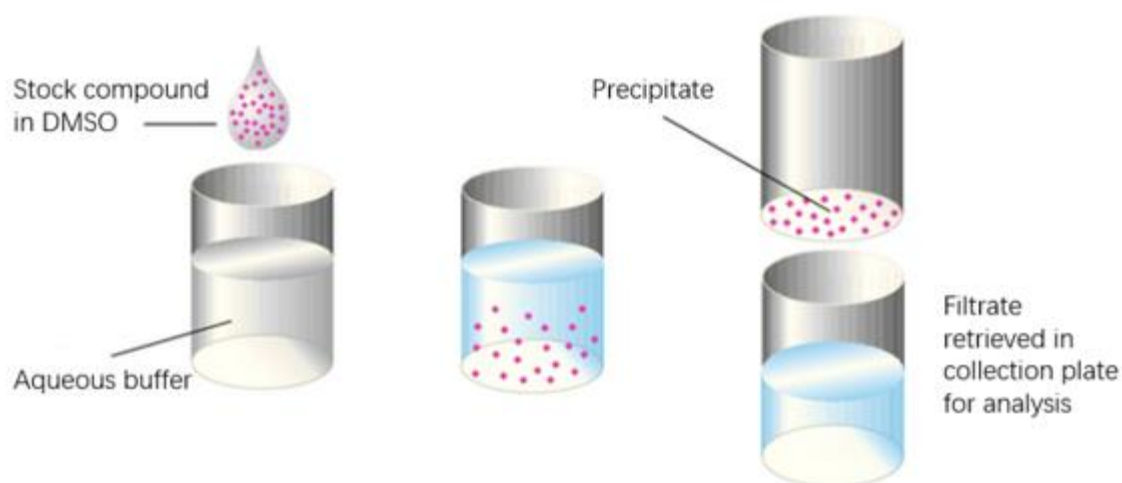


## Solubility Analysis

The solubility of an active drug molecule is the amount of a drug (solute) that can be dissolved in a given solution (solvent) at a constant temperature and pressure to produce a saturated solution. It is a basic characteristic that must be evaluated in the early stages of drug discovery. Active drug solubility analysis is the process of determining the dissolution curve of a compound in a given volume of solvent, which is helpful for a preliminary understanding of the pharmacodynamic properties of the drug. Therefore, solubility analysis is crucial to the development of drug formulations.



**Fig.1** Shake-Flask Solubility Assay.

**CD Formulation** can provide you with dissolution profiles of active pharmaceutical ingredients in various solvents (including inorganic solvents with different pH values, organic solvents, simulated intestinal juice or gastric juice, and other solvents) according to your needs. In addition, our scientists specialize in providing solubility enhancement services through a variety of technologies and methods to minimize potential formulation and stability issues.

### **Our Solubility Analysis Services**

- Building a full range pH solubility profile
- Solubility in simulated gastrointestinal media
- Solubility improvement

## **Criteria for Solubility Analysis**

Pure solute and solvent

Obtained a saturated solution before analysis

Reasonable sample collection method

Reliable analytical method

Properly controlled the temperature

## **Our Methods of Solubility Improvement**

- Chemical modification of drug molecule
- Use of co-solvent
- Particle size reduction
- Hydrotropy
- Addition of surfactant/ solubilizing agent
- Ionization and pH optimization/adjustment
- Temperature change
- Complexation

## **Deliverable**

- Data analysis
- Solubilities and calibration curves (test and reference compounds)
- Provide full study report

Source: <https://www.formulationbio.com/solubility-analysis.html>