

When we dissolve a solute in water, for example a salt, there is dissolution; can we also say that the salt melted? Is it correct to consider this as a melt? Is dissolution completely different than melting?

Answer: Dissolution is the process by which a solute forms a solution in a solvent. The solute, in the case of solids, has its crystalline structure disintegrated as separate ions or molecules form under the influence of solvent molecules. This part is a bit like melting, when at certain temperature crystalline structure disintegrates, because energy that binds the particles together, becomes smaller than kinetic energy of the particles, and solid substance melts into liquid.

But, consideration of fact, that dissolution is the same as melting is unacceptable, because these are two thermodynamically different processes, which has different characterization. After crystals of solute have been disintegrated, its molecules are interacting with solvent molecules, this process of attraction and association of molecules of a solvent with molecules or ions of a solute is called solvation.