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【189】 Electrochemical radiofrequency STM study of transition metal corroles

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Electron transfer is a crucial part of chemical reactions which drive everyday processes. With the help of an electro-chemical radiofrequency scanning tunneling microscopy setup, we are observing single electron mediated oxidation-reduction processes in transition metal corroles. We are specifically distinguishing different valence states of a transition metal ion and controllably switch from one state to another. A systematic study of such phenomena would be critical to understanding the nano-scale behavior of catalysts, molecular sensors, and batteries relevant to the development of novel material and energy applications.

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