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**Cr(VI) RETENTION CAPACITY AND SELECTIVITY
OF SOME STRONG AND WEAK BASE ANION
EXCHANGERS**

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Abstract

A comparative study of the Cr(VI) retention capacity and selectivity on three strong base anion exchangers namely, Py-Me (uncommon strong base anion exchanger containing 4-vinyl-1-methylpyridinium chloride structural units, that was obtained by the quaternization reaction of the 4-vinylpyridine : 8% divinylbenzene copolymer, gel type with the halogenated compound, CH₃I) and Purolite A 400 and Lewatit MP 500A commercial resins, and three weak base anion exchangers namely, Acryl-EDA (acrylic anion exchanger obtained by the aminolysis reactions on the ethylacrylate:acrylonitrile:divinylbenzene copolymer with ethylenediamine), and Amberlite IR 45 and Lewatit MP 64 commercial resins was investigated. The retention capacity and the selectivity for chromate ions is strongly dependent on the chemical and morphological structures of the anion exchangers and the Cr(VI) concentration in aqueous solution. Strong base anion exchangers present a high retention capacity and selectivity for chromate ion, according to the relation: Py-Me > Purolite A 400 >> Lewatit MP 500A. At neutral-weak base pH aqueous solution, weak base anion exchangers present a good Cr(VI) retention capacity and selectivity too, according to the relation: Amberlite IR 45 > Acryl-EDA >> Lewatit MP 64.

Keywords: strong and weak base anion exchangers, Cr(VI) retention capacity, selectivity

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