Antibiotics are added at 0h (default), or after 4h, 12h, or 24h of biofilm growth. Shown are the coculture densities of R and S for every 4 hours from the time the antibiotic is added to 36h of biofilm growth in total (ie., growth without antibiotics + growth with antibiotics). We can see that antibiotic addition at later stages of biofilm development generally favours susceptibles, and can even prevent the competitive release of the resistant strain. This effect is stronger with detoxification and when antibiotic concentrations are low. In the simulations, resistance is costly (c=0.2). n=3.