



# New Chemistry to Enable Tomorrow's Best Batteries

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# You need ~~to redesign our battery~~ a better electrolyte!

We make new electrolyte additives to  
optimize water-based batteries

*Customer improvements we have delivered:*

*+10% Efficiency Increase*

*+20% Capacity Increase*

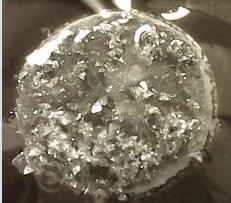



*+100% Cycle Life Increase*

Utilizing our catalog  
of over 300 additives  
we target challenges  
such as:

- Dendritic growth
- Gassing
- Corrosion
- pH stability

...and more

# The Large Impact of Fundamental Molecular Design

	Anode Plating	Anode Polarization (mV)	Hydrogen Evolution Overpotential (mV)	Discharge Capacity Improvement
No Additive		0 (control)	0 (control)	0% (control)
Base Molecule		+190 (Better)	+100 (Good)	0%
+ a Methyl group (-CH <sub>3</sub> )		+160 (Best)	+130 (Better)	22% (Good)
+ a Methoxy group (-OCH <sub>3</sub> )		+210 (Good)	+190 (Best)	89% (Best)

Small adjustments to molecular structure create large differences in performance

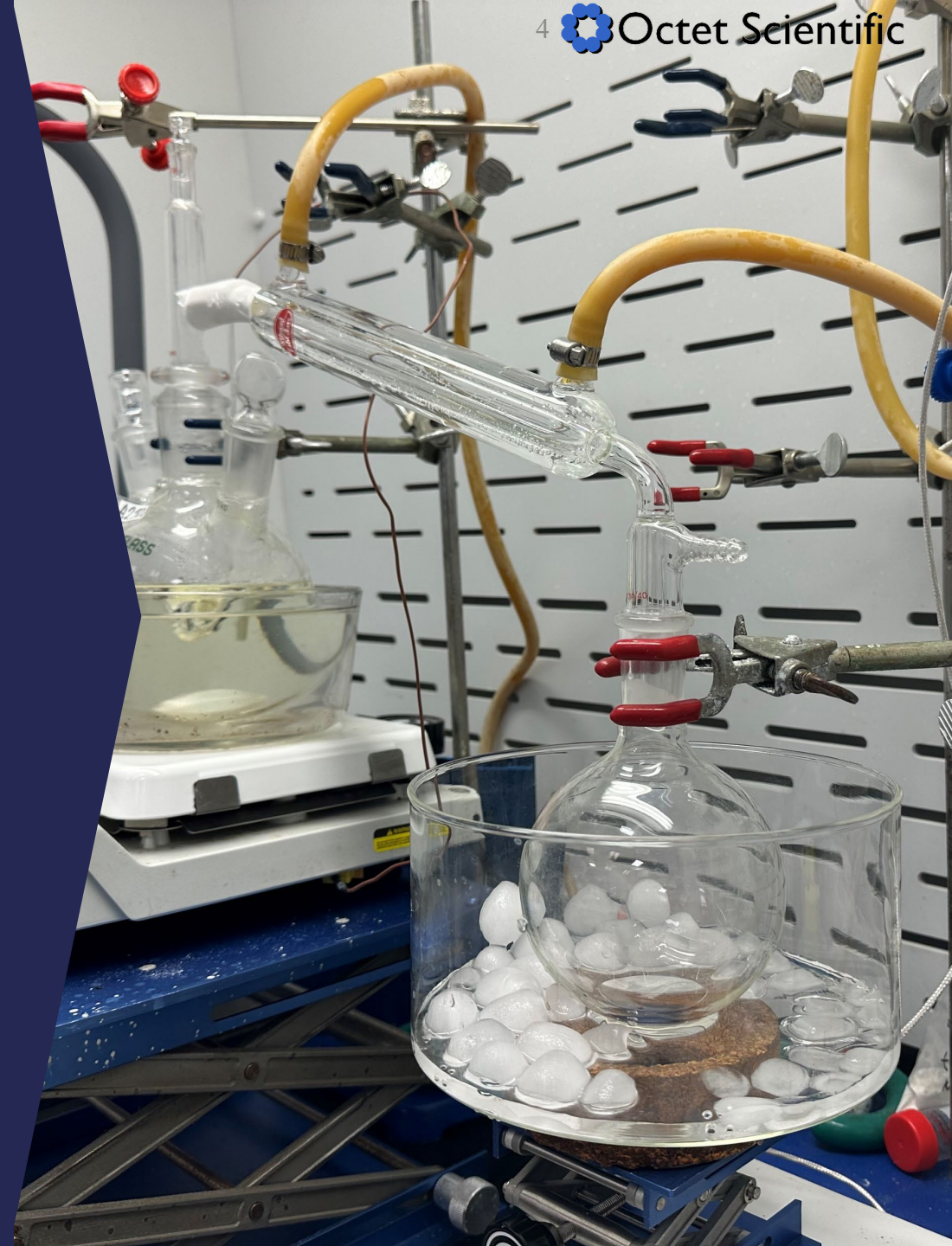
# Molecular-Level Design and Analysis

## Full Synthetic Chemistry Capabilities

- Small molecule synthesis
- Small-batch polymer synthesis

## Chemical Analysis

- Structural: NMR, IR, MALDI
- Purity: GC, AA, GPC, IPC
- Stability: Aging, pH, CV
- Solubility & temperature ranges



