

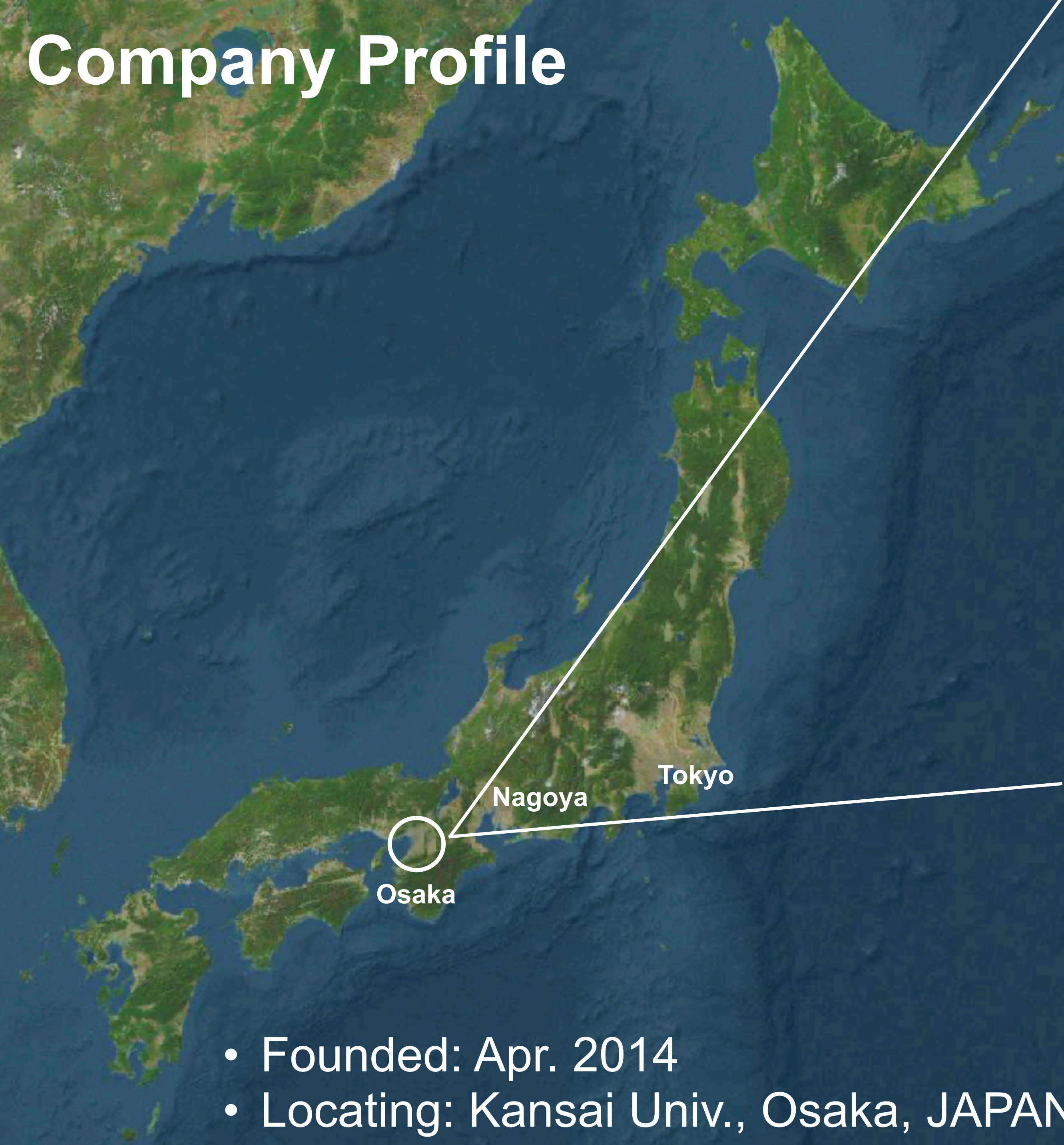


**iELECTROLYTE**

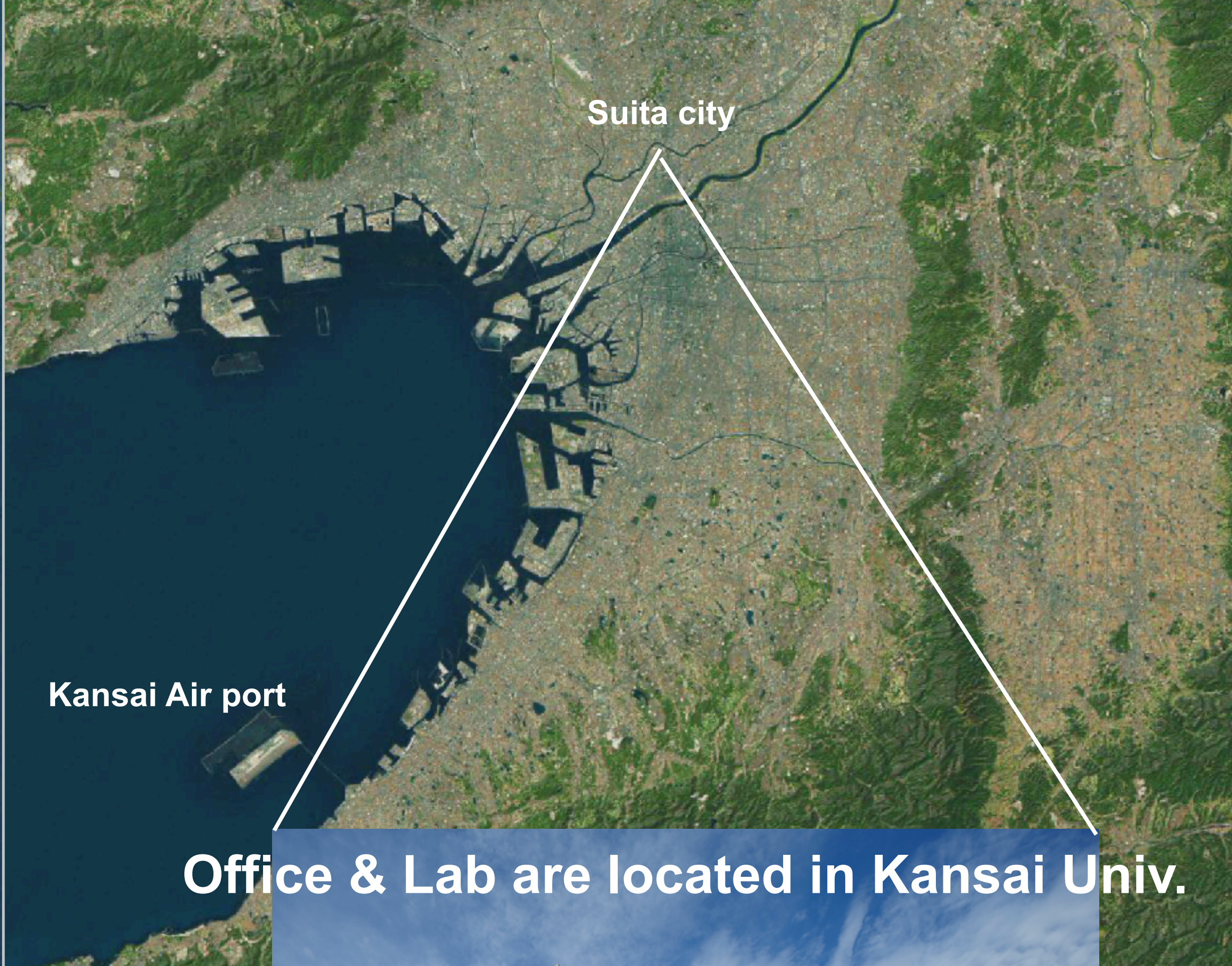
KANSAI JAPAN



# Company Profile



- Founded: Apr. 2014
- Locating: Kansai Univ., Osaka, JAPAN



**Office & Lab are located in Kansai Univ.**





**iElectrolyte accelerates to introduce low-environmental impact water-based positive electrode producing process from lab to market.**

## Business field



Material supply

R&D support

- Process
- Material combination
- Cell test(Coin cell and Pouch cell)

License opportunity

## Our material controls pH condition (pH <10) of water-based positive electrode slurry



- Water soluble
- Dispersants and viscosity agent
- Neutralization characteristic  
**(H<sup>+</sup> functional group)**

\*Additional binder such like emulsion-type is required to prepare electrode  
Our material is not binder.

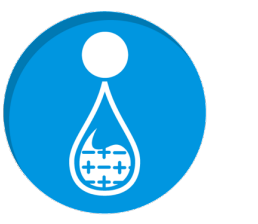
High alkaline condition (pH >10.5)  
→ Al current collector suffers corrosion



