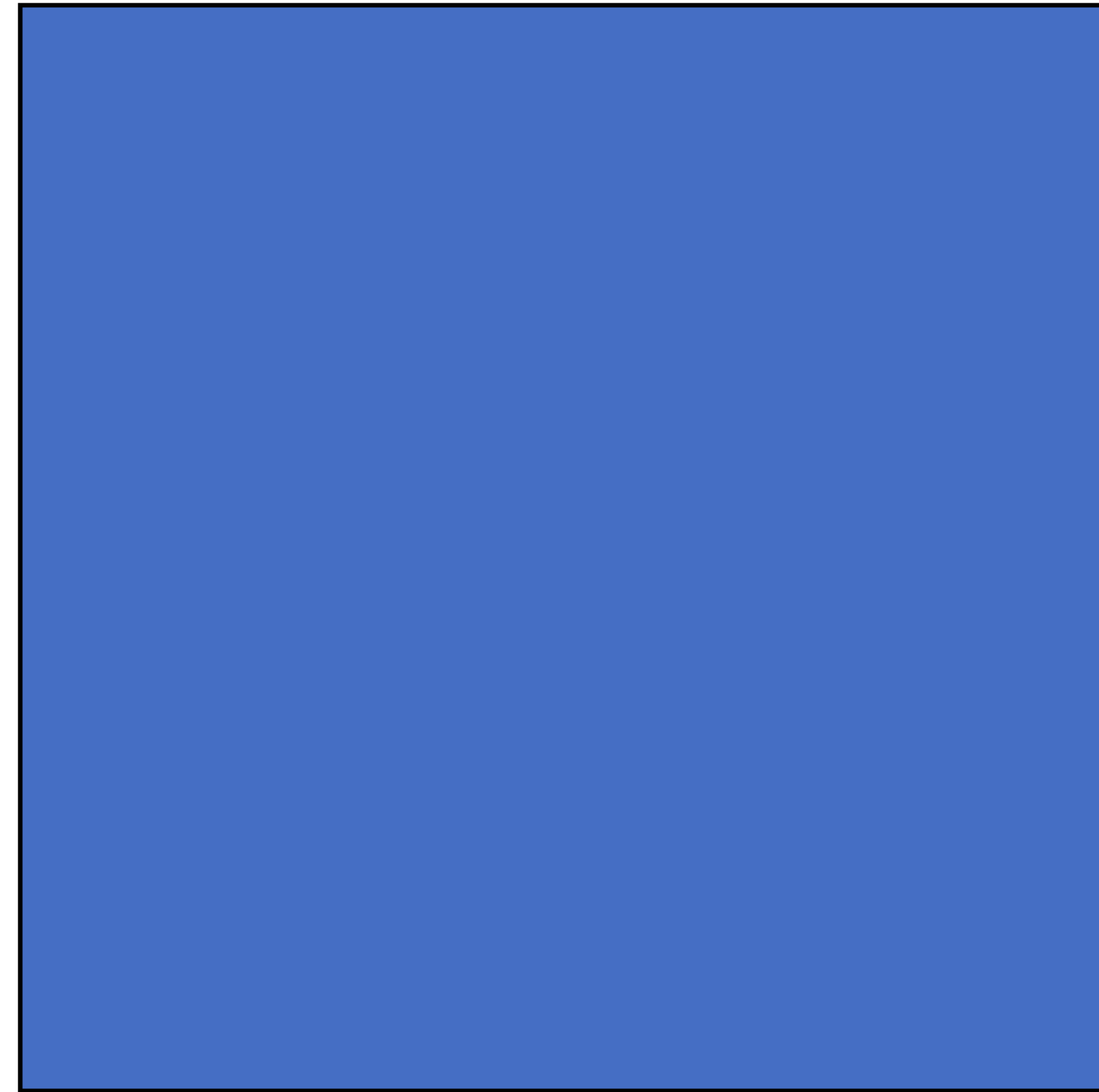
