

Revealing the importance of interface for better electrocatalysis: There's plenty of room in between

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With burgeoning attention to renewable technologies for improved sustainability, there is an utmost quest for developing new chemical processes based on electrocatalysis. Electrocatalysis is “interfacial” chemistry whose reaction venue is an electrode-electrolyte interface, and thus the chemical and structural details at the interface have an intimate relationship with the electrocatalytic properties. However, mostly due to the notorious difficulty in characterizing the buried interface, its importance has often been overlooked. In this talk, I will present our recent theory–experiment collaboration studies revealing the mechanistic connection between the interfacial structure and the electrocatalytic properties. Furthermore, I hope to bring a new perspective for developing better electrocatalysis: there's plenty of room to tune the interface.