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Abbreviations

LIB : Li-ion battery
LICs : Lithium-ion capacitors
EVs : Electric vehicles
SEs : Solid electrolytes
FICs : Fast ionic solids
NASICONs : Sodium Superionic Conductors
GBI : Grain Boundary Impedance
ASSB : All-Solid-State Batteries
SSC : Short Circuit Current

CSPEs : Composite Solid Polymer Electrolytes
T_g : Transition Temperature
CPE : Composites Polymer Electrolytes
VTF : Vogel-Tamman-Fulcher

SC : Supercapacitor
EDLC : Electrochemical Double-Layer Capacitors
CNT : Carbon Nanotubes

PC : Propylene Carbonate
DEC : Diethyl Carbonate
DME : Dimethyl Carbonate
RPM : Round Per Minute

MWCNT : Multiwalled Carbon Nanotubes
NMP : 1-Methyl-2-pyrrolidinone

SPE : Solid Polymer Electrolyte
PEO : Polyethylene Oxide
EC : Ethylene Carbonate
PC : Propylene Carbonate
PEG : Polyethylene Glycol
SHE : Standard Hydrogen Electrode

ESW : Electrochemical Stability Window
OCV : Open Circuit Voltage
PMMA: Poly(methyl methacrylate)

EC : Ethylene Carbonate

PVA : Poly(Vinyl Alcohol)
PVdF : Poly(Vinylidene Fluoride)
PVACC : Poly(Vinyl Alcohol) Ceramic Composite
CP : Composite Polymer
XAS : Soft X-ray Absorption Spectroscopy
XANES : X-ray Absorption Near-Edge Spectroscopy
XPS : X-ray Photoelectron Spectroscopy
ASSCs : All-Solid-State Supercapacitors
ACs : Activated carbons
FESEM : Field emission scanning electron microscopy
EDX or EDS : Energy Dispersive X-ray Spectroscopy
SXAS : Soft X-ray absorption spectroscopy

XRD : X-ray diffraction

DSC : Differential Scanning Calorimetry

T_g : glass transition

T_m : melting event

KE : kinetic energy

BET : (Brunauer, Emmett, and Teller) technique

STP : Standard Temperature and Pressure

IS : Impedance spectroscopy

JPL : Jonscher power law

ω_p : Hopping Rate

CPE : Constant Phase Element

σ_{dc} : DC Conductivity

LSV : Linear Sweep Voltammetry

CV : Cyclic Voltammetry

GCD : Galvanostatic Charge-Discharge

DSC : Differential scanning calorimetry

σ_{PGB} : Grain Boundary Conductivity

PID-controlled furnace

PMA: Polymethyl Acrylate

:Linear Sweep Voltammetry

EIS : Electrochemical Impedance Spectroscopy

XANES : X-ray absorption near edge structure

EXAFS : extended X-ray absorption fine structure

XPS : X-ray photoelectron spectroscopy

BE : binding energy

FIC : Fast Ionic Conductor

PVDF-HFP : poly(vinylidene fluoride-co-hexafluoropropene)

PAN : Polyacronitrile

GPE : Gel Polymer Electrolyte

EDS : Elemental Distribution Spectroscopy

NTP : $NaTi_2(PO4)_3$

TEABF4 : Tetraethylammonium Tetrafluoroborate

$LiAsF_6$

NZSP : $Na_3Zr_2Si_2PO$

XPS

LLZO : $Li_7La_3Zr_2O$

LLTO : $Li_{0.33}La_{0.557}TiO_3$

LATP : $Li_{1+x}Al_xTi_{2-x}(PO_4)_3$

LTP : $LiTi_2(PO_4)_3$

LATP : $Li_{1.3}Ti_{0.7}Al_{0.3}(PO_4)_3$

NTP : $NaTi_2(PO_4)_3$

NZSP : $Na_3Zr_2Si_2PO_{12}$