

# Lab ACOMP

Transform your polymer R&D with realtime analytics



## Challenges

### Inadequate Resources

PhDs needed to run experiments and analyze data  
Numerous reactions needed to optimize product development

### Intermittent Data

Analytical bottlenecks  
Poor determination of root causes due to lack of insights

### Inefficiency

Slow or ineffective scale up of new product  
Redundant lab work

## Solution

Lab ACOMP is used to monitor the synthesis of new polymer products or optimize existing processes by continuously analyzing polymers during reactions.

## Benefits



### Accelerated Product Development

Faster recipe optimization  
See kinetics in real time  
Synthesize complex molecules



### Modelling/Control

Improved scale-up  
Generate kinetic parameters for modelling  
Implement advanced control strategies directly



### Efficiency

Reduce number of experiments  
Stop reactions when targets are met  
Simple reporting and analysis

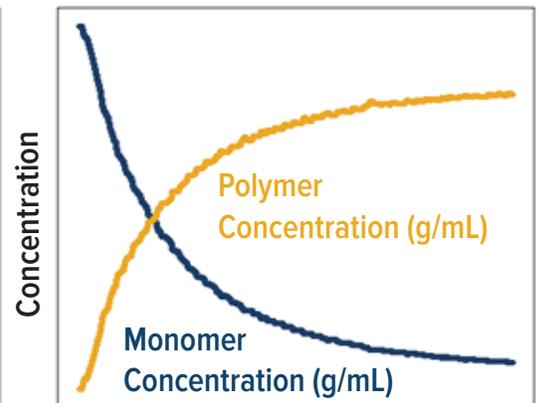
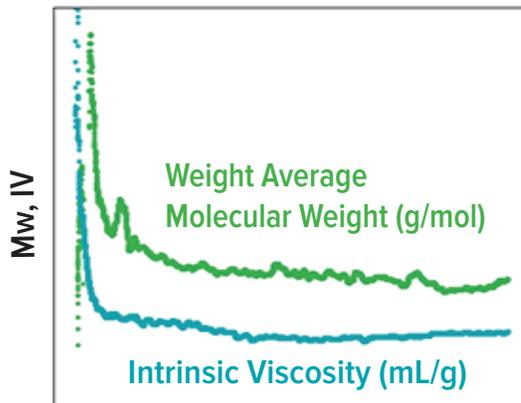


### Safety

ACOMP samples directly from reactor  
Kill toxic reactions remotely  
Abort runaway reactions automatically

## Monitored in Real Time See what is happening, not what happened!

- Molecular Weight
- Intrinsic Viscosity
- Composition
- Monomer Conversion
- Residual Monomer
- Process Anomalies





## ACOMP

### Transform your business with realtime analytics



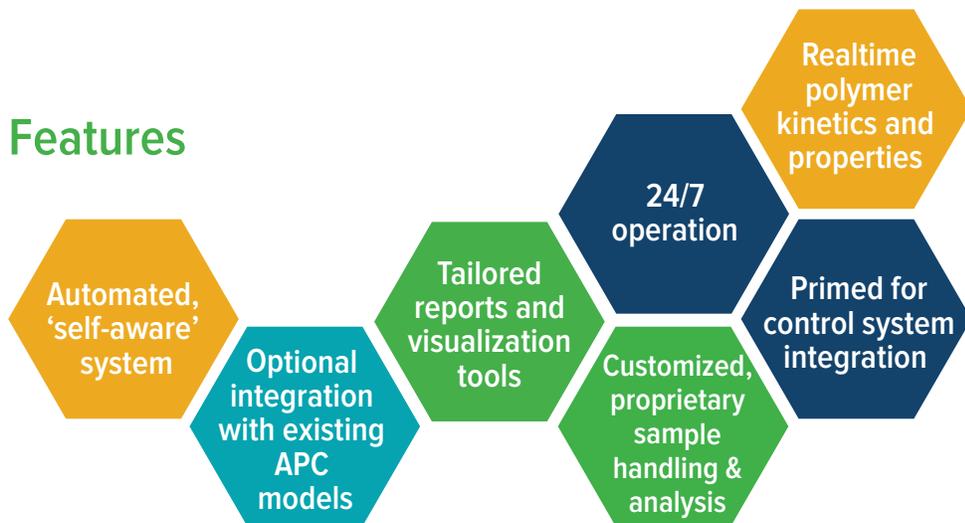
### Challenges

- Poor Control**
  - Lack of realtime data prevents correcting process upsets
  - Reliance on PhDs for modeling and intervention
- Off-Spec**
  - Batch rework and losses
  - Higher inventory
  - Periodic write-offs of dead stock
- Reduced Efficiency**
  - Slow or ineffective scale-up of new product
  - Redundant lab work
  - Poor determination of root causes due to lack of information
- Quality Deviations**
  - Inconsistent batches
  - Customer complaints of shipped “on spec” material with poor properties

### Solution

ACOMP is a smart manufacturing system that continuously analyzes polymers during production. This automated monitoring solution produces realtime data about reaction kinetics and polymer properties.

### Features



### Benefits



Increased Polymer Yield, Quality and Consistency



Reduced Cycle Times, VOCs and Material Usage



Optimized Process Control



Anomaly Detection During Production

### Example of Benefits

Production capacity (tons/klbs)	60,000
Material price (\$/kg or \$/lb)	3
% product cost including labor	50%
% off-spec	4%
% cost of off-spec	60%
% of off-spec reduced by using ACOMP	50%
<b>Value created (annual)</b>	<b>\$1,080,000</b>