

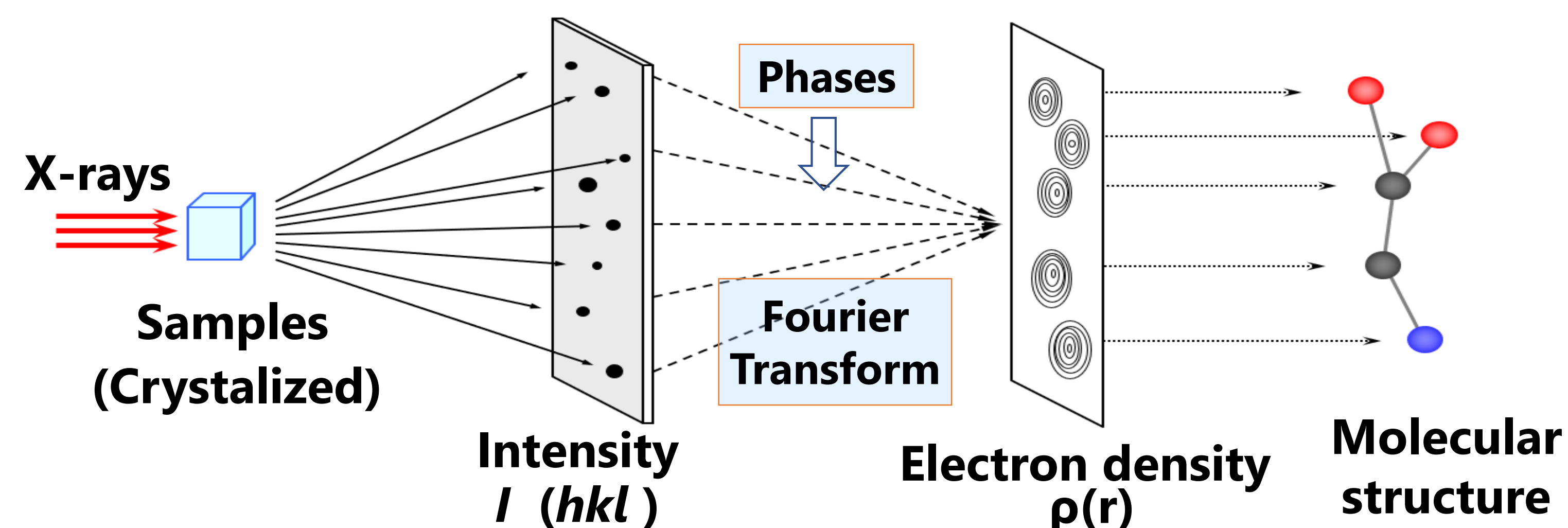
# Molecular Structure Identification

## X-ray Structural Analysis without Crystallization



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### 1. Conventional X-ray Structure Analysis



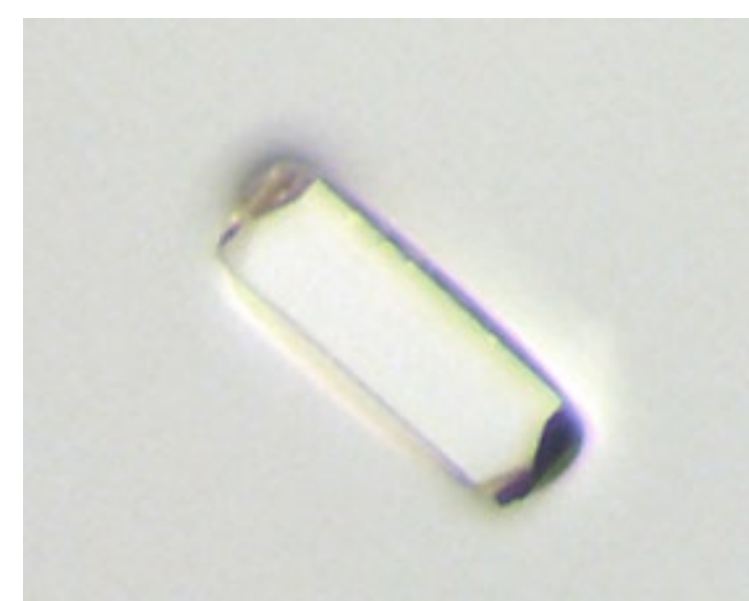
**Problem: A high quality single crystal is required.**

