



Showcasing research from the Computational Materials Design Group (CMDG), Discipline of Chemistry and Center for Material Science and Engineering, Indian Institute of Technology Indore, India.

Single-layered platinum nanocage: a highly selective and efficient catalyst for fuel cells

A stable single-layered octahedral platinum nanocage ( $\text{Pt}_{66}$ ) has been predicted using density functional calculations. The nanocage is very efficient and selective towards four-electron oxygen reduction reaction ( $\text{H}_2\text{O}$  formation) over two-electron oxygen reduction reaction ( $\text{H}_2\text{O}_2$  formation). Therefore, the product selectivity ( $\text{H}_2\text{O}$  vs.  $\text{H}_2\text{O}_2$ ) is excellent compared to any catalysts reported to date. Thus, we predict that the single-layered nanocage could be a promising catalyst for fuel cell applications.

As featured in:



See Biswarup Pathak *et al.*,  
*J. Mater. Chem. A*, 2016, 4, 12756.



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