

Área: INO

Potentiometric Characterization of Selenite Interactions with Fine Decomposed Peat.

Bruna P. Szpoganicz (PG),^{1*} Bruno Szpoganicz(PQ).¹belabruna@yahoo.com; bruno.s@ufsc.br¹ Universidade Federal de Santa Catarina, Departamento de Química, Florianópolis, SC, Brasil.

Palavras Chave: (Peat, Selenite, IR)

Highlights

Protonated selenite ion interacts with adsorbed Al(III) ion on the surface of FDP Peat.

Resumo/Abstract

The IR spectrum for the FDP (Fine Decomposed Peat)-Al(III)-selenite system appears in Figure 1. It shows that the Se-O stretching absorption is in 970 cm^{-1} , obscured by Si-O stretching absorption in 1035 cm^{-1} . This band appears in FDP peat and it is very intense. The distribution of selenite and Al(III) ion interactions on FDP peat surface previously determined showed that selenite interacts well in acidic and neutral pH values. IR spectra of two kinds of peat are also shown in Figure 1. The carbonyls appear above 1500 cm^{-1} assigned to stretching of C=O with low intensity due to coordination with the aluminum. Also noticed the stretching of phenolics groups near to 3500 cm^{-1} , associated to phthalic groups, for example. These results show the effective interactions between the Al(III) ion and the peat, additionally to previous equilibrium studies using potentiometric titration. Selenium is both essential and toxic to life, depending on its concentration. The Peat-Al(III) system can be used to control selenium species in the environment (SZPOGANICZ et al., 2024).

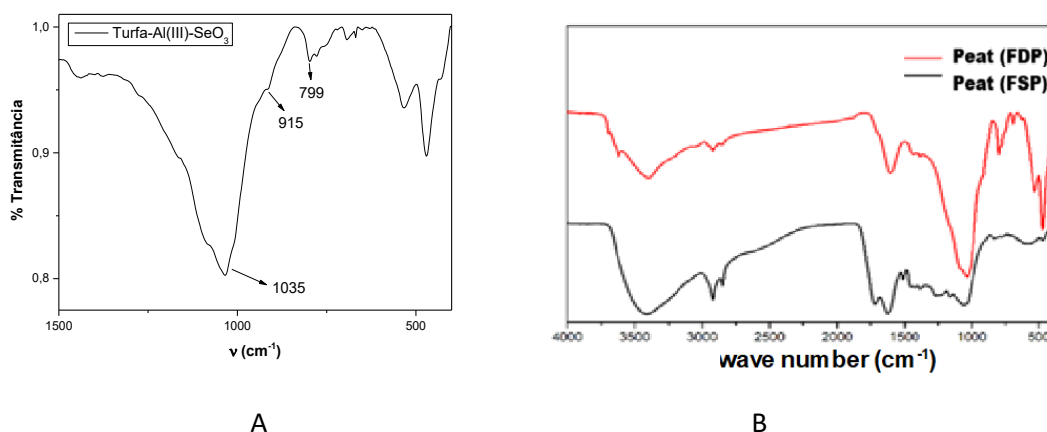


Figure 1: (A) IR spectrum of selenite-Al(III)-peat system at pH 4.0. (B) IR spectrum of FDP and FSP

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Referências/ Reference

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