

Determination of ionization constants of a series of therapeutic peptide hormones by capillary electrophoresis in polybrene-coated capillaries

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Abstract In this work, equations describing the effect of pH on the electrophoretic behaviour are used to investigate migration of a series of polyprotic amphoteric peptide hormones between pH 2 and 12 in polybrene-coated capillaries. Polybrene (hexadimethrin bromide) is a polymer composed of quaternary amines that strongly adsorbs to the fused-silica inner surface, preventing undesired interactions between the peptides and the inner capillary wall. The ability of using polybrene-coated capillaries for determination of accurate ionization constant values has been evaluated and the optimum pH values for separation of a mixture of the studied peptide hormones have been selected.

Keywords: CE, coated capillary, dissociation constant, hexadimethrin bromide, peptides, pK, prediction.
