

The Association Behavior of Small Organic Compounds in Aqueous Medium Using Light Scattering Techniques: The Benzotriazoles as an Example

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Abstract

The self-assembly behavior of Benzotriazoles in aqueous solutions below its solubility limit has been investigated using light scattering techniques. Various light scattering techniques were used to study the aqueous behavior of benzotriazole-1-methanol (BTAOH) and other family members. These studies have revealed the self-assembly of these molecules in water. Results show that Benzotriazoles molecules tend to aggregate in water to form nanoparticles with radius in the range of 25 nm and more. However, a range of sizes was always present in BTAOH solutions even with lower concentrations. Variable temperature DLS studies show that large particles are mainly formed due to the aggregation of smaller ones.