
Azobenzene Intercalates of Montmorillonite

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Abstract: A study has been made of the interaction of azobenzene vapor with a series of cation-exchanged montmorillonites. Cu²⁺- and Ag⁺-clays give basal spacings 20 \AA . The azobenzene retains its *trans* conformation in the clay and can be extracted with ether. If the intercalate is heated above 120° C then there is catalytic decomposition leaving a black product. Infrared spectra of an extract from this product suggests that it might be made up of a mixture of amines. A photo-electron spectroscopic study shows that the nitrogen is in two distinct chemical environments both in the initial and in the blacked intercalates. The C:N ratio remains at 6:1 throughout.

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