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NATIONAL METROLOGY TECHNICAL SPECIFICATION OF THE

PEOPLE'S REPUBLIC OF CHINA

JJF 1910-2021

Calibration specification for electrochemical workstation

电化学工作站校准规范

(English Translation)

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9 Recalibration interval(4)

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Introduction

JJF 1071 "Rules for the Compilation of National Metrology Calibration Specifications", JJF 1001 "General Metrology Terms and Definitions" and JJF 1059.1 "Assessment and Representation of Measurement Uncertainty" together constitute the basic series of

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regulations supporting the formulation of this specification.

Fan. This specification is compiled with reference to YY/T 1074-2002 "Pitting Corrosion Potential of Stainless Steel Products for Surgical Implants".

This specification is published for the first time.

Electrochemical Workstation Calibration Specifications

1 Scope

This specification applies to the analysis of the electrochemical properties of substances, equipped with a three-electrode system, with potentiostatic and cyclic voltammetry calibration of the electrochemical workstation.

2 Reference documents this specification references the following documents.

JJF 1059.1-2012 Evaluation and representation of measurement uncertainty YY/T 1074-2002 Pitting corrosion potential of stainless steel products for surgical implants for dated references, only the dated version applies to this specification; for undated references files, the latest version of which applies to this specification.

3 Terminology

3.1 Working electrode Electrodes to be studied and measured in electrochemical systems.

3.2 Reference electrode an electrode with a stable repetitive potential value can use its potential value as a reference potential to measure the potential of other electrodes.

potential value.

3.3 auxiliary electrode Another electrode used to energize the working electrode.

4 Overview

The electrochemical workstation is a multifunctional electrochemical analysis system, which can accurately control the electrochemical reaction potential and According to different methods, changes in signal parameters such as current are detected. There are many kinds of analysis methods, and the commonly used analysis methods are.

Cyclic voltammetry, AC voltammetry, amperometric titration and potentiometric titration, etc. Instruments typically consist primarily of fast digital signals generator, high-speed data acquisition system, potential current signal filter, multi-stage signal gain, IR drop compensation circuit, etc.

And potentiostat, galvanostat and other components.

5 Metrology characteristics the electrochemical workstation calibration items and technical indicators are shown in Table 1.

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