

Name: Key

Quiz 14

Imagine that a protein cooperatively binds a ligand and has a $K_{site}^T = 0.05623 \text{ nM}^{-1}$ and $K_{site}^R = 0.1778 \text{ nM}^{-1}$.

1. Does the T-state or the R-state bind ligand more tightly? Explain how you know.

R-state. The K_{site} parameters are association equilibrium binding constants with large magnitudes indicating tighter binding.

2. On the graph below, add and label a dashed line representing the expected result if the protein were only able to exist in the T-state conformation.
3. On the graph below, add and label a dashed line representing the expected result if the protein were only able to exist in the R-state conformation.
4. On the graph below, add a solid line representing a possible experimental result for the protein which is able to switch conformations.

