

Silk based reusable, mesoporous membrane for recovery of rare-earth elements



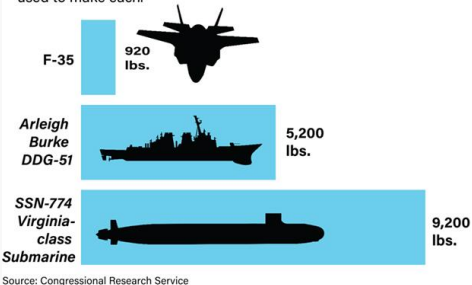
Goal: To design and develop a silk protein-based reusable, mesoporous membrane for recovery of rare-earth elements (REEs)

Motivation

Rare-earth elements are useful ingredients in multitude of electronics and national security related aircrafts/submarine

Rare Ingredients

Here is the breakdown of rare-earth materials used to make each.



Tablets



LCD Screens



Electric Vehicles

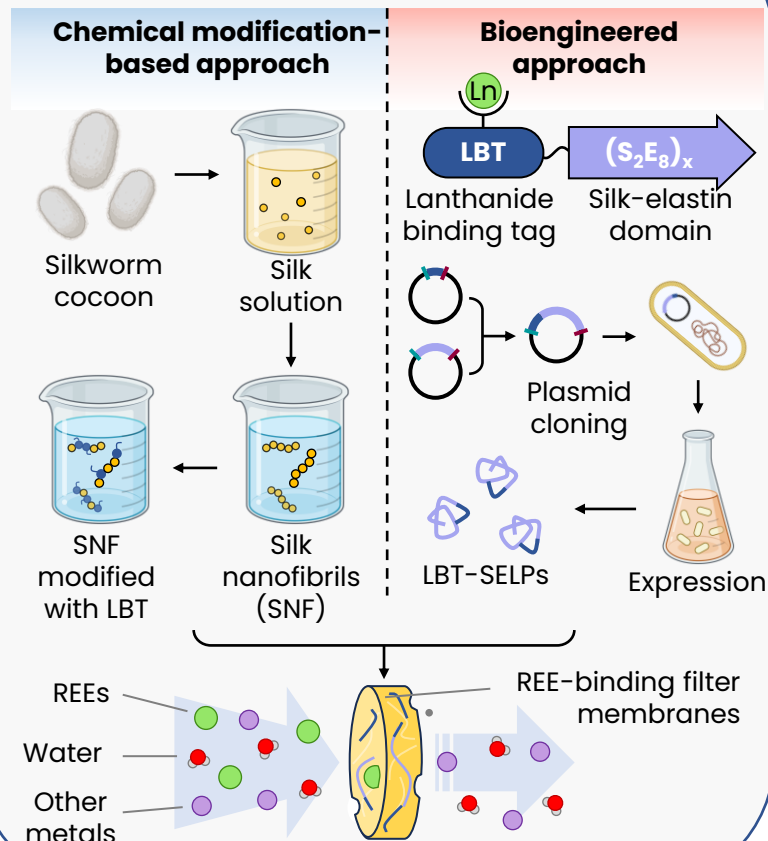


Wind turbines



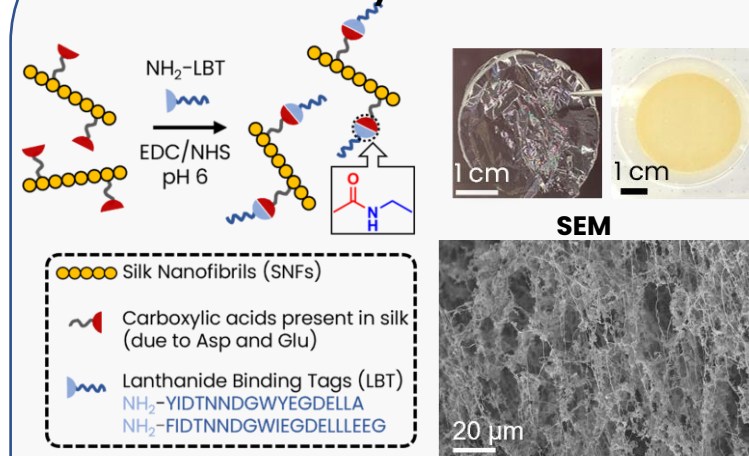
Large accumulation of Electronic waste

Our Approaches



Results

Chemically modified LBTs



Bioengineered LBTs

