

**EXTRACTION OF MACROMOLECULES IN AQUEOUS TWO-PHASE SYSTEMS
BASED ON CRUDE GALACTOMANNANS AND ITS DERIVATIVES**

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Summary

Aqueous two-phase systems have found use in biochemical research for the separation and purification of macromolecules, cells and cell fragments. In order to minimize the cost of two-phase systems based on purified polymers (such as fractionated dextran and Reppal PES), new aqueous two-phase systems, formed by crude polymers, have been introduced. In this work, partition properties of macromolecules in poly(ethylene glycol) / locust bean gum, guar gum or derivatised guar gum are reported. The effect of poly(ethylene glycol) molecular weight, ionic strength, affinity ligands, pH and temperature on partition behaviour and phase diagram is identical in this systems and in traditional poly(ethylene glycol) / dextran and poly(ethylene glycol) / Reppal PES. Its application for enzyme affinity extraction is investigated. Two-phase systems based on such crude polymers may have the drawback of their degree of purification, which may interfere with the separation procedure. However, this should not prevent its successful use in aqueous two-phase polymer extractions. Results clearly indicate that these systems are an interesting alternative to conventional extraction systems.