

# ADVANCED FUNCTIONAL MATERIALS

A 3D molecular model showing several spherical nanoparticles composed of blue and red spheres, representing atoms. These nanoparticles are interconnected by yellow and purple structures representing DNA molecules. The background is a light blue gradient with diagonal lines.

## DNA CONDUCTIVITY

DNA based self-assembled nanoconjugates and a macroscopic metamaterial are synthesized by R. Zboril, F. Vianello, and co-workers on page 1822 using naked maghemite nanoparticles as electroactive supports. DNA nanoconjugates show reversible electrochemical behavior and better electrochemical performances with respect to bare nanoparticles. The intimate contact between DNA and nanoparticles is studied and electron transfer at the interface between nanoparticles and DNA is unequivocally demonstrated by Mössbauer spectroscopy and modeled by density functional theory.