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	into ice -- 21. Supercritical water -- 22. Microscopic approaches to understand water anomalies.
Sommario/riassunto	Building up from microscopic basics to observed complex functions, this insightful monograph explains and describes how the unique molecular properties of water give rise to its structural and dynamical behaviour which in turn translates into its role in biological and chemical processes. The discussion of the biological functions of water details not only the stabilising effect of water in proteins and DNA, but also the direct role that water molecules themselves play in biochemical processes, such as enzyme kinetics, protein synthesis and drug-DNA interaction. The overview of the behaviour of water in chemical systems discusses hydrophilic, hydrophobic and amphiphilic effects, as well as the interactions of water with micelles, reverse micelles, microemulsions and carbon nanotubes. Supported by extensive experimental and computer simulation data, highlighting many of the recent advances in the study of water in complex systems, this is an ideal resource for anyone studying water at the molecular level.