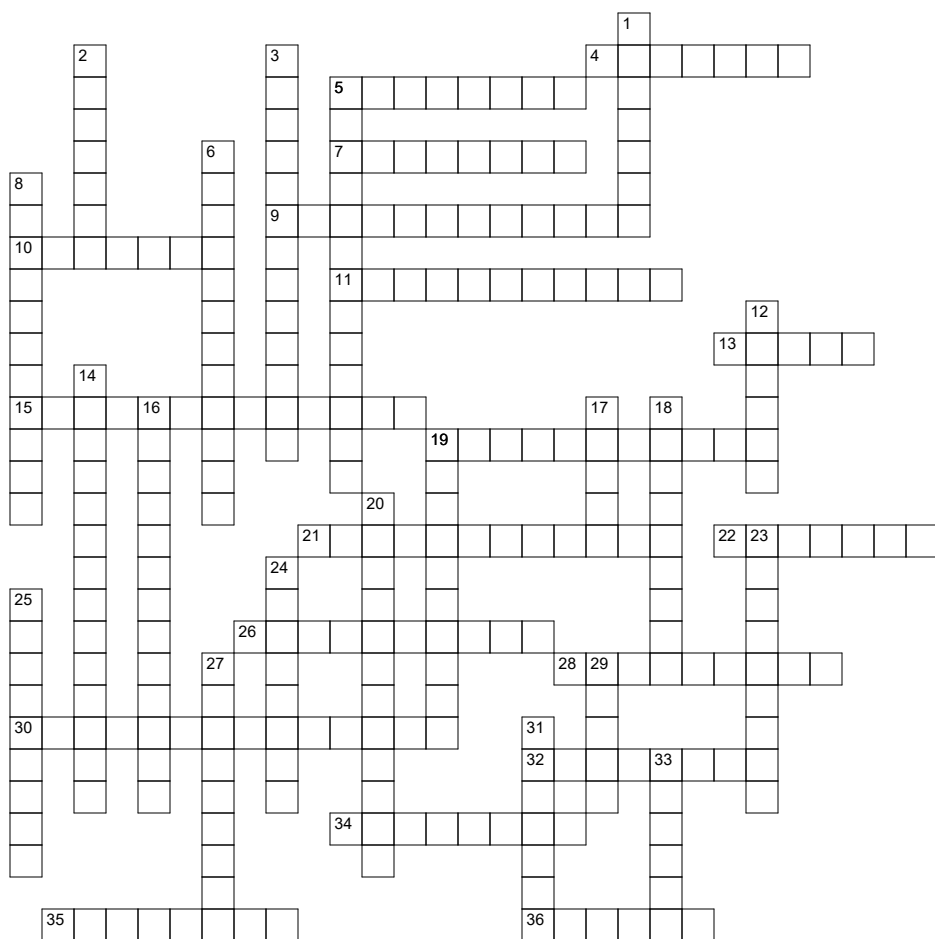


# Electrochemistry



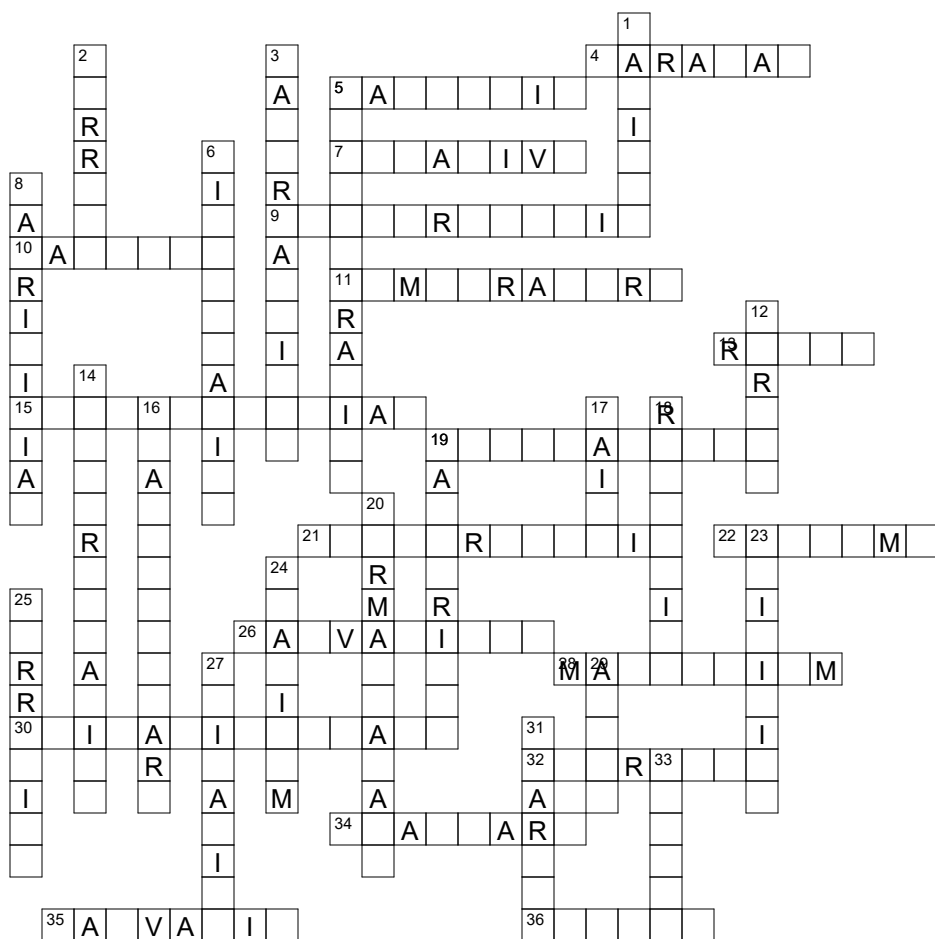
## Down

- While a Voltaic cell is operating, the \_\_\_ in the cell flow towards the cathode
- \_\_\_ is the rate at which charge flows through a circuit. It's units are C/s or Amperes
- We often balance redox reactions by the method of \_\_\_\_\_
- One of the experimental variables that affects the voltage produced by a Voltaic cell
- An example of \_\_\_\_\_:  $\text{Fe} | \text{Fe}^{2+}(1\text{M}) || \text{Pb}^{2+}(1\text{M}) | \text{Pb}$
- A block of magnesium metal attached to the hull of a ship to prevent corrosion is acting as a \_\_\_ anode
- The \_\_\_ equation lets you calculate cell potential under non-standard conditions
- A battery or power source can be used in \_\_\_, where a metal is usually coated with a more valuable metal
- In line notation, a single vertical line represents a \_\_\_
- A simple way to reduce corrosion of metals on ships, bridges, railings etc is to \_\_\_ the surfaces
- Results in a decrease in oxidation state
- The \_\_\_\_\_ maintains electrical neutrality in the two half-cells of a Voltaic cell; it also completes the circuit
- Chloride ions can be oxidized to make chlorine gas if put in an acidified solution containing \_\_\_ ions
- Fluorine ( $\text{F}_2$ ) is a very strong \_\_\_ agent
- In gas electrodes, an inert metal like \_\_\_ is used to conduct electricity
- The oxidation of metals
- The loss of electrons
- The electrode where oxidation occurs in an electrochemical cell
- In a chemical equation, both atoms and \_\_\_ must be balanced
- An older definition of oxidation refers to the addition of \_\_\_ in a chemical reaction

