

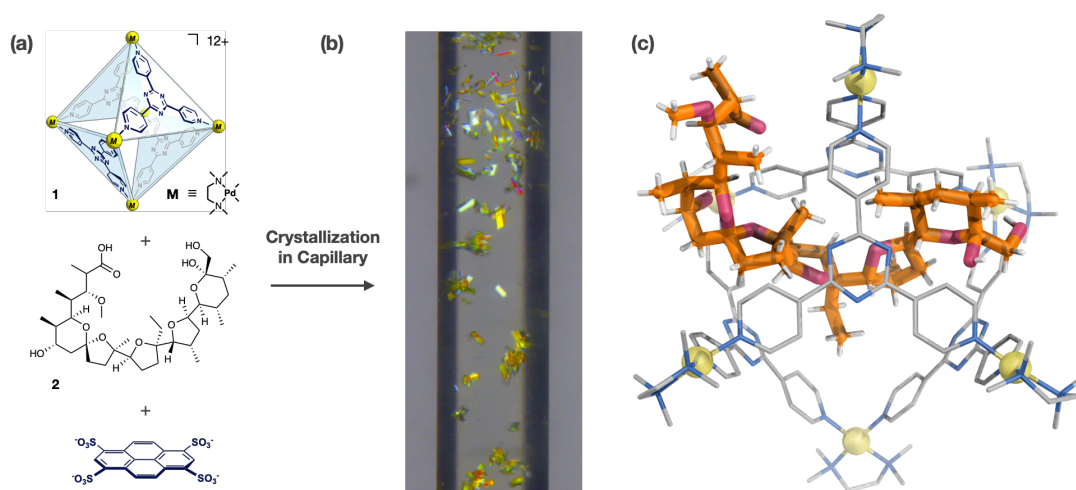
## Host-Guest Chemistry in a Capillary

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A glass capillary is the simplest form of microfluidic device. Injection and ejection of liquids can be easily performed by the capillary effect without using any precise microfluidic devices such as micropumps and microvalves. In this study, we utilize commercially available capillaries, typically used for thin-layer chromatography (TLC), to explore micro-scale host-guest chemistry. A protocol method was developed for the preparation, crystallization, and X-ray analysis of host-guest complexes within a capillary tube. Notably, the crystal structure of the host-guest complex is clearly observed using a trace amount of the guest molecule. Thus, we successfully determined the structures of various natural products and synthetic molecules that were previously unattainable with conventional methods.



**Fig. 1.** (a) The tertiary mixture of a cage host **1**, a guest molecule **2**, and a crystallizer; (b) Single crystals obtained from a minute amount of the mixture in a glass capillary tube; (c) Crystal structure of the host-guest complex **1·2** from X-ray analysis.

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