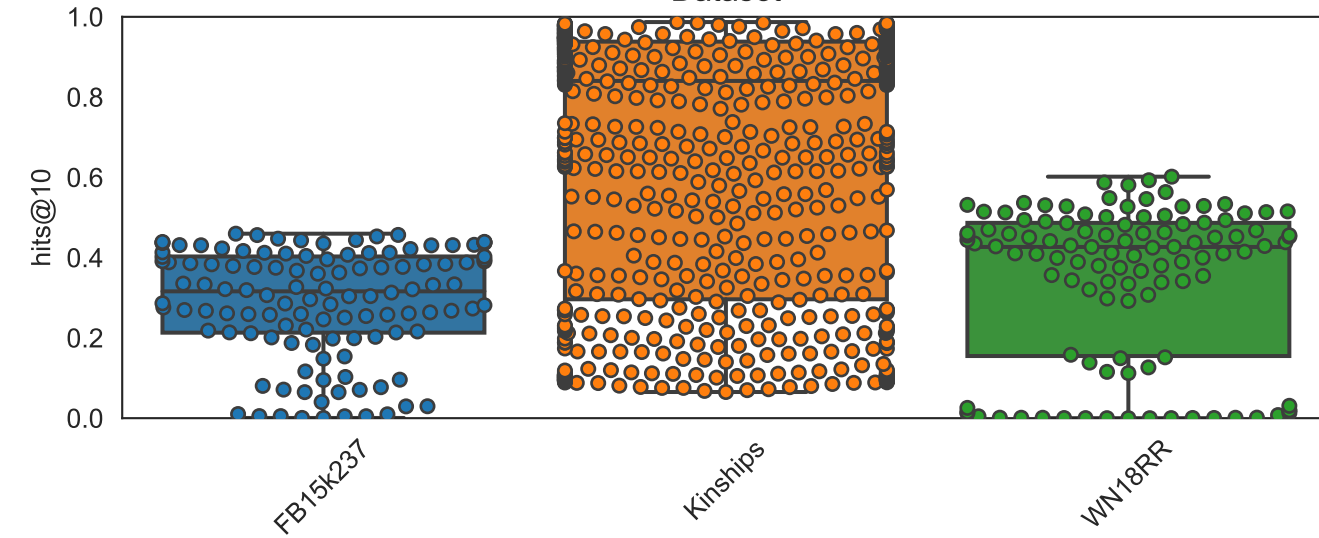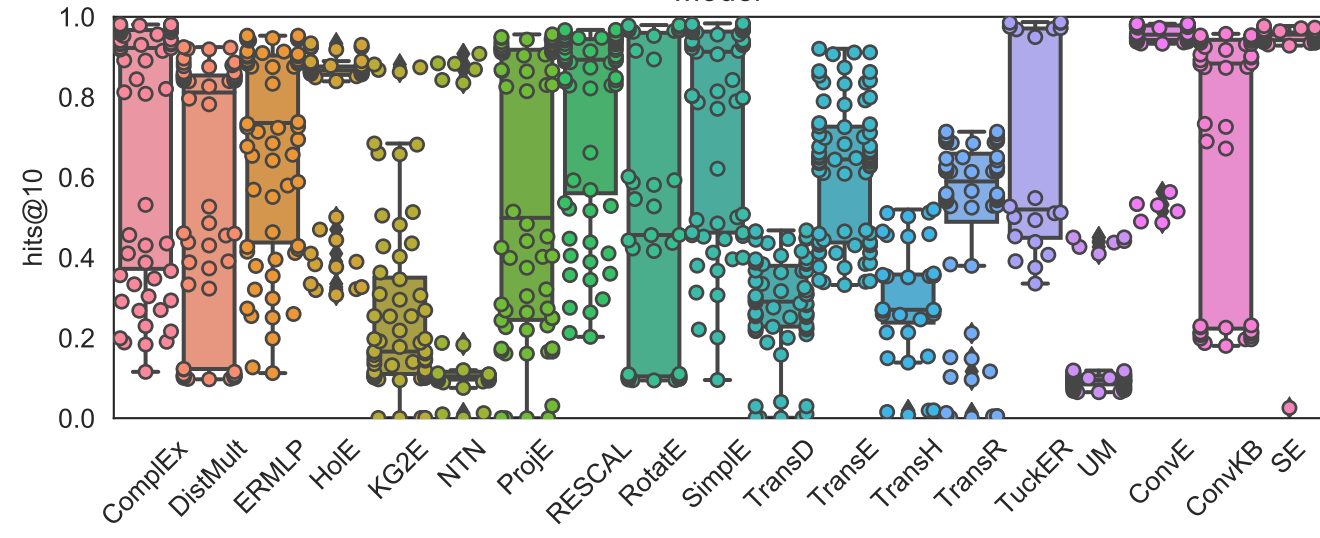training