## Across

- The charge on 1 mol of electrons (96500 C) is known as the \_\_\_
- One way to prevent corrosion involves attaching a more easily oxidized metal like Zinc. This is called \_\_\_ protection
- The outside charge label for the anode in a Voltaic cell
- Using electricity to force a non-spontaneous redox reaction to occur
- The electrode where reduction occurs in an electrochemical cell
- One of the experimental variables that affects the voltage produced by a Voltaic cell
- A \_\_\_ reaction is an electrochemical reaction that involves the transfer of electrons
- The \_\_\_\_\_ is found by adding the reduction potential at the cathode to the oxidation potential at the anode
- A redox reaction is \_\_\_ if its standard cell potential is positive
- An \_\_\_ cell uses a battery to force a non-spontaneous redox reaction to happen
- The SI unit for electric charge
- When steel is \_\_\_, it is coated with a thin layer of zinc metal to prevent the corrosion of the steel
- If a piece of \_\_\_ metal is put into a solution containing zinc cations, solid zinc metal will be produced
- An \_\_\_ is an imaginary charge assigned to atoms in order to track the transfer of electrons in a redox reaction
- The potential for the standard \_\_\_ electrode is the reference from which other potentials are compared
- \_\_\_ conditions for an electrochemical cell are 1 M concentrations, 298 K, and 1.00 atm for gases
- A Voltaic cell is also known as a \_\_\_ cell
- The SI unit for time

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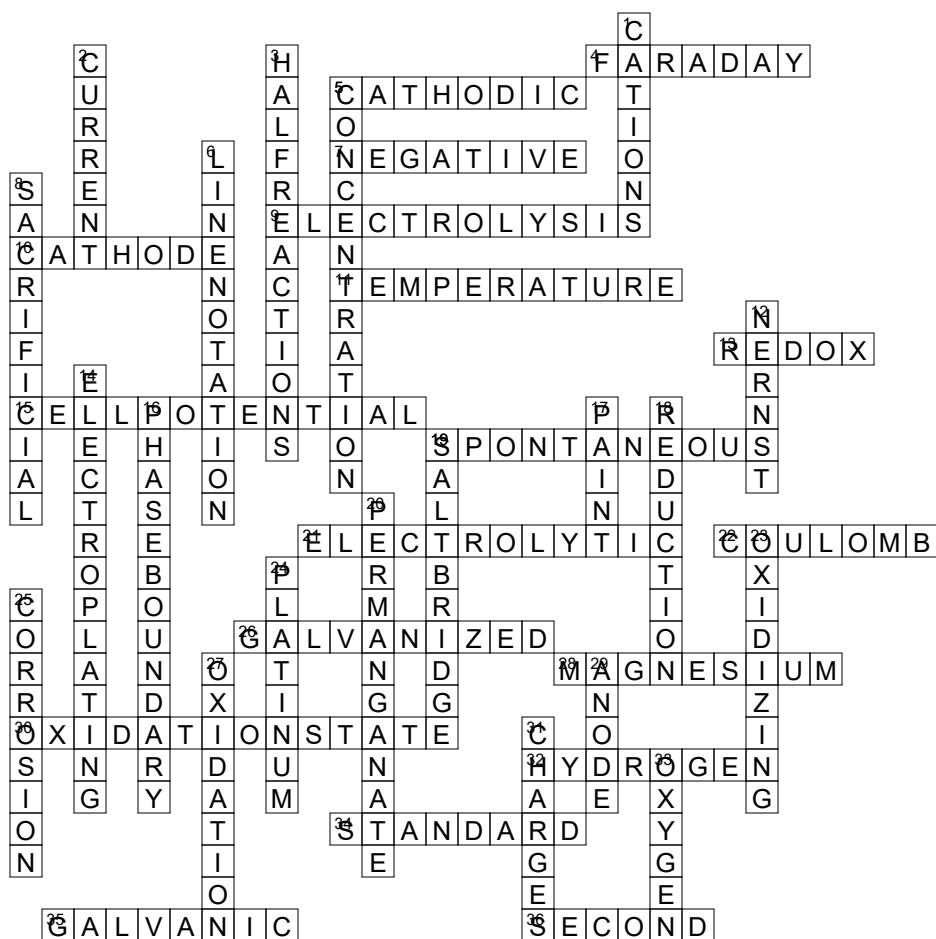
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