Biosorption of Reactive Blue 4 by *Corynebacterium glutamicum* biomass in batch and fixed-bed column system

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The amino acid fermentation process residue, *Corynebacterium glutamicum* biomass, was used as a biosorbent to remove Reactive Blue 4. This study was performed in batch and fixed-bed column systems. The dye was effectively removed at pH 1 - 3 in batch tests. The initial slope of isotherm curve was steep, indicating that the biomass affinity for the dye molecules is high. The Langmuir isotherm was used to describe the dye binding capacity of the biomass. The performance of fixed-bed column, containing particles of *C. glutamicum* biomass, was evaluated using 300 mg/L dye solutions at flow rates of 0.31 and 0.71 ml/min. The breakthrough volume was increased with decreased flow rate. Therefore, the fermentation byproduct was considered to be recycled as a dye sorbent.