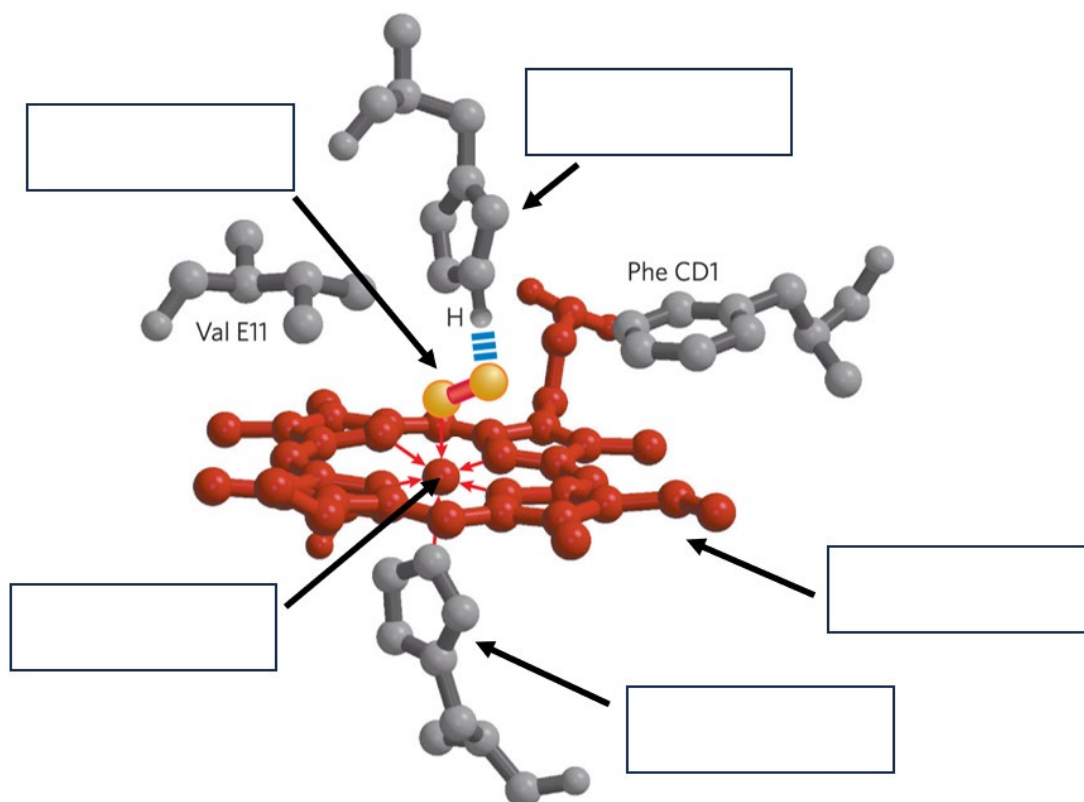


Worksheet 10: Myoglobin

1. Label the components of the binding site for O_2 in myoglobin.



2. List the three factors that reduce the affinity of heme for carbon monoxide (CO) in myoglobin compared with free heme and briefly explain (one sentence each) how each factor decreases CO binding or increases O_2 binding.

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3. What is the role of myoglobin in the body?

4. Predict how replacing the distal histidine with valine would affect heme binding and myoglobin function.

5. If the distal histidine in myoglobin were replaced by another amino acid, which substitution would be expected to have the least effect on its function? Explain your reasoning.