

Thesis Title	Some Characteristics of a Protein-coated ODS Column and Its Uses for the Determination of Drugs by the Direct Injection Analysis of Plasma Samples.
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#### ABSTRACT

The protein-coated ODS column was developed for the determination of drugs in plasma by direct injection method. In this study, the paracetamol and sulfamethoxazole were used as the model drugs. The chromatographic properties of the protein-coated ODS column were investigated on its adsorbability of BSA, number of theoretical plates, capacity factor and symmetry factor. It was found that the protein-coated ODS column no longer adsorbed plasma proteins but retained the reversed phase characteristics for small molecules. Number of theoretical plates decreased owing to the steric hindrance of coated BSA for the diffusion of drugs into pores of the packing material, but the capacity factor and symmetry factor were almost unchanged.

The recoveries of paracetamol and sulfamethoxazole were 99.7 percent with the coefficient of variation of 1.3 percent and 97.8 percent with the coefficient of variation of 1.5 percent respectively.

The direct injection HPLC method was compared with the deproteinizing-HPLC method (with acetonitrile or perchloric acid or trichloroacetic acid). The direct injection HPLC method was superior in the aspects of simplicity, accuracy and precision. It required only filtering sample through membrane filter to remove particle prior to injection onto HPLC. In addition, the total analysis time was short and the quantity of plasma sample required for the analysis was small.