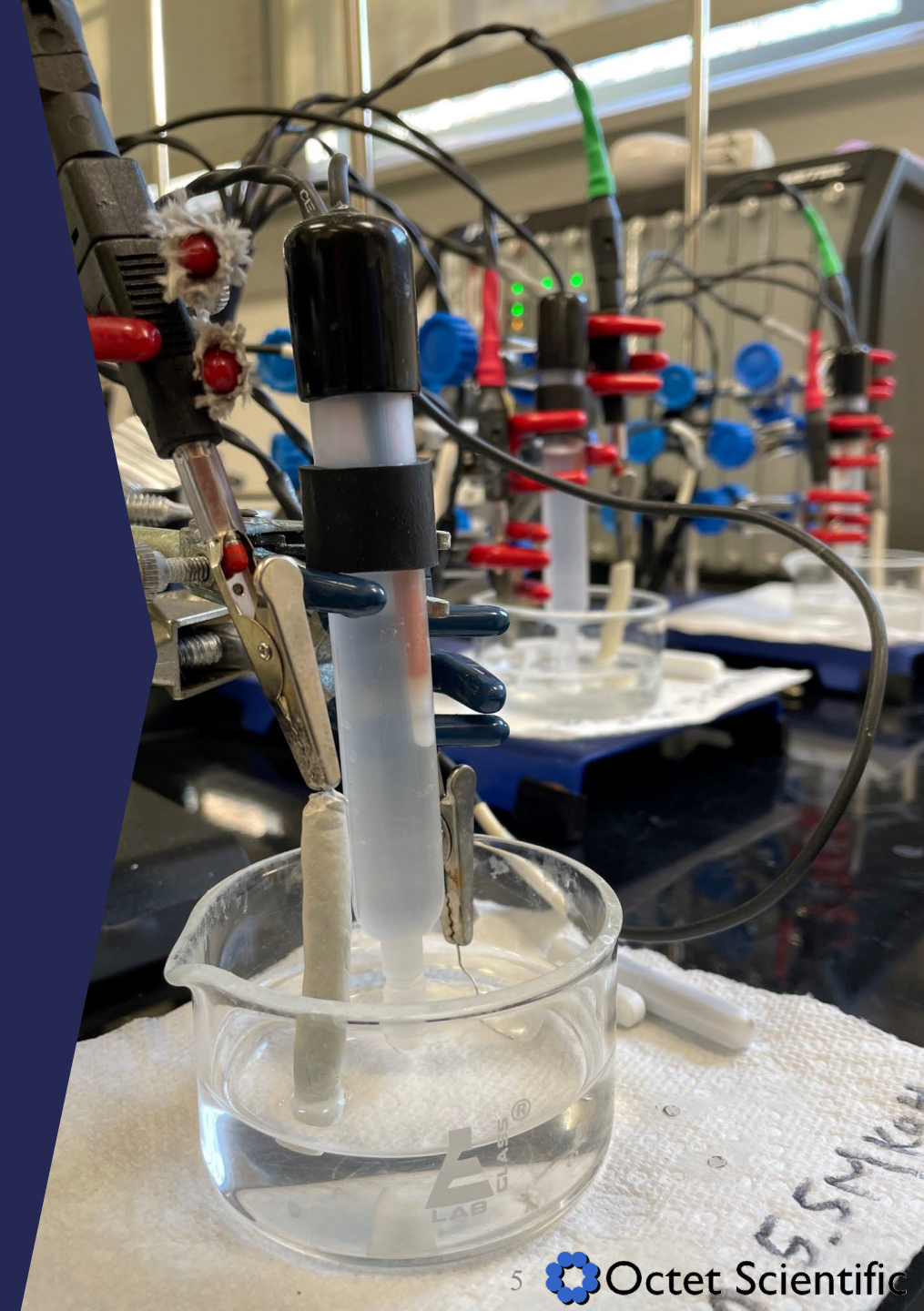
# Rapid Bench Scale Testing

## Electrolyte Physical Analysis

- Static gassing at temperature
- Corrosion
- Material compatibility
- pH stability

## Electrochemical analysis

- EIS
- Linear scan voltammetry: Tafel analysis
- Coulombic efficiency
- Polarization on charge and discharge
- Plating quality (Hull cell)... and more



# 2024 Highlights

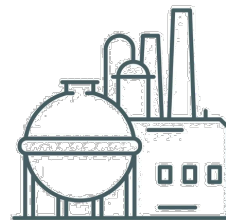
- Collaborations with e-Zinc, Form Energy, ZincFive and others
- Two new patents granted and OctoLyte<sup>®</sup> granted US trademark
- Investment from ICIG Ventures to produce OctoLyte<sup>®</sup> at scale
- Funding from US Depts of Defense and Energy (EnergyWerx)



ZincFive

Form  
energy

ICIG  
Ventures



# WE NEED

# ~~TO REDESIGN OUR BATTERY.~~

## *a Better Electrolyte*

**Getting to your next level shouldn't take a next-generation overhaul.**

**Octet optimizes your electrolyte to transform your technology, no mechanical or electrical changes needed.**

CUSTOMER IMPROVEMENTS WE'VE DELIVERED:

**+20%** CAPACITY INCREASE

**+100%** CYCLE LIFE INCREASE

**+10%** EFFICIENCY INCREASE