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General rules for quantitative nuclear magnetic resonance spectroscopy

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Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

General rules for quantitative nuclear magnetic resonance spectroscopy

1 Scope

This Japanese Industrial Standard defines the general rules for applying quantitative nuclear magnetic resonance (qNMR) using proton (^{1}H) nuclei to perform quantitative analysis based on the internal standard method to analyze the content and purity of chemical substances. This method is applicable to materials that have non-exchangeable ^{1}H nuclei and are dissolved in a solvent.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 7609 *Weights*

JIS K 0050 *General rules for chemical analysis*

JIS K 0211 *Technical terms for analytical chemistry (General part)*

JIS K 0215 *Technical terms for analytical chemistry (Analytical instrument part)*

ISO 17034 *General requirements for the competence of reference material producers*

3 Terms and definitions

For the purpose of this Standard, the terms, definitions, symbols, and abbreviations given in **JIS K 0050, JIS K 0211,** and **JIS K 0215** and the following apply.

3.1

nuclear magnetic resonance (NMR)

resonance phenomenon of the absorption of radio frequency radiation by nuclei in a magnetic field

3.2

quantitative NMR (qNMR)

quantitative analysis using NMR spectroscopy

3.3

^{1}H quantitative NMR (^{1}H qNMR)

quantitative NMR spectroscopy using protons (^{1}H) as the observed nuclei

3.4

signal