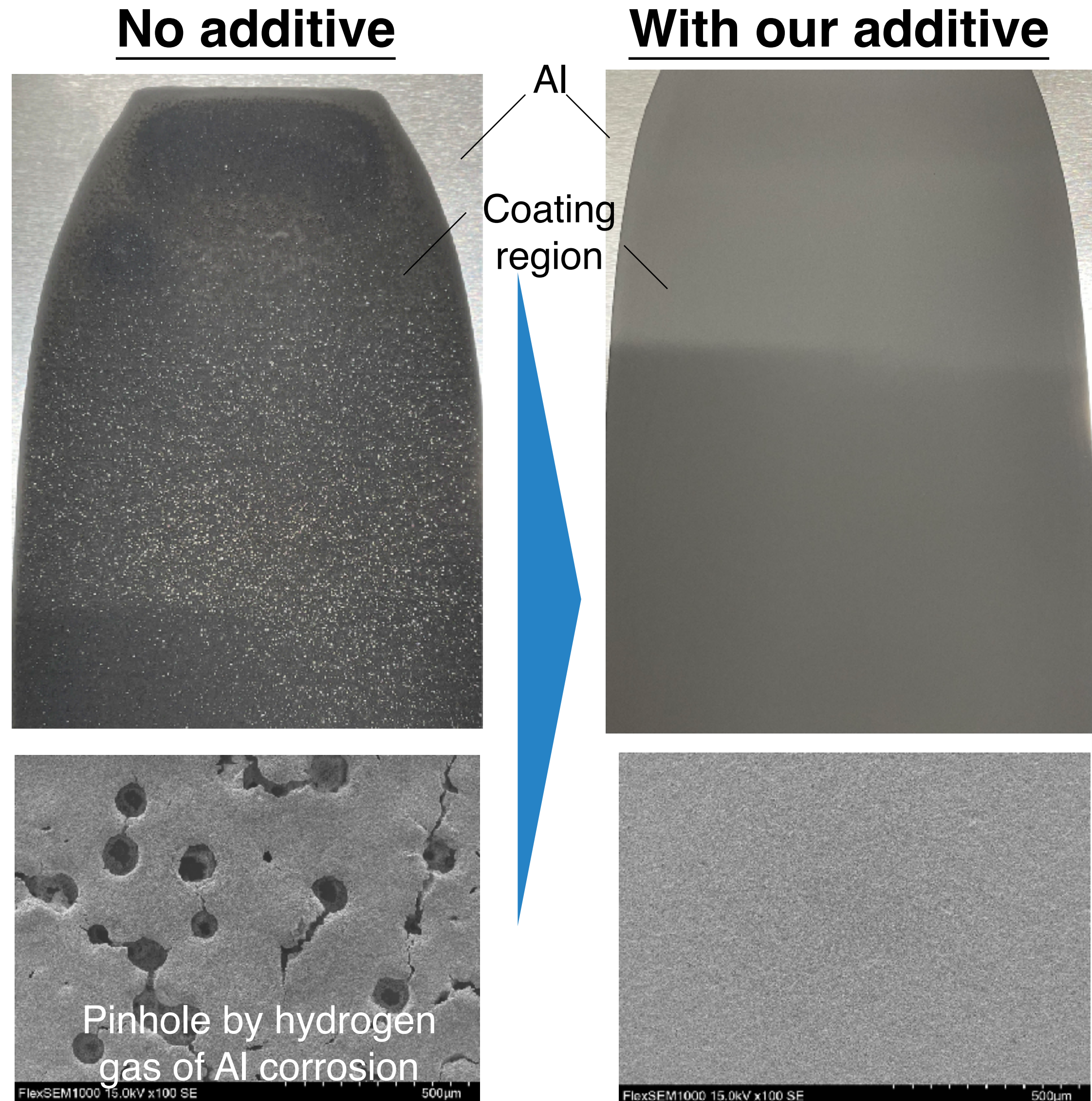
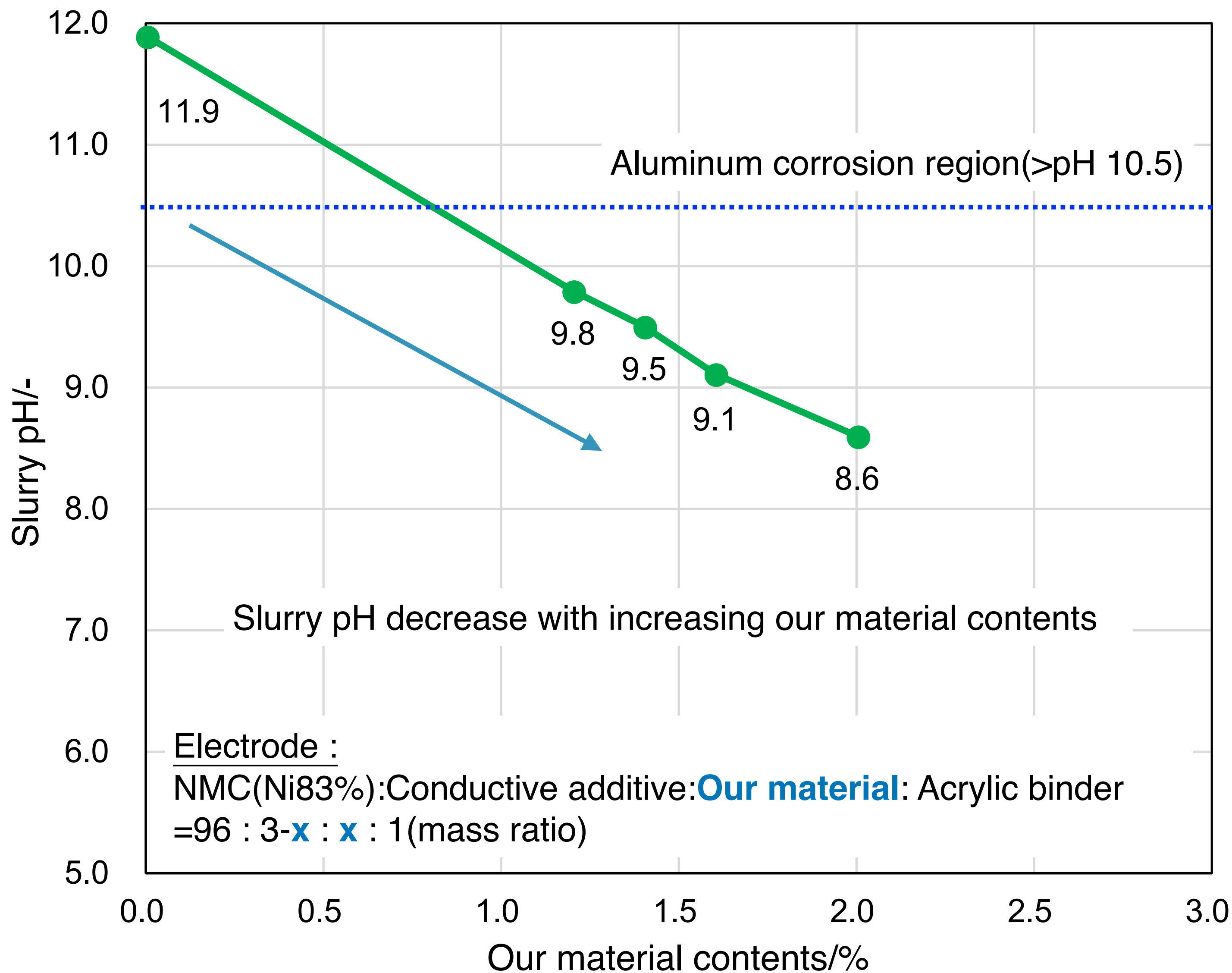
Reducing alkaline content (pH <10)  
→ No Al current collector corrosion



