

## Catalysts for the oxygen reduction reaction

Currently, the most commonly used catalyst for the Oxygen Reduction Reaction (ORR) is platinum. However, platinum is expensive, limited in availability, and prone to poisoning by organics. Also the majority of energy loss in commercial hydrogen fuel cell systems occurs at the cathode.<sup>1</sup>

Previous studies by Bockris indicated that sodium tungsten bronzes exhibited a high activity for oxygen reduction.<sup>2</sup> This turned out to be caused by a pretreatment, platinum pre-electrolysis, used to clean solutions prior to electrochemical experiments, which resulted in platinum deposition onto the surface of the sodium tungsten bronze electrode.<sup>3</sup> Synergetic effects of this kind are seen with other metal combinations<sup>4-5</sup>, and our studies will focus on bronzes such as sodium tungsten bronze, and other perovskite related structures.

### References

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