

# New nanoassembly technique is created

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U.S. chemists at Rice University say they have discovered how to assemble gold and silver nanoparticle building blocks into larger structures.

The researchers say their method relates to one of nature's oldest known chemical innovations -- the self-assembly of lipid membranes that surround every living cell.

The method makes use of the hydrophobic effect, a biochemical phenomena that all living creatures use to create membranes -- one example of a micelle, a strong bi-layer covering that is made of two sheets of lipid-based amphiphiles, or molecules that have a water-loving, hydrophilic, end, and a water-hating, hydrophobic, end.

Like two pieces of cellophane tape being brought together, the hydrophobic sides of the amphiphilic sheets stick to one another, forming the bilayered micelle.

The scientists believe the new method will allow them to create a wide variety of useful materials, including extra-potent cancer drugs and more efficient catalysts for the chemical industry.

The discovery is detailed in the Nov. 29 issue of the Journal of the American Chemical Society.

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