

Polymer supported N,N' –bis (Salicylidene) hydrazine Co(II) Schiff base complex and its catalytic activity.

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Abstract

N,N'-bis(salicylidene)hydrazine cobalt (II) Schiff base complex immobilized on crosslinked polymer support has been prepared by suspension copolymerization of synthesized N,N'-bis(3-allylsalicylidene) hydrazine monomer along with styrene and divinyl benzene using azobisisobutyronitrile (AIBN) as initiator in the presence of poly(vinyl alcohol) and reacting prepared beads with cobalt (II) chloride solution in dimethyl formamide (DMF). The amount of divinyl benzene in suspension copolymerization has controlled the arrangement and the amount of the N,N'-bis(3-allylsalicylidene)hydrazine monomer in the crosslinked polymer beads. The network structure of the polymer beads has significantly controlled the efficiency of complexation of the N,N'-bis(salicylidene) hydrazine Schiff base with cobalt (II) ions. The swelling behavior has also been affected by the amount of crosslinking agent (DVB) used during copolymerization of functionalized monomer. The crosslinked polymer beads prepared with 1.75 mmol of divinyl benzene have shown highest efficiency of complexation (28.50%) and loading capacity (14.58%) for cobalt (II) ions from the solution of cobalt (II) chloride. The density and size of the beads have also varied on varying the concentration of the divinyl benzene in the reaction mixture.