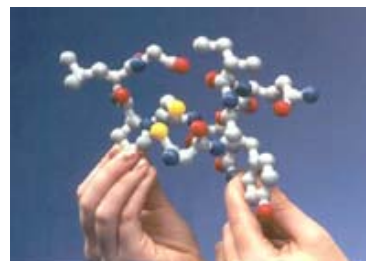
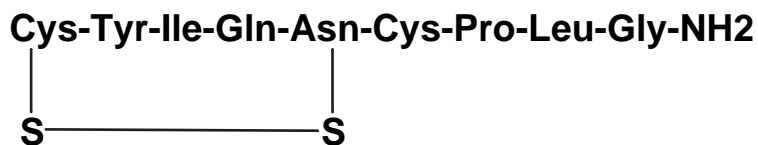


**Molecule of the week: Oxytocin****Concepts: Peptide Bonds, Disulfides**

**Oxytocin** is a peptide hormone that stimulates uterine contractions in pregnant females. This hormone is produced in the posterior pituitary gland, located at the base of the brain. Oxytocin is often used to induce labor in pregnant females. Oxytocin's synthesis goes through multiple steps involving a series of condensation reactions forming amide bonds. Oxytocin exists in its cyclic configuration as a disulfide bond. This disulfide bond is formed by oxidation of 2 thiol SH groups upon exposure to air.

**Questions:**

Draw the chemical structure, including stereochemistry of oxytocin

Provide a mechanism for the reduction of a disulfide bond by NaBH<sub>4</sub>