Preparation and Characterization of Pillared Clays with Al-Hydroxy Polymers by FTIR and TGA. (S02-costa081219-Poster)

Authors:

- W.S.Peternele* - *UEM,Maringa-PR,Brazil.*
- A.C.S.Costa. - *UEM,Maringa-PR,Brazil.*
- I.G.Souza Junior. - *UEM,Maringa-PR,Brazil*
- J.A.Sambatti. - *UEM,Maringa-PR,Brazil*
- J.M.Bigham. - *OSU,Columbus-OH,USA.*
- S.J.Traina. - *OSU,Cumbus-OH,USA.*
- C.A.Tormena. - *UEM,Maringa-PR,Brazil*

Abstract:

The preparation of pillared clays is a very important subject in the international literature. Al-hydroxy polymers were used to prepare the following pillared clays: two montmorillonites (Na and Ca saturntmorillonites (Na and Ca saturated), Kaolinite (Kga1b) and the clay size fraction of a vertisol. The materials were treated during 48 hours with an Al solution (Al=0,2 mol/L and molar ratio OH/Al=2,0) under constant shaking. After that, 20g of each clay material were heated to 823K, for three hours. Specific surface area varied with the type of clay minerals, saturation cation and thermal treatment. The Na-montmorillonite had the highest reduction of the SSA, while kaolinite had the least. The thermal analysis showed a strong decrease in the weigh loss of the pillared montmorillonites. The FTIR data in the 1006-1114 bands due to the Si-O and the 3615-3654 bands due to the Si-OH stretching deformations showed a decrease in the absorbance related to the introduction of the Al-polymers within the tetrahedral sheets without the displacement of

the bands.

Corresponding Author Information:

Antonio C.S. Costa
Universidade Estadual de Maringa
UEM-Departamento de Agronomia
Maringa, PR 87020-190
Brazil

phone: 55-44-2614407
fax: 55-44-2614407
e-mail: acscosta@uem.br

Presentation Information:

Presentation Date: Monday, November 11, 2002
Presentation Time: 9:00-11:00 am
Poster Board Number: 1836

Keywords:

HIV, SIV, Al-hydroxy interlayers, SSA