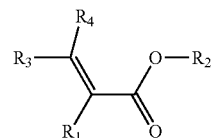




US 20230231191A1

(19) **United States**(12) **Patent Application Publication****Wang et al.**(10) **Pub. No.: US 2023/0231191 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **ELECTROLYTE AND ELECTROCHEMICAL
DEVICE THEREOF AND ELECTRONIC
DEVICE****H01M 4/525** (2006.01)**H01M 10/0525** (2006.01)**H01M 4/58** (2006.01)(71) Applicants: **Envision Dynamics Technology
(Jiangsu) Co., Ltd.**, Jiangsu (CN);
**Envision Intelligent Innovation
Dynamics Technology (Shanghai)
Ltd.**, Shanghai (CN)(52) **U.S. Cl.**
CPC **H01M 10/0566** (2013.01); **H01M 4/364**
(2013.01); **H01M 4/587** (2013.01); **H01M**
4/505 (2013.01); **H01M 4/525** (2013.01);
H01M 10/0525 (2013.01); **H01M 4/5825**
(2013.01); **H01M 2004/027** (2013.01)(72) Inventors: **Renhe Wang**, Shanghai (CN); **Ziyuan
Wang**, Shanghai (CN); **Le Yu**,
Shanghai (CN)(57) **ABSTRACT**The disclosure discloses an electrolyte and an electrochemi-
cal device thereof, and an electronic device. The electrolyte
includes a compound represented by formula (I):(73) Assignees: **Envision Dynamics Technology
(Jiangsu) Co., Ltd.**, Jiangsu (CN);
**Envision Intelligent Innovation
Dynamics Technology (Shanghai)
Ltd.**, Shanghai (CN)(21) Appl. No.: **18/009,991**(22) PCT Filed: **May 27, 2022**(86) PCT No.: **PCT/CN2022/095586**

§ 371 (c)(1),

(2) Date: **Dec. 13, 2022**(30) **Foreign Application Priority Data**

May 28, 2021 (CN) 202110592885.9

Publication Classification(51) **Int. Cl.****H01M 10/0566** (2006.01)**H01M 4/36** (2006.01)**H01M 4/587** (2006.01)**H01M 4/505** (2006.01)wherein R_1 , R_3 , and R_4 are each independently selected from
hydrogen, a cyano group, a substituted or unsubstituted
 C_{1-12} hydrocarbon group, a substituted or unsubstituted
 C_{1-12} carboxy group, a substituted or unsubstituted C_{6-26} aryl
group, a substituted or unsubstituted C_{2-12} amide group, a
substituted or unsubstituted C_{0-12} phosphate group, a sub-
stituted or unsubstituted C_{0-12} sulfonyl group, a substituted
or unsubstituted C_{0-12} siloxy group or a substituted or
unsubstituted C_{0-12} boronate group, when being substituted,
a substituent includes a halogen atom. The electrolyte of the
disclosure may improve the high-temperature cycle perfor-
mance and room-temperature cycle performance while
reducing the internal resistance of the electrochemical
device.