

POLYMER SORBENTS THAT SEPARATE HIGH-VALUE METALS

Tech ID: 34138 / UC Case 2025-179-0

PATENT STATUS

Patent Pending

BRIEF DESCRIPTION

The efficient and selective recovery of high-value metals, such as precious metals, from complex fluid streams or industrial waste is a significant challenge in metallurgy and environmental remediation. Existing separation methods often lack sufficient selectivity, resulting in inefficient recovery and high processing costs. This innovation, developed by UC Berkeley researchers, addresses this problem by providing novel polymer sorbents and composite membranes designed for the selective separation and absorption of precious metals in a fluid stream or sample. The disclosure relates to the use of these specially engineered absorbents and composite membranes, which offer superior selectivity for high-value metals. This technology provides a significantly more efficient and environmentally sound method for metal recovery and purification compared to traditional, less-selective chemical or physical separation processes.

SUGGESTED USES

- » Selective recovery of precious metals (e.g., gold, platinum) from mining effluents and leaching solutions.
- » Purification of high-value metal streams in metallurgical processing.
- » Environmental remediation and cleanup of fluid streams contaminated with specific high-value metals.
- » Use as a component in composite membranes for continuous metal separation processes.

ADVANTAGES

- » Offers high selectivity for precious metals, enabling cleaner and more efficient separation.
- » Utilizes polymer sorbents and composite membranes suitable for industrial fluid streams.
- » Can be applied to metal recovery from complex samples or waste fluids.
- » Potential for reduced processing costs due to improved separation efficiency.
- » Represents a novel approach to precious metal separation.

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INVENTORS

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OTHER INFORMATION

CATEGORIZED AS

- » **Environment**
 - » Remediation
- » **Engineering**
 - » Engineering
 - » Other
- » **Materials & Chemicals**
 - » Chemicals
 - » Other
 - » Polymers
 - » Thin Films
- » **Nanotechnology**
 - » Materials

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