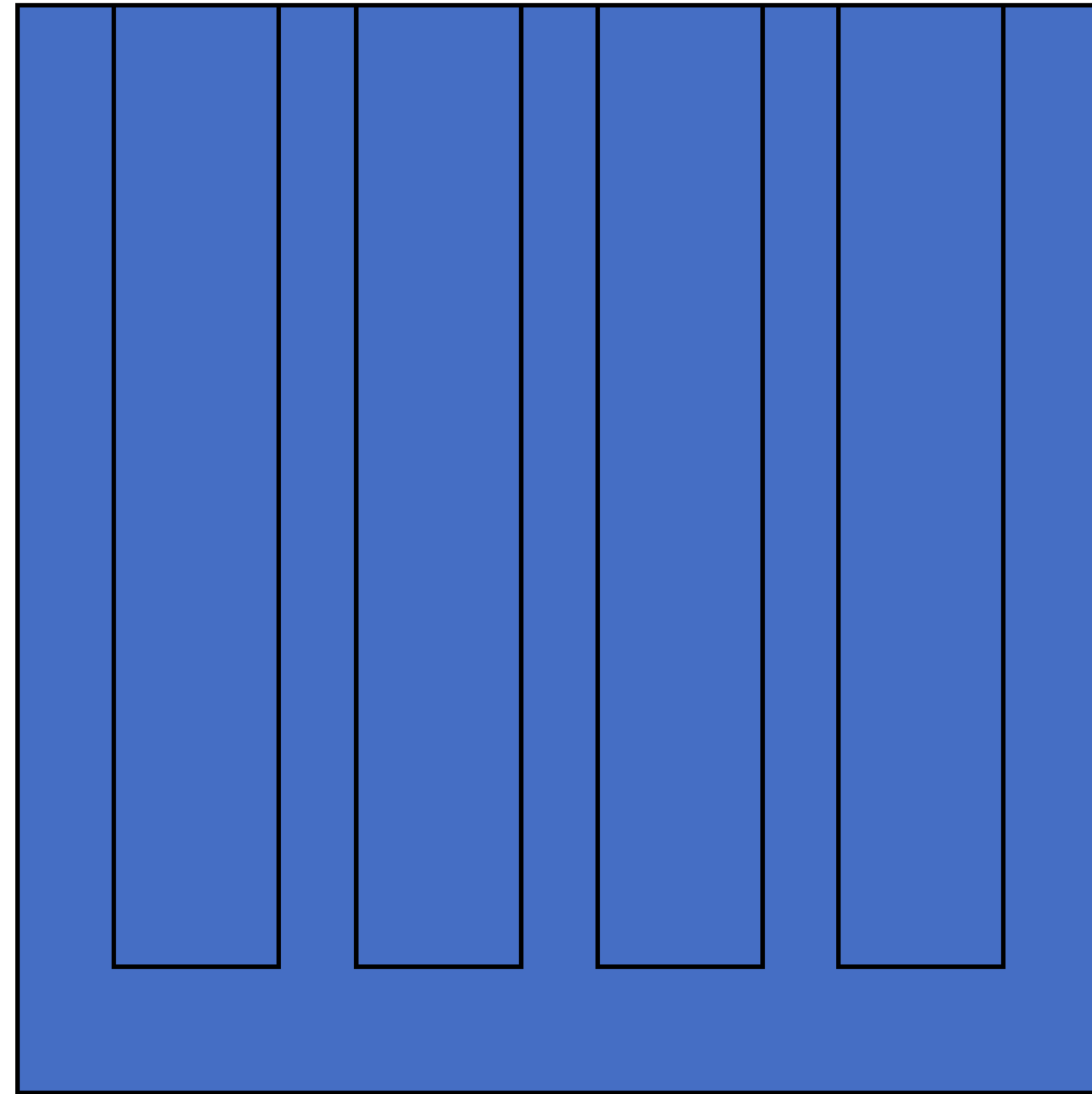


