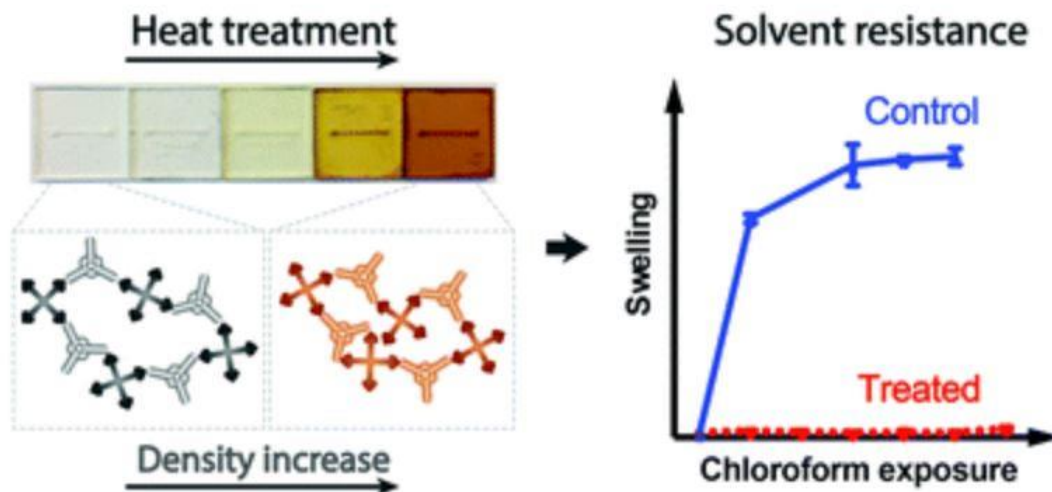


# POLYMERS RESISTANT TO HARSH CONDITIONS

– A method for post-polymerization treatment of thiol-ene based plastics



## Background

Harsh organic solvents make plastics swell, crack, dissolve or disintegrate. Only few plastics show some resistance to such chemicals, and these are often hard to manufacture, expensive and/or non-transparent. We have developed a method, which makes sulfur-containing plastics compatible with organic solvents.

## The invention

The present invention relates to a method for enhancing the lifetime and compatibility of thiol-ene based materials with harsh chemicals. We have developed several methods to modify thiol-ene based polymers after the actual polymerization (i.e. post-polymerization). The methods results in high glass transition temperature, dimensional stability, and preservation of optical transparency.

## Key selling points

- Simple and cost-effective methods
- Methods applicable to many commercially available thiol-ene based materials
- Can be adapted to a large variety of industrial settings
- Compared to glass, thiol-ene based materials allow flexibility and production at a low cost
- Increased compatibility with harsh chemicals
- Applicable as coating/adhesive (hard scratch, insulator or protective layer) for medical equipment, electrical equipment or synthesis reactors.
- The technology is especially suitable for microfluidic applications, where it could be an alternative to glass

## Development status

We have demonstrated that the method improves the resistance of thiol-ene materials to harsh chemicals. We have tested the resistance in particular to dichloromethane, chloroform and acetonitrile.

## Intellectual property rights

Patent application filed