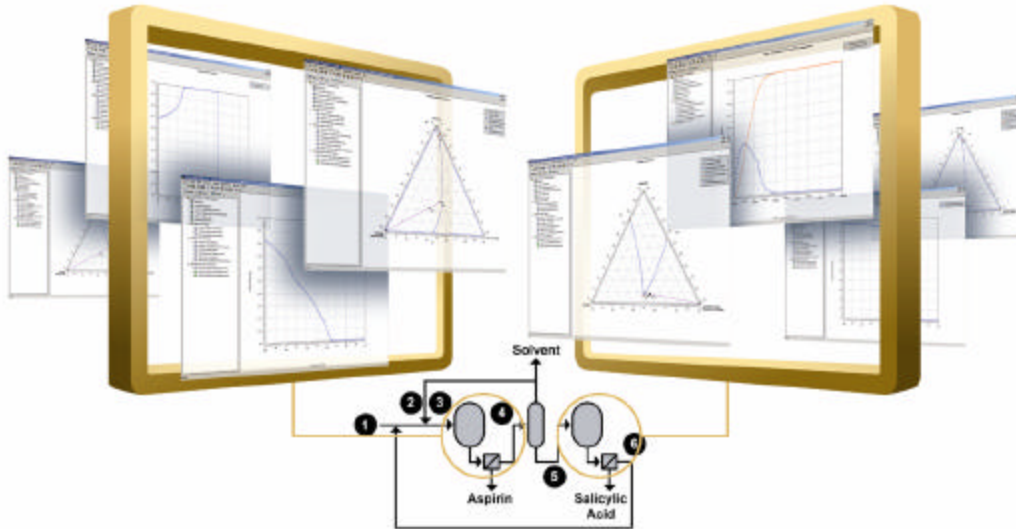


## The Functionality of SLEEK



**Functionality:** Thermodynamic database access & management

- Value Added:**
- Helps prevent loss of data and repeated experiments.
  - Facilitates sharing of information among team members.
  - Allows archival for future projects.

**Functionality:** Data regression for solid-liquid equilibrium

- Value Added:**
- Error checking for experimental results.
  - Accurate modeling of the SLE system.
  - Rigorous thermodynamic model of the phase diagram backed up by experimental results allows the user to extract knowledge from the SLE data.
  - SLEEK helps optimize your experimental efforts in both quantity and quality.

**Functionality:** Ability to handle polymorphs, solid-complexes, co-crystals, liquid phase reactions, and electrolytic systems

- Value Added:**
- Better understanding of the complexities in the phase behavior of such systems.
  - Allows the user to design for, or to avoid these complexities.
  - These abilities make SLEEK ideal for use in development of pharmaceutical crystallization processes.

**Functionality:** Interactive visual representation of solid-liquid phase diagrams

- Value Added:**
- Gain a better understanding and a physical sense of the process.
  - Visual representation lets the user explicitly identify the crystallization regions for each component in the system.
  - Visual representation also lets the user identify separation boundaries, develop process designs to cross the boundaries as needed and to understand the complex tradeoffs that are more difficult to realize and explain with words or numbers.



**Functionality:** Design & sensitivity analysis for continuous crystallizers

- Value Added:**
- Maximize the desired product recovery.
  - Calculate the volume and heat duty required for the desired output.
  - Evaluate more economical designs before building the equipment.

**Functionality:** Particle size distribution (PSD) calculations with fines dissolution and product classification capabilities

- Value Added:**
- Obtain better product quality.
  - Reduce costs of downstream processing for solid-liquid separation, washing, drying, handling, and transport.

**Functionality:** Operating policies, design & PSD calculations for batch crystallizers

- Value Added:**
- Understand the time dependence of batch crystallizer output.
  - Evaluate feasible alternatives before lengthy or costly experimentation is performed.
  - Eliminate infeasible alternatives.

**Functionality:** Solvent/solubility comparison capability

- Value Added:**
- Compare the solubility of a solute in different pure component solvents
  - Screen the list of pure component solvents based on melting point, eutectic temperature, and solubility based constraints to obtain the most suitable solvents.

**Functionality:** Solubility study capability

- Value Added:**
- Calculate the solubility of a solute in mixture of solvents
  - Understand how solubility changes with composition of the solvent
  - Identify the optimal solvent composition based on solubility requirements.

**Functionality:** User friendly architecture & interface

- Value Added:**
- Less time is spent learning how to use the application.
  - Intuitive organization of input information and results.
  - Faster delivery of results and reduced work time.