### 2. Core Technology : The Crystalline Sponge Analysis

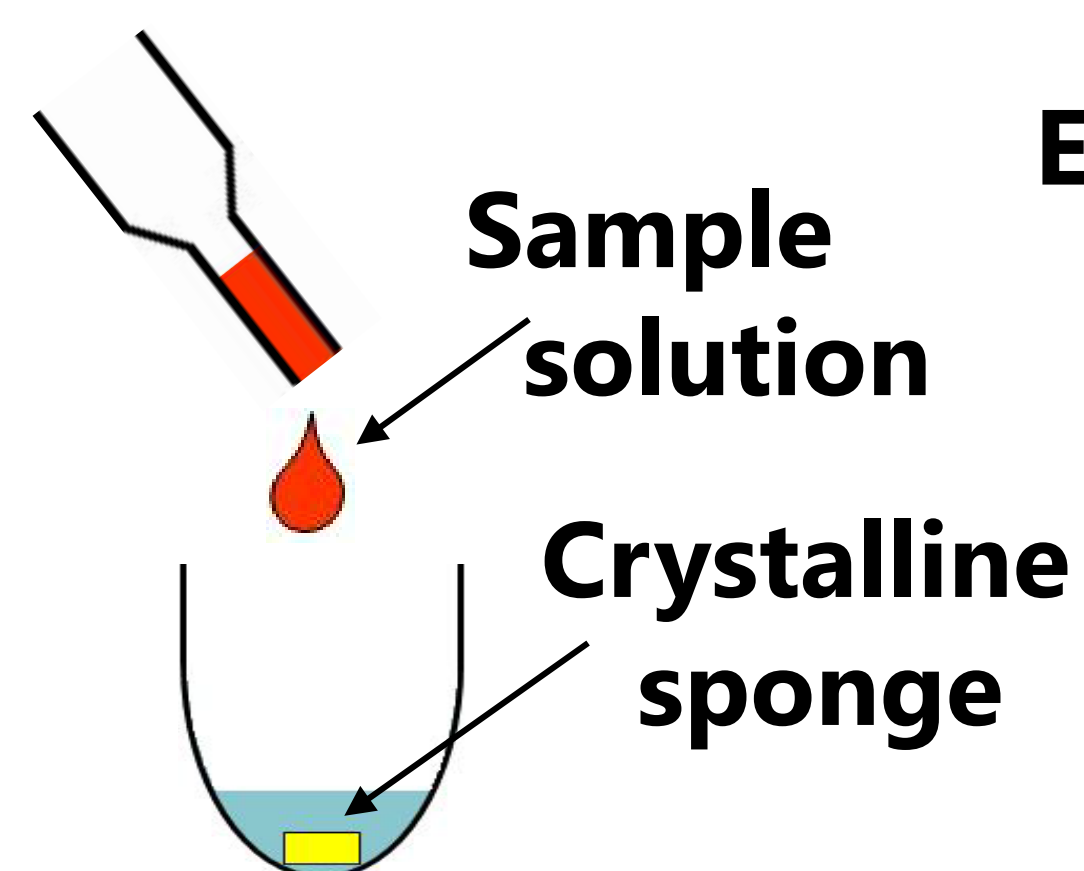
*Nature 2013, 495, 461-466*

**No growth of single crystals required.**

Let sample soak into the perfect single crystalline sponge matrix.