# Impact of our material to aqueous positive electrode slurry pH behavior

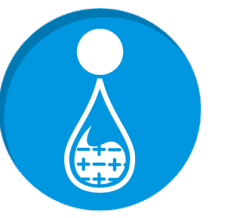


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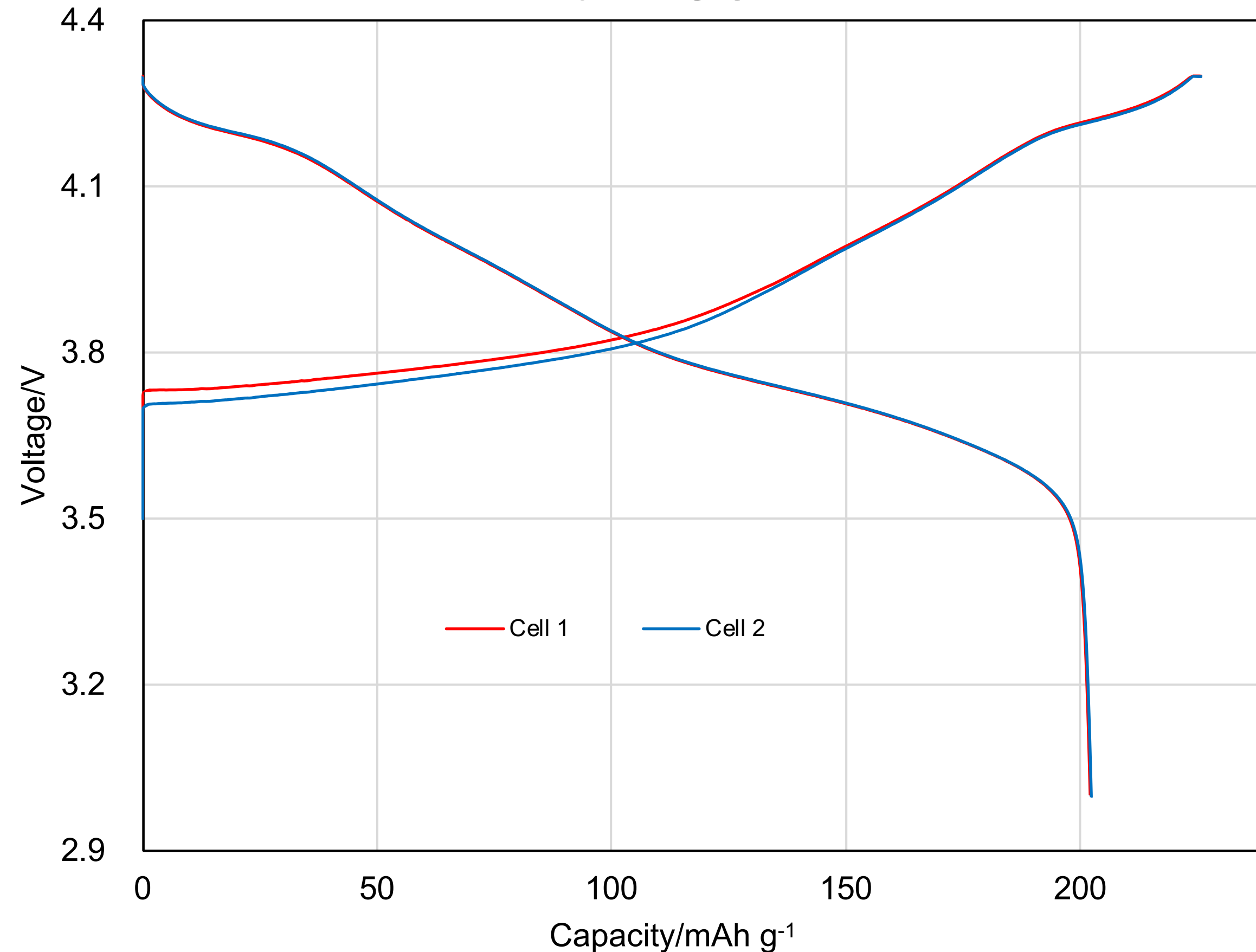


