

Abstract

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Title of Thesis: Clay minerals as drug stabilizers

This thesis presents clay minerals as drug stabilizers. The aim of thesis was introduction of phyllosilicates, kaolinite, talc, smectites and fibrous clays which belong to the most important minerals. These clays are widely used as active substances or excipients in the formulation of dosage forms such as solid, liquid or semisolid. The structure, classification and useful properties directly related to their colloidal size and structure are shortly discussed. Clay minerals possess excellent properties such as high adsorption capacity, swellability, low or null toxicity, good biocompatibility and promise for controlled release, thus give rise to the interest and interest to their development for biological purposes. The important chapters are current challenges in pharmaceutical applications. Besides classic pharmaceutical uses, clay minerals may be effectively used in formulations for controlled drug delivery systems. A very interesting possibility is to use clay mineral polymer composites, that can be used to prepare the nanoparticles, films, hydrogels or matrices. The largest part of the thesis is focused on the clay minerals as carriers of drugs in drug delivery system. Polymer composites with bound drug seem to be promising material usable in tissue engineering and medicine.