

Electrolysis of Real Seawater: Selectivity of Oxygen Evolution Reaction on Carbon Cloth-Supported-MnO₂ Nanosheets

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Abstract

Moisture and temperature, as well as the duration of a person's life, are crucial environmental variables that determine survival or demise. The mechanisms by which these factors influence glassy properties and cause cytoplasmic solidification are becoming better understood. The chemical reactions that go into aging are slowed down but not stopped by cytoplasmic solidification. The seed's metabolic capacity is reduced as a result of the continued degradation of proteins, lipids, and nucleic acids, which eventually hampers the seed's ability to germinate.

Keywords: Polymers • Sensors • Cytoplasm

Introduction

Water quality monitoring is one area where the Internet of Things is beginning to have a significant impact.

Using the Internet of Things to monitor water quality has numerous potential advantages. For example, real-time data that can be used to make decisions about how to use and treat water can be helpful. This is especially important in places where there is a problem with water scarcity. The Internet of Things can also assist in locating and tracking pollution sources, which are essential for preserving public health and the environment [1].

The Internet of Things can be used for a variety of purposes, one of which is the monitoring of water quality. The Internet of Things (IoT) has the potential to transform numerous industries and our daily lives. The use of sensors to monitor the concentrations of various contaminants and pollutants in water sources is one potential IoT application in the assessment of water quality. These sensors can collect data on a variety of parameters, including pH levels, temperature, dissolved oxygen, and the presence of chemicals and microorganisms, and they can be placed in rivers, lakes, and other bodies of water. This data can be sent to a central monitoring system in real time, where it can be analysed to find potential problems and take necessary action [2].

Methods

The installation of smart water meters and other devices in homes and businesses is another potential application of IoT in the assessment of water quality. These gadgets can keep track of how much water is used, find leaks, and give early warning of potential problems like lead or other contaminants in the water supply. These devices have the potential to assist water utilities in better managing their systems and swiftly responding to potential issues by providing real-time data on water use and quality. When off-the-shelf hardware is unavailable or does not meet the application's requirements, custom

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Received: 09 November, 2022; **Manuscript No:** CSJ-23-87560; **Editor assigned:** 12 November, 2022, **PreQC No:** P-87560; **Reviewed:** 23 November, 2022, **QC No:** Q-87560; **Revised:** 28 November, 2022, **Manuscript No:** R-87560; **Published:** 02 December, 2022, **DOI:** 10.37421/2150-3494.2022.13.323

hardware is frequently developed. For instance, if a company requires sensors with particular performance characteristics or needs to integrate the hardware into a larger system with particular requirements, it may develop custom hardware. Creating custom hardware can be more expensive than using pre-made hardware, but it may be necessary in situations where commercial products lack the necessary capabilities or features [3,4].

Discussion

It is common practice to develop one's own solutions with the Raspberry Pi due to its low cost and relatively simple operation. The Raspberry Pi (RP) is a small, low-cost computer that is ideal for use in projects related to the Internet of Things (IoT), such as those that estimate water quality. A few steps can be taken to use a Raspberry Pi for IoT water quality estimation: Installing the necessary software on the Raspberry Pi, such as an operating system like Raspbian and any necessary libraries or tools for the project, such as libraries for interacting with sensors or other hardware and programming languages like Python or Julia. The Raspberry Pi's connection to the internet-wired or wireless-so that it can join an Internet of Things network with other devices and services [5].

Conclusion

Utilizing a Raspberry Pi for IoT and water quality estimation may have some potential drawbacks. These are some insufficient processing power: Due to its relatively low power consumption, the Raspberry Pi may not be able to perform complex or resource-intensive tasks like advanced machine learning or data analysis algorithms. Limited options for connectivity: The Raspberry Pi may not be able to communicate with other devices or services in an IoT network because it does not support all types of connectivity, like cellular and satellite. Limited support for sensors: Some sensors, such as pH, Eh, or oxygen electrodes, may not be supported by the Raspberry Pi itself, necessitating the use of additional hardware or software to interface with them. Lack of dependability: Because it is a single-board computer, the Raspberry Pi is susceptible to damage or failure if it is not handled or maintained appropriately.

Acknowledgement

None.

Conflict of Interest

None.

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How to cite this article: Ramky, Manoh. "Electrolysis of Real Seawater: Selectivity of Oxygen Evolution Reaction on Carbon Cloth-Supported-MnO₂ Nanosheets." *Chem Sci J* 13 (2022): 323.