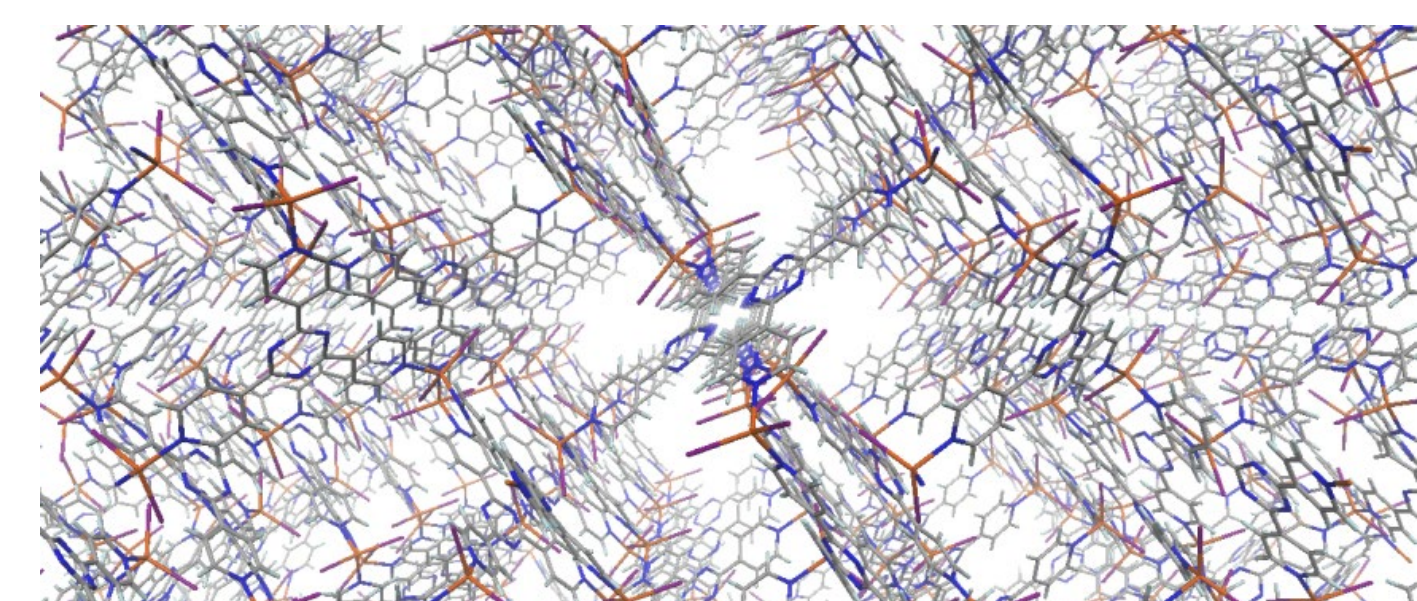
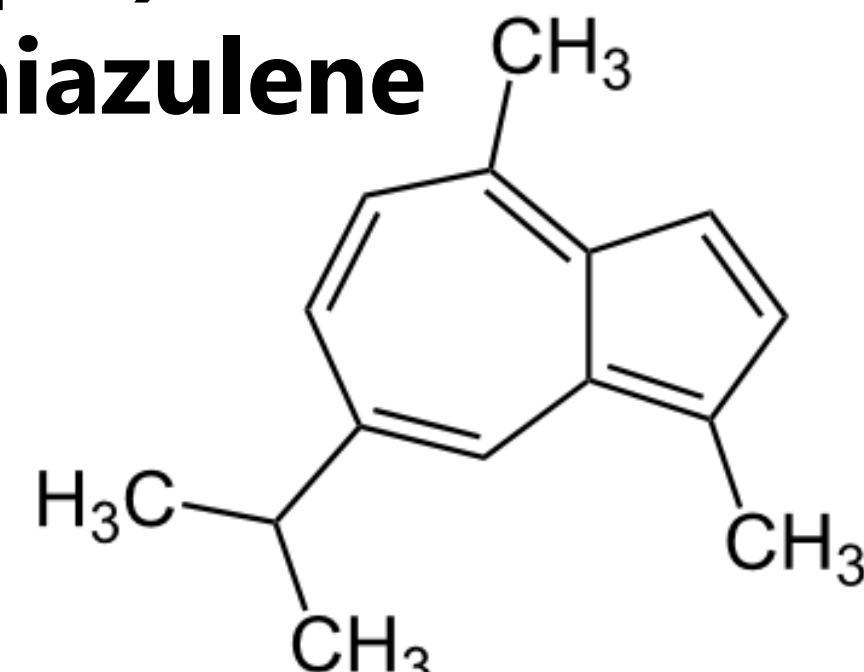


