The specific purposes are:
- To conclude whether spandex, recycled spandex, or Lycra® is most suitable to withstand chlorine
- How chlorine affects these fibers

Swimsuit Lifespan
A swimsuit typical lifespan without chlorine abrasion is one year. External conditions will affect wear and tear. The most obvious external factor is chlorine and saltwater. Detergent, fabric softener, or hot environments (washer and dryer) can affect a swimsuit lifespan. Different surfaces like concrete, dirt, wood, etc., can pill the fabric and lessen the effectiveness.

Chlorine Abrasion
Frequent swimmers know that chlorine will ruin your swimsuit. Over time, the fabric will shred, the color will fade, and the elastic will break down. This will result in high stretch with little recovery. It is expected that a swimsuit will slowly break down if it is not made with strong or chlorine resistant materials. Lycra® is known for being stronger than spandex, and lasting ten times longer.

Swimsuit Care
- Rinse after getting out of water
- Shorten the length of time a swimsuit is enclosed in small spaces when wet
- Air dry flat
- Keep out of direct light when it is not in use

While a swimsuit typically lasts 3 months to a year, the consumer ultimately decides how long it will last purely based off how well it is cared for.

Conclusion and Implication
This study determines the best polyurethane-based fiber to impart better functional properties in bathing suits in terms of stretch, shape retention, breakup in fibers, etc. Bathing suits manufacturers and consumers get benefits out of this study and take informed decisions about their product developments and choices. This study can be furthered by testing samples with saltwater.