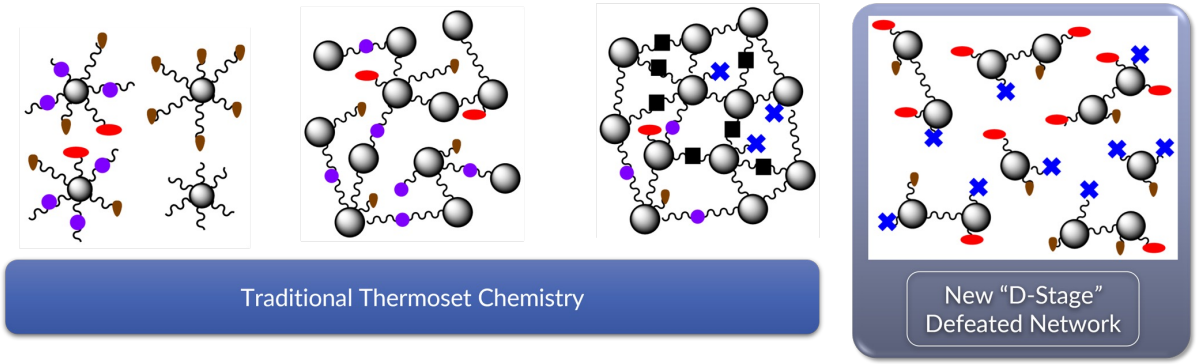
# D-Glue Adhesives – Enabling *Design for Disassembly*

## Concept & Approach

A **circular economy** can only be accomplished through **recovery and reuse** of value-added materials. While manufacturers love glues for the efficiency benefits, they are inherently opposite to the goals of circularity. **D-Glue adhesives** aim to enable *Design for Disassembly* by allowing for commercially relevant glues to be defeated so our products can find new use after we are done.

A Stage → B Stage → C Stage → D Stage



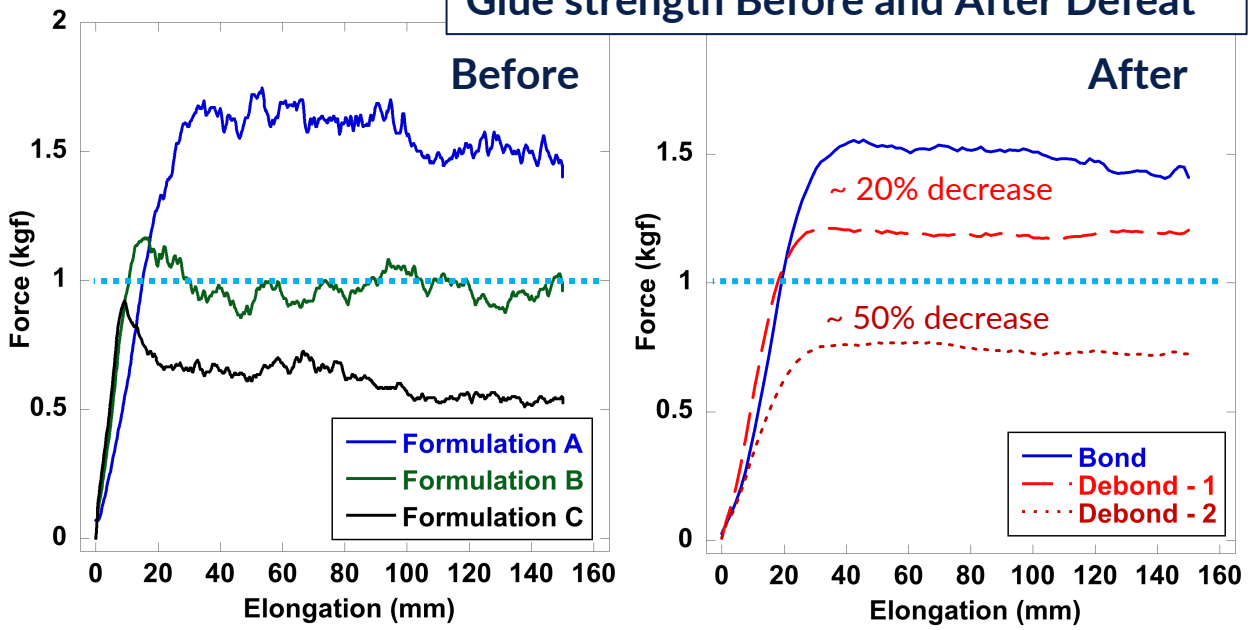

Our patented technology converts polyurethane thermosets with high adhesion and durability to "sticky-note" levels of adhesion – **on demand**. This approach will not only allow the ease of manufacturing using adhesives, but also enables a pathway to **close the loop** in a circular economy for consumer electronics, apparel, packaging, etc. and recover higher value components for repair and refurbishment.

## Status

- Demonstrated proof of concept commercial strength and defeatability
- Created predictive model for formulating different strengths
- Granted patent with two more pending applications
- Working with raw material suppliers, adhesive manufacturers

Current iterations can meet and exceed apparel benchmarks and debonding can be tuned by altering conditions such as time and temperature.

### Glue strength Before and After Defeat




*Note: Data smoothed to aid eye*



US Patent 11,820,926