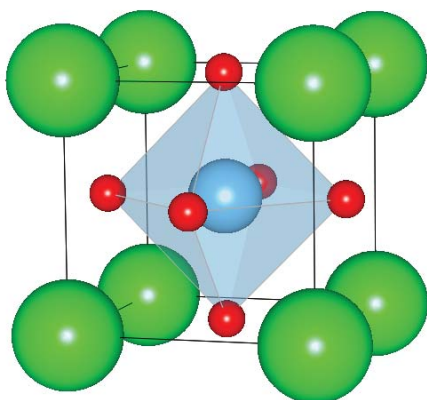


MS18-P10 | STRUCTURAL MODIFICATION OF PEROVSKITES BY TAILORED EXSOLUTION FOR ENHANCED CATALYTIC ACTIVITY

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Perovskites provide a dynamic structure, where induced oxygen vacancies can trigger the formation of nanoparticles on the surface. The process of nanoparticle formation can thus be controlled and reversed by choosing a suitable chemical potential of the gas phase or by polarization (i.e. applying voltage to the system) of the perovskite.



Using a lab-based near ambient pressure X-ray photoelectron spectrometer (NAP-XPS) that is specially designed for investigations of electro-catalytic systems under realistic operating conditions combined with in-situ X-ray diffraction spectroscopy (XRD), scanning electron microscopy (SEM) and energy dispersive X-ray spectroscopy (EDX) we provide first results on the effect of exsolution on water gas shift (WGS) and reverse WGS reaction.

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[1] K. Momma and F. Izumi, "VESTA 3 for three-dimensional visualization of crystal, volumetric and morphology data," J. Appl. Crsalogr., 44, 1272-1276 (2011).

