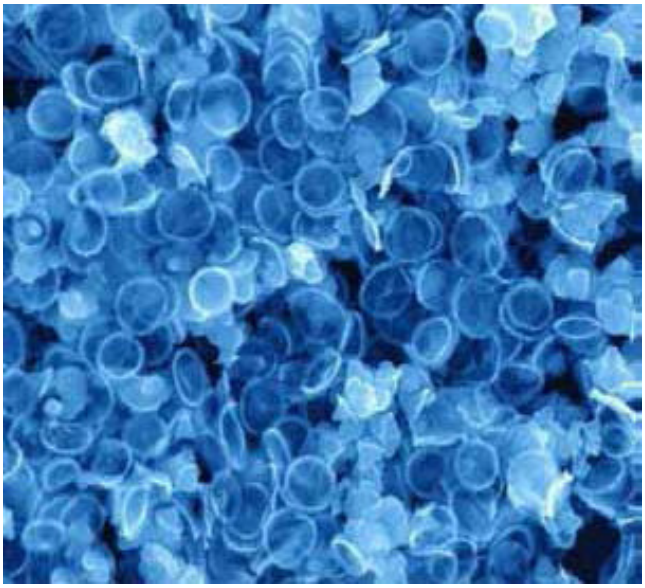
NANOCORAL™HIGH SURFACE AREA PLATINUM CATALYSTS TO IMPROVE FUEL CELL EFFICIENCY

US Pat. No.: 6,627,048; 7,374,599; 8,304,089; 8,540,796; 7,785,391
Technology Readiness Level: 4
Basic technological components have been integrated to establish that the pieces will work together

NanoCoral™ produces platinum nanomaterials which can significantly reduce costs and improve the efficiency and durability of hydrogen fuel cells and other renewable energy technologies.

NanoCoral™ is an innovative nanotechnology for producing platinum catalysts and offers unique control over the shape, size, porosity, composition, stability, and other functional properties of platinum nanostructures compared with those achieved by existing methodologies.

The metals nanostructuring technology is based on two novel platform technologies—templated dendritic nanostructure growth and photocatalytic seeding and growth. Dendritic and ripening-resistant holey-sheet nanocatalyst technology enables the size and shape of platinum structures to be manipulated at the nanoscale to produce novel platinum catalysts and electrocatalysts and other nanomaterials. NanoCoral™ was recognized as an R&D 100 technology by R&D Magazine in 2009.



300nm platinum nanodisks templated by surfactant bicellar disks

TECHNICAL BENEFITS

- Reduces amount of rare and expensive raw material
- Retains functionality with less material

INDUSTRIES & APPLICATIONS

- Fuel cells
- Solar cells
- Sensors
- Electronics
- Catalysis

ip.sandia.gov
ip@sandia.gov

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