

Editorial

Thermal properties of carbohydrate polymers

Phase transition of dry polycarbohydrate polymers in the solid state is not easily detected by thermal analysis or calorimetry. Due to inter- and/or intra-molecular hydrogen bonding, the molecular motion of the main chain is markedly restricted. In contrast, when a certain amount of water is introduced, various phases are formed in water-soluble carbohydrate polymers; moreover, the main chain motion is enhanced even in water-insoluble carbohydrate polymers. On this account, studies of the thermal properties of carbohydrate polymers mainly focus on the characteristic features of their phase transition in the presence of water, sorption mechanism of water and other small molecules on carbohydrate polymers and the structural change of water influenced by carbohydrate polymer matrices.

We have compiled this special topic issue of *Carbohydrate Polymers* which is devoted to "Thermal Properties of Carbohydrate Polymers". This special issue includes papers

concerning thermal properties of carbohydrate polymers, such as hyaluronic acid, pectin, xanthan gum, starch, regenerated cellulose and cellulose acetate in the presence of water/solvents. Differential scanning calorimetry (DSC), differential thermal analysis (DTA) and dynamic viscoelastic measurements are the major experimental techniques. The editors of this issue hope that the papers cited will be useful.

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