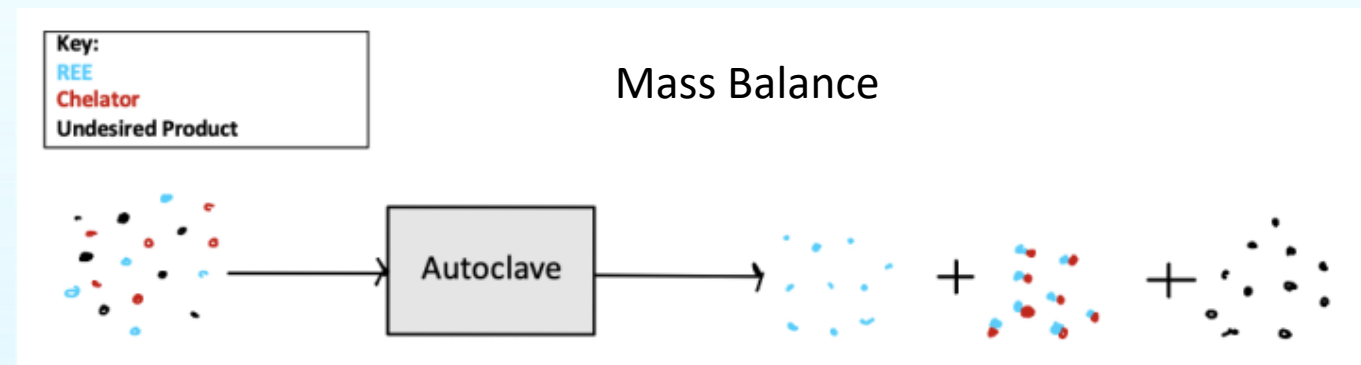
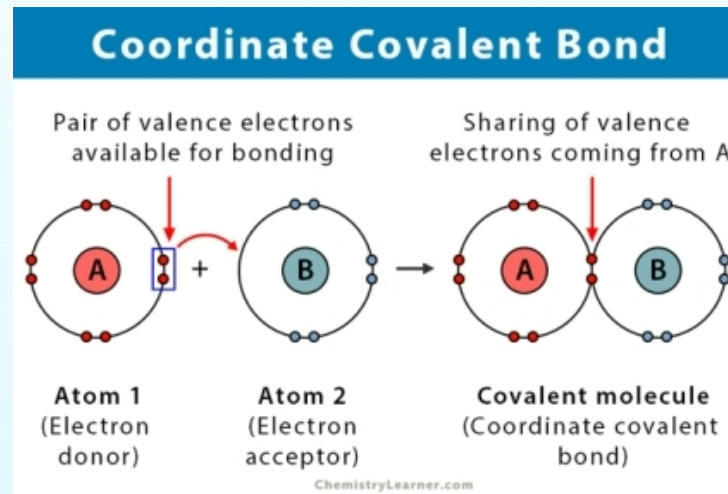


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Approach

Current objective: Observe the yield of REEs recovered from fly ash under various experimental parameters

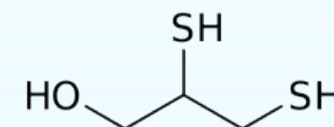
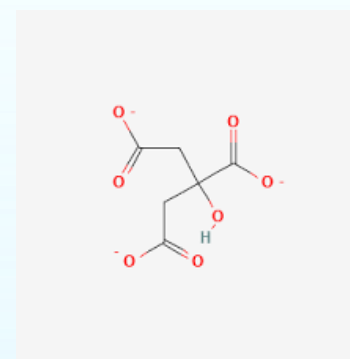
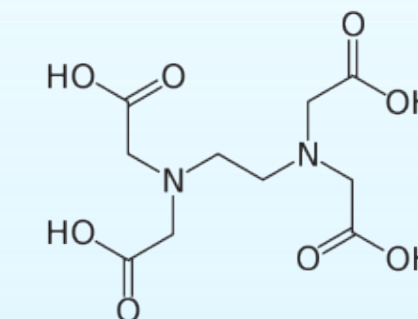
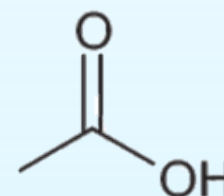
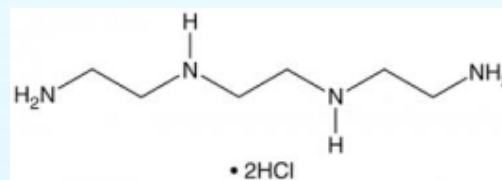
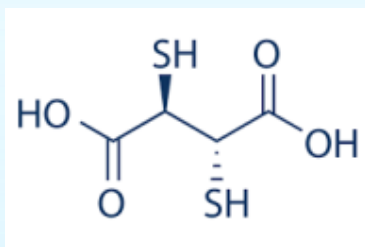


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Current Status and Results (if any)

Literature Review:

- Expanded chelator list
 - Potential advantages or disadvantages
- Little to no information on kinetics, temperature, pressure, thermodynamics
- Selectivity
 - Divalent and covalent

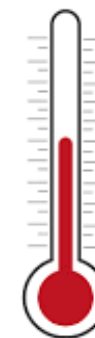
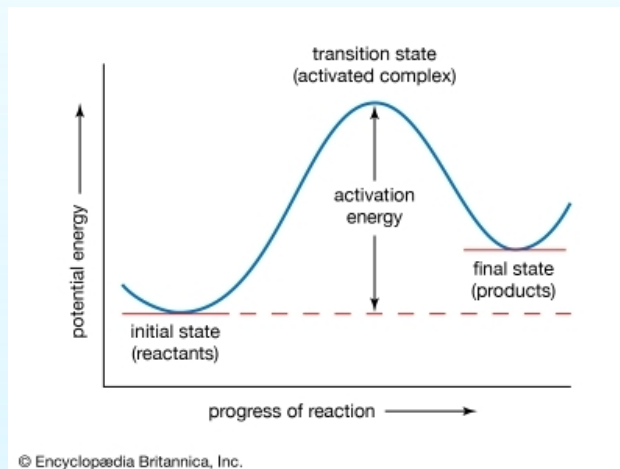


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Impact of Work

Continued literature review and future experimentation can introduce:

- A new understanding on how kinetics, temperature, pressure, and thermodynamics can affect how a chelator behaves
- Which chelators work best under certain conditions
- Which chelators are less hazardous/expensive



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Challenges and Risks / Next Steps and Future Work

- Bringing the REEs market back to the United States
- Not being able to recover high yields or REEs
- Which process works best?
 - Reactor, operation parameters
- Which chelator works best?
 - Selectivity
 - Does selectivity change under kinetics, temperature, pressure, residence time?
 - Ability to bond to REEs and other heavy metals
 - Will it be difficult to remove chelators from REEs? Will chelators digest REEs?