

Special Issue

Research on Cyclodextrin: Properties and Biomedical Applications

Message from the Guest Editor

Cyclodextrins (CDs) are structurally related cyclic oligosaccharides of cone-like structure with a lipophilic cavity and a hydrophilic external surface that allows the spontaneous inclusion complexation of sterically compatible, poorly soluble compounds. CDs are recognised as multifunctional excipients able to enhance the solubility, dissolution rate, and chemical stability of the drugs by inclusion complexation, contributing to their bioavailability. CD complexation can modify unfavourable organoleptic properties of drugs, converting liquids or even gases into technologically more acceptable solids and reducing tissue irritation at the drug administration site, which can improve patient compliance. Because of that, CDs are widely used to formulate novel and reformulate existing drugs, replacing potentially irritant surfactants and cosolvents, thus enhancing formulation functionality and safety. Furthermore, CDs are often included in different polymer-based drug delivery systems to control the drug release rate in line with the required dosage regimen.

Research papers or comprehensive reviews on advancing the knowledge of CD properties and biomedical applications are welcome

Guest Editor

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Message from the Editor-in-Chief

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