loop: LCW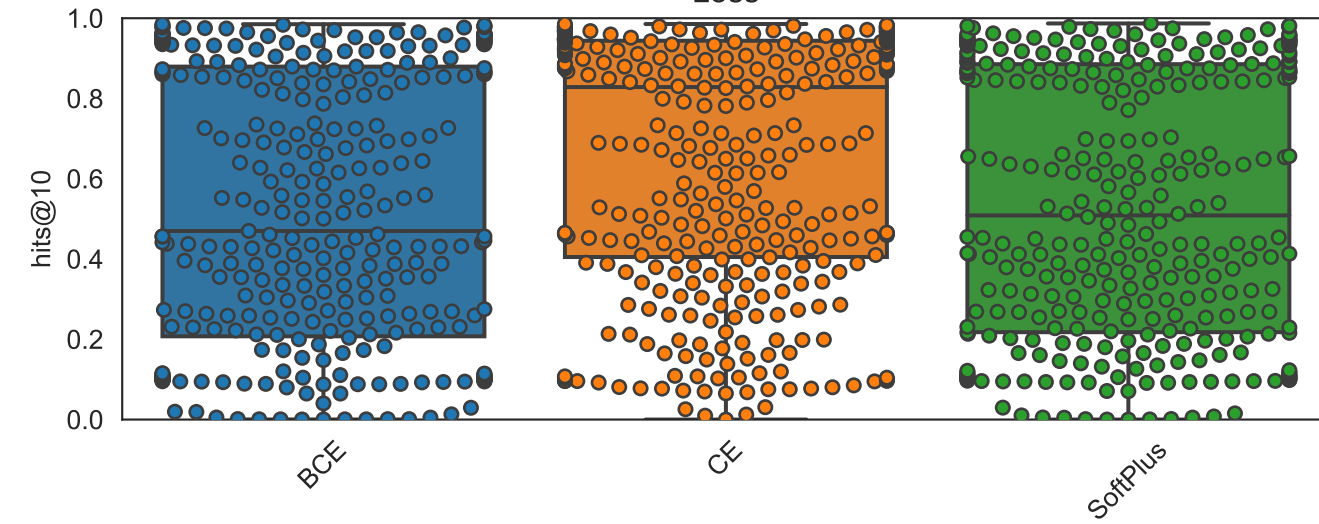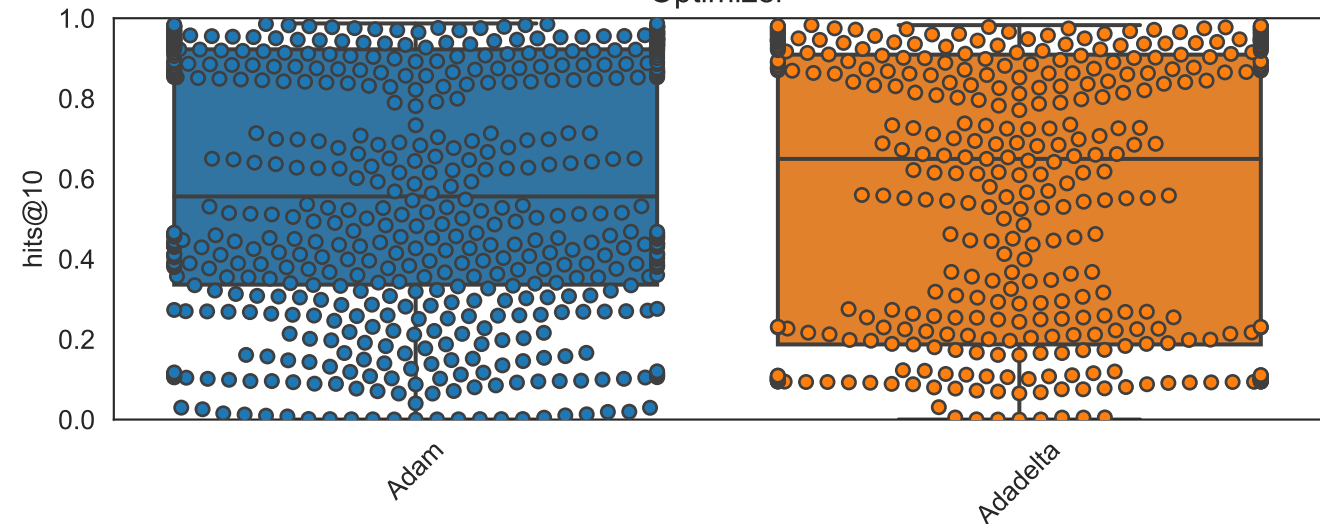A