

# PHOTO-GRAFTED PEG SURFACE INTERFACES FOR COMFORT ENHANCED CONTACT LENSES

Tech ID: 34440 / UC Case 2026-079-0

## PATENT STATUS

Patent Pending

## BRIEF DESCRIPTION

Long term wear of corrective eyewear often causes discomfort, dry eyes, and lipid accumulation due to the hydrophobic nature of standard lens materials. To alleviate these issues and improve user comfort, UC Berkeley researchers have developed an innovative manufacturing method to synthesize surface modified soft contact lenses. The technique involves contacting a standard soft contact lens with a functionalized hydrophilic polymer that contains a specific reactive group. When activated under controlled environmental conditions, this reactive group forms a robust covalent bond directly with the surface of the lens body. This process creates a stable, surface confined hydrophilic polymer layer that significantly enhances water retention and biocompatibility without altering the underlying optical properties and oxygen permeability of the lens material.

## SUGGESTED USES

- » Extended wear corrective contact lenses that reduce dryness and irritation during overnight use
- » Therapeutic bandage lenses used to protect the ocular surface and facilitate corneal healing after surgical procedures
- » Ocular drug delivery platforms where the hydrophilic surface layer is engineered to absorb and slowly release localized medications over time
- » Specialized cosmetic and color changing contact lenses with improved moisture retention for prolonged daily wear
- » Prosthetic contact lenses designed to mask corneal abnormalities while maintaining excellent wearer comfort

## ADVANTAGES

- » Enhanced surface wettability that maintains a stable tear film across the lens to prevent dry eye symptoms
- » Superior covalent attachment which ensures the hydrophilic layer remains durable and does not peel or degrade during handling

## CONTACT

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## INVENTORS

» Marriott, Gerard Joseph

## OTHER INFORMATION

### CATEGORIZED AS

- » **Materials & Chemicals**
- » Polymers
- » **Medical**
- » Devices

### RELATED CASES

2026-079-0

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Reduced lipid and protein biofouling to minimize the risk of bacterial eye infections and maintain clear vision

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Preserved core material properties allowing the lens to maintain its original structural flexibility and oxygen transmissibility

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Streamlined manufacturing process that can be readily integrated into existing contact lens production lines without requiring complete retooling

## RELATED MATERIALS

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