Inclusion and functionalization of polymers with cyclodextrins: Current applications and future prospects

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© 2014 Molecules. The numerous hydroxyl groups available in cyclodextrins are active sites that can form different types of linkages. They can be crosslinked with one another, or they can be derivatized to produce monomers that can form linear or branched networks. Moreover, they can form inclusion complexes with polymers and different substrates, modifying their physicochemical properties. This review shows the different applications using polymers with cyclodextrins, either by forming inclusion complexes, ternary complexes, networks, or molecularly imprinted polymers (MIPs). On one hand, the use of cyclodextrins enhances the properties of each polymer, and on the other the use of polymers decreases the amount of cyclodextrins required in different formulations. Both cyclodextrins and polymers contribute synergistically in several applications such as pharmacological, nutritional, environmental, and other industrial fields. The use of polymers based on cyclodextrins is a low cost easy