



Attainment and Characterization of Ternary Complexes of Simvastatin-Cyclodextrin-Hydrossoluble Polymers

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SUMMARY. The purpose of this study was to attain and characterize ternary complexes of simvastatin, β -cyclodextrin (β CD) and different polymers, and then select those that lead to a greater increase in drug solubility. The complexes were prepared with the co-evaporation method and the polymers used were polyethylene glycol 1500, polyethylene glycol 4000, povidone, copovidone, crospovidone, maltodextrin and hydroxypropyl methyl cellulose. The characterization of complexes was carried out through aqueous solubility, DSC and TG. There was an increase in solubility for all the complexes prepared with β CD and the different polymers, but only when crospovidone and maltodextrin were used was there a significant difference observed between the solubility of the physical mixture and that of the complex. The DSC curves indicate that the non-complexed drug is even in the sample of the complex with higher solubility, thus none of the polymers was able to achieve a total complexation of the drug.

KEY WORDS: Cyclodextrin, Simvastatin, Ternary complex.

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