



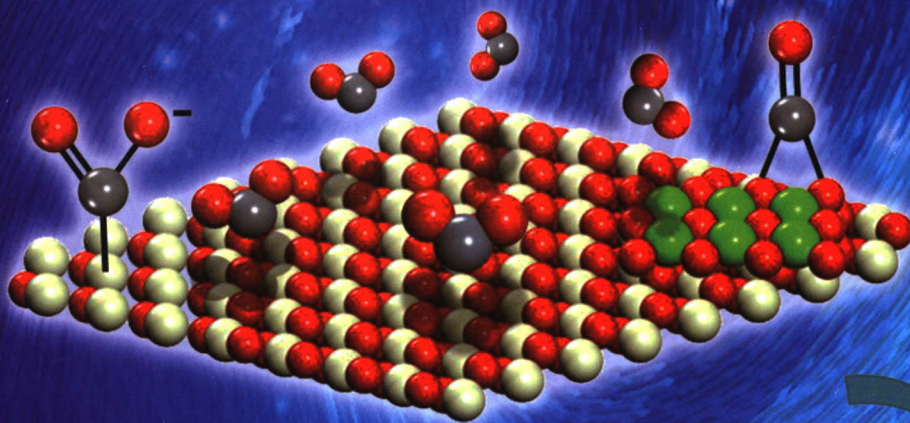
# 物理化学学报

## ACTA PHYSICO-CHIMICA SINICA

第34卷 第12期 Vol. 34 No. 12 2018

表面物理化学专刊  
Surface Physical Chemistry  
Guest Editor: Kai Wu (吴凯)

Adsorption



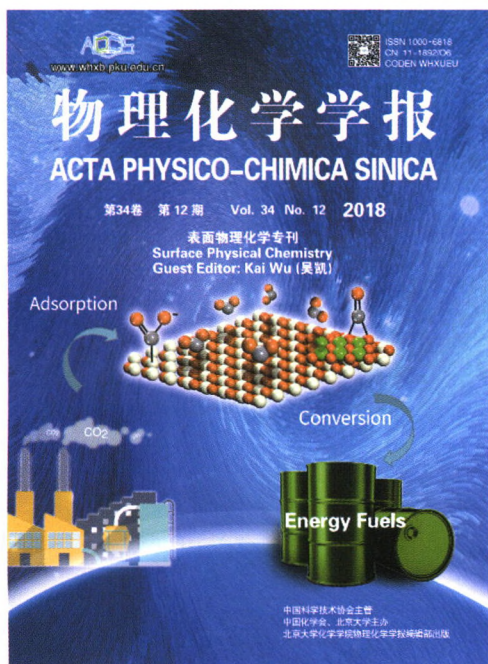
Conversion

CO<sub>2</sub> CO<sub>2</sub> CO<sub>2</sub>

Energy Fuels

中国科学技术协会主管  
中国化学会、北京大学主办  
北京大学化学学院物理化学学报编辑部出版

COVER



The cover image presents the schematic drawing of CO<sub>2</sub> adsorption on ceria-based model catalysts. On page 1381, WANG *et al.* demonstrate that increasing the reduction degree of ceria enhances the CO<sub>2</sub> adsorption forming carboxylate species, while doping the ceria with Ca facilitates the CO<sub>2</sub> adsorption to form carbonate species.

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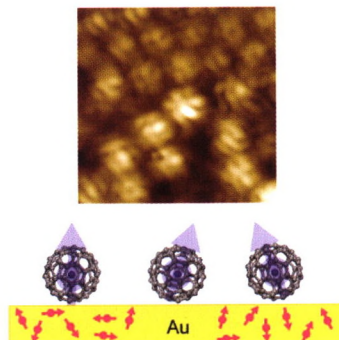
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Coupling between endohedral N-electron spin and Au-nuclear spin causes decay of the ESR signal.

*Acta Phys. -Chim. Sin.* **2018**, *34* (12), 1312–1320

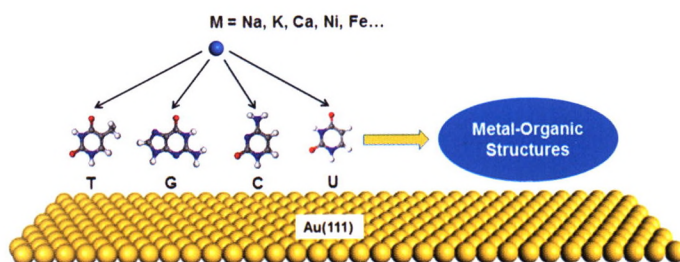
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Interactions between bases and metal species on Au(111) result in metal-organic structures in different binding modes.

