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(71) 申请人: 何 滢 洁 (HE, Yingjie) [CN/CN]; 中国上海市浦东新区浦建路 60 弄 24 号 301 室, Shanghai 200127 (CN)。

(72) 发明人: 及

(71) 申请人: 何 高 荣 (HE, Gaorong) [CN/CN]; 中国上海市浦东新区浦建路 60 弄 24 号 301 室, Shanghai 200127 (CN)。

(74) 代理人: 上海科律专利代理事务所 (特殊普通合伙) (SHANGHAI KELV PATENT AGENCY,

LLP); 中国上海市徐汇区漕宝路 70 号 C 座 1004 室, Shanghai 200235 (CN)。

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(54) Title: MEASUREMENT METHOD AND SYSTEM FOR PRECIPITATION SPEED OF INORGANIC SALT IN WATER, ELECTRONIC DEVICE, AND STORAGE MEDIUM

(54) 发明名称: 一种水中无机盐析出速度的检测方法及检测系统、电子设备、存储介质

- S1 获取待测水中析出无机盐的种类, 待测水中无机碳甲基橙碱度 (Cmalk)、pH 值、总溶解无机碳 (DIC) 三者之一, 总溶解固体含量 (TDS), 目标无机盐贡献非无机碳甲基橙碱度的元素及其含量;
- S2 在密闭恒温恒压环境下连续检测待测水中二氧化碳浓度 (CO_{2w}) 或其平衡的气相二氧化碳浓度 (PCO₂) 随时间的变化值;
- S3 根据步骤 S1 和步骤 S2 获取的数据获得目标无机盐的析出量;
- S4 根据步骤 S3 获取的析出量及 S2 中的时间获得目标无机盐的析出速度。

图 1

- S1 Obtain the type of an inorganic salt precipitated in water to be measured, one of inorganic carbon methyl orange alkalinity (Cmalk), a pH value, and total dissolved inorganic carbon (DIC) in said water, a total dissolved solid (TDS) content, an element of a target inorganic salt contributing to non-inorganic carbon methyl orange alkalinity and the content of the element
- S2 Continuously measure a change value of a carbon dioxide concentration (CO_{2w}) in said water or a carbon dioxide concentration (PCO₂) in a gas phase in balance with said water over time in a closed constant-temperature and constant-pressure environment
- S3 Obtain the precipitation amount of the target inorganic salt according to data obtained in step S1 and step S2
- S4 Obtain the precipitation speed of the target inorganic salt according to the precipitation amount obtained in step S3 and the time in S2

(57) Abstract: Disclosed in the present invention are a measurement method and system for the precipitation speed of an inorganic salt in water, an electronic device, and a storage medium. The measurement method comprises the following steps: S1: obtaining the type of an inorganic salt precipitated in water to be measured, one of inorganic carbon methyl orange alkalinity (Cmalk), a pH value, and total dissolved inorganic carbon (DIC) in said water, an element of a target inorganic salt contributing to non-inorganic carbon methyl orange alkalinity and an initial content of the element; S2: continuously measuring a change value of a carbon dioxide concentration (CO_{2w}) in said water or a carbon dioxide concentration (PCO₂) in a gas phase in balance with said water over time in a closed constant-temperature and constant-pressure environment; S3: obtaining the precipitation amount of the target inorganic salt according to data obtained in step S1 and step S2; and S4: obtaining the precipitation speed of the target inorganic salt according to the precipitation amount obtained in step S3. Provided is a measurement method for the precipitation speed of an inorganic salt in water that achieves less manual intervention, a small measurement lower limit, and high precision.

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PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG)。

根据细则4.17的声明:
— 发明人资格(细则4.17(iv))

本国际公布:
— 包括国际检索报告(条约第21条(3))。

(57) 摘要: 本发明公开了一种水中无机盐析出速度的检测方法及检测系统、电子设备、存储介质, 所述检测方法包括如下步骤: **S1**: 获取待测水中析出无机盐的种类, 待测水中无机碳甲基橙碱度 (C_{malk})、pH值、总溶解无机碳 (DIC) 三者之一, 目标无机盐贡献非无机碳甲基橙碱度的元素及其初始含量; **S2**: 在密闭恒温恒压环境下连续检测待测水中二氧化碳浓度 (CO_{2w}) 或与其平衡的气相二氧化碳浓度 (PCO_2) 随时间的变化值; **S3**: 根据步骤**S1**和步骤**S2**获取的数据获得目标无机盐的析出量; **S4**: 根据步骤**S3**获取的析出量获得目标无机盐的析出速度。提供了一种人工干预少, 检测下限低、精度高的水中无机盐析出速度的检测方法。