

Imaging of Single Organic Molecules in Motion

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Chemists are "molecular architects". They enjoy building molecular architectures, and feel happy about learning whether or not they behave as expected. However, the molecules are too small and too fast moving to see directly their dynamic behavior. Therefore, the concept of molecules has remained very hard to understand even for chemistry students, not to mention, lay people. How many of us would really understand the molecular mechanism of the action of a pill for curing your headache?

For sometime, we ponder the possibility of taking a look at molecules by a high-resolution transmission electron microscope, and succeeded very recently in obtaining time-resolved, near atomic resolution images of organic molecules in action (see below). The talk will describe such molecular images that have just become available as well as some discussions of implications of the new finding.