# Electrochemical characteristic

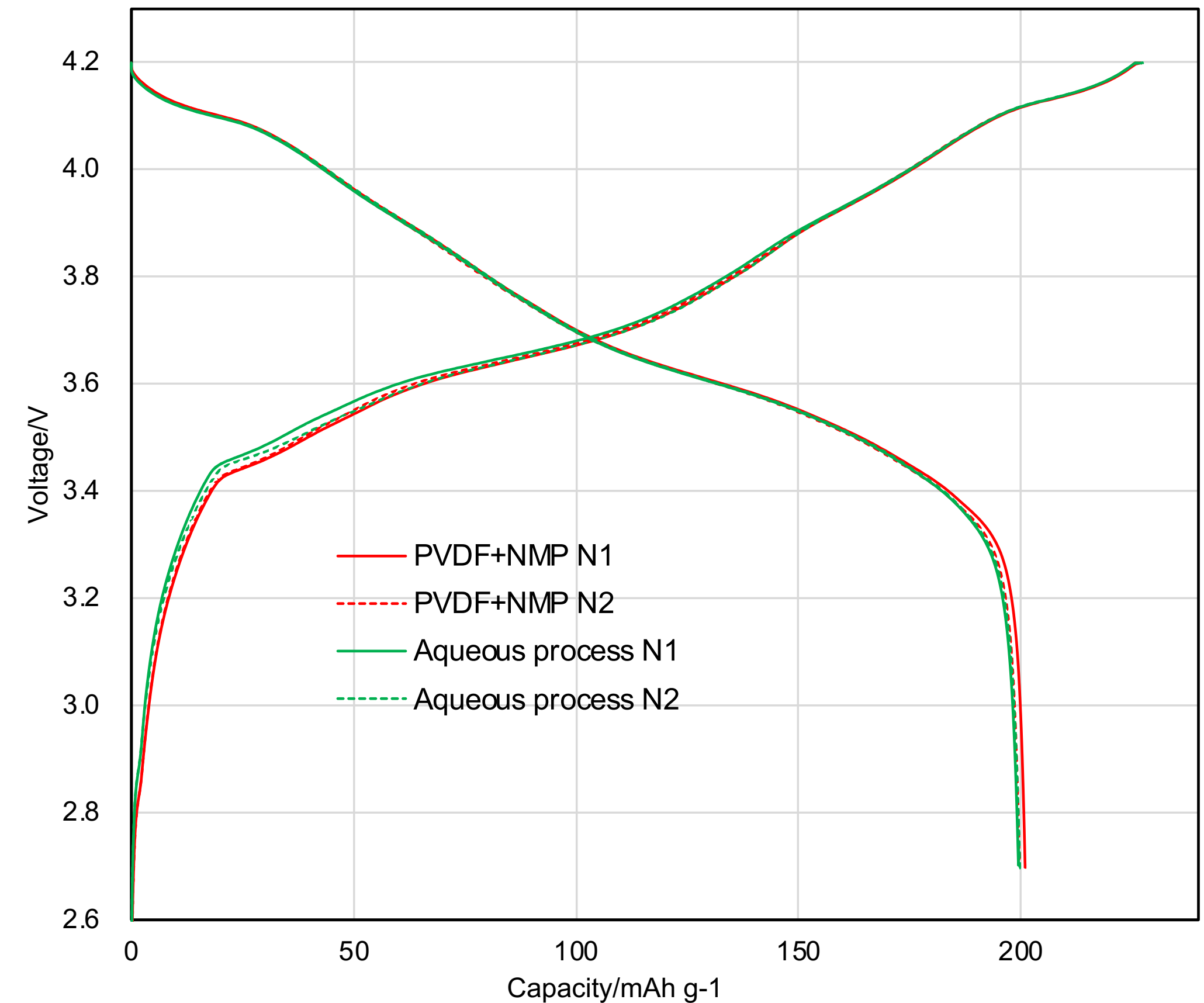


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## Half-cell



## Pouch cell



### Electrode formulation

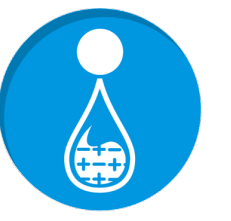
NMC(Ni83%): C65: Our material: Acrylic binder=94.5: 2.0: 2.0: 1.5  
 CE: Lithium foil(13φ)  
 Electrolyte: 1M LiPF<sub>6</sub>/EC:DMC(1:1)  
 Cell: Coin cell

### Cathode :

NMC(Ni83%): C65: PVDF = 96.0 : 2.0 : 2.0 (20 mg/cm<sup>2</sup>)  
 NMC(Ni83%): C65: Our material: Acrylic binder=94.0 : 2.0 : 2.0 : 2.0(20 mg/cm<sup>2</sup>)  
 Anode : Artificial graphite  
 Electrolyte : 1M LiPF<sub>6</sub>/EC:DEC(3:7)+2%VC  
 Cell : Single layer pouch cell 55~60 mAh

