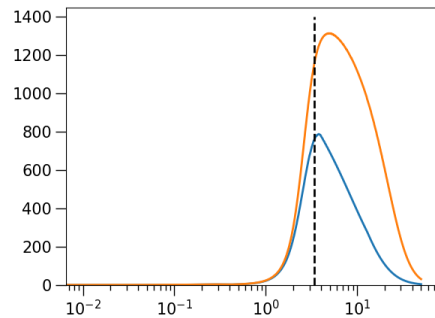
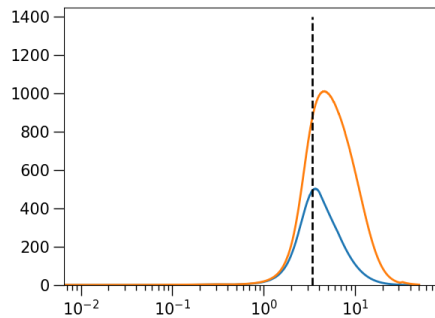
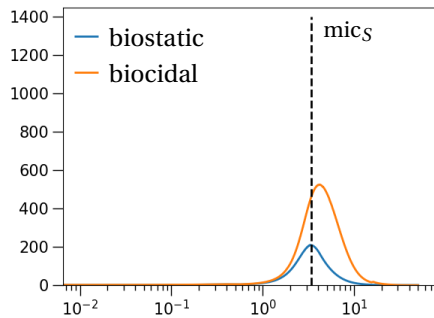


survival probability

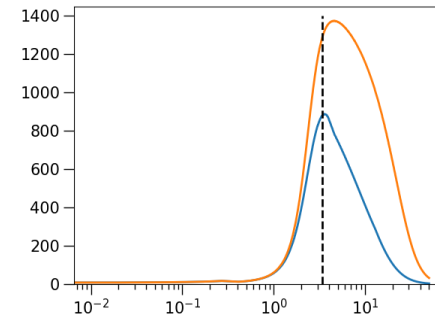
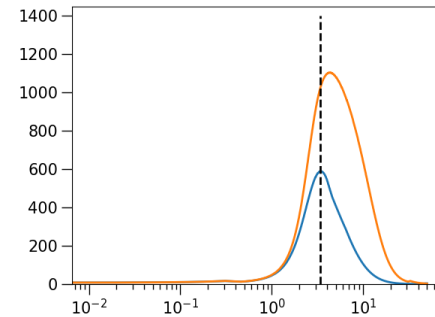
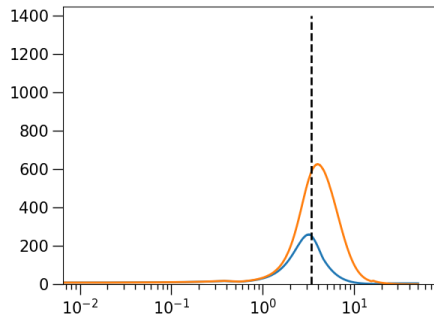
$\text{mic}_R = 5 \times \text{mic}_S$

$\text{mic}_R = 10 \times \text{mic}_S$

$\text{mic}_R = 20 \times \text{mic}_S$



birth  
competition



death  
competition

antibiotic concentration  $c$