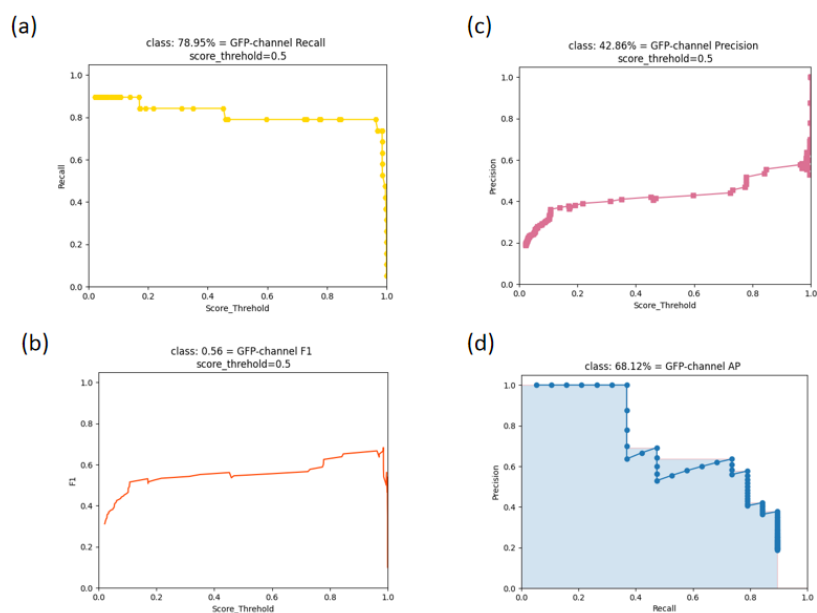


Figure S12. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of GFP *C. elegans* detection in Faster R-CNN.

5. YOLOv5

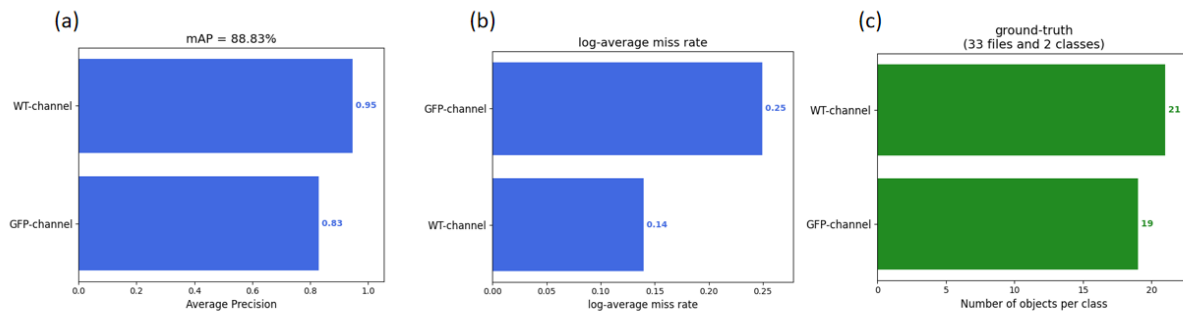


Figure S13. (a) The mAP, (b) the log-average miss rate, and (c) the ground-truth results in YOLOv5.

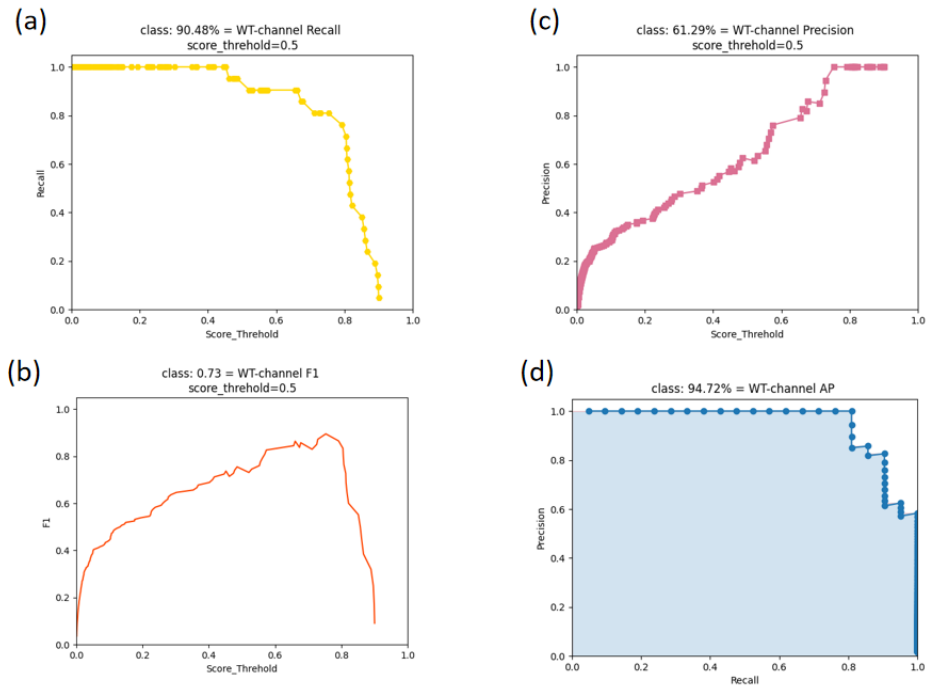


Figure S14. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of WT *C. elegans* detection in YOLOv5.

