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# Experimental Evaluation of Ca-K Exchange Selectivity Reactions in Estuarine Sediments

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**Abstract:** Clay materials separated from estuarine sediments in Louisiana exhibit a selectivity for exchangeable calcium in laboratory experiments. The studies were conducted at 25° C and 60° C in mixed calcium and potassium chloride solutions in which the equivalent fraction of potassium varied from 0.12 to 0.54. Calcium selectivity was observed to increase with an increase in the equivalent fraction of potassium in the external solution and the temperature. The results suggest the possible importance of ion exchange reactions in the regulation of calcium availability during early diagenetic reactions in sediments.

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