

APPLY ADSORPTION TECHNOLOGY TO SOLVE THE UV SENSOR INSTABILITY OF DYNAMIC CONTROL ON PERIODIC COUNTER CURRENT PURIFICATION SYSTEM

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Key Words: UV sensor, periodic counter current purification system, resin lifecycle prediction

Cell culture media are a source of major nutrients that provide cell growth and synthesis of proteins. Researchers and suppliers use combine media components test continually in an attempt to find more suitable cell culture media for use in continuous cell culture processes. Commercial media components are a black box for downstream purification researchers who cannot predict the effects of their constituents on resin affinity, absorbability, even for interference with UV instrument. To more effectively utilize in dynamic continuous purification system, the loading product percentage of resin absorbability is typically controlled at 40-60% maximum binding capacity. It is often five times more than traditional batch purification. Therefore, the swing of UV percentage caused by color material in the bulk harvest is the key process parameter in the periodic counter current purification system. We compared different commercial quaternary ammonium adsorbent matrix (such as Stabilized Regenerated Cellulose, Agarose and Styrene Divinyl Benzene Copolymer) to observe their effects on the swing of the UV amplitude. The results show that agarose group has better de-coloration efficacy than the other two commercial quaternary ammonium groups.

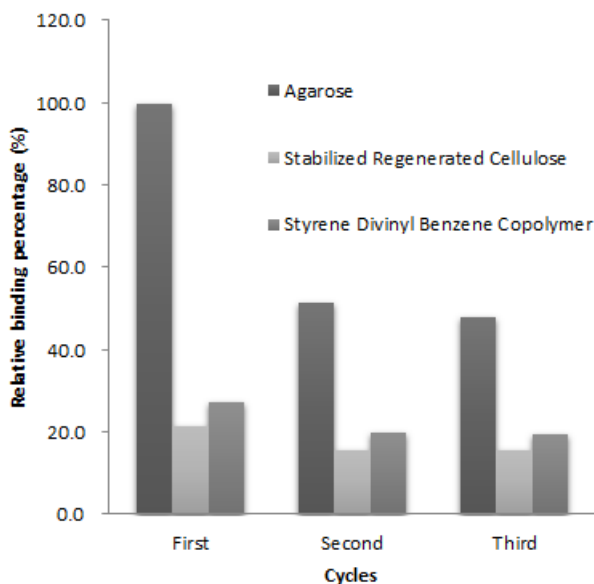


Figure 1 – De-coloration efficacy of quaternary ammonium adsorbent matrix