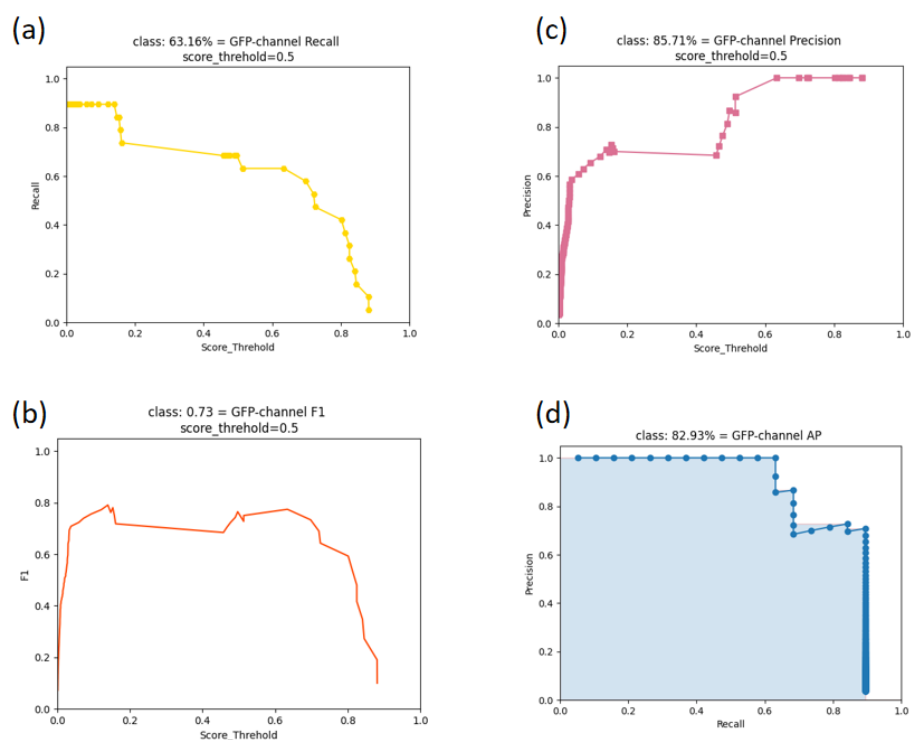


Figure S15. (a) The recall, (b) the F1, (c) precision, and (d) the AP results of GFP *C. elegans* detection in YOLOv5.

6. YOLOv7

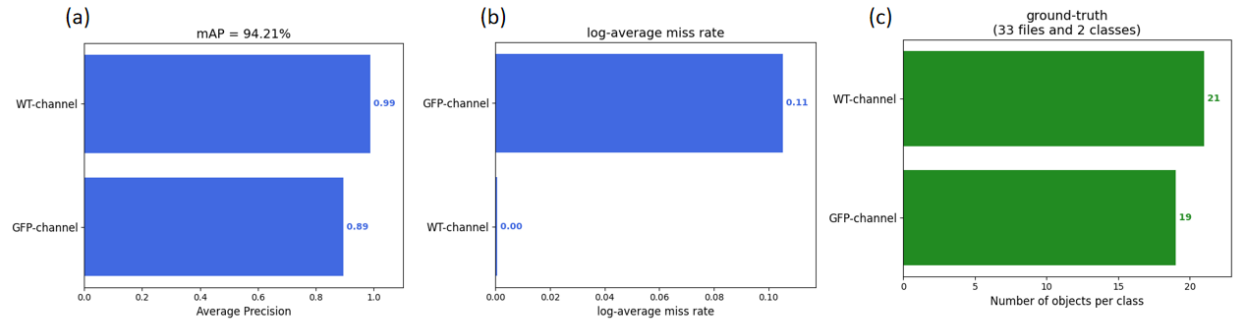


Figure S16. (a) The mAP, (b) the log-average miss rate, and (c) the ground-truth results in YOLOv7.

