COMPLEX FORMING PROPERTIES OF NATURAL OCCURRING FULVIC ACIDS

Part 1. Complexes with Cadmium, Copper and Calcium

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July, 1985
The experimental program developed in our earlier investigations of the protonation equilibria encountered with Armadale Horizons Bh and Suwannee River fulvic-acid has been employed in the present investigation of a Swedish fulvic acid source. Complications introduced by the polyelectrolyte nature and the degree of heterogeneity in the functional unit content of this natural organic acid molecule have been resolved as they were with the previous fulvic acid samples. The physical chemical properties of this fulvic acid have been compared with those resolved for the Armadale Horizons Bh and the Suwannee River fulvic acid as well.

The insight gained from these protonation studies and metal ion binding studies, also carried out in the course of this investigation, has led to the development of a model for interpretation of the binding of metal ions to fulvic acid at any pH, medium ionic strength, and metal ion and fulvic acid concentration level.