

## Phase Diagrams and Liquid-Liquid Extraction in Aqueous Biphasic Systems Formed by Polyethylene Glycol and Potassium Sodium Tartrate at 303.15 K

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**Abstract :** Liquid-liquid extraction in aqueous two-phase systems (ATPSs) constitutes a powerful tool for purifying bio-materials, such as cells, organelles, proteins, among others. In this work, the extraction of the bovine serum albumin (BSA) has been studied in systems formed by polyethylene glycol (PEG) (1500, 4000, and 6000 g.mol<sup>-1</sup>) + potassium sodium tartrate + water at 303.15°K. Phase diagrams were obtained by turbidimetry and Merchuk's method (1998). The experimental tie-lines were described using the Othmer-Tobias and Bancroft correlations. ATPSs were correlated with the nonrandom two-liquid (NRTL) model. The results were considered excellent according to global root-mean-square deviations found which were between 0,72 and 1,13%. The concentrations of the proteins in each phase were determined by spectrophotometry at 280 nm, finding partition efficiencies greater than 71%.

**Keywords :** aqueous two phases systems, bovine serum albumin , liquid-liquid extraction, polyethylene glycol

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