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# Cytochrome c adsorption in a continuous flow system by using Cu(II)-chelated magnetic affinity particles

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**Abstract**

**Background and methodology:** In the current study magnetic poly(ethylene glycol dimethacrylate-N-methacryloyl-(L)-histidine methyl ester) poly(Egdma-Mah)) was used as a metal chelated affinity particles. Cu<sup>2+</sup> ions loaded directly to MAH ligand of magnetic particles for the adsorption of cytochrome c (Cyt c) in a continuous flow system. **Results:** The maximum Cyt c adsorption capacity on the magnetic particles and Cu<sup>2+</sup>-chelated magnetic particles were 42 mg/g and 197 mg/g in phosphate buffer (pH 8.0), respectively. Cu<sup>2+</sup> loading increased the Cyt c adsorption capacity, significantly. Cyt c adsorption capacity decreased with increased temperature and with increasing magnetic field.

According to reusability studies Cyt c molecules could be reversibly adsorbed and desorbed five times. The binding isotherm was determined by scatchard analysis followed by application of Hill equation to

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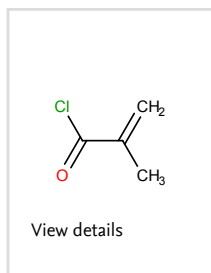
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