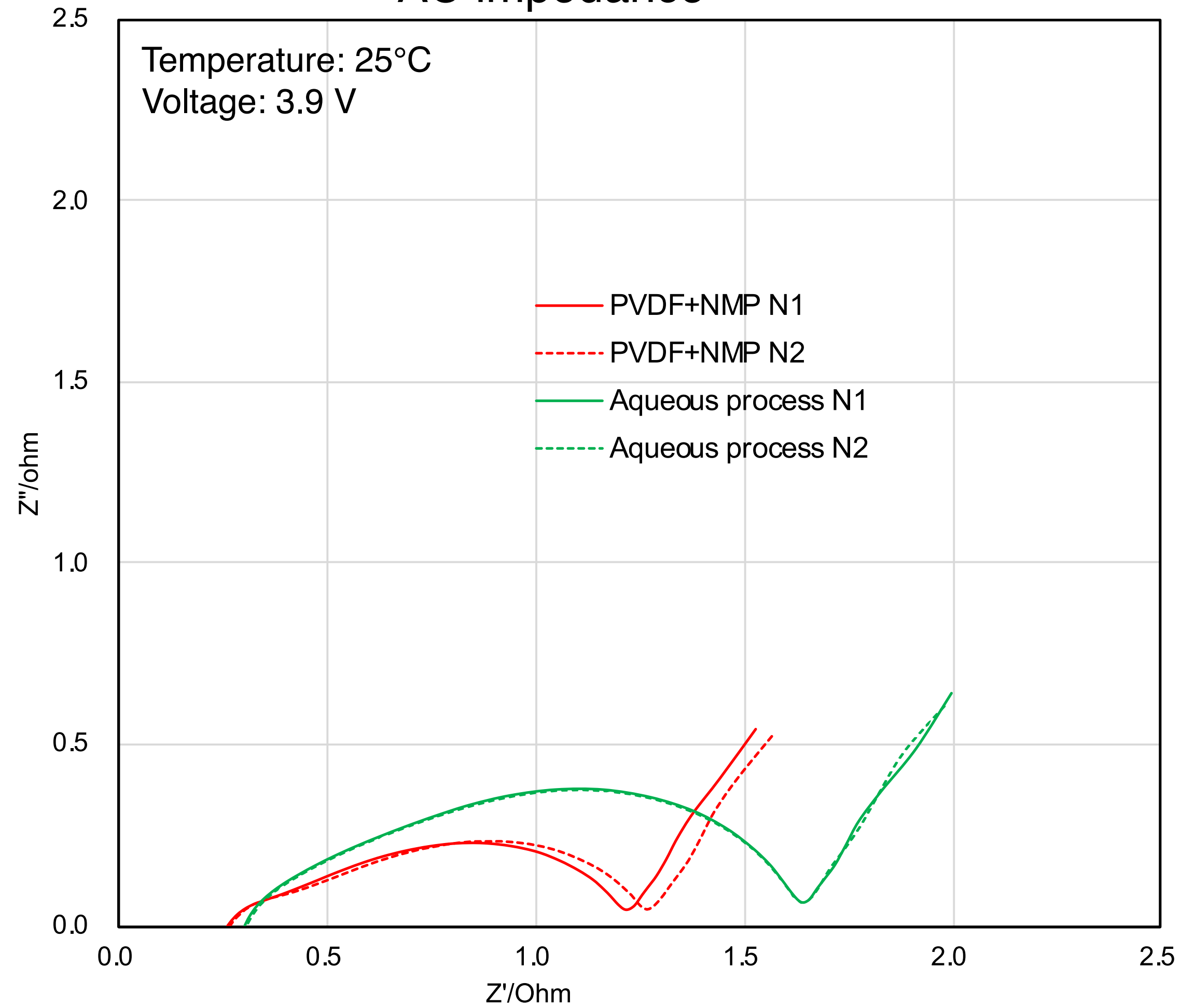


# Electrochemical characteristic

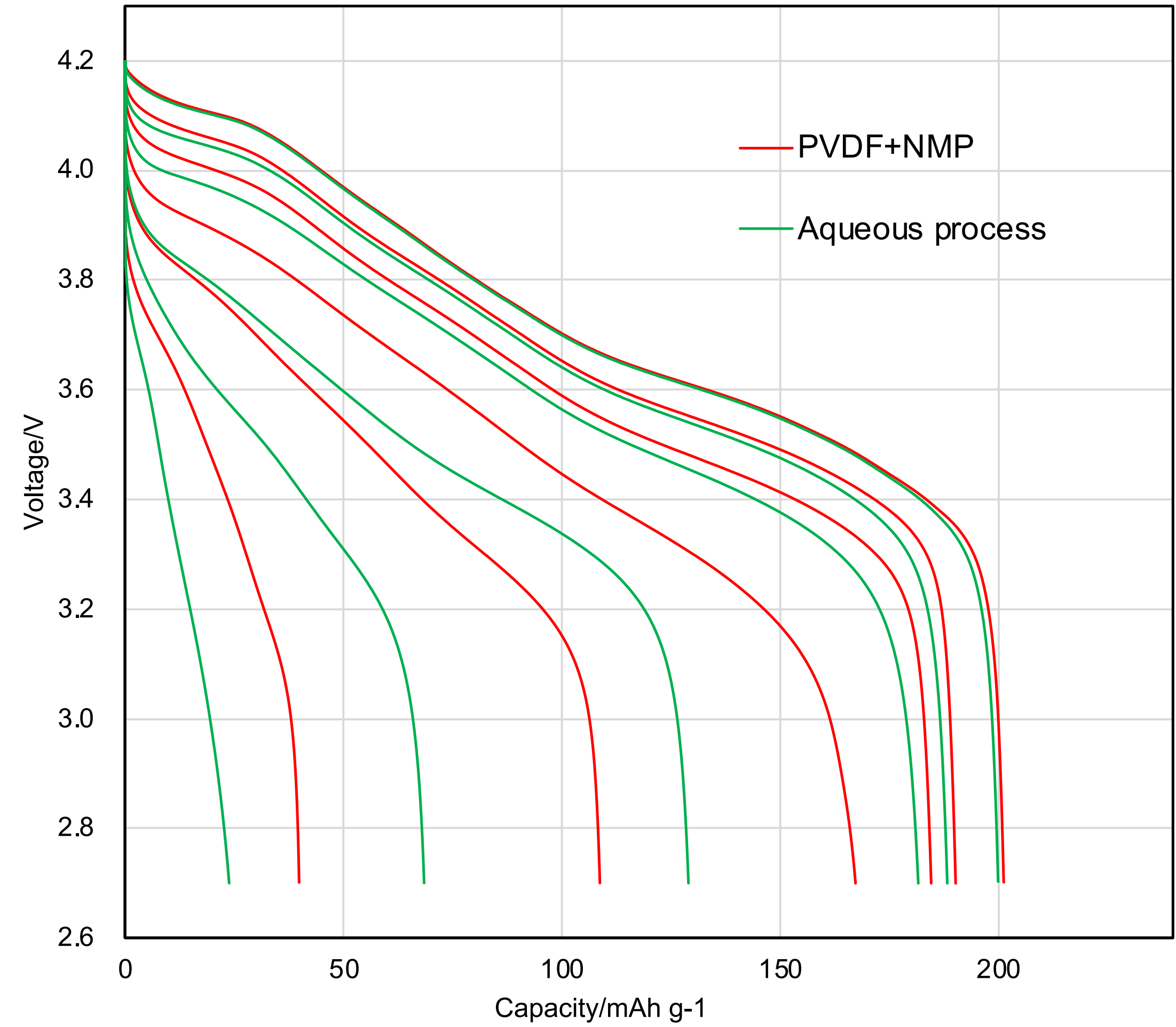


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### AC impedance

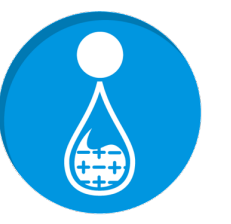


### 25°C 0.1, 0.5, 1, 2, 3, 5C discharge



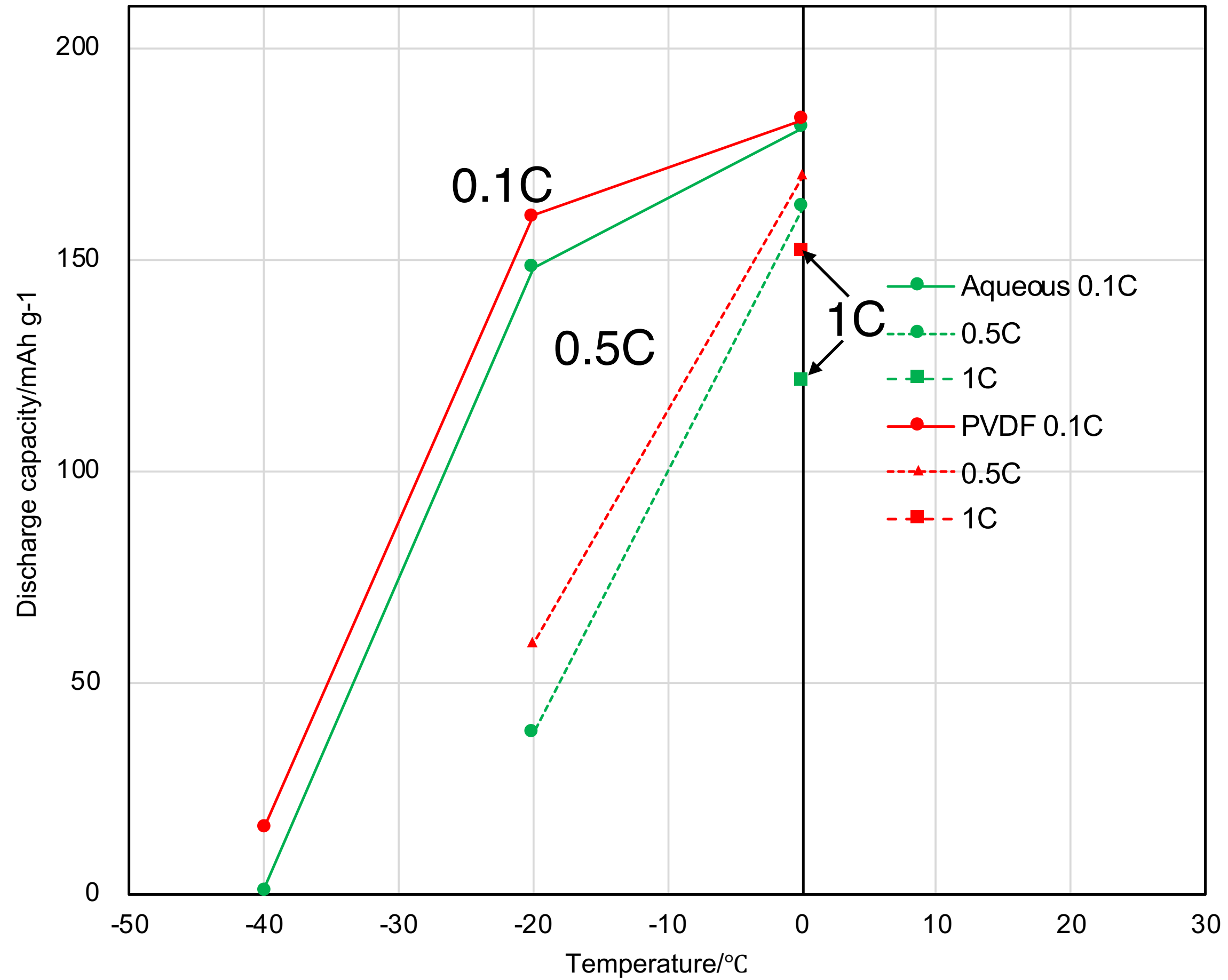


