Answer on Question #75602 - Chemistry - Physical Chemistry

Question:

How are physical properties of colloidal solutions different from those of true solutions and coarse dispersions? Explain

Solution:

A standard hydrogen electrode (SHE) is an electrode used by scientists to refer to all potential half-life reactions. The value of the standard electrode potential is zero, which is the basis, it is necessary to calculate the potential of the cell using different electrodes or different concentrations.

SHE consists of a solution of 1.0 M $H^+_{(aq)}$ containing a square piece of platinum platinum (connected to a platinum wire where electrons can be exchanged) inside the tube. During the reaction, gaseous hydrogen is then passed through the tube and into the solution, causing the reaction:

$$2H^+(aq) + 2e^- = H_2(g)$$

Initially, the initial discharge allows the electrons to fill the highest level of occupied energy Pt. As it is done, some of the H^+ ions form H_3O^+ ions with water molecules in solution. These hydrogen ions and hydrogen are then approaching the electrode Pt (on the platinized surface of this electrode), where hydrogen is attracted to the electrons in the metal and forms a hydrogen atom. They then combine with other hydrogen atoms to form H_2 (g). This hydrogen is released from the system. To maintain the reaction, the electrode requires a constant flow of H_2(g). The Pt wire is connected to a similar electrode, in which the opposite process takes place, thus creating a charge to which a voltage of 0 volts is sent. Other standard electrodes are usually better because SHE can be a complex electrode for adjustment. Difficulties arise when cooking platinum surface and in controlling the concentration of reagents. For this reason, SHE is called a hypothetical electrode.