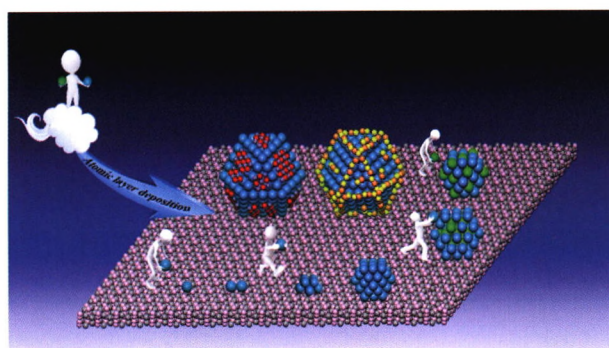
*Acta Phys. -Chim. Sin.* **2018**, *34* (12), 1321–1333

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Atomic layer deposition is an effective gas-phase bottom-up strategy for constructing catalytic architectures on high-surface-area supports with near atomic precision.

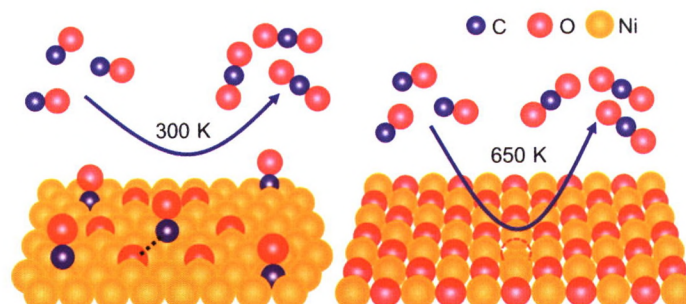
*Acta Phys. -Chim. Sin.* **2018**, *34* (12), 1334–1357

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Surface chemisorbed oxygen species can react with CO at 300 K but surface nickel oxide requires 650 K.

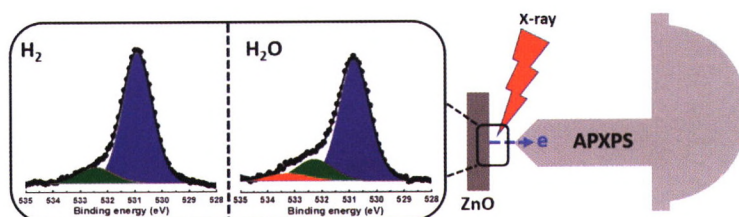
*Acta Phys. -Chim. Sin.* **2018**, 34 (12), 1358–1365

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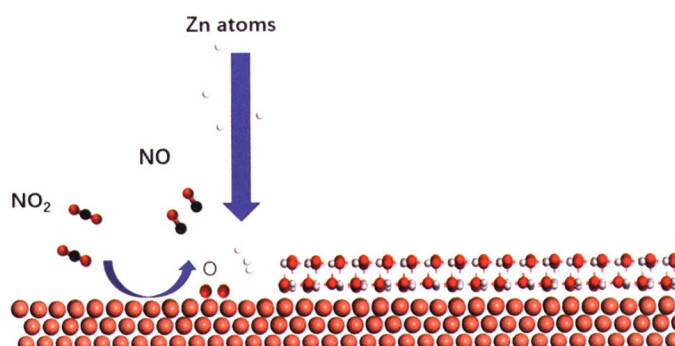
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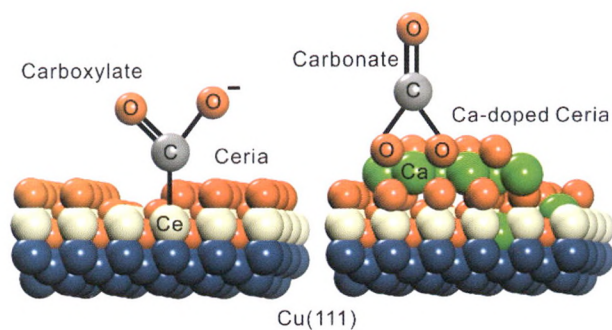
*Acta Phys. -Chim. Sin.* **2018**, 34 (12), 1373–1380

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CO<sub>2</sub> exhibits different adsorption mechanisms on ceria and Ca-doped CeO<sub>2</sub> surfaces, which lead to carboxylate and carbonate formation, respectively.

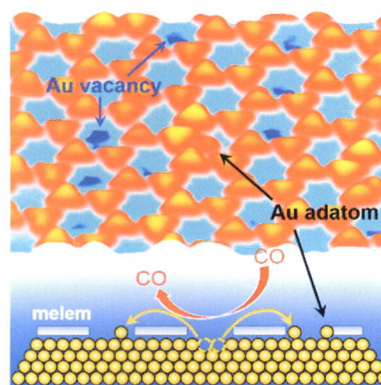
*Acta Phys. -Chim. Sin.* **2018**, 34 (12), 1381–1389

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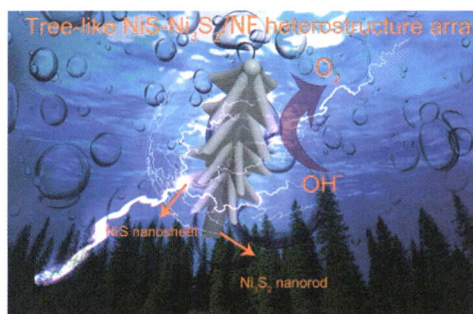
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*Acta Phys. -Chim. Sin.* **2018**, 34 (12), 1397–1404

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