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APPLICATION OF POLYCATIONS IN SEPARATION PROCESSES

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Abstract

Flocculation performance of three chitosan samples with different viscosities (η = 400, 800 and 1000 mPas) and two strong synthetic polycations of integral type (PDADMAC and PCA_5) on two model aqueous suspensions (kaolin and bentonite) was investigated. The flocculation results indicated that all the polycation samples were efficient in the kaolin flocculation, the turbidity being completely removed at approximately the same polycation dose; the flocculation window ranged between 2.7 and 4 mg polycation/g kaolin, irrespective of the polycation chemical structure. A special behavior was observed in the case of bentonite suspension, where only Chitosan having higher viscosity completely removed the particle in suspension; in the case of the synthetic polycations, a maximum purification degree of 77% was reached.

Key words: solid separation processes, polycations, chitosan, bentonite, kaolin

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