# Electrochemical characteristic

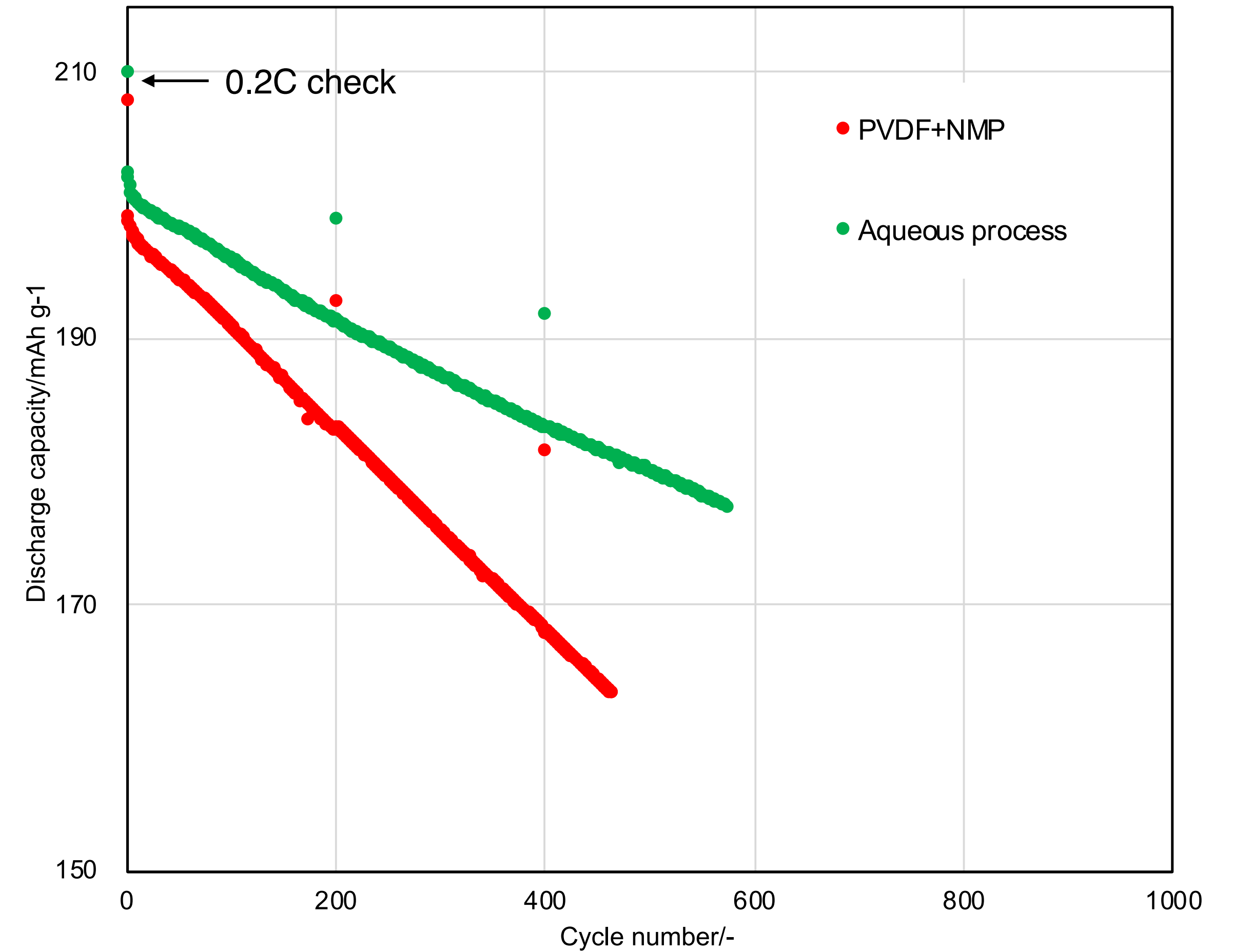


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0, -20, -40°C discharge



60°C 1C/1C cycle(4.2-2.7V)





A satellite in orbit over the Earth, showing the Middle East and surrounding regions. The satellite is positioned in the upper right quadrant of the image, with its solar panels and instruments clearly visible. The Earth's surface is a mix of brown and yellow desert terrain, blue oceans, and white clouds. The satellite is oriented vertically, with its main body and solar panels extending horizontally.

***Creating and growing technology  
Blowing a new wind toward electrochemistry***

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