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*through multi-level
images--macroscopic, molecular
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students see the connections
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(macroscopic), and the atoms and molecules that make up the world (molecular). KEY TOPICS: Units of Measurement for Physical and Chemical Change; Atoms and Elements; Molecules, Compounds, and

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It also focuses on the physical methods currently used to extract information on the molecular and electronic structures as well as the physical properties of these clusters. The second part reviews different

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factors in the process is
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causes biological molecules to
be in constant fluctuation even
while they are carrying out their
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the thermal fluctuations to realize the physiologically relevant reactions? Scientists in a number of fields—physics, chemistry, pharmacology, medicine, and others—have contributed chapters that

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elucidate the nature of the fluctuations and the relationship between fluctuations and biological functions. The fluctuations discussed in this volume are detected by the transient

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most significant of those is that many of the processes involving chemical transformation (nuclear reorganization, bond breaking, bond making) take place in an

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extraordinarily short time, in or around the femtosecond temporal scale ($1 \text{ fs} = 10^{-15} \text{ s}$). A number of experimental approaches - very particularly the

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chemistry, but during his lifetime he was one of the most eminent chemists of his day, and one of the earliest pioneers of physical chemistry. Late in his career he wrote an endearing fantasy about personified molecules. Published in 1882, *Aus der Molecular-Welt* (From the Molecular World)

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portrayed the intimate details of what might actually be happening in the sub-microscopic world; the atoms and molecules we meet there have agency, personalities, sometimes even dialog. Filled with appealing tropes, humor, and whimsical asides, Kopp's short book provided an examination of

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