Crystalline sponge  
About 0.2 mm in size

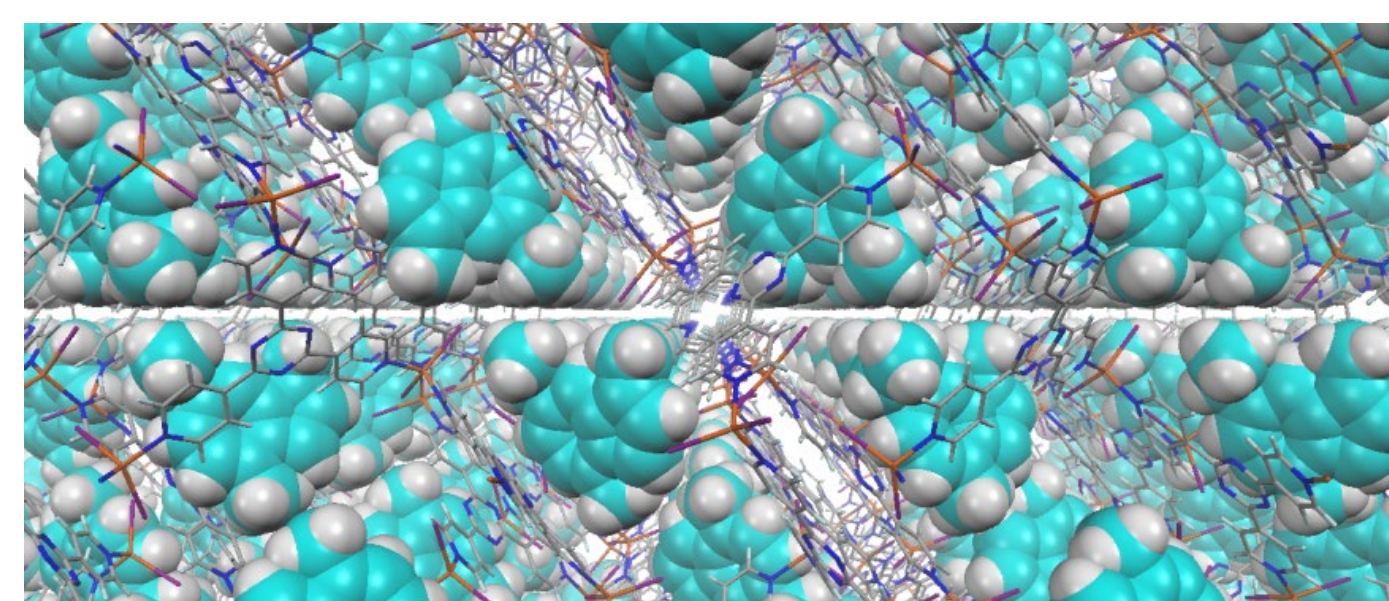


Example)

Guaiazulene



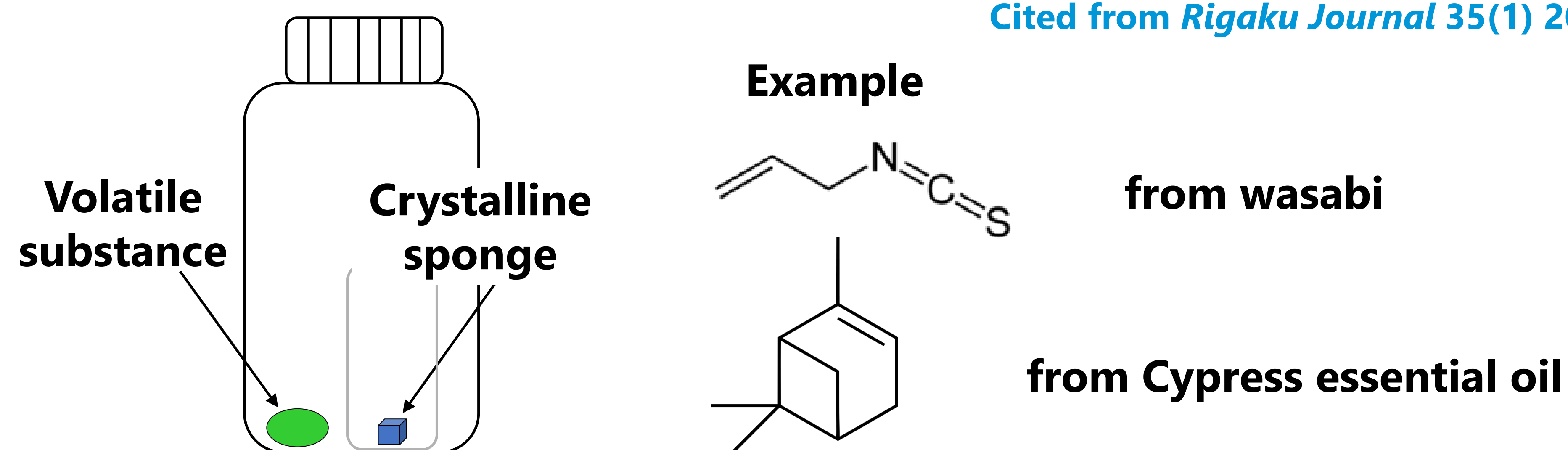
Crystal sponge:  
Crystal with Porous framework



**Samples molecules arranged in the crystal sponge**

### 3. Structural analysis of volatile substances possible as well

*Cited from Rigaku Journal 35(1) 2019*



**Structural analysis of nanogram amounts of molecule is possible.**

### 4. Companies licensed to provide service

As of December 2019

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