

New Method for Separation of Rare Earth Elements

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- Chemical Engineering
- Green Technology

Keywords:

- Chemical Engineering
- Chromatography
- Green Technology
- Ligands
- Rare Earth Elements

Ligand-assisted displacement chromatography can be used to separate rare earth metals. For this process to have a high yield, and high efficiency, many pieces of equipment must be optimized. Right now there is no available method for designing these ligand-assisted displacement machines. Often times it takes trial and error to test them which leads to low yield and low efficiency. They also cannot adapt to changes effectively.

Researchers at Purdue University have developed a new method for designing these ligand-assisted displacement machines. Specifically, it is designed to help separate rare earth metals. This new method allows for easy design using a computer software program. This design method is much faster than the trial and error method used before. The higher efficiency of this method will lead to higher yield, also. This new method can change how efficient the designing of ligand-assisted displacement machines are.

Advantages:

- Efficient
- Higher yield
- Able to adapt

Potential Applications:

- Chromatography
- Ligand-assisted displacement
- Rare earth metals

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