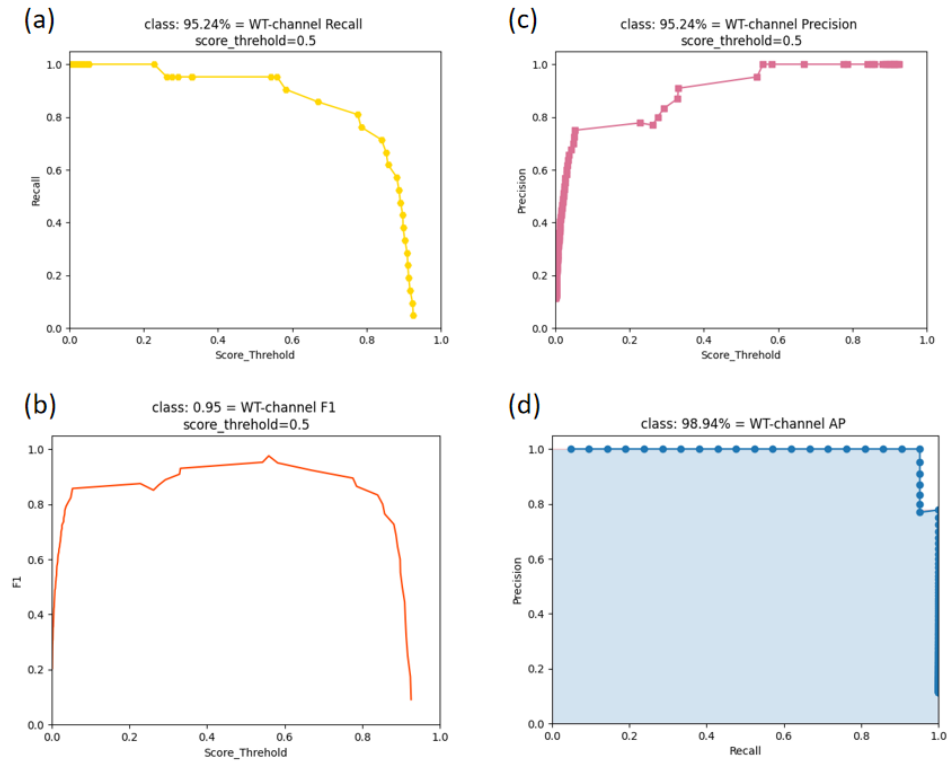


Figure S17. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of WT *C. elegans* detection in YOLOv7.

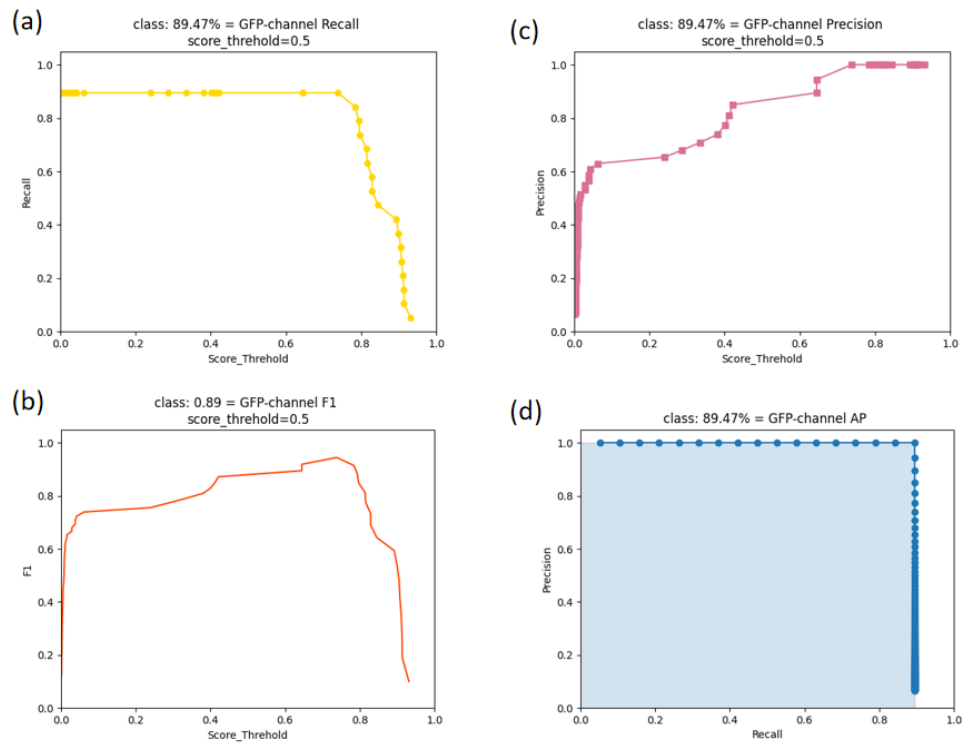


Figure S18. (a) The recall, (b) the F1 score, (c) the precision, and (d) the AP results of GFP *C. elegans* detection in YOLOv7.