

### Retention Mechanism of Mononucleotides with Buffer in RP-HPLC

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The retention equilibrium constants of four standard mononucleotides (5'-UMP, 5'-GMP, 5'-IMP, 5'-TMP) were estimated under isocratic conditions of RP-HPLC. Different concentrations of three buffer solutions (sodium phosphate, potassium phosphate, ammonium phosphate) were added in the mobile phase. The stainless steel column ( $3.9 \times 300$  mm) packed with  $15 \mu\text{m}$   $\text{C}_{18}$  was used. The wavelength was fixed at 254 nm. The first absolute moment and the second central moment were determined from the chromatographic elution curves by moment analysis. The axial dispersion coefficient, mass transfer coefficient and the intraparticle diffusivity were determined from the correlation of second central moment using a solver method in Excel<sup>TM</sup>. The mass transfer coefficients derived from Wilson-Geankoplis equation were compared to those by the solver method.