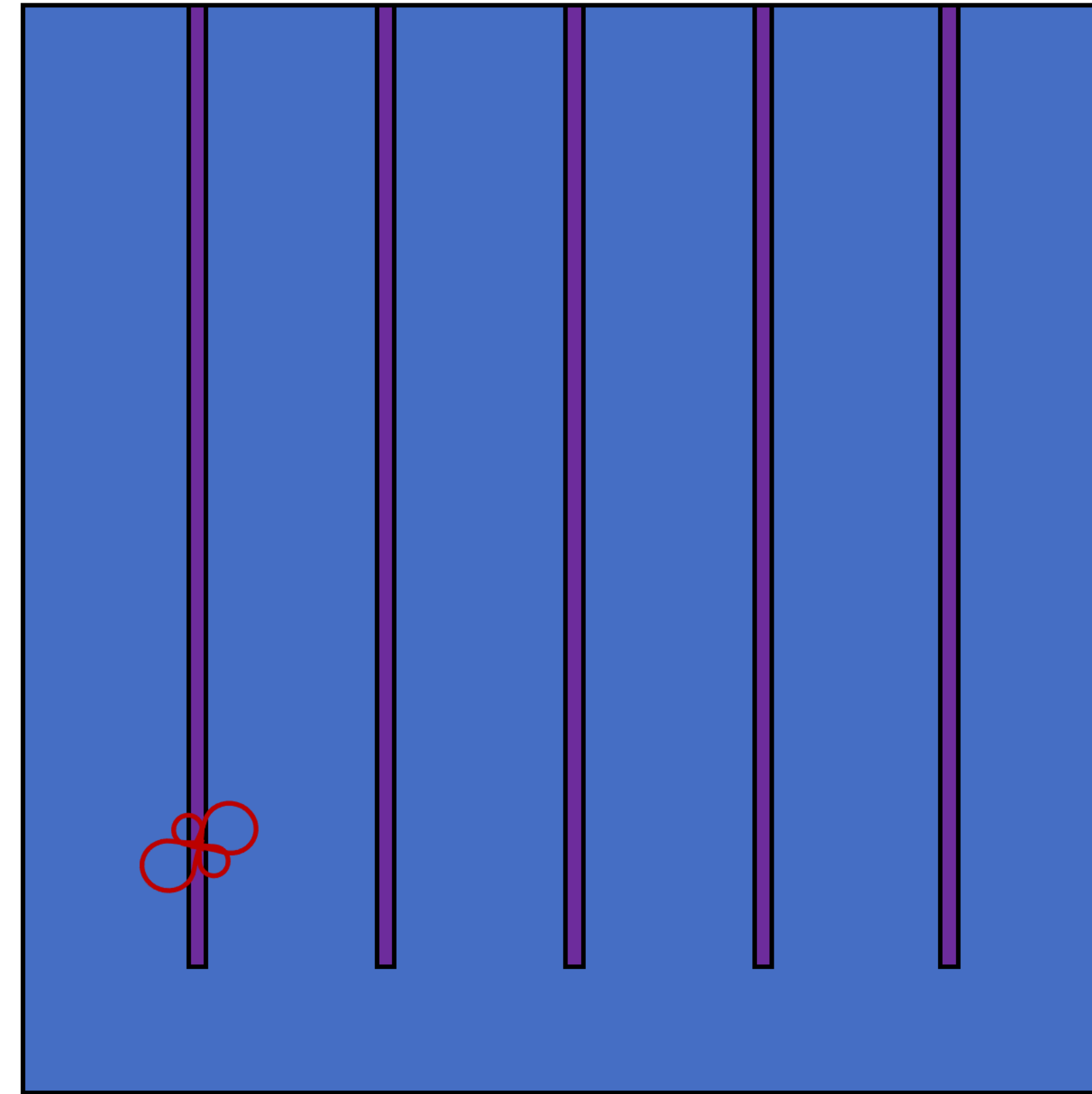
A



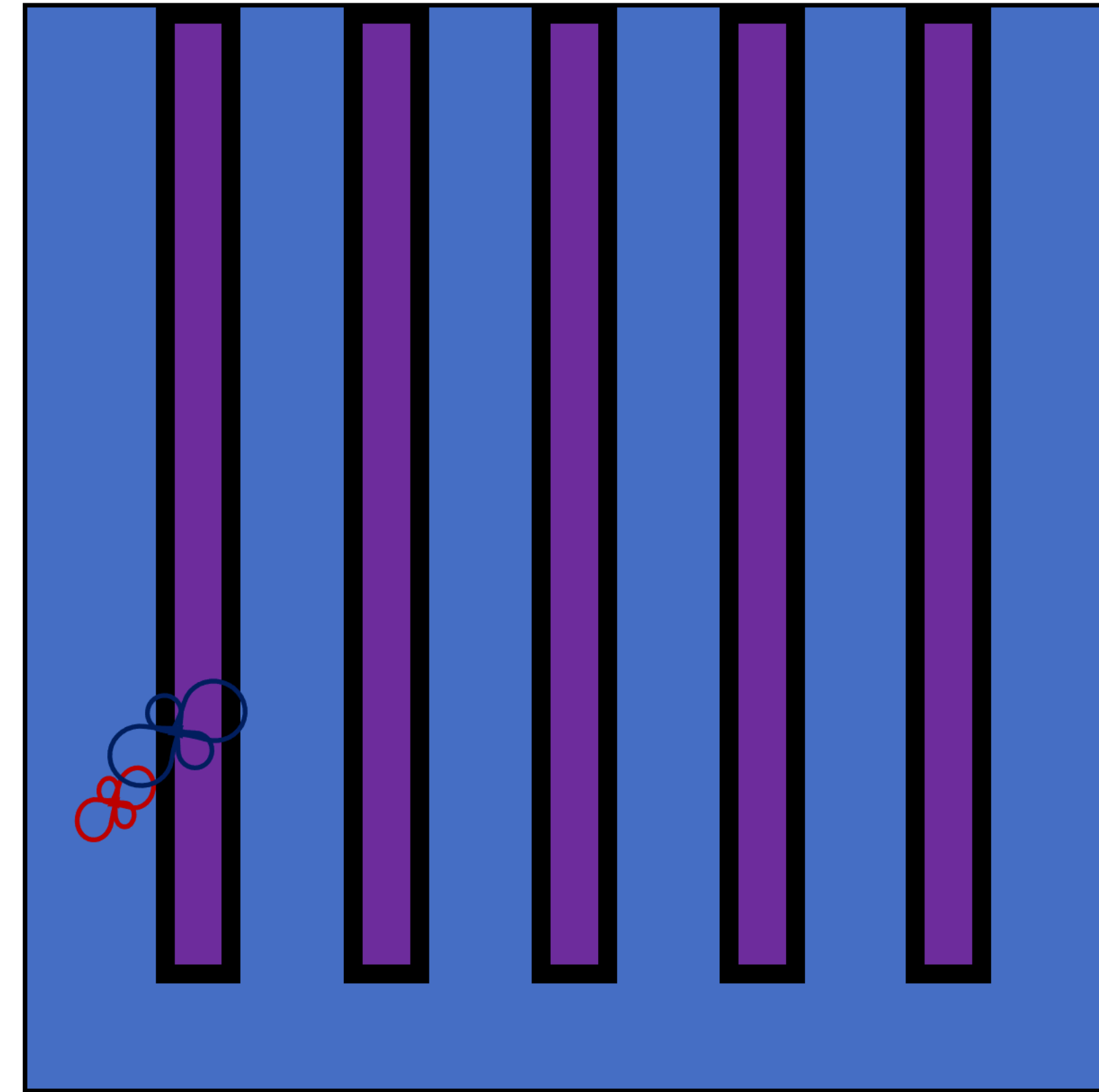
B



C



D



A pure fluid pool in a  
homogenous magnetic  
field  
 $T2 = T2^*$

Macromolecular  
projections (villi) increase  
irreversible dephasing at  
boundaries  
 $T2$  and  $T2^*$  reduce

Villous projections cause a  
static local susceptibility  
difference (reversible  
dephasing) as well as  
causing irreversible  
dephasing  
 $T2$  and  $T2^*$  reduce  
differentially

Large susceptibility  
differences caused by low  
inter-villous saturation  
extend into the fluid pool,  
enhancing reversible  
dephasing  
*Enhanced  $T2^*$  reduction in  
placental tissue based on  
fetal  $O_2$  saturation.*