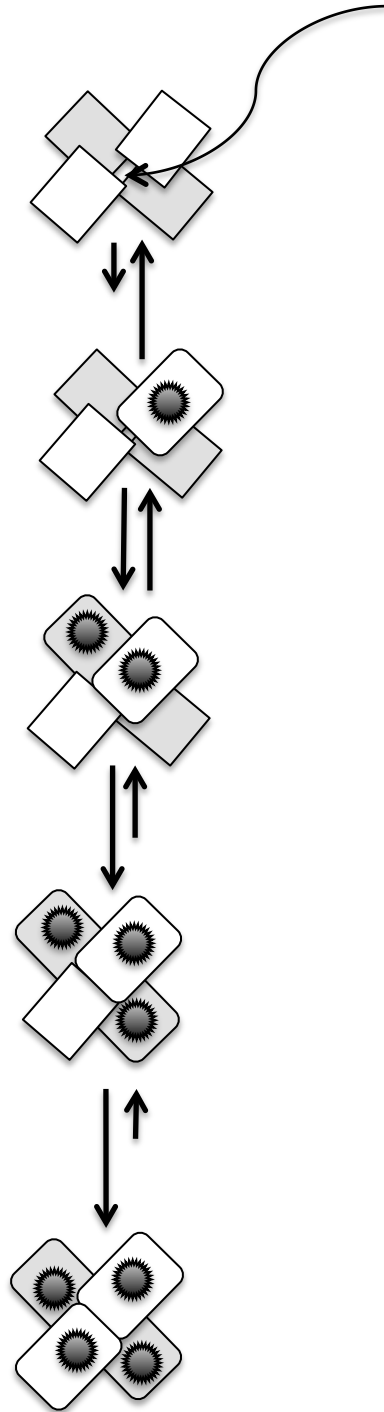


Sequential Model of Hemoglobin Binding Oxygen

As Oxygen binds, each subunit changes from T to R. The T to R transition occurs as oxygen binds. As the number of subunits with bound oxygen increase, the equilibrium favors binding. There is spectroscopic and equilibrium binding data that support this model, but it violates the principles of molecular symmetry.



1. What fits into this central cavity to stabilize the T form?

2. What amino acid forms a hydrogen bond with Oxygen that is bound to heme iron?

3. What amino acid forms a covalent bond with Iron (II) and tethers the heme to the subunit?

4. When the first oxygen binds to the Iron (II) in hemoglobin, what moves?

5. When oxygen binds to Iron(II) in hemoglobin there is a slight movement that disrupts _____. These IMF stabilized the _____ form and made the hemoglobin have _____ affinity for oxygen.