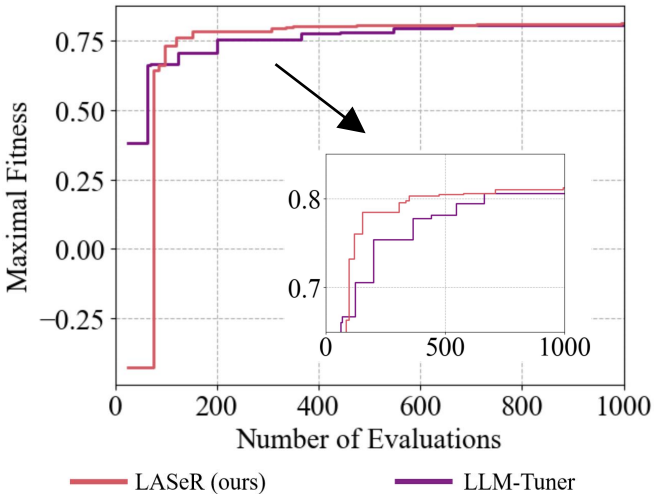
Supplementary material 2: Evaluation on Catcher-v0

We additionally performed comparison between LASeR and LLM-Tuner (the most competitive baseline algorithm) on Catcher-v0, one of the most challenging task instances in EvoGym where the robot is required to catch a fast-moving, rotating box. As shown in **Supplementary figure 2**, the advantage of LASeR remains evident. Notably, despite staring with inferior initialization, LASeR is able to swiftly catch up with and surpass LLM-Tuner. We plan to continue with our evaluations on more complex tasks to fully demonstrate the effectiveness of LASeR.



Supplementary figure 2. Comparison of LASeR (red) and LLM-Tuner (purple) on Catcher-v0. The experimental results are averaged across three independent runs. The morphological diversity achieved by LASeR and LLM-Tuner are